

Indiana Department of Transportation

County Pike Route SR 356 Des. No. 1700150

FHWA-Indiana Environmental Document CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM GENERAL PROJECT INFORMATION

Road No./County:

SR 356/Pike County

Designation Number:

1700150

Project Description/Termini:

The project is a bridge replacement (National Bridge Inventory number 031920; existing INDOT Bridge Number 356-63-06431 B; new bridge number will be 356-63-10326) on SR 356 and work extends 250 feet north and 250 feet south of the bridge center on SR 356, over Mud Creek, 4.69 miles east SR 57. See plan sheets for details (Appendix B-4 to B-13).

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

_____ Date _____ Date
ESM Signature ES Signature

_____ Date _____
FHWA Signature

Release for Public Involvement

RF _____ Date 3/10/2020 _____ Date
ESM Initials ES Initials

Certification of Public Involvement

_____ Date _____
Office of Public Involvement

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: Kirk Roth, Corradino, LLC

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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.

Does the project have a historic bridge processed under the Historic Bridges PA*? If No, then: Opportunity for a Public Hearing Required? Yes No 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 survey letters were mailed to potentially affected property owners near the project area on February 18, 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 survey letter is included in Appendix G, pages G-2 and G-3. 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 Will the project involve substantial controversy concerning community and/or natural resource impacts? Yes No 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 356

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

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

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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 bridge (356-63-06431 B) is in a deteriorated condition with an overall fair (5 out of 9) structure condition rating according to the INDOT bridge inspection report dated September 19, 2019. Several of the prestressed box beams exhibited minor to moderate spalling throughout in all three spans; some of these spalls exhibited a few exposed prestressing strands. In addition, minor efflorescence and moisture stains were visible along joints between the beams, predominantly within the northern half of the bridge. The intermediate bent caps exhibited some minor spalling with exposed reinforcing and the visible areas of the timber end bents exhibited localized areas of moderate deterioration. The replacement of the bridge will achieve the need for this project.

The purpose of this project is to improve the existing structurally insufficient bridge and replace it with a new bridge which will meet a structure condition rating of very good (8 or above) and meet INDOT's current hydraulic performance criteria for bridges (allowable backwater, outlet velocity, and roadway serviceability).

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Pike

Municipality: Alford

Limits of Proposed Work: At SR 356, over Mud Creek, 4.69 miles east of SR 57, the limits are 300 feet west and 300 feet east of the bridge center. See plan sheets for details (Appendix B-4 to B-13).

Total Work Length: 0.115 Mile(s)

Total Work Area: 2.0 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required? If yes, when did the FHWA grant a conditional approval for this project?

Yes1 No X Date:

1If 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.

Project Location

The project is located in Jefferson Township, Pike County, Indiana, on State Road (SR) 356, 4.69 miles east of SR 57, at INDOT Structure Number 356-63-06431 B. Please refer to Appendices B-2 to B-3 for project location.

Existing Condition

The existing structure is a three span adjacent prestressed concrete box bridge built in 1963 and reconstructed in 1980. The INDOT Historic Bridge Inventory does not find it eligible for listing in the National Register according to the Minor Projects Programmatic Agreement (MPPA) Assessment (Appendix D-11). As documented in the Waters of the U.S. Determination Report approved on November 4, 2019, Mud Creek flows south to north through the structure (Appendix F-1 to F-37). The structure is in an agricultural area. Photographs of the bridge from the INDOT Bridge Inspection Report, dated September 9, 2019, are in Appendix B-24 to B-26. The existing typical section for SR 356 at this location is comprised of an 11 foot travel lanes and a 1 foot usable shoulder in each direction. The Functional Class of SR 356 is a Rural Major Collector.

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Preferred Alternative Description

INDOT and the Federal Highway Administration (FHWA) intend to proceed with the following project. The preferred alternative was determined to be a complete bridge replacement with a 90 foot long, 33 foot, 4 inch wide, single span bridge. The single span structure replacement will perpetuate the existing low structure elevation. To accommodate, the vertical alignment of SR 356 will need to be raised approximately 2 feet. To complete this work, approximately 500 feet of full-depth pavement will need to be removed and replaced. Realignment of the northwest and southeast ditches will occur. The depth of excavation to realign these ditches is limited to 2 feet deep and approximately 10 feet wide. Incidental construction will include installation of guardrail and the relocation of a field entrance to a location outside the limits of the new guardrail. Scour protection (Class 1 riprap on geotextiles) will be placed underneath the bridge, per the INDOT Standard Drawings. The project will not change the horizontal alignment of SR 356. Dewatering will take place during construction and will be completed with temporary cofferdams.

This alternative meets the project purpose and need by providing a new bridge which meets INDOT's current hydraulic performance criteria for bridges (allowable backwater, outlet velocity, and roadway serviceability) and removing the insufficient existing bridge. The project demonstrates independent utility because it will improve the function of the bridge as an independent project. The logical termini of the bridge replacement extend past the existing bridge structure, to include raising the elevation of the connecting roadway (SR 356) on both ends of the bridge, to correct the low elevation of the bridge by raising the roadway surface. This project extends 250 feet north and 250 feet south of the bridge center on SR 356, over Mud Creek, 4.69 miles east SR 57. Stage 1 design plans provide more detail regarding the proposed project improvements (Appendix B-8 to B-13).

Environmental impacts have been reduced to the extent possible during design development. The measures include minimizing the full depth shoulder pavement replacement to the minimum width to meet design criteria, limiting excavation limits to bridge replacement and ditch realignments, minimizing fill slope impacts and by maintaining the existing horizontal alignments.

Maintenance of Traffic

SR 356 will be closed to traffic during construction, and a signed detour route will be used for up to twelve weeks. The official INDOT detour route will include SR 257, SR 56, and SR 61 which is 14.9 miles and adds approximately 5.0 miles for travelling motorists. A detour map is included in Appendix B-8 to B-9. See Maintenance of Traffic (MOT) During Construction section for specific detour information.

OTHER ALTERNATIVES CONSIDERED:

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

Three-span Replacement: Bridge replacement with a three-span bridge was considered. This alternative would meet the identified purpose and need of the project, but at an increased stream impact (due to a pier in the streambed) compared to the single-span preferred alternative. This alternative was considered but dismissed, as it would cause increased stream impacts due to the installation of a pier within a stream.

Bridge Rehabilitation: Bridge rehabilitation with a superstructure replacement and substructure improvements was considered. This alternative was deemed not feasible due to severity of deterioration of existing structure.

No Build: The no-build alternative was considered. The no-build alternative would not impact Waters of the U.S.; however, it does not address the identified need and purpose of the project because it does not provide a bridge that meets INDOT's current hydraulic performance criteria for structures.

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;

<input type="checkbox"/>
<input type="checkbox"/>

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

X

ROADWAY CHARACTER:

Functional Classification: Rural Major Collector
 Current ADT: 1,898 VPD (2022) Design Year ADT: 1,947 VPD (2042)
 Design Hour Volume (DHV): 229 VPH Truck Percentage (%) 7.66% DHV
 Designed Speed (mph): 55 mph Legal Speed (mph): 55 mph

Existing **Proposed**

Number of Lanes:	2		2	
Type of Lanes:	Vehicular – 1EB, 1WB		Vehicular – 1EB, 1WB	
Pavement Width:	22	ft.	22	ft.
Shoulder Width:	1	ft.	3	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting: Urban Suburban Rural
 Topography: 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): 356-63-06431 B; New bridge will be 356-63-10326 Sufficiency Rating: 73.6
(Rating, Source of Information)

Existing **Proposed**

Bridge Type:	Three span prestressed concrete		Single span prestressed concrete	
Number of Spans:	3		1	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	28	ft.	30.33	ft.
Outside to Outside Width:	85	ft.	91.5	ft.
Shoulder Width:	3	ft.	4	ft.
Length of Channel Work:			150	ft.

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

Remarks: The existing bridge (356-63-06431 B) consists of 85 foot long by 28 foot wide, prestressed concrete box beam bridge built in 1963 and reconstructed in 1980. The latest Historic Bridge Inventory identified the bridge as non-historic (see <https://www.in.gov/indot/2531.htm>). The project will include the complete removal and replacement of the existing bridge. The existing bridge will be completely removed and

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replaced with a new 91.5 foot long by 33.33 foot wide single span prestressed concrete beam bridge.

Work within the channel will limited to work required to replace the bridge. The re-alignment of the existing roadside ditches will have no impacts below the ordinary high water mark (OHWM) of Mud Creek, and the ditches themselves have no OHWM.

No additional structures are located within the project area. .

Will the structure be rehabilitated or replaced as part of the project? **Yes** **No** **N/A**

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a temporary roadway proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for access by local traffic and so posted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for through-traffic dependent businesses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made to accommodate any local special events or festivals.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed MOT substantially change the environmental consequences of the action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there substantial controversy associated with the proposed method for MOT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: The MOT for the project will require the closing of SR 356 during construction. The official detour route will be signed to maintain traffic (Appendix B-8 to B-9). The detour is expected to be in place no more than 12 weeks. The detour route will use SR 257, SR 56, and SR 61 which is 14.9 miles and will add approximately 5.0 miles for traveling motorists. This detour route will include both eastbound and westbound SR 356. MOT will be implemented per current INDOT Standard Specifications.

The closure will pose as 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. Several events or festivals are listed within ten miles of the project area on the event websites for Pike County (<http://www.pikecountyin.org/festivalsevents.html>) which should be taken into account during construction.

Access will be maintained for the property owners within the project area.

ESTIMATED PROJECT COST AND SCHEDULE:

Construction: \$ 5,614,387 (2022) Right-of-Way: \$ 159,000.00 (2020)

Anticipated Start Date of Construction: Summer, 2022

Date project incorporated into STIP July 1, 2019

Is the project in an MPO Area? **Yes** **No**

If yes,
 Name of MPO N/A

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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	0.95	0.10
Forest	0	0.0
Wetlands	0.02	0
Other (Grassy Roadside)	0.93	0
TOTAL	1.9	0.10

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: The existing right-of-way is approximately 75 feet wide at the project area, which extends 300 feet west and 300 feet east of the bridge center. The project requires approximately 1.9 acres of permanent right-of-way, which consists of agricultural and grassy roadside areas on the north and south sides of the bridge. The project requires 0.10 acre of temporary right-of-way in the agricultural area north of the bridge and no reacquired right-of-way. The proposed new permanent and temporary right-of-way is comprised of area previously impacted by agricultural activity. The remainder of construction is restricted to the existing bridge and roadway within the existing right-of-way in previously disturbed terrain. Right-of-way is needed to accommodate the new vertical grade raise of SR 356. Temporary right-of-way is required to construct the relocated field entrance.

All right-of-way will be acquired in accordance with the applicable federal and state procedures. The land acquisition will be conducted in accordance with 49 CFR 24 as amended.

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

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

SECTION A – ECOLOGICAL RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Streams, Rivers, Watercourses & Jurisdictional Ditches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Federal Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State Natural, Scenic or Recreational Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Nationwide Rivers Inventory (NRI) listed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outstanding Rivers List for Indiana	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigable Waterways	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Based on a desktop review, a site visit on July 26, 2019, the aerial map of the project area (Appendix B-2) and the water resources map (Appendix E-9) in the Red Flag Investigation (RFI) report (Appendix E-1 to E-13), there are 11 streams located within the 0.5 mile search radius of the project area. A *Waters of the U.S. Determination* was completed for the project on October 23, 2019. Please refer to Appendix F-1 to F-37 for the *Waters of the U.S. Determination* report. It was determined that a stream, Mud Creek, within the project area, is an apparent jurisdictional Water of the U.S. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Mud Creek is a perennial channel that drains to the north through the project structure and has an OHWM of 9.0 feet in width and 1.0 foot in depth. The existing bridge is an 85 foot long by 28 foot wide prestressed concrete box beam bridge. The proposed structure is a 91.5 foot long by 33.33 foot wide single span prestressed concrete beam bridge. The upstream drainage area is 0.164 square mile at the bridge location. Up to 150 linear feet and 0.03 acre of Mud Creek may be directly impacted by this project. Mud Creek is a mapped United States Geological Survey blue line stream. Two (2) roadside ditches were located but none were likely Waters of the U.S. Impacts to the stream will be reduced to the extent practicable. Environmental impacts have been reduced to the extent possible during design development through various measures which minimized the extent of impact to the stream. No mitigation is expected. For stream impacts to Mud Creek a Section 404 Regional General Permit from the U.S. Army Corps of Engineers and a Section 401 Water Quality Certification from the Indiana Department of Environmental Management (IDEM) will be required.

Early coordination letters were sent to the U.S. Fish and Wildlife Service (USFWS), Indiana Department of Natural Resources Division of Fish and Wildlife (IDNR-DFW) and USACE on May 21, 2019 (Appendix C-2 to C-4). USACE did not respond to the early coordination letter. USFWS responded on May 21, 2019 (Appendix C-5 to C-6) and IDNR-DFW responded on June 19, 2019 (Appendix C-7 to C-10) with recommendations to avoid or minimize impacts to Mud Creek. Both agencies recommended utilization of natural substrate if possible, evaluation of wildlife crossing, minimization of the extent of riprap, minimization of channel work and avoidance of all work within the inundated part of the stream channel during the fish spawning season (April 1 through June 30).

USFWS recommended restrictions to low-water work. IDNR-DFW recommended revegetation of disturbed areas, minimization of excavation in low flow areas, avoidance of temporary runarounds or causeways, minimum of 6 inch riprap grade for aquatic organism habitat, sediment control at streams, and recommendations for erosion control in steep slope areas. All applicable USFWS and IDNR-DFW recommendations are included in the Environmental Commitments section of this Categorical Exclusion (CE) document.

Other Surface Waters	Presence		Impacts	
	Yes	No	Yes	No
Reservoirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Farm Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Detention Basins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Storm Water Management Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Based on a desktop review, a site visit on July 26, 2019, the aerial map of the project area (Appendix B-2) and the water resources map in the RFI report (Appendix E-9), there are six lakes located within the 0.5 mile search radius. The nearest lake is 0.30 mile southwest of the project area. A *Waters of the U.S. Determination* report (Appendix F) completed by Corradino, LLC on October 23, 2019 found no other surface waters within or adjacent to the project area. Therefore, no impacts are expected.

Early coordination letters were sent to USFWS, IDNR-DFW, and USACE on May 21, 2019. USACE did not

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respond to the early coordination letter. USFWS responded on May 21, 2019 and IDNR-DFW responded on June 19, 2019; however the letters provided no comments regarding other surface waters.

	<u>Presence</u>	<u>Impacts</u>	
	<input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Wetlands

Total wetland area: 0.023 acre(s) Total wetland area impacted: 0.023 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 1	PEM	0.009	0.009	Jurisdictional; Poor quality. See Appendix F-8
Wetland 2	PEM	0.014	0.014	Jurisdictional; Poor quality. See Appendix F-8

	<u>Documentation</u>	<u>ES Approval Dates</u>
Wetlands (Mark all that apply)		
Wetland Determination	<input checked="" type="checkbox"/>	October 23, 2019
Wetland Delineation	<input checked="" type="checkbox"/>	October 23, 2019
USACE Isolated Waters Determination	<input type="checkbox"/>	
Mitigation Plan	<input type="checkbox"/>	

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;
- Unique engineering, traffic, maintenance, or safety problems;
- 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/20/data/Mapper.html>), the USGS topographic map (Appendix B-3), and the water resources map in the RFI report (Appendix E-9), there is one National Wetland Inventory (NWI) Wetland and one NWI line within a 0.5 mile search radius of the project area, including one NWI line within the project area. A site visit was conducted by Corradino, LLC on July 26, 2019 and two wetlands were identified during the site visit. A *Waters of the U.S. Determination* report, produced by Corradino, LLC, was approved by INDOT Ecology and Waterway Permitting Office on November 4, 2019 (Appendix F-1 to F-37). It was determined that two wetlands, Wetland 1 and Wetland 2, are apparent jurisdictional Waters of the U.S. The USACE makes all final determinations regarding jurisdiction.

Approximately 0.009 acre of Wetland 1 and 0.014 acre of Wetland 2 may be impacted. Wetland 1 is an emergent wetland of poor quality located northeast of the bridge. Wetland 2 is an emergent wetland of poor quality located southwest of the structures. The quality of both wetlands is considered poor due to small size, invasive exotic species, and adjacent agricultural use. Environmental impacts have been minimized to the extent possible during design development through the reduction of the project area size to avoid as much wetland area as possible. Complete or further avoidance of wetland impacts would prevent the project from fulfilling its purpose and need. If wetland mitigation is required, a mitigation plan will be completed for permitting. A Section 404 Permit from the U.S. Army Corps of Engineers and a Section 401 Water Quality

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Certification from IDEM will be required for impacts to Wetland 1 and Wetland 2.

Early coordination letters were sent to the USFWS, IDNR-DFW and USACE on May 21, 2019 (Appendix C-2 to C-4). USACE did not respond to the early coordination letter. USFWS responded on May 21, 2019 (Appendix C-7 to C-10) and IDNR-DFW responded on June 19, 2019 (Appendix C-11 to C-13). Neither agency included recommendations for wetlands.

	<u>Presence</u>	<u>Impacts</u>	
Terrestrial Habitat		Yes	No
Unique or High Quality Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input checked="" type="checkbox"/>

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 July 26, 2019, and the aerial map of the project area (Appendix B-2), there is mowed grassy habitat within the project area. The upland area encompasses all non-wetland areas near the bridge and dominant species include northern hackberry (*Celtis occidentalis*), Amur honeysuckle (*Lonicera maackii*), Allegheny blackberry (*Rubus allegheniensis*), trumpet creeper (*Campsis radicans*), oriental bittersweet (*Celastrus orbiculatus*), barnyardgrass (*Echinochloa crus-galli*), Faber's foxtailgrass (*Setaria faberi*), tall fescue (*Schedonorus arundinaceus*), and reed canary grass (*Phalaris arundinacea*). Approximately 0.93 acre of impacts are expected to this habitat. Approximately five trees are expected to be cleared including one red mulberry (*Morus rubra*) and four black willows (*Salix nigra*). Environmental impacts have been reduced to the extent possible during design development. These measures include minimizing the full depth shoulder pavement replacement to the minimum width to meet design criteria, minimizing slope impacts by providing minimum slopes outside the required design clear zone, and maintaining the existing horizontal alignment.

Early coordination letters were sent to USFWS and IDNR-DFW on May 21, 2019 (Appendix C-2 to C-4). USFWS responded on May 21, 2019 and IDNR-DFW responded on June 19, 2019.

IDNR-DFW had recommendations regarding revegetation using native species, erosion control, and the use of erosion control blankets which will not ensnare small animals (Appendix C-7 to C-10).

USFWS recommends avoidance of clearing trees or understory vegetation outside the construction zone boundaries. This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat. USFWS also recommends implementation of 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. (Appendix C-5 to C-6).

Online coordination with the Indiana Department of Environmental Management (IDEM) occurred on May 22, 2019. In the early coordination response, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, minimization of the impacts associated with storm water runoff after completion of the project. 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 (Appendix C-16 to C-23). Total disturbed area will be 2.0 acre, which is more than the 1 acre threshold for an IDEM Rule 5 Storm Water Runoff Permit.

All applicable USFWS, IDNR-DFW, 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.

	Yes	No
Is the proposed project located within or adjacent to the potential Karst Area of Indiana?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are karst features located within or adjacent to the footprint of the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, will the project impact any of these karst features?	<input type="checkbox"/>	<input type="checkbox"/>

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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, a site visit on July 26, 2019 by Corradino, LLC, the topographic map of the project area (Appendix B-3), and the RFI report (Appendix E-1 to E-13), the proposed project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). There are no karst features identified within the project area. In the early coordination response, the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C-11 to C-13). Therefore, no impacts are expected.

Early coordination letters were sent to IGS on May 21, 2019. IGS responded on May 22, 2019 and identified the project area as having moderate liquefaction potential, 1% annual chance flood hazard, and high potential as a bedrock resource (Appendix C-11 to C-13). The designer should take potential impacts to these geologic features into consideration in final design. However, based on a desktop review, site visits on July 26, 2019 by Corradino, LLC, the topographic map of the project area (Appendix B-3), and the RFI report (Appendix E-1 to E-13), the project appears not to have excavation deep enough to impact bedrock or liquefaction potential, and to be far enough from any mineral resources to not have an impact. The maximum depth of excavation is limited to 15 feet deep at the bridge location. Therefore, no impacts are expected. All applicable IGS recommendations are included in the Environmental Commitments section of this CE document.

	Presence	Impacts	
		Yes	No
Threatened or Endangered Species			
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Remarks: Based on a desktop review and the RFI (Appendix E-1 to E-13), completed by Corradino, LLC on November 28, 2018, the IDNR-DFW Pike County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in Appendix E-11 to E-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 19, 2019 (Appendix C-7 to C-10), the Natural Heritage Program's Database has been checked and no ETR species or High Quality natural areas were found within 0.5 mile of the project area. According to the USFWS early coordination response letter dated May 21, 2019, the project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) (Appendix C-5 to C-6).

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. Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal by Corradino, LLC on January 27, 2020, and an official species list was generated (Appendix C-25 to C-30) and no additional species were found within the project area. Pike County is within range of the federally endangered Indiana bat and the federally threatened northern long-eared bat. In addition, an effect determination key was completed on January 27, 2020, and based on the responses provided, the project was found to "may affect – not likely to adversely affect" the Indiana bat and/or the NLEB (Appendix C-31 to C-44). INDOT reviewed and verified the effect finding on January 27, 2020 and requested USFWS's review of the finding (Appendix C-31). 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 document.

Structure 356-63-06431 B at Mud Creek has shown evidence of use by a bird species protected under the Migratory Bird Treaty Act (MBTA) during the June 26, 2019 inspection. Nests of a barn swallow (*Hirundo*

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rustica), were found during the site inspection (Appendix F-27). 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.” This firm commitment is included in the Environmental Commitments of this 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

Drinking Water Resources	Presence	Impacts	
		Yes	No
Wellhead Protection Area	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Water System(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Residential Well(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sole Source Aquifer (SSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?	<input type="checkbox"/>	<input type="checkbox"/>
Is the FHWA/EPA SSA MOU Applicable?	<input type="checkbox"/>	<input type="checkbox"/>
Initial Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>
Detailed Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: The proposed 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/EPA Sole Source Aquifer Memorandum of Understanding (MOU) signed April 1989 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 May 23, 2019 by Corradino, LLC. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The Indiana Department of Natural Resources Water Well Record Database Website (<https://www.dnr.in.gov/dnr/water/3595.htm>) was accessed on May 23, 2019 by Corradino, LLC. The nearest well is over 0.25 mile from the project area. The features will not 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 these wells are affected, a cost to cure will likely be included in the appraisal to restore the wells.

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Corradino, LLC on May 23, 2019 and the RFI report completed on November 28, 2018; this project is not located in an Urban Area Boundary location. No impacts are expected.

Based on a desktop review, a site visit July 26, 2019 by Corradino, LLC, the aerial map of the project area (Appendix B-2), no public water systems were identified. Therefore, no impacts are expected.

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Flood Plains	Presence	Impacts	
		Yes	No
Longitudinal Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse Encroachment	X	<input type="checkbox"/>	X
Project located within a regulated floodplain	X	<input type="checkbox"/>	X
Homes located in floodplain within 1000' up/downstream from project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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://dnrmmaps.dnr.in.gov/appsphp/fdms/>) by Corradino, LLC on May 22, 2019, and the RFI report; this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix E-9). An early coordination letter was sent on May 22, 2019, to the local Floodplain Administrator. The floodplain administrator did not respond within the 30 day timeframe. The project qualifies as a Category 4 per the INDOT CE Manual which states "No homes are located within the base floodplain within 1,000 feet upstream and no homes are located within the base floodplain within 1,000 feet downstream. The proposed bridge will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans."

Farmland	Presence	Impacts	
		Yes	No
Agricultural Lands	X	X	<input type="checkbox"/>
Prime Farmland (per NRCS)	X	X	<input type="checkbox"/>

Total Points (from Section VII of CPA-106/AD-1006* 128

*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 July 26, 2019 by Corradino, LLC, and the aerial map of the project area (Appendix B-2), there is 0.1 acre of farmland within the project limits as defined by the Farmland Protection Policy Act. An early coordination letter was sent on May 22, 2019, to Natural Resources Conservation Services (NRCS). Note that at the time of coordination, final right-of-way numbers were not refined and 1.3 acre of impact was assumed. Coordination with NRCS resulted in a score of 128 on the NRCS-CPA-106 (Appendix C-15). 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 re-evaluating impacts to prime farmland.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance	B	12	November 22, 2019	<input type="checkbox"/>
				<input type="checkbox"/>

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**Eligible and/or Listed
Resource Present**

Results of Research

Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

**Documentation
Prepared**

Documentation (mark all that apply)

	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report	X November 22, 2019	N/A
Historic Property Report		
Archaeological Records Check/ Review		
Archaeological Phase Ia Survey Report		
Archaeological Phase Ic Survey Report		
Archaeological Phase II Investigation Report		
Archaeological Phase III Data Recovery		
APE, Eligibility and Effect Determination		
800.11 Documentation		

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

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 November 22, 2019, the INDOT Cultural Resources Office (CRO) determined that this project falls within the guidelines of Category B, Type 12 under the Minor Projects Programmatic Agreement (Appendix D-10 to D-12). This covers 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 all of the following conditions:

Condition A 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;

Condition B i: work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource;

Condition B ii a: The latest Historic Bridge Inventory identified the bridge as non-historic (see <https://www.in.gov/indot/2531.htm>).

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. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

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

Parks & Other Recreational Land

- Publicly owned park
- Publicly owned recreation area
- Other (school, state/national forest, bikeway, etc.)

Presence

Use

Yes	No

Evaluations

Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA
Approval date

--

Wildlife & Waterfowl Refuges

- National Wildlife Refuge
- National Natural Landmark
- State Wildlife Area
- State Nature Preserve

Presence

Use

Yes	No

Evaluations

Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA
Approval date

--

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

--

Use

Yes	No

Evaluations

Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA
Approval Date

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*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, site visits on July 26, 2019 by Corradino, LLC, the aerial map of the project area (Appendix B-2), and the RFI report (Appendix E-1 to E-13) there are no Section 4(f) resources within or adjacent to the project area. Therefore, no impacts are expected.

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Section 6(f) Involvement

Presence

Use

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) website at <https://www.lwcfcoalition.com/map-of-lwcf> revealed a total of one (1) property in Pike County (Appendix I-2). None of these properties are 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

Is the project in an air quality non-attainment or maintenance area?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 Level 1b Level 2 Level 3 Level 4 Level 5

Remarks:

This project is included in the Fiscal Year (FY) 2020-2024 Statewide Transportation Improvement Program (STIP) (Appendix H-2).

This project is located in Pike County outside of Washington Township, which is currently in attainment for all criteria pollutants according to IDEM (https://www.in.gov/idem/airquality/files/nonattainment_areas_20_map.pdf). 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©, 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.

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SECTION F - NOISE

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

	No	Yes/ Date
ES Review of Noise Analysis	<input type="checkbox"/>	<input type="checkbox"/>

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed action result in substantial impacts to community cohesion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the proposed action result in substantial impacts to local tax base or property values?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will construction activities impact community events (festivals, fairs, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the community have an approved transition plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If No, are steps being made to advance the community's transition plan?	<input type="checkbox"/>	<input type="checkbox"/>
Does the project comply with the transition plan? (explain in the remarks box)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remarks: The road closure will cause temporary impacts for approximately twelve weeks. SR 356 will be subject to a signed detour and commuters may be affected by temporary impacts such as added travel time. A likely route will include SR 257, SR 56, and SR 61 which is 14.9 miles and adds approximately 5.0 miles. Disruptions to public facilities and services such as school transport and emergency services may occur due to this project. Local emergency services and school districts will be notified of any potential detours, lane closures, or other traffic delays prior to implementation. Several events or festivals are listed within ten miles of the project area on the event websites for Pike County (<http://www.pikecountyin.org/festivalsevents.html>) which should be taken into account during construction.

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.

Indirect and Cumulative Impacts **Yes** **No**
 Will the proposed action result in substantial indirect or cumulative impacts?

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. The nature of this project is to replace an existing bridge, which is not expected to cause substantial changes to the cultural or environmental land use in the surrounding area. No indirect or cumulative impacts are expected.

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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
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Based on a desktop review, a site visit on July 26, 2019, the aerial map of the project area (Appendix B-2) and the water resources map in the RFI report (Appendix E-9), there are no public facilities within or adjacent to the project area. Access to all properties will be maintained during construction. Therefore, no impacts are expected.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Does the project require an EJ analysis?

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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If YES, then:

Are any EJ populations located within the project area?

<input type="checkbox"/>	<input type="checkbox"/>
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Will the project result in adversely high or disproportionate impacts to EJ populations?

<input type="checkbox"/>	<input type="checkbox"/>
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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. This project will require 1.9 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, Indiana. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is Census Tract 9541 in Pike County, Indiana. 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 U.S. Census Bureau 2011-2015 American Community Survey was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on December 30, 2019 by Corradino, LLC. The data collected for minority and low-income populations within the AC are summarized in the below table.

	COC – Pike County, Indiana	AC – Census Tract 9541
Percent Minority	0.85%	0.64%
125% of COC	1.06%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	10.65%	4.22%
125% of COC	13.31%	AC < 125% COC
EJ Population of Concern		No

The AC Census Tract 9541 has a percent minority of 0.64% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

The AC Census Tract 9541 has a percent low-income of 4.22% 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-3 to I-4. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Is a Business Information Survey (BIS) required?

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Is a Conceptual Stage Relocation Study (CSRS) required?
 Has utility relocation coordination been initiated for this project?

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. It is anticipated that utilities in the area may need to be relocated for this project. Utility relocation coordination has been initiated.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Documentation

Hazardous Materials & Regulated Substances (Mark all that apply)

Red Flag Investigation
 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		November 27, 2018
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Include a summary of findings for each investigation.

Remarks: Based on a review of GIS, available public records, an RFI was completed on November 28, 2018 by Corradino, LLC (Appendix E-1 to E-13). 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. Due to the distance from the project area, no impacts are expected. Further investigation for hazardous material concerns is not required at this time.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

Individual Permit (IP)	<input type="checkbox"/>
Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input checked="" type="checkbox"/>
Pre-Construction Notification (PCN)	<input type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>

IDEM

Section 401 WQC	<input checked="" type="checkbox"/>
Isolated Wetlands determination	<input type="checkbox"/>
Rule 5	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>

IDNR

Construction in a Floodway	<input type="checkbox"/>
Navigable Waterway Permit	<input type="checkbox"/>

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Lake Preservation Permit	<input type="checkbox"/>
Other	<input type="checkbox"/>
Mitigation Required	<input type="checkbox"/>
US Coast Guard Section 9 Bridge Permit	<input type="checkbox"/>
Others (Please discuss in the remarks box below)	<input type="checkbox"/>

Remarks: Mud Creek, Wetland 1 and Wetland 2 were identified as jurisdictional waterways in the *Waters of the U.S. Determination* report. For stream impacts to Mud Creek and for wetland impacts to Wetland 1 and Wetland 2, a Section 404 Regional General Permit No. 1 from the U.S. Army Corps. of Engineers and a Section 401 Water Quality Certification from IDEM will be required. Total disturbed area will be 2.0 acre, which is more than the 1 acre threshold for an IDEM Rule 5 Storm Water Runoff Permit, therefore this permit will be required. The upstream drainage area is 0.164 square mile, which meets the rural bridge exemption for IDNR Construction in a Floodway permits. It will be the responsibility of the designer to submit plans to the INDOT Ecology and Waterway Permitting Office (EWPO) for an official permit determination.

Applicable recommendations provided by INDOT, IDNR-DFW, IDEM, and USFWS are included in the Environmental Commitments section of this document. If an IDNR Construction in a Floodway, or other permits are found to be necessary, then conditions of the permit will be requirements for the project and will supersede these recommendations.

It is the responsibility of the INDOT Ecology and Waterway Permitting Office (EWPO) 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 and/or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division and the Vincennes District Design/Environmental Manager will be contacted immediately, as such changes may cause this document to become invalid. (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 (2) weeks prior to any construction activity that would block or limit access. (INDOT ESD).
3. USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after 7/26/21, 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 (USFWS).
4. General AMM1 – Ensure all 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)
5. Lighting AMM1 – Direct temporary lighting away from suitable habitat during the active season. (USFWS)
6. Tree Removal AMM1 – Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
7. Tree Removal AMM2 - 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. (USFWS)
8. Tree Removal AMM3 - 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

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- colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
9. Tree Removal AMM4 - 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)
 10. Structure 356-63-06431 B at Mud Creek has shown evidence of use (ie nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during the June 26, 2019 inspection. 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)
 11. 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)

For Further Consideration:

1. 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 (USFWS).
2. 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-bottomed 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)
3. 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-water elevation to provide aquatic habitat. (USFWS).
4. 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 the Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams. (USFWS)
5. 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)
6. If box or pipe culverts are used, the bottoms should be buried to 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 bankful 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 and water velocities during low-flow conditions that are approximate to those in the natural stream channel. The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions (IDNR-DFW).
7. 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). Riprap may be used only at the toe of the sideslopes 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 [site indicated] and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. (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 any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR-DFW).

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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 Letters with accompanying graphics were sent in May 2019. A date in the table below means a response was received. All early coordination is contained within Appendix C. No coordinating agencies reported concern with the nature of the project or the preferred alternative.

Agency	Date Contacted	Comment Received
US Fish and Wildlife Service	May 21, 2019	May 21, 2019
US Dept. of Housing and Urban Develop.	May 21, 2019	No Response
Federal Highway Administration	May 21, 2019	No Response
US Army Corps. of Engineers	May 21, 2019	No Response
National Park Service	May 21, 2019	No Response
IDNR – Department of Fish and Wildlife	May 21, 2019	June 18, 2019
IDNR – Department of Oil and Gas	May 21, 2019	No Response
IDEM – Electronic Submittal	May 22, 2019	May 22, 2019
IDEM – Groundwater – Electronic Submittal	May 22, 2019	May 22, 2019
Indiana Geological Survey	May 22, 2019	May 22, 2019
Natural Resources Conservation Service	May 22, 2019	June 18, 2019
INDOT – Vincennes District	May 21, 2019	No Response
INDOT – Public Hearings	May 21, 2019	June 14, 2019
INDOT – Ecology and Waterway Permitting	May 21, 2019	No Response
Pike County Surveyor (Floodplain Administrator)	May 21, 2019	No Response

Appendices

- Appendix A - INDOT Supporting Information
- Appendix B - Graphics
- Appendix C - Early Coordination
- Appendix D - Section 106 of the NHPA
- Appendix E - Red Flag and Hazardous Materials
- Appendix F - Water Resources
- Appendix G - Public Involvement
- Appendix H - Air Quality
- Appendix I - Additional Studies