NEPA Re-evaluation of the

I-70 Second Tier

Section of Independent Utility 6

Environmental Assessment

March 19, 2020

List of Abbreviations and Acronyms

AADT	Average Annual Daily Traffic
ACS	American Community Survey
AASHTO	American Association of State Highway and Transportation Officials
BMP	Best Management Practices
CFR	Code of Federal Regulations
DND	Do Not Disturb
EA	Environmental Assessment
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
INFRA	Infrastructure for Rebuilding America
IPaC	Information for Planning and Consultation
I-70	Interstate 70
LWCF	Land and Water Conservation Fund
LOS	Level of Service
MDC	Missouri Department of Conservation
MDNR	Missouri Department of Natural Resources
MoDOT	Missouri Department of Transportation
NHD	National Heritage Database
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
NRCS	National Resource Conservation Service
ROD	Record of Decision
SHPO	State Historic Preservation Officer
SIU	Section of Independent Utility
SEMA	State Emergency Management Agency
SEIS	Supplemental Environmental Impact Statement
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USFWS	U.S. Fish and Wildlife Service
USDOT	U.S. Department of Transportation
VAU	Visual Assessment Unit
WOUS	Waters of the U.S.

Introduction

In 2019, the Missouri Department of Transportation (MoDOT) was awarded an $81.2 million Infrastructure for Rebuilding America (INFRA) grant from the U.S. Department of Transportation (USDOT). The INFRA grant will help fund critical improvements to two rural segments of Interstate 70 (I-70) between Kansas City and St. Louis, including the construction of eastbound and westbound climbing lanes on a segment of the interstate at Mineola Hill in Montgomery County, between Route N and the Route 161 intersection south of Danville.

Previous environmental studies related to proposed improvements along the Mineola Hill segment of I-70 include the 2001 Interstate 70 Corridor First Tier Environmental Impact Statement (EIS) and Record of Decision (ROD) signed December 18, 2001; the Final 2005 Second Tier Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the I-70 Section of Independent Utility (SIU) 6 signed May 26, 2005; and the 2009 Supplemental EIS and ROD for Truck Only Lanes signed August 14, 2009 which supplement the previous first and second tier studies. The Federal Highway Administration (FHWA) and MoDOT's Engineering Policy Guide require a re-evaluation when there has been greater than three years since the ROD was signed or when changes related to the original study have occurred. A re-evaluation also requires validating the original purpose and need. Due to the extent of time between the current project and the previous environmental studies, a re-evaluation of the 2005 SIU 6 Second Tier EA is required in accordance with the National Environmental Policy Act (NEPA) (23 Code of Federal Regulations [CFR] 771.129) and associated laws.

The study area for this re-evaluation is defined as SIU 6 of the I-70 corridor, which extends east from the U.S. 54 interchange at Kingdom City in Callaway County, to Route 19 in Montgomery County, not including the interchange near Montgomery City (Figure 1). All proposed activities associated with the addition of climbing lanes, referred to as MoDOT projects J2I3226 and J2I3226B, would be confined to the Mineola Hill segment of SIU 6 which extends from Route N to the Route 161 intersection south of Danville. MoDOT project J2I3226 includes replacement of the eastbound Loutre River bridge and the eastbound Loutre River Overflow bridge. MoDOT project J2I3226B includes the eastbound and westbound climbing lanes as well as replacement of the westbound Loutre River Overflow bridge.

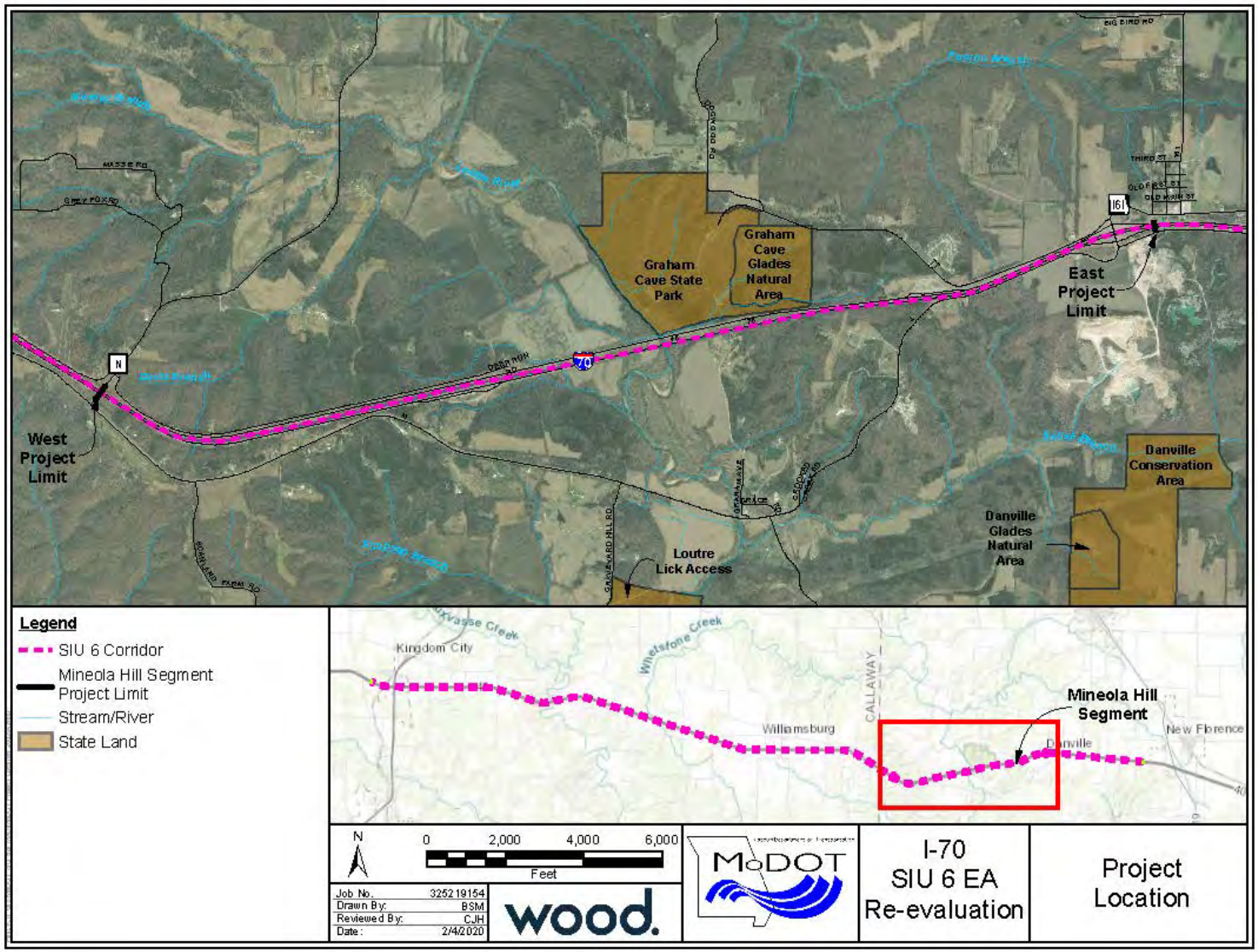


Figure 1. SIU 6 and Mineola Hill Project Location

Background

In the fall of 1999, MoDOT initiated a tiered environmental decision-making process, referred to as Improve I-70 First Tier Study, to evaluate strategies for improving the I-70 corridor in Missouri, between the metropolitan areas of Kansas City and St. Louis. The tiering process allows for a focus on corridor-wide issues and reduces repetition in environmental documentation. First tier decisions frame and narrow the scope of second tier studies and related decisions. The Second Tier Studies, known collectively as Improve I-70, looked more specifically at the recommended strategies and their local impacts. In order to ensure an appropriate level of detail, the Improve I-70 Second Tier program divided the interstate into seven different geographic sections, each with its own environmental study and recommendations.

The Interstate 70 Corridor First Tier EIS was prepared to aid in determining the most appropriate type of improvement concept for I-70. The ROD, approved by FHWA in 2001, selected the "Widen Existing I-70 Strategy" as the preferred alternative. This strategy would improve existing I-70 by adding six lanes, three in each direction, in rural areas and a minimum of eight lanes, four in each direction, through Columbia and in the metropolitan areas of Kansas City and St. Louis. The preferred alternative also included improved access management, reconstruction of the existing roadway to enhance safety and performance, and provisions for future transportation improvements within the median.

In 2005, the Second Tier EA and FONSI were completed, assessing impacts specific to SIU 6, from Kingdom City to Montgomery City. In general, the selected alternative included an additional lane in each direction, the replacement of all existing interchanges and overpasses, access management where appropriate, and the provision for continuous frontage roads on both sides of I-70 as deemed necessary. However, there were some additional provisions within the Mineola Hill area due to existing environmental constraints. For example, unlike other sections of I-70, additional lanes in the Mineola Hill/Loutre River Valley would not be constructed on either the north or south sides of existing I-70 but instead improvements would be on the existing location, and there would be no frontage road through this area. Additionally, within the Mineola Hill/Loutre River Valley area, the preferred alternative included a seventh lane in the eastbound direction between the Loutre River and the top of the hill to provide a truck passing lane and to aid in the maintenance of traffic, for a total of three westbound lanes and four eastbound lanes.

Building on the work of the first and second tier studies, MoDOT initiated a Supplemental Environmental Impact Statement (SEIS) to evaluate the impacts of a new strategy for I-70 consisting of dedicated truck-only lanes. Approved in a 2009 ROD, the Truck-Only Lanes Strategy would construct two truck-only lanes and two or more general purpose lanes in each direction along existing I-70. Concrete barriers, buffer separations or grassed areas would separate the truck-only lanes and general-purpose lanes from each other, depending on the location along the corridor. This strategy was determined to be consistent with the decisions made in the 2001 ROD, as it would fit within the limits of the previously evaluated footprint, to the extent possible, utilizing the preserved future transportation corridor identified in the Widen Existing I-70 Strategy. The footprint for the truck-only lanes through Mineola Hill would remain entirely within the previously evaluated footprint identified in the second tier study. Interchange features of the Widen Existing I-70 Strategy at the majority of the interchanges along the corridor would also be retained.

2020 Re-evaluation

MoDOT projects J2I3226 and J2I3226B propose to construct eastbound and westbound climbing lanes on I-70 at Mineola Hill to enable both truck and passenger traffic to flow more safely and efficiently. Both lanes would be constructed within existing MoDOT right of way between Route N and the Route 161 intersection south of Danville. This project area is referred to as the Mineola Hill segment. In addition to the construction of climbing lanes, the projects also include replacement of the eastbound and westbound Loutre River Overflow bridges and the eastbound Loutre River bridge. Also included in the Mineola Hill segment are the existing truck parking areas on both the eastbound and westbound sides of I-70. The temporary use of these areas, limited to the space within the perimeter of the existing truck parking lots, may be necessary for laydown and staging during construction.

The proposed improvements at Mineola Hill are currently possible due to funding provided by the USDOT's INFRA grant. The INFRA investment will offset construction costs for improvements that have been deemed critical in the maintenance and enhancement of the I-70 corridor and those that increase safety and reliability on this important national freight highway. The American Association of State Highway and Transportation Officials (AASHTO) recommends climbing lanes where vertical grades reduce the speed of trucks 10 miles per hour below the average running speed of the remaining traffic. Truck speed reductions at Mineola Hill have been observed as high as 35 miles per hour, resulting in slowed travel times and speed differentials that lead to increased vehicle crashes. The new climbing lanes will allow vehicles to more safely pass slow-moving trucks and mitigate the relatively high crash rates along this segment.

The I-70 build out evaluated in the tiered EIS and subsequent SEIS remains an important objective for the future of the I-70 corridor. However, at this time, funding is not available to complete lane additions and interchange improvements along the entire corridor. Constructing just three lanes in each direction is a $4 billion initiative that would require MoDOT to shelve nearly all other scheduled projects for a decade if funded through traditional means. The Mineola Hill climbing lane project funded in part by the INFRA grant will help bridge the gap in needed improvements until further developments are feasible.

This re-evaluation assesses potential effects to resources impacted by Projects J2I3226 and J2I3226B in the Mineola Hill segment of SIU 6. In addition, the impacts to the remainder of the SIU 6 corridor have been evaluated and compared to the findings of the 2005 EA, as the selected alternative in the EA has the potential to be implemented in the future.

Purpose and Need

As noted in the 2001 First Tier EIS, the goal of I-70 improvements along the entire Missouri corridor is to provide a safe, efficient, environmentally sound and cost-effective transportation facility that responds to the needs of the study corridor and to the expectations of a nationally important interstate. Additionally, the 2005 Second Tier EA documented the development of the purpose and need for the SIU 6 improvements. The specific purpose and need addressed by the proposed action in SIU 6 is summarized as follows:

- **Roadway Capacity** - Capacity improvements for the Kingdom City interchange, as well as mainline I-70 were selected to improve the general operating conditions of I-70.

- **Traffic Safety** - Reduce the number and severity of traffic-related crashes occurring along the SIU 6 portion of I-70 including localized safety improvements in the Kingdom City and Mineola Hill areas.
- **Roadway Design Features** - Upgrade current roadway design features to meet recommended design criteria for I-70 improvements, including interchanges, roadway alignment and cross sections, median and outer roads.
- **System Preservation** - Preserve the existing I-70 facility as needed to carry existing and future loads.
- **National Security** - The enhancements offered by the typical section, including improvements to the Kingdom City interchange, will enhance the ability of the I-70 Corridor to support the system needs for disaster response and national security.

The 2009 SEIS did not alter the project's purpose and need. Therefore, the 2005 Second Tier EA purpose and need was reviewed to ensure validity as part of this current re-evaluation. Each purpose and need element is discussed below.

Roadway Capacity

As noted in the 2005 EA, the actual traffic volume between Route D and Route 161, the section of SIU 6 encompassing the Mineola Hill segment, was 29,890 vehicles in 2000. This was projected to increase to 70,290 by the year 2030, causing roadway level of service (LOS) to dip below MoDOT standards. Currently, the average daily traffic estimate for this area is 37,557 vehicles, and recent projections estimate average daily traffic for 2040 at 51,945 vehicles. While this indicates a slower rate of growth than projections indicated in the 2005 EA, the corridor is still experiencing notable increases in traffic levels which will continue to decrease LOS, especially in the Mineola Hill corridor where the steep grades slow large vehicles. The addition of climbing lanes would increase the roadway capacity along this segment and improve LOS. Therefore, the roadway capacity element of the purpose and need remains valid for Projects J2I3226 and J2I3226B.

Traffic Safety

Based on data collected between 1995 and 2000, the highest crash rate in SIU 6 occurred between the Williamsburg and Danville interchanges. The average crash rate for this section of SIU 6 is 105.8 crashes per hundred million vehicle miles traveled. This portion of highway traverses the Loutre River Valley and Mineola Hill area. The terrain is characterized by rolling hills with relatively steep grades that result in speed differentials between cars and trucks. The steep grades in the Mineola Hill area can become unsafe for cars and trucks in both normal and inclement weather conditions. The location of truck parking areas in the Loutre River Valley and Mineola Hill area also contributes to the above average crash rate due to weaving and acceleration/deceleration. The addition of climbing lanes at Mineola Hill would improve safety and reliability by creating a dedicated lane for commercial vehicles to traverse the steep grades, which in turn would reduce vehicle crashes caused by speed differential. According to the 2019 INFRA grant application prepared by MoDOT, construction of the climbing lanes would result in an overall 20 percent reduction in crash rates for both passenger cars and trucks. Therefore, the traffic safety element of the purpose and need remains valid for Projects J2I3226 and J2I3226B.

Roadway Design Features

For the Improve I-70 study, MoDOT adopted fairly stringent minimum design criteria. In general, design criteria were based on the MoDOT Policy Procedure and Design Manual and provisions of the AASHTO Policy on Geometric Design of Highway and Streets, 2001, Fourth Edition, where applicable. However,

recognizing that the investments in I-70 will be long term, more stringent and conservative design criteria were defined in anticipation of future corridor needs and ever-evolving design parameters. MoDOT's design criteria for Improve I-70 include a maximum of 3 percent vertical grade for all terrain; 1.5 degrees horizontal alignment; 12-foot travel lanes and 12-foot shoulders on both sides; a minimum median width of 60 to 130 feet depending on maintenance of traffic plan; a minimum of 800 feet spacing between ramp termini and 1,350 feet between ramp termini and outer roads at interchanges; and two-way, two-lane, outer roads with a design speed of 50 miles per hour. In the Mineola Hill segment, the current roadway does not meet all design criteria, as the vertical grades approaching the Loutre River Valley range from 4 to 6 percent, above both the Improve I-70 design criteria and the AASHTO standard of 4 percent for rolling terrain. There are also no outer roads along this segment. Projects J2I3226 and J2I3226B would not alter the vertical grade along this segment nor construct outer roads; therefore, the roadway design features element of the purpose and need does not apply for the project.

System Preservation

Based on 2002 data, the majority of pavement in SIU 6 rated, on average, either Poor or Fair, and the condition of the bridges in the Mineola Hill segment over the Loutre River, as well as associated overflow bridges, were rated as Fair to Good. Since that time, pavement has been resurfaced by MoDOT as necessary, and the westbound bridge is currently being replaced under Project J3I2195. The new westbound bridge will be able to accommodate an additional lane without further reconstruction. The climbing lanes project would result in improvements to the eastbound bridge as well as pavement repair and replacement; therefore, the system preservation element of the purpose and need remains valid for Projects J2I3226 and J2I3226B.

National Security

I-70 is a key corridor in the Strategic Highway Network and a primary facility for moving personnel and equipment for deployment and emergency response. The climbing lane in the Mineola Hill segment would enhance the ability of the I-70 corridor to support the system needs for disaster response and national security by improving the capacity of the roadway and reducing delays caused by the slowdown of commercial vehicles on the steep grades. Therefore, the national security element of the purpose and need remains valid for Projects J2I3226 and J2I3226B.

In summary, except for the Roadway Design Features elements, the purpose and need identified in the 2005 Second Tier EA remain valid for the current re-evaluation for the Mineola Hill climbing lanes project (J2I3226 and J2I3226B).

Preferred Alternative

Proposed projects J2I3226 and J2I3226B would add an additional climbing lane to the existing two lanes traveling in both the eastbound and westbound directions in the Mineola Hill segment, resulting in a total of six lanes, or three lanes in both directions. This differs slightly from what was proposed along this segment in the 2005 EA, where the preferred alternative included six lanes along the entire segment, three in each direction, with a seventh lane in the eastbound direction between the Loutre River and the top of the hill to provide a truck passing lane. As discussed above, the proposed project still meets the original purpose and need, with the climbing lanes serving as a third lane in each direction.

Public and Agency Coordination

On September 27, 2019, during the planning stages of the project, MoDOT issued a notice informing the public of the proposed Mineola Hill climbing lanes project and the re-evaluation of the 2005 Second Tier EA. MoDOT accepted public comments through October 28, 2019, and one comment was received (Appendix A). The commenter expressed support for the addition of climbing lanes along Mineola Hill, noting that the speed differentials in this area currently pose a safety concern, and also advocated for the addition of a third lane along the remainder of the I-70 corridor between Kansas City and St. Louis.

On October 10, 2019, notices were sent to local, state, and federal agencies describing the proposed actions and seeking comments relative to the interests of each agency. Notices were also sent to federally recognized tribes on October 22, 2019. On October 23, 2019, the Ponca Tribe of Nebraska requested a copy of any cultural resource surveys conducted for the project. On March 11, 2020, MoDOT provided both the Osage Nation and the Ponca Tribe of Nebraska with a Section 106 Memo detailing the results of the cultural resources investigation. In addition, MoDOT conducted informational meetings with the Missouri Department of Natural Resources (MDNR) on October 26, 2019 and the Missouri Department of Conservation (MDC) on December 2, 2019 to inform the agencies about the re-evaluation and the proposed climbing lanes project in the Mineola Hill segment and re-assess commitments made in the 2005 EA. Comment and coordination letters from MDNR and MDC are provided in Appendix A. As of the date of this submittal, no other comments from agencies or tribes have been received.

Resource Impact Evaluation

The following matrix presents an analysis of resources evaluated in the 2005 Second Tier EA and describes changes to resources and findings regarding the potential impact to each resource. The matrix identifies resource impacts within the Mineola Hill segment of SIU 6, in association with projects J2I3226 and J2I3226B, separately from resource impacts within the remaining SIU 6 corridor and includes a determination of whether the impact has changed or remained the same from the 2005 EA. A summary table of the impact evaluation findings is provided in Table 2 following this matrix and a map index identifying environmental resources along the SIU 6 corridor, within the Mineola Hill segment, is included in Appendix B.

Environmental Re-Evaluation Matrix for Interstate 70, SIU 6 Corridor, Second Tier Environmental Assessment

Socioeconomics
SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)
Is there an impact to this resource? Yes ☐ No ☒ The addition of climbing lanes along the Mineola Hill segment would not have a notable impact on the demographic, social, or economic settings in the project vicinity. There would be no changes to intersections or exits, and therefore, no change in visibility or accessibility to existing businesses. Similarly, the project would have little positive or negative influence on future economic development opportunities.
Remaining SIU 6 Corridor
Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

The social setting in the vicinity has remained consistent since the 2005 EA. Based on the most recent American Community Survey (ACS) 5-year estimates provided by the U.S. Census Bureau (USCB), the populations in the study corridor have experienced only minor changes since the EA was published. Specifically, the population of Callaway County increased from 40,766 in 2000 to 44,793 in 2017, and Montgomery County decreased from 12,136 in 2000 to 11,618 in 2017. Correspondingly, the study area has experienced very minor additional development, with the most notable changes in the Kingdom City area, where two additional hotels, a small office building, and a storage unit facility have since been constructed. Based on the lack of significant changes in the affected environment, impacts to socioeconomics are expected to remain the same as those evaluated in the 2005 EA. Specifically, at the Kingdom City interchange, it is expected that there would be a limited short-term economic decline during construction if the interchange was reconstructed at its existing location. However, economic opportunities would improve after the interchange was reconstructed.

Land Use

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

Climbing lanes would be constructed within existing MoDOT right of way. As the right of way is designated for transportation use and no additional property acquisition is required, there would be no changes to land use along the Mineola Hill project corridor.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

According to review of current and historic aerial imagery, a small number of new commercial properties have been developed in the vicinity of the Kingdom City intersection since the publication of the 2005 EA, including two hotels, a small office building, and a storage unit facility. However, this area was identified as developed in the 2005 EA and these activities do not constitute a change in land use. Otherwise, development along the corridor has been minimal, and much of the surrounding area remains agricultural or undeveloped. As reported in the 2005 EA, Callaway County and Kingdom City do not have formal zoning regulations or land use plans in place. Montgomery County, however, has since developed zoning regulations within the unincorporated portions of the county. The majority of the county is zoned agricultural, while commercial districts are concentrated around portions of I-70 and Route 19. Improvements to I-70, especially at intersections, would promote the commercial land uses along the corridor. Therefore, the I-70 improvements would have no negative impact on community land use plans and policies. However, as efficient transportation systems contribute to economic growth, interchange improvements could increase the potential for future conversion of agricultural or undeveloped land to commercial or industrial uses at the interchanges.

Displacements

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

Climbing lanes would be constructed within existing MoDOT right of way. As no additional property acquisition is required, there would be no residential or business displacements.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

The 2005 EA identified 16 residential dwellings and 8 businesses that would be displaced along the entire SIU 6 corridor. Of these displacements, one residential dwelling and one business are located within the Mineola Hill segment and would no longer be displaced, leaving 15 residential buildings and 7 businesses identified for

displacement within the remaining SIU 6 corridor. However, since the publication of the 2005 EA, there have been structures that were identified as displacements that no longer exist, as well as new construction in potentially impacted areas. The following changes were noted based on a review of current aerial imagery:
Disposition of displacements identified in the 2005 EA:

- Residential parcel at County Road 149 and Old U.S. 40, north of I-70 – structures have been removed.
- Residential parcel east of County Road 145, north of I-70 – all four structures on the parcel were removed by 2017, but one new structure was added in 2018.
- Residential parcel, east of U.S. 54 near County Road 220, south of Kingdom City intersection – structures have been removed.
- Residential; triangular parcel east of County Road 159, south of I-70 – structures have been removed.
- Residential; southwest quadrant at Hwy A intersection, south of I-70 and north of Hwy Z – structures have been removed with exception of one remaining barn.

New construction with potential for displacement:

- Commercial displacement; new office building constructed on Callaway Carriers parcel, southeast quadrant at the Kingdom City intersection (Note: a structure on this parcel was noted as a displacement in 2005, but currently the parcel contains an additional building).
- Commercial displacement; new storage units near Kingdom City, west of County Road 149 and north of I-70
- Residential displacement; southeast quadrant of Jade Road and County Road 159, south of I-70 – proposed road passes through a residence (Note: not new construction but was not marked as displacement in the 2005 EA, although it appears unavoidable with the proposed alignment).
- New structure south of Route N and Micah Road intersection.
- Residential displacement; new structure (barn or shed) on residential parcel near Powell Road/Boonslick intersection, south of I-70.

During the design phase, additional analysis would be completed to determine the exact number of properties that would be impacted, and the current use and occupancy of each structure to be removed. However, based upon a desktop review, there are approximately the same number of previously identified displacements that have been removed from the impacted areas as there have been properties newly developed within potentially impacted areas. Therefore, the proposed I-70 improvements would result in roughly the same number of displacements as evaluated in the 2005 EA.

Environmental Justice

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

EO 12898 mandates some federal-executive agencies to consider environmental justice as part of the NEPA analysis by identifying and addressing disproportionately high and adverse human health or environmental effects on minority and low-income populations.

The entire length of the Mineola Hill climbing lane project is located within Block Group 1, Census Tract 9703 in Montgomery County. According to the USCB ACS 5-year estimates, all of the block group's residents are white, with zero percent identifying as a minority population. The USBC defines minority as Black or African American; American Indian or Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; some other race (not mentioned above); two or more races; or a race whose ethnicity is Hispanic or Latino. In comparison, minority populations comprise 5.6 and 20.2 percent of the population in Montgomery County and the state of Missouri, respectively. Low-income residents, those whose household income falls below the nationwide poverty level determined annually by the USCB, make up 7.0 percent of the total population of the block group, which is less than the low-income percentage of the county (12.3 percent) and the state (14.6 percent). Based on this USCB data and a review of the communities adjacent to the Mineola Hill segment, no readily identifiable groups of

minority or low-income persons are located in the vicinity of the proposed project. Therefore, proposed project activities would not result in disproportionately high and adverse effects to environmental justice populations.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

The SIU 6 corridor spans 5 census block groups and the counties of Callaway and Montgomery. The minority populations in the block groups along the corridor range from 0 to 8.4 percent of the total population. None exceed 50 percent of the total population or significantly exceed the minority populations of the county (9.8 percent in Callaway and 5.6 percent in Montgomery) or state (20.2 percent). Low-income populations in the block groups along the corridor range from 7.0 to 25.0 percent of the total population. None of the block groups contain low-income populations that exceed 50 percent of the total population or significantly exceed (i.e., greater than or equal to 20 percent) the low-income populations of the county (12.3 percent in Callaway and 16.1 percent in Montgomery) or state (14.6 percent). Based on this data and a review of the communities adjacent to the project corridor, no readily identifiable groups of minority or low-income persons are located in the vicinity of the SIU 6 corridor. Therefore, as in the 2005 EA, the analysis did not identify any environmental justice populations in the SIU 6 corridor that would experience disproportionately high and adverse effects resulting from project activities.

Soils and Geology

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

The age of the bedrock within the Mineola Hill segment ranges from Ordovician (approx. 500 million years old) to Pennsylvanian (approx. 290 million years old). The older bedrock units, Ordovician in age, that are found in the Loutre River Valley are predominantly composed of dolomite and sandstone. Bedrock on either side of the valley, Devonian to Pennsylvanian in age, is primarily composed of shale, limestone, and sandstone. According to Geologic Survey Program databases, there are no recorded sinkholes or losing streams near the project area that would indicate the existence of karst topography, even though portions of the project area are underlain by limestone bedrock. As MDNR noted in their comments (Appendix A), Graham Cave, located along the Mineola Hill segment, is a structural/erosional feature that is not due to karst and the only spring near the project, Living Spring, is likely due to a perching layer and not related to karst activity. Due to the lack of observed karst features near the project area, the sinkhole collapse potential is low. Additionally, due to the surficial nature of road construction, impacts to bedrock and regional geology resulting from the project would be minimal.

According to the Montgomery County Soil Survey, surficial soils within the project area consist of loess, glacial till and residuum, and are made up of the following associations:

- Hatton-Keswick-Marion,
- Goss-Gasconade-Chilhowie,
- Nodaway-Moniteau-Dockery, and
- Mexico-Amster-Putnam

Construction of the proposed climbing lanes would require the permanent clearing of vegetation along areas where additional roadway would be constructed and clearing of vegetation within temporary workspaces, all of which would occur within the existing right of way. Thus, the soils present within the project area may become more erodible during the construction phase. However, areas temporarily cleared of vegetation would be seeded with site-appropriate seed upon completion of construction, lessening the erosion hazard and minimizing the impact. In addition, to minimize potential soil erosion during construction activities, MoDOT's Sediment and Erosion Control Program would be followed and measures described in the approved Pollution Prevention Plan, such as the utilization of berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching, and other erosion control devices or methods would be implemented as needed. Therefore, impacts to soils and geology would be minor.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

As the majority of geologic change and changes in soil composition occur gradually over long periods of time, and no major natural disasters or human developments have occurred in the region that would have notable impacts to geology or soils, geologic conditions along the project corridor are not expected to have experienced notable changes since the 2005 EA. Since the proposed I-70 improvements are consistent with those proposed in the 2005 EA, with the exception of the Mineola Hill segment, impacts to soils and geology within the remaining corridor would be consistent with the 2005 determinations and the EA would remain applicable for this resource.

Surface Water Resources

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

Based on field work conducted by MoDOT biologists on multiple dates in October, November, and December 2019, and on February 28, 2020, the majority of previously identified water features along the corridor (streams, wetlands, and ponds) appear to be in relatively the same condition as noted in the 2004 Waters of the U.S. (WOUS) delineation for the 2005 EA except for the following:

- MoDOT determined fnwi-62 is not a wetland
- MoDOT reported that eight streams identified in 2004 (STRs-96, 99, 101, 106, 107, 171, 173, and 175) were either out of the project boundary or likely non-jurisdictional features
- MoDOT determined that STR-95, while jurisdictional, is out of the project boundary.

During the 2019 surveys, six streams and ten wetlands were identified that were not identified in 2004. Comments on each of the previously recorded and newly identified water features are included in the Re-evaluation of Waters of the U.S. Memo in Appendix C.

Based on MoDOT's evaluation of current WOUS, the Mineola Hill Climbing Lanes Project, as currently designed, would result in 0.299 acres of permanent wetland impact and 0.048 acres of permanent stream impact. Temporary impacts to wetlands and streams associated with construction include 0.851 acres of temporary wetland impact and 0.229 acres of temporary stream impact. The temporary impact will be restored to pre-construction conditions. MoDOT also determined that 5.12 acres of wetlands and 4,126.3 linear feet of streams within the Mineola Hill Climbing Lanes Project would not be disturbed during construction. Temporary and permanent impacts to wetlands and streams, as well as surface water resources designated as "do not disturb" (DND), are depicted in the map index in Appendix B.

Due to successful avoidance and minimization measures, wetland and stream impacts for the Mineola Hill Climbing Lanes Project have been reduced below 0.5-acre, thus meeting the threshold of a Section 404/401 Nationwide Permit. However, since wetland impacts are greater than 0.1-acre, compensatory mitigation may be required by the U.S. Army Corps of Engineers (USACE) in association with Section 404 approval. If mitigation is required, MoDOT will mitigate stream impacts with an in-lieu fee provider, and wetland impacts will be mitigated at an in-lieu fee provider, a MoDOT mitigation bank outside the service area at a potentially higher ratio, or through the purchase of credits from an outside mitigation bank in the service area.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☐ Fewer Impacts ☒

Based on a desktop review and "windshield" survey of previously identified water features along the corridor in the fall of 2019, most features (streams, wetlands, and ponds) appeared to be in relatively the same condition as

noted in the 2004 WOUS delineation for the 2005 EA. However, four streams and three wetlands were identified that were not identified in 2004.

In 2005, total estimated stream impacts for the overall SIU 6 corridor, including the Mineola Hill Climbing Lanes Project, were 27,069.74 linear feet/3.32 acres. Based on the review conducted for the re-evaluation, current estimated stream impacts for the remaining SIU 6 corridor are 23,854.1 linear feet/3.015 acres.

Because the wetland impacts in the 2004 WOUS delineation were not broken out for the Mineola Hill segment, estimated wetland impacts for the overall SIU 6 corridor, including the Mineola Hill segment, are presented here for comparison. As identified in the 2005 EA, implementation of the preferred alternative would impact 3.32 acres of streams and 7.65 acres of wetlands throughout the SIU 6 corridor This re-evaluation identified 7.95 acres of permanent wetland impact, 0.44-acre in the Mineola Hill segment and 7.51 acres for the remaining SIU 6 corridor. In terms of overall impact, combined stream and wetland impact slightly decreased from 10.97 acres determined during the 2005 EA to 10.956 acres determined during the re-evaluation, or a total stream and wetland impact decrease of 0.041-acre. Descriptions of each of the previously recorded and newly identified water features are included in the Re-evaluation of Waters of the U.S. Memo in Appendix C.

Groundwater

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

The project will occur within the existing right of way and involve minimal excavation in the Loutre River Valley for expansion of the existing eastbound bridge. Construction activities are not expected to impact groundwater in this area. A search of the MDNR's Wellhead Information Management System database shows two groundwater wells located within the right of way in this section (Appendix B, Sheets 4 and 5) that do not appear to be associated with residential, agricultural, or public uses. If these wells cannot be avoided by the project, the wells would be appropriately closed and sealed to prevent any contamination of groundwater.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

A database search for groundwater wells within one mile of the SIU 6 corridor for the 2005 EA identified 79 wellheads and 15 public water supply wells, with a concentration of wells located in the western part of the SIU near Kingdom City. A recent search of the MDNR's Wellhead Information Management System database identified 79 domestic water wells within one mile of the SIU 6 corridor. Although specific well locations were not identified in the 2005 EA, the recent search indicates that wells are primarily dispersed throughout the area on farms and residential properties which is consistent with resource findings in 2005. As no substantial land use changes have occurred that would affect groundwater since the 2005 EA, and the proposed I-70 improvements have not changed outside the Mineola Hill segment, impacts to groundwater within the SIU 6 corridor would remain consistent with the determinations of the 2005 EA.

Floodplains

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

According to the current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), effective May 18, 2009 (panel numbers 29139C0225D and 29139C0250D), portions of the Mineola Hill segment near the Loutre River crossing are located within the 100-year floodplain (Appendix B, Sheets 3 and 4). The 100-year floodplain is identified by FEMA and FHWA guidelines (23 CFR 650) as the area with a one percent annual chance of flooding. The Mineola Hill segment traverses approximately 1,600 linear feet of 100-year floodplain. There is no regulatory floodway within the Mineola Hill segment.

Impacts to floodplains in the Mineola Hill segment would be limited to fill associated with the expansion of the roadway. During the design process, a detailed hydraulic analysis will be completed in accordance with the requirements of FEMA and the USACE, to prevent a rise of more than one foot in flood elevation and avoid adverse impacts. Additionally, MoDOT will obtain a floodplain development permit from the State Emergency Management Agency (SEMA) prior to FHWA authorization for construction within the 100-year floodplain.

In accordance with 23 CFR 650.111, the project is not expected to increase the potential for loss of life or property and would therefore not be considered a significant risk. The project does not result in a substantial adverse impact on natural and beneficial floodplain values. Since there will be temporary soil disturbance during construction activities, sediment and erosion control best management practices (BMPs) will be utilized during construction and disturbed areas will be seeded following construction. The proposed project would not create new access to undeveloped lands, and would therefore not support incompatible floodplain development.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☐ Fewer Impacts ☒

The 2005 EA identified 100-year regulatory floodplains within the remaining SIU 6 study corridor associated with the following streams and creeks: Houf's Branch, McKinney Creek, McCredie Branch, Maddox Branch, Auxvasse Creek, and Whetstone Creek. The proposed improvements would still encroach upon each of these floodplains; however, based on revised FEMA FIRMs, the acreage of floodplain impacted by the project would be less than that described in the 2005 EA. The FIRMs for the project corridor (panel numbers 29027C0200E, 29027C0225E, 29027C0250E, 29139C0225D, 29139C0250D, and 29139C0275D), effective May 18, 2009 and September 5, 2012, were updated to reflect existing development, removing portions of the built-up area associated with the I-70 corridor from the 100-year floodplain. Thus, the acreage of 100-year floodplain impacted along the remainder of the SIU 6 corridor would be less than the 20.1 acres noted in the 2005 EA. Additionally, there would be no impacts to regulatory floodways, as defined above in the Mineola Hill segment discussion, which is consistent with the 2005 EA. As MoDOT would obtain floodplain development permits from SEMA prior to FHWA authorization for construction within the 100-year floodplain, floodplain impacts would remain bounded by the findings and conditions of the 2005 EA.

Public Lands

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

Section 4(f) states that land from a publicly owned park, recreation area, wildlife or waterfowl refuge, or land of a historic site can be used for a transportation project only if there is no feasible and prudent alternative and all possible measures have been taken to minimize harm. Graham Cave State Park, which includes Graham Cave Glades Natural Area, located just north of the existing right of way, is the only Section 4(f) resource located in the immediate vicinity of the Mineola Hill climbing lanes project segment (Appendix B, Sheet 4). In addition, this park has received grants provided by the Land and Water Conservation Fund (LWCF) and thereby, is subject to the provision of Section 6(f) of the Land and Water Conservation Act. Section 6(f) places restrictions on the conversion of public recreation facilities, funded with LWCF funds, to non-recreation uses. However, as the proposed climbing lanes would be constructed within the existing MoDOT right of way, the project would not require additional land from Graham Cave State Park. Therefore, the proposed Mineola Hill climbing lanes project would not result in a use under Section 4(f) or a conversion under Section 6(f).

Furthermore, the proposed project would not result in indirect impacts to Graham Cave State Park. Access to the park, provided by Route TT, would not be directly or indirectly impacted by the lane addition or associated construction activities. Due to the distance from the interstate, blasting activities during construction are not anticipated to impact Graham Cave or Graham Farmstead, although vibration monitoring will be conducted as a precaution. Additionally, noise levels in the park resulting from the climbing lane addition would be nearly identical to those under a No Build scenario (see Noise section).

After Graham Cave State Park, the closest public land is the Danville Conservation Area, which includes Danville Glades Natural Area, located approximately one mile south of the Route 161 interchange. However, given the distance between this area and the proposed project, there would be no direct or indirect impacts to this resource. Therefore, no Section 4(f) or 6(f) impacts, or other indirect impacts to public lands would result from the proposed Mineola Hill climbing lanes project.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

Public lands, recreational facilities, and wildlife refuges, subject to Section 4(f), that were identified along the remaining portions of the study corridor in the 2005 EA include Whetstone Creek Conservation Area, McCredie Farm Lake, Prairie Fork Creek Conservation Area, and Loutre Lick Access. As noted in the EA, none of these properties would be directly impacted by the proposed improvements and there would be no use to Section 4(f) resources.

Based on a review of state and federal databases from MDC, Missouri State Parks, and the Protected Areas database of the U.S., Moore's Mill Access was identified in the vicinity of the SIU 6 corridor, approximately 1.4 miles south of the Route Z interchange. This facility, subject to Section 4(f), is managed by MDC and provides primitive campsites and access to Auxvasse Creek. However, given the distance between this facility and the SIU 6 corridor, there would be no direct or indirect impacts to this resource resulting from the proposed I-70 improvements. Therefore, impacts to public lands along the SIU 6 corridor outside the Mineola Hill segment would remain consistent with the determinations of the 2005 EA.

Prime Farmland

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

Climbing lanes will be constructed using existing MoDOT right of way. Therefore, farmland would not be impacted. Additionally, according to the National Resource Conservation Service (NRCS), construction within an existing right of way purchased on or before August 4, 1984 is an activity that is not subject to the Farmland Protection Policy Act. No coordination with the NRCS is required.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

Impacts to soils with prime farmland characteristics were quantified in the 2005 EA. Based on consultation with the NRCS, conversion impact rating totals reported on the Farmland Conversion Impact Rating Form AD-1006 completed for each county along the corridor were determined as follows: 138 for Callaway County and 142 for Montgomery County. Both counties were below the 160 points needed to require additional avoidance and or/mitigation measures. The recommended preferred alternative would convert approximately 410 total acres of prime and unique farmland to highway right of way. As the proposed I-70 improvements have not changed from what was proposed in the 2005 EA, with the exception of the Mineola Hill climbing lane segment, and underlying soil types in the project corridor are not expected to have experienced notable changes since that time, impacts to prime farmland would remain consistent with the 2005 determinations and the EA would remain applicable for this resource.

Visual Quality

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

As noted in the Visual Assessment conducted for the 2005 EA, the Mineola Hill/Loutre Valley visual assessment unit (VAU) is the most visually pleasing VAU of SIU 6, containing "a sweeping panorama and picturesque hills and valleys." The change in altitude along this segment provides a contrast to the flat terrain in neighboring VAUs, and the natural setting and tree lined hills provide intactness and unity for the viewer. The Visual Assessment determined that the improvements to the Mineola Hill VAU, evaluated in the 2005 EA, would have a moderate degree of visual impact, widening the intrusion of manmade elements within this viewshed, especially as it relates to the "notch" cut into the hilltop as the interstate crests the hill, and the width of the bridge as it crosses the Loutre River. The addition of climbing lanes to the existing roadway would widen the roadway intrusion in these areas, but to a lesser extent than the 2005 proposal, resulting in a minor to moderate degree of visual impact.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

The Visual Assessment conducted for the 2005 EA notes that overall, the proposed I-70 improvements associated with the expansion of the interstate along the existing mainline path would have a minimal visual impact and would not significantly change the viewshed for viewers either from or of I-70 in the VAUs outside the Mineola Hill segment. While construction would eliminate some woodlands and farmland, and there may be increased lighting impacts at night near intersections, the view from the majority of the corridor would remain relatively the same, with a slightly wider roadway in the viewshed. As the proposed I-70 improvements have not changed outside the Mineola Hill segment and there has been no notable development resulting in new visually sensitive receptors, the impacts to visual quality would remain consistent with the 2005 determinations and the findings from the EA would remain applicable for this resource.

Air Quality

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

According to the 2005 EA, the most likely occurrence for exceeding the National Ambient Air Quality Standards are at a controlled intersection which has the potential to create excessive traffic queues. Eastbound and westbound climbing lanes will enable both truck and passenger traffic to flow more safely and efficiently. The proposed alignment would not result in increased miles traveled; therefore, there would be no adverse impact to air quality.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

For air quality impacts, the 2005 EA is still applicable. SIU 6 is contained within Callaway and Montgomery counties which fall into the Northern Missouri Intrastate Air Quality Control Region. Callaway and Montgomery counties are currently in attainment for all criteria pollutants (40 CFR 81.326) (https://www3.epa.gov/airquality/greenbook/ancl.html). The proposed alignment would not result in increased miles traveled; therefore, there would be no adverse impact to air quality.

Noise

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

The proposed climbing lane project for the Mineola Hill segment involves the addition of through-traffic lanes, making it a Type I project under 23 CFR 772. Noise studies are required for highway projects that are determined to be Type I. A noise study was completed for the 2005 EA, comparing existing monitored noise levels at various receptors along the corridor in 2000 to modeled noise levels under Build and No Build

conditions for 2030. The study findings indicated that six receptors within the Mineola Hill segment, including three receptors within Graham Cave State Park, would experience noise impacts under the 2030 Build conditions, meeting or exceeding the FHWA Noise Abatement Criteria of 66 dBA. Noise impacts to receptors identified in the noise study for the 2005 EA are listed below in Table 1, and noise receptor locations are identified on the map index in Appendix B.

Table 1. Mineola Hill Segment, Noise Modeling Results (2005)

Noise Receptor Description	Distance from Roadway (ft)	Noise Level (Leq) (Design Hour)			Decibel Increase for Build Alt. Over Existing	Impact
		Existing (2000)	No Build (2030)	Build (2030)		
Cemetery on Frontage Road	532	69	72	71	2	Yes
Graham Cave State Park Boat Ramp	672	64	68	69	5	Yes
Graham Cave State Park Shelter	351	67	71	71	4	Yes
Graham Cave State Park Glades Natural Area	664	66	70	70	4	Yes
Graham Cave	1,320	59	63	63	4	--
Graham Cave State Park Office	2,209	57	61	61	4	--
Graham Cave State Park Campground	3,402	52	57	57	5	--
Graham Farmstead	112	73	77	77	4	Yes
Kan-Do Campground	759	63	66	71	8	Yes

Source: I-70 Second Tier Draft EA, SIU 6, Technical Memorandum: SIU 6 Noise Analysis, 2005.

The noise increases are primarily attributed to an increase in traffic numbers rather than proposed changes in roadway alignment and width, as demonstrated by the minor to nonexistent differences between the noise levels for the 2030 Build and No Build alternatives. In one case, the Build alternative even results in slightly lower noise levels than the No Build, which can be attributed to widening and realignment of the mainline, which would move most traffic further from the receptor.

Average annual daily traffic (AADT) projections utilized in the 2005 EA and associated noise study assumed a growth rate along the project corridor, from 2000 to 2030, of approximately three percent annually, putting 2030 forecasts at approximately 70,000 vehicles per day. However, using more recent AADT data, current traffic forecasts estimate a growth rate for the corridor of just over one percent annually, with an estimated AADT of approximately 52,000 vehicles in 2040. Since the noise study utilized higher traffic volumes than those currently projected, and the proposed widening of the existing alignment to accommodate climbing lanes is of similar design as that analyzed in the 2005 EA, noise impacts under 2040 Build conditions would be similar to or less than those determined in the analysis for 2030, shown above. Additionally, there has been no notable development along the Mineola Hill segment that would result in new sensitive noise receptors. For these reasons, the previous noise study conducted for the 2005 EA remains valid for the purposes of evaluating potential noise impacts.

Although a number of noise receptors were determined to be impacted, noise abatement was previously determined not reasonable along the Mineola Hill segment. The 2005 EA stated that based on the noise study completed, mitigation of noise impacts for the proposed project did not meet all of FHWA and MoDOT's definitions for reasonableness. Since the 2005 EA, changes have been made to the criteria for noise abatement reasonableness and feasibility. However, due to the relatively small number of receptors and the distance between them, the criteria for noise abatement remain unmet. Notably, current MoDOT policy requires at least a 5 dBA insertion loss for a minimum of 2 first-row, impacted receptors for noise abatement to be considered feasible. Impacted receptors, including those shown in Table 1 and several scattered residences along Route N and Route J located between 150 and 500 feet from the roadway, either do not meet the definition of first-row

receptors or are spaced at intervals such that only a single receptor would be benefited by noise abatement in a specific area. Thus, noise mitigation measures are not currently being considered in conjunction with the proposed climbing lane project.

If design changes dictate the need for a new noise analysis, the contractor shall inform MoDOT to seek approval from FHWA for use of the current noise policy (per MoDOT Engineering Policy Guide, Section 127.13.12.5, Final Noise Abatement Decisions), prior to the contractor performing a new noise analysis.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

As noted above, a noise study was completed for the 2005 EA, analyzing noise impacts to selected receptors along the length of the SIU 6 corridor. Similar to the Mineola Hill segment, the study found that a number of receptors along the remainder of the corridor would experience noise impacts (meeting or exceeding 66 dBA) under the 2030 Build conditions, primarily due to increasing amounts of traffic. As the AADT projections utilized in the noise study were considerably higher than current projections for 2040, noise impacts along the corridor would remain consistent with or less than those determined in the noise study. Therefore, the findings of the 2005 EA would remain valid for this resource.

Noise mitigation measures were not considered for the proposed improvements in the 2005 EA, as they did not meet specific definitions for reasonableness. It was determined that noise walls would not be cost-effective or reasonable due to the sparse number of sensitive noise receptors close to the interstate. As the criteria for noise abatement reasonableness and feasibility have since changed, the consideration of noise mitigation would be re-evaluated if improvements within the remaining corridor are implemented in the future.

Threatened and Endangered Species

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

See the section below on the remaining SIU 6 corridor for the list of threatened and endangered species identified in the project area.

This project was screened using the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) and an updated official species list was obtained on December 13, 2019 (Consultation Code: 03E14000-2020-SLI-0656). Running buffalo clover (*Trifolium stoloniferum*), Gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and Northern long-eared bat (*Myotis septentrionalis*) were listed as endangered or threatened species potentially present in the county study area. There are no critical habitats within the project area. MoDOT biologists conducted a habitat assessment in November and December 2019 for the listed bat species. Trees exhibiting suitable roost characteristics for Indiana and northern long-eared bat were identified within the project area with Global Positioning System points, spray paint, and flagging tape. The project will not involve any tree clearing beyond 100 feet from the existing roadway north of I-70 and beyond 50 feet south of I-70, and clearing of suitable roost trees for Indiana and northern long-eared bats will occur during the inactive season (November 1-March 31).

The nearest records for gray bats in the Natural Heritage Database (NHD) are over 14 miles to the southwest. They are old (1983) records and are not associated with caves. The nearest Indiana and northern long-eared bat records in the NHD are over 15 miles to the south along the Missouri River. The nearest cave to the project area is Graham Cave, but this feature is a shelter cave and not suitable as a maternity cave or hibernaculum for listed bat species. Based on field visits in 2018, prior to the construction of the new westbound bridge (A8183), gray bats were found on the old westbound I-70 Loutre River bridge (A0971). The bridges in the project limits, except for the westbound Loutre River bridge which is currently under construction, were checked for bats or signs of bats roosting during a field visit on October 28, 2019. No bats or signs of bats roosting were observed on bridges

L0389, L0395, or A0970. Approximately 16 acres of suitable habitat may be cleared for the project. During construction, there will be multiple areas within the proposed right of way labeled as DND to ensure the acreage cleared remains at 16 acres or below. Areas of potential tree clearing and those designated as DND are depicted on the map index in Appendix B. In accordance with the Endangered Species Act, MoDOT has made "may affect, not likely to adversely affect" determinations for the Gray bat, Indiana bat, and Northern long-eared bat.

On December 13, 2019, MoDOT consulted with USFWS regarding potential impacts to threatened and endangered bat species. MoDOT received concurrence for a "may affect, not likely to adversely affect" determination for gray bats based upon clearing of suitable roost trees during the winter months (November 1-March 31) on December 17, 2019. MoDOT received concurrence for a "may affect, not likely to adversely affect" determination for Indiana and northern long-eared bats based upon clearing of suitable roost trees during the winter months (November 1-March 31) on December 27, 2019. Concurrence documentation is included in Appendix A. All suitable roost trees within the project limits will be identified with pink flagging tape and/or spray paint.

MoDOT biologists also conducted a habitat assessment in November 2019 for signs of running buffalo clover. Much of the project area has been exposed to severe disturbance from highway construction and maintenance, as well as frequent flooding in the Loutre River Valley. Invasive species such as reed canary grass are prevalent in the floodplain around the bridges and likely prevent native species like running buffalo clover from flourishing. Other areas exposed to light disturbance within the project area are either too shaded or too sunny to support running buffalo clover. Surveys on MoDOT right of way in the summer of 2018 in the area of the westbound Loutre River bridge as well as various dates in October and November 2019 failed to locate any running buffalo clover. MoDOT has made a "no effect" determination for running buffalo clover and no additional surveys are needed.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

The 2005 EA found no impacts to threatened or endangered species from the preferred alternative, but recommended further consultation of the NHD as projects are close to implementation, and avoidance of instream activities between March 15 and June 15 for reaches of Whetstone Creek.

Project screening for threatened and endangered species for the SIU 6 corridor was conducted through IPaC (11/1/2019) and MDC (12/12/19). Screening reports are included in Appendix A. USFWS and MDC identified the following federal species that could be potentially affected by the project, however critical habitat for each species was not identified in the project area.

<u>Bald eagles</u>
Bald eagles (*Haliaeetus leucocephalus*) nest near streams or water bodies in the project area. Nests are large and fairly easy to identify. While no longer listed as endangered, eagles continue to be protected by the federal government under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. No eagle nests were identified in the project area.

<u>Gray Bat</u>
Gray bats (*Myotis grisescens*, federal and state-listed endangered) occur in Callaway and Montgomery Counties and could occur within 1 mile of the project area, as they forage over streams, rivers, and reservoirs.

<u>Indiana Bat and Northern long-eared Bat</u>
Indiana bats (*Myotis sodalis*, federal and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis*, federal-listed threatened) hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in riparian forests and upland forests near perennial streams.

Running Buffalo Clover
Running buffalo clover (*Trifolium stoloniferum*) occurs within project area. Running buffalo clover is listed as federally and state endangered. Project activity near known Running buffalo clover sites should be consistent with the maintenance of open woodland habitat.

The federally listed threatened and endangered species assessed in the 2005 EA consisted of the running buffalo clover (*Trifolium stoloniferum*) and Indiana bat (*Myotis sodalis*). Since that time, the endangered Gray bat (*Myotis grisescens*) and the threatened Northern long-eared bat (*Myotis septentrionalis*) have been added to the USFWS federal listed species for the project area.

The Natural Heritage records from MDC also identified several other state-listed endangered species and/or state-ranked (not state-listed endangered) and natural communities of conservation concern in the project area. These include the following:

- False mermaid (*Floerka proserpinacoides)*
- Yellow False Mallow (*Malvastrum angustum*)
- A Liverwort species (*Marsupella sullivantii*)
- Prairie Dandelion (*Nothocalais cuspidate*)
- Blacknose Shiner (*Notropis heterolepis*)
- Eastern Eulophus (*Perideridia Americana*)
- American Badger (*Taxidea taxus*)

As no construction or tree clearing will be conducted outside of the Mineola Hill segment at this time, no threatened or endangered species would be impacted in the remaining SIU 6 corridor. For future projects in the remaining SIU 6 corridor, surveys to identify federal- and state-listed protected species and/or their habitat would be required.

Hazardous Materials and Waste Management

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☒ No ☐

During a field survey of the Mineola Hill segment, conducted by MoDOT in the fall of 2019, two trash dump sites were identified within the existing right of way. One is a very old dump site containing solid waste, located south of the interstate between Route N and the eastbound truck stop (Appendix B, Sheet 1). The other site, located north of the interstate at the eastern end of Deer Run Road (Appendix B, Sheet 3), has been burned and consists of solid waste, ashes, and an old trailer. In the event the proposed project would disturb either of these sites, MoDOT would either clean up the site(s) and properly dispose of the waste or pursue the landowner(s) responsible to have them complete cleanup activities, prior to construction.

In addition, one potential low impact hazardous material site identified in the 2005 EA is located within the Mineola Hill segment. This site, located in the southeast quadrant of the Danville intersection, was identified in 2005 as Pace Construction Company, a facility that stored tar and diesel fuel and manufactured asphalt on site. Currently, the property is operated by Capital Quarry Co. as Danville Quarry. MDNR's E-START interactive map does not identify the site as a hazardous substance investigation or cleanup site, or as a regulated storage tank facility. For this reason and because project activities would be now be limited to MoDOT's existing right of way, there would be no direct impact to this site and no risk for potential surface or subsurface contamination.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☒ No ☐
Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

MDNR's E-START interactive map was used to determine if there are potential hazardous materials sites within the SIU 6 corridor that were not previously identified in the 2005 EA. All the records of hazardous substance investigation or cleanup sites and regulated storage tank facilities identified on the E-START map in the project vicinity were reviewed. All records either corresponded with previously identified hazardous materials sites (mapped in Appendix C of the 2004 Draft EA) or, upon further investigation, were found to be associated with properties considerably outside the project's proposed limits of disturbance. As no additional hazardous materials sites were identified along the corridor, the 2005 EA findings remain applicable for this resource.

Cultural and Historic Resources

SIU 6 Corridor, Mineola Hill Segment (Projects J2I3226 and J2I3226B)

Is there an impact to this resource? Yes ☐ No ☒

As part of the Interstate System Exemption approved by the Advisory Council on Historic Preservation in 2005, the Mineola Hill segment of I-70 and the Loutre River overflow bridges (A0970 and L0395) planned for replacement and the eastbound Loutre River Bridge (L0389) have previously been determined as unexceptional and are exempt from Section 106 consideration. Changes to the configuration of the interstate and removal and replacement of these bridges will not require any mitigation or special documentation.

A potential for impacts to five significant cultural resources located in or near the Mineola Hill segment has been identified; however, measures will be taken by the contractor to avoid and minimize potential project impacts to all of these National Register of Historic Places (NRHP) eligible resources. If blasting activities are required, precautions will be taken to avoid damage to structures and property, and a test blast program will be implemented prior to full-scale use of explosives. Blasts will be monitored with seismographs at sensitive locations such as Graham Farmstead and Graham Cave, and an assessment of the sites will take place following the test blast. In the event of damage, the Contractor will restore damaged, injured or lost property to a condition similar or equal to that existing before the blasting event(s). Therefore, as a result of the implementation of those measures, no adverse effects are anticipated.

Four potentially significant archaeological sites have been identified within the I-70 right of way in the Mineola Hill segment. Measures will be taken to avoid and/or minimize the potential for impacts to archaeological resources 23MT1431, 23MT1432, 23MT1436, and 23MT1496. No ground disturbing activities will be permitted in those site areas without either prior evaluative testing or measures to preserve the sites in place by placement of a protective covering comprised of geotextile and a layer of fill suitable to prevent rutting of the ground, and preservation of the archaeological data. On February 11, 2020, the Missouri State Historic Preservation Office (SHPO) concurred that with implementation of the stipulations noted above, no historic properties will be adversely affected by the proposed project actions (Appendix A).

In conjunction with Section 106, notices regarding the project were sent to federally recognized tribes on October 22, 2019. On October 23, 2019, the Ponca Tribe of Nebraska requested a copy of any cultural resource surveys conducted for the project. On March 11, 2020, MoDOT provided both the Osage Nation and the Ponca Tribe of Nebraska with a Section 106 Memo detailing the results of the cultural resources investigation.

Remaining SIU 6 Corridor

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EA More Impacts ☐ No Change ☒ Fewer Impacts ☐

The Missouri SHPO Archaeology Viewer interactive map was reviewed to determine if any new cultural resource surveys and archaeological sites have been recorded since publication of the 2005 EA. No new archaeological sites were found. No new surveys were identified within the remaining SIU 6 corridor, and all other sites and surveys corresponded with previously identified sites and surveys and included in the 2005 EA. As no additional archaeological sites were identified along the corridor, the 2005 EA findings remain applicable for this resource.

Mitigation and Environmental Commitments

Decisions

The following provides a review of decisions made through the course of the First and Second Tier Studies.

12-18-2001 Interstate 70 Corridor, Kansas City to St. Louis, Missouri Final First Tier EIS and ROD – Within the first Tier of the EIS, FHWA approved the selection of the Widen Existing I-70 Strategy for the I-70 Corridor. The strategy would improve existing I-70 by adding lanes and reconstructing the existing roadway to enhance safety and performance, including improved access management. This strategy included provisions for future transportation improvements within the median in rural areas, and the ability to add capacity in the future. (Applicable to Projects J2I3226 and J2I3226B)

5-26-2005 Interstate 70 SIU 6 Corridor Final Second Tier EA and FONSI - The second tier EA evaluated impacts to SIU 6, defined as an 850-foot band centered along existing I-70 from the U.S. 54 interchange with I-70 (mile post 147) near Kingdom City to Route 19 but not including the interchange near Montgomery City (mile post 174). The selected alternative included an additional lane in each direction, the replacement of all existing interchanges and overpasses, access management where appropriate, and the provision for continuous frontage roads on both sides of I-70 as deemed necessary. (Applicable to Projects J2I3226 and J2I3226B)

8-14-2009 Interstate 70 Corridor, Kansas City to St. Louis, Missouri Supplemental EIS and ROD – Within the First Tier of the I-70 SEIS, the Truck-Only Lanes Strategy was determined to be the selected improvement strategy. The Truck-Only Lanes Strategy would construct two truck-only lanes and two or more general purpose lanes in each direction along existing I-70. Concrete barriers, buffer separations or grassed areas would separate the truck-only lanes and general-purpose lanes from each other, depending on the location along the corridor. The Truck-only Lanes Strategy was determined to be consistent with the decisions made in the 12-18-2001 ROD, as it would fit within the limits of the previously evaluated footprint, to the extent possible, utilizing the future transportation corridor identified in the Widen Existing 1-70 Strategy. The footprint for the truck-only lanes through Mineola Hill will remain entirely within the previously evaluated footprint identified in the original Improve I-70 Second Tier Studies. Interchange features of the Widen Existing I-70 Strategy at the majority of the interchanges along the corridor would be retained. (Applicable to Projects J2I3226 and J2I3226B)

List of Commitments

As identified in the 12-18-01 ROD for the Tier 1 EIS and the 5-26-05 Final Second Tier FONSI for SIU 6, MoDOT agreed to the commitments and future actions during the design and construction phases of future improvements in the SIU 6 corridor. The agreed upon commitments and future actions are summarized below. In addition, applicability of the commitments as related to Projects J2I3226 and J2I3226B are identified. Changes or updates to these commitments are shown below each commitment where applicable.

Existing Commitments from the 2005 FONSI Common to all SIUs:

1. *MoDOT will comply with the appropriate currently-adopted design criteria and design standards. (**Applicable to Projects J2I3226 and J2I3226B**)*

*2. MoDOT will incorporate suitable and reasonable Intelligent Transportation Systems elements into the Improve I-70 program. **(Applicable to Projects J2I3226 and J2I3226B)***

*3. MoDOT will consult with emergency responder agencies involved in traffic incident management on I-70 in future design and maintenance of traffic plan development as the Improve I-70 program progresses. **(Applicable to Projects J2I3226 and J2I3226B)***

*4. MoDOT will construct frontage roads for the purposes of maintaining existing local service connections and maintaining existing access to adjacent properties, where warranted. The frontage roads as proposed in the Frontage Road Master Plan may be constructed in the future as needs arise and as funding becomes available. Where reasonably possible, the eight-foot (2.4 meters) paved shoulder along new frontage road construction could serve as a one-way bicycle facility. **(Not applicable per 5-26-2005 Second Tier FONSI)***

5. MoDOT will develop a maintenance of traffic plan for the construction phases. Through traffic will be maintained along I-70 and at access points to the interstate from cross roads. It is likely that some interchange ramps and cross roads will be closed and temporary detours required. Construction schedules, road closures and detours will be coordinated with police forces and emergency services to reduce impact to response times of these agencies. ***(Applicable to Projects J2I3226 and J2I3226B)***

6. MoDOT will coordinate with project area businesses regarding access issues, via direct communication throughout the construction period. ***(Applicable to Projects J2I3226 and J2I3226B)***

7. MoDOT will coordinate with local public service and utility service providers during the final design phase of the project and during the construction period to minimize infrastructure relocation, modifications and connectivity requirements. ***(Applicable to Projects J2I3226 and J2I3226B)***

8. During right of way acquisition and relocations, MoDOT will assure that this will be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. MoDOT is committed to examining ways to further minimize property impacts throughout the corridor, without compromising the safety of the proposed facility, during subsequent design phases. ***(Not applicable to Projects J2I3226 and J2I3226B as no additional right of way would be acquired)***

9. During construction, MoDOT's standard specifications, MDNR Solid Waste Management Program, and MoDOT's Sediment and Erosion Control Program will all be followed. ***(Applicable to Projects J2I3226 and J2I3226B)***

10. Through MoDOT's approved Pollution Prevention Plan for the National Pollutant Discharge Elimination System, the control of water pollution will be accomplished. The plan specifies berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching and other erosion control devices or methods as needed. In addition, all construction and project activities will comply with all conditions of appropriate USACE and MDNR permits and certifications. ***(Applicable to Projects J2I3226 and J2I3226B)***

- To minimize potential soil erosion during construction activities, MoDOT's Sediment and Erosion Control Program would be followed and measures described in the approved Pollution Prevention Plan, such as the utilization of berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching, and other erosion control devices or methods would be implemented as needed. **(SIU 6 EA Re-evaluation)**

11. MoDOT has special provisions for construction, which require that all contractors comply with all applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. Construction equipment is required to have mufflers installed in accordance with the equipment manufacturers' specifications. ***(Applicable to Projects J2I3226 and J2I3226B)***

12. MoDOT is committed to minimize lighting impacts. Efficient lighting and equipment will be installed, where appropriate, to optimize the use of light on the road surface while minimizing stray light intruding on adjacent properties. ***(Applicable to Projects J2I3226 and J2I3226B)***

13. To minimize impacts associated with construction, pollution control measures outlined in the MoDOT Standard Specifications for Highway Construction will be used. These measures pertain to air, noise and water pollution as well as traffic control and safety measures. ***(Applicable to Projects J2I3226 and J2I3226B)***

14. MoDOT will review the Natural Heritage Database and coordinate with the USFWS periodically during the project development process to identify any new locations of threatened and endangered bat activity and for new locations of the running buffalo clover. MoDOT will conduct a field check for the running buffalo clover at least one year prior to construction activities at the Lamine River, Auxvasse Creek, Cedar Creek, and the Loutre River crossing. ***(Applicable to Projects J2I3226 and J2I3226B)***

- In December 2019, MoDOT completed surveys for bat habitat and running Buffalo Clover in the Loutre River crossing and completed consultation with USFWS.

*15. Landscaping in the right of way will include native plant species and other enhancements in accordance with the statewide I-70 Corridor Enhancement Plan to the maximum extent possible. In accordance with MoDOT standards, new seed mixes, mulch and plant materials will be free of invasive weedy species to the extent possible. Where appropriate, MoDOT will partner with the MDC Grow Native program and implement the establishment of native vegetation along highway rights of way. (**Applicable to Projects J2I3226 and J2I3226B**)*

- MoDOT will follow standard policy of planting cool season grasses adjacent to right of way and plant warm season natives outside of the 30-foot clear zone since the current project improvements are not requiring new right of way. **(SIU 6 EA Re-evaluation)**

*16. MoDOT has developed a Conceptual Wetland Mitigation Plan to compensate for wetland impacts, and appropriate mitigation will be adhered to in accordance with the plan. **(Applicable to Projects J2I3226 and J2I3226B)***

- If mitigation is required, MoDOT will mitigate stream impacts with an in-lieu fee provider, and wetland impacts will be mitigated either at a MoDOT bank outside the service area at a higher ratio, or by purchase of credits from an outside bank in the service area. **(SIU 6 EA Re-evaluation)**

*17. MoDOT will continue to coordinate with the SHPO and comply with the existing executed Programmatic Agreement that complies with the National Historic Preservation Act. **(Not applicable to Projects J2I3226 and J2I3226B)***

- The Programmatic Agreement has expired. MoDOT will coordinate with SHPO related to the Section 106 process should design modifications and/or construction activities result in impacts to historic properties. **(SIU 6 EA Re-evaluation)**

*18. When trees are removed, MoDOT will implement the tree replacement policy and plant two trees for every tree removed that has a diameter greater than six inches at breast height. **(Not applicable to Projects J2I3226 and J2I3226B)***

- MoDOT no longer has a tree replacement policy in place. Trees will only be removed from the area required for the paved climbing lane and shoulder, and no open space for planting will be created. As a result, MoDOT will not implement replacement of removed trees. **(SIU 6 EA Re-evaluation)**

*19. Where feasible, MoDOT's design process will minimize impacts to floodplains. **(Applicable to Projects J2I3226 and J2I3226B)***

*20. Mitigation efforts to prevent the rise in flood elevation of each of the water bodies affected will be employed in an effort to obtain a No-Rise Certification permit from SEMA. **(Applicable to Projects J2I3226 and J2I3226B)***

*21. MoDOT will continue to coordinate with the NRCS to determine appropriate mitigation measures for the loss of Conservation Reserve Program and Wetlands Reserve Program lands. **(Not applicable to Projects J2I3226 and J2I3226B; proposed climbing lanes would be constructed in existing MoDOT right of way.)***

*22. Plans for suitable pedestrian, bicycle and wheelchair access across I-70 will be developed during the design of the interchanges. **(Not applicable to Projects J2I3226 and J2I3226B; no interchange work is proposed)***

*23. The MoDOT Noise Policy will be used to address noise impacts. Where appropriate, possible noise abatement types and locations will be presented and discussed with the benefited residents during the preliminary design phase. Noise abatement measures will be considered that are deemed reasonable, feasible and cost effective. **(Applicable to Projects J2I3226 and J2I3226B)***

Existing Commitments from the 2005 FONSI Commitments Specific to SIU 6:

*24. MoDOT will not construct the directional ramps at Kingdom City until such time that traffic volumes degrade the operation of the interchange to an unacceptable level and not until such time as a re-evaluation of the need has been completed. **(Not applicable to Projects J2I3226 and J2I3226B)***

25. MoDOT will continue to work with the Mineola Hill Subcommittee to investigate enhancement opportunities. ***(Not applicable to Projects J2I3226 and J2I3226B; the Committee is no longer in existence, however, MoDOT has reached out to those same agencies on the team at that time for comments)***

26. Any impacted well will be appropriately closed and sealed to prevent any contamination of groundwater. ***(Applicable to Projects J2I3226 and J2I3226B)***

27. Avoidance of in-stream activities between March 15 and June 15 is recommended for reaches of Whetstone Creek that support seasonal concentrations of spawning, incubating or rearing fishes or mussels of management interest. ***(Not applicable to Projects J2I3226 and J2I3226B; Whetstone Creek is located outside of the project area.)***

28. Graham Cave and Graham Cave State Park will not be adversely impacted. ***(Applicable to Projects J2I3226 and J2I3226B)***

29. Graham Rock will not be adversely impacted. ***(Applicable to Projects J2I3226 and J2I3226B)***

- MoDOT will maintain a physical perimeter around Graham Rock at a distance of five feet from where Graham Rock meets the surrounding ground. Work shall not commence until this physical perimeter has been approved by MoDOT. **(SIU 6 EA Re-evaluation)**

30. The Daniel Morgan Boone Cabin will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

31. The potential graves located near Rumbo Branch Creek will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

32. The Mineola Hill Rock Shelter will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

33. The Loutre Valley Rock Shelter will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

34. The Graham Farmstead will not be adversely impacted. Retaining walls will be used extensively to stay within existing right of way. ***(Applicable to Projects J2I3226 and J2I3226B)***

*35. The Southwestern Bell Repeater Station will not be adversely impacted****. (Not applicable to Projects J2I3226 and J2I3226B; no longer present)***

36. The Slab Rock Commercial Building will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

37. The Danville Female Academy and its property will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

38. The Baker Plantation will not be adversely impacted. ***(Not applicable to Projects J2I3226 and J2I3226B; located outside of the project area)***

39. A study is recommended for Graham Cave where strain gauges and/or crack monitors are installed to measure the expansion and contraction of openings through several seasons. This will represent a baseline and these same sensors could provide real-time data measuring the influence of blasting. ***(Not applicable to Projects J2I3226 and J2I3226B; no study has been completed and due to the limited scope of the project, monitoring over several seasons is not feasible)***

40. A test blast program will be implemented prior to full-scale mass rock excavation through the use of explosives. ***(Applicable to Projects J2I3226 and J2I3226B)***

- MoDOT/Contractor will conduct the first blast and evaluate impacts prior to subsequent blasts. In the event of damage, the Contractor will restore damaged, injured or lost property caused by blasting to a condition similar or equal to that existing before the blasting event(s). **(SIU 6 EA Re-evaluation)**

41. Prior to construction the study team recommended that, with the owner's consent, Graham Farmstead will be fully documented both internally and externally with photo, video tape or both prior to the use of explosives in the area. Also, a water sample from the well should be analyzed to establish a baseline. ***(Applicable to Projects J2I3226 and J2I3226B)***

42. If blasting is performed, all blasts will be monitored with seismographs at the Graham Farmstead and Graham Cave. ***(Applicable to Projects J2I3226 and J2I3226B)***

43. If additional caves should be found within the study area they will be dealt with in accordance with MDNR procedures. ***(Applicable to Projects J2I3226 and J2I3226B)***

44. MoDOT will continue discussions with Graham Cave State Park officials to determine how right of way areas could best be used to enhance the park. ***(Not applicable to Projects J2I3226 and J2I3226B due to the limited scope of the project)***

*45. MoDOT will coordinate future plantings near Graham Cave State Park with the Division of State Parks Natural Resource Program in order to protect the integrity of the Graham Cave Glades Natural Area. (****Not applicable to Projects J2I3226 and J2I3226B; the project will not impact park property and therefore, the Natural Area will not be impacted)***

Additional SIU 6 EA Re-evaluation Commitments:

46. If there are changes in the project scope, project limits, existing conditions, pertinent regulations or environmental commitments, MoDOT must re-evaluate potential impacts prior to implementation. Environmental commitments are not subject to change without prior written approval from FHWA.

47. Any previously unknown hazardous waste sites that are found during project construction will be handled in accordance with Federal and State Laws and Regulations. (Responsible Party – MoDOT/Contractor)

48. In the event the proposed project would disturb either of two observed trash dump sites, MoDOT would either clean up the site(s) and properly dispose of the waste or pursue the landowner(s) responsible to have them complete cleanup activities, prior to construction.

49. The Contractor shall not disturb below the groundline archaeological sites 23MT1432/23MT1436, 23MT1436, 23MT1431, or 23MT1496, although fill may be placed upon the site if the site is first covered by geotextile fabric to minimize the potential for adverse effects.

50. The Contractor shall not disturb the groundline around or any trees marked by Do Not Disturb on the plans during construction.

51. MoDOT will ensure that that there will be no tree clearing beyond 100 feet from the existing roadway north of I-70 and beyond 50 feet from the existing roadway south of I-70, and that clearing of suitable roost trees for Indiana and northern long-eared bats will occur during the inactive season (November 1-March 31).

52. The Contractor shall not disturb any wetlands or streams marked by Do Not Disturb on the plans during construction. The contractor shall use appropriate BMPs to prevent silt, sediment, and construction materials from entering streams and wetlands. If mitigation is required, MoDOT will mitigate stream impacts with an in-lieu fee provider, and wetland impacts will be mitigated either at a MoDOT mitigation bank outside the service area at a higher ratio, or through the purchase of credits from an outside mitigation bank in the service area.

53. If a groundwater well cannot be avoided by the project, during construction MoDOT will appropriately close and seal the well to prevent any contamination of groundwater.

54. If design changes dictate the need for a new noise analysis, the contractor shall inform MoDOT to seek approval from FHWA for use of the current noise policy (per MoDOT Engineering Policy Guide, Section 127.13.12.5, Final Noise Abatement Decisions), prior to the contractor performing a new noise analysis.

55. If truck parking areas located in the Mineola Hill segment are needed as temporary staging or laydown areas during construction, MoDOT will ensure that use of these areas is limited to the space within the perimeter of the existing truck parking lots.

56. The contractor shall follow Book 1 Section 2.2, General Obligation of Contractor, Book 1 Section 6.3, Environmental Compliance, Book 2 Section 5, Environmental, and EPG Section 127.22 Offsite Borrow. MoDOT shall review and document the contractor's compliance with state and federal laws concerning offsite activities in the project file.

Table 2. SIU 6 EA Re-evaluation Summary Impact Table
Comparison of Impacts from the 2005 Second Tier EA to the Current Project

Resource Evaluated	Impact Findings		
		SIU 6 EA Re-evaluation	
	2005 Second Tier EA	Mineola Hill Segment *(Projects J2I3226 and J2I3226B)*	Remaining SIU 6 Corridor*
Socioeconomics	Minimal impacts include short-term economic declines during reconstruction of interchanges but improved opportunities following completion.	No impact. No changes to intersections or exits, and therefore, no change in visibility or accessibility to existing businesses.	Findings remain consistent with 2005 EA. Social setting and development has remained largely unchanged.
Land Use	No impact to community land use plans and policies.	No impact. Construction limited to existing right of way designated for transportation use.	No impact. Findings remain consistent with 2005 EA.
Displacements	16 residential dwellings and 8 businesses would be displaced.	No displacements. Construction limited to existing MoDOT right of way.	Approximately same number of displacements. Findings remain consistent with 2005 EA.
Environmental Justice	No impact.	No impact.	No impact.
Soils and Geology	No impact.	No impact.	No impact.
Surface Waters	7.27 acres of wetlands and 27,187.7 linear feet of streams (3.33 acres) impacted by the preferred alternative.	0.299 acres of permanent wetland impact and 0.048 acres of permanent stream impact. Impacts would require a Section 404/401 Nationwide Permit with mitigation.	Approximately 7.51 acres of wetlands and 23,854.1 linear feet of streams (3.32 acres). Impacts are less, but similar to 2005 EA.
Groundwater	No impacts.	No impacts. Wells that cannot be avoided by the project would be sealed and capped to prevent any contamination of groundwater.	No impacts. Findings remain consistent with 2005 EA.
Floodplains	38.9 acres of 100-year floodplain impacted by improvements.	Proposed project crosses approx. 1,600 linear feet of 100-year floodplain. Impacts to be finalized in a hydraulic study.	Fewer impacts to floodplains than 2005 EA due to revised FEMA FIRM mapping.

Resource Evaluated	Impact Findings		
		SIU 6 EA Re-evaluation	
	2005 Second Tier EA	Mineola Hill Segment *(Projects J2I3226 and J2I3226B)*	Remaining SIU 6 Corridor*
Public Lands	No impact.	No impact.	No impact.
Prime Farmland	Conversion of approximately 410 acres of prime and unique farmland.	No impact. Construction limited to existing MoDOT right of way.	Findings remain consistent with 2005 EA. Soil types within the project area have not experienced notable change.
Visual Quality	Minimal impacts associated with expansion of the interstate and elimination of some woodlands and farmland.	Minor visual impact due to widening of manmade intrusion in the most visually pleasing portion of the SIU 6 corridor.	Findings remain consistent with 2005 EA. No notable development resulting in new visually sensitive receptors.
Air Quality	No impact.	No impact.	No impact.
Noise	14 receptors would exceed FHWA's Noise Abatement Criteria. Mitigation measures deemed not cost-effective or reasonable.	6 receptors, including 3 within Graham Cave State Park, would exceed FHWA's Noise Abatement Criteria. Noise abatement not feasible.	Findings remain consistent with 2005 EA.
Threatened and Endangered Species	No impacts from the preferred alternative but recommended further consultation of the NHD and avoidance of instream activities between March 15 and June 15 for reaches of Whetstone Creek.	Field surveys for running buffalo clover and bat habitat were conducted by MoDOT biologists. Field surveys concluded no presence of Running buffalo clover and approximately 16 acres of suitable habitat for listed gray, Indiana, and northern long-eared bat species may be cleared during the inactive season. USFWS concurrence was received on MODOT's determinations of "may affect but not likely to adversely affect" listed bat species and "no effect" for running buffalo clover.	No impact. Additional surveys and consultation with USFWS would be conducted for future projects.

Resource Evaluated	Impact Findings		
	2005 Second Tier EA	SIU 6 EA Re-evaluation	
		Mineola Hill Segment *(Projects J2I3226 and J2I3226B)*	Remaining SIU 6 Corridor*
		During construction, DND areas will be maintained to ensure disturbed bat habitat remains at 16 acres or below.	
Hazardous Materials and Waste Management	8 hazardous materials sites identified with low potential for impact.	2 trash dump sites identified during field survey. Would be removed prior to construction if impacted by design build.	Findings remain consistent with 2005 EA. No new sites identified via review of MDNR's E-START map.
Cultural and Historic Resources	Archaeological sites impacted by the preferred alternative: 8 sites were recommended for avoidance, 11 sites were determined to have a potential for intact subsurface deposits. Historic Resources were avoided by the preferred alternative. Recommendations were made to avoid impacts to Graham Rock, although it was determined to be not eligible for the NRHP by MoDOT and FHWA; SHPO concurred with the recommendation.	In 2019, between Route N and the Route 161 Danville Interchange a follow-up survey was conducted by MoDOT that resulted in identification of four previously unrecorded sites within or partly within the I-70 right of way and one previously unrecorded site located just outside the right of way, but within the previous SIU 6 archaeological study corridor. None of these sites are likely to be affected by the improvements planned in projects J2I3226 and J2I3226B. Avoidance of archaeological sites 23MT1431, 23MT1432, 23MT1436, and 23MT1496 or measures	No impact. No additional archaeological sites were identified along the corridor and the 2005 EA findings remain applicable.

Resource Evaluated	Impact Findings		
	2005 Second Tier EA	SIU 6 EA Re-evaluation	
		Mineola Hill Segment *(Projects J2I3226 and J2I3226B)*	Remaining SIU 6 Corridor*
		adequate to preserve the data in place will be implemented to avoid possible impacts during construction.	

*Analysis in the remaining SIU 6 corridor considers the preferred alternative in the 2005 SIU 6 EA which consists of an approximately 850-foot wide corridor.

Re-evaluation Conclusion

Most of the impacts to socioeconomic and environmental resources resulting from the proposed project would remain the same as the impacts identified in the 2005 Second Tier EA. Although the roadway alignment has generally not changed, the climbing lanes project in the Mineola Hill segment would occur within the existing right of way, a smaller footprint than was recommended for the preferred alternative in the 2005 EA. No other improvements in the remaining portion of SIU 6 are scheduled at this time. The proposed project would result in wetland, stream, and archaeological impacts, however, these impacts are consistent with impact findings in this section of SIU 6 which were evaluated in the 2005 EA.

This re-evaluation document demonstrates that the 2005 Final I-70 Second Tier EA and FONSI for SIU 6 remain valid. The proposed project continues to meet the purpose and need identified in the 2005 EA. Therefore, a supplemental study of the 2005 EA is not necessary for the current project.

Mineola Hill Climbing Lane Project
Montgomery County, Missouri
MoDOT Projects J2I3226 and J2I3226B

Submitted Pursuant to 42 U.S.C. 4332(2)(c), 49 U.S.C. 303
By the U.S. Department of Transportation
Federal Highway Administration and the
Missouri Department of Transportation.

RAEGAN M BALL

Digitally signed by RAEGAN M BALL
Date: 2020.03.19 10:12:21 -05'00'

Date of Approval	For FHWA	Title

Appendix A

Public and Agency Coordination

Heitz, Connie

From: Melissa Scheperle <Melissa.Scheperle@modot.mo.gov>
Sent: Friday, October 18, 2019 11:33 AM
To: Heitz, Connie
Subject: FW: Mineola Hill

FYI

From: Christopher S Knapp
Sent: Friday, October 18, 2019 10:51 AM
To: Brandi J. Baldwin; Melissa Scheperle; Marisa Ellison
Subject: FW: Mineola Hill

Public comment from the SIU 6 re-evaluation.

Christopher Knapp, P.E. Transportation Project Manager
573-248-2586▪ fax 573-248-2471
1711 S Highway 61▪Hannibal, MO 63401
Christopher.Knapp@modot.mo.gov▪www.modot.org/northeast

Mission

Our mission is to provide a world-class transportation system that is safe, innovative, reliable and dedicated to a prosperous Missouri.

From: ms no one [mailto:s_rodgers13@yahoo.com]
Sent: Friday, October 18, 2019 9:54 AM
To: Christopher S Knapp
Subject: Mineola Hill

I think it is a great idea to add climbing lanes on both east and west bound lanes of Interstate 70 ant Mineola Hill. It is about 30 years overdue. I have traveled that stretch of highway for the last 30 years and wondered why it had not been done or even considered until now. It has always concern me as you can be cruising around 70 MPH just to have to slow down to 40 MPH suddenly. It seems like that could be a dangerous situation.

While on the subject of a third lane, I don't understand why your department does not see the need of a third lane of Interstate 70 all the way from St. Louis to Kansas City. At lease a third lane until completely out of the metro areas of both Kansas City and St. Louis. On the St. Louis side all the way to Warrenton on the westbound side at least. I drive that section of highway frequently and see the backup of traffic that finally starts to thin out after Warrenton heading west bound. This is the case even on the weekends as you have lake traffic along with sporting event traffic. I have seen various accidents over the years mainly being rear ending due to stopped and slow traffic on the interstate.

You cannot afford it you say. Consider all the money that your department has spent on adding roundabouts even where there is not a traffic problem (Warrenton's new exit on the west side of town comes to mind). Not to mention the replacement of overpass bridges that have little traffic crossing over them (Danville bridge, bridge between MM 148 and MM 155 comes to mind.) Let's not forget about the diamond crossovers. I'm still scratching my head as to see why this is better than the old ways. You still have to cross traffic at some point. Then you have the additional cost of widening the bridges to accommodate the diamond crossovers.

Even if there are money shortages, you could do only a few miles at a time. I have witnessed this driving Interstate 64 through Kentucky. They have added a third lane pretty much from Louisville to Lexington Kentucky (two major cities in Kentucky), which is approximately 80 miles. It makes travelling through Kentucky very nice indeed. It has taken the quite a few years to do but it is nice that the Kentucky DOT did this accommodate the travelers. I frequently drive this stretch and have seen the progress through the years.

Then your department says toll road to pay for it. Your department thinks that travelers in transit would pay. But being someone who travels Interstate 70 on a daily basis, I can see where commuters like me would take to the back roads and outer roads to not have the financial burden of paying tolls on a daily basis. Then you would have additional maintenance on the outer roads due to the traffic increase on such. That just seems like it would cost your department more money in the long run.

It appears that, at least from my point of view, that the projects listed above are just pet projects to be able to say that there is not enough money for a third lane on Interstate 70 until you get your toll road. Just my two cents for what it is worth.

Sincerely,
Shari Rodgers

From:	Heitz, Connie
To:	Kleikamp, Natalie
Subject:	FW: Mineola meeting with MDNR - notes
Date:	Monday, October 28, 2019 10:05:01 AM
Attachments:	MDNRMtg10-22-19.pdf

FYI

From: Melissa Scheperle <Melissa.Scheperle@modot.mo.gov>
Sent: Monday, October 28, 2019 9:45 AM
To: Heitz, Connie <connie.heitz@woodplc.com>
Cc: Brandi J. Baldwin <Brandi.Baldwin@modot.mo.gov>
Subject: Mineola meeting with MDNR - notes

Connie,
My minutes and sign-in sheet (attached) from the meeting:

MoDOT/MDNR Meeting
October 22, 2019
Mineola SIU6
Minutes

Attendees: Melissa Scheperle (MoDOT-Env), Rusty Weisman (MoDOT-HP), Brandi Baldwin (MoDOT-Project Director), Derek Lepper (MoDOT-Asst. Project Director), Taylor Peter (FHWA), Kyle Grayson (MoDOT-Env), Karen Daniels (MoDOT-HP), Rob Hunt (MDNR-Planning Coord), Amanda Burke (MDNR-SHPO), Amy Rubingh (MDNR-SHPO), Rebecca McKinstry (MDNR-SP Legal Counsel), Melanie Smith (MDNR-SP), Jack Winburn (MDNR-SP), Fred Hicks (MDNR-SP), Zane Price (MDNR-SP).

Mineola SIU6

1. **Project Area** – Loutre River Valley for climbing lanes in both west bound and east bound directions.

2. **Farmstead-** no impact.
3. **State Park** – May need additional signage as trucks sometimes mistake the State Route into the park as an outer road to avoid workzones.

4. **Slave Rock** – no impact.
5. **Commitments-discussed the following:**

39. A study is recommended for Graham Cave where strain gauges and/or crack monitors are installed to measure the expansion and contraction of openings through several seasons. This will represent a baseline and these same sensors could provide real-time data measuring the influence of blasting. No study has been done by MoDOT or MDNR-SP. With the current schedule for construction, monitoring over several seasons is not feasible.

40. A test blast program will be implemented prior to full-scale mass rock excavation through the use of explosives. MoDOT is proposing that the first blast be considered the test blast.
42. If blasting is performed, all blasts will be monitored with seismographs at the Graham Farmstead and Graham Cave. This is a typical requirement for monitoring historic properties.
44. MoDOT will continue discussions with Graham Cave State Park officials to determine how right-of-way areas could best be used to enhance the park. MoDOT will not be impacting the Park so this commitment is not applicable.

45. MoDOT will coordinate future plantings near Graham Cave State Park with the Division of State Parks Natural Resource Program in order to protect the integrity of the Graham Cave Glades Natural Area. MoDOT will not be impacting the Park so this commitment is not applicable.

6. **Other**?

Additional comments will be coming from MDNR.

Action Items:

- MoDOT to provide links www.improvei70.org/environmental_6.htm
- Rob Hunt will circulate Mineola agency letter to various divisions.

Melissa A. Scheperle
Environmental Compliance Manager –NEPA, Hazardous Waste
Environmental and Historic Preservation Section
Design Division, MoDOT
Ph: 573-526-6684
Melissa.scheperle@modot.mo.gov

Brandi Baldwin, P.E.
Project Director
MoDOT – Central District

Dear Ms. Baldwin:

The Missouri Department of Natural Resources appreciates the opportunity to review the materials for the I-70 Mineola Hill Project. The Department offers the following comments for consideration.

Project Location

The Environmental Assessment (EA) study area is located west of the City of Danville, for approximately 5.3 miles along the I-70 corridor. The following geographic descriptions apply to the approximate location of the study area.

Geographic Coordinates:
West Project Limit: 618661 E, 4306266 N
East Project Limit: 627011 E, 4307591 N

Public Land Survey System:
West Project Limit: T48NR06WS30
East Project Limit: T48NR06WS25
Middle of Project: Landgrant 01740

8-Digit Hydrologic Unit Code:
Lower Missouri (10300200)

Ecological Drainage Unit:
Ozark/Moreau/Loutre

Public Lands

Graham Cave State Park
Blasting
We appreciate MoDOT's willingness to monitor the impact of blast vibrations on Graham Cave. Please coordinate with our park staff during planning and construction to conduct the monitoring. At this time, we do not believe test blasts are necessary due to the work occurring outside of the park boundary.

Native Plants
We appreciate MoDOT's willingness to use native plants to revegetate disturbed areas near the park's boundaries following construction. As stated in the Second Tier Environmental Assessment commitments, please coordinate native planting adjacent to park boundaries with the Division of State Parks Natural Resource Management Program.

Natural Areas
The Danville Glade Natural Area is located south of the eastern edge of the project area. Graham Cave State Park also contains the Graham Cave Glades Natural Area, and is adjacent to the project area. Missouri Natural Areas are designated by the interagency Missouri Natural Areas Committee with the goal to protect and manage sites that represent the character, diversity and ecological processes of the state's native landscapes. Designated Natural Areas are located statewide and may consist of a combination of public and private resources. Please contact the Missouri Department of Conservation at 573-751-4115, or the Department of Natural Resources at 800-361-4827 for more information.

Conservation Opportunity Areas
The Missouri River Hills is a conservation opportunity area, and covers the eastern portion of the proposed project area. It contains large blocks of contiguous forest, natural areas, heritage hotspots, and existing conservation lands. Both terrestrial and aquatic COAs are identified by the Missouri Department of Conservation and its conservation partners as priority areas that support and conserve viable populations of wildlife and the ecological systems on which they depend. Designated COAs are located statewide and may consist of a combination of public and private resources. Please contact the Missouri Department of Conservation at 573-751-4115 for more information.

Geology and Geospatial Data
Based on geologic maps and well logs, the EA accurately represents the bedrock at the project location.

According to Geologic Survey Program databases, there are not any recorded sinkholes or classified losing streams near the project area that would indicate the existence of karst, even though portions of the project area are underlain by limestone bedrock. Therefore, due to the lack of observed karst features near the project area, the sinkhole collapse potential is low. (Graham Cave, located near the east end of the project area, is a structural/erosional feature that is not due to karst. Additionally, the only spring near the project, Living Spring, is likely due to a perching layer and not related to karst activity.)

According to the geologic maps, there are numerous recorded faults (16) and folds (5) mapped within one mile the project area. However, based upon the Center for Earthquake Research and Information data, the project area is not located on or near a seismically active zone. The seismic hazard databases indicate that no seismic related collapse potential exists within the project area. However, there is landslide potential along the western-most section where the roadway lies on valley fill and liquefaction potential exists for the roadway that lies on the flood plain.

Based upon the mine inventory database, the project area does not lie within a former mining district. There are four small former surface clay mines and two small former surface iron mines located within 0.2 to 0.7 miles south of the project area. However, these mines do not appear to have underground workings. Therefore, collapse potential due to former mining activities in the project area is minimal.

For additional information, the Missouri Geological Survey can be contacted directly at 800-361-4827. Other maps showing natural and cultural resources can be found at http://dnr.mo.gov/gis/.

Wells

There are numerous wells in the proposed project area; 20 domestic water, three abandoned, one monitoring, and one irrigation. Wells can act as conduits of pollutants to groundwater resources. Abandoned wells should be plugged prior to any land disturbance, and care should be taken to utilize appropriate best management practices to protect any currently operating wells. For more information on locating and plugging wells, please visit the link below for the Department's Wellhead Protection Section webpage or contact the Department's Geological Survey Program directly. https://dnr.mo.gov/geology/geosrv/wellhd/.

Water Protection

Best Management Practices

Best management practices should be utilized during project activities to limit the amount of sediment and other pollutants entering waters of the state, and to protect the water's chemical, physical, and biological characteristics. These practices include, but are not limited to, conducting work during low flow conditions whenever possible, keeping heavy equipment out of the water, and taking all necessary precautions to avoid the release of fuel or other waste products to streams and other waters. In addition, the Department encourages the preservation of existing riparian or buffer areas around each water resource to limit the amount of sediments or other pollutants entering the water. Any stream banks, riparian corridors, lake shores, or wetlands denuded of vegetation should be stabilized and re-vegetated as soon as is practicable.

Watershed Conditions

Public Drinking Water

Montgomery County Public Water Service District #1 covers the area of the proposed project area. There are eight public drinking water wells near the proposed project area, including two for rest areas and four for campgrounds. Work associated with any project should take into consideration the protection of surface and groundwater public drinking water supplies, implementing appropriate best management practices as necessary. For additional information regarding source water protection, please contact Mr. Ken Tomlin of the Department's Public Drinking Water Branch at 573-526-0269.

Designated Uses

Water Bodies with Specific Designated Uses

Water bodies are assigned specific designated uses according to State of Missouri Water Quality regulations at 10 CSR 20-7.031(2). These waters are protected by numeric water quality criteria outlined in 10 CSR 20-7.031(5) and Table A, as well as general water quality criteria outlined at 10 CSR 20-7.031(4).

The project area is located within the watershed of the Loutre River (WBID 1624). This is a Class P water body, which are streams that maintain permanent flow even in drought periods. These streams are assigned the following specific designated uses in the Missouri Use Designation Dataset and at 10 CSR 20-7.031 Table H:

- Protection and propagation of fish, shellfish and wildlife – warm water habitat (WWH)
- Human health protection (HHP)
- Irrigation (IRR)
- Livestock and wildlife protection (LWP)
- Secondary contact recreation (SCR)
- Whole body contact recreation – Category B (WBC-B)

Water Bodies without Specific Designated Uses
Water bodies that are not assigned specific designated uses are still protected by general water quality criteria outlined at 10 CSR 20-7.031(4), and are subject to the acute toxicity criteria of Tables A and B, as well as whole effluent toxicity conditions.

The project crosses an unnamed tributary of the Loutre River, as well as the main channel. Additionally, according to the National Wetlands Inventory (https://www.fws.gov/wetlands/), there is the likelihood of freshwater wetlands and ponds within the riparian corridors of the Loutre River, and along I-70 near the proposed project area. As such, the potential exists for wetlands, ponds, and the aforementioned tributaries and headwater streams to be impacted, depending on their proximity to land disturbance activities. Care should be taken to avoid such impacts through alternatives analysis before compensatory mitigation is considered. If wetlands, ponds, headwaters, or tributaries are not directly impacted but are near any land disturbance, care should be taken to protect water quality. While these water bodies are not assigned specific designated uses, they are protected by Missouri's general water quality criteria.

Sensitive Waters
In the project area, there are no known waters designated for Cold Water Habitat, Outstanding National Resource Waters, Outstanding State Resource Waters, Metropolitan No-Discharge streams, losing streams, 303(d) Impaired and 305(b) Threatened Waters, or Waters with Approved Total Maximum Daily Loads.

Table I, Biocriteria Reference Locations:
The Loutre is a Biocriteria reference stream. Biocriteria reference locations are water body segments used in the development of water quality standards and the assessment of aquatic life protection due to their high degree of biological integrity. Reference water locations for some aquatic habitat types can be found in 10 CSR 20-7.031 Table I. These waters should be protected in order to maintain their reference status.

Permitting Obligations
Clean Water Act Sections 401 and 404
A Clean Water Act Section 404 Permit Authorization from the U.S. Army Corps of Engineers (USACE), and Section 401 Water Quality Certification from the Department may be required for

projects that have the potential to discharge fill or dredged material into a jurisdictional water of the United States. More information about these permits can be found at the following links.
https://www.epa.gov/cwa-404/section-404-permit-program
http://dnr.mo.gov/env/wpp/401/

If discharge into water has occurred, or will occur, project personnel should immediately contact the appropriate USACE District (link below) and the Department's Operating Permits Section at 573-522-4502 for more information.
http://www.mvr.usace.army.mil/Portals/48/docs/regulatory/MORegBound.pdf

Mitigation
An alternatives analysis would need to be submitted prior to any impacts to jurisdictional waters as part of the avoidance and minimization measures that precede mitigating unavoidable impacts. Mitigation for wetlands should be in conformance with the *Missouri Wetland Mitigation Method*, http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/mitigation/2017-11-17_MWMM.pdf while mitigation for streams should be in conformance with *Missouri Stream Mitigation Method*, http://www.mvm.usace.army.mil/Portals/51/docs/regulatory/May_2013_Missouri_Stream_Mitigation_Method.pdf. Any mitigation plans must be in conformance with the *Compensatory Mitigation for Losses of Aquatic Resources*, https://www.epa.gov/cwa-404/compensatory-mitigation. This rule establishes a hierarchy for mitigation, with the purchase of credits from a mitigation bank at the top of that hierarchy. The rule also emphasizes in-kind and in-watershed mitigation; to go outside the watershed may result in a higher credit purchase calculation. The applicant should receive mitigation plan approval from the Department prior to certification.

Land Disturbance
Acquisition of a Section 401 Certification should not be interpreted to mean that the requirements for other permits are replaced or superseded, including Clean Water Act Section 402 National Pollutant Discharge Elimination System Permits. Work disturbing an area of one acre or more requires issuance of a land disturbance permit prior to any earth work. Disturbance to valuable resource waters, including springs, sinkholes and losing streams, could require additional conditions or a site-specific permit.

Information and application for online land disturbance permits are located at http://www.dnr.mo.gov/env/wpp/epermit/help.htm. Questions regarding permit requirements may be directed to the appropriate Department Regional Office https://dnr.mo.gov/regions/.

Demolition and Construction Waste Management
Additional information on managing construction and demolition waste can be found at the following link https://dnr.mo.gov/pubs/pub2045.htm

Hazardous Waste
Additional information on hazardous waste and petroleum tanks can be found at https://dnr.mo.gov/ESTART/.

During the project, if any underground tanks or contaminated soil is discovered, workers should withdraw to a safe distance and notify the Department's spill line at 573-634-2436.

It is the generator's responsibility to determine if materials generated during construction and demolition are hazardous wastes. Demolition-related waste categories typically include: paint residue (paint chips, paint scrapings, etc.); demolition debris (metal and boards that have been painted with lead-based or other heavy metal-based paint); and scrap metal (metal objects that contain lead or other heavy metals). A hazardous waste determination is not required for materials that will be reused or recycled without additional processing.

Asbestos
Prior to demolition activities, regulated structures must be thoroughly inspected by a Missouri-certified asbestos inspector to determine if any Asbestos Containing Materials are present and a notification made to the Department at least 10 working days prior to demolition. Regulated structures include any building which has been used as a commercial, institutional or industrial building (even if it was historic use), and projects involving two or more residential structures. In addition, this includes but is not limited to the following "non-building" structures: bridges, pipelines, cooling towers, chimneys, dams, and tunnels. Any asbestos found must be properly managed to prevent release of asbestos fibers.

Solid Waste
Information about solid waste uncovered during construction activities can be found at the following link http://dnr.mo.gov/pubs/pub2192.htm.

No waste may be buried on-site or at an alternate site, except for clean fill. Clean fill is defined by the Revised Statutes of Missouri as "uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinder blocks, brick, minimal amounts of wood and metal and inert (non-reactive) solids...for fill, reclamation or other beneficial use." Clean fill must not contain protruding metals or demolition debris. Although not regulated as waste, placement of clean fill materials may be subject to requirements of the Department's Water Protection Program if it is placed in contact with surface or subsurface waters of the state, or would otherwise violate water quality standards.

Air Pollution
Dust
Ensure fugitive particulate matter emissions, such as dust, resulting from the project do not remain on surfaces or in the air beyond the property line of origin. 10 CSR 10-6.170 restricts the emission of particulate matter to the ambient air beyond the premises of origin. Additional information on general dust emissions may be found here https://dnr.mo.gov/pubs/pub2200.htm.

Open Burning
The open burning of refuse and trade waste is restricted according to 10 CSR 10-6.045. Construction, demolition, and trade waste cannot be open burned, except for untreated wood. Brush from land clearing activities may be burned if the burning is conducted outside the city limits and greater than 200 yards from the nearest occupied structure. Additional information on open burning can be found at https://dnr.mo.gov/pubs/pub2047.htm.

Historic Preservation

Project personnel should check with the Department's State Historic Preservation Office to determine if a Section 106 Review is needed. Information on the Section 106 Review can be found on the Department's we site at https://dnr.mo.gov/shpo/sectionrev.htm.

We appreciate the opportunity to provide comments for the proposed project. If you have any questions or need clarification, please contact Rob Hunt at the Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102 or by phone at 573-522-2656. Thank you.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

I-70 SIU 6 Improvements

LOCATION

Callaway and Montgomery counties, Missouri

DESCRIPTION

Proposed transportation improvements over approximately 27 miles on either side of I-70 from approximately Kingdom City to new Florence (Callaway and Montgomery Counties). Several identified natural resources. Project is in the environmental assessment phase.

Local office

Missouri Ecological Services Field Office

(573) 234-2132
(573) 234-2181

101 Park Deville Drive
Suite A
Columbia, MO 65203-0057

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Gray Bat Myotis grisescens No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat Myotis sodalis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Running Buffalo Clover Trifolium stoloniferum No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2529	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20

Henslow's Sparrow Ammodramus henslowii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Kentucky Warbler Oporornis formosus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

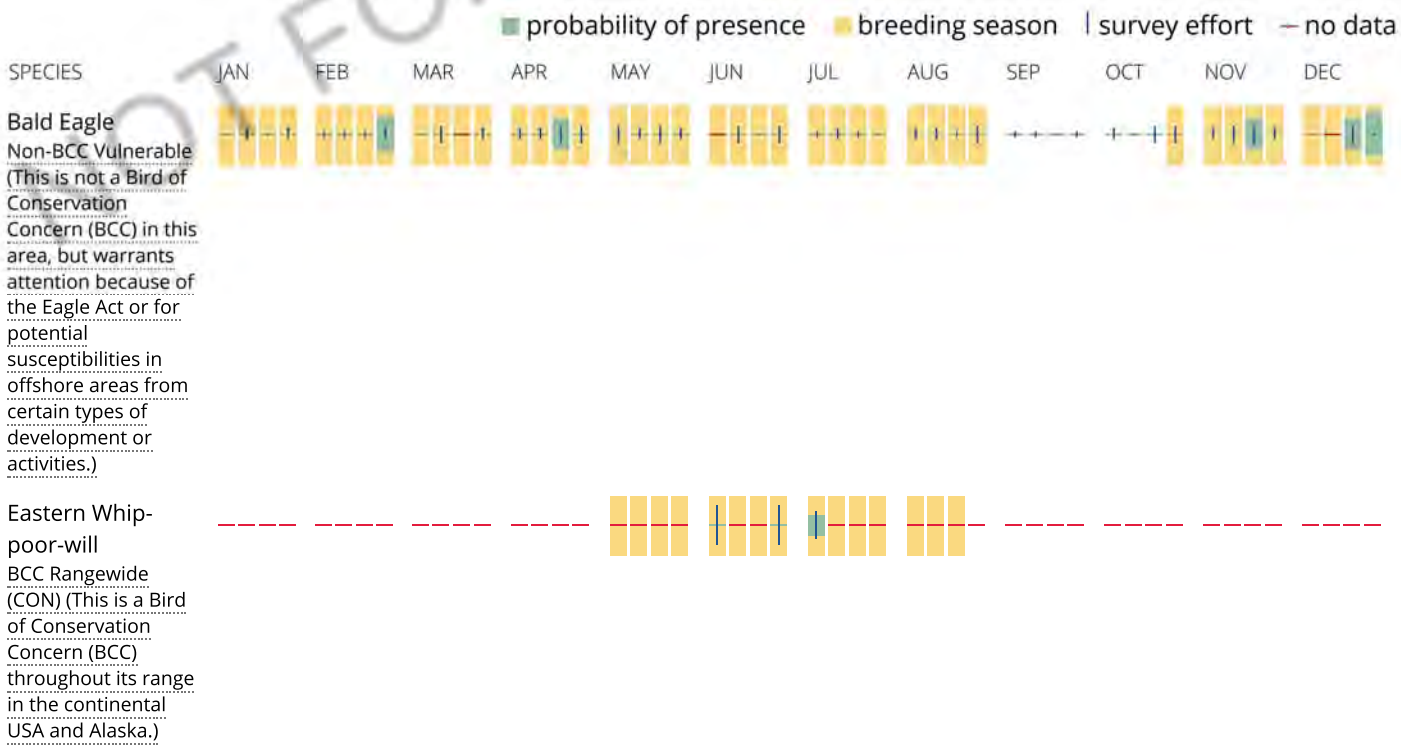
Breeding Season (▬)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

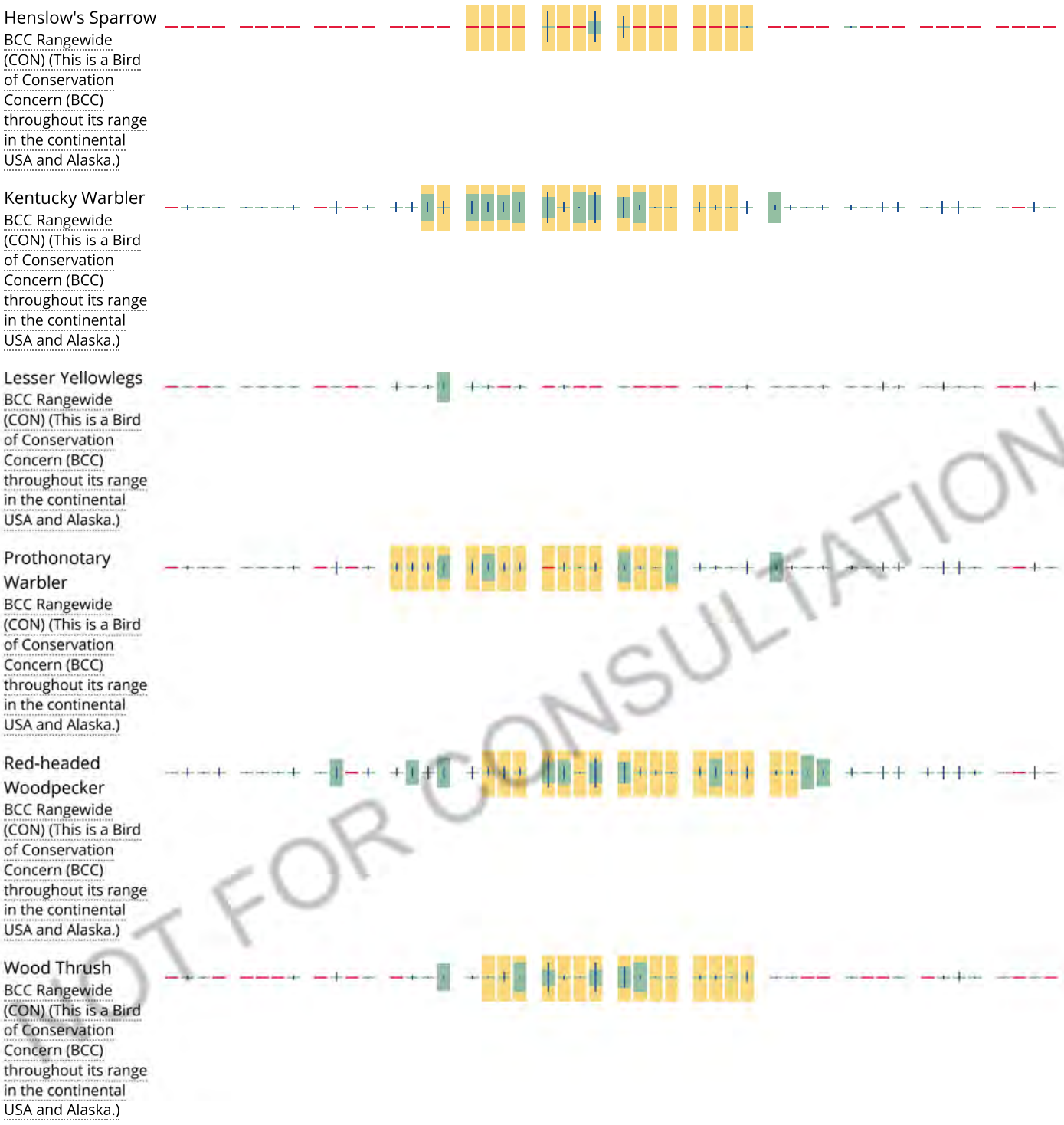
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1C
- PEM1Ad
- PEM1A
- PEM1Cx
- PEM1Ch
- PEM1Fh
- PEM1B

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PFO1/USA
- PSS1A
- PSS1C

FRESHWATER POND

- PUBGh
- PUBGx
- PUBHh
- PUBFh
- PUBKx
- PUBHx
- PUBFx

RIVERINE

- R2UBG
- R4SBC
- R5UBH
- R4SBA
- R2USA
- R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Resource Science Division
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Prepared by: Environmental Review Coordinator
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Natural Heritage Review Report

Robin Ledford
Wood Technical Consulting Services
Robin.ledford@woodplc.com

Project type:	Highway
Location/Scope:	27 miles of I-70 between Kingdom City and New Florence
County:	Callaway & Montgomery
Query reference:	I-70 SIU 6 Improvements
Query received:	11/4/2019

This NATURAL HERITAGE REVIEW is not a site clearance letter. Rather, it identifies public lands and sensitive resources known to have been located close to and/or potentially affected by the proposed project. On-site verification is the responsibility of the project. Natural Heritage records were identified at some date and location. This report considers records near but not necessarily at the project site. Animals move and, over time, so do plant communities. To say "there is a record" does not mean the species/habitat is still there. To say that "there is no record" does not mean a protected species will not be encountered. These records only provide one reference and other information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Look for additional information about the biological and habitat needs of records listed in order to avoid or minimize impacts. More information is at http://mdc.mo.gov/discover-nature/places-go/natural-areas and mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx.

Level 3 issues: Records of federal-listed (these are also state-listed) species or critical habitats near the project site:

Natural Heritage records indicate the following Federal Protected Species near or within the project area:

Bald eagles: Bald eagles (*Haliaeetus leucocephalus*) nest near streams or water bodies in the project area. Nests are large and fairly easy to identify. While no longer listed as endangered, eagles continue to be protected by the federal government under the Bald and Golden Eagle Protection Act. Work managers should be alert for nesting areas within 1500 meters of project activities, and follow federal guidelines at: https://www.fws.gov/midwest/eagle/permits/index.html if eagle nests are seen.

Gray bats: Gray bats (*Myotis grisescens*, federal and state-listed endangered) occur in Callaway and Montgomery Counties and could occur within 1 mile of the project area, as they forage over streams, rivers, and reservoirs. Avoid entry or disturbance of any cave inhabited by gray bats and when possible retain forest vegetation along the stream and from the gray bat cave opening to the stream.

Running Buffalo Clover (*Trifolium stoloniferum*) occurs within project area. Running Buffalo Clover is listed as **federally and state endangered**. Project activity near known Running Buffalo Clover sites should be consistent with the maintenance of open woodland habitat. Moderate disturbances such as prescribed fire and grazing should be allowed to continue to maintain suitable habitat. Do not use any herbicides at Running Buffalo Clover sites unless all the clover plants are located, and spot spraying can be conducted without contacting the clover. Selective harvest of timber is acceptable if clover plants are protected from physical destruction and a partial tree canopy is maintained. Do not mow or otherwise disrupt plants during the period of sexual reproduction (April through August). Please see https://mdc.mo.gov/sites/default/files/downloads/RunningBuffaloClover.pdf for best management practices.

FEDERAL LIST species/habitats are protected under the Federal Endangered Species Act. Contact the U.S. Fish and Wildlife Service (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; 573-234-2132) for Endangered Species Act coordination and concurrence information).

Level 2 issues: Records of <u>state-listed</u> (not federal-listed) endangered species AND / OR <u>state-ranked</u> (not state-listed endangered) species and natural communities of conservation concern. The Department tracks these species and natural communities due to population declines and/or apparent vulnerability.

Natural Heritage records indicate the following State Ranked Species near or within the project area:

Scientific Name	Common Name	State Rank	Proximity (miles)
Agalinis auriculata	Auriculate False Foxglove	S3	0.62
Ambystoma annulatum	Ringed Salamander	S3	2.02
Carex inops ssp. heliophile	Sun Sedge	SU	1.66
Carex conoidea	Field Sedge	S1	1.9
Carex trichocarpa	Hairy-fruited Sedge	S1	1.96
Cyperus setigerus	Bristled Cyperus	S1	2.41
Floerka proserpinacoides	False Mermaid	SU	Within project area
Laterallus jamaicensis	Black Rail	SU	1.73
Lithobates aerolatus circulosus	Northern Crawfish Frog	S3	1.22
Lithobates sylvaticus	Wood Frog	S3	1.36
Malvastrum angustum	Yellow False Mallow	S3	Within project area
Marsupella sullivantii	A Liverwort species	S2	Within project area
Nothocalais cuspidate	Prairie Dandelion	S2	Within project area
Notropis heterolepis	Blacknose Shiner	S2	Within project area
Perideridia Americana	Eastern Eulophus	S2	Within project area
Speyeria Idalia	Regal Fritillary	S3	1.94
Taxidea taxus	American Badger	S3	Within project area
Tyto alba	Barn Owl	S3	3.74

<u>State Rank Definitions:</u>

- S1: Critically imperiled in the state because of extreme rarity of or because of some factor(s) making it especially vulnerable to extirpation from the state. Typically, 5 or fewer occurrence or very few remaining individuals.
- S2: Imperiled in the state because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state. (6 to 20 occurrences or few remaining individuals).
- S3: Vulnerable in the state means this species is rare and uncommon, or found only in a restricted range (even if abundant in some locations), or because of other factors making it vulnerable to extirpation. Typically, 21 to 100 occurrences or between 3,000 and 10,000 individuals.
- S4: Uncommon but not rare, and usually widespread in the nation or state. Possibly of long-term concern. Usually more than 100 occurrences and more than 10,000 individuals.
- SU: Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

There are no regulatory requirements associated with this status, but we encourage voluntary stewardship for all these species to minimize the risk of further decline that could lead to listing.

See https://nature.mdc.mo.gov/sites/default/files/downloads/2019_SOCC.pdf a complete list of species and communities of conservation concern.

STATE ENDANGERED species are listed in and protected under the Wildlife Code of Missouri (3CSR10-4.111).

General recommendations related to this project or site, or based on information about the historic range of species (unrelated to any specific Natural Heritage records):

- **Indiana & Northern long-eared bats:** Indiana bats *(Myotis sodalis*, federal and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis,* federal-listed threatened) hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April. **If any trees need to be removed by your project, please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 Ext. 100 for Ecological Services) for further coordination under the Endangered Species Act.**

- **Karst:** Callaway and Montgomery Counties have known karst geologic features (e.g. caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in Natural Heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are species of conservation concern) are influenced by changes to water quality, so check your project site for any karst features and make every effort to protect groundwater in the project area.

- **Spawning Restrictions:** The project site is near one of 138 state-designated spawning stream segments. Avoid work in the channel from March 15 until June 15, a time when many fish are spawning, and eggs need minimal disturbance. At all times, avoid habitat destruction or introducing heavy sediment loads, chemical or organic pollutants. Spawning stream segments were designated because they are important to maintaining, restoring, or avoiding future listing of species of conservation concern.

- **Aquatic Community:** Portions of Whetstone Creek are considered a significant example of a high quality, Ozark warmwater. Project activities should prevent soil erosion, water pollution and in-stream activities that modify or diminish aquatic habitats.

- **Transportation:** Transportation related projects typically change the plants and animals that live on the right-of-way or in the vicinity. Minimize erosion and sedimentation/runoff to nearby streams and lakes by carefully adhering to any “Clean Water Permit” conditions; and include design elements to manage stormwater so that present water discharge rates from the site to streams during heavy rain events are not increased. Revegetation of disturbed areas is recommended to minimize erosion, as is restoration with native plant species compatible with the local landscape and wildlife needs. Annuals like ryegrass may be combined with native perennials for quicker green-up. Avoid aggressive exotic perennials such as crown vetch and *Sericea lespedeza*.

- Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment, so inspect and clean equipment thoroughly before moving between project sites.
    - Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
    - Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
    - When possible, wash and rinse equipment thoroughly with hard spray or HOT water (≧140° F, typically available at do-it-yourself carwash sites), and dry in the hot sun before using again.

These recommendations are ones project managers might prudently consider based on a general understanding of species needs and landscape conditions. Natural Heritage records largely reflect sites visited by specialists in the last 30 years. Many privately owned tracts have not been surveyed and could host remnants of species once but no longer common.

Missouri Department of Conservation

Missouri Department of Conservation's Mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy and learn about these resources.

Natural Heritage Review Level Three Report: Species Listed Under the Federal Endangered Species Act

There are records for species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

Foreword: Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this website is to provide information to federal, state and local agencies, organizations, municipalities, corporations and consultants regarding sensitive fish, wildlife, plants, natural communities and habitats to assist in planning, designing and permitting stages of projects.

PROJECT INFORMATION

Project Name and ID Number: I-70 SIU 6 Improvements #6433
User Project Number: 325219154
Project Description: Proposed improvements over approximately 27 miles on either side of I-70 from approximately Kingdom City to New Florence (Callaway and Montgomery Counties). Several identified natural resources. Project in the environmental assessment phase.
Project Type: Transportation, Roads
Contact Person: Robin Ledford
Contact Information: robin.ledford@woodplc.com or 636-200-5171

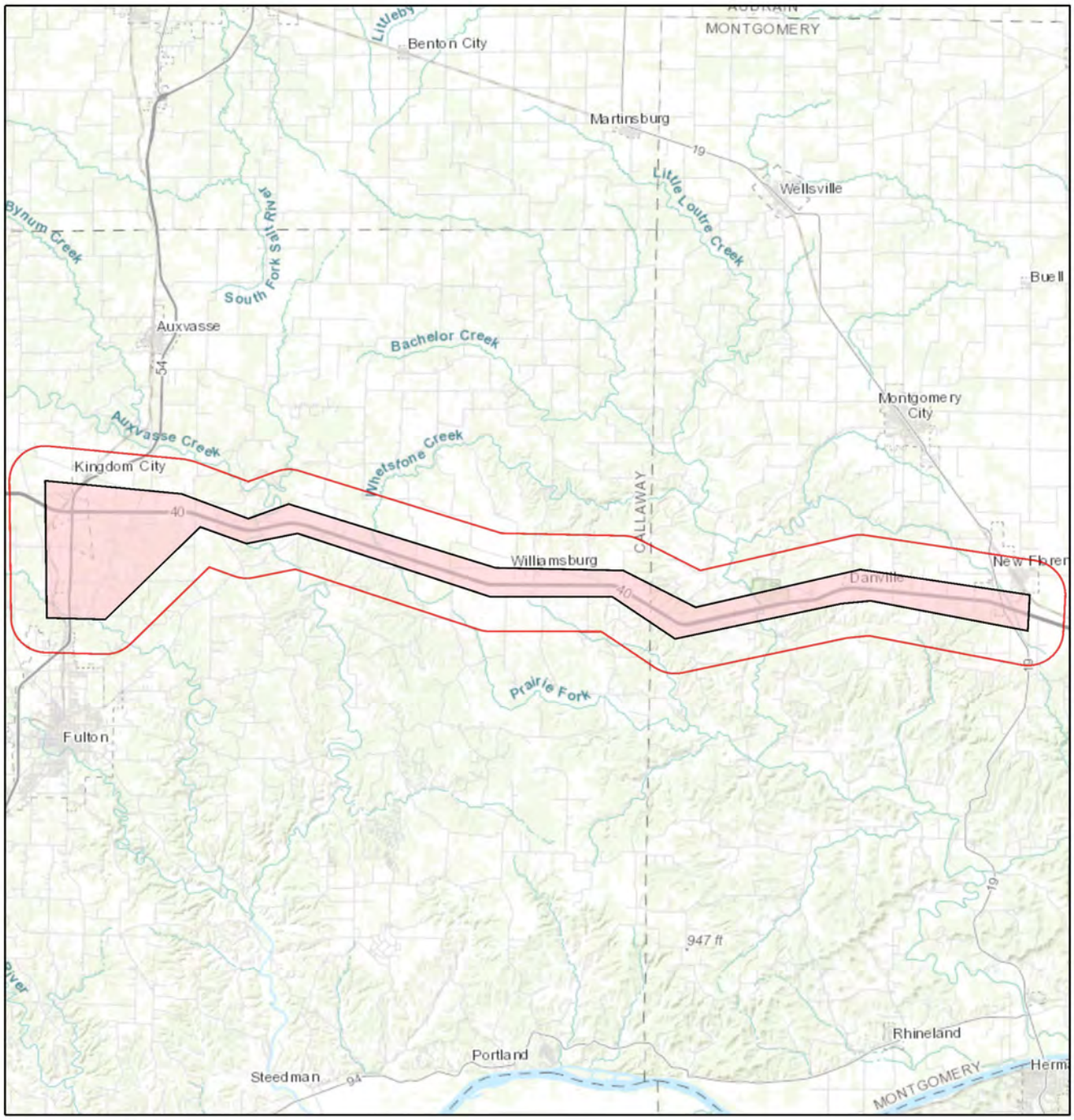
Disclaimer: The NATURAL HERITAGE REVIEW REPORT produced by this website identifies if a species tracked by the Natural Heritage Program is known to occur within or near the area submitted for your project, and shares suggested recommendations on ways to avoid or minimize project impacts to sensitive species or special habitats. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information. The Natural Heritage Program tracks occurrences of sensitive species and natural communities where the species or natural community has been found. Lack of an occurrence record does not mean that a sensitive plant, animal or natural community is not present on or near the project area. Depending on the project, current habitat conditions, and geographic location in the state, surveys may be necessary. Additionally, because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, Reports include information about records near but not necessarily on the project site.

The Natural Heritage Report is not a site clearance letter for the project. It provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from the Natural Heritage Program into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive fish, forest and wildlife resources. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts. Other types of information, such as wetland and soils maps and on-site inspections or surveys, should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.

U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination: Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. The information within this report is not intended to replace Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit the USFWS Information for Planning and Conservation (IPaC) website at https://ecos.fws.gov/ipac/ for further information. This site was developed to help streamline the USFWS environmental review process and is a first step in ESA coordination. The Columbia Missouri Ecological Field Services Office may be reached at 573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203.

Transportation Projects: If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or www.modot.mo.gov/ehp/index.htm for additional information on recommendations.

I-70 SIU 6 Improvements



November 1, 2019

1:252,829

0 2 4 8 mi

0 3.5 7 14 km

- Project Boundary
- Buffered Project Boundary

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Species or Communities of Conservation Concern within the Area:

There are records for species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

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Ecological Service
101 Park Deville Drive
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Other Special Search Results:

The project occurs on or near public land, Graham Cave State Park, Loutre Lick Access, Prairie Fork expansion, Univ of MO (McCredie Farm Lake), Whetstone Creek CA, please contact DNR, MDC, MPF.

Your project is near a designated Natural Area . Please contact MDC Natural Areas Coordinator, 573-751-4115 for more information.

Project Type Recommendations:

No recommendations have been identified for this project type.

Project Location and/or Species Recommendations:

Endangered Species Act Coordination - Indiana bats *(Myotis sodalis*, federal- and state-listed endangered) and **Northern long-eared bats** (*Myotis septentrionalis,* federal-listed threatened) may occur near the project area. Both of these species of bats hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April. **If any trees need to be removed for your project, please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 ext. 100 for Ecological Services) for further coordination under the Endangered Species Act.**

The project location submitted and evaluated is within the range of the Gray Myotis (i.e., Gray Bat) in Missouri. Depending on habitat conditions of your project's location, Gray Myotis (*Myotis grisescens*, federal and state-listed endangered) could occur within the project area, as they forage over streams, rivers, lakes, and reservoirs. Avoid entry or disturbance of any cave inhabited by Gray Myotis and when possible retain forest vegetation along the stream and from the cave opening to the stream. See http://mdc.mo.gov/104 for best management recommendations.

The project site submitted and evaluated is on or near Fish Spawning Stream Reaches Whetstone Creek, one of 138 state-designated fish spawning stream segments. These stream reaches were so designated because they have highly diverse fish communities, fish Species of Conservation Concern present, and because they are important to maintaining, restoring, or avoiding future listing of Species of Conservation Concern. These stream reaches also are included as a Missouri Nationwide Permit Regional Condition (Number 2) that must be considered if working under a Clean Water Act Section 404 Permit issued by the U.S. Army Corps of Engineers (http://www.nwk.usace.army.mil/Missions/RegulatoryBranch/NationWidePermit...). A list of all stream reaches is available at http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/nationwidepermi... . Activities that alter or destabilize stream bottoms or banks should be avoided during the important fish spawning period for that stream, in order to not disrupt fish spawning (i.e., laying and fertilizing fish eggs.) The sensitive spawning period for this stream is March 15th to June 15th. At all times, avoid habitat destruction or introducing heavy sediment loads, chemical or organic pollutants.

Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See http://mdc.mo.gov//9633 for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (?140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

Streams and Wetlands – Clean Water Act Permits: Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit (http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (http://dnr.mo.gov/env/wpp/401/index.html), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit http://dnr.mo.gov/env/wpp/permits/index.html for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below.

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Miscellaneous Information

FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 1 0-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

Additional information on Missouri's sensitive species may be found at http://mdc.mo.gov/discover-nature/field-guide/endangered-species . Detailed information about the animals and some plants mentioned may be accessed at http://mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx . If you would like printed copies of best management practices cited as internet URLs, please contact the Missouri Department of Conservation.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181

In Reply Refer To:
Consultation Code: 03E14000-2020-I-0656
Event Code: 03E14000-2020-E-01574
Project Name: 2I3226B Montgomery County I-70

December 13, 2019

Subject: Concurrence verification letter for the '2I3226B Montgomery County I-70' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request to verify that the **2I3226B Montgomery County I-70** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*).

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/structure removal, replacement, and/or maintenance activities: If your initial bridge/structure assessments failed to detect Indiana bats, but you later detect bats during construction, please submit the Post Assessment Discovery of Bats at Bridge/Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

The following species may occur in your project area and **are not** covered by this determination:

- Gray Bat, *Myotis grisescens* (Endangered)
- Running Buffalo Clover, *Trifolium stoloniferum* (Endangered)

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

2I3226B Montgomery County I-70

Description

Scoping to add eastbound and westbound climbing lanes from 1.1 miles east of Rte. N to 0.2 mile west of Rte. 161 near Mineola and westbound overflow bridge. A consultant will complete the re-eval but MoDOT staff will perform field work and permitting. It is anticipated that all work will occur within the existing right-of-way corridor. Some tree clearing will be necessary. The project will be staged to maintain two lanes of traffic in each direction during construction. MoDOT was recently awarded an INFRA grant to allow construction of this project to move forward. This is expected to be a design-build job in conjunction with project J2I3226, which is for the eastbound Loutre River and eastbound overflow bridge replacements.

Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   Yes

2. Is the project within the range of the Northern long-eared bat[1]?

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?
   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the national consultation FAQs.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    No

12. Does the project include activities **within documented Indiana bat habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors occur[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    B) During the inactive season

15. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

16. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

17. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

18. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

19. Will the tree removal alter *any* **documented** Indiana bat or NLEB roosts and/or alter any surrounding summer habitat **within** 0.25 mile of a documented roost?

    No

20. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

21. Are *all* trees that are being removed clearly demarcated?

    Yes

22. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    No

23. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    Yes

24. Does the project include slash pile burning?

    No

25. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    Yes

26. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    Yes

27. Has a bridge assessment[1] been conducted **within** the last 24 months[2] to determine if the bridge is being used by bats?

    [1] See User Guide Appendix D for bridge/structure assessment guidance

    [2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

    Yes

    SUBMITTED DOCUMENTS

    - *J2I3226andJ2I3226B_BridgeAssessment.docx https://ecos.fws.gov/ipac/project/YBBYVOMAYBCYZM4EWPMXF3RFR4/projectDocuments/19474795*

28. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)[1]?

    [1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

    Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

    No

29. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

    No

30. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

31. Will the project involve the use of **temporary** lighting *during* the active season?

    Yes

32. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

    Yes

33. Will the project install new or replace existing **permanent** lighting?

    No

34. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    Yes

35. Will the activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

36. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

37. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

38. Will the project raise the road profile **above the tree canopy**?

    No

39. Are the wetland or stream protection activities associated with compensatory wetland/ stream mitigation portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because your activities associated with compensatory wetland/stream mitigation activities do not clear suitable summer habitat and are not within 0.5 miles of Indiana bat or NLEB hibernaculum.

40. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

41. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season

42. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the Indiana bat's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

43. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

44. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

45. **General AMM 1**
    Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

    Yes

46. **Tree Removal AMM 1**
Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

Yes

47. **Tree Removal AMM 3**
Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

48. **Tree Removal AMM 4**
Can the project avoid cutting down/removal of *all* (1) **documented**[1] Indiana bat or NLEB roosts[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

[1] The word documented means habitat where bats have actually been captured and/or tracked.

[2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

Yes

49. **Lighting AMM 1**
Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

Yes

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   No

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

   Yes

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   16

4. Please describe the proposed bridge work:

   Addition of eastbound and westbound climbing lanes and replacement of westbound overflow bridge. This is expected to be a design-build job in conjunction with projects J2I3226 (eastbound Loutre River bridge and eastbound overflow bridge replacements).

5. Please state the timing of all proposed bridge work:

   2020-2021

6. Please enter the date of the bridge assessment:

   10/28/2019

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

LIGHTING AMM 1

Direct temporary lighting away from suitable habitat during the active season.

TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

TREE REMOVAL AMM 2

Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

TREE REMOVAL AMM 4

Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or
documented foraging habitat any time of year.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on December 02, 2019. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

Heitz, Connie

From: Hundley, Joshua <joshua_hundley@fws.gov>
Sent: Tuesday, December 17, 2019 10:26 AM
To: Samantha J. Ostmann
Subject: Re: [EXTERNAL] Request for Concurrence: 2I3226B Montgomery County I-70

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Ms. Ostmann,

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided in your December 13, 2019 letter regarding the proposed 213226B Montgomery County I-70 in Missouri. The Service offers the following comments pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544).

MoDOT and FHWA requested the Service's concurrence with a "may affect, but not likely to adversely affect" (NLAA) determination for gray bat (*Myotis grisescens)* for a project that qualified for the transportation programmatic for Indiana and northern long-eared bat. The Service concurs with MoDOT and FHWA's not likely to adversely affect determination for the gray bat.

Thank you for your interest in the conservation of threatened and endangered species.

Josh Hundley
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Missouri Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia, MO 65203-0057
573-234-5037 (office)

On Fri, Dec 13, 2019 at 1:02 PM Samantha J. Ostmann <Samantha.Ostmann@modot.mo.gov> wrote:

> Good Afternoon Josh,
>
> Below is a request to verify that the 2I3226B Montgomery County I-70 (Proposed Action) meets the criteria for a "may affect, not likely to adversely affect" determination for Gray bats (*Myotis grisescens*). The FHWA is the lead federal agency for this project and MoDOT is the designated non-federal representative for Section 7 consultation.
>
> Description of 2I3226B Montgomery County I-70: Scoping to add eastbound and westbound climbing lanes from 1.1 miles east of Rte. N to 0.2 mile west of Rte. 161 near Mineola and westbound overflow bridge. A consultant will complete the re-eval but MoDOT staff will perform field work and permitting. It is anticipated that all work will occur within the existing right-of-way corridor. Some tree clearing will be necessary. The project will be staged to maintain two lanes of traffic in each direction during construction. MoDOT was recently awarded an INFRA grant to allow construction of this project to move forward. This is expected to be a design-build job in

conjunction with project J2I3226, which is for the eastbound Loutre River and eastbound overflow bridge replacements.

Gray bats are found primarily in the Ozark highlands, but may occur throughout the state where there are caves. They use water features and forested riparian corridors for foraging and travel. They are known to occasionally roost in human-made structures, including bridges. The nearest records for gray bats in the NHD are over 14 miles to the southwest. They are old (1983) records and are not associated with caves. The nearest cave to the project area is Graham Cave, but this feature is a shelter cave and not suitable as a maternity cave or hibernaculum for listed bat species. This project will not impact Graham Cave.

Gray bats have been known to roost on the westbound I-70 Loutre River bridge A0971, based on field visits in 2018 prior to the construction of the new westbound bridge A8183. A MoDOT biologist also checked the eastbound Loutre River bridge L0389 in summer and fall 2018 and did not find any bats or signs of bats roosting. Except for the westbound Loutre River bridge, which is currently under construction, the bridges in the project limits were checked for bats or signs of bats roosting during a field visit on October 28, 2019. No bats or signs of bats roosting were observed on bridges L0389, L0395, or A0970.

This project will require tree clearing. Approximately 16 acres of trees may be cleared for the approximately 5 mile long project. It is anticipated that actual clearing will be much less. An assessment for suitable Indiana and northern long-eared bat roost trees within the project clearing limits was completed over multiple dates in October and November 2019. GPS points were collected for each of the trees identified as potentially suitable. This project will not involve any work beyond 100 ft from the roadway and tree clearing of suitable roost trees will occur during the inactive season (November 1-March 31). MoDOT has made “not likely to adversely affect” determinations for Indiana and northern long-eared bats and submitted this project to USFWS under the Rangewide Programmatic Agreement for Indiana and Northern long-eared bats on 12/13/19.

MoDOT has determined that this project may affect, but is not likely to adversely affect, gray bats. We request your concurrence with this determination.

Thanks!,

Sami Ostmann

Environmental Specialist (Northwest/Northeast)

Design Division, MoDOT

601 West Main Street

Jefferson City, MO 65101

Office: (573) 526-4728

Cell: (573) 508-4780

Samantha.Ostmann@modot.mo.gov

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

February 11, 2020

Mr. Michael Meinkoth
Historic Preservation Manager
Missouri Department of Transportation
P.O. Box 270
Jefferson City, Missouri 65102

Re: **SHPO Project No. 002-MLT-20** – Climbing Lanes and Bridges in the Mineola Hills Section of I-70 SIU-6, Between Route N and the Route 161 – Route J Interchange, Montgomery County, MoDOT Job Nos. J2I3226 and J2I3226B

Dear Mr. Meinkoth,

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which requires identification and evaluation of cultural resources.

We have reviewed the report entitled *A Cultural Resources Reevaluation of the I-70 Right of Way in the Mineola Hill Segment of SIU-6 in Montgomery County, between the Route N Overpass and the Route 161 Interchange, MoDOT Job Nos. J2I3226 and J2I3226B*. Based on this review it is evident that a thorough and adequate cultural resources survey has been conducted of the project area. We concur with the recommendation that sites 23MT1431, 23MT1432, 23MT1436 and 23MT1496 may be eligible for inclusion in the National Register of Historic Places (NRHP), and that for the purposes of the proposed construction project should be treated as eligible. We also concur that with implementation of the referenced EIS commitments and contract stipulations, **no historic properties will be adversely affected** and have no objection to the initiation of project activities.

Please be advised that, should project plans change, information documenting the revisions should be submitted to this office for further review. In the event that cultural materials are encountered during project activities, all construction should be halted, and this office notified as soon as possible in order to determine the appropriate course of action.

If you have any questions, please write the State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 attention Review and Compliance, or call Jeffrey Alvey at (573) 751-7862. Please be sure to include the **SHPO Project Number (002-MLT-20)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

Toni M. Prawl

Toni M. Prawl, Ph.D.
Director and Deputy State
Historic Preservation Officer

TMP:ja

Cc.: Ms. Raegan Ball, FHWA
Mr. Taylor Peters, FHWA

Appendix B

Map Index

Legend

- Noise Receptor-No Impact
- Dump Site
- Mineola Hill Segment Project Limit
- NHD Stream

Delineated Stream

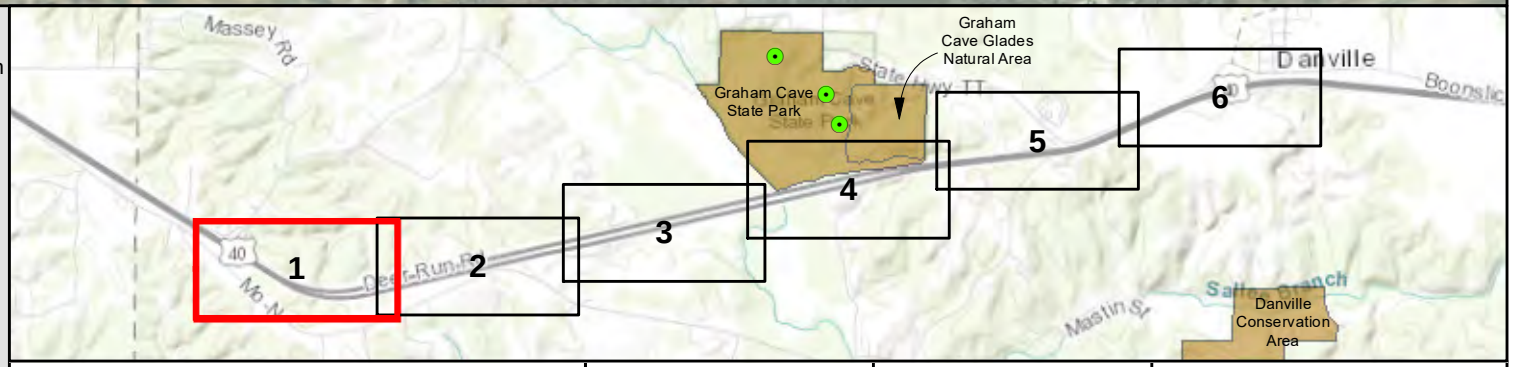
- Do Not Disturb

Suitable Bat Habitat

- Do Not Disturb
- Potential Clearing

Delineated Wetland

- Do Not Disturb



N

0 500 1,000

Feet

Job No.	325219154
Drawn By:	BSM
Reviewed By:	CJH
Date:	3/11/2020

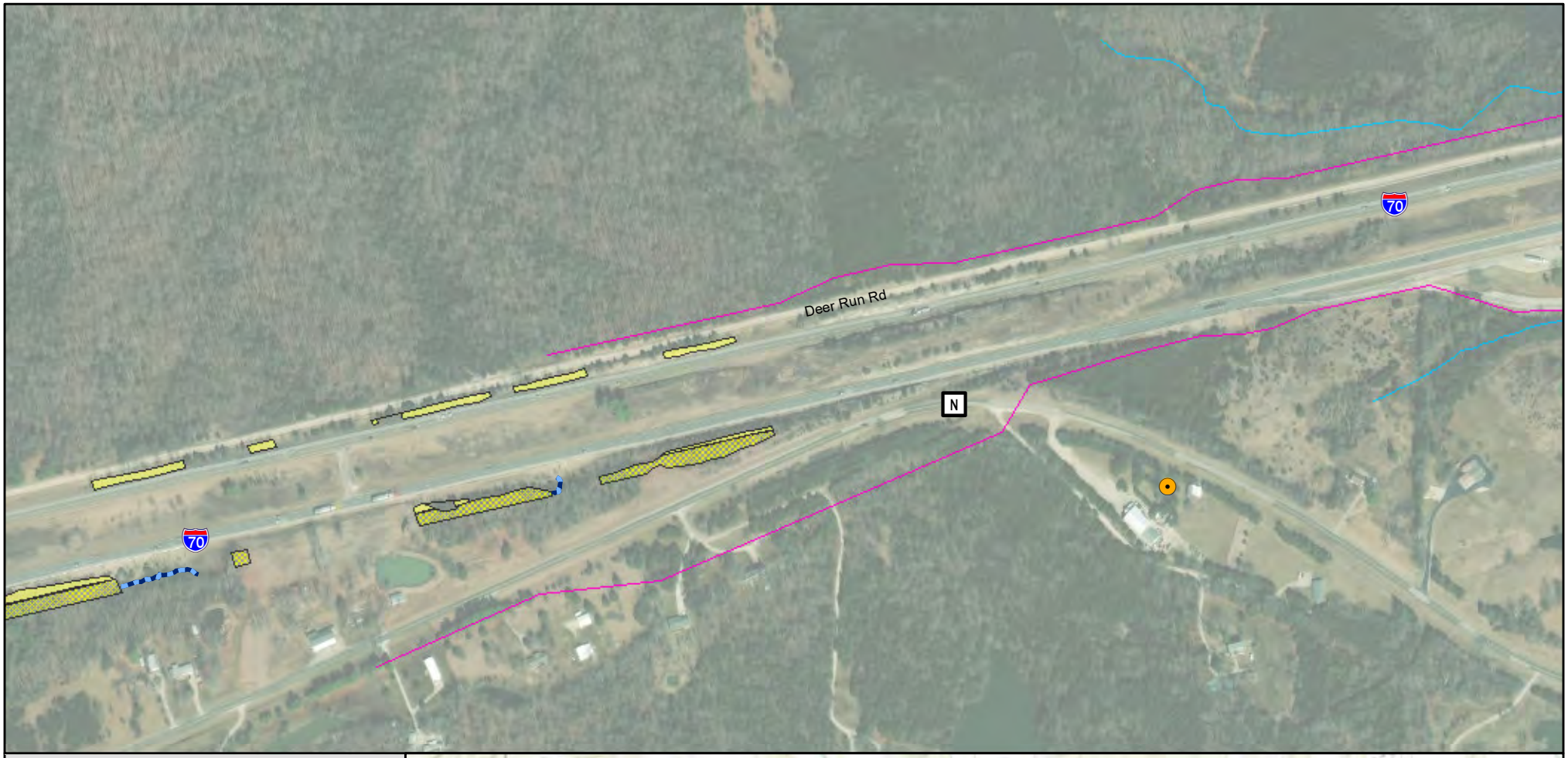
wood.

MoDOT

I-70 SIU 6 EA Re-evaluation

Mineola Hill Segment Environmental Features

Sheet 1 of 6



Legend

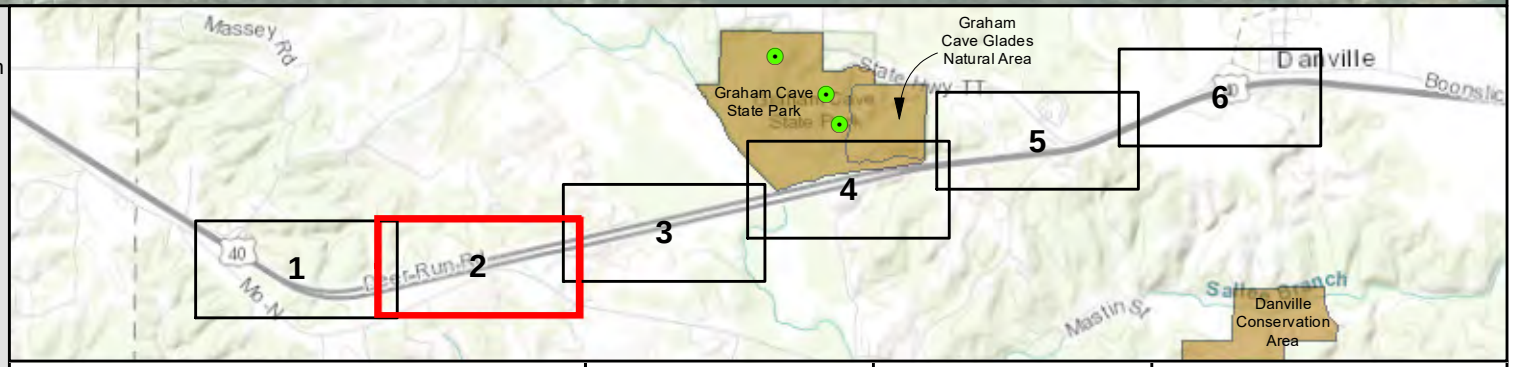
- Noise Receptor-No Impact
- Noise Receptor-Impacted
- Existing MoDOT ROW
- NHD Stream

Delineated Stream

- Do Not Disturb

Suitable Bat Habitat

- Do Not Disturb
- Potential Clearing



N

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Feet

Job No.	325219154
Drawn By:	BSM
Reviewed By:	CJH
Date:	3/11/2020

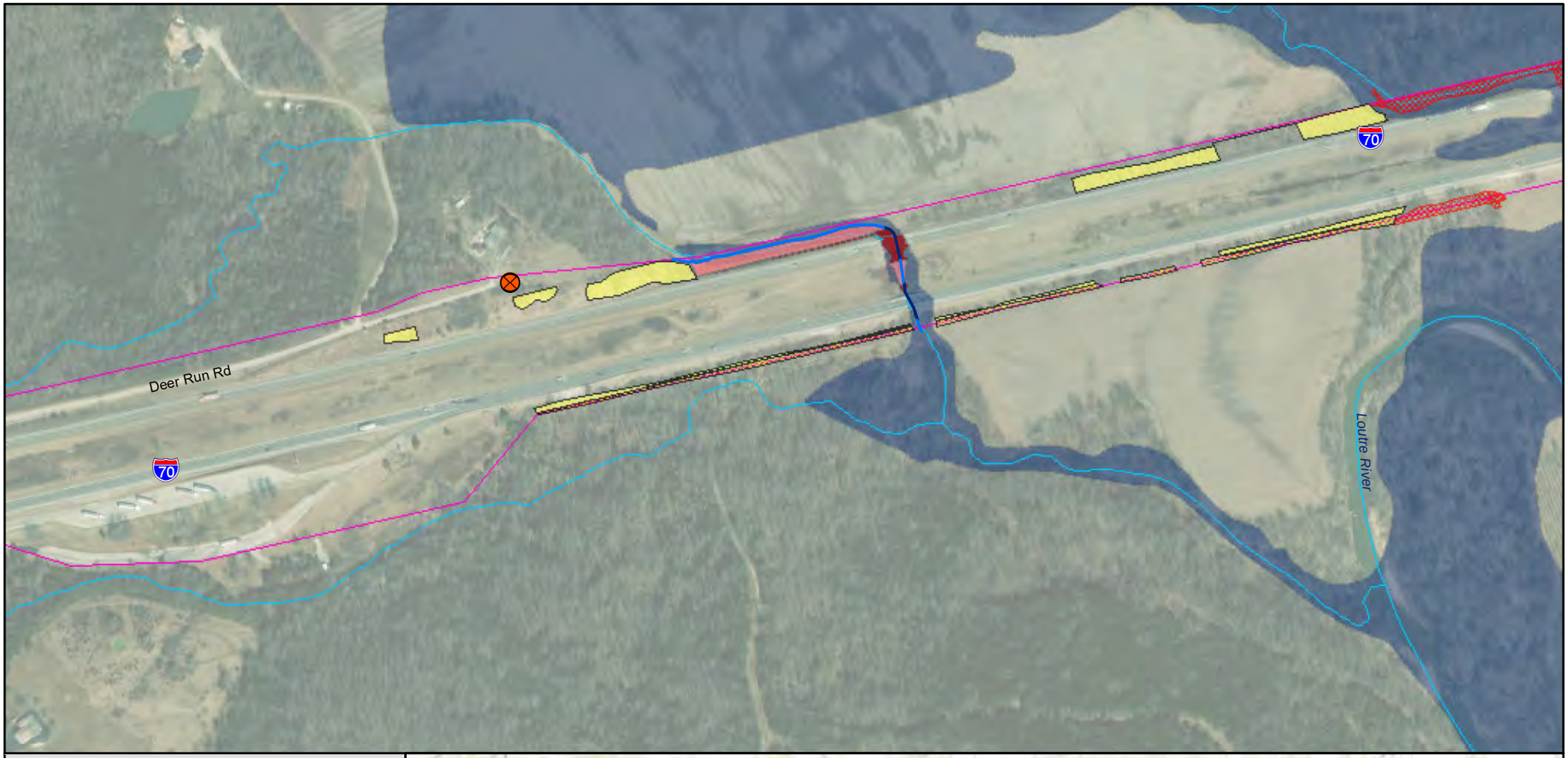
wood.

MoDOT

I-70 SIU 6 EA Re-evaluation

Mineola Hill Segment Environmental Features

Sheet 2 of 6



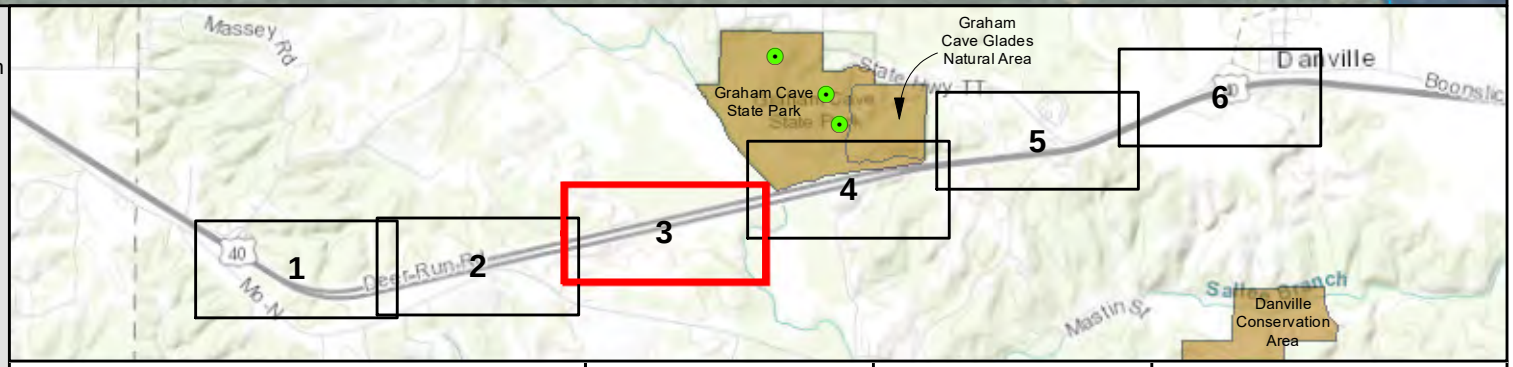
Legend

- Noise Receptor-No Impact
- Dump Site
- Existing MoDOT ROW
- NHD Stream
- 100 Year Floodplain (FEMA)

Delineated Stream
- Permanent Impact
- Temporary Impact

Suitable Bat Habitat
- Do Not Disturb
- Potential Clearing

Delineated Wetland
- Do Not Disturb
- Permanent Impact
- Temporary Impact



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Feet

Job No.	325219154
Drawn By:	BSM
Reviewed By:	CJH
Date:	3/11/2020

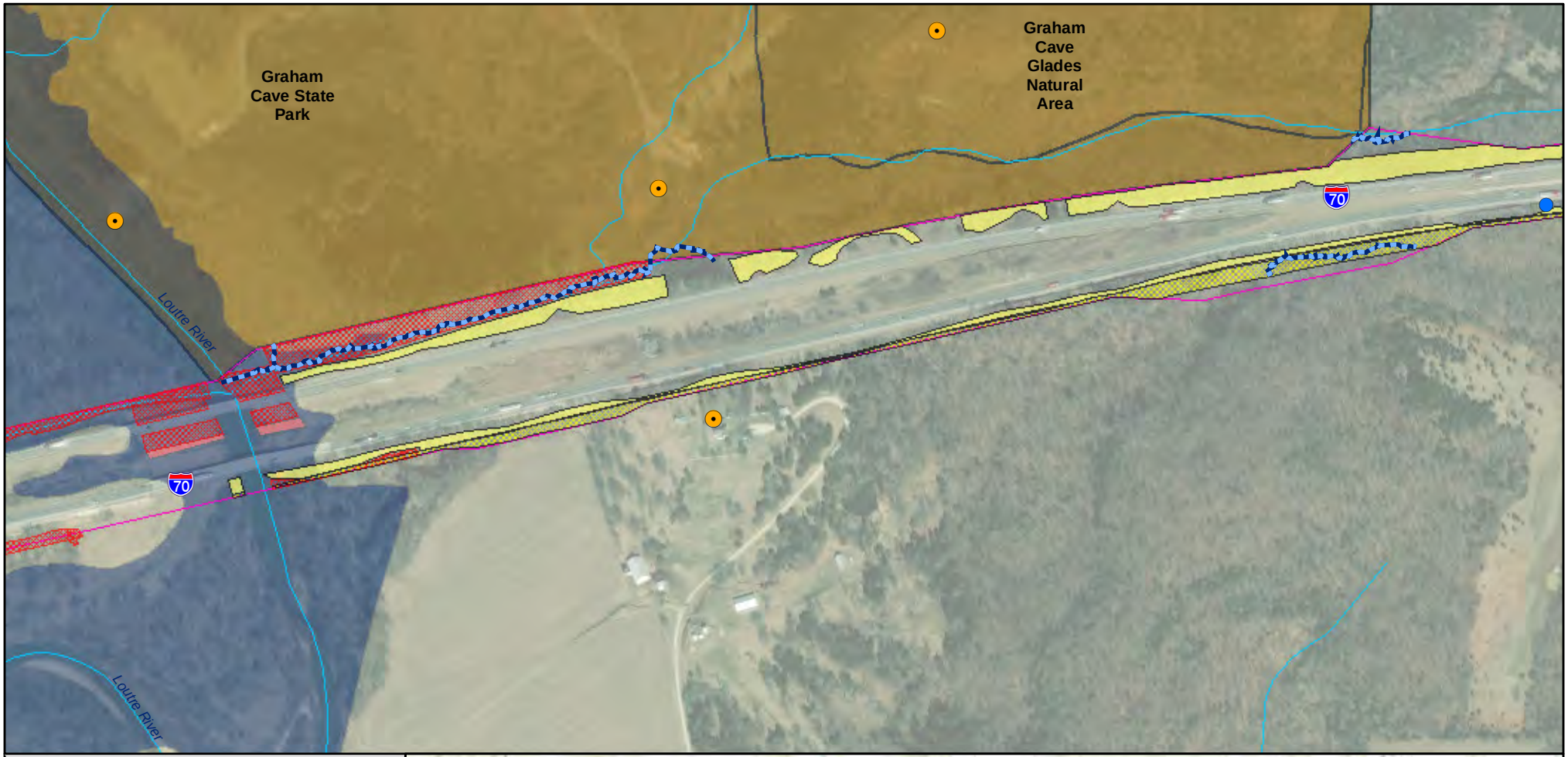
wood.

MoDOT

I-70 SIU 6 EA Re-evaluation

Mineola Hill Segment Environmental Features

Sheet 3 of 6



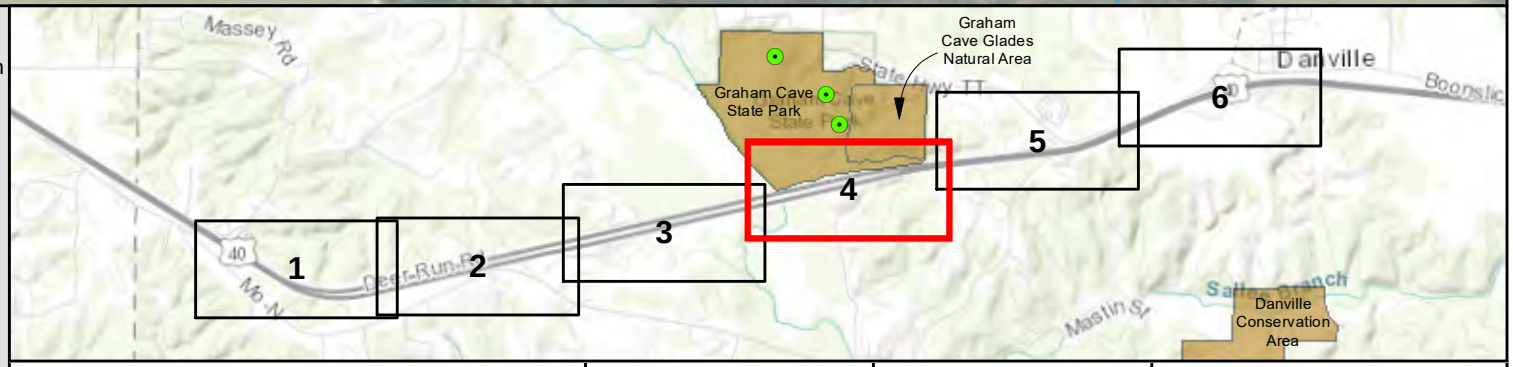
Legend

- Noise Receptor-No Impact
- Noise Receptor-Impacted
- Well
- Existing MoDOT ROW
- NHD Stream
- State Land
- 100 Year Floodplain (FEMA)

Delineated Stream
- Do Not Disturb

Suitable Bat Habitat
- Do Not Disturb
- Potential Clearing

Delineated Wetland
- Do Not Disturb
- Temporary Impact



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Feet

Job No.	325219154
Drawn By:	BSM
Reviewed By:	CJH
Date:	3/11/2020

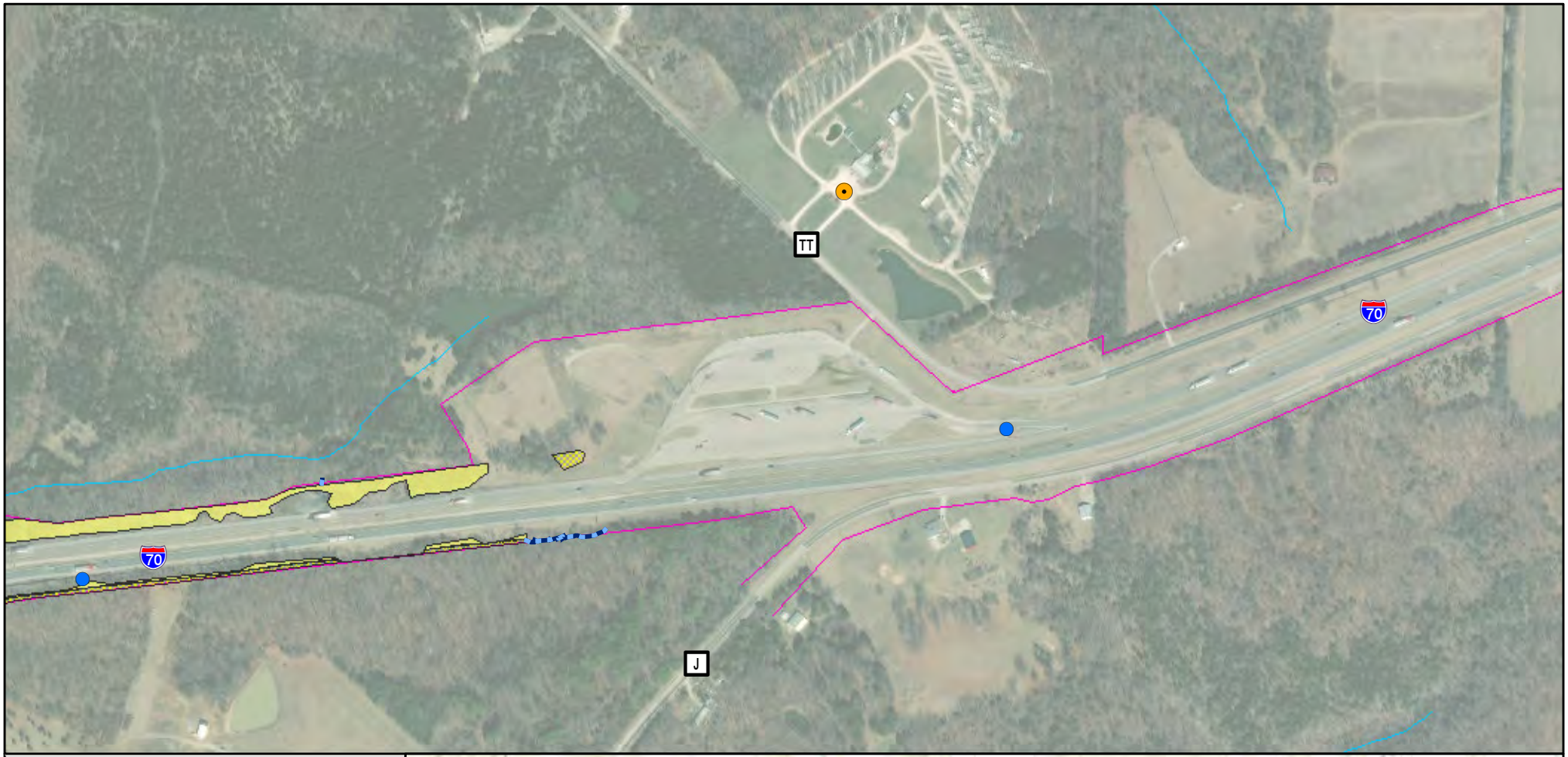
wood.

MoDOT

I-70 SIU 6 EA Re-evaluation

Mineola Hill Segment Environmental Features

Sheet 4 of 6



Legend

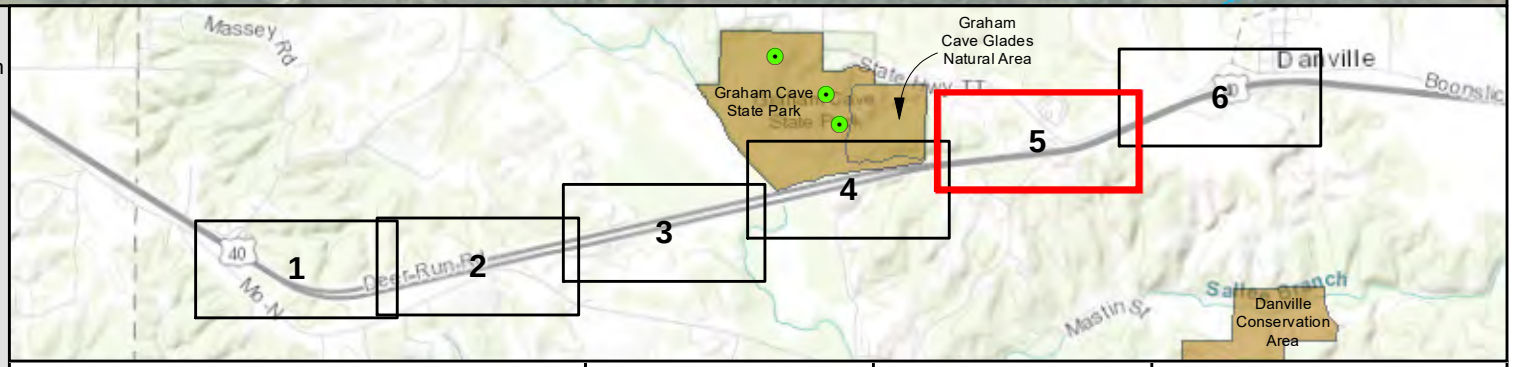
- Noise Receptor-No Impact
- Noise Receptor-Impacted
- Well
- Existing MoDOT ROW
- NHD Stream

Delineated Stream

- Do Not Disturb

Suitable Bat Habitat

- Do Not Disturb
- Potential Clearing



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Feet

Job No.	325219154
Drawn By:	BSM
Reviewed By:	CJH
Date:	3/11/2020

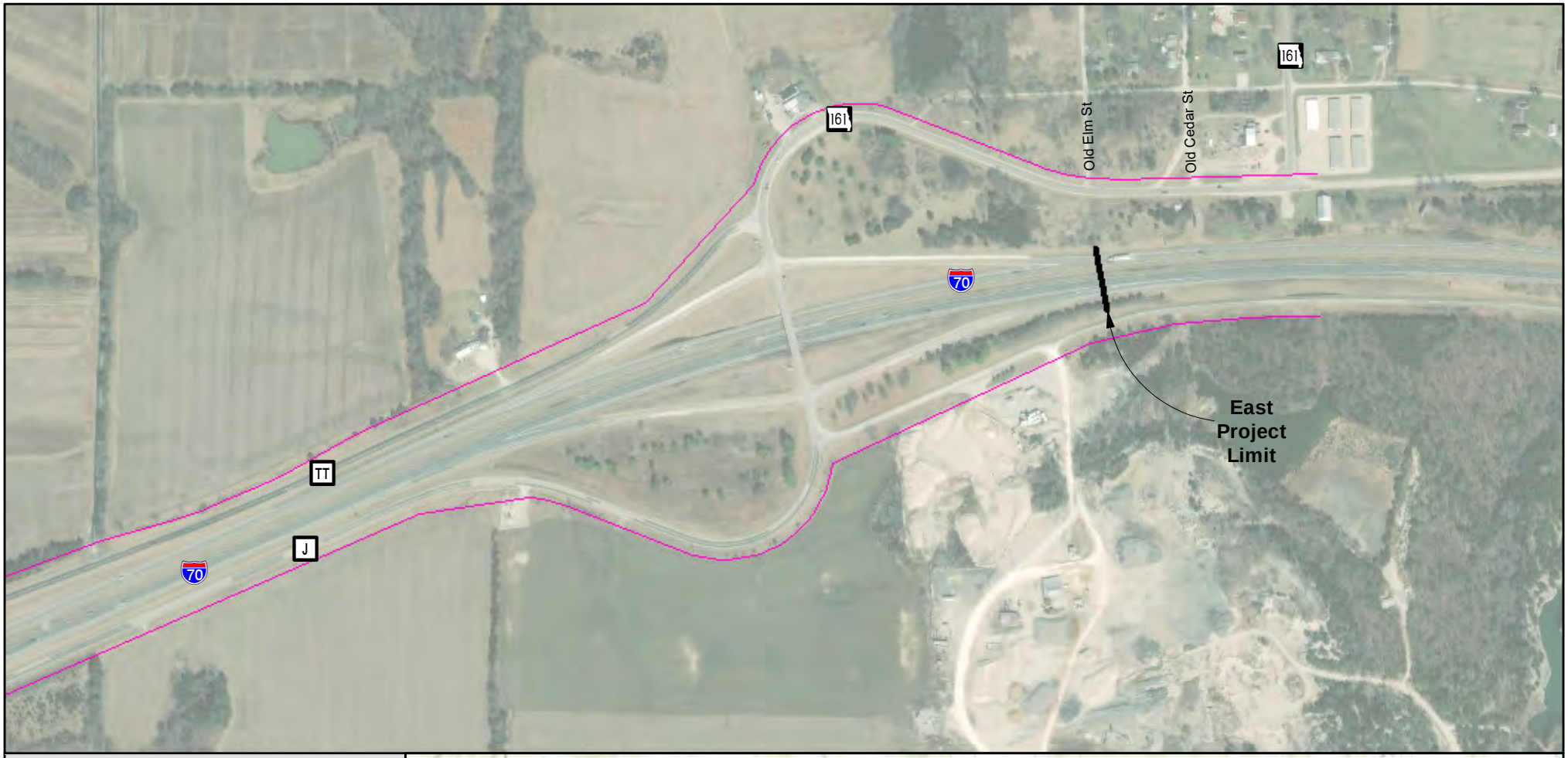
wood.

MoDOT

I-70 SIU 6 EA Re-evaluation

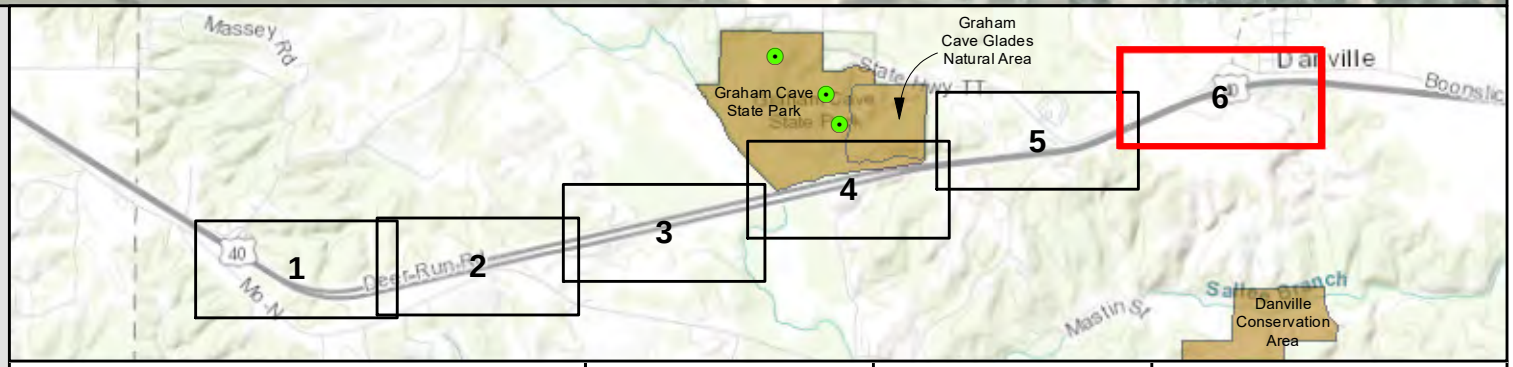
Mineola Hill Segment Environmental Features

Sheet 5 of 6



Legend

- Noise Receptor-No Impact
- Existing MoDOT ROW
- Mineola Hill Segment Project Limit



N

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Feet

Job No.	325219154
Drawn By:	BSM
Reviewed By:	CJH
Date:	3/11/2020

wood.

MoDOT

I-70 SIU 6 EA Re-evaluation

Mineola Hill Segment Environmental Features

Sheet 6 of 6

Appendix C

Re-evaluation of Waters of the U.S. Memo

January 10, 2020

Ms. Melissa Scheperle
Environmental Compliance Manager
Environmental and Historic Preservation Section
Design Division, MoDOT
105 W. Capitol Avenue
Jefferson City, MO 65102

RE: Findings of Re-evaluation of Waters of the US
MoDOT I-70 SIU 6 Corridor
Callaway and Montgomery Counties, Missouri

Introduction

As part of the Re-Evaluation of the Interstate 70 (I-70), SIU 6, Tier 2 Environmental Assessment (EA), Wood has re-evaluated previously identified Waters of the United States (WOUS) associated with the project. This memorandum and electronic attachments summarize Wood's findings to date. The SIU includes an approximate 27-mile reach of I-70 within an approximate 850-foot-wide band from just west of the US 54 interchange in Kingdom City [mile marker (MM) 147] to just west of the Missouri Route 19 interchange near New Florence (MM 174). The project also extends approximately one mile south of the US 54/I-70 interchange. Environmental staff of the Missouri Department of Transportation (MoDOT) reviewed the reach of the project (Job No. 2I3226 and Job No. 2I3226B) between Missouri Routes N and 161, along the Loutre River and its watershed. The WOUS delineation for the original EA was conducted in 2003 and 2004.

Methods

As part of the WOUS review, coordinates for each water feature identified in 2004 were obtained from original data forms or from visual identification on Google Earth. Water features were reviewed on historical aerial imagery courtesy of Google Earth, 2017 United States Geological Survey (USGS) 1:24k topographic quadrangle maps, National Wetland Inventory (NWI) maps, and United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey. Any changes from the desktop review are indicated on the attached SIU 6 WOUS Tables Excel Workbook in **bold** print. Also, since 2004, USDA-NRCS has updated their soil survey and soil descriptions. Rather than only "hydric" or "non-hydric" designations, soils have been further analyzed to indicate the percentage of map units for each water feature that meet the criteria for hydric soils. The percentage of mapped soils that meet hydric criteria is indicated on the attached SIU 6 WOUS Table.

Wood coordinated with MoDOT concerning required fieldwork for the project. Wood was tasked with conducting a windshield survey of the water features identified in 2004. The windshield survey generally consisted of driving very slowly along the roadways and stopping at each water feature to view and compare observations to those noted in 2004. As needed, the Wood team exited the truck and physically inspected water features where visibility was limited or closer inspection was warranted. Features on private property were not physically reviewed.

MoDOT physically reviewed and delineated water features along the Loutre River, as mentioned above. MoDOT's analysis between Route N and 161 included both windshield surveys and on-the-ground

surveying of the project limits. Surveying included identifying and marking bat trees, delineating potential wetland areas, and taking GPS points and lines of potential jurisdictional streams and wetlands.

Findings

Generally, water features, including streams, wetlands, and ponds, appeared to be in relatively the same condition as 2004. Exceptions to this included fnwi-1 and fnwi-7 that appeared to be wetlands during the Wood survey, rather than uplands as indicated in 2004. Additionally, Wood determined that fnwi-6, that was identified as an upland area in 2004, may possess wetland characteristics closer to Whetstone Creek, but access was limited for further inspection. MoDOT determined fnwi-62 is not a wetland. Further, MoDOT reported that eight streams identified in 2004 (STRs-96, 99, 101, 106, 107, 171, 173, and 175) were either out of the project boundary or non-jurisdictional features. Additionally, MoDOT determined that STR-95, while jurisdictional, is out of the project boundary. Comments on each water feature are included in the attached SIU 6 WOUS Tables Excel Workbook.

Most notably, ten streams and thirteen wetlands were identified in 2019 that were not identified in 2004. The newly identified features are listed in Table 1. MoDOT biologists identified six streams (1,426.6 linear feet) and ten wetlands (2.46 acres) in 2019 that were not identified in 2004. The locations of the new streams and wetlands as well as points of each previously identified water feature are included in the attached kmz file. Photographs of the new water features are below.

Table 1. Water Features Newly Identified by Wood and MoDOT in 2019

Feature	County	Type	Coordinates	Identified By
Stream A	Montgomery	Intermittent	38.906437, -91.521824	Wood
Stream B	Montgomery	Intermittent	38.905467, -91.509375	Wood
Stream C	Callaway	Intermittent	38.913994, -91.733433	Wood
Stream D (Allen Branch)	Callaway	Perennial	38.944004, -91.908991	Wood
Stream E	Montgomery	Ephemeral	38.89343, -91.62357	MoDOT
Stream F	Montgomery	Ephemeral	38.9011, -91.58104	MoDOT
Stream G	Montgomery	Ephemeral	38.90299, -91.56789	MoDOT
Stream H	Montgomery	Ephemeral	38.90192, -91.56853	MoDOT
Stream J	Montgomery	Ephemeral	38.90322, -91.56309	MoDOT
Stream K	Montgomery	Ephemeral	38.902750, -91.559722	MoDOT
Wetland A	Callaway	Scrub-Shrub	38.918187, -91.74736	Wood
Wetland B	Callaway	Emergent	38.943407, -91.895271	Wood
Wetland C	Callaway	Emergent	38.929213, -91.790031	Wood
Wetland D	Montgomery	Emergent	38.89901, -91.59054	MoDOT
Wetland E	Montgomery	Emergent	38.8985, -91.59033	MoDOT
Wetland F	Montgomery	Forested	38.90044, -91.5848	MoDOT
Wetland G	Montgomery	Forested	38.89956, -91.58345	MoDOT
Wetland H	Montgomery	Emergent	38.89988, -91.58454	MoDOT
Wetland J	Montgomery	Forested	38.90074, -91.58219	MoDOT
Wetland K	Montgomery	Forested	38.90089, -91.58129	MoDOT
Wetland L	Montgomery	Emergent	38.90066, -91.57964	MoDOT
Wetland M	Montgomery	Emergent	38.90008, -91.58099	MoDOT
Wetland N	Montgomery	Forested	38.90023, -91.57966	MoDOT

Wood Environment and Infrastructure Solutions
15933 Clayton Road, Suite 215
Ballwin, MO 63011
Tel 636-200-5100 | Fax 636-386-3804
woodplc.com

Photographs

Photograph 1 – Stream A, looking upstream (north).

Photograph 2 – Stream A flowing through culvert under I70, looking downstream (south).

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Photograph 3 – Stream B, looking downstream (south).

Photograph 4 – Stream B, looking upstream (north) of culvert under I70.

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Photograph 5 – Stream C, looking upstream (south).

Photograph 6 – Stream D, Allen Branch, looking upstream (north).

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Photograph 7 – Stream D, Allen Branch, flowing southward through culvert under I70.

Photograph 8 – Stream E flowing east away from culvert.

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Photograph 9 – Stream G, flowing east.

Photograph 10 – Stream H.

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Photograph 11 – Stream J.

Photograph 12 – Stream K.

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Photograph 13 – Wetland A, looking north.

Photograph 14 – Wetland B, looking south.

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Photograph 15 – Wetland C, looking south.

Photograph 16 – Wetland D, looking northwest.

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Photograph 17 – Wetland E, looking east.

Photograph 18 – Wetland F.

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Photograph 19 – Wetland G, looking south.

Photograph 20 – Wetland H, looking east.

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Photograph 21 – Wetland L, looking west.

Photograph 22 – Wetland M, looking south.

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Photograph 23 – Wetland N.

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References

United State Geological Survey (USGS). 2017. 1:24k Topographic Quadrangle Maps: Calwood, Kingdom City, Montgomery City, New Florence, and Williamsburg, Missouri Quadrangle.

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Shannon & Wilson, Inc. 2004. *Improve I-70, SIU-6, Callaway and Montgomery Counties, Missouri, Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report.* November 3, 2004.

Google Earth Pro. 2019. Current and historical aerial images.

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