Indiana Department of Transportation

County Clay Route S.R. 157 Des. No. 1800147

FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	**State Route (SR) 157**
Designation Number:	**1800147**
Project Description/Termini:	**Small Structure Replacement** SR 157 over an Unnamed Tributary (UNT) to White Oak Creek 5.19 South of SR 246 Termini: 150 ft. East and West of the Structure

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

N/A _____ REB 10-7-2020
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: Mathew Aldridge/Burgess & Niple, Inc.

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 July 22, 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 and its recipients is included in Appendix G, page G-2.

Project Does Meet

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:

No controversy

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: Indiana Department of Transportation (INDOT) INDOT District: Crawfordsville

Local Name of the Facility: SR 157

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

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

County Clay Route S.R. 157 Des. No. 1800147

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)

Need

Based on the March 2020 Abbreviated Engineers' Report (Appendix I, page I-2), the existing small structure is exhibiting advanced signs of deterioration such as flow line section loss and a poor structural condition rating along with some minor stream and bank erosion. Additionally, the structure does not meet current design standards and is hydraulically undersized to handle the design flow. The small structure was last inspected on July 1, 2020. According to the 2020 Culvert Inspection Report (Appendix I, page I-23), the culvert has a condition rating of 4 (poor) and recommended for replacement. Approximately a 5 ft. by 1 ft. hole has rusted through the structure's invert starting about 10 feet in. from the southwest end. The rusted through openings in the invert are allowing the flow to "pipe" around the structure, which is causing settlement in the roadway. The remainder of the pipe invert has had the bituminous coating worn away. Both ends of the structure are projecting from fill without end sections. The culvert has a channel protection rating of 6 (fair); there is moderate bank erosion at the northeast end and minor channel scour at the southwest end of the structure. Therefore, the project need is to address the existing substandard and deteriorated small structure.

Purpose

Improve the condition, and performance of this crossing to current standards and hydraulic requirements while extending the service life 75 years.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Clay Municipality: Harrison Township

Limits of Proposed Work: 150 ft. East and West of the Structure

Total Work Length: 0.057 Mile(s) Total Work Area: 0.75 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
5.19 miles South of SR 246
Harrison Township, Clay County, Indiana
Section 10, Township 9N, Range 6W
Latitude/Longitude: 39.234139, -87.070222
(Appendix B, page B-2)

Existing Conditions
The existing roadway facility is classified as a rural major collector. The existing roadway typical section has two 9-foot lanes and no paved or usable shoulders. The existing culvert, CV 157-011-21.14, carries SR 157 over an Unnamed Tributary (UNT) to White Oak Creek, which flows generally from north/east to south/west. The existing structure is a 60 inch (span) by 46 inch (rise) corrugated metal pipe arch with a length of 42 feet skewed 35° to the roadway. The year built is unknown and there are no known rehabilitations to the structure.

Preferred Alternative
The preferred alternative would replace the existing structure with a 5 ft. x 4 ft. Reinforced Concrete Box (RCB) structure, sumped 12 inches. The roadway typical section through the project limits will have 2 – 11 ft. lanes and 2 ft. usable shoulder. The sideslopes adjacent to the westbound lanes are proposed to be graded at 6(H):1(V) to the clear zone (14 feet) then break to 2(H):1(V) down to the relocated ditch. The location of the roadside ditch on the north side of the road is impacted by this alternative and needs to be relocated approximately 12 feet to the north and requires a backslope of 2(H):1(V). The side slopes adjacent to the eastbound lanes are proposed to be graded at 6(H):1(V) to the clear zone (14 feet) then break at 3(H):1(V) to tie back into existing ground. The ends of the culvert will be located outside of the clear zone, therefore guardrail is not required on either side. Class 1 Riprap will be placed on both sides of the culvert to prevent erosion.

The Maintenance of Traffic (MOT) for the project will require full closure of SR 157. The detour route is covered in detail in the MOT section below. The preferred alternative will meet the purpose and need by replacing the deteriorated structure with one that meets current design standards and hydraulic capacity. The project impacts will only include what is necessary to replace the existing culvert and riprap to provide hydraulic support for that culvert. The project length is 150 ft east and 150 ft west in order to replace the culvert and perform associated road maintenance. This project is not dependent on any other project to be constructed. The project plans are included in Appendix B, page B-12.

OTHER ALTERNATIVES CONSIDERED:

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

All of the Alternatives except the do nothing will have similar environmental impacts compared to the preferred alternative.

ALTERNATE NO. 1A – 71" (SPAN) X 47" (RISE) Corrugated Metal Pipe Arch (CMPA) (GUARDRAIL WITH 2:1)
This alternate uses the approved 71" X 47" CMPA structure, sumped 12 inches. The roadway typical section through the project limits will have 2 – 11' lanes and 2' usable shoulder. The shoulder will be 4' wide and paved up to the face of guardrail where guardrail is present. Guardrail is required along the north edge protecting the end of the structure and non-recoverable side slopes. The location of the roadside ditch on the north side of the road is impacted by this alternative and needs to be relocated approximately 8 feet to the north. The side slopes adjacent to the eastbound lanes are proposed to be graded at 6(H):1(V) to the clear zone (14 feet) then break at 3(H):1(V) to tie back into existing ground. The south end of the culvert will be located outside of the clear zone, therefore guardrail is not required along the south side. While this alternative satisfies the purpose and need, it is not as cost effective, therefore was removed from further consideration.

ALTERNATE NO. 1B – 5' (SPAN) X 4' (RISE) Reinforced Concrete Box (RCB) (GUARDRAIL WITH 2:1)
This alternate is identical to Alternate No. 1A except the proposed structure is a 5' x 4' RCB sumped 12 inches. While this alternative satisfies the purpose and need, it is not as cost effective, therefore was removed from further consideration.

ALTERNATE NO. 2A – 71" (SPAN) X 47" (RISE) CMPA (GUARDRAIL WITH WALL)
This alternate uses the approved 71" X 47" CMPA structure, sumped 12 inches. The roadway typical section through the project limits will have 2 – 11' lanes and 2' usable shoulder. The shoulder will be 4' wide and paved up to the face of guardrail where guardrail is present. Guardrail is required along the north edge protecting the end of the structure and retaining wall. The location of the roadside ditch on the north side of the road is not impacted by this alternative. The side slopes adjacent to the eastbound lanes are proposed to be graded at 6(H):1(V) to the clear zone (14 feet) then break at 3(H):1(V) to tie back into existing ground. The south end of the culvert will be located outside of the clear zone, therefore guardrail is not required along the south side. While this alternative satisfies the purpose and need, it is not as cost effective, therefore was removed from further consideration.

ALTERNATE NO. 2B – 5' (SPAN) X 4' (RISE) RCB (GUARDRAIL WITH WALL)
This alternate is identical to Alternate No. 2A except the proposed structure is a 5' x 4' RCB sumped 12 inches. While this alternative satisfies the purpose and need, it is not as cost effective, therefore was removed from further consideration.

ALTERNATE NO. 3A – 71" (SPAN) X 47" (RISE) CMPA (NO GUARDRAIL)
This alternate uses the approved 71" X 47" CMPA, sumped 12 inches. The roadway typical section through the project limits will have 2 – 11' lanes and 2' usable shoulder. The side slopes will be in accordance with IDM Fig. 55-5A(1). The sideslopes adjacent to the westbound lanes are proposed to be graded at 6(H):1(V) to the clear zone (14 feet) then break to 2(H):1(V) down to the relocated ditch. The location of the roadside ditch on the north side of the road is impacted by this alternative and needs to be relocated approximately 12 feet to the north and requires a backslope of 2(H):1(V). The side slopes adjacent to the eastbound lanes are proposed to be graded at 6(H):1(V) to the clear zone (14 feet) then break at 3(H):1(V) to tie back into existing ground. The ends of the culvert will be located outside of the clear zone, therefore guardrail is not required on either side. While this alternative satisfies the purpose and need, it is not as cost effective, therefore was removed from further consideration.

ALTERNATE NO. 4A – 71" (SPAN) X 47" (RISE) CMPA (ENCLOSURE)
This alternate uses the approved 71" X 47" CMPA, sumped 12 inches. The roadway typical section through the project limits will have 2 – 11' lanes and 2' usable shoulder. The side slopes will be in accordance with IDM Fig. 55-5A(1). Both sides of the road would use 6(H):1(V) to the clear zone (14 feet) then break at a 3(H):1(V) to tie back into existing ground. The culvert would cross the road and then follow the road until passing the farm field entrance. The end of the structure will have a grated box end section since it will be within the clear zone. While this alternative satisfies the purpose and need, it is not as cost effective, therefore was removed from further consideration.

ALTERNATE NO. 5 – NO ACTION
If the structure remains in its existing state, the small structure will continue to deteriorate and could eventually fail creating unsafe roadway conditions and emergency repairs. Due to the small structure size, the existing culvert will continue to experience higher velocities and thus will continue to cause erosion along the west end of the pipe. This alternative does not satisfy the purpose or the need, therefore was removed 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;	X
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: 560 VPD (2019) Design Year ADT: 657 VPD (2042)
Design Hour Volume (DHV): 78 Truck Percentage (%) 6.3
Designed Speed (mph): 55 Legal Speed (mph): 55

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through		Through	
Pavement Width:	9	ft.	11	ft.
Shoulder Width:	N/A	ft.	2	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): CV-157-011-21.14 Sufficiency Rating: 4, 7/1/2020 Culvert Inspection Report
(Rating, Source of Information)

	Existing		Proposed	
Bridge Type:	N/A		N/A	
Number of Spans:	N/A		N/A	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	N/A	ft.	N/A	ft.
Outside to Outside Width:	N/A	ft.	N/A	ft.
Shoulder Width:	N/A	ft.	N/A	ft.
Length of Channel Work:			N/A	ft.

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

Remarks:

Presence

The project culvert is CV-157-011-21.14

The existing culvert, CV 157-011-21.14, carries SR 157 over an Unnamed Tributary (UNT) to White Oak Creek, which flows generally from north/east to south/west. The existing structure is a 60 inch (span) by 46 inch (rise) corrugated metal pipe arch with a length of 42 feet skewed 35° to the roadway. The year built is unknown and there are no known rehabilitations to the structure. According to the 2020 Culvert Inspection Report (Appendix I, page I-23), the culvert has a condition rating of 4 (poor) and recommended for replacement. Approximately a 5 ft. by 1 ft. hole has rusted through the structure's invert starting about 10 feet in. from the southwest end. The rusted through openings in the invert are allowing the flow to "pipe" around the structure, which is causing settlement in the roadway. The remainder of the pipe invert has had the bituminous coating worn away. Both ends of the structure

are projecting from fill without end sections. The culvert has a channel protection rating of 6 (fair); there is moderate bank erosion at the northeast end and minor channel scour at the southwest end of the structure. The structure is not historic and not eligible for the National Register (Appendix D, page D-2). The project culvert is proposed to be replaced in its entirety.

	Yes	No	N/A
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 for the project will require full closure of SR 157 for approximately 21 days. The proposed detour will utilize SR 59 and SR 48. The detour length is 16.4 miles with only 2.3 miles of additional travel to motorists. Due to the overall length of the detour and the rural setting, it is anticipated that locals will use county roads as a detour. Access to adjoining properties shall be maintained during construction.

The closures/lane restrictions 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 may occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 120,000 (2020) Right-of-Way: $ 10,000 (2020) Construction: $ 264,796 (2022)

Anticipated Start Date of Construction: Spring 2022

Date project incorporated into STIP: Fiscal Year (FY) 2020-2024 Indiana State Transportation Improvement Program (STIP), approved July 2, 2019

	Yes	No
Is the project in an MPO Area?		X

If yes,
Name of MPO _____

Location of Project in TIP _____

Date of incorporation by reference into the STIP _____

RIGHT OF WAY:

Land Use Impacts	Amount (acres) Permanent	Temporary
Residential	0	0
Commercial	0	0
Agricultural	0.69	0.01
Forest	0	0
Wetlands	0	0
Other:	0	0
Other:	0	0
TOTAL	0.69	0.01

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:

No record of existing ROW was found and is assumed to be edge of pavement.

Right-of-way (ROW) required

The project requires approximately 0.69 acre of permanent right-of-way (ROW) will be acquired from one property to the north and two properties to the south. This consists of the currently maintained grass berms and some agricultural field. The project also requires approximately 0.01 acre of temporary ROW for construction access.

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

	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:

Presence, with impacts

Based on a desktop review, a site visit on October 17, 2019 by B&N, the aerial map of the project area (Appendix B, page B-4), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page E-9), there are two (2) river and stream segments located within the 0.5 mile search radius. There is one (1) stream present within the project area.

No Federal, Wild and Scenic Rivers; State Natural, Scenic, and Recreational Rivers; Outstanding Rivers for Indiana; navigable waterways or National Rivers Inventory waterways are present in the project area.

The stream within the project area is an intermittent UNT to White Oak Creek that has an ordinary high-water mark (OHWM) width of 5.0 ft. and an OHWM depth of 0.8 ft. Permanent impacts will include 80 ft. for the replacement culvert and 43 ft. for riprap placement at the culvert inlet and outlet for a total permanent impact length of 123 ft. There will be no temporary impacts. A 404/401 Regional General Permit will likely be needed. Mitigation is not anticipated.

Waters Report

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office (EWPO) on November 20, 2019. Please refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that one (1) potentially jurisdictional stream (UNT to White Oak Creek) was identified within the project area. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Early Coordination

Early coordination letters were sent on January 15, 2020. U.S. Army Corps of Engineers (USACE) did not respond to the early coordination letter. U.S. Fish & Wildlife Service (USFWS) responded on January 23, 2020, stating "Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed" (Appendix C, page C-36). The IDNR-Division of Fish & Wildlife responded on May 21, 2020 with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. They provided standard recommendations for crossing structures, riprap/scour protection, riparian habitat, and coordinating with the Indiana Department of Environmental Management (IDEM) for wetland impacts (Appendix C, page C-11). An automated letter was generated from IDEM on January 15, 2020 (Appendix C, page C-13). All applicable IDNR 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:

No presence, no impact

Based on a desktop review, a site visit on October 17, 2019 by B&N, the aerial map of the project area (Appendix B, page B-4), and the water resource map in the RFI report (Appendix E, page E-9) there are thirteen (13) other surface waters within the 0.5 mile search radius. No other surface waters are present within the project area, therefore, no impacts are expected.

Waters Report

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT-EWPO on November 20, 2019. Please refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. No other surface waters were identified within the project area. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Early Coordination
Early coordination letters were sent on January 15, 2020. U.S. Army Corps of Engineers (USACE) did not respond to the early coordination letter. U.S. Fish & Wildlife Service (USFWS) responded on January 23, 2020, stating "Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed" (Appendix C, page C-36). The IDNR-Division of Fish & Wildlife responded on May 21, 2020 with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. They provided standard recommendations for crossing structures, riprap/scour protection, riparian habitat, and coordinating with the Indiana Department of Environmental Management (IDEM) for wetland impacts (Appendix C, page C-11). An automated letter was generated from IDEM on January 15, 2020 (Appendix C, page C-13). All applicable IDNR recommendations are included in the Environmental Commitments section of this CE document.

	Presence	Impacts Yes	Impacts No
Wetlands	X	X	

Total wetland area: 0.009 acre(s) Total wetland area impacted: 0.0045 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
1	PEM1E	0.009	0.0045	Jurisdictional Poor Quality Permanent impact due to slope grading

Wetlands (*Mark all that apply*)	Documentation	ES Approval Dates
Wetland Determination		
Wetland Delineation	X	**November 20, 2019**
USACE Isolated Waters Determination		
Mitigation Plan		

Improvements that will not result in any wetland impacts are not practicable because such avoidance would resul
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;	X
Substantial adverse social, economic, or environmental impacts, or	
The project not meeting the identified needs.	X

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

Remarks:

Presence, with impacts less than one acre
Based on a review of the National Wetlands Inventory (NWI) online mapper (https://www.fws.gov/wetlands/data/Mapper.html), a site visit on October 17, 2019 by B&N, the USGS topographic map (Appendix B, page B-3), and the RFI report (Appendix E), there are ten (10) NWI-Wetlands located within the 0.5 mile search radius. There is one (1) wetland present within the project area.

The wetland within the project area is a palustrine emergent wetland that occurs to the south of SR 157 and east of the UNT to White Oak Creek. It is 0.009 acre in size and poor quality. Permanent impacts will include 0.0045 acre due to slope grading and installation of the culvert. There will be no temporary impacts. Avoidance is not practicable as the slope could not be graded to design standards at that location. A 404/401 Regional General Permit will likely be needed. Mitigation is not anticipated.

Waters Report

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT-EWPO on November 20, 2019. Please refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that one (1) potentially jurisdictional wetland (Wetland 1) is located within the project area. The USACE makes all final determinations regarding jurisdiction.

Early Coordination

Early coordination letters were sent on January 15, 2020. U.S. Army Corps of Engineers (USACE) did not respond to the early coordination letter. U.S. Fish & Wildlife Service (USFWS) responded on January 23, 2020, stating "Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed" (Appendix C, page C-36). The IDNR-Division of Fish & Wildlife responded on May 21, 2020 with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. They provided standard recommendations for crossing structures, riprap/scour protection, riparian habitat, and coordinating with the Indiana Department of Environmental Management (IDEM) for wetland impacts (Appendix C, page C-11). An automated letter was generated from IDEM on January 15, 2020 (Appendix C, page C-13). All applicable IDNR 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:

Presence, with impacts

Based on a desktop review, a site visit on October 17, 2019 by B&N, the aerial map of the project area (Appendix B, page B-4), there are agricultural fields to the north and south of SR 157 with grassy swales/ditches within the majority of the project area. There will be 0.38 acre of ground disturbance for the new culvert and placement of riprap in order to complete the project. No trees will be removed. Mitigation is not anticipated.

Early Coordination

Early coordination letters were sent on January 15, 2020. U.S. Army Corps of Engineers (USACE) did not respond to the early coordination letter. U.S. Fish & Wildlife Service (USFWS) responded on January 23, 2020, stating "Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed" (Appendix C, page C-36). The IDNR-Division of Fish & Wildlife responded on May 21, 2020 with mitigation recommendations for impacts to non-wetland forests and standard measures to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources. They provided standard recommendations for crossing structures, riprap/scour protection, riparian habitat, and coordinating with the Indiana Department of Environmental Management (IDEM) for wetland impacts (Appendix C, page C-11). An automated letter was generated from IDEM on January 15, 2020 (Appendix C, page C-13). All applicable IDNR 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:

Outside karst area

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 topo map of the project area (Appendix B, page B-3), and the RFI report (Appendix E), there are no karst features identified within or adjacent to 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, page C-5). IGS noted that the project area has moderate liquefaction potential, it has high potential as bedrock resource, there are no sand or gravel resources documents in the area, and that there are active or abandoned petroleum exploration wells and surface coal mines in the area. Response from IGS has been communicated with the designer on January 15, 2020. An Early Coordination letter was sent to IDNR Oil and Gas Division on September 22, 2020, any correspondence will be coordinated with the designer and INDOT PM. 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, page E-2), approved by INDOT-Site Assessment & Management (SAM) on February 4, 2020, the IDNR Clay County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix E, page E-11). 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, 2020 (Appendix C, page C-11), the Natural Heritage Program's Database has been checked and 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.

Bats, Programmatic Informal Consultation – Not Likely to Adversely Affect

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, page C-30). 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 northern long-eared bat.

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), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on February 17, 2020, and based on the responses provided, the project was found to "may affect, but is not likely to adversely affect (NLAA)" the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on February 17, 2020 and requested USFWS's review of the finding (Appendix C, page C-20). No response was received from USFWS within the 14-day review period; therefore, it was concluded that they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section 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			
Public Water System(s)			
Residential Well(s)	**X**		**X**
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:

Sole Source Aquifer

Outside of Sole Source Aquifer (SSA)

The project is located in Clay 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) is not applicable to this project. Therefore a detailed groundwater assessment is not needed and no impacts are expected.

Wellhead Protection Area and Source Water

Not located in a Wellhead Protection Area or Source Water Area

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on July 20, 2020 by B&N. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

Water Wells

Wells present, no impacts

The Indiana Department of Natural Resources Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on July 20, 2020 by B&N. The nearest well is located to the south of the project area. The feature will not be affected because it is far enough outside of project limits and at a higher elevation than the 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.

Urban Area Boundary

Not in an Urban Area Boundary Location

Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) on July 20, 2020 by B&N and the RFI report; this project is not located in an Urban Area Boundary location. No impacts are expected.

Public Water System

Not in a Public Water System Location

Based on a desktop review, a site visit on October 17, 2019 by B&N, and the aerial map of the project area (Appendix B, page B-4) no public water systems were identified. Therefore, no impacts are expected.

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

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

Remarks:

Not in floodplain

The Indiana Department of Natural Resources Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) was accessed on July 20, 2020 by B&N. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page F-16). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

	Presence	Impacts	
Farmland		Yes	No
Agricultural Lands	X	X	
Prime Farmland (per NRCS)	X	X	

Total Points (from Section VII of CPA-106/AD-1006* **126**

**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:

Presence, score under 160

Based on a desktop review, a site visit on October 17, 2019 by B&N, and the aerial map of the project area (Appendix B, page B-4) the project will convert <0.001 of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on January 15, 2020 to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 126 on the NRCS-CPA-106 Form (Appendix C, page C-8). 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	9	April 13, 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			
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.

County Clay Route S.R. 157 Des. No. 1800147

Remarks:

Minor Project PA Category B projects
On April 13, 2020 the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Type 9 under the Minor Projects Programmatic Agreement, (Appendix D, page D-2). Installation, replacement, repair, lining, or extension of culverts and other drainage structures in previously disturbed soils. Work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls and the structure exhibits no wood, stone, or brick structures or parts therein. No further consultation is required. This completes the Section 106 process 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:

No presence, no impact

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 October 17, 2019 by B&N, the aerial map of the project area (Appendix B, page B-4), and the RFI report (Appendix E) there are no 4(f) resources located 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.

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:

No presence or presence, no impact

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 from INDOT ES May 28, 2020 Update (https://www.in.gov/indot/files/INDOT%20ESD%20EPO%20Updates_5-28-2020.pdf) revealed a total of two (2) properties in Clay County (Appendix I, page 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	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)?		

County Clay Route S.R. 157 Des. No. 1800147

Level of MSAT Analysis required?

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

Remarks:

STIP/TIP

Project Bundled in Contract
The FY 2020-2024 STIP is listed based on the lead DES number in the contract. The lead DES number for this contract is 1701570. The FY 2020-2024 STIP includes DES number 1800147 by reference with the contract number R-40576.

Attainment Status

Attainment area
This project is located in Clay County, which is currently in attainment for all criteria pollutants according to the U.S. Environmental Protection Agency Green Book. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

MSAT

MSAT Level 1a Analysis
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:

Type III Project
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]

County Clay Route S.R. 157 Des. No. 1800147

	Yes	No
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 road closure may 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. There will be no substantial impacts to community cohesion, local tax base, or community events due to the rural location and temporary closures. There is an approved Transition Plan for Clay County.

Indirect and Cumulative Impacts

	Yes	No
Will the proposed action result in substantial indirect or cumulative impacts?		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 expected to have any significant community cohesion, indirect, or cumulative impacts. No community events should be substantially impacted by this project. This project will not add capacity to the roadway, nor is it intended to change the surrounding properties. Completion of this project will improve the safety, condition, and performance of this crossing to current standards and hydraulic requirements.

Public Facilities & Services

	Yes	No
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.*		X

Remarks:

No presence, no impact

Based on a desktop review, a site visit on October 17, 2019 by B&N, the aerial map of the project area (Appendix B, page B-4), and the RFI report (Appendix E) there are no public facilities within the 0.5 mile search radius. 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)

	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:

EJ Analysis, No EJ Populations

Under FHWA Order 6640.23A, FHWA and the project sponsor, 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 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 0.69 acre of permanent ROW. There are no relocations. 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 Clay County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 406. 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 (ACS) was obtained from the US Census Bureau Website https://factfinder.census.gov/ on August 10, 2020 by B&N. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data[1]

	COC – Clay County, Indiana	AC – Census Tract 406, Clay County, Indiana
Percent Minority	3.75%	1.33%
125% of COC	4.69%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	13.97%	9.28%
125% of COC	17.46%	AC < 125% COC
EJ Population of Concern		No

[1]United States Census Bureau, 2014-2018 American Community Survey (ACS)

AC, Census Tract 406 has a percent minority of (1.33%) which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

AC, Census Tract 406 has a percent low-income of (9.28%) 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 I-43 to 45. 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:

Utility relocation has been initiated for this project. There are overhead utilities observed on both sides of the road. The poles along the north side are approximately 9.75 ft off the existing edge of pavement and 25 ft along the south side. The relocation of the overhead telecommunication utility north of the roadway is anticipated for this project.

No Relocations

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		**X/February 4, 2020**

Include a summary of findings for each investigation.

Remarks:

No presence

Based on a review of GIS and available public records, a RFI was approved on February 4, 2020 by INDOT-Site Assessment & Management (Appendix E). 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.

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	
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:

Permits

An USACE/IDEM 404/401 RGP will likely be required due to impacts to a jurisdictional stream and wetland.

Applicable recommendations provided by USFWS 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 District Environmental Section will be contacted immediately. (INDOT ESD and INDOT 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 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) 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. (USFWS)

6) 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)

7) 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)

8) 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)

9) USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after (July 1, 2020, plus 2 years), 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)

FOR FURTHER CONSIDERATION

1) All plant material, mud, and debris should be removed and all water drained from any equipment before entering or leaving the waterway to prevent the spread of aquatic and terrestrial invasive species. (IDNR)

2) Do not construct any temporary runarounds or causeways. (IDNR)

3) 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)

4) Grouted riprap is not recommended due to negative impacts to fish, wildlife, and botanical resources. (IDNR)

5) Operate equipment used to replace/rehabilitate/modify stream crossings from the existing roadways whenever possible. (IDNR)

6) Protect the area around and below any concentrated discharge points, down to the waterway’s normal flow level, with appropriate structural armament such as riprap. (IDNR)

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)

8) 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)

9) Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)

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:

Agency	Sent	Response
IDEM	January 15, 2020	January 15, 2020
USACE	January 15, 2020	N/A
HUD	January 15, 2020	N/A
NPS	January 15, 2020	N/A
USFWS	January 15, 2020	N/A
NRCS	January 15, 2020	January 22, 2020
IGS	January 15, 2020	January 15, 2020
FHWA	January 15, 2020	N/A
INDOT – Public Hearings	January 15, 2020	N/A
IDNR	January 15, 2020	May 21, 2020
Clay County Council	January 15, 2020	N/A
Clay County Commissioner Members	January 15, 2020	N/A
Clay County Surveyor	January 15, 2020	N/A
Clay County Emergency Management	January 15, 2020	N/A
West Central Indiana Economic Development	January 15, 2020	N/A

Appendices

Appendix A

INDOT Supporting Documentation

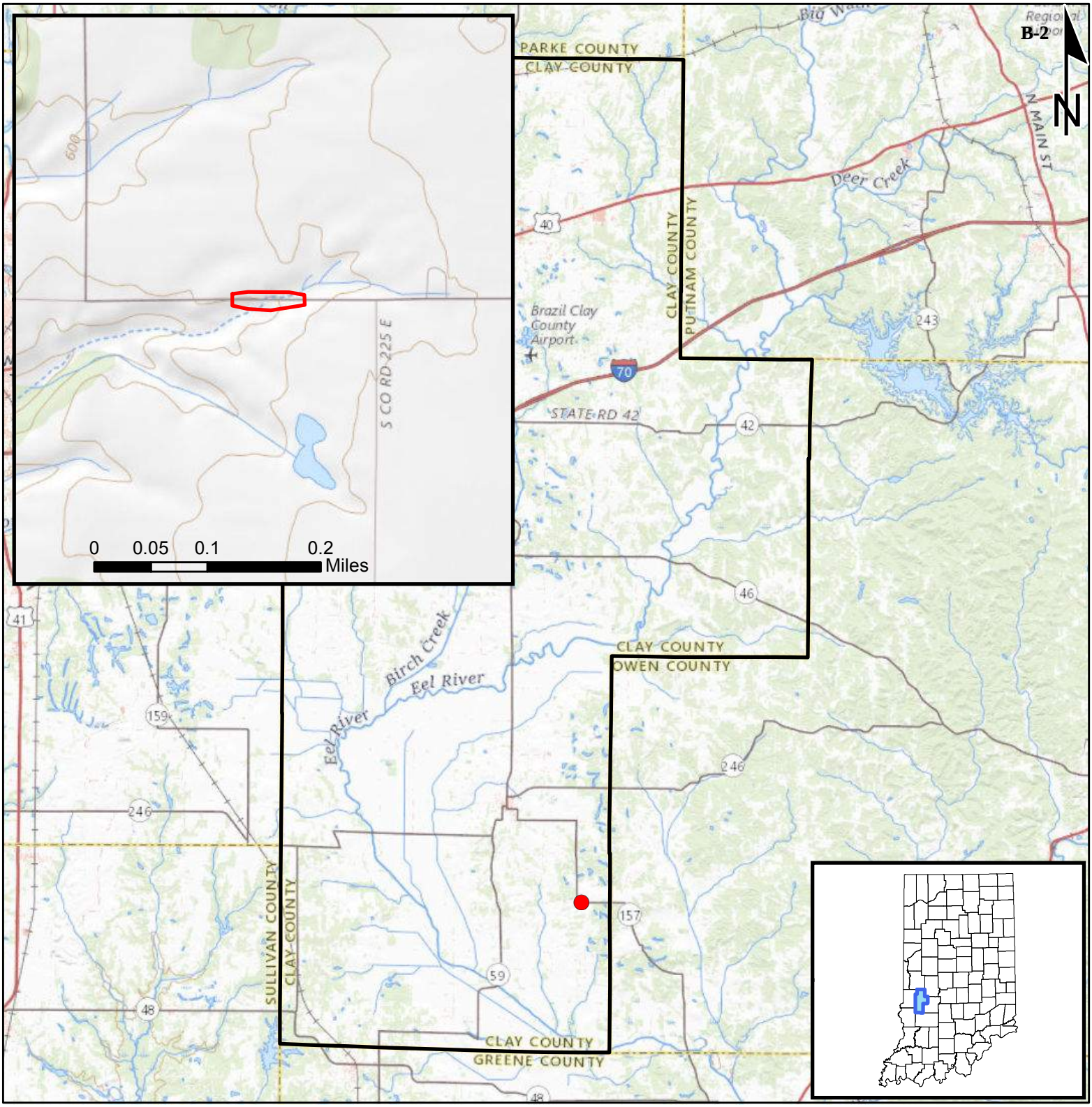
Categorical Exclusion Level Thresholds

	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



0 2 4 8 Miles

Attachment 1

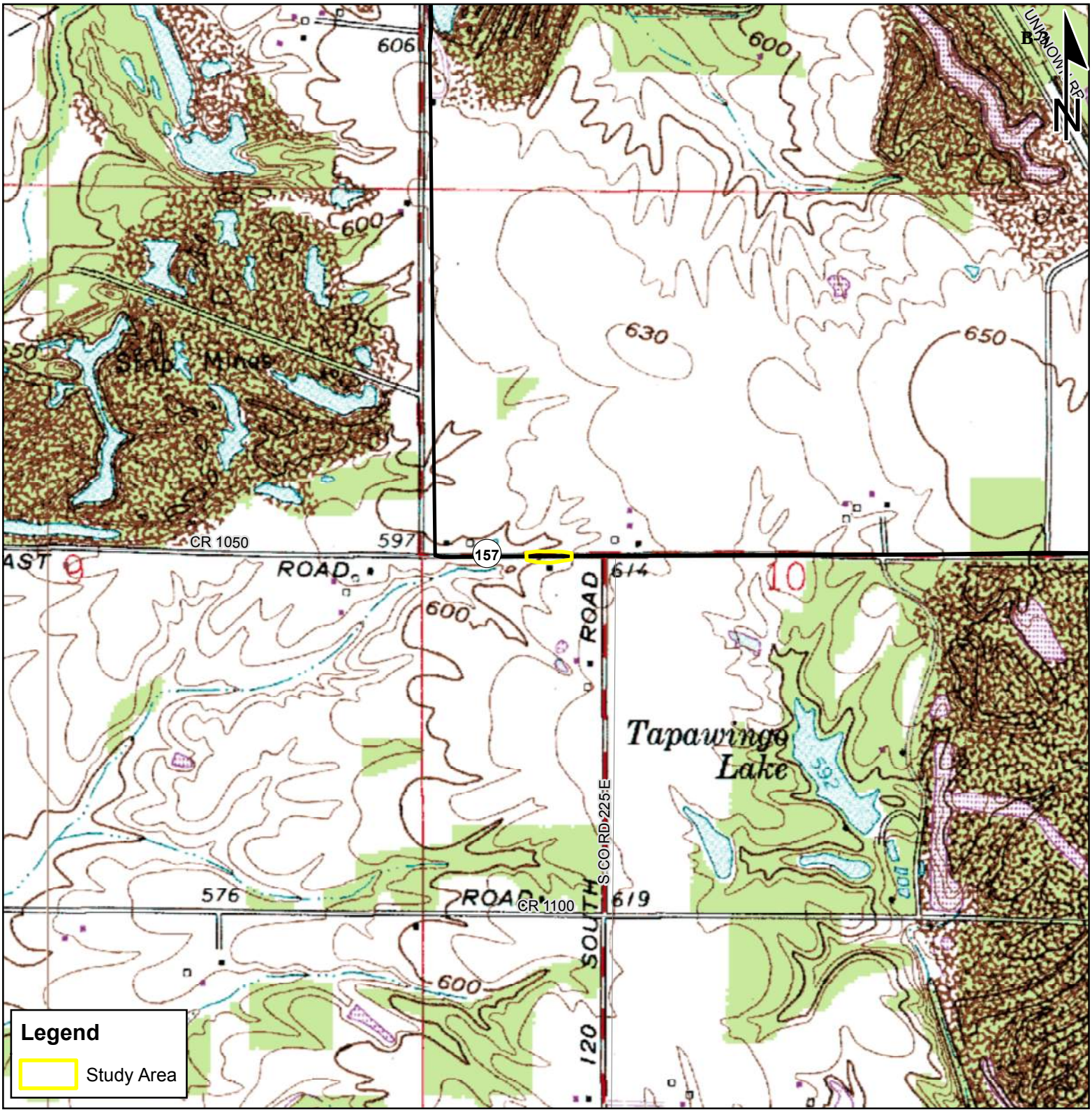
Indiana Dept. of Transportation (INDOT)
SR 157 - Culvert Replacement
Des. No.: 1800147
Coal City, IN 47427; Clay County

Sources:
Non Orthophotography
Data - Obtained from ESRI Online Services
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Prepared By: Burgess & Niple

Project Location Map

October 2019



0 500 1,000 2,000 Feet

Attachment 2

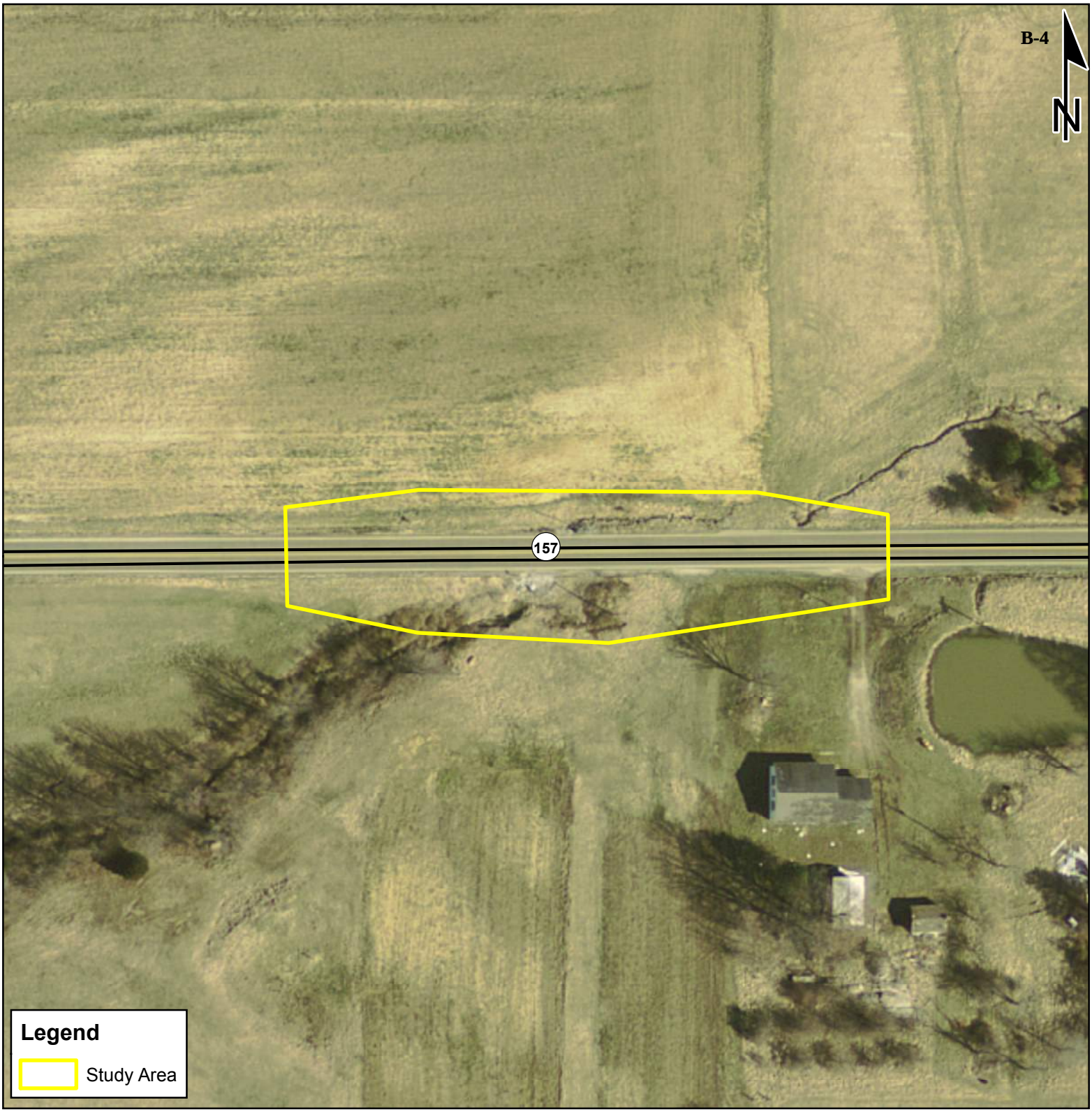
Indiana Dept. of Transportation (INDOT)
SR 157 - Culvert Replacement
Des. No.: 1800147
Coal City, IN 47427; Clay County

USGS Topographic Map

October 2019

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

Prepared By: Burgess & Niple



0 37.5 75 150 Feet

Attachment 3

Indiana Dept. of Transportation (INDOT)
SR 157 - Culvert Replacement
Des. No.: 1800147
Coal City, IN 47427; Clay County

Aerial Map

October 2019

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

Prepared By: Burgess & Niple

INDIANA DEPARTMENT OF TRANSPORTATION (INDOT)
S.R. 157 IN CLAY COUNTY, INDIANA
CULVERT REPLACEMENT
DES. NO.: 1800147
STRUCTURE ID #: CV 157-011-21.14
SITE PHOTOGRAPHS
OCTOBER 17, 2019

Photo 1: North of SR 157 and west of the culvert, facing east.

Photo 2: South of SR 157 and west of the culvert, facing east.

Photo 3: North of SR 157 and east of the culvert, facing west.

Photo 4: South of SR 157 and east of the culvert, facing west.

Photo 5: Ditch to the north of SR 157 and east of the culvert, facing west.

Photo 6: Ditch to the north of SR 157 and east of the culvert, facing east.

Photo 7: Roadside ditch at the culvert inlet, facing northeast.

Photo 8: Roadside ditch at the culvert inlet, facing southwest.

Photo 9: UNT to White Oak Creek and Wetland 1 at the culvert outlet, facing southwest downstream.

Photo 10: UNT to White Oak Creek at the culvert outlet, facing northeast upstream.

Photo 11: UNT to White Oak Creek, facing southwest downstream.

Photo 12: Wetland 1, facing east.

PROJECT	DESIGNATION
1800147	1800147
CONTRACT	BRIDGE FILE
R-40576	N/A

CULVERT ASSETS	
Des. No.	Culvert Asset ID
1800147	CV-157-011-21.14

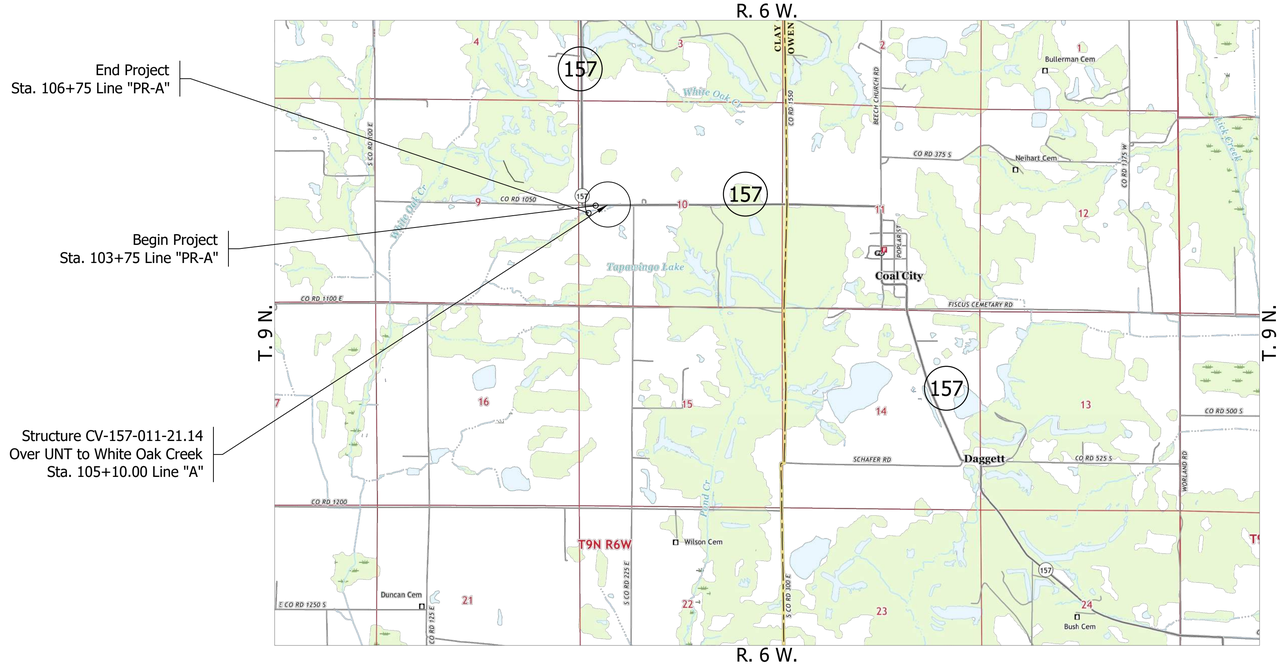
INDIANA DEPARTMENT OF TRANSPORTATION

ROAD PLANS

ROUTE: SR 157 AT: RP 21+14

PROJECT NO. 1800147 P.E.
1800147 R/W
1800147 CONST.

Small Structure Replacement on SR 157 over Unnamed Tributary to White Oak Creek, Located 5.19 Miles South of SR 246, Section 10, Township 9 North, Range 6 West, Harrison Township, Clay County, Indiana.



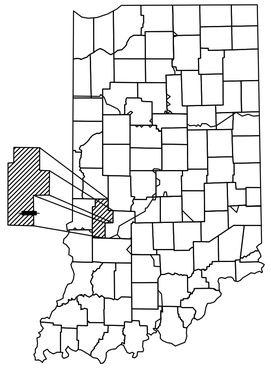
LOCATION MAP
CLAY COUNTY

TRAFFIC DATA

A.A.D.T.	(2022)	572 V.P.D.
A.A.D.T.	(2042)	657 V.P.D.
D.H.V	(2042)	78 V.P.H.
DIRECTIONAL DISTRIBUTION		51.4 %
TRUCKS		42 A.A.D.T.
		6.3 % A.A.D.T.

DESIGN DATA

DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION	RURAL COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY —
CLAY

LATITUDE: 39° 14' 02.9" N LONGITUDE: 87° 04' 12.8" W

BRIDGE LENGTH: 0.000 MI.
ROADWAY LENGTH: 0.057 MI.
TOTAL LENGTH: 0.057 MI.
MAX. GRADE: 2.49 %

SCALE: 1" = 2000'

STAGE 1
PLANS SUBMITTAL
05/15/2020

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

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com

PLANS PREPARED BY: Infrastructure Engineering, Inc. 317-243-9800 PHONE NUMBER

CERTIFIED BY: _____ DATE

APPROVED FOR LETTING: _____ INDIANA DEPARTMENT OF TRANSPORTATION DATE

BRIDGE FILE
N/A
DESIGNATION
1800147

SURVEY BOOK	SHEETS
ELECTRONIC	1 of 14
CONTRACT	PROJECT
R-40576	1800147

Last Update: May 14, 2020 - 1:14pm
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - Title Sheet.dwg

UTILITIES

DUKE ENERGY
3395 GREENBUSH ST.
LAFAYETTE, IN 47905
(269) 274-5259

FRONTIER COMMUNICATION
115 N. BOW ST.
THORNTOWN, IN 46071
(765) 742-2635

811 Know what's **below.** **Call** before you dig.

INDIANA UNDERGROUND
1-800-382-5544 OR CALL 811
24 HOURS A DAY 7 DAYS A WEEK

INDEX

REVISIONS

SHEET NO.	DATE	REVISED

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com

Last Update: May 14, 2020 - 1:26pm
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - Index.dwg

NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

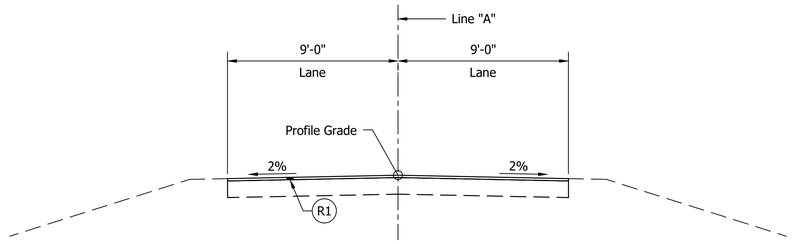
DESIGNED: EAS 05/2020 | DRAWN: EAS 05/2020
CHECKED: DTQ 05/2020 | CHECKED: NDB 05/2020

INDIANA
DEPARTMENT OF TRANSPORTATION

INDEX

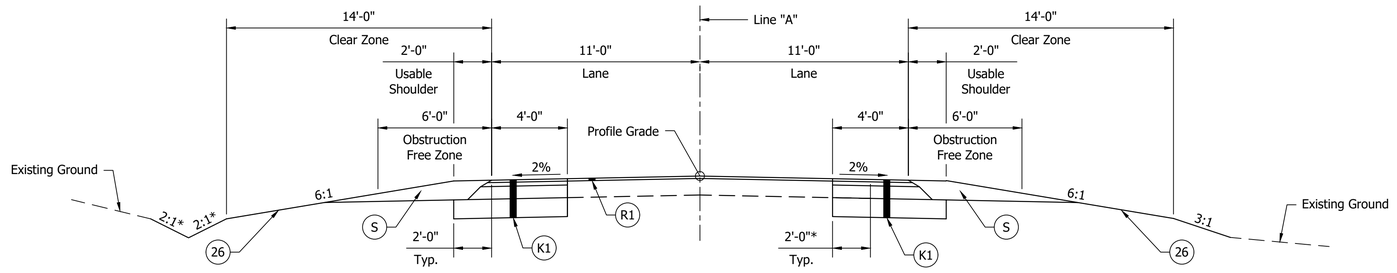
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
N/A	1800147
SURVEY BOOK	SHEET
ELECTRONIC	2 of 14
CONTRACT	PROJECT
R-40576	1800147

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com



TRANSITION PAVEMENT

Scale: ¼" = 1'-0"
Sta. 102+75.00 to Sta. 103+75.00
Sta. 106+75.00 to Sta. 107+75.00

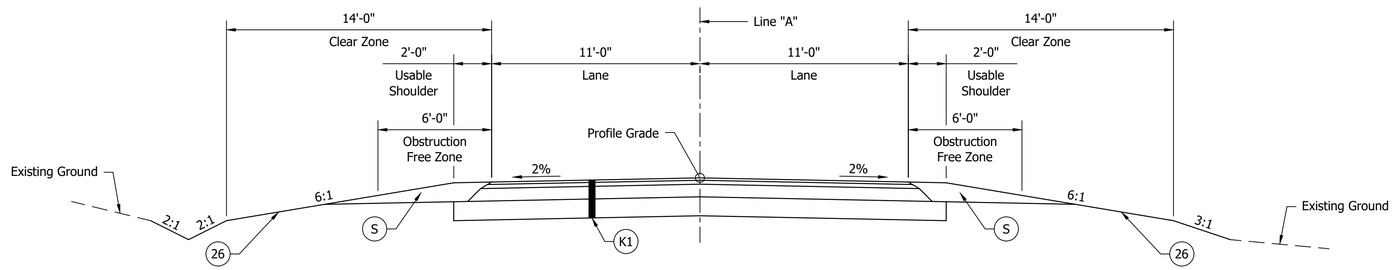


* Ditch from Sta. 105+20.00 to 106+08.00

WIDENING AND OVERLAY

Scale: ¼" = 1'-0"
Sta. 103+75.00 to Sta. 104+75.00
Sta. 105+30.00 to Sta. 106+75.00

* 2'-0" of existing lane to be removed for lane construction



FULL DEPTH PAVEMENT

Scale: ¼" = 1'-0"
Sta. 104+75.00 to Sta. 105+30.00

LEGEND

- (R1) 1½" mill exisitng pavement then overlay with 165 lbs/sys QC/QA-HMA, 3, 70, Surface, 9.5 mm
- (K1) 165 lbs/sys QC/QA-HMA, 3, 70, Surface, 9.5 mm on 275 lbs/sys QC/QA-HMA, 2, 70, Intermediate, 19.0 mm on 880 lbs/sys QC/QA-HMA, 2, 70, Base, 19.0 mm on Subgrade Treatment, Type IC
- (S) Compacted Aggregate, No. 53
- (26) Mulched Seeding, R

NOTES
- All stationing along Line "PR-A"

NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: EAS 05/2020 DRAWN: EAS 05/2020
CHECKED: DTQ 05/2020 CHECKED: NDB 05/2020

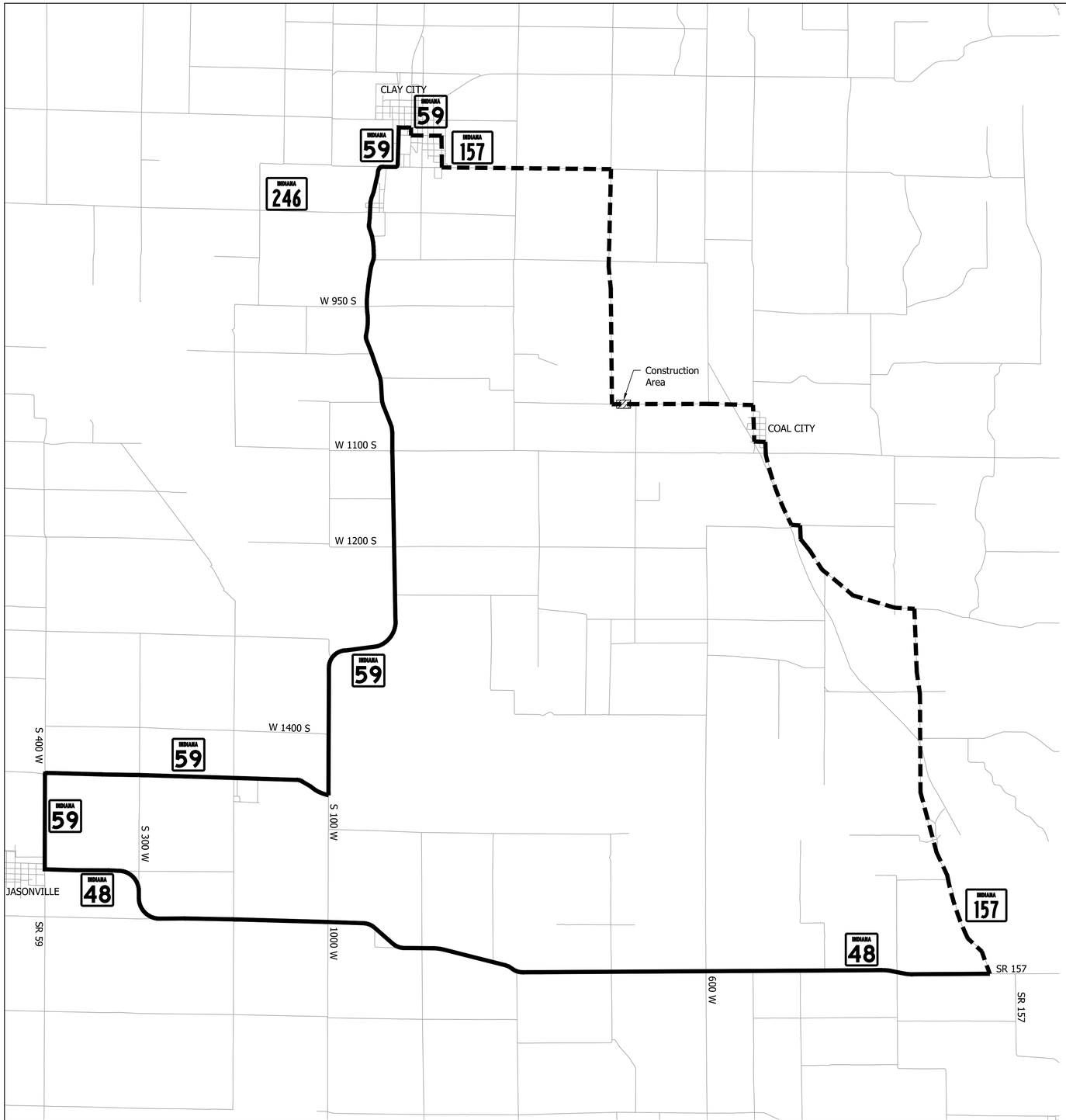
INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
N/A	1800147
SURVEY BOOK	SHEET
ELECTRONIC	3 of 14
CONTRACT	PROJECT
R-40576	1800147

Last Update: May 15, 2020 - 7:22am
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - Typical Sections.dwg

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com



LEGEND

- Road to be closed during construction
- Proposed detour route
- Construction Area

NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: EAS	05/2020	DRAWN: EAS	05/2020
CHECKED: DTQ	05/2020	CHECKED: NDB	05/2020

INDIANA
DEPARTMENT OF TRANSPORTATION

DETOUR

HORIZONTAL SCALE	BRIDGE FILE
NOT TO SCALE	N/A
VERTICAL SCALE	DESIGNATION
N/A	1800147
SURVEY BOOK	SHEET
ELECTRONIC	4 of 14
CONTRACT	PROJECT
R-40576	1800147

Last Update: May 14, 2020 - 1:52pm
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - Detour.dwg

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com

STICKLES FARMS, INC.

NOTE TO REVIEW
Drive design is ongoing and will be determined in a later submittal. Temporary R/W will be determined if necessary at that time.

SEC. 10, T. 9 N, R. 6 W
HARRISON TOWNSHIP
CLAY COUNTY

P.O.T. 100+00.00 "PR-A" = O.P.O.T. 100+00.00 "A", 1.17' Rt.

P.O.T. 109+00.00 "PR-A" = O.P.O.T. 109+00.00 "A", 0.46' Lt.

(farm field) | (asphalt) | (grass) | (wooded area) | (pasture)

+34.13 Ex. R/W | +11.70 Ex. R/W | +39.12 Ex. R/W | +23.49 Ex. R/W

App. Ex R/W | ½ Section Line | R/W | 50' R/W

Bearing = S 89° 30' 50" E Line "PR-A"

Bearing = S 89° 37' 2" E Line "A"

SR 157

+40 50' | +15 50'

℄ Structure No. 1
Sta. 105+10.00, 0.0' Rt.
Skew: 40° Rt.

Construction Limits

UNT TO WHITE OAK CREEK
FLOW

Sta. 106+28
Class V Drive Req'd
W=24', L=25', Skew=0°

Begin Incidental Construction
Sta. 102+75.00
Line "PR-A"

Begin Project
Sta. 103+75.00
Line "PR-A"

End Project
Sta. 106+75.00
Line "PR-A"

End Incidental Construction
Sta. 107+75.00
Line "PR-A"

CREDIT SHELTER TRUST

SEC. 10, T. 9 N, R. 6 W
HARRISON TOWNSHIP
CLAY COUNTY

GILBERT, EDDIE J. III ET UX.

App. ℄

+51.63, 30.66' - Pole
+51.63, 30.66' - TBM 401
+86.84, 11.79' - Sign
+97.62, 20.68' - 42"x63" CMP
+42.58, 33.93' - Pole
+44.33, 20.68' - Down Guy
+99.07, 17.33' - CP #4001
+14.13, 14.13' - Post
+52.53, 27.27' - Tree
+66.34, 30.41' - Pole
+46.90, 30.28' - 6" PVC
+47.98, 38.11' - 6" PVC
+58.34, 34.22' - Down Guy
+59.38, 46.27' - Pole

Note:
1. All right of way described from Line "PR-A".

Temporary Benchmark Descriptions (TBM):

TBM 400: Magnail set 12" above grade in the east face of power pole # 119860. ± 15 feet east of centerline of South County Road 225 East. ± 55 feet south of the centerline of State Route 157.
Elevation = 617.90', Northing = 148718.74, Easting = 810501.19

TBM 401: Magnail set 12" above grade in the north face of power pole # 119932. ± 30 feet south of the centerline of State Route 157.
Elevation = 601.89', Station = 101+51.8, Offset = 29.7' Rt.

+75.00, Begin Incidental Construction | +75.00 | +75.00 | +30.00 | +75.00 | +75.00, End Incidental Construction

Transition Milling and Overlay | Milling and Overlay w/ Wedge and Level & Lane Widening | Full Depth Pavement | Milling and Overlay w/ Wedge and Level & Lane Widening | Transition Milling and Overlay

P.V.I.@ +25
EL. 599.70
300' V.C.

Proposed Profile Line "PR-A"

Existing Ground Along Line "PR-A"

-0.11% | 2.49% | +08 599.1 | +20 595.0

4.68% Ditch Left Profile

Structure No. 1
Flow Line
El. 593.62

Begin Project
Sta. 103+75 Line "PR-A"
El. 599.87

End Project
Sta. 106+75 Line "PR-A"
El. 603.43

610 | 605 | 600 | 595 | 590

598.8 | 598.6 | 598.4 | 598.5 | 598.7 | 599.2 | 599.7 | 599.2 | 600.4 | 600.8 | 600.9 | 600.8 | 600.4 | 600.2 | 600.0 | 599.8 | 599.87 | 599.7 | 599.87 | 599.7 | 599.92 | 599.7 | 600.03 | 599.9 | 600.19 | 600.1 | 600.41 | 600.3 | 600.68 | 600.5 | 601.00 | 600.9 | 601.38 | 601.2 | 601.81 | 601.8 | 602.30 | 602.5 | 602.84 | 603.3 | 603.43 | 604.2 | 605.4 | 606.7 | 608.0 | 609.2 | 610.3 | 611.3 | 612.1 | 612.9

100+00 | 101+00 | 102+00 | 103+00 | 104+00 | 105+00 | 106+00 | 107+00 | 108+00 | 109+00

STREET SIGN NORTH 157 — N: 148765.4217, E: 810485.9601 — ⅝" REBAR CECON CAP — PMAG NAIL SET AT 1' ABOVE GRADE IN EAST FACE OF POWER POLE — STREET SIGN SR 157 / 225 E
PT. NO. 4000 Sta. 109+96.52, 10.50' Rt.

PMAG NAIL SET FLUSH ON SOUTH PAINTED LINE OF SR 157 — N: 148755.2988, E: 810088.5539 — ⅝" REBAR CECON CAP — PMAG NAIL SET AT 1' ABOVE GRADE ON WEST FACE OF MAILBOX POLE — PMAG NAIL SET AT 1' ABOVE GRADE ON WEST FACE OF POWER POLE
PT. NO. 4001 Sta. 105+99.04, 17.25' Rt.

PMAG NAIL SET FLUSH ON NORTH PAINTED LINE OF STATE ROUTE 157 — N: 148780.3392, E: 809489.3018 — PMAG NAIL SET AT 1' ABOVE GRADE ON EAST FACE OF POWER POLE — ⅝" REBAR CECON CAP — PMAG NAIL SET AT 1' ABOVE GRADE ON NORTH FACE OF POWER POLE
PT. NO. 4002 Sta. 100+00.02, 12.88' Lt.

NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: EAS 05/2020 | DRAWN: EAS 05/2020
CHECKED: DTQ 05/2020 | CHECKED: NDB 05/2020

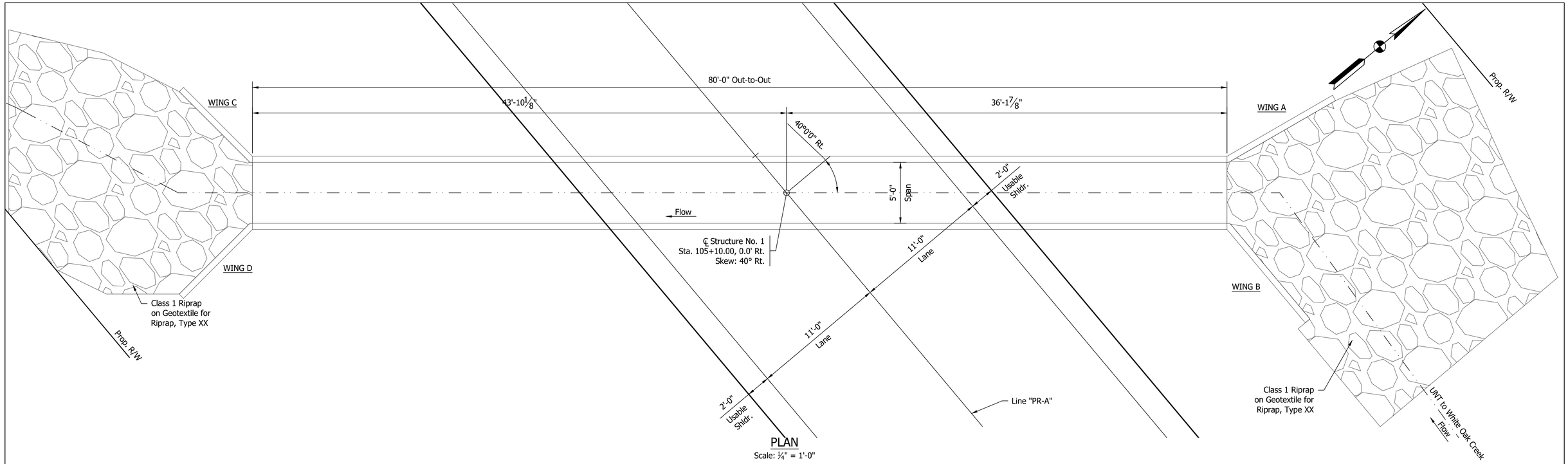
INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

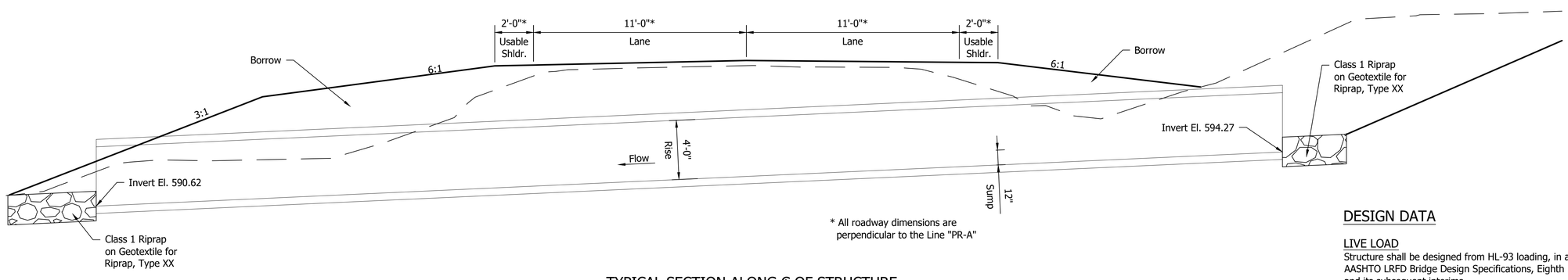
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
1" = 3'	1800147
SURVEY BOOK	SHEET
ELECTRONIC	5 of 14
CONTRACT	PROJECT
R-40576	1800147

Last Update: May 15, 2020 - 8:03am
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - Plan and Profile.dwg

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com

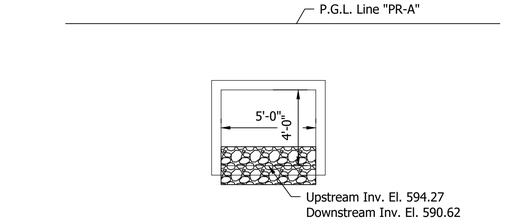


PLAN
Scale: ¼" = 1'-0"



* All roadway dimensions are perpendicular to the Line "PR-A"

TYPICAL SECTION ALONG ℄ OF STRUCTURE
Scale: ¼" = 1'-0"



ELEVATION
Scale: ¼" = 1'-0"

NOTE TO REVIEW
Coordination with geotechnical is ongoing and the geotextile type will be determined in a later submittal.

EARTHWORK TABULATION

Fill +20%	XXX	cys
Common Excavation (80%)	XXX	cys
Usable Waterway Excavation (70%)	XXX	cys
Surplus Foundation Excavation	XXX	cys
Waste (Borrow)	XXX	cys
Total Waterway Excavation	XXX	cys
Excavation Unclassified	XXX	cys
Benching (Estimated)	XXX	cys

No direct payment for Benching. Benching will not be paid for as Common Excavation.

DESIGN DATA

LIVE LOAD
Structure shall be designed from HL-93 loading, in accoradnace with AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017, and its subsequent interims.

DEAD LOAD
Actual dead load plus 35 lb/ft^2 for future wearing surface.

WINGWALL SOIL PARAMETERS

Angle of friction between wingwall and foundation (δ)	= XX°
Angle of internal friction of the foundation soil (ϕ)	= XX°
Ultimate cohesion of foundation soil (c)	= X,XXX psf
Ultimate adhesion between foundation soil and concrete (Ca)	= XX psf

REINFORCED CONCRETE BOX CULVERT
Span: 5'-0", Rise: 4'-0"
Skew: 40°00'00" Left
SR 157 over UNT to White Oak Creek,
Clay County, Indiana

NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: EAS 05/2020 DRAWN: EAS 05/2020
CHECKED: DTQ 05/2020 CHECKED: NDB 05/2020

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1800147
SURVEY BOOK	SHEET
ELECTRONIC	6 of 14
CONTRACT	PROJECT
R-40576	1800147

Last Update: May 15, 2020 - 7:05am
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - General Plan.dwg

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	RADII	DISTANCE BEYOND R/W LINE	SURFACE BEYOND R/W LINE			GRADE		EXCAVATION		CLEAR ZONE AT DRIVE	HMA FOR APPROACHES				HMA FOR ROADS						SEAL COAT TYPE __	ASPHALT MATERIAL FOR		COMPACTED AGGREGATE FOR BASE NO. 53		COMPACTED AGGREGATE FOR SURFACE NO.73					REMARKS
														SURFACE TYPE __	INTERMD TYPE __	BASE TYPE __		SURFACE TYPE __	INTERMD TYPE __	BASE TYPE __													
														LBS PER SYD				LBS PER SYD									DEPTH		DEPTH					
									1	2	CUT	FILL																						
		FT	FT	FT	FT	SYS	SYS	SYS	%	%	CYS	CYS	FT	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS		SYS	SYS	TONS	TONS	TONS	TONS				

STRUCTURE DATA

STRUCTURE NUMBER	LOCATION				SIZE	PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE AND TYPE	LENGTH	SKEW	FLOW LINE			SERVICE LIFE	SITE DESIGNATION	pH	BACKFILL METHOD	STRUCTURE BACKFILL		REVETMENT RIPRAP	CONCRETE, CLASS A, FOR STR.	VIDEO INSPECTION	PIPE END SECTION	GRATED BOX END SECTION			SAFETY METAL END SECTION				REMARKS
	STATION	LEFT	CROSS	RIGHT						COVER	UP STREAM	DOWN STREAM																		
					IN.			LFT		FT	ELEV.	ELEV.	YR				TYPE	CYS	TONS	CYS	LFT	EA.	TYPE	SLOPE	EA.	TYPE	SLOPE	EA.		

PAVEMENT MARKINGS SUMMARY OF QUANTITIES

LOCATION	LINE PAINT		LINE EPOXY				LINE EPOXY				TRANSVERSE MARKINGS THERMOPLASTIC STOP LINE		TRANSVERSE MARKINGS CROSSHATCH LINE		TRANSVERSE MARKINGS CROSSWALK LINE		PAVEMENT MESSAGE THERMOPLASTIC LANE INDICATION ARROW	PAVEMENT MESSAGE THERMOPLASTIC WORD "ONLY"	SNOWPLOWABLE RAISED PAVEMENT MARKERS
	SOLID WHITE 4 in	SOLID YELLOW 4 in	SOLID WHITE 4 in	SOLID YELLOW 4 in	SOLID WHITE 8 in	SOLID YELLOW 8 in	BROKEN WHITE 4 in	BROKEN YELLOW 4 in	BROKEN WHITE 8 in	BROKEN YELLOW 8 in	SOLID WHITE 12 in	SOLID WHITE 24 in	SOLID YELLOW 24 in	SOLID YELLOW 24 in	SOLID WHITE 4 in	SOLID WHITE 8 in			
	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	EACH	EACH	EACH

INFRASTRUCTURE ENGINEERING | INCORPORATED
201 South Capitol Avenue | Suite 490 | Indianapolis, IN 46225
P 317.243.9800 | F 317.243.9100 | www.infrastructure-eng.com

Last Update: May 15, 2020 - 7:12am
Drawing name: Q:\P-19\3853-0C - Small Str - SR 157 UNT White Oak Crk 1800147 (INDOT)\DWG\Sheets\3853-0C - Tables.dwg

NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: EAS 05/2020 DRAWN: EAS 05/2020

CHECKED: DTQ 05/2020 CHECKED: NDB 05/2020

INDIANA DEPARTMENT OF TRANSPORTATION

ROADWAY TABLES

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
N/A	1800147
SURVEY BOOK	SHEET
ELECTRONIC	7 of 14
CONTRACT	PROJECT
R-40576	1800147

Appendix C

Early Coordination

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

January 15, 2020

Sample Early Coordination Letter

Re: Des. Nos. 1800147, Culvert Replacement, Located 5.19 miles south of State Route 157 in Clay County, Indiana

To Whom It May Concern:

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project involving a culvert along SR 157 in Clay County, Indiana. This letter is part of the early coordination phase of the environmental review process. Burgess & Niple, Inc. (B&N) is requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above designation numbers and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

The proposed project will replace the small structure to improve hydraulic efficiency and extend the life of the culvert and the roadway over the culvert. The preferred replacement structure consists of a 5' (span) x 4' (rise) reinforced concrete box. The skew of the structure may increase to allow the construction of wingwalls. The ditch to the north of the project area will be relocated for approximately 85' to protect SR 157. Minimal to no profile change is anticipated. Minimal roadway work is anticipated. There will be approximately 0.70 acre of permanent right-of-way and 0.03 acre of temporary right-of-way required for this project. Road closure will be required for approximately 21 days, with the official detour utilizing SR 59 and SR 48.

The location of the culvert is primarily rural, with the majority of the surrounding land being maintained agricultural fields with some wooded area to the south. Coordination with the INDOT Environmental Services-Ecological and Waterway Permitting will occur. This project qualifies for the application of the USFWS range-wide programmatic informal consultation for the Indiana bat and northern long eared bat and project information will be submitted through USFWS's Information for Planning and Consultation (IPaC) separately. The INDOT Cultural Resources Office (CRO) will review the project area for archaeological and historic resources for Section 106 compliance.

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, if 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 me at 317-237-2760 x1540 or by email at Matthew.Kestner@burgessniple.com. Thank you in advance for your input.

Sincerely,

Matthew Kestner

Matthew Kestner
Environmental Scientist
Burgess & Niple

MK:
Attachments
Maps, Photographs
List of ECL Recipients

The following agencies received Early Coordination Letters:

Chief, Groundwater Section
Indiana Department of Environmental Management
100 N. Senate Avenue
Indianapolis, IN 46204

Chief, Environmental Resources
Department of the Army
Louisville District, Corps of Engineers
Attn: CEPMP-P-E
P.O. Box 59
Louisville, KY 40201-0059

Indiana Department of Environmental Management
(Electronic Coordination)

Field Environmental Officer
Chicago Regional Office
U.S. Department of Housing and Urban Development
Metcalf Federal Building
77 West Jackson Boulevard, Room 2401
Chicago, IL 60604
(Electronic Coordination)

Regional Environmental Coordinator
Midwest Regional Office
National Park Service
601 Riverfront Drive
Omaha, NE 68102

Field Supervisor
U.S. Fish & Wildlife Service
Bloomington Field Office
620 South Walker St.
Bloomington, IN 47403
(Electronic Coordination)

State Conservationist
Natural Resources Conservation Service
6013 Lakeside Blvd.
Indianapolis, IN 46278
(Electronic Coordination)

Indiana Geological Survey
611 North Walnut Grove
Bloomington, IN 47405
(Electronic Coordination)

Federal Highway Administration
Room 254, Federal Office Building
575 North Pennsylvania Street
Indianapolis, IN 46204
(Electronic Coordination)

Manager, Public Hearings
100 N. Senate Avenue, Rm. 642
Indianapolis, IN 46204

Environmental Coordinator
Indiana Department of Natural Resources
Division of Fish and Wildlife
Room W264, IGC South
402 West Washington Street
Indianapolis, IN 46204-2641
(Electronic Coordination)

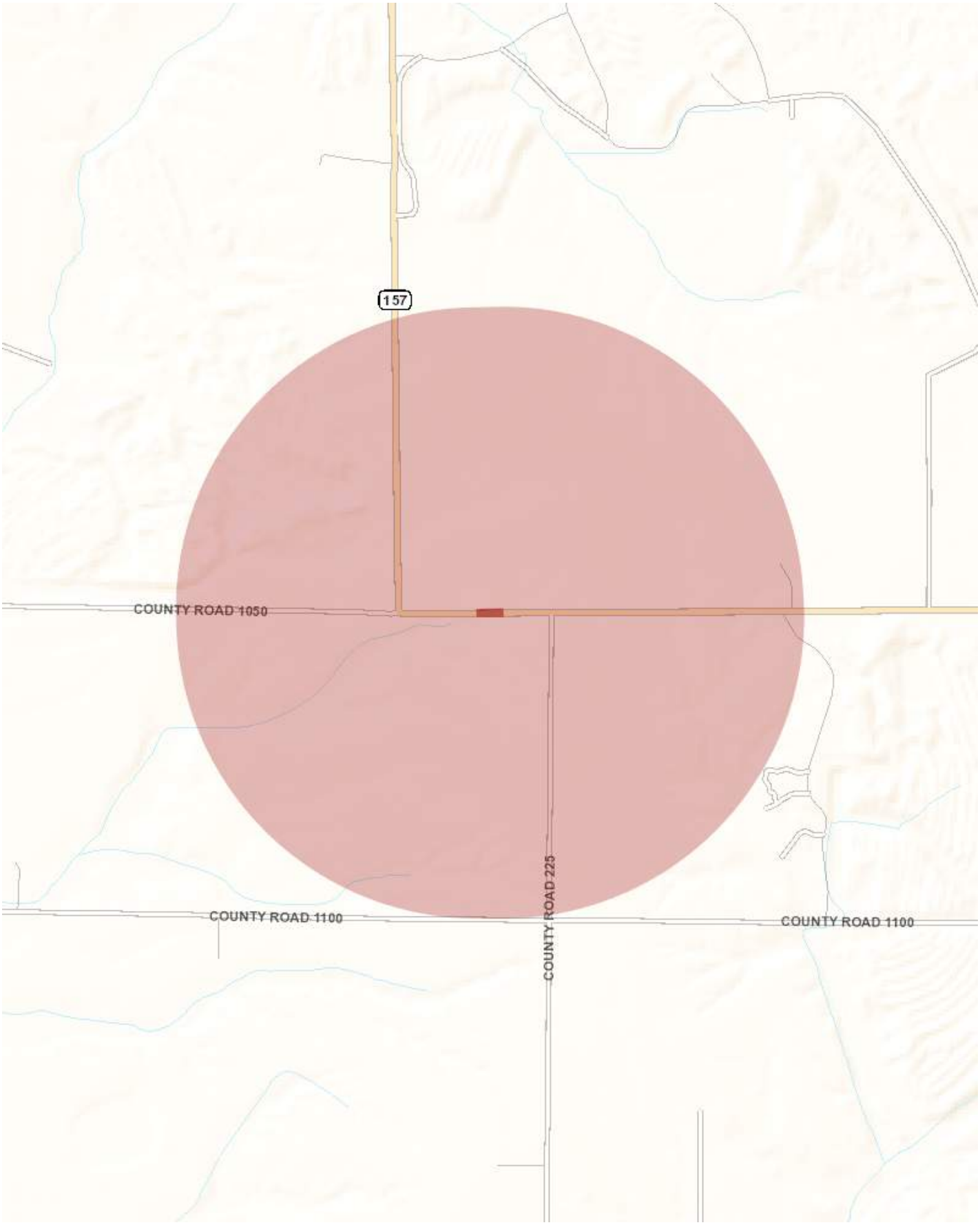
Clay County Council Members
609 E National Ave.
Brazil, IN 47834

Clay County Commissioner Members
609 E National Ave.
Brazil, IN 47834

Clay County Surveyor
609 E National Ave. Rm 110
Brazil, IN 47834

Clay County Emergency Management
609 E National Ave. Rm 205
Brazil, IN 47834

West Central Indiana Economic
Development District, Inc.
2800 Poplar St., STE 9A
Terre Haute, IN 47803



Organization and Project Information

Project ID:
Des. ID: 1800147
Project Title: SR 246 Culvert Replacement
Name of Organization: Burgess and Niple
Requested by: Matthew Kestner

Environmental Assessment Report

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

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

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: January 15, 2020

Metadata:

- https://maps.indiana.edu/metadata/Geology/Petroleum_Wells.html
- https://maps.indiana.edu/metadata/Geology/Coal_Mines_Surface.html
- https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html
- https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html

USDA
United States Department of Agriculture

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

January 22, 2020

Matthew Kestner
Burgess & Niple
251 North Illinois Street, Capital Center Suite 920
Indianapolis, Indiana 46204

Dear Mr. Kestner:

The proposed project to replace the culvert located south of State Route 246 in Clay County, Indiana, (Des No 1800147) as referred to in your letter received January 15, 2020, 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 John Allen at 317-295-5859.

Sincerely,

JERRY RAYNOR Digitally signed by JERRY RAYNOR
Date: 2020.01.23 10:41:41 -05'00'

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: 1/15/20	4. Sheet 1 of 1
1. Name of Project: SR-157 Culvert Replacement_DES1800147	5. Federal Agency Involved: INDOT/FHWA	
2. Type of Project: Culvert Replacement	6. County and State: Clay, Indiana	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS: 1/15/20	2. Person Completing Form: JRA
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: 277 ac
5. Major Crop(s): Corn	6. Farmable Land in Government Jurisdiction: Acres: 185,144 % 80	7. Amount of Farmland As Defined in FPPA: Acres: 166,644 % 72
8. Name Of Land Evaluation System Used: LESA	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS: 1/22/20

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	0.7			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0			
C. Total Acres In Corridor	0.7			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	0.14			
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	96			
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)*	61			
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	13			
2. Perimeter in Nonurban Use — 10	9			
3. Percent Of Corridor Being Farmed — 20	10			
4. Protection Provided By State And Local Government — 20	0			
5. Size of Present Farm Unit Compared To Average — 10	10			
6. Creation Of Nonfarmable Farmland — 25	3			
7. Availablility Of Farm Support Services — 5	5			
8. On-Farm Investments — 20	15			
9. Effects Of Conversion On Farm Support Services — 25	0			
10. Compatibility With Existing Agricultural Use — 10	0			
TOTAL CORRIDOR ASSESSMENT POINTS — 160	65	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	61	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	65	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	126	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?
A	0.40	1/15/20	YES ☑ NO ☐

5. Reason For Selection:

Right of Way will be required for this project. It is anticipated that approximately 0.7 acres will be acquired.

Signature of Person Completing this Part: **Matthew Kestner** DATE: **1/15/20**

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

Clear Form

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

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

DNR #: ER-22589 **Request Received:** May 21, 2020

Requestor: Burgess and Niple Inc
Matthew Kestner
251 North Illinois Street, Suite 920
Indianapolis, IN 46204-1935

Project: SR 157 small structure replacement over UNT White Oak Creek, 5.19 miles south of SR 246; Des #18000147

County/Site info: Clay

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: Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project.

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.

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:
The current structure is perched causing an aquatic organism passage impairment which can be alleviated with the new 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) Riprap/Scour Protection:
Any riprap placed at the culvert's outlet should match the outlet/invert elevation at the upstream edge of the riprap apron. Smaller stone and fines should be mixed in to match the existing stream substrate particle distribution and provide impermeability of the riprap apron/substrate so the flow does not percolate through the voids below the riprap apron's surface. The slope of the riprap should be no steeper than 20:1 from the lip of the culvert pipe to the streambed. Riprap on the inlet side should have a slope no steeper than 5:1.

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

Any riprap placed within a 3-sided culvert, single span bridge, or other structure type having no floor, to protect the footings should not extend from the edge of the structure more than 3 feet on each side. Where a crossing structure does not have any dry land suitable for wildlife passage at the edges, (for example water extending to both side-walls edges of a box or 3-sided culvert), the structure's edges should have a wedge of smooth-surfaced material suitable for wildlife use.

Limit the use of riprap on the channel banks to toe protection, do not place riprap in the bed of the channel, and use alternative erosion protection materials whenever possible. From the riprap toe protection to the top of the bank, heavy duty erosion control blankets or turf reinforcement mats or a similar bioengineering method should be used. Erosion control blankets, turf reinforcement mats and other similar materials should be seeded with native plants to allow a natural, vegetated stream bank to develop. 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.

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.
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 excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
5. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
6. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
7. 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.
8. 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.

Christie L. Stanifer **Date:** June 19, 2020

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

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

Burgess and Niple
Matthew Kestner
251 N. Illinois Ave.
Indianapolis , IN 46204

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: Des. Nos. 1800147, Culvert Replacement, Located 5.19 miles south of State Route 246 in Clay County, Indiana The proposed project will replace the small structure to improve hydraulic efficiency and extend the life of the culvert and the roadway over the culvert. The preferred replacement structure consists of a 5’ (span) x 4’ (rise) reinforced concrete box. The skew of the structure may increase to allow the construction of wingwalls. The ditch to the north of the project area will be relocated for approximately 85’ to protect SR 157. Minimal to no profile change is anticipated. Minimal roadway work is anticipated. There will be approximately 0.70 acre of permanent right-of-way and 0.03 acre of temporary right-of-way required for this project. Road closure will be required for approximately 21 days, with the official detour utilizing SR 59 and SR 48.

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.

C-19

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

Des. Nos. 1800147, Culvert Replacement, Located 5.19 miles south of State Route 246 in Clay County, Indiana The proposed project will replace the small structure to improve hydraulic efficiency and extend the life of the culvert and the roadway over the culvert. The preferred replacement structure consists of a 5’ (span) x 4’ (rise) reinforced concrete box. The skew of the structure may increase to allow the construction of wingwalls. The ditch to the north of the project area will be relocated for approximately 85’ to protect SR 157. Minimal to no profile change is anticipated. Minimal roadway work is anticipated. There will be approximately 0.70 acre of permanent right-of-way and 0.03 acre of temporary right-of-way required for this project. Road closure will be required for approximately 21 days, with the official detour utilizing SR 59 and SR 48.

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: 8.25.2020

Signature of the INDOT
Project Engineer or Other Responsible Agent Jessica Miller

Date: 1/15/2020

Signature of the
For Hire Consultant Matthew Kestner

Matthew Kestner

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: February 17, 2020
Consultation Code: 03E12000-2020-I-0822
Event Code: 03E12000-2020-E-03870
Project Name: Des.: 1800147 - SR 157 - Culvert Replacement

Subject: Concurrence verification letter for the 'Des.: 1800147 - SR 157 - Culvert 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 to verify that the **Des.: 1800147 - SR 157 - Culvert 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, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*).

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

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

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

Project Description

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

Name

Des.: 1800147 - SR 157 - Culvert Replacement

Description

The project culvert (CV-157-011-21.14) is beneath SR 157 and is located 5.19 mi. south of SR 246 in Clay County, IN. The existing structure is a 60 inch (span) by 46 inch (rise) corrugated metal pipe arch with a length of 42 feet skewed 35° to the roadway. The year built is unknown and there are no known rehabilitations to the structure. According to the 2019 Culvert Inspection Report, the culvert has a condition rating of 4 (poor) and recommended for replacement. Approximately a 5- foot by 1-foot hole has rusted through the structure's invert starting about 10 feet in from the southwest end. The rusted through openings in the invert are allowing the flow to "pipe" around the structure, which is causing settlement in the roadway. The remainder of the pipe invert has had the bituminous coating worn away. Both ends of the structure are projecting from fill without end sections. The culvert has a channel protection rating of 6 (fair); there is moderate bank erosion at the northeast end and minor channel scour at the southwest end of the structure.

Per the INDOT Hydraulics Approval Letter dated January 28, 2018, there are two approved options for replacement. One option is to replace the structure with a 71-inch span by 47-inch rise corrugated metal pipe arch sumped 12 inches with a flared-end section at the inlet. The other option is to replace the structure with a 5-foot span by 4-foot rise reinforced concrete box sumped 12 inches with wingwalls. Class 1 riprap will be required at the outlet to protect the structure from scour.

Suitable summer bat habitat adjacent to the east and southwest of the project area. No trees will be removed as part of this project. There will be 0.7-acre of permanent right-of-way (ROW) required. No temporary ROW will be required. There will be no permanent lighting associated with this project. Temporary lighting my be necessary and will be directed away from wooded areas. There will be in-water work associated with this project.

A review of the USFWS database by INDOT - Crawfordsville District for Des. 1800147 on 12/2/2019 did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. No evidence of bats or bird nests were seen or heard within the culvert during an assessment on 10/17/2019. The project letting date is scheduled for 11/17/2021.

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.

   No

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

   No

10. Does the project include slash pile burning?

    No

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

    Yes

12. 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

13. 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

    - *AppDBridgeStructureAssessmentFormJune2016.pdf https://ecos.fws.gov/ipac/project/HKO2WDQ5Y5HWTHBFOLB6FN4GFE/projectDocuments/20336706*

14. 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

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

    No

16. 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

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

    Yes

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

    Yes

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

    No

20. 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?

    No

21. 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

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

    No

23. Is the location of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the project action area is not within suitable Indiana bat and/or NLEB summer habitat and is outside of 0.5 miles of a hibernaculum.

24. 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

25. **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

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

    Yes

Project Questionnaire

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

   No

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

   Yes

3. Please describe the proposed bridge work:

   Per the INDOT Hydraulics Approval Letter dated January 28, 2018, there are two approved options for replacement. One option is to replace the structure with a 71-inch span by 47-inch rise corrugated metal pipe arch sumped 12 inches with a flared-end section at the inlet. The other option is to replace the structure with a 5-foot span by 4-foot rise reinforced concrete box sumped 12 inches with wingwalls. Class 1 riprap will be required at the outlet to protect the structure from scour.

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

   Proposed work may take place in either the active or inactive seasons.

5. Please enter the date of the bridge assessment:

   October 17, 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.

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

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

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

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

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: June 12, 2020
Consultation Code: 03E12000-2020-SLI-0822
Event Code: 03E12000-2020-E-07818
Project Name: Des.: 1800147 - SR 157 - Culvert 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-0822

Event Code: 03E12000-2020-E-07818

Project Name: Des.: 1800147 - SR 157 - Culvert Replacement

Project Type: TRANSPORTATION

Project Description: The project culvert (CV-157-011-21.14) is beneath SR 157 and is located 5.19 mi. south of SR 246 in Clay County, IN. The existing structure is a 60 inch (span) by 46 inch (rise) corrugated metal pipe arch with a length of 42 feet skewed 35° to the roadway. The year built is unknown and there are no known rehabilitations to the structure. According to the 2019 Culvert Inspection Report, the culvert has a condition rating of 4 (poor) and recommended for replacement. Approximately a 5- foot by 1-foot hole has rusted through the structure's invert starting about 10 feet in from the southwest end. The rusted through openings in the invert are allowing the flow to "pipe" around the structure, which is causing settlement in the roadway. The remainder of the pipe invert has had the bituminous coating worn away. Both ends of the structure are projecting from fill without end sections. The culvert has a channel protection rating of 6 (fair); there is moderate bank erosion at the northeast end and minor channel scour at the southwest end of the structure.

Per the INDOT Hydraulics Approval Letter dated January 28, 2018, there are two approved options for replacement. One option is to replace the structure with a 71-inch span by 47-inch rise corrugated metal pipe arch sumped 12 inches with a flared-end section at the inlet. The other option is to replace the structure with a 5-foot span by 4-foot rise reinforced concrete box sumped 12 inches with wingwalls. Class 1 riprap will be required at the outlet to protect the structure from scour.

Suitable summer bat habitat adjacent to the east and southwest of the project area. No trees will be removed as part of this project. There will be 0.7-acre of permanent right-of-way (ROW) required. No temporary ROW will be required. There will be no permanent lighting associated with this project. Temporary lighting my be necessary and will be directed away from wooded areas. There will be in-water work associated with this project.

A review of the USFWS database by INDOT - Crawfordsville District for Des. 1800147 on 12/2/2019 did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. No evidence of bats

or bird nests were seen or heard within the culvert during an assessment on 10/17/2019. The project letting date is scheduled for 11/17/2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.23413143590115N87.07015487260088W

Counties: Clay, 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.

---

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.

From:	McWilliams, Robin
To:	Kestner, Matthew
Subject:	Re: [EXTERNAL] ECL Des. No. 1800147, Culvert Replacement, State Route 157 in Clay County
Date:	Thursday, January 23, 2020 10:24:51 AM

Dear Mr. Kestner,

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 (l6 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, 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 should follow the new Indiana bat/northern long-eared bat programmatic consultation process, if applicable (*i.e*. a federal transportation nexus is established). We will review that information once it is received.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections 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 project plans change such that fish and wildlife habitat may be affected, please recoordinate with our office as soon as possible. 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.

7. 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.

Robin McWilliams Munson

U.S. Fish and Wildlife Service
620 South Walker Street
Bloomington, Indiana 46403
812-334-4261 x. 207 Fax: 812-334-4273

Monday, Tuesday - 7:30a-3:00p
Wednesday, Thursday - telework 8:30a-3:00p

On Wed, Jan 15, 2020 at 11:25 AM Kestner, Matthew <Matthew.Kestner@burgessniple.com> wrote:

> Please find the attached Early Coordination Letter for Des. 1800147.
>
> **Matthew Kestner, GIT**
>
> **Geologist**
>
> **Burgess & Niple, Inc.**
>
> 317.237.2760 x1540
>
> Cell 304.580.1098
>
> 251 N. Illinois Ave.
>
> Indianapolis, IN 46204
>
> burgessniple.com

Appendix D

Section 106 of the NHPA

Minor Projects PA Assessment Form

Date: 4/13/2020

Project Designation Number: 1800147

Route Number: State Road (SR) 157

Project Description: Small Structure Replacement, 5.19 miles south of SR 246

The proposed project is located 5.19 miles south of State Route 246 in Clay County, Indiana. The small structure carries State Road 157 over an Unnamed Tributary (UNT) to White Oak Creek. The build date of the structure is unknown. The existing structure is a 5.1 ft. (span) x 3.9 ft. (rise) corrugated metal pipe and has a condition appraisal rating of 4. The proposed project will replace the small structure to improve hydraulic efficiency and extend the life of the crossing. The preferred replacement structure consists of a 5 ft. (span) x 4 ft. (rise) reinforced concrete box. The skew of the structure may increase to allow the construction of wingwalls. Minimal to no profile change is anticipated. Minimal roadway work is anticipated. Class I riprap will be required at the outlet. The project anticipates approximately 0.7 acre of right-of-way (ROW) acquisition.

Feature crossed (if applicable): UNT of White Oak Creek

Township: Harrison

City/County: Clay County

Information reviewed (please check all that apply):

General project location map ☒ USGS map ☒ Aerial photograph ☒

Written description of project area ☐ General project area photos ☒

Previously completed archaeology reports ☒ Interim Report ☒

Previously completed historic property reports ☐

Soil survey data ☒ Bridge inspection information ☒

Other (please specify): Bridge Inspection Application System (BIAS); Indiana State Historic Architectural and Archaeological Research Database (SHAARD); Indiana Buildings, Bridges, and Cemeteries Map (IBBCM) website; *Clay County Interim Report*; Arc Map GIS; Clay County GIS (accessed via https://clayin.wthgis.com); online street-view imagery; MPPA application (including maps and photographs) sent by Burgess & Niple dated March 3rd, 2020 and on file at INDOT-CRO.

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-9. Installation, replacement, repair, lining, or extension of culverts and other drainage structures under the conditions listed below ***[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)

One of the conditions below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under one of the following conditions *(Condition a, Condition b, or Condition c must be satisfied)*:
   a. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
   b. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
   c. The structure exhibits non-modern wood, stone, or brick structures or parts therein and the following conditions are met *(BOTH Condition 1 AND Condition 2 must be met):*
      1. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
      2. The structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

ii. Work involves the installation of a new culvert and other drainage structures AND/OR there may be impacts to unusual features, including historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under the following conditions *(BOTH Condition a and Condition b must be satisfied)*:
   a. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
   b. The subject structure exhibits one of the characteristics described below *(Condition 1, Condition 2 or Condition 3 must be satisfied)*.
      1. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
      2. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
      3. The structure exhibits non-modern wood, stone, or brick structures or parts therein but lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

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, performed a desktop review of the surrounding area. The INDOT-CRO historian reviewed structures adjacent to the project area utilizing online aerial, street-view photography, and the Clay County GIS website. The project area is located a rural, agricultural setting with an altered early-twentieth and mid-twentieth century residences located immediately adjacent to the project area. No unusual features adjacent to the project area were observed.

The most recent inspection report (M. Hughes; 7/8/2019) from the Bridge Inspection Application System (BIAS) was referenced to review the culvert. The subject structure (CV 157-011-21.14) carries SR 157 over an UNT of White Oak Creek and is a corrugated metal pipe (CMP) culvert; its date of construction is unknown. Examination of online street view photography and BIAS photographs show the subject structure is concrete and does not exhibit non-modern wood, stone, or brick structures or parts therein, or a context that suggests it might have engineering or historical significance.

Based on the available information, as summarized above, no above-ground concerns exist.

With regard to archaeological resources, a records check found that there are no previously recorded archaeological sites within the proposed project area. This portion of the SR 157 right-of-way has not been professionally investigated. The project will take place in previously disturbed soils within the existing SR 157 right-of-way. There is no potential for intact archaeological resources to be impacted. No additional archaeological investigation is necessary. However, if the project scope changes INDOT, CRO will need to be consulted to determine if additional investigation is needed.

Accidental Discovery-If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving 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): Clint Kelly and David Moffatt

****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.*

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: February 4, 2020

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

From: Rick Fitch
Crawfordsville District
251 N. Illinois Ave.
Indianapolis, IN 46204
Rick.fitch@burgessniple.com

Re: RED FLAG INVESTIGATION
DES # 1800147, State Project
Culvert Replacement
State Route 157, 5.19 miles south of State Route 246
Clay County, Indiana

PROJECT DESCRIPTION

Brief Description of Project:
The Indiana Department of Transportation (INDOT) has identified the need to address the deteriorated condition of Culvert 157-011-21.14 along SR 157. The proposed project is located 5.19 miles south of State Route 246 in Clay County, Indiana. The small structure carries State Route 157 over an Unnamed Tributary to White Oak Creek. The existing structure is a 42 ft long 60 in (span) x 46 in (rise) corrugated metal pipe arch. The preferred replacement structure consists of a 55 ft long 5' (span) x 4' (rise) reinforced concrete box. Rip rap will be placed at both ends of the culvert to protect against erosion, as well as, 100' along the roadside ditch to the north. The skew of the structure may increase to allow the construction of wingwalls. The roadside ditch that parallels SR 157 will be shifted to the north for approximately 85' to protect SR 157. Minimal to no profile change is anticipated. Minimal roadway work is anticipated.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # _CV 157-011-21.14_____
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 __0.03___ Permanent ☒ # Acres __0.70___, Not Applicable ☐

Type of excavation: Excavation will be required to remove the existing small structure and install the replacement structure. The anticipated excavation dimensions for the culvert replaced are approximately 15' wide by 7' deep by the length of the culvert assumed to be 55' long at this point. The relocated ditch is anticipated to be a depth of 5' for approximately 85' along the northern edge of the roadway.

Maintenance of traffic: Road closure will be required for approximately 21 days. The official detour will utilize SR 59 and SR 48.

Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐
State Project: ☒ LPA: ☐
Any other factors influencing recommendations: N/A

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	**N/A**	Recreational Facilities	**N/A**
Airports[1]	**N/A**	Pipelines	**N/A**
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:
Cemeteries: One (1) cemetery is located within the 0.5 mile search radius. The nearest cemetery is located 0.30 mile east 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	**10**
Canal Structures – Historic	**N/A**	Lakes	**13**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**N/A**
NWI-Lines	**N/A**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**N/A**	Sinkhole Areas	**N/A**
Rivers and Streams	**2**	Sinking-Stream Basins	**N/A**

Explanation:
Rivers and Streams: Two (2) river and stream segments are located within the 0.5 mile search radius. Although not mapped within the project area, an unnamed tributary to White Oak Creek, likely extends into 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: Ten (10) NWI wetlands are located within the 0.5 mile search radius. One (1) wetland is adjacent to the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

Lakes: Thirteen (13) lakes are located within the 0.5 mile search radius. The nearest lake is located 0.05 mile west of the project area. No impact is expected.

URBANIZED AREA BOUNDARY SUMMARY

Explanation:
No urbanized area boundary was identified within the 0.5 mile search radius.

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	**3**	Mineral Resources	**N/A**
Mines – Surface	**2**	Mines – Underground	**N/A**

Explanation:
Petroleum Wells: Three (3) petroleum wells are located within the 0.5 mile search radius. One (1) petroleum well is located adjacent to the project area. Coordination with IDNR Oil and Gas Division will occur.

Mines – Surface: Two (2) surface mines are located within the 0.5 mile search radius. The nearest surface mine is 0.27 mile northwest 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 Clay 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 USFWS 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 farm fields. The July 8, 2019, inspection report for Culvert #157-011-21.14 states that no evidence of bats was seen or heard under or in the culvert. 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”.

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE: N/A

WATER RESOURCES:
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:

One (1) wetland is located adjacent to the project area.

One (1) stream segment, unnamed tributary to White Oak Creek, likely extends into the project area.

URBANIZED AREA BOUNDARY: N/A

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

HAZARDOUS MATERIAL CONCERNS: N/A

ECOLOGICAL INFORMATION:
Coordination with USFWS and DNR 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 Digitally signed by Nicole Fohey-Breting Date: 2020.02.04 14:15:01 -05'00' _____(Signature)

Prepared by:
Rick Fitch
Environmental Planner
Burgess & Niple

Graphics:
SITE LOCATION: YES

INFRASTRUCTURE: YES

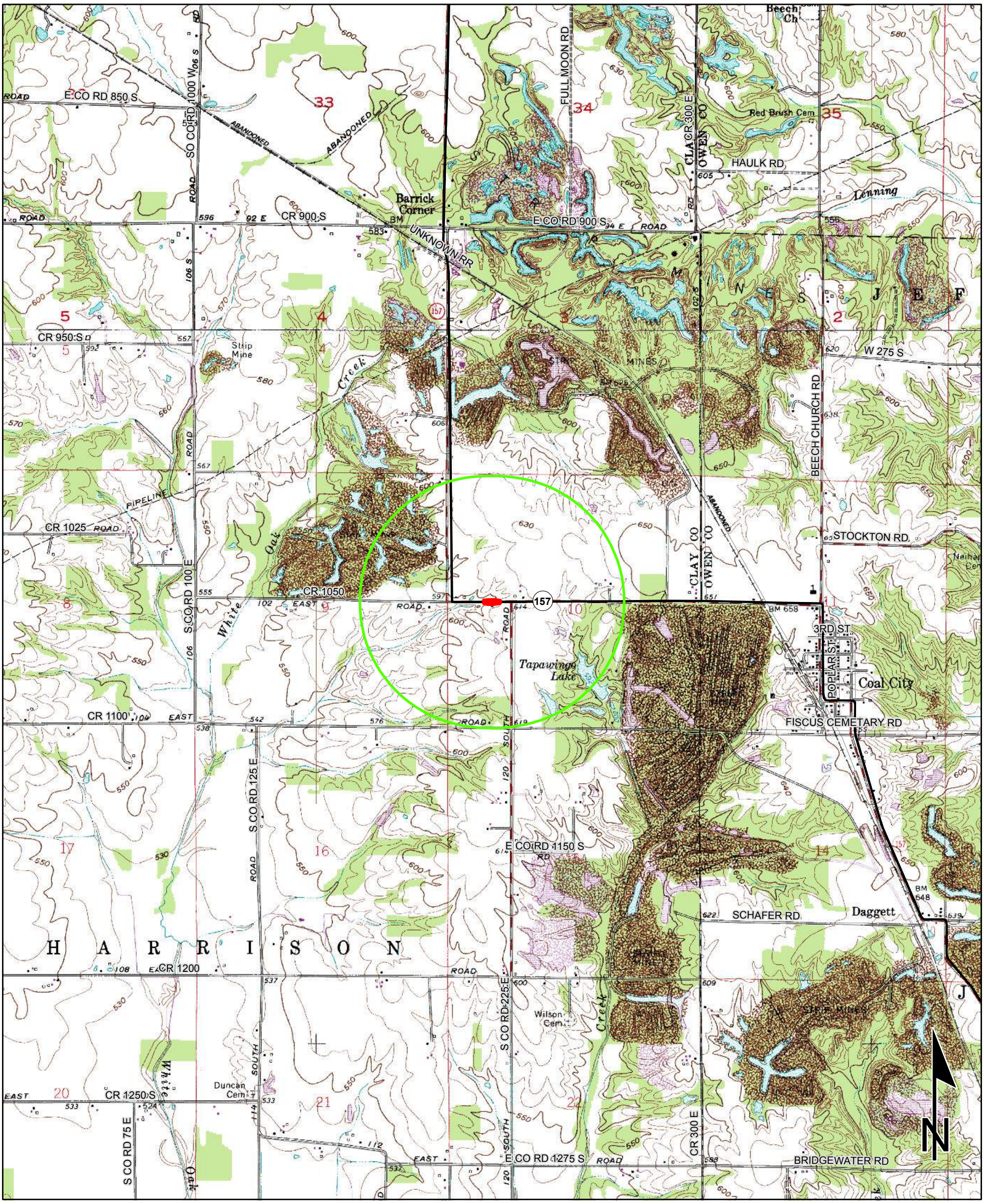
WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: N/A

Red Flag Investigation - Site Location
State Route 157, 5.19 miles south of State Route 246
Des. 1800147 Culvert Replacement
Clay County, Indiana



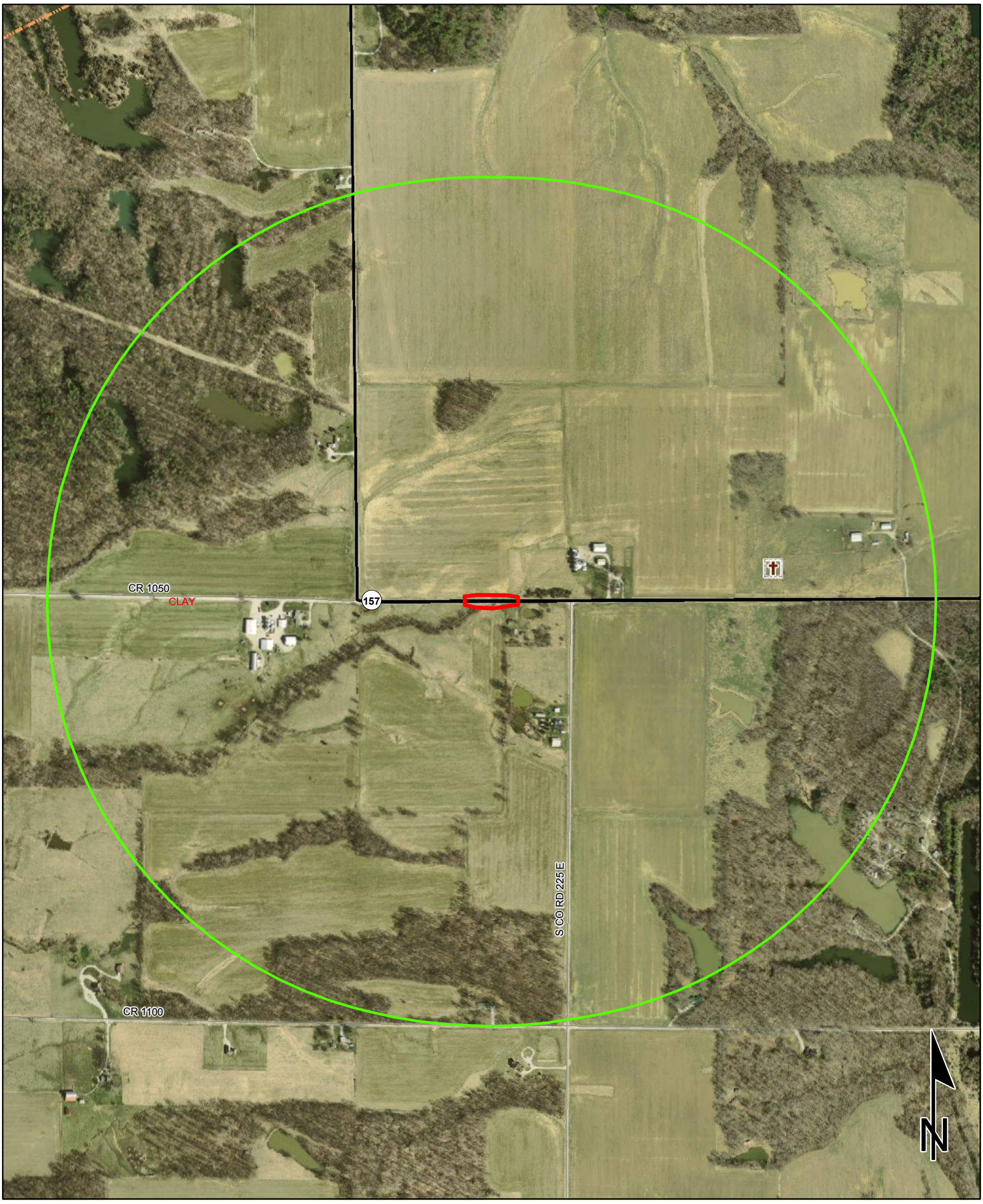
0.5 0.25 0 0.5 Miles

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.

COAL CITY
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
State Route 157, 5.19 miles south of State Route 246
Des. 1800147 Culvert Replacement
Clay County, Indiana



0.1 0.05 0 0.1 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
State Route 157, 5.19 miles south of State Route 246
Des. 1800147 Culvert Replacement
Clay County, Indiana

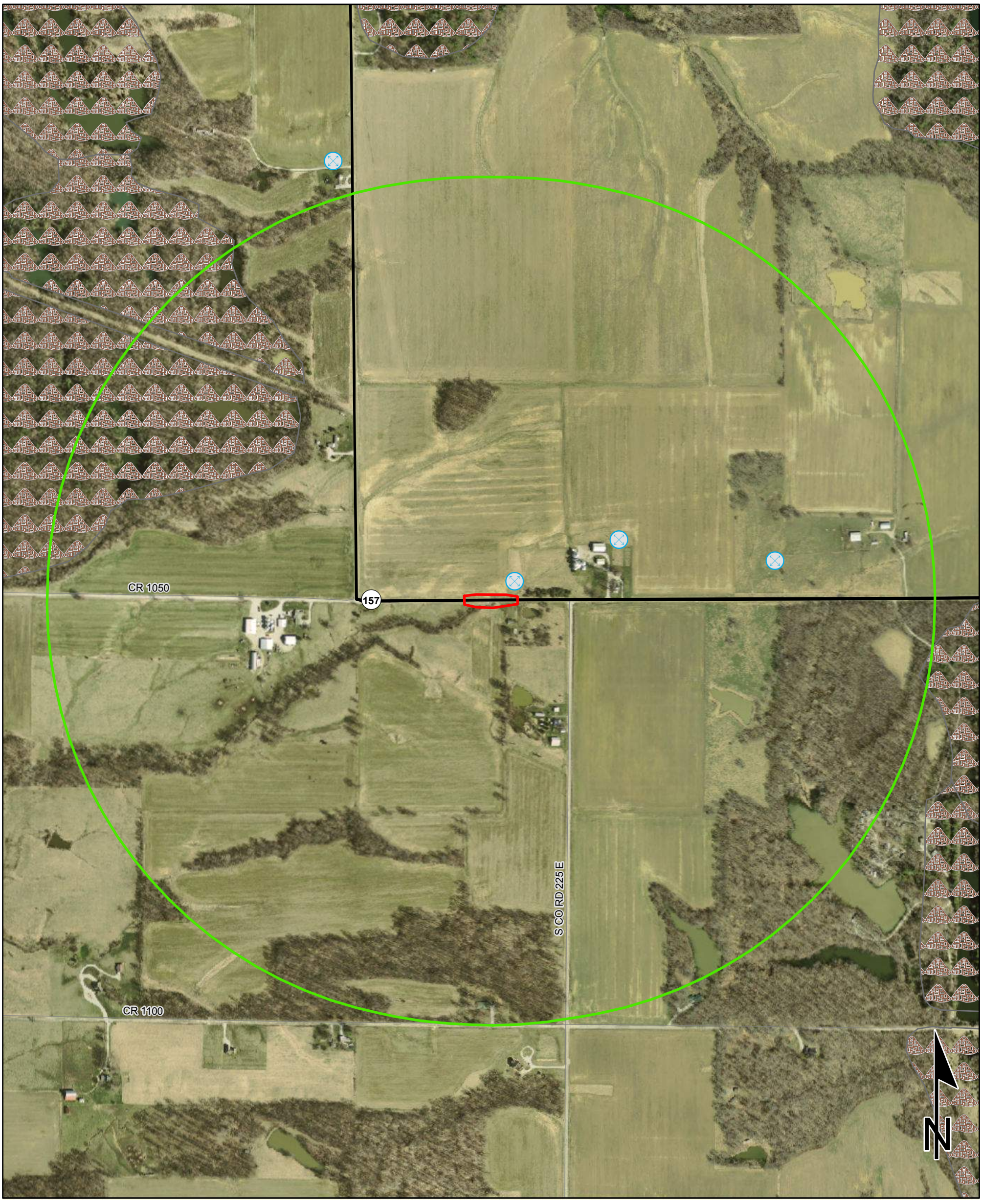
0.15 0.075 0 0.15 Miles

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 and Mineral Exploration
State Route 157, 5.19 miles south of State Route 246
Des. 1800147 Culvert Replacement
Clay County, Indiana



0.15 0.075 0 0.15 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: Clay

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Obovaria subrotunda	Round Hickorynut	C	SE	G4	S1
Pleurobema clava	Clubshell	LE	SE	G1G2	S1
Villosa lienosa	Little Spectaclecase		SSC	G5	S3
Insect: Odonata (Dragonflies & Damselflies)					
Enallagma divagans	Turquoise Bluet		SR	G5	S3
Amphibian					
Acris blanchardi	Blanchard's Cricket Frog		SSC	G5	S4
Lithobates areolatus circulosus	Northern Crawfish Frog		SE	G4T4	S2
Reptile					
Clonophis kirtlandii	Kirtland's Snake		SE	G2	S2
Crotalus horridus	Timber Rattlesnake		SE	G4	S2
Nerodia erythrogaster neglecta	Copperbelly Water Snake	PS:LT	SE	G5T3	S2
Terrapene ornata ornata	Ornate Box Turtle		SE	G5T5	S1
Thamnophis proximus proximus	Western Ribbon Snake		SSC	G5T5	S3
Bird					
Aimophila aestivalis	Bachman's Sparrow			G3	SXB
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Haliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
Lanius ludovicianus	Loggerhead Shrike		SE	G4	S3B
Mammal					
Myotis sodalis	Indiana Bat	LE	SE	G2	S1
Nycticeius humeralis	Evening Bat		SE	G5	S1
Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Carex atlantica ssp. atlantica	Atlantic Sedge		SE	G5T5	S1
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Panax quinquefolius	American Ginseng		WL	G3G4	S3
High Quality Natural Community					
Wetland - seep acid	Acid Seep		SG	GU	S1