FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	North County Road (CR) 700 East, Johnson County
Designation Number(s):	1902767
Project Description/Termini:	Bridge Rehabilitation at N. CR 700 E. over Little Sugar Creek (Bridge #41-00098). Termini are from 264 feet south of the center of the bridge to 269 feet north of the center of the bridge (532 feet).

X	**Categorical Exclusion, Level 2** – Required Signatories: INDOT DE and/or INDOT ESD
	Categorical Exclusion, Level 3 – Required Signatories: INDOT ESD
	Categorical Exclusion, Level 4 – Required Signatories: INDOT ESD and FHWA
	Environmental Assessment (EA) – Required Signatories: INDOT ESD and FHWA
	Additional Investigation (AI) – The proposed action included a design change from the original approved environmental document. Required Signatories must include the appropriate environmental approval authority

Approval

INDOT DE Signature and Date

INDOT ESD Signature and Date

FHWA Signature and Date

Release for Public Involvement

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INDOT DE Initials and Date

INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date:

Name and Organization of CE/EA Preparer: Summer Elmore, CHA Consulting, Inc.

County Johnson Route N. CR 700 E. Des. No. 1902767

Note: Refer to the most current INDOT CE Manual, guidance language, and other ESD resources for further guidance regarding any section of this form.

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.

Notice of Survey (NOS) letters were mailed to potentially affected property owners near the project area on July 19, 2021, 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 NOS letter is included in Appendix G, page G-1).

The project will meet the minimum requirements described in the current *Indiana Department of Transportation (INDOT) Project Development Public Involvement Procedures Manual* which requires the project sponsor to offer the public an opportunity to submit comments 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

Discuss public controversy concerning community and/or natural resource impacts, including what is being done during the project to minimize impacts.

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: Johnson County Highway Department INDOT District: Seymour

Local Name of the Facility: CR 700 E.

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

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

PURPOSE AND NEED:

The need should describe the specific transportation problem or deficiency that the project will address. The purpose should describe the goal or objective of the project. The solution to the traffic problem should NOT be discussed in this section.

Need:

The need for the project is due to the overall deterioration of the existing structure. According to the July 7, 2021, inspection report (Appendix I, pages I-4 to I-29) the deck and superstructure have a condition rating of 4 – poor condition (advanced deterioration) and the substructure has a condition rating of 6 – satisfactory condition (minor deterioration). Condition ratings range from 0 to 9, with 0 indicating a failed structure and 9 being a structure in excellent condition. The channel is noted and rated as 6 due to bank slump and widespread damage. Several beams have short hairline cracks. Beam 8B has heavy cracking with leaching. Abutments and pier have minor vertical cracks with leaching. Wearing surface and approaches are in poor condition. The inspection report also notes

that the bridge railings, transitions, approach guardrail, and guardrail end treatments do not meet current INDOT safety standards.

Purpose:
The purpose of this project is to provide continued safe vehicular passage along N CR 700 E, increase superstructure and substructure to a general condition rating of 7 or greater, ensure the bridge remains serviceable for 50 years, and remove the load restriction.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Johnson Municipality: N/A

Limits of Proposed Work: From approximately 264 feet south of the center of the bridge to 269 feet north of the center of the bridge (532 feet).

Total Work Length: 0.08 Mile(s) Total Work Area: 0.49 Acre(s)

	Yes[1]	No
Is an Interstate Access Document (IAD)[1] required?		X
If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?	Date:	

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

Describe location of project including township, range, city, county, roads, etc. Existing conditions should include current conditions, current deficiencies, roadway description, surrounding features, etc. Preferred alternative should include the scope of work, anticipated impacts, and how the project will meet the Purpose and Need. Logical termini and independent utility also need discussed.

The Johnson County Highway Department, with funding from the Federal Highway Administration (FHWA), is proposing to proceed with a bridge rehabilitation project, involving the structure which carries N. CR 700 E. over Little Sugar Creek in Needham Township, Johnson County, Indiana.

Location:
The project is located on N. CR 700 E., immediately north of Urmeyville Road, Needham Township, Johnson County, Indiana. Specifically, the project is located in Section 3 and 4, Township 12 North, Range 5 East as shown on the attached 7.5 Minute Boggstown, Indiana United States Geological Survey (USGS) quadrangle map. (Appendix B, page B-2). The project will extend along N. CR 700 E. from approximately 264 feet south of the center of the bridge to 269 feet north of the center of the bridge.

Existing Conditions:
The existing structure is a two-span adjacent concrete box beam bridge supported on concrete abutments and a hammerhead pier. The span length is 55.5 feet with a total structure length of 112.5 feet. The structure has a 40-degree skew and an out-to-out deck width of 30.5 feet. It has a 14-ton weight restriction. The clear roadway width is 28.5 feet, the low structure elevation 714.22 feet, and waterway opening area 731.5 square feet. Flood flows overtop the approach roadway. Sufficiency ratings are calculated on a scale of 0-100, with 100 representing an entirely sufficient bridge and 0 an functionally obsolete bridge. According to the July 7, 2021 Routine Bridge Inspection Report (Appendix I, pages I-4 to I-29) the bridge has a sufficiency rating of 37.9, meaning the structure is in poor condition. In addition, bridge components are assigned condition ratings on a scale of 0-9, with a rating of “0” being a failed condition and “9” being excellent condition. Below is a summary of the deterioration the structure is exhibiting according to the July 7, 2021, Bridge Inspection Report (Appendix I, pages I-4 to I-29).

N. CR 700 E. is functionally classified as a Rural Major Collector. The existing roadway is a north-south, two-lane rural roadway upon level terrain, consisting of two 10-foot travel lanes in each direction with little to no shoulder. The roadway has a posted speed limit of 45 miles per hour (mph).

There are two roads adjacent to the project area, Urmeyville Road to the north and a private residential drive to the south. The adjacent land use in the area is generally agricultural fields with a residential property adjacent to the project area to the east. There is a forested riparian corridor to the northwest and southeast of the project area along Little Sugar Creek. Maps and photographs of the area can be found in Appendix B, pages B-1 to B-8.

Bridge Deck/Superstructure
The deck is composed of two adjacent prestressed concrete box beams. Several beams have short, hairline longitudinal cracks. Three large cracks, spalls with rust staining, and significant deterioration in Beam 2A. Heavy cracking with leaching at the south end of Beam 8B and along the east coping. The report also notes seepage, leaching, and rust stains from all drains. The deck and superstructure have a condition rating of "4" (poor condition, advanced deterioration).

Substructures
The substructures consist of concrete abutments and hammerhead pier. The substructures are exhibiting hairline vertical cracks with leaching at all substructure units. Additionally, there is heavy leaching from the beams. The substructures have a condition rating of "6" (satisfactory condition, minor deterioration).

The bridge railing is a Type TS-1, a general roadway guardrail that connects to the bridge, and is attached to the exterior faces of the coping box beams.

Preferred Alternative:
The project is a superstructure replacement that will rehabilitate the existing structure by removing the existing bridge superstructure and leaving the substructures in place. The new superstructure will consist of two-span steel rolled beams with a composite surface, that is 55.5-foot span with a total structure length of 112.5 feet. The out-to-out width will be 29 feet, clear roadway 28.5 feet, the low structure elevation 714.34 feet, and waterway opening area 731.5 square feet. The roadway profile will be maintained. The existing substructure elements will remain. As recommended by the Hydraulic and Scour Report dated October 22, 2021, Class II riprap will be placed along the center pier and Class I riprap will be placed along the abutments (Appendix B, page B-14). TS-1 bridge rail, a general roadway guardrail that connects to the bridge, will be attached to the structure. A TGS-1 guardrail transition will be provided on the reinforced concrete bridge approaches. Curved W-Beam guardrail sections will connect to the TGS-1 and have a terminal end section. The bridge approaches and Urmeyville Road approach will be milled 2 inches and receive a Hot Mixed Asphalt (HMA) overlay. A Class II drive will be reconstructed on the east side of N. CR 700 E.

The project will require 0.83 acre of permanent right-of-way (ROW) and no temporary ROW is required. The ROW is required to accommodate the structure replacement and drive approach reconstruction (Appendix B, page B-16).

Maintenance of Traffic (MOT):
The Maintenance of Traffic (MOT) will involve a full closure of N. CR 700 E. at this project location during construction. The detour is approximately 6.5 miles long. The proposed MOT is a full closure of N. CR 700 E. with a detour route using CR 100, CR 500, CR 525, and CR 350. Local access will be maintained throughout construction in accordance with the Indiana Design Manual (IDM) Chapter 503.

Purpose and Need Evaluation:
The preferred alternative will address the deteriorating conditions of the existing structure by rehabilitating the existing structure. The rehabilitated structure will provide safe passage along N. CR 700 E. over Little Sugar Creek, and increase the condition rating to at least a 7 (good) out of 9 (excellent) and the service life to 50 years.

Logical Termini/Independent Utility:
The termini of the project are the rational endpoints necessary to address the deterioration of the structure. The proposed work on the structure is not required by recent or planned changes to the N. CR 700 E. facility, nor does the replacement induce any other upgrades to the N. CR 700 E. facility in this area. Therefore, the structure replacement has independent utility.

OTHER ALTERNATIVES CONSIDERED:

Provide a header for each alternative. Describe all discarded alternatives, including the No Build Alternative. Explain why each discarded alternative was not selected. Make sure to state how each alternative meets or does not meet the Purpose and Need and why.

Three (3) alternatives were considered as part of the proposed project. The preferred alternative is described above in the Project Description section of this document. The two additional alternatives are detailed below:

Two-Span Composite Adjacent Concrete Box Beam
This alternative proposes replacing the existing structure with a two-span composite adjacent concrete box beam. The cost of this alternative would be approximately $1,531,000.00. This alternative would meet the purpose and need of the project, by addressing the bridge's structural deficiencies; however, this alternative is not financially prudent and would potentially require substructure modification. Therefore, this alternative was dismissed from further consideration.

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"Do Nothing" Alternative:
The "Do Nothing" alternative was considered for the project. This alternative proposes utilization of the existing structure with no expenditures of capital funds or improvements to the facility. The "Do Nothing" alternative would not meet the purpose of the project, which is to address the bridge's structural deficiencies. This alternative was dismissed from further consideration.

The No Build 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:

If the proposed action includes multiple roadways, complete and duplicate for each roadway.

Name of Roadway: North County Road 700 East
Functional Classification: Rural major collector
Current ADT: 237 VPD (2024) Design Year ADT: 262 VPD (2044)
Design Hour Volume (DHV): 37 Truck Percentage (%) 3%
Designed Speed (mph): 45 Legal Speed (mph): 45

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Travel		Travel	
Pavement Width:	10	ft.	10	ft.
Shoulder Width:	0	ft.	2	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

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

BRIDGES AND/OR SMALL STRUCTURE(S):

If the proposed action includes multiple structures, complete and duplicate for each bridge and/or small structure. Include both existing and proposed bridge(s) and/or small structure(s) in this section.

Structure/NBI Number(s): #41-00098 Sufficiency Rating: 37.9, July 7, 2021 Bridge Inspection Report
(Rating, Source of Information)

	Existing		Proposed	
Bridge/Structure Type:	Concrete box beam		Steel rolled beam	
Number of Spans:	2		2	
Weight Restrictions:	14	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	28.5	ft.	28.5	ft.
Outside to Outside Width:	30.5	ft.	29	ft.
Shoulder Width:	4.25	ft.	4.25	ft.

Describe impacts and work involving bridge(s), culvert(s), pipe(s), and small structure(s). Provide details for small structure(s): structure number, type, size (length and dia.), location and impacts to water. Use a table if the number of small structures becomes large. If the table exceeds a complete page, put it in the appendix and summarize the information below with a citation to the table.

The existing structure, Bridge 41-00098, is a two-span adjacent concrete box beam bridge supported on reinforced concrete abutments and a hammerhead built in 1972. The deck and superstructure have a condition rating of 4 (poor condition, advanced deterioration) and the substructure has a condition rating of 6 (satisfactory condition, minor deterioration). The inspection report notes that several beams have short hairline cracks. The abutments and pier have minor vertical cracks with leaching. The wearing surface and approaches are in poor condition. The inspection report notes that the bridge railings, transitions, approach guardrail, and guardrail end treatments do not meet current INDOT safety standard.

The bridge was not included in the 2009 INDOT-sponsored Historic Bridge Inventory due to its construction after 1965, which was the cutoff year for inclusion in the inventory. On November 2, 2012, the Advisory Council on Historic Preservation (ACHP) issued *the Program Comment for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and steel Bridges (Program Comment)*, The Program Comment relieves federal agencies from the Section 106 requirement to consider the effects of undertakings on most concrete and steel bridges built after 1945. On March 19, 2013, federal agencies were approved to use the Program Comment for Indiana projects. The existing superstructure will be a two-span Steel Rolled Beam Bridge with a composite concrete wearing surface. The existing substructure elements will remain. As recommended by the Hydraulic & Scour Report dated October 22, 2021 (Appendix I, pages I-30 to I-38), Class II riprap will be placed along the center pier and Class I riprap will be placed along the abutments (Appendix B, page B-14). The bridge railing system will be upgraded to meet current INDOT standards. Impacts to Little Sugar Creek include riprap along the streambank installed flush with the ground surface.

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 below)	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
Will the project require a sidewalk, curb ramp, and/or bicycle lane closure? (describe below)		X
Provisions will be made for access by pedestrians and/or bicyclist and so posted (describe below).		X

Discuss closures, detours, and/or facilities (if any) that will be provided for maintenance of traffic. Any known impacts from these temporary measures should be quantified to the extent possible, particularly with respect to properties such as Section 4(f) resources and wetlands. Discuss any pedestrian/bicycle closures. Any local concerns about access and traffic flow should be detailed as well.

The MOT will require a full closure of N. CR 700 E. at this location during construction. The detour will use E 100 N, E 300 N, E 350 N, N 500 E, N 525 E, and N CR 700 E. (Appendix B, page B-10). The detour is approximately 6.5 miles long and is expected to be in place during the 10-month construction season. Access will be maintained to all local properties during construction.

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

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 160,000 (2022) Right-of-Way: $ 15,000 (2022) Construction: $ 1,524,400 (2022)

Anticipated Start Date of Construction: Spring/Summer 2024

RIGHT OF WAY:

Land Use Impacts	Amount (acres) Permanent	Temporary
Residential	0.13	N/A
Commercial	N/A	N/A
Agricultural	0.18	N/A
Forest	0.33	N/A
Wetlands	0.00	N/A
Other: Little Sugar Creek	0.19	N/A
Other:		
TOTAL	0.83	N/A

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, reacquisition or easements, either known or suspected, and their impacts on the environmental analysis should be discussed.

Existing ROW limits are approximately 10 feet on either side of the center line. Additional permanent ROW is anticipated for this project. It is anticipated that there will be 0.83 acre of permanent ROW acquisition. No temporary ROW is required. The ROW required is to accommodate structure replacement, and drive approach reconstruction (Appendix B, page B-16).

If the scope of work, driveway approach, or permanent or temporary ROW amounts change, the INDOT Environmental Service Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

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

SECTION A - EARLY COORDINATION:

List the date(s) coordination was sent and all resource 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.

Early coordination letters were sent on April 13, 2022, June 30, 2022, and July 11, 2022 (Appendix C, pages C-1 to C-4).

Agency	Date Sent	Date Response Received	Appendix
Indiana Geological and Water Survey (Website submittal)	July 11, 2022	July 11, 2022	C-5 to C-7
Indiana American Water	July 11, 2022	July 26, 2022	C-8
Natural Resource Conservation Service (NRCS)	April 13, 2022	April 18, 2022	C-9 to C-10
Indiana Dept. of Environmental Management (IDEM), Office of Planning and Assessment	April 13, 2022	N/A	N/A
Franklin Community School Transportation Department	April 13, 2022	N/A	N/A
Indiana Dept. of Natural Resources, Division of Fish & Wildlife (IDNR-DFW)	April 13, 2022	May 12, 2022	C-11 to C-13
National Park Services, Midwest Regional Office (NPS)	April 13, 2022	N/A	N/A
US Army Corps of Engineers (USACE), Louisville District	April 13, 2022	N/A	N/A
U.S. Dept. of Housing & Urban Development	April 13, 2022	N/A	N/A
Federal Highway Administration, Indiana Division	April 13, 2022	N/A	N/A
INDOT Seymour District Project Manager and Environmental Section Manager	April 13, 2022	April 13, 2022	N/A
Indianapolis Metropolitan Planning Organization (IMPO)	April 13, 2022	N/A	N/A
Johnson County Surveyor	April 13, 2022	April 18, 2022	C-14
Johnson County Emergency Management Agency	April 13, 2022	April 13, 2022	C-15
Indiana Department of Homeland Security	April 13, 2022	N/A	N/A
Johnson County Highway Department	April 13, 2022	N/A	N/A
Johnson County Council	April 13, 2022	N/A	N/A
U.S. Coastguard, Eighth Coast Guard District	April 13, 2022	N/A	N/A
Johnson County Planning Commission	April 13, 2022	N/A	N/A

Johnson County Engineer	April 13, 2022	N/A	N/A
District 5 Fire Coordinator	April 13, 2022	N/A	N/A
EMS Coordinator, District 5	April 13, 2022	N/A	N/A
Johnson County Floodplain Coordinator	June 30, 2022	N/A	N/A
USFWS Information for Planning and Consultation (IPaC)	April 28, 2022	April 28, 2022	C-16 to C-47

Resource-specific recommendations are included in the applicable sections throughout the remainder of this document. All applicable recommendations are included in the *Environmental Commitments* section of this CE document.

SECTION B – ECOLOGICAL RESOURCES:

	Presence	Impacts	
		Yes	No
Streams, Rivers, Watercourses & Other Jurisdictional Features	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			

Total stream(s) in project area: 110 Linear feet Total impacted stream(s): 65 Linear feet

Stream Name	Classification	Total Size in Project Area (linear feet)	Impacted linear feet	Comments (i.e. location, flow direction, likely Water of the US, appendix reference)
Little Sugar Creek	Perennial	110	65	Little Sugar Creek flows east under the N. CR 700 E. bridge (Appendix F, page F-4). Little Sugar Creeks drains into Sugar Creek, a relatively permanent waterway (RPW). Due to this connection and perennial stream flow, Little Sugar Creek is considered a Water of the U.S. The quality of the stream is average.

Describe all streams, rivers, watercourses and other jurisdictional features adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if the streams or rivers are listed on any federal or state lists for Indiana. Include if features are likely subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page E-8), there are five mapped streams, rivers, watercourses, or other jurisdictional features within the 0.5-mile search radius. There is one mapped stream within the project area.

A site visit was conducted on October 20, 2021, by CHA Consulting, Inc. A *Waters of the U.S. Determination/Wetland Delineation Report* was completed for the project on May 5, 2022. Please refer to Appendix F, pages F-1 to F-22 for the *Waters of the U.S. Determination/Wetland Delineation Report.* One stream, Little Sugar Creek, was identified within the project area. Little Sugar Creek is likely under the jurisdiction of the USACE. The USACE makes all final determinations regarding jurisdiction.

Little Sugar Creek

Little Sugar Creek is a perennial stream that flows east under the bridge. The stream has an ordinary high water mark (OHWM) 32 feet wide by 1.5 foot deep, with a substrate consisting mostly of sand and gravel. Little Sugar Creek has a drainage area of 28.4 square miles. The stream has a forested buffer southeast and northwest of the bridge, up and downstream, and instream cover from the vegetated banks. Northeast and southwest of the bridge, the stream is surrounded by agricultural pasture. Due to the forested buffer, instream cover, and surrounding agricultural pasture the quality of the stream is average. Little Sugar Creek flows east through the project area and drains into Sugar Creek, a relatively permanent water (RPW). Due to this connection and perennial stream flow, Little Sugar Creek is likely under the jurisdiction of the USACE. The USACE makes all final determinations regarding

jurisdiction.

This project will impact 65 feet (0.003 ac; 2.4 cys) of Little Sugar Creek through the placement of scour protection (Appendix B, page B-13). Section 401/404 permits will be required for these impacts; however, mitigation is not expected.

Little Sugar Creek is listed as impaired for E. coli. Workers who are working in or near the area should take care to wear appropriate PPE, observe proper hygiene procedures, including regular handwashing, and limit personal exposure. Workers will be informed, and this will be included in the Environmental Commitments section of this CE document.

Early coordination letters were sent to the NPS, USACE, the U.S. Coast Guard, IDEM, and IDNR-DFW on April 13, 2022 (Appendix C, pages C-1 to C-4). The NPS, U.S. Coast Guard, IDEM, and USACE did not respond to early coordination letter.

The IDNR-DFW responded on May 12, 2022, with recommendations for erosion control and to avoid construction/demolition materials or debris to fall or otherwise enter the waterway (Appendix C, pages C-11 to C-13).

All applicable recommendations are included in the *Environmental Commitments* section of this CE document.

Open Water Feature(s)	**Presence**	**Impacts**	
		Yes	**No**
Reservoirs			
Lakes			
Farm Ponds			
Retention/Detention Basin			
Storm Water Management Facilities			
Other:			

Describe all open water feature(s) identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are likely subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page E-8) there are two mapped open water features within the 0.5-mile search radius. No mapped open water features are within the project area.

A site visit was conducted on October 20, 2021, by CHA Consulting, Inc. A *Waters of the U.S. Determination/Wetland Delineation Report* was completed for the project on May 5, 2022. Please refer to Appendix F, pages F-1 to F-22 for the *Waters of the U.S. Determination/Wetland Delineation Report.* It was determined that no open water features are within the project area, therefore, no impact is expected.

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

Total wetland area: 0 Acre(s) Total wetland area impacted: 0 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 (i.e. location, likely Water of the US, appendix reference)

Wetlands (*Mark all that apply*)	**Documentation**	**ESD Approval Dates**
Wetland Determination	X	N/A
Wetland Delineation		
USACE Isolated Waters Determination		

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

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

Describe all wetlands identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are likely subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page E-8) there are ten mapped wetlands within the 0.5-mile search radius. There is one mapped wetland adjacent to the project area.

A site visit was conducted on October 20, 2021, by CHA Consulting, Inc. A *Waters of the U.S. Determination/Wetland Delineation Report* was completed for the project on May 5, 2022. Please refer to Appendix F, pages F-1 to F-22 for the *Waters of the U.S. Determination/Wetland Delineation Report.* It was determined that no wetlands are within or adjacent to the project area, therefore, no impact is expected.

	Presence	**Impacts**	
		Yes	**NO**
Terrestrial Habitat	X	X	

Total terrestrial habitat in project area: 0.4 Acre(s) Total tree clearing: 0.21 Acre(s)

Describe types of terrestrial habitat (i.e. forested, grassland, farmland, lawn, etc) adjacent or within the project area. Include whether or not impacts will occur to habitat identified. Include total terrestrial habitat impacted and total tree clearing that will occur. Discuss measure to avoid, minimize, and mitigate if impacts will occur.

Based on a desktop review, a site visit on October 20, 2021, the aerial map of the project area (Appendix B, page B-3), and the RFI report (Appendix E, page E-8), there are three terrestrial habitats within or adjacent to the project area. The stream is bordered by a wooded floodplain riparian corridor. Adjacent to the corridor, there is also agricultural land. Additionally, to the northeast of the bridge, a residential property contains a managed yard of turfgrass. Present species include box elder (*Acer negundo)*, silver maple (*Acer saccharinum)*, common blue velvet (*Viola sororia),* and Virginia wildrye (*Elymus virginicus)*.

The project will impact approximately 0.4 acre of land. Approximately 0.21 acre of trees will be cleared for construction activities. Because the project is a superstructure, impacts will be limited to project needs, and no additional avoidance and minimization will be implemented. Mitigation will be required for floodway tree impacts and will be included in the IDNR floodway permitting process.

Early coordination letters were sent to the NPS, USACE, the U.S. Coast Guard, IDEM, and IDNR-DFW on April 13, 2022 (Appendix C, pages C-1 to C-4).

The IDNR-DFW responded on May 12, 2022, and recommended that all bare and disturbed areas that are not currently mowed will be revegetated with a mixture of grasses, legumes, and native shrub and hardwood trees, minimize and contain within the project limits all tree and brush clearing, and not to excavate or place fill in any riparian wetland. Additionally, impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio, if less than one (1) acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. (Appendix C, pages C-11 to C-13).

All applicable recommendations are included in the *Environmental Commitments* section of this CE document.

Protected Species **Federally Listed Bats**	**Yes**	**No**
Information for Planning and Consultation (IPaC) determination key completed	X	
Section 7 informal consultation completed (IPaC cannot be completed)		X
Section 7 formal consultation Biological Assessment (BA) required		X

Determination Received for Listed Bats from USFWS: NE [ ] NLAA [X] LAA [ ]

Other Species not included in IPaC	**Yes**	**No**
Additional federal species found in project area (based on IPaC species list)	X	
State species (not bird) found in project area (based upon consultation with IDNR)	X	

Migratory Birds	**Yes**	**No**
Known usage or presence of birds (i.e. nests)		X
State bird species based upon coordination with IDNR		X

Discuss IDNR coordination and species identified. Describe USFWS Section 7 consultation and determination received for Indiana bat and northern long-eared bat impacts. Discuss if other federally listed species were identified. If so, include consultation that has occurred and the determination that was received. Discuss if migratory birds have been observed and any impacts.

Based on a desktop review and the RFI report (Appendix E, page E-4), completed by CHA Consulting, Inc. on May 18, 2022, IDNR Johnson County Endangered, Threatened, and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated May 12, 2022 (Appendix C, pages C-10 to C-11), the Natural Heritage Program's Database has been checked and stated the Slippershell Mussel, a state species of special concern, has been documented in Little Sugar Creek within the project area. Also, five other mussel species of concern or endangerment have been documented in Sugar Creek within ½ mile of the project area: Snuffbox, Clubshell, Rabbitsfoot, Kidneyshell, and Little Spectaclecase

The IDNR indicated that the Division of Nature Preserves does not anticipate any impacts to the mussel species as a result of this project. An INDOT 0.5-mile bat review occurred on January 3, 2022 and did not indicate the presence of endangered bat species in or within 0.5-mile of the project area.

Indiana Bat and Northern Long-Eared Bat

Project information was submitted through the USFWS's IPaC portal, and an official species list was generated (Appendix C, pages C-29 to C-44). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). Two additional species were generated in the IPaC species list along with the Indiana bat and NLEB.

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. A bridge inspection occurred on October 20, 2021 and there was no evidence of bats or signs of bats using the structure (Appendix I, pages I-2 to I-3). An effect determination key was completed on April 28, 2022, and based on the responses provided, the project was found "not likely to adversely affect" (NLAA) the Indiana bat and/or the NLEB (Appendix C, pages C-16 to C-46). INDOT reviewed and verified the effect finding on April 28, 2022, and requested USFWS's review of the finding. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding.

Based on the scope of work it was found that six avoidance and minimization (AMMs) are needed: General AMM 1, Tree Removal AMM 1, Tree Removal AMM 2, Tree Removal AMM 3, Tree Removal AMM 4, and Lighting AMM 1. AMMs and/or commitments are included as firm commitments in the *Environmental Commitments* section of this document.

The official species list generated from IPaC indicated that Snuffbox Mussel (*Epioblasma triquetra*) and rayed bean (*Villosa fabalis)* are present within the project area. The project qualifies for the most current INDOT/USFWS agreement and no further USFWS coordination is needed.

Migratory Birds

Bridge No. 41-00098, in Johnson County, Indiana, and the project's surrounding habitat is conducive for use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA). Prior to the start of nesting season (May 1) the structure must be

inspected for birds or signs of birds. If birds or signs of birds are found during the inspection avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during 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" RSP.

A bridge inspection occurred on October 20, 2021 and no signs of bats or birds were observed (Appendix C, page 46). USFWS Bridge/Structure Assessment are only valid for two years. If construction will begin after October 20, 2023, 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. This firm commitment is included in the Environmental Commitments of this document.

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

Geological and Mineral Resources	**Yes**	**No**
Project located within the Indiana Karst Region	X	
Karst features identified within or adjacent to the project area		X
Oil/gas or exploration/abandoned wells identified in the project area	X	

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): _____

Discuss if project is located in the Indiana Karst Region and if any karst features have been identified in the project area (from RFI). Discuss response received from IGWS coordination. Discuss if any mines, oil/gas, or exploration/abandoned wells were identified and if impacts will occur. Include discussion of karst study/report was completed and results. (Karst investigation must comply with the current Protection of Karst Features during Planning and Construction guidance and coordinated and reviewed by INDOT EWPO)

Based on a desktop review and the Indiana Karst Region map, the project is located inside the designated Indiana Karst Region as outlined in the most current Protection of Karst Features during Project Development and Construction. According to the topo map of the project area (Appendix B, page B-2) and the RFI report (Appendix E, page E-8) there are no karst features identified within or adjacent to the project area.

In the, July 11, 2022, early coordination response, the IGWS did not indicate that karst features exist in the project area (Appendix C, pages C-5 to C-7). Additionally, the IGWS identified a high liquefaction potential and 1% annual chance flood hazard as geological hazards, a high potential for bedrock resources and high potential for sand and gravel resources, and abandoned industrial minerals sand gravel pits within 0.5-mile search radius. The features will not be affected because the project does not propose to alter access to mineral resources in the general area. Response from the IGWS has been communicated to the designer on July 12, 2022. No impacts are expected.

SECTION C – OTHER RESOURCES

	Presence	**Impacts**	
Drinking Water Resources		**Yes**	**No**
Wellhead Protection Area(s)	X		X
Source Water Protection Area(s)			
Water Well(s)			
Urbanized Area Boundary			
Public Water System(s)			

	Yes	No
Is the project located in the St. Joseph Sole Source Aquifer (SSA):		X
If Yes, is the FHWA/EPA SSA MOU Applicable?		
If Yes, is a Groundwater Assessment Required?		

Check the appropriate boxes and discuss each topic below. Provide details about impacts and summarize resource-specific coordination responses and any mitigation commitments. Reference responses in the Appendix.

Sole Source Aquifer

The project is located in Johnson 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/INDOT Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project, therefore a detailed groundwater assessment is not needed, and no impacts are expected.

Wellhead Protection Area and Source Water

The IDEM's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on June 21, 2022, by CHA Consulting, Inc. This project is not located within a Source Water Area. The project is, however located within a Wellhead Protection Area. Indiana American Water responded (Appendix C, page C-8) on July 26, 2022 and made the following requests:

- Overnight storage of large equipment is discouraged, but when unavoidable precautions should be taken to prevent the release of any petroleum products. Precautions should include daily inspection of equipment, security measures to protect equipment, and a spill response plan.
- Dumpsters for construction debris are permitted so long as they are not used for hazardous waste disposal.
- Fertilizer, pesticide, or herbicide applications are allowed so long as the label is followed to prevent contamination of the watershed.
- Portable toilets are permissible.
- Prior to commencement of construction, please provide a list of chemicals to be used and/or stored at the job site.
- Please maintain a contingency plan for chemical spills
- Chemicals should be properly labeled and stored in secondary containment capable of holding 110% of the volume.
- Perform weekly inspections of chemical tanks and containment structures
- Immediately notify me of any chemicals spills or leaks.
- Contact Kirk Kuroiwa, kirk.kuroiwa@amwater.com, with any additional concerns.

The Johnson County EMA Director responded on April 13, 2022, and expressed a concern regarding project debris and potential fuel leaks (Appendix C, page C-15).

These recommendations will be implemented during design or construction as applicable. All recommendations are included in the *Environmental Commitments* section of this document.

Water Well(s)

The IDNR Water Well Record Database website (http://www.in.gov/dnr/water/3595/htm) was accessed on June 21, 2022, by CHA Consulting, Inc. No wells are located near this project. Therefore, no impacts are expected.

Urban Area Boundary

Based on the desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by CHA Consulting, Inc. on October 20, 2021, this project is not located in an Urban Area Boundary location. No impacts are expected.

Public Water System

Based on a desktop review, a site visit on October 20, 2021, by CHA Consulting, Inc., the aerial map of the project area (Appendix B, page B-4), no public water systems were identified. Therefore, no impacts are expected.

County Johnson Route N. CR 700 E. Des. No. 1902767

Floodplains	Presence	Impacts Yes	Impacts No
Project located within a regulated floodplain	X	X	
Longitudinal encroachment			
Transverse encroachment	X	X	
Homes located in floodplain within 1000' up/downstream from project	X		X

If applicable, indicate the Floodplain Level?

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

Use the IDNR Floodway Information Portal to help determine potential impacts. Include floodplain map in appendix. Discuss impacts according to the classification system. If encroachment on a flood plain will occur, coordinate with the Local Flood Plain Administrator during design to insure consistency with the local flood plain planning.

Based on a desktop review of the IDNR Indiana Floodway Information Portal website (http://dnrmaps.dnr/in/gov/appsphp/fdms/) by CHA Consulting, Inc. on January 11, 2022, and the RFI report (Appendix E, page E-8) this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page F-11).

This project qualifies as a Category 4 per the current INDOT CE Manual, which states: One home is located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternatives was completed during the preliminary design phase (Appendix I, pages I-24 to I-32).

Early coordination letters were sent to the IDNR-DFW on April 13, 2022, (Appendix C, pages C-1 to C-4), and the local Floodplain Administrator on June 30, 2022. The floodplain administrator did not respond within the 30-day time frame. The IDNR-DFW responded on May 12, 2022, and indicated that the project will require their formal approval of construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for a bridge exemption. (Appendix C, pages C-11 to C-13). The upstream drainage area for Little Sugar Creek is 28.4 square miles. The project does not qualify for the rural bridge exemption because the lowest floor elevation (including basement) of any residential building impacted by the project is not more than 2 feet above the 100 year flood elevation.

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

Total Points (from Section VII of CPA-106/AD-1006*) 125

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

Discuss existing farmland resources in the project area, impacts that will occur to farmland, and mitigation and minimization measures considered.

Based on a desktop review, a site visit on October 20, 2021, by CHA Consulting, Inc., the aerial map of the project area (Appendix B, B-4), and the RFI report (Appendix E, page E-8), the project will convert 0.30 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on April 13, 2022, to the NRCS. Coordination with NRCS resulted in a score of 125 on the AD 1006 Form (Appendix C, page C-10). 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 D – CULTURAL RESOURCES

	Category(ies) and Type(s)	INDOT Approval Date(s)	N/A
Minor Projects PA	B-12	7/26/2022	

Full 106 Effect Finding

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

Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) ☐ Archaeology ☐ NRHP Bridge(s) ☐

Documentation Prepared (mark all that apply)		**ESD Approval Date(s)**	**SHPO Approval Date(s)**
APE, Eligibility and Effect Determination			
800.11 Documentation			
Historic Properties Report or Short Report			
Archaeological Records Check and Assessment			
Archaeological Phase Ia Survey Report	X	7/26/2022	
Archaeological Phase Ic Survey Report			
Other:			

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

If the project falls under the MPPA, describe the category(ies) that the project falls under and any approval dates. If the project requires full Section 106, use the headings provided. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of the paper(s) and the comment period deadline. Include any further Section 106 work which must be completed at a later date, such as mitigation from a MOA or avoidance commitments.

On July 26, 2022, 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 D-1 to D-6). 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).

Additionally, an archaeology survey was required. The survey included 15 shovel probe excavations, and a walking survey consisting of 1.4 acres. With no archaeological findings, it was recommended that the project be allowed to proceed as planned.

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

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

	Presence	Use	
Parks and Other Recreational Land		Yes	No
Publicly owned park			
Publicly owned recreation area			
Other (school, state/national forest, bikeway, etc.)	X		X
Wildlife and Waterfowl Refuges			
National Wildlife Refuge			
National Natural Landmark			
State Wildlife Area			
State Nature Preserve			
Historic Properties			
Site eligible and/or listed on the NRHP			

	Evaluations Prepared
Programmatic Section 4(f)	
"De minimis" Impact	
Individual Section 4(f)	
Any exception included in 23 CFR 774.13	

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the discussion below. Individual Section 4(f) documentation must be included in the appendix and summarized below. Discuss proposed alternatives that satisfy the requirements of Section 4(f). FHWA has identified various exceptions to the requirement for Section 4(f) approval. Refer to 23 CFR § 774.13 - Exceptions.

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

Based on a desktop review, a site visit on October 21, 2021, by CHA Consulting, Inc., the aerial map of the project area (Appendix B, page B-3), and the RFI report (Appendix E, page E-7) indicates there is one 4(f) resource, a cemetery, located within the 0.5-mile search radius. However, upon further research, the listed location for the cemetery is incorrect. The nearest cemetery, Needham Cemetery, is actually located 0.8 mile south of the project area. There are no Section 4(f) resources located 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 Section 6(f) resources present or not present. Discuss if any conversion would occur as a result of this project. If conversion will occur, discuss the conversion approval.

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

A review of 6(f) properties on the INDOT ESD website revealed three properties in Johnson County (Appendix I, page I-1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project	Yes	No
Is the project in the most current STIP/TIP?	X	
Is the project located in an MPO Area?	X	
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?	X	
Is the project exempt from conformity?	X	
If No, then:		
Is the project in the Transportation Plan (TP)?		
Is a hot spot analysis required (CO/PM)?		

Location in STIP: STIP FY 2022-2026

Name of MPO (if applicable): Indianapolis Metropolitan Planning Organization

Location in TIP (if applicable): Amendment 22-00

Level of MSAT Analysis required?

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

Describe if the project is listed in the STIP and if it is in a TIP. Describe the attainment status of the county(ies) where the project is located. Indicate whether the project is exempt from a conformity determination. If the project is not exempt, include information about the TP and TIP. Describe if a hot spot analysis is required and the MSAT Level.

The project was approved in the Indianapolis Regional Transportation Improvement Program (RTIP) 2022-2025 dated August 18, 2021 and according to the letter dated April 26, 2022, this TIP will be included in FY 2022-2026 STIP by reference and approved by FHWA on June 17, 2022 (Appendix H, pages H-1 to H-5).

Attainment Status

The project is located in Johnson County, which is currently in attainment for all criteria pollutants according to the IDEM website (https://www.in.gov/idem/sips/nonattainment-status-of-counties/). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

MSAT

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 7.11.117(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 G - NOISE

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

Date Noise Analysis was approved/technically sufficient by INDOT ESD: _____

Describe if the project is a Type I or Type III project. If it is a Type I project, describe the studies completed to date and if noise impacts were identified. If noise impacts were identified, describe if abatement is feasible and reasonable and include a statement of likelihood.

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 H – 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 discussion below)	X	

Discuss how the project complies with the area's local/regional development patterns; whether the project will impact community cohesion; and impact community events. Discuss how the project conforms with the ADA Transition Plan.

No changes in land use or development are anticipated by rehabilitating the existing structure within the project area. The project limits and impacts have been minimized to only what is necessary to complete the rehabilitation. Additionally, no relocations are anticipated as a result of the proposed project. Therefore, the proposed project is not likely to cause substantial impacts to the area's local/regional development patterns, impact community cohesion, or impact community events.

It should be noted that Johnson County has a transition plan entitled *Americans with Disabilities Act Self-Evaluation and Transition Plan*. The plan was approved and considered effective May 2015. The project does not have any components applicable to ADA requirements.

Public Facilities and Services

Discuss what public facilities and services are present in the project area and impacts (such as MOT) that will occur to them. Include how the impacts have been minimized and what coordination has occurred. Some examples of public facilities and services include health facilities, educational facilities, public and private utilities, emergency services, religious institutions, airports, transportation or public pedestrian and bicycle facilities.

Based on a desktop review, the aerial map of the project area (Appendix B, page B-4), and the RFI report (Appendix E, page E-7) there are no public facilities within the 0.5-mile search radius. A site visit on October 20, 2021, by CHA Consulting, Inc. confirmed that there are no public facilities within or adjacent to the project area, therefore, no impacts are expected. However, the Franklin Community Schools Transportation Department operates in the area. Access to all properties will be maintained during construction.

Early coordination letters were sent to Franklin Community School Transportation Department and Johnson County Emergency Management Agency on April 13, 2022 (Appendix C, pages C-1 to C-4). No response was received from the Franklin Community School Transportation Department. A response from the Johnson County Emergency Response Agency on April 13, 2022 noted concerns of "debris from this project and any potential fuel leaks from equipment be mitigated for and against" (Appendix C, page C-15). All applicable recommendations are included in the *Environmental Commitments* section of this CE document.

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

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

Indicate if EJ issues were identified during project development. If an EJ analysis was not required, discuss why. If an EJ analysis was required, describe how the EJ population was identified. Include if the project has a disproportionately high or adverse effect on EJ populations and explain your reasoning. If yes, describe actions to avoid, minimize and mitigate these effects.

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 0.83 acre of permanent ROW

acquisition. 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 exist 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 Johnson County, Indiana. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Needham Township. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the American Community Survey 2020 was obtained from https://data.census.gov/cedsci/ on July 7, 2022, by CHA Consulting, Inc. The data collected for minority and low-income populations within the AC are summarized below.

	Community of Comparison (COC)	**Affected Community (AC)**
	Johnson County, Indiana	Needham Township, Johnson County, Indiana
Race		
Total Population for the purpose of surveying race	156,148	7,078
Total population non-hispanic/latino; white alone	137,744	6,689
Number of Minorities	18,404	389
Percent of Minorities	11.79%	5.50%
125% of COC	14.73%	
Potential Minority EJ Concern?		**No**
Income		
Total Population for the purpose of surveying poverty income	153,247	7,055
Population with income in the past 12 months below poverty level	11,915	1,023
Percent low income	7.78%	14.50%
125% of COC	9.72%	
Potential Low-income EJ Concern?		**Yes**

AC Needham Township has a minority population of 5.50% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not have a minority population of EJ concern.

AC Needham Township has a low-income population of 14.50% which is below 50%; however, above the 125% COC threshold. Therefore, the AC is a low-income population of EJ concern.

The Bridge # 41-00098 will be rehabilitated due to advanced deterioration of the superstructure. The superstructure will be replaced with with a two-span steel rolled beam bridge with a composite concrete wearing surface. The right-of-way will be acquired from 2 property owners adjacent to the structure and is limited to only what is absolutely necessary to complete the bridge rehabilitation. The acquisition will occur in undeveloped forested land and maintained turf grass. Additionally, this project will not require any relocations. The project will address the overall structural deficiencies for Bridge # 41-0098 and will provide continued safe vehicular passage to the community. The EJ population will benefit from the superstructure replacement. As described in the aforementioned MOT and detour plan, Traffic will be maintained with an offsite two-way detour during construction. Access will be maintained to all local properties. Therefore, the project will not disproportionately impact the EJ population (Appendix I, pages I-33 to I-43).

A response from INDOT-ESD on September 12, 2022 stated the impacts associated with this project would not have an adverse effect on populations of Environmental Justice concern (Appendix C, C-48).

Relocation of People, Businesses or Farms	**Yes**	**No**
Will the proposed action result in the relocation of people, businesses or farms?		X
Is a BIS or CSRS required?		X

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

Discuss any relocations that will occur due to the project. If a BIS or CSRS is required, discuss the results in the discussion below.

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

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

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

Date RFI concurrence by INDOT SAM (if applicable): May 18, 2022

Include a summary of the potential hazardous material concerns found during review. Discuss in depth sites found within, directly adjacent to, or ones that could impact the project area. Refer to current INDOT SAM guidance. If additional documentation (special provisions, pay quantities, etc.) will be needed, include in discussion. Include applicable commitments.

Based on the review of GIS and available public records, a RFI was completed on May 18, 2022, by CHA Consulting, Inc. and concurred by *INDOT SAM* on May 18, 2022 (Appendix E, pages E-1 to E-8). No sites with hazardous materials 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.

Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)	**Likely Required**
Army Corps of Engineers (404/Section10 Permit)	
Nationwide Permit (NWP)	X
Regional General Permit (RGP)	
Individual Permit (IP)	
Other	
IN Department of Environmental Management (401/Rule 5)	
Nationwide Permit (NWP)	X
Regional General Permit (RGP)	
Individual Permit (IP)	
Isolated Wetlands	
Rule 5	
Other	
IN Department of Natural Resources	
Construction in a Floodway	X
Navigable Waterway Permit	
Other	

County Johnson Route N. CR 700 E. Des. No. 1902767

Permits (mark all that apply)	**Likely Required**
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the discussion below)	

List the permits likely required for the project and summarize why the permits are needed, including permits designated as "Other."

A USACE Section 404 permit and an IDEM Section 401 Water Quality Certification (WQC) will likely be required, because riprap will be placed below the OHWM of Little Sugar Creek. No mitigation is anticipated to be required because impacts are less than 300 feet of waterway.

It is anticipated that an IDNR Construction in a Floodway (CIF) permit will be required. The IDNR responded on May 12, 2022 and indicated that "this proposal will require formal approval of our agency of construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for a bridge exemption" (Appendix C, pages C-11 to C-13). IDNR did not provide additional recommendations regarding Flood Control Act permitting for this project. The project does not meet the definition of a rural area due to the requirement "the lowest floor elevation, including a basement, of any residential, commercial, or industrial building impacted by the project is at least 2 feet above the 100-year flood elevation with the project in place". As a result, the project does not fall into the Rural Bridge Exemption and an IDNR CIF will be required.

Early Coordination letters were sent to the NPS, USACE, and IDEM on April 22, 2022 (Appendix C, pages C-1 to C-4).

It is not anticipated that the IDEM Rule 5 permit will be required as the proposed project will disturb less than one acre of total land.

Applicable recommendations are included in the *Environmental Commitments* section of this document. If permits are found to be necessary, the conditions of the permit will be required of the project and will supersede these recommendations. It is the responsibility of the project sponsor to identify and obtain all required permits.

ENVIRONMENTAL COMMITMENTS

List all commitments and include the name of agency/organization requesting/requiring the commitment(s). Listed commitments should be numbered.

Firm:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Service Division 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 for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS and IDNR-DFW)
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 tree 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 mile of roosts, or documented foraging habitat any time of year. (USFWS)
8. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
9. USFWS Bridges/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after October 20, 2023, an inspection of the structure should check for the 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)

10. Workers will be informed that Little Sugar Creek is listed as impaired for E. coli. Workers who are working in or near water with E. coli will wear appropriate PPE, observe proper hygiene procedures, including regular handwashing, and limit personal exposure. (INDOT SAM)
11. Prior to the start of nesting season (May 1) the structure must be inspected for birds or signs of birds. If birds or signs of birds are found during the inspection avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8-April 30) and during nesting season if no eggs or young are present. Nests with eggs or young should be screened or buffered from active construction. (INDOT)
12. All debris from this project and any potential fuel leaks from equipment will be mitigated for and against to eliminate the risk of discharge into the Little Sugar Creek. (Johnson County Emergency Management)
13. Overnight storage of large equipment is discouraged, but when unavoidable precautions should be taken to prevent the release of any petroleum products. Precautions should include daily inspection of equipment, security measures to protect equipment, and a spill response plan. (Indiana American Water)
14. Dumpsters for construction debris are permitted so long as they are not used for hazardous waste disposal. (Indiana American Water)
15. Fertilizer, pesticide, or herbicide applications are allowed so long as the label is followed to prevent contamination of the watershed. (Indiana American Water)
16. Prior to commencement of construction, please provide a list of chemicals to be used and/or stored at the job site. (Indiana American Water)
17. Please maintain a contingency plan for chemical spills (Indiana American Water)
18. Chemicals should be properly labeled and stored in secondary containment capable of holding 110% of the volume. (Indiana American Water)
19. Perform weekly inspections of chemical tanks and containment structures. (Indiana American Water)
20. Immediately notify Kirk Kuroiwa, kirkkuroiwa@amwater.com, of any chemicals spills or leaks. (Indiana American Water)
21. This proposal will require the formal approval of our agency of construction in a floodway pursuant to the Flood Control Act (IC 14-28-1) unless it qualifies for a bridge exemption. (IDNR-DFW)

For Further Consideration:

1. 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. (IDNR-DFW)
2. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion. (IDNR-DFW)
3. Minimize and contain within the project limits all tree and brush clearing. (IDNR-DFW)
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. (IDNR-DFW)
5. Do not deposit or allow construction/demolition materials or debris to fall or otherwise enter the waterway. (IDNR-DFW)
6. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized. (IDNR-DFW)
7. If erosion control blankets are used, they shall be heavy-duty, biodegradable, and net free or 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. (IDNR-DFW)
8. Do not excavate or place fill in any riparian wetland. (IDNR-DFW)

Table of Appendices

Appendix A

Threshold Chart

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[3]	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	USACE Individual 404 Permit[4]
Wetland Impacts[3]	No adverse impacts to wetlands	< 0.1 acre	-	< 1.0 acre	≥ 1.0 acre
Right-of-way[5]	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" (With select AMMs[6])	"Not likely to Adversely Affect" (With any AMMs or commitments)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic[7]
Threatened/Endangered Species (Any other species)*	Falls within guidelines of USFWS 2013 Interim Policy or "No Effect"	"Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential[8]
Sole Source Aquifer	No Detailed Groundwater Assessment	-	-	-	Detailed Groundwater Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Section 4(f) Impacts	None	-	-	-	Any[9]
Section 6(f) Impacts	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes[10]
Approval Level • **District Env. (DE)** • **Env. Serv. Div. (ESD)** • **FHWA**	Concurrence by DE or ESD	DE or ESD	DE or ESD	DE and/or ESD	DE and/or ESD; and FHWA

[1] Coordinate with INDOT Environmental Services Division. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.
[2] Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.
[3] Total permanent impacts to streams (linear feet) and wetlands (acres).
[4] US Army Corps of Engineers Individual 404 Permit
[5] Total permanent and temporary right-of-way. This does not include reacquisition of existing apparent right-of-way.
[6] Avoidance and Mitigation Measures (AMMs) determined by the IPAC determination key to be required that are not tree AMMs, bridge AMMs, or structure AMMs.
[7] Projects that do not fall under a Species Specific Programmatic and results in a "Likely to Adversely Affect". Other findings can be processed as a lower level CE.
[8] Potential for causing a disproportionately high and adverse impact.
[9] Section 4(f) use resulting in an Individual, Programmatic, or *de minimis* evaluation. The only exception is a *de minimis* evaluation for historic properties (Effective January 2, 2020). If a historic property *de minimis* and no other use, mark the *None* column.
[10] Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.
* Includes the threatened/endangered species critical habitat
Note: Substantial public or agency controversy may require a higher-level NEPA document.

Appendix B

Graphics

Marion County

Hancock County

Morgan County

Johnson County

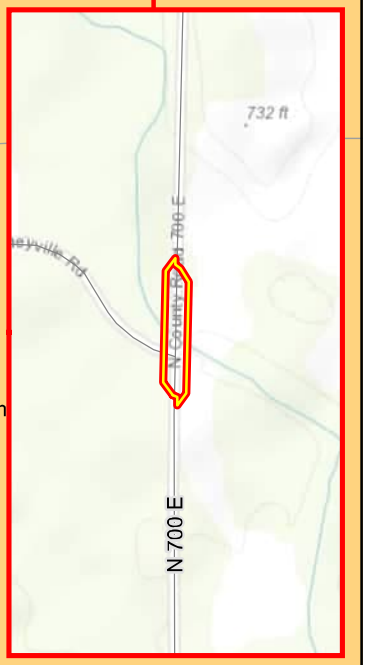
Shelby County

Brown County

Monroe County

Bartholom

Project Location



0 5 10

Miles

N

Date Saved: 4/4/2022 • Author: E.Butterfield

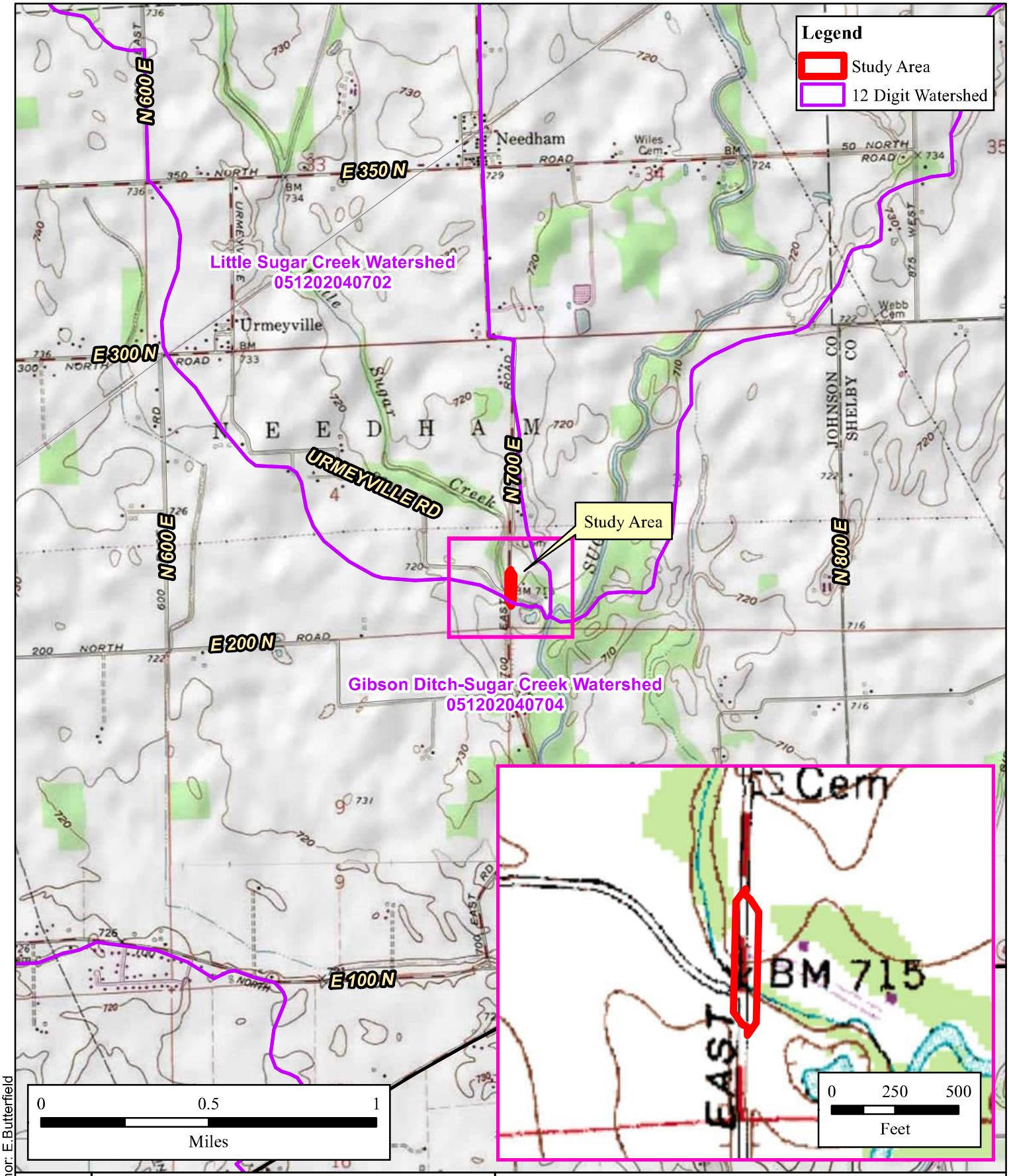
State Location Map

Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 25,000'

DES No. 1902767

County boundaries and transportation network courtesy of the Indiana Spatial Data Portal



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CHA

USGS Project Location Map

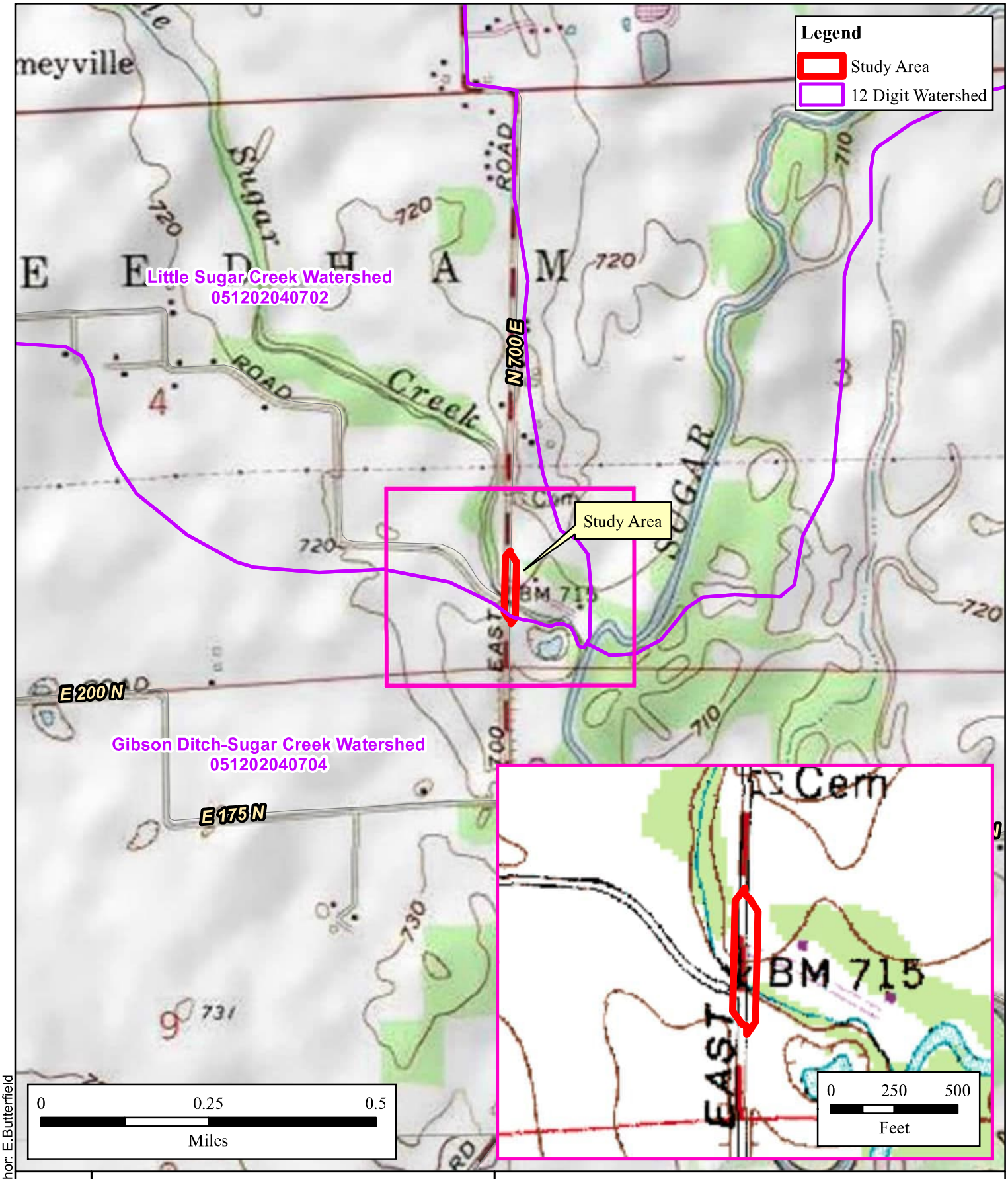
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 2000'

DES No. 1902767

Service Layer Credits:
Copyright: © 2013 National Geographic Society, I-cubed
Brazil West USGS Quadrangle Date: 1992

Date Saved: 4/4/2022 • Author: E.Butterfield



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USGS Project Location Map

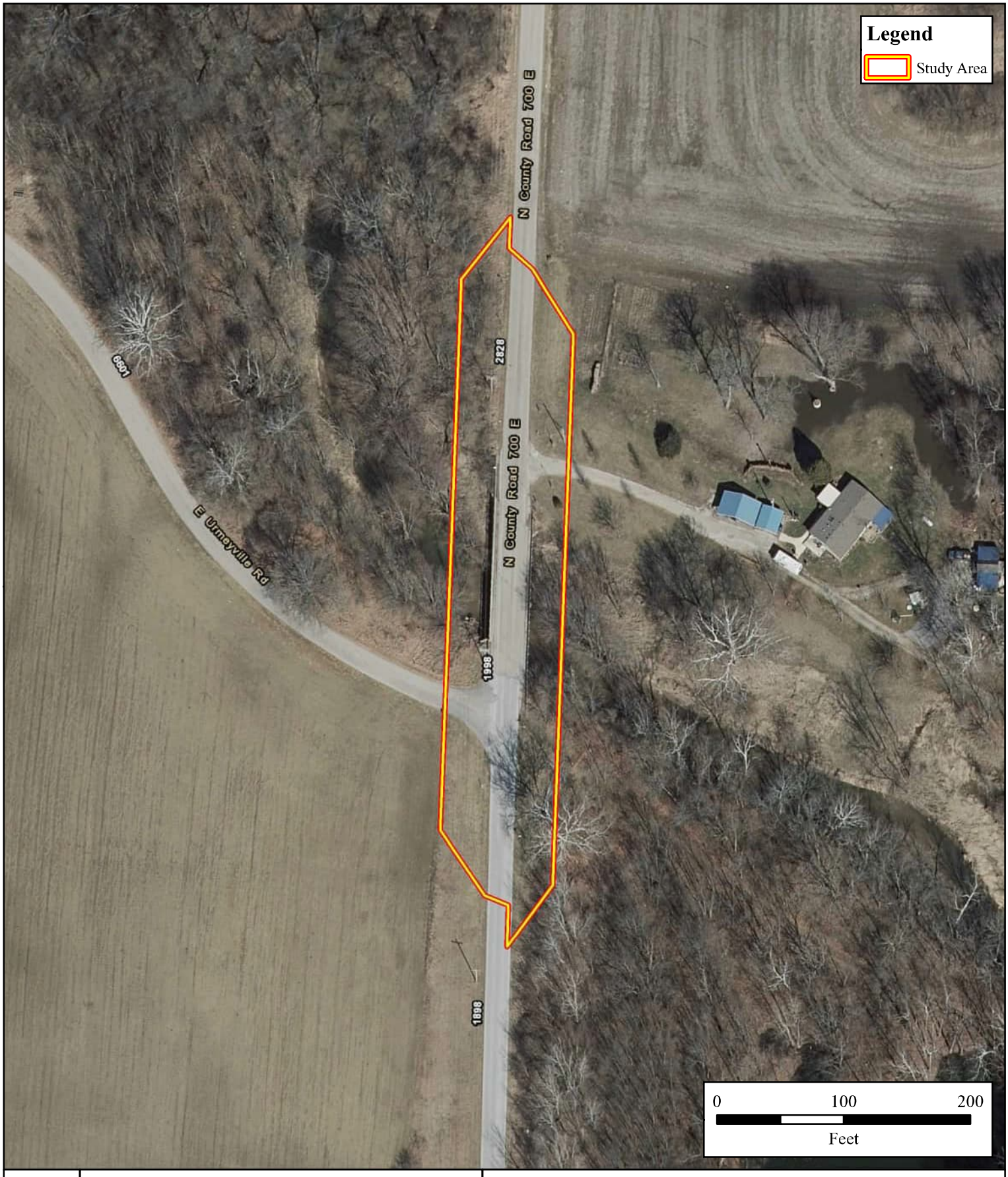
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 1000'

DES No. 1902767

Service Layer Credits:
Copyright: © 2013 National Geographic Society, I-cubed
Brazil West USGS Quadrangle Date: 1992

Date Saved: 4/4/2022 • Author: E.Butterfield



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Aerial Location Map

Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the IndianaMap
Photo Date: 2021

Date Saved: 4/4/2022 • Author: E.Butterfield

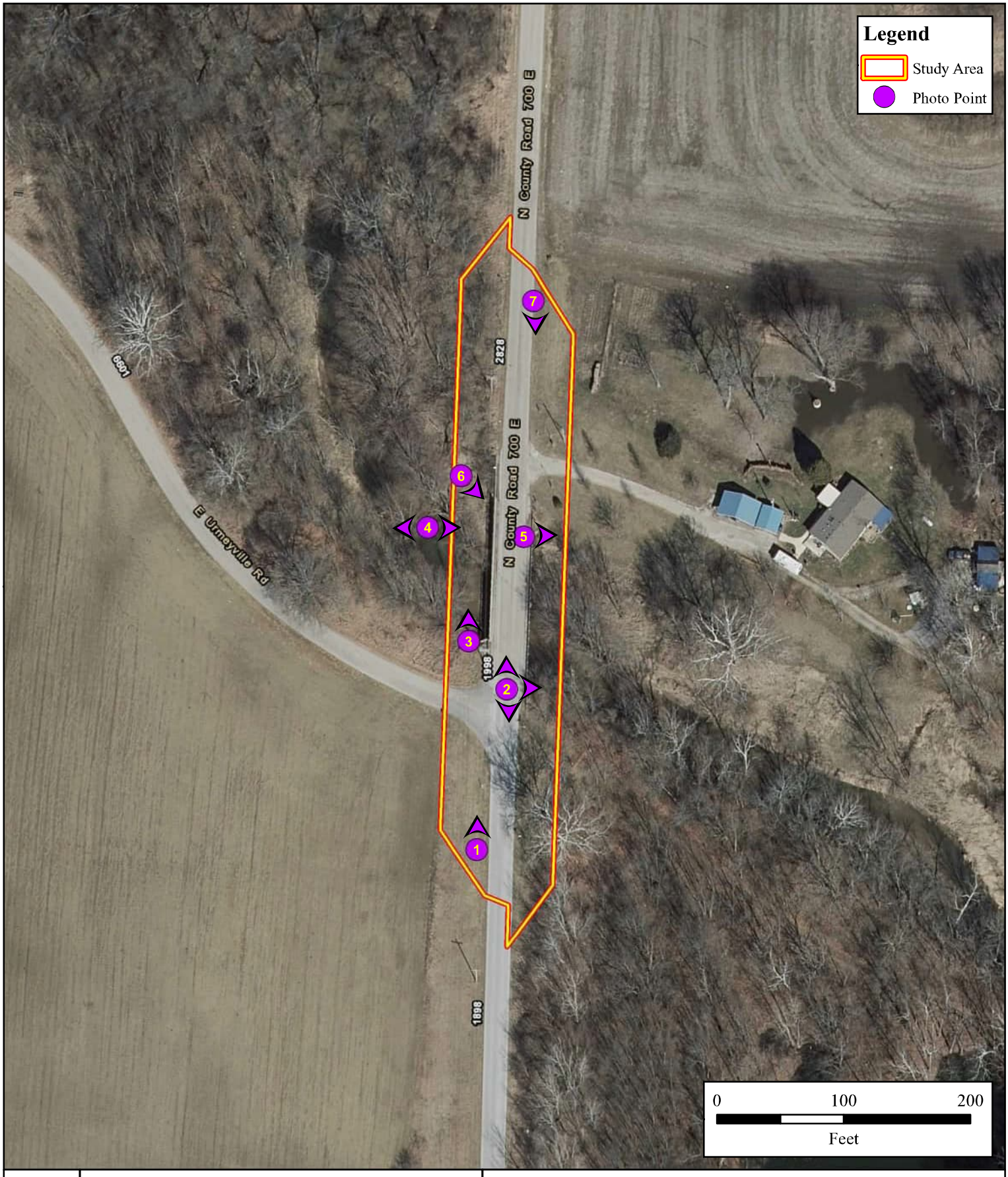

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Photo Location Map

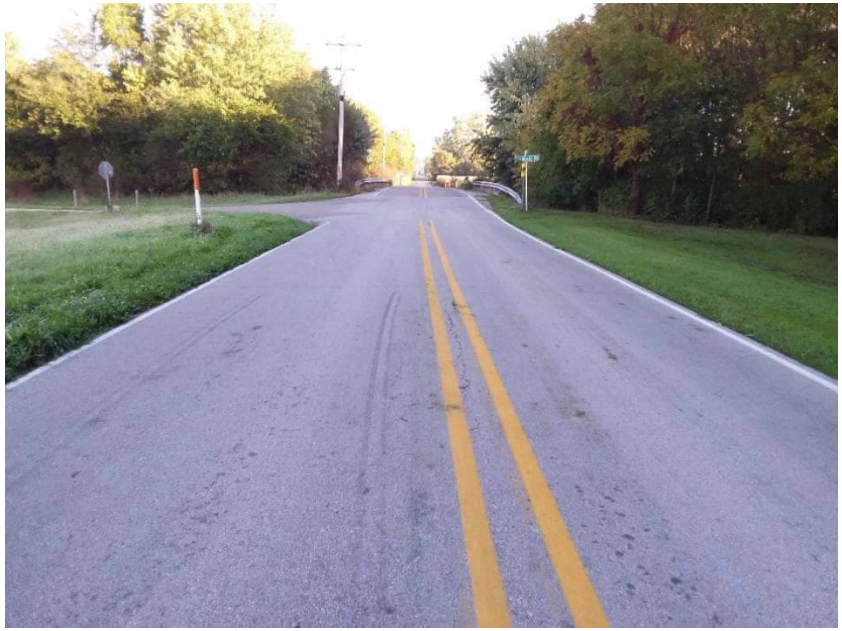
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the IndianaMap
Photo Date: 2021

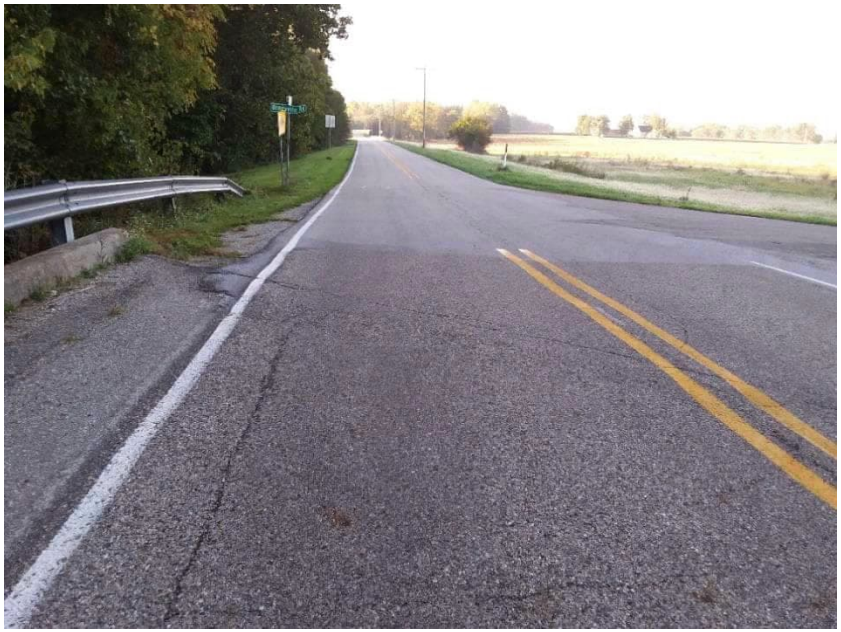
Date Saved: 4/4/2022 • Author: E.Butterfield



PP-1; Looking north toward Johnson County Bridge 98 from the southern portion of the project area.

PP-2; Looking east, downstream, from Johnson County Bridge 98 at Little Sugar Creek

PP-2; Looking north at Johnson County Bridge 98 at the E. Urmeyville Rd and CR 700 E intersection

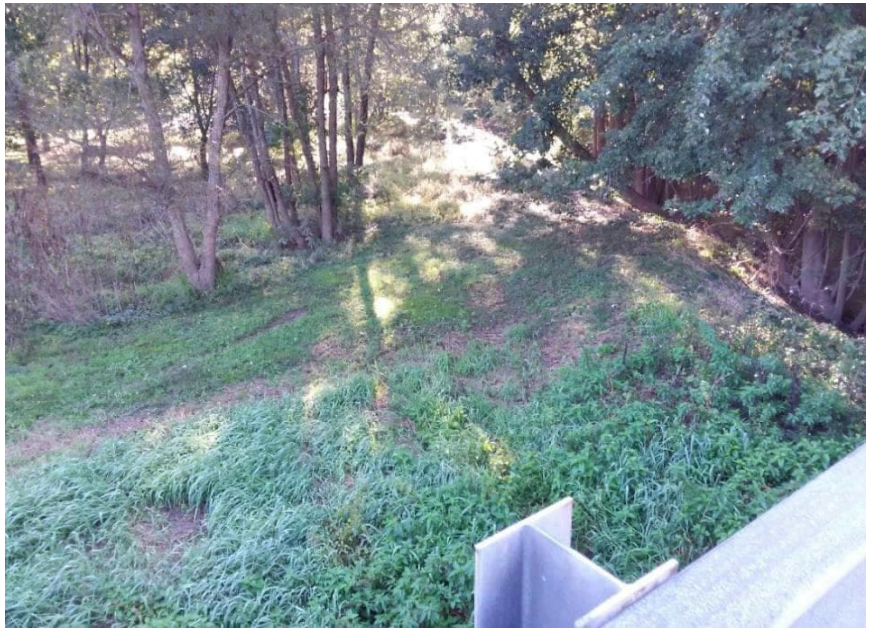


PP-2; Looking south at Johnson County Bridge 98 at the E. Urmeyville Rd and CR 700 E intersection

PP-3; Looking north at Johnson County Bridge 98 from the southern bank of Little Sugar Creek west of the bridge.

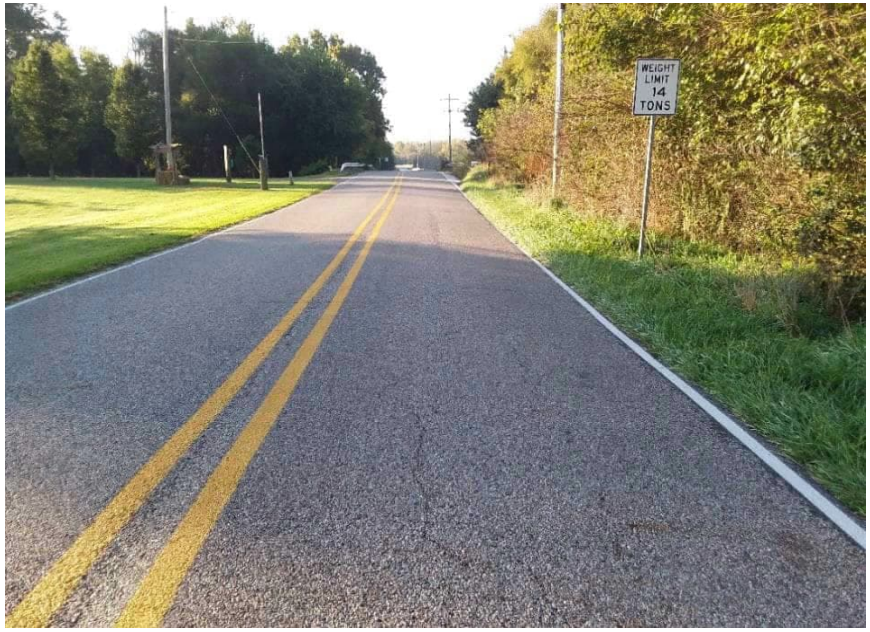
PP-4; Looking east, downstream, at Johnson County Bridge 98 from Little Sugar Creek

PP-4; Looking west, upstream, at Little Sugar Creek, west of the Johnson County Bridge 98



PP-5; Looking east at the surrounding land use east of CR 700 E. from Johnson County Bridge 98 over Little Sugar Creek

PP-6; Looking southeast at Johnson County Bridge 98 from Little Sugar Creek from the north side of Little Sugar Creek



PP-7; Looking south toward Johnson County Bridge 98 from the northern portion of the project area

PROJECT	DESIGNATION
1902767	1902767
CONTRACT	BRIDGE FILE
B-42802	41-00098

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
41-00098	Steel Rolled Beam Bridge	2 Spans: 55'-6" & 55'-6" Skew: 40°0'00" Rt.	Little Sugar Creek	15+93.06 Line "A"

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS

FOR SPANS OVER 20 FEET

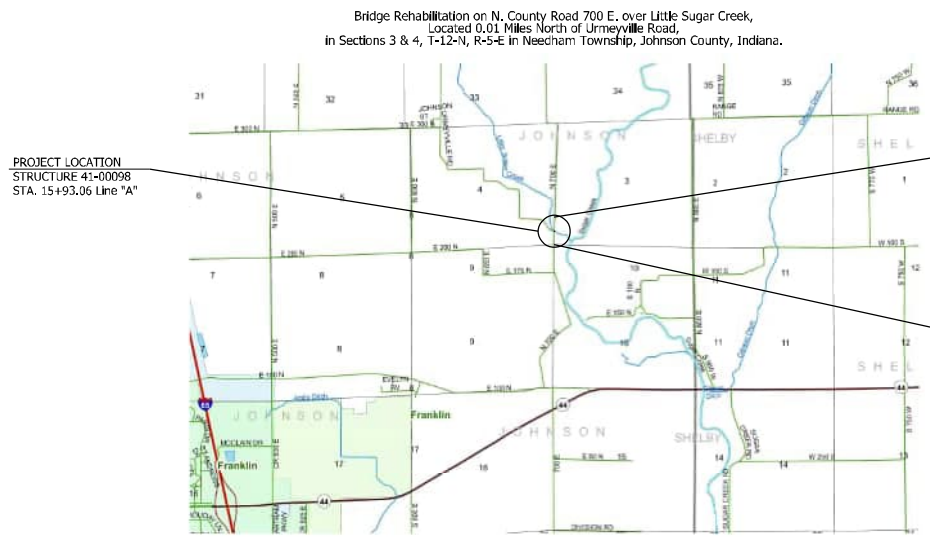
ROUTE: N. County Road 700 E.

PROJECT NO. 1902767 P.E.

R/W

1902767 CONST.

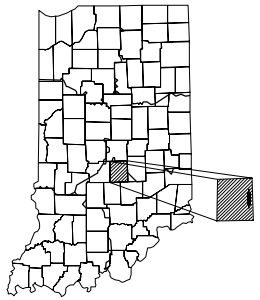
Bridge Rehabilitation on N. County Road 700 E. over Little Sugar Creek,
Located 0.01 Miles North of Urmeyville Road,
in Sections 3 & 4, T-12-N, R-5-E in Needham Township, Johnson County, Indiana.



VICINITY MAP
Johnson County, Indiana

TRAFFIC DATA		
A.A.D.T.	(2024)	237 V.P.D.
A.A.D.T.	(2044)	262 V.P.D.
D.H.V.	(2044)	37 V.P.H.
DIRECTIONAL DISTRIBUTION		57.0% (NB)
TRUCKS		3% A.A.D.T.
		3% D.H.V.

DESIGN DATA	
DESIGN SPEED	45 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	LOCAL AGENCY COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY

LATITUDE: 39°30'42.55" N LONGITUDE: 85°58'11.17" W

BRIDGE LENGTH:	0.03	MI.
ROADWAY LENGTH:	0.05	MI.
TOTAL LENGTH:	0.08	MI.
MAX. GRADE:	5.51	%

HUC: 051202040702

PFC PLANS
May 25, 2022

CHA
200 N. Illinois St., Suite 800
Indianapolis, IN 46204
317.786.0461 • www.chacompanies.com

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2022
TO BE USED WITH THESE PLANS.

PLANS PREPARED BY: CHA CONSULTING, INC. (317) 786-0461 PHONE NUMBER

CERTIFIED BY: DATE

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

BRIDGE FILE	
41-00098	
DESIGNATION	
1902767	
SURVEY BOOK	SHEETS
	1 of 19
CONTRACT	PROJECT
B-42802	1902767

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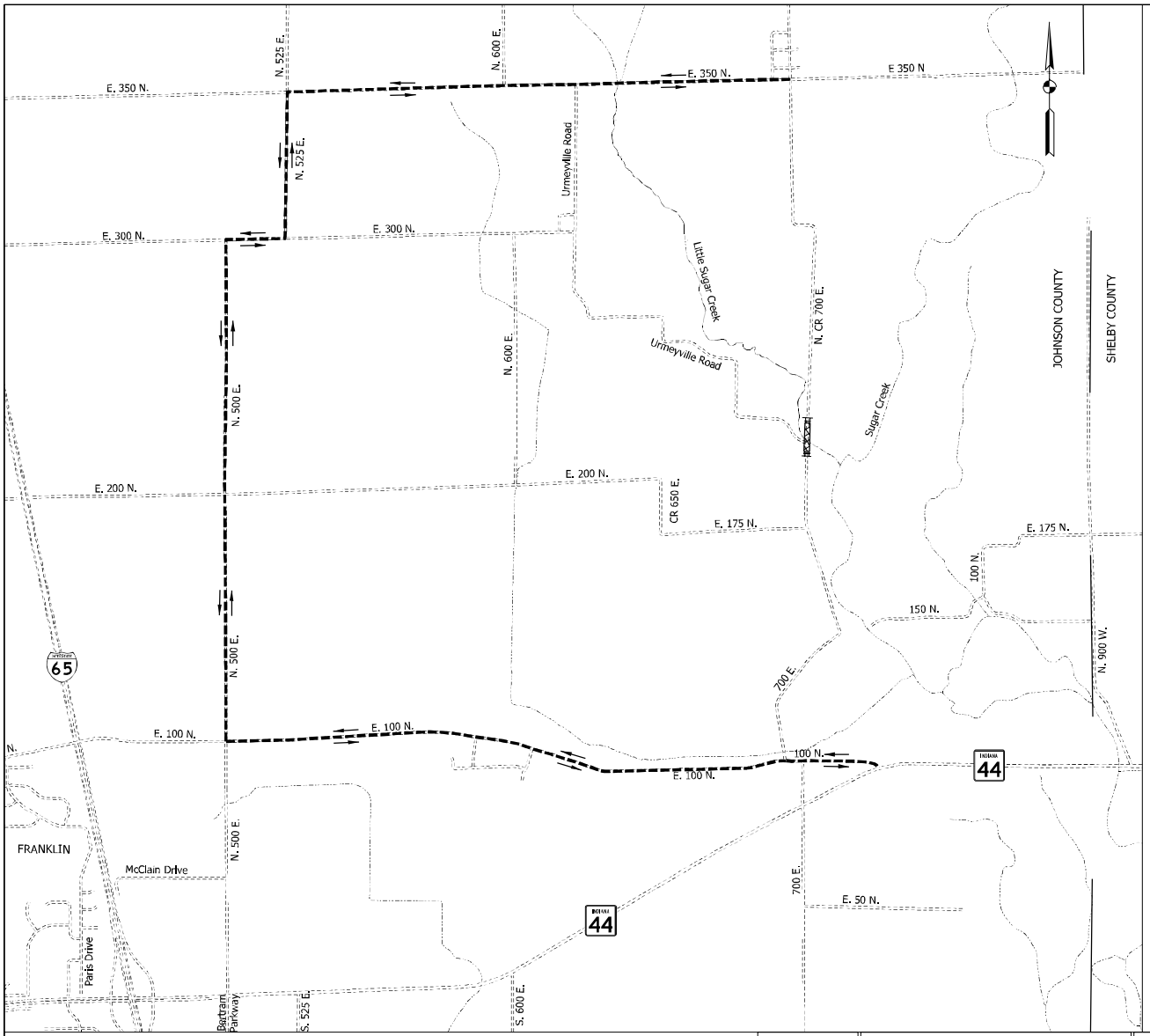

A1
XM4-8 DETOUR
M3-1 NORTH
D3-1 CR 700 E
M5-1(R or L)

B1
XM4-8 DETOUR
M3-1 NORTH
D3-1 CR 700 E
M6-1(R or L)

C1
XM4-8 DETOUR
M3-1 NORTH
D3-1 CR 700 E
M6-3

D1
XM4-8a END DETOUR
M3-1 NORTH
D3-1 CR 700 E
M6-1(R or L)

A2
XM4-8 DETOUR
M3-3 SOUTH
D3-1 CR 700 E
M5-1(R or L)

B2
XM4-8 DETOUR
M3-3 SOUTH
D3-1 CR 700 E
M6-1(R or L)

C2
XM4-8 DETOUR
M3-3 SOUTH
D3-1 CR 700 E
M6-3

D2
XM4-8a END DETOUR
M3-3 SOUTH
D3-1 CR 700 E
M6-1(R or L)

E
R11-3 ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
XM4-10 (R or L) DETOUR
Road Closure Sign Assembly

F
DETOUR AHEAD
XW20-2 48"x48"

G
ROAD CLOSED XXX
XW20-3 48"x48"

H
ROAD CLOSED
R11-2
Road Closure Sign Assembly

LEGEND
Construction Area
Typical Sign Standard
Barricade
Traffic Flow

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: CJC | DRAWN: TPH
CHECKED: SJS | CHECKED: SJS

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
DETOUR PLAN

HORIZONTAL SCALE	BRIDGE FILE
1" = 1000'	41-00098
VERTICAL SCALE	DESIGNATION
N/A	1902767
SURVEY BOOK	SHEETS
	5 of 19
CONTRACT	PROJECT
B-42802	1902767

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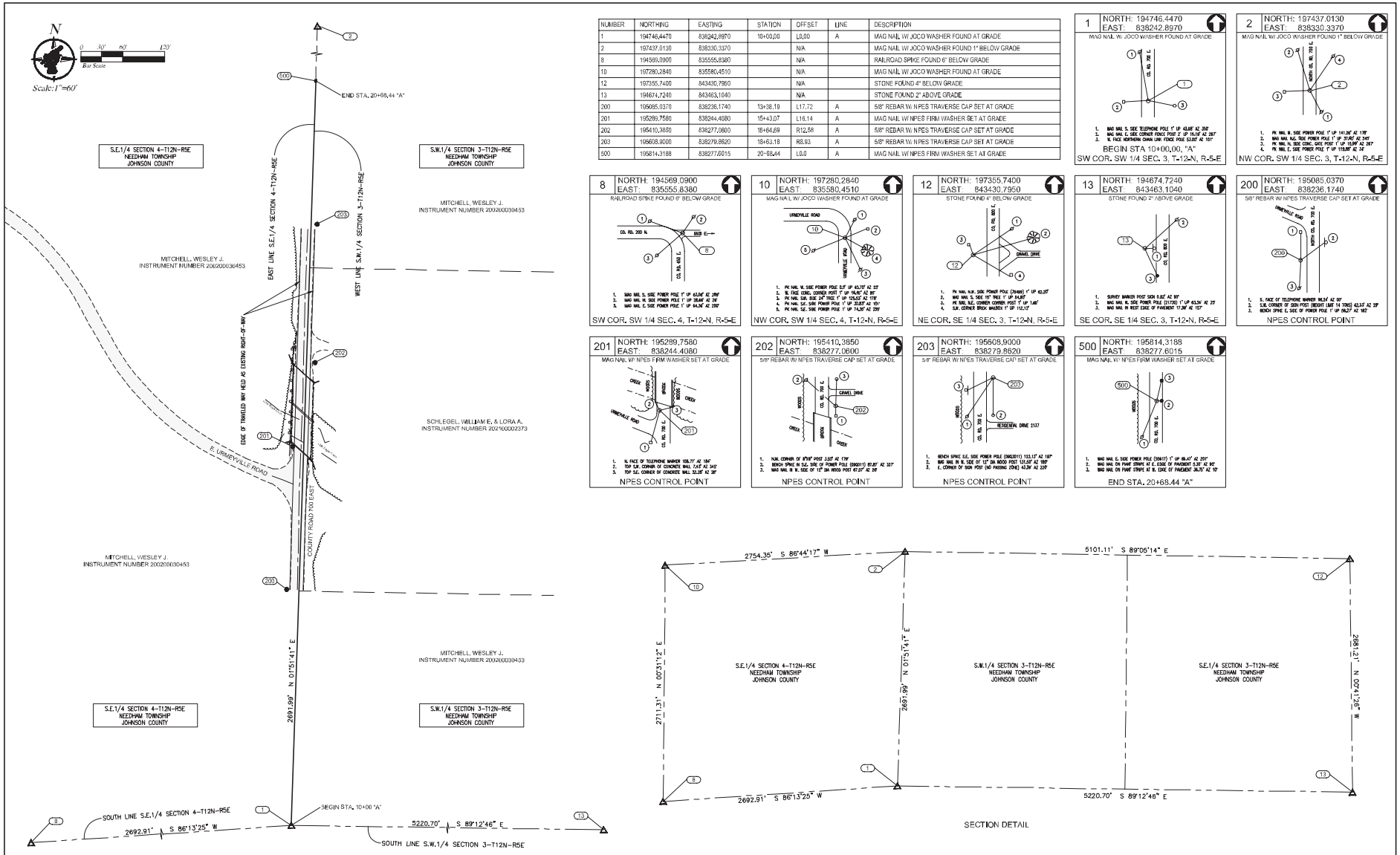


NUMBER	NORTHING	EASTING	STATION	OFFSET	LINE	DESCRIPTION
1	194746.4470	838242.8970	10+00.00	L0.00	A	MAG NAIL W/ JOCO WASHER FOUND AT GRADE
2	197437.0130	838330.3370		N/A		MAG NAIL W/ JOCO WASHER FOUND 1" BELOW GRADE
8	194569.0900	835555.8380		N/A		RAILROAD SPIKE FOUND 6" BELOW GRADE
10	197280.2840	835580.4510		N/A		MAG NAIL W/ JOCO WASHER FOUND AT GRADE
12	197355.7400	843430.7950		N/A		STONE FOUND 4" BELOW GRADE
13	194674.7240	843463.1040		N/A		STONE FOUND 2" ABOVE GRADE
200	195085.0370	838236.1740	13+38.19	L17.72	A	5/8" REBAR W/ NPES TRAVERSE CAP SET AT GRADE
201	195289.7580	838244.4080	15+43.07	L16.14	A	MAG NAIL W/ NPES FIRM WASHER SET AT GRADE
202	195410.3850	838277.0600	16+64.89	R12.58	A	5/8" REBAR W/ NPES TRAVERSE CAP SET AT GRADE
203	195608.9000	838278.8620	18+63.18	R8.93	A	5/8" REBAR W/ NPES TRAVERSE CAP SET AT GRADE
500	195814.3188	838277.6015	20+68.44	L0.0	A	MAG NAIL W/ NPES FIRM WASHER SET AT GRADE

1 NORTH: 194746.4470 EAST: 838242.8970
MAG NAIL W/ JOCO WASHER FOUND AT GRADE
BEGIN STA 10+00.00, "A"
SW COR. SW 1/4 SEC. 3, T-12-N, R-5-E

2 NORTH: 197437.0130 EAST: 838330.3370
MAG NAIL W/ JOCO WASHER FOUND 1" BELOW GRADE
NW COR. SW 1/4 SEC. 3, T-12-N, R-5-E

8 NORTH: 194569.0900 EAST: 835555.8380
RAILROAD SPIKE FOUND 6" BELOW GRADE
SW COR. SW 1/4 SEC. 4, T-12-N, R-5-E

10 NORTH: 197280.2840 EAST: 835580.4510
MAG NAIL W/ JOCO WASHER FOUND AT GRADE
NW COR. SW 1/4 SEC. 4, T-12-N, R-5-E

12 NORTH: 197355.7400 EAST: 843430.7950
STONE FOUND 4" BELOW GRADE
NE COR. SE 1/4 SEC. 3, T-12-N, R-5-E

13 NORTH: 194674.7240 EAST: 843463.1040
STONE FOUND 2" ABOVE GRADE
SE COR. SE 1/4 SEC. 3, T-12-N, R-5-E

200 NORTH: 195085.0370 EAST: 838236.1740
5/8" REBAR W/ NPES TRAVERSE CAP SET AT GRADE
NPES CONTROL POINT

201 NORTH: 195289.7580 EAST: 838244.4080
MAG NAIL W/ NPES FIRM WASHER SET AT GRADE
NPES CONTROL POINT

202 NORTH: 195410.3850 EAST: 838277.0600
5/8" REBAR W/ NPES TRAVERSE CAP SET AT GRADE
NPES CONTROL POINT

203 NORTH: 195608.9000 EAST: 838279.8620
5/8" REBAR W/ NPES TRAVERSE CAP SET AT GRADE
NPES CONTROL POINT

500 NORTH: 195814.3188 EAST: 838277.6015
MAG NAIL W/ NPES FIRM WASHER SET AT GRADE
END STA. 20+68.44 "A"

SECTION DETAIL

SCALE IS FOR PLOTTING TO 24" X 36" SHEET

SURVEY STARTED
07-21-2021
SURVEY COMPLETED
08-25-2021
LOCATION CONTROL SURVEY SHEETS
1 OF 2
NPES PROJECT NUMBER 21-0112

REVISIONS		
DATE	REVISION	BY

NORTHPOINTE ENGINEERING & SURVEYING, Inc.
Engineering, Land Surveying, Consulting & Inspection

PROFORMA

RECOMMENDED FOR APPROVAL _____ PROFESSIONAL SURVEYOR DATE

DESIGNED: DJS DRAWN: DJS
CHECKED: DJS-MS CHECKED: DJS-MS

JOHNSON COUNTY HIGHWAY DEPARTMENT

COUNTY ROAD 700 EAST
BRIDGE 98 REHABILITATION
LOCATION CONTROL ROUTE SURVEY

HORIZONTAL SCALE	BRIDGE FILE
1" = 60'	–
VERTICAL SCALE	DESIGNATION
–	1902767
SURVEY BOOK	PLAN SHEETS
–	1 of 1
CONTRACT	COUNTY
–	JOHNSON

Location Control Route Survey for The Johnson County Highway Department Bridge 98 Rehabilitation, within Needham Township, Johnson County, Indiana.
Des. No. 1902767

Located in Sections 3 & 4, Township 12 North, Range 5 West

Surveyor's Report
In accordance with Title 865, Article 1, Chapter 12 of the Indiana Administrative Code ("Rule 12"), the following observations, opinions, and comments are declared regarding the various uncertainties in the locations of lines and corners found or established this survey as a result of the uncertainties in reference monumentation; in record description and plats; in lines of occupation; and as introduced by random errors in measurements ("Relative Positional Accuracy"). There may be unwritten rights associated with these uncertainties. The client should assume there is an amount of uncertainty along any title line equal in magnitude to the discrepancy in the location of the lines of possession from the surveyed lines.

This survey, to the best of my knowledge and belief, is executed according to the provision of Title 865 I.A.C. 1-12-20 through 1-12-25 regarding route surveys, except that any data shown regarding the location or description of the existing parcels is not a part of this survey.

Purpose of Survey
The purpose of this survey was to perform a "Location Control Route Survey" (hereinafter referred to as "LCRS") for the Johnson County Highway Department Bridge 98 Rehabilitation Des. No. 1902767 establishing the center control alignment of Line A and define their relationship to the United States Public Land System (USPLS). This survey located in Johnson County was performed for the rehabilitation of Bridge 98 located along County Road 700 East. Information, parcel lines and corners shown herein have been placed per recorded and non-recorded documents acquired from Johnson County Government Agencies and are not to be construed as defining actual property lines and corners as in a retracement or an original boundary survey. A topographic survey for the defined corridors was also completed in conjunction with this route survey.

The Relative Positional Accuracy (due to random errors in measurements) of the corners and monuments found, and set established during this survey is within the specification for a Route Survey (+/- 0.07 feet + 50 parts per million (not to exceed 0.50 foot)) as defined in IAC 865.

Units
This survey has been performed in US Survey Feet. It should be noted that previous plans (provided or otherwise) along with any information supplied by government agencies (or otherwise) completing for this project and its system may be different. Lines with coordinates (calculated or otherwise) documented in other projects with different units, and/or scale factors, if utilized, have been published here having had the same truncation and scale factor applied and may be discussed further in other areas of this report. (Also see Horizontal Datum).

Horizontal Datum
InGCS "Johnson" Zone:

Unless noted otherwise, all bearings, distances, areas, and coordinates shown hereon are based upon the Indiana Geospatial Coordinate System's (InGCS) "Johnson" zone per NAD 83 (2011) epoch 2010.00 and are reported in U.S. Survey Feet and decimal parts thereof. The "Johnson" and "Marion" zones have identical parameters. These zones were developed to minimize the differences between ground-measured horizontal distances and the corresponding grid coordinate (map) distances within the counties bearing these zones' names.

InGCS "Johnson" and "Marion" Zone Parameters
Geometric Datum: NAD 83(2011) epoch 2010.00
Projection Type: Transverse Mercator
Central Meridian: 86°09'00" west longitude
Central Meridian scale factor: 1.000031
Latitude of Grid Origin: 39°18'00" north latitude
False Northing: 36,000,000 m (118,110.00 U.S.Ft)
False Easting: 240,000.000 m (787,400.00 U.S.Ft)

All measurements shown on this survey are derived from grid coordinates. The Geoid used for this survey was GEOID18.

Reference Documents
Reference documents recovered, analyzed and used in this survey, consisted of the following:
Warranty Deed William E. Schlegel and Lora A. Schlegel recorded as Instrument Number 2021000023?3 in the Office of the Recorder of Johnson County.

Warranty Deed Wesley J. Mitchell recorded as Instrument Number 2020000030453 in the Office of the Recorder of Johnson County.

Section Corner Tie Sheets along with other resources recovered from the Johnson County Surveyor's Office (JCSO).

USPLS- Recovered Section Corners
Point 1
A mag nail with JOCO washer was found at grade, in good condition, at the Southwest Corner of the Southwest Quarter of Section 3, Township 12 North, Range 5 East. The JCSO tie sheet called for a PK Nail at this corner in 1986 and the mag nail found matched the reference ties shown on the tie sheet. Based upon this evidence the mag nail was held as the corner. The estimated uncertainty for this corner is 0.3 feet.

Point 2
A mag nail with JOCO washer was found 1 inch below grade, in good condition at the Northwest Corner of the Southwest Quarter of Section 3, Township 12 North, Range 5 East. The JCSO tie sheet called for a stone at this corner in 1986 and the mag nail found matched the reference ties shown on the tie sheet. Based upon this evidence the mag nail was held as the corner. The estimated uncertainty for this corner is 0.3 feet.

Point 12
A stone was found was found 4 inches below grade, in good condition, at the Northeast Corner of the Southeast Quarter of Section 3, Township 12 North, Range 5 East. The JCSO tie sheet called for a stone at this corner in 1986 and the stone found matched the reference ties shown on the tie sheet. Based upon this evidence the stone found was held as the corner. The estimated uncertainty for this corner is 0.3 feet.

Point 13
A stone was found was found 2 inches above grade, in good condition, at the Southeast Corner of the Southeast Quarter of Section 3, Township 12 North, Range 5 East. The JCSO tie sheet called for a stone at this corner in 1992 and the stone found matched the reference ties shown on the tie sheet. Based upon this evidence the stone found was held as the corner. The estimated uncertainty for this corner is 0.3 feet.

Point 8
A railroad spike was found 6 inches below grade, in good condition, at the Southwest Corner of the Southeast Quarter of Section 4, Township 12 North, Range 5 East. The JCSO tie sheet called for a railroad spike at this corner in 1985 and the railroad spike found matched the reference ties shown on the tie sheet. Based upon this evidence the stone found was held as the corner. The estimated uncertainty for this corner is 0.3 feet.

Point 10
A mag nail with JOCO washer was found at grade, in good condition, at the Northwest Corner of the Southeast Quarter of Section 4, Township 12 North, Range 5 East. The JCSO tie sheet called for a stone at this corner in 1986 and the mag nail found matched the reference ties shown on the tie sheet. Based upon this evidence the stone found was held as the corner. The estimated uncertainty for this corner is 0.3 feet.

All other monuments shown on the plat of survey were found flush with unknown origin unless otherwise noted.

Centerline Alignments
The centerline alignment for Lines A was established along the west line of the Southwest Quarter of Section 3, Township 12 North, Range 5 East, Point Number One was established as the beginning station (10+00) and Point Number 500 was set establishing the end station (20+68.44) for Alignment A. All alignment points were set as shown on Sheet 1 of this survey.

Boundary Lines
Boundary lines and corners shown herein have been placed per the deed records acquired from Johnson County Government Agencies but are not to be construed as defining actual boundary lines or corners as in a retracement survey. There may be differences in record dimensions compared with measured dimensions along the title lines shown hereon and, likewise, there may be survey markers found near, but not precisely at, some title corners. In cases where the magnitude of this difference is less than the Relative Positional Accuracy (stated above) and/or less than the uncertainty identified for the reference monuments (previously discussed above), the difference may be considered insignificant and shown only for the purposes of mathematical closure.

Further investigation and determination will occur during the right of way engineering portion of this project.

County Road 700 East

No documentation was recovered indicating an acquisition of right of way for County Road 700 East. The edge of traveled way was held as the existing right of way pursuant to Anderson v. City of Huntington (1907), 40 Ind. App. 130, 81 N.E. 223.

In my opinion, there is negligible uncertainty with the locations of any of the control lines due to occupation or possession.

SURVEYOR'S CERTIFICATE
I, Donna Jo Smithers, a Professional Surveyor in the State of Indiana, hereby state that, to the best of my information, knowledge, and belief, this plat represents a survey completed under my supervision and in accordance with Title 865, Article 1, Chapter 12 of the Indiana Administrative Code.

Date: August 25, 2021

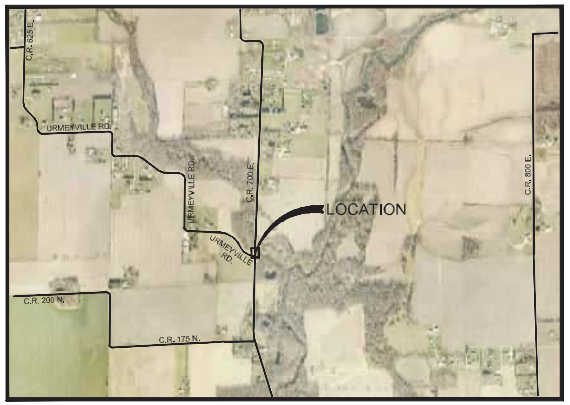
Prepared by: Donna Jo Smithers
PS No. LS20100076
State of Indiana

NOTES:
Last day of field work was August 24, 2021.

Improvements shown on the within survey are a representation of the conditions on the last date of field work and not necessarily the conditions of the certification date.

The survey was prepared by Donna Jo Smithers, Northpointe Engineering and Surveying, 8125 South East Street, Suite B, Indianapolis, Indiana 46227-2147.

I affirm, under the penalties of perjury, that I have taken reasonable care to redact each Social Security number in the document, unless required by law. Donna Jo Smithers



VICINITY MAP

SCALE IS FOR PLOTTING TO 24" X 36" SHEET

SURVEY STARTED
07-21-2021
SURVEY COMPLETED
08-25-2021
LOCATION CONTROL SURVEY SHEETS
2 OF 2
NPES PROJECT NUMBER 21-0112

REVISIONS		
DATE	REVISION	BY

NORTHPOINTE ENGINEERING SURVEYING, Inc.
Engineering, Land Surveying, Consulting & Inspection

PROFORMA

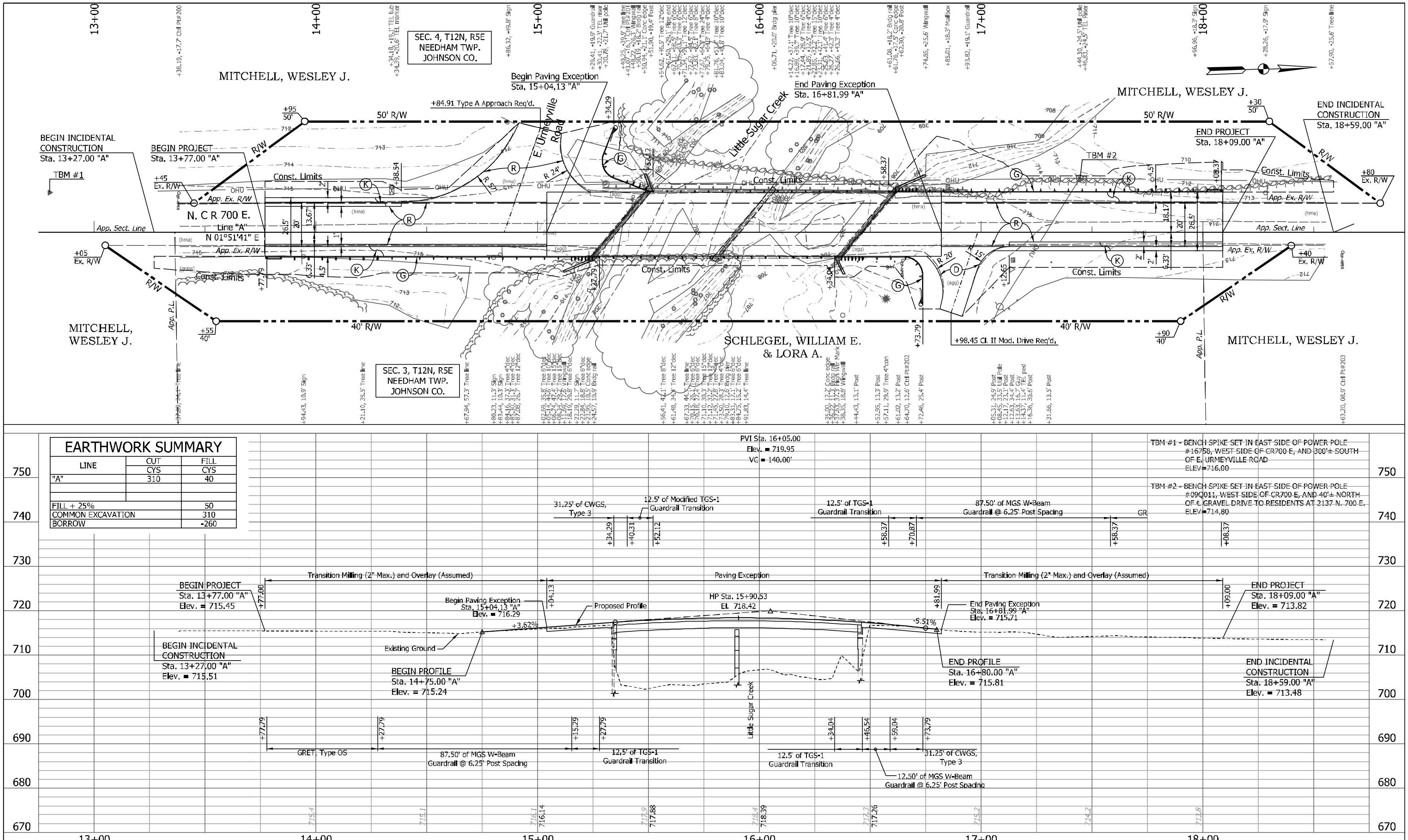
RECOMMENDED FOR APPROVAL _____ PROFESSIONAL SURVEYOR DATE

DESIGNED: DJS DRAWN: DJS
CHECKED: DJS-MS CHECKED: DJS-MS

JOHNSON COUNTY HIGHWAY DEPARTMENT

COUNTY ROAD 700 EAST
BRIDGE 98 REHABILITATION
LOCATION CONTROL ROUTE SURVEY

HORIZONTAL SCALE	BRIDGE FILE
1" = 60'	-
VERTICAL SCALE	DESIGNATION
-	1902767
SURVEY BOOK	PLAN SHEETS
-	1 of 1
CONTRACT	COUNTY
-	JOHNSON



EARTHWORK SUMMARY

LINE	CUT CYS	FILL CYS
"A"	310	40
FILL + 25%		50
COMMON EXCAVATION		310
BORROW		-260

LEGEND

(K) Full Depth HMA Pavement (Assumed)
165 lbs/sys QC/QA HMA, 3, 64, Surface, 9.5 mm on
275 lbs/sys QC/QA HMA, 3, 64, Intermediate, 19.0 mm on
550 lbs/sys QC/QA HMA, 3, 64, Base, 19.0 mm on
6" Compacted Aggregate No. 53 on
(Provide Tack Coat between HMA layers)
Subgrade Treatment, Type IC

(R) Transition Milling (2" Max.) and Overlay
165 lbs/sys QC/QA HMA, 3, 64, Surface, 9.5 mm on
As Required, 275 lbs/sys QC/QA HMA, 3, 64, Intermediate, 19.00 mm

(D) HMA for Approaches, Type B
165#/syd HMA Surface Type B on
275#/syd HMA Intermediate Type B on
6" Compacted Aggregate No. 53 on
Subgrade Treatment Type II
(6 In. Coarse Aggregate No. 53)

(G) Guardrail

RECOMMENDED FOR APPROVAL ______ DESIGN ENGINEER DATE

DESIGNED: CJC | DRAWN: TPH
CHECKED: SJS | CHECKED: SJS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	41-00098
VERTICAL SCALE	DESIGNATION
1" = 10'	1902767
SURVEY BOOK	SHEETS
	9 of 19
CONTRACT	PROJECT
B-42802	1902767

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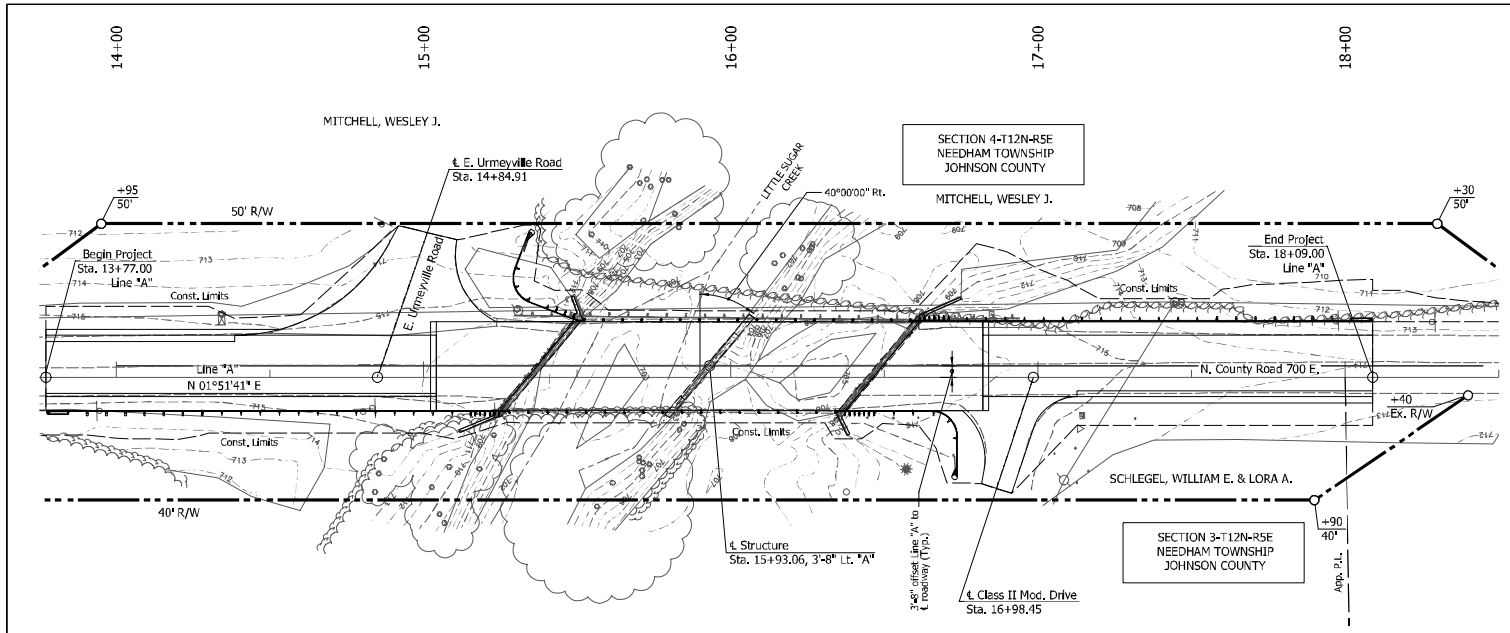
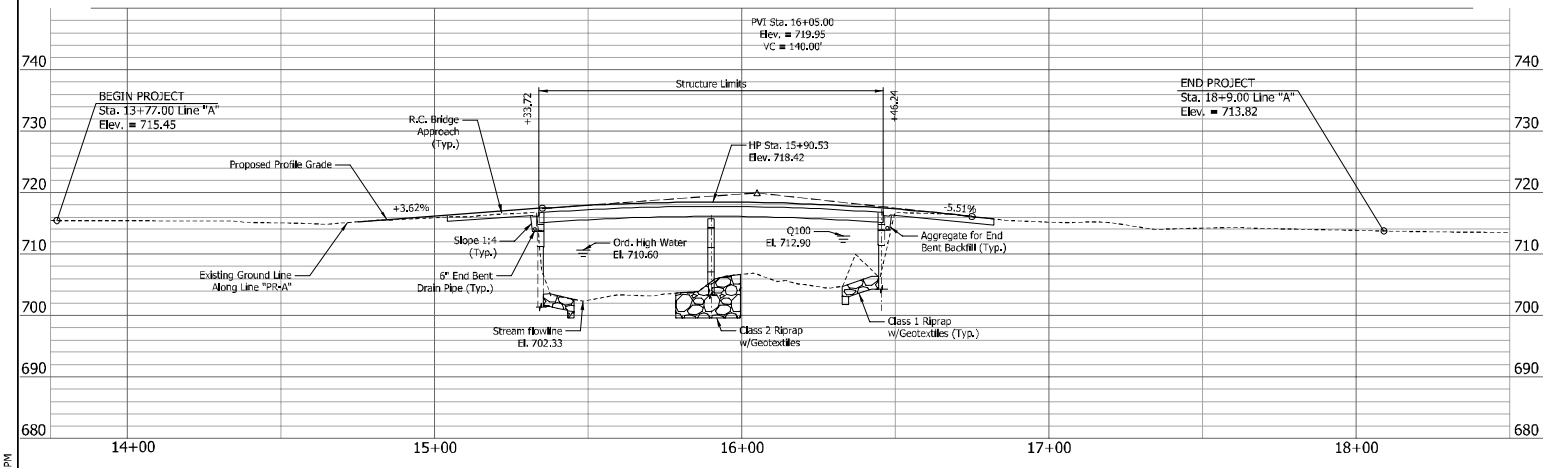


SITUATION PLAN



EXISTING STRUCTURE

The existing structure is a Two Span Adjacent Concrete Box Beam Bridge on reinforced concrete abutments and hammerhead pier built in 1972. It has span lengths of 55.5 ft with a total structure length of 112.5 ft. The structure has a 40 degree skew and a clear roadway width of 28.5 ft. Existing superstructure to be removed and substructures to remain in place.

HYDRAULIC DATA

Drainage Area =	28.4	SQ MILES
Q 100 Discharge =	6,070	CFS
Q 100 Elevation =	712.9	FT
Q 100 Backwater =	1.3	FT
Q 100 Velocity =	7.9	FT / SEC
Q 100 Headwater Elevation =	714.23	FT
Waterway Opening Below Q100 =	731.5	SFT
Q100 Road-Overflow Area =	269.0	SFT
Minimum Low Structure Elevation =	714.2	FT
Minimum Overtopping Elevation =	713.4	FT
Skew To Waterway =	40	DEGREES

SCOUR DATA

Q 100 Discharge =	6,070	CFS
Q 100 Contraction Scour =	2.9	FT
Q 100 Total Scour =	5.6	FT
Q 100 Flowline Elevation =	701.2	FT
Q 100 Low Scour Elevation =	692.6	FT

UTILITIES

See Index & General Notes Sheet

EARTHWORK SUMMARY

See Earthwork Table on Plan & Profile Sheet

STEEL ROLLED BEAM BRIDGE
2 SPANS @ 55'-6"
CLEAR ROADWAY: 28'-6"
SKEW: 40°00'00" RT.
N. COUNTY ROAD 700 E. OVER LITTLE SUGAR CREEK
JOHNSON COUNTY - BR 98

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TIME PLOTTED: 3:42:09 PM

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

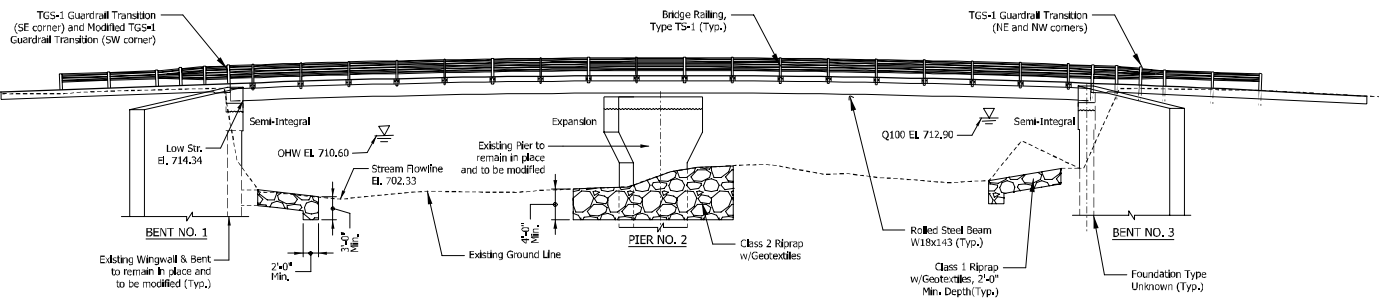
DESIGNED: VS | DRAWN: VS | CHECKED: JPL | CHECKED: JPL

INDIANA DEPARTMENT OF TRANSPORTATION

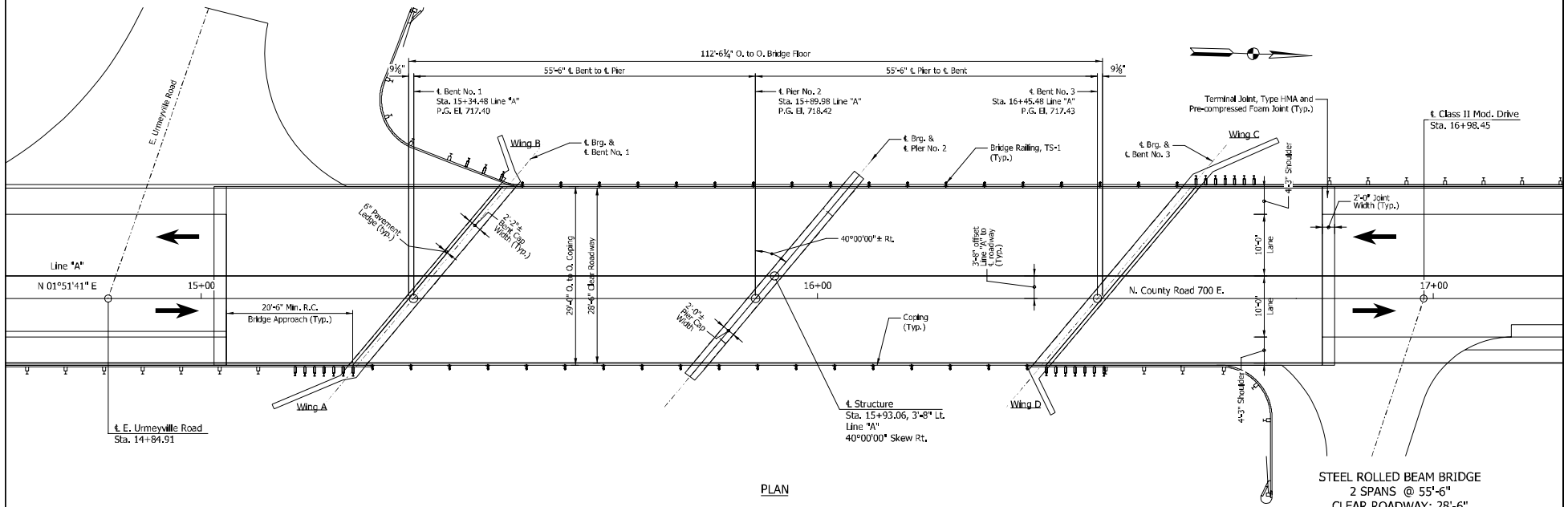
LAYOUT

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	41-00098
VERTICAL SCALE	DESIGNATION
1" = 10'	1902767
SURVEY BOOK	SHEETS
	10 of 19
CONTRACT	PROJECT
B-42802	1902767

STRUCTURE TO BE BUILT ON A 140' VERTICAL CURVE



ELEVATION



PLAN

STEEL ROLLED BEAM BRIDGE
2 SPANS @ 55'-6"
CLEAR ROADWAY: 28'-6"
SKEW: 40°00'00" RT.
N. COUNTY ROAD 700 E. OVER LITTLE SUGAR CREEK
JOHNSON COUNTY - BR 98

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: VS | DRAWN: VS

CHECKED: JPL | CHECKED: JPL

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
1/8" = 1'-0"	41-00098
VERTICAL SCALE	DESIGNATION
	1902767
SURVEY BOOK	SHEETS
	11 of 19
CONTRACT	PROJECT
B-42802	1902767

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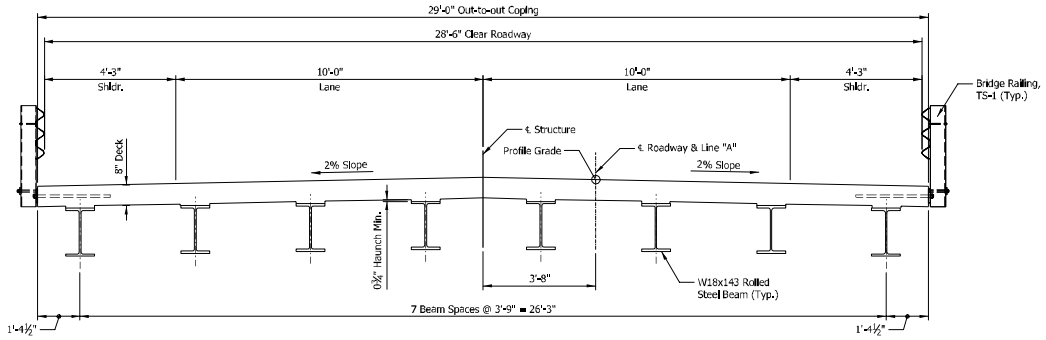

TYPICAL STRUCTURE SECTION

(LOOKING AHEAD)

GENERAL NOTES

Reinforcing steel covering shall be 2 1/2" Min. in top and 1" Min. in bottom of bridge deck, and 2" in all other parts unless noted.

Surface seal exposed surfaces of End Bents, End Bent Concrete Diaphragms, Face of Deck Copings, Underside of Deck Coping and Top of Bridge Deck.

Reinforcing steel in floor slab, approach slabs, end bents, pier and end bent diaphragm shall be epoxy coated.

DESIGN DATA

Original design assumed to be designed for HS20-44 loading, in accordance with AASHTO Standard Specifications, Tenth Edition, subsequent Interims through 1972.

Designed for HL-93 loading in accordance with AASHTO LRFD Bridge Design Specifications, Ninth Edition, 2020 and Subsequent Interims.

DEAD LOAD

Actual weight plus 15 lb/ft² for Permanent Metal Deck Forms. Future Wearing Surface excluded.

FLOOR SLAB

Designed with a 7 1/2" min. structural depth plus 1/2" sacrificial wearing surface.

DESIGN STRESSES

CONCRETE

Class "B" f'c = 3,000 psi
Class "C" f'c = 4,000 psi
Class "A" f'c = 3,500 psi

REINFORCING STEEL

Grade 60 fy = 60,000 psi

STRUCTURAL STEEL

ASTM A709 Grade 50W Weathering Steel

CONSTRUCTION LOAD

The exterior beam has been checked for strength, deflection, and overturning using the construction loads shown below. 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 6in. outside the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the girder bottom flange and the web.

DECK FALSEWORK LOADS

Designed for 2-ft exterior walkway. 15 lb/ft² permanent metal stay-in place deck forms and removable deck forms.

CONSTRUCTION LIVE LOAD

Designed for 20 lb/ft² extending 2 ft past the edge of coping and 75 lb/ft² vertical force applied at a distance of 6 in. outside the face of coping over a 30 ft. length of the deck centered with the finishing machine.

FINISHING-MACHINELOAD

4500 lb distrubuted over 10 ft. along the coping.

WIND LOAD

Designed for 70 mph horizontal wind loading in accordance with AASHTO LRFD Bridge Design Specifications, Ninth Edition, with subsequent interims, section 3.8.1.

SEISMIC DESIGN DATA

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

STEEL ROLLED BEAM BRIDGE
2 SPANS @ 55'-6"
CLEAR ROADWAY: 28'-6"
SKEW: 40°00'00" RT.
N. COUNTY ROAD 700 E. OVER LITTLE SUGAR CREEK
JOHNSON COUNTY - BR 98

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: UL | DRAWN: VS | CHECKED: JPL | CHECKED: JPL

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
1/2" = 1'-0"	41-00098
VERTICAL SCALE	DESIGNATION
	1902767
SURVEY BOOK	SHEETS
	12 of 19
CONTRACT	PROJECT
B-42802	1902767

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Appendix C

Early Coordination

April 13, 2022

{See Attached List}

Re: Early Coordination Letter, Des. No. 1902767
Bridge Project (# 41-00098) over Little Sugar Creek
On North County Road (CR) 700 East, 0.1 mile north of Urmeyville Road
Johnson County, Indiana

Dear Sir or Madam:

The Johnson County Highway Department, with funding from the Federal Highway Administration (FHWA), is proposing to proceed with the above referenced bridge project, involving Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Needham Township, Johnson County, Indiana. CHA Consulting, Inc. is under contract with Johnson County Highway Department to advance the environmental documentation for the referenced project. 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 number and description in your reply. We will incorporate your comments into a study of the project's environmental impacts. Your cooperation in this endeavor is appreciated.

PROJECT LOCATION

The proposed undertaking is located on North CR 700 East, approximately 0.1 mile north of Urmeyville Road, Needham Township, Johnson County, Indiana. The project will extend along North CR 700 East from approximately 289 feet south of the center of the bridge to 285 feet north of the center of the bridge. Specifically, the project is located in Sections 3 and 4, Township 12 North, Range 5 East as shown on the attached 7.5 Minute Boggstown, Indiana United States Geological Survey (USGS) quadrangle map.

EXISTING CONDITIONS

North CR 700 East is functionally classified as a Rural Major Collector. The roadway has a posted speed limit of 45 miles per hour. The existing roadway consists of two 10-foot travel lanes. The surrounding terrain is level, and the adjacent land usage is generally agricultural fields with a residential property adjacent to the project area to the east. There is a forested riparian corridor to the northwest and southeast of the project area along Little Sugar Creek.

The existing structure is a two span adjacent concrete box beam bridge on reinforced concrete abutments and hammerhead built in 1972. The span length is 55.5 feet with a total structure length of 112.5 feet. The structure has as 40-degree skew and an out-to-out deck width of 30.5 feet. The clear roadway width is 28.5 feet. The structure has a sufficiency rating of 37.9 according to the July 7, 2021 Bridge Inspection Report. Please see the attached location maps and ground level photographs.

The National Wetland Inventory (NWI) maps and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were reviewed for the presence of water features in the project area. One stream segment was mapped within the project area, Little Sugar Creek. Also, one mapped floodplain was identified within the project area. A Waters of the US investigation was conducted on October 20, 2021 and confirmed that the one stream listed above, Little Sugar Creek, was within the project area. A Waters of the US Report will be prepared. This project qualifies for the application of the USFWS range-wide programmatic informal consultation for the Indiana bat and northern longeared bat and project information will be submitted through USFWS's Information for Planning and Consultation (IPaC) separately. Coordination will occur with INDOT Cultural Resources Office (CRO) to evaluate the project area for archaeological and historic resources and for Section 106 compliance. The results of this investigation will be forwarded to the State Historic Preservation Officer (SHPO) for review and concurrence as appropriate.

201 N. Illinois Street, Suite 800, Indianapolis, IN 46204
T 317.786.0461 • F 317.788.0957 • www.chacompanies.com

PROJECT PURPOSE AND NEED

The need for the project is due to the overall deterioration of the existing structure. Bridge inspections are completed on a yearly basis for bridges in poor condition. The condition ratings range from 0 to 9, 0 being a failed structure and 9 being a structure in excellent condition. In the Indiana Department of Transportation (INDOT) inspection report dated July 7, 2021, the deck and superstructure have a condition rating of 4 - Poor Condition (advanced deterioration) and the substructure has a condition rating of 6 - Satisfactory Condition (minor deterioration). The channel is noted and rated as 6 - Bank Slump, widespread damage.

The purpose of the project is to have a structure with condition ratings of the deck, superstructure, substructure, and channel to at least 7 (Good) out of 9 for a structure life of 75 years minimum.

PROPOSED IMPROVEMENTS

The existing superstructure will be replaced in-kind with a two-span Steel Rolled Beam Bridge with a composite concrete wearing surface. The proposed superstructure is 55.5-foot span with a total structure length of 112.5 feet. The proposed structure width and clear roadway width is 28.5 feet. A TS-1 bridge rail is recommended on the structure. A TGS-1 guardrail transition will be provided on the reinforced concrete bridge approaches. Curved W-Beam guardrail sections will connect to the TGS-1 and have a terminal end section. To better align with the channel, the structure will be skewed 40 degrees.

Existing right-of-way limits is approximately 10 feet on either side of the center line. Additional permanent right-of-way is anticipated for this project. It is anticipated that there will be 0.59 acres of permanent right-of-way acquisition and 0.20 acres of temporary right-of-way.

The proposed maintenance of traffic (MOT) is a full closure of North CR 700 East with an official detour route using East CR 100 North, North CR 500 E, North CR 525 East, and East CR 350 North. Local access will be maintained throughout construction in accordance with the Indiana Design Manual (IDM) Chapter 503. The final determination of maintenance of traffic plans will be coordinated with Hancock County with assistance from INDOT as needed.

EARLY COORDINATION

Please provide your response within thirty (30) calendar days from the date of this letter. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Aaron Stroude, Environmental Scientist, CHA Consulting, at astroude@chacompanies.com or (317) 493-3075. Thank you in advance for your input.

Best Regards,

CHA Consulting, Inc.

Aaron Stroude

Environmental Scientist

Attachments:

Project Area Maps
Project Area Photographs

cc: Mr. Lucas Mastin., Johnson County Highway Director
Mr. Chase Schneider, INDOT Project Manager
Mr. James Earl, P.E., Project Manager, CHA
File#062258

Agencies Receiving Early Coordination Packet Distribution Date: April 13, 2022

Federal Highway Administration
Federal Office Building, Room 254
575 North Pennsylvania Street
Indianapolis, Indiana 46204
Erica.tait@dot.gov

State Conservationist
Natural Resources Conservation Service
6013 Lakeside Boulevard
Indianapolis, Indiana 46278
john.allen@usda.gov

Indiana Geological and Water Survey
611 North Walnut Grove
Bloomington, IN 47405
(Website submittal)

Environmental Coordinator
Indiana Department of Natural Resources
Division of Fish and Wildlife
402 West Washington Street, Rm. W273
Indianapolis, IN 46204
environmentalreview@dnr.in.gov

Section Chief, Wetlands and Stormwater Programs
Indiana Department of Environmental Management
100 N. Senate Avenue
Indianapolis, IN 46204
rbraun@idem.in.gov
Jturner2@idem.in.gov

Regional Environmental Coordinator
Midwest Regional Office
National Park Service
601 Riverfront Drive
Omaha, Nebraska 68102
mwro_compliance@nps.gov

Ms. Deborah Snyder
US Army Corps of Engineers
Louisville District, Indianapolis Regulatory Office
Indianapolis, IN 46216
RegulatoryApplicationsLRL@usace.army.mil

Field Environmental Officer, Chicago Regional Office
US Department of Housing & Urban Development
Metcalf Fed. Bldg.
77 West Jackson Boulevard, Room 2401
Chicago, IL 60604
erik.r.sandstedt@hud.gov

Commander, Eighth Coast Guard District
Attn: Bridge Branch
1222 Spruce Street, Rm 2.102D
St Louis, MO 63103-2832
eric.washburn@uscg.mil

Mr. Chase Schneider, Project Manager
Indiana Department of Transportation
185 Agrico Lane
Seymour, IN 47274
chschneider@indot.in.gov

David Dye, Environmental Section Manager
Indiana Department of Transportation
185 Agrico LAne
Seymour, IN 47247
ddye@indot.in.gov

Ron Bales, Senior Environmental Manager
100 North Senate Avenue, Room N758-ES
Indianapolis, IN 46204
rbales@indot.in.gov

Wellhead Proximity Determinator website
(Website submittal)

Ms. Anna Gremling, Executive Director
Indianapolis Metropolitan Planning Organization
200 East Washington Street, Suite 2322
Indianapolis, Indiana 46204
anna.gremling@indympo.org

Nathan Bush, Chairman
Johnson County Planning Commission
86 West Court St.
Franklin, IN 46131
planning@co.johnson.in.us

James Ison
Johnson County Council
Johnson County Government West Annex
86 W Court St.
Franklin, IN 46131
jison@co.johnson.in.us

Brian Baird, Commissioner Chairman
Johnson County Commissioners
Johnson County Government West Annex
86 W Court St.
Franklin, IN 46131
bbaird@co.johnson.in.us

Allen Kirk, County Engineer
Johnson County
86 W. Court Street, Courthouse Annex
Franklin, IN 46131
akirk@co.johnson.in.us

Gregg Cantwell, Johnson County Surveyor
Johnson County
86 W Court St., Courthouse Annex
Franklin, IN 46131
gcantwell@co.johnson.in.us

Lucas Mastin, Highway Director
Johnson County Highway Department
1051 Hospital Rd
Franklin, IN 46131
highway@co.johnson.in.us

Franklin Community School Transportation Department
750 E. State Rd. 44
Franklin, IN 46131
transportation@franklinschools.org

Megan Thiele
District 5 Fire Coordinator
mthiele@dhs.in.gov

Ms. Robin Stump, EMS Coordinator, District 5
Indiana Department of Homeland Security
302 West Washington Street, Room E208
Indianapolis, IN 46204
rstump@dhs.in.gov

Stephanie Sichting, Director
Hancock County Emergency Management Agency
1081 Hospital Rd.
Franklin, IN 46131
ssichting@co.johnson.in.us

Organization and Project Information

Project ID: 062258
Des. ID: 1902767
Project Title: Bridge Project (#41-00098) over Little Sugar Creek
Name of Organization: CHA Consulting, Inc.
Requested by: Mackenzie Knotts

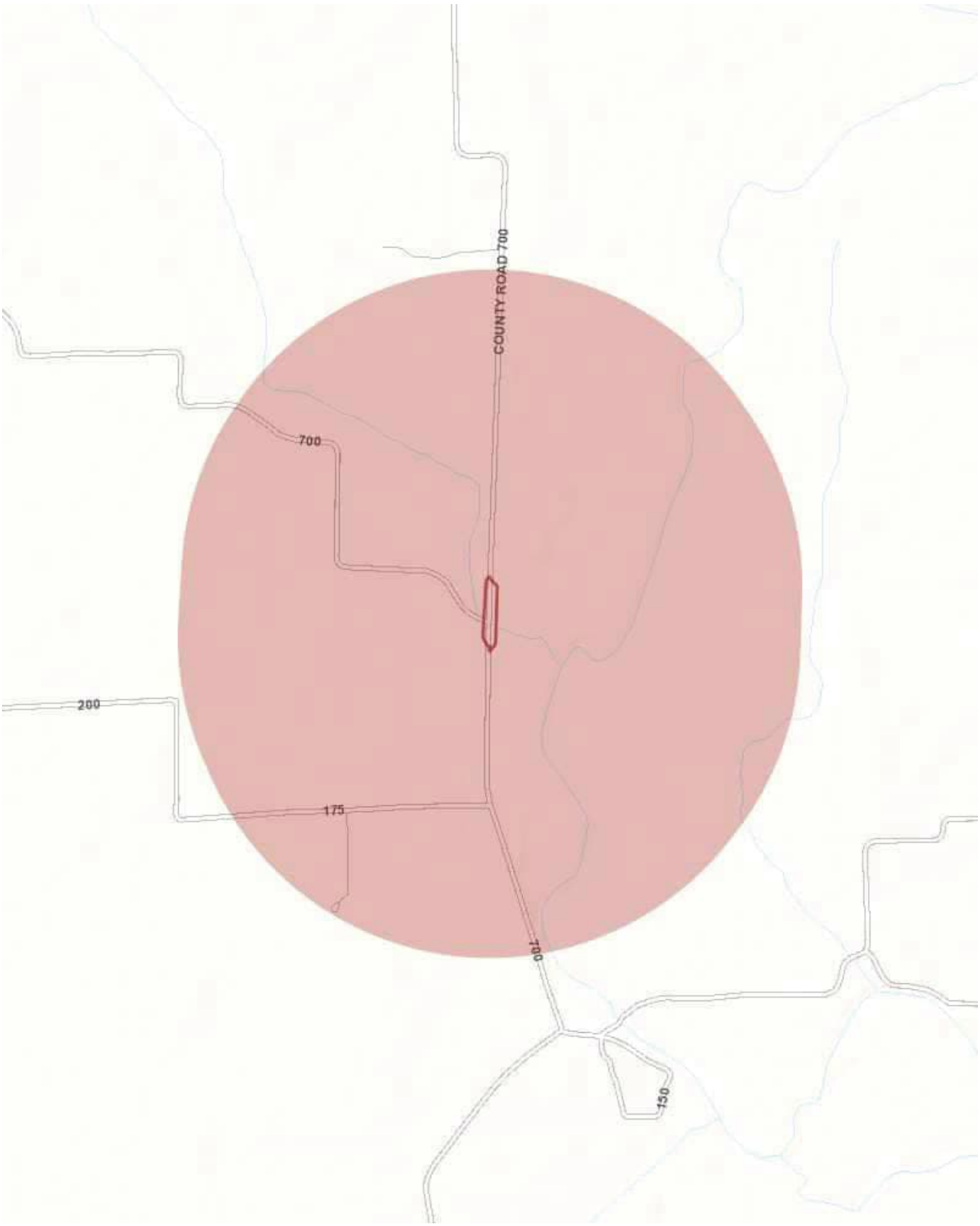
Environmental Assessment Report

1. Geological Hazards:
    - High liquefaction potential
    - 1% Annual Chance Flood Hazard
2. Mineral Resources:
    - Bedrock Resource: High Potential
    - Sand and Gravel Resource: High Potential
3. Active or abandoned mineral resources extraction sites:
    - Abandoned Industrial Minerals Sand Gravel Pits

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

This information was furnished by Indiana Geological Survey
Address: 1001 E. 10th St., Bloomington, IN 47405
Email: IGSEnvir@indiana.edu
Phone: 812 855-7428

Date: July 11, 2022



Metadata:

- https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Pits_Abandoned.html
- 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/Hydrology/Floodplains_FIRM.html
- https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html

INDIANA
AMERICAN WATER

July 26, 2022

Aaron Stronde
CHA Consulting
20 N. Illinois Street, Suite 800
Indianapolis, IN 46204

Re: Designation Number 1902767 Bridge Project over Little Sugar Creek

Dear Mr. Stronde,

On behalf of Indiana American Water – Johnson County Operations, I have reviewed the project plans and determined that the project is located within the wellhead protection area 1-year time of travel. American Water makes the following requests:

- Overnight storage of large equipment is discouraged, but when unavoidable precautions should be taken to prevent the release of any petroleum products. Precautions should include daily inspection of equipment, security measures to protect equipment, and a spill response plan.
- Dumpsters for construction debris are permitted so long as they are not used for hazardous waste disposal.
- Fertilizer, pesticide, or herbicide applications are allowed so long as the label is followed to prevent contamination of the watershed.
- Portable toilets are permissible.
- Prior to commencement of construction, please provide a list of chemicals to be used and/or stored at the job site.
- Please maintain a contingency plan for chemical spills
- Chemicals should be properly labeled and stored in secondary containment capable of holding 110% of the volume.
- Perform weekly inspections of chemical tanks and containment structures
- Immediately notify me of any chemicals spills or leaks.

Sincerely,

Kirk Kuroiwa
Water Quality Lead

Indiana American Water
15227 Herriman Blvd.
Noblesville, IN 46060
Tel (765)480-3196
E-mail kirk.kuroiwa@amwater.com

United States Department of Agriculture

Farm Production and Conservation

Natural Resources Conservation Service

Indiana State Office
6013 Lakeside Boulevard
Indianapolis, Indiana 46278
317-295-5800

April 18, 2022

Aaron Stroude
CHA Consulting, Inc.
201 N. Illinois Street, Suite 800
Indianapolis, Indiana 46204

Dear Mr. Stroude:

The project to improve the Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Johnson County, Indiana (Des. No. 1902767) as referred to in your letter received will cause a conversion of prime farmland.

If you need additional information, please contact John Allen at 317-295-5859 or john.allen@usda.gov.

Sincerely,

JOHN ALLEN Digitally signed by JOHN ALLEN
Date: 2022.04.18 12:02:38 -04'00'

JOHN ALLEN
State Soil Scientist

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request April 13, 2022
Name of Project DES1902767_Bridge 98 Proj_CR700E	Federal Agency Involved Federal Highway Administration
Proposed Land Use	County and State Johnson County, Indiana
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 4/13/2022 / 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: 220 ac
Major Crop(s): Corn	Farmable Land In Govt. Jurisdiction Acres: 149468 % 72	Amount of Farmland As Defined in FPPA Acres: 147843 % 72	
Name of Land Evaluation System Used: LESA	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS: June 21, 2022	

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	XXX			
B. Total Acres To Be Converted Indirectly	XXX			
C. Total Acres In Site	XXX			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.30			
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	105			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	69			

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)	14			
2. Perimeter In Non-urban Use	(10)	9			
3. Percent Of Site Being Farmed	(20)	3			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	8			
6. Distance To Urban Support Services	(15)	7			
7. Size Of Present Farm Unit Compared To Average	(10)	2			
8. Creation Of Non-farmable Farmland	(10)	1			
9. Availability Of Farm Support Services	(5)	2			
10. On-Farm Investments	(20)	4			
11. Effects Of Conversion On Farm Support Services	(10)	3			
12. Compatibility With Existing Agricultural Use	(10)	3			
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	69	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	125	0	0	0

Site Selected: A	Date Of Selection 6/21/2022	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

The site meets the purpose and need without significant impact to farmland

Name of Federal agency representative completing this form: Aaron Stronde	Date: 6/21/2022

(See Instructions on reverse side) **Form AD-1006 (03-02)**

THIS IS NOT A PERMIT

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

DNR #: ER-24641 **Request Received:** April 13, 2022

Requestor: CHA Consulting, Inc
Aaron Stroude
300 South Meridian Street
Indianapolis, IN 46225

Project: CR 700 East bridge (#41-00098; County #98) superstructure replacement over Little Sugar Creek, about 0.1 mile north of Urmeyville Road; Des #1902767

County/Site info: Johnson

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.
The Slippershell Mussel (Alasmidonta viridis), a state species of special concern, has been documented in Little Sugar Creek within the project area. Also, the mussel species below have been documented in Sugar Creek within 1/2 mile of the project area.
1. Snuffbox (Epioblasma triquetra); fed. & state endangered
2. Clubshell (Pleurobema clava); fed. & state endangered
3. Rabbitsfoot (Theliderma cylindrica); fed. threatened & state endangered
4. Kidneyshell (Ptychobranchus fasciolaris); state special concern
5. Little Spectaclecase (Villosa lienosa); state special concern

Fish & Wildlife Comments: We do not foresee any impacts to the mussel species above as a result of this project.

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://iac.iga.in.gov/iac/20200527-IR-312200284NRA.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) or by using the 1:1 replacement ratio based on area depending on the type of habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal of habitat supporting a tree canopy, woody understory, and herbaceous layer). Impacts under 0.10-acres typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions for high quality habitat sites.

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

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.
2. Minimize and contain within the project limits all tree and brush clearing.
3. 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.
4. Do not deposit or allow construction/demolition materials or debris to fall or otherwise enter the waterway.
5. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
6. If erosion control blankets are used, they shall be heavy-duty, biodegradable, and net free or 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.
7. Do not excavate or place fill in any riparian wetland.

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 12, 2022

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

Attachments: A - Bridge Exemption Criteria

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

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

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

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

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

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

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

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

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

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

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

Stroude, Aaron

From: Bailey Joe - Surveyor Office <jbailey@co.johnson.in.us>
Sent: Monday, April 18, 2022 9:37 AM
To: Stroude, Aaron
Subject: [--EXTERNAL--]: FW: Bridge Project (#41-00098), Des. No. 1902767
Attachments: EC Agency Letter DES 1902767.pdf

Good Morning Aaron,

County Surveyor Gregg Cantwell asked me to respond to your early coordination letter at the above mentioned site over Little Sugar Creek. The Surveyor's office does not have any comments on environmental effects for this project. Little Sugar Creek is a legal drain at this site and we will want to review the plans as they become available. I will reach out to our Johnson County Highway and let them know as well. Thank you for contacting our office and please let me know if I can be of any further assistance.

Joe Bailey
Johnson County
Surveyor's Office

From: Cantwell Gregg - Surveyor
Sent: Thursday, April 14, 2022 8:51 AM
To: Bailey Joe - Surveyor Office
Subject: FW: Bridge Project (#41-00098), Des. No. 1902767

From: Stroude, Aaron [mailto:AStroude@chacompanies.com]
Sent: Wednesday, April 13, 2022 11:09 AM
To: Cantwell Gregg - Surveyor
Subject: Bridge Project (#41-00098), Des. No. 1902767

Hello Gregg Cantwell,

Our firm was selected by the Indiana Department of Transportation (INDOT) to prepare the environmental documentation to advance the following Bridge Project:

Des. No. 1902767, Bridge Project (#41-00098) over Little Sugar Creek, Johnson County Indiana.

The attached coordination letter is written to describe the Bridge Project and to seek your comments regarding the resources under your jurisdiction. Please review the letter and let me know if you have any questions or comments

Aaron Stroude (he/him/his)
Scientist I
CHA
Office: (317) 493-3075
astroude@chacompanies.com
www.chacompanies.com

Stroude, Aaron

From: Sichting Stephanie - Emergency Management <ssichting@co.johnson.in.us>
Sent: Wednesday, April 13, 2022 11:49 AM
To: Stroude, Aaron
Subject: [--EXTERNAL--]: RE: Bridge Project (#41-00098), Des. No. 1902767

Mr. Stroude,

My concern for this project is the Little Sugar Creek waterway. The need for all debris from this project and any potential fuel leaks from equipment be mitigated for and against to eliminate risk of discharge into the Little Sugar Creek.

Thank you.

Stephanie Sichting, PEM

Johnson County EMA Director
1081 Hospital Rd.
Franklin, IN 46131
317-346-4655 – Office
317-627-9961 - Cell

From: Stroude, Aaron [mailto:AStroude@chacompanies.com]
Sent: Wednesday, April 13, 2022 11:34 AM
To: Sichting Stephanie - Emergency Management <ssichting@co.johnson.in.us>
Subject: Bridge Project (#41-00098), Des. No. 1902767

Hello,

Our firm was selected by the Indiana Department of Transportation (INDOT) to prepare the environmental documentation to advance the following Bridge Project:

Des. No. 1902767, Bridge Project (#41-00098) over Little Sugar Creek, Johnson County Indiana.

The attached coordination letter is written to describe the Bridge Project and to seek your comments regarding the resources under your jurisdiction. Please review the letter and let me know if you have any questions or comments

Aaron Stroude (he/him/his)
Scientist I
CHA
Office: (317) 493-3075
astroude@chacompanies.com
www.chacompanies.com

United States Department of the Interior

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

In Reply Refer To: April 28, 2022
Project code: 2022-0035460
Project Name: Johnson County Bridge Project 98, Des. No. 1902767

Subject: Concurrence verification letter for the 'Johnson County Bridge Project 98, Des. No. 1902767' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated April 28, 2022 to verify that the **Johnson County Bridge Project 98, Des. No. 1902767** (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*). Consultation with the 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.

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/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessments failed to detect Indiana bats, but you later detect bats prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or 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.

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Candidate
- Snuffbox Mussel *Epioblasma triquetra* Endangered

Project Description

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

Name

Johnson County Bridge Project 98, Des. No. 1902767

Description

The Johnson County Highway Department, with funding from the Federal Highway Administration (FHWA), is proposing to proceed with the above referenced bridge project, involving Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Needham Township, Johnson County, Indiana. The existing superstructure will be replaced in-kind with a two-span Steel Rolled Beam Bridge with a composite concrete wearing surface. The proposed superstructure is 55.5-foot span with a total structure length of 112.5 feet. The proposed structure width and clear roadway width is 28.5 feet. A TS-1 bridge rail is recommended on the structure. A guardrail transition will be provided on the reinforced concrete bridge approaches. To better align with the channel, the structure will be skewed 40 degrees. The project will require approximately 0.59 acres of permanent right-of-way and approximately 0.20 acres of temporary right-of-way. The surrounding terrain is level, and the adjacent land usage is generally agricultural fields with a residential property adjacent to the project area to the east. There is a forested riparian corridor to the northwest and southeast of the project area along Little Sugar Creek. There will be approximately 0.21 acres of tree clearing as a result of this project. The dominant tree species noted were; Acer negundo (boxelder, FAC) and Acer saccharinum (sugar maple, FACW). The understory consisted of Viola sororia (common blue violet, FAC) and Elymus virginicus (Virginia wildrye, FACW). There will be no permanent lighting installed. Temporary lighting may be used during the construction process. The July 7, 2021 Bridge Inspection Report stated there was no evidence of bat species seen or heard under (or in) the structure. A review of the USFWS database on January 3, 2022, did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. Construction will occur during the construction season 2024 (typically March to October).

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 User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

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

    No

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

    Yes

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

    No

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

    No

23. Does the project include slash pile burning?

    No

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

    Yes

25. 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

26. 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

    - *Bridge Inspection Report_07-07-21.pdf https://ipac.ecosphere.fws.gov/project/CPWKZSGI2ZFKPEAU2CORQORBSQ/projectDocuments/112384743*

27. 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

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

    No

29. 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

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

    Yes

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

    Yes

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?

    Yes

34. Will the activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

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

    Yes

35. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

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

    No

36. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

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

    No

38. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

39. 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

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

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the 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.

41. 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.

42. 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

43. **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

44. **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

45. **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

46. **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

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

    Yes

Project Questionnaire

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

   Yes

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

   No

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

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

   0.21

4. Please describe the proposed bridge work:

   The existing superstructure will be replaced in-kind with a two-span Steel Rolled Beam Bridge with a composite concrete wearing surface. The proposed superstructure is 55.5-foot span with a total structure length of 112.5 feet. A guardrail will be included. The proposed structure width and clear roadway width is 28.5 feet. To better align with the channel, the structure will be skewed 40 degrees.

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

   2024 Construction Season (Typically March to October)

6. Please enter the date of the bridge assessment:

   October 20, 2021

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 1

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

LIGHTING AMM 1

Direct temporary lighting away from suitable habitat during the active season.

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.

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.

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

This key was last updated in IPaC on March 22, 2022. 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.

IPaC User Contact Information

Agency: Indiana Department of Transportation
Name: Mindy Baker
Address: 185 Agrico Lane
City: Seymour
State: IN
Zip: 47274
Email mbaker2@indot.in.gov
Phone: 8125243746

Lead Agency Contact Information

Lead Agency: Federal Highway Administration

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

In Reply Refer To: July 14, 2022
Project Code: 2022-0035460
Project Name: Johnson County Bridge Project 98, Des. No. 1902767

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of

Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code 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
- Migratory Birds
- Wetlands

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

Project Code: 2022-0035460
Event Code: None
Project Name: Johnson County Bridge Project 98, Des. No. 1902767
Project Type: Bridge - Replacement
Project Description: The Johnson County Highway Department, with funding from the Federal Highway Administration (FHWA), is proposing to proceed with the above referenced bridge project, involving Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Needham Township, Johnson County, Indiana. The existing superstructure will be replaced in-kind with a two-span Steel Rolled Beam Bridge with a composite concrete wearing surface. The proposed superstructure is 55.5-foot span with a total structure length of 112.5 feet. The proposed structure width and clear roadway width is 28.5 feet. A TS-1 bridge rail is recommended on the structure. A guardrail transition will be provided on the reinforced concrete bridge approaches. To better align with the channel, the structure will be skewed 40 degrees. The project will require approximately 0.59 acres of permanent right-of-way and approximately 0.20 acres of temporary right-of-way. The surrounding terrain is level, and the adjacent land usage is generally agricultural fields with a residential property adjacent to the project area to the east. There is a forested riparian corridor to the northwest and southeast of the project area along Little Sugar Creek. There will be approximately 0.21 acres of tree clearing as a result of this project. The dominant tree species noted were; Acer negundo (boxelder, FAC) and Acer saccharinum (sugar maple, FACW). The understory consisted of Viola sororia (common blue violet, FAC) and Elymus virginicus (Virginia wildrye, FACW). There will be no permanent lighting installed. Temporary lighting may be used during the construction process. The July 7, 2021 Bridge Inspection Report stated there was no evidence of bat species seen or heard under (or in) the structure. A review of the USFWS database on January 3, 2022, did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. Construction will occur during the construction season 2024 (typically March to October).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.51186665,-85.96976089437811,14z

Counties: Johnson County, Indiana

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

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

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

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	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

Clams

NAME	STATUS
Rayed Bean *Villosa fabalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5862	Endangered
Snuffbox Mussel *Epioblasma triquetra* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

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

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

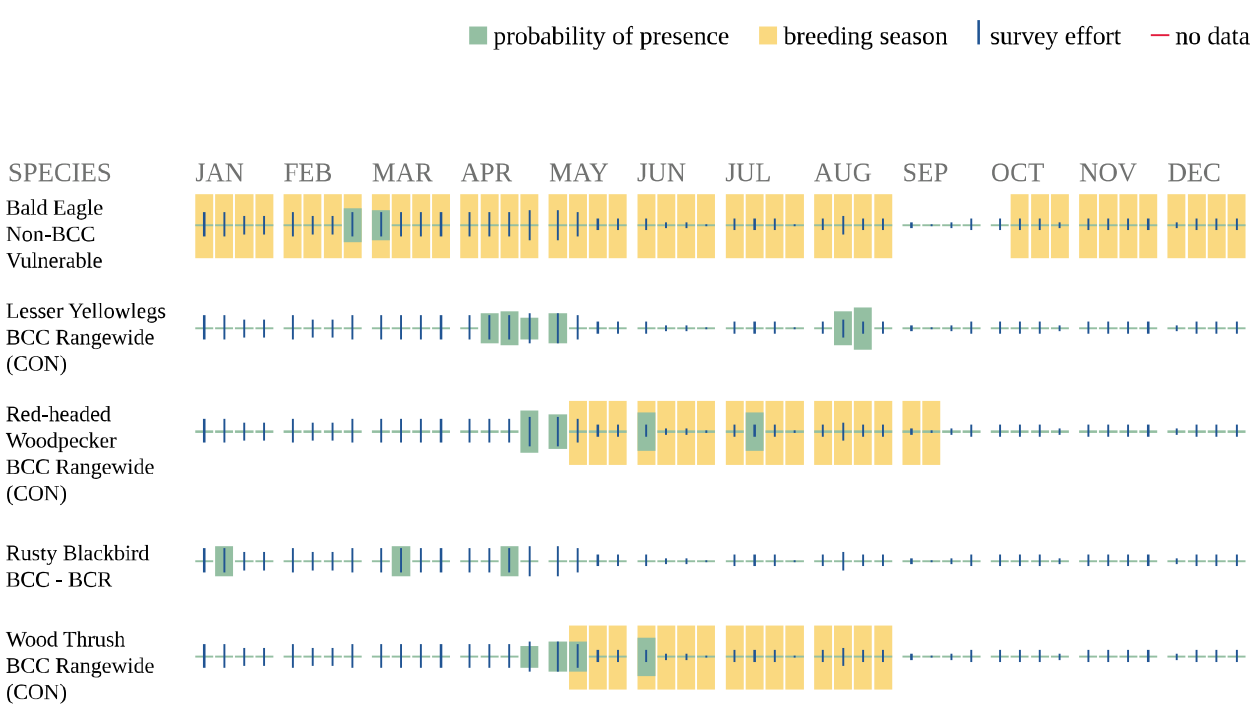
Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your

project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- Palustrine

IPaC User Contact Information

Agency: CHA
Name: Aaron Stroude
Address: 200 N Illinois Street
City: Indianapolis
State: IN
Zip: 46204
Email astroude@chacompanies.com
Phone: 3174933075

Lead Agency Contact Information

Lead Agency: Federal Highway Administration

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
10/20/2021, 12 pm	1902767	CR 700 E	Johnson
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
41-00098	39.51192, -85.96976	10 feet	112.5 feet

Structure Type (check one)

Bridge Construction Style

- ○ Cast-in-place
- ○ Flat Slab/Box
- ○ Truss
- ○ Parallel Box Beam
- ◉ Pre-stressed Girder
- ○ Steel I-beam
- ○ Covered
- ○ Other:

Culvert Type

- ○ Box
- ○ Pipe/Round
- ○ Other:

Other Structure

- ○

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
☐ Metal	☐ None	☒ Concrete
☒ Concrete	☒ Concrete	☐ Timber
☐ Timber	☐ Steel	☐ Stone/Masonry
☐ Open grid	☐ Timber	☐ Other:
☐ Other:	☐ Other:	

Creosote Evidence

- ○ Yes ○ No
- ◉ Unknown

Culvert Material

- ☐ Metal
- ☐ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

Notes:

Crossings Traversed (check all that apply)

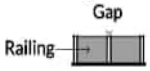
☒ Bare ground	☒ Open vegetation
☐ Rip-rap	☐ Closed vegetation
☒ Flowing water	☐ Railroad
☐ Standing water	☐ Road/trail - Type:
☐ Seasonal water	☐ Other:

Surrounding Habitat (check all that apply)

☒ Agricultural	☐ Grassland
☐ Commercial	☐ Ranching
☐ Residential-urban	☐ Riparian/wetland
☒ Residential-rural	☐ Mixed use
☒ Woodland/forested	☐ Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	Assessment Notes	Evidence of Bats (include photos if present)
☒ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Concrete surfaces (open roosting on concrete)	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Spaces between concrete end walls and the bridge deck	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Crack between concrete railings on top of the bridge deck 	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Vertical surfaces on concrete I-beams	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Spaces between walls, ceiling joists	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Weep holes, scupper drains, and inlets/pipes	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ All guiderails	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ All expansion joints	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species

Name: Aaron Stroude

Signature: Aaron Stroude

Bat Bridge Assessment Photos taken October 20, 2021

Stroude, Aaron

From:	Fair, Terri <TFair@indot.IN.gov>
Sent:	Monday, September 12, 2022 4:57 PM
To:	Stroude, Aaron
Cc:	Ross, Anthony
Subject:	FW: [--EXTERNAL--]: RE: EJ Coordination - Johnson County Bridge, Des 1902767, superstructure replacement
Attachments:	Draft J98 EJ Analysis Des 1902767.pdf

INDOT-Environmental Services Division (ESD) has reviewed the project information along with the Environmental Justice (EJ) Analysis for the above referenced project. With the information provided, the project may require minimal right-of-way, require no relocations, and would not disrupt community cohesion or create a physical barrier. With the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required.

Appendix D

Section 106 Consultation

Item	Appendix Page
Minor Projects PA Assessment Form	D-1 to D-6

SECTION 1

Part 1: Project Information-Completed by Applicant (Consultant/PM/Project Sponsor/INDOT District Staff)*

Original Submission Date: 6/20/2022 **Amended Submission Date*:**

Submitted By (Provide Name and Firm/Organization): Gray & Pape Heritage Management

Project Designation Number: 1902767

Route Number: N CR 700 E

Feature crossed (if applicable): Little Sugar Creek

City/Township: Needham Township **County:** Johnson

Project Description: Johnson County Highway Department, with funding from the Federal Highway Administration (FHWA), is proposing to proceed with the above referenced bridge project, involving Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Needham Township, Johnson County, Indiana (see attached Figure 1). The existing structure is a two-span adjacent concrete box beam bridge on reinforced concrete abutments and hammerhead built in 1972. The span length is 55.5 feet with a total structure length of 112.5 feet. The structure has as 40-degree skew and an out-to-out deck width of 30.5 feet. The clear roadway width is 28.5 feet.

The existing superstructure will be replaced in-kind with a two-span Steel Rolled Beam Bridge with a composite concrete wearing surface. The proposed superstructure is 55.5-foot span with a total structure length of 112.5 feet. The substructures will remain in place and the bridge will remain at a 40-degree skew. The proposed structure width and clear roadway width is 28.5 feet. A TS-1 bridge rail is recommended on the structure. A TGS-1 guardrail transition will be provided on the reinforced concrete bridge approaches. Curved W-Beam guardrail sections will connect to the TGS-1 and have a terminal end section.

The need for the project is due to the overall deterioration of the existing structure. Bridge inspections are completed on a yearly basis for bridges in poor condition. The condition ratings range from 0 to 9, 0 being a failed structure and 9 being a structure in excellent condition. In the Indiana Department of Transportation (INDOT) inspection report dated July 7, 2021, the deck and superstructure have a condition rating of 4 - Poor Condition (advanced deterioration) and the substructure has a condition rating of 6 - Satisfactory Condition (minor deterioration). The channel is noted and rated as 6 - Bank Slump, widespread damage.

The purpose of the project is to address the deteriorated condition of the bridge, which carries North CR 700 East over Little Sugar Creek and increase the condition rating of the deck, superstructure and substructure to at least 7 (good) out of 9 and the service life of a minimum of 75 years.

If the project includes any curb, curb ramp, or sidewalk work, please specify the location(s) of such work: N/A

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type:
Feature Crossed: Little Sugar Creek
Structure Number: 00098

NBI Number: 4100077
Structure Type: Reinforced Concrete Arch – Under Fill

For bridge projects, is the bridge included in INDOT's Historic Bridge Inventory (https://www.in.gov/indot/2531.htm)?

☐ **Yes** ☒ **No**

If yes, did the inventory determine the bridge eligible for or listed in the National Register of Historic Places? Please provide page # of entry in Historic Bridge Inventory.
☐ **Yes** ☒ **No**
Inventory Page

Will there be right-of-way acquisition as part of this project?
☒ **Yes** ☐ **No**

If yes was checked above, please check all that apply:
☒ **Permanent** ☒ **Temporary** ☐ **Reacquisition**

If applicable, identify right-of-way acquisition locations in text below and in attached mapping. Please specify how much (both temporary and permanent) and indicate what activities are included in the proposed right-of-way:

Is there *any* potential for additional temporary right-of-way to be needed later for purposes such as access, staging, etc.?
☐ **Yes** ☒ **No**

Archaeology (check one):

☐ **All proposed activities are presumed to occur in previously disturbed soils***
**INDOT-CRO will notify you if project area incudes undisturbed soils and requires an archaeological reconnaissance.*

☒ **Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming***

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow)*:

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

Condition A (Archaeological Resources) One of the two conditions listed below must be met (EITHER Condition i or Condition ii must be satisfied): i. Work occurs in previously disturbed soils; OR ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any

archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources) The conditions listed below must be met (BOTH Condition i and Condition ii must be satisfied) i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; AND ii. With regard to the subject bridge, at least one of the conditions listed below is satisfied (AT LEAST one of the conditions a, b or c, must be fulfilled):

a. The latest Historic Bridge Inventory identified the bridge as non-historic (see http://www.in.gov/indot/2531.htm);

b. The bridge was built after 1945, and is a common type as defined in Section V. of the Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges issued by the Advisory Council on Historic Preservation on November 2, 2012 for so long as that Program Comment remains in effect AND the considerations listed in Section IV of the Program Comment do not apply; Revised Appendices A and B February 13, 2019 Page 11 of 13.

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.

Check ☐ if SECTION 2: Minor Projects PA Category B-1, Condition B-ii Submission is included

Check ☐ if SECTION 3: Minor Projects PA Category B-9, Condition B-i-c-2 or B-ii-b-3 Submission is included

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

General project location map ☒ USGS map ☒ Aerial photograph ☒ Soil survey data ☒

General project area photos ☒ Archaeology Reports ☐ Historic Property Reports ☐

Indiana Historic Buildings, Bridges, and Cemeteries Map/Interim Report ☒

Bridge inspection information/BIAS ☒ Historic Bridge Inventory Database ☒

SHAARD ☒ SHAARD GIS ☒ Streetview Imagery ☒ County GIS Data/Property Cards ☒

Other (please specify):
Laswell, Jeff
2022 Phase Ia Archaeological Reconnaissance Survey for the Bridge #98 Rehabilitation Project on N CR 700 E over Little Sugar Creek, 0.01 Miles North of Urmeyville Road, Johnson County, Indiana (INDOT Des. No. 1902767). Report on file, Indiana Department of Transportation, Cultural Resources Office, Indianapolis, In.

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes ☐ no ☒

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes ☐ no ☒

Additional Comments:

Above-ground Resources

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

The *Johnson County Interim Report* (1985; Needham Township) of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted. The National Register & IHSSI information is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The SHAARD information was checked against the interim report hard-copy maps. No IHSSI-surveyed Johnson County resources are recorded within 0.25 mile of the project.

Land surrounding the project area is rural/agricultural interspersed with large areas of dense woods. A few scattered residences are also present; however, no above-ground resources that are or will be 50 years of age by the project's proposed 2024 letting are within 0.25 mile of the project location.

According to BIAS records, the subject structure (Bridge No. 41-00098/NBI No. 4100077) is a prestressed concrete box beam or multiple girder bridge constructed in 1972.

The bridge was not included in the 2009 INDOT-sponsored *Historic Bridge Inventory* due to its construction after 1965, which was the cutoff year for inclusion in the inventory. On November 2, 2012, the Advisory Council on Historic Preservation (ACHP) issued *the Program Comment for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* (*Program Comment*). The *Program Comment* relieves federal agencies from the Section 106 requirement to consider the effects of undertakings on most concrete and steel bridges built after 1945. On March 19, 2013, federal agencies were approved to use the *Program Comment* for Indiana projects.

The *Program Comment* applies for this bridge because it has not been previously listed in or determined eligible for listing in the National Register of Historic Places and it is not located in or adjacent to a historic district (Section IV.A of the *Program Comment*). As an example of a prestressed concrete box beam or multiple girder structure, this bridge is also not one of the types to which the *Program Comment* does not apply (arch bridges, truss bridges, bridges with movable spans, suspension bridges, cable-stayed bridges, or covered bridges [Section IV.B]). Additionally, this bridge has not been identified as having exceptional significance for association with a person or event, being a very early or particularly important example of its type in the state or the nation, having distinctive engineering or architectural features that depart from standard designs, or displaying other elements that were engineered to respond to a unique environmental context (Section IV.C). This bridge also has not been identified as having some exceptional quality. Because the above criteria from the *Program Comment* have been met, no individual consideration under Section 106 is required for Bridge No. 41-00098/NBI No. 4100077.

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

Archaeological Resources

INDOT-CRO archaeologists, Matthew Coon and KayLee Blum, who meet the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 reviewed the archaeology report submitted by Gray & Pape, Inc., on behalf of CHA Consulting, Inc. (Laswell 2022).

A 1.4-acre survey area was examined through a combination of systematic shovel probing and visual inspection of disturbed and naturally sloping areas. The area encompassing CR 700 E was largely disturbed from the construction of the county road, installation of Bridge #98, and residential infrastructure. The disturbance was revealed through shovel testing at 15 m intervals and visual inspection. No archaeological sites were documented as a result of the survey and no further investigation is recommended (Laswell 2022).

Therefore, there are no archaeological concerns provided the project scope does not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and INDOT-CRO and the Division of Natural Resources-Division of Historic Preservation and Archaeology (DNR-DHPA) will be notified immediately.

INDOT-CRO staff reviewer(s): Matthew Coon, KayLee Blum, and Susan Branigin

INDOT Approval Date: July 26, 2022

Amendment Approval Date (if applicable):

****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.*

Please attach the following to this form:

- **General Location Map.** This map should allow the INDOT-CRO reviewer to quickly locate the project.
- **Aerial photography map(s) of project area.** This map must include project limits. It may also include SHAARD data, but SHAARD data is not required.
- **If bridge or small structure project, please attach photographs of bridge or small structure.** Photographs can be found in inspection reports located in INDOT's Bridge Inspection Application System (BIAS), as well as other project documents, such as engineering assessments or mini-scopes.

Map depicting potential temporary and/or permanent right-of-way acquisitions. In the email submission to INDOT-CRO, please also include:

- **A GIS polygon shapefile or KMZ file of the project area** (shapefiles are preferred). Shapefiles should use "NAD_1983_UTM" projected coordinate system. In addition, these files should contain the following *text* attribute field: DES_NO. The project designation number should be entered in this field.
- **If the project takes place in undisturbed soils, attach the results of the archaeological investigation, if completed.** *Note: The MPPA Submission Form may be submitted before the archaeology report. INDOT-CRO staff will process the above-ground portion of the form in advance of the archaeological portion of the form. However, a completed determination form will not be returned to the applicant until after the archaeology report has been reviewed and approved by INDOT-CRO.*

Appendix E

Red Flag and Hazardous Materials

Date: May 18, 2022

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division (ESD)
Indiana Department of Transportation (INDOT)
100 N Senate Avenue, Room N758-ES
Indianapolis, IN 46204

From: Aaron Stroude
CHA Consulting, Inc.
300 S. Meridian St.
Indianapolis, IN 46225
astroude@chacompanies.com

Re: RED FLAG INVESTIGATION
INDOT Des. No. 1902767, Local Project
Bridge Replacement Project No. 41-00098
N. County Road (CR) 700 E., 0.1 Mile North of Urmeyville Road
Johnson County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The Johnson County Highway Department, with federal funding, is proposing to proceed with the above referenced bridge project, involving Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Johnson County, Indiana. The project is located 0.1 mile north of Urmeyville Road. The existing structure is a two-span concrete box beam bridge on reinforced concrete abutments and hammerhead pier that was built in 1972. The total span length of the structure is 55.5 feet with a total structure length of 112.5 feet. The structure has a 40-degree skew and a clear roadway width of 28.5 feet. It is proposed this project is limited to a superstructure replacement with the installation of countermeasures at the abutments and piers.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # Bridge No. 41-00098
If this is a bridge project, is the bridge Historical? Yes ☐ No ☒ , Select ☐ Non-Select ☐
(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).
Proposed right of way: Temporary ☒ # Acres 0.20 Permanent ☒ # Acres 0.59
Type of excavation: Removal of approach roadbed and side slopes to replace structure; up to 10 feet of excavation to install countermeasures at piers and abutments.
Maintenance of traffic: Full closure with detour.
Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐
State Project: ☐ LPA: ☒

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

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

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

Explanation:

Cemeteries:
One (1) cemetery is located within the 0.5 mile search radius. The nearest cemetery, Needham Cemetery, is located 0.09 mile north of the project area. No impact is expected.

Trails:
One (1) trail segment is located within the 0.5 mile search radius. One (1) potential segment, CR 700 E Corridor, is within the project area. Coordination with Johnson County Planning Commission will occur.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	**N/A**	Canal Routes - Historic	**N/A**
Karst Springs	**N/A**	NWI - Wetlands	**10**
Canal Structures – Historic	**N/A**	Lakes	**2**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**1**
NWI-Lines	**10**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**4**	Sinkhole Areas	**N/A**
Rivers and Streams	**5**	Sinking-Stream Basins	**N/A**

Explanation:

NWI-Lines: Ten (10) NWI-Line segments are located within the 0.5 mile search radius. One (1) NWI-line segment is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with the appropriate agency, if applicable, will occur.

IDEM 303d Listed Streams and Lakes: Four (4) 303d Listed Streams are located within the 0.5 mile search radius. Little Sugar Creek is located within the project area. Little Sugar Creek is listed as impaired for E. coli. Workers who are

working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

Rivers-Streams: Five (5) stream segments are located within the 0.5 mile search radius. One (1) stream segment, Little Sugar Creek, is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with the appropriate agency, if applicable, will occur.

NWI-Wetlands: Ten (10) wetlands are located within the 0.5 mile search radius. One (1) wetland is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with the appropriate agency, if applicable, will occur.

Lakes: Two (2) lakes are located within the 0.5 mile search radius. The nearest lake is 0.06 mile southeast of the project area. No impact is expected.

Floodplain- DFIRM: One (1) floodplain polygon is located within the 0.5 mile search radius. The project area is located within the floodplain polygon. Coordination with the appropriate agency will occur.

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 or 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**

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation:

No hazardous materials concerns were identified within the 0.5 mile search radius.

ECOLOGICAL INFORMATION SUMMARY

The Johnson County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high-quality natural communities are provided at https://www.in.gov/dnr/nature-preserves/files/np_johnson.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did indicate the presences of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species within 0.5 mile of the project area. The project area is located in a rural area surrounded by a forested riparian area and farm fields. The July 7, 2021, inspection report for Bridge #41-00098 states that no evidence of bats was seen or heard under the bridge. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

INFRASTRUCTURE: One (1) potential trail segment, CR 700 E Corridor, crosses the project area. Coordination with Johnson County Planning Commission will occur.

WATER RESOURCES: A Waters of the US Report is recommended based on mapped features and coordination with the appropriate agency, if applicable, will occur for the following features:

- One (1) NWI-Line segment is located within the project area.
- One (1) stream segment, Little Sugar Creek, flows through the project area.
- One (1) NWI-Wetland is located within the project area.
- The project area is located within a floodplain (coordination only).

IDEM 303D LISTED RIVERS AND STREAMS: Little Sugar Creek, is located within the project area. Little Sugar Creek is listed as impaired for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL 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 INDOT Projects".

INDOT ESD concurrence: Nicole Fohey-Breting Digitally signed by Nicole Fohey-Breting Date: 2022.05.18 13:30:11 -04'00' (Signature)

Prepared by:
CHA Consulting, Inc.
Aaron Stroude
Aaron Stroude
Environmental Scientist

Graphics:

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

SITE LOCATION: YES

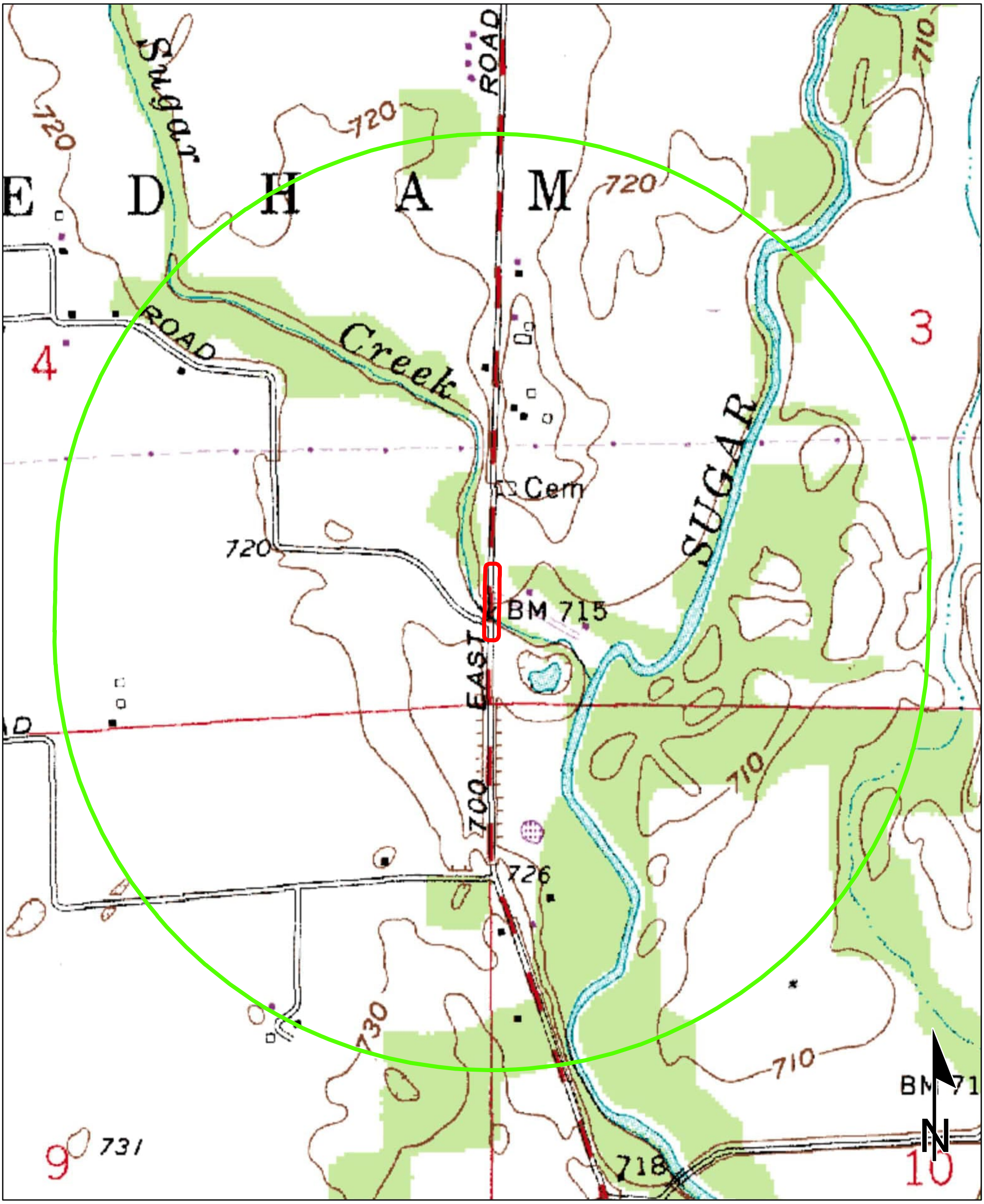
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

Red Flag Investigation - Site Location
N. County Rd. 700 E., 0.1 Mile North of Urmeyville Road
Des. No. 1902767, Bridge Replacement
Johnson County, Indiana



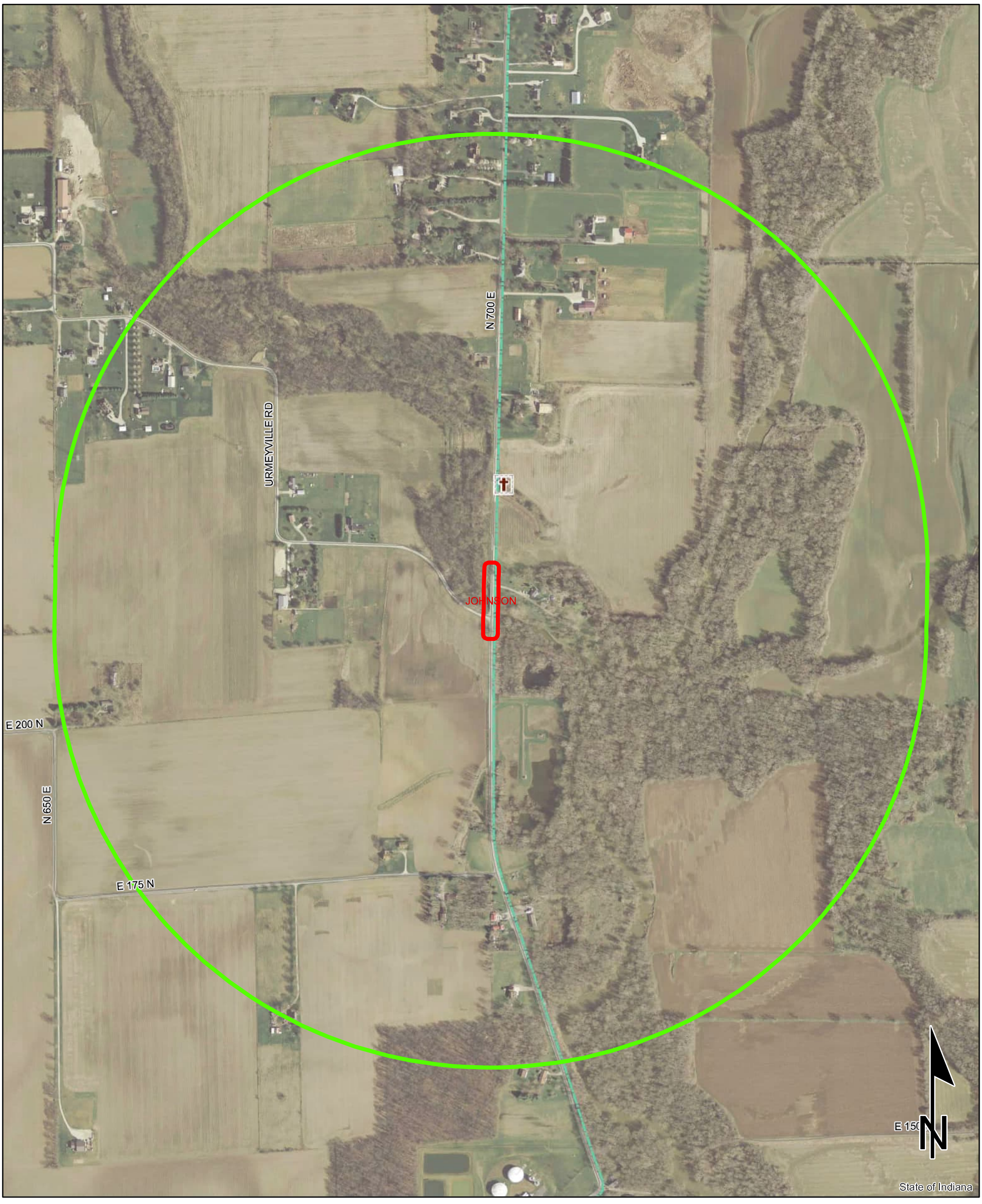
0.1 0.05 0 0.1 Miles

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.

BOGGSTOWN
QUADRANGLE INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
N. County Rd. 700 E., 0.1 Mile N of Urmeyville Road
Des. No. 1902767, Bridge Replacement
Johnson County, Indiana



0.1 0.05 0 0.1 Miles

Sources:

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

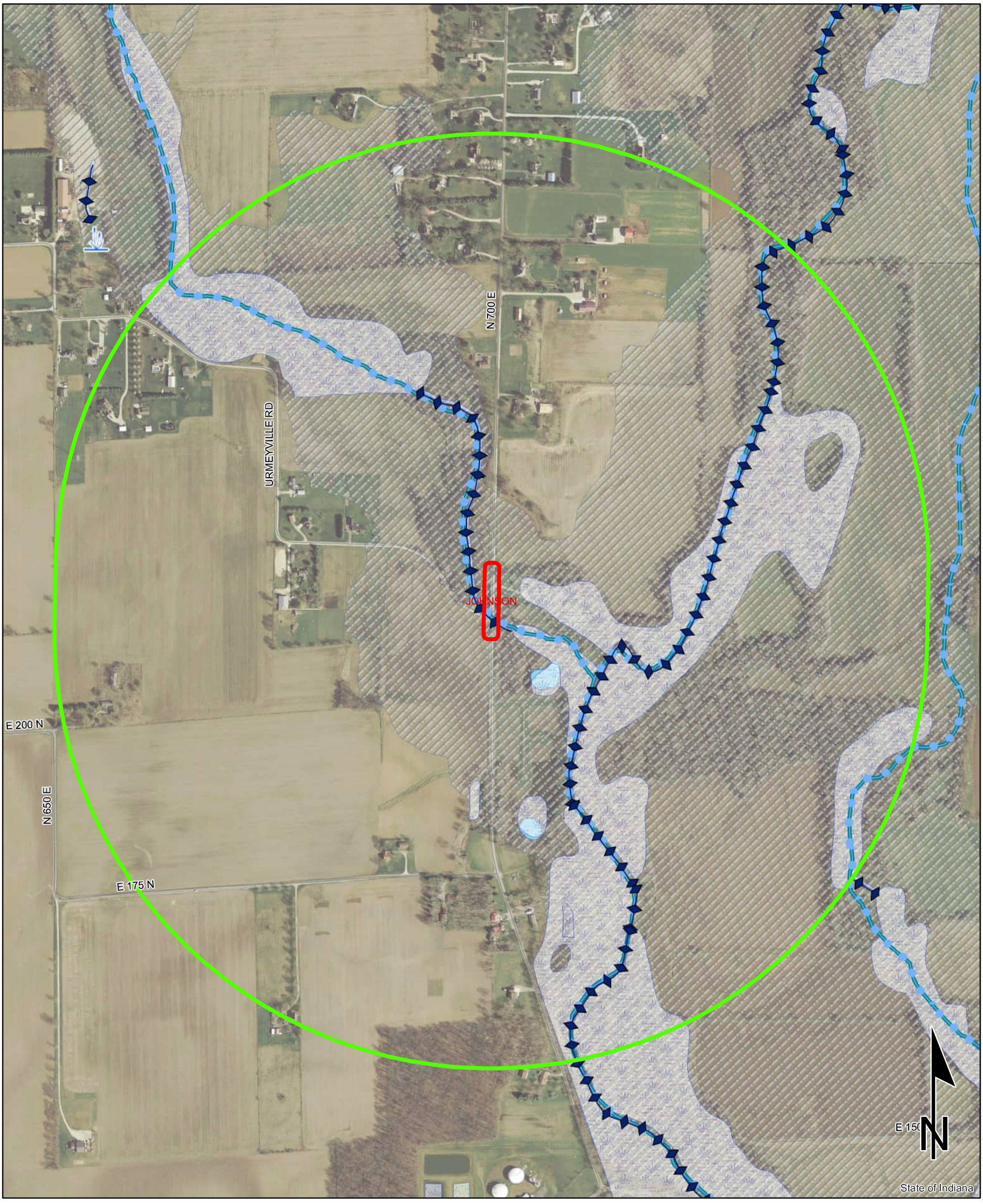
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

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

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

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

Red Flag Investigation - Water Resources
N. County Rd. 700 E., 0.1 Mile North of Urmeyville Road
Des. No. 1902767, Bridge Replacement
Johnson 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

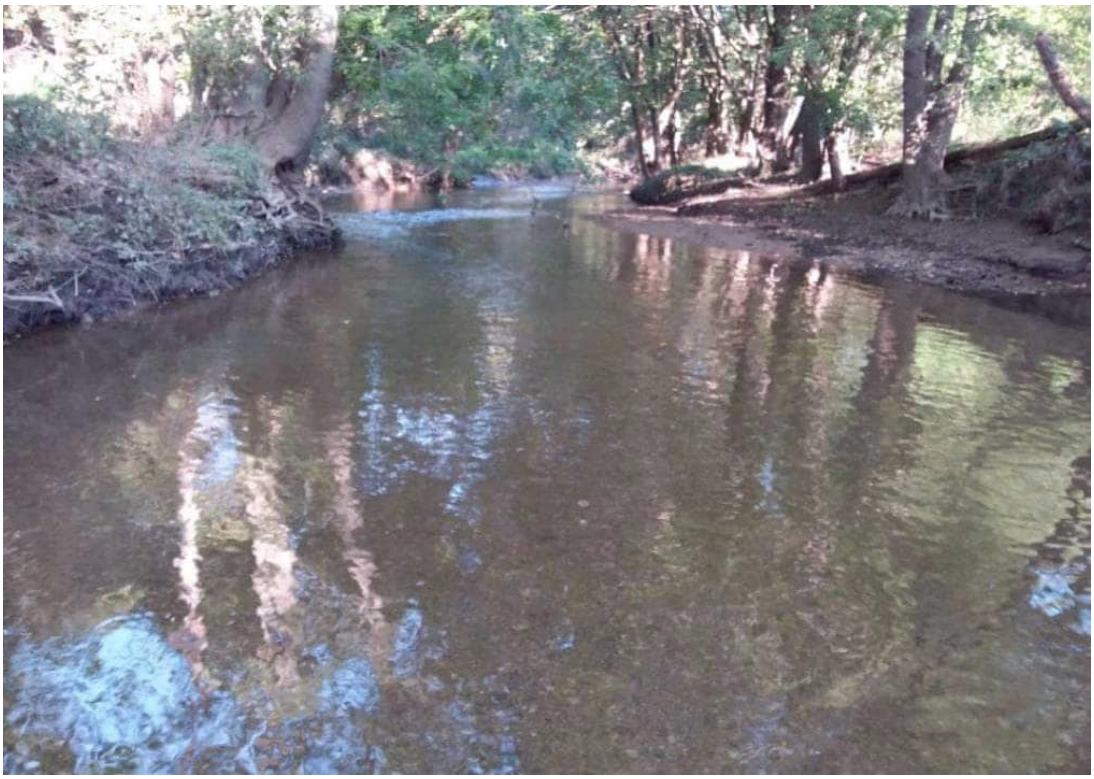
Appendix F

Water Resources

Waters of the U.S. Report

Johnson County Bridge No. 98
N CR 700 E over Little Sugar Creek
Needham Township, Johnson County, Indiana
Des. No. 1902767

Report Completed: May 5, 2022



Prepared for:

Johnson County Highway Department
1051 Hospital Rd.
Franklin, IN 46131
Phone: 317-346-4630

Submitted by:

CHA Consulting, Inc.
201 N. Illinois Street, Suite 800
Indianapolis, IN 46204
Phone: 317-786-0461

Waters of the U.S. Report
Johnson County Bridge No. 98
N CR 700 E over Little Sugar Creek
Needham Township, Johnson County, Indiana
Des. No. 1902767

Report Completed: May 5, 2022

I. Introduction

The Johnson County Highway Department is proposing to proceed with the above referenced bridge replacement project, involving Bridge No. 98 which carries North CR 700 East over Little Sugar Creek in Needham Township, Johnson County, Indiana. The purpose of this investigation was to identify wetlands and waterways within and adjacent to the project area. A routine wetland determination, per the *1987 Corps of Engineers Wetland Delineation Manual (Y-87-1)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0) was conducted. This report details the findings of the investigation.

The project is located along N CR 700 E over Little Sugar Creek located 0.1 mile north of Urmeyville Road, Needhman Township, Johnson County, Indiana (Attachment A, State Location Map). The study area is centered on 39.5116777º North and -85.9697785º West. Specifically, the project is located in Sections 3 and 4, Township 12 North, Range 5 East as shown on the Boggstown, Indiana United States Geological Survey (USGS) 7.5 Minute Quadrangle (Attachment A, USGS Project Location Map).

II. Existing Data

7.5 Minute USGS Quadrangle Maps and Watershed

The USGS map was reviewed to determine the topography and drainage patterns within the project area. The map indicates that the project area and surrounding terrain is characterized by stream valleys with the elevation ranging from approximately 700 to 720 feet. One blue line perennial stream, Little Sugar Creek is mapped within the project area.

Drainage basins are divided into hydrologic units by the USGS based on major river systems. The entire project area is within the 8-digit Hydrologic Unit Code (HUC); 05120204, Driftwood Watershed and within three 12-digit HUCs; 051202040704 Gibson Ditch-Sugar Creek Watershed, 051202040703 Town of Needham-Sugar Creek, and 051202040702 Little Sugar Creek Watershed.

National Wetland Inventory (NWI) Map

The U.S. Fish and Wildlife Service (USFWS) NWI maps identify potential wetlands based on high-level imagery interpretation. The wetlands are then classified by type utilizing the Cowardin classification system. The classification system provides information on wetland vegetation type, water regime, and any relevant alterations. This level of mapping does not determine regulatory boundaries. The NWI map was evaluated for the presence of potential jurisdictional wetlands within the project area (Attachment A, NWI Wetlands Map). No NWIs are mapped within the study area. The nearest NWI is mapped 0.02 mile east of the study area, identified as a freshwater forested/shrub wetland (PFO1A).

County Soil Survey Map

The Natural Resources Conservation Service (NRCS) Web Soil Survey was reviewed to determine soil classification within the project area (Attachment A, NRCS Soils Map). Three soil types were identified within the project area (Table 1). Three soil types are identified as predominantly non-hydric; Fox loam, 0 to 2 percent slopes (FoA), Shoals silt loam (Sh), and Sleeth loam (Sk).

Table 1. Soil Summary

Soil Type	Symbol	Drainage Rating	Hydrology	Hydric Rating	Hydric
Fox loam, 0-2% slopes	FoA	Well drained	None	4	Predominantly non-hydric
Shoals silt loam	Sh	Somewhat poorly drained	Frequently flooded	10	Predominantly non-hydric
Sleeth loam	Sk	Somewhat poorly drained	None	10	Predominantly non-hydric

Flood Map

The Flood Insurance Rate Maps (FIRM) and Indiana Department of Natural Resources (IDNR) Best Available Floodzone Mapping for the project area were reviewed for the presence of Special Flood Hazard Areas (Attachment A, IDNR Floodzones Map). As described by the Federal Emergency Management Agency (FEMA) and IDNR, the project is located within a floodplain along Little Sugar Creek identified as Zone A. Zone A is defined as areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.

III. Methodology

Waters of the U.S.

Streams that may be considered Waters of the U.S. are documented with supporting evidence of potential jurisdiction. If a stream contains an ordinary high water mark (OHWM), typically defined as a defined bed and bank, then additional characterization is completed. Identified streams are listed by the name provided on the USGS map, or if not named, is listed as an unnamed tributary (UNT). Connections to the nearest Traditional Navigable Waterway (TNW) are then identified. Jurisdiction will be determined using the current procedures outlined by the USACE.

Wetland Delineation

The project area was analyzed using methods outlined in the *1987 Corps of Engineers Wetland Delineation Manual (Y-81-1)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0). These manuals require wetland boundaries to be delineated using a 3-parameter approach: hydrophytic vegetation, hydric soils, and wetland hydrology. Hydrophytic vegetation is met by the dominance of wetland species; plants identified with an indicator status of OBL, FACW, and FAC. Hydric soil is caused by anaerobic conditions and is observed by the presence of field indicators including gray or dark brown color, mottling, gleying, muck and/or peat, hydrogen sulfide odor, or iron-manganese masses. Lastly, wetland hydrology is met by the presence of water for more than 5 percent of the growing season; one primary indicator or two secondary indicators must be observed.

IV. Field Reconnaissance

CHA staff conducted a field investigation on October 20, 2021 to determine the presence of wetlands, Waters of the U.S., and Waters of the State within the project area. Locations of data points and streams are provided in Attachment A on the Water Resources Map. Photographs of the project area and Wetland Delineation Data Forms are included in Attachments B and C, respectively. The following provides a brief description of the findings of the field investigation.

Streams

One stream was identified within the project area.

Little Sugar Creek

Little Sugar Creek is a perennial stream that flows east under the N CR 700 E bridge that is 112.5 feet long by 28.5 feet wide. No signs of bats or bird nests were observed under the structure. Little Sugar Creek has an OHWM 32 feet wide by 1.5 feet deep, with substrate consisting mostly of sand and gravel. The OHWM measurement was taken at 39.51192, -85.97014. The stream is mapped as a USGS blue line perennial stream within the study area. Little Sugar Creek has a drainage area of 28.4 square miles within the project area. The stream has a forested buffer southeast and northwest of the bridge, up and downstream, and instream cover from the vegetated banks. Northeast and Southwest of the bridge, the stream is surrounded by agricultural pasture. Due to all these attributes, the quality of the stream is average. Within the project area the dominant tree species include *Acer negundo* (boxelder, FAC) and *Acer saccharinum* (sugar maple, FACW). The understory was comprised of *Viola sororia* (common blue violet, FAC) and *Elymus virginicus* (Virginia wildrye, FACW). Little Sugar Creek flows east through the project area and drains into Sugar Creek, a relatively permanent water (RPW). Due to this connection and perennial stream flow, Little Sugar Creek is considered a Waters of the U.S. Little Sugar Creek totals 110 linear feet within the study area.

Wetlands

No wetlands were identified within the project area. DP-1 was taken west of N CR 700 E within the floodplain where dominant vegetation included *Acer negundo* (boxelder, FAC) and *Acer saccharinum* (sugar maple, FACW). The understory was comprised of *Viola sororia* (common blue violet, FAC) and *Elymus virginicus* (Virginia wildrye, FACW). The hydrophytic vegetation criteria was met with the Dominance Test. The data point met wetland hydrology with sediment deposits, geomorphic position, and the FAC-Neutral test. No hydric soil indicators were observed. Due to the lack of hydric soils, no wetlands are present. Table 2 provides a summary of the data point.

Table 2. Summary of Data Point

Data Point	Photos	Latitude/ Longitude	Wetland Indicators Met			Wetland/Upland
			Hydrophytic Vegetation	Hydric Soils	Hydrology	
DP-1	DP-1	39.512392 -85.969924	Yes	No	Yes	Upland

V. Conclusion

One perennial stream was identified within the project area (Table 3). The stream was identified as a Waters of the U.S. and will likely be under the jurisdiction of the USACE.

Table 3. Summary of Stream Resources

Stream Name	Photos	Latitude/ Longitude*	OHWM Width/ Depth	USGS Blue Line? Type?	Pools/ Riffles	Substrate	Stream Quality	Waters of the U.S.	Steam Type
Little Sugar Creek	PPs 1, 2, 3, 4, 5	39.51192 -85.97014	32'/1.5'	Yes	Yes	Sand, gravel	Average	Yes	Perennial

*Location of OHWM measurement.

A preliminary jurisdictional determination form is included in Attachment D outlining the water resources described in this report. Every effort should be taken to avoid and minimize impacts to these water resources. If impacts are necessary, then mitigation may be required. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by the USACE.

VI. 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 Wetland Delineation Manual, the appropriate regional supplement, and other appropriate agency guidelines.

Report Prepared By:

Aaron Stroude — 5/5/2022

Aaron Stroude
Environmental Scientist
CHA Consulting, Inc.

Date

Report Reviewed By:

Summer Elmore — 5/5/2022

Summer Elmore, PWS
Senior Scientist
CHA Consulting, Inc.

Date

VII. References

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Marion County

Hancock County

Morgan County

Johnson County

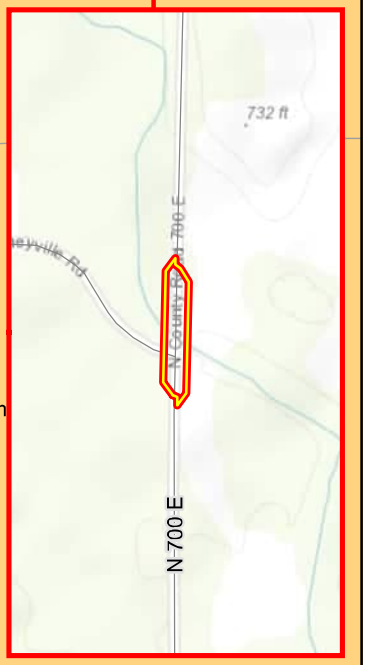
Shelby County

Brown County

Monroe County

Bartholom

Project Location



0 5 10
Miles

N

State Location Map

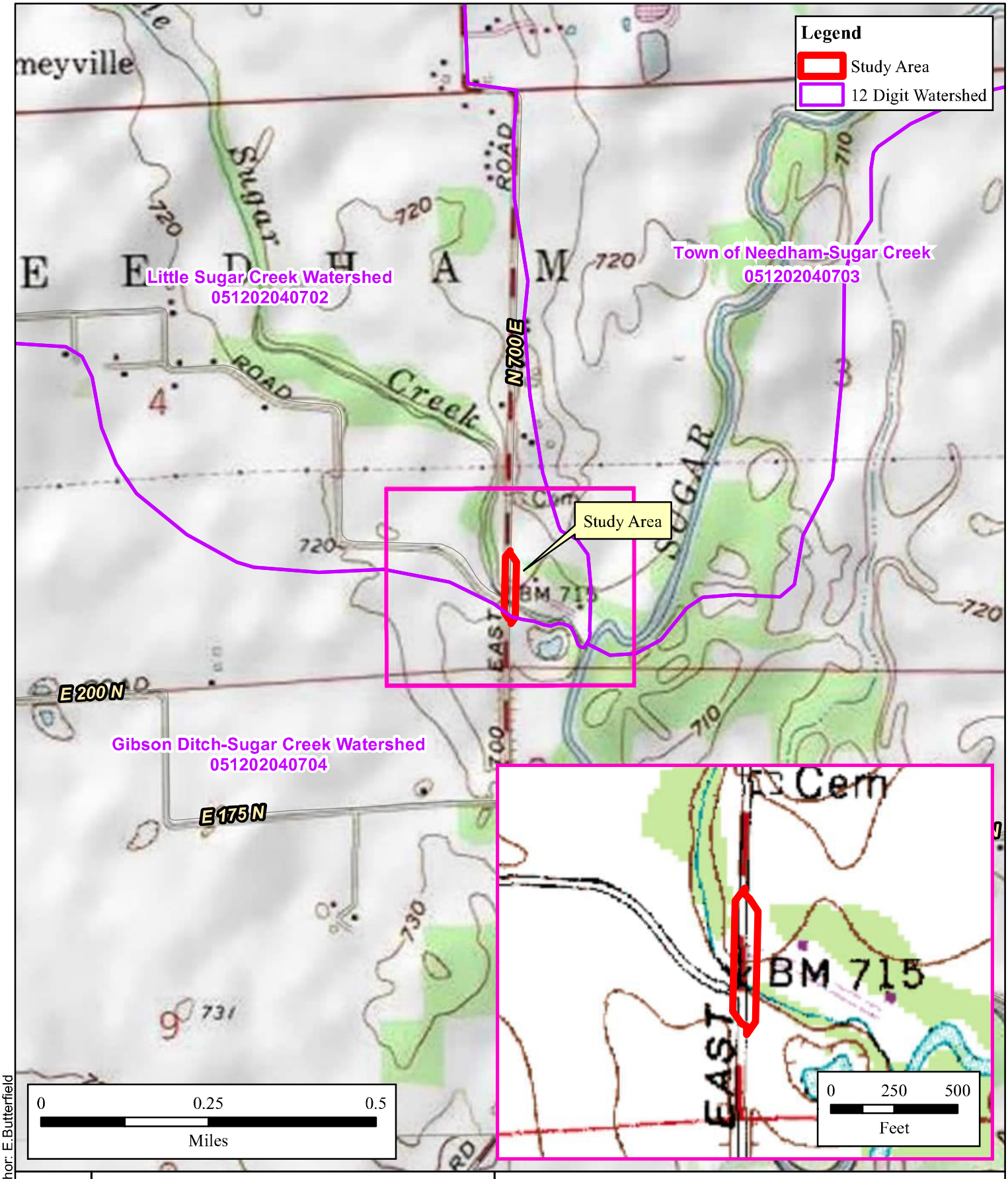
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 25,000'

DES No. 1902767

County boundaries and transportation network courtesy of the Indiana Spatial Data Portal

Date Saved: 4/4/2022 • Author: E.Butterfield



N

CHA

USGS Project Location Map

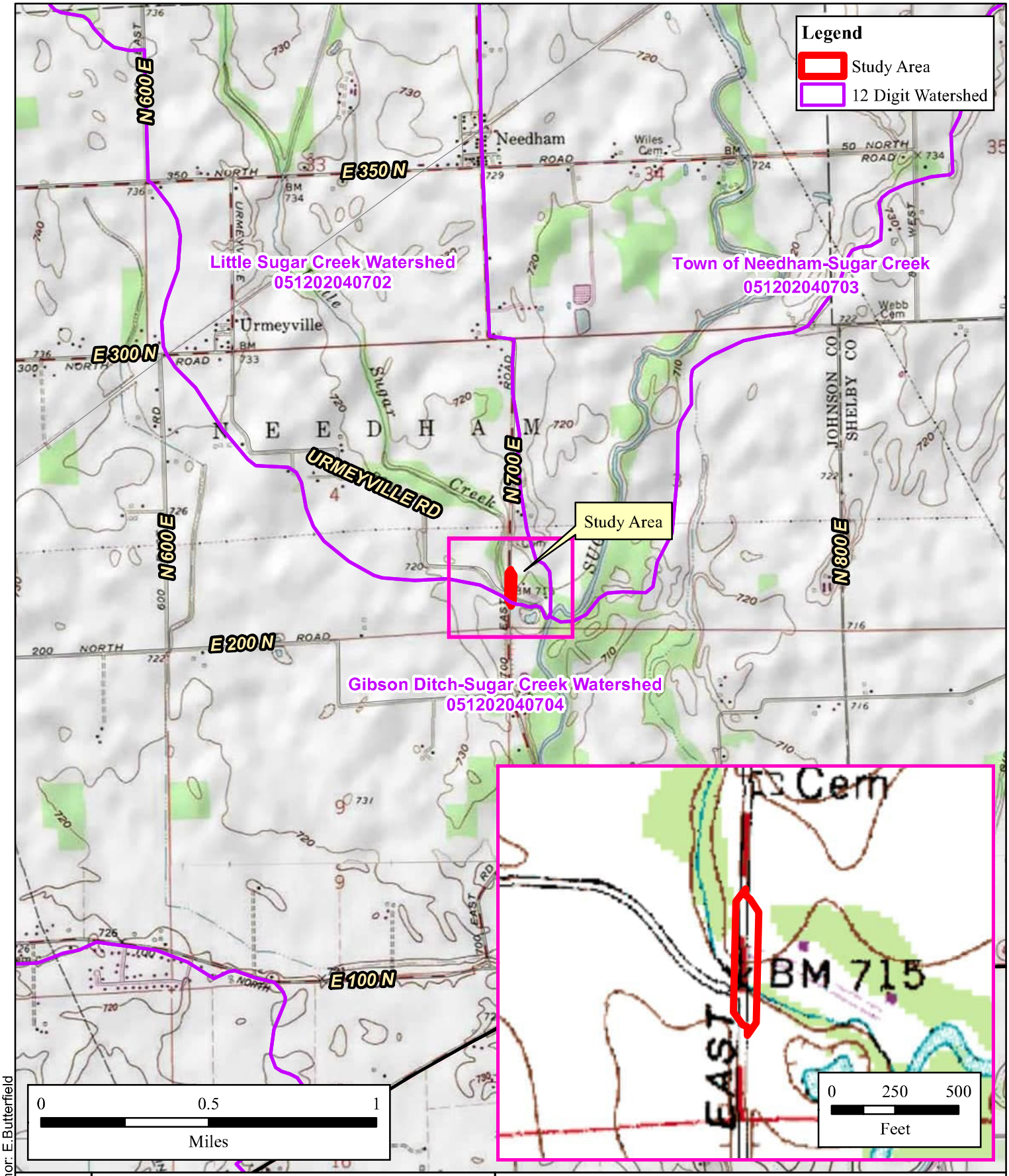
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 1000'

DES No. 1902767

Service Layer Credits:
Copyright: © 2013 National Geographic Society, I-cubed
Boggstown USGS Quadrangle Date: 1992

Date Saved: 4/4/2022 • Author: E.Butterfield



N

USGS Project Location Map

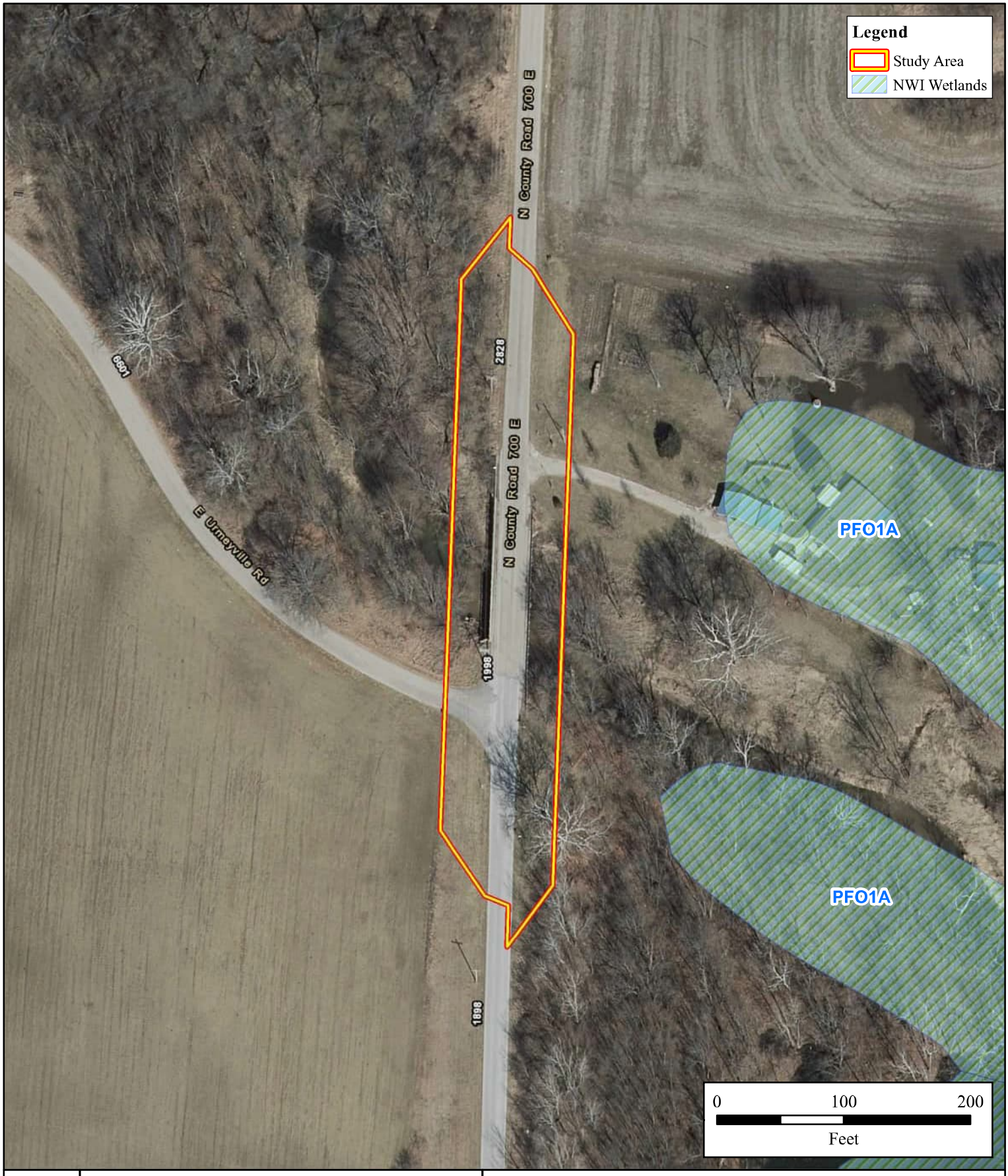
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 2000'

DES No. 1902767

Service Layer Credits:
Copyright: © 2013 National Geographic Society, I-cubed
Boggstown USGS Quadrangle Date: 1992

Date Saved: 4/4/2022 • Author: E.Butterfield



N

CHA

NWI Wetlands Map

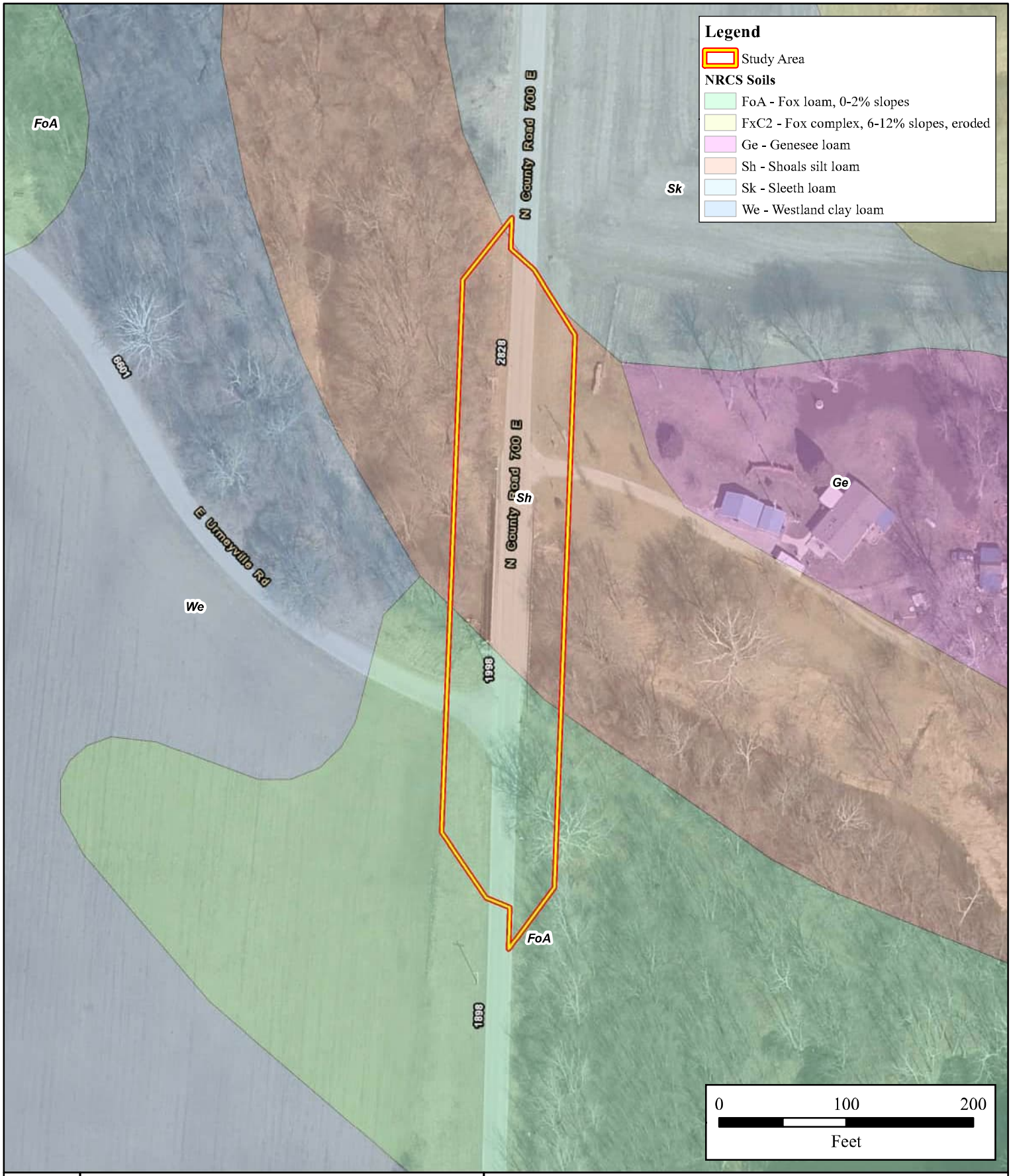
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the IndianaMap - Photo Date: 2021
NWI Wetland data courtesy of the National Wetlands Inventory produced by the U.S. Fish and Wildlife Service

Date Saved: 4/4/2022 • Author: E.Butterfield



N

CHA

NRCS Soils Map

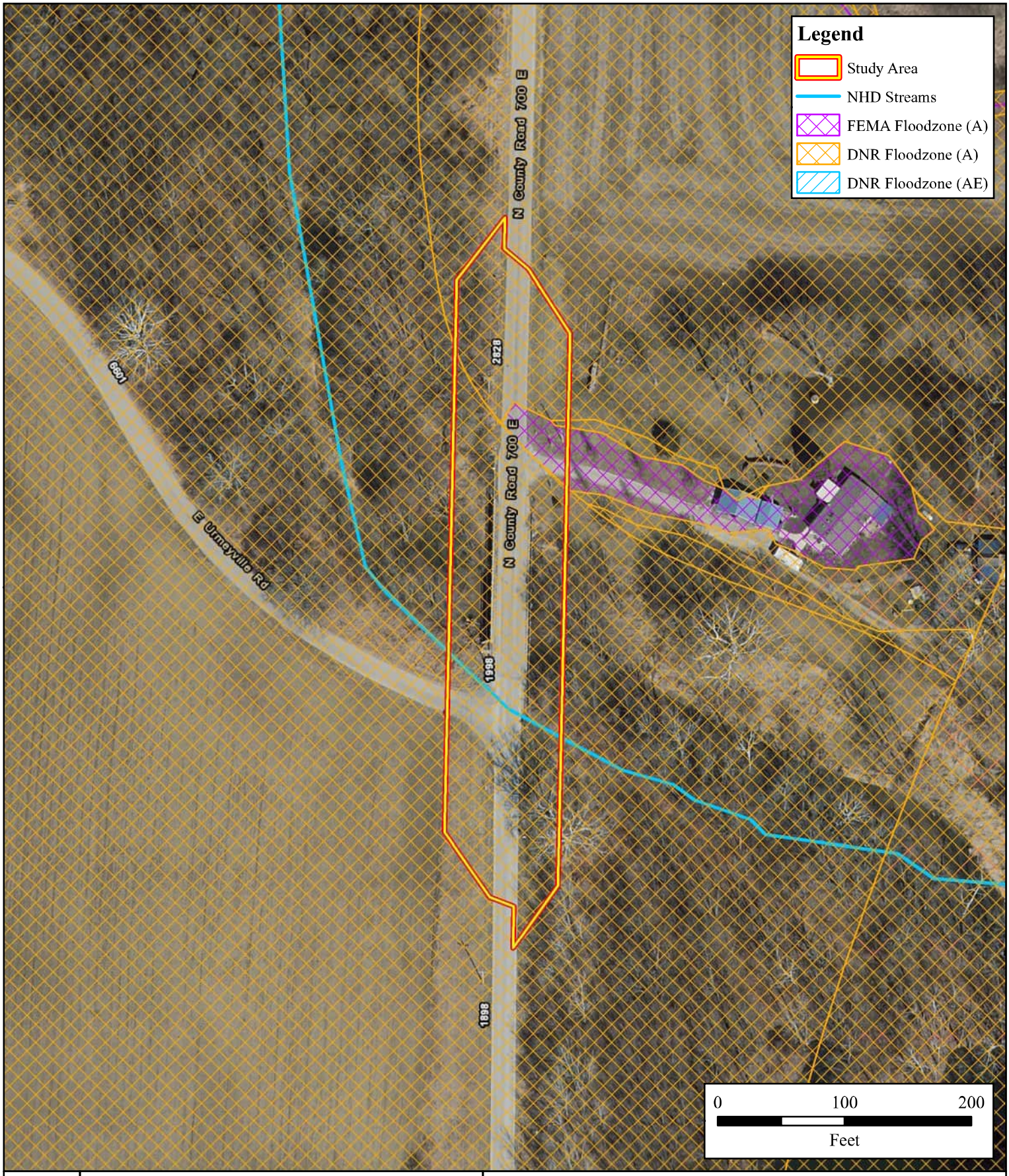
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the Indiana Map - Photo Date: 2018
Soil Data Courtesy of the Natural Resource Conservation Service

Date Saved: 4/4/2022 • Author: E.Butterfield



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CHA

FEMA & IDNR Floodzones and NHD Streams Map

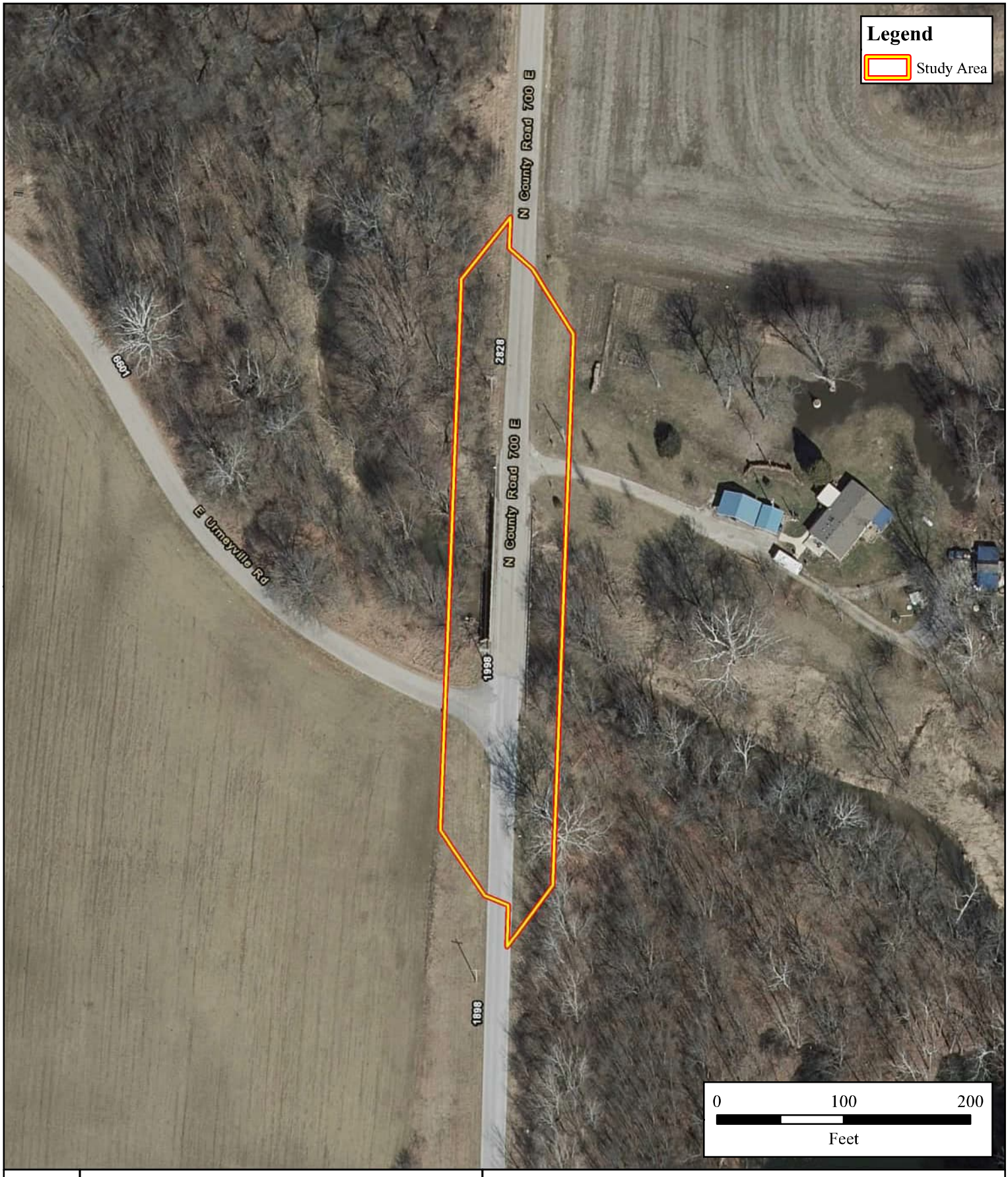
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the IndianaMap
Photo Date: 2021
Floodzones Courtesy of the Indiana Department of Natural Resources

Date Saved: 4/4/2022 • Author: E.Butterfield



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CHA

Aerial Location Map

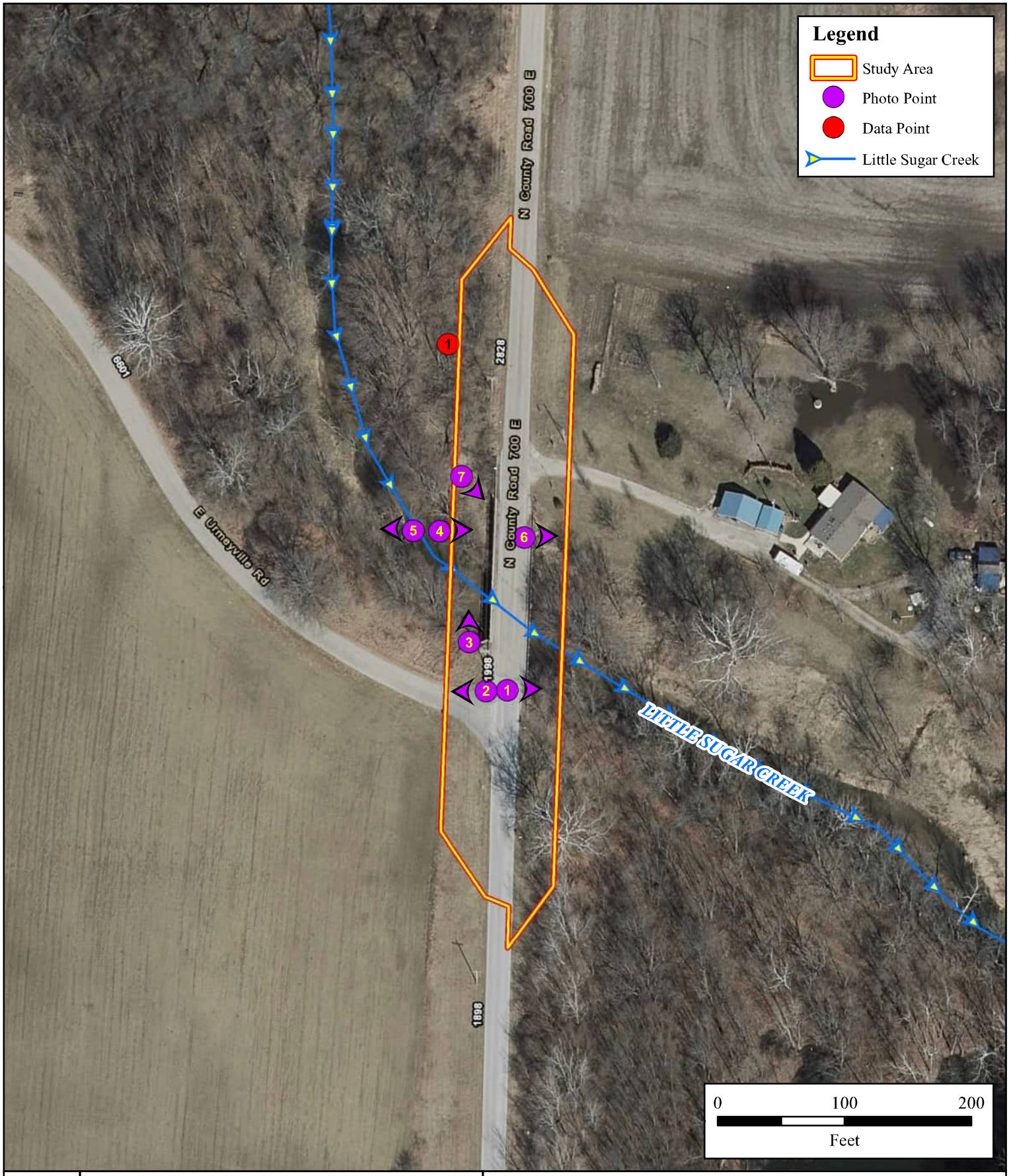
Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the IndianaMap
Photo Date: 2021

Date Saved: 4/4/2022 • Author: E.Butterfield



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CHA

Water Resources Map

Bridge 98 (41-00098)
County Route 700E Over Little Sugar Creek
Johnson County, Indiana

Scale 1" = 100'

DES No. 1902767

Image Courtesy of the IndianaMap
Photo Date: 2021

Date Saved: 4/22/2022 • Author: E.Butterfield

DP-1; Looking north toward DP-1, at the northwest section of the project (2021-10-20)

DP-1; Looking south toward DP-1, at the northwest section of the project (2021-10-20)

DP-1; Looking down at soil profile at Data Point (2021-10-20)

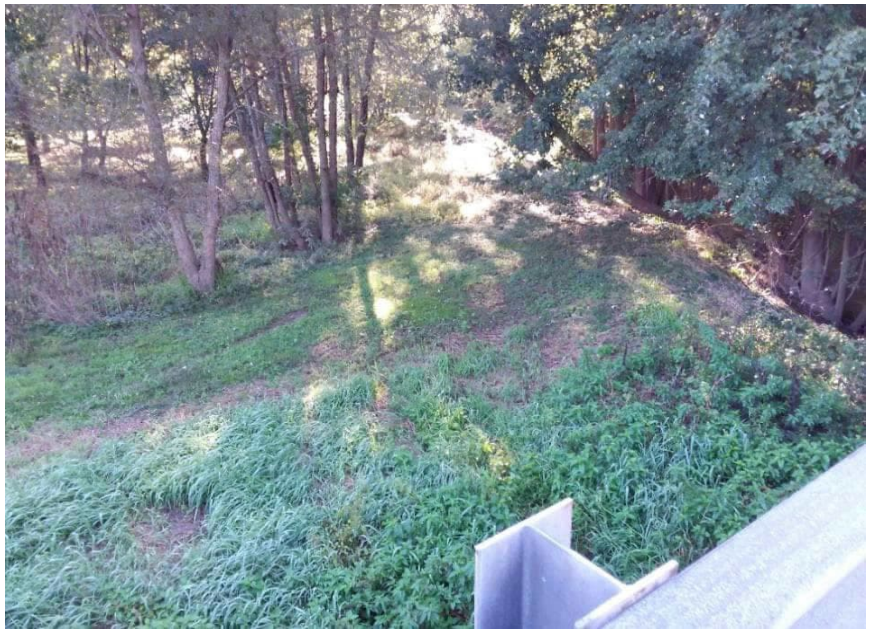
PP-1; Looking east, downstream, from Johnson County Bridge 98 at Little Sugar Creek (2021-10-20)

PP-2; Looking west, upstream, from Johnson County Bridge 98 from Little Sugar Creek (2021-10-20)

PP-3; Looking north at Jonson County Bridge 98 from the southern bank of Little Sugar Creek west of the bridge (2021-10-20)

PP-4; Looking east, downstream, at Johnson County Bridge 98 from Little Sugar Creek (2021-10-20)

PP-5; Looking west, upstream, at Little Sugar Creek, west of the Johnson County Bridge 98 (2021-10-20)
OHWM: 39.51192, -85.97014



PP-6; Looking east at the surrounding land use east of CR 700 E. from Johnson County Bridge 98 over Little Sugar Creek (2021-10-20)

PP-7; Looking southeast at Johnson County Bridge 98 from Little Sugar Creek from the north side of Little Sugar Creek (2021-10-20)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Johnson County Bridge No 98 City/County: Johnson County Sampling Date: 10/20/2021

Applicant/Owner: Johnson County State: IN Sampling Point: DP-1

Investigator(s): S. Elmore, K. Etzkorn Section, Township, Range: S 4, T 12 N, R 5 E

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): flat

Slope (%): 0 Lat: 39.512392 Long: -85.969924 Datum: NAD 83

Soil Map Unit Name: Shoals silt loam (Sh) 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 X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	50	Yes	FAC
2. *Acer saccharinum*	30	Yes	FACW
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Viola sororia*	40	Yes	FAC
2. *Elymus virginicus*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	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: DP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100					Loamy/Clayey	silt 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

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

HYDROLOGY

Wetland Hydrology Indicators:

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

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
x 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 ____ Depth (inches): ____

Water Table Present? Yes ____ No ____ Depth (inches): ____

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

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

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

Remarks:

Johnson County Bridge Replacement Project No. 41-00098, Des. No.1902767

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: May 10, 2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Aaron Stroude, CHA Consulting Inc., 201 N Illinois Street, Suite 800, Indianapolis, IN 46204 for Johnson County Highway Department

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

_____

_____

_____

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The Johnson County Highway Department is proposing to proceed with replacing Bridge No. 41-00098, which carries N County Road 700 E over Little Sugar Creek in Needham Township, Johnson County, Indiana (Des. No. 1902767). The project is located along N County Road 700 E, 0.1 mile north of Urmeyville Road, east of Franklin, Indiana. The study area is centered on 39.5116777º North and -85.9697785º West. Specifically, the project is located in Sections 3 and 4, Township 12 North, Range 5 East as shown on the Boggstown, Indiana United States Geological Survey (USGS) 7.5 Minute Quadrangle.

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

State: Indiana County: Johnson City: Franklin

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

Lat.: 39.5116777 Long.: -85.9697785

Universal Transverse Mercator: 588563.48, 4374067.15 Zone 16S

Name of nearest waterbody: Little Sugar Creek

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

☐ Office (Desk) Determination. Date(s): _____

☐ Date: Field Determination. Date(s): _____

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

Johnson County Bridge Replacement Project No. 41-00098, Des. No.1902767

Resource Name	Latitude	Longitude	Amount of Aquatic Resource in Review Area	Type of Aquatic Resource	Geographic authority to which the aquatic resource "may be" subject
Little Sugar Creek	39.5116777	-85.9697785	110 linear feet	Perennial, Non-Wetland Waters	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:

Johnson County Bridge Replacement Project No. 41-00098, Des. No.1902767

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

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

- ■ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map:_____.
- ■ 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.
- ■ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 Boggstown, Indiana Quadrangle
- ■ Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey.
- ■ National wetlands inventory map(s). Cite name: USFWS NWI Mapper.
- ☐ State/local wetland inventory map(s):_____.
- ■ FEMA/FIRM maps: IDNR Best Available Flood Hazard.
- ☐ 100-year Floodplain Elevation is:_____.(National Geodetic Vertical Datum of 1929)
- ■ Photographs: ■ Aerial (Name & Date): IndianaMap 2021.
  or ■ Other (Name & Date): Site Photos October 20, 2021.
- ☐ 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.

_____	Aaron Stronde 5/10/2021
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

NOTICE OF SURVEY

NORTHPOINTE ENGINEERING & SURVEYING, Inc.
WBE/DBE Certified

July 19, 2021

RE: Notification of field surveys for a bridge improvement in your area.

Dear Property Owner:

Our firm has been retained by CHA, Inc. on behalf of the Johnson County Highway Department to prepare a survey for drainage improvement in your area. The project involves improvement along CR 700 E near your property.

Records indicate that you either own or occupy property near this proposed project. We are planning to gather topographic information of the area. To do this we must enter onto your property to map the location of features (i.e., sidewalks, trees, buildings, fences, utilities, and driveways) and obtain ground elevations. The proposed survey will include locating sanitary, storm and water structures that may be located on your property. The survey is needed to depict existing conditions for the proper planning and design of the improvement project. The survey work may also include identification and mapping of wetlands. Geotechnical and/or environmental investigation may also occur.

The topographic data will be collected by land surveyors using surveying equipment and will be employees of CHA and Northpointe Engineering and Surveying, Inc. Please be aware that at this stage we generally do not know what impact, if any, this project may eventually have on your property. We will be holding public information meetings soon to share plans for the project.

The survey work may include the identification and mapping of wetlands and historic resources, archaeological investigations (which may involve the survey, testing, or excavation of identified archaeological sites) and various other environmental studies. The information we obtain from these studies is necessary for the proper planning and design of the transportation project.

Entry on your property is allowed by law pursuant to Indiana Code IC-25—21.5-9-7 and IC 8-23-7-26. Our employees will identify themselves, if you are available, before coming onto your property to perform their work. If you have sold this property, or it is occupied by someone else, kindly provide me the name and address of the new owner or current occupant so that we may contact them about the survey.

Please know that it is our sincere desire to cause you as little inconvenience as possible. If any problems do occur because of our survey work, please contact our field crew on site, or the project manager James Earl, (317) 493-3739, jearl@chacompanies.com.

Sincerely,
NORTHPOINTE ENGINEERING & SURVEYING, INC.

Martin K. Spees, PE
Vice President

6125 South East Street, Suite B, Indianapolis, Indiana 46227
Office - 317.884.3020 / Fax - 317.721.0027 / www.npesindy.com
Engineering Surveying Consulting Inspection

Appendix H

Air Quality

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-Executive Office
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

Eric Holcomb, Governor
Michael Smith, Commissioner

April 26, 2022

Mr. Jermaine R. Hannon, Division Administrator
FHWA Indiana Division
575 North Pennsylvania St., Room 254
Indianapolis, IN 46204

Ms. Kelley Brookins, Regional Administrator
FTA Region 5
200 West Adams St.
Suite 320
Chicago, IL 60606-5253

Dear Mr. Hannon /Ms. Brookins:

The Indiana Department of Transportation is pleased to submit its Draft FY 2022-2026 Statewide Transportation Improvement Program (STIP) for review and comment by your offices.

Included in the final submitted document is a listing of the state's expansion/preservation and local small urban and rural and rural transit projects. The following Metropolitan Planning Organization TIP's will be included in the FY 2022-2026 STIP by reference, pending FHWA approval in May 2022.

Area Plan Commission of Tippecanoe County (APCTC)	FY 2022-2026
• *Version 3/10/2022*	
Bloomington-Monroe County Metropolitan Planning Organization (BMCMPO)	FY 2022-2026
• *Version 3/11/2022*	
Columbus Area Metropolitan Planning Organization (CAMPO)	FY 2022-2026
• *Version 3/22/2021*	
Delaware-Muncie Metropolitan Plan Commission (DMMPC)	FY 2022-2025
• *Version 12/15/2021*	
Evansville Metropolitan Planning Organization (EMPO)	FY 2022-2026
• *Version 3/10/2022*	
Kokomo-Howard County Governmental Coordinating Council (KHCGCC)	FY 2022-2026
• *Version 3/10/2022*	
Kentuckiana Regional Planning and Development Agency (KIPDA)	FY 2020-2025
• *Version 3/29/2022*	
Indianapolis Metropolitan Planning Organization (IMPO)	FY 2022-2025
• *Version 8/18/2021*	
Michiana Area Council of Governments (MACOG)	FY 2022-2026
• *Version 3/09/2022*	

Madison County Council of Governments (MCCOG)	FY 2022-2026
• *Version 7/13/2021*	
Northeastern Indiana Regional Coordinating Council (NIRCC)	FY 2022-2026
• *Version 3/28/2022*	
Northwestern Indiana Regional Planning Commission (NIRPC)	FY 2022-2026
• *Version 3/17/2022*	
Ohio-Kentucky-Indiana Regional Council of Governments (OKI)	FY 2020-2023
• *Version 03/10/2022*	
Terre Haute Area Metropolitan Planning Organization (THAMPO)	FY 2020-2024
• *Version 08/26/2021*	

In addition, INDOT has expanded our public involvement process by taking advantage of virtual meeting techniques and allowing accessibility to online documents, materials, virtual meeting registration, recorded virtual meetings, and comment forms. INDOT also leveraged our planning partner contacts (MPOs, RPOs, LTAP), social media, and notifications sent to local libraries, housing authorities, senior aging centers, and local newspapers across the state.

We greatly appreciate FHWA/FTA support in the development of the STIP 2022-2026 and look forward to working together to achieve our mutual goals. Should you have any questions pertaining to this amendment, please contact Michael McNeil, STIP Specialist at 317-232-0223 or at mmcneil@indot.in.gov.

Sincerely,

Michael Smith, Commissioner
Indiana Department of Transportation

cc: (w/enclosure): FTA
Michelle Allen, FHWA
Jeffrey Brooks, INDOT
Kristin Brier, INDOT
Kathy Eaton-McKalip, INDOT
Louis Feagans, INDOT
Roy Nunnally, INDOT
Larry Buckel, INDOT
Jay Mitchell, INDOT
Jason Casteel, INDOT
Michael McNeil, INDOT

Federal Transit Administration
Region V
200 West Adams St., Suite 320
Chicago, IL 60606-5253

U.S. Department
of Transportation

Federal Highway Administration
Indiana Division
575 N. Pennsylvania St., Rm 254
Indianapolis, IN 46204-1576

June 17, 2022

Mr. Michael Smith
Commissioner
Indiana Department of Transportation
100 N Senate Ave. N955
Indianapolis, IN 46204

SUBJECT: Indiana FY2022-2026 STIP Approval and Associated Federal Planning Finding

Dear Mr. Smith:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the FY2022-2026 Indiana Statewide Transportation Improvement Program (INSTIP), which was submitted by the INDOT request letter dated April 27, 2022.

Based on our review of the information provided, certifications of the Statewide and Metropolitan transportation planning processes for and within the state of Indiana, and our participation in those transportation planning processes (including planning certification reviews conducted in Transportation Management Areas), FHWA and FTA are jointly approving the FY2022-2026 STIP, including the Metropolitan Planning Organization (MPO) Transportation Improvement Programs (TIPs) directly incorporated into the STIP, subject to the corrective actions identified in the attached Federal Planning Finding (FPF) report. FHWA and FTA consider the projects in the 5th year for informational purposes only, and our approval does not exceed four years per 23 CFR 450.220(c).

FHWA and FTA are required under 23 CFR 450.220(b) to document and issue an FPF in conjunction with the approval of the FY2022-2026 STIP. At a minimum, the FPF verifies that the development of the STIP is consistent with the provisions of both the Statewide and Metropolitan transportation planning requirements. FHWA and FTA find that the Indiana FY2022-2026 STIP substantially meets the transportation planning requirements and are approving the STIP subject to the corrective actions outlined in the FPF. This approval is effective June 17, 2022, and is given with the understanding that an eligibility determination of individual projects for funding must be met, and INDOT must ensure the satisfaction of all administrative and statutory requirements, as well as address the corrective actions outlined in the attached report. FHWA and FTA will continue to partner with INDOT to ensure the previously developed action plan (attached) is implemented to address the corrective actions. If progress is not made in addressing the corrective actions, future amendments to the FY2022-2026 STIP, or adoption of the FY2024-2028 STIP, may not be approved by USDOT.

If you have questions or need additional information concerning our approval and the FPF, please contact Ms. Michelle Allen of the FHWA Indiana Division at (317) 226-7344, or by email at michelle.allen@dot.gov, or Mr. Jason Ciavarella of the FTA Region 5 Office at (312) 353-1653, or by email at jason.ciavarella@dot.gov.

Sincerely,

KELLEY BROOKINS Digitally signed by KELLEY BROOKINS Date: 2022.06.13 10:08:34 -05'00'

Kelley Brookins
Regional Administrator
FTA Region V

Sincerely,

JERMAINE R HANNON Digitally signed by JERMAINE R HANNON Date: 2022.06.13 15:57:46 -04'00'

Jermaine R. Hannon
Division Administrator
FHWA Indiana Division

cc: (transmitted by e-mail)
Louis Feagans, INDOT
Roy Nunnally, INDOT
Karen Hicks, INDOT

Attachments have been removed for the purposes of this NEPA document.

Project Overview | Funding History | Amendment History

<<Go Back

Bridge 98 Rehabilitation - CR 700E over Fisher Ditch (1902767)

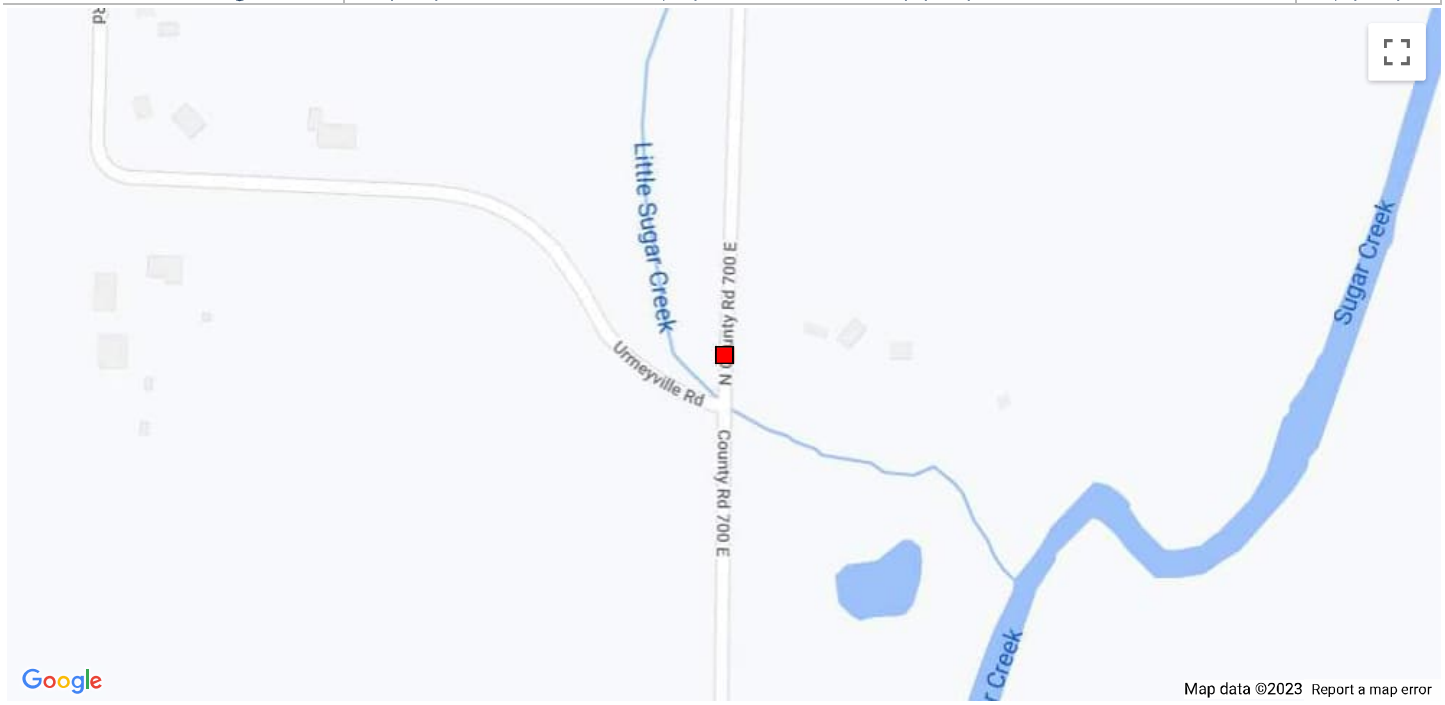
Des Number	1902767	*Amendment*	22-00 TIP	*Exempt Category*	Exempt	*Est Total Project Cost*	$1,598,545
Lead Agency	Johnson County	*Contact (ERC)*	Neil VanTrees 3173464643	*INDOT District*	Seymour	*County*	Johnson
Project Type	Bridge Rehabilitation	*Letting Date*	10/09/2024	*Functional Classification*	Major Collector	*Bike/Ped Component(s)*	No
Seconday Des Number							

Title Bridge 98 Rehabilitation - CR 700E over Fisher Ditch

Limits Bridge #: 98

Description Rehabilitation of Bridge 98 (Superstructure replacement)

Phase	Fund Source	Prior SFY	SFY2022	SFY2023	SFY2024	SFY2025	SFY2026	Future SFY	Total
PE	FEDERAL - LOCBR	$172,600	-	-	-	-	-	-	$172,600
PE	LOCAL - Other	$117,345	-	-	-	-	-	-	$117,345
	Total Preliminary Engineering	$289,945	-	-	-	-	-	-	$289,945
RW	FEDERAL - LOCBR	-	-	$20,900	-	-	-	-	$20,900
RW	LOCAL - Other	-	-	$5,200	-	-	-	-	$5,200
	Total Right of Way	-	-	$26,100	-	-	-	-	$26,100
CN	FEDERAL - LOCBR	-	-	-	-	$911,900	-	-	$911,900
CN	LOCAL - Other	-	-	-	-	$228,100	-	-	$228,100
	Total Construction	-	-	-	-	$1,140,000	-	-	$1,140,000
CE	FEDERAL - LOCBR	-	-	-	-	$114,000	-	-	$114,000
CE	LOCAL - Other	-	-	-	-	$28,500	-	-	$28,500
	Total Construction Engineering	-	-	-	-	$142,500	-	-	$142,500
	Total Programmed	**$289,945**	**-**	**$26,100**	**-**	**$1,282,500**	**-**	**-**	**$1,598,545**



Appendix I

Additional Studies

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated March 2022)

ProjectNumber	SubProjectCode	County	Property
1800148	1800148	Johnson	Tot Park, New Whiteland Park
1800369	1800369B.10	Johnson	Independence Park
1800369	1800369B	Johnson	Johnson Co. Park/Hoosier Horse Park

*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

Excerpt of Bridge Inspection Report

Bridge Inspection Report

41-00098

CR 700 EAST
over
LITTLE SUGAR CREEK

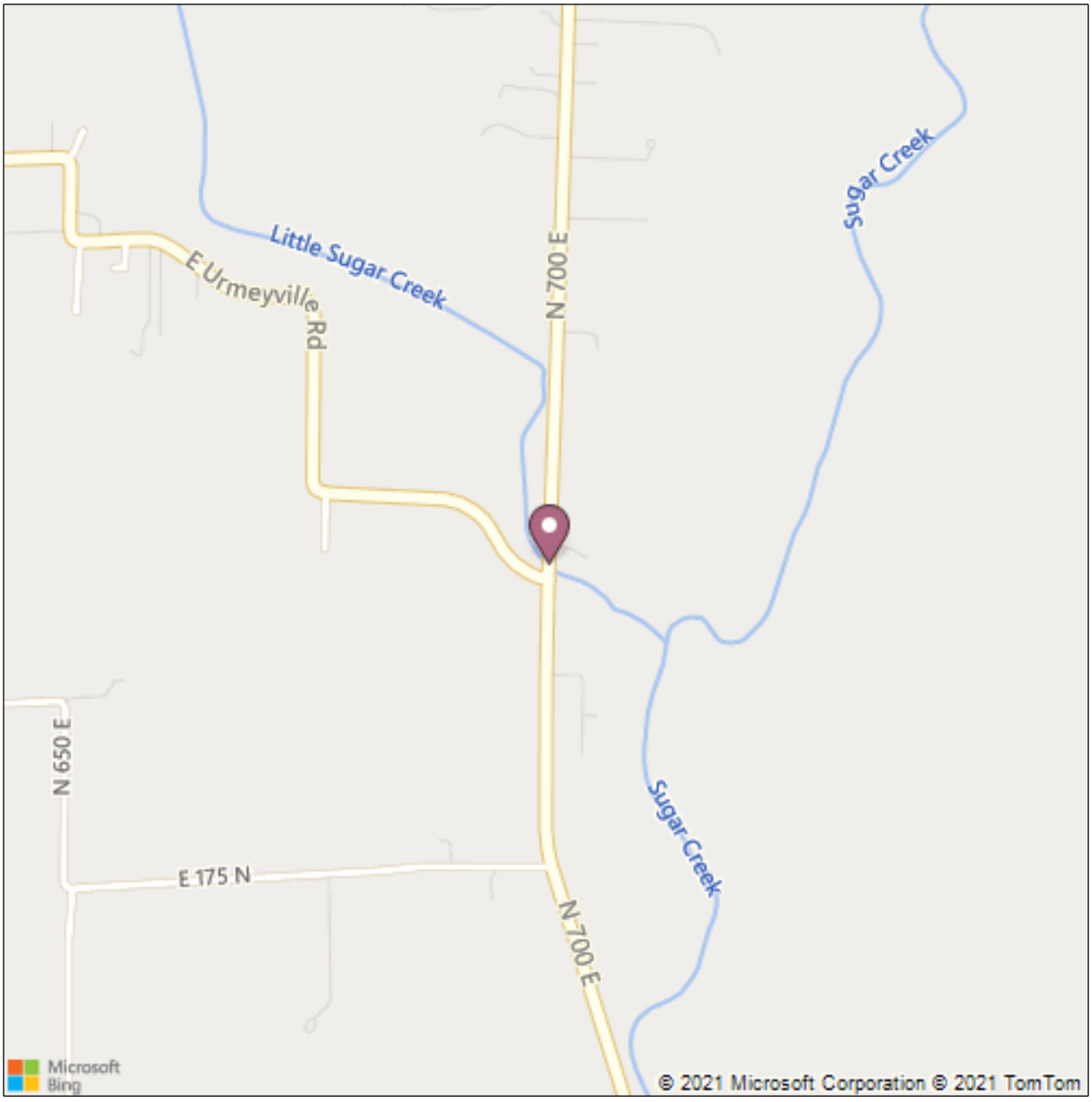
Inspection Date: 07/07/2021

Inspected By: Jacob Gould

Inspection Type(s): Routine

TABLE OF CONTENTS

Bridge Inspection Report



Latitude: 39.51182

Longitude: -85.96977

BRIDGE IS POSTED 14 TONS.

OVERALL THE STRUCTURE IS IN POOR CONDITION. SEVERAL BEAMS HAVE SHORT HAIRLINE CRACKS. BEAM 2A HAS 3 LARGE CRACKS AND SPALLS AND IS IN POOR CONDITION, PUSHING SERIOUS CONDITION. BEAM 8B HAS HEAVY CRACKING WITH LEACHING AT THE SOUTH END AS WELL AS ALONG THE COPING. RUST STAINS AT ALL BEAM DRAIN HOLES. ABUTMENTS AND PIER HAVE MINOR VERTICAL CRACKS WITH LEACHING. HEAVY SEEPAGE AND LEACHING BETWEEN BEAMS. NO SCOUR PROTECTION AT SUBSTRUCTURE UNITS, BUT ALL UNITS APPEAR STABLE. WEARING SURFACE AND APPROACHES ARE IN POOR CONDITION. OPEN AND DAMAGED JOINTS OVER THE PIERS.

RECOMMEND REHABILITATION TO REPLACE SUPERSTRUCTURE.

UNTIL REHABILITATION, RECOMMEND INSTALLING INSTALLING BRIDGE END MARKERS AT ALL FOUR CORNERS AND PLACING RIPRAP AT ALL SUBSTRUCTURE ELEMENTS.

Bridge Inspection Report

IDENTIFICATION

(1) STATE CODE:	**185 - Indiana**
(8) STRUCTURE:	**4100077**
(5 A-B-C-D-E) INV. ROUTE:	**1 - 4 - 1 - 00059 - 0**
(2) HIGHWAY AGENCY DISTRICT:	**05 - Seymour**
(3) COUNTY CODE:	**041 - JOHNSON**
(4) PLACE CODE:	**00000 - N/A**
(6) FEATURES INTERSECTED:	**LITTLE SUGAR CREEK**
(7) FACILITY CARRIED:	**CR 700 EAST**
(9) LOCATION:	**0.01 N OF URMEYVILLE RD**
(11) MILEPOINT:	**0000.000**
(12) BASE HIGHWAY NETWORK:	**0**
(13A) INVENTORY ROUTE:	
(13B) SUBROUTE NUMBER:	
(16) LATITUDE:	**39.51182**
(17) LONGITUDE:	**-85.96977**
(98) BORDER	
A) STATE NAME:	
B) PERCENT	**%**
(99) BORDER BRIDGE STRUCT. NO:	

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN:	
A) KIND OF MATERIAL/DESIGN:	**5 - Prestressed concrete**
B) TYPE OF DESIGN/CONSTR:	**05 - Box Beam or Girders - Multiple**
(44) STRUCTURE TYPE, APPROACH SPANS:	
A) KIND OF MATERIAL/DESIGN:	**0 - Other**
B) TYPE OF DESIGN/CONSTR:	**00 - Other**
(45) NUMBER OF SPANS IN MAIN UNIT:	**002**
(46) NUMBER OF APPROACH SPANS:	**0000**
(107) DECK STRUCTURE TYPE:	**2 - Concrete Precast Panels**
(108) WEARING SURFACE/PROT SYS:	
A) WEARING SURFACE:	**6 - Bituminous**
B) DECK MEMBRANE:	**0 - None**
C) DECK PROTECTION:	**0 - None**

AGE OF SERVICE

(27) YEAR BUILT:	**1972**
(106) YEAR RECONSTRUCTED:	**0000**
(42) TYPE OF SERVICE:	
A) ON BRIDGE:	**1 - Highway**
B) UNDER BRIDGE:	**5 - Waterway**
(28) LANES:	
A) ON BRIDGE:	**02**
B) UNDER BRIDGE:	**00**
(29) AVERAGE DAILY TRAFFIC:	**000254**
(30) YEAR OF AVERAGE DAILY TRAFFIC:	**2019**
(109) AVERAGE DAILY TRUCK TRAFFIC:	**03 %**
(19) BYPASS DETOUR LENGTH:	**002 MI**

GEOMETRIC DATA

(48) LENGTH OF MAX SPAN:	**00054.7 FT**
(49) STRUCTURE LENGTH:	**00112.0 FT**
(50) CURB/SIDEWALK WIDTHS:	
A) LEFT	**01.0 FT**
B) RIGHT:	**01.0 FT**
(51) BRDG RDWY WIDTH CURB-TO-CURB:	**028.4 FT**
(52) DECK WIDTH, OUT-TO-OUT:	**030.5 FT**
(32) APPROACH ROADWAY	**022.0 FT**
(33) BRIDGE MEDIAN:	**0 - No median**
(34) SKEW:	**35 DEG**

(35) STRUCTURE FLARED:	**0 - No flare**
(10) INV RTE, MIN VERT CLEARANCE:	**99.99 FT**
(47) TOT HORIZ CLEARANCE:	**028.4 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:	**07/07/2021**
(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:	**4 - Poor Condition (advanced deterioration)**
(58.01) WEARING SURFACE:	**4 - Poor Condition**
(59) SUPERSTRUCTURE:	**4 - Poor Condition (advanced deterioration)**

(60) SUBSTRUCTURE:	**6 - Satisfactory Condition (minor deterioration)**
(61) CHANNEL/CHANNEL PROTECTION:	**6 - Bank slump. widespread minor damage**
(62) CULVERTS:	**N - Not Applicable**

CONDITION COMMENTS

(58) DECK: **4 - Poor Condition (advanced deterioration)**

Comments:
SEE SUPERSTRUCTURE COMMENTS
Material:
8 - 27" PRESTRESSED CONCRETE BOX BEAMS (ADJACENT)

(58.01) WEARING SURFACE: **4 - Poor Condition**

Comments:
OPEN CRACKS ABOVE PIERS AND BETWEEN BEAMS. SMALL POTHOLES, RAVELING, VEGETATION GROWTH ON SHOULDERS AND IN JOINTS
Material:
CHIP & SEAL, 4"

(59) SUPERSTRUCTURE: **4 - Poor Condition (advanced deterioration)**

Comments:
A SHORT HAIRLINE LONGITUDINAL CRACK IN SEVERAL BEAMS. 3 LARGE CRACKS, SPALLS WITH RUST STAINING, AND SIGNIFICANT DETERIORATION IN BEAM 2A. HEAVY CRACKING WITH LEACHING AT THE SOUTH END OF BEAM 8B AND ALONG THE EAST COPING. NO STRANDS ARE YET VISIBLE. SEEPAGE, LEACHING, RUST STAINS FROM ALL DRAINS
Material:
8 - 27" PRESTRESSED CONCRETE BOX BEAMS (ADJACENT)

(60) SUBSTRUCTURE: **6 - Satisfactory Condition (minor deterioration)**

Comments:
HAIRLINE VERTICAL CRACKS WITH LEACHING AT ALL SUBSTRUCTURE UNITS. HEAVY LEACHING FROM BEAMS.
Material:
CONCRETE ABUTMENTS/HAMMERHEAD PIER

(61) CHANNEL/CHANNEL PROTECTION **6 - Bank slump. widespread minor damage**

Comments:
MINIMAL PROTECTION. LOCAL SCOUR AT PIER NOSES. HEAVY VEGETATION AROUND BRIDGE
Material:
NATURAL/LARGE STONES

(62) CULVERTS: **N - Not Applicable**

Comments:

LOAD RATING AND POSTING

(31) DESIGN LOAD:	**0 - Unknown**	(66) INVENTORY RATING:	**11**
(70) BRIDGE POSTING	**0 - More than 39.9% below legal loads (0 tons)**	(65) INVENTORY RATING METHOD:	**1 - Load Factor (LF)**
		(66B) INVENTORY RATING (H):	**9**
(41) STRUCTURE OPEN/POSTED/CLOSED:	**P - Posted for Load**	(66C) TONS POSTED :	**14**
		(66D) DATE POSTED/CLOSED:	**18-DEC-14**
(64) OPERATING RATING:	**19**		
(63) OPERATING RATING METHOD:	**1 - Load Factor (LF)**		

APPRAISAL

SUFFICIENCY RATING:	**37.9**	(36) TRAFFIC SAFETY FEATURE:	
STATUS:	**1**	36A) BRIDGE RAILINGS:	**0**
(67) STRUCTURAL EVALUATION:	**3**	36B) TRANSITIONS:	**0**
(68) DECK GEOMETRY:	**6**	36C) APPROACH GUARDRAIL:	**0**
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL:	**N**	36D) APPROACH GUARDRAIL ENDS:	**0**

(71) WATERWAY ADEQUACY: **7 - Slight Chance of Overtopping Bridge**
Comments:
APPEARS ADEQUATE

(72) APPROACH ROADWAY ALIGNMENT: **8 - Equal to present desirable criteria**

Comments:
BRIDGE SLIGHTLY ABOVE APPROACHES, STRAIGHT, INTERSECTION SOUTH, DRIVE TO THE NORTH

(113) SCOUR CRITICAL BRIDGES: **4 - Action is required to protect exposed foundations**

Comments:
INSUFFICIENT EROSION PROTECTION. LOCAL SCOUR AT PIER NOSES. TOP OF FOOTING DETECTED BELOW BOTTOM OF CHANNEL. STABLE.

CLASSIFICATION

(20) TOLL:	**3 - On Free Road**	(21) MAINT. RESPONSIBILITY:	**02 - County Highway Agency**
(22) OWNER:	**02 - County Highway Agency**	(26) FUNCTIONAL CLASS OF INVENTORY RTE:	**07 - Rural - Major Collector**
(37) HISTORICAL SIGNIFICANCE:	**5 - Not eligible**	(100) STRAHNET HIGHWAY:	**Not a STRAHNET route**
(101) PARALLEL STRUCTURE:	**N - No parallel structure**	(102) DIRECTION OF TRAFFIC:	**2-way traffic**
(103) TEMPORARY STRUCTURE:		(104) HIGHWAY SYSTEM OF INVENTORY ROUTE:	**0 - Structure/Route is NOT on NHS**
(105) FEDERAL LANDS HIGHWAYS:	**0-Not Applicable**	(110) DESIGNATED NATIONAL NETWORK:	**Inventory route not on network**
(112) NBIS BRIDGE LENGTH:	**Yes**		

NAVIGATION DATA

(38) NAVIGATION CONTROL:	**0 - No navigation control on waterway (bridge permit not required)**	(39) NAVIGATION VERTICAL CLEAR:	**000.0 FT**
		(116) MINIMUM NAVIGATION VERT. CLEARANCE, VERT. LIFT BRIDGE:	**FT**
(111) PIER OR ABUTMENT PROTECTION:		(40) NAV HORIZONTAL CLEARANCE:	**0000.0 FT**

PROPOSED IMPROVEMENTS

(75A) TYPE OF WORK:	**35 - Rehabilitation - Deterioration**	(95) ROADWAY IMPROVEMENT COST:	**$ 000300**
(75B) WORK DONE BY:	**1 - Work to be done by contract**	(96) TOTAL PROJECT COST:	**$ 000900**
(76) LENGTH OF IMPROVEMENT:	**000112 FT**	(97) YR OF IMPROVEMENT COST EST:	**2021**
(94) BRIDGE IMPROVEMENT COST:	**$ 000600**	(114) FUTURE AVG DAILY TRAFFIC:	**000469**
		(115) YR OF FUTURE ADT:	**2039**

Bridge Inspection Report

PHOTO 1

Description Alignment Looking North (14 Tons)

PHOTO 2

Description East Elevation

PHOTO 3

Description Heavy Cracking in Beam 2A

PHOTO 4

Description Midspan Joint Cracking

PHOTO 5

Description Alignment Looking North (14 Tons)

PHOTO 6

Description South Joint Cracking

PHOTO 7

Description Downstream Channel (East)

PHOTO 8

Description Upstream Channel (West)

PHOTO 9

Description Alignment Looking South

PHOTO 10

Description Alignment Looking South (14 Tons)

PHOTO 11

Description Bent 3 and Span B Superstructure

PHOTO 12

Description Pier 2 and Span B Superstructure

PHOTO 13

Description Bent 1 and Span A Superstructure

PHOTO 14

Description Cracking With Leaching in Beam 8B

PHOTO 15

Description Cracking in Coping over Pier 2 (East)

PHOTO 16

Description West Elevation

Miscellaneous Asset Data

4100077

Asset Management

Load Rating 2:

Has the dead load or the structural condition of the primary load carrying members changed since the last inspection? No - Load Rating Update Not Required

---

Extended Frequency: Submittal Date:

Inspector:

INDOT Reviewer:

This bridge has been accepted into the Extended Frequency Program. Approval Date:

Joints: ** Indicate location, type, and rating of lowest rated joint.*

NE J 4

Comments:

PARTIAL ASPHALT COVER, DEBRIS

Terminal Joints: **Rating of lowest rated terminal joint.* N

Comments:

Concrete Slopewall: **Rating of lowest rated slopewall.* N

Comments:

Bearings: ** Indicate type, and rating of lowest rated bearing.*

2 - Elastmeric 7 - Good Condition, minor chalking

Comments:

Approach Slabs: ** Indicate if present & condition rating.*

N - No Approach Slabs

Comments:

Paint: ** Indicate if paint present , year painted & condition rating.*

N - No Paint N

Comments:

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:

NBI Data come from National Inventory

NBI 113: Scour Critical Bridges 4

NBI 113a Scour Critical Bridges Comments

INSUFFICIENT EROSION PROTECTION. LOCAL SCOUR AT PIER NOSES. TOP OF FOOTING DETECTED BELOW BOTTOM OF CHANNEL. STABLE.

To Be Completed by Hydraulics

Scour Analysis Status

Scour Analysis Date

Scour Analysis Determination

Hydraulics Comments

To Be Completed by Bridge Inspection

Scour Critical Safety Status

Date of Counter Measure Placed or Field Verified

Bridge Inspectoin Comments

Scour Delineators installed

LOAD RATING - BRADIN

Load Rating Date: 21-JAN-19

National Bridge Inventory (NBI):

(65) INVENTORY RATING METHOD: 1

(66) INVENTORY RATING: 11

(63) OPERATING RATING METHOD: 1

(64) OPERATING RATING: 19

(31) DESIGN LOAD: 0

(70) BRIDGE POSTING: 0

(41) STRUCTURE OPEN/POSTED/CLOSED: P

(66C) TONS POSTED: 14

(66D) DATE POSTED/CLOSED: 18-DEC-14

Posting Configurations:

Emergency Vehicles:

EV2: LEGAL RF: .619

EV3: LEGAL RF: .402

2-Axles:

H20-44: LEGAL RF: .763

ALTERNATE MILITARY: LEGAL RF: .615

3-Axles:

HS20: LEGAL RF: .533

AASHTO TYPE 3: LEGAL RF: .709

4-Axles:

SU4: LEGAL RF: .62

TOLL ROAD LOADING NO. 2: ROUTINE PERMIT RF:

Other Configurations:

H20-44: DESIGN RF: .457

NRL: LEGAL RF: .452

5-Axles:

AASHTO TYPE 3S2: LEGAL RF: .747

SU5: LEGAL RF: .571

TOLL ROAD LOADING NO. 1: ROUTINE PERMIT RF:

6+-Axles:

AASHTO TYPE 3-3: LEGAL RF: .799

LANE TYPE: LEGAL RF:

SU6: LEGAL RF: .512

SPECIAL TOLL ROAD TRUCK: ROUTINE PERMIT RF:

SU7: LEGAL RF: .473

MICHIGAN TRAIN TRUCK NO. 5: ROUTINE PERMIT RF:

MICHIGAN TRAIN TRUCK NO. 8: ROUTINE PERMIT RF:

SUPERLOAD-11 AXLES: SPECIAL PERMIT RF:

SUPERLOAD-13 AXLES: SPECIAL PERMIT RF:

SUPERLOAD-14 AXLES: SPECIAL PERMIT RF:

SUPERLOAD-19 AXLES (152.5T): SPECIAL PERMIT RF:

SUPERLOAD-19 AXLES (240.045T): SPECIAL PERMIT RF:

Bridge Inspection Report

Date Reported: 07/18/2019

Priority: Grey - 4

Work Code: Signage Install / Signage Repair

Deficiency Description:
INSTALL BRIDGE END MARKERS AT ALL FOUR CORNERS.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Date Reported: 07/18/2019

Priority: Green - 3

Work Code: Erosion Control / Rip Rap

Deficiency Description:
INSTALL RIPRAP AT ALL SUBSTRUCTURE ELEMENTS.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Bridge Hydraulic & Scour Report

LPA Bridge Rehabilitation in Johnson County, Indiana

Des. No. 1902767

Seymour District

Bridge 98 (41-00098)

County Route (CR) 700 East over Fisher Creek (Little Sugar Creek)

0.1 miles North of Urmeyville Road

October 22nd, 2021

300 S. Meridian St.

Union Station

Indianapolis, IN 46225

LPA Bridge Rehabilitation in Johnson County, Indiana

County Route (CR) 700 East over Fisher Creek (Little Sugar Creek)

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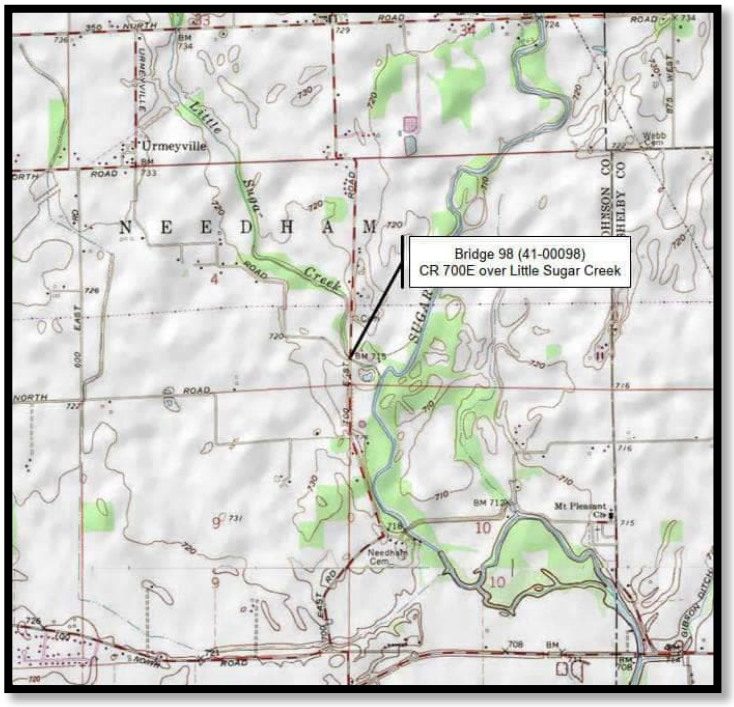
1. Project Background

The purpose of the bridge rehabilitation project is to replace the existing superstructure and install countermeasures at Bridge 98 (41-00098) which carries County Route (CR) 700 East over Fisher Creek (Little Sugar Creek). The existing bridge is located in the Seymour District which is 0.1 miles North of Urmeyville Road in the Needham Township, Johnson County, Indiana. The location of the project is shown below on the United States Geological Survey (USGS) Boggstown quadrangle map and in Appendix A - Exhibit 1.



This report provides an explanation of the hydraulic analysis and scour evaluation completed in support of the rehabilitation. The project scope includes a superstructure replacement with the installation of countermeasures at the abutments and piers. Appendix A - Exhibit 2 provides an overview of the crossing and identifies any critical features discussed in this analysis. Since the Local Public Agency (LPA) project meets the criteria outlined in Design Memo 18-12, the hydraulic analysis will not be reviewed or approved by the Indiana Department of Transportation (INDOT) Office of Hydraulics. However, since the contributing drainage area is greater than 1.0 square mile and the basement of one (1) residential structure is below the 100-year flood elevation, the project does not qualify for the Rural Bridge Exemption. Therefore, a non-modeling hydraulic approach will be completed in support of the Indiana Department of Natural Resources (IDNR) Construction in Floodway (CIF) Permit. Additionally, the report and supporting documentation will be reviewed by the Johnson County Surveyors office since EM Fisher Ditch (Little Sugar Creek) is a legal drain.

According to the IDNR Floodplain Mapper, FEMA has not studied Little Sugar Creek by detailed methods. However, IDNR has developed an approximate (Zone A) model for Little Sugar Creek. As such, the most recent model was obtained from the IDNR Hydrologic and Hydraulic Model Library and utilized to the greatest extent feasible. Appendix A - Exhibit 3 shows the best available floodplain mapping for this project. No existing hydraulic models were obtained from INDOT.

The hydraulic analysis and report were developed consistent with the INDOT 2013 Indiana Design Manual (IDM) and the IDNR General Guidelines for the Hydrologic-Hydraulic Assessment of Floodplains in Indiana. All references to left and right are defined looking downstream, and all elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).

2. Existing Conditions

The existing bridge consists of a two span (55'- 6") prestressed adjacent concrete box beam bridge. The bridge was originally constructed in 1972 and has not been rehabilitated. Although the design plans could not be located, the most recent inspection reports are available. According to the recent survey, the bridge is skewed approximately 40 degrees and has an out-to-out deck width of 30.5 feet (ft). The total hydraulic clear span is 86.34 ft which includes a 2.0 ft wide pier. The existing low structure elevation is 714.29 ft at the upstream Left (North) Abutment and 714.22 ft at the upstream Right (South) Abutment. Additionally, the bridge is located approximately 700 feet upstream of Sugar Creek. Supporting documentation can be found in Appendix C.

During the recent site visit (September 2021), the channel width and depth ranged from 50-70 ft and 2-6 ft, respectively. Flood flows are expected to have access to the upstream floodplain, which primarily consists of open space and agricultural fields (row crops) with scattered trees along the channel. As such, seasonal variations in the applicable overbank roughness coefficients are expected. Upstream of the bridge, the channel turns to the left (East) and a vertical cut embankment was observed along the outside of the channel bend. The wide roadway approaches were much lower than the bridge deck. As such, overtopping of the roadway approach should be expected prior to pressure flow. At the bridge, deposition was documented along the Left (North) Abutment and the channel was deeper along the Right (South) Abutment. Scour was documented at the upstream pier nose (square). No footings or pile caps were visible and the pier angle of attack to be between 5-15 degrees. Countermeasures were not observed along the substructures, but scattered cobbles (round) were documented in the channel near the bridge. Several low-lying structures, including one (1) with a basement, were identified along the upstream and downstream channel. Site photos and a photo location map are included in Appendix B.

3. Design Criteria

According to IDM Section 203-3.02, the design storm frequency for the hydraulic analysis was determined by the Roadway Functional Classification. Based on the most recent inspection report provided in Appendix C, the most recent Average Daily Traffic (ADT) is 254 (2019). Since the subject crossing is a Two-Lane Facility with an ADT of less than 1,000, the hydraulics of the preferred alternative were evaluated based on the following hydraulic design criteria.

- Structural Freeboard: Provide a Minimum Freeboard of 2.0 ft during 1% EP
- Backwater: Maintain or Reduce Backwater during 1% EP
- Roadway Serviceability: Provide a Minimum Freeboard of 0.0 ft during 10% EP
- Allowable Velocity: Maintain or Reduce Bridge Velocity during 1% EP

Based on the extensive overtopping of the approach roadway, the rehabilitation project allows for the existing superstructure to be replaced while minimizing the construction and future maintenance costs by limiting changes in the approach roadway which are inundated during the 1% EP event. Therefore, the 10% EP (Q10) event was used to evaluate the roadway serviceability while the 1% EP (Q100) event was used in the scour evaluation, countermeasure design and the CIF Permit supporting documentation. Since overtopping of the roadway approach occurs prior to the scour design event, the scour evaluation was also

checked with the hydraulics during the incipient overtopping (4% EP) event. A detailed explanation of the hydrologic and hydraulic methods and results are explained below. The INDOT QA Checklist is located in Appendix C.

4. Hydrologic Analysis

According to the USGS StreamStats Report, Little Sugar Creek at the subject crossing has a drainage area of 28.4 square miles (sq-mi) and a peak discharge of 3,790 cubic feet per second (cfs). The IDNR model referenced a peak discharge of 6,070 cfs while the IDNR Coordinated Discharge Curve referenced a peak discharge of 7,500 cfs during the 1% EP event. For the purposes of this analysis, the peak discharges provided in the IDNR model were maintained. No applicable gage stations were identified, and a Floodplain Analysis and Regulatory Assessment (FARA) Letter of Discharge was not requested. The contributing drainage area is shown in Appendix A - Exhibit 4. Supporting documentation is included in Appendix D.

5. Hydraulic Analysis

The hydraulic model was developed using the U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) software (version 5.0.5). Design parameters and water surface elevation profiles were computed using a subcritical flow regime. Since Little Sugar Creek was previously studied by IDNR, the most recent (Zone A, 10/20/2014) model was obtained from the IDNR H&H Model Library and utilized to the greatest extent practical. All model stationing is in feet and references the confluence with Sugar Creek located approximately 700 feet downstream.

5.1. Model Geometry

In order to document any changes to the backup model and evaluate the bridge hydraulics, duplicate effective, corrected effective, existing and natural condition models were developed.

For this project, the duplicate effective model geometry was revised to correct any errors, add additional cross-sections, and incorporate additional topographic information. As such, the revisions were limited to the study reach which extends from the confluence with Sugar Creek confluence to a point located approximately 500 ft upstream of the bridge. The duplicate effective cross-section geometry was maintained at the bounding sections (STA 1580 and 89). However, additional cross-sections were added between these sections based on a combination of LiDAR (2017) elevation data and limited field survey near the subject crossing. Appendix A - Exhibit 5 provides an overview of the survey which was collected by Northpointe Engineering Surveying, Inc. in August 2021. Since plans were not available, the existing bridge geometry was developed based on a combination of survey and field measurements. The roughness coefficients in the IDNR backup model ranged from 0.050 in the channel and 0.060 to 0.090 in the overbank areas. Since the backup model values were generally consistent with field observations and IDM Figure 203-3A, the roughness coefficients were maintained. The selected roughness coefficients are shown in Appendix E. Lastly, the contraction/expansion coefficients and ineffective stations were developed based on a 1:1 contraction ratio (CR) and 2:1 expansion ratio (ER). Due to the extensive overtopping of the approach roadway, the ineffective elevation was set 0.5 ft above the minimum roadway overtopping elevation. The HEC-RAS cross-sections and geometry are shown in Appendix A - Exhibit 6.

Based on a review of the available data, there have been no modifications to the channel or overbanks within the study reach. As such, the corrected effective model also represents the existing condition model. The corrected effective model geometry was not truncated, and a known water surface elevation (STA 89) was referenced as the downstream boundary condition. Supporting calculations are included in Appendix C.

5.2. Preferred Alternative

According to the preliminary layout, the project is limited to a superstructure replacement with the installation of countermeasures at the abutments and piers. As such, the existing substructures and low structure elevation will be maintained. Since the approach roadway overtops during the 1% EP event, the existing roadway profile below the Q100 Headwater Elevation will also be maintained. Additionally, the proposed bridge railing will be similar to the existing; however as overtopping of the bridge deck is not expected during the modeled scenarios, the guardrail was not included in the deck geometry. Lastly, the waterway opening will be maintained since the countermeasures will be installed such that the top of riprap reestablishes the original streambed elevations.

5.3. Model Results

For the purposes of this analysis, the hydraulics were evaluated based on Chapter 203-3.0 of the IDM. The results are based on unobstructed flow. Detailed output from the model can be found in Appendix E.

Since the project consists of a bridge rehabilitation, the existing channel alignment will be maintained, and channel clearing is not currently proposed. The site-specific design parameters for the existing bridge are provided in Table 1.

Table 1 - Design Parameters

Parameter	Design Value
Drainage Area (sq-mi)	28.4
Q_{100} (cfs)	6,070
Q_{100} Elevation (ft)	712.88

Since the subject crossing is a Two-Lane Facility with an Average Daily Traffic (ADT) less than 1,000 (254 in 2019), the roadway serviceability design requirements reference the 10% EP event while the backwater, structural freeboard, and permissible velocity design requirement reference the 1% EP event. A hydraulic summary for the existing and proposed conditions is provided in Table 2.

Table 2 - Hydraulic Summary

Parameter	Design Value
	Existing (86.3 ft Clear)
Low Structure Elevation (ft)	714.22
Minimum Overtopping Elevation (ft)	713.37
Skew (degrees)	40.0
Backwater (ft)	1.34
Surcharge (ft)	-
Q_{10} Headwater Elevation (ft)	712.96
Q_{100} Headwater Elevation (ft)	714.23
Gross Waterway Opening Below Q_{100} (ft^2)	731.5
Q_{100} Road-Overflow Area (ft^2)	269.0

Only the existing conditions were evaluated as part of this bridge rehabilitation project. The existing bridge meets the roadway serviceability requirements. However, since the existing bridge does not meet the

structural freeboard requirements, the superstructure design was selected in order to maintain the existing waterway opening and low structure elevation. Pressure flow conditions are not expected (perched deck). However, the roadway profile below the Q_{100} Headwater Elevation was maintained since overtopping of the roadway approach is expected during the 1% EP event. The gross waterway opening was calculated based on a net waterway opening of 699.8 ft^2 which referenced the surveyed conditions at the bridge. However, based on a review of the limited information available, it appears that scour has increase the waterway opening by approximately 110.0 ft^2. Supporting calculations are included in Appendix C.

6. Scour Analysis

In order to determine the scour potential of the existing bridge, the anticipated scour depths were calculated in HEC-RAS during the 1% EP event. Since the bridge overtops prior to the 1% EP event, the anticipated scour depths were also calculated for the worst-case incipient overtopping (4% EP) event. The field soil classification indicates that the streambed is primarily sand with some gravel and fines. Therefore, a D_{50} of 0.1 mm (Fine Sand) was conservatively used to characterize the streambed and calculate the anticipated scour depths. For the contraction scour calculations, the critical velocity was calculated to be 1.1 ft/s thus confirming that the live-bed equations are applicable. The contraction scour calculations referenced STA 874 as the most fully expanded approach cross section. For the pier scour calculations, the CSU equation was used based on the maximum depth and velocity located immediate upstream of the piers. The pier widths were taken at the base of the pier stems and the angle of attack was estimated to be 10-degrees. The flowline elevation references the minimum surveyed streambed elevation at the bridge.

Since abutment scour was not evaluated per the IDM guidance, the total scour was calculated based on the sum of the contraction and pier scour. Long term degradation of the channel is not expected. A summary of the anticipated scour depths for the preferred alternative is provided in Table 3.

Table 3 - Scour Summary

Parameter	Design Value [1]	
	Q_{100}	Q_{OT}
Contraction Scour (ft)	2.93	2.82
Pier Scour (ft)	5.63	11.48
Total Scour (ft)	8.56	14.29
Flowline Elevation (ft)	701.20	701.20
Low-Scour Elevation (ft)	692.64	686.91
Maximum Velocity (ft/s)	10.7	9.2
Average Velocity (ft/s)	7.9	6.7

[1] *Scour was calculated for both the 1% EP and Incipient Overtopping (Q_{OT}) events.*

Based on the results of the hydraulic scour computational analysis, the existing bridge is scour critical (Item 113 of 3) based on the anticipated scour depths and unknown foundation (design plans were not available). Supporting calculations are included in Appendix C.

7. Countermeasure Recommendation

According to IDM Section 203-3.04(02), countermeasures for the abutments and pier were designed based on the average channel velocity through the bridge and maximum velocity through the bridge, respectively for the 1% EP event. Since the approach roadway overtops prior to the 1% EP event, the countermeasure design was also checked for the worst-case incipient overtopping (4% EP) event.

For the abutments, the model indicates that the average velocity at the bridge is 7.9 ft/s during the 1% EP event. Therefore, the vertical abutments should be protected with Class 1 Riprap. According to IDM Figure 203-3B, the minimum lay width should be 20.0 ft with a minimum thickness of 2.0 ft. As needed, the minimum lay width may be reduced to 12.0 ft with a minimum thickness of 2.0 ft at the Left (North) Abutment. For the pier, the model indicates that the maximum velocity at the bridge is 10.7 ft/s during the 1% EP event. Therefore, the pier should be protected with Class 2 Riprap. According to IDM Figure 203-3B, the minimum lay width at the pier should be 6.0 ft with a minimum thickness of 4.0 ft. In order to maintain the regulated 1% EP water surface elevations upstream of the bridge, excavation is required to ensure that the top of countermeasures reestablish the original streambed elevations. Supporting calculations are included in Appendix C.

Environmental Justice (EJ) Analysis
Bridge # 41-00098

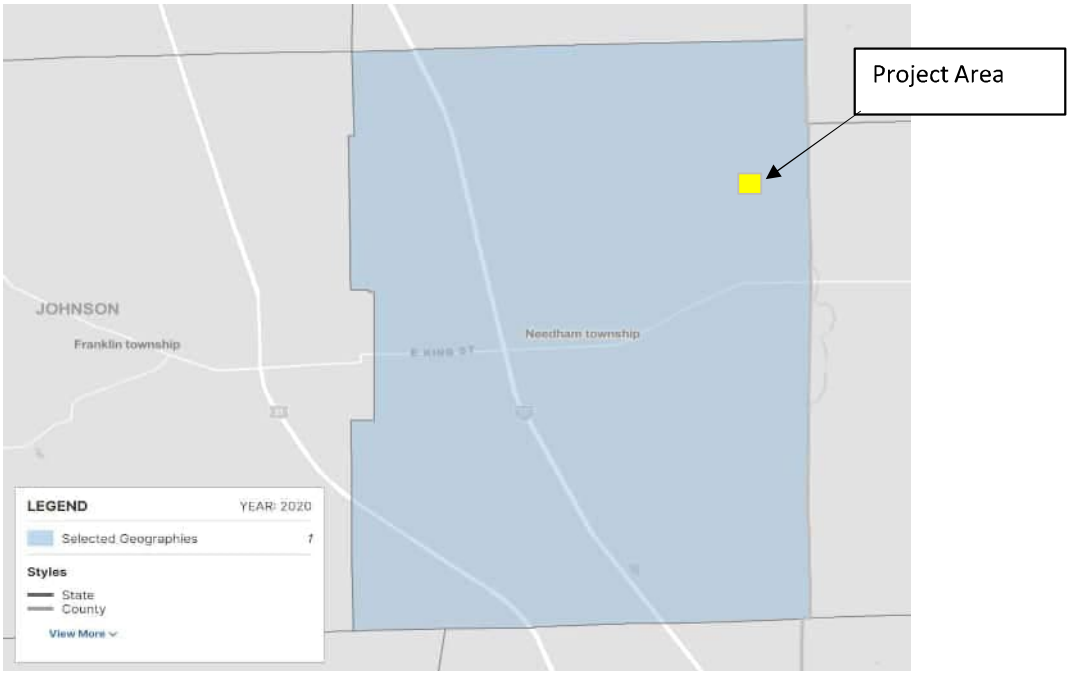
N. CR 700 E. over Little Sugar Creek
Johnson County, Indiana
Des No 1902767

	Community of Comparison (COC)	Affected Community (AC)
	Johnson County, Indiana	Needham Township, Johnson County, Indiana
Race		
Total Population for the purpose of surveying race	156,148	7,078
Total population non-hispanic/latino; white alone	137,744	6,689
Number of Minorities	18,404	389
Percent of Minorities	11.79%	5.50%
125% of COC	14.73%	
Potential Minority EJ Concern?		**No**
Income		
Total Population for the purpose of surveying poverty income	153,247	7,055
Population with income in the past 12 months below poverty level	11,915	1,023
Percent low income	7.78%	14.50%
125% of COC	9.72%	
Potential Low-income EJ Concern?		**Yes**

*data obtained from https://data.census.gov/cedsci/ on July 6, 2022 by CHA Consulting

Community of Comparison (COC) - Johnson County, Indiana

Affected Community (AC) - Needham Township, Johnson County



HISPANIC OR LATINO ORIGIN BY RACE

United States Census Bureau

Note: The table shown may have been modified by user selections. Some information may be missing.

DATA NOTES	
TABLE ID:	B03002
SURVEY/PROGRAM:	American Community Survey
VINTAGE:	2020
DATASET:	ACSDT5Y2020
PRODUCT:	ACS 5-Year Estimates Detailed Tables
UNIVERSE:	Total population
FTP URL:	None
API URL:	https://api.census.gov/data/2020/acs/acs5
USER SELECTIONS	
GEOS	Johnson County, Indiana; Needham township, Johnson County, Indiana
VINTAGES	2020
EXCLUDED COLUMNS	None
APPLIED FILTERS	None
APPLIED SORTS	None
PIVOT & GROUPING	None
WEB ADDRESS	https://data.census.gov/cedsci/table?text=B03002&g=0500000US18081_0600000US1808152164&y=2020&tid=ACSDT5Y2020.B03002
TABLE NOTES	Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2020, the 2020 Census provides the official counts of the population and housing units for the nation, states, counties, cities, and towns. For 2016 to 2019, the Population Estimates Program provides estimates of the population for the nation, states, counties, cities, and towns and intercensal housing unit estimates for the nation, states, and counties.
	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.
	Source: U.S. Census Bureau, 2016-2020 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.
	The Hispanic origin and race codes were updated in 2020. For more information on the Hispanic origin and race code changes, please visit the American Community Survey Technical Documentation website.
	The 2016-2020 American Community Survey (ACS) data generally reflect the September 2018 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 delineation lists 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:- The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended distribution.N The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area. (X) The estimate or margin of error is not applicable or not available.median- The median falls in the lowest interval of an open-ended distribution (for example "2,500-")median+ The median falls in the highest interval of an open-ended distribution (for example "250,000+").** The margin of error could not be computed because there were an insufficient number of sample observations.*** The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.***** A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.
COLUMN NOTES	None

Table: ACSDT5Y2020.B03002

	Johnson County, Indiana		Needham township, Johnson County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
Total:	156,148	*****	7,078	±37
Not Hispanic or Latino:	150,437	*****	6,782	±241
White alone	137,744	±233	6,689	±267
Black or African American alone	3,995	±305	30	±33
American Indian and Alaska Native alone	325	±285	0	±17
Asian alone	5,861	±290	0	±17
Native Hawaiian and Other Pacific Islander alone	26	±41	0	±17
Some other race alone	429	±265	0	±17
Two or more races:	2,057	±474	63	±97
Two races including Some other race	174	±141	0	±17
Two races excluding Some other race, and three or more races	1,883	±455	63	±97
Hispanic or Latino:	5,711	*****	296	±237
White alone	3,359	±507	252	±228
Black or African American alone	32	±40	0	±17
American Indian and Alaska Native alone	56	±76	0	±17
Asian alone	0	±29	0	±17
Native Hawaiian and Other Pacific Islander alone	21	±33	0	±17
Some other race alone	867	±392	36	±58
Two or more races:	1,376	±322	8	±19
Two races including Some other race	1,214	±359	8	±19
Two races excluding Some other race, and three or more races	162	±166	0	±17

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

United States Census Bureau

Note: The table shown may have been modified by user selections. Some information may be missing.

DATA NOTES	
TABLE ID:	B17001
SURVEY/PROGRAM:	American Community Survey
VINTAGE:	2020
DATASET:	ACSDT5Y2020
PRODUCT:	ACS 5-Year Estimates Detailed Tables
UNIVERSE:	Population for whom poverty status is determined
FTP URL:	None
API URL:	https://api.census.gov/data/2020/acs/acs5
USER SELECTIONS	
GEOS	Johnson County, Indiana; Needham township, Johnson County, Indiana
VINTAGES	2020
EXCLUDED COLUMNS	None
APPLIED FILTERS	None
APPLIED SORTS	None
PIVOT & GROUPING	None
WEB ADDRESS	https://data.census.gov/cedsci/table?text=B17001&g=0500000US18081_0600000US1808152164&y=2020&tid=ACSDT5Y2020.B17001
TABLE NOTES	Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2020, the 2020 Census provides the official counts of the population and housing units for the nation, states, counties, cities, and towns. For 2016 to 2019, the Population Estimates Program provides estimates of the population for the nation, states, counties, cities, and towns and intercensal housing unit estimates for the nation, states, and counties.
	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.
	Source: U.S. Census Bureau, 2016-2020 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.
	The 2016-2020 American Community Survey (ACS) data generally reflect the September 2018 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 delineation lists 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:- The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended distribution.N The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area. (X) The estimate or margin of error is not applicable or not available.median- The median falls in the lowest interval of an open-ended distribution (for example "2,500-")median+ The median falls in the highest interval of an open-ended distribution (for example "250,000+").** The margin of error could not be computed because there were an insufficient number of sample observations.*** The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.***** A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.
COLUMN NOTES	None

Table: ACSDT5Y2020.B17001

	Johnson County, Indiana		Needham township, Johnson County, Indiana	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	153,247	±446	7,055	±49
Income in the past 12 months below poverty level:	11,915	±1,446	1,023	±384
Male:	5,550	±862	444	±208
Under 5 years	700	±291	27	±38
5 years	163	±114	36	±40
6 to 11 years	751	±292	153	±133
12 to 14 years	119	±76	11	±17
15 years	184	±148	0	±17
16 and 17 years	286	±205	0	±17
18 to 24 years	581	±200	7	±14
25 to 34 years	712	±240	48	±60
35 to 44 years	398	±163	35	±39
45 to 54 years	509	±218	19	±26
55 to 64 years	603	±202	69	±61
65 to 74 years	250	±117	14	±15
75 years and over	294	±253	25	±23
Female:	6,365	±822	579	±244
Under 5 years	323	±153	61	±77
5 years	111	±67	9	±15
6 to 11 years	431	±174	41	±42
12 to 14 years	355	±179	15	±23
15 years	82	±90	0	±17
16 and 17 years	188	±106	26	±40
18 to 24 years	941	±313	46	±62
25 to 34 years	1,081	±312	178	±149
35 to 44 years	803	±322	8	±13
45 to 54 years	525	±215	26	±28
55 to 64 years	491	±174	37	±41
65 to 74 years	472	±164	12	±18
75 years and over	562	±230	120	±131
Income in the past 12 months at or above poverty level:	141,332	±1,469	6,032	±383
Male:	69,609	±883	2,941	±235
Under 5 years	4,456	±317	137	±81
5 years	1,093	±284	13	±21
6 to 11 years	5,487	±480	257	±133
12 to 14 years	3,172	±394	105	±68
15 years	1,048	±246	25	±29
16 and 17 years	1,855	±288	17	±21
18 to 24 years	5,786	±320	242	±128
25 to 34 years	9,592	±303	394	±132
35 to 44 years	9,906	±259	410	±114
45 to 54 years	9,640	±303	510	±151
55 to 64 years	8,394	±280	405	±118
65 to 74 years	5,915	±170	331	±127
75 years and over	3,265	±271	95	±47
Female:	71,723	±938	3,091	±262
Under 5 years	4,404	±206	222	±129
5 years	1,091	±334	20	±24
6 to 11 years	5,628	±549	265	±80
12 to 14 years	2,963	±443	94	±44

	Johnson County, Indiana		Needham township, Johnson County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
15 years	678	±202	9	±14
16 and 17 years	2,308	±312	126	±91
18 to 24 years	5,215	±312	156	±73
25 to 34 years	9,387	±397	253	±108
35 to 44 years	9,844	±365	403	±109
45 to 54 years	9,745	±363	450	±128
55 to 64 years	9,188	±201	543	±200
65 to 74 years	6,782	±189	245	±81
75 years and over	4,490	±287	305	±152

Stroude, Aaron

From:	Fair, Terri <TFair@indot.IN.gov>
Sent:	Monday, September 12, 2022 4:57 PM
To:	Stroude, Aaron
Cc:	Ross, Anthony
Subject:	FW: [--EXTERNAL--]: RE: EJ Coordination - Johnson County Bridge, Des 1902767, superstructure replacement
Attachments:	Draft J98 EJ Analysis Des 1902767.pdf

INDOT-Environmental Services Division (ESD) has reviewed the project information along with the Environmental Justice (EJ) Analysis for the above referenced project. With the information provided, the project may require minimal right-of-way, require no relocations, and would not disrupt community cohesion or create a physical barrier. With the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required.