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6 ENVIRONMENTAL COMMITMENTS

An integral component of the National Environmental Policy Act (NEPA) is to document both how actions will impact the environment and what actions are being taken to avoid, minimize and mitigate those impacts. This chapter summarizes the commitments made regarding the impacts of the Mid-States Project. At this Tier 1 level of analysis, precise impacts remain unknown. This Tier 1 Study is gathering enough information to identify potential impacts within the selected corridor. Commitments documented in this Tier 1 Study generally are concepts and strategies designed to mitigate both the short and long-term impacts of the project. These commitments are provided in greater detail throughout **Chapter 3 – Environmental Resources, Impacts and Mitigation**.

Detailed mitigation projects, plans and commitments will be developed during Tier 2 NEPA studies in accordance with policies and procedures of the Indiana Department of Transportation (INDOT). Technical studies and analyses for detailed mitigation projects will be conducted and coordinated with federal and state resource agencies, as appropriate.

In response to comments on the DEIS, the following clarification is offered. Deferring facility type decisions to Tier 2, including allowing for a combination of facility types, results in variability about the type and magnitude of mitigation which eventually will be required. For this reason, a Preferred Alternative and Mitigation Package (PAMP) has not been prepared for this Tier 1 NEPA Study. INDOT anticipates providing a PAMP as part of Tier 2 studies for Tier 2 SIUs. Given their relatively small scope, it is not anticipated that a PAMP would be prepared for Tier 2 NEPA studies for local improvements.

6.1 Human Environment

6.1.1 Local Land Use Planning and Travel Patterns

Changes to the transportation system have the potential to impact local land use plans and travel patterns. The Preferred Alternative may disrupt local access and traffic flow, alter community connectivity and affect long-range land use planning. Mitigation strategies to address these potential impacts during Tier 2 studies will include minimizing right-of-way acquisition to the greatest extent feasible, maintaining local connectivity including grade separations where appropriate and continuing coordination with local and regional agencies. Properties whose access is removed will be provided local service roads or be acquired. Road closures and disruption of local crossroads will be minimized to the extent practicable to limit changes in local access and impacts to school bus and emergency provider routes. Communication with local emergency management coordinators and school systems will occur to ensure their needs are accommodated. Tier 2 studies will consider the effects of the project on existing and planned state, regional and local trails.

All Tier 2 studies, especially those in SIU 4, will seek to avoid adverse impacts to local traffic flows and to support local economic activity. Comments by local officials emphasized the relationships between access, traffic flows and economic activity in Martin County and Loogootee.

6.1.2 Traffic (Short Term)

Short-term impacts during construction periods are anticipated but would be mitigated by the development of Maintenance of Traffic plans. These plans will address management of construction-related traffic and congestion impacts, construction related hazards and traffic flow in work zones.



6.1.3 Visual

Visual impacts will require site-specific mitigation measures and will be determined during the Tier 2 NEPA studies. Potential mitigation includes strategies to minimize visual impacts on nearby residences using means such as landscaping and appropriate highway lighting. Efficient lighting fixtures will be chosen to mitigate visual impacts inherent with the introduction of artificial light. These strategies can lessen adverse effects to protect humans and wildlife. The lighting fixtures for RPA P would primarily be in rural areas and confined to interchanges and other select access points where they are warranted to enhance safety. Restricting artificial lighting to these areas will lessen the severity of lighting impacts.

6.1.4 Cultural Resources

Tier 2 studies will assess the effects of the Preferred Alternative upon NRHP-listed and NRHP-eligible properties as well as seek ways to avoid and minimize any adverse effects to these resources. The Tier 2 studies will be guided by the Mid-States Corridor Programmatic Agreement (**Appendix P**).

Tier 2 NEPA studies provide more in-depth review of cultural resources and may identify additional NRHP-eligible properties not documented during this Tier 1 Study. These studies may also result in properties evaluated as potentially NRHP-eligible during Tier 1 being determined not NRHP-eligible. Tier 2 studies will include:

1. Historic Property Reports (HPRs) and Phase 1A and Phase 1C field reconnaissance surveys for below-ground archaeological resources for each Section of Independent Utility (SIU)
2. Phase II testing of potentially eligible sites identified in each SIU
3. Effects Findings and supporting documentation for each NRHP-listed and NRHP-eligible site
4. Memoranda of Agreement (MOAs) developed for any Section of Independent Utility (SIU) where it is determined the Preferred Alternative will result in an “Adverse Effect” to an historic or archaeological property. MOAs will include stipulations to mitigate these adverse effects.

6.1.5 Environmental Justice (EJ)

The Tier 1 EJ analysis included identification of elevated Populations of Concern and their proximity to proposed Build Alternatives. From there the evaluation examined potential relocations within Census Block Groups with elevated Populations of Concern. It also examined potential economic, travel patterns, community cohesion, community services, air quality, and noise impacts. The ability to gather input from EJ communities on the project and its potential impacts was affected by the need to modify outreach efforts due to the COVID-19 pandemic. This broad assessment of potential impacts did not indicate that the effects to EJ populations are more severe or greater in magnitude than the adverse effects to non-EJ populations.

However, the Tier 2 analysis will examine potential impacts to EJ communities in greater detail and will focus on ways to avoid or minimize impacts to EJ populations. The studies will include further analysis of the previously identified areas of concern and targeted EJ outreach, including meetings at locations within the identified EJ communities, ensuring EJ community representation on stakeholder groups, providing meeting materials in alternative formats and translated for any identified limited English populations, tracking concerns from EJ communities and their resolutions, and tracking attendance and comment responses from EJ communities to ensure effective outreach. Should Tier 2 studies identify disproportionate impacts to EJ communities, detailed mitigation strategies will be prepared. Mitigation to address any such impacts will be completed in consultation with impacted EJ communities.



6.1.6 Relocations

Relocations caused by the Preferred Alternative are anticipated to include residential, commercial and institutional properties. During Tier 2 studies, local communities will provide guidance to develop appropriate measures to avoid, minimize and mitigate relocation impacts. Acquisitions and relocations required by the project will be completed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended, 49 CFR Part 24, and Title VI of the Civil Rights Act of 1964. Relocation assistance and appropriate compensation will be provided to any business or resident displaced.

6.1.7 Agricultural

Conversion of agricultural resources to a transportation facility will cause the irretrievable loss of farmland. Tier 2 NEPA studies and subsequent design will seek to minimize conversion of farmland and disruption of agricultural operations. No specific mitigation for impacts to farmland are anticipated as part of the project.

6.1.8 Minerals

Impacts related to any commercially owned mineral resources impacted by the Preferred Alternative will be compensated as provided by the Uniform Relocation Assistance program. All such compensation will be determined according to the INDOT Real Estate Division Manual (March 2020) appraisal procedures during the right-of-way acquisition process following Tier 2.

6.1.9 Noise

The Tier 1 noise impact analysis for the Preferred Alternative has identified that there likely will be receptors that warrant consideration of noise abatement during Tier 2 studies. Secondly, abatement measures such as physical barriers will be considered. Determination of the feasibility and reasonableness of abatement will be conducted according to the INDOT's Traffic Noise Analysis Procedure during Tier 2 studies. Where studies determine noise abatement is reasonable and feasible, public involvement will also be conducted to determine whether a barrier is desired by those in benefited receptors.

6.1.10 Construction Related

Construction impacts associated with development of a roadway will be minimized and mitigated in accordance with standard INDOT specifications for construction contracts. Any additional measures needed will be further defined during Tier 2 NEPA studies. These may address issues such as structural and non-structural erosion control, servicing of equipment, spill prevention and containment, blasting, minimization of construction noise, minimization of construction-related air quality impacts and fugitive dust. These will include commitments which are permit conditions or the result of agency coordination. Best Management Practices (BMPs)¹ will be implemented to avoid and/or minimize water quality impacts. In addition, field studies will be completed during Tier 2 to identify any special provisions needed to address specific sensitive areas. Construction-related traffic impacts will be minimized and mitigated through the development of a maintenance of traffic plan (see **Section 6.1.1**).

6.1.11 Hazardous Materials

Mitigation recommendations for Properties of Concern (POC) will be site-specific and determined during Tier 2 NEPA studies. Impacts to POCs will be avoided and minimized to the greatest extent possible. Where impacts are unavoidable, mitigation may include soil and/or groundwater testing at identified properties, and/or appropriate removal, transport and disposal of contaminated soil and/or groundwater.

¹ Best Management Practices (BMPs) include control measures taken to mitigate changes to both quantity and quality of runoff caused through changes to land use.



6.1.12 Context Sensitive Solutions

In response to comments on the DEIS, the following commitment has been added. Tier 2 and subsequent design activities will incorporate INDOT requirements for Context Sensitive Design/Solutions into their project development approach. This approach is defined as a Policy for Context Sensitive Solutions in INDOT Design Memorandum Number 03-07 as stated below.

“It is the policy of the Indiana Department of Transportation (INDOT) to incorporate context sensitive solutions into the development, construction and maintenance process for improvements to the state jurisdictional transportation system. The process for incorporating context sensitive solutions is intended to establish a basis for the development, construction and maintenance process to incorporate a community’s character and desires in transportation improvements. The context sensitive solution process is intended to be a flexible approach in allowing the latitude to enhance environmental, scenic, historic and unique community elements in a transportation improvement. INDOT believes that the implementation of context sensitive solutions will allow transportation officials with input from community stakeholders to strike a balance between providing safe, cost effective and efficient highway facilities while protecting and enhancing community values.”²

6.2 Natural Resources

6.2.1 Streams

State and federal permits for impacts to streams require documentation of avoidance and minimization of impacts. Tier 2 design will minimize stream impacts to the greatest extent practicable. Where impacts are unavoidable, a detailed compensatory mitigation plan for impacted streams will be developed as part of the Clean Water Act Section 404/401 permitting process. INDOT and FHWA will continue consultation with appropriate resource agencies in Tier 2 regarding mitigation strategies. Mitigation plans may include the mitigation banks, state in-lieu fee programs or on-site plans for stream relocations or enhancements. Stream mitigation and monitoring plans will be developed as appropriate. A Stormwater Pollution Prevention Plan (SWPPP) will be developed and approved by INDOT and IDEM prior to construction. A SWPPP will include BMPs to be used during construction of the project to prevent sediment from entering waterways.

Several commitments have been added in response to agency comments on the DEIS. These include, where reasonable, avoiding the relocation, realignment or channelization of streams; minimizing use of causeways or barges for in-stream construction; and avoiding crossing streams in a skewed manner.

6.2.2 Floodplains

Working alignments for each alternative were designed to avoid and minimize potential impacts to the floodplain and floodway, in particular longitudinal impacts. To the extent possible the working alignments used existing crossings, placed new structures near existing crossings, used existing roadway corridors and incorporated transverse crossings of notable rivers such as East Fork White River and Patoka River. The designs in Tier 2 NEPA documents will further minimize potential floodplain and floodway impacts.

² <https://www.in.gov/dot/div/contracts/standards/memos/2003/0307-pc.pdf>. Accessed 04-21-2023.



The design of all structures within the floodway will incorporate engineering and design practices to hydraulically convey, at a minimum, the defined regulatory flood event in accordance with the Indiana Flood Control Act. Structures will be designed to facilitate fish and wildlife passage through the crossing, including during low-flow conditions.

In response to comments on the DEIS, the following commitment has been added. In areas with significant floodplains (greater than 1,000 feet of crossing length), Tier 2 engineering assessments will consider the tradeoffs between costs and impacts of bridge construction versus other design approaches.

6.2.3 Groundwater

Mitigation for groundwater impacts begins with the design and implementation of robust protection measures for all phases of the project, including pre- and post-construction. This includes a wide range of structural and non-structural BMPs in accordance with the IDEM Storm Water Quality Manual to prevent contaminants from entering the groundwater. Appropriate BMPs considered during Tier 2 studies will include establishing buffer zones along streams and wetlands, designing ditches to accommodate and treat roadside runoff and minimizing vegetation and tree clearing. Other measures may include partnering with state or local entities, such as municipalities identified within Source Water Assessment Areas, to conduct long-term water quality monitoring of public groundwater wells and impaired streams. Water wells, monitoring wells and injection wells within the project area will be labeled on project plans. These facilities will be properly abandoned or plugged to prevent the migration of surface water or contaminants to the subsurface and to prevent migration of potential contaminants among and between water bearing zones. Well closures will be conducted by state-licensed water well drillers in accordance with state regulations 329 IAC 12-13. During geotechnical investigations, INDOT's Aquifer Protection Guidelines will be followed to ensure boreholes are properly closed in a manner that is protective of groundwater.

6.2.4 Wetlands

State and federal permits for Impacts to wetlands require documentation of avoidance, minimization and reduction of impacts to the greatest extent possible. A detailed compensatory mitigation plan for wetlands unable to be avoided by the Preferred Alternative will be completed during the Tier 2 NEPA studies and during the Clean Water Act Section 404/401 permitting process. Mitigation plans may include temporary avoidance measures specific to the construction period, such as prevention of drainage diversion of water through an adjacent wetland that would alter the hydrologic characteristics of the wetland.

In response to comments on the DEIS, the following commitment has been added. No existing or planned Section 404 mitigation sites will be impacted by the Preferred Alternative, RPA P.

6.2.5 Protected Species

Consultation with the U.S. Fish and Wildlife Service (USFWS) has been conducted for federally listed and candidate bat, fish, mussel and insect species. Consultation will continue during the Tier 2 NEPA analysis of the Mid-States Corridor project. All efforts will be made to avoid impacts to federally-listed species' habitat. Coordination with the Indiana Department of Natural Resources for state-listed species has been conducted, and efforts also will be made to avoid impacts to these species and associated high-quality natural communities. Detailed mitigation for impacts to federally and/or state listed species is not determined at Tier 1 for the Mid-States Corridor Study. The Tier 1 Biological Assessment and Biological Opinion identify multiple conservation measures for protected species (see **Appendix PP – Tier 1 Biological Assessment** and **Appendix QQ – Biological Opinion**). Tier 2 NEPA studies and Consultation with USFWS will further define mitigation details and quantities for federally-listed species. Upon completion of



field surveys for species of concern, more specific measures will be prepared including elements proposed to avoid, minimize and mitigate direct and indirect impacts to respective species and their habitats during Tier 2 NEPA studies and consultation.

In response to comments on the DEIS, the following commitment has been added. In accordance with the provisions of the Migratory Bird Treaty Act, bridges will be inspected to identify any birds nesting during Tier 2 studies.

6.2.6 Forests

In response to comments on the DEIS, the following commitments have been added or expanded. Upland forests are not a regulated resource, and generally do not require mitigation. However, forest impacts act as an indicator to measure potential impacts to listed bat species. Forest impacts affecting listed bat habitat are addressed as part of formal consultation under Section 7 of the Endangered Species Act. The U.S. Fish and Wildlife Service generally considers a 3:1 forest mitigation ratio appropriate for the Mid-States Corridor for bat habitat impacts although a 1.5:1 forest mitigation ratio may be used for habitat impacts within 300 feet of existing roads. Habitat mitigation for the Mid-States Corridor will be through the Range-Wide Indiana Bat In-Lieu Fee Program, followed by mitigation bank credits if necessary. Site specific permittee responsible habitat mitigation is not anticipated unless a high value site is identified during Tier 2. The habitat mitigation approach is further described in the Conservation Measures in **Appendix PP – Biological Assessment**.

In addition, to reduce private tree clearing and associated potential bat impacts, INDOT will coordinate with forest property owners at the initiation of the right of way acquisition process to defer any tree removal to approved clearing timeframes. Landowners will be informed of the approved Indiana bat and northern long-eared bat winter tree clearing timeframes by INDOT. INDOT will also provide educational material from USFWS regarding endangered bats and their seasonal activities. This could limit private timber harvest to periods when bats are not present and minimize impacts.

6.2.7 Ecosystems

Specific mitigation measures for affected wildlife species and ecosystems, as appropriate, will be included as part of Tier 2 NEPA studies. Mitigation strategies may be developed and include actions such as:

- Culvert and bridge designs which allow for upstream movement of aquatic life
- Lighting and fencing to reduce roadkill
- Avoiding and minimizing forest fragmentation to the extent possible
- Strategically placed wildlife crossings to permit the movements of reptiles, amphibians and mammals in areas with the highest potential for impacts
- Where reasonable and feasible, creation of new wetland bank sites

While a detailed wildlife crossing review will be conducted during the Tier 2 Studies for the entire corridor, additional landscape scale review has been completed to identify focus areas for these during Tier 2. The following primary locations have been identified from this review:

- Hunley Creek
- Jasper Gun Club/Hall Creek Tributary Area
- Patoka River



- East Fork White River
- Haw Creek
- West Boggs Creek
- First Creek

The following secondary locations have been identified from this review:

- Bruner Creek wetland complex
- Cooper Run and Hayesville Run riparian corridors in Little Creek watershed
- Upper Slate Creek watershed south of Truelove Church Road
- Friends Creek
- White River tributary southeast of Loogootee
- North Fork Prairie Creek tributaries west of US 231

6.2.8 Karst Features

RPA P has not been identified as impacting any karst features. Should another alternative be selected in the Tier 1 ROD, or features associated with RPA P be discovered during Tier 2 studies, a mitigation plan will be developed based upon the Protection of Karst Features during Project Development and Construction (INDOT, July 2021). Specific mitigation measures include, but are not limited to, installation of vegetative buffers, construction of lined spill and runoff containment structures, filter strips and structural treatment of discrete features impacted.

6.2.9 Managed Lands

Efforts to minimize impacts to managed lands will continue in Tier 2 NEPA studies and subsequent design. These efforts will be based upon consultation with management entities. In addition to avoiding direct impacts, reasonable efforts will be made to avoid construction impacts and effects to managed lands from nearby construction activities. These efforts may include grading, culverts and other measures. Mitigation for direct impacts may include tree planting, expanding existing managed lands and allowing continued use, where feasible.

Mitigation for impacts to privately-owned properties may entail repaying funding agencies for portions of funds in cost-sharing agreements. If a managed land is publicly owned, a determination will be made as to whether the land enjoys Section 4(f) protection. See **Chapter 4 – Section 4(f) Analysis**. Privately-owned managed lands are not afforded Section 4(f) protection unless they are listed or eligible for listing in the National Register of Historic Places (NRHP).

Several commitments have been added in response to comments on the DEIS regarding activities INDOT will undertake during Tier 2 studies. Consultation with IDNR will be incorporated for planning near Buffalo Pond Nature Preserve. This will include addressing construction techniques to account for the presence of copperbelly water snakes. Coordination will also include evaluating the ability of the project to support existing and planned state and local trail plans. Coordination regarding impacts to Gantz Woods will occur with The Nature Conservancy during Tier 2 studies as well.



6.3 Permits

Construction of the Mid-States project will require multiple permits. Each section of independent utility (SIU) will require its own permitting process during Tier 2 studies and subsequent design. Prior to commencement of any construction activities, all appropriate permits will be applied for and obtained, and the terms and conditions of these permits will be adhered to during the construction and maintenance of this facility. The following is a list of permits that may be required:

- U.S. Army Corps of Engineers (USACE) Section 404
- USACE Section 10
- Indiana Department of Environmental Management (IDEM) 401 Water Quality Certification (WQC)
- IDEM Isolated Wetlands Permit
- IDEM National Pollutant Discharge Elimination System (NPDES) Section 402 Permit
- IDEM NPDES Rule 5 General Permit
- Indiana Department of Natural Resources (IDNR) Construction in a Floodway
- IDNR Navigable Waterways Permit
- U.S. Coast Guard (USCG) Section 9 Bridge Permit
- USEPA Class V Injection Well Permit

6.4 Indirect and Cumulative Impacts

The Mid-States Corridor project analyzed five key resources through 2045 to consider reasonably foreseeable indirect and cumulative impacts. These resources are karst, streams, wetlands, forests and farmland. An insignificant level of indirect and cumulative impacts to these resources was identified. No commitments or mitigation specific to indirect or cumulative impacts are necessary. Mitigation to direct impacts is described in **Section 6.1** and **Section 6.2**.

