Indiana Department of Transportation

County Rush Route CR 450 S over Branch of Little Flatrock River Des. No. 1802927

FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	County Road (CR) 450 South /Rush County
Designation Number:	1802927
Project Description/Termini:	The project involves the replacement of Rush County Bridge No. 155 carrying CR 450 South over Branch of Little Flatrock River, approximately 0.6 mile west of United States (US) Highway 52. From the center point of the CR 450 South intersection with CR 365 East, the project will extend approximately 150 feet west and 540 feet east along CR 450 South, for a total project length of 690 feet (0.13 mile), and for approximately 185 feet north and 220 feet south along CR 365 East, for a total project length of 405 feet (0.08 mile).

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 2-22-2021
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: Brittney Layton, M.A./Butler, Fairman, & Seufert, 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 January 13, 2020, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, page 1.

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

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

Remarks:

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

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

Sponsor of the Project: Rush County Board of Commissioners INDOT District: Greenfield

Local Name of the Facility: CR 450 South/Rush County Bridge No. 155

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

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

PURPOSE AND NEED:

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

Need

The need for this project stems from the deteriorated condition of Rush County Bridge No. 155 carrying CR 450 South over Branch of Little Flatrock River. According to the April 2, 2020 INDOT Bridge Inspection Report, the structure is in poor condition with advanced deterioration (Appendix I, pages 9 to 12). Items noted on the report include:

- Exposed rebar and spalling throughout the structure,
- Minor cracks and efflorescence on abutments,
- Both footings exposed,
- Two mats of rebar noted on the bottom flanges of the girders,
- Girders spalled with exposed and rusted rebar.

Both the superstructure and substructure received a rating of 4 (out of 9), indicating poor condition with advanced deterioration. These ratings contributed towards the current sufficiency rating of 24.3 (out of 100). Additionally, due to the inadequate waterway opening, overflow occurs along CR 450 South, flooding the roadway.

Purpose

The primary purpose of this project is to have a structure with superstructure and substructure condition ratings of 7 (good condition), or better, respectively, at the crossing of CR 450 South over Branch of Little Flatrock River. A secondary purpose is to correct the overflow problems occurring at this location of Branch of Little Flatrock River.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Rush Municipality: N/A

Limits of Proposed Work: The project involves the replacement of Rush County Bridge No. 155 carrying CR 450 South over Branch of Little Flatrock River, approximately 0.6 mile west of United States (US) Highway 52. From the center point of the CR 450 South intersection with CR 365 East, the project will extend approximately 150 feet west and 540 feet east along CR 450 South, for a total project length of 690 feet (0.13 mile), and for approximately 185 feet north and 220 feet south along CR 365 East, for a total project length of 405 feet (0.08 mile).

Total Work Length: 0.13 Mile(s) Total Work Area: _____ 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:

The project is located on CR 450 South over Branch of Little Flatrock River approximately 0.6 mile west of US Highway 52 in Rush County, Indiana. The project is also located in Sections 23 and 26, Township 13 North, Range 10 East within

the United States Geological Survey (USGS) Rushville, Indiana Quadrangle.

Existing Conditions:

CR 450 South, a Rural Minor Collector, is a bituminous surface roadway with two 7.5-foot-wide through lanes adjoined by grassy shoulders varying from approximately 1-to 6-feet-wide. No sidewalks, medians, or curbs and gutters are present. Overhead utilities are located along the south side of the roadway. Water resources within the study limits include one stream, Branch of Little Flatrock River, and one wetland (Appendix F, pages 1 to 5). The bridge is in a rural area consisting of agricultural and residential land uses.

CR 365 East, a Rural Minor Collector, is a bituminous surface roadway with two 9-foot-wide through lanes adjoined by grassy shoulders approximately 6-feet-wide south of CR 450 South. Guardrails are present along both sides of CR 365 East north of CR 450 South. No sidewalks, medians, or curbs and gutters are present. Overhead utilities are located along the east side of the roadway south of CR 450 South.

The existing Rush County Bridge No.155 (National Bridge Inventory (NBI) Number: 70-00141) over Branch of Little Flatrock River is a single span concrete, multi-beam bridge constructed in 1940 with a maximum span of 24 feet and a structure length of 28 feet. The bridge is not considered historic and is listed in the 2010 Indiana Historic Bridge Inventory (HBI) as "not eligible" for the National Register of Historic Places (NRHP) (Appendix I, page 8). The structure is 21.8 feet in width with a clear roadway of 20.5 feet, including two (2) 10-foot-wide through lanes with no shoulders, curbs, or sidewalks.

The bridge is deteriorated with cracking, exposed rebar, and efflorescence throughout the structure. The superstructure and substructure both received a poor condition rating of 4 (out of 9) with advanced deterioration. Additionally, both the deck and wearing surface were given a fair condition rating of 5 (out of 9), with minor section loss, respectively. Two mats of rusted rebar were noted on the bottom flanges of the girders, also. Furthermore, the abutments presented with cracks and efflorescence while both footings are exposed. The existing structure is undersized for the location, as during a 100-year storm event, the stream channel fills with water that overflows onto CR 450 South above the existing bridge.

Preferred Alternative:

The preferred alternative includes removing the existing single span multi-beam bridge and replacing it with a single span, composite prestressed concrete box beam bridge on CR 450 South. The new bridge will have an overall length of 60 feet, consisting of one span at 59 feet, an out-to-out width of 24 feet 6 inches, and will be placed on a 15-degree left skew over Branch of Little Flatrock River. The bridge will have a clear roadway width of 24 feet consisting of two, 9-foot-wide travel lanes (one in each direction) bordered by 3-foot-wide shoulders. Metal bridge railings, approximately 2-feet 9-inches in height, will be installed along both lengths of the structure. No sidewalks or curbs will be constructed as part of this project (Appendix B, pages 10 to 15).

Moreover, a single span concrete box beam bridge will improve the waterway opening across Branch of Little Flatrock River, as the current bridge's insufficient size leads to roadway overflow. Due to the box beam bridge having a significantly greater depth than the existing Tee-Beam structure, and also to ensure that the new bridge will remain above the 100-year storm elevation, the vertical alignment of the new bridge will be raised by approximately 3 feet. This increase in the vertical alignment contributes to the increase in the bridge's overall length and will help prevent roadway overflow during 100-year storm events.

Guardrail will be installed along CR 450 South approaching the bridge for approximately 56 feet and 149 feet in the northwest and northeast quadrants, and for approximately 100 feet along the southwest and southeast quadrants, respectively. Further, the approaches will have full-depth pavement replacement along CR 450 South for approximately 215 feet west and 315 feet east of the bridge in order to accommodate the grade change at the bridge with an additional 50 feet of incidental work beyond that on either end (Appendix B, page 8). The CR 450 South approaches will consist of two 10-foot-wide through lanes adjoined by 6-foot-wide paved shoulders. The total project length over Branch of Little Flatrock River is approximately 0.13 mile or 690 feet. The project is scheduled to let in fall of 2023 with construction anticipated to begin in spring of 2024.

Tree clearing will occur in the northwest and northeast quadrant of the bridge. Branch of Little Flatrock River will have approximately 60 linear feet (LFT) of permanent impacts due to riprap placement within the channel. Excavation up to 2 feet in depth will occur in the channel for riprap placement. The riprap will be placed on the new 2:1 spill slopes over geotextile fabric approximately 18 inches deep on both banks for scour protection. Approximately 35 LFT of 6-inch End Bent Drain Pipe will be installed underneath the riprap at the bottom of the concrete end bents at either end of the bridge. The End Bent Drain Pipes will extend horizontally through the riprap and will have a rodent screen over either opening.

CR 365 East will also have full depth repavement to increase its vertical alignment by 1.5 feet in order to tie into CR 450 South. The roadway will be 32-feet-wide consisting of two, 10-foot-wide travel lanes (one in each direction), bordered by 6-foot-wide shoulders. Along the east side of CR 365 East and south of CR 450 South, approximately 900 feet of guardrail will be installed then connected to the existing guardrail system. Where guardrail is present, the shoulder of CR 365 East will be paved to the face of the guardrail. Additionally, a shoulder ditch will be constructed south of the intersection along the west side of CR 365 East, as there is an existing hill located in the southwest quadrant (Appendix B, page 9).

The preferred maintenance of traffic (MOT) plan will be a road closure with a detour. For motorists traveling east/west, the detour route will involve utilizing CR 250 East and US 52, adding up to approximately 3.8 miles and 5 minutes travel to a through trip (Appendix B, page 7). For motorists traveling north/south, the detour route will involve utilizing CR 365 East, CR 525 South, and US 52, adding up to approximately 2.8 miles and 4 minutes travel to a through trip. The detour will be in place approximately 6 months (see the MOT Section within this CE Document).

From the center point of the CR 450 South intersection with CR 365 East, the project will extend approximately 150 feet west and 540 feet east along CR 450 South, for a total project length of 690 feet (0.13 mile), and for approximately 185 feet north and 220 feet south along CR 365 East, for a total project length of 405 feet (0.08 mile). The termini are logical because they encompass only the area necessary to replace the bridge and improve the approaches. This project has independent utility as it addresses the specific bridge conditions occurring at this location.

The preferred alternative will meet the stated purpose and need of the project by improving the existing structure such that it will increase the condition rating values for the deck and superstructure to values of 7, or better, respectively, and correct the overflow problems occurring on CR 450 South over Branch over Little Flatrock River.

OTHER ALTERNATIVES CONSIDERED:

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

Do-Nothing Alternative:

This alternative would involve no cost or environmental impacts; however, this alternative would not meet the purpose and need of the project, which is to address the deteriorating condition of the bridge. Therefore, the Do-Nothing Alternative does not meet the project's purpose and need and was dismissed from further consideration.

Alternative 2: Wetland Avoidance Alternative

A second alternative was considered that avoided the wetland impacts in the southeast quadrant of the bridge. This alternative would have required moving the road further to the north which would have required adding a curve to an otherwise straight roadway, in addition to requiring greater right-of-way (ROW) impacts. Furthermore, environmental impacts due to tree removal would be greater as there is a small, forested area that runs along Branch of Little Flatrock River, north of the Rush County Bridge No. 155 (see the Wetland/Photo Orientation Map and Site Photographs in Appendix B, pages 3, 4, and 6). The Wetlands Avoidance Alternative does meet the stated purpose and need of the project; however, since this alternative would introduce a curve to a straight roadway, resulting in an increased ROW and additional tree impacts, it was dismissed from further consideration.

The Do Nothing Alternative is not feasible, prudent or practicable because (*Mark all that apply*):

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

ROADWAY CHARACTER: CR 450 South

Functional Classification: Rural Minor Collector
Current ADT: 188 VPD (2020) Design Year ADT: 302 VPD (2044)
Design Hour Volume (DHV): N/A Truck Percentage (%) 5%
Designed Speed (mph): 55 Legal Speed (mph): 55

	Existing		Proposed	
Number of Lanes:	2 @ 7.5 feet		2 @ 10 feet	
Type of Lanes:	2 through lanes		2 through lanes	
Pavement Width:	15	ft.	32	ft.
Shoulder Width:	1-6 (grassy)	ft.	6 (paved)	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.

ROADWAY CHARACTER: CR 365 East

Functional Classification: Rural Local Collector
Current ADT: 150 VPD (2019) Design Year ADT: 302 VPD (2044)
Design Hour Volume (DHV): N/A Truck Percentage (%) 5%
Designed Speed (mph): 55 Legal Speed (mph): 55

	Existing		Proposed	
Number of Lanes:	2 @ 9 feet		2 @ 10 feet	
Type of Lanes:	2 through lanes		2 through lanes	
Pavement Width:	18	ft.	32	ft.
Shoulder Width:	6 (grassy)	ft.	6 (paved, gravel)	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

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): Rush County Bridge No. 155/70-00141 Sufficiency Rating: 24.3, BIAS Report 2020
(Rating, Source of Information)

	Existing		Proposed	
Bridge Type:	Multi-Beam Bridge		Composite Box Beam Bridge	
Number of Spans:	One (1) at 24 feet		One (1) at 59 feet	
Weight Restrictions:	6-10	ton	25	Ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	20.5	ft.	24	ft.
Outside to Outside Width:	21.8	ft.	24.5	ft.
Shoulder Width:	N/A	ft.	3	ft.
Length of Channel Work:			60	ft.

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

Remarks:

The existing Rush County Bridge No. 155 (NBI: 70-00141) over Branch of Little Flatrock River is a two-lane, single span concrete, multi-beam bridge with a maximum span of 24 feet and a structure length of 28 feet. Although constructed in 1940, the bridge is not considered historic and is listed in the Indiana HBI as "not eligible" for the NRHP (Appendix I, page 8).

The preferred alternative will include removing and replacing Rush County Bridge No. 155 with a single span, composite prestressed concrete box beam bridge (Appendix B, pages 8 to 15). The new bridge will have an overall length of 60 feet, consisting of one span at 59 feet, an out-to-out width of 24 feet 6 inches, placed on a 15-degree left skew over Branch of Little Flatrock River. Due to the box beam bridge having a significantly greater depth than the existing Tee-Beam structure, and also to ensure that the new bridge will remain above the 100-year storm elevation, the vertical alignment of the new bridge will be raised by approximately 3 feet. This increase in the vertical alignment contributes to the increase in the bridge's overall length. The bridge will have a clear roadway width of 24 feet, consisting of two (2) 9-foot-wide travel lanes (one in each direction) bordered by 3-foot-wide shoulders. Metal bridge railings, approximately 2-feet 9-inches in height, will be installed along both lengths of the structure. No sidewalks or curbs will be constructed as part of this project. There is no other work to bridges, culverts, or stream crossings planned as part of this project.

	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

County Rush Route CR 450 S over Branch of Little Flatrock River Des. No. 1802927

Remarks: The preferred MOT plan will be a road closure with a detour.

For motorists traveling east/west, the detour route will involve utilizing CR 250 East and US 52, adding up to approximately 3.8 miles and 5 minutes travel to a through trip (Appendix B, page 7). For motorists traveling north/south, the detour route will involve utilizing CR 365 East, CR 525 South, and US 52, adding up to approximately 2.8 miles and 4 minutes travel to a through trip. The detour will be in place approximately 6 months.

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 will occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 173,690 (FY 2020) Right-of-Way: $ 60,000 (FY 2022) Construction: $ 1,545,000 (FY 2024)

Anticipated Start Date of Construction: Spring 2024

Date project incorporated into STIP Addendum A20-01 approved on July 25, 2019

	Yes	No
Is the project in an MPO Area?		X

If yes,

Name of MPO N/A

Location of Project in TIP N/A

Date of incorporation by reference into the STIP N/A

RIGHT OF WAY:

	Amount (acres)	
Land Use Impacts	Permanent	Temporary
Residential (lawn)	0.140	0.017
Commercial	0.000	0.000
Agricultural	0.050	0.000
Forest (partially open pasture)	0.060	0.000
Wetlands	0.005	0.000
Other: Fallow Field	0.250	0.000
Other:	0.000	0.000
TOTAL	0.505	0.017

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

Remarks: The project requires approximately 0.505 acre of permanent ROW acquisition. Of the total 0.505 acre of permanent ROW needed for this project, 0.140 acre will be from residential lawns, 0.050 from agricultural lands, 0.060 acre from forested lands, 0.005 acre from wetlands, and 0.250 acre from fallow field habitat. The project will also require 0.017 acre of temporary ROW from residential land for private drive

reconstruction.

The existing ROW measured from the centerline of CR 450 South varies between approximately 17 to 20 feet north and south throughout the project area with an extension at the bridge of 35 feet both north and south of the centerline. The existing ROW measured from the centerline of CR 365 East extends approximately 45 feet both east and west.

The proposed ROW measured from the centerline of CR 450 South will extend varies from 35 to 40 feet both north and south for a total of 70 to 80 feet, with an extension for temporary ROW of 50 feet north of the centerline for private drive reconstruction at the east end of the project. The proposed ROW, measured from the centerline of CR 365 East, south of CR 450 South, will extend from 25 to 30 feet both east and west of CR 365 East for a total of 50 to 60 feet. No change to existing ROW limits along CR 365 East north of CR 450 South will occur.

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

SECTION A – ECOLOGICAL RESOURCES

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

Remarks:

Based on a desktop review, a site visit on August 29, 2019 by Butler, Fairman, and Seufert, Inc. (BF&S), the aerial map of the project area (Appendix B, page 3), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page 6), there are twelve (12) streams and rivers located within the 0.5 mile search radius. There is one stream, Branch of Little Flatrock River, present within or adjacent to 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.

Branch of Little Flatrock River

Branch of Little Flatrock River intersects and flows south through the project area. Branch of Little Flatrock River has an approximate 30-foot bankfull width and approximate bankfull depth of 4 feet. During a site visit conducted by BF&S, the ordinary high water mark (OHWM) depth was noted as approximately 1.5 feet and the OHWM width was identified as approximately 14 feet. Branch of Little Flatrock River has a drainage area upstream of the study limits of approximately 1.9 square miles. The substrate of Branch of Little Flatwater River is primarily silt. It is classified as average quality due to the presence of riffles and pools, moderate sinuosity, and relatively stable streambanks. Branch of Little Flatrock River should be considered a "Waters of the United States" due to being a perennial USGS blue line stream (Appendix F).

Branch of Little Flatrock River will have approximately 60 LFT of permanent impacts due to riprap placement within the channel. No other permanent impacts to the Branch of Little Flatrock River are anticipated. The riprap will be placed on the new 2:1 spill slopes over geotextile fabric approximately 18 inches deep on both banks for scour protection. Approximately 35 LFT of 6-inch End Bent Drain Pipe will

be installed underneath the riprap at the bottom of the concrete end bents at either end of the bridge. The End Bent Drain Pipes will extend horizontally through the riprap and will have a rodent screen over either opening.

A *Waters of the U.S. Determination Report* was completed for the project on July 24, 2020. Please refer to Appendix F, pages 1 to 5 for the *Waters of the U.S. Determination Report.* It was determined that one stream, Branch of Little Flatrock River, was identified within the project study limits and should be considered a jurisdictional "Waters of the U.S." The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Early Coordination

Early coordination letters were sent on April 2, 2020 to USACE, United States Fish & Wildlife Service (USFWS), and the Indiana Department of Natural Resources (IDNR) (Appendix C, pages 1 to 3).

The USACE did not respond.

The standard automatic response letter was generated for the Indiana Department of Environmental Management (IDEM) Online Roadway Letter (Appendix C, pages 6 to 13). IDEM did not respond with any specific recommendations regarding the project nor are there any specific IDEM commitments.

The USFWS responded on April 6, 2020 with recommendations to avoid or minimize impacts to the stream channel (Appendix C, pages 27 to 28). Recommendations included restricting work to the minimum necessary for installing the bridge and restricting low-water work. All applicable USFWS recommendations are included in the *Environmental Commitments* section of this CE document.

The IDNR responded on May 1, 2020 with recommendations to avoid or minimize impacts to the stream, including that the bridge should span the entire channel (Appendix C, pages 14 to 17). 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:

Based on a desktop review, a site visit on August 29, 2019 by BF&S, the aerial map of the project area (Appendix B, page 3), and the water resource map in the RFI report (Appendix E, page 6) there is one lake within the 0.5 mile search radius. No other surface waters are present within or adjacent to the project area; therefore, no impacts are expected.

A *Waters of the U.S. Determination Report* was completed for the project on July 24, 2020. Please refer to Appendix F for the *Waters of the U.S. Determination Report*. It was determined that no other surface waters are present within the project area. The USACE makes all final determinations regarding jurisdiction.

Early Coordination

Early coordination letters were sent on April 2, 2020 to the USACE, the USFWS, and the IDNR (Appendix C, pages 1 to 3).

The USACE did not respond.

The standard automatic response letter was generated for the IDEM Online Roadway Letter (Appendix C, pages 6 to 13). IDEM did not respond with any specific recommendations regarding the project nor are there any specific IDEM commitments.

The USFWS responded on April 6, 2020 with no specific recommendations pertaining to surface waters (Appendix C, pages 27 to 28).

The IDNR responded on May 1, 2020 with no specific recommendations pertaining to surface waters (Appendix C, pages 14 to 17).

	Presence	Impacts Yes	Impacts No
Wetlands	X	X	

Total wetland area: 0.01 acre(s) Total wetland area impacted: 0.005 acre(s)

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland 1	PEM	0.01	0.005	The wetland is located in the immediate southeast quadrant of the bridge.

Wetlands (*Mark all that apply*)	Documentation	ES Approval Dates
Wetland Determination	X	N/A, LPA
Wetland Delineation	X	N/A, LPA
USACE Isolated Waters Determination		
Mitigation Plan		

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

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

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

Remarks:

Based on a review of the National Wetlands Inventory (NWI) online mapper (https://www.fws.gov/wetlands/data/Mapper.html), a site visit on August 29, 2019 by BF&S, the USGS topographic map (Appendix B, page 2), and the water resources map in the RFI report (Appendix E, page 6), there are four (4) wetlands located within the 0.5 mile search radius. There is one wetland present within or adjacent to the project area.

Wetland 1

Wetland 1 is located within the project area in the southeast quadrant of the bridge. It is identified as a palustrine, emergent (PEM) wetland of approximately 0.01 acre in size. Wetland 1 is of average quality due to its relatively diverse mixture of vegetation. Wetland 1 should be considered a jurisdictional "Waters of the U.S." Approximately 0.005 acre of impact is expected to Wetland 1 in order to construct the bridge. No mitigation is anticipated.

Orange fencing and "Do Not Disturb" signs will be installed around the remaining section of wetland not impacted by construction. Additionally, a note on the construction plans to the contractor will be made stating "Do Not Disturb."

An alternative was considered that avoided the wetland impacts in the southeast quadrant of the bridge. This alternative would have required adding a curve to an otherwise straight roadway, in order to move the road north. In addition, a shift in alignment would result in increased ROW and tree impacts on the north side of CR 450 South. Therefore, this alternative was dismissed.

A *Waters of the U.S. Determination Repor*t was completed for the project on July 24, 2020. Please refer to Appendix E for the *Waters of the U.S. Determination Report*. It was determined that one wetland is located within the project study area and should be considered a jurisdictional "Waters of the U.S." The USACE makes all final determinations regarding jurisdiction.

Early Coordination

Early coordination letters were sent on April 2, 2020 to the USACE, the USFWS, and the IDNR (Appendix C, pages 1 to 3).

The USACE did not respond.

The standard automatic response letter was generated for the IDEM Online Roadway Letter (Appendix C, pages 6 to 13). IDEM did not respond with any specific recommendations regarding the project nor are there any specific IDEM commitments.

The USFWS responded on April 6, 2020 with no specific recommendations to avoid or minimize impacts to wetlands (Appendix C, pages 27 to 28).

The IDNR responded on May 1, 2020 with recommendations to avoid or minimize impacts to the wetlands, including that contacts may need to be made to the IDEM 401 program and USACE 404 program (Appendix C, pages 14 to 17). Further coordination with IDEM and USACE will occur during the permitting phase of the project. All applicable IDNR recommendations are included in the *Environmental Commitments* section of this CE document.

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

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

Remarks:

Based on a desktop review, a site visit on August 29, 2019 by BF&S, and the aerial map of the project area (Appendix B, page 3), there are residential, agricultural, forested, fallow field, and riparian habitats located within the project area. The agricultural habitat consists primarily of pasture for livestock. The forested habitat includes common hackberry (*Celtis occidentalis*) and green ash (*Fraxinus pennsylvanica*). The residential habitat consists primarily of mowed grass. Additional dominant species within the project area include river bulrush (*Bolboschoenus fluviatilis*), giant goldenrod (*Solidago gigantea*), reed canary grass (*Phalaris arundenacea*), woolgrass (*Scirpus cyperinus*), Kentucky bluegrass, (*Poa pratensis*), and hop trefoil (*Trifolium campestre*).

Approximately 0.5 acre total of terrestrial habitat will be permanently impacted. Approximately 0.05 acre of agricultural habitat will be permanently affected. Approximately 0.14 acre of permanent impacts and

approximately 0.017 acre of temporary impacts to residential lawn habitat will occur. Approximately 0.25 acre of permanent impacts to fallow field habitat will occur. Since this area is sparsely forested, it is estimated that approximately 10 trees (0.06 acre) will be removed for the project, which will include the tree species the common hackberry (*Celtis occidentalis*) and green ash (*Fraxinus pennsylvanica*), to be removed during the winter season. Avoidance alternatives will not be practicable while meeting the purpose and need of this project which is to improve the existing structure such that it will increase the condition rating values for the deck and superstructure to values of 7, or better, respectively, and provide a hydraulically adequate crossing at this location. Mitigation is not anticipated to be required.

Early Coordination

Early coordination letters were sent on April 2, 2020 to the USACE, the USFWS, and the IDNR (Appendix C, pages 1 to 3).

The USACE did not respond.

The standard automatic response letter was generated for the IDEM Online Roadway Letter (Appendix C, pages 6 to 13). IDEM did not respond with any specific recommendations regarding the project nor are there any specific IDEM commitments.

The USFWS responded on April 6, 2020 with recommendations to avoid or minimize impacts to the terrestrial habitat (Appendix C, pages 27 to 28). Recommendations include minimizing impacts to wildlife crossings under the bridge/culvert. All applicable USFWS recommendations are included in the *Environmental Commitments* section of this CE document.

The IDNR responded on May 1, 2020 with recommendations to avoid or minimize impacts to the terrestrial habitats, including revegetating all bare and disturbed areas that will not be mowed and maintained (Appendix C, pages 14 to 17). 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:

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 2), 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, pages 18 to 20). The IGS Environmental Assessment Report stated that the project area's mineral resources include a high potential for bedrock and a low potential for sand and gravel resources; active or abandoned mineral resource extraction sites have not been documented within half a mile of the project area. Response from the IGS has been communicated with the designer on July 8, 2020. No impacts are expected.

Indiana Department of Transportation

County Rush Route CR 450 S over Branch of Little Flatrock River Des. No. 1802927

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

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

Remarks:

Based on a desktop review and the RFI report (Appendix E, pages 1 to 5), completed by BF&S on March 9, 2020, the IDNR Rush County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in the RFI (Appendix E, page 7). 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 May 1, 2020 (Appendix C, pages 14 to 17), the Natural Heritage Program's Database has been checked and no species or critical habitats are located within the project area. In addition, the IDNR stated in their early coordination letter that repairs to the bridge could affect nesting birds or roosting bats. Cliff and Barn Swallows, among other species, often nest on the underside of road bridges and many bat species roost in expansion joints and other concrete crevices on road bridges. During the BF&S site visit on August 29, 2019, no evidence of roosting birds or bat species was found in the underside, crevices, or other areas of Rush County Bridge No. 155 (Appendix C, pages 50 to 51). During the INDOT Bridge Inspection on April 2, 2020, no evidence of bats nor birds were seen or heard under the bridge (Appendix I, page 12).

Further coordination with INDOT Ecology & Waterway Permitting occurred on December 18, 2020 (Appendix C, page 55). This type of bridge is commonly used by birds protected by the Migratory Bird Treaty Act per IDNR. The bridge should be inspected prior to nesting season to ensure birds are not using the structure. If birds have been found using the structure, avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the "Potential Migratory Bird on Structure Unique Special Provision. "

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages 30 to 35). 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 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 March 20, 2020, and based on the responses provided, the project was found to "*may affect, not likely to adversely affect*" the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on March 24, 2020, and requested USFWS's review of the finding (Appendix C, pages 36 to 49). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section of this document. In addition, due to the project coordinating several years prior to construction, two additional commitments are required per coordination with INDOT ESD (Appendix C, page 52). USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after (August 29, 2021), 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. Further, a review of the USFWS coordination must occur prior to RFC date to ensure the species determination is still valid, and no additional species have been listed that will require coordination.

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

SECTION B – OTHER RESOURCES

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

If a SSA is present, answer the following:

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

Remarks:

The project is located in Rush 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.

The IDEM's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/-wellhead/) was accessed on April 2, 2020 by BF&S. This project is located within a Source Water Area. The project is not located within a Wellhead Protection Area. In an early coordination letter dated July 13, 2020, IDEM stated the project is located within a Source Water Area (Appendix C, pages 23 to 24). IDEM directed coordination to occur with Greensburg Municipal Water Works, as the project is located within their Source Water Area. A coordination letter was sent on July 14, 2020 to Greensburg Municipal Water Works. A response was received on July 27, 2020 (Appendix C, page 25) stating that the Source Area Coordinator had no concerns with the project. The features will not be affected because the only excavation required for the project is minor (1.5 feet in depth or less), for the installation of riprap.

The IDNR Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on July 9, 2020 by BF&S. One well is located approximately 0.25 mile east of CR 365 East, north of CR 450 South. The feature will not be affected because it is located outside of the project limits. Therefore, no impacts are expected. Should it be determined during the ROW acquisition phase that these wells are affected, a cost to cure will likely be included in the appraisal to restore the well.

Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by BF&S on March 9, 2020, and the RFI report, this project is not located in an Urban Area Boundary location. No impacts are expected.

Based on a desktop review, a site visit on August 29, 2019 by BF&S, the aerial map of the project area (Appendix B, page 3), no public water systems were identified. Therefore, no impacts are expected.

Flood Plains	**Presence**	**Impacts** 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: The IDNR Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) was accessed on July 8, 2020 by BF&S. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page 10). 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.

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

Total Points (from Section VII of CPA-106/AD-1006* **122**

**If 160 or greater, see CE Manual for guidance.*

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

Remarks: Based on a desktop review, a site visit on August 29, 2019 by BF&S, the aerial map of the project area (Appendix B, page 3), the project will convert 0.365 acre of prime farmland as defined by the Farmland Protection Policy Act. The total amount of 0.365 acre is the sum of all ROW acquisition (0.05 acre of agricultural ROW, 0.06 acre of forest ROW, 0.005 acre of wetland ROW, and 0.25 acre of fallow field ROW) being taken with the exception of the residential ROW, as all could be potential prime farmland. An early coordination letter was sent on April 2, 2020 to Natural Resources Conservation Services (NRCS). However, when coordination with NRCS was originally completed, the estimated impact amount was approximately 0.33 acre. Coordination with NRCS resulted in a score of 122 on the NRCS-AD 1006 Form (Appendix C, page 22). 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	12	July 1, 2020	

Results of Research

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

Project Effect

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

Documentation (mark all that apply)	Documentation Prepared	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report			
Historic Property Report			
Archaeological Records Check/ Review			
Archaeological Phase Ia Survey Report	X	July 1, 2020	N/A
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery			
APE, Eligibility and Effect Determination			
800.11 Documentation			

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

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

Remarks:

On July 1, 2020, the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Type 12 under the Minor Projects Programmatic Agreement (Appendix D, pages 1 to 4). Category B-12 includes replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed), when under condition A.ii. work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT CRO determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area; and under both conditions: B.i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resources; and B.ii.a. when the latest Historic Bridge Inventory identified the bridge as non-historic.

An Archaeological Short Report (consisting of an Archaeological Records Check and a Phase Ia

Archaeological Field Reconnaissance) was conducted by NS Services, Inc. on January 19, 2020 and April 14, 2020. Based on the results of the Phase Ia archaeological field reconnaissance and other available information, the proposed project should have no effect on significant archaeological resources meeting the criteria established for inclusion to the NRHP.

The ASR was approved by the INDOT CRO on July 1, 2020 and forwarded to the SHPO on December 22, 2020 (Appendix D, page 13).

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:

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 August 29, 2019 by BF&S, the aerial map of the project area (Appendix B, page 3), and the RFI report (Appendix E), there are no Section 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:

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

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) spreadsheet provided by INDOT at https://www.in.gov/indot/files/2019%20Indiana%20LWCF%20Projects.xlsx revealed zero properties in Rush County. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project	**Yes**	**No**
Is the project in an air quality non-attainment or maintenance area?	☐	X
If YES, then:		
Is the project in the most current MPO TIP?	☐	☐
Is the project exempt from conformity?	☐	☐
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	☐	☐
Is a hot spot analysis required (CO/PM)?	☐	☐

Level of MSAT Analysis required?

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

Remarks:

This project is included in the Fiscal Year (FY) 2020-2024 Statewide Transportation Improvement Program (STIP) (Appendix H, page 1). This project is not located within a Metropolitan Planning Organization (MPO).

This project is located in Rush County, which is currently in attainment for all criteria pollutants according to http://www.in.gov/idem/airquality/files/nonattainment_county_list.pdf and/or https://www.in.gov/idem/airquality/files/nonattainment_areas_map.pdf. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

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

SECTION F - NOISE

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

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

Remarks:

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

SECTION G – COMMUNITY IMPACTS

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

Remarks:

This project is not of regional significance and will not have a significant impact on community cohesion or property values. The Rush County Chamber of Commerce website was reviewed on July 10, 2020 by BF&S (http://rushcounty.com/) and it does not appear that any community events will be disrupted by the proposed project. The project is in a rural environment and it is not anticipated to divide a community or destroy any areas where the community hosts events.

The project will not change land use or greatly affect the view shed of the area. Further, this project will provide an improved structure allowing for continued mobility for motorists. Therefore, this project is not anticipated to have any substantial negative indirect or cumulative impacts to the area.

The Rush County Highway Department has adopted an Americans with Disabilities (ADA) transition plan (http://rushcounty.in.gov/wp-content/uploads/2017/04/1222.pdf). There are no pedestrian facilities on the bridge; therefore, the ADA plan is not applicable to this project.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts?	Yes	No
		X

Remarks:

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

The project will not change the general land use of the area. At this time, there are no other planned projects in the immediate area. As a result, no negative indirect or cumulative effects are anticipated.

Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*	Yes	No
		X

Remarks:

Based on a desktop review, a site visit on August 29, 2019 by BF&S, the aerial map of the project area (Appendix B, page 3), 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.

Early Coordination

Early coordination letters were sent to the Rush County Commissioners, the Rush County Highway Superintendent, the Rush County Surveyor, and the Rush County Sheriff on April 2, 2020.

The Rush County Highway Department responded on April 12, 2020, indicating that they had no comment (Appendix C, page 26).

No other responses from the Rush County public officials were received.

A detour route, approximately 2.8 to 3.8 miles in length depending on direction of travel, will be provided during the construction of the project and be coordinated with all emergency services such as police, fire, medical, etc. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that will block or limit access.

Environmental Justice (EJ) (Presidential EO 12898)

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

Remarks:

Under FHWA Order 6640.23A, FHWA and 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 Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent ROW. The project will require 0.505 acre of new permanent ROW. 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 Rush County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 9741, Rush County, Indiana. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from U.S. Census Bureau 2018 American Community Survey (ACS) 5-year Estimates was obtained from the US Census Bureau Website https://factfinder.census.gov/ on July 21, 2020 by BF&S. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (U.S. Census Bureau 2018 ACS 5-year Estimates)

	COC – Rush County, Indiana	AC-1 – Census Tract 9741, Rush County, Indiana
Percent Minority	4.18%	3.11%
125% of COC	5.22%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	15.94%	13.50%
125% of COC	19.93%	AC < 125% COC
EJ Population of Concern		No

AC-1, Census Tract 9741 has a percent minority of 3.11% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain a minority population of EJ concern.

AC-1, Census Tract 9741 has a percent low-income of 13.50% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain a low-income population of EJ concern.

Conclusion
The census data sheets, map, and calculations can be found in Appendix I, pages 1 to 7. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

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

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

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

Remarks:

No relocations of people, businesses, or farms will take place because of this project.

The following utilities have been identified in the vicinity of the project area:

Rush-Shelby Energy
Frontier

An Initial Notice of Improvement was sent to the above-listed utilities on August 27, 2019 (see Appendix C, pages 53 to 54). No issues with utility relocations have been raised.

Coordination with utilities is ongoing and will continue through the design phase to identify any existing conflicts.

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	N/A LPA

Include a summary of findings for each investigation.

Remarks: Based on a review of GIS and available public records, a RFI was completed on March 9, 2020 by BF&S (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	X
Isolated Wetlands determination	
Rule 5	X
Other	
Wetland Mitigation required	
Stream Mitigation required	
IDNR	
Construction in a Floodway	
Navigable Waterway Permit	
Lake Preservation Permit	
Other	
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the remarks box below)	

Remarks: A Rule 5 permit is required due to the total work area anticipated to be approximately 1.37 acres, which is greater than the land disturbance of the allowable one (1) acre.

A Section 401 permit from IDEM and a Section 404 permit from USACE will be required due to the removal of the existing bridge and the subsequent construction of a new bridge, including the installation of riprap for scour protection.

A Construction in a Floodway permit from the IDNR will not be necessary as the bridge qualifies for the bridge exemption due to being in a rural area, having less than 50 square mile drainage area, and being a county bridge project.

Applicable recommendations provided by IDNR are included in the *Environmental Commitments* section of this document. If a permit is 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 bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)

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

5. Tree Removal AMM 2: Apply time of year restrictions (October 1 to March 31) for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/trail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS)

6. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g. install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)

7. Tree Removal AMM 4: Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting or trees within 0.25 miles of roosts or **documented** foraging habitat any time of year. (USFWS)

8. USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after August 29, 2021, 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)

9. A review of the USFWS coordination must occur prior to RFC date (9/13/2023) to ensure the species determination is still valid, and no additional species have been listed that will require coordination. (INDOT ESD)

10. Orange fencing and "Do Not Disturb" signs will be installed around the remaining section of wetland not impacted by construction. Additionally, a note on the construction plans to the contractor will be made stating "Do Not Disturb." (INDOT ESD)

11. The Division of Fish and Wildlife (DFW) recommends bridge maintenance activities be restricted to the period between November 1 and March 1 to avoid the summer roosting period for most bats in the central part of the State. However, some endangered bats could use a bridge to roost between November and March. No matter when work is proposed, the bridge must be inspected for the presence of bats. If there is no evidence of active bat use, work can proceed. If there is evidence of active bat use, work must not occur until either the bats leave the structure for the season or a separate permit is issued to remove the bats. Please contact Linnea Petercheff (lpetercheff@dnr.in.gov) regarding permits to handle bats. If bats are present, a more formal survey to determine what species are present may be required. (IDNR, INDOT Ecology & Waterway Permitting)

12. This type of bridge is commonly used by birds protected by the Migratory Bird Treaty Act per IDNR. The bridge should be inspected prior to nesting season to ensure birds are not using the structure. If birds have been found using the structure, avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the "Potential Migratory Bird on Structure USP". " (IDNR, INDOT Ecology & Waterway Permitting)

For Further Consideration:

13. 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. (IDNR, USFWS)

14. 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)

15. 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)

16. Avoid all work within the inundated part of the stream channel 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 OHWM during this time unless the machinery is within the caissons or on the cofferdams. (USFWS)

17. 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 bankfull 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. (IDNR)

18. 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)

19. 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)

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

21. Do not cut any trees suitable for Indiana bat or Northern Long eared bat roosting from April 1 through September 30. (IDNR)

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

23. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR)

24. Operate equipment used to replace the bridge from the existing roadway. (IDNR)

25. 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: Early Coordination was sent for this project on April 2, 2020 (see submittal correspondence in Appendix C, pages 1 to 3). A list of the resource agencies contacted is provided below, along with their response date (if applicable).

AGENCY	SENT DATE	RESPONSE DATE
U.S. Fish and Wildlife Service	April 2, 2020	April 6, 2020
Federal Highway Administration	April 2, 2020	No Response
USDA Natural Resources Conservation Service	April 2, 2020	April 8, 2020
U.S. Department of Housing and Urban Development	April 2, 2020	No Response
National Park Service	April 2, 2020	No Response
Indiana Department of Transportation, Department of Environmental Services	April 2, 2020	March 24, 2020
Indiana Department of Transportation, Office of Communications	April 2, 2020	No Response
Indiana Department of Natural Resources	April 2, 2020	May 1, 2020
United States Army Corps of Engineers, Louisville District	April 2, 2020	No Response
Rush County Sheriff	April 2, 2020	No Response
Rush County Commissioners	April 2, 2020	No Response
Indiana Department of Environmental Management Roadway Letter	April 2, 2020	No Response
Indiana Geological Survey	April 2, 2020	No Response
Indiana Wellhead Determinator	April 2, 2020	No Response
Rush County Highway Superintendent's Office	April 2, 2020	April 2, 2020
Rush County Surveyor	April 2, 2020	No Response
Indiana Department of Environmental Management, Ground Water Section	July 8, 2020	July 13, 2020

APPENDIX TABLE OF CONTENTS

Categorical Exclusion Level 2
Replacement of Rush County Bridge No. 155 carrying CR 450 S
Over Branch of Little Flatrock River, Rush County, Indiana
Des. No. 1802927

Appendix A

INDOT Supporting Documentation

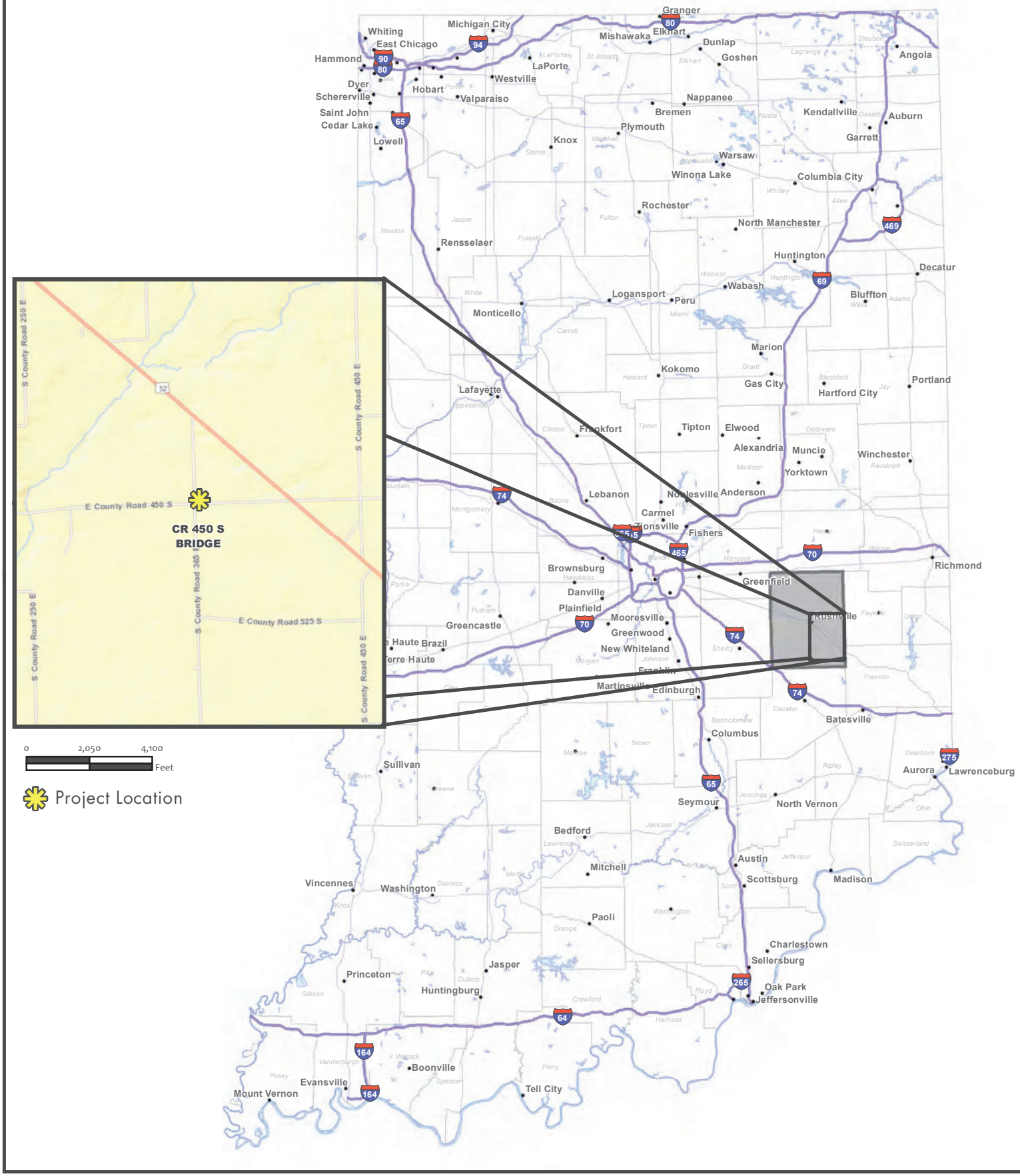
Categorical Exclusion Level Thresholds

	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 80,000 160,000 320,000
Feet

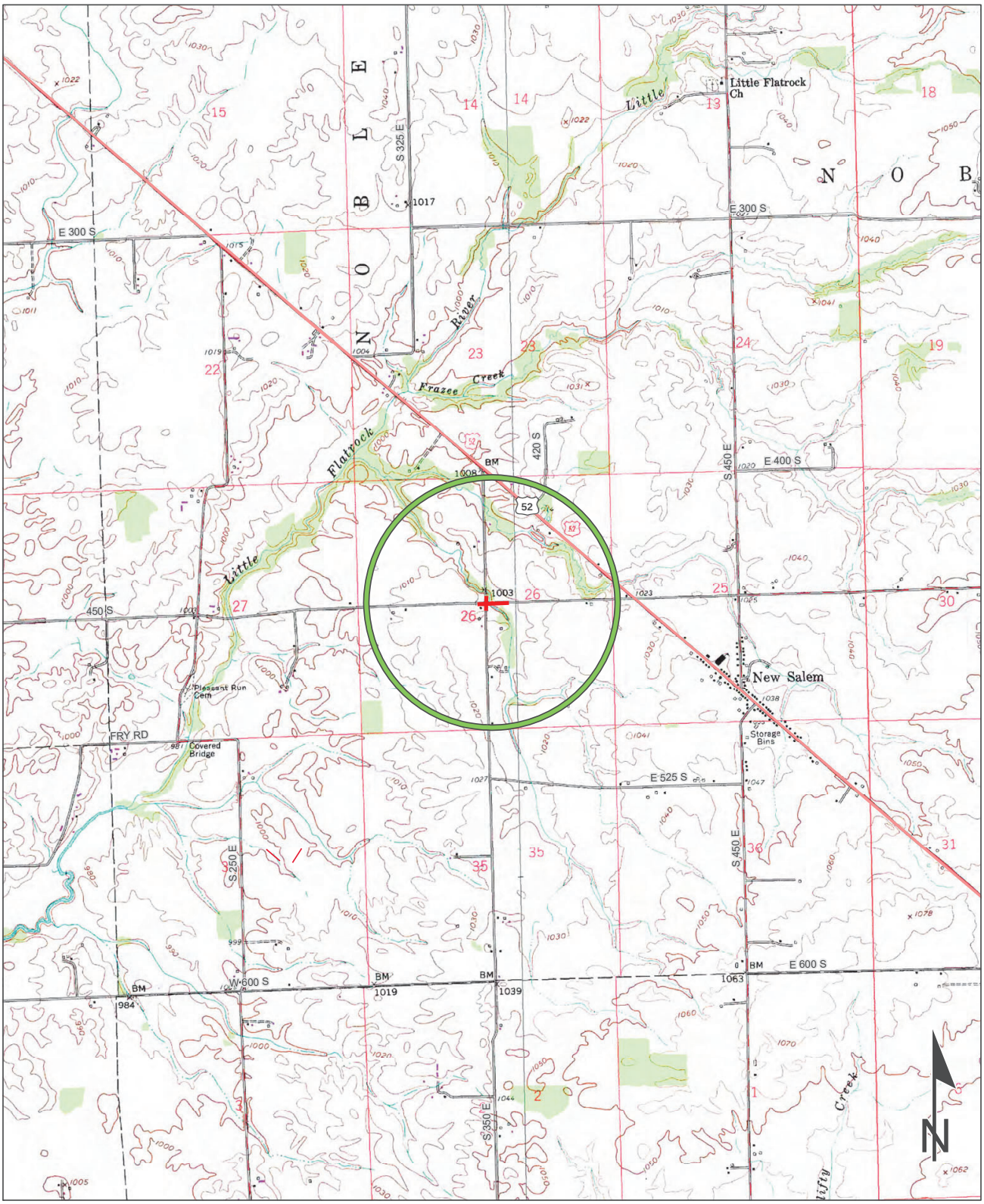
State Map

Bridge No. 155 carrying CR 450 S over Branch of Little Flatrock River
Des No. 1802927, Bridge Replacement
Rush County, Indiana

Butler Fairman Seufert
CIVIL ENGINEERS

Map Source: Indiana Map

Red Flag Investigation - Topographic Map
Bridge No. 155 carrying CR 450 S over Branch of Little Flatrock River
Des No. 1802927, Bridge Replacement
Rush County, Indiana



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

0.5 0.25 0 0.5 Miles

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

Project Area
0.5 Mile Radius

RUSHVILLE QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Legend

Project Area

\# Locations of Photographs

Map Source: Indiana Geological Survey (IGS), IndianaMap, 2020 ArcGIS Online (ESRI) World Imagery.

0 90 180 360 Feet

Aerial Map

Bridge No. 155 carrying CR 450 S over Branch of Little Flatrock River
Rush County, Indiana
Des No. 1802927

Butler Fairman Seufert CIVIL ENGINEERS

Photo 1: Looking north (upstream) along Branch of Little Flatrock River from Rush Co. Bridge No. 155

Photo 2. Looking south (downstream) along Branch of Little Flatrock River from Rush Co. Bridge No. 155

Photo 3. View of NW quadrant of Bridge No. 155

Photo 4. View of NE Quadrant of Rush Co. Bridge No. 155

Photo 5: South elevation view of Bridge No. 155

Photo 6: North elevation view of Bridge No. 155

Photo 7. View of Wetland Data Point 1A (southwest quadrant)

Photo 8. View of soil sample from Data Point 1A

Photo 9: View of Upland Data Point 1B (southeast quadrant)

Photo 10: View of soil sample from Data Point 1B

Photo 11. View of Upland Data Point 2 (southwest quadrant)

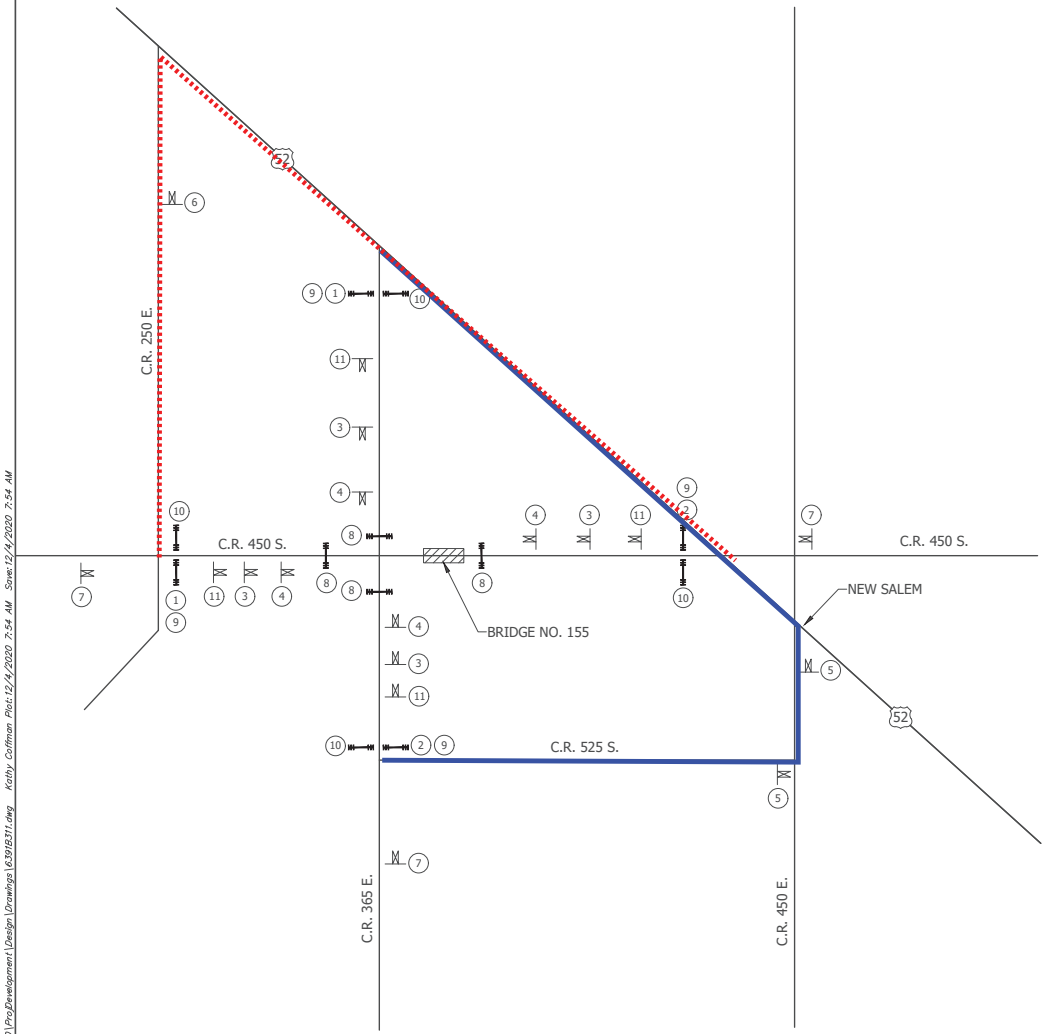
Photo 12. Looking east along CR 450 S from CR 365 E

Photo 13: Looking west along CR 450 S towards CR 365 E

Photo 14: Looking east along CR 450 S towards CR 365 E

Photo 15: Looking south along CR 365 E from CR 450 S

Photo 16. Looking north along CR 365 E from CR 450 S



TRAFFIC CONTROL PLAN
Not to Scale

SIGN LEGEND

SYMBOL	MESSAGE	NUMBER	TYPE	REQ'D.
1	ROAD CLOSED 1.25 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3	A	*
	DETOUR	XM4-10(L)	B	
2	ROAD CLOSED 0.5 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3	A	*
	DETOUR	XM4-10(R)	B	
3	ROAD CLOSED 1000 FT.	XW20-3	A	4
4	ROAD CLOSED 500 FT.	XW20-3	A	4
5	DETOUR ROUTE MARKER ASSEMBLY (LEFT)			2
6	DETOUR ROUTE MARKER ASSEMBLY (RIGHT)			1
7	DETOUR AHEAD	XW20-2	A	3
8	STANDARD BARRICADE (TYPE III-A) (24'-0" SECTION) ⊛			4
	ROAD CLOSURE SIGN ASSEMBLY (R11-2)			4
9	STANDARD BARRICADE (TYPE III-B) (12' SECTION)			4
	ROAD CLOSURE SIGN ASSEMBLY (R11-2)			4
10	STANDARD BARRICADE (TYPE III-B) (12' SECTION)			4
11	ROUTE CLOSURE NOTICE	XG20-5	A	⊕4
12	END DETOUR	M4-8a	B	-

* INDICATES SIGN TO BE INCLUDED WITH ROAD CLOSURE SIGN ASSEMBLY.
⊛ 2 BARRICADES REQUIRED PER LOCATION. TOTAL QUANTITY = 96'-0"
⊕ TO BE PLACED 2 WEEKS PRIOR TO ROAD CLOSURE

LEGEND

TYPE III-A/III-B BARRICADE
CONSTRUCTION SIGN TYPE AS SHOWN

North/South Detour
East/West Detour

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE

DESIGNED: M. MATEL DRAWN: K. COFFMAN
CHECKED: Q. O'BRIEN CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC

HORIZONTAL SCALE	BRIDGE FILE
As Noted	RUSH 155
VERTICAL SCALE	DESIGNATION
N/A	1802927
SURVEY BOOK	SHEET
ELECTRONIC	5 OF 19
CONTRACT	PROJECT
B-42073	1802927

BFS NO. 6391

PROJECT	DESIGNATION
1802927	1802927
CONTRACT	BRIDGE FILE
B-42074	RUSH 155

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN & SKEW	OVER	STATION
RUSH 155	COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE	ONE SPAN: 59'-0" SKEW 15°00'00" LT.	BRANCH OF LITTLE FLATROCK RIVER	℄ Structure 21+45.00 Line "B"

INDIANA DEPARTMENT OF TRANSPORTATION

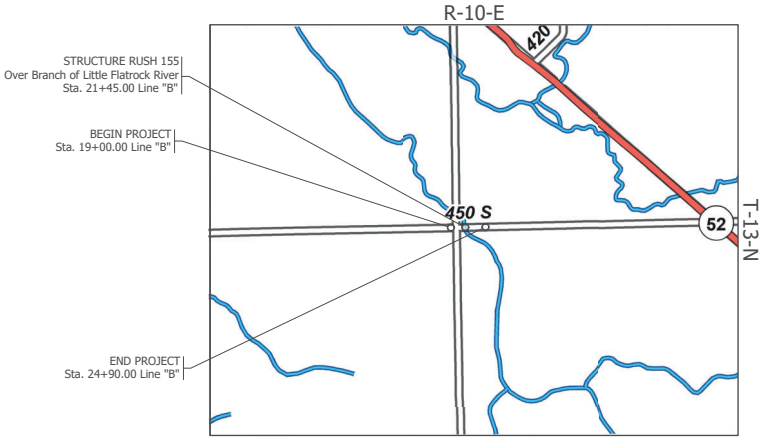
BRIDGE PLANS

FOR SPANS OVER 20 FEET

ROUTE: C.R. 450 SOUTH OVER BRANCH OF LITTLE FLATROCK RIVER

PROJECT NO. 1802927 P.E.
1802927 R/W
1802927 CONST.

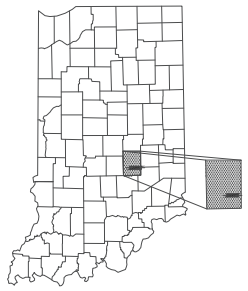
REPLACEMENT OF BRIDGE CARRYING C.R. 450 SOUTH OVER BRANCH OF LITTLE FLATROCK RIVER PROJECT IS LOCATED 0.60 MILES WEST OF US 52 SECTION 26, TOWNSHIP 13 NORTH, RANGE 10 EAST NOBLE TOWNSHIP, RUSH COUNTY, INDIANA.



VICINITY MAP
RUSH COUNTY

TRAFFIC DATA		
A.A.D.T.	(2020)	188 V.P.D.
A.A.D.T.	(2024)	204 V.P.D.
A.A.D.T.	(2044)	302 V.P.D.
DIRECTIONAL DISTRIBUTION		50 %
COMMERCIAL VEHICLES		5% A.A.D.T.

DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3 R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	MINOR COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



LATITUDE: 39°32'52"N LONGITUDE: 85°22'36"W

BRIDGE LENGTH:	0.011 MI.
ROADWAY LENGTH:	0.101 MI.
TOTAL LENGTH:	0.112 MI.
MAX. GRADE:	-3.00 %

HUC: 05120205030030

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES.

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

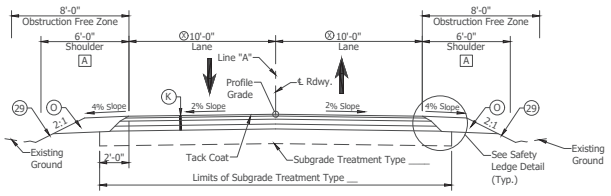
PLANS PREPARED BY: Butler Fairman and Seufert Inc. (317)713-4615 PHONE

CERTIFIED BY: _____ DATE

APPROVED FOR LETTING: _____ INDIANA DEPARTMENT OF TRANSPORTATION DATE

BRIDGE FILE	
RUSH 155	
DESIGNATION	
1802927	
SURVEY BOOK	SHEET
ELECTRONIC	1 OF 18
CONTRACT	PROJECT
B-42074	1802927

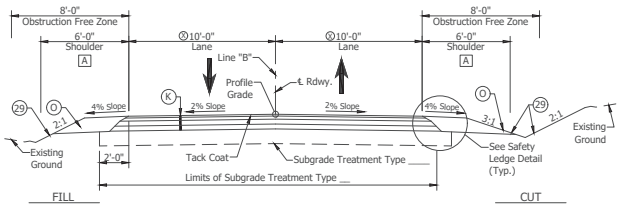
BRS NO. 6361



Sta. 10+20.00 "A" to Sta. 13+45.00 "A"

TYPICAL APPROACH SECTION
C.R. 365 EAST
Scale: 1/4"=1'-0"

Ⓧ Lane Width Varies At Intersection



Sta. 19+00.00 "B" to Sta. 20+91.20 "B"
Sta. 21+98.80 "B" to Sta. 24+90.00 "B"

TYPICAL APPROACH SECTION
C.R. 450 SOUTH
Scale: 1/4"=1'-0"

Ⓐ Shoulder Shall Be Paved To The Face Of Guardrail When Present

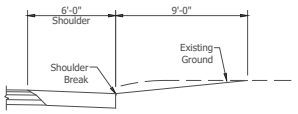
LEGEND

Ⓚ HMA FULL DEPTH PAVEMENT
165#/Syd. QC/QA-HMA, 2, 64, Surface 9.5 mm on
275#/Syd. QC/QA-HMA, 2, 64, Intermediate 19.0 mm on
8" Compacted Agg., No. 53 (Place in 2-4" Lifts)
(No Calcium Chloride Req'd.)

Ⓞ Variable Depth Compacted Aggregate, No. 53

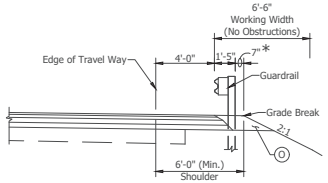
㉙ Mulched Seeding, R

NOTES:
1. A safety edge shall be placed in the surface and intermediate layers of all edges of pavements that are not bound by a curb.
2. Tack Coat required between Intermediate and Surface HMA layers.



Sta. 19+00.00 "B" to Sta. 19+85.00 "B" RT.
Sta. 24+00.00 "B" to Sta. 24+90.00 "B" LT.

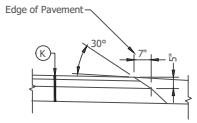
TYPICAL SHOULDER DITCH DETAIL
Scale: 1/4" = 1'-0"



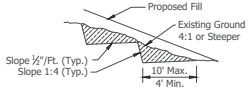
See Sheet 4 For Guardrail Stations & Locations

∗ Varies At End Treatment (See Detail This Sheet)

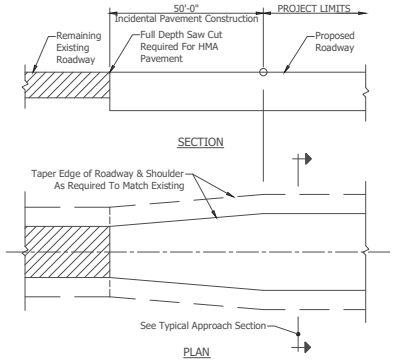
TYPICAL SECTION WITH GUARDRAIL
Scale: 1/4" = 1'-0"



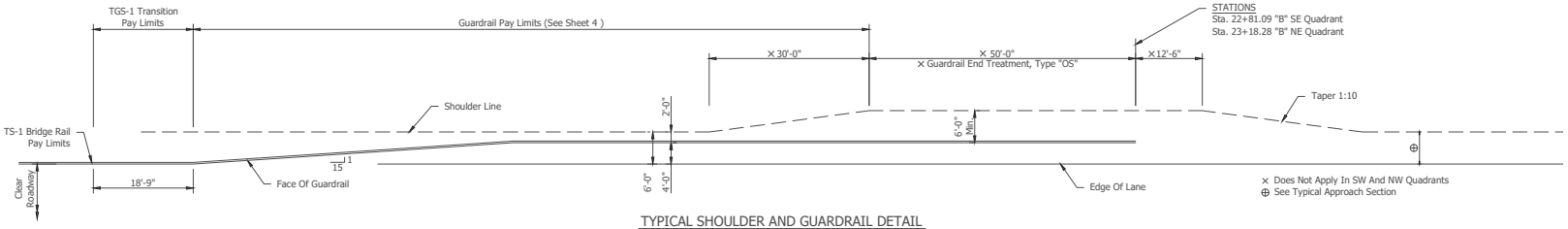
SAFETY EDGE DETAIL
Scale: 1/2" = 1'-0"



TYPICAL BENCHING DETAIL
Not to Scale



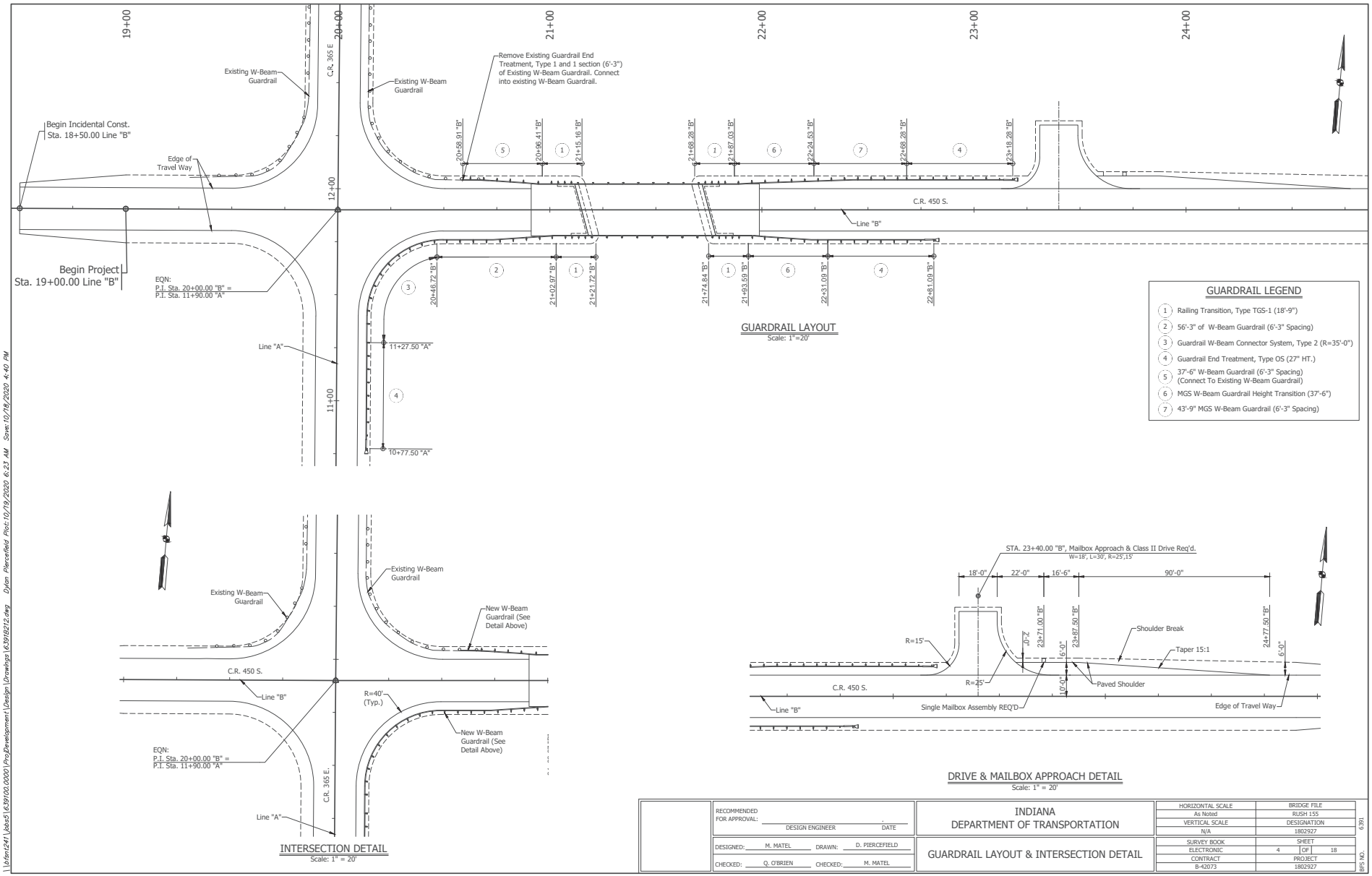
TYPICAL DETAILS
INCIDENTAL CONSTRUCTION
Not to Scale



TYPICAL SHOULDER AND GUARDRAIL DETAIL
Scale: 1/16"=1'-0"

	RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE: As Noted; VERTICAL SCALE: N/A; BRIDGE FILE: RUSH 155; DESIGNATION: 1802927
	DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD CHECKED: Q. O'BRIEN CHECKED: M. MATEL	TYPICAL APPROACH SECTION	SURVEY BOOK: ELECTRONIC; SHEET: 3 OF 18; CONTRACT: B-42073; PROJECT: 1802927

BFS NO. 6391



RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE

DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD

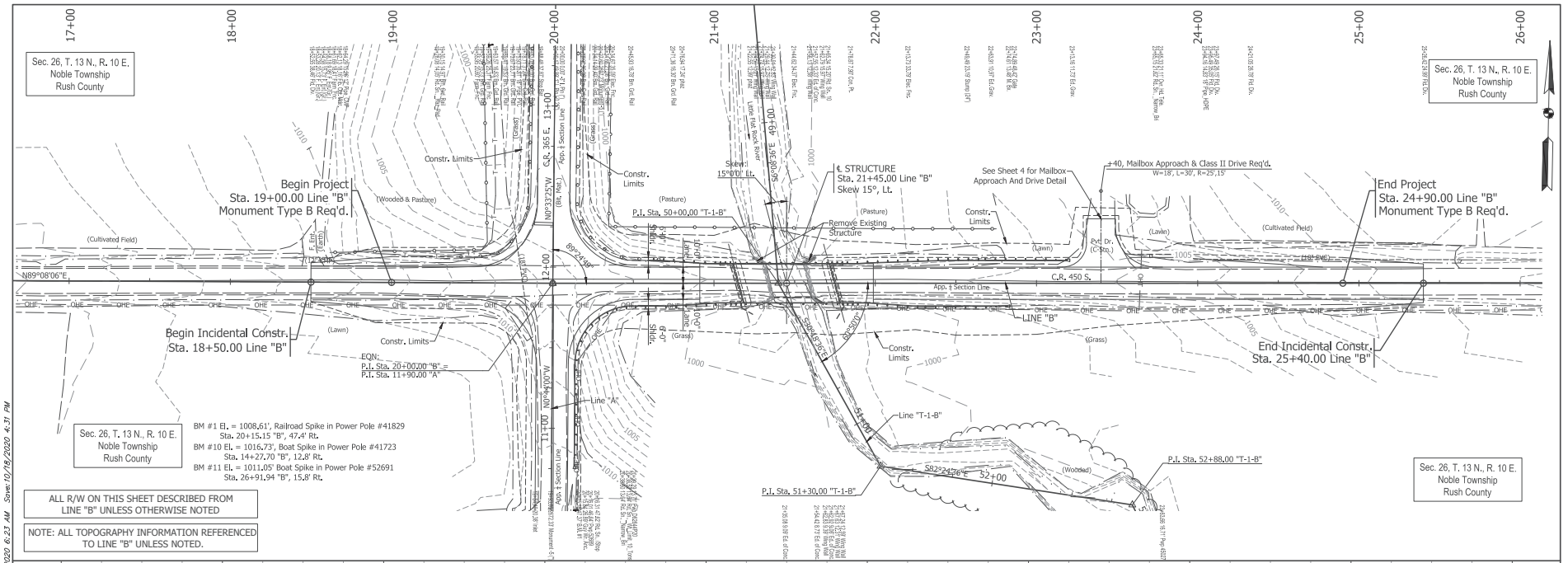
CHECKED: Q. O'BRIEN CHECKED: M. MATEL

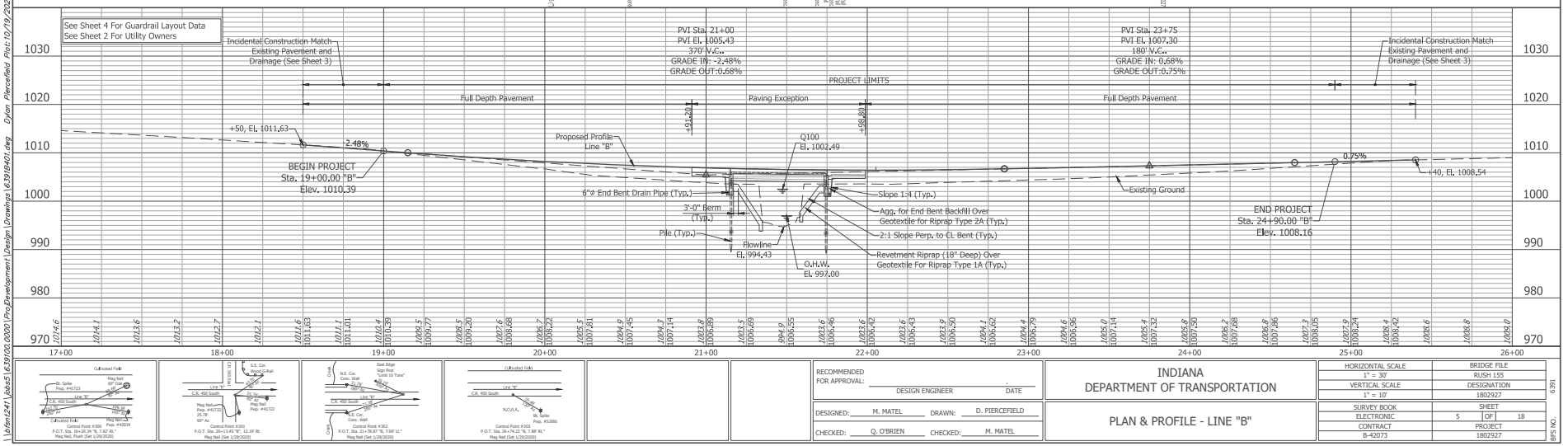
INDIANA DEPARTMENT OF TRANSPORTATION

GUARDRAIL LAYOUT & INTERSECTION DETAIL

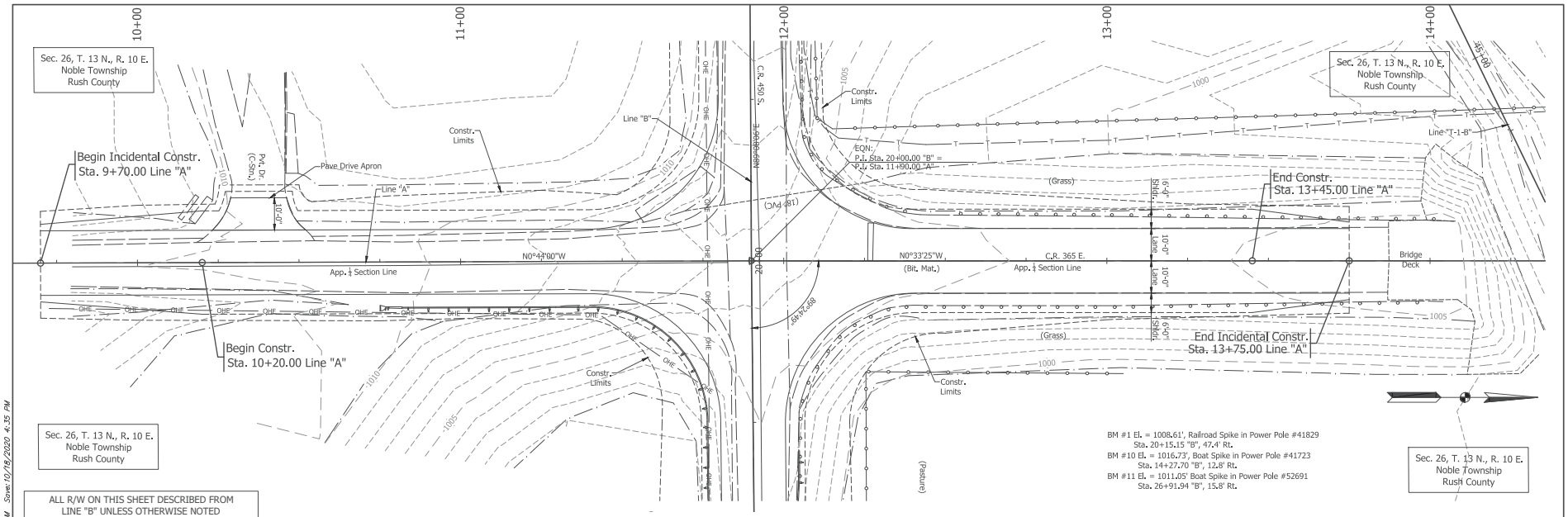
HORIZONTAL SCALE	BRIDGE FILE
As Noted	RUSH 155
VERTICAL SCALE	DESIGNATION
N/A	1802927
SURVEY BOOK	SHEET
ELECTRONIC	4 OF 18
CONTRACT	PROJECT
B-42073	1802927

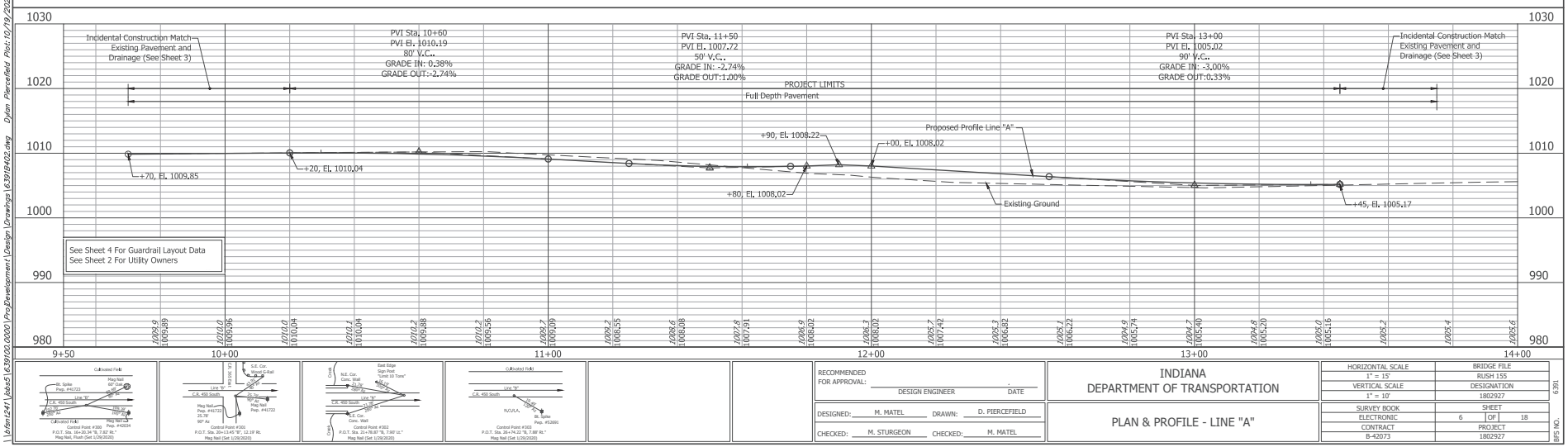
BFS NO. 6391





RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1" = 30'	BRIDGE FILE RUSH 155	
		VERTICAL SCALE 1" = 10'	DESIGNATION 1802927	
DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD	PLAN & PROFILE - LINE "B"	SURVEY BOOK ELECTRONIC	SHEET 5 OF 18	
CHECKED: Q. O'BRIEN CHECKED: M. MATEL		CONTRACT B-42073	PROJECT 1802927	BFS NO. 6391





RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE

DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD

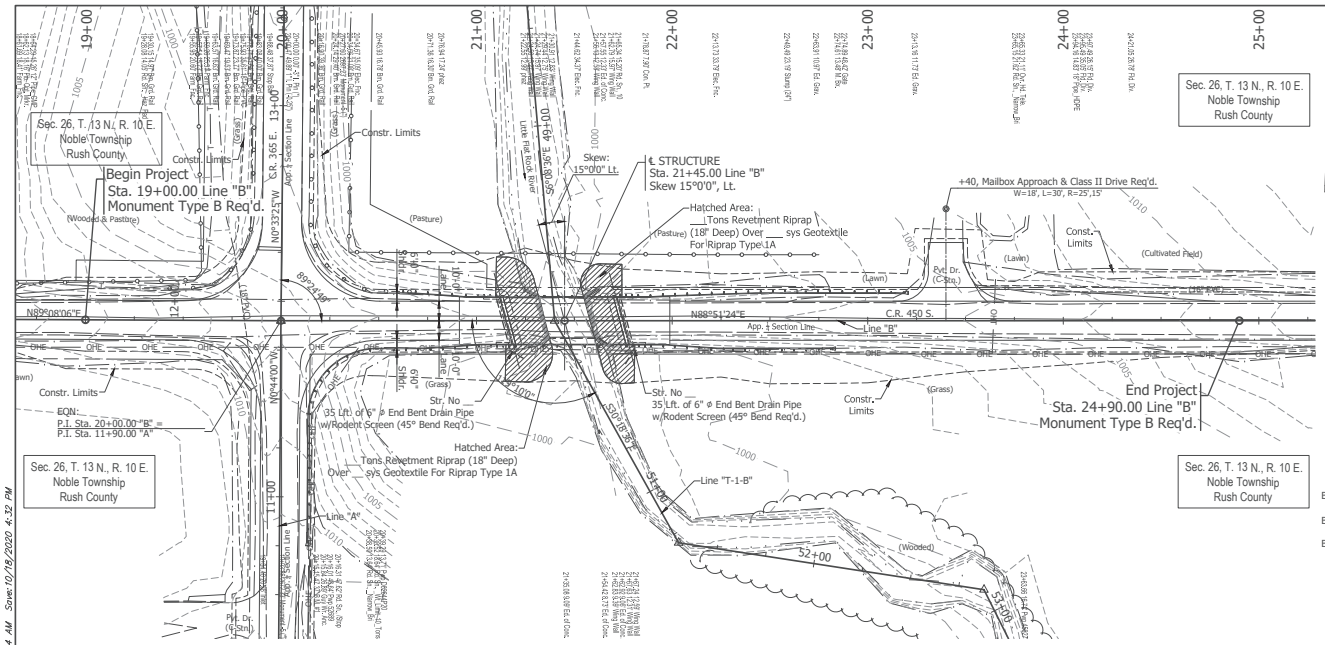
CHECKED: M. STURGEON CHECKED: M. MATEL

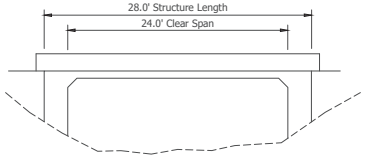
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 15'	RUSH 155
VERTICAL SCALE	DESIGNATION
1" = 10'	1802927
SURVEY BOOK	SHEET
ELECTRONIC	6 OF 18
CONTRACT	PROJECT
B-42073	1802927

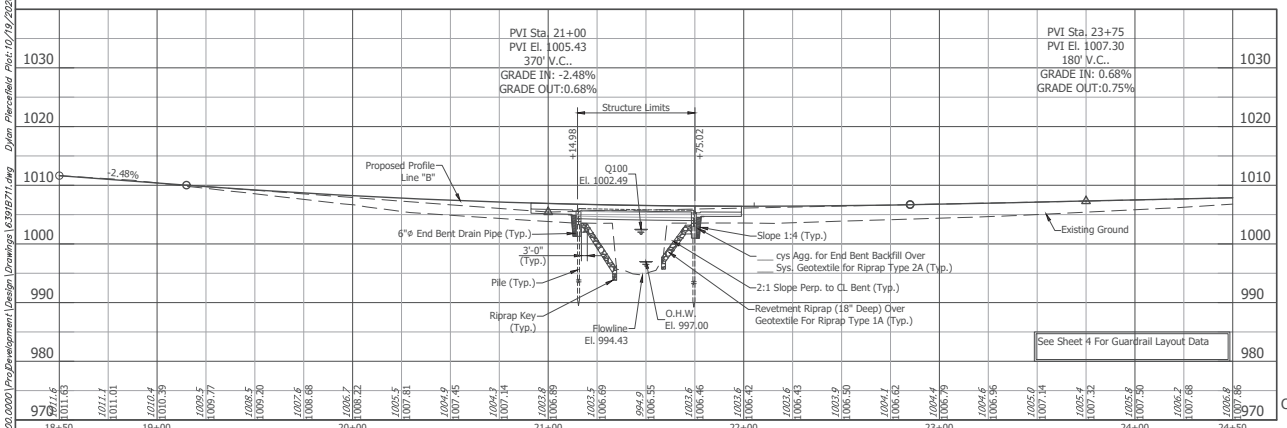
BRS NO. 6391





The existing Tee-Beam Bridge was built in 1940.
Span length: 1 @ 24'-0"
Clear roadway 20'-6". Total length of 28'-0"
Existing structure to be removed.

EXISTING STRUCTURE
Not To Scale



BM #1 El. = 1008.61', Railroad Spike in Power Pole #41829
Sta. 20+15.15 "B", 47.4' Rt.
BM #10 El. = 1016.73', Boat Spike in Power Pole #41723
Sta. 14+27.70 "B", 12.8' Rt.
BM #11 El. = 1011.05' Boat Spike in Power Pole #52691
Sta. 26+91.94 "B", 15.8' Rt.

ALL R/W ON THIS SHEET DESCRIBED FROM LINE "B" UNLESS OTHERWISE NOTED

NOTE: ALL TOPOGRAPHY INFORMATION REFERENCED TO LINE "B" UNLESS NOTED.

HYDRAULIC DATA

ITEM	EXISTING STRUCTURE	PROPOSED STRUCTURE
DRAINAGE AREA	1.89 Sq. Mi.	1.89 Sq. Mi.
Q100 (TAILWATER)	1002.49 Ft.	1002.49 Ft.
DESIGN DISCHARGE Q100	1,180 Cu. Ft./Sec.	1,180 Cu. Ft./Sec.
BACKWATER Q100	1.93 Ft.	0.33 Ft.
GROSS WATERWAY AREA PROVIDED BELOW Q100	133.51 Sq. Ft.	235.37 Sq. Ft.
ROADWAY OVERFLOW	192.65 Sq. Ft.	0 Sq. Ft.
TOTAL WATERWAY AREA PROVIDED	326.16 Sq. Ft.	235.37 Sq. Ft.
VELOCITY THROUGH STRUCTURE	6.65 Ft./Sec.	5.19 Ft./Sec.
LOW STRUCTURE ELEVATION	999.55 Ft.	1003.72 Ft.

SCOUR DATA

Q100 DISCHARGE	1,180 Cu. Ft./Sec.
Q100 ELEVATION	1002.49 Ft.
Q100 MAX VELOCITY	5.19 Ft./Sec.
Q100 CONTRACTION SCOUR	4.47 Ft.
Q100 TOTAL SCOUR	4.47 Ft.
Q100 LOW SCOUR ELEVATION	989.96 Ft.
Q500 DISCHARGE	1,593 Cu. Ft./Sec.
Q500 ELEVATION	1003.37 Ft.
Q500 MAX VELOCITY	7.15 Ft./Sec.
Q500 CONTRACTION SCOUR	6.76 Ft.
Q500 TOTAL SCOUR	6.76 Ft.
Q500 LOW SCOUR ELEVATION	987.67 Ft.

EARTHWORK

ITEM	QUANTITY
FILL + 15%	Cys.
COMMON EXCAVATION	Cys.
USABLE WATERWAY EXCAVATION (30%)	Cys.
BORROW	Cys.

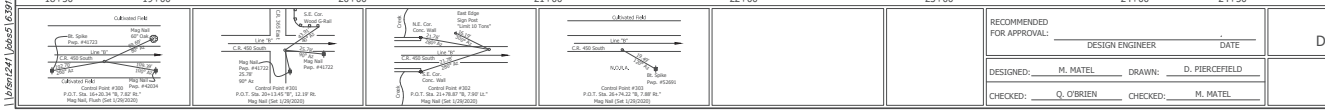
STRUCTURE EXCAVATION

ITEM	QUANTITY
WATERWAY EXCAVATION	Cys.
WET EXCAVATION	Cys.
FOUNDATION EXCAVATION (UNCLASSIFIED)	Cys.
DRY EXCAVATION	Cys.

Note: Above Quantities Do Not Include ####
Cys. For Benching. Estimated Benching Will Not Be Paid For Directly. Cost Of Benching Shall Be Included In Cost Of Common Excavation.

NOTE:
See Sheet 2 For Utility Owners.

COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE
ONE SPAN: 59'-0"
24'-0" CLEAR ROADWAY; SKEW 15°00'00" LT.
C.R. 450 SOUTH OVER BRANCH OF LITTLE FLATROCK RIVER
RUSH COUNTY



RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE

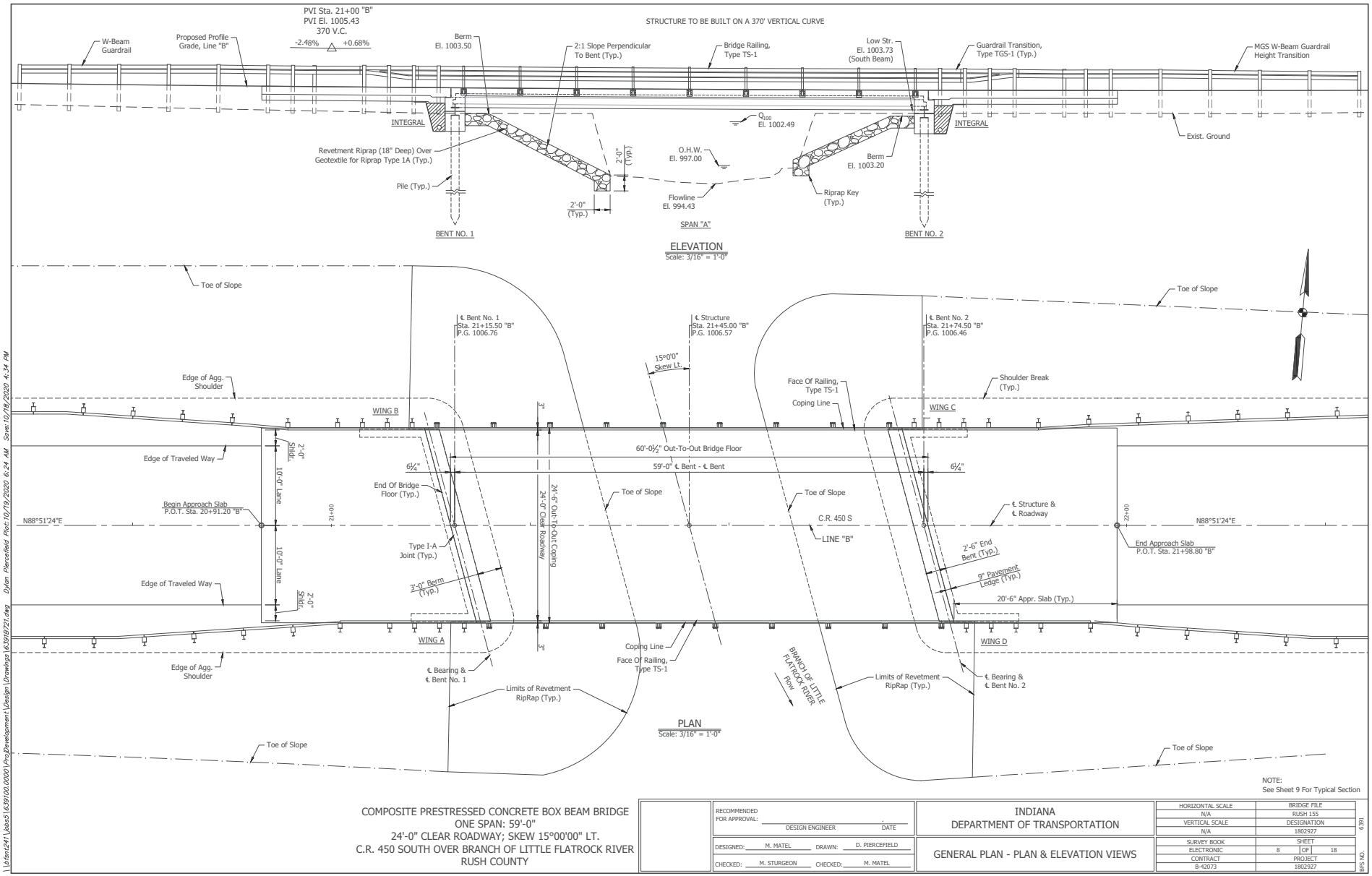
DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD
CHECKED: Q. O'BRIEN CHECKED: M. MATEL

INDIANA
DEPARTMENT OF TRANSPORTATION

LAYOUT

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'-0"	RUSH 155
VERTICAL SCALE	DESIGNATION
1" = 10'-0"	1802927
SURVEY BOOK	SHEET
ELECTRONIC	7 OF 18
CONTRACT	PROJECT
B-42073	1802927

BFS NO. 6391



NOTE:
See Sheet 9 For Typical Section

COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE
ONE SPAN: 59'-0"
24'-0" CLEAR ROADWAY; SKEW 15°00'00" LT.
C.R. 450 SOUTH OVER BRANCH OF LITTLE FLATROCK RIVER
RUSH COUNTY

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE

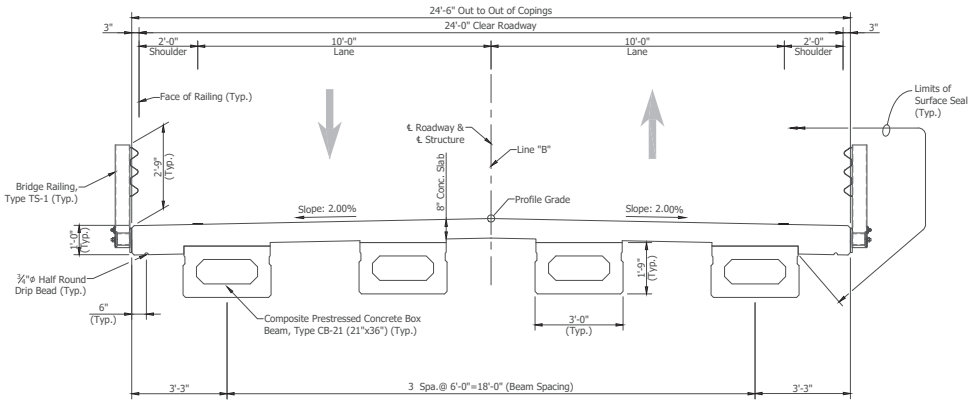
DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD
CHECKED: M. STURGEON CHECKED: M. MATEL

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN - PLAN & ELEVATION VIEWS

HORIZONTAL SCALE	BRIDGE FILE
N/A	RUSH 155
VERTICAL SCALE	DESIGNATION
N/A	1802927
SURVEY BOOK	SHEET
ELECTRONIC	8 OF 18
CONTRACT	PROJECT
B-42073	1802927

BFS NO. 6391



TYPICAL SECTION
Scale: 1/2"=1'-0"

GENERAL NOTES

The existing structure shall be removed.

Steel H-Piles with shoes shall be driven to the Nominal Driving Resistance.

Epoxy coated reinforcing bars shall be required in various portions of the structure as shown.

Reinforcing bars covering shall be 2 ½" in top of approach slabs.

Reinforcing bars covering shall be 2 ½" in top and 1" in bottom of floor slabs and 2" in all other areas unless noted.

Reinforcing bars shall be A.S.T.M. A615, Grade 60.

Concrete shall be Class C in end bents and floor slab.

Concrete shall be Class A in all portions of the project not noted above.

Chamfer exposed corners of concrete 1" unless noted.

Surface seal shall be required on various areas of the structure as shown. Estimated quantity = ____ Sft.

DESIGN DATA

LIVE LOAD:

Designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017 and its subsequent revisions.

DEAD LOAD:

Actual weight plus 35 psf (composite) for future wearing surface and 15 psf for permanent metal deck forms.

FLOOR SLAB:

Designed with a structural depth of 7 ½" plus ½" sacrificial wearing surface.

SEAT ELEVATIONS

All bridge seat elevations were calculated using design camber of beams, dead load deflection of slab and, where applicable, an allowance for Profile Grade Vertical curve and beam notches so that the top of beam will be 3/4" minimum below the bottom of slab at the center of span unless otherwise noted on the floor details.

Fillet depth to vary along length of beam to compensate for residual camber of beams, beam notches and Profile Grade Vertical Curve. Actual cambers which are greater or less than design cambers will be accounted for by reducing or increasing the fillets. The beams shall not extend into the slab more than 1"

DESIGN STRESSES

MATERIAL DESIGN STRENGTHS:

Class "C" Concrete	F'c = 4,000 p.s.i.
Class "A" Concrete	F'c = 3,500 p.s.i.
Reinforcing Steel (Grade 60)	Fy = 60,000 p.s.i.

SEISMIC DESIGN DATA:

Seismic Performance Zone	TBD
Acceleration Coefficient	TBD
Seismic Soil Profile Type	TBD

WIND LOAD:

Designed for 70 mph horizontal wind load in accordance with LRFD 3.8.1.

CONSTRUCTION LOADING:

The exterior girder has been checked for strength, deflection, and overturning using the construction loads shown. Cantilever overhang brackets were assumed for support of the deck overhang past the edge of the exterior girder. Finishing machine was assumed to be supported 6 in. outside the vertical coping form. The top overhang brackets were assumed to be located 6 in. past the edge of the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the girder bottom flange and web.

DECK FALSEWORK LOADS:

Designed for 15 psf for permanent metal stay-in-place deck forms, removable deck forms, and 2 ft. exterior walkway.

CONSTRUCTION LIVE LOAD:

Designed for 20 psf extending 2 ft. past the edge of coping and 75 lb/ft vertical force applied at a distance of 6 in. outside the face of coping over a 30 foot length of the deck centered with the finishing machine.

FINISHING-MACHINE LOAD:

4500 lb distributed over 10 ft. along the coping.

COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE
ONE SPAN: 59'-0"
24'-0" CLEAR ROADWAY; SKEW 15°00'00" LT.
C.R. 450 SOUTH OVER BRANCH OF LITTLE FLATROCK RIVER
RUSH COUNTY

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE

DESIGNED: M. MATEL DRAWN: D. PIERCEFIELD

CHECKED: M. STURGRON CHECKED: M. MATEL

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN - TYPICAL SECTION

HORIZONTAL SCALE	BRIDGE FILE
N/A	RUSH 155
VERTICAL SCALE	DESIGNATION
N/A	1802927
SURVEY BOOK	SHEET
ELECTRONIC	9 OF 18
CONTRACT	PROJECT
B-42073	1802927

BFS NO. 6391

Appendix C

Early Coordination

SAMPLE EARLY COORDINATION LETTER

Butler Fairman Seufert
CIVIL ENGINEERS

Headquarters:
8450 Westfield Blvd., Suite 300
Indianapolis, IN 46240-5920
T 317.713.4615
F 317.713.4616
E bfs@BFSEngr.com
www.BFSEngr.com

Branch Locations:
Fort Wayne
Jeffersonville
Lafayette
Merrillville
Plainfield

Founded 1961

Member ACEC INDIANA

April 2, 2020

{See Attached List}

Re: Des. Nos.: 1802927, Bridge Project, Rush County Bridge No. 155 carrying County Road (CR) 450 S over Branch of Little Flatrock River, Rush County, IN

Dear Interested Agency:

The Rush County Board of Commissioners along Federal Highway Administration (FHWA), intends to proceed with a project involving the aforementioned bridge in Rush County. This letter is part of the early coordination phase of the environmental review process. We are 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.*

This project is located on CR 450 S, 0.6 mile west of United States Highway (US) 52, in Rush County. This section of CR 450 S is a two-lane Rural Minor Collector. The existing CR 450 S approach cross section consists of one 7.5-ft.-wide lane provided in both directions. Land use in the vicinity of the project is primarily agricultural with one residence.

The existing Rush County Bridge No. 155 (NBI: 7000141) over Branch of Little Flatrock River is a two-lane, single span concrete, multi-beam bridge constructed in 1940 with a maximum span of 24 ft. and a structure length of 28 ft. On the most recent INDOT Bridge Inspection, dated April 24, 2018, the inspector noted cracks, settlement, and efflorescence throughout the structure. Both the superstructure and substructure were rated at a 4 (out of 9) indicating poor condition. These ratings contributed to the structure's overall sufficiency rating of 35.4 (out of 100), also indicating poor condition. The approximate existing right-of-way is 7.5 ft. each side of centerline throughout the project area.

The current proposed project would replace the existing bridge over Branch of Little Flatrock River. The current proposed replacement includes a single span concrete bridge with an

overall length of 56 ft. with a low structure elevation to provide clearance above Q100. The project requires the acquisition of 2.0 acres of permanent right-of-way. Proposed right-of-way widths along CR 450 S would be approximately 40 ft. from centerline. The project limits would be approximately 800 ft. in length along CR 450 S. The preferred maintenance of traffic would be a road closure with a detour. A temporary runaround will not be used.

The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to "Using the USFWS's Information for Planning and Consultation (IPaC) System for Listed Bat Consultation for INDOT Projects".

Butler, Fairman, & Seufert, Inc. will perform waters and wetlands determinations and a biological assessment to identify any ecological resources that may be present. Butler, Fairman, & Seufert, Inc. will also be investigating the areas of additional right-of-way for archaeological and historic resources for compliance with Section 106. The results of this investigation will be forwarded to the State Historic Preservation Officer for review and concurrence.

Please review the information contained in this early coordination packet and provide a written evaluation of potential impacts upon resources under your jurisdiction. 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. If you have any questions, you may contact Brittney Layton, Environmental Scientist at BLayton@bfsengr.com, or (317) 713-4616, or 8450 Westfield Blvd, Suite 300, Indianapolis, IN 46240. Thank you in advance for your input. Alternatively, you may contact Don McGhghy, INDOT Project Manager, at 317.467.3920, or DMcGhghy@indot.in.gov.*

On behalf of Rush County Board of Commissioners,
Butler, Fairman, & Seufert,

Brittney Layton, M.A.
Environmental Scientist
cc

Enclosures:

Project Description
State Map
Aerial/Photo Key Map
USGS Rushville Quadrangle Map
Site Photographs
Rush County ETR List

NOTE: MAPS, SITE PHOTOGRAPHS, & ETR LIST REMOVED FOR SPACE CONSERVATION. SEE APPENDICES B, E, & F.

Ms. Robin McWilliams
U.S. Fish and Wildlife Service
Bloomington Field Office
620 South Walker Street
Bloomington, IN 47403-2121

Robert Dirks
Planning & Environmental Specialist
Federal Highway Administration
Room 254, Federal Office Building
575 North Pennsylvania Street
Indianapolis, IN 46204

Bert Frost, Midwest Regional Director
National Park Service, Department of Interior
601 Riverfront Drive
Omaha, NE 68102

Jenni Curry, INDOT Environmental Manager
INDOT Greenfield District
32 South Broadway
Greenfield, IN 46140

Jerry Raynor, State Conservationist
Natural Resources Conservation Service
6013 Lakeside Boulevard
Indianapolis, IN 46204

Christie Stanifer, Environmental Coordinator
Division of Water, Environmental Unit
Indiana Department of Natural Resources
402 West Washington Street, W-264
Indianapolis, IN 46204-2641

Rickie Clark, Hearings Manager
Mary Wright, Hearing Examiner
INDOT Office of Communications
100 North Senate Avenue, Room 642
Indianapolis, IN 46204

Paul Lehmann, Acting Regional Environmental Office
Field Environmental Officer
Department of Housing and Urban Development
Chicago Regional Office
Metcalf Federal Building
77 West Jackson Boulevard, Room 2401
Chicago, IL 60604

Gregory McKay
U.S. Army Corps of Engineers
Louisville District
ATTN: CELRL-RDN
P.O. Box 59
Louisville, KY 40201-0059

Marvin Rees, Rush County Surveyor
101 East Second Street, Room 104
Rushville, IN 46173

Rush County Commissioners
101 East Second Street, Room 102
Rushville, IN 46173

Jerry Sitton, Rush County Highway Superintendent
1352 East State Road 44
Rushville, IN 46173

Sheriff Alan Rice, Rush County Sheriff
131 East First Street
Rushville, IN 46173

Indiana Department of Environmental Management (IDEM)
Proposed Roadway Construction Projects Letter
{http://www.in.gov/idem/5284.htm}

IDEM Wellhead Proximity Determinator
Electronic Review of Location
{http://www.in.gov/idem/cleanwater/pages/wellhead

Indiana Geological Survey
{https://igs.indiana.edu/eAssessment/}

Per the Early Coordination Attachment List, this is the Project Description which accompanied the Early Coordination Letter. Please note: the information listed below was based on information known at the time of Early Coordination submittal and may not exactly match what's shown in the current plans.

PROJECT DESCRIPTION
Replacement of Bridge No. 155
Rush County, Indiana
Des. No. 1802927

Rush County Board of Commissioners proposes replacement of Rush County Bridge No. 155 which carries County Road 450 South over Branch of Little Flatrock River.

The existing bridge is a single-span concrete bridge approximately 28 ft. long and 21.8 ft. wide, with vertical abutments. The land use surrounding the bridge includes a partially wooded residential property to the north, and fallow field areas to the south.

The new bridge will be a single span concrete beam structure approximately 56 ft. long and 28.5 ft. wide with 2:1 concrete spill slopes. Minor approach work will occur on County Road 450 South in order to accommodate the new bridge. The total project length will be approximately 800 ft. along CR 450 S with an incidental length of 300 ft. along CR 365 E due to the intersection of these roads west of the bridge.

Purpose and Need:

The need for this project stems from the deteriorated condition of the bridge that has resulted from use over time. The bridge was constructed in 1940 and has deteriorated to the point where significant work is required to provide a safe crossing for County Road 450 South over Branch of Little Flatrock River. The bridge is not considered eligible for the National Register of Historic Places.

The purpose of the project is to address the deteriorating condition of Rush County Bridge No. 155. It is in poor condition, with cracking, exposed rebar, and efflorescence throughout the structure. The superstructure and substructure received a rating of 4 (out of 9), contributing towards the current sufficiency rating of 35.4 (out of 100).

Project Location:

The project is located on County Road 450 South over Branch of Little Flatrock River approximately 0.6 mile west of United States Highway 52 in Rush County, Indiana. Specifically, the project is located in Sections 23 and 26, Township 13 North, Range 10 East within the United States Geological Survey Rushville Quadrangle.

At this time, maintenance of traffic (MOT) has not been determined. As project plans develop and MOT has been decided, coordination with Rush County shall occur.

General Existing and Proposed Parameters

	Existing	Proposed
Total Project Length:	N/A	1,100 ft.
Right-of-Way:		
Permanent:	7.5 ft. either side of the roadway centerline	Varies from existing to 40 ft. either side of the roadway centerline 2.0 acres, including 0.5 acres residential, 1.5 acres fallow field
Temporary:	N/A	No temporary right-of-way acquisition is anticipated
Vertical Alignment:	Level	No change
Horizontal Alignment	Straight (east/west)	No change

Land Use:	Residential, Fallow Field	No change

Channelization, Bank Shaping and In-Stream Work:

The existing bridge will be completely removed. Both streambanks will be re-shaped from vertical concrete to 2:1 concrete spill slopes. No other channel work is anticipated.

Temporary Runaround and Equipment Crossing: None

Design Speed:		55mph
Posted Speed:	None	No Change

Average Daily Traffic	200 (2018)	275 (2038)
Truck Traffic	5.0%	

Existing and Proposed Roadway Design – CR 450 S

	Existing	Proposed
Pavement Width:	15 ft.	20 ft.
Number of Lanes:	2 @ 7.5 ft.	2 @ 10 ft.
Striped Median:	N/A	N/A
Surface:	Asphalt	Asphalt
Shoulders:	N/A	2 @ 4 ft.
Curb and gutter:	N/A	N/A
Sidewalk:	None	
Grass Buffer:	N/A	N/A
Functional Classification:	Rural Minor Collector	Rural Minor Collector

Existing and Proposed Bridge Design - Rush County Bridge 155 (NBI No. 7000141)

	Existing	Proposed
Length:	28 ft.	56 ft.
Width:	21.8 ft.	28.5 ft.
Clear Roadway:		
Horizontal:	20.5 ft.	28 ft.
Vertical:	Unlimited	Unlimited
Number of Lanes:	2 @ 10 ft.	2 @ 10 ft.
Median:	None.	None
Shoulders:	2 @ 0.5 ft.	2 @ 4 ft.
Sidewalks:	None	None
Curbs:	None	None
Surface:	Concrete	No change
Type:	Concrete Multi-Beam	Concrete Beam Bridge or Concrete Slab Bridge

Additional Design Parameters Unique to the Project:

Standard INDOT erosion control measures will be used.

Suspected riparian wetland areas exist in the immediate southeast and southwest quadrants of the bridge. A Waters of the US report will be completed, and coordination with IDEM's Section 401 Water Quality Certification program staff and the US Army Corps of Engineers (Section 404 program staff) will occur. Any temporary wetland impacts may require a restoration plan as part of Section 401/404 permitting requirements.

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

Rush County Board of Commissioners
Jerry Sitton, Highway Superintendent
101 East Second Street, Room 102
Rushville , IN 46173

Butler, Fairman, & Seufert
Brittney Layton
8450 Westfield Blvd
Suite 300
Indianapolis , IN 46240

Date

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: Des. No. 1802927, Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock Creek, Rush County, IN

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

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

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

WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical

clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

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

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

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

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

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

4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at:

http://www.in.gov/idem/4384.htm (http://www.in.gov/idem/4384.htm) for the appropriate staff contact to further discuss your project.

5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:
    - IC 14-26-2 Lakes Preservation Act 312 IAC 11
    - IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
    - IC 14-28-1 Flood Control Act 310 IAC 6-1
    - IC 14-29-1 Navigable Waterways Act 312 IAC 6
    - IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
    - IC 14-29-4 Construction of Channels Act No related code

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

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

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

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

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

    Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of

the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: http://www.in.gov/idem/4900.htm (http://www.in.gov/idem/4900.htm).

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

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

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

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

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

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

AIR QUALITY

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

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

   However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any

vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

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

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

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

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

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

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

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

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

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

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

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

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978 , or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: http://www.in.gov/isdh/19131.htm (http://www.in.gov/isdh/19131.htm).

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

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

7. For more information on air permits visit: http://www.in.gov/idem/4223.htm (http://www.in.gov/idem/4223.htm), or to initiate the IDEM air permitting process, please contact

the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

LAND QUALITY

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

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

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

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

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

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

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

FINAL REMARKS

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

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

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

Signature(s) of the Applicant

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

Project Description

Des. No. 1802927, Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock Creek, Rush County, IN

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: april 9, 2020

Signature of the INDOT
Project Engineer or Other Responsible Agent

Jerry L. Sitton

Jerry Sitton, Highway Superintendent

Date: 4/9/2020

Signature of the
For Hire Consultant Brittney M Layton

Brittney Layton , Environmental Scientist

THIS IS NOT A PERMIT

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

DNR #: ER-22412 **Request Received:** April 2, 2020

Requestor:
Butler, Fairman & Seufert Inc
Brittney Layton
8450 Westfield Boulevard, Suite 300
Indianapolis, IN 46240

Project: CR 450 South bridge (County #155) replacement over UNT (South Fork) Little Flatrock River, about 0.6 mile west of US 52; Des #1802927

County/Site info: Rush

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

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

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

Natural Heritage Database: The Natural Heritage Program's data have been checked.
To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

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

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

The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. When determining an appropriate bridge or culvert size, consider whether or not wildlife/vehicle collisions are a concern at the crossing site. If feasible, a larger bridge or culvert opening can allow for the movement of wildlife under the roadway in order to minimize wildlife/vehicle collisions.

Attachments: A - Bridge Exemption Criteria

2) Bank Stabilization:
Establishing vegetation along the banks is critical for stabilization and erosion control. In addition to vegetation, some other form of bank stabilization may be needed. While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank stabilization methods can provide additional bank protection and help reduce impacts upon fish and wildlife. 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.

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 Eastern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion.

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

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

4) Nesting Birds/Roosting Bats:
Repairs to the bridge could affect any nesting birds or roosting bats. Cliff and Barn Swallows, among other species, often nest on the underside of road bridges and many bat species roost in expansion joints and other concrete crevices on road bridges. Survey the bridges for any bird nests prior to construction. Nest surveys should occur between May 7 and September 7, which denotes the main nesting season for most bird species. If nests are found with eggs, chicks, or parents actively attending to the nest (building the nest and visiting often), then repairs should be put on hold until the nests complete their nesting cycle (to fledging) or fail (by natural causes).

The Division of Fish and Wildlife (DFW) recommends bridge maintenance activities be restricted to the period between November 1 and March 1 to avoid the summer roosting period for most bats in the central part of the State. However, some endangered bats could use a bridge to roost between November and March. No matter when work is proposed, the bridge must be inspected for the presence of bats. If there is no evidence of active bat use, work can proceed. If there is evidence of active bat use, work must not occur until either the bats leave the structure for the season or a separate permit is issued to remove the bats. Please contact Linnea Petercheff (lpetercheff@dnr.in.gov) regarding permits to handle bats. If bats are present, a more formal survey to determine what species are present may be required.

Attachments: A - Bridge Exemption Criteria

The DFW recommends consulting with the State Mammologist or the US Fish and Wildlife Service before scheduling a bridge maintenance, repair, or replacement project where evidence of bat use of the structure has been observed. Information about bat use of transportation structures as well as avoidance and exclusion measures can be found at https://www.batcon.org/pdfs/bridges/BatsBridges2.pdf and https://www.whitenosesyndrome.org/mmedia-education/acceptable-management-practices-for-bat-species-inhabiting-transportation-infrastructure.

5) Stream/Wetland Habitat:
For any stream and/or wetland impacts, you may need to contact the Indiana Department of Environmental Management (IDEM) 401 program and the US Army Corps of Engineers (USACE) 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

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 that will not be mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in regularly mowed areas only.
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 cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
7. Operate equipment used to replace the bridge from the existing roadway.
8. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
9. Do not use broken concrete as riprap.
10. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
11. Minimize the movement of resuspended bottom sediment from the immediate project area.
12. Do not deposit or allow demolition/construction materials or debris to fall or otherwise enter the waterway.
13. 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.
14. 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.
15. Do not excavate or place fill in any riparian wetland.

Attachments: A - Bridge Exemption Criteria

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife

Early Coordination/Environmental Assessment

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:** May 1, 2020

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

Attachments: A - Bridge Exemption Criteria

INDIANA
GEOLOGICAL SURVEY

Organization and Project Information

Project ID:	6391
Des. ID:	1802927
Project Title:	Rush County Bridge No. 155 carrying County Road (CR) 450 S over Branch of Little Flatrock
Name of Organization:	Butler, Fairman, & Seufert
Requested by:	Brittney Layton

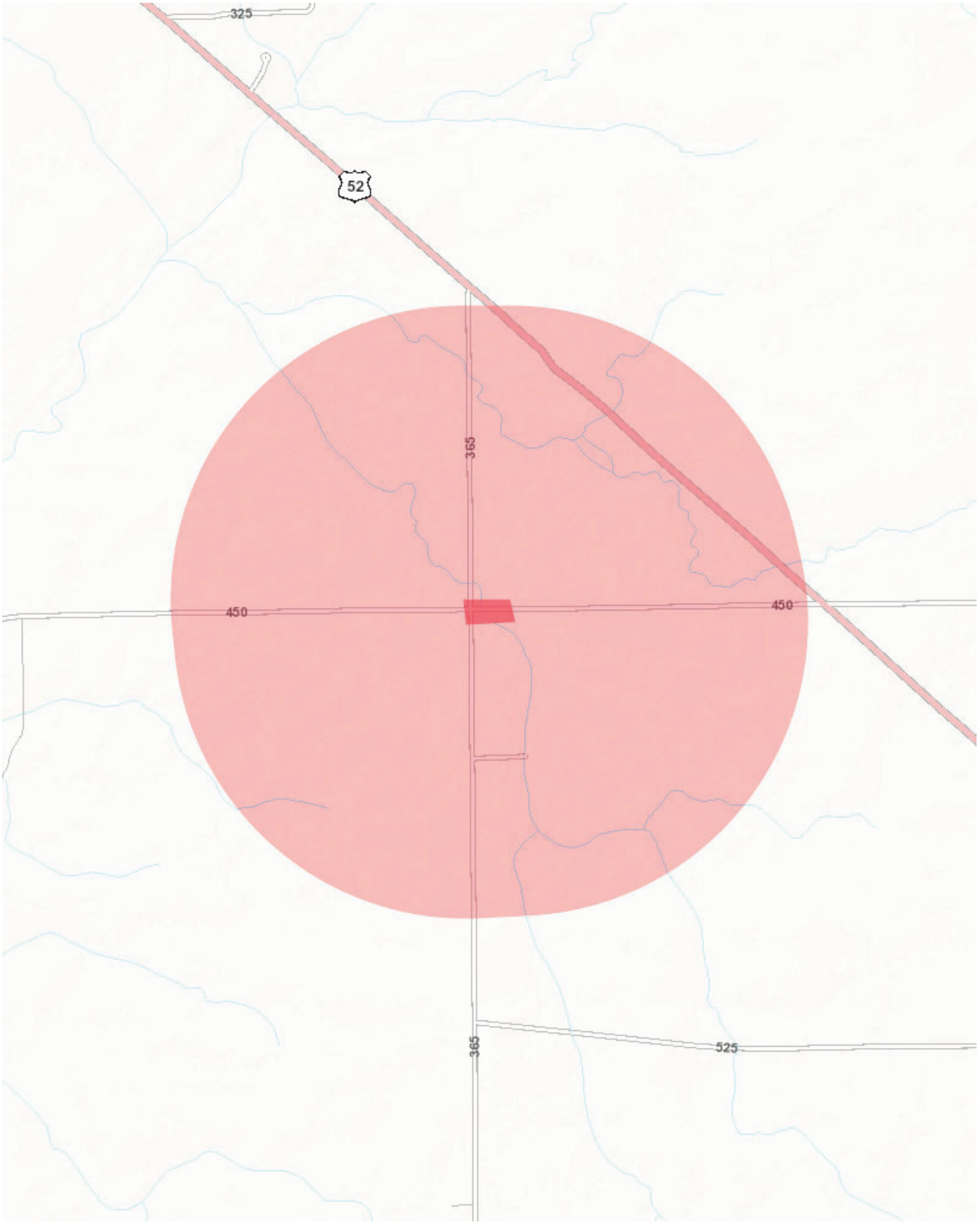
Environmental Assessment Report

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

*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: April 03, 2020



Metadata:

- https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html
- https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Resources.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

April 8, 2020

Brittney Layton
Butler, Fairman & Seufert
8450 Westfield Boulevard, Suite 300
Indianapolis, Indiana 46240

Dear Ms. Layton:

The proposed project to make bridge improvements to bridge number 155 carrying County Road 450 South over Branch of Little Flatrock River in Rush County, Indiana, (Des No 1802927) as referred to in your letter received April 2, 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,

RICHARD NEILSON
Digitally signed by RICHARD NEILSON
Date: 2020.04.08 15:58:58 -04'00'

RICK NEILSON
State Soil Scientist

Enclosures

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request July 6, 2020	
Name of Project DES1802927_Bridge Project (Rush 155)		Federal Agency Involved FHWA	
Proposed Land Use Bridge Replacement		County and State Rush County, Indiana	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 4/2/2020	Person Completing Form: JRA
Does the site 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 ☐	Acres Irrigated	Average Farm Size 379 ac
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 255429 % 98	Amount of Farmland As Defined in FPPA Acres: 241962 % 93	
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS 4/8/2020	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.33			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.42			
B. Total Acres Statewide Important or 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	92			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	66			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	13			
2. Perimeter In Non-urban Use	(10)	7			
3. Percent Of Site Being Farmed	(20)	1			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	15			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	2			
8. Creation Of Non-farmable Farmland	(10)	0			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	13			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	56	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	66	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	56	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	122	0	0	0

Site Selected: A	Date Of Selection 7-14-2020	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

This alternative uses the existing alignment, thereby minimizing impacts to farmland.

Name of Federal agency representative completing this form: Brittney Layton (BF&S) on behalf of FHWA | Date: 7-14-2020

(See Instructions on reverse side)

Form AD-1006 (03-02)

Brittney Layton

From: Turnbow, Alisha <ATurnbow@idem.IN.gov>
Sent: Monday, July 13, 2020 5:59 PM
To: Brittney Layton
Subject: RE: Des. No. 1802927 Rush County Bridge 155 Replacement, Rush County, IN

Categories: Filed by Newforma

Hi Brittney,
The project Des No 1802927 is located in Greensburg Municipal Water Works' Source Water Area. The contact for Greensburg Municipal Water Works is Rick Denney and they can be reached at watersupt@cityofgreensburg.com and 812-663-2641. Let me know what questions you have.
Sincerely,

COVID-19 Resources:

- **Indiana State Dept. of Health (ISDH) COVID-19 Call Center:** Call 877-826-0011 (available 8:00 am-5:00 pm daily).
- **Anthem NurseLine:** Call 800-337-4770 or visit the Anthem NurseLine online for a FREE symptom screening. Available to anyone with an Anthem health plan (this includes State of IN employees)
- **Anthem Employee Assistance Program (EAP)**: Available to full-time state employees and their household members regardless of health plan participation. Call 800-223-7723 or visit anthemeap.com (enter State of Indiana) for crisis counseling, help finding child/elder care, legal/financial consultation and much more.

Alisha Turnbow
Environmental Manager
Office of Water Quality
Drinking Water Branch, Groundwater Section

(317) 233-9158 • aturnbow@idem.IN.gov

Indiana Department of Environmental Management

From: Blazey, Samuel
Sent: Thursday, July 09, 2020 6:43 AM
To: Turnbow, Alisha <ATurnbow@idem.IN.gov>
Subject: FW: Des. No. 1802927 Rush County Bridge 155 Replacement, Rush County, IN

Please assist.

Thank you,

Samuel Blazey
Section Chief, Groundwater Section, LPG 2590
Office of Water Quality, Drinking Water Branch
100 N. Senate Ave, IGCN
Indianapolis, IN 46204-2251

(317) 232-8728 • sblazey@idem.IN.gov

Indiana Department of Environmental Management

IDEM values your feedback.
Please take two minutes and complete this brief survey.

#HoosiersCountIN2020
2020 Census
It's easy: online, paper or phone

COVID-19 Resources:

- **Indiana State Dept. of Health (ISDH) COVID-19 Call Center:** Call 877-826-0011 (available 8:00 am-5:00 pm daily).
- **Anthem NurseLine:** Call 800-337-4770 or visit the Anthem NurseLine online for a FREE symptom screening. Available to anyone with an Anthem health plan (this includes State of IN employees)
- **Anthem Employee Assistance Program (EAP)**: Available to full-time state employees and their household regardless of health plan participation. Call 800-223-7723 or visit anthemeap.com (enter State of Indiana) for crisis counseling, help finding child/elder care, legal/financial consultation and much more.

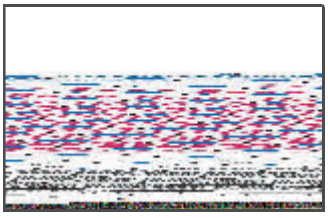
From: Brittney Layton [mailto:BLayton@bfsengr.com]
Sent: Wednesday, July 08, 2020 6:28 PM
To: Blazey, Samuel <SBlazey@idem.IN.gov>
Subject: Des. No. 1802927 Rush County Bridge 155 Replacement, Rush County, IN

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Good evening Sam,
While doing the Early Coordination for the above named project located in Rush County, it was discovered that the project area lies within a Wellhead Protection Area (see attached Map pulled from <*http://www.in.gov/idem/cleanwater/pages/wellhead*>). Would you mind reviewing the attached Early Coordination Packet and returning comments to me within 30 days, please? If you have any questions or concerns, feel free to reach out.

Thank you,
Brittney Layton, M.A.
Environmental Scientist

Butler, Fairman & Seufert, Inc.
8450 Westfield Blvd., Suite 300 | Indianapolis, IN 46240-8302 |
p 317-713-4615 | f 317-713-4616
BLayton@bfsengr.com | www.BFSEngr.com



Brittney Layton

From: watersupt@cityofgreensburg.com
Sent: Monday, July 27, 2020 12:16 PM
To: Brittney Layton
Subject: RE: Des. No. 1802927 Rush County Bridge 155 Replacement, Rush County, IN

Sorry Brittney, I thought you only wanted to hear from me with any concerns. I have no concerns at this time.

Have a good day,

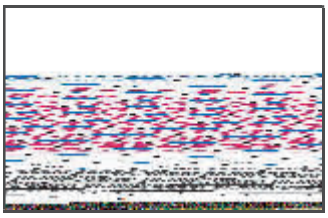
Rick

From: Brittney Layton [mailto:BLayton@bfsengr.com]
Sent: Monday, July 27, 2020 12:09 PM
To: watersupt@cityofgreensburg.com
Subject: RE: Des. No. 1802927 Rush County Bridge 155 Replacement, Rush County, IN

Good afternoon Mr. Denney,
Could you please let me know if the Greensburg Municipal Water Works has any concerns about the replacement of the Rush County Bridge 155 located on CR 450 S over Branch of Little Flatrock River due to it being located within a Source Water Area?

Thank you,
Brittney Layton, M.A.
Environmental Scientist

Butler, Fairman & Seufert, Inc.
8450 Westfield Blvd., Suite 300 | Indianapolis, IN 46240-8302 |
p 317-713-4615 | f 317-713-4616
BLayton@bfsengr.com | www.BFSEngr.com



From: Brittney Layton
Sent: Tuesday, July 14, 2020 3:14 PM
To: 'watersupt@cityofgreensburg.com' <watersupt@cityofgreensburg.com>
Subject: Des. No. 1802927 Rush County Bridge 155 Replacement, Rush County, IN

Good afternoon Mr. Denney,
While working on the Environmental Documentation for the above project located in Rush County, it was discovered that the project area lies within a Source Water Area (see attached Map pulled from

Brittney Layton

From: Jerry Sitton <highway@rushcounty.in.gov>
Sent: Thursday, April 2, 2020 10:22 AM
To: Brittney Layton
Subject: RE: Early Coordination Des. No. 1802927, Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock Creek, Rush County, IN

Review completed, no comment.

Jerry L Sitton
Superintendent
Rush County Highway Dept.
1352 E State Rd 44
Rushville, IN 46173
TX 765-932-2926
FAX 765-932-3316
highway@rushcounty.in.gov

From: Brittney Layton <BLayton@bfsengr.com>
Sent: Thursday, April 2, 2020 10:12 AM
Subject: Early Coordination Des. No. 1802927, Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock Creek, Rush County, IN

Good morning,

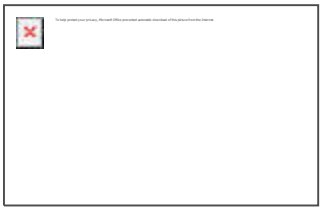
Butler, Fairman, & Seufert, Inc. is conducting Early Coordination as part of the requirements for the environmental process for the proposed Bridge Project on the above named project located in Rush County, Indiana.

We respectfully request your review of the attached Early Coordination Packet within 30 days. Feel free to reach out with any questions or concerns.

Thank you,

Brittney Layton, M.A.
Environmental Scientist

Butler, Fairman & Seufert, Inc.
8450 Westfield Blvd., Suite 300 | Indianapolis, IN 46240-8302 |
p 317-713-4615 | f 317-713-4616
BLayton@bfsengr.com | www.BFSEngr.com



Brittney Layton

From: McWilliams, Robin <robin_mcwilliams@fws.gov>
Sent: Monday, April 6, 2020 11:54 AM
To: Brittney Layton
Subject: Re: [EXTERNAL] Early Coordination Des. No. 1802927, Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock Creek, Rush County, IN

Dear Brittney,

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

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

The project is within the range of the Indiana bat (Myotis sodalis) and northern long-eared bat (Myotis septentrionalis) and should follow the new Indiana bat/northern long-eared bat programmatic consultation process, if applicable (i.e. a federal transportation nexus is established). The Service has 14 days after the "Not Likely to Adversely Affect" determination letter is generated. We will review that information once it is received; if you do not receive a response within 14 days, we have no additional comments.

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

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

Sincerely,
Robin McWilliams Munson

Standard Recommendations:
1. Do not clear trees or understory vegetation outside the construction zone boundaries. (**This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat.)**
2. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.
Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community.
3. Restrict channel work and vegetation clearing to the minimum necessary for installation of the stream crossing structure.

4. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
5. Implement temporary erosion and sediment control methods within areas of disturbed soil. All disturbed soil areas upon project completion will be vegetated following INDOT's standard specifications.
6. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams.
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
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
620 South Walker Street
Bloomington, IN 46142
812-334-4261

Mon-Tues 8-3:30p
Wed-Thurs 8:30-3p Telework

From: Brittney Layton <BLayton@bfsengr.com>
Sent: Thursday, April 2, 2020 10:12 AM
Subject: [EXTERNAL] Early Coordination Des. No. 1802927, Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock Creek, Rush County, IN

Good morning,

Butler, Fairman, & Seufert, Inc. is conducting Early Coordination as part of the requirements for the environmental process for the proposed Bridge Project on the above named project located in Rush County, Indiana.

We respectfully request your review of the attached Early Coordination Packet within 30 days. Feel free to reach out with any questions or concerns.

Thank you,

Brittney Layton, M.A.
Environmental Scientist

Butler, Fairman & Seufert, Inc.
8450 Westfield Blvd., Suite 300 | Indianapolis, IN 46240-8302 |
p 317-713-4615 | f 317-713-4616
BLayton@bfsengr.com | www.BFSEngr.com

From:	Curry, Jennifer
To:	Brittney Layton
Subject:	RE: USFWS Database Check for Des. No. 1802927, Bridge #155 on County Road 450 South over Little Flatrock River, Rush County, IN
Date:	Thursday, February 6, 2020 2:35:10 PM

Brittney,

A review of the USFWS GIS database for Indiana bat and Northern long-eared bat roosting, hibernacula and capture sites was conducted for Des 1802927 on February 6, 2020. There are no documented sites within a half mile the project area. The USFWS Information for Planning and Conservation (IPaC) website must be consulted and a new project created to obtain an official species list and complete the questionnaire for the project to determine the applicability of the programmatic consultation. If needed, the IPaC generated documents must be forwarded to the USFWS for verification.

Thanks,

Jenni Curry
Environmental Manager II
Indiana Department of Transportation
32 South Broadway
Greenfield, IN 46140
317-467-3929

From: Brittney Layton [mailto:BLayton@bfsengr.com]
Sent: Wednesday, February 05, 2020 1:49 PM
To: Curry, Jennifer <JCurry1@indot.IN.gov>
Subject: RE: USFWS Database Check for Des. No. 1802927, Bridge #155 on County Road 450 South over Little Flatrock River, Rush County, IN

Jenni,
Please find attached a zip file containing the shapefiles for the project area.

Thank you,

Brittney Layton, M.A.
Environmental Scientist

Butler, Fairman & Seufert, Inc.
8450 Westfield Blvd., Suite 300 | Indianapolis, IN 46240-8302 |
p 317-713-4615 | f 317-713-4616
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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: March 20, 2020
Consultation Code: 03E12000-2020-SLI-1015
Event Code: 03E12000-2020-E-04968
Project Name: Des No. 1802927, Bridge Replacement, County Road (CR) 450 S over Branch of Little Flatrock River, Ru

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-1015

Event Code: 03E12000-2020-E-04968

Project Name: Des No. 1802927, Bridge Replacement, County Road (CR) 450 S over Branch of Little Flatrock River, Ru

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Indiana Department of Transportation (INDOT), with funding from Federal Highway Administration (FHWA), intends to proceed with a Bridge Replacement project of the bridge Structure 70-00155, which conveys CR 450 S over Branch of Little Flatrock Creek, approximately 0.60 mile west of United States Highway 52 in Rush County, Indiana, Des. No. 1802927. The proposed work involves removing the existing bridge and replacing it. Approximately 2.0 acres of permanent right of way are anticipated. The preferred maintenance of traffic is a detour, which will be developed as the project progresses. Utilities run parallel to the southern side of the road throughout the project area. No permanent lighting will be installed or modified from the existing. No temporary lighting will be required for this project. Suitable summer habitat is located within the project vicinity. Ten trees are anticipated to be removed between 0-100 ft. from the roadway. During Butler, Fairman & Seufert's field investigation of 70-00155 on August 29, 2019, no presence of endangered bats was identified. The letting date for this project is scheduled to be October 12, 2023 with construction anticipated to occur spring of 2024. A review of the USFWS database on February 6, 2020 did not indicate the presence of endangered bat species in or within 0.5 mile of the project area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.54769527277212N85.37669302364405W

Counties: Rush, 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.

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: March 24, 2020
Consultation Code: 03E12000-2020-I-1015
Event Code: 03E12000-2020-E-05057
Project Name: Des No. 1802927, Bridge Replacement, County Road (CR) 450 S over Branch of Little Flatrock River, Ru

Subject: Concurrence verification letter for the 'Des No. 1802927, Bridge Replacement, County Road (CR) 450 S over Branch of Little Flatrock River, Ru' 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 No. 1802927, Bridge Replacement, County Road (CR) 450 S over Branch of Little Flatrock River, Ru** (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 No. 1802927, Bridge Replacement, County Road (CR) 450 S over Branch of Little Flatrock River, Ru

Description

Indiana Department of Transportation (INDOT), with funding from Federal Highway Administration (FHWA), intends to proceed with a Bridge Replacement project of the bridge Structure 70-00155, which conveys CR 450 S over Branch of Little Flatrock Creek, approximately 0.60 mile west of United States Highway 52 in Rush County, Indiana, Des. No. 1802927. The proposed work involves removing the existing bridge and replacing it. Approximately 2.0 acres of permanent right of way are anticipated. The preferred maintenance of traffic is a detour, which will be developed as the project progresses. Utilities run parallel to the southern side of the road throughout the project area. No permanent lighting will be installed or modified from the existing. No temporary lighting will be required for this project. Suitable summer habitat is located within the project vicinity. Ten trees are anticipated to be removed between 0-100 ft. from the roadway. During Butler, Fairman & Seufert's field investigation of 70-00155 on August 29, 2019, no presence of endangered bats was identified. The letting date for this project is scheduled to be October 12, 2023 with construction anticipated to occur spring of 2024. A review of the USFWS database on February 6, 2020 did not indicate the presence of endangered bat species in or within 0.5 mile of the project area.

Determination Key Result

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

Qualification Interview

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

   [1] See Indiana bat species profile

   Automatically answered
   Yes

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

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

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

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

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

   No

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

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

   No

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

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

   No

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

   No

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

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

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

   Yes

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

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

   Yes

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

    No

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

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

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

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

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

    No

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

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

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

    No

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

    Yes

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

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

    B) During the inactive season

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

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

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

    No

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

    Yes

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

    B) During the inactive season

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

    Yes

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

    No

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

    No

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

    Yes

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

    No

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

    No

24. Does the project include slash pile burning?

    No

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

    Yes

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

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

    Yes

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

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

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

    Yes

    SUBMITTED DOCUMENTS

    - *Rush Co Bridge 155_Culvert Field Assessment Form.pdf https://ecos.fws.gov/ipac/project/SVIHCIEL5FDJTJWH5P2TMD4BPQ/projectDocuments/20688293*

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

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

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

    No

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

    No

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

    No

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

    No

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

    No

33. 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

34. 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

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

    No

36. Are the 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 consistent with a No Effect determination in this key?

    Automatically answered

    Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO

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

    Automatically answered

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

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

    Automatically answered

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

39. 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

40. **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

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

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

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

Yes

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

Yes

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

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

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

Yes

Project Questionnaire

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

   Yes

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

   No

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

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

   0.9

4. Please describe the proposed bridge work:

   bridge replacement

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

   Spring 2024-fall 2024

6. Please enter the date of the bridge assessment:

   August 29, 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.

TREE REMOVAL AMM 1

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

TREE REMOVAL AMM 2

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

TREE REMOVAL AMM 3

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

TREE REMOVAL AMM 4

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

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

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

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

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

The BIAS Report results are located later in this Appendices. See Appendix I, pages I-9 to I-12.

Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside, from activities above that bore down to the underside, or that could impact expansion joints, from deck removal on bridges, or from structure demolish. Each bridge/structure to be worked on must have a current bridge inspection. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has obtained clearance from the US Fish and Wildlife Service, if required. Additional studies may be undertaken by the DOT to determine what species may be utilizing structures prior to allowing any work to proceed.

DOT Project #	Water Body	Date/Time of Inspection
1802927	UNT to Little Flat Rock River	August 29, 2019 / 10:45 AM

Route:	County:	Federal Structure ID:	Bat Indicators Check all that apply. Presence of one or more indicators is sufficient evidence that bats may be using the structure.				
CR 450 South	Rush	7000141	Visual	Sound	Droppings	Staining	**Notes: (e.g., number & species of bats, if known. Include the results of thermal, emergent, or presence/absence summer survey)**

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep		**Crevices, rough surfaces or imperfections in concrete**	x	**Human disturbance or traffic under bridge/in culvert or at the structure**	High	Low	None

All crevices >12" deep & not sealed	x	**Spaces between walls, ceiling joists**	x	**Possible corridors for netting**	None/poor	Marginal	Excellent
All guardrails	x			**Evidence of bats using bird nests, if present?**	Yes	No	
All expansion joints							
Spaces between concrete end walls and the bridge deck	x						
Vertical surfaces on concrete I-beams							

Assessment Conducted By: Ryan Scott (BF&S) **Signature(s):** Ryan L Scott

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed a minimum of 1 year 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 structure in subsequent years.**
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has obtained clearance from the USFWS, if required. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Estimates of numbers of bats observed should be place in the Notes column.
4. Any questions should be directed to the District Environmental Manager.

From:	Hinkle, Meghan
To:	Brittney Layton
Cc:	Ryan Scott; Bales, Ronald
Subject:	RE: IPaC: Des. No.: 1802927, Bridge Replacement for Rush Co. Bridge 155 carrying CR 450 S over Branch of Little Flatrock River
Date:	Tuesday, March 24, 2020 11:26:07 AM
Attachments:	image001.png

Good Morning,

This project has been sent to USFWS for their review.

Due to this project coordinating several years prior to construction, please also add the following firm commitments to the environmental document:

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

A review of the USFWS coordination must occur prior to RFC date to ensure the species determination is still valid, and no additional species have been listed that will require coordination.

Let me know if you have any questions.

Thanks,

Meghan Hinkle
Major Projects / LPA Review Liaison
Environmental Services Division
Indiana Department of Transportation
100 N Senate Ave N642-ES
Indianapolis, IN 46204-2216
317-232-1490
Email: MHinkle@indot.IN.gov

From: Brittney Layton <BLayton@bfsengr.com>
Sent: Friday, March 20, 2020 4:37 PM
To: Hinkle, Meghan <MHinkle@indot.IN.gov>
Cc: Ryan Scott <RScott@bfsengr.com>
Subject: RE: IPaC: Des. No.: 1802927, Bridge Replacement for Rush Co. Bridge 155 carrying CR 450 S

SAMPLE NOTICE OF PROPOSED IMPROVEMENTS

Butler Fairman Seufert
CIVIL ENGINEERS

Headquarters:
8450 Westfield Blvd., Suite 300
Indianapolis, IN 46240-5920
T 317.713.4615
F 317.713.4616
E bfs@BFSEngr.com
www.BFSEngr.com

Branch Locations:
Ft. Wayne
Lafayette
Merrillville
Plainfield
South Bend
Louisville

Member ACEC INDIANA

August 27, 2019

This letter is being sent to the following utility contacts:

1. Initial Contact – Frontier Communications
2. Warren Shuppert – Rush Shelby Energy

Subject: Initial Notice of Proposed Improvement Project Des. No. 1802927

Our firm has been assigned the task of utility coordination for the project referenced above by the Indiana Department of Transportation. In accordance with 105 IAC 13-3-1(c), this letter serves as your initial notice of the proposed improvement project Des. No. 1802927 on CR E 450 S in Rush County, Indiana.

In accordance with 105 IAC 13-3-1(c), the following information is provided. The dates listed in items (4) and (5) below are the currently scheduled dates.

(1) Name or route number:	CR E 450 S
(2) Geographical limits:	Intersection with CR S 365 E
(3) General description of work:	Bridge replacement and re-alignment
(4) Date approved work plan will be needed:	08/29/2023
(5) Letting Date:	9/13/2023
(6) Name of designer and contact information:	Mike Matel, P.E., BF&S E:MMatel@bfsengr.com P:317-713-4615
(7) Major or minor project:	Minor

In accordance with 105 IAC 13-3-1(d), within 30 days after receiving the initial notice, the utility shall respond in writing with a:

(1) description of the type and location of its facilities within the geographical limits of the proposed improvement project (facility maps are helpful); or
(2) statement that the utility has no facilities within the geographical limits of the improvement project.
(3) documentation of any reimbursable property interest your utility has within the geographical limits of the improvement project

Additionally, please provide us the name, telephone number, postal address and email address of the person selected as your designated contact for this project to expedite future communications. We will contact Indiana 811 and request locates for this project prior to our survey. If you would prefer to provide us location information by some other means please contact this office to discuss.

If at any time throughout the duration of Utility Coordination to the end of Construction on this project your utility modifies, upgrades, relocates, abandons, or installs new or existing facilities please notify the Utility Coordinator at the contact information below.

Please send your response to Utility Coordination., Butler, Fairman & Seufert, Inc., 8450 Westfield Blvd. Suite 300, Indianapolis, Indiana, 46240, P: (317) 713-4615, F: (317) 713-4616, UC@BFSEngr.com. Thank you for your attention to these matters.

Sincerely;

Kent Seidel
Utility Coordinator

NOTE: Attachments removed for space conservation. See Appendix B for Location Map.

Enclosure: Location Map
KMZ Map File

Cc: Mike Matel, P.E., BF&S
UC@BFSEngr.com

Brittney Layton

From: Bowman, Sandra A <SBowman@indot.IN.gov>
Sent: Friday, December 18, 2020 10:26 AM
To: Brittney Layton
Subject: RE: Rush County Bridge 155, Des No 1802927

Brittney,

Thank you for the reminder. I think a commitment is OK. We can remove nests under construction that don't have eggs in them. Looking at the bridge and the area beneath it I don't think would be a preferred nesting option or roost for bats. There isn't enough room under it. If it was a little taller there is a possibility for an Eastern Phoebe nest.

Sandy

Sandra Bowman
Mgr, Ecology and Waterway Permitting

sbowman@indot.in.gov
Off Cell – 317-416-2509

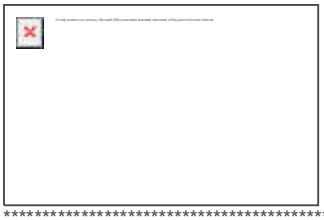
From: Brittney Layton <BLayton@bfsengr.com>
Sent: Friday, December 18, 2020 10:15 AM
To: Bowman, Sandra A <SBowman@indot.IN.gov>
Subject: RE: Rush County Bridge 155, Des No 1802927

Good morning Sandy,
I wanted to follow up on this and see if you had a moment to review the below information?

Happy Holidays!

Respectfully,
Brittney Layton, M.A.
Environmental Scientist

Butler, Fairman & Seufert, Inc.
8450 Westfield Blvd., Suite 300 | Indianapolis, IN 46240-8302 |
p 317-713-4615 | f 317-713-4616 | c 434-390-8813
BLayton@bfsengr.com | www.BFSEngr.com



Appendix D

Section 106 of the National Historic Preservation Act (NHPA)

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

Date: 7/1/2020

Project Designation Number: 1802927

Route Number: CR 450 South

Project Description: Replacement of Rush County Bridge No. 155 over Branch of Little Flatrock River

The Rush County Board of Commissioners, with funding from the Federal Highway Administration, proposes the replacement of Rush Co. Bridge 155 carrying County Road (CR) 450 South over a Branch of Little Flatrock River. The project is located on CR 450 South approximately 0.6 mile west of United States Highway (US) 52.

The existing Rush County Bridge No. 155 (NBI: 7000141) over Branch of Little Flatrock River is two-lane, single span concrete, multi-beam bridge constructed in 1940 with a maximum span of 24 ft. and a structure length of 28 ft. It is listed in the Indiana Historic Bridge Inventory as not eligible for the National Register.

The need for the project is evidenced from the deteriorating condition of Rush Co. Bridge 155, where on the most recent INDOT Bridge Inspection, dated April 24, 2018 the inspector noted cracks, settlement, and efflorescence throughout the structure. Both the superstructure and substructure were rated at a 4 (out of 9). These ratings contributed to the structure's overall sufficiency rating of 35.4 (out of 100). The purpose of the project is to address the condition of the bridge in order to perpetuate vehicular traffic on CR 450 South over Branch of Little Flatrock River.

The current proposed project will remove and replace the existing bridge over Branch of Little Flatrock River. The replacement bridge will be a single span concrete bridge with an overall length of 56 ft. with a low structure elevation to provide clearance above Q100. The project requires the acquisition of approximately 2.0 acres of permanent right-of-way. Proposed right-of-way widths along CR 450 South will be approximately 40 ft. from the centerline. The project limits would be approximately 800 ft. in length along CR 450 South.

Feature crossed (if applicable): Little Flatrock River

Township: Noble Township

City/County: Rush County

Information reviewed (please check all that apply):

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

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

☐ Previously completed historic property reports ☐ Previously completed archaeology reports

☑ Bridge Inspection Information ☑ SHAARD ☑ SHAARD GIS ☑ Streetview Imagery

Other (please specify): Bridge Inspection Application System (BIAS); Indiana Historic Bridge Inventory; Indiana State Historic Architectural and Archaeological Research Database (SHAARD); Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM) website; *Rush County Interim Report*; Arc Map GIS; Rush County GIS (accessed via https://beacon.schneidercorp.com); online street-view imagery; MPPA application (including maps and photographs) sent by Butler, Fairman and Seufert dated June 10th, 2020 and on file at INDOT-CRO.

Bennett, Stacy N. and Jeffrey A. Plunkett
2020 Phase Ia Archaeological Reconnaissance: Replacement of County Bridge No. 155 carrying CR 450 South over Branch of Little Flatrock River. Report of file, Indiana Department of Transportation, Cultural Resources Office, Indianapolis, In.

Results of the Records Review for Above-Ground Resources:
With regard to above-ground resources, an INDOT Cultural Resources historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Rush County. No listed resources are located within 0.25 mile of the project area, a distance that serves as an adequate area of potential effects.

The Indiana Historic Sites and Structures Inventory (IHSSI) and National Register information for Rush County is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The *Rush County Interim Report* (1988; Noble Township) of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted.

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

An INDOT-CRO historian reviewed the SHAARD online map and checked it against the interim report hard-copy maps. One (1) resource rated higher than "contributing" is located within 0.25 mile of the project area.

- IHSSI# 139-555-30039, W.H. Downey Farm, 1856-57, I-House, "Outstanding"

The INDOT-CRO historian reviewed structures adjacent to the project area utilizing online aerial, street-view photography, consultant-provided photographs and the Rush County GIS website. The project area is located on a county road in a rural, agricultural setting; the adjacent building stock ranges from mid-nineteenth to late-twentieth century residential buildings. The above-listed resource, with survey ratings higher than "contributing," located at 3341 E. 450 S., is located 0.25 mile west of the project area. Due to the distance of the resource from the project area, IHSSI# 139-555-30039 is not considered adjacent to the project area. No other properties within 0.25 mile of the project area exhibit the significance or integrity necessary to be considered National Register-eligible.

The most-recent inspection report (R. Coop; 4/9/2019) was accessed via the INDOT Bridge Inspection Application System (BIAS). The subject structure (Bridge # 70-00155; NBI No. 7000141-) carries County Road 450 South over Branch of Little Flatrock River and is a single-span, concrete, multi-beam bridge. The bridge was built in 1940 .The Indiana Historic Bridge Inventory (M & H Architecture, Inc., 2009) lists the bridge as "Non-Historic" (Vol. 2; Section 2, pg. 928); therefore, the bridge is not eligible for inclusion in the National Register of Historic Places.

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

Archaeology Report Author/Date:
Stacy N. Bennett and Jeffrey A. Plunkett/June 23, 2020

Summary of Archaeology Investigation Results:

An archaeological records check and Phase Ia reconnaissance survey were conducted by NS Services (Bennett and Plunkett 2020). The records check found that the project area had not been previously examined for archaeological resources and that no archaeological sites have been previously recorded within or adjacent to it. A 2.0-acre survey area was examined through the excavation of thirty shovel probes, pedestrian survey, and visual inspection of disturbed areas. Two small sites, consisting of a historic trash dump contained to one shovel probe and a prehistoric surface scatter, were identified by the field reconnaissance. Neither site is eligible for the National Register of Historic Places and no further work was recommended by the authors. The report was reviewed by INDOT Cultural Resources personnel who meet the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61. It is our opinion that the report is acceptable, and we concur with the evaluations and recommendations made by NS Services (Bennett and Plunkett 2020). Therefore, there are no archaeological concerns.

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

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

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

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

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

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

i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
ii. With regard to the subject bridge, at least one of the conditions listed below is satisfied *(AT LEAST one of the conditions a, b or c, must be fulfilled)*:
    a. The latest Historic Bridge Inventory identified the bridge as non-historic (see https://www.in.gov/indot/2531.htm);
    b. The bridge was built after 1945, and is a common type as defined in Section V. of the *Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* issued by the Advisory Council on Historic Preservation on November 2, 2012 for so long as that Program Comment remains in effect AND the considerations listed in Section IV of the Program Comment do not apply;
    c. The bridge is part of the Interstate system and was determined not eligible for the National Register under the Section 106 Exemption Regarding Effects to the Interstate Highway

System adopted by the Advisory Council on Historic Preservation on March 10, 2005, for so long as that Exemption remains in effect.

If no, please explain:

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

INDOT Cultural Resources staff reviewer(s): Clint Kelly and Shaun Miller

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

Phase Ia Archaeological Field Reconnaissance: Replacement of County Bridge No. 155 carrying CR 450 South over Branch of Little Flatrock River (Des. No. 1802927) in Noble Civil Township, Rush County, Indiana.

Prepared by:
Stacy N. Bennett

and

Jeffrey A. Plunkett
Principal Investigator
NS Services, LLC
4974 S Cobblestone Drive
Zionsville, Indiana 46077

Prepared for:
Butler, Fairman & Seufert, Inc.
8450 Westfield Boulevard, Suite 300
Indianapolis, Indiana 46240-8302

Revised
June 23, 2020

Project #19348

MANAGEMENT SUMMARY

In response to a request from Butler, Fairman & Seufert, Inc., an archaeological records check and Phase Ia field reconnaissance have been conducted for the proposed replacement of Rush County Bridge No. 155 (Des. No. 1802927), which carries County Road (CR) 450 South over a Branch of Little Flatrock River, in Noble Civil Township, Rush County, Indiana. The need for this project stems from the deteriorated condition of the bridge that has resulted from use over time. The proposed project will include removing the existing structure and replacing it with a single span concrete beam structure approximately 56 ft. long and 28.5 ft. wide with 2:1 concrete spill slopes. Minor approach work will occur on CR 450 South in order to accommodate the new bridge. The total project length will be approximately 800 ft. along CR 450 S with an incidental length of 300 ft. along CR 365 E due to the intersection of these roads west of the bridge. The project encompasses approximately 2.0 acres (0.8 hectare) of land.

The archaeological records check for this project was conducted using online information provided by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (IDNR, DHPA) prior to the Phase Ia field reconnaissance. The results of this search showed that no previous archaeological investigations have been conducted within the project area, nor did the project area contain any previously recorded archaeological sites, historic structures, or known cemeteries. Four archaeological investigations have been conducted and four previously recorded archaeological sites and ten historic structures; however, were found to be located within 1.6 km (1 mi.) of the project area.

The Phase Ia archaeological field reconnaissance was conducted on January 19 and April 14, 2020 by Stacy N. Bennett. The project area consisted of grass covered areas and cultivated fields. Two previously unrecorded archaeological sites, 12-Ru-801 and 12-Ru-802, were documented during this reconnaissance.

Site 12-Ru-801 consists of a historic trash dump associated with the Hume family and dating from the last half of the nineteenth century and early twentieth century. This trash dump was isolated to one positive shovel probe located near the edge of the parcel and it is unlikely that additional sampling of the dump would further understanding of the historic occupation of the parcel. As such, Site 12-Ru-801, as currently defined, does not appear to be eligible for listing in the National Register of Historic Places (NRHP) and no further archaeological work is recommended.

Site 12-Ru-802 consists of a small lithic scatter of undetermined cultural affiliation. Given the light density of artifacts recovered, coupled with disturbance to the site from both continual cultivation and erosion, Site 12-Ru-802 does not appear to be eligible for listing in the NRHP and no further archaeological work is recommended.

Based on the results of the Phase Ia archaeological field reconnaissance and other available information, the proposed project should have no effect on significant archaeological resources meeting the criteria established for inclusion to the NRHP. Federal and State environmental provisions concerning the identification of archaeological resources have been accomplished and it is recommended that construction be allowed to proceed as planned. This is

with the understanding that if human remains, features, or midden deposits are revealed during construction, any disturbance will cease within 100 ft. of the discovery until the INDOT, Cultural Resources Office and IDNR, DHPA are contacted, and mitigation is completed.

This study was conducted in accordance to and compliance with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716), the current version of the *Guidebook for Indiana Historic Sites and Structures Inventory - Archaeological Sites* issued by the IDNR, DHPA, the INDOT *Cultural Resources Manual*, and recent amendments to the Indiana Historic Preservation Act (IC 14-21-1). The field work, laboratory analysis, and preparation of the final report and recommendations were accomplished or directly supervised by a Principal Investigator meeting the standards set forth in 36 CFR 61 of the National Historic Preservation Act and 312-IAC-21 of the Indiana Administrative Code.

CONCLUSIONS AND RECOMMENDATION

Two previously unrecorded archaeological sites, 12-Ru-801 and 12-Ru-802, were documented during this reconnaissance. Site 12-Ru-801 consists of a historic trash dump associated with the Hume family and dating from the last half of the nineteenth century and early twentieth century. This trash dump was isolated to one positive shovel probe located near the edge of the parcel and it is unlikely that additional sampling of the dump would further understanding of the historic occupation of the parcel. As such, Site 12-Ru-801, as currently defined, does not appear to be eligible for listing in the NRHP and no further archaeological work is recommended.

Site 12-Ru-802 consists of a small lithic scatter of undetermined cultural affiliation. Given the light density of artifacts recovered, coupled with disturbance to the site from both continual cultivation and erosion, Site 12-Ru-802 does not appear to be eligible for listing in the NRHP and no further archaeological work is recommended.

Based on the results of the Phase Ia archaeological field reconnaissance and other available information, the proposed project should have no effect on significant archaeological resources meeting the criteria established for inclusion to the NRHP. Federal and State environmental provisions concerning the identification of archaeological resources have been accomplished and it is recommended that construction be allowed to proceed as planned. This is with the understanding that if human remains, features, or midden deposits are revealed during construction, any disturbance will cease within 100 ft. of the discovery until the INDOT, Cultural Resources Office and IDNR, DHPA are contacted, and mitigation is completed.

Brittney Layton

From: Kelly, Clint <CKelly1@indot.IN.gov>
Sent: Wednesday, July 1, 2020 1:18 PM
To: Elizabet Biggio
Cc: Kumar, Anuradha; Ross, Anthony; Brittney Layton; Branigin, Susan; Miller, Shaun (INDOT); Mcghghy, Donald; Darrah, Taylor N
Subject: Des. No. 1802927 MPPA Approval
Attachments: Minor Projects PA determination form_B-12_1802927.pdf

Elizabet,
Thank you for the submittal of this project information for our review. We have determined that this project falls under Category B-12 of the MPPA, thus concluding the Section 106 process. Please find attached the completed determination forms for inclusion in the CE.

The revised archaeological short report has been reviewed and approved by INDOT-CRO. Please forward one hard copy and email one PDF copy of the report to DHPA, indicating that the project qualified as a Minor Project and therefore the report is for their records only and no formal review is required under Section 106. In addition, we ask that a copy of the DHPA submittal letter and email be sent to INDOT-CRO c/o Shaun Miller during the time of submission and that the archaeological report be posted to IN SCOPE.

Please keep in mind that if the scope of the project or project limits should change, our office will need to re-examine the information to determine whether the MPPA still applies. Please don't hesitate to contact us should you have any questions or need additional information.

Clint Kelly
Historian
Cultural Resources Office
Environmental Services
100 N. Senate Ave., Rm. 642
Indianapolis, IN 46204
Office: (317) 232-1349
Email: ckelly1@indot.in.gov

From: Ross, Anthony <ARoss3@indot.IN.gov>
Sent: Tuesday, June 09, 2020 3:44 PM
To: Elizabet Biggio <EBiggio@bfsengr.com>
Cc: Kumar, Anuradha <akumar@indot.IN.gov>; Brittney Layton <BLayton@bfsengr.com>; Branigin, Susan <SBranigin@indot.IN.gov>; Miller, Shaun (INDOT) <smiller@indot.IN.gov>; Kelly, Clint <CKelly1@indot.IN.gov>
Subject: RE: Rush Co. Bridge 155, LPA Project- Des. No. 1802927- Minor Project Documentation

Elizabet,

Thank you for the submittal of this project information for our review. It's been placed in our queue, and we will respond within 15 business days.

Appendix E

Red Flag Investigation

Butler Fairman Seufert
CIVIL ENGINEERS

Headquarters:
8450 Westfield Blvd., Suite 300
Indianapolis, IN 46240-5920
T 317.713.4615
F 317.713.4616
E bfs@BFSEngr.com
www.BFSEngr.com

Branch Locations:
Fort Wayne
Jeffersonville
Lafayette
Merrillville
Plainfield

Founded 1961

Member ACEC INDIANA

Date: March 9, 2020

From: Brittney Layton
Butler, Fairman and Seufert, Inc.
8450 Westfield Boulevard, Suite 300
Indianapolis, IN 46240
BLayton@bfsengr.com

Re: RED FLAG INVESTIGATION
DES #1802927, Local Project
Bridge Replacement
County Road 450 South over Branch of Little Flatrock Creek
Rush County, Indiana

PROJECT DESCRIPTION

Brief Description of Project:

Rush County Board of Commissioners proposes replacement of the Rush County Bridge No. 155 which carries County Road (CR) 450 South over Branch of Little Flatrock Creek. The project is located on CR 450 South approximately 0.6 mile west of United States Highway 52, specifically, in Sections 26, Township 13 North, Range 10 East within the United States Geological Survey Rushville, Indiana Quadrangle.

The scope of work for this project includes replacing the existing structure with a single span bridge with a length of 56 ft.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # _70-00155___
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 N/A__ Permanent ☒ # Acres _2.0_ , Not Applicable ☐
Type of excavation: Excavation up to a depth of approximately 3 to 4 ft. will be required to remove the existing bridge, the existing roadway, and to create new roadside ditches.
Maintenance of Traffic: The project will utilize a temporary road closure and local detour.
Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐
State Project: ☐ LPA: ☒
Any other factors influencing recommendations: The project description is subject to additional changes as preliminary design progresses.

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	**N/A**	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: No Infrastructure concerns were identified within the 0.5 mile search radius.

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	**1**	Canal Routes - Historic	**N/A**
Karst Springs	**N/A**	NWI - Wetlands	**4**
Canal Structures – Historic	**N/A**	Lakes	**1**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**1**
NWI-Lines	**8**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**N/A**	Sinkhole Areas	**N/A**
Rivers and Streams	**12**	Sinking-Stream Basins	**N/A**

Explanation:

NWI-Points: One (1) NWI-Point is located within the 0.5 mile search radius. The feature is located approximately 0.25 mile northeast of the project area. No impacts are expected.

NWI-Wetlands: Four (4) NWI-wetlands are located within the 0.5 mile search radius. One (1) wetland intersects the project area. A Waters of the US Report will be prepared and coordination with the appropriate agency, if applicable, will occur

Lakes: One (1) lake is located within the 0.5 mile search radius. The feature is located approximately 0.41 mile northeast of the project area. No impacts are expected.

Floodplain-DFIRM: One (1) floodplain polygon is located within the 0.5 mile search radius. The feature is located approximately 0.49 mile northwest of the project area. No impacts are expected.

NWI-Lines: Eight (8) NWI-Line segments are located within the 0.5 mile search radius. The nearest feature intersects the project area. A Waters of the US Report will be prepared and coordination with the appropriate agency, if applicable, will occur

Rivers and Streams: Twelve (12) rivers and streams segments are located within the 0.5 mile search radius. Branch of Little Flatrock River intersects the project area. A Waters of the US Report will be prepared and coordination with the appropriate agency, if applicable, will occur

URBANIZED AREA BOUNDARY SUMMARY

Explanation: The project is not located within an Urbanized Area Boundary (UAB).

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

Explanation: No Mining and Mineral Exploration Resources were identified within the 0.5 mile search radius.

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 Rush 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 IDNR and USFWS 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 within a rural wooded area surrounded by farms and scattered with wooded areas. The April 9, 2019 Inspection Report for Bridge #70-00155 states that no evidence of bats was seen or heard under (or in) the bridge. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

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 the appropriate agency, if applicable, will occur:

- One (1) NWI-Line segment intersects the project area.
- One (1) wetland intersects the project area.
- One (1) river, Branch of Little Flatrock River, intersects the project area.

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION:

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

Prepared by:
Brittney Layton, M.A.
Environmental Scientist
Butler, Fairman, & Seufert

Graphics:

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

NOTE: Site Location Map removed for space conservation. See Appendix B.

SITE LOCATION: YES

INFRASTRUCTURE: N/A

WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

Red Flag Investigation - Water Resources
Bridge No. 155 carrying CR 450 S over Little Flat Rock River
Des No. 1802927, Bridge
Rush 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.

- 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

Indiana County Endangered, Threatened and Rare Species List

County: Rush

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G5	S3
Pleurobema clava	Clubshell	LE	SE	G1G2	S1
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Toxolasma lividus	Purple Lilliput	C	SSC	G3Q	S2
Villosa lienosa	Little Spectaclecase		SSC	G5	S3
Reptile					
Clonophis kirtlandii	Kirtland's Snake		SE	G2	S2
Bird					
Haliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
Lanius ludovicianus	Loggerhead Shrike		SE	G4	S3B
Tyto alba	Barn Owl		SE	G5	S2
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 cephaloidea	Thinleaf Sedge		ST	G5	S2
Crataegus coccinea var. coccinea	Scarlet Hawthorn		ST	G5	S2
High Quality Natural Community					
Forest - upland mesic Central Till Plain	Central Till Plain Mesic Upland Forest		SG	GNR	S3

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

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

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

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

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

Appendix F

Ecological and Water Resources

"WATERS OF THE U.S." DETERMINATION REPORT

County Road 450 South over Branch of Little Flatrock River, Rush County, Indiana
Bridge Project
INDOT Des No. 1802927
Structure No. 71-00155
Prepared By: Ryan Scott
rscott@bfsengr.com, 317-713-4615
Butler, Fairman & Seufert, Inc.
July 24, 2020

Date of Field Investigation: August 29, 2019

Project Location: This project is located 0.028 mile east of County Road 365 East near the Town of Milroy, Rush County, Indiana, and will extend approximately 850 feet east and 550 feet west of the center of the existing structure for a total of 1,400 feet along the mainline. Limits of the survey along Branch of Little Flatrock River extend approximately 25 feet north and south of the structure for a total of 50 feet. The project is also located in Section 26, Township 13 North, Range 10 East on the United States Geological Survey (USGS) Rushville, Indiana Quadrangle (see Attachment 2).

LAT 39.547636N; LONG 85.376723W

Project Description:

The Rush County Board of Commissioners proposes a project involving bridge improvements to Bridge No. 71-00155 carrying CR 450 S over Branch of Little Flatrock River, in Rush County. This is a federal-aid project.

This project will entail removing the existing single span concrete multi-beam bridge and replacing it with a single span concrete slab or concrete beam bridge with a clear roadway width of 28-feet-wide. Riprap may be placed at the bridge ends, where necessary. The project area is surrounded by a mixture of agricultural and residential properties. The northeast and northwest bridge quadrants consist of sloped mowed grass areas with some trees, and the southeast and southwest quadrants consist of mowed grass/fallow field areas with no trees present.

DESKTOP RECONNAISSANCE

Site(s) Background:

Prior to the field investigation, several reference materials were consulted to gain information about the site. The USGS Rushville, IN quadrangle was used to determine contours of the site and locate any water bodies in the area, as well as to provide a legal description of the area (see Attachment 2). The Soil Conservation Service's [now known as the Natural Resources Conservation Service (NRCS)] Web Soil Survey website for Rush County, Indiana was consulted to determine if the project area contained any soils listed in either the *Hydric Soils of the United States* manual or the state list of hydric soils publication, along with a description of characteristics displayed by the mapped soil types of the area (see Attachments 8-10). The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map was used to find and classify any previously cataloged wetlands in the project area (see Attachment 7). The Federal Emergency Management Agency's (FEMA) floodplain map was consulted to gain an understanding of historic flood locations and frequency (see Attachment 11). All this information provided a background for the hydrologic regime of the area.

Soils:

According to the Soil Survey Geographic (SSURGO) Database for Rush County, Indiana, the project area has a mapped soil type with hydric inclusions (see Attachments 12–14). The following soil types are mapped within the proposed project limits:

Soil Map Summary Table
Structure No. 71-00155 carrying CR 450 S over Branch of Little Flatrock River
Rush County, Indiana
Des No. 1802927

Soil Name	Map Abbreviation	Hydric Range
Shoals silt loam, 0-2% Slopes, frequently flooded, brief duration	Sh	Hydric 1-32% Hydric Inclusions
Miami clay loam, 6-12% Slopes, severely eroded	Gm	Not Hydric 0% Hydric Inclusions

Shoals silt loam has a drainage class rating of somewhat poorly drained and Miami clay loam silt loam is moderately well drained.

National Wetland Inventory (NWI) Information:

According to the NWI website, there are palustrine wetlands within and adjacent to the project area (see Attachment 7). The NWI lists a riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH) waterway in the project area. This waterway is identified on the USGS quadrangle as a solid-blue line feature known as Branch of Little Flatrock River. In the northwest and northeast quadrants of the project area the NWI lists a palustrine, forested, broad-leaved deciduous, temporary flooded (PFO1A) wetland.

Hydrologic Unit Code (HUC): 05120205030030

Attached documents:
* Maps (Project Location: State, Topographic, NRCS Soils, NWI, FEMA FIRM)
* Photographs with orientation map

NOTE: State, Topographic, Aerial/orientation Maps and Site Photographs removed for space conservation. See Appendix B.

FIELD RECONNAISSANCE

A field visit to the project area was conducted on August 29, 2019 by Butler, Fairman & Seufert, Inc. (BF&S). The footprint of the investigation consisted of the area that has the potential to be impacted based on the proposed project. The area of investigation was evaluated for the presence or absence of wetlands and waterways. One (1) waterway, Branch of Little Flatrock River was first observed on the NWI maps and was confirmed during the field investigation. The drainage area at the study location is approximately 1.9 square miles. Approximately 0.5 acre was investigated. The study area is approximately 850 feet east and 550 feet west of the center of the existing structure for a total of 1400 feet along the mainline and extends along approximately 400 feet north and south along the length of Little Flatrock River. The study limits included the right-of-way for the length and width of the project plus areas with the potential to be impacted. The area was investigated by walking transects east and west within the study limits. Ordinary high water mark (OHWM) and bankfull measurements were taken when present at a water feature. If present, roadside ditches along the roadway were examined for possible jurisdictional status. A total of three (3) data points were advanced (two in the southeast quadrant and one in the southwest quadrant) to determine the presence or absence of wetlands meeting the criteria of the 1987 Corps of Engineers Wetland Determination Manual and the Midwest Supplement. Field observations revealed a wetland in the southeast quadrant of the bridge.

Waterways:

One (1) waterway was observed within the project area. Branch of Little Flatrock River, identified as a perennial USGS blue line stream, (see Attachment 2), flows south through the project area. Branch of Little Flatrock River is classified as R2UBH (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded). Branch of Little Flatrock River has an approximate 30-foot bankfull width and approximate average of 4-foot bankfull depth. The ordinary high water mark (OHWM) depth is approximately 1.5 feet and the OHWM width is approximately 14 feet.

Branch of Little Flatrock River has a drainage area upstream of the study limits of approximately 1.9 square miles. The substrate of Branch of Little Flatwater River is primarily silt. Branch of Little Flatrock River would be classified as average quality due to the presence of riffles and pools, moderate sinuosity and relatively stable streambanks. Branch of Little Flatrock River should be considered a "Waters of the United States".

Stream Summary Table
Structure No. 71-00155 carrying CR 450 S over Branch of Little Flatrock River
Rush County, Indiana
Des No. 1802927

Water Feature Name	Photos	Lat/Long	OHWM Width (ft)	OHWM Depth (ft)	USGS Blue-Line? Type?	Riffles? Pools?	Quality	Substrate	Likely Water of the U.S.?	Linear ft in study area
Branch of Little Flatrock River	1-2; 5-6	39.547636N 85.376723W	14	1.5	Perennial	Yes	Average	Silt	Yes	50

Roadside Ditches:

No roadside ditches were observed within or adjacent to the project area.

Wetlands:

One (1) wetland area was observed during the field investigation of the project area surrounding the CR 450 S bridge over Branch of Little Flatrock River (southeast quadrant of the bridge). The NWI lists a palustrine, forested, broad-leaved deciduous, temporary flooded (PFO1A) wetland in these quadrants; however, within the project study area, these areas clearly did not contain wetlands as they were moderately to steeply sloped, mowed grass areas with no indications of prolonged hydrology. A data point was taken in the southwest quadrant of the bridge and was found to be negative (see Attachments 16-17).

Wetland 1, located in the southeast quadrant of the bridge is approximately 0.01 acre in size within the study limits. Two data points were taken, one within the wetland (1A) and one taken upslope of the wetland (1B). Data Point 1A met all the indicators of a wetland: hydric vegetation, hydric soil, and hydrology. The dominant vegetation present was hydric, the soil had a depleted matrix and saturation was present (see Attachments 12-13). Data Point 1B met only the vegetation indicator for wetland conditions but lacked indicators for hydric soil and wetland hydrology (see Attachments 14-15).

Wetland Plot Data Summary Table
Structure No. 71-00155 carrying CR 450 S over Branch of Little Flatrock River
Rush County, Indiana
Des No. 1802927

Plot	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within a Wetland
1A	Yes	Yes	Yes	Yes
1B	Yes	No	No	No
2	Yes	No	No	No

Wetland Summary Table
Structure No. 71-00155 carrying CR 450 S over Branch of Little Flatrock River
Rush County, Indiana
Des No. 1802927

Wetland ID	Photos	Lat/Long	Wetland Type	Quality	Area Reviewed	Likely Waters of the U.S.
Wetland 1	7-8	39.547586 -85.376602	PEM	Average	0.01 acre	Yes

Open Water:

No open water areas were observed in the investigated area.

Floodplain:

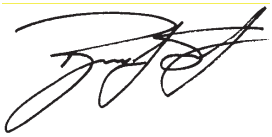
The project is not located in a floodway (see Attachment 11).

Conclusion and Recommendations:

Field observations revealed that the investigated area contained one blue line, perennial stream, within the right-of-way that exhibits OHWM characteristics that likely makes it a Waters of the U.S. The wetland (Wetland 1) observed in the project area should be considered a Waters of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway and wetland. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers (USACE). This report is our best judgment based on the guidelines set forth by the USACE.

Acknowledgement:

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



Ryan Scott
Director of Environmental Services,
Butler, Fairman, & Seufert, Inc.

Supporting Documentation:

NOTE: State, Topographic, & Aerial Project Location Maps and Site Photographs removed for space conservation. See Appendix B.

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U.S. Fish and Wildlife Service

National Wetlands Inventory

County Road 450 S over Branch of Little Flatrock Creek
Bridge Repacement, Rush County, Indiana
Des No. 1802927

June 15, 2020

Wetlands

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

Rush County Bridge 155 over CR 450 S.
Des No. 1802927 Bridge Replacement
Rush County, IN

Soil Map—Rush County, Indiana

Map Scale: 1:3,260 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Rush County Bridge 155 over CR 450 S.
Des No. 1802927 Bridge Replacement
Rush County, IN

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rush County, Indiana
Survey Area Data: Version 24, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 1, 2011—Feb 14, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Rush County Bridge 155 over CR 450 S.
Des No. 1802927 Bridge Replacement
Rush County, IN

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cy	Cyclone silty clay loam, 0 to 2 percent slopes	1.2	2.4%
FnA	Fincastle silt loam, 0 to 2 percent slopes	12.7	25.4%
MmB2	Miami silt loam, 2 to 6 percent slopes, eroded	0.3	0.6%
MoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	9.8	19.6%
RuB	Russell silt loam, 2 to 6 percent slopes	1.3	2.5%
Sh	Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	9.5	18.9%
XeB	Xenia silt loam, 2 to 4 percent slopes	15.3	30.6%
Totals for Area of Interest		**50.1**	**100.0%**

National Flood Hazard Layer FIRMette

FEMA

85°22'55"W 39°33'6"N

85°22'17"W 39°32'38"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/15/2020 at 10:16 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Bridge No. 155 Carrying CR 450 S over Branch of Little Flatrock River City/County: Near Town of Milroy / Rush County Sampling Date: 8-29-2019

Applicant/Owner: Rush County Board of Commissioners State: IN Sampling Point: 1A

Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: S. 26, T. 13 N, R. 10E

Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): None

Slope (%): <1% Lat: 39.547586 Long: -85.376602 Datum: NAD83

Soil Map Unit Name: Shoals silt loam, 0-2% slopes, frequently flooded, brief durations NWI classification: None

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

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

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

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

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

Remarks: Sample point taken in the southeast quadrant of the bridge, approximately 20 feet south of CR 450 N and 20 feet east of Branch of Little Flatrock River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. *Bolboschoenus fluviatilis*	60	Y	OBL
2. *Solidago gigantea*	10	N	FACW
3. *Phalaris arundenacea*	20	N	FACW
4. *Scirpus cyperinus*	20	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 1A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 4/2	95	10 YR 5/8	5	C	M	siltly clay loam	> 2" ribbon
10-16	10 YR 4/2	90	10 YR 5/6	10	C	M	silty clay loam	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 8-16

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Bridge No. 155 Carrying CR 450 S over Branch of Little Flatrock River City/County: Near Town of Milroy / Rush County Sampling Date: 8-29-2019

Applicant/Owner: Rush County Board of Commissioners State: IN Sampling Point: 1B

Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: S. 26, T. 13 N, R. 10E

Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): None

Slope (%): <1% Lat: 39.547603 Long: -85.376516 Datum: NAD83

Soil Map Unit Name: Shoals silt loam, 0-2% slopes, frequently flooded, brief durations NWI classification: None

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

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

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

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

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

Remarks: Sample point taken in the southeast quadrant of the bridge, approximately 20 feet south of CR 450 N and 40 feet east of Branch of Little Flatrock River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	90	Y	FAC
2. *Trifolium campestre*	10	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 1B

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10 YR 4/3	100					siltly clay loam	0.5" ribbon

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Bridge No. 155 Carrying CR 450 S over Branch of Little Flatrock River City/County: Near Town of Milroy / Rush County Sampling Date: 8-29-2019

Applicant/Owner: Rush County Board of Commissioners State: IN Sampling Point: 2

Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: S. 26, T. 13 N, R. 10E

Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): None

Slope (%): <1% Lat: 39.547594 Long: -85.376774 Datum: NAD83

Soil Map Unit Name: Shoals silt loam, 0-2% slopes, frequently flooded, brief durations NWI classification: None

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

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

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

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

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

Remarks: Sample point taken in the southwest quadrant of the bridge, approximately 20 feet south of CR 450 N and 30 feet west of Branch of Little Flatrock River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	90	Y	FAC
2. *Trifolium campestre*	10	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10 YR 4/3	100					siltly clay loam	0.5" ribbon

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: July 24, 2020

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Ryan Scott, Butler, Fairman, & Seufert, Inc., 8450 Westfield Blvd., Indianapolis, IN 46240

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Indiana County/parish/borough: Rush City: near Town of Milroy

Center coordinates of site (lat/long in degree decimal format):
LAT 39.547636N; LONG 85.376723W

Universal Transverse Mercator:
123891.37,4386700.90,UTM17N

Name of nearest waterbody: Branch of Little Flatrock River

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

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

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

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Branch of Little Flatrock River	39.547636	-85.376723	50 linear feet	non-wetland waters	Section 404
Wetland 1	39.547586	-85.376602	0.01 acre	wetland	Section 404

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

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

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

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

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: Rushville USGS 7.5-minute Quadrangle, Aerial and State Location Map .
- [x] Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - [ ] Office concurs with data sheets/delineation report.
  - [ ] Office does not concur with data sheets/delineation report. Rationale: _____.
- [ ] Data sheets prepared by the Corps: _____.
- [ ] Corps navigable waters' study: _____.
- [ ] U.S. Geological Survey Hydrologic Atlas: _____.
  - [ ] USGS NHD data.
  - [ ] USGS 8 and 12 digit HUC maps.
- [x] U.S. Geological Survey map(s). Cite scale & quad name: USGS Rushville, IN 7.5-minute Quad .
- [x] Natural Resources Conservation Service Soil Survey. Citation: Websoil Survey Rush County, IN .
- [x] National wetlands inventory map(s). Cite name: USFWS Rush County, IN Map .
- [ ] State/local wetland inventory map(s): _____.
- [x] FEMA/FIRM maps: Rush County .
- [ ] 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- [x] Photographs: [x] Aerial (Name & Date): 2017 Orthophotography .
  or [x] Other (Name & Date): Site Photos taken on August 29, 2019 .
- [ ] Previous determination(s). File no. and date of response letter: _____.
- [ ] Other information (please specify): _____.

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

July 24, 2020

Signature and date of Regulatory staff member completing PJD

Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

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

Appendix G

Public Involvement

NOTE: THIS IS AN EXAMPLE OF THE NOTICE OF SURVEY

8450 Westfield Blvd, Suite 550
Indianapolis, IN 46240
317.713.4615
bfsengr.com

January 13, 2020

NOTICE OF SURVEY

This letter was sent to the attached property owners.

RE: Topographic Survey for the Reconstruction of Bridge 155 Carrying CR 450 South over Little Flat Rock River, Rush County, Indiana

Dear Property Owner(s):

The Rush County Board of Commissioners has selected Butler, Fairman and Seufert, Inc., to survey and design the referenced project. Courthouse records show that you are a property owner within the limits of the area where data will be collected for the project survey. It may be necessary for our employees to enter your property to complete this work. If you have sold this property, or it is occupied by someone else, please let us know the name and address of the new owner or current occupant so we can contact them about the survey.

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

The survey work will include mapping the location of features such as trees, buildings, fences and drives, and obtaining ground elevations. The survey is needed for the proper planning and design of this bridge project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If problems do occur, please contact our field crew or contact me at the telephone number or address shown above or the included e-mail address.

Sincerely,

BUTLER, FAIRMAN and SEUFERT, INC.

Mark W. Neal, P.S.
mneal@bfsengr.com

MWN:sc

Appendix H

Air Quality

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Rush County	42074 / 1802927	A 01	IR 5000	Bridge Replacement	Rush County Bridge 155 on CR 450 South over Branch of Little Flatrock River	Greenfield	.22	STPBG	$1,778,690.00	Local Funds	PE	$0.00	$34,738.00	$34,738.00				
										Local Funds	RW	$0.00	$12,000.00			$12,000.00		
										Local Funds	CN	$0.00	$309,000.00					$309,000.00
										Local Bridge Program	PE	$138,952.00	$0.00	$138,952.00				
										Local Bridge Program	RW	$48,000.00	$0.00			$48,000.00		
										Local Bridge Program	CN	$1,236,000.00	$0.00					$1,236,000.00
Comments:No MPO - Add PE FY 20 Federal 138,952 and Local 34,738, Add RW FY 22 Federal 48,000 and Local 12,000, Add CN FY 24 Federal 1,236,000 and Local 309,000.																		
Indiana Department of Transportation	42306 / 1900248	A 05	US 52	HMA Overlay Minor Structural	SR 3 S junct to SR 244	Greenfield	10.96	STBG	$5,951,088.00	Road Construction	CN	$4,600,870.40	$1,150,217.60					$5,751,088.00
										Road Consulting	PE	$160,000.00	$40,000.00	$200,000.00				
Comments:New Capital Project adding CN, PE No MPO																		
Indiana Department of Transportation	42306 / 1900248	M 08	US 52	HMA Overlay Minor Structural	SR 3 S junct to SR 244	Greenfield	10.96	STBG	$5,951,088.00	Road Consulting	PE	$0.00	$0.00	($200,000.00)	$200,000.00			
Comments:M Move PE $200000.00 2020 2021 NO MPO																		
Rushville	42796 / 1902779	A 18	ST 2399	Signing	Upgrading signs and posts along City streets within the Rushville City Limits	Greenfield	30.9	Safety	$665,100.00	Local Funds	PE	$0.00	$13,010.00		$13,010.00			
										Local Safety Program	PE	$117,090.00	$0.00		$117,090.00			
Comments:NO MPO - Add PE FY 21 Federal 117,090 and Local 13,010																		
Rushville	42797 / 1902776	A 18	ST 2910	Bike/Pedestrian Facilities	Morgan St Trail along Morgan St from 3rd St to 13th St and 13 th St from Morgan St to Park	Greenfield	1.06	TA	$1,855,000.00	Local Funds	PE	$0.00	$54,400.00		$54,400.00			
										Local Transportation Alternatives	PE	$217,600.00	$0.00		$217,600.00			
Comments:NO MPO - add PE FY 21 Federal 217,600 and Local 54,400.																		

Rush County Total

Federal: $29,768,074.38 Match :$8,872,082.29 2020: $4,431,705.47 2021: $11,932,819.00 2022: $9,515,070.00 2023: $3,551,474.20 2024: $9,209,088.00

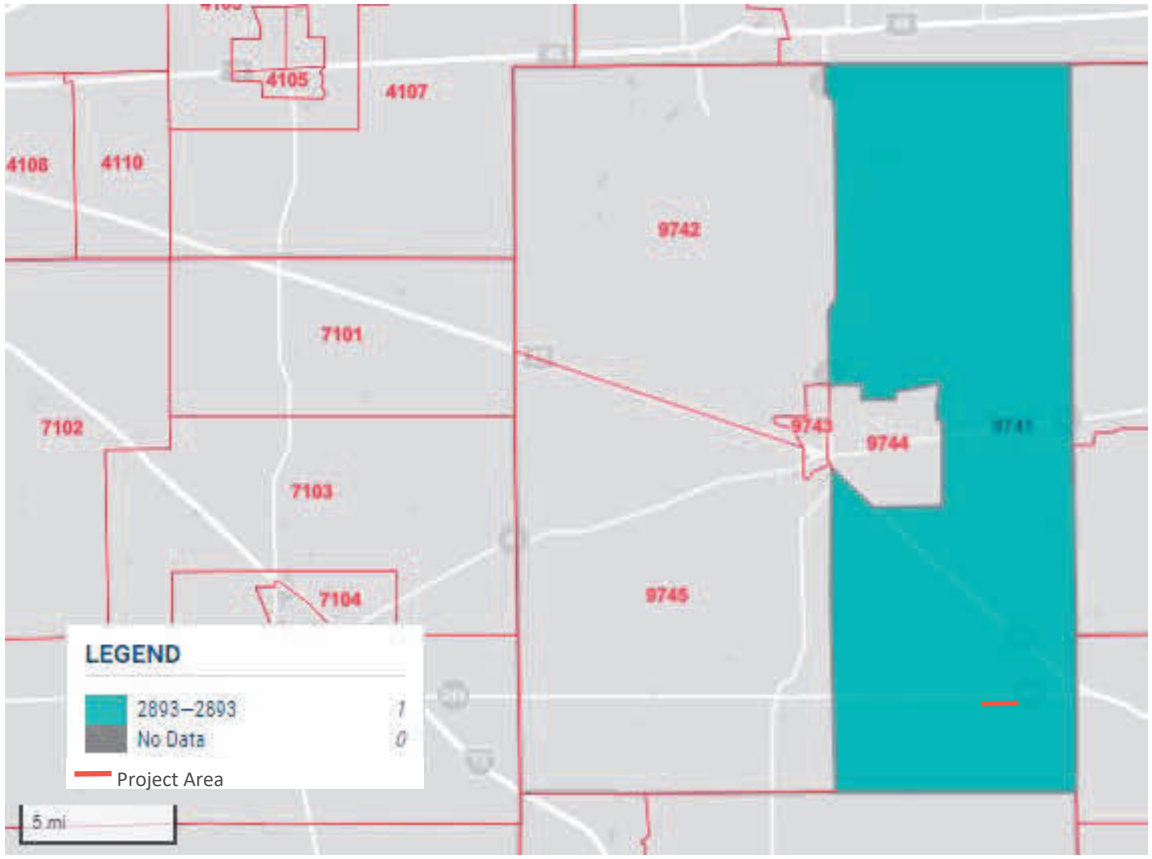
*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

Appendix I

Additional Studies

Environmental Justice Analysis
for Rush County Bridge 1 carrying CR 450 South
over Branch of Little Flatrock River
Des. No. 1802927, Rush County, IN

Project Description: The Rush County Board of Commissioners, with funding from the Federal Highway Administration, proposes the replacement of Rush Co. Bridge 155 carrying County Road (CR) 450 South over a Branch of Little Flatrock River. The need for the project is due to the deteriorating condition of Rush Co. Bridge 155, as evidenced from the most recent INDOT Bridge Inspection, dated April 24, 2018 , where the structure was given an overall sufficiency rating of 35.4 (out of 100) due to advanced deterioration. The purpose of the project is to address the condition of the bridge in order to perpetuate vehicular traffic on CR 450 South over Branch of Little Flatrock River. The proposed project will remove and replace the existing bridge over Branch of Little Flatrock River. The replacement bridge will be a single span concrete bridge with an overall length of 56 ft. with a low structure elevation to provide clearance above Q100. The project requires the acquisition of approximately 2.0 acres of permanent right-of-way. Proposed right-of-way widths along CR 450 South will be approximately 40 ft. from the centerline. The project limits would be approximately 800 ft. in length along CR 450 South. The preferred maintenance of traffic would be a road closure with a detour.



Rush County
Affected Community (AC)

Environmental Justice Analysis
for Rush County Bridge 1 carrying CR 450 South
over Branch of Little Flatrock River
Des. No. 1802927, Rush County, IN

Rush County
Community of Community (COC)

					COC Rush County	Census Tract 9741, Rush County, Indiana	Census Tract 9743, Rush County, Indiana	Census Tract 9744, Rush County, Indiana	Census Tract 9742, Rush County, Indiana	Census Tract 9745, Rush County, Indiana
						Estimate	Estimate	Estimate	Estimate	Estimate
Total:	Total:				6170	2,882	3,534	2,636	3,220	4,173
	Total:	Income in the past 12	Income in the past 12 months below pover		1054	389	624	430	536	828
			Percent Low Income		17.08%	13.50%	17.66%	16.31%	16.65%	19.84%
			125 % of COC		21.35%	*AC< 125% of COC*				
			Potential Population of EJ Concern?			**No**				

					COC Rush County	Census Tract 9741, Rush County, Indiana	Census Tract 9743, Rush County, Indiana	Census Tract 9744, Rush County, Indiana	Census Tract 9742, Rush County, Indiana	Census Tract 9745, Rush County, Indiana
						Estimate	Estimate	Estimate	Estimate	Estimate
Total:	Total:				16704	2,893	3,579	2,818	3,220	4,194
Not Hispanic or Latinc	Total:	Not Hispanic or Latinc			16438	2,885	3,502	2,740	3,158	4,153
White alone	Total:	Not Hispanic or Latinc	White alone		16006	2,803	3,472	2,483	3,132	4,116
Black or African Amer	Total:	Not Hispanic or Latinc	Black or African Amer		257	0	0	257	0	0
American Indian and A	Total:	Not Hispanic or Latinc	American Indian and A		0	0	0	0	0	0
Asian alone	Total:	Not Hispanic or Latinc	Asian alone		21	0	0	0	0	21
Native Hawaiian and C	Total:	Not Hispanic or Latinc	Native Hawaiian and C		0	0	0	0	0	0
Some other race alone	Total:	Not Hispanic or Latinc	Some other race alone		16	0	0	0	0	16
Two or more races:	Total:	Not Hispanic or Latinc	Two or more races:		138	82	30	0	26	0
Two races including S	Total:	Not Hispanic or Latinc	Two or more races:	Two races including Some other race	0	0	0	0	0	0
Two races excluding S	Total:	Not Hispanic or Latinc	Two or more races:	Two races excluding Some other race, and	138	82	30	0	26	0
Hispanic or Latino:	Total:	Hispanic or Latino:			266	8	77	78	62	41
White alone	Total:	Hispanic or Latino:	White alone		217	8	62	44	62	41
Black or African Amer	Total:	Hispanic or Latino:	Black or African Amer		7	0	0	7	0	0
American Indian and A	Total:	Hispanic or Latino:	American Indian and A		0	0	0	0	0	0
Asian alone	Total:	Hispanic or Latino:	Asian alone		0	0	0	0	0	0
Native Hawaiian and C	Total:	Hispanic or Latino:	Native Hawaiian and C		0	0	0	0	0	0
Some other race alone	Total:	Hispanic or Latino:	Some other race alone		30	0	6	24	0	0
Two or more races:	Total:	Hispanic or Latino:	Two or more races:		12	0	9	3	0	0
Two races including S	Total:	Hispanic or Latino:	Two or more races:	Two races including Some other race	12	0	9	3	0	0
Two races excluding S	Total:	Hispanic or Latino:	Two or more races:	Two races excluding Some other race, and	0	0	0	0	0	0
				Number Non-White Minority	698	90	107	335	88	78
				Percent Non-White Minority	4.18%	3.11%	2.99%	11.89%	2.73%	1.86%
				125 % of COC	5.22%					
				Potential Population of EJ Concern?		***AC<125% of COC***				
						No				

United States Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau.

Note: This download or printed version may have missing information from the original table.

HISPANIC OR LATINO ORIGIN BY RACE

Survey/Program:
American Community Survey
Universe:
Total population
Year:
2018
Estimates:
5-Year
Table ID:
B03002

Source: U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

While the 2018 American Community Survey (ACS) data generally reflect the July 2015 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas, in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineations due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

An "**" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
An "(X)" means that the estimate is not applicable or not available.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

	Census Tract 9741, Rush County, Indiana	Census Tract 9742, Rush County, Indiana	Census Tract 9743, Rush County, Indiana	Census Tract 9744, Rush County, Indiana	Census Tract 9745, Rush County, Indiana
	Estimate	Estimate	Estimate	Estimate	Estimate
Total:	2,893	3,220	3,579	2,818	4,194
Not Hispanic or Latino:	2,885	3,158	3,502	2,740	4,153
White alone	2,803	3,132	3,472	2,483	4,116
Black or African American alone	0	0	0	257	0
American Indian and Alaska Nativ	0	0	0	0	0
Asian alone	0	0	0	0	21
Native Hawaiian and Other Pacific	0	0	0	0	0
Some other race alone	0	0	0	0	16
Two or more races:	82	26	30	0	0
Two races including Some other	0	0	0	0	0
Two races excluding Some othe	82	26	30	0	0
Hispanic or Latino:	8	62	77	78	41
White alone	8	62	62	44	41
Black or African American alone	0	0	0	7	0
American Indian and Alaska Nativ	0	0	0	0	0
Asian alone	0	0	0	0	0

Native Hawaiian and Other Pacific	0	0	0	0	0
Some other race alone	0	0	6	24	0
Two or more races:	0	0	9	3	0
Two races including Some other	0	0	9	3	0
Two races excluding Some othe	0	0	0	0	0

United States Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau.

Note: This download or printed version may have missing information from the original table.

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

Survey/Program:
American Community Survey
Universe:
Population for whom poverty status is determined
Year:
2018
Estimates:
5-Year
Table ID:
B17001

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

For more information on understanding race and Hispanic origin data, please see the Census 2010 Brief entitled, Overview of Race and Hispanic Origin: 2010 , issued March 2011. (pdf format)

While the 2014-2018 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

- An "**" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
- An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
- An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
- An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
- An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
- An "(X)" means that the estimate is not applicable or not available.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

	Census Tract 9741, Rush County, Indiana	Census Tract 9742, Rush County, Indiana	Census Tract 9743, Rush County, Indiana	Census Tract 9744, Rush County, Indiana	Census Tract 9745, Rush County, Indiana
	Estimate	Estimate	Estimate	Estimate	Estimate
Total:	2,882	3,220	3,534	2,636	4,173
Income in the past 12 month	389	536	624	430	828
Male:	148	241	240	143	388
Under 5 years	55	26	0	0	67
5 years	0	10	0	0	24
6 to 11 years	1	41	9	9	16
12 to 14 years	9	9	0	0	24
15 years	0	0	0	27	0
16 and 17 years	4	6	56	0	0
18 to 24 years	4	10	35	13	37
25 to 34 years	10	19	31	24	60
35 to 44 years	24	18	27	56	33
45 to 54 years	16	54	15	0	97
55 to 64 years	25	23	23	0	10
65 to 74 years	0	9	22	14	4

75 years and over	0	16	22	0	16
Female:	241	295	384	287	440
Under 5 years	9	13	0	35	49
5 years	0	10	0	0	19
6 to 11 years	8	24	123	26	52
12 to 14 years	0	0	26	0	9
15 years	0	9	0	0	38
16 and 17 years	8	8	0	0	43
18 to 24 years	72	11	28	34	38
25 to 34 years	43	33	37	12	67
35 to 44 years	11	30	56	0	8
45 to 54 years	30	37	34	47	72
55 to 64 years	34	52	31	46	34
65 to 74 years	0	51	10	38	0
75 years and over	26	17	39	49	11
Income in the past 12 month	2,493	2,684	2,910	2,206	3,345
Male:	1,357	1,395	1,456	911	1,759
Under 5 years	75	35	106	18	65

Section 2. Listing of Non-Historic Bridges

Rush **Bridge No. 00155** **NBI No.7000141** **Not eligible**

Feature Carried: ROAD 450 SOUTH
Latitude (degrees/minutes) 39 / 32.9
Survey date: NA

Feature Crossed: BR. LITTLE FLATROCK RIV.
Longitude (degrees/minutes) 085 / 22.6

102A Reinforced concrete girder

This bridge does not appear to possess significance under the National Register evaluation system. No evidence was found during data collection activities to indicate that this bridge is an important example of bridge design, engineering, or construction or that it possesses a significant association with important historical events or trends. As such, it is recommended not eligible under Criteria A and C.

Rush **Bridge No. 00159** **NBI No.7000145** **Not eligible**

Feature Carried: ROAD 365 EAST
Latitude (degrees/minutes) 39 / 33.2
Survey date: NA

Feature Crossed: BR. LITTLE FLATROCK RIV.
Longitude (degrees/minutes) 085 / 22.6

111A Reinforced concrete arch

This bridge does not appear to possess significance under the National Register evaluation system. No evidence was found during data collection activities to indicate that this bridge is an important example of bridge design, engineering, or construction or that it possesses a significant association with important historical events or trends. As such, it is recommended not eligible under Criteria A and C.

Rush **Bridge No. 00164** **NBI No.7000150** **Not eligible**

Feature Carried: ROAD 300 SOUTH
Latitude (degrees/minutes) 39 / 34.2
Survey date: NA

Feature Crossed: LITTLE FLATROCK
Longitude (degrees/minutes) 085 / 22.5

505 Prestressed concrete box beam-multiple

This bridge does not appear to possess significance under the National Register evaluation system. No evidence was found during data collection activities to indicate that this bridge is an important example of bridge design, engineering, or construction or that it possesses a significant association with important historical events or trends. As such, it is recommended not eligible under Criteria A and C.

Rush **Bridge No. 00170** **NBI No.7000156** **Not eligible**

Feature Carried: ROAD 450 EAST
Latitude (degrees/minutes) 39 / 30.5
Survey date: NA

Feature Crossed: N BRANCH OF CLIFTY CREE
Longitude (degrees/minutes) 085 / 21.5

101A Reinforced concrete slab

This bridge does not appear to possess significance under the National Register evaluation system. No evidence was found during data collection activities to indicate that this bridge is an important example of bridge design, engineering, or construction or that it possesses a significant association with important historical events or trends. As such, it is recommended not eligible under Criteria A and C.

Rush **Bridge No. 00194** **NBI No.7000179** **Not eligible**

Feature Carried: ROAD 900 SOUTH
Latitude (degrees/minutes) 39 / 29.0
Survey date: NA

Feature Crossed: DEER CREEK
Longitude (degrees/minutes) 085 / 36.5

102A Reinforced concrete girder

This bridge does not appear to possess significance under the National Register evaluation system. No evidence was found during data collection activities to indicate that this bridge is an important example of bridge design, engineering, or construction or that it possesses a significant association with important historical events or trends. As such, it is recommended not eligible under Criteria A and C.

Rush **Bridge No. 00195** **NBI No.7000180** **Not eligible**

Feature Carried: ROAD 900 SOUTH
Latitude (degrees/minutes) 39 / 29.0
Survey date: NA

Feature Crossed: MILL CREEK
Longitude (degrees/minutes) 085 / 35.7

101A Reinforced concrete slab

This bridge does not appear to possess significance under the National Register evaluation system. No evidence was found during data collection activities to indicate that this bridge is an important example of bridge design, engineering, or construction or that it possesses a significant association with important historical events or trends. As such, it is recommended not eligible under Criteria A and C.

Inspector: Robert M. Coop
Asset Name: 70-00155
Inspection Date: 04/02/2020
Facility Carried: CR 450S

Bridge Inspection Report

APPROACH PAVEMENT HAS MINOR FLUSHING, CRACKS AND SETTLEMENT. GIRDERS SPALLED WITH EXPOSED AND RUSTED REBAR. TWO MATS OF REBAR NOTED ON BOTTOM FLANGES OF GIRDERS. MINOR CRACKS AND EFFLORESCENCE ON ABUTMENTS. BOTH FOOTINGS EXPOSED. SCOUR ALONG ABUTMENT 1.

REPLACE STRUCTURE IN 2021 DUE TO ADVANCING DETERIORATION AND HYDRAULIC CAPACITY.

GEOMETRIC DATA

(48) LENGTH OF MAX SPAN:	00024.0	FT
(49) STRUCTURE LENGTH:	00028.0	FT
(50) CURB/SIDEWALK WIDTHS:		
A) LEFT	00.0	FT
B) RIGHT:	00.0	FT
(51) BRDG RDWY WIDTH CURB-TO-CURB:	020.5	FT
(52) DECK WIDTH, OUT-TO-OUT:	021.8	FT
(32) APPROACH ROADWAY	015.0	FT
(33) BRIDGE MEDIAN:	0 - No median	
(34) SKEW:	15	DEG

(35) STRUCTURE FLARED:	0 - No flare	
(10) INV RTE, MIN VERT CLEARANCE:	99.99	FT
(47) TOT HORIZ CLEARANCE:	020.5	FT
(53) VERT CLEAR OVER BR RDWY:	99.99	FT
(54) MIN VERTICAL UNDERCLEARANCE:		
A) REFERENCE FEATURE:	N	
B) MIN VERT UNDERCLEAR:	0	FT
(55) LATERAL UNDERCLEARANCE RIGHT:		
A) REFERENCE FEATURE:	N	
B) MIN LATERAL UNDERCLEAR:	000.0	FT
(56) MIN LATERAL UNDERCLEAR ON LEFT:	000.0	FT

INSPECTIONS

(90) INSPECTION DATE:	04/02/2020
(92) CRITICAL FEATURE INSPECTION:	
A) FRACTURE CRITICAL REQUIRED/FREQUENCY:	N
B) UNDERWATER INSPECTION REQUIRED/FREQUENCY:	N
C) OTHER SPECIAL INSPECTION REQUIRED/FREQUENCY:	N

(91) DESIGNATED INSPECTION FREQUENCY:	12 MONTHS
(93) CRITICAL FEATURE INSPECTION DATE:	
A) FRACTURE CRITICAL DATE:	
B) UNDERWATER INSP DATE:	
C) OTHER SPECIAL INSP DATE:	

CONDITION

(58) DECK:	5 - Fair Condition (minor section loss)
(58.01) WEARING SURFACE:	5 - Fair Condition
(59) SUPERSTRUCTURE:	4 - Poor Condition (advanced deterioration)

(60) SUBSTRUCTURE:	4 - Poor Condition (advanced deterioration)
(61) CHANNEL/CHANNEL PROTECTION:	4 - Protect. severely undermined. sev. damage
(62) CULVERTS:	N - Not Applicable

CONDITION COMMENTS

(58) DECK: 5 - Fair Condition (minor section loss)

Comments:
FAIR-SPALLS-REBAR
Material: 8" REINFORCED CONCRETE DECK

(58.01) WEARING SURFACE: 5 - Fair Condition

Comments:
FAIR-VEGETATION-SETTLEMENT
Material: 2" CHIP & SEAL

(59) SUPERSTRUCTURE: 4 - Poor Condition (advanced deterioration)

Comments:
POOR-SPALLS-EXPOSED RUSTED REBAR
Material: 6-15" REINFORCED CONCRETE GIRDERS

(60) SUBSTRUCTURE: 4 - Poor Condition (advanced deterioration)

Comments:
POOR-FOOTINGS EXPOSED
Material: CONCRETE ABUTMENTS

(61) CHANNEL/CHANNEL PROTECTION: 4 - Protect. severely undermined. sev. damage

Comments:
POOR-SCOUR-FOOTINGS EXPOSED
Material: VEGETATION-NATURAL

(62) CULVERTS: N - Not Applicable

Comments:
N/A

LOAD RATING AND POSTING

(31) DESIGN LOAD:	0 - Unknown	(66) INVENTORY RATING:	10
(70) BRIDGE POSTING	0 - More than 39.9% below legal loads (0 tons)	(65) INVENTORY RATING METHOD:	0 - Field evaluation and documented engineering judgment
(41) STRUCTURE OPEN/POSTED/CLOSED:	P - Posted for Load	(66B) INVENTORY RATING (H):	10
(64) OPERATING RATING:	10	(66C) TONS POSTED :	10
(63) OPERATING RATING METHOD:	0 - Field evaluation and documented engineering judgment	(66D) DATE POSTED/CLOSED:	01-JAN-91

APPRAISAL

SUFFICIENCY RATING:	24.3	(36) TRAFFIC SAFETY FEATURE:	
STATUS:	1	36A) BRIDGE RAILINGS:	0
(67) STRUCTURAL EVALUATION:	2	36B) TRANSITIONS:	0
(68) DECK GEOMETRY:	4	36C) APPROACH GUARDRAIL:	0
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL:	N	36D) APPROACH GUARDRAIL ENDS:	0

(71) WATERWAY ADEQUACY: 6 - Occasional Overtopping of Approaches - Insignificant Delays

Comments:
APPEARS BARELY ADEQUATE

(72) APPROACH ROADWAY ALIGNMENT: 6 - Equal to present minimum criteria

Comments:
SATISFACTORY-SETTLEMENT Material: CHIP & SEAL
(72): SATISFACTORY-STRAIGHT-IN SAG CURVE-'+' INTERSECTION WEST

(113) SCOUR CRITICAL BRIDGES: 5 - Scour within limits of footing or piles

Comments:
STABLE - WITHIN LIMITS

Paint: ** Indicate if paint present , year painted & condition rating.*

N - No Paint Not Rated

Comments:

N/A

Scour Analysis: **Scour Critical:** **Scour POA?**

NBI 113 Scour Comment: N

STABLE - WITHIN LIMITS

Endangered Species: ** If yes, add one photo to the dropdown field*

Bats: seen or heard under structure? * N

Birds/swallows/nests seen? Empty nests present? * N

BRIDGE Culvert Geometry:

Barrel Length:

Height:

Width: