

CATEGORICAL EXCLUSION LEVEL 1 FORM

GENERAL PROJECT INFORMATION

Road No./County:	State Road (SR) 340, Clay County
Designation Number(s):	1900176
Project Description/Termini:	Bridge Replacement at State Road (SR) 340 over Purdy Run (Bridge # 340-11-01639B). Termini are from 283 feet west of the existing structure to 219 feet east of the existing structure (Total Feet 502)

CE Level 1 documentation for exempted projects

Additional Information to CE Level 1

Approval:

Randy Zane Kurtz
INDOT DE/ESD Signature and Date

Zane Kurtz March 11, 2022

Release for Public Involvement:

INDOT DE/ESD Initials and Date

Certification of Public involvement:

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer:

Signature and Date

CE Preparer:

Summer Elmore, CHA Consulting, Inc.

Name and Organization

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

GENERAL PROJECT INFORMATION, DESCRIPTION, AND DESIGN INFORMATION	
Purpose and Need:	<p>Need: The need for the project stems from the overall deterioration of the existing bridge (340-11-01639B). According to the November 9, 2020, Bridge Inspection Report (Appendix I, pages I-9 to I-11), the box beams associated with the superstructure (1 through 7 and 9) were noted to have hair line cracking. The west abutment was also noted to have horizontal cracking with efflorescence while both abutments were noted to have vertical cracking. The superstructure, substructure, deck, and wearing surface all have a condition rating of 5 (fair condition). The condition ratings range from 0 to 9, 0 being a failed structure and 9 being a structure in excellent condition.</p> <p>Purpose: The purpose of the project is to address the deteriorated condition of the bridge carrying SR 340 over Purdy Run and to increase the condition rating to at least an 8 out of 9 and the service life to 75 years.</p>
Project Description (Preferred Alternative):	<p>The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), is proposing to proceed with a project involving the replacement of the SR 340 bridge over Purdy Run, in Clay County, Indiana.</p> <p>Location: The project is located in the northwestern part of Clay County, Indiana, approximately 2.09 miles east of the junction with United States (US) Highway 40 West. The proposed project limits extend from approximately 283 feet west of the bridge to 219 feet east of the bridge (Appendix B, page B-17). Specifically, the project is located in Section 5, Township 12 North, Range 7 West as shown on the 7.5 Minute Brazil West, Indiana United States Geological Survey (USGS) quadrangle map.</p> <p>Existing Condition: SR 340 is functionally classified as Rural Major Collector within the project area. SR 340 consists of two 12 foot travel lanes and 2.5 foot paved shoulders. The posted speed limit along SR 340 in the project area is 40 miles per hour (MPH). The original structure built in 1920 (340-11-01639B) was composed of reinforced concrete girders. The superstructure was replaced with 9 to 21 inch x 45 inch adjacent prestressed concrete box beams in 1964 and a concrete deck was placed over the boxes in 1980. The existing span is 35 feet wide, the deck out-to-out width is 34 feet, and the clear roadway width is 32 feet (Appendix I, page I-9). The bridge has an approximate skew of zero. Purdy Run flows northwest under the structure.</p> <p>Land use in the project area consists of residential properties and forested areas located to the north and south of the project area. Additionally, a cemetery is located in the northeast corner of SR 340 and N County Road (CR) 500 W.</p> <p>Preferred Alternative: The project will replace the existing bridge with a three-sided flat top structure that is 36 feet wide by 12 feet rise, 44 feet in length. The replacement structure will be sumped 18 inches and revetment riprap will be installed 6 feet out from each footing, extending the full length of the bridge, as recommended by the December 29, 2021, INDOT Hydraulics Memo (Appendix I, pages I-2 to I-3). Guardrail will be installed north and south of the structure.</p>

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

	<p>Full depth hot mix asphalt (HMA) pavement will be used at the bridge approaches and over the structure, approximately 200 feet long. Additionally, the driveway approaches within the project area will be resurfaced with a HMA overlay and 23 feet of new 15-inch culverts installed at each. The Class II drive in the northwest quadrant will be reconstructed. Ditches will be regraded and stabilized with riprap and sod.</p> <p>The proposed roadway typical section in areas without guardrail consists of 12-foot travel lanes and 3-foot paved shoulders. This section matches the existing condition. Where guardrail is warranted, the proposed roadway typical section consists of 12-foot travel lanes and 6-foot paved shoulder to the front face of guardrail.</p> <p>The project will require 0.49 acres of permanent right-of-way (ROW); 0.10 acre is reacquisition of apparent ROW along the existing bridge and 0.39 acres new ROW from forested riparian and residential area. The ROW is required to accommodate the additional length of the replacement structure and scour protection. Temporary ROW will be required for the project approximately 0.04 acre (Appendix B, page B-17).</p> <p>Maintenance of Traffic (MOT): Maintenance of traffic (MOT) will involve a full closure of SR 340 with the official detour route using US 40. The official detour length would be approximately 5.6 miles.</p> <p>Purpose and Need Fulfillment: The preferred alternative will address the purpose and need of the project by providing a new structure which addresses the deteriorated condition of the existing structure, increasing the condition rating to at least an 8 (very good) out of 9 and the service life of 75 years.</p> <p>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 SR 340 facility, nor does the replacement induce any other upgrades to the SR 340 facility in this area. Therefore, the structure replacement has independent utility. Consideration of environment impacts is naturally limited to the location of the current SR 340 crossing.</p>
<p>Other Alternatives Considered:</p>	<p>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 (2) additional alternatives are described below.</p> <p>Single Span Box Bridge Replacement: Replace the existing structure with a single span box beam bridge. This alternative meets the need and purpose of the project by addressing the deterioration of the existing structure. However, this is more expensive option and therefore not preferred.</p> <p>Do Nothing: This alternative does not address the identified need and purpose of the project, which is to address the structural deterioration of the existing structure. This alternative will result in safety risks and closure of SR 340 in the future and is not deemed prudent. This alternative will not be considered further.</p>

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Funding Source(s):	<input checked="" type="checkbox"/> Federal	<input checked="" type="checkbox"/> State	<input type="checkbox"/> Local	<input type="checkbox"/> Other
Project Sponsor:	Indiana Department of Transportation (INDOT)			
Estimated Cost:	\$821,343.06	Project Length:	0.037 mile	
Public Involvement:			No: X	Yes:
<p>Notice of Entry letters were mailed to potentially affected property owners near the project area on June 2, 2020, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, page G-1.</p> <p>The project does not meet any of the conditions set by the current <i>Indiana Department of Transportation (INDOT) Public Involvement Manual</i> that require formal public involvement. Therefore, the project sponsor is not required to offer the public an opportunity to request a public hearing. The project is not anticipated to cause any public controversy. This does not preclude the need for public involvement or public information meeting in the future.</p>				
Right-of-Way:			No:	Yes: X
<p>Apparent existing right-of-way (R/W) is approximately 14 feet 6 inches on either side of the center line. The existing R/W consists of travel lanes and a portion of the shoulder. Approximately 0.1 acre of reacquisition will occur adjacent to the stream at the existing bridge. The project will require 0.2 acre of permanent R/W from residential lawn along SR 340 throughout the project area. There will be 0.19 acre of permanent R/W of forested land north and south of the structure. Approximately 0.04 acre of temporary R/W will be required on the northwest end of the project area (Appendix B, page B-17).</p> <p>The proposed project will impact approximately 0.61 acre of land, approximately 0.49 acre of permanent and 0.21 acre within the existing R/W. Approximately 0.17 acre of trees will be cleared for construction activities. (Appendix B, page B-17).</p> <p>If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.</p>				
Maintenance of Traffic (MOT) During Construction:			No:	Yes: X
<p>MOT will require a full closure of SR 340 at this location during construction. The detour will utilize U.S 40 (Appendix B, page B-16). The detour is approximately 5.6 miles long and is expected to take place during the 3-month construction. Access will be maintained to all local properties during construction.</p> <p>The closure will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion.</p>				
Bridge(s) and/or Small Structure(s) (include structure number(s)):			No:	Yes: X
<p>The existing structure, Bridge # 340-11-01639B, was a steel bedstead bridge constructed in 1919 and replaced with a reinforced concrete channel beam bridge in 1980. The superstructure was replaced with adjacent box beams with a span of 35 feet and 32 feet clear roadway width. (Appendix B, page B-17). The deteriorated structure has an overall condition rating of 5 (fair) according to the November 9, 2020, Bridge Inspection Report (Appendix I, pages I-4 to I-25). The condition ratings range from 0 to 9, 0 being a failed structure and 9 being a structure in excellent condition. Specifically, the box beams associated with the super structure (1 through 7 and 9) were noted to have hairline cracking. Both abutments of the</p>				

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

substructure have concrete that has broken away (spalled) from the south ends of the structure exposing the brick from behind. The masonry bricks are dry laid without mortar and some have fallen out. The west abutment was also noted to have horizontal cracking with efflorescence while both abutments were noted to have vertical cracking.

The proposed project will replace the existing structure with a precast reinforced concrete three-sided structure that is 36 feet wide by 12 feet rise and 44 feet in length. The replacement will be sumped 18 inches and Revetment riprap will be installed 6 feet out from each footing, extending the full length of the bridge, as recommended by the December 29, 2020, INDOT Hydraulics Memo (Appendix I, pages I-2 to I-3). Revetment riprap will also be placed at the inlet (Wing C: 265 sq. ft. and Wing D: 255 sq. ft) and outlet (Wing A: 280 sq. ft. and Wing B: 255 sq. ft.) along the footings and wingwalls (Appendix B, page B-17). All scour protection will be sumped 18 inches deep and the center of the bridge will be perpetuated as natural bottom substrate (24 feet wide). The structure will be constructed 0-degree skew to match the flowline of Purdy Run (Appendix B, page B-17). The existing typical section of SR 340 over the structure will remain consistent with the two 12-foot travel lanes and 3-foot paved shoulders, in areas without guardrail, and 12-foot travel lanes and 6-foot paved shoulder, in areas where guardrail is warranted. Additionally, a 15-inch by 23-foot culvert will be installed in each of the three driveways.

IDENTIFICATION AND EVALUATION OF IMPACTS

Early Coordination:

Early coordination letters were sent on June 2, 2021, (Appendix C, pages C-1 to C-3).

Agency	Date Sent	Date Response Received	Appendix
Indiana Geological and Water Survey	June 4, 2021	June 4, 2021	Appendix C, pages C-4 to C-5
Indiana Dept. of Environmental Management, Office of Planning and Assessment	June 4, 2021	June 4, 2021	Appendix C, pages C-6 to C-12
Natural Resources Conservation Service	June 2, 2021	June 24, 2021	Appendix C, page C-13
Indiana Department of Natural Resources – Division of Fish and Wildlife	June 3, 2021	July 2, 2021	Appendix C, pages C-14 to C-17
INDOT Cultural Resource Office	October 6, 2021	October 7, 2021	Appendix C, pages C-18 to C-19
USFWS Information for Planning and Consultation (IPaC)	August 9, 2021	August 10, 2021	Appendix C, pages C-20 to C-37
Clay County School District - Superintendent	June 2, 2021	No response received	N/A
Federal Highway Administration – Indiana Division	June 2, 2021	No response received	N/A
National Park Service – Midwest Regional Office	June 2, 2021	No response received	N/A
US Army Corps of Engineers – Louisville District	June 2, 2021	No response received	N/A
U. S. Dept. of Housing & Urban Development	June 2, 2021	No response received	N/A
INDOT – Crawfordsville District	June 2, 2021	No response received	N/A
Clay County Commissioner – President	June 2, 2021	No response received	N/A
Clay County Council	June 2, 2021	No response received	N/A

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Clay County Highway Department – Highway Supervisor	June 2, 2021	No response received	N/A
Clay County Surveyor	June 2, 2021	No response received	N/A
Eighth Coast Guard District	June 2, 2021	No response received	N/A
Terre Haute Area Economic Development Corporation	June 2, 2021	No response received	N/A
Clay County Emergency Management Agency	June 2, 2021	No response received	N/A

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.

Streams, Rivers, and Other Jurisdictional Features Impacted: No: Yes:

Based on the desktop review, the aerial map of the project area, (Appendix B, page B-3) and the RFI report (Appendix E, page E-8) there are eleven streams, rivers, or other jurisdictional features within the 0.5-mile search radius.

A site visit was conducted on October 22, 2020, by CHA Consulting, Inc. A *Waters of the U.S. Determination/Wetland Delineation Report* was completed for the project on June 1, 2021. INDOT Ecology and Waterway Permitting Office approved the report on September 20, 2021. Please refer to Appendix F, pages F-1 to F-10) for the *Waters of the U.S. Determination/Wetland Delineation Report*. One stream, (Purdy Run), was identified within the project area and is likely under the jurisdiction of the U.S. Army Corps of Engineers (USACE). Three roadside ditches were identified within the project area and are likely not under the jurisdiction of the USACE. The USACE makes all final determination regarding jurisdiction.

Jurisdictional Features:

Purdy Run

Purdy Run is a perennial stream that flows north under the SR 340 bridge that is 32 feet long by 35 feet wide. Purdy Run has an ordinary high-water mark (OHWM) 18 feet wide by 1.5 feet deep, with substrate consisting mostly of gravel and silt. The portion of the stream within the project area has a drainage area of 1.6 square miles. Purdy Run has a narrow to wide forested buffer with the surrounding areas in residential and agriculture land use. Due to all these attributes, the quality of the stream is average. Purdy Run flows north through the project area and drains into Sulphur Creek. Sulphur Creek flows west connecting with Otter Creek that drains into the Wabash River, a Traditionally Navigable Waterway (TNW) and Waters of the U.S.

Non-Jurisdictional Features:

Roadside Ditch (RSD)

Three RSDs were identified within the project area. These features were designed along with the roadway to convey storm water, were excavated within the upland area, drain upland waters, and did not display a continuous defined bed and bank or OHWM. Due to these reasons, these features are likely not considered Waters of the U.S.

This project will impact approximately 82 feet of Purdy Run through the replacement of a bridge, riprap placement at the footers and sumping of the channel. (Appendix B, page B-17). Approximately 82 linear feet of riprap will be installed within the OHWM (0.004 acre; 9.11 cys). Section 401/404 permits will be required for these impacts; however, mitigation is not expected.

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Early coordination letters were sent to the National Park Service (NPS), USACE, the U.S. Coast Guard and the Indiana Department of Natural Resources (IDNR) on June 2, 2021 (Appendix C, pages C-1 to C-3). Coordination with Indiana Department of Environmental Management (IDEM) was accomplished electronically through the standardized environmental review process <https://www.in.gov/idem/5284.htm> on June 4, 2021 (Appendix C, pages C-6 to C-12).

The NPS, the U.S. Coast Guard and the USACE did not respond to the early coordination letter. The standard IDEM letter noted recommendations associated with obtaining permits for regulatory work in and near waterways, such as; fill or excavation within the waterway, riparian tree clearing for the proposed project, and limiting sediment disturbance and controlling for erosion to avoid discharge into regulatory waterways (Appendix C, page C-6).

The IDNR responded on July 24, 2021, and included a number of recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources (Appendix C, pages C-14 to C-17). These recommendations included: the project design should include a crossing that minimizes fish and wildlife impacts through structure type and dimensions that enable favorable aquatic organism passage, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. The IDNR recommended additionally, do not replace riprap in the bed of the channel (unless sumped across the bed to avoid creating fish passage obstruction) and use alternative erosion protection materials whenever possible and from the OHWM to the top of the banks, heavy duty erosion control blankets or turf reinforcement mats or a similar bioengineering method should be used and these materials should be seeded with native plants to allow a natural, vegetated stream bank to develop. The IDNR also recommended to minimize and contain within the project limits inchannel disturbance, do not work in the waterway from April 1 through June 30 without prior written approval of the Division of Fish and Wildlife.

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

Open Water Feature(s):	No: X	Yes:
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Based on the desktop review, the aerial map of the project area, (Appendix B, page B-3) and the RFI report (Appendix E, page E-8) there are ten 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 22, 2020, by CHA Consulting, Inc. A *Waters of the U.S. Determination/Wetland Delineation Report* was completed for the project on June 1, 2021. INDOT Ecology and Waterway Permitting Office approved the report on September 20, 2021. Please refer to Appendix F, pages F-1 to F-10 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:	No: X	Yes:
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Based on the desktop review, the aerial map of the project area, (Appendix B, page B-3) and the RFI report (Appendix E, page E-8) there are twenty-two mapped wetlands within the 0.5-mile search radius. One of the mapped wetlands is adjacent to the project area.

A site visit was conducted on October 22, 2020, by CHA Consulting, Inc. A *Waters of the U.S. Determination/Wetland Delineation Report* was completed for the project on June 1, 2021. INDOT Ecology and Waterway Permitting Office approved the report on September 20, 2021. Please refer to Appendix F, pages F-1 to F-10 for the *Waters of the U.S. Determination/Wetland Delineation Report*. It was determined that no wetlands are within the project area. Therefore, no impact is expected.

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Terrestrial Habitat:	No:	Yes: X
<p>Based on a desktop review, a site visit on October 22, 2020, the aerial map of the project area (Appendix B, page B-3), and the RFI report (Appendix E, page E-8), there are two terrestrial habitats within or adjacent to the project area. The stream is bordered by a wooded riparian corridor and the roadway is lined with mowed residential lawn. The dominant tree species within the project area include Mulberry (<i>Morus alba</i>), Cottonwood (<i>Populus deltoides</i>), Hackberry (<i>Celtis occidentalis</i>), and American Elm (<i>Ulmus americana</i>).</p> <p>Early coordination letters were sent to the NPS, USACE, the U.S. Coast Guard and IDNR on June 2, 2021 (Appendix C, pages C-1 to C-3). Coordination with IDEM was accomplished electronically through the standardized environmental review process (http://www.in.gov/idem/5284.htm on June 4, 2021 (Appendix C, pages C-6 to C-12).</p> <p>The IDNR responded on July 2, 2021, and recommended that all bare and disturbed areas are revegetated with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs if any woody plants are disturbed during construction as soon as possible upon completion, do not revegetate with any varieties of tall fescue or other non-native plants, including prohibited invasive species, minimize and contain within the project limits the clearing of trees and brush, and plant native hardwood trees along the top of bank and right-of-way to replace the vegetation destroyed during construction. (Appendix C, pages C-14 to C-17).</p> <p>All applicable IDNR recommendations are included in the <i>Environmental Commitments</i> section of this CE document.</p>		
Protected Species:	No:	Yes: X
<p>Based on a desktop review and the RFI report (Appendix E, page E-4), completed by CHA Consulting, Inc. on September 27, 2021, IDNR Clay County Endangered, Threatened, and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination letter dated July 2, 2021 (Appendix C, pages C-14 to C-17), the Natural Heritage Program’s Database has been checked and stated “to date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.”</p> <p><u>Indiana Bat and Northern Long-Eared Bat</u></p> <p>Project information was submitted through the USFWS’s Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages C-20 to C-25). The project is within range of the federally endangered Indiana bat (<i>Myotis sodalis</i>) and the federally threatened northern long-eared bat (NLEB) (<i>Myotis septentrionalis</i>). One other candidate species was generated in the IPaC species list along with the Indiana Bat and NLEB. Refer to paragraph below.</p> <p>The project qualifies for the Rangewide 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 November 9, 2020, and stated that there was no evidence of bats or signs of bats using the structure (Appendix I, page I-23. An effect determination key was completed on August 9, 2021, and based on the responses provided, the project found “not likely to adversely affect” (NLAA) the Indiana bat and/or the NLEB (Appendix C, pages C-26 to C-37). Approximately 0.55 acre of trees will be cleared for construction activities. INDOT reviewed and verified the finding on August 10, 2021, 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.</p>		

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Based on the scope of work it was found that six avoidance and minimization measures (AMMs) are needed:

- General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.
- Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season.
- Tree removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.
- Tree removal AMM 2: Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.
- Tree removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).
- Tree removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 mile of roosts or documented foraging habitat any time of the year.

The official species list generated from IPaC indicated Monarch butterfly (*Danaus plexippus*) is present within the project area. The project qualifies for the USFWS Policy due to the project meeting all seven of the Programmatic Coordination criteria; therefore, no further coordination with USFWS is needed.

AMMs and/or commitments are included as firm commitments in the *Environmental Commitments* section of this document.

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

Migratory Birds

Neither the INDOT Bridge Inspection Report of November 9, 2020, nor the CHA Inspection of October 22, 2020, observed nests or other indications that the bridge is used by migratory birds. The bottom of the bridge has no exposed beams, cross-members, or other areas to perch, and is not conducive to nest construction. Therefore, this project is not likely to impact migratory birds during construction.

Geological and Mineral Resources:

No: X

Yes:

Based on the desktop review, the project is located outside the designated Indiana Karst Region as outlined in the July 15, 2021, Protection of Karst Features during Project Development and Construction guidance. According to the RFI report (Appendix E, page E-8) there are no karst features identified within or adjacent to the project area.

In the June 4, 2021, early coordination response, the Indiana Geological and Water Survey (IGWS) did not indicate that karst features exist in the project area (Appendix C, pages C-4 to C-6). Additionally, the IGWS identified high liquefaction potential and 1% annual chance flood hazard as geological hazards, high potential for bedrock resource, a low potential for sand and gravel, petroleum exploration wells, and abandoned industrial minerals quarries within 0.5-mile search radius. The features will not be affected because the project does not propose to alter access to mineral resource in the general area. Response from the IGWS has been communicated with the designer on September 28, 2021. No impacts are expected.

This is page 9 of 14 Project name: SR 340 Bridge Project, Bridge # 340-11-01639B Date: March 8, 2022

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Drinking Water Resources:	No: X	Yes:
<p><u>Sole Source Aquifer</u> The project is located in Clay County, which is not located within the area of the St. Josephs Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project, a detailed groundwater assessment is not needed, and no impacts are expected.</p> <p><u>Wellhead Protection Area and Source Water</u> The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (https://www.in.gov/idem/cleanwater/pages/wellhead) was accessed on October 4, 2021, by CHA Consulting, Inc. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.</p> <p><u>Water Wells</u> The Indiana Department of Natural Resources Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on October 4, 2021, by CHA Consulting, Inc. The nearest well was mapped 0.01 mile south of the project area. No wells were identified during the field investigation conducted on October 22, 2020, by environmental staff at CHA Consulting, Inc. This feature will not be affected because it is located outside of the project area. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells will be affected, a cost to cure will likely be included in the appraisal to restore wells.</p> <p><u>Urban Area Boundary</u> Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by CHA Consulting, Inc. on October 4, 2021, and the RFI report; this project is located in an Urban Area Boundary (UAB). An early coordination letter was sent on June 2, 2021, to Jeremy Weir, Terre Haute MPO Director of Transportation Planning. The MS4 coordinator did not respond within the 30-day time frame.</p> <p><u>Public Water System</u> Based on a desktop review, a site visit on October 22, 2020, by environmental staff at CHA Consulting, Inc., the aerial map of the project area (Appendix B, page B-3), no public water systems were identified. Therefore, no impacts are expected.</p>		
Floodplains:	No:	Yes: X
<p>Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) by CHA Consulting, Inc. on September 28, 2021, 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 B, page B-6). An early coordination letter was sent on June 2, 2021, to the local Floodplain Administrator. The floodplain administrator, Jeremy Weir, did not respond within the 30-day time frame.</p> <p>This project qualifies as a Category 3 per the current INDOT CE Manual, which states "The modifications to drainage structures included in this project will result in an insubstantial change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any substantial adverse impacts on the natural and beneficial floodplain values; they will not result in substantial change in flood risks or damage; and they do not have substantial potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not substantial.</p>		

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

An early coordination letter was sent to the IDNR on June 3, 2021 (Appendix C, pages C-1 to C-3). The IDNR responded on July 2, 2021, and indicated that "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" (Appendix C, pages C-14 to C-17). This project is located within 2 miles of a town; therefore, does not meet the rural bridge exemption and will likely require a construction in a floodway (CIF) permit.

Farmland:	No: X	Yes:
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Based on a desktop review, a site visit on October 22, 2020, by CHA Consulting, Inc., the aerial map of the project area (Appendix B, page B-3), there is no land in existing farm use in the project area; therefore, no impacts are expected. An early coordination letter was sent on June 2, 2021, to Natural Resources Conservation (NRCS). The NRCS confirmed this by indicating that the project "will not cause a conversion of prime farmland" in their correspondence on June 24, 2021 (Appendix C, page C-13).

Cultural Resources:	No:	Yes: X
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On August 19, 2021, 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-4). Category B-12 includes replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed). INDOT CRO determined that this project meets Condition A(ii) for archaeological. According to the Phase Ia Field Reconnaissance (Bubb 2021), no archaeological sites were identified within the project limits. Additionally, INDOT CRO determined that the project meets Condition B (ii)(b) as the bridge was built in 1964 and is a common type as defined in Section V of the Program Comment Issued for Streaming Section 106 Review for Action Affecting Post-1945 Concrete and Steel Bridges.

Billtown Cemetery is located 0.02 mile northeast of the project area. An early coordination letter was sent to INDOT CRO on October 6, 2021. INDOT CRO responded on October 7, 2021, and stated that "A Cemetery Development Plan is not required for this project since there is no r/w being acquired from the cemetery and it will not be impacted during construction." (Appendix C, page C-18 to C-19).

This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

Section 4(f) and Section 6(f) Resources:	No: X	Yes:
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Section 4(f)
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. Land's subject this law are considered Section 4(f) resources.

Based on a desktop review, a site visit on October 22, 2020, 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) there is one potential 4(f) resource located within the 0.5-mile search radius. There are no Section 4(f) resources located within or adjacent to the project area. Therefore, no use is expected.

Section 6(f)
The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

<p>resources. Section 6(f) of this Act prohibits conversions of the lands purchased with LWCF monies to a non-recreation use. A review of the 6(f) properties on the INDOT ESD website, revealed a total of two properties in Clay 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.</p>		
Air Quality:	No:	Yes: X
<p>This project is included in the Fiscal Year (FY) 2020-2024 West Central Indiana Metropolitan Planning Organization Transportation Improvement Program (MPO TIP) and Statewide Transportation Improvement Program (STIP) (Appendix H, pages H-1 to H-2).</p> <p>Attainment Status This project is located in Clay County, which is currently in attainment for all criteria pollutants according to the IDEM website http://www.in.gov/idem/airquality/files/nonattainment_areas_map.pdf. Therefore, the conformity procedure of 40 CFR Part 93 does not apply.</p> <p>MSAT This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 711.11(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.</p>		
Community Impacts:	No: X	Yes:
<p>Environmental Justice (EJ) 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. This project will have no relocations and will require less than 0.5 acre of additional permanent right-of-way; therefore, an EJ analysis is not required per the current INDOT Categorical Exclusion Manual.</p>		
Public Facilities and Services (e.g. schools, emergency services):	No:	Yes: X
<p>Based on a desktop review, the aerial map of the project area (Appendix B, page B-3), and the RFI report (Appendix E, page E-7), there are two pipelines segments, one railroad segment, and one trail segment located within the 0.5-mile radius of the project. This number was confirmed by the site visit on October 22, 2020, by CHA Consulting, Inc. There are no public facilities within or adjacent to the project area, therefore, no impacts are expected. Access to all properties will be maintained during construction.</p> <p>The MOT closure will pose a temporary inconvenience to traveling motorist (including school buses and emergency vehicles); however, no significant delays are anticipated, and all inconveniences will cease upon project completion.</p> <p>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.</p>		
Hazardous Materials and Regulated Substances:	No: X	Yes:
<p>Based on a review of GIS and available public records, a RFI was completed on September 27, 2021, by CHA Consulting, Inc. and concurred by INDOT SAM on September 27, 2021 (Appendix E, pages E-1 to E-8). No sites with hazardous material concerns (hazmat sites) or sites involved with regulated substances were identified in or within 0.5-mile of the project area. Further investigation for hazardous material concerns or regulated substances is not required at this time.</p>		

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

Permits:	No:	Yes: X		
<p>A USACE Section 404 permit and an IDEM 401 Water Quality Certification (WQC) will likely be required because riprap will be placed below the OHWM of Purdy Run. No mitigation is anticipated because impacts are less than 300 linear feet of waterway.</p> <p>It is anticipated that an IDNR Construction in a Floodway (CIF) permit will be required. The IDNR responded on July 2, 2021, and indicated that "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" (Appendix C, pages C-14 to C-17). This project does not qualify for the Rural Bridge Exemption as it is not located in a rural area.</p> <p>It is anticipated that an IDEM Rule 5 permit will not be required as the proposed project will not disturb more than one acre of total land area.</p> <p>Early coordination letters were sent to NPS, USACE, the U.S. Coast Guard and the IDNR on June 3, 2021, (Appendix C, pages C-1 to C-3). Coordination with IDEM was accomplished electronically through the standardized environmental review letter process (http://www.in.gov/idem/5284.htm) on June 4, 2021, (Appendix C, pages C-6 to C-12)</p> <p>The NPS and USACE did not respond to the early coordination letter. The standard IDEM letter noted Section 401/404 permits may be required. IDEM additionally noted that if there will be an acre or more of land disturbance a Rule 5 permit will be required (Appendix C, pages C-6 to C-12).</p> <p>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 supersede these recommendations. It is the responsibility of the project sponsor to identify and obtain all required permits.</p>				

ENVIRONMENTAL COMMITMENTS:
<p>Firm:</p> <ol style="list-style-type: none">1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Service Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)3. General AMM 1: 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: All phases/aspects of the project (e.g., temporary work areas, alignments) will be modified, to avoid tree removal. (USFWS)5. Tree Removal AMM 3: Tree removal will be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field. (USFWS)6. Tree Removal AMM 4: 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 will not be removed. (USFWS)7. Lighting AMM 1: All temporary lighting be directed away from suitable habitat during the active season. (USFWS)8. 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

Indiana Department of Transportation

County Clay Route State Road (SR) 340 Des. No. 1900176

- 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. (IDNR and USFWS)
9. USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after November 9, 2020, plus 2 years, an inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT)
 10. If riprap is planned for scour protection under the bridge, an 18" to 24" wide (at minimum) level path free of riprap, must be included in the design. Where a riprap path is not feasible, one alternative could be to choke the riprap on the wildlife passage area with a 6" thick cover of compacted #53 stone. (IDNR)

For Consideration:

1. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR)
2. Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)
3. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2") below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the OHWM width); maintain the natural stream substrate within the structure; and have stream depth, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel. (IDNR)
4. The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. (IDNR)
5. Limit the use of riprap on the channel banks to toe protection extending up to the ordinary high water mark (OHWM). Do not place riprap in the bed of the channel (unless sumped across the bed to avoid creating a fish passage obstruction) and use alternative erosion protection materials whenever possible. From the OHWM to the top of the banks, heavy duty erosion control blankets or turf reinforcement mats or a similar bioengineering method should be used and these materials should be seeded with native plants to allow a natural, vegetated stream bank to develop. (IDNR)
6. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10 inches dbh or greater (5:1 mitigation based on the number of large trees) 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 acre in an urban area may still involve the replacement of large diameter trees but typically do not require any additional mitigation or additional plantings beyond seeding and stabilizing disturbed areas. There are exceptions for high quality habitat sites however. (IDNR)
7. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR)
8. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction. (IDNR)

Table of Appendices

Appendix A: INDOT Supporting Documentation

Threshold Chart A-1

Appendix B: Graphics

Maps of the Project Area..... B-1 to B-7

Photographs of the Project Area..... B-8 to B-11

Project Plans B-12 to B-28

Appendix C: Early Coordination

Early Coordination Example Letter C-1 to C-3

Early Coordination Responses C-4 to C-37

Appendix D: Section 106 Consultation

Minor Projects PA Project Assessment Form D-1 to D-4

Appendix E: Red Flag and Hazardous Materials

Red Flag Investigation Report E-1 to E-8

Appendix F: Water Resources

Wetland Delineation and Waters of the US Report F-1 to F-10

Appendix G: Public Involvement

Notice of Survey G-1

Appendix H: Air Quality

2020- 2024 Statewide Transportation Improvement Program (STIP) H-1

West Central Indiana Metropolitan Planning area TIP..... H-2

Appendix I: Additional Studies

Land and Water Conservation Fund Listing I-1

Hydraulics Memo for 340-11-10492 (Old Bridge No. 340-11-01639) I-2 to I-3

Bridge/Structure Bat Assessment I-4

340-11-01639 Bridge Inspection Report I-5 to I-26

Appendix A

Threshold Chart

Item	Appendix Page
CE Threshold Chart	A-1

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way³	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	“No Effect”, “Not likely to Adversely Affect” (Without AMMs ⁴ or with AMMs required for all projects ⁵)	“Not likely to Adversely Affect” (With any other AMMs)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	“No Effect”, “Not likely to Adversely Affect”	-	-	“Likely to Adversely Affect”
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁶
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ⁷
Approval Level <ul style="list-style-type: none"> • District Env. Supervisor • Env. Services Division • FHWA 	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes Yes	Yes Yes Yes

¹Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

²Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

³Permanent and/or temporary right-of-way.

⁴AMMs = Avoidance and Mitigation Measures.

⁵AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User’s Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as “required for all projects”.

⁶Potential for causing a disproportionately high and adverse impact.

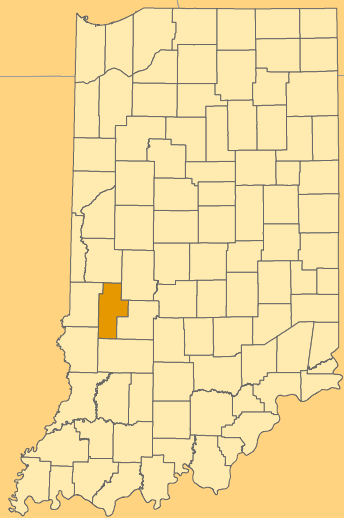
⁷Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

*Substantial public or agency controversy may require a higher-level NEPA document.

Appendix B

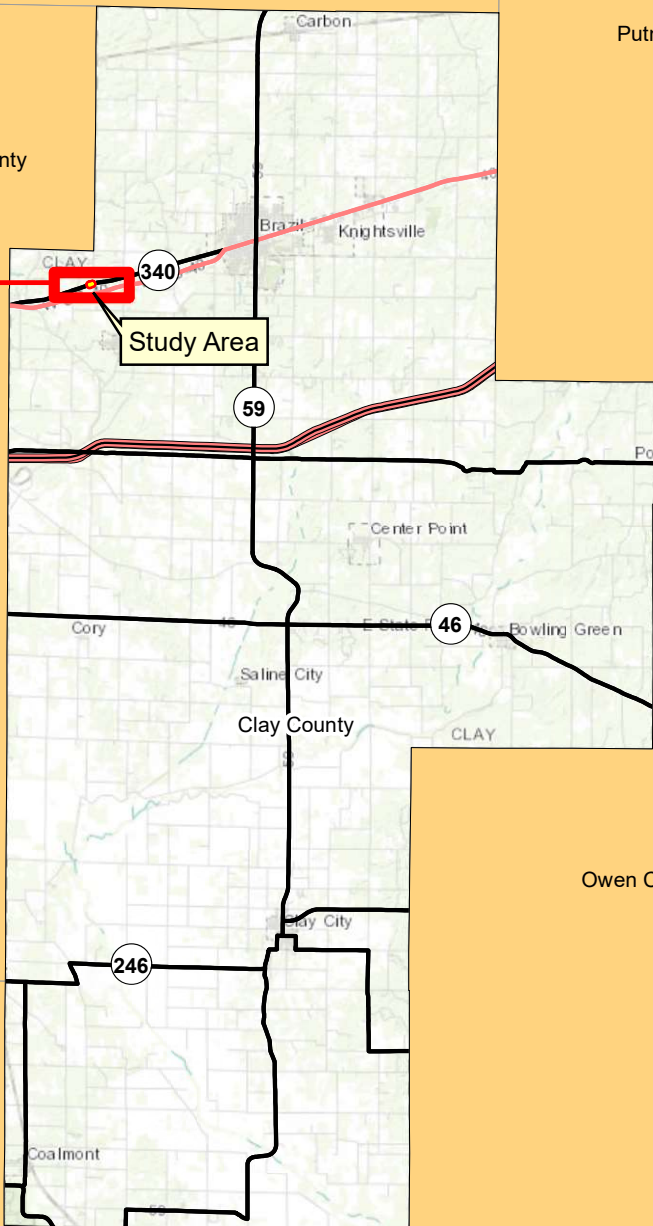
Graphics

Item	Appendix Page
State Location Map	B-1
USGS Project Location Map	B-2
Aerial Location Map	B-3
NWI Wetlands Map	B-4
NRCS Soils Map	B-5
IDNR Floodzones Map	B-6
Photo Location Map	B-7
Photographs of the Project Area	B-8 to B-11
Project Plans	B-12 to B-28



Vigo County

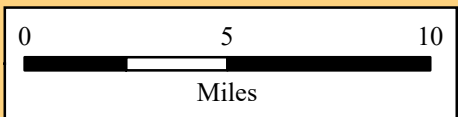
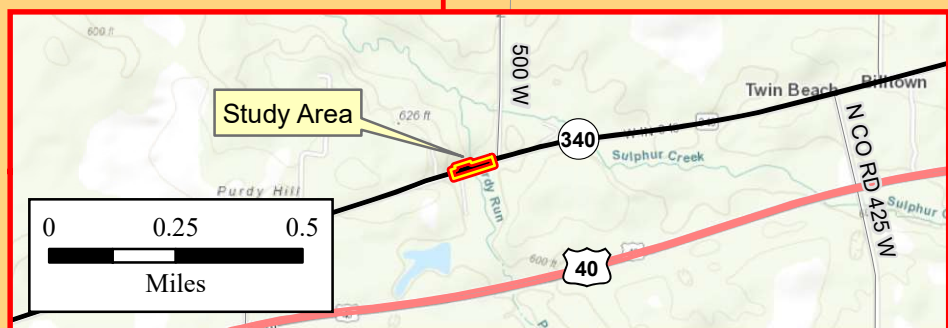
Putnam County



Sullivan County

Owen County

Greene County



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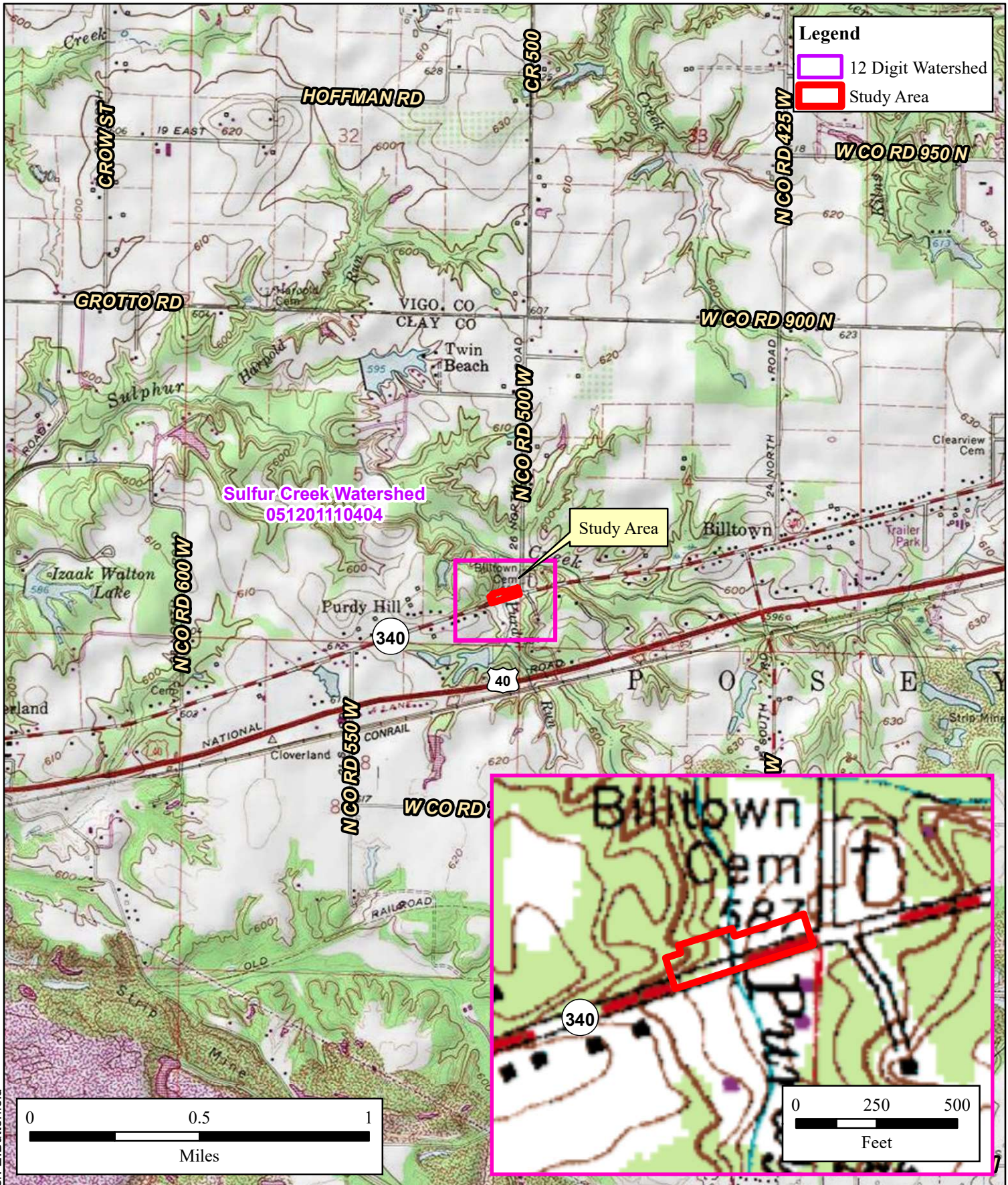
Project Location Map

SR 340 Bridge Project Over Purdy Run
Clay County, Indiana

Scale 1" = 25,000'

DES No.
1900176

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

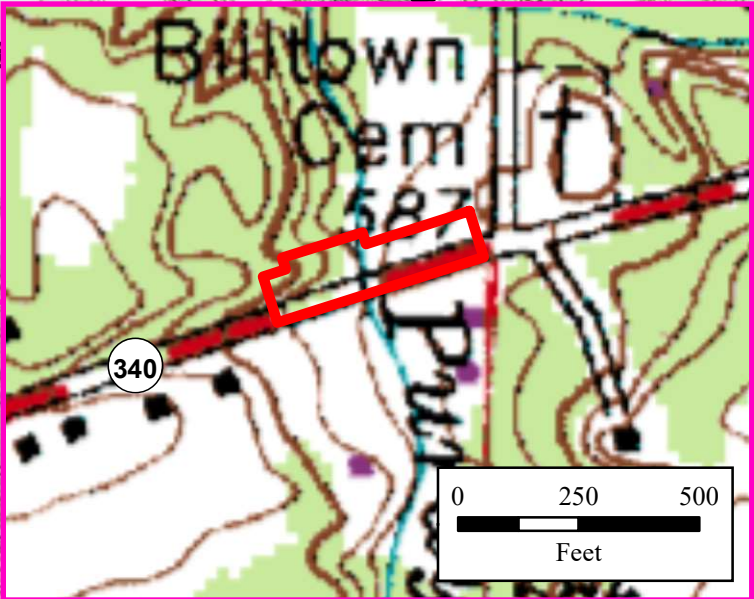
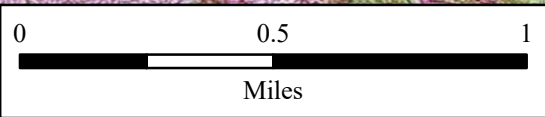


Legend

- 12 Digit Watershed
- Study Area

Sulfur Creek Watershed
051201110404

Study Area



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Scale 1" = 2000'


DES No.
1900176

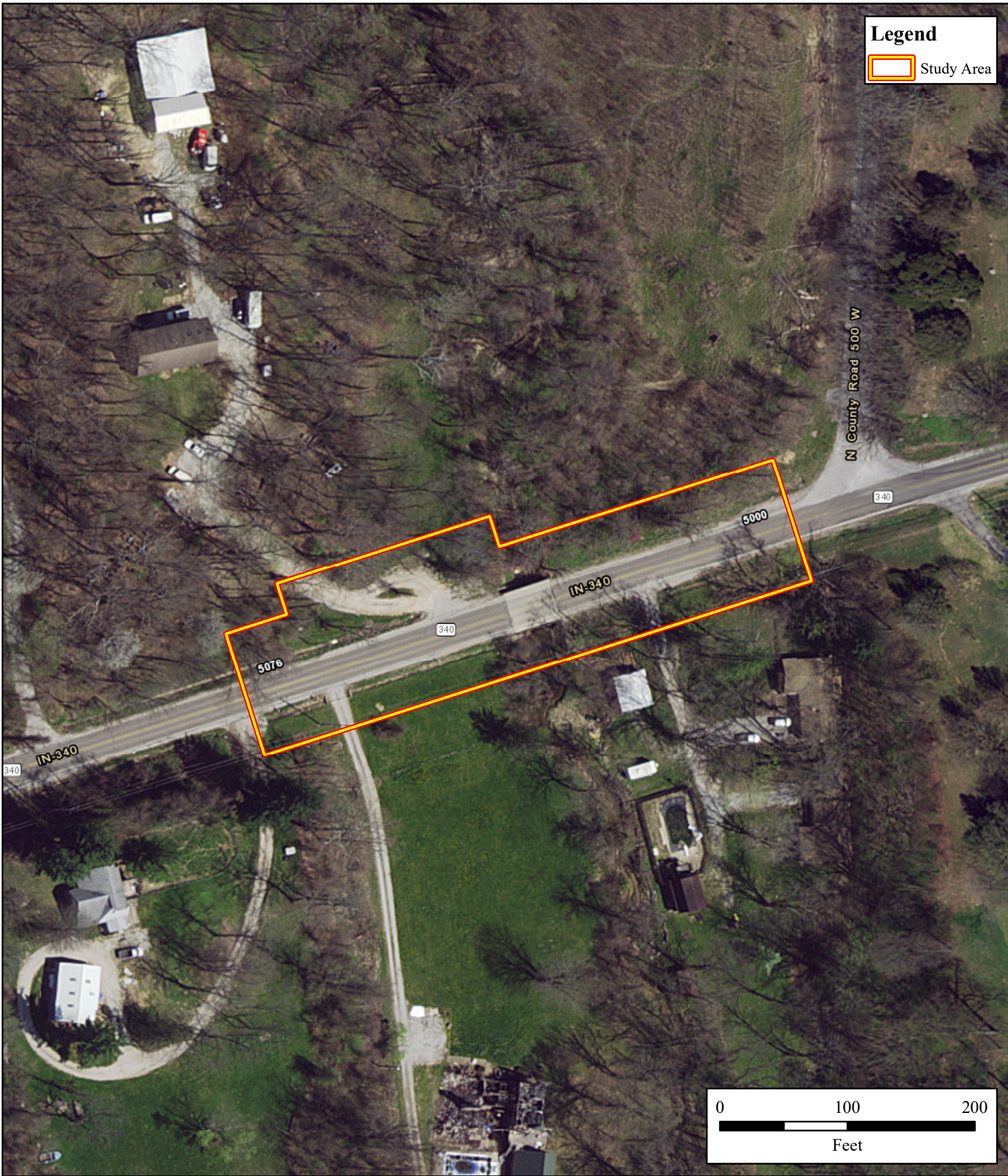
USGS Topographic Map

SR 340 Bridge Project Over Purdy Run
Clay County, Indiana

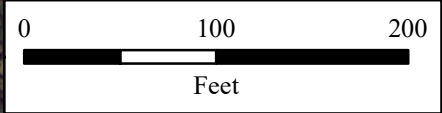
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Brazil West USGS Quadrangle Date: 1992



Legend

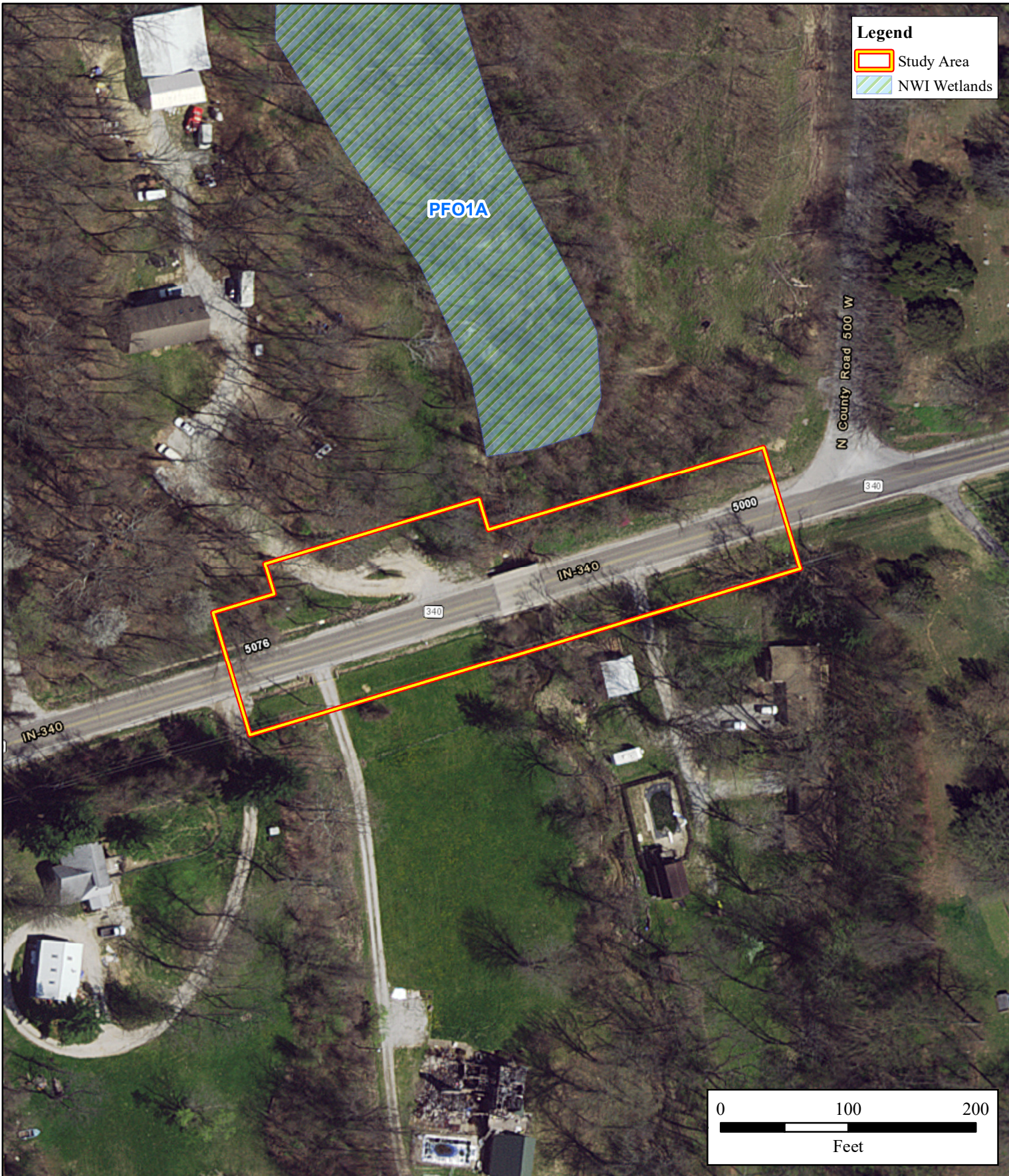
 Study Area



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	Indiana Department of Transportation 		Aerial Location Map SR 340 Bridge Project Over Purdy Run Clay County, Indiana
	Scale 1" = 100'	DES No. 1900176	<i>Image Courtesy of the IndianaMap</i> <i>Photo Date: 2018</i>



Legend

- Study Area
- NWI Wetlands

PF01A

N County Road 500 W

IN-340

5076

5000

340

340

IN-340



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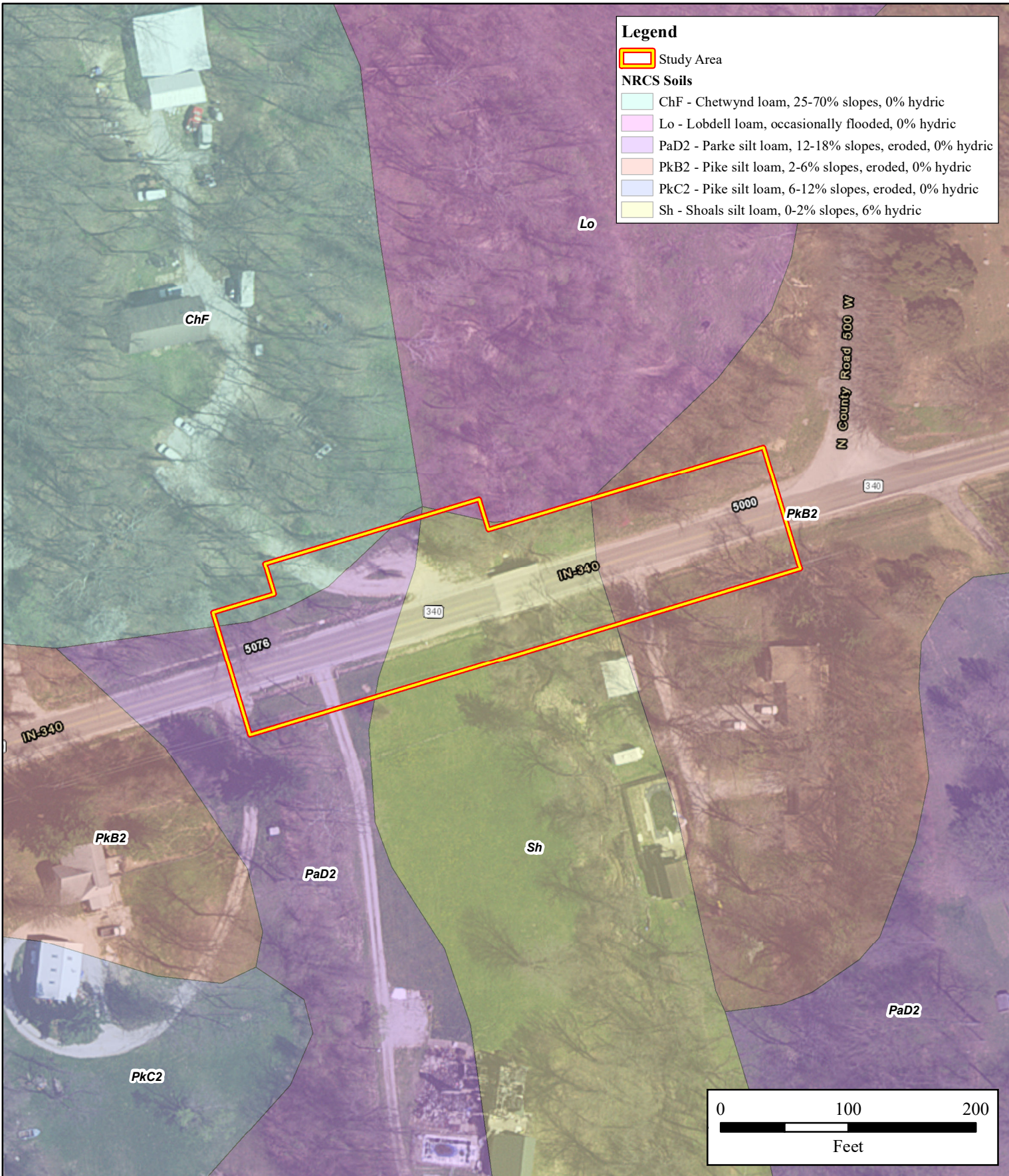
NWI Wetlands Map

SR 340 Bridge Project Over Purdy Run
Clay County, Indiana

Scale 1" = 100'

DES No.
1900176

Image Courtesy of the IndianaMap - Photo Date: 2018
NWI Wetland data courtesy of the
National Wetlands Inventory produced by the U.S. Fish and Wildlife Service



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NRCS Soils Map

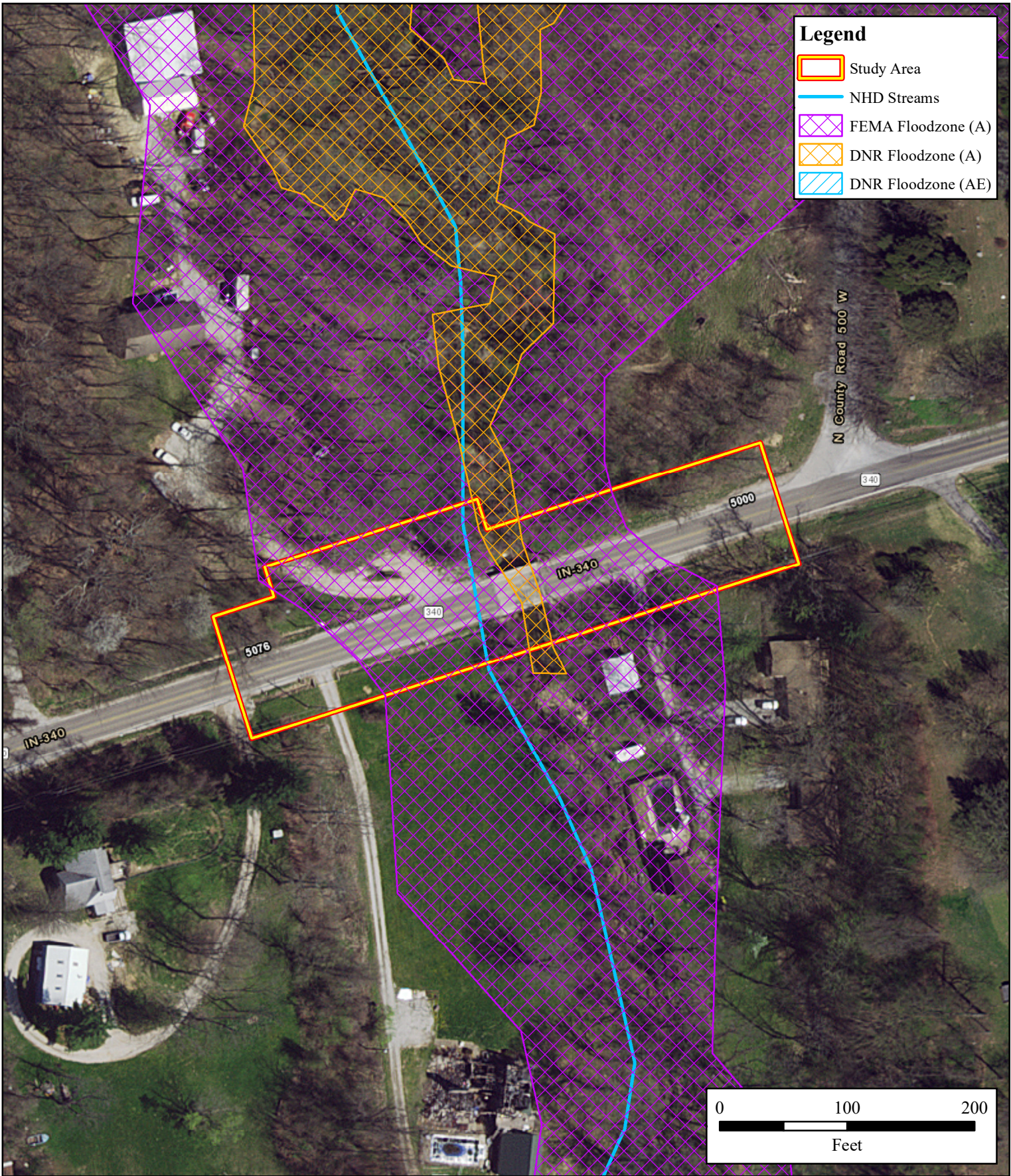
SR 340 Bridge Project Over Purdy Run
Clay County, Indiana



Scale 1" = 100'

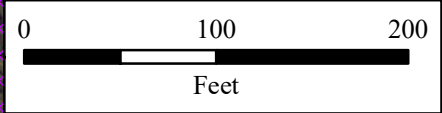
DES No.
1900176

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



Legend

- Study Area
- NHD Streams
- FEMA Floodzone (A)
- DNR Floodzone (A)
- DNR Floodzone (AE)



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Indiana Department of Transportation

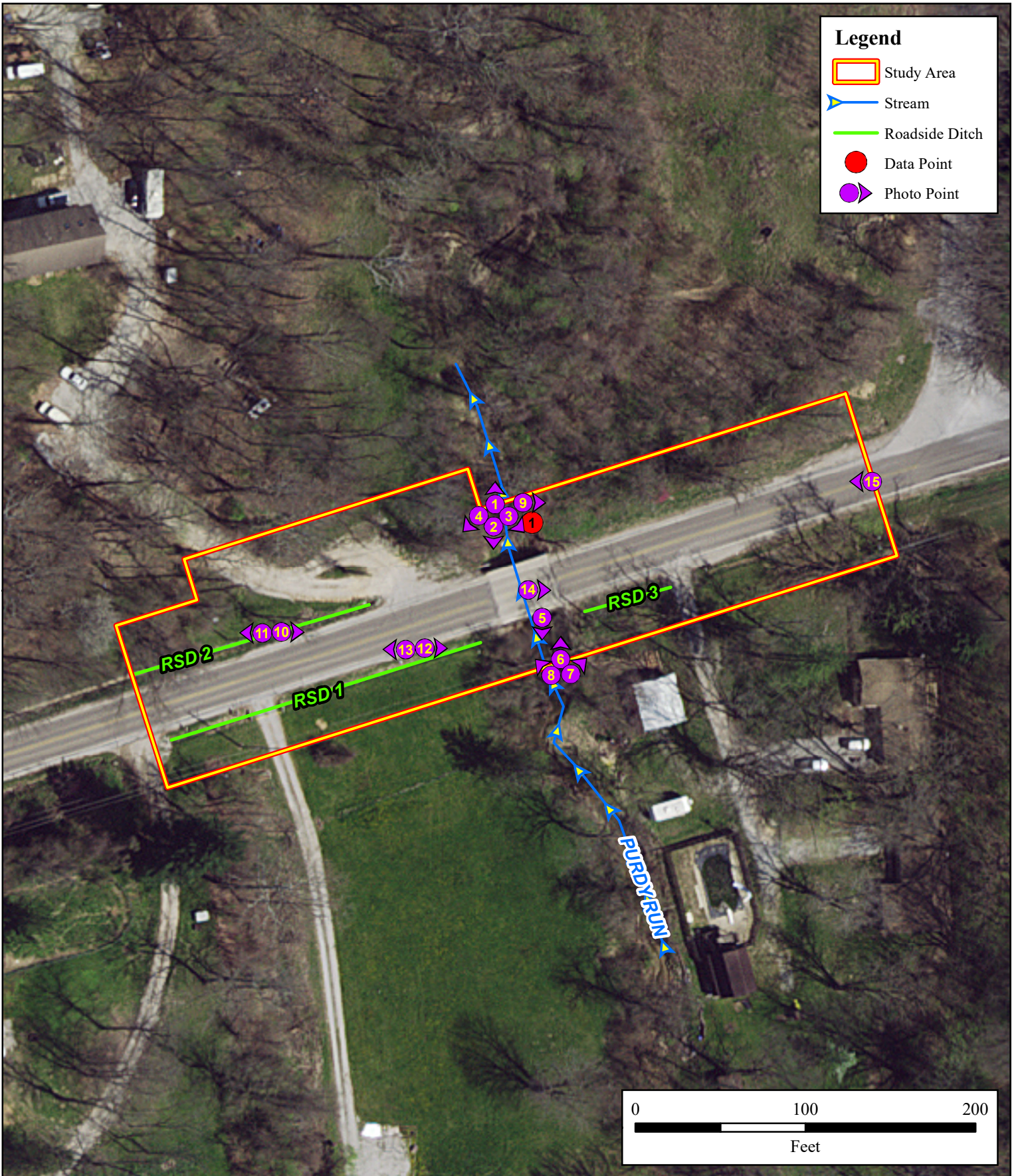


Scale 1" = 100'

DES No.
1900176

**FEMA & IDNR Floodzones
and NHD Streams Map**
SR 340 Bridge Project Over Purdy Run
Clay County, Indiana

*Image Courtesy of the IndianaMap
Photo Date: 2018
Floodzones Courtesy of the Indiana Department of Natural Resources*



Legend

- Study Area
- ▶ Stream
- Roadside Ditch
- Data Point
- ▶ Photo Point



Date Saved: 9/15/2021 • Author: E. Butterfield

	Indiana Department of Transportation 		<h2 style="margin: 0;">Photo Orientation Map</h2> <p style="margin: 0;">SR 340 Bridge Project Over Purdy Run Clay County, Indiana</p>
	Scale 1" = 75'	DES No. 1900176	<i>Image Courtesy of the IndianaMap Photo Date: 2018</i>

SR 340 Bridge over Purdy Run Des. 1900176

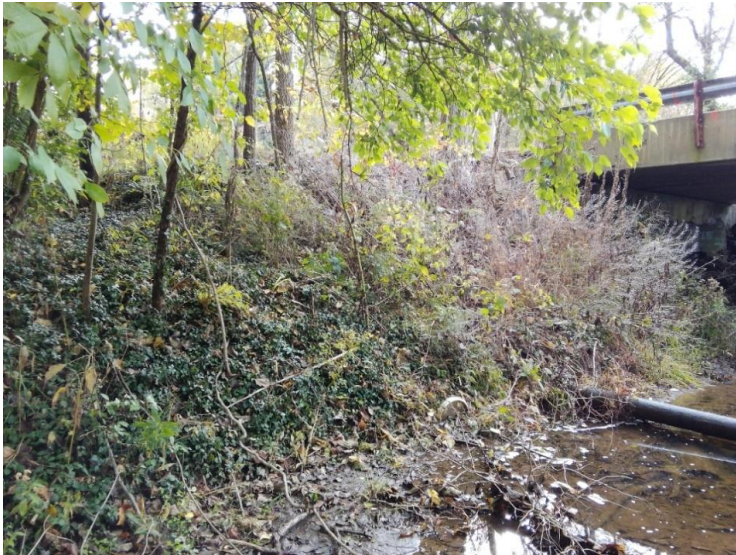


PP-1; Looking north, downstream at Purdy Run, a perennial stream.

Photos taken October 22, 2020



PP-2; Looking south, upstream at Purdy Run and the SR 340 bridge. [OHWM at 39.507893, -87.201400](#)



PP-3; Looking southeast along Purdy Run.



PP-4; Looking southwest along Purdy Run.

SR 340 Bridge over Purdy Run Des. 1900176



PP-5; Looking south, upstream at Purdy Run from the south side of the SR 340 bridge.

Photos taken October 22, 2020



PP-6; Looking north, downstream at Purdy Run from the south project boundary.



PP-7; Looking northeast along Purdy Run.



PP-8; Looking northwest along Purdy Run.



PP-9; Looking east at upland area from DP-1.



DP-1; Looking down at the upland soil profile.



PP-10; Looking east at RSD 2 along the north side of SR 340.



PP-11; Looking west at RSD 2 along the north side of SR 340.

SR 340 Bridge over Purdy Run Des. 1900176



PP-12; Looking east at RSD 1 along the south side of SR 340.

Photos taken October 22, 2020



PP-13; Looking west at RSD 1 along the south side of SR 340.



PP-14; Looking east along SR 340 and RSD 3 that is south of the road and west of the driveway.



PP-15; Looking west along SR 340 from the east project boundary.