FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	**SR 65 / Pike County**
Designation Number:	**1700166**
Project Description/Termini:	**Bridge Replacement, Branch of Hardin Creek Approximately 2.16 Miles South of SR 56**

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

X	**Categorical Exclusion, Level 2** – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
	Categorical Exclusion, Level 3 – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division)
	Categorical Exclusion, Level 4 – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA
	Environmental Assessment (EA) – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

Approval _____ _____ _____ _____
ESM Signature Date ES Signature Date

_____ _____
FHWA Signature Date

Release for Public Involvement

RF 5/28/2020
ESM Initials Date ES Initials Date

Certification of Public Involvement _____ _____
Office of Public Involvement Date

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

INDOT ES/District Env.
Reviewer Signature: _____ Date: _____

Name and Organization of CE/EA Preparer: Kate Williams, HNTB Indiana

Part I - PUBLIC INVOLVEMENT

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

	Yes	No
Does the project have a historic bridge processed under the Historic Bridges PA*?		X
If No, then:		
Opportunity for a Public Hearing Required?	X	

**A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.*

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Remarks:

Notice of Entry letters were mailed to potentially affected property owners near the project area on March 7, 2019 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, pages 1-2.

The project will meet the minimum requirements described in the current Indiana Department of Transportation (INDOT) Public Involvement Manual which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.

Public Controversy on Environmental Grounds	Yes	No
Will the project involve substantial controversy concerning community and/or natural resource impacts?		X

Remarks:

At this time, there is no substantial public controversy concerning impacts to the community or to natural resources.

Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: INDOT INDOT District: Vincennes

Local Name of the Facility: SR 65

Funding Source (*mark all that apply*): Federal [X] State [X] Local [ ] Other* [ ]

*If other is selected, please identify the funding source: _____

PURPOSE AND NEED:

Describe the transportation problem that the project will address. The solution to the traffic problem should NOT be discussed in this section. (Refer to the CE Manual, Section IV.B.2. Purpose and Need)

The need for this project is due to the deteriorated condition of the existing structure (Bridge No. 065-63-06288 B; NBI No. 023290) carrying SR 65 over Branch of Hardin Creek. The existing structure is a single-span, prestressed concrete box beam bridge measuring 36 feet long and 30.5 feet wide. The existing superstructure and substructure exhibit moderate structural deterioration. A beam in the superstructure has two holes through the bottom exposing the interior of the beam. In addition, minor timber deterioration has occurred in the substructure at the northwest corner.

The purpose of this project is to maintain safe vehicular crossing of SR 65 over Branch of Hardin Creek while maintaining adequate hydraulic function at the crossing.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Pike Municipality: N/A

Limits of Proposed Work: Approximately 160 feet west and 170 feet east from the center of the existing bridge.

Total Work Length: 0.04 Mile(s) Total Work Area: 0.42 Acre(s)

	Yes[1]	No
Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?		X
If yes, when did the FHWA grant a conditional approval for this project?	Date:	

[1]*If an IMS or IJS is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IMS/IJS.*

In the remarks box below, describe existing conditions, provide in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

Location:
INDOT and the Federal Highway Administration (FHWA) intend to proceed with a project involving the pre-stressed concrete box beam bridge (Bridge No. 065-63-06288 B) carrying SR 65 over Branch of Hardin Creek in Pike County, Indiana. The project is in Section 4, Township 1 South, and Range 9 West in Clay Township, as shown on the United States Geological Survey (USGS) 7.5 Minute Union, Indiana Topographic Quadrangle Map (Appendix B, page 3). More specifically, the project is located approximately 2.16 miles south of SR 56. Land use surrounding the project area is primarily agricultural (Appendix B, page 2).

Existing Conditions:
The existing structure, a single-span, pre-stressed concrete box beam bridge, that conveys Branch of Hardin Creek beneath SR 65. SR 65 is classified as a rural major collector and has a posted speed limit of 50 miles per hour through the project area. The existing roadway consists of two, 11-foot through lanes with 2-foot, 3-inch paved shoulders. The existing structure is not identified in the *Indiana Historic Bridge Inventory* and is not eligible for listing in the National Register of Historic Places (NRHP).

Preferred Alternative:
The replacement structure will be a single-span, reinforced concrete box culvert. The new bridge span will be 22 feet long with an out-to-out width of 39 feet. Limits of full depth pavement replacement as well as surface milling and resurfacing

of paved approaches will be approximately 73 feet east and 86 feet west from the existing structure. This will be completed in order to transition the proposed structure to the existing profile grade. Regrading of the ditches and shoulder widening will be completed north and south of SR 65 to accommodate the proposed guardrail. This is a project of independent utility and no related projects can be identified which would be affected by the replacement of this small structure. The project termini are approximately 170 feet east and 160 feet west from the center of the existing bridge. These termini are considered logical because they provide an adequate distance to complete the bridge replacement and associated work. See Appendix B, pages 27-33, for preliminary design plans.

Every effort to avoid, minimize, and/or mitigate project impacts will be made.

The project will require the closure of SR 65 with a state route detour. Details of the closure and detour are included in the Maintenance of Traffic (MOT) During Construction section of this CE document.

The preferred alternative meets the purpose and need of the project by providing a structurally sufficient and hydraulically adequate crossing of SR 65 over Branch of Hardin Creek.

OTHER ALTERNATIVES CONSIDERED:

Describe all discarded alternatives, including the Do-Nothing Alternative and an explanation of why each discarded alternative was not selected.

Reinforced Concrete Slab Bridge:

INDOT considered replacing the existing structure with a single-span, reinforced concrete slab bridge. This alternative meets the purpose and need because the replacement structure would maintain the safe and hydraulically adequate crossing of Branch of Hardin Creek; however, it is less cost effective. This alternative was therefore eliminated from further consideration.

Three-Sided Concrete Flat-Top Structure:

INDOT considered in-kind replacement of the existing bridge with a three-sided, concrete flat-top structure. This alternative meets the purpose and need because the replacement structure would maintain the safe and hydraulically adequate crossing of Branch of Hardin Creek; however, it is less cost effective. This alternative was therefore eliminated from further consideration.

Three-Sided Concrete Arch-Top Structure:

INDOT considered in-kind replacement of the existing bridge with a three-sided, concrete arch-top structure. This alternative meets the purpose and need because the replacement structure would maintain the safe and hydraulically adequate crossing of Branch of Hardin Creek; however, it is less cost effective. This alternative was therefore eliminated from further consideration.

No Build Alternative:

The no build alternative proposes continued use of the bridge in the current condition. If selected, this alternative would result in continued deterioration of the bridge, potentially becoming a hazard to the traveling public. This alternative would not meet the purpose and need of the project and was therefore eliminated from further consideration.

The Do Nothing Alternative is not feasible, prudent or practicable because (*Mark all that apply*):
It would not correct existing capacity deficiencies; ☐

It would not correct existing safety hazards;	
It would not correct the existing roadway geometric deficiencies;	
It would not correct existing deteriorated conditions and maintenance problems; or	X
It would result in serious impacts to the motoring public and general welfare of the economy.	
Other (Describe)	

ROADWAY CHARACTER:

Functional Classification: Rural Major Collector

Current ADT: 377 VPD (2022) Design Year ADT: 377 VPD (2042)

Design Hour Volume (DHV): 38 Truck Percentage (%) 10.88

Designed Speed (mph): 50 Legal Speed (mph): 50

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	11-foot through lanes		11-foot through lanes	
Pavement Width:	26.5	ft.	30	ft.
Shoulder Width:	2.25	ft.	4	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:		Urban		Suburban	X Rural
Topography:	X	Level		Rolling	Hilly

If the proposed action has multiple roadways, this section should be filled out for each roadway.

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): 065-63-06288 B / 023290 Sufficiency Rating: 72.5, INDOT Bridge Inspection Report June 04, 2019

(Rating, Source of Information)

	Existing		Proposed	
Bridge Type:	Pre-Stressed Concrete Box Beam		Reinforced Concrete Box Culvert	
Number of Spans:	1		1	
Weight Restrictions:	>36	ton	>36	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	26.5	ft.	30	ft.
Outside to Outside Width:	30.5	ft.	39	ft.
Shoulder Width:	2.25	ft.	4	ft.
Length of Channel Work:			14	ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure (Bridge No. 065-63-06288 B; NBI No. 023290) is a single-span, pre-stressed concrete box beam bridge measuring 36 feet long and 30.5 feet wide. The existing bridge will be replaced with a single-span, reinforced concrete box culvert measuring 22 feet long and 39 feet wide.

	Yes	No	N/A

Indiana Department of Transportation

County Pike Route SR 65 Des. No. 1700166

Will the structure be rehabilitated or replaced as part of the project? [X] [ ] [ ]

If the proposed action has multiple bridges or small structures, this section should be filled out for each structure.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?		X
Is a temporary roadway proposed?		X
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	X	
Provisions will be made for access by local traffic and so posted.	X	
Provisions will be made for through-traffic dependent businesses.	X	
Provisions will be made to accommodate any local special events or festivals.	X	
Will the proposed MOT substantially change the environmental consequences of the action?		X
Is there substantial controversy associated with the proposed method for MOT?		X

Remarks:

The MOT plan requires the closure of SR 65 for 4 months. A state route detour utilizing SR 56, US 41, and SR 64 will be in place. The proposed detour will be approximately 22.12 miles long and will add approximately 7.24 miles to a trip through the area. A local detour route may be available during construction. Access for local traffic will be provided during construction per INDOT Standard Specification 107.08(e).

The closure will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated and all inconveniences will cease upon project completion. Delays would occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ N/A Right-of-Way: $ 159,000* (2020) Construction: $ 5,614,387* (2022)

*Des. No. 1700166 is reported in STIP under lead Des. No. 1700150.

Anticipated Start Date of Construction: September 2021

Date project incorporated into STIP July 2, 2019

	Yes	No
Is the project in an MPO Area?		X

If yes,

Name of MPO N/A

Location of Project in TIP N/A

Date of incorporation by reference into the STIP N/A

RIGHT OF WAY:

Land Use Impacts	Amount (acres) Permanent	Temporary
Residential	0	0
Commercial	0	0
Agricultural	0.06	0
Forest	0.45	0
Wetlands	0.06	0
Other: Maintained Roadside	0	0
TOTAL	0.57	0

Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition or reacquisition, either known or suspected, and there impacts on the environmental analysis should be discussed.

Remarks:

Right-of-way plans and grants for the construction of SR 65 at this location could not be obtained, therefore, existing right-of-way limits are present at the pavement edge of SR 65. The land use of existing right-of-way will continue to be the existing pavement following construction.

The project requires approximately 0.57 acre of permanent right-of-way. Based on a review of 2018 Indiana Geographic Information Office (IGIO) County Land Parcel data, the land use of additional permanent right-of-way will include 0.06 acre of agricultural property, 0.45 acre of forested property, and 0.06 acre of wetland. Proposed right-of-way limits will extend approximately 50 feet north and 50 feet south from the center of the existing structure. Existing maintained roadside will continue to be maintained following construction. The agricultural land, wetland, and a portion of the forested land will become maintained roadside property following construction. The project will not require the acquisition of temporary right-of-way.

If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT Vincennes District Environmental Section will be contacted immediately.

Part III – Identification and Evaluation of Impacts of the Proposed Action

SECTION A – ECOLOGICAL RESOURCES

	Presence	Impacts Yes	Impacts No
Streams, Rivers, Watercourses & Jurisdictional Ditches	X	X	
Federal Wild and Scenic Rivers			
State Natural, Scenic or Recreational Rivers			
Nationwide Rivers Inventory (NRI) listed			
Outstanding Rivers List for Indiana			
Navigable Waterways			

Remarks:

Based on a desktop review, a site visit on April 1, 2020 by HNTB, the aerial map of the project area (Appendix B, page 2), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page 8), there are fourteen streams located within the 0.5-mile search radius. There are two streams present within the project area.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by the INDOT Ecology and Waterway Permitting Office (EWPO) on April 16, 2020 (Appendix F, pages 1-24). It was determined that two jurisdictional streams, Unnamed tributary (UNT) to Branch of Hardin Creek and Branch of Hardin Creek, are present within the investigated area. The United States Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

UNT to Branch of Hardin Creek is not mapped as a blue-line stream on the Union, Indiana USGS Topographic Quadrangle Map (Appendix B, page 3). UNT to Branch of Hardin Creek outlets into Branch of Hardin Creek approximately 7 feet south of SR 65. UNT to Branch of Hardin Creek exhibited a 0.8-foot wide by 0.1-foot deep ordinary high-water mark (OHWM) during the site visit. UNT to Branch of Hardin Creek is not visible on the USGS Streamstats Database, (https://water.usgs.gov/osw/streamstats/indiana.html); therefore, the upstream drainage area is likely less than one square mile. UNT to Branch of Hardin Creek is not listed as a Federal Wild and Scenic River, a State Natural, Scenic and Recreational River, nor is it on the Indiana Register's listing of Outstanding Rivers and Streams. Approximately 65 linear feet of UNT to Branch of Hardin Creek will be permanently impacted due to relocation. Approximately 87 feet of the stream will be temporarily impacted due to the use of a pump around for the purpose of dewatering.

Branch of Hardin Creek is mapped as a blue-line stream on the Union, Indiana USGS Topographic Quadrangle Map (Appendix B, page 3). Branch of Hardin Creek enters the project area south of SR 65 and flows north underneath the existing structure. Branch of Hardin Creek exhibited a 16.8-foot wide by 1.3-foot deep OHWM during the site visit. According to the USGS Streamstats Database, (https://water.usgs.gov/osw/streamstats/indiana.html), Branch of Hardin Creek drains approximately 1.736 square miles upstream of the SR 65 bridge. Branch of Hardin Creek is not listed as a Federal Wild and Scenic River, a State Natural, Scenic and Recreational River, nor is it on the Indiana Register's listing of Outstanding Rivers and Streams. Approximately 14 feet of Branch of Hardin Creek will be permanently impacted due to the placement of riprap for scour protection. Approximately 103 feet of the stream will be temporarily impacted due to the use of temporary cofferdams for the purpose of dewatering.

No mitigation is expected. For stream impacts to UNT to Branch of Hardin Creek and Branch of Hardin Creek, a section 404 Regional General Permit from the USACE and a Section 401 Water Quality Certificate from the Indiana Department of Environmental Management (IDEM) will be required.

Early coordination letters were sent to the United States Fish and Wildlife Service (USFWS), Indiana Department of Natural Resources Division of Fish and Wildlife (IDNR-DFW), and the USACE on May 6, 2019 (Appendix C, pages 1-3). No response was received from USACE.

In their early coordination response dated April 8, 2020, USFWS provided standard recommendations pertaining to erosion and sediment control measures, bank stabilization, minimization of in-stream channel work, and evaluation of wildlife crossings (Appendix C, page 4).

In their early coordination response dated June 4, 2019, IDNR-DFW indicated that formal approval by the agency under regulatory programs administered by the Division of Water will be required for this project. The IDNR-DFW provided recommendations pertaining to in-stream impacts due to the bridge rehabilitation, bank stabilization, wildlife passage, and minimizing impacts to streams (Appendix C, pages 7-10).

An automated letter was generated from the IDEM website on April 8, 2020 recommending appropriate storm water quality measures to be implemented during construction and after project completion (Appendix C, pages 11-17).

All applicable IDNR-DFW, USFWS, and IDEM recommendations are included in the Environmental Commitments section of this CE document.

Other Surface Waters	**Presence**	**Impacts**	
		Yes	**No**
Reservoirs			
Lakes			
Farm Ponds			
Detention Basins			
Storm Water Management Facilities			
Other:			

Remarks:

Based on a desktop review, a site visit on April 1, 2020 by HNTB, the aerial map of the project area (Appendix B, page 2), and the water resources map in the RFI report (Appendix E, page 8), there are 11 lakes within the 0.5-mile search radius. No lakes or other surface waters are located within or adjacent to the project area. Therefore, no impacts are expected.

Early coordination letters were sent to the United States Fish and Wildlife Service (USFWS), Indiana Department of Natural Resources Division of Fish and Wildlife (IDNR-DFW), and the USACE on May 6, 2019 (Appendix C, pages 1-3). No response was received from USACE. No early coordination response letters expressed concerns regarding lakes, ponds, or other surface waters.

	Presence	**Impacts**	
		Yes	**No**
Wetlands	X	X	

Total wetland area: 0.64 acre(s) Total wetland area impacted: 0.033 acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland A1	PF01A	0.31	0.000	Northern segment of Wetland A
Wetland A2	PF01A	0.33	0.033	Southern segment of Wetland A

Wetlands (*Mark all that apply*)	**Documentation**	**ES Approval Dates**
Wetland Determination	X	**April 16, 2020**
Wetland Delineation	X	**April 1, 2020**
USACE Isolated Waters Determination		
Mitigation Plan		

Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain):

Substantial adverse impacts to adjacent homes, business or other improved properties;	
Substantially increased project costs;	X
Unique engineering, traffic, maintenance, or safety problems;	X
Substantial adverse social, economic, or environmental impacts, or	
The project not meeting the identified needs.	

Measures to avoid, minimize, and mitigate wetland impacts need to be discussed in the remarks box.

Remarks:

Based on a review of the National Wetlands Inventory (NWI) online mapper (https://www.fws.gov/ wetlands/ data/Mapper.html), a site visit on April 1, 2020 by HNTB, the USGS topographic map (Appendix B, page 3), and the RFI report (Appendix E, page 8), there are eleven wetlands mapped within the 0.5-mile search radius. Two wetlands are mapped within the project area.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by the INDOT EWPO on April 16, 2020 (Appendix F, pages 1-24). It was determined that one jurisdiction wetland is present within the investigated area. The USACE makes all final determinations regarding jurisdiction.

Wetland A is segmented into northern (Wetland A1) and southern (Wetland A2) portions by SR 65. Wetland A is classified as a palustrine forested wetland. Wetland A measures 0.64 acre and has formed as a result of ponding from surface water runoff from the hillside west of the investigated area. Based on a qualitative analysis, Wetland A is of average quality based on completeness of the canopy, position within the floodplain of Branch of Hardin Creek, and contribution of native species. Construction access has been shifted to the eastern portion of the project area to minimize wetland impacts; however, slope grading will permanently impact approximately 0.033 acre of Wetland segment A2. Wetland segment A1 will not be impacted by the project.

In their early coordination response dated April 8, 2020, USFWS did not provide recommendations pertaining to wetlands (Appendix C, page 4).

In their early coordination response dated June 4, 2019, IDNR-DFW did not provide recommendation pertaining to wetlands (Appendix C, pages 7-10).

All applicable IDNR-DFW and USFWS recommendations are included in the Environmental Commitments section of this CE document.

	Presence	Impacts	
		Yes	No
Terrestrial Habitat Unique or High Quality Habitat	X	X	

Use the remarks box to identify each type of habitat and the acres impacted (i.e. forested, grassland, farmland, lawn, etc).

Remarks:

Based on a desktop review, a site visit on April 1, 2020 by HNTB, and the aerial map of the project area (Appendix B, page 2), there is primarily forested habitat within the project area. Vegetation within the project area consists primarily of *Platanus occidentalis* (American sycamore), *Acer saccharinum* (silver maple), and *Lindera benzoin* (northern spicebush), Approximately 0.31 acre of tree clearing will be necessary for construction access. Avoidance alternatives for terrestrial habitat removal are not practicable due to the need for construction access to complete the bridge rehabilitation. Terrestrial habitat removal will not require mitigation.

In their early coordination response dated April 8, 2020, USFWS provided standard recommendations pertaining to erosion and sediment control measures, tree and understory vegetation clearing, and evaluation of wildlife crossings (Appendix C, page 4).

In their early coordination response dated June 4, 2019, IDNR-DFW provided recommendations to minimize potential effects to terrestrial habitat and wildlife passage within the project area (Appendix C, pages 7-10). These recommendations include post-construction revegetation measures including riparian habitat mitigation, placement of riprap and use of geotextiles, and erosion and sediment control measures.

An automated letter was generated from the IDEM website on April 8, 2020 recommending appropriate storm water quality measures to be implemented during construction and after project completion (Appendix C, pages 11-17).

All applicable IDNR-DFW, USFWS, and IDEM recommendations are included in the Environmental Commitments section of this CE document.

If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

Karst	**Yes**	**No**
Is the proposed project located within or adjacent to the potential Karst Area of Indiana?		X
Are karst features located within or adjacent to the footprint of the proposed project?		X
If yes, will the project impact any of these karst features?		

Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks:

Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the USGS topographic map of the project area (Appendix B, page 3), and the RFI report (Appendix E, page 8), and a site visit on April 1, 2020 by HNTB, there are no karst features within or adjacent to the project area. In the early coordination response dated April 8, 2020, the Indiana Geological Survey (IGS) did not indicate that karst features may exist in the project area (Appendix C, page 18). The IGS response indicated that there is potential mine subsidence, moderate liquefication potential, low potential for bedrock resources, no potential for sand and gravel resources, and active or abandoned petroleum exploration wells and underground coal mines in the project area. Response from IGS was communicated with the designer on February 8, 2020. No impacts are expected.

Threatened or Endangered Species	**Presence**	**Impacts**	
		Yes	**No**
Within the known range of any federal species	X		X
Any critical habitat identified within project area			
Federal species found in project area (based upon informal consultation)			
State species found in project area (based upon consultation with IDNR)			

	Yes	**No**
Is Section 7 formal consultation required for this action?		X

Remarks:

Based on a desktop review and the RFI report (Appendix E, pages 1-12), completed by HNTB on April 26, 2019, the IDNR Pike County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in Appendix E, pages 10-12. The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-DFW early coordination response letter dated June 4, 2019, the Natural Heritage Program's Database has been checked and it was noted that to date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity (Appendix C, pages 7-10). However, a Southwestern Lowlands Mesic Upland Forest natural community has been documented within ½ mile northeast of the project area. The Division of Nature Preserves does not foresee any impacts to this natural community as a result of this project.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages 23-28). The project is within range of the federally-endangered Indiana bat (*Myotis sodalis*) and the federally-threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area other than the Indiana bat and NLEB.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and Northern Long-eared Bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), and USFWS. An effect determination key was completed on November 12, 2019, and based on the responses provided, the project was found to *"May Affect - Not Likely to Adversely Affect"* the Indiana bat and the NLEB. INDOT reviewed and verified the effect finding on November 12, 2019, and requested USFWS's review of the finding (Appendix C, pages 29-43). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the Environmental Commitments section of this CE document.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

SECTION B – OTHER RESOURCES

	Presence	Impacts	
Drinking Water Resources		Yes	No
Wellhead Protection Area			
Public Water System(s)			
Residential Well(s)			
Source Water Protection Area(s)			
Sole Source Aquifer (SSA)			

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?		
Is the FHWA/EPA SSA MOU Applicable?		
Initial Groundwater Assessment Required?		
Detailed Groundwater Assessment Required?		

Remarks:

The project is located in Pike County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/ Environmental Protection Agency (EPA) Sole Source Aquifer MOU is not applicable to this project. No impacts are expected.

The IDEM Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on April 29, 2019 by HNTB. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The IDNR Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on April 15, 2020 by HNTB. The nearest well is over 0.25 mile from the project area. No water wells will be affected because no wells are located near this project. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that wells are affected, a cost to cure will likely be included in the appraisal to restore the well.

Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) accessed by HNTB on April 15, 2020 and the RFI report (Appendix E, page 3); this project is not located in an Urban Area Boundary location. No impacts are expected.

Based on a desktop review on April 15, 2020, a site visit on April 1, 2020 by HNTB, the aerial map of the project area (Appendix B, page 2), and the IDEM Indiana Public Water Supply Database website (https://myweb.in.gov/IDEM/DWW/) this project is not located where there will be public water system impacts. Therefore, no impacts are expected.

Flood Plains	**Presence**	**Impacts**	
		Yes	**No**
Longitudinal Encroachment			
Transverse Encroachment	X	X	
Project located within a regulated floodplain	X	X	
Homes located in floodplain within 1000' up/downstream from project	X		X

Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".

Remarks:

Based on a desktop review of the Indiana Department of Natural Resources Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) by HNTB on April 8, 2020; this project is located in a regulatory floodplain as determined from the best available IDNR floodplain maps (Appendix F, page 13). An early coordination letter was sent on May 6, 2019, to the local Emergency Management/Floodplain Administrator. The Floodplain Administrator did not respond within the 30-day time frame. This project qualifies as a Category 3 per the current INDOT CE Manual, which states:

"The modifications to drainage structures included in this project will result in an insubstantial change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any substantial adverse impacts on the natural and beneficial floodplain values; they will not result in substantial change in flood risks or damage; and they do not have substantial potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not substantial."

This project qualifies for a rural bridge exemption; therefore, an IDNR Construction in a Floodway permit will not be required.

Farmland	**Presence**	**Impacts**	
		Yes	**No**

Agricultural Lands	X	X	
Prime Farmland (per NRCS)	X	X	

Total Points (from Section VII of CPA-106/AD-1006* **81**
**If 160 or greater, see CE Manual for guidance.*

See CE Manual for guidance to determine which NRCS form is appropriate for your project.

Remarks:

Based on a desktop review, a site visit on April 1, 2020 by HNTB, the aerial map of the project area (Appendix B, page 2), the project will convert 0.06 acre of farmland as defined by the Farmland Protection Policy Act.

An early coordination letter was sent on May 6, 2019, to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 81 on the NRCS-CPA-106 form (Appendix C, page 6). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance	B	4 & 12	January 15, 2020	

Results of Research	Eligible and/or Listed Resource Present
Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect ☐

Documentation (mark all that apply)	Documentation Prepared	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report			
Historic Property Report			
Archaeological Records Check/ Review			
Archaeological Phase Ia Survey Report	X	January 15, 2020	N/A
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery			
APE, Eligibility and Effect Determination			
800.11 Documentation			

		MOA Signature Dates (List all signatories)
Memorandum of Agreement (MOA)		

Describe all efforts to document cultural resources, including a detailed summary of the Section 106 process, using the categories outlined in the remarks box. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of paper(s) and the comment period deadline. Likewise include any further Section 106 work which must be completed at a later date, such as mitigation or deep trenching.

Remarks:

On January 15, 2020, INDOT Cultural Resources Office (CRO) determined that this project falls within the guidelines of Category B, Type 4 & 12 under the Minor Projects Programmatic Agreement (MPPA) (Appendix D, pages 1-4). MPPA Category B, Type 4 projects include the installation of new safety appurtenances, including but not limited to guardrails, barriers, glare screens, and crash attenuators, under certain conditions. MPPA Category B, Type 12 projects include the replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed), under certain conditions.

Archaeology: On October 29, 2019, archaeological field reconnaissance was conducted by a qualified professional. The field reconnaissance did not locate any archeological sites within the project area and it was recommended that the project be allowed to proceed as planned (Appendix D, page 9).

No further consultation is required. The Section 106 process has been completed and the responsibilities of the FHWA under Section 106 have been fulfilled.

SECTION D – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

Section 4(f) Involvement (mark all that apply)

	Presence	Use	
Parks & Other Recreational Land		Yes	No
Publicly owned park	☐	☐	☐
Publicly owned recreation area	☐	☐	☐
Other (school, state/national forest, bikeway, etc.)	☐	☐	☐

	Evaluations Prepared	FHWA Approval date
Programmatic Section 4(f)*	☐	
"De minimis" Impact*	☐	
Individual Section 4(f)	☐	☐

	Presence	Use	
Wildlife & Waterfowl Refuges		Yes	No
National Wildlife Refuge	☐	☐	☐
National Natural Landmark	☐	☐	☐
State Wildlife Area	☐	☐	☐
State Nature Preserve	☐	☐	☐

	Evaluations Prepared	FHWA Approval date
Programmatic Section 4(f)*	☐	
"De minimis" Impact*	☐	
Individual Section 4(f)	☐	☐

	Presence	Use	
Historic Properties		Yes	No
Sites eligible and/or listed on the NRHP	☐	☐	☐

	Evaluations Prepared	FHWA Approval date
Programmatic Section 4(f)*	☐	
"De minimis" Impact*	☐	
Individual Section 4(f)	☐	☐

**FHWA approval of the environmental document also serves as approval of any Section 4f Programmatic and/or De minimis evaluation(s) discussed below.*

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the remarks box below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, "de minimis" and Individual Section 4(f) evaluations please refer to the "Procedural Manual for the Preparation of Environmental Studies". Discuss proposed alternatives that satisfy the requirements of Section 4(f).

Remarks:

Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife/waterfowl refuges, and NRHP eligible or listed historic properties regardless of ownership. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, a site visit on April 1, 2020 by HNTB, the aerial map of the project area (Appendix B, page 2), and the RFI report (Appendix E, page 2) there are no Section 4(f) resources within the 0.5 mile search radius. There are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

	Presence	Use	
Section 6(f) Involvement		Yes	No
Section 6(f) Property	☐	☐	☐

Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.

Remarks:

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) list maintained by the IDNR Division of Outdoor Recreation for the identification of LWCF properties and provided by INDOT ESD revealed a total of three properties in Pike County (Appendix I, page 7). These properties are not located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project	Yes	No
Is the project in an air quality non-attainment or maintenance area?	☐	X

If YES, then:		
Is the project in the most current MPO TIP?		
Is the project exempt from conformity?		
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?		
Is a hot spot analysis required (CO/PM)?		

Level of MSAT Analysis required?

Level 1a [X] Level 1b [ ] Level 2 [ ] Level 3 [ ] Level 4 [ ] Level 5 [ ]

Remarks:

This project is included in the INDOT FY 2020-2024 STIP under Des. No. 1700150 (Appendix H, page 1).

This project is located in Clay Township, Pike County, which is currently in attainment for all criteria pollutants according to the IDEM Office of Air Quality. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required.

SECTION F - NOISE

Noise	**Yes**	**No**
Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?		X

	No	**Yes/ Date**
ES Review of Noise Analysis		

Remarks:

This project is a Type III project. In accordance with 23 CFR 772 and the current *Indiana Department of Transportation Traffic Noise Analysis Procedure*, this action does not require a formal noise analysis.

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors	**Yes**	**No**
Will the proposed action comply with the local/regional development patterns for the area?	X	
Will the proposed action result in substantial impacts to community cohesion?		X
Will the proposed action result in substantial impacts to local tax base or property values?		X
Will construction activities impact community events (festivals, fairs, etc.)?	X	
Does the community have an approved transition plan?	X	
If No, are steps being made to advance the community's transition plan?		
Does the project comply with the transition plan? (explain in the remarks box)	X	

Remarks:

The project is in a rural portion of Pike County, Indiana and will require the acquisition of 0.57 acre of permanent right-of-way. The right-of-way acquisition is not anticipated to have a significant impact on tax base or property values.

The MOT plan requires the closure of SR 65 for 4 months. A state route detour utilizing SR 56, US 41, and SR 64 will be in place. The proposed detour will be approximately 22.12 miles long and will add approximately 7.24 miles to a trip through the area. A local detour route may be available during construction. Access for local traffic will be provided during construction per INDOT Standard Specification 107.08(e).

According to the Pike County website (pikecountyin.org/festivalsevents.html) accessed on April 16, 2020, there were 22 scheduled events in Pike County in 2019. A schedule for 2021 has not been provided, but the Spring Festival & Ice Cream Social & Vendors Event, the Pirahna Shredding Day, Christmas in the Park, the Pike County 4H Fair, Timeless Classics Car Show, Petersburg Christmas Parade, Buffalo Trace Festival, Holly Walk and the Pike County Farmer's market have previously been held in Petersburg, Indiana. The MOT plan may cause minor delays or inconveniences to future events. The selected contractor will implement the MOT in accordance with the current IDEM and INDOT Standard Specifications.

The proposed action is not expected to conflict with development patterns or have substantial impacts to property values. The project is not expected to affect American Disabilities Act (ADA) facilities in any way.

Early coordination letters were sent to the Pike County Surveyor, Pike County Sheriff, Pike County Highway Department, Pike County Commissioner's Office, and the Pike County Emergency Management Director on May 6, 2019 (Appendix C, pages 1-3). No responses were received regarding MOT or community impacts.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts?

Yes	No
	X

Remarks:

Indirect impacts are effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate. Cumulative impacts affect the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

This project is not of a type that is likely to cause substantial indirect or cumulative effects. This project is not expected to affect growth, changes in land use, or population density. The project will not add capacity to the existing roadway network or provide additional access to any currently undeveloped area. Therefore, the project is not expected to increase development in the area or result in substantial indirect or cumulative impacts.

Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*

Yes	No
X	

Remarks:

Based on a desktop review, a site visit on April 1, 2020 by HNTB, the aerial map of the project area (Appendix B, page 2), and the RFI report (Appendix E, page 2) Little Zion Church and Little Zion Cemetery are adjacent to the project area. Access to all properties will be maintained during construction. Therefore, no impacts are expected.

An early coordination letter was sent on May 6, 2019, to Little Zion Church. No response was received.

It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

Environmental Justice (EJ) (Presidential EO 12898)	**Yes**	**No**
During the development of the project were EJ issues identified?		X
Does the project require an EJ analysis?	X	
If YES, then:		
Are any EJ populations located within the project area?		X
Will the project result in adversely high or disproportionate impacts to EJ populations?		X

Remarks:

Under FHWA Order 6640.23A, FHWA and INDOT, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require 0.65 acre of additional permanent right-of-way. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city, or town and is called the community of comparison (COC). In this project, the COC is Pike County. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is Census Tract 9541. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2014-2018 American Community Survey was obtained from the US Census Bureau Website https://data.census.gov/cedsci on April 8, 2020 by HNTB (Appendix I, pages 1-6). The data collected for minority and low-income populations within the AC are summarized in the below table.

	COC: Pike County	AC: Census Tract 9541
LOW-INCOME		
Total population for whom poverty status is determined (estimated)	12,135	3,039
Total population below poverty level (estimated)	1,392	218
Percent low-income	14%	7%
125 percent of COC	18%	
Potential low-income EJ impact?		No
MINORITY		
Total population (all races)	12,411	3,119
White alone or in combination	11,977	3,057
Number non-white/minority	434	62
Percent non-white/Minority	3%	2%
125 percent of COC	4%	
Potential minority EJ impact?		No

Census Tract 9541 has a percent minority of 2% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

Census Tract 9541 has a percent low-income of 3% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain low-income populations of EJ concern.

The census data sheets, map, and calculations can be found in Appendix I, pages 1-6. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

	Yes	No
Will the proposed action result in the relocation of people, businesses, or farms?		X
Is a Business Information Survey (BIS) required?		X
Is a Conceptual Stage Relocation Study (CSRS) required?		X
Has utility relocation coordination been initiated for this project?		X

Number of relocations: Residences: 0 Businesses: 0 Farms: 0 Other: 0

If a BIS or CSRS is required, discuss the results in the remarks box.

Remarks: No relocations of people, businesses, or farms will take place as a result of this project.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)	**Documentation**
Red Flag Investigation	X
Phase I Environmental Site Assessment (Phase I ESA)	
Phase II Environmental Site Assessment (Phase II ESA)	
Design/Specifications for Remediation required?	

	No	Yes/ Date
ES Review of Investigations		July 25, 2019

Include a summary of findings for each investigation.

Remarks: Based on a review of GIS data and available public records, an RFI was approved on July 25, 2019 by the INDOT Site Assessment and Management (SAM) Unit (Appendix E, pages 1-12). No sites with hazardous material concerns (hazmat sites) or sites involved with regulated substances were identified in or within 0.5 mile of the project area. Further investigation for hazardous material concerns or regulated substances is not required at this time.

An early coordination letter was sent on May 6, 2019, to the IDNR Division of Oil and Gas. IDNR Division of Oil and Gas indicated a plugged well is within the project area (Appendix C, page 19). A review of the project area was completed on April 17, 2020 using the IGS Petroleum Database Management System (https://igws.indiana.edu/pdms/Map/). The well IDNR Division of Oil and Gas referenced in their letter is approximately 65 feet north of the existing edge of pavement and outside of the proposed right-of-way; therefore, no impact is expected.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply) **Likely Required**

Army Corps of Engineers (404/Section10 Permit)	
Individual Permit (IP)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	X
Pre-Construction Notification (PCN)	
Other	
Wetland Mitigation required	
Stream Mitigation required	
IDEM	
Section 401 WQC	X
Isolated Wetlands determination	
Rule 5	
Other	
Wetland Mitigation required	
Stream Mitigation required	
IDNR	
Construction in a Floodway	
Navigable Waterway Permit	
Lake Preservation Permit	
Other	
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the remarks box below)	

Remarks:

A USACE Section 404 permit and IDEM Section 401 Water Quality Certification (WQC) will likely be required for this project.

Applicable recommendations provided by IDEM and IDNR-DFW are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all required permits.

SECTION J- ENVIRONMENTAL COMMITMENTS

The following information should be provided below: List all commitments, name of agency/organization requesting the commitment(s), and indicating which are firm and which are for further consideration. The commitments should be numbered.

Remarks:

FIRM:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division ESD and the INDOT Vincennes District Environmental Section will be contacted immediately. (INDOT ESD and INDOT Vincennes District)

2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)

3. 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. (USFWS)

4. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)

5. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)

6. Tree Removal AMM 2: Apply time of year restrictions (April 1 through September 30) 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. (USFWS)

7. 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). (USFWS)

8. 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. (USFWS)

9. One petroleum well is located adjacent to the project area. If project limits/activities change (permit #20340), IDNR Division of Oil should be contacted. (IDNR Division of Oil and Gas)

10. A Cemetery Development Plan must be completed if work will occur within 100 feet of Little Zion Cemetery. Coordination with INDOT Cultural Resources will occur. (INDOT SAM)

11. Hardin Creek is impaired for *E. coli.* Workers should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. (INDOT SAM)

12. Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT ESD)

13. USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after April 1, 2022, an inspection of the structure by a qualified individual must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT ESD)

14. Structure 065-63-06288 B at Branch of Hardin Creek has shown no evidence of use (for example, nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during previous inspections. However, the structure is located over or near water which is preferred habitat for migratory birds. Avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the "Potential Migratory Bird on Structure Unique Special Provision". (INDOT EWPO)

FOR CONSIDERATION:

1. For purposes of maintaining fish and wildlife passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culvers are better than narrow culvers, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are use, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the OHWM width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel. (IDNR-DFW)

2. The new replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to current conditions. A level area of natural ground under the structure is ideal for wildlife. If channel clearing will result in a flat bench area above the normal water level under the structure, this area should allow wildlife passage and should remain free of riprap and other similar materials that can impair wildlife passage. (IDNR-DFW)

3. Minimize the use of riprap and use alternative erosion protection materials whenever possible. Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organisms passage (riprap must not be placed above the existing streambed elevation). Where riprap must be used, IDNR recommends placing only enough riprap to provide stream bank toe protection, such as from the toe of the bank up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to the area and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. (IDNR-DFW)

4. While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank stabilization methods can provide additional bank protection and help reduce impacts upon fish and wildlife. If hard armoring is needed, wildlife passage can be facilitated by using a smooth-surfaced armoring material instead of riprap, such as articulated concrete block mats, fabric-formed concrete mats, or other similar smooth-surfaced material. (IDNR-DFW)

5. Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (DBH), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees). (IDNR-DFW)

6. IDNR recommends the mitigation site be located in the floodway, downstream of the one (1) square mile drainage area of the stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat. (IDNR-DFW)

7. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30. (IDNR-DFW)

8. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR-DFW)

9. Do not construct temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR-DFW)

10. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction. (IDNR-DFW)

11. Post "Do Not Spray" signs along the right-of-way. (IDNR-DFW)

12. Restrict below low-water work in streams to placement of culvert, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement or riprap. (USFWS)

13. Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community. (USFWS)

14. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If rip rap is utilized for bank stabilization, extend it below low-level water elevation to provide aquatic habitat. (USFWS)

15. Avoid all work within the inundated part of the stream channel (in perennial streams and large intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdam. (USFWS)

16. Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels and diversion fencing. (USFWS)

SECTION K- EARLY COORDINATION

Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received. INDOT and FHWA are automatically considered early coordination participants and should only be listed if a response is received.

Remarks:

Early coordination was initiated on May 6, 2019 with federal, state, and local resource agencies (Appendix C, pages 1-3).

Agency	Response Received
USDA – Natural Resources Conservation Service	June 3, 2019
Indiana Department of Natural Resources, Division of Fish and Wildlife	June 4, 2019
Indiana Department of Natural Resources, Division of Oil and Gas	June 10, 2019
U.S. Fish and Wildlife Service	April 8, 2020
Indiana Geological Survey	April 8, 2020

Indiana Department of Environmental Management	April 8, 2020
U.S. Army Corps of Engineers – Louisville District	-
Federal Highway Administration	-
Indiana Department of Transportation, Office of Public Involvement	-
Pike County Surveyor	-
Pike County School Corporation	-
Pike County Sheriff's Department	-
Pike County Highway Department	-
Pike County Commissioners Office	-
Pike County Emergency Management/Floodplain Administrator	-
Little Zion Church	-

SR 65 over Branch of Hardin Creek – Bridge Replacement
Pike County, Indiana
Des. No. 1700166

APPENDIX TABLE OF CONTENTS

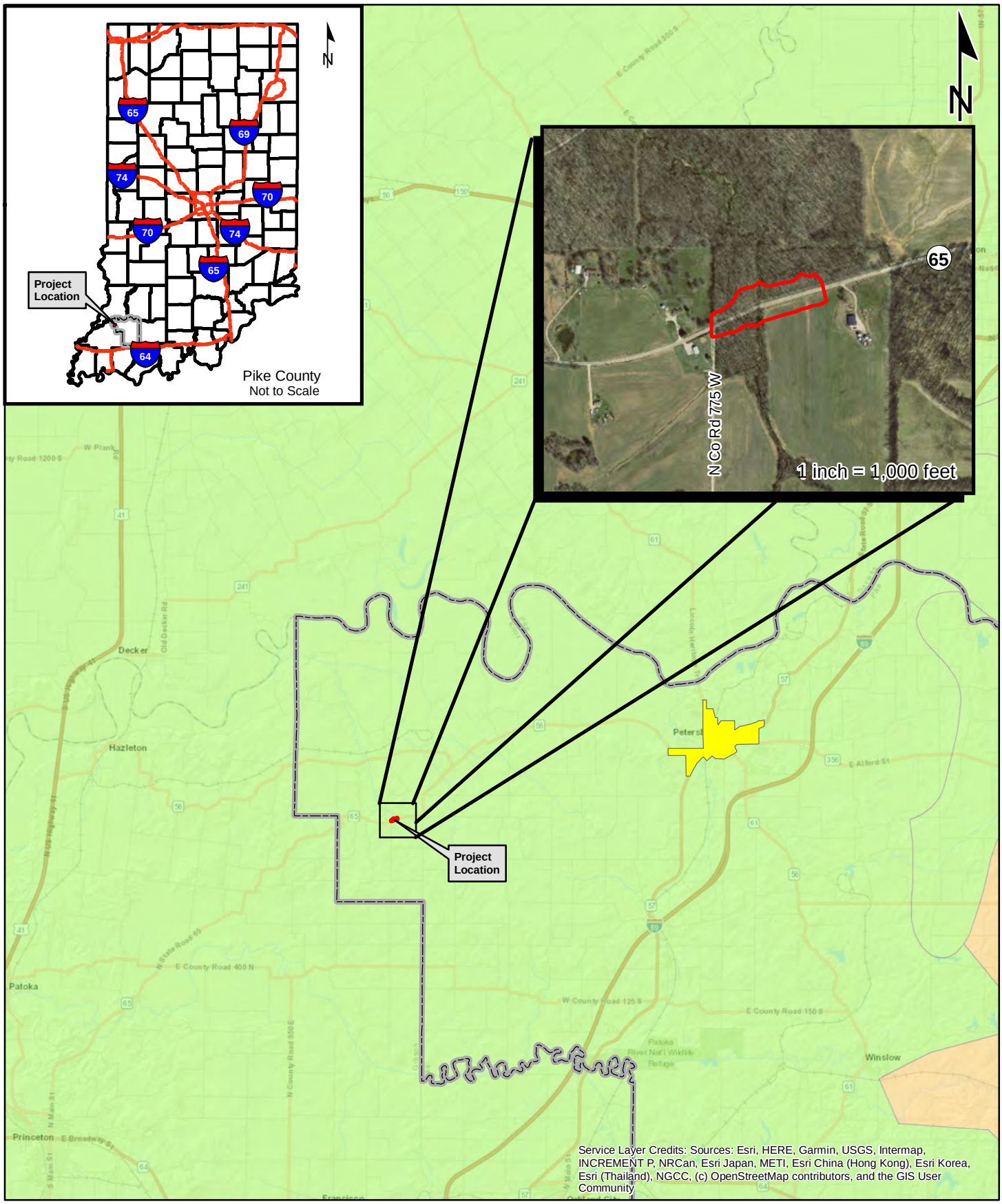
Appendix A: INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4[1]
Section 106	Falls within guidelines of Minor Projects PA	"No Historic Properties Affected"	"No Adverse Effect"	-	"Adverse Effect" Or Historic Bridge involvement[2]
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way[3]	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	"No Effect", "Not likely to Adversely Affect" (Without AMMs[4] or with AMMs required for all projects[5])	"Not likely to Adversely Affect" (With any other AMMs)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	"No Effect", ""Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential[6]
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes[7]
Approval Level • **District Env. Supervisor** • **Env. Services Division** • **FHWA**	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes Yes	Yes Yes Yes

[1]Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.
[2]Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.
[3]Permanent and/or temporary right-of-way.
[4]AMMs = Avoidance and Mitigation Measures.
[5]AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User's Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as "required for all projects".
[6]Potential for causing a disproportionately high and adverse impact.
[7]Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.
*Substantial public or agency controversy may require a higher-level NEPA document.

Appendix B: Graphics



Northeast and Northcentral
Midwest
Eastern Mountains and Piedmont
Petersburg, Indiana
Pike County
Investigated Area

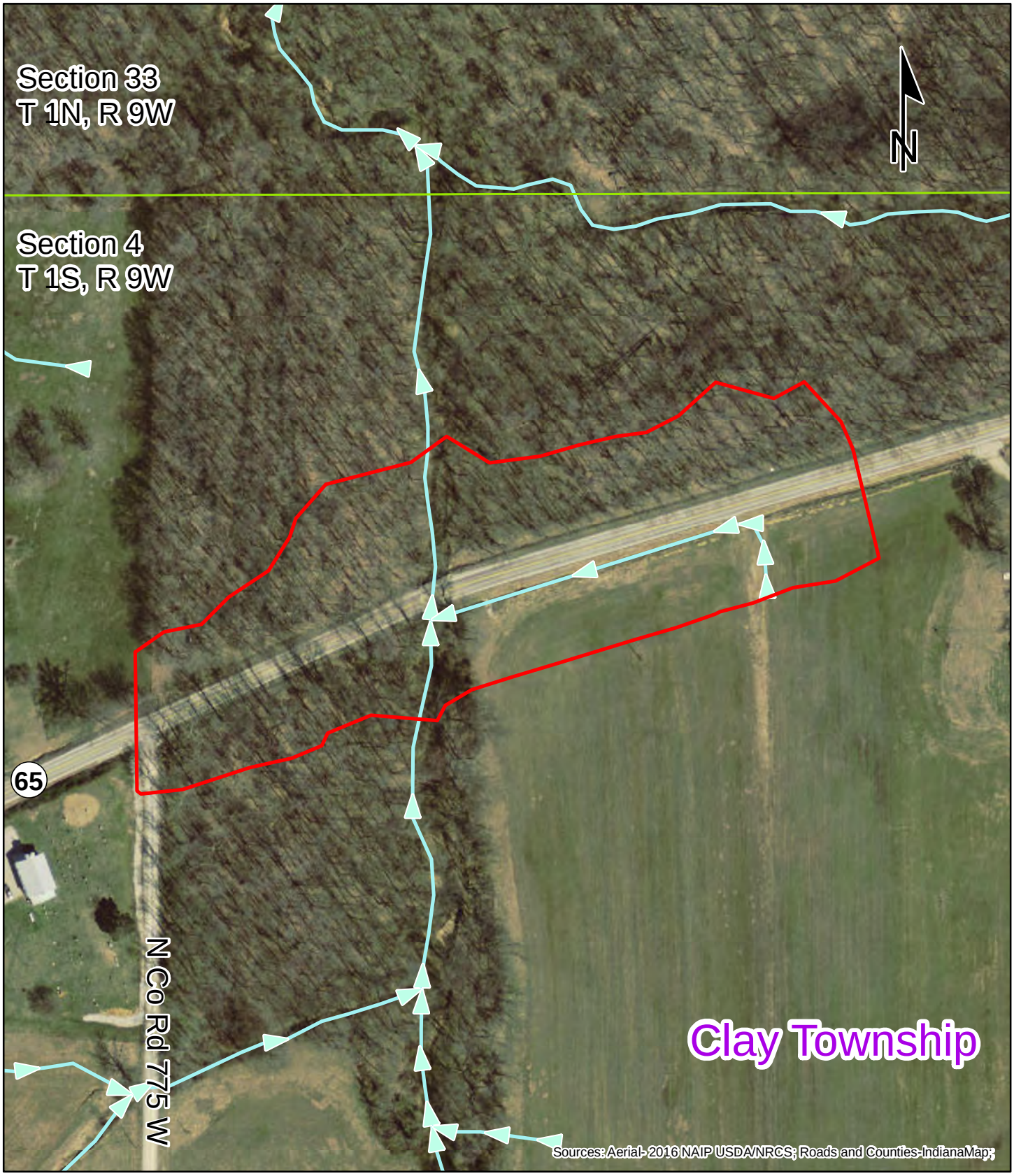
0 1.5 3 Miles

Project Location Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Des. No. 1700166

1 in = 3 miles

HNTB
Graphics created by HNTB Corporation (2020)



Investigated Area
PLSS Sections
National Hydrography Flowlines

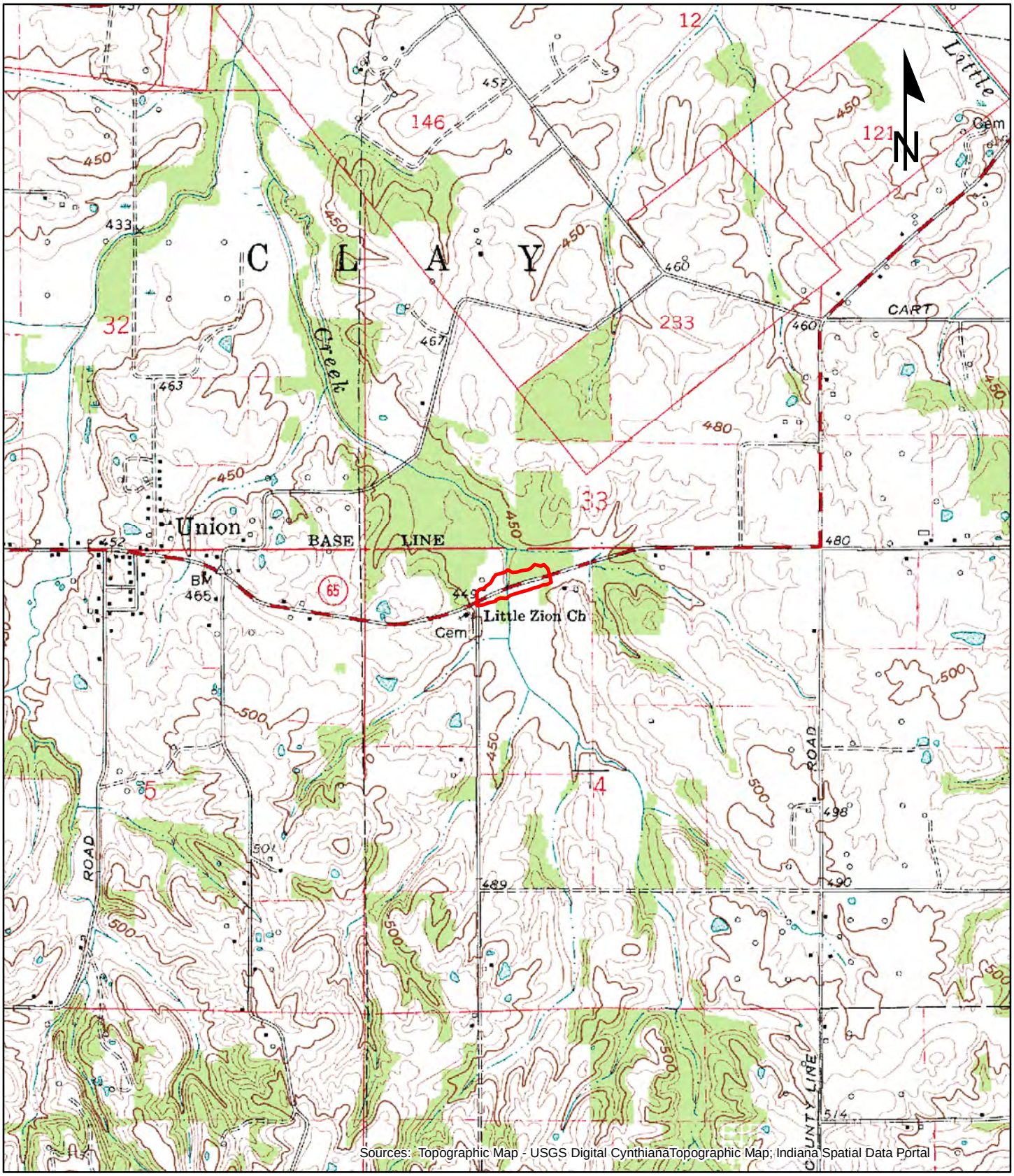
0 100 200 Feet

Project Aerial Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Des. No. 1700166

1 inch = 200 feet

HNTB
Graphics created by HNTB Corporation (2020)



Investigated Area

0 1,000 2,000 Feet

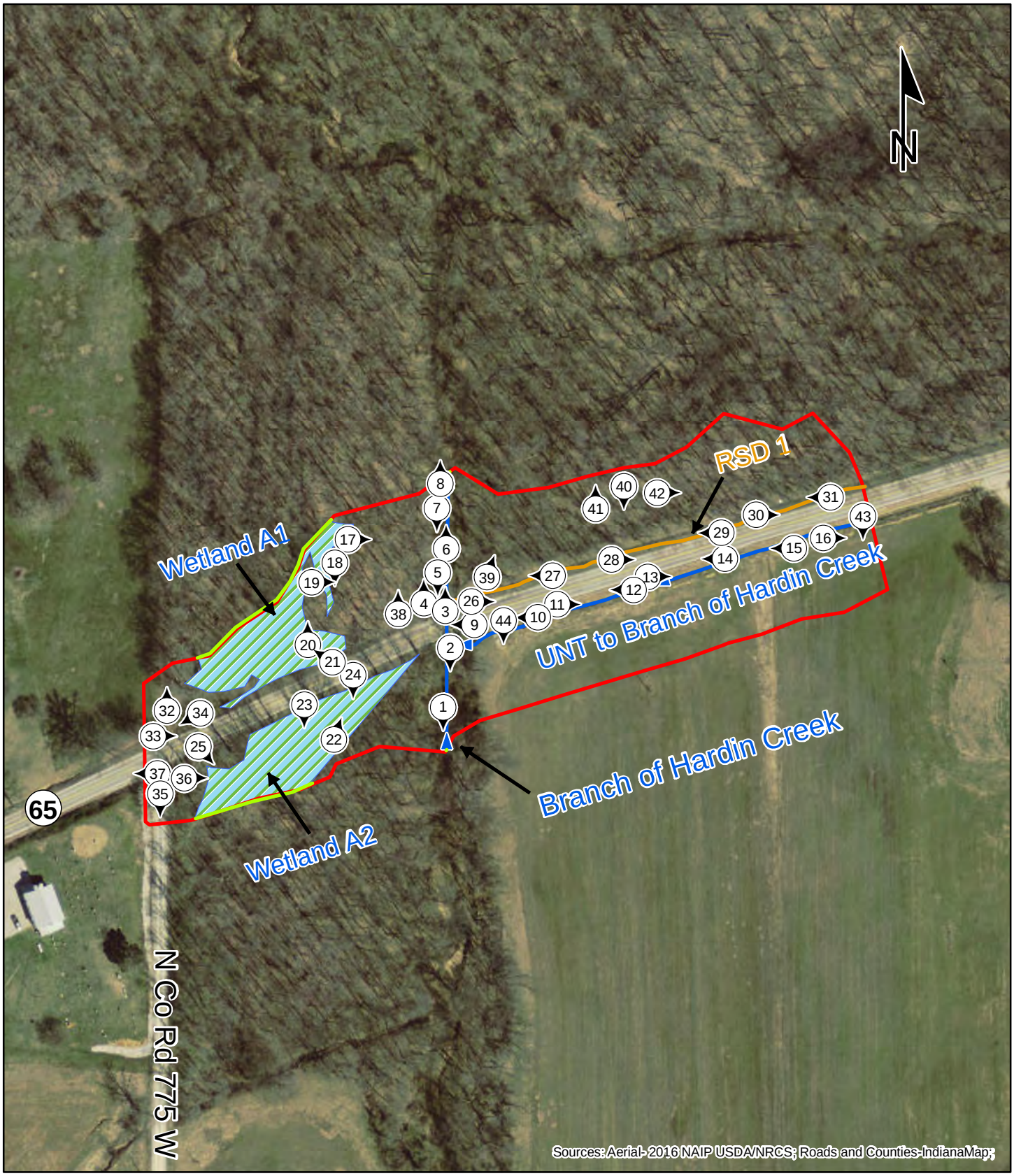
USGS (1:24,000 scale) Topographic Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Des. No.1700166

1 inch = 2,000 feet

HNTB

Graphics created by HNTB Corporation (2020)



Delineated Streams
Roadside Ditches
Feature Extends Outside Investigated Area
Photo Locations
Investigated Area
Delineated Wetland
0 100 200 Feet

Photo Location Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Des. No. 1700166

1 inch = 200 feet

HNTB
Graphics created by HNTB Corporation (2020)

1. View of Branch of Hardin Creek looking south upstream

2. View of Branch of Hardin Creek looking south upstream

3. View of Branch of Hardin Creek looking north downstream

4. View of Branch of Hardin Creek looking north downstream

5. View of Branch of Hardin Creek looking south upstream

6. View of Branch of Hardin Creek looking north downstream

7. View of Branch of Hardin Creek looking south upstream

8. View of Branch of Hardin Creek looking north downstream

9. View of UNT 1 to Branch of Hardin Creek looking west to confluence with Branch of Hardin Creek

10. View of UNT 1 to Branch of Hardin Creek and investigated area looking west

11. View of UNT 1 to Branch of Hardin Creek and investigated area looking east

12. View of UNT 1 to Branch of Hardin Creek and investigated area looking west

13. View of UNT 1 to Branch of Hardin Creek and investigated area looking east. Note drainage tile

14. View of UNT 1 to Branch of Hardin Creek and investigated area looking west

15. View of UNT 1 to Branch of Hardin Creek and investigated area looking west

16. View of UNT 1 to Branch of Hardin Creek and investigated area looking east

17. View of Wetland A1 and investigated area looking east

18. View of Wetland A1 and investigated area looking south

19. View of Wetland A1 and investigated area looking east

20. View of Wetland A1 and investigated area looking north

21. View of Wetland A1 and investigated area looking northwest

22. View of Wetland A2 and investigated area looking northeast

23. View of Wetland A2 and investigated area looking south

24. View of Wetland A2 and investigated area looking south

25. View of Wetland A2 and investigated area looking southeast

26. View of RSD 1 and investigated area looking east

27. View of RSD 1 and investigated area looking west

28. View of RSD 1 and investigated area looking east

29. View of RSD 1 and investigated area looking west

30. View of RSD 1 and investigated area looking east

31. View of RSD 1 and investigated area looking west

32. View of investigated area looking north to forested area

33. View of investigated area looking east down State Road 65

34. View of investigated area looking west up State Road 65

35. View of investigated area looking south down County Road 775

36. View of investigated area looking east toward Wetland A2 bridge down State Road 65

37. View of investigated area looking west to Little Zion church and cemetery

38. View of investigated area looking north

39. View of investigated area looking northeast

40. View of investigated area looking south

41. View of investigated area looking north

42. View of investigated area looking east

43. View of investigated area looking south

44. View of investigated area looking south to agricultural field

PROJECT	DESIGNATION
1700166	1700166
CONTRACT	BRIDGE FILE
B-40553	065-63-10332

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS

FOR SPANS OVER 20 FEET

ROUTE: SR 65 AT: RP 44+55

PROJECT NO. 1700166 (P.E., R/W, CONST.)

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
065-63-10332	REINFORCED CONCRETE BOX CULVERT	SINGLE SPAN: 22'-0" SKEW: 21° LT.	BRANCH HARDIN CREEK	104+90.89 LINE "A"

KIN PROJECT INFORMATION		
DESIGNATION	PROJECT DESCRIPTION	
1700150	SR 356 OVER MUD CREEK	LEAD DES
1700166	SR 65 OVER BRANCH HARDIN CREEK	
1700160	SR 65 OVER HARDIN CREEK	
1700165	SR 65 OVER BLACK RIVER	

BRIDGE REPLACEMENT ON SR 65 OVER BRANCH HARDIN CREEK, LOCATED APPROXIMATELY 2.16 MILES SOUTH OF SR 56, SECTION 4, T-1-S, R-9-W, CLAY TOWNSHIP, PIKE COUNTY, INDIANA.

SR 65 OVER BRANCH HARDIN CREEK
BRIDGE FILE NO. 065-63-10332
STA. 104+90.89 LINE "A"
BEGIN PROJECT 104+35.00
END PROJECT 105+34.00

LOCATION MAP
(PIKE COUNTY)

SCALE: 1" = 2000'

TRAFFIC DATA			
A.A.D.T.	(2022)	377	V.P.D.
A.A.D.T.	(2042)	377	V.P.D.
D.H.V	(2042)	38	V.P.H.
DIRECTIONAL DISTRIBUTION		52.26	%
TRUCKS		10.88	% A.A.D.T.
		23.68	% D.H.V.

DESIGN DATA		
DESIGN SPEED	50	M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)	
FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR	
RURAL/URBAN	RURAL	
TERRAIN	LEVEL	
ACCESS CONTROL	NONE	

PROJECT LOCATIONS SHOWN BY
PIKE COUNTY

LATITUDE: 38° 27' 51" LONGITUDE: -87° 25' 12"

BRIDGE LENGTH:	0.005	MI.
ROAD LENGTH	0.014	MI.
TOTAL LENGTH:	0.019	MI.
MAX. GRADE:	-0.88	%

HUC: 051202021004

NOTE TO REVIEWER

PLEASE SEE CORRESPONDENCE FILE FOR DOCUMENTATION OF DESIGN DECISIONS.

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2020
TO BE USED WITH THESE PLANS.

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

111 Monument Circle
Suite 1200
Indianapolis, IN 46204

DRAFT
NOT FOR CONSTRUCTION

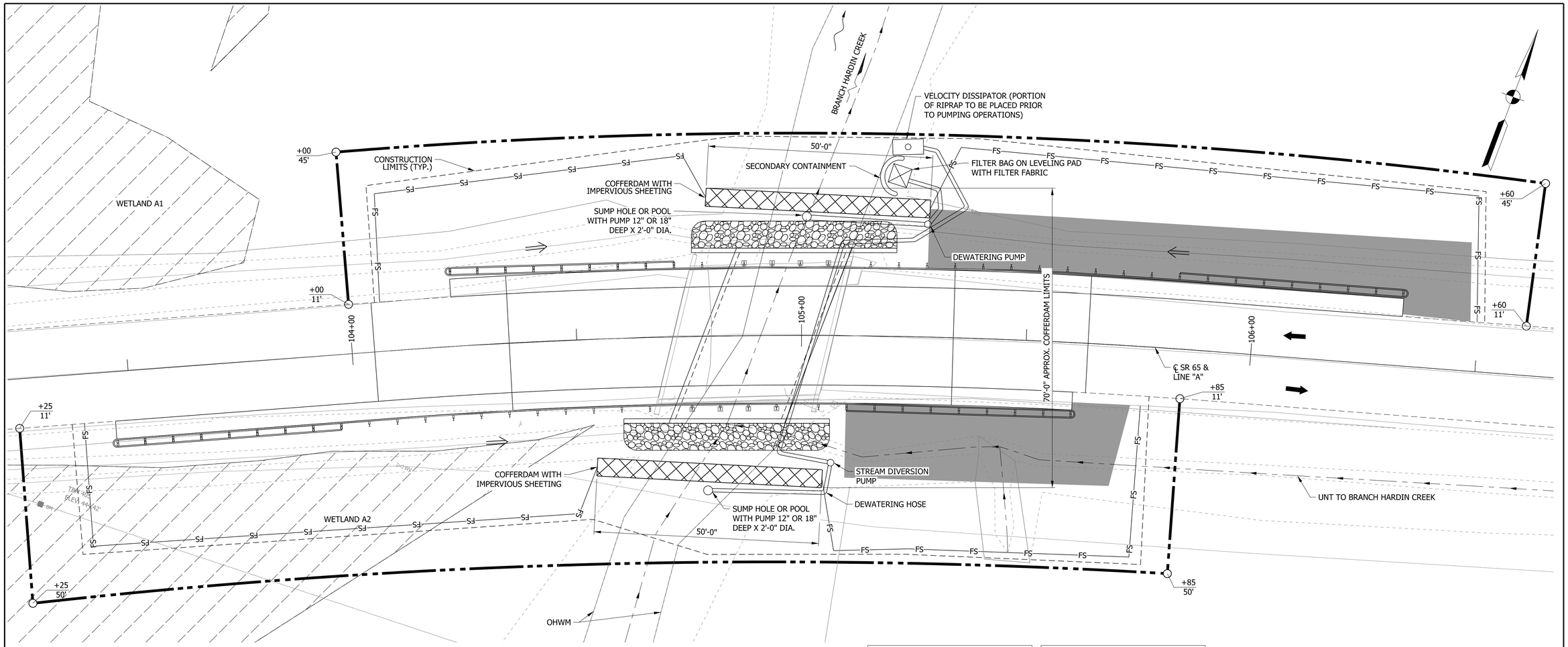
PLANS PREPARED BY: HNTB Indiana, Inc. (317) 636-4682
PHONE NUMBER

CERTIFIED BY: _____ DATE

APPROVED FOR LETTING: _____ DATE
INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE FILE	
065-63-10332	
DESIGNATION	
1700166	

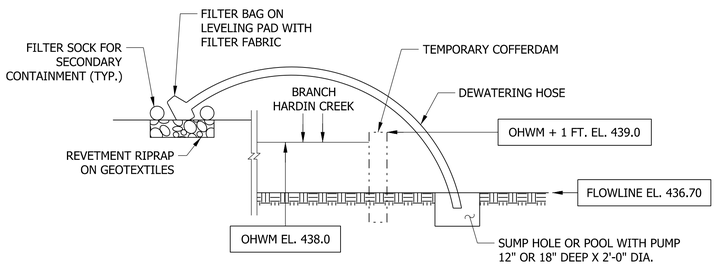
SURVEY BOOK	SHEETS		
ELECTRONIC	1	of	13
CONTRACT	PROJECT		
B-40553	1700166		



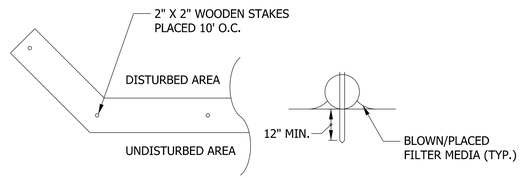
PLAN
SCALE: $\frac{3}{32}$" = 1'-0"

CONSTRUCTION * ENTRANCES	
NO. 2 STONE	TEMP. GEOTEXTILES
(TONS)	(SYS)
100	235

SEDIMENT REMOVE *	
LOCATION	(CYS)
NORTH CORNERS	1
SOUTH CORNERS	1



DEWATERING / WORK AREA
NOT TO SCALE



FILTER SOCK DETAIL
NOT TO SCALE

FILTER SOCK *	
LOCATION	LENGTH (LFT)
STA. 103+39.45 TO 104+53.52 RT.	150
STA. 104+06.92 TO 104+79.19 LT.	100
STA. 105+04.69 TO 105+76.28 RT.	110
STA. 105+27.93 TO 106+49.64 LT.	160
TOTAL	520

* FOR INFORMATION ONLY. ESTIMATED QUANTITY INCLUDED IN STORM WATER MANAGEMENT BUDGET.

LEGEND
- FS — FILTER SOCK
- OHWM — ORDINARY HIGH WATER MARK
- CONSTRUCTION ACCESS
- WETLAND AREA
- STORM WATER EXIT (OPEN CHANNEL)
- OFFSITE DRAINAGE POINT OF ENTRY

NOTES:
1. CONTRACTOR SHALL VERIFY EXISTING FLOW LINE ELEVATION TO SET THE APPROPRIATE PUMP DEPTH.
2. PUMP AROUND SHOWN IS PART OF DOCUMENTATION INCLUDED FOR PERMIT APPROVAL. SEE SPECIAL PROVISIONS.
3. BRANCH HARDIN CREEK DRAINAGE AREA = 1.74 SQUARE MILES.

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: ALM DRAWN: ALM

CHECKED: ENH CHECKED: ENH

INDIANA DEPARTMENT OF TRANSPORTATION

EROSION CONTROL DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	065-63-10332
VERTICAL SCALE	DESIGNATION
AS SHOWN	1700166
SURVEY BOOK	SHEETS
ELECTRONIC	3 of 13
CONTRACT	PROJECT
B-40553	1700166

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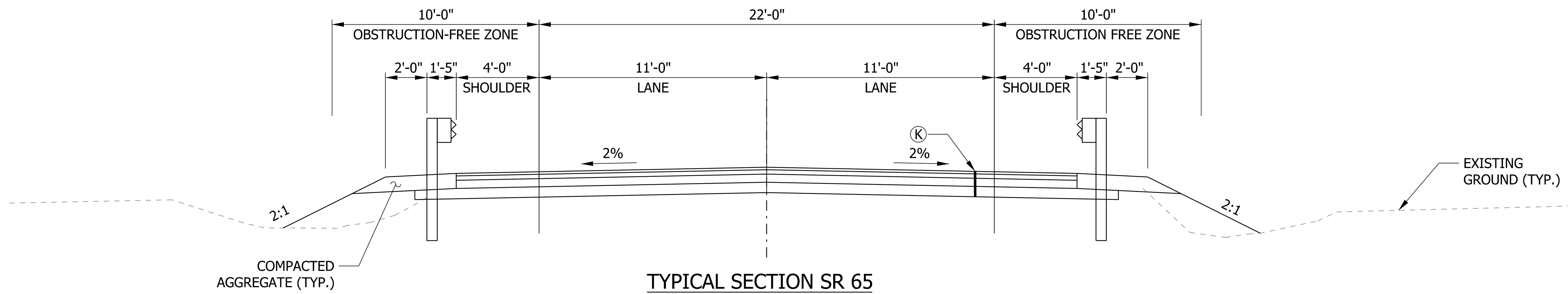
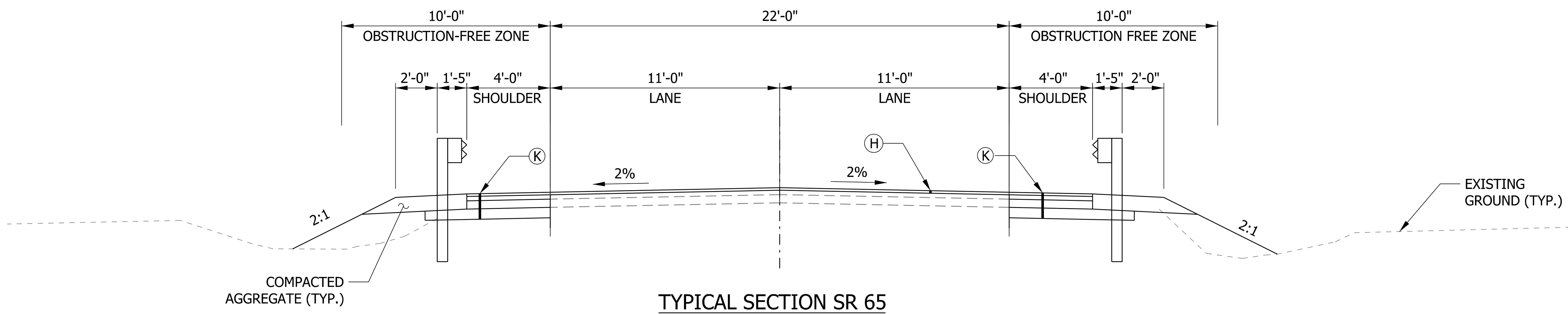


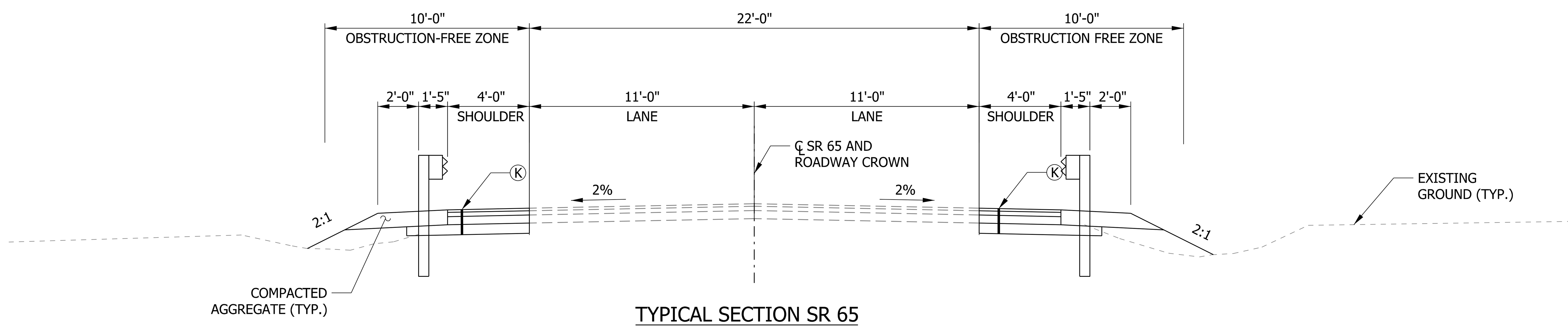
TYPICAL SECTION SR 65

STA. 104+35.00 TO 104+77.97
STA. 105+03.76 TO 105+34.00



TYPICAL SECTION SR 65

STA. 104+05.00 TO 104+35.00
STA. 105+34.00 TO 105+64.00

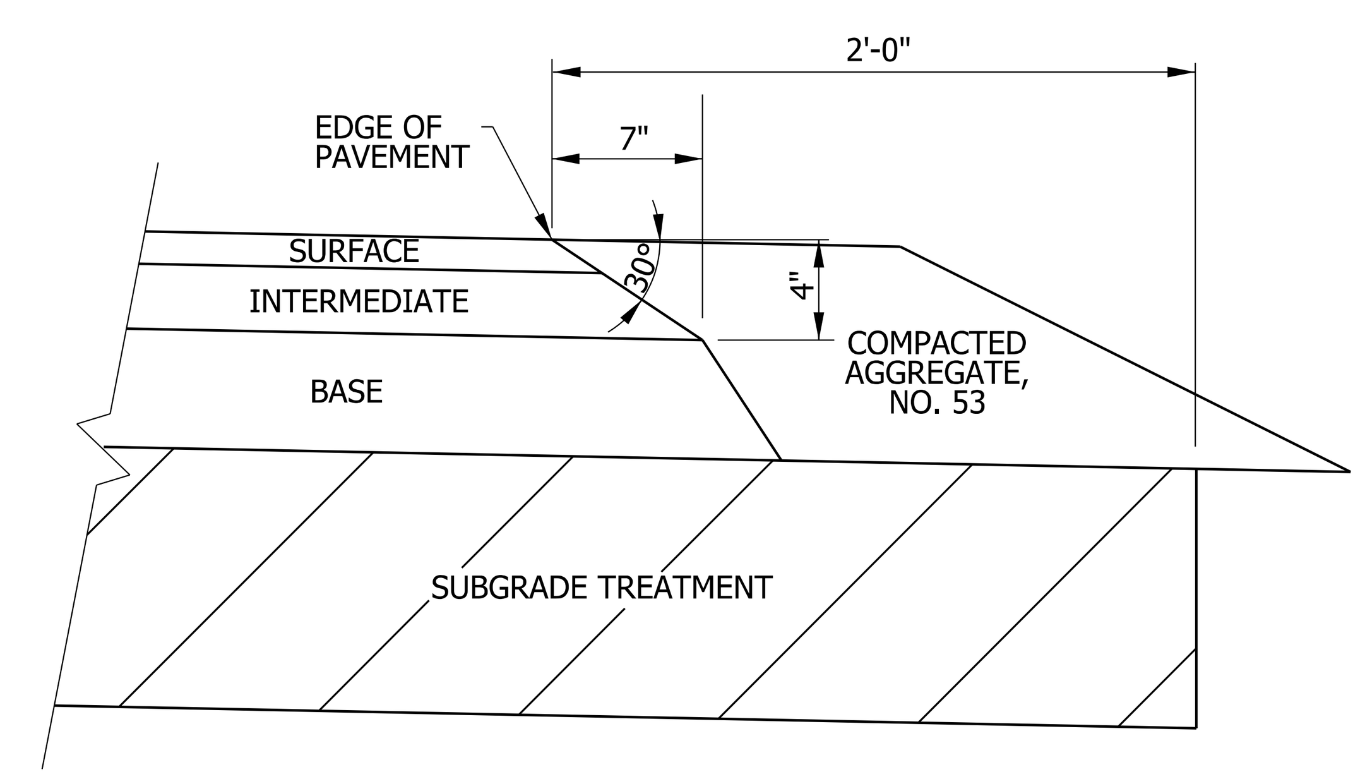


TYPICAL SECTION SR 65

STA. 103+46.38 TO 104+05.00
STA. 105+64.00 TO 106+33.00

NOTE TO REVIEWER

FINAL PAVEMENT SECTION WILL BE DETERMINED FOR FUTURE SUBMISSIONS FOLLOWING APPROVED PAVEMENT DESIGN.



SAFETY EDGE ON HMA PAVEMENT

N.T.S.

(H) QC/QA-HMA, 2, 64, SURFACE, 9.5 MM

(K) QC/QA-HMA, 2, 64, SURFACE, 9.5 MM ON
QC/QA-HMA, 2, 64, INTERMEDIATE, 19.0 MM ON
QC/QA-HMA, 2, 64, BASE, 25.0 MM ON
6 IN. COMPACTED AGGREGATE NO. 5, BASE ON
SUBGRADE TREATMENT, TYPE IC

amatungwa
4/9/2020 1:55:45 pm
model: Typical sections
file: \\indwd0\289projects\70946_indot-v_2018_bridges\1090-sr65_brhardin_des1700166\cadd\cds\70946-s-br-ts01.dgn

DRAFT
NOT FOR CONSTRUCTION

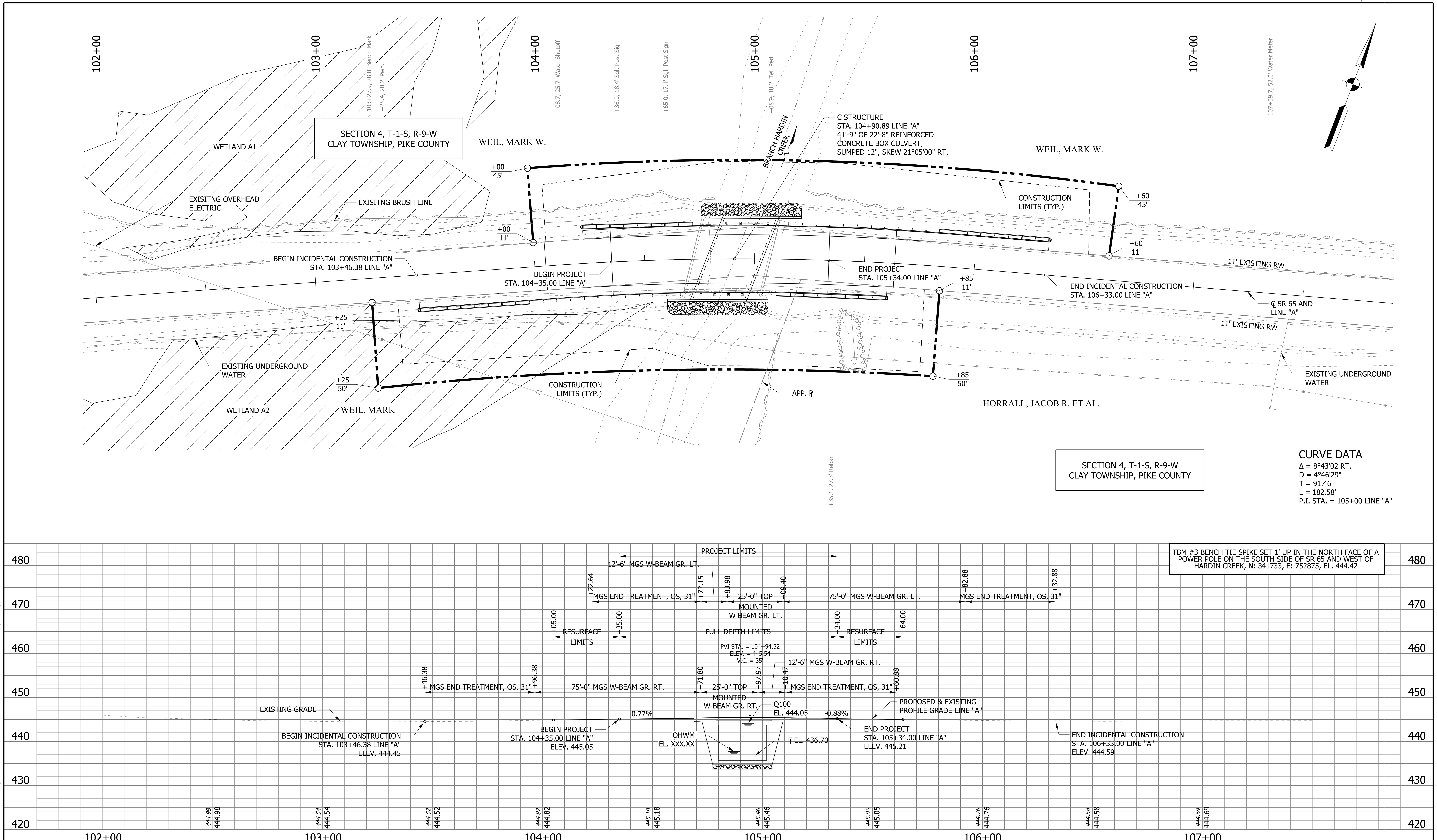
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER		DATE
DESIGNED: JAM		DRAWN: JAM	
CHECKED: ALR		CHECKED: ENH	

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
¼" - 1'-0"	065-63-10332
VERTICAL SCALE	DESIGNATION
¼" - 1'-0"	1700166
SURVEY BOOK	SHEETS
ELECTRONIC	4 of 13
CONTRACT	PROJECT
B-40553	1700166

R/W CODE 5798



103	104	105	500	501	502
NORTH: 341710.9465 EAST: 752705.8865	NORTH: 341867.3303 EAST: 753045.9841	NORTH: 341957.1012 EAST: 753513.7034	NORTH: 341622.0468 EAST: 752565.7544	NORTH: 341831.3611 EAST: 753019.8332	NORTH: 341969.4371 EAST: 753500.3901
5/8" Rebar w/ "HNTB" cap (Set)	5/8" Rebar w/ "HNTB" cap (Set)	5/8" Rebar w/ "HNTB" cap (Set)	Mag nail (Set)	Mag nail (Set)	Mag nail (Set)
Not to scale	Not to scale	Not to scale	Not to scale	Not to scale	Not to scale
Primary Control	Primary Control	Primary Control	P.O.T. 100+00.00 LINE "A"	P.O.T. 105+00.00 LINE "A"	P.O.T. 110+00.00 LINE "A"

NOTE TO REVIEWER

PROPOSED DITCHES WILL BE ADDED PRIOR TO THE PRELIMINARY FIELD CHECK.

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL ______ DESIGN ENGINEER ______ DATE

DESIGNED: JAM DRAWN: JAM

CHECKED: ALR CHECKED: ENH

INDIANA
DEPARTMENT OF TRANSPORTATION

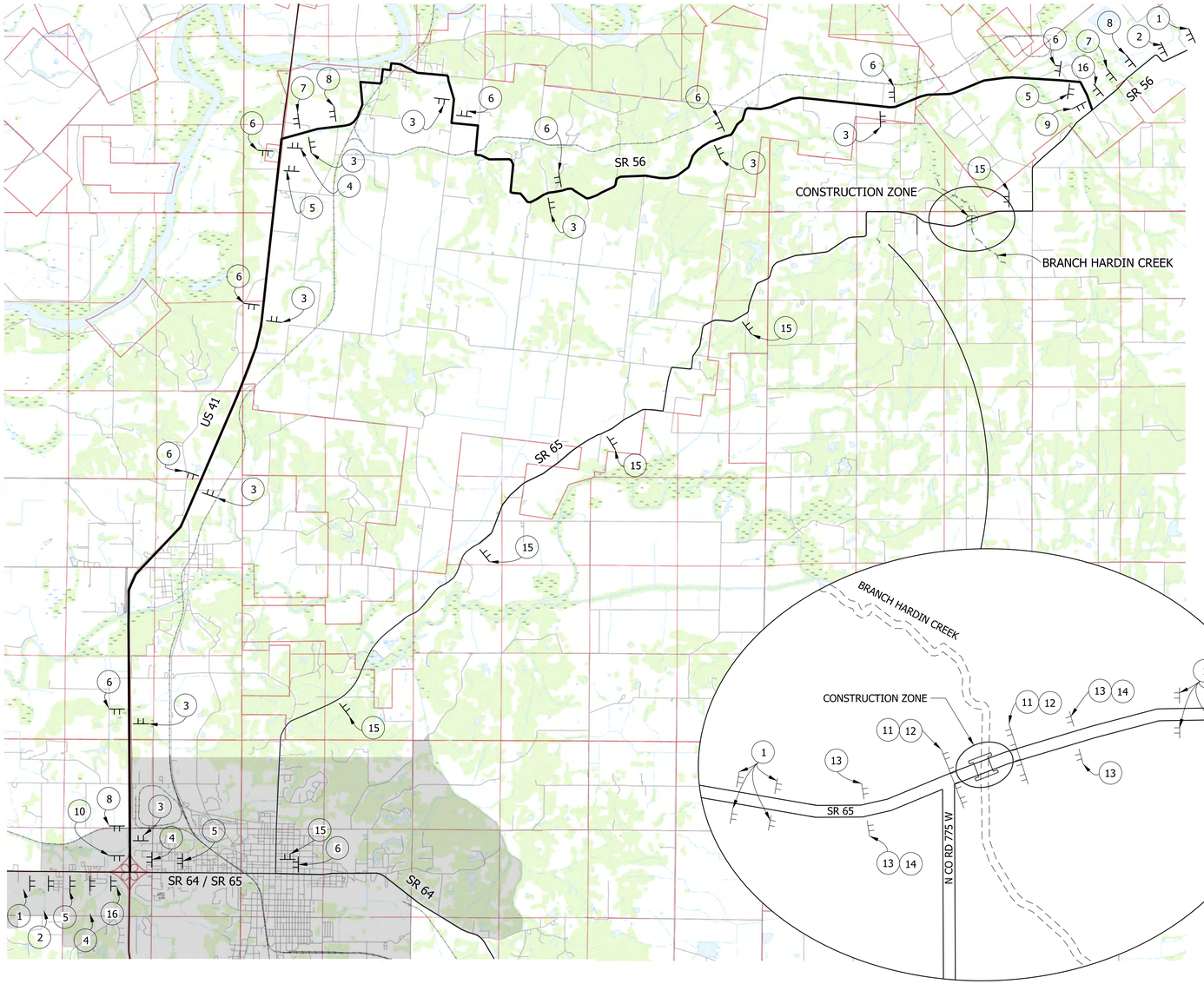
PLAN AND PROFILE

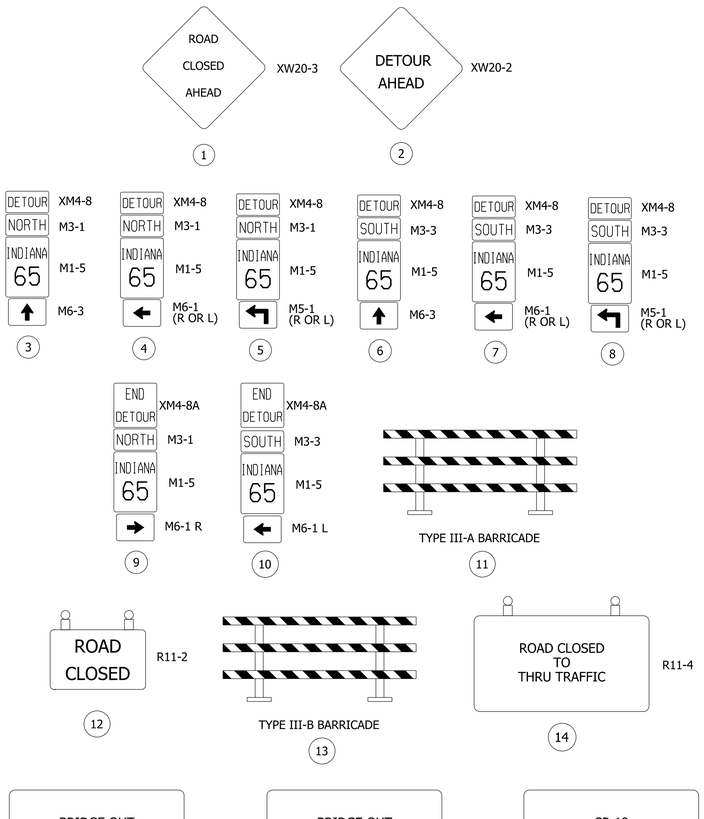
SCALE	BRIDGE FILE
1" = 20'	065-63-10332
VERTICAL SCALE	DESIGNATION
1" = 10'	1700166
SURVEY BOOK	SHEETS
ELECTRONIC	5 of 11
CONTRACT	PROJECT
B-40553	1700166

ehaas
4/14/2020 4:11:50 pm
model: Plan and profile
file: ...\1700166\cadd\cds\70946-s-br-pp01.dgn

MOT SUMMARY		
ITEM	UNITS	TOTALS
DETOUR ROUTE MARKER ASSEMBLIES	EA	33
** CONSTRUCTION SIGN, A	EA	22
CONSTRUCTION SIGN, B	EA	2
ROAD CLOSURE SIGN ASSEMBLY	EA	4
BARRICADE, III-A	LFT	96
BARRICADE, III-B	LFT	96

** INCLUDES 2 XG20-5 ROUTE CLOSURE NOTICE SIGNS TO BE FIELD LOCATED BY ENGINEER.





LEGEND

URBAN AREA BOUNDARY

NOTES:

1. ACCESS TO ALL PRIVATE DRIVES SHALL BE MAINTAINED DURING CONSTRUCTION. DRIVES ARE LOCATED AT VARIOUS LOCATIONS ALONG SR 65 WITHIN ½ MILE EAST AND WEST OF THE STRUCTURE.
2. FOR ADDITIONAL INFORMATION ON DETOUR SIGN PLACEMENT, SEE STANDARD DRAWING E 801-TCDT-01 THRU E 801-TCDT-04.
3. PUBLIC SCHOOLS, PUBLIC TRANSIT, EMERGENCY SERVICES, AND POSTAL SERVICES SHALL BE CONTACTED A MINIMUM OF 14 DAYS PRIOR TO BEGINNING CONSTRUCTION.

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: CDC | DRAWN: JAM

CHECKED: ENH | CHECKED: ENH

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC DETAILS

HORIZONTAL SCALE	BRIDGE FILE
N.T.S	065-63-10332
VERTICAL SCALE	DESIGNATION
N.T.S	1700166
SURVEY BOOK	SHEETS
ELECTRONIC	6 of 13
CONTRACT	PROJECT
B-40553	1700166

amaturigwa
4/9/2020 2:02:33 pm
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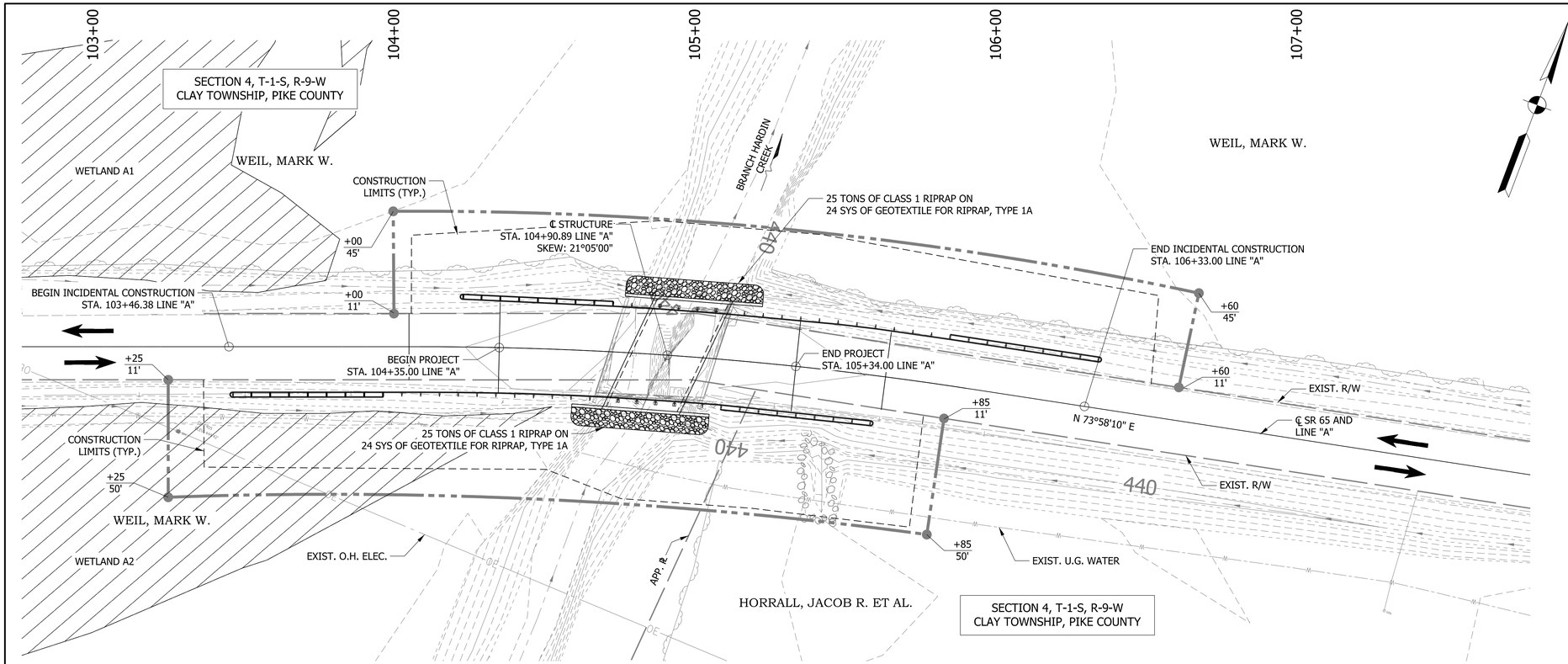

EXISTING STRUCTURE

THE EXISTING STRUCTURE IS A SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM BRIDGE WITH AN OUT-TO-OUT LENGTH OF 36'-0" AND A CLEAR ROADWAY WIDTH OF 28'-6" (EXISTING STRUCTURE TO BE REMOVED)

HYDRAULIC DATA

WATERWAY OPENING REQUIRED	153	SFT
WATERWAY OPENING PROVIDED	154	SFT
DRAINAGE AREA	1.74	SQ MI
DESIGN DISCHARGE, Q100	1000	CFS
VELOCITY	3.92	FT/S
Q100 ELEV.	444.05	FT
BACKWATER AT Q100	0.65	FT
EXISTING WATERWAY OPENING	147	SFT
EXISTING BACKWATER	0.67	FT
MIN. LOW STRUCTURE ELEV. REQ.	443.70	FT
EXISTING LOW STRUCTURE ELEV.	443.70	FT

EARTHWORK TABULATION

FILL + 20%	CYS
COMMON EXCAVATION	CYS
USABLE WATERWAY EXCAVATION (70%)	CYS
SURPLUS FOUNDATION EXCAVATION (70%)	CYS
BORROW	CYS
TOTAL WATERWAY EXCAVATION	CYS
EXCAVATION UNCLASSIFIED	CYS
BENCHING (ESTIMATED)	CYS

NO DIRECT PAYMENT FOR BENCHING. BENCHING WILL NOT BE PAID FOR AS COMMON EXCAVATION.

NOTE TO REVIEWER

CHANNEL CLEARING AND OHWM ELEVATIONS WILL BE PROVIDED IN A FUTURE SUBMITTAL AFTER THE WATERS REPORT HAS BEEN COMPLETED.

NOTE TO REVIEWER

EARTHWORK QUANTITIES WILL BE PROVIDED IN A FUTURE SUBMITTAL

REINFORCED CONCRETE BOX CULVERT
1 SPAN: 22'-0"
SKEW: 21°05'00" RT.
30'-0" CLEAR ROADWAY
SR 65 OVER BRANCH HARDIN CREEK
PIKE COUNTY

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: ALR DRAWN: ALR
CHECKED: ENH CHECKED: ENH

INDIANA
DEPARTMENT OF TRANSPORTATION

LAYOUT

HORIZONTAL SCALE	BRIDGE FILE
1"=20'-0"	065-63-10332
VERTICAL SCALE	DESIGNATION
1"=5'-0"	1700166
SURVEY BOOK	SHEETS
ELECTRONIC	7 of 13
CONTRACT	PROJECT
B-40553	1700166

ehlais
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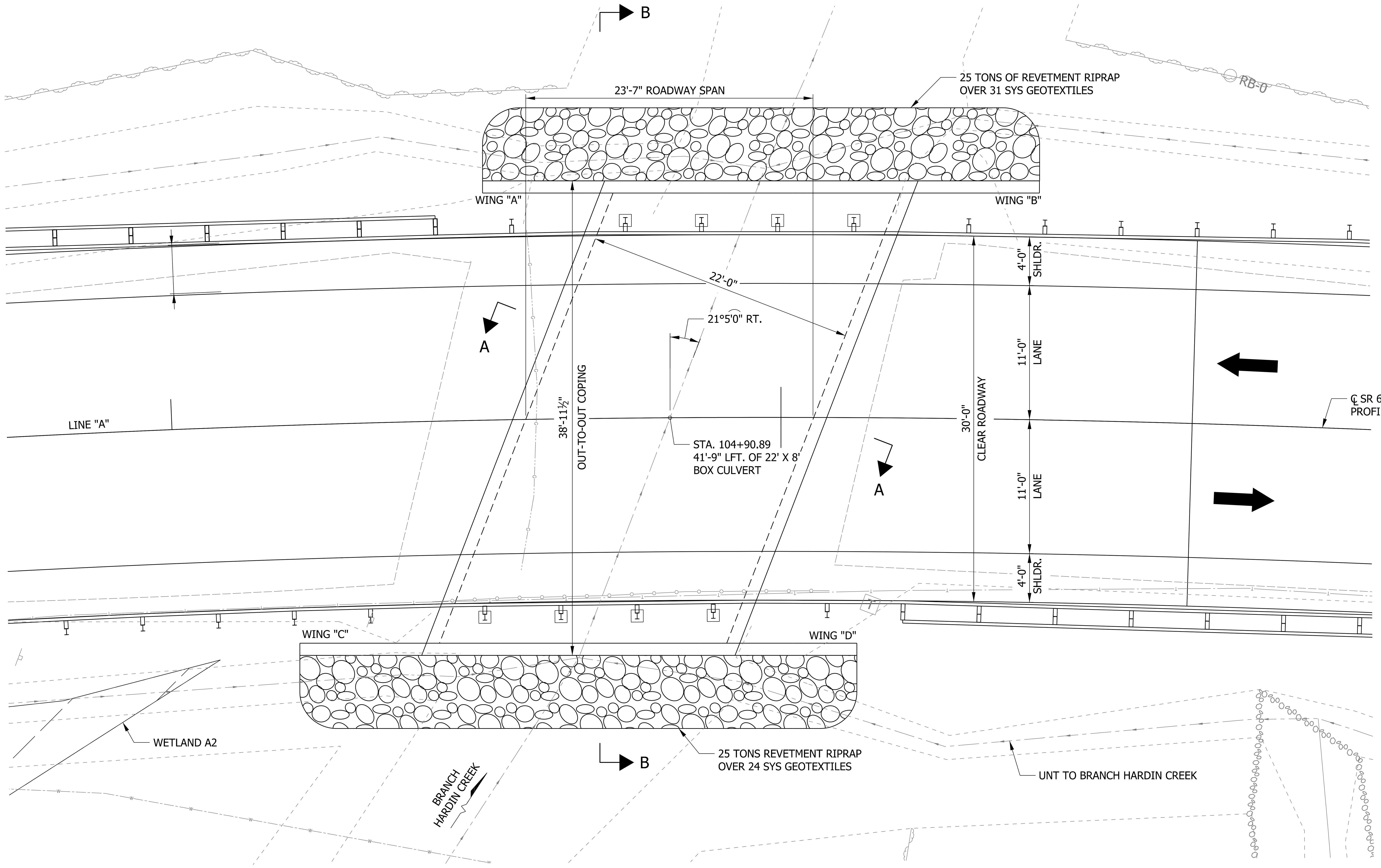
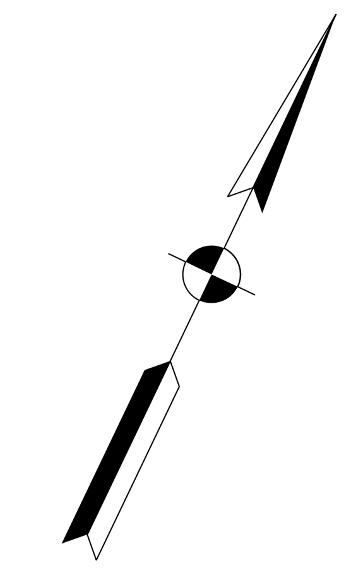


PLAN



GENERAL NOTES

PLANS FOR THE EXISTING BRIDGE ARE ON FILE IN THE RECORDS UNIT OF THE INDIANA DEPARTMENT OF TRANSPORTATION AS BRIDGE FILE 065-63-6288 B.

FOOTING DIMENSIONS SHALL BE DETERMINED BY THE PRECAST UNIT MANUFACTURER.

ALL PAVEMENT MARKINGS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN KIND.

ALL DIMENSIONS AND ELEVATIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED.

MAXIMUM NOMINAL SOIL BEARING RESISTANCE = XXX PSF.

CONTRACTOR SHALL NOT USE BROKEN CONCRETE IN PLACE OF RIPRAP.

DESIGN DATA

LIVE LOAD
STRUCTURE SHALL BE DESIGNED FOR HL-93 LOADING IN ACCORDANCE WITH AASHTRO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017, AND ITS SUBSEQUENT ITERIMS.

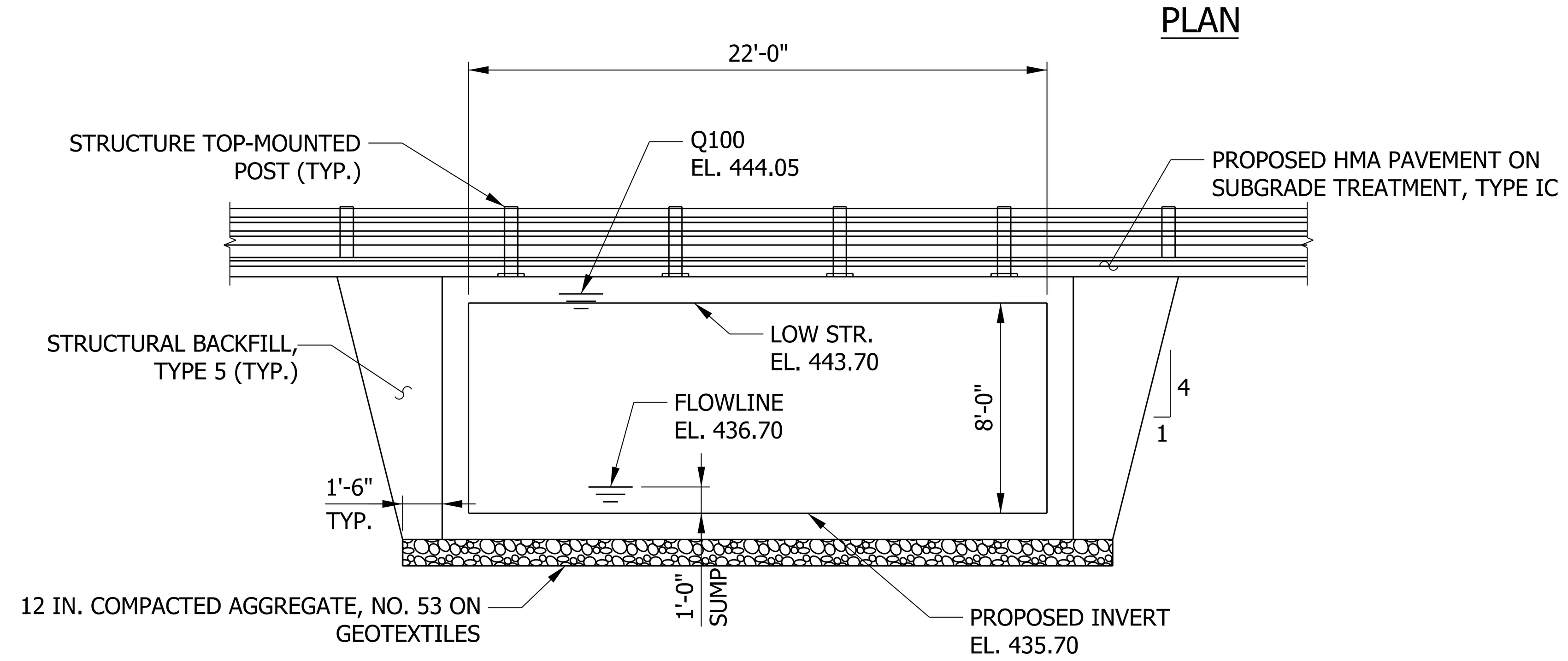
DEAD LOAD
DESIGNED FOR ACTUAL DEAD LOAD PLUS 35 PSF OF FUTURE WEARING SURFACE.

SEISMIC DESIGN DATA

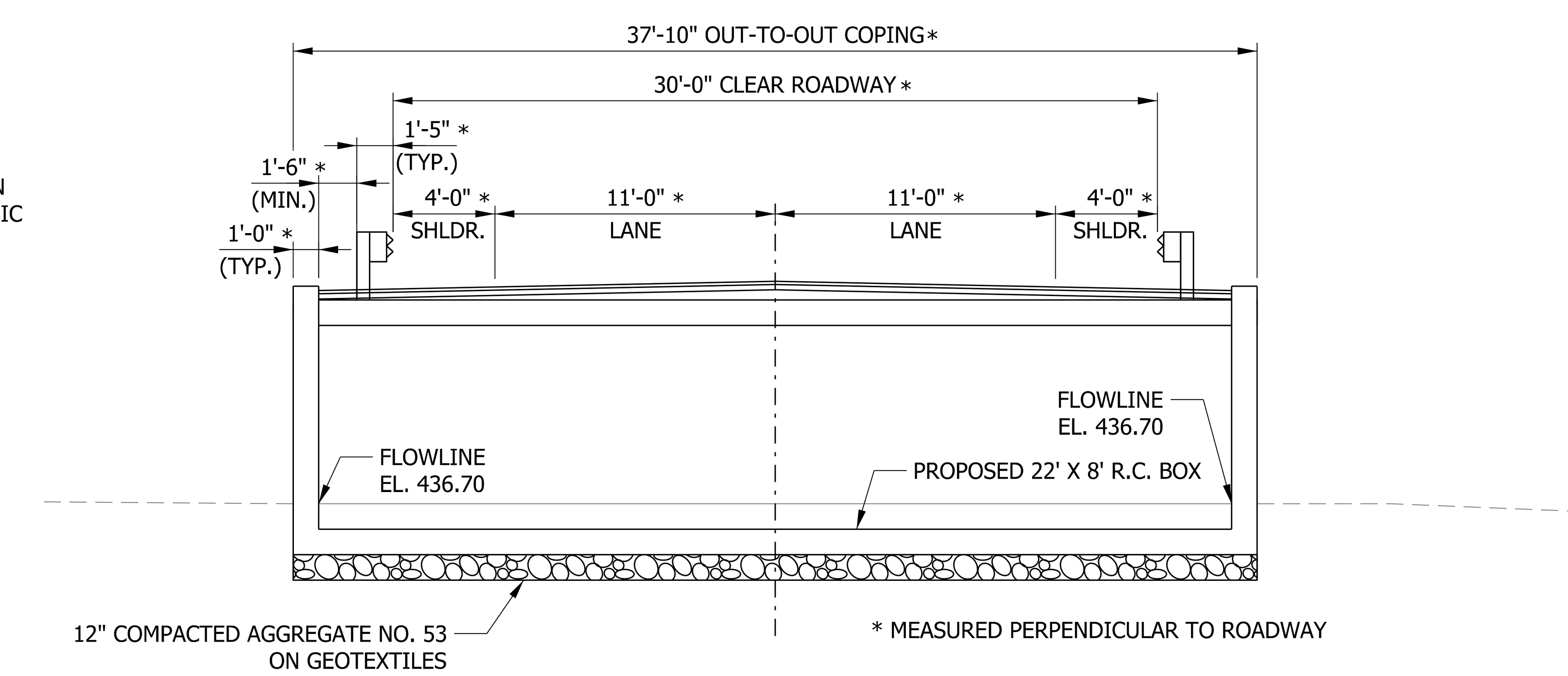
SEISMIC PERFORMANCE ZONE = XX
ACCELERATION COEFFICIENT = XX
SEISMIC SOIL PROFILE TYPE = XX

DESIGN STRENGTHS

THE MINIMUM DESIGN CONCRETE COMPRESSIVE STRENGTH FOR STRUCTURE SECTIONS SHALL BE 5000 PSI. FOR WINGWALLS AND HEADWALLS, IT SHALL BE 4000 PSI.



SECTION A-A



SECTION B-B

REINFORCED CONCRETE BOX CULVERT
1 SPAN: 22'-0"
SKEW: 21°05'00" RT.
30'-0" CLEAR ROADWAY
SR 65 OVER BRANCH HARDIN CREEK
PIKE COUNTY

NOTE TO REVIEWER
MATERIAL PLACED UNDER THE REINFORCED CONCRETE BOX WILL BE CONFIRMED AFTER GEOTECHNICAL REPORT IS COMPLETE.

NOTE TO REVIEWER
WINGWALL LENGTHS SHOWN ARE APPROXIMATE AND WILL BE DETERMINED AT THE NEXT SUBMITTAL.

DRAFT
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL ______ DESIGN ENGINEER ______ DATE

DESIGNED: JAM DRAWN: JAM
CHECKED: ALR CHECKED: ENH

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
3/16" = 1'-0"	065-63-10332
VERTICAL SCALE	DESIGNATION
3/16" = 1'-0"	1700166
SURVEY BOOK	SHEETS
ELECTRONIC	8 of 13
CONTRACT	PROJECT
B-40553	1700166

ehaas
4/14/2020 3:08:16 pm
model: General plan
file: \\indwd01\289projects\70946_indot-v_2018_bridges\090-sr65_brhardin_des1700166\cadd\cds\70946-s-br-pln01.dgn

Appendix C: Early Coordination

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

111 Monument Circle
Suite 1200
Indianapolis, IN 46204

Telephone (317)636-4682
Facsimile (317) 917-5211
www.hntb.com

May 6, 2019

Rickie Clark
Manager, Public Involvement
Indiana Department of Transportation
100 N Senate Ave Room 642
Indianapolis, IN 46204

Sample Early Coordination Letter

Re: Early Coordination Letter
Des. No. 1700166
SR 65 over Harbin Creek
Bridge Project
Pike County, Indiana

Dear Mr. Clark:

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project involving the bridge (Bridge No. 065-63-06288 B) carrying State Road (SR) 65 over Harbin Creek, approximately 2.16 miles south of SR 56 in Pike County, Indiana. This letter is part of the early coordination phase of the environmental review process. We request comments from you within your area of expertise regarding any potential environmental or community effects associated with this proposed project. **Please use the above designation number and description in your reply.** We will incorporate your comments into a study of the project's environmental effects.

Project Location: The project area is located in a rural area of Pike County, Indiana. More specifically, the project is located in Section 4 Township 1 South, Range 9 West in Clay Township.

Existing Conditions: The single span adjacent box beam bridge was built in 1965 and reconstructed in 1980. This section of SR 65 is classified as a rural major collector. The existing superstructure and substructure exhibit moderate structural deterioration. A beam in the superstructure has two holes through the bottom exposing the interior of the beam. In addition, minor timber deterioration has occurred in the substructure at the northwest corner.

Purpose and Need: The need for this project is due to the deteriorated condition of the bridge, as documented in the INDOT Bridge Inspection Report dated February 7, 2019. The purpose of this project is to maintain a safe vehicular crossing of SR 65 over Harbin Creek, while maintaining adequate hydraulic function.

Proposed Project: Proposed activities include replacing the bridge, installing new guardrail, embankment widening, ditch re-grading, and tree clearing. Utility coordination will be performed to verify location of surrounding utilities for potential relocation.

Right-of-Way (ROW): Acquisition of up to 1.5 acres of additional permanent right-of-way is anticipated for this project.

Maintenance of Traffic (MOT): During construction, SR 65 will have a temporary closure with a detour.

Surrounding Resources: Land use in the vicinity of the project is primarily agricultural and residential. Harbin Creek lies within the project area. The project is not located within a wellhead protection area or an Urban Area Boundary (UAB). No swallows' nests have been observed underneath the structure. HNTB Corporation staff will perform a wetland and waterway determination and a biological assessment to identify any ecological resources that may be present.

This project qualifies for the application of the United States Fish and Wildlife Service (USFWS) range-wide programmatic informal consultation for the Indiana bat and northern long-eared bat. The USFWS Information, Planning, and Consultation System (IPaC), will be utilized to determine if the project will have an effect on the Indiana bat or northern long-eared bat. The INDOT Bridge Inspection Report for Bridge No 065-63-06288 B dated February 7, 2019, states that no evidence of bats was seen or heard on the bridge.

Comments Request: You are asked to review this information and provide any comments you may have relative to the anticipated effects of the project on areas which you have jurisdiction or special expertise. Please send your comments to Susan Harrington, of HNTB Corporation, at sharrington@hntb.com or (317) 917-5233. Should we not receive your response within thirty (30) calendar days from the date of this letter, it will be assumed that your agency feels that there will be no adverse effects incurred as a result of the proposed project. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request.

If you have any questions regarding this matter, please feel free to contact Susan Harrington, of HNTB Corporation, at sharrington@hntb.com or (317) 917-5233; or Troy Arnold, INDOT Project Manager, at tarnold1@indot.in.gov or (812) 895-7348. Thank you in advance for your input.

Sincerely,

HNTB CORPORATION

Susan Harrington

Susan Harrington

Attachments have been removed to avoid duplication

Attachments: Figure 1: Project Location Map
Figure 2: Project Area Aerial
Figure 3: USGS 7.5 Minute Topographic Quad Map
Photo Location Map
Project Location Photographs

Cc: Rickie Clark, INDOT Public Hearings
Brian Royer, Indiana Department of Natural Resources Division of Oil and Gas
Indiana Geological Survey, via webform
Indiana Department of Environmental Management, via webform
Ernest Stoops, INDOT Environmental Manager, Vincennes District
Christie Stanifer, Indiana Department of Natural Resources
Rick Neilson, Natural Resources Conservation Service
Greg McKay, USACE Environmental Analysis Branch – Louisville District
Michelle Allen, Federal Highway Administration
Robin McWilliams-Munson, US Fish and Wildlife Service
Rich Williams, Pike County Surveyor
Kent Johnson, Pike County Sheriff

Suzanne Blake, Pike County Schools Superintendent
Brian Davis, Pike County Commissioner
Ham Roger, Pike County Highway Department Director
Ryan Benner, Pike County Emergency Management Director/Floodplain Administrator
Stephanie Page, Trustee of Little Zion Primitive Baptist Church
Troy Arnold, INDOT Project Manager
Erica Haas, HNTB Corporation

Daniel Logsdon

From: McWilliams, Robin <robin_mcwilliams@fws.gov>
Sent: Wednesday, April 8, 2020 12:51 PM
To: Daniel Logsdon
Subject: Re: [EXTERNAL] FW: Early Coordination Letter - Des. No. 1700166 - SR 65 over Harbin Creek, Pike County

Dear Daniel,

This responds to your recent letter requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The project is within the range of the Indiana bat (Myotis sodalis) and northern long-eared bat (Myotis septentrionalis) and has followed the new Indiana bat/northern long-eared bat programmatic consultation process. We will review that information and have no other comments pertaining to the programmatic consultation.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objection to the project as currently proposed. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation. Standard recommendations are provided below.

We appreciate the opportunity to comment at this early stage of project planning. If you have any questions about our recommendations, please call (812) 334-4261 x. 207.

Sincerely,
Robin McWilliams Munson

Standard Recommendations:

1. Do not clear trees or understory vegetation outside the construction zone boundaries. (**This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat.)**
2. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.
Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community.
3. Restrict channel work and vegetation clearing to the minimum necessary for installation of the stream crossing structure.
4. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
5. Implement temporary erosion and sediment control methods within areas of disturbed soil. All disturbed soil areas upon project completion will be vegetated following INDOT's standard specifications.
6. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams.

USDA
United States Department of Agriculture

Natural Resources Conservation Service
Indiana State Office
6013 Lakeside Boulevard
Indianapolis, IN 46278
317-290-3200

June 3, 2019

Susan Harrington
HNTB Companies
111 Monument Circle, Suite 1200
Indianapolis, Indiana 46204

Dear Ms. Harrington:

The proposed project to make improvements to the bridge that carries State Road 65 over Harbin Creek in Pike County, Indiana (Des No. 1700166) as referred to in your letter received May 6, 2019, will cause a conversion of prime farmland.

The attached packet of information is for your use competing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact Daniel Phillips at 317-295-5871.

Sincerely,

JERRY RAYNOR Digitally signed by JERRY RAYNOR
Date: 2019.06.04 13:37:28 -04'00'

JERRY RAYNOR
State Conservationist

Enclosures

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of _____
1. Name of Project **Des.1700166 SR 65 over Harbin Creek**	5. Federal Agency Involved	
2. Type of Project **Bridge Project**	6. County and State **Pike County, Indiana**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **5/6/19**	2. Person Completing Form **DP**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐	4. Acres Irrigated	Average Farm Size **213 Ac**
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction **Acres: 145,331** **% 67**	7. Amount of Farmland As Defined in FPPA **Acres: 100,218** **% 46**
8. Name Of Land Evaluation System Used **LESA**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **6/3/19**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment : Corridor 1	Corridor 2	Corridor 3	Corridor 4
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	0.00	0.00	0.00	0.00
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	1.00			
B. Total Acres Statewide And Local Important Farmland	0.00			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	49.0			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	51			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	15			
2. Perimeter in Nonurban Use — 10	10			
3. Percent Of Corridor Being Farmed — 20	5			
4. Protection Provided By State And Local Government — 20	0			
5. Size of Present Farm Unit Compared To Average — 10	0			
6. Creation Of Nonfarmable Farmland — 25	0			
7. Availablility Of Farm Support Services — 5	0			
8. On-Farm Investments — 20	0			
9. Effects Of Conversion On Farm Support Services — 25	0			
10. Compatibility With Existing Agricultural Use — 10	0			
TOTAL CORRIDOR ASSESSMENT POINTS — 160	30	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	51			
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	30	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	81	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
Site A	**0.06**	**4/15/20**	YES ☐ NO ☑

5. Reason For Selection:

Site A is the only alternative that meets the purpose and need.

Signature of Person Completing this Part: | DATE **4/15/20**

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

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

DNR #: ER-21521 **Request Received:** May 6, 2019

Requestor: HNTB Corporation
Susan Harrington
111 Monument Circle, Suite 1200
Indianapolis, IN 46204-5178

Project: SR 65 bridge (#065-63-06288 B) replacement over Harbin Creek, and embankment widening and ditch re-grading, about 2.16 miles south of SR 56; Des #1700166

County/Site info: Pike

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for a bridge exemption (see enclosure). Please include a copy of this letter with the permit application if the project does not meet the bridge exemption criteria.

Natural Heritage Database: The Natural Heritage Program's data have been checked.
To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. However, a Southwestern Lowlands Mesic Upland Forest natural community has been documented within 1/2 mile northeast of the project area. The Division of Nature Preserves does not foresee any impacts to this natural community as a result of this project.

Fish & Wildlife Comments: Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

1) Crossing Structure:
For purposes of maintaining fish and wildlife passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the OHWM width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel.

2) Bank Stabilization & Wildlife Passage:
The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to current conditions. A level area of natural ground under the structure is ideal for wildlife passage. If channel clearing will result in a flat bench area

Attachments: A - Bridge Exemption Criteria

above the normal water level under the structure, this area should allow wildlife passage and should remain free of riprap and other similar materials that can impair wildlife passage.

Minimize the use of riprap and use alternative erosion protection materials whenever possible. Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Where riprap must be used, we recommend placing only enough riprap to provide stream bank toe protection, such as from the toe of the bank up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to the area and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion.

While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank stabilization methods can provide additional bank protection and help reduce impacts upon fish and wildlife. If hard armoring is needed, wildlife passage can be facilitated by using a smooth-surfaced armoring material instead of riprap, such as articulated concrete block mats, fabric-formed concrete mats, or other similar smooth-surfaced material.

Information about bioengineering techniques can be found at http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf. Also, the following is a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: http://directives.sc.egov.usda.gov/17553.wba.

3) Riparian Habitat:
We recommend a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at: http://www.in.gov/legislative/iac/20190130-IR-312190041NRA.xml.pdf.

Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees).

The mitigation site should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs if any woody plants are disturbed during construction as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants, including prohibited invasive species (see 312 IAC 18-3-25).
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.

Attachments: A - Bridge Exemption Criteria

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds, causeways, cofferdams, pump around or stream diversion systems.
7. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.
8. Post "Do Not Mow or Spray" signs along the right-of-way.
9. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
10. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

Contact Staff: Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Date: June 4, 2019

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife

Attachments: A - Bridge Exemption Criteria

The Flood Control Act (IC 14-28-1) contains a provision (Section 22), which exempts certain bridge projects from its permitting requirement. Specifically, the Act states:

A permit is not required for "a construction or reconstruction project on a state or county highway bridge in a rural area that crosses a stream having an upstream drainage area of not more than fifty (50) square miles..."

Therefore, in order for a bridge project to be exempt, it must:

- be a state or county highway department project;
- be a bridge;
- be located in a rural area; and
- cross a stream having an upstream drainage area of less than 50 square miles.

The initial criterion is very specific - the structure must be a state or county highway department project.

The second requirement mandates that the project be a bridge (for this provision, the Department of Natural Resources considers a culvert to be a bridge). Projects such as bank protection, spoil disposal, borrow pits, etc. are not automatically exempt. Anyone proposing to undertake a non-bridge related activity should consult with the Division of Water's Technical Services Section staff at 317-232-4160 (or toll free at 1-877-928-3755) regarding the applicability of the exemption prior to initiating work.

The third criterion states that the project must be located in a rural area. The phrase "rural area" is defined as an area:

- where the lowest floor elevation, including a basement, of any residential, commercial, or industrial building impacted by the project is at least 2 feet above the 100 year flood elevation with the project in place;
- located outside the corporate boundaries of a consolidated or an incorporated city or town; and
- located outside of the territorial authority for comprehensive planning (generally, a 2 mile planning buffer around a city or town).

The final criterion limits the exemption to a project crossing a stream having an upstream drainage area of less than 50 square miles. The drainage area includes all land area contributing to runoff above the project site and is determined from the United States Geological Survey 7½ minute series quadrangle maps. The Department of Natural Resources will determine the drainage area upon written request.

This exemption has been grossly misunderstood and liberally applied in the past. As a result, the Department of Natural Resources is taking a firm stance on future violations. If challenged, it will be the responsibility of the person claiming the exemption to prove to the Department that all 4 criteria have been satisfied. Failure to do so will result in the Department initiating litigation with the potential for the imposition of fines in amounts up to $10,000 per day.

Note: This exemption only applies to the Flood Control Act. If a bridge is to be constructed over a navigable waterway, or over or near a public freshwater lake, a permit will be required.

Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 North Senate Avenue - Indianapolis, IN 46204
(800) 451-6027 - (317) 232-8603 - www.idem.IN.gov

INDOT
Troy Arnold
3650 S US Highway 41
Vincennes , IN 47591
Date

HNTB Corporation
Dan Logsdon
111 Monument Circle, Suite 1200
Indianapolis , IN 46204

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project involving the bridge (Bridge No. 065-63-06288 B) carrying State Road (SR) 65 over Hardin Creek, approximately 2.16 miles south of SR 56 in Pike County, Indiana. The single span adjacent box beam bridge was built in 1965 and reconstructed in 1980. This section of SR 65 is classified as a rural major collector. The existing superstructure and substructure exhibit moderate structural deterioration. A beam in the superstructure has two holes through the bottom exposing the interior of the beam. In addition, minor timber deterioration has occurred in the substructure at the northwest corner. The need for this project is due to the deteriorated condition of the bridge, as documented in the INDOT Bridge Inspection Report dated February 7, 2019. The purpose of this project is to maintain a safe vehicular crossing of SR 65 over Hardin Creek, while maintaining adequate hydraulic function. Proposed activities include replacing the bridge, installing new guardrail, embankment widening, ditch re-grading, and tree clearing.

This letter from the Indiana Department of Environmental Management (IDEM) serves as a standardized response to enquiries inviting IDEM comments on roadway construction, reconstruction, or other improvement projects within existing roadway corridors when the proposed scope of the project is beneath the threshold requiring a formal National Environmental Policy Act-mandated Environmental Assessment or Environmental Impact Statement. As the letter attempts to address all roadway-related environmental topics of potential concern, it is possible that not every topic addressed in the letter will be applicable to your particular roadway project.

For additional information on specific roadway-related topics of interest, please visit the appropriate Web pages cited below, many of which provide contact information for persons within the various program areas who can answer questions not fully addressed in this letter. Also please be mindful that some environmental requirements may be subject to change and so each person intending to include a copy of this letter in their project documentation packet is advised to download the most recently revised version of the letter; found at: http://www.in.gov/idem/5283.htm (http://www.in.gov/idem/5283.htm).

To ensure that all environmentally-related issues are adequately addressed, IDEM recommends that you read this letter in its entirety, and consider each of the following issues as you move forward with the planning of your proposed roadway construction, reconstruction, or improvement project:

WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

   USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (http://www.lrl.usace.army.mil/orf/default.asp) (http://www.lrl.usace.army.mil/orf /default.asp (http://www.lrl.usace.army.mil/orf/default.asp)) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

   Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciosko, and Wells counties; smaller portions of Jasper, Starke, Marshall , Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana) are served by the USACE Louisville District Office (502-315-6733).

   Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at http://www.in.gov/idem/4396.htm (http://www.in.gov/idem/4396.htm). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: http://www.in.gov/idem/4384.htm (http://www.in.gov/idem/4384.htm).

3. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.

4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: http://www.in.gov/idem/4384.htm (http://www.in.gov/idem/4384.htm) for the appropriate staff contact to further discuss your project.

5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:

- IC 14-26-2 Lakes Preservation Act 312 IAC 11
- IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
- IC 14-28-1 Flood Control Act 310 IAC 6-1
- IC 14-29-1 Navigable Waterways Act 312 IAC 6
- IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
- IC 14-29-4 Construction of Channels Act No related code

For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at: http://www.in.gov/dnr/water/9451.htm (http://www.in.gov/dnr/water/9451.htm) . Contact the DNR Division of Water at 317-232-4160 for further information.

The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

6. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page
   - http://www.in.gov/idem/4902.htm (http://www.in.gov/idem/4902.htm)

   To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (http://www.in.gov/idem/4917.htm#constreq (http://www.in.gov/idem/4917.htm#constreq)), and as described in 327 IAC 15-5-6.5 (http://www.in.gov/legislative/iac/T03270/A00150 [PDF] (http://www.in.gov/legislative/iac/T03270/A00150.PDF), pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (http://www.in.gov/isda/soil/contacts/map.html (http://www.in.gov/isda/soil/contacts/map.html)).

   Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

   Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: http://www.in.gov/idem/4900.htm (http://www.in.gov/idem/4900.htm).

   If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

   Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The

use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

7. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.

8. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.

9. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.

10. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (http://www.in.gov/idem/4148.htm (http://www.in.gov/idem/4148.htm)) under specific conditions. You also can seek an open burning variance from IDEM.

   However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

   Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

   Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus Histoplasma capsulatum, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

2. The U.S. EPA and the Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. (For a county-by-county map of predicted radon levels in Indiana, visit: http://www.in.gov/idem/4145.htm (http://www.in.gov/idem/4145.htm).)

   The U.S. EPA further recommends that all homes (and apartments within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L, or higher, EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L, or higher, EPA recommends the installation of radon-reduction measures. (For a list of qualified radon testers and radon mitigation (or reduction) specialists visit: http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf (http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf).) It also is recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

   To learn more about radon, radon risks, and ways to reduce exposure visit: http://www.in.gov/isdh/regsvcs/radhealth/radon.htm (http://www.in.gov/isdh/regsvcs/radhealth/radon.htm), http://www.in.gov/idem/4145.htm (http://www.in.gov/idem/4145.htm), or http://www.epa.gov/radon/index.html (http://www.epa.gov/radon/index.html).

3. With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

   If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

   For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

   However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at http://www.in.gov/icpr/webfile/formsdiv/44593.pdf (http://www.in.gov/icpr/webfile/formsdiv/44593.pdf).

   Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of $150 per project; projects below these amounts will be billed a fee of $50 per project. All notification remitters will be billed on a quarterly basis.

   For more information about IDEM policy regarding asbestos removal and disposal, visit: http://www.in.gov/idem/4983.htm (http://www.in.gov/idem/4983.htm).

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978 , or a child-occupied facility is required to

comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: http://www.in.gov/isdh/19131.htm (http://www.in.gov/isdh/19131.htm).

5. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2 , Asphalt Paving Rule (http://www.ai.org/legislative/iac/T03260/A00080.PDF (http://www.ai.org/legislative/iac/T03260/A00080.PDF)).

6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: www.ai.org/legislative/iac/t03260/a00020.pdf (http://www.ai.org/legislative/iac/t03260/a00020.pdf).) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.

7. For more information on air permits visit: http://www.in.gov/idem/4223.htm (http://www.in.gov/idem/4223.htm), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ)at 317-308-3103.

2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit http://www.in.gov/idem/4998.htm (http://www.in.gov/idem/4998.htm).

3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.

4. If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.

5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).

6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: http://www.in.gov/idem/4999.htm (http://www.in.gov/idem/4999.htm).

FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the

notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Should the scope of the proposed project be expanded to the extent that a National Environmental Policy Act Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required, IDEM will actively participate in any early interagency coordination review of the project.

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that is it the responsibility of the project engineer or consultant using this letter to ensure that the most current draft of this document, which is located at http://www.in.gov/idem/5284.htm (http://www.in.gov/idem/5284.htm), is used.

Signature(s) of the Applicant

I acknowledge that the following proposed roadway project will be financed in part, or in whole, by public monies.

Project Description

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project involving the bridge (Bridge No. 065-63-06288 B) carrying State Road (SR) 65 over Hardin Creek, approximately 2.16 miles south of SR 56 in Pike County, Indiana. The single span adjacent box beam bridge was built in 1965 and reconstructed in 1980. This section of SR 65 is classified as a rural major collector. The existing superstructure and substructure exhibit moderate structural deterioration. A beam in the superstructure has two holes through the bottom exposing the interior of the beam. In addition, minor timber deterioration has occurred in the substructure at the northwest corner. The need for this project is due to the deteriorated condition of the bridge, as documented in the INDOT Bridge Inspection Report dated February 7, 2019. The purpose of this project is to maintain a safe vehicular crossing of SR 65 over Hardin Creek, while maintaining adequate hydraulic function. Proposed activities include replacing the bridge, installing new guardrail, embankment widening, ditch re-grading, and tree clearing.

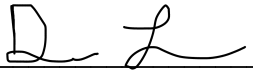
With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: 04/08/2020

Signature of the INDOT
Project Engineer or Other Responsible Agent Troy Arnold

Troy Arnold

Date: 04/08/2020

Signature of the
For Hire Consultant 

Dan Logsdon

Organization and Project Information

Project ID:
Des. ID:
Project Title: SR 65 over Branch of Harbin Creek
Name of Organization: HNTB Corporation
Requested by: Dan Logsdon

Environmental Assessment Report

1. Geological Hazards:
    - Potential Mine Subsidence (CMIS)
    - Moderate liquefaction potential
2. Mineral Resources:
    - Bedrock Resource: Low Potential
    - Sand and Gravel Resource: None documented in the area
3. Active or abandoned mineral resources extraction sites:
    - Petroleum Exploration Wells
    - Underground Coal Mines

*All map layers from Indiana Map (maps.indiana.edu)

DISCLAIMER:

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

This information was furnished by Indiana Geological Survey
Address: 420 N. Walnut St., Bloomington, IN 47404
Email: IGSEnvir@indiana.edu
Phone: 812 855-7428

Date: April 08, 2020

Susan Harrington

From: Royer, Brian <BRoyer@dnr.IN.gov>
Sent: Monday, June 10, 2019 1:50 PM
To: Susan Harrington
Subject: RE: Early Coordination Letter - Des. No. 1700166 - SR 65 over Harbin Creek, Pike County

There is one old plugged well within this project area. Permit # 20340 was a dry hole and is plugged. It only has a 10' top cement plug though. If it is encountered it should not interfere with this project. No casing was left in this well so locating with a metal detector will not be an option. If there is an issue with running into this well on this project please contact me.

Thanks,

Brian Royer
DNR Oil & Gas
Orphan Well Manager
317-417-6556
broyer@dnr.in.gov

From: Susan Harrington [mailto:sharrington@HNTB.com]
Sent: Monday, May 06, 2019 8:29 PM
To: Royer, Brian <BRoyer@dnr.IN.gov>
Subject: Early Coordination Letter - Des. No. 1700166 - SR 65 over Harbin Creek, Pike County

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Mr. Royer,

Please see attached early coordination letter and supporting graphics for SR 65 over Harbin Creek in Pike County. If you have any questions regarding this project, please feel free to contact me by phone or email.

Thanks and have a great day!

Susan Harrington
Scientist III
Tel (317) 917-5233 **Cell** (317) 902-0672 **Email** sharrington@hntb.com

HNTB CORPORATION
111 Monument Circle, Suite 1200 | Indianapolis, IN 46204 | hntb.com

INDOT Bridge/Small Structure Bat Inspection Data Sheet (Rev 4/29/2016)

General Information		
Date of Inspection: 10/07/2019 Time of Inspection: 5:04 p.m	Initial Inspection ☐ Follow-up Inspection ☑ Construction ☐	Temp: 73 °F Wind: 12 mph Precip: 0
County: Pike		
Inspected by: Dan Logsdon		Sunrise: 6:53 Sunset: 6:26
GPS Northing: 463350.87 Easting: 54257410.14 UTM Zone: 16	Contract Number: B-40553/DES 1700166	Anticipated Start Date for Construction: 2023

Bridge or Culvert	Bridge or Culvert
Stream or Road Crossed: SR 65 over Harbin Creek	Station:
Bridge/Culvert number: 065-63-06288 B	Number of Spans: 1
Type of Structure: ☑ Concrete box beam ☐ Steel beam ☐ Concrete I-beam ☐ Steel girder ☐ Concrete bulb tee beam ☐ Steel pony truss ☐ Concrete arch ☐ Welded steel thru girder ☑ Concrete girder ☐ Concrete box culvert ☐ Concrete slab ☐ Concrete pipe ☐ Multi-plate arch ☐ Corrugated steel pipe ☐ Other (list):	Material: ☑ Concrete ☐ Steel ☐ Other (describe): Shape: ☐ Box Culvert ☐ Pipe ☐ Arch ☐ Slab ☐ Other (describe)
Searched entire structure? If not, why not? Yes	Location of bats or signs of use (w/drawing and photos): N/A
Bats Present? ☐ Seen? ☐ Heard? No	
In Clusters? Number of clusters: N/A	
Number of bats in largest cluster: N/A	
Approximate total number of bats found: N/A	
Signs of previous bat use? ☐ Guano ☐ Staining No	

If Bats Present
Date and Time Project Supervisor was notified: N/A
Name of Project Supervisor notified: N/A

For bridges and culverts, provide plan, longitudinal and cross section views as appropriate.

N/A

Daniel Logsdon

From: Wright, Kristy <KWright@indot.IN.gov>
Sent: Monday, April 1, 2019 7:23 AM
To: Laura Morales; Stoops, Ernie
Cc: Falls, Ryan G; Arnold, Troy
Subject: RE: District USFWS Bat Database Inquiry for Des. No 1700166 - SR 65 over Harbin Creek

RE: bat database review DES 1700166 SR 65 Harbin Creek
Consultant: Morales - HNTB

Results:

A review of the USFWS database did not indicate the presence of endangered bat species in or within the 0.5 mile search radius of the project area. The range-wide programmatic consultation for the Indiana bat and the Northern Long-eared bat will be completed according to "Using the USFWS IPaC System for Listed Bat Consultation, for INDOT Projects, dated May 10, 2018.

Please add Ryan Falls to your IPaC study, as reviewers.
Thank you.

Kristy Wright
Capital Program Management- Environmental Manager II
3650 South U.S. Highway 41
Vincennes, IN 47591
Office: (812) 895-7335
Email: kwright@indot.IN.gov

From: Laura Morales [mailto:lmorales@HNTB.com]
Sent: Friday, March 29, 2019 12:23 PM
To: Stoops, Ernie <ESTOOPS@indot.IN.gov>
Cc: Wright, Kristy <KWright@indot.IN.gov>
Subject: District USFWS Bat Database Inquiry for Des. No 1700166 - SR 65 over Harbin Creek

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Good Afternoon Mr. Stoops,

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: April 07, 2020
Consultation Code: 03E12000-2020-SLI-0002
Event Code: 03E12000-2020-E-05521
Project Name: SR 65 over Branch of Harbin Creek - Des No 1700166 (Bridge Replacement)

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project “may affect” listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act *(*16 U.S.C. 703 *et seq*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

Project Summary

Consultation Code: 03E12000-2020-SLI-0002

Event Code: 03E12000-2020-E-05521

Project Name: SR 65 over Branch of Harbin Creek - Des No 1700166 (Bridge Replacement)

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project involving the bridge (Bridge No. 065‑63‑06288 B) carrying State Road (SR) 65 over Branch of Harbin Creek, approximately 2.16 miles south of SR 56 in Pike County, Indiana. More specifically, the project is located in Section 4 Township 1 South, Range 9 West in Clay Township. The NBI number for SR 65 over Branch of Harbin Creek is 023290.

The single span adjacent box beam bridge was built in 1965 and reconstructed in 1980. This section of SR 65 is classified as a rural major collector. The existing superstructure and substructure exhibit moderate structural deterioration. A beam in the superstructure has two holes through the bottom exposing the interior of the beam. In addition, minor timber deterioration has occurred in the substructure at the northwest corner. Proposed activities include replacing the bridge, installing a new guardrail, embankment widening, ditch re-grading, and tree clearing. Utility coordination will be performed to verify location of surrounding utilities for potential relocation.

No bats or evidence of bats were noted during the October 7, 2019 site investigation. The INDOT Bridge Inspection Report for Bridge 065-63-06299 B dated February 7, 2019 does not contain any information pertaining to bats. Suitable summer habitat is located within the project action area; 0.31 acres will be removed during the inactive season. The species of dominant trees to be removed are the Sugar maple (Acer saccharum), the Northern catalpa (Catalpa speciosa), and the Slippery elm (Ulmus rubra). Work is anticipated to take place in the spring of 2023.

The project does not involve permanent lighting alternations. Temporary lighting will be necessary. A query of the USFWS Bat Database by INDOT Vincennes District staff conducted on April 1, 2019 did not identify any documented sites within 0.5 mile of the project area. The

project area is located in a rural area surrounded by a farm field and woods.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.464171962730774N87.41998527196834W

Counties: Pike, IN

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: November 12, 2019
Consultation Code: 03E12000-2020-I-0002
Event Code: 03E12000-2020-E-01055
Project Name: SR 65 over Branch of Harbin Creek - Des No 1700166 (Bridge Replacement)

Subject: Concurrence verification letter for the 'SR 65 over Branch of Harbin Creek - Des No 1700166 (Bridge Replacement)' 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 dated to verify that the **SR 65 over Branch of Harbin Creek - Des No 1700166 (Bridge Replacement)** (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, 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 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.

Project Description

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

Name

SR 65 over Branch of Harbin Creek - Des No 1700166 (Bridge Replacement)

Description

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project involving the bridge (Bridge No. 065‐63‐06288 B) carrying State Road (SR) 65 over Branch of Harbin Creek, approximately 2.16 miles south of SR 56 in Pike County, Indiana. More specifically, the project is located in Section 4 Township 1 South, Range 9 West in Clay Township. The NBI number for SR 65 over Branch of Harbin Creek is 023290.

The single span adjacent box beam bridge was built in 1965 and reconstructed in 1980. This section of SR 65 is classified as a rural major collector. The existing superstructure and substructure exhibit moderate structural deterioration. A beam in the superstructure has two holes through the bottom exposing the interior of the beam. In addition, minor timber deterioration has occurred in the substructure at the northwest corner. Proposed activities include replacing the bridge, installing a new guardrail, embankment widening, ditch re-grading, and tree clearing. Utility coordination will be performed to verify location of surrounding utilities for potential relocation.

No bats or evidence of bats were noted during the October 7, 2019 site investigation. The INDOT Bridge Inspection Report for Bridge 065-63-06299 B dated February 7, 2019 does not contain any information pertaining to bats. Suitable summer habitat is located within the project action area; 0.31 acres will be removed during the inactive season. The species of dominant trees to be removed are the Sugar maple (Acer saccharum), the Northern catalpa (Catalpa speciosa), and the Slippery elm (Ulmus rubra). Work is anticipated to take place in the spring of 2023.

The project does not involve permanent lighting alternations. Temporary lighting will be necessary. A query of the USFWS Bat Database by INDOT Vincennes District staff conducted on April 1, 2019 did not identify any documented sites within 0.5 mile of the project area. The project area is located in a rural area surrounded by a farm field and woods.

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?

    No

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

    - *INDOT Bridge Inspection Form SR 65 over Harbin Creek.pdf https://ecos.fws.gov/ipac/project/YMIPB5PKUNFABHSHHKXZBZE44Y/projectDocuments/18833646*

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.

    No

36. 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

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

    No

38. 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

39. 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 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

40. 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 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

41. 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

42. **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

43. **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

44. **Tree Removal AMM 2**
    Can *all* tree removal activities be restricted to when Indiana bats are not likely to be present (e.g., the inactive season)[1]?

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

    Automatically answered
    Yes

45. **Tree Removal AMM 2**
    Can *all* tree removal activities be restricted to when Northern long-eared bats are not likely to be present (e.g., the inactive season)[1]?

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

    Automatically answered
    Yes

46. **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

47. **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

48. **Lighting AMM 1**
Will *all* **temporary** lighting used during the removal of suitable habitat and/or the removal/trimming of trees within suitable habitat be directed away from suitable habitat during the active season?

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?
Yes

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

   No

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.

   .31

4. Please describe the proposed bridge work:

   Proposed activities include replacing the bridge and installing a new guardrail.

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

   2023

6. Please enter the date of the bridge assessment:

   10/7/2019

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 March 16, 2018. 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 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.

Appendix D: Section 106 of the NHPA

Minor Projects PA Project Assessment Form– Category B Projects with Archaeology Work

Date: 1/15/20

Project Designation Number: 1700166

Route Number: SR 65

Project Description: Bridge Replacement Project, 2.16 miles S of SR 56

The Indiana Department of Transportation (INDOT) is proposing replacement of the bridge that carries State Road (SR) 65 over Branch of Harbin Creek. The project is in a rural portion of Pike County, approximately 2.16 miles south of SR 56. The proposed bridge replacement project will include replacement of the bridge, new guardrail, embankment widening, ditch re-grading, and tree clearing. In total, 0.31 acre of right-of-way (ROW) will be acquired for this project.

Feature crossed (if applicable): Branch of Harbin Creek

Township: Clay Township

City/County: Pike County

Information reviewed (please check all that apply):

☑ General project location map ☑ USGS map ☑ Aerial photograph ☑ Interim Report

☐ Written description of project area ☐ General project area photos ☐ Soil survey data

☐ Previously completed historic property reports ☐ Previously completed archaeology reports

☑ Bridge Inspection Information

Other (please specify): SHAARD GIS; SHAARD; online street-view imagery; Indiana Historic Building, Bridges, and Cemeteries Map (IHBBCM); Bridge Inspection Application System (BIAS); County GIS data (accessed via https://pikein.wthgis.com/); 2010 INDOT-sponsored *Historic Bridge Inventory* (HBI); project information provided by HNTB Corporation dated 10/1/2019;

Curran, Michael J. and Andrew V. Martin
2020 A Phase Ia Archaeological Field Reconnaissance for the Proposed Bridge Replacement along SR 65 over Harbin Creek, 2.16 miles south of SR 56, in Pike County, Indiana (Des. No. 1700166). Report on file, Indiana Department of Transportation, Cultural Resources Office, Indianapolis, In.

Results of the Records Review for Above-Ground Resources:

With regard to above-ground resources, an INDOT-Cultural Resources Office (CRO) historian, who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, first performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Pike County. No listed resources are present within 0.25 mile of the project area, a distance that would serve as an adequate area of potential effects (APE) given the scope of the project and the surrounding terrain.

The *Pike County Interim Report* of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted. Pike County was surveyed in 2011 as part of mitigation for the construction of I-69. These records are only available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM), which also contain National Register information. The information contained in these databases supersedes Interim Report hard copies. Two IHSSI sites are recorded within 0.25 mile of the project:

IHSSI #125-635-15003 (Little Zion Cemetery, SR 65, 1833-2011; rated “contributing”)
IHSSI #125-635-15007 (Little Zion Church, SR 65, c. 1900; rated “contributing”)

According to the IHSSI rating system, generally properties rated "contributing" do not possess the level of historical or architectural significance necessary to be considered individually National Register eligible, although they would contribute to a historic district. If they retain material integrity, properties rated “notable” might possess the necessary level of significance after further research. Properties rated “outstanding” usually possess the necessary level of significance to be considered National Register eligible, if they retain material integrity. Historic districts identified in the IHSSI are usually considered eligible for the National Register.

Land surrounding the project is rural with agricultural fields, wooded areas, and scattered residential and farming properties present; the typology is rolling. In addition to the IHSSI resources identified above, four (4) properties are within 0.25 mile of the project area. However, only one property will be 50 years old or older by the time of project letting in 2022. This property consists of four steel grain silos and two pole barns dating from the mid-twentieth century and the early-twenty-first century. There is no evidence to suggest that the property possesses the necessary cultural significance to be considered potentially eligible to the National Register.

The subject bridge (Bridge #065-63-06288 B; NBI #23290) is a prestressed concrete box beam bridge built in 1965 and reconstructed in 1980. The bridge length is 36 feet and the deck width, out-to-out, is 30.5 feet. The INDOT *Historic Bridge Inventory* determined that this bridge is not eligible for listing in the National Register (Volume 2, Section 2, page 860).

Based on the available information, as summarized above, no above-ground concerns exist as long as the project scope does not change.

Archaeology Report Author/Date:

Michael J. Curran and Andrew V. Martin/January 8, 2020

Summary of Archaeology Investigation Results:

An archaeological records check and Phase Ia reconnaissance survey of the project area were conducted by CRA (Curran and Martin 2020). The records check found that the project area had not been previously examined for archaeological resources and that no previously recorded sites have been identified within or adjacent to it. A 0.5 acre survey area was examined through the excavation of 13 shovel probes and visual inspection of disturbed areas. No evidence for archaeological deposits was identified. The report was reviewed by INDOT Cultural Resources personnel who meet the Secretary of the Interior’s Professional Qualification Standards as per 36 CFR Part 61. It is our opinion that the report is acceptable, and we concur with the evaluations and recommendations made by CRA (Curran and Martin 2020). Therefore, there are no archaeological concerns.

Does the project appear to fall under the Minor Projects PA? yes ☒ no ☐

If yes, please specify category and number (applicable conditions are highlighted):

B-4. Installation of new safety appurtenances, including but not limited to, guardrails, barriers, glare screens, and crash attenuators, under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)
One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*
ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE**.**

Condition B (Above-Ground Resources)
Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

B-12. Replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed), under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)
One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*
ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE**.**

Condition B (Above-Ground Resources)
The conditions listed below must be met ***(BOTH Condition i and Condition ii must be satisfied)***

i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
ii. With regard to the subject bridge, at least one of the conditions listed below is satisfied *(AT LEAST one of the conditions a, b or c, must be fulfilled)*:
    a. The latest Historic Bridge Inventory identified the bridge as non-historic (see http://www.in.gov/indot/2531.htm);
    b. The bridge was built after 1945, and is a common type as defined in Section V. of the *Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-*

1945 Concrete and Steel Bridges issued by the Advisory Council on Historic Preservation on November 2, 2012 for so long as that Program Comment remains in effect AND the considerations listed in Section IV of the Program Comment do not apply;

c. The bridge is part of the Interstate system and was determined not eligible for the National Register under the Section 106 Exemption Regarding Effects to the Interstate Highway System adopted by the Advisory Council on Historic Preservation on March 10, 2005, for so long as that Exemption remains in effect.

If no, please explain:

Additional comments: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, construction in the immediate area of the find will be stopped and the INDOT Cultural Resources office and the Division of Historic Preservation and Archaeology will be notified immediately.

INDOT Cultural Resources staff reviewer(s): Kelyn Alexander and Shaun Miller

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

INDIANA ARCHAEOLOGICAL SHORT REPORT

State Form 54566 (1-11)

INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF HISTORIC PRESERVATION
AND ARCHAEOLOGY
402 West Washington Street, Room W274
Indianapolis, Indiana 46204-2739
Telephone Number: (317) 232-1646
Fax Number: (317) 232-0693
E-mail: dhpa@dnr.IN.gov

Where applicable, the use of this form is recommended but not required by the Division of Historic Preservation and Archaeology.

Author: Michael J. Curran

Date *(month, day, year)*: December 19, 2019

Project Title: A Phase Ia Archaeological Field Reconnaissance for the Proposed Bridge Replacement along SR 65 over Harbin Creek in Pike County, Indiana (Des. No. 1700166) (CRA Contract Publication Series 19-690)

PROJECT OVERVIEW

Project Description: The bridge replacement project along SR 65 over Harbin Creek has been proposed by the Indiana Department of Transportation (INDOT) in Pike County, Indiana (Figure 1). The project is located approximately 12.2 km (7.6 mi) southwest of Petersburg, Indiana. In total, the survey area for the proposed undertaking measures approximately 99 m (325 ft) in length along SR 65, and covers 0.2 ha (0.5 acres) of existing and temporary right-of-way (Figures 2 and 3).

INDOT Designation Number/ Contract Number: Des. No. 1700166 Project Number: CRA No. I19H010

DHPA Number: N/A Approved DHPA Plan Number: N/A

Prepared For: HNTB Corporation

Contact Person: Kate Williams

Address: 111 Monument Circle, Suite 1200

City: Indianapolis State: IN ZIP Code: 46204

Telephone Number: (318) 917-5333 Email Address: Kwilliams@hntb.com

Principal Investigator: Andrew V. Martin, RPA 61710

Signature:

Company/Institution: Cultural Resource Analysts, Inc. (CRA)

Address: 201 Northwest 4th Street, Suite 204

City: Evansville State: IN ZIP Code: 47708

Telephone Number: (812) 253-3009 Email Address: amartin@crai-ky.com

PROJECT LOCATION

County: Pike

USGS 7.5' series Topographic Quadrangle: Union, Indiana (United States Geological Survey [USGS] 1961, Photo-inspected 1977)

Civil Township: Clay

Legal Location:

	1/4,	NW	1/4,	NE	1/4,	NW	1/4,	Section:	4	Township: 1S	Range: 9W
	1/4,		1/4,		1/4,		1/4,	Section:		Township:	Range:
	1/4,		1/4,		1/4,		1/4,	Section:		Township:	Range:
	1/4,		1/4,		1/4,		1/4,	Section:		Township:	Range:

Topographic Map Datum: NAD 1983 Grid Alignment: NW

Comments: None

Property Owner: Jacob and Emily Horrall; Douglas and Brenda Horrall; Mark Weil

PROJECT AREA DETAILS

Length meters: 99 feet: 325.0 Width meters: 024.0 feet: 079.0 hectares: 00.2 acres: 00.5

Natural Region: Glaciated Section

Topography: Floodplain Flats; Floodplain Ridge

Soil Association: Stendal-Bonnie-Birds (IN110) (Natural Resources Conservation Service 1994)

Soils: The survey area is located on soils mapped as Wakeland silt loam, 0 to 2 percent slopes (Wa) (Soil Survey Staff 2019a). The soil series is classified by the amount of time it has taken to form and the landscape position it is found on (Birkeland 1984; Soil Survey Staff 1999). This information can provide a relative age of the soil and can express the potential for buried archaeological deposits (Stafford 2004). The soil order and group classification for the soil series are used to assist with determining this potential.

The Wakeland (Aeric Fluvaquents) series is classified as an Entisol (Soil Survey Staff 2019b). Entisols have not been in place long enough to develop distinctive soil horizons and possess a poor potential for buried, intact archaeological deposits (Soil Survey Staff 1999:397–400).

Drainage: Lower White

Current Land Use: The survey area includes disturbed right-of-way (ROW), forested areas, and a soybean field (Figures 4 and 5).

Comments: None

RECORDS REVIEW *(check all that apply)* Date of Records Check *(month, day, year)*: October 16, 2019

☒ SHAARD database

☐ Site Maps on file at DHPA

Previously Reported Sites within One Mile of the Project *(include citations)*:	The file search indicated that two archaeological sites have been previously recorded within 1.6 km (1.0 mi) of the survey area (Table 1). Both of these sites have been determined not eligible for inclusion in the National Register of Historic Places (NRHP). In addition, neither of these archaeological sites are within or adjacent to the survey area.

☒ Cultural Resource Management reports, other research reports, grant reports on file at DHPA or other institutions

Previous Archaeological Studies within One Mile of the Project *(include citations)*:	The file search indicated that one previous archaeological study (Titus et al. 2015) has been conducted within 1.6 km of the survey area. The survey was conducted on behalf of Pike Gibson Water, Inc., and covered approximately 102.4 ha (253.0 acres). The previous investigation is not located within the current survey area. During the investigation, 11 archaeological sites were documented. Two archaeological sites (12Pi976 and 12Pi977) are located within the current survey's records search radius.

List other institutions: No files at other institutions were researched.

☒ Cemetery Records

Results: There are no cemeteries within or near the survey area.

☐ McGregor Industrial Site records *(in applicable counties)*

Results: N/A

☒ County Interim Report

Results: The Historic Landmarks Foundation of Indiana has not completed a report for Pike County. On October 16, 2019, the SHAARD GIS viewer records were reviewed and no structures or properties have been identified within, or in the vicinity of, the survey area (Division of Historic Preservation and Archaeology [DHPA] 2019).

☒ Historic Maps

Results:

1876 Illustrated Historical Atlas of the State of Indiana, Pike County (Baskin, Forster & Company)
1881 An Atlas of Gibson and Pike Counties, Indiana, Clay Township (D.J. Lake & Company)
1902 Petersburg, Indiana, 15-minute series topographic quadrangle (USGS)
1910 Map of Pike County, Indiana (Rand McNally & Company)
circa 1925–1941 Plat Books of Indiana Counties, Pike County, T.1N & 1S Clay Township R.9W (Sidwell Studio)
1934 Atlas of Indiana, Pike County (W.W. Hixson & Company)
1936 Map of Pike County, Cultural (Indiana Highway Survey Commission)
circa 1950 Plat Book of the State of Indiana, Pike County (Hixson Map Company)
1961 Union, Indiana, 7.5-minute series topographic quadrangle (USGS)
1963 General Highway and Transportation Map of Pike County, Indiana (Indiana State Highway Commission)

The above maps were reviewed to identify the general locations of former structures and possible sites. No structures were depicted within or near the current survey area. Based on the reviewed historic maps, the course of Harbin Creek at the SR 65 bridge had likely been channelized to its present location.

Known Cultural Manifestations and/or Additional Information:	Previous research has demonstrated that archaeological sites in this region of Indiana may include components from the entire timeline of North American prehistory and history. Prehistoric periods represented in the archaeological record include Paleoindian (10,000-7500 BC), Early Archaic (8000-6000 BC), Middle Archaic (6000-3500 BC), Late Archaic (4000-1500 BC), Terminal Late Archaic (1500-700 BC), Early Woodland (1000-200 BC), Middle Woodland (200 BC-AD 600), Late Woodland (A D 500-1200), and Late Prehistoric/Mississippian (AD 1000-1650) (Jones and Johnson 2016). A review of the archaeological records using the Indiana DHPA State Historic Architectural and Archaeological Research Database (SHAARD) shows that at least 942 archaeological sites have been recorded in Pike County. Most of the sites recorded in Pike County have been located on the Petersburg (n = 225; 23.9 percent), Augusta (n = 122; 13 percent), and Winslow (n = 116; 12.3 percent) topographic quadrangles. Site components represented are predominately indeterminate prehistoric (n = 461; 45.9 percent) and historic (n = 289; 28.8 percent). Other commonly occurring site components are Late Archaic (n = 76; 7.6 percent) and Early Archaic (n = 51; 5.1 percent). Site types within Pike County predominately consist of other/unspecified (n = 408; 43.3 percent) and prehistoric camps/lithic scatters (n = 275; 29.2 percent) (DHPA 2019).

FIELD INVESTIGATION: *(check all that apply)* Field Investigation Dates *(month, day, year)*: October 29, 2019

Field Supervisor:	Michael Curran
Field Crew:	N/A
Surface Visibility:	Due to vegetation that primarily consisted of trees, understory growth, and standing soybeans, there was no ground surface visibility in the survey area.
Factors Affecting Visibility:	The survey area primarily consisted of the SR 65 roadway and ditches, forested areas, and a soybean field. The ground surface visibility was affected by roadside grasses, trees, understory growth, and soybeans with fallen leaves in these areas (see Figures 4 and 5).

Visual Walkover ☒ Pedestrian Survey ☐ Shovel Test ☒ Screened ☒ Mesh Size 1/4 in

Interval 5 m ☐ 10 m ☐ 15 m ☒ Other *(describe below)* ☐

Number of Shovel Test Units Excavated:	13
Describe Methods:	Areas of obvious disturbance situated in the roadway and ditches were visually inspected. Due to the observed ground surface visibility in the remaining portion of the survey area, a single shovel test transect conducted at 15 m spacing was positioned within the survey area on the north and south sides of SR 65. All shovel tests measured at least 30 cm (12 in) in diameter and extended 10 cm (4 in) into culturally sterile B-horizon levels. All fill removed was screened through 0.64 cm (0.25 in) mesh, and the sidewalls and bottoms of shovel tests were examined for cultural materials and features. Soil profiles, illustrating pertinent soil horizon characteristics (i.e., color, texture, inclusion), were recorded.

Attach photographs documenting disturbances below

Describe Disturbances:	Ground surface disturbances in the survey area were primarily related to the road surface and ditches (see Figures 4 and 5). A buried water pipeline in a soybean field and a buried fiber optic cable at the road's edge were on the south side of SR 65. A buried gas pipeline was noted within the road ditch on the south side of the road. The locations of these buried utilities were indicated with recent locator flagging.
Comments:	No further comments.

Results

☐ Archaeological records check has determined that the project area does not have the potential to contain archaeological resources.

☐ Archaeological records check has determined that the project area has the potential to contain archaeological resources.

☒ Phase Ia reconnaissance has located no archaeological resources in the project area.

☐ Phase Ia reconnaissance has identified landforms conducive to buried archaeological deposits.

Actual Area Surveyed hectares: 00.2 acres: 00.5

Comments: Shovel testing revealed a grayish brown (10YR 5/2) silt loam Ap-horizon to depths between 15 and 25 cm below ground surface (bgs), overlying a brownish yellow (10YR 6/6) fine sandy loam C-horizon. The observed soils were generally consistent with the soil survey description of the Wakeland series (Soil Survey Staff 2019b).

Recommendation

☐ The archaeological records check has determined that the project area has the potential to contain archaeological resources and a Phase Ia archaeological reconnaissance is recommended.

☐ The archaeological records check has determined that the project area does not have the potential to contain archaeological resources and no further work is recommended before the project is allowed to proceed.

☒ The Phase Ia archaeological reconnaissance has located no archaeological sites within the project area and it is recommended that the project be allowed to proceed as planned.

☐ The Phase Ia archaeological reconnaissance has determined that the project area includes landforms which have the potential to contain buried archaeological deposits. It is recommended that Phase Ic archaeological subsurface reconnaissance be conducted before the project is allowed to proceed.

☐ The Phase Ia archaeological reconnaissance has determined that the project area is within 100 feet of a cemetery and a Cemetery Development Plan is required per IC-14-21-1-26.5.

Cemetery Name: None

Other Recommendations/Commitments: None

Pursuant to IC-14-21-1, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.

Attachments

☒ Figure showing project location within Indiana.

☒ USGS topographic map showing the project area *(1:24,000 scale)*.

☒ Aerial photograph showing the project area, land use and survey methods.

☒ Photographs of the project area.

☐ Project plans *(if available)*

Other Attachments: Previously Recorded Archaeological Sites within 1.6 km of the Survey Area (Table 1); References Cited

References Cited: See attachment

Comments: None

Curation

Curation Facility for Project Documentation:	Cultural Resource Analysts, Inc., Evansville, Indiana

Appendix E: Red Flag and Hazardous Materials

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 232-5113
FAX: (317) 233-4929

Eric Holcomb, Governor
Joe McGuinness, Commissioner

Date: April 26, 2019

To: Site Assessment & Management
Environmental Policy Office - Environmental Services Division
Indiana Department of Transportation
100 N Senate Avenue, Room N642
Indianapolis, IN 46204

From: Susan Harrington
HNTB Corporation
111 Monument Circle, Suite 1200
Indianapolis, Indiana 46204
sharrington@hntb.com

Re: RED FLAG INVESTIGATION
DES # 1700166, State Project
Bridge Replacement (Structure No. 065-63-06288 B)
SR 65 over Harbin Creek
Pike County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The Indiana Department of Transportation (INDOT) is proposing a bridge replacement project (DES # 1700166) of the bridge that carries State Road (SR) 65 over Harbin Creek. In the original project planning documents, the stream name was referred to as "Branch Hardin Creek." However, USGS mapping and GIS data reveals that the actual stream name is Harbin Creek. Therefore, the stream will be referred to as Harbin Creek from this point forward.

The project is in a rural portion of Pike County, approximately 2.16 miles south of SR 56. The proposed bridge replacement project will include replacement of the bridge, new guardrail, embankment widening, ditch re-grading, and tree clearing. Scour protection will not be required.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # 065-63-06288-B
If this is a bridge project, is the bridge Historical? Yes ☐ No ☒ , Select ☐ Non-Select ☐
(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).
Proposed right of way: Temporary ☒ # Acres >0.50 Permanent ☒ # Acres >.50 , Not Applicable ☐
Type of excavation: Approximately eight (8) feet of excavation depth will be required.
Maintenance of traffic: During construction, a detour will be utilized.
Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐
State Project: ☒ LPA: ☐

Any other factors influencing recommendations: Acquisition of additional right-of-way is anticipated, but the specific amount is unknown at this time.

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Religious Facilities	**1***	Recreational Facilities	**N/A**
Airports[1]	**N/A**	Pipelines	**2**
Cemeteries	**1**	Railroads	**N/A**
Hospitals	**N/A**	Trails	**N/A**
Schools	**N/A**	Managed Lands	**N/A**

[1]In order to complete the required airport review, a review of public airports within 3.8 miles (20,000 feet) is required.

Explanation:

Religious Facilities*: One (1) religious facility is located within the 0.5 mile search radius. Although unmapped, Little Zion Church is located within the project area. Traffic will be maintained through the use of a detour. Coordination with Little Zion Church will occur.

Cemeteries: One (1) cemetery is located within the 0.5-mile search radius. Little Zion Cemetery is located within the project area. A Cemetery Development Plan may be required since this project is within 100 feet of the cemetery. Coordination with INDOT Cultural Resources is recommended.

Pipelines: Two (2) pipelines are located within the 0.5 mile search radius. The nearest pipeline is located approximately 0.17 mile west of the project area. No impact is expected.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	**N/A**	Canal Routes - Historic	**N/A**
Karst Springs	**N/A**	NWI - Wetlands	**11**
Canal Structures – Historic	**N/A**	Lakes	**11**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**N/A**
NWI-Lines	**2**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**12**	Sinkhole Areas	**N/A**
Rivers and Streams	**14**	Sinking-Stream Basins	**N/A**

Explanation:

NWI Lines: Two (2) NWI Lines are located within the 0.5 mile search radius. The nearest NWI Line is located approximately 0.11 mile south of the project area. No impact is expected.

IDEM 303d Listed Streams and Lakes: Twelve (12) IDEM 303 Listed Streams and Lakes segments are located within the 0.5 mile search radius. Harbin Creek is located within the project area. Harbin Creek is listed as impaired for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

Rivers and Streams: Fourteen (14) rivers and streams segments are located within the 0.5 mile search radius. Harbin Creek is located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

NWI-Wetlands: Eleven (11) wetlands are located within the 0.5 mile search radius. Two (2) wetlands are located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

Lakes: Eleven (11) lakes are located within the 0.5 mile search radius. The nearest lake is located approximately 0.26 mile west of the project area. No impact is expected.

URBANIZED AREA BOUNDARY SUMMARY

Explanation: N/A

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	**77**	Mineral Resources	**N/A**
Mines – Surface	**N/A**	Mines – Underground	**2**

Explanation:
Petroleum Wells: Seventy-seven (77) petroleum wells are located within the 0.5 mile search radius. One (1) petroleum well is located within the project area. Coordination with IDNR Oil and Gas Division will occur.

Mines-Underground: Two (2) underground mines are located within the 0.5 mile search radius. The nearest underground mine is located approximately 0.40 mile northeast of the project area. No impact is expected.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	**N/A**	Manufactured Gas Plant Sites	**N/A**
RCRA Generator/ TSD	**N/A**	Open Dump Waste Sites	**N/A**
RCRA Corrective Action Sites	**N/A**	Restricted Waste Sites	**N/A**
State Cleanup Sites	**N/A**	Waste Transfer Stations	**N/A**
Septage Waste Sites	**N/A**	Tire Waste Sites	**N/A**

Underground Storage Tank (UST) Sites	**N/A**	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**N/A**	Brownfields	**N/A**
Construction Demolition Waste	**N/A**	Institutional Controls	**N/A**
Solid Waste Landfill	**N/A**	NPDES Facilities	**N/A**
Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**N/A**
Leaking Underground Storage (LUST) Sites	**N/A**	Notice of Contamination Sites	**N/A**

Explanation: No hazardous material concerns were identified within the 0.5 mile search radius.

ECOLOGICAL INFORMATION SUMMARY

The Pike County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached with ETR species highlighted. A preliminary review of the Indiana Natural Heritage Database by INDOT Environmental Services did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USRWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in a rural area surrounded by a farm field and woods. The February 07, 2019 inspection report for Bridge 065-63-06288 B states that no evidence of bats was seen or heard under the bridge. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

An inquiry using the USFWS Information for Planning and Consultation (IPaC) website did not indicate the presence of the federally endangered species, the Rusty Patched Bumble Bee, in or within 0.5 mile of the project area. No impact is expected.

RECOMMENDATIONS SECTION

Include recommendations from each section. If there are no recommendations, please indicate N/A:

INFRASTRUCTURE:

Religious Facilities: Although unmapped, Little Zion Church is located within the project area. Traffic will be maintained through the use of a detour. Coordination with Little Zion Church will occur.

Cemeteries: One (1) cemetery is located within the 0.5-mile search radius. Little Zion Cemetery is located within the project area. A Cemetery Development Plan may be required since this project is within 100 feet of the cemetery. Coordination with INDOT Cultural Resources will occur.

WATER RESOURCES: Harbin Creek is located within the project area. Harbin Creek is listed as impaired for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

The presence of the following water resources will require the preparation of a Waters of the US Report and coordination with INDOT ES Ecology and Waterway Permitting:

- Harbin Creek is located within the project area.
- Two (2) wetlands are located within the project area.

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: One (1) petroleum well is located within the project area. Coordination with IDNR Oil and Gas Division will occur.

HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

INDOT Environmental Services concurrence: Nicole Fohey-Breting (Signature)

July 25, 2019

Prepared by:
Susan Harrington
Scientist III
HNTB Corporation

Graphics:

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES

INFRASTRUCTURE: YES

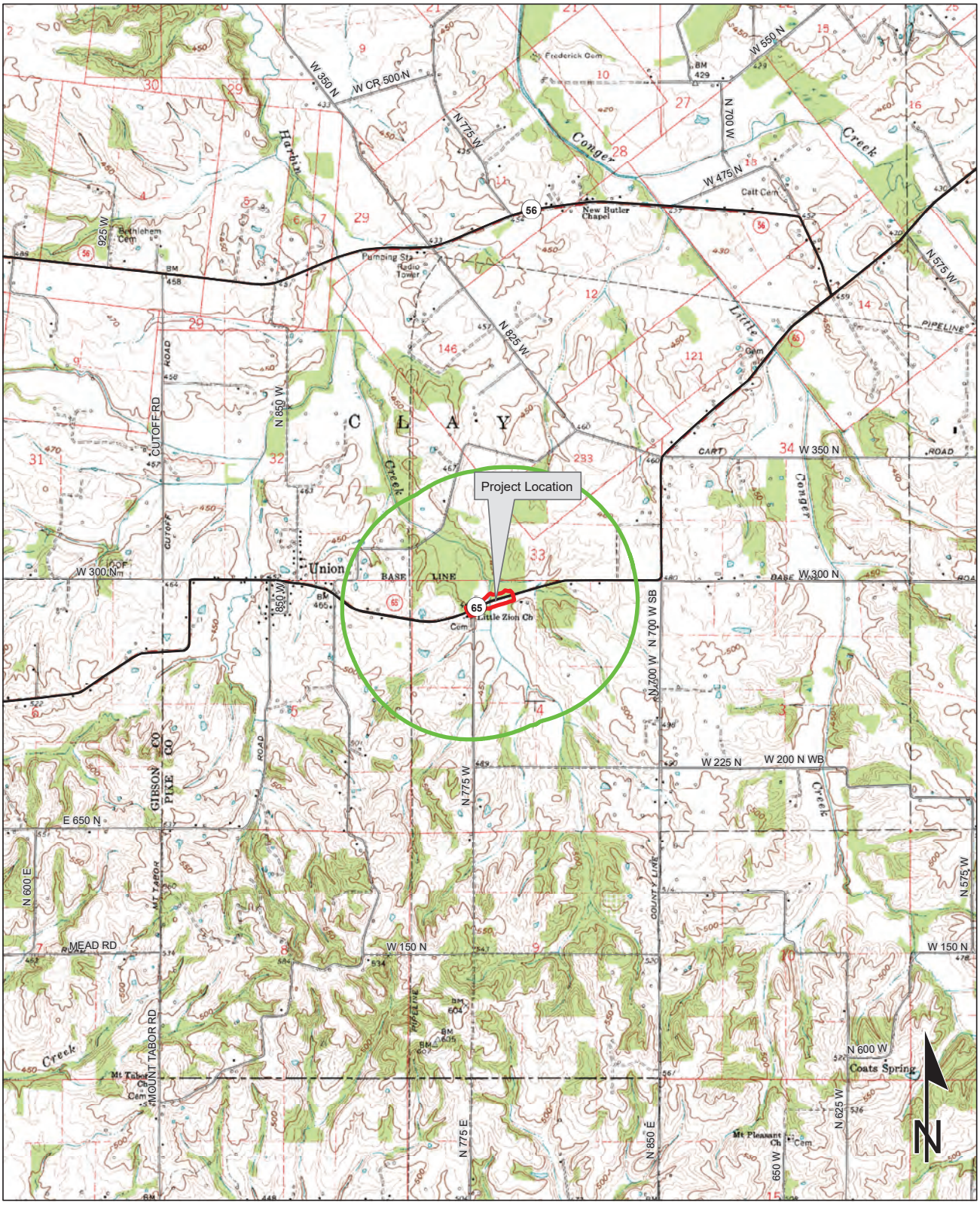
WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: YES

HAZMAT CONCERNS: N/A

Red Flag Investigation - Site Location
SR 65 over Harbin Creek
Des. No. 1700166, Bridge Project
Pike County, Indiana



0.5 0.25 0 0.5 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

UNION INDIANA
QUADRANGLE
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
SR 65 over Harbin Creek
Des. No. 1700166, Bridge Project
Pike County, Indiana

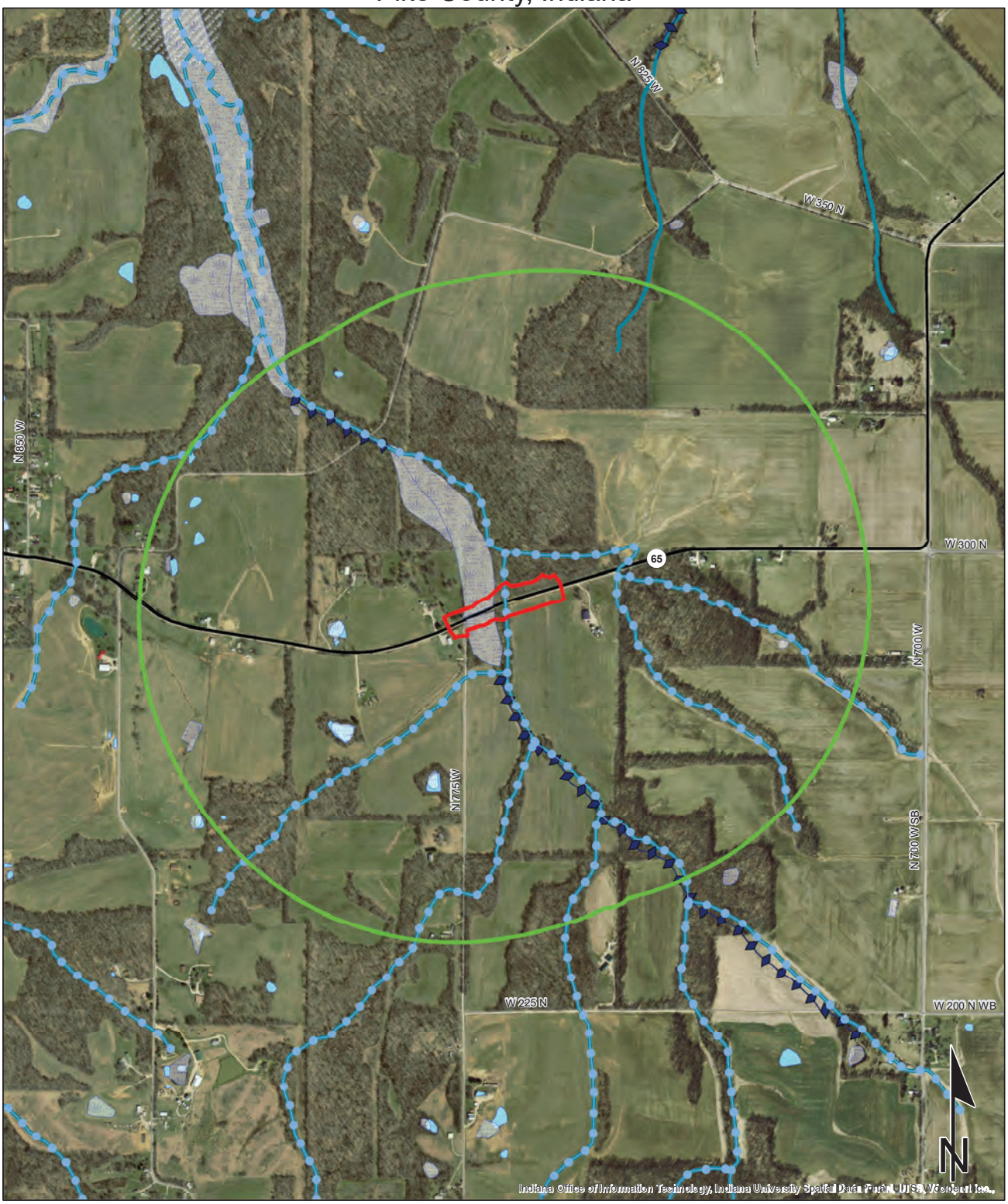
0.2 0.1 0 0.2 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- Religious Facility
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources
SR 65 over Harbin Creek
Des. No. 1700166, Bridge Project
Pike County, Indiana



0.2 0.1 0 0.2 Miles

Sources:

Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library

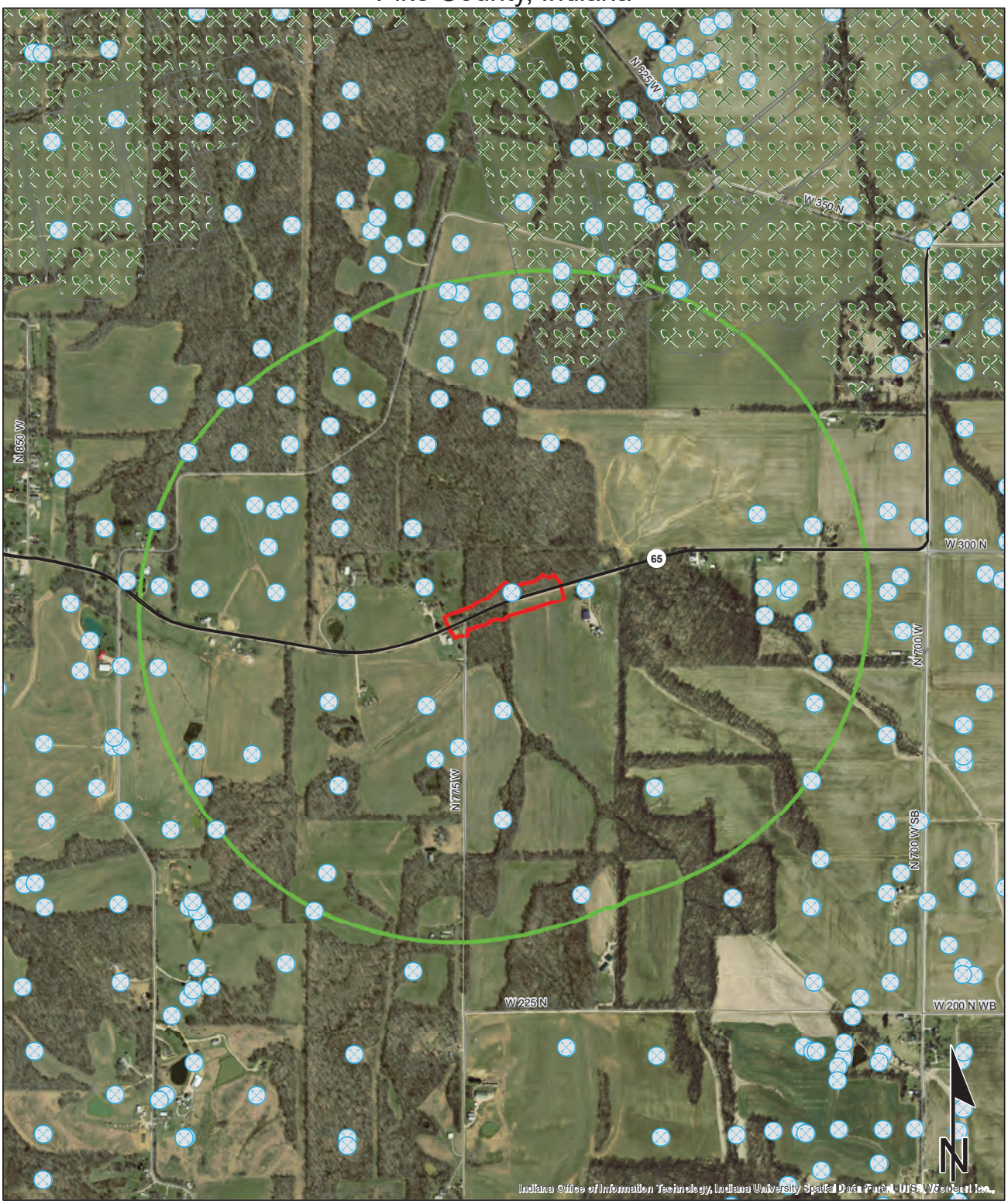
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Mining/Mineral Exploration
SR 65 over Harbin Creek
Des. No. 1700166, Bridge Project
Pike County, Indiana



0.2 0.1 0 0.2 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- Oil and Gas Wells
- Mineral Resources
- Mine - Surface
- Mine - Underground
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Indiana County Endangered, Threatened and Rare Species List

County: Pike

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Cyprogenia stegaria	Eastern Fanshell Pearlymussel	LE	SE	G1Q	S1
Epioblasma torulosa torulosa	Tubercled Blossom	LE	SE	G2TX	SX
Fusconaia subrotunda	Longsolid	C	SE	G3	SX
Obovaria subrotunda	Round Hickorynut	C	SE	G4	S1
Pleurobema clava	Clubshell	LE	SE	G1G2	S1
Pleurobema cordatum	Ohio Pigtoe		SSC	G4	S2
Pleurobema plenum	Rough Pigtoe	LE	SE	G1	S1
Pleurobema pyramidatum	Pyramid Pigtoe		SE	G2G3	SX
Potamilus capax	Fat Pocketbook	LE	SE	G2	S1
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot	LT	SE	G3G4T3	S1
Simpsonaias ambigua	Salamander Mussel	C	SSC	G3	S2
Insect: Ephemeroptera (Mayflies)					
Pseudiron centralis	White Crabwalker Mayfly		SE	G5	S1
Siphloplecton interlineatum	Flapless Cleft-footed Minnow Mayfly		SE	G5	S2
Fish					
Ammocrypta clara	Western Sand Darter		SSC	G3	S2
Etheostoma tippecanoe	Tippecanoe Darter	C	SSC	G3G4	S3
Amphibian					
Acris blanchardi	Northern Cricket Frog		SSC	G5	S4
Lithobates areolatus circulosus	Northern Crawfish Frog		SE	G4T4	S2
Reptile					
Nerodia erythrogaster neglecta	Copperbelly Water Snake	PS:LT	SE	G5T3	S2
Opheodrys aestivus	Rough Green Snake		SSC	G5	S3
Terrapene carolina carolina	Eastern Box Turtle		SSC	G5T5	S3
Bird					
Accipiter striatus	Sharp-shinned Hawk		SSC	G5	S2B
Asio flammeus	Short-eared Owl		SE	G5	S2
Buteo lineatus	Red-shouldered Hawk		SSC	G5	S3
Buteo platypterus	Broad-winged Hawk		SSC	G5	S3B
Circus hudsonius	Northern Harrier		SE	G5	S2
Falco peregrinus	Peregrine Falcon		SSC	G4	S2B
Haliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
Ictinia mississippiensis	Mississippi Kite		SSC	G5	S1B
Ixobrychus exilis	Least Bittern		SE	G5	S3B
Lanius ludovicianus	Loggerhead Shrike		SE	G4	S3B
Mniotilta varia	Black-and-white Warbler		SSC	G5	S1S2B
Nyctanassa violacea	Yellow-crowned Night-heron		SE	G5	S2B

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list

GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank

SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Indiana County Endangered, Threatened and Rare Species List

County: Pike

Species Name	Common Name	FED	STATE	GRANK	SRANK
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
Rallus elegans	King Rail		SE	G4	S1B
Setophaga cerulea	Cerulean Warbler		SE	G4	S3B
Tyto alba	Barn Owl		SE	G5	S2
Vermivora chrysoptera	Golden-winged Warbler	C	SE	G4	S1B
Mammal					
Lasiurus borealis	Eastern Red Bat		SSC	G3G4	S4
Myotis septentrionalis	Northern Long Eared Bat	LT	SSC	G1G2	S2S3
Myotis sodalis	Indiana Bat or Social Myotis	LE	SE	G2	S1
Nycticeius humeralis	Evening Bat		SE	G5	S1
Perimyotis subflavus	Tricolored Bat		SSC	G2G3	S2S3
Sylvilagus aquaticus	Swamp Rabbit		SE	G5	S1
Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Catalpa speciosa	Northern Catalpa		SR	G4?	S2
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Cyperus pseudovegetus	Green Flatsedge		SR	G5	S2
Didiplis diandra	Water-purslane		SE	G5	S2
Diodia virginiana	Buttonweed		WL	G5	S2
Echinodorus berteroi	Burhead		SE	G5	S1
Hottonia inflata	Featherfoil		ST	G4	S2
Itea virginica	Virginia Willow		SE	G4	S1
Ludwigia decurrens	Primrose Willow		WL	G5	S2
Mikania scandens	Climbing Hempweed		SE	G5	S1
Phacelia covillei	Buttercup scorpionweed		SE	G3	S1
Phacelia ranunculacea	Blue Scorpion-weed		SE	G4	S1
Potamogeton pusillus	Slender Pondweed		WL	G5	S2
Rhexia mariana var. mariana	Maryland Meadow Beauty		ST	G5T5	S1
Sagittaria australis	Longbeak Arrowhead		SR	G5	S2
Selaginella apoda	Meadow Spike-moss		WL	G5	S1
Senna obtusifolia	Blunt-leaf Senna		SR	G5	S2
Styrax americanus	American Snowbell		WL	G5	S3
Trachelospermum difforme	Climbing Dogbane		SR	G4G5	S2
Vitis palmata	Catbird Grape		SR	G4	S2
Wisteria macrostachya	Kentucky Wisteria		SR	G5	S2
High Quality Natural Community					
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Forest - upland dry-mesic Southwestern Lowlands	Southwestern Lowlands Dry-mesic Upland Forest			GNR	S1

Indiana Natural Heritage Data Center
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Indiana Department of Natural Resources
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Indiana County Endangered, Threatened and Rare Species List

County: Pike

Species Name	Common Name	FED	STATE	GRANK	SRANK
Forest - upland mesic Southwestern Lowlands	Southwestern Lowlands Mesic Upland Forest			GNR	S1

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting

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GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank

SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Appendix F: Water Resources

Note: Certain attachments have been removed to avoid duplication. Additional figures and project photos can be found in Appendix B.

Waters of the U.S. Report

SR 65 OVER BRANCH OF HARDIN CREEK
BRIDGE REPLACEMENT

PIKE, COUNTY

DES. NO.
1700166

EXISTING
STRUCTURE NO.
065-63-06288 B

Prepared by:

HNTB

111 Monument Circle, Suite 1200

Indianapolis, IN, 46204

317.636.4682

April 16, 2020

Approved 4.16.2020 by:

Maryssa Engstrom

1. Project Information

Date of Field Reconnaissance: April 1, 2020

Location

The project is located along State Road (SR) 65, approximately 2.16 miles south of SR 56 in Pike County, Indiana.

- Sections 56, Township 1 South, Range 9 West
- Union Quadrangle, Indiana
- 38.464267 N, 87.420091 W, NAD83

Project Description

The Indiana Department of Transportation (INDOT) is proposing to replace the bridge carrying SR 65 over Branch of Hardin Creek (also known as Branch of Harbin Creek). The need for this project is due to the deteriorated condition of the bridge, as documented in the INDOT Bridge Inspection Report dated June 4, 2019. The purpose of this project is to maintain a safe vehicular crossing of SR 65 over Branch of Hardin Creek, while maintaining adequate hydraulic function.

2. Desktop Reconnaissance

2.1 Soil Associations and Series Types

According to the Soil Survey Geographic (SSURGO) Database for Pike County, Indiana, the following mapped soils series are present within the SR 65 over Branch of Hardin Creek investigated area (Attachments Pages 6 and 7).

- **Chetwynd silt loam (CIF):** very deep, well drained, soils that formed in as much as 18 inches of loess and in the underlying loamy and sandy outwash. Chetwynd soils are dissected outwash plains. Slopes are 25 to 50 percent. This soil unit is not considered a hydric soil and has a hydric rating of 0.
- **Wakeland silt loam (Wa):** very deep, somewhat poorly drained soils that formed silty alluvium. These soils are on flood-plain steps. Slope ranges from 0 to 2 percent. This soil unit is not considered a hydric soil; however, hydric inclusions of birds are found within floodplains. This soil unit as a hydric rating of 5 percent.

2.2 National Wetlands Inventory

Based on the U.S. Fish and Wildlife National Wetlands Inventory (NWI) data (www.fws.gov/wetlands/Data/State-Downloads.html) there are 3 wetlands mapped within the investigated area (Attachments Page 5). One wetland polygon that represents the channel of Branch of Hardin Creek is mapped within the investigated area. Branch of

Hardin Creek is noted as riverine, unknown perennial, unconsolidated bottom, permanently flooded wetland (R5UBH). Two additional wetlands representing Wetland A are mapped within the investigated area. Both wetlands are noted as palustrine, forested, broad-leaved deciduous wetland (PFO1A). The nearest wetland outside of the investigated area is located approximately 0.04 mile north of the investigated area. The polygon represents the channel of Hardin Creek, a riverine, intermittent, streambed, seasonally flooded wetland (R4SBC).

2.3 Hydrology

The 12-digit Hydrologic Unit Code (HUC) for the entirety of the investigated area is #051202021004 which identifies the Little Conger Creek – Conger Creek Watershed (Attachments Page 9). According to the Indiana floodplain Information Portal, the investigated area is within the floodplain (http://dnrmaps.dnr.in.gov/appsphp/fdms/) of Branch of Hardin Creek (Attachments Page 8).

According to the *Hydraulic Review* (INDOT, 2019) the existing Q100 (100 Year flood) elevation is 444.05 feet (NAVD 88) at the SR 65 bridge. At the SR 65 bridge, the floodplain of Branch of Hardin Creek is moderately wide, extending approximately 300 feet to the west of the river channel and 360 feet east. SR 65 within the floodway is an impediment to floodwaters and this structure conveys floodwaters under SR 65 across the floodplain.

3. Field Reconnaissance

HNTB Indiana staff performed a field review of the investigated area on April 1, 2020. The purpose was to determine the presence of waters of the U.S. within the investigated area. HNTB Indiana staff collected data during the field review to appropriately characterize the investigated area and determine the presence or absence of jurisdictional waters. The investigated area encompassed the area required for construction access and completion of the bridge replacement. HNTB staff photographed features and areas of interest throughout the investigated area. A photo location map and selected photographs are included as Attachments Pages 10 to 32.

The investigated area was analyzed using the methods outlined in the Routine Determination, On-site Inspection Necessary procedure in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Midwest Region* (US Army Corps of Engineers, 2010). Identification of indicator status of plant species utilized the 2016 Midwest Region National Wetland Plant List. Field GIS data was collected using a Trimble R1 GNSS GPS with sub-meter accuracy with sub-meter accuracy. The Indiana growing season is generally considered to be mid-April through mid-October; however, the growing start of the season was confirmed based on the presence of bud bursts on woody plants and the appearance of new growth from vegetation crowns.

4. Waters

The April 2020 field reconnaissance for the SR 65 over Branch of Hardin Creek investigated area identified two streams (UNT to Branch of Hardin Creek and Branch of Hardin Creek) and one wetland (Wetland A). Information obtained during the field investigation is provided in detail below.

4.1 WETLANDS

Wetland A is mapped as an NWI palustrine, forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A) according to the classifications defined by Cowardin *et al.* (1979). Wetland areas north and south of SR 65 possess identical vegetation and hydrology (sourced from uphill drainage), and are situated within the same soil series. This indicates that this forested area would have been contiguous prior to the construction of SR 65. The wetland areas are considered one wetland, but are distinguished as Wetland A1 and Wetland A2 to differentiate between the two segments when practicable. Wetland A is 0.64 acre in size (Wetland A1 covers 0.31 acre and Wetland A2 covers 0.33 acre) within the investigated area and the wetland extends north and south outside of the investigated area. The surrounding area is rural, with agricultural land in the southeast bridge quadrant and forested land in the remaining bridge quadrants. Vegetation within the wetland is dominated by American sycamore (*Plantanus occidentalis*, FACW), silver maple (*Acer saccharinum*, FACW) and northern spicebush (*Lindera benzoin*, FACW). Hydrology is a result of ponding from surface water runoff from the hillside west of the investigated area. Based on a qualitative analysis, Wetland A is of average quality based completeness of the canopy, position within the floodplain of Branch of Harbin Creek, and contribution of native species.

DATA POINT AW1

This data point was taken near the eastern edge of the wetland approximately 200 feet northwest of the SR 65 bridge over Branch of Hardin Creek. The area was relatively homogeneous, with limited variation in topography and vegetative cover. Vegetation consisted of American sycamore (*Platanus occidentalis,* FACW), silver maple (*Acer saccharinum*, FACW), and northern spicebush (*Lindera benzoin*, FACW). Vegetation within data point AW1 passed the dominance test. Hydrology indicators observed included surface water (A1), a high-water table (A2), soil saturation (A3), a sparsely vegetated concave surface (B8), and FAC-neutral test (D5). At the time of the field reconnaissance, the water table at this data point was visible at approximately eight inches deep. Soils within a pit excavated to a depth of 20 inches consisted of 10YR 4/1 silt loam with 10 percent concentrations of 10YR 5/6 from 0 to 10 inches indicating. From 10 to 20 inches, soils were 10YR 4/1 silt loam with 50 percent concentrations of 10YR 5/6. This soil is consistent with hydric soil indicator (F3) Depleted Matrix (Attachments Pages 33 to 35). Wetland A1 and Wetland A2 are portions of one wetland based on vegetation, hydrology, and soil series; therefore, additional wetland points south of SR 65 were not necessary.

DATA POINT AD1

This data point was taken approximately 190 feet northwest of the SR 65 bridge over Branch of Hardin Creek, outside the boundary of Wetland A. Vegetation consisted of American sycamore (*Platanus occidentalis*, FACW), northern spicebush (*Lindera benzoin*, FACW), and Virginia wildrye (*Elymus virginicus*, FACW). Vegetation within the data point passed the dominance test and the entire vegetation composition has a prevalence index of less than three; therefore, this data point meets the criteria for hydrophytic vegetation. Hydrology indicators observed included FAC-neutral test, a secondary indicator. Soils within a pit excavated to a depth of 20 inches consisted of 0 to 20 inches of 10YR 5/6 of silty clay loam with 40 percent concentrations of 10YR 5/1 within the matrix. Water within the soil pit was present 17 inches below ground surface; which does not meet the criteria of the high water table indicator (A2). This data point was determined to be outside the boundary of Wetland A due to the lack of primary hydrology or hydric soil indicators (Attachments Pages 36 to 38). Wetland A1 and Wetland A2 are portions

of one wetland based on vegetation, hydrology, and soil series; therefore, additional upland points south of SR 65 were not necessary.

TABLE 1: WETLAND SUMMARY TABLE

Wetland	Photo	Lat/Long	Cowardin Classification	Area (Acre)	Quality	Water of the U.S?
A	17-25 & 36	38.463863 N 87.420683 W	PFO1A	0.64	Average	Yes

Table 2: Wetland Data Point Summary Table

Data Point-ID	Vegetation (Y/N)	Soils (Y/N)	Hydrology (Y/N)	Within a Wetland?
AW1	Y	Y	Y	Yes, Wetland A
AD1	Y	N	N	No

4.2 STREAMS

The field investigation resulted in the identification of two likely jurisdictional stream: UNT to Branch of Hardin Creek and Branch of Hardin Creek. A total of approximately 511 linear feet of UNT to Branch of Hardin Creek and 326 feet of Branch of Hardin Creek lie within the investigated area. The banks of UNT to Branch of Hardin Creek are dominated by tall fescue (*Schedonorus arundinaceus*, FACU), butterweed (*Packera glabella*, FACW), purple deadnettle (*Lamium purpureum*, UPL) and common periwinkle (*Vinca minor*, UPL). The banks of Branch of Hardin Creek are dominated by American sycamore (*Platanus occidentalis*, FACW) and American beech (*Fagus grandifolia*, FACU). Characteristics of the stream are summarized in Table 3.

UNT TO BRANCH OF HARDIN CREEK

UNT to Branch of Hardin Creek is an intermittent stream feature that begins east of the investigated area and flows west where it reaches its confluence with Branch of Hardin Creek. Approximately 511 feet of this feature was evaluated as part of this investigation. UNT to Branch of Hardin Creek is contained within a trapezoidal channel and the substrate consists of silt. The right and left banks of the channel exhibit considerable erosion. The ordinary high-water mark (OHWM) of UNT to Branch of Hardin Creek is 0.8 feet wide by 0.1 feet deep. According to the classification codes developed by Cowardin *et al.* (1979), this stream feature would be classified as a riverine, intermittent, streambed (R4) resource. Based on a review of historic aerial imagery and the presence of a tile drain system outletting into the channel, UNT to Branch of Harbin Creek appears to convey jurisdictional waters that originate in the agricultural field as well as roadside drainage. This likely jurisdictional feature is hydrologically connected to the White River, a traditional navigable waterway (TNW), via Branch of Hardin Creek. This feature is not noted on the USGS StreamStats website, (https://water.usgs.gov/osw/streamstats/indiana.html); therefore, it likely has an upstream drainage area less

than one square mile. Following a qualitative assessment, this resource is a poor-quality feature based on a lack of in-stream cover or development.

BRANCH OF HARDIN CREEK

Branch of Hardin Creek is a perennial stream feature that begins south of the investigated area and flows north underneath SR 65. Approximately 326 feet of this feature was evaluated as part of this investigation. Branch of Hardin Creek is contained within a trapezoidal channel and the substrate consists of gravel and sand. The right and left banks of the channel exhibit considerable erosion. The stream meanders through wide bankfull within a floodplain. The ordinary high-water mark (OHWM) of Branch of Hardin Creek is 16.8 feet wide by 1.3 feet deep. According to the classification codes developed by Cowardin *et al.* (1979), this stream feature would be classified as a as riverine, unknown perennial, unconsolidated bottom, permanently flooded wetland (R5UBH). This likely jurisdictional feature is hydrologically connected to the White River, a traditional navigable waterway (TNW). According to the USGS StreamStats website, (https://water.usgs.gov/osw/streamstats/indiana.html), Branch of Hardin Creek drains approximately 1.736 square miles upstream of the SR 65 bridge (Attachments Page 9). Following a qualitative assessment, this resource is a poor-quality feature based on a lack of in-stream cover.

Table 3: Stream and Waterway Summary Table

Stream Name	Photo #	Lat/Long	OHWM	Quality	Substrate	USGS Blue Line	Riffles/ Pools	Waters of U.S.
UNT to Branch of Hardin Creek	9-16	38.464384 N, 87.419201 W	0.8 feet wide by 0.1 feet deep	Poor	Silt	No	No	Yes
Branch of Hardin Creek	1-9	38.464267 N, 87.420091 W	16.8 feet wide by 1.3 feet deep	Poor	Sand and Gravel	Yes	No	Yes

4.3 ROADSIDE DRAINAGE FEATURES

One roadside ditch (RSD) was observed during the investigation. RSD 1 does not exhibit OHWM characteristics or hydrophytic vegetation indicating wetland conditions. Additionally, the RSD is sourced by stormwater and no upstream, jurisdiction source of hydrology is present; therefore, it is likely not jurisdictional. Additionally, the feature does not appear to represent a captured channel. The feature likely conveys roadside drainage from stormwater events. No trapezoidal roadside ditches were observed west of Branch of Hardin Creek. Information about the roadside ditch is summarized in Table 4.

Table 4: Roadside Ditch Summary Table

Feature Name	Photo #	Latitude	Longitude	Linear Feet	Substrate	USGS Blue Line	Waters of U.S.
RSD 1	26-31	38.464505 N	87.419221 W	156	Silt	No	No

4.4 Open Waters

Site investigations did not identify open water features within the investigated area.

5. Conclusion

The April 2020 field review for the SR 65 over Branch of Hardin Creek Bridge Replacement project identified two likely jurisdictional stream that flow within the investigated area (UNT to Branch of Hardin Creek and Branch of Hardin Creek). Wetland A drains into Branch of Hardin Creek which drains into the White River. The White River is a TNW; therefore, the three features are likely jurisdictional.

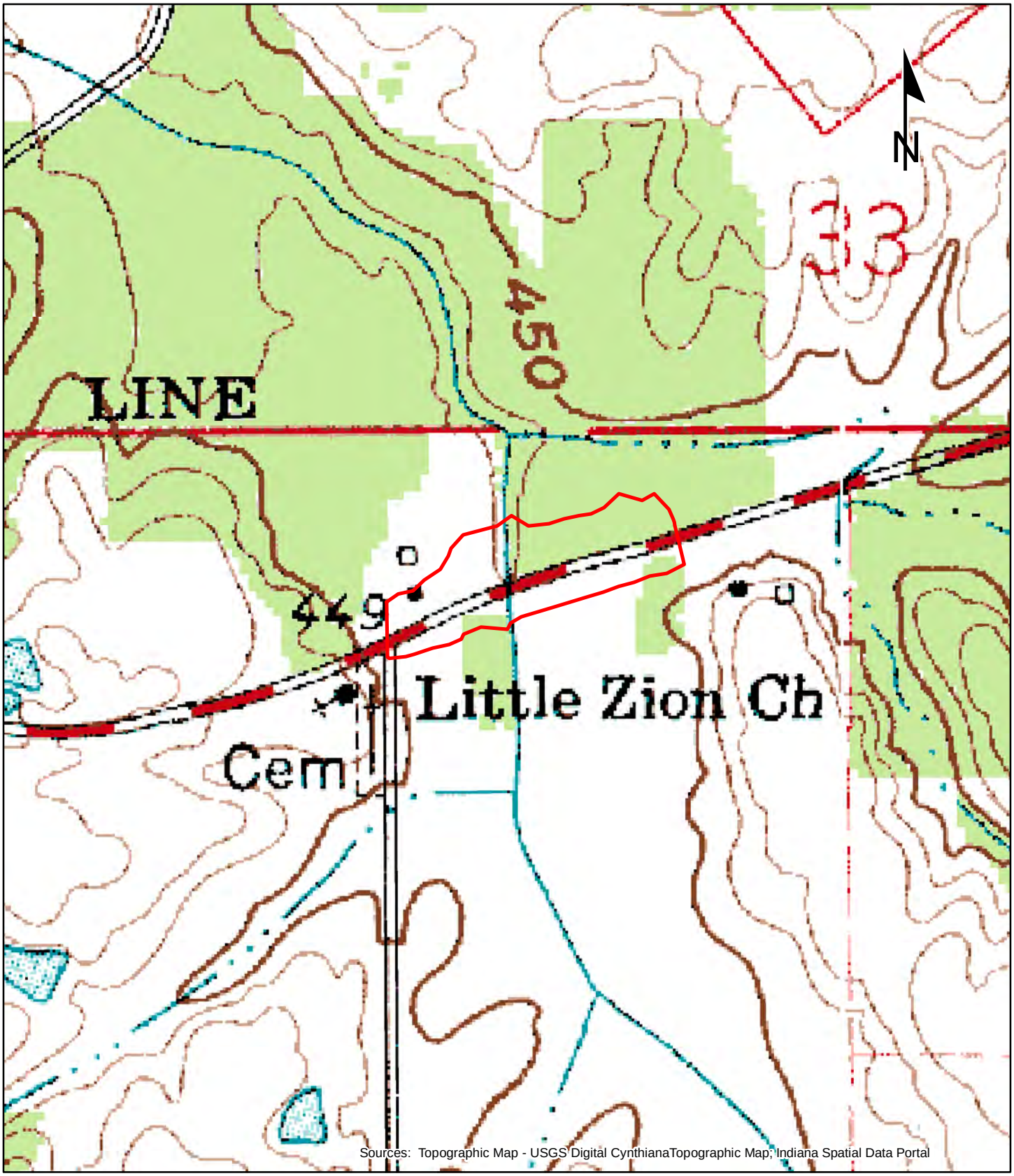
Every effort should be taken to avoid and minimize the impacts to the water resources listed above. Disturbance of a stream or wetland could result in a mitigation requirement to secure the required permits for the bridge replacement. If construction exceeds the limits of the investigated review area illustrated in this document, further field investigation will be needed. This report is this office's best judgement of water resources that are likely to be under federal jurisdiction, based on the guidelines set forth by the U.S. Army Corps of Engineers (USACE). The final determination of jurisdictional waters is ultimately the responsibility of the USACE. The INDOT Office of Environmental Services should be contacted immediately if impacts occur.

This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience, and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual,* the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook,* and other appropriate agency guidelines.

Dan Logsdon, Scientist I

Preparers:

HNTB Inc., Staff	Position	Contributing Effort
Kate Williams, PWS	Project Manager	Project Management Field Data Collection
Dan Logsdon	Scientist I	Field Data Collection Graphics Preparation Report Preparation



Investigated Area

0 250 500 Feet

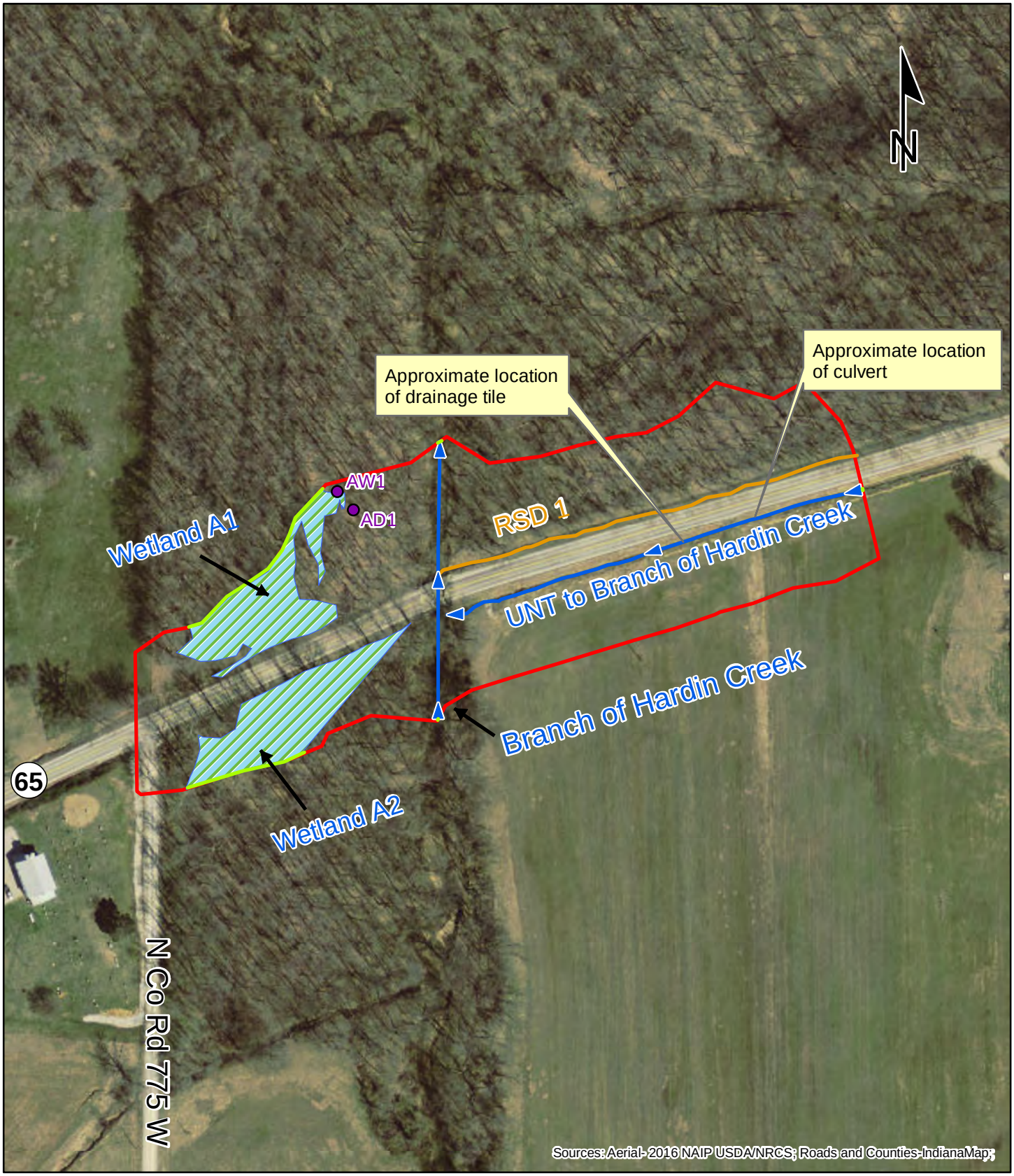
Figure 3: USGS (1:6,000 scale) Topographic Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Des. No.1700166

1 inch = 500 feet

HNTB

Graphics created by HNTB Corporation (2020)



Delineated Streams
Roadside Ditches
Delineated Wetland
Feature Extends Outside Investigated Area
Investigated Area
Data Point
0 100 200 Feet

Figure 4: Water Resource Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

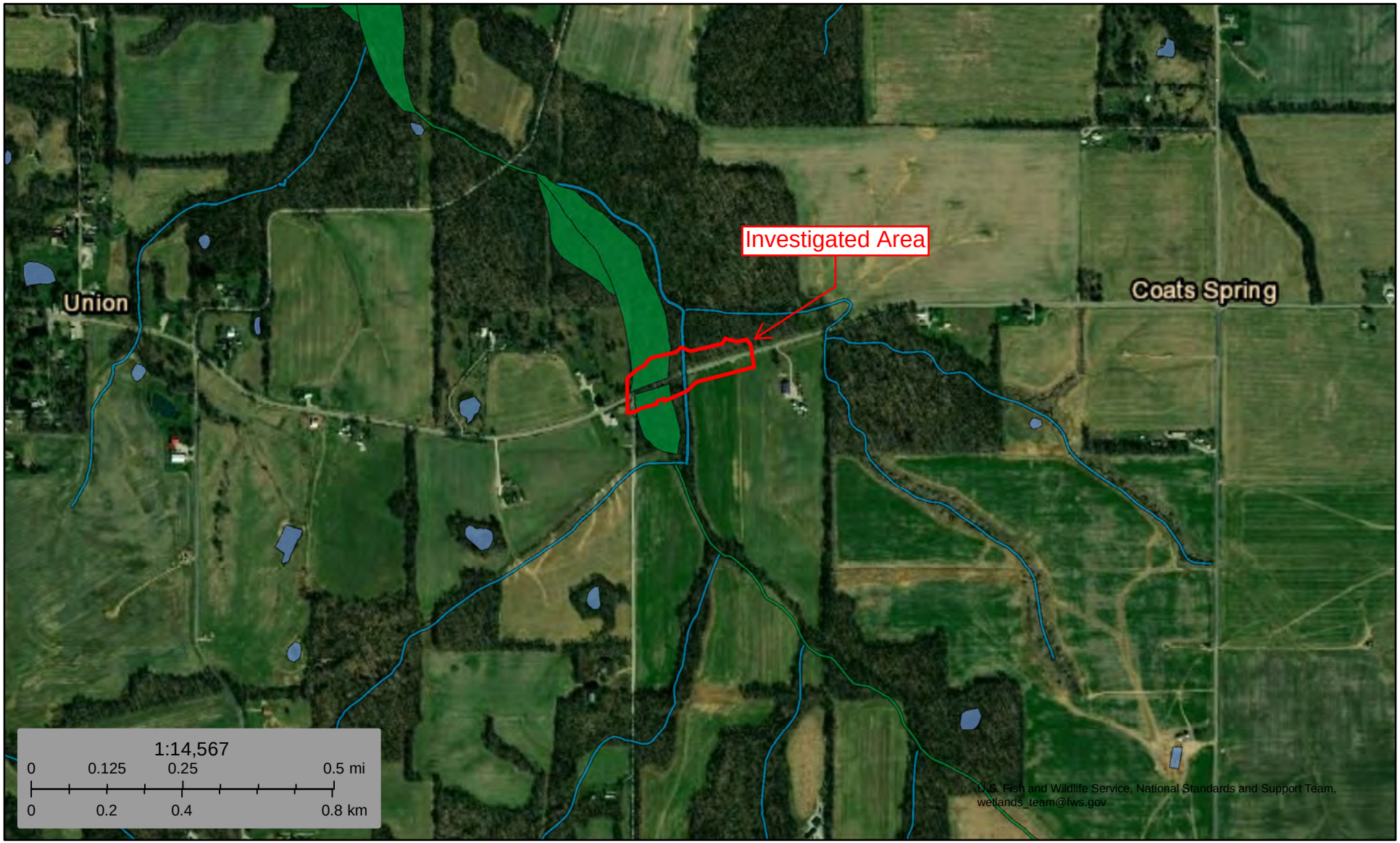
Des. No. 1700166

1 inch = 200 feet

HNTB
Graphics created by HNTB Corporation (2020)

U.S. Fish and Wildlife Service
National Wetlands Inventory

Figure 5: NWI Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana



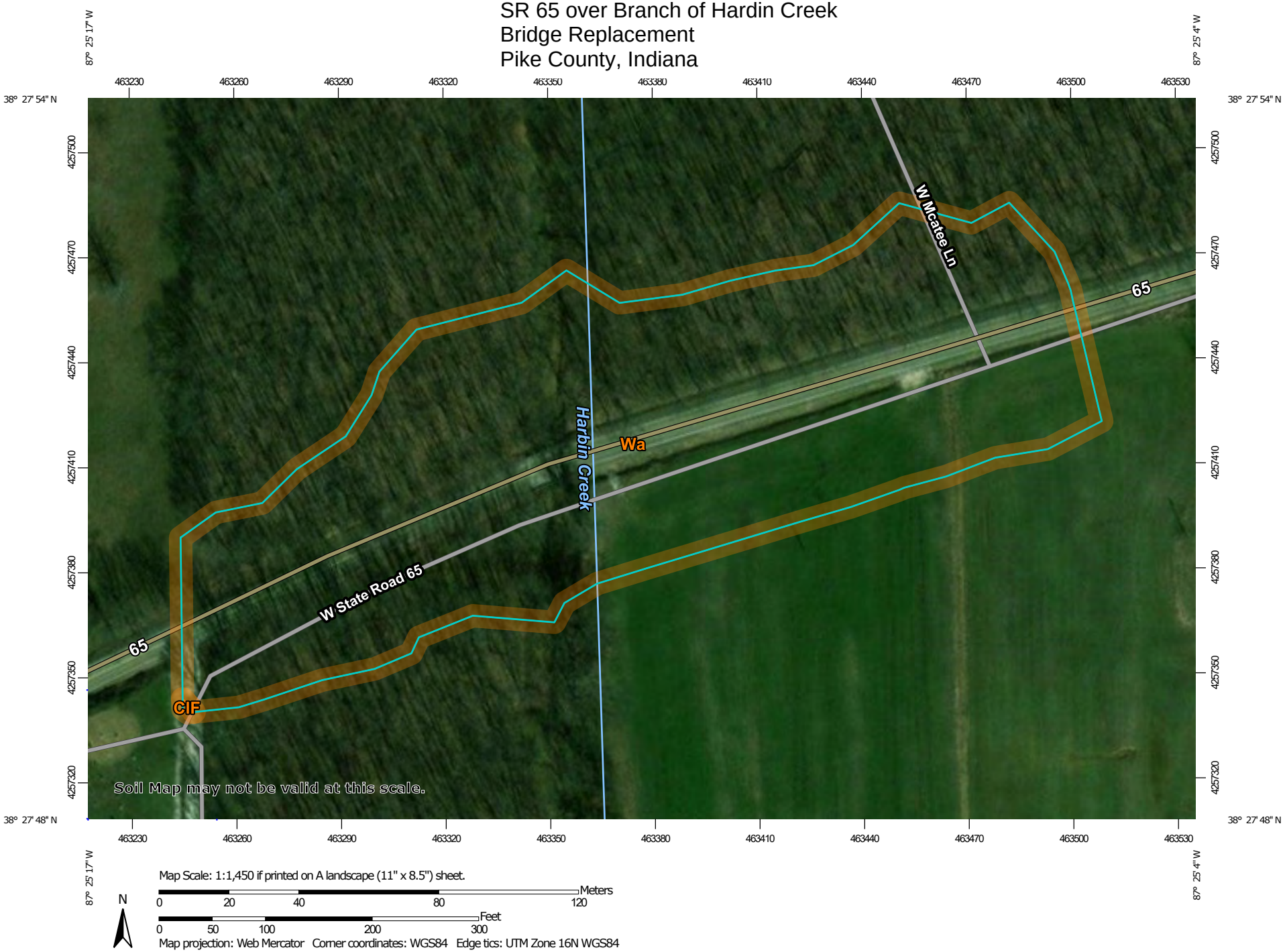
March 31, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure 6: Soil Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana



Report—Hydric Soil List - All Components

Hydric Soil List - All Components–IN125-Pike County, Indiana					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
ClF: Chetwynd silt loam, 25 to 50 percent slopes	Chetwynd	100	Outwash plains	No	—
Wa: Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wakeland-Frequently flooded	90-100	Flood plains	No	—
	Birds-Frequently flooded	0-10	Flood plains	Yes	2

Data Source Information

Soil Survey Area: Pike County, Indiana
Survey Area Data: Version 20, Sep 16, 2019

Indiana Floodplain Information Portal Report

Point of Interest

Approximate Address:
7741 W State Rte 65
PETERSBURG, IN 47567
Effective Flood Zone:
X
Preliminary Flood Zone:
N/A
Best Available Flood Zone:

Approximate Flood Elevation:
445.1ft NAVD88
Source:
Zone A Model Delineation
Nearest Stream:
HARBIN CREEK

Map Legend

Point of Interest

Nearest Point on Stream

Best Available Flood Zone

FEMA Zone AE Floodway
DNR Detailed Floodway
DNR Approximate Floodway
FEMA Zone A
FEMA Zone AE
DNR Detailed Fringe
DNR Approximate Fringe
Additional Floodplain Area
FEMA Protected by Levee
FEMA Floodplain - Ponding (Depth)
FEMA Floodplain - Sheet Flow (Depth)

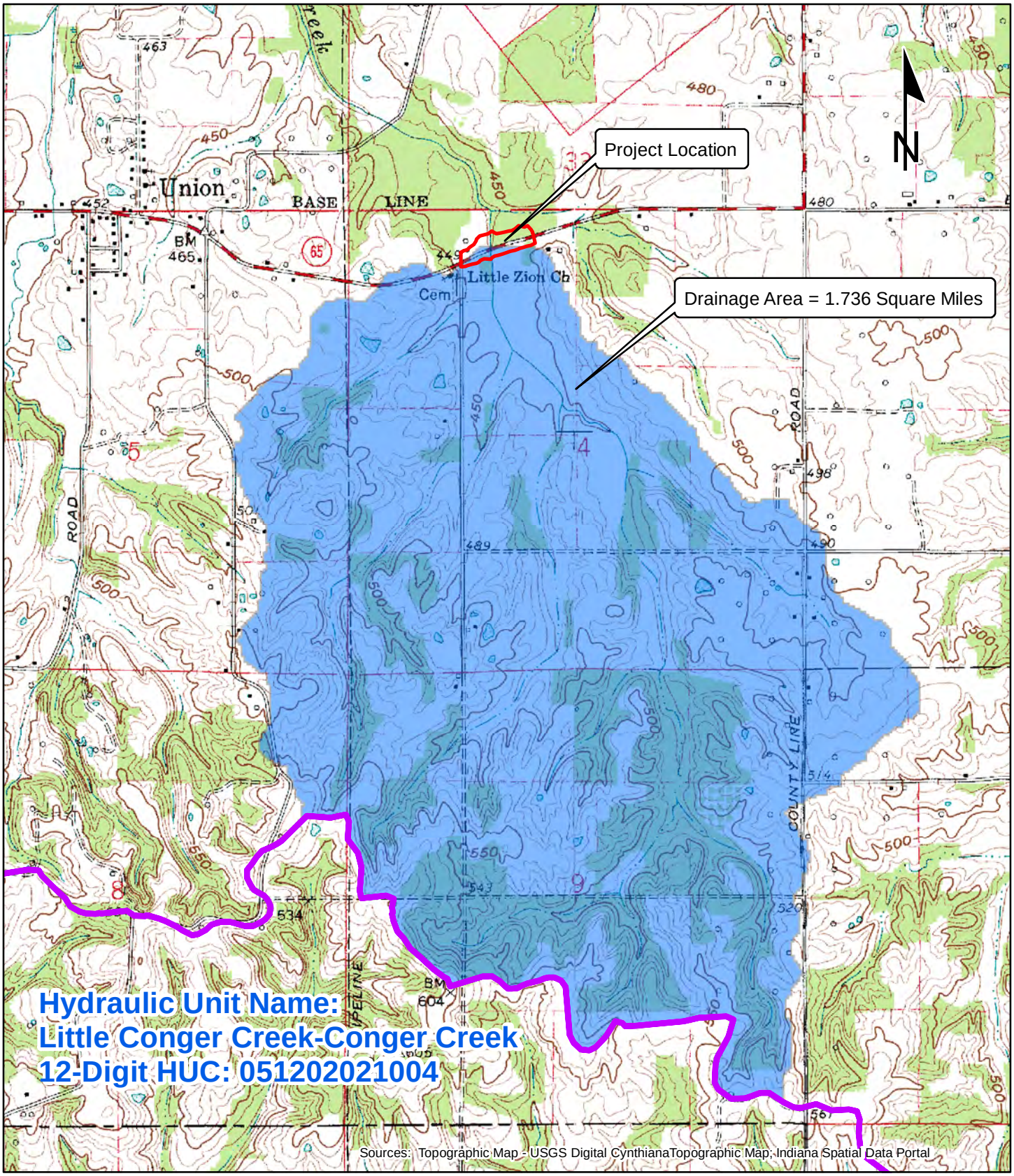
Figure 7: INFIP Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Site Map with Best Available Flood Zone

Approximate scale 1:2,400

Disclaimer

Generated on Tuesday March 31st 2020 at 10:46:24am



Investigated Area

WATERSHEDS HUC12 - 2009

Branch of Hardin Creek Upstream Drainage Area

0 1,000 2,000 Feet

Figure 8: StreamStats Map
SR 65 over Branch of Hardin Creek
Bridge Replacement
Pike County, Indiana

Des. No.1700166

1 inch = 2,000 feet

HNTB

Graphics created by HNTB Corporation (2020)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SR 65 over Branch of Hardin Creek | City/County: Pike | Sampling Date: 04/01/2020

Applicant/Owner: INDOT | State: IN | Sampling Point: AW1

Investigator(s): Kate Williams and Dan Logsdon | Section, Township, Range: Section 56, Township 1 South, Range 9 West

Landform (hillside, terrace, etc.): Plain | Local relief (concave, convex, none): Concave

Slope (%): 5 | Lat: 38.464575 N | Long: 87.420488 W | Datum: NAD88

Soil Map Unit Name: Wakeland silt loam | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
AW1 is located within the floodplain of Branch of Hardin Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	20	Yes	FACW
2. *Acer saccharinum*	15	Yes	FACW
3.			
4.			
5.			
	35	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Lindera benzoin*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		110 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: AW1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
10-20	10YR 4/1	50	10YR 5/6	50	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 2
Water Table Present?	Yes x	No ___	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 11

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Standing water 2" depth. Saturation present 11" below ground surface. Water table visible 8" below ground surface.

1. View of AW1 soil profile

2. View of AW1 soil pit

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SR 65 over Branch of Hardin Creek | City/County: Pike | Sampling Date: 04/01/2020

Applicant/Owner: INDOT | State: IN | Sampling Point: AD1

Investigator(s): Kate Williams and Dan Logsdon | Section, Township, Range: Section 56, Township 1 South, Range 9 West

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex

Slope (%): 5 | Lat: 38.464517 N | Long: 87.420423 W | Datum: NAD88

Soil Map Unit Name: Wakeland silt loam | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	20	Yes	FACW
2. *Lindera benzoin*	10	Yes	FACW
3. *Prunus serotina*	5	No	FACU
4.			
5.			
	35	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Elymus virginicus*	5	Yes	FACW
2. *Claytonia virginica*	2	No	FACU
3. *Botrychium dissectum*	2	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	9	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	7	x 4 =	28
UPL species	0	x 5 =	0
Column Totals:	42 (A)		98 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: AD1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/6	60	10YR 5/1	40	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ___	Depth (inches): ___
Water Table Present?	Yes x	No ___	Depth (inches): 17
Saturation Present? (includes capillary fringe)	Yes ___	No ___	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water table visible 17" below ground surface.

3. View of AD1 soil profile

4. View of AD1 soil pit

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 04/16/2020

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Dan Logsdon, 111 Monument Circle, Suite 1200, Indianapolis, IN 46204; 317-917-5336; dlogsdon@hntb.com

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The FHWA and INDOT are proposing (Des. No. 1700166) to replace the bridge carrying SR 65 over Branch of Hardin Creek in Pike County, Indiana. The project is located along SR 65, approximately 2.16 miles south of SR 56. More specifically, the project is located in Section 56,Township 1 South, Range 9 West in Clay Township. Project plans are still being developed.

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Indiana County/parish/borough: Pike City: Petersburg

Center coordinates of site (lat/long in degree decimal format):

Lat.: 38.464267 Long.: -87.420091

Universal Transverse Mercator: Zone 16 - Easting: 463351 Northing: 4257412

Name of nearest waterbody: Branch of Hardin Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Wetland A1	38.464227	-87.420766	0.31	Wetland	Section 404
Wetland A2	38.463860	-87.420695	0.33	Wetland	Section 404
UNT	-87.420695	-87.419201	511/0.01	Non-wetland	Section 404
Branch of Hardin Creek	38.464267	-87.420091	326/0.13	Non-wetland	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: Aerial, USGS topo, StreamStats, Web of Soil, NWI.
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report. Rationale: _____.
- ☐ Data sheets prepared by the Corps: _____.
- ☐ Corps navigable waters' study: _____.
- ☒ U.S. Geological Survey Hydrologic Atlas: NHD Hydrography layers, 2014.
  - ☒ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Borden and Speed 1:24,000 and 1:6,000 Quadrangles.
- ☒ Natural Resources Conservation Service Soil Survey. Citation: Web of Soil Service, 2020.
- ☒ National wetlands inventory map(s). Cite name: NWI Mapper Online Tool 2020.
- ☐ State/local wetland inventory map(s): _____.
- ☒ FEMA/FIRM maps: IDNR Floodplain GIS Database.
- ☒ 100-year Floodplain Elevation is: 445.1 ft.(National Geodetic Vertical Datum of 1929)
- ☐ Photographs: ☒ Aerial (Name & Date): 2013 - Indiana Ortho.
  or ☒ Other (Name & Date): Ground Photos Taken April 1, 2020.
- ☐ Previous determination(s). File no. and date of response letter: _____.
- ☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	Digitally signed by Daniel Logsdon Date: 2020.04.16 09:48:45 -04'00'
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix G: Public Involvement

HNTB Corporation
The HNTB Companies
Infrastructure Solutions

111 Monument Circle
Suite 1200
Indianapolis, IN 46204

Telephone (317) 636-4682
Facsimile (317) 917-5211
www.hntb.com

March 7, 2019

Sample Notice of Survey Letter

Western, Patricia L. Et Al.
7768 W S R65
Petersburg, IN 47567

Re: Pike County Tax Parcel – 63-05-04-200-002.000-001, 63-05-04-200-006.000-001

NOTICE OF SURVEY

Dear Property Owner:

HNTB, on behalf of The Indiana Department of Transportation (INDOT), will perform a survey for the proposed replacement of the bridge on SR 65 over Branch of Harbin Creek, located 2.16 miles south of SR 56 in Pike County, Indiana, Des No. 1700166. A portion of this survey work may be performed on your property in order to provide design engineers information for project design. The survey work will include mapping the location of features such as trees, buildings, fences, drives, ground elevations, etc. The survey is needed for the proper planning and design of this highway project.

At this stage we generally do not know what effect, if any, our project may eventually have on your property. If we determine later that your property is involved, we will contact you with additional information.

Indiana Code 8-23-7-26 allows HNTB, as the authorized employees of INDOT, *Right of Entry* to the project site (including private property) upon proper notification. A copy of a Notice of Survey discussion sheet, as found on INDOT's website (http://www.in.gov/indot/2888.htm), is attached to this letter. Pursuant to Indiana Code 8-23-7-27, this letter serves as written notification that we will be performing the above noted survey in the vicinity of your property on or after March 11, 2019

HNTB employees will show you their identification, if you are available, before coming onto your property.

If you own but are not the tenant of this property (i.e. rental, sharecrop), please inform us so that we may also contact the actual tenant of the property prior to commencement of our work. If you have any questions or concerns regarding our proposed survey work or schedule, please contact the HNTB Project Manager. This contact information is as follows:

Erica Haas, PE
111 Monument Circle, Suite 1200
Indianapolis, IN 46204
(317) 636-4682

Under Indiana Code 8-23-7-28, you have a right to compensation for any damage that occurs to your land or water as a result of the entry or work performed during the entry. To obtain such compensation, you should contact the Vincennes District Real Estate Manager; contact information is below. The District Real Estate Manager can provide you with a form to request compensation for damages. Once you fill out this form, you can return it to the District Real Estate Manager for consideration. If you are not satisfied with the compensation that INDOT determines is owed to you, Indiana Code 8-23-7-28 provides the following:

> The amount of damages shall be assessed by the county agricultural extension educator of the county in which the land or water is located and two (2) disinterested residents of the county, one (1) appointed by the aggrieved party and one (1) appointed by the department. A written report of the assessment of damages shall be mailed to the aggrieved party and the department by first class United States mail. If either the department or the aggrieved party is not satisfied with the assessment of damages, either or both may file a petition, not later than fifteen (15) days after receiving the report, in the circuit or superior court of the county in which the land or water is located.

If you have questions regarding the rights and procedures outlined in this letter, please contact the Vincennes District Real Estate Manager. This contact information is as follows:

Jason Brown
3650 S. Hwy 41
Vincennes, IN 47591
(812) 895-7371

Thank you in advance for your cooperation in this matter.
Sincerely,
HNTB Corporation

Kurt M. Vonderheide

Kurt M. Vonderheide, PS
Survey Section Manager

Appendix H: Air Quality

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Pike County																		
Pike County	1593000	Init.	VA VARI	Bridge Inspections	Countywide Bridge Inspection and Inventory Program for Cycle Years 2019-2022	Vincennes	0	Multiple		Local Funds	PE	$0.00	$31,821.37	$3,911.37	$22,634.62	$5,275.38		
										Local Bridge Program	PE	$127,285.48	$0.00	$15,645.48	$90,538.48	$21,101.52		
Pike County	37247 / 1383291	Init.	IR 1013	Bridge Rehabilitation Or Repair	On CR 650 E over Patoka River and 0.11 mi S of CR 325 S	Vincennes	.14	STPBG		Local Funds	CN	$0.00	$390,174.00	$390,174.00				
										Local Bridge Program	CN	$1,427,976.00	$0.00	$1,427,976.00				
Indiana Department of Transportation	38717 / 1500049	Init.	SR 56	Small Structure Replacement	2.43 miles E of S Jct of SR 61	Vincennes	0	STPBG		Bridge Construction	CN	$2,861,042.40	$715,260.60	$3,576,303.00				
Indiana Department of Transportation	38720 / 1593087	Init.	SR 356	Small Structure Replacement	0.80 miles E of Jct SR-57	Vincennes	0	STPBG		Bridge Construction	CN	$988,821.60	$247,205.40	$1,236,027.00				
Pike County	39841 / 1600724	Init.	IR 1016	Road Rehabilitation (3 R/4R Standards)	CR 350 N Pike County Indiana Road Rehabilitation	Vincennes	1.44	STPBG		Group IV Program	RW	$56,000.00	$0.00	$56,000.00				
										Group IV Program	CN	$1,792,000.00	$0.00			$1,792,000.00		
										Local Funds	RW	$0.00	$14,000.00	$14,000.00				
										Local Funds	CN	$0.00	$2,098,634.13			$2,098,634.13		
Petersburg	39848 / 1600725	Init.	ST 1001	Other Type Project (Miscellaneous)	Along Main Street (SR 56/ SR 57) from 4th Street to 9th Street (SR 61)	Vincennes	.4	STPBG		Local Funds	CN	$0.00	$405,264.00			$405,264.00		
										Local Transportation Alternatives	CN	$1,621,056.00	$0.00			$1,621,056.00		
Indiana Department of Transportation	39933 / 1701239	Init.	SR 56	HMA Overlay, Preventive Maintenance	From S Jct with SR-61 to SR-257	Vincennes	8.306	STPBG		Bridge Construction	CN	$16,000.00	$4,000.00		$20,000.00			
										District Other Construction	CN	$107,259.20	$26,814.80		$134,074.00			
										Road Construction	CN	$5,580,593.60	$1,395,148.40	$210,000.00	$6,765,742.00			
Indiana Department of Transportation	40553 / 1700150	Init.	SR 356	Bridge Replacement, Concrete	Over Mud Creek, 04.69 miles East SR-57	Vincennes	0	STPBG		Bridge Construction	CN	$4,491,509.60	$1,122,877.40			$5,614,387.00		
										Bridge ROW	RW	$127,200.00	$31,800.00	$159,000.00				
Indiana Department of Transportation	40591 / 1601052	Init.	SR 56	HMA Overlay, Preventive Maintenance	From 0.93 mi W (South) Jct of SR-57 to E (North) Jct with SR57/SR61	Vincennes	1.378	STPBG		Road Construction	CN	$1,375,354.40	$343,838.60			$1,719,193.00		
										Road ROW	RW	$28,800.00	$7,200.00	$36,000.00				

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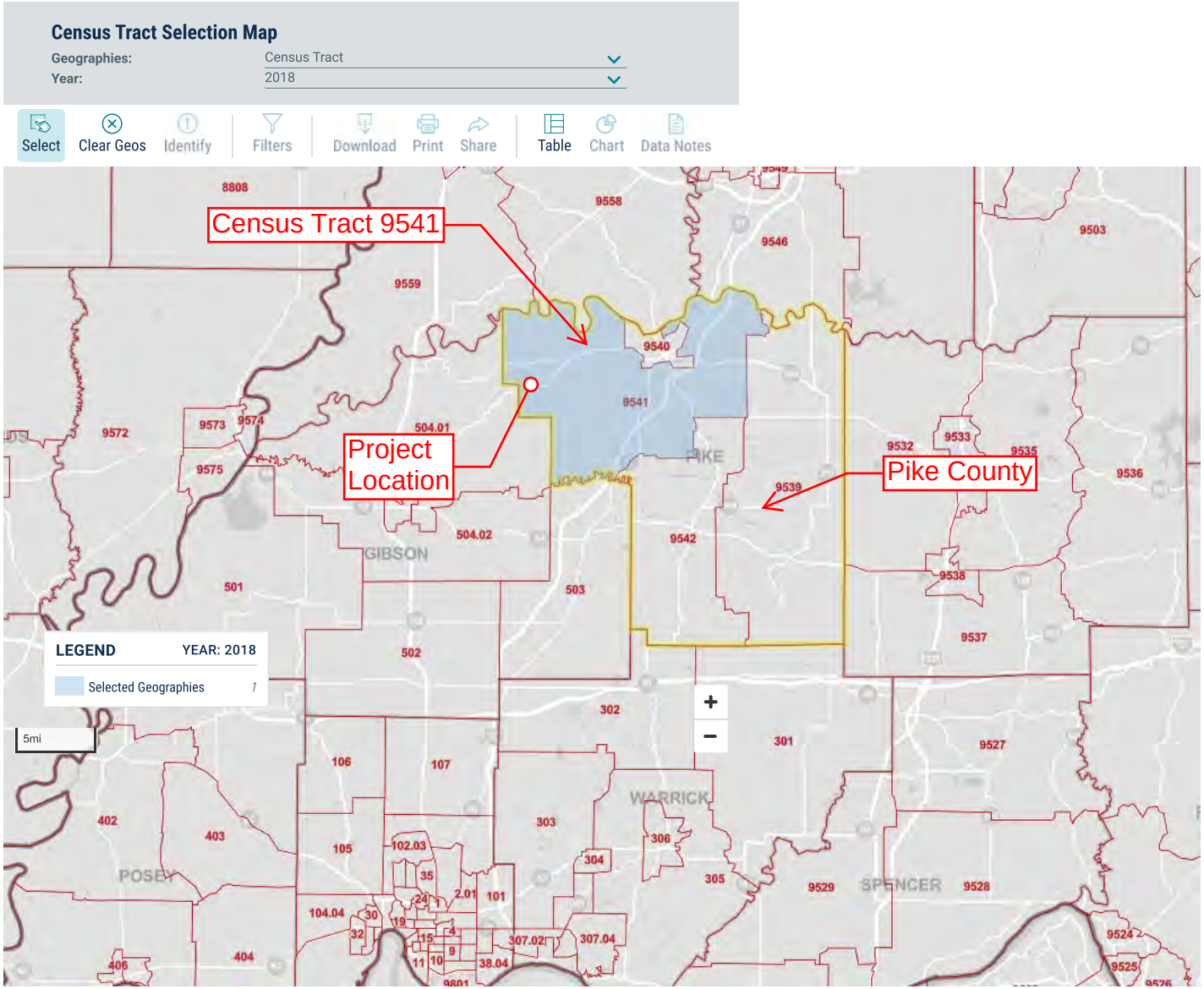
*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

This project falls under lead Des. No. 1700150

Appendix I: Additional Studies


Census Tract Selection Map
Geographies: Census Tract
Year: 2018
Select
Clear Geos
Identify
Filters
Download
Print
Share
Table
Chart
Data Notes
Census Tract 9541
Project Location
Pike County
LEGEND
YEAR: 2018
Selected Geographies 1
5mi
PIKE
GIBSON
WARRICK
POSEY
SPENCER
8808
9558
9546
9503
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102.03
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305
9529
9528
2.01
101
104.04
30
24
19
32
15
4
9
307.02
307.04
11
10
38.04
406
404
9524
9525

Note: This is a modified view of the original table produced by the U.S. Census Bureau.

Note: This download or printed version may have missing information from the original table.

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

Survey/Program:
American Community Survey
Universe:
Population for whom poverty status is determined
Year:
2018
Estimates:
5-Year
Table ID:
B17001

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

While the 2014-2018 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

- An "**" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
- An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
- An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
- An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
- An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
- An "(X)" means that the estimate is not applicable or not available.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

	Pike County, Indiana	Census Tract 9541, Pike County, Indiana
	Estimate	Estimate
Total:	12,135	3,039
Income in the past 12 months below poverty level:	1,392	218
Male:	634	110
Under 5 years	62	0
5 years	11	0
6 to 11 years	69	0
12 to 14 years	76	38
15 years	24	0
16 and 17 years	15	14
18 to 24 years	61	28
25 to 34 years	44	0
35 to 44 years	59	11
45 to 54 years	96	9
55 to 64 years	54	10
65 to 74 years	49	0
75 years and over	14	0
Female:	758	108
Under 5 years	65	0
5 years	0	0
6 to 11 years	103	0
12 to 14 years	43	11
15 years	23	0
16 and 17 years	25	0
18 to 24 years	92	0
25 to 34 years	91	0
35 to 44 years	99	50
45 to 54 years	56	0
55 to 64 years	80	32
65 to 74 years	45	15
75 years and over	36	0
Income in the past 12 months at or above poverty level:	10,743	2,821
Male:	5,450	1,417
Under 5 years	226	46

5 years	43	9
6 to 11 years	341	40
12 to 14 years	254	95
15 years	57	21
16 and 17 years	152	65
18 to 24 years	364	88
25 to 34 years	636	133
35 to 44 years	653	203
45 to 54 years	788	226
55 to 64 years	889	216

United States™ Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau.

Note: This download or printed version may have missing information from the original table.

HISPANIC OR LATINO ORIGIN BY RACE

Survey/Program:
American Community Survey
Universe:
Total population
Year:
2018
Estimates:
5-Year
Table ID:
B03002

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

While the 2014-2018 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

- An "**" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
- An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
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- An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
- An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
- An "(X)" means that the estimate is not applicable or not available.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

	Pike County, Indiana	Census Tract 9541, Pike County, Indiana
	Estimate	Estimate
Total:	12,411	3,119
Not Hispanic or Latino:	12,310	3,086
White alone	11,977	3,057
Black or African American alone	125	0
American Indian and Alaska Native alone	0	0
Asian alone	91	0
Native Hawaiian and Other Pacific Islander alone	0	0
Some other race alone	0	0
Two or more races:	117	29
Two races including Some other race	6	0
Two races excluding Some other race, and three or more races	111	29
Hispanic or Latino:	101	33
White alone	48	0
Black or African American alone	0	0
American Indian and Alaska Native alone	0	0
Asian alone	0	0
Native Hawaiian and Other Pacific Islander alone	0	0
Some other race alone	53	33
Two or more races:	0	0
Two races including Some other race	0	0
Two races excluding Some other race, and three or more races	0	0

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated December 2019)

ProjectNumber	SubProjectCode	County	Property
1800363	1800363W	Pike	Pike State Forest
1800405	1800405S	Pike	Sugar Ridge Fish and Wildlife Area
1800468	1800468	Pike	Prides Creek Park & Golf Course

Please note, some of the property names are cut off on the ends due to character limits
Also, park names may have changed and is not reflected on the list.
*Various - this may include multiple sites in multiple counties and should always be included in your searches by county.