

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

<b>Road No./County:</b>	State Road (SR) 11 / Harrison County
<b>Designation Number(s):</b>	2001154
<b>Project Description/Termini:</b>	SR 11 Roadway Project / From SR 135/Watson Road to SR 11/Old HWY 337/Melview Road Intersection

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

**Release for Public Involvement**

KARSTIN MARIE  
 CARMANY-GEORGE  
 Digitally signed by  
 KARSTIN MARIE  
 CARMANY-GEORGE  
 Date: 2023.07.27  
 11:24:05 -04'00'

\_\_\_\_\_  
 FHWA Signature and Date

*Drew Passmore*

July 26, 2023

\_\_\_\_\_  
 INDOT ESD Signature and Date

**Certification of Public Involvement**

\_\_\_\_\_  
 INDOT Consultant Services Signature and Date

**INDOT DE/ESD Reviewer Signature and Date:**

*Cindy Mauro*

Jul 26, 2023

**Name and Organization of CE/EA Preparer:**

\_\_\_\_\_  
 Daniel Townsend, Lochmueller Group

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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.**

Does the project have a historic bridge processed under the Historic Bridges PA*?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If No, then: Opportunity for a Public Hearing Required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

\*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 Entry letters were mailed to potentially affected property owners near the project area in February 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 Notice of Entry letter is included in Appendix G, pages 1-2.

A draft Public Involvement Plan (PIP) was reviewed by the Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA). An initial PIP was finalized on July 1, 2021. The PIP was updated on April 8, 2022, to amend the outreach activity schedule to align with the environmental and overall project schedule. A copy of the current PIP can be found in Appendix G, pages 3-11.

A local officials meeting was held on February 8, 2021, via video conferencing. Six local officials met with a project team member to introduce the project and provide project progress. The meeting included introductions, explanation of the project process, a broad overview of the project, and tentative schedule. The meeting summary can be found in Appendix G, pages 12-14.

A second local officials meeting was held on April 30, 2021. Seven local officials were in attendance along with nine project team members from INDOT and consultants. Items discussed included: introductions and roles they serve; explanation of the preliminary engineering process, the environmental study process, the public involvement process, the design process, and the right-of-way (ROW) acquisition process; and a discussion of "hot button" topics. The meeting summary can be found in Appendix G, pages 15-18.

Community Advisory Committee (CAC) Meeting #1 was held on May 26, 2021, via video conference and in-person. Twenty-six participants, including project team members, were in attendance for this meeting. Of the 26 participants, 1 failed to sign-in. A presentation to the group included introductions & roles, project description, the role of the CAC, project schedule and process, project study area, alternative route considerations, transportation uses, transportation challenges, and next steps. The meeting summary can be found in Appendix G, pages 19-24.

A public information meeting was held on July 29, 2021, at the South Harrison Community Center (5101 Main St. SE, Elizabeth, IN 47117) and virtually via Zoom. Fifty-eight members of the public signed-in at the meeting, with potentially five to ten that chose not to sign-in. Ten members of the project team were present at the meeting. One member from the public participated virtually along with two project team members. The meeting was conducted as an open house format with a short presentation. There were six stations for the public to visit and project team members were available for one-on-one conversations before and following the presentation. Generalized input from the public included: frustration with the relinquishment agreement; general opposition/support of the project; benefit of an improved roadway for farmers; concerns about impacts to farmland; crop damage during geotechnical drilling activities; impacts to property within same family for multiple generations; impacts to natural beauty of the area; concerns with losing portions of their property and relocations; environmental features for design consideration; and pleased that project team will be holding kitchen table meetings. The meeting summary can be found in Appendix G, pages 25-28. Seven comments forms were collected at this meeting or received afterwards in the mail. The forms received were in regard to sharing of contact information, request for an individual meeting, project purpose and need, existing conditions, and access (Appendix G, pages 29-42).

In October 2021, a letter was sent to property owners in the study area to invite them to respond with contact information so that the project team can contact them directly to provide additional information about the project and if interested, schedule a Kitchen Table

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Meeting (KTM) at their property (Appendix G, pages 43-45). The intention of the KTM was to enable clear communication of conditions at their property, and for project team members to listen to property owner concerns. The project team would also provide the property owner with up-to-date project information, and document property information that would be considered during project development. Of the 56 property owners, a KTM was held with 26 property owners (plus one property owner outside of the project area); 5 property owners did not want to schedule a KTM; and the remaining 25 property owners did not respond to the letter. KTMs were held on various dates in January and February of 2022. At the KTMs, a Property Owner Survey Form (Appendix G, pages 46-47) was provided to the property owner to gain additional information regarding their property. Thirty-two survey forms were returned with information identifying existing structures and conditions such as sinkholes, septic tanks, low areas prone to flooding, dump sites, and natural features (Appendix G, pages 48-150). This information was shared with the project team for consideration during the development of alternatives.

Additional public outreach included a project website, project email address, and project phone number. An Outreach Flier for the project was posted in January and February of 2022 at ten locations in southern Harrison County. The flier was produced in both English and Spanish, and contained the project website, email address, and phone number to obtain information about the project (Appendix G, pages 151-154).

A second public information meeting was held on June 30, 2022, at the South Harrison Community Center (5101 Main St. SE, Elizabeth, IN 47117). Thirty-seven members of the public signed-in at the meeting, with potentially five to ten that chose not to sign-in. Thirteen members of the project team were in attendance for the meeting. The meeting was conducted as an open house format with a short presentation. There were six stations for the public to visit and project team members were available for one-on-one conversations before and following the pre-recorded presentation. Generalized input from the public included: frustration with the relinquishment agreement; general opposition to the project; questions about how to schedule a kitchen table meeting; Watson Road concerns; desire to know what alignment will be chosen and when the public will know; concerns about travel speeds increasing on the improved roadway; and questions about the number of relocations. The meeting summary can be found in Appendix G, pages 155-158. Eight comments forms were collected at this meeting or received afterwards in the mail. The forms received were in regard to speed and safety of new facility; condition of existing facility; and purpose and need of improvements (Appendix G, pages 159-172).

Additional general correspondence from the public has been received throughout the study period. Topics in the general correspondence include establishing contact information, identification of existing conditions such as sinkholes and flood-prone areas; coordination of survey requests, including contact information and logistics of accessing properties; request that new alignment be approximate to property lines; and preference for preserving rural appeal and privacy (Appendix G, pages 173-210).

Pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4), the public will be provided an opportunity to comment on FHWA's finding of "No Adverse Effect." Upon release of the EA for public involvement, a legal advertisement will be placed in a local publication soliciting public input on FHWA's Section 106 effects finding. Comments from the public will be accepted for 30 days following the publication of the notice. If any substantive comments are received during this period, the appropriate Section 106 documents will be revised. The Cultural Resources section (Section D below) will be revised following the comment period.

FHWA determined the National Environmental Policy Act (NEPA) class of action to be an Environmental Assessment (EA) on December 22, 2022 (Appendix A, pages 5-8). Per the current *Indiana Department of Transportation (INDOT) Public Involvement Manual*, a public hearing will be conducted. Upon release of the EA for public involvement, a legal advertisement will be placed in a local publication notifying the public of the EA's availability for review and comment for a period of 30 days. The legal notice will appear in local publications of general circulation, contingent upon the release of this document for public involvement, announcing the availability of the environmental documentation, and the date and venue of the public hearing at least 15 days and again at least seven days in advance of the event. The hearing will allow the public to formally provide comments on the preferred alternative and potential effects to the social and natural environments. Comments will be accepted for a period of 15 days following the hearing. A Notice of Availability (NOA) will be advertised in the same local publications and mailed to the established mailing list compiled for the project, announcing the availability of the approved environmental document and disposition of public comments.

Subsequent to the satisfactory completion of the public involvement process, and if determined appropriate, a request for preparation of a Finding of No Significant Impact (FONSI) will be submitted to FHWA through INDOT. All comments received during this period will be listed and individually addressed in the disposition of comments attachment included in the FONSI request packet. If any comments cause a re-examination or require a change to the EA, an Additional Information (AI) document may be prepared and approved by FHWA prior to the submission of the FONSI request to FHWA. The preparation of the FONSI by FHWA will indicate the NEPA process for this project has been completed. Individuals included on the mailing list for the project, which includes the identified adjacent landowners, attendees of the public information meeting and the public hearing, as well as others who have submitted a request for project specific information, will be notified by U.S. Mail of the FONSI issuance by FHWA. In addition, a public notice announcing the availability of the FONSI will be advertised in local publications of general circulation.

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Additionally, two resource agency meetings were held for the project. A kickoff meeting was held on September 1, 2021. Topics discussed included: project history and overview; summary of public involvement completed to date; draft purpose and need; project area and conceptual designs; and an update on the ongoing environmental studies being conducted. See Appendix G, pages 211-215 for a meeting summary with list of attendees. An update meeting with the resource agencies was held on December 1, 2022. Topics discussed included: project overview; project schedule; public involvement update, purpose and need discussion; proposed typical section; environmental field studies update; alternative evaluations, and next steps. See Appendix G, pages 216-221 for a meeting summary with list of attendees.

INDOT will continue public outreach activities through the remainder of the SR 11 Project.

## 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.*

There is public controversy related to the community. There are a significant number of community members that signed a petition stating that they do not think the project is high priority for the county. There is a perceived negative financial impact to the community. There were also some concerns about increased traffic speeds. Regarding natural resources, there were some concerns about karst and wildlife crossings. The most repeated concern was for a loss of rural atmosphere, seclusion, natural beauty, and privacy that people expect will come with the project. To help minimize impacts and discuss concerns, two large scale public meetings were held along with KTMs with the majority of property owners that may be potentially impacted by the proposed alignments. See discussion of these meetings above in the Public Involvement section of this EA document. Discussion of wildlife crossings can be found in the Bridges and/or Small Structure(s) section of this EA document. Discussion on karst can be found in the Geological and Mineral Resources portion of Section B – Ecological Resources of this EA document.

Public involvement will continue throughout the duration of the project to help address any future controversy.

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

Sponsor of the Project: INDOT INDOT District: Seymour

Local Name of the Facility: SR 11

Funding Source (mark all that apply): Federal  State  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.*

The Harrison County 2040 Long Range Transportation Plan, adopted on August 5, 2019, stated that "Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level." The plan also identified a need for a safe east west route in southern Harrison County, Indiana and identified the SR 11 extension along Watson Road as a priority project.

There are safety concerns with the current roadway network in southern Harrison County. The study area for this project includes SR 135 on the west side, Old Highway 11 / Old Highway 337 on the east side, Wiseman Road on the north side and Old Highway 11 on the south side. SR 135 is the primary north south roadway in Harrison County and SR 11 is the primary east west roadway in this portion of southern Harrison County, which currently does not connect with SR 135. The distance between SR 135 and the eastern termini of SR 11 is approximately 4.8 miles; however, current access from SR 135 to the eastern termini of SR 11 must utilize the local roadway network due to the limited bridge crossings of Buck Creek, one of which (Old Highway 11) has to be closed during extreme weather events due to flooding of the Ohio River which causes an additional safety concern. The travel distances using the local roadway network between SR 135 and SR 11 ranges from 6.7 miles to 10.6 miles. The existing roadways within the study area that connect SR 135 to SR 11 have RoadHAT indices that range from 0.31 to 3.48 for the Index of Crash Frequencies ( $I_{cf}$ ) and from 0.15 to 1.72 for the Index of Crash Costs ( $I_{cc}$ ) (Appendix A, page 3). RoadHAT is the program used by INDOT for roadway crash

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data analysis throughout the state. The RoadHAT measures are expressions of standard deviation, comparing crash data for similar roadways and intersections throughout the state. For example, an  $I_{cf}$  or  $I_{cc}$  index of 1.00 indicates that crash frequencies or costs are higher than approximately 83% (one standard deviation) of similar locations across the state of Indiana. Similarly, an  $I_{cf}$  or  $I_{cc}$  index of 2.0 indicates that the location has crash frequencies/costs which are higher than approximately 98% (two standard deviations) of similar locations across the state of Indiana. The RoadHAT index scores for  $I_{cf}$  show that there are multiple locations within the project area where the safety performance places these locations in the worst two to three percent of all locations across the state of Indiana.

Additionally, the existing roadways in the project area have lane widths that average between 9 feet to 10 feet wide with no shoulders and no clear zones. Also, these roadways have numerous deficient horizontal and vertical curves, which cause sight distance issues. Narrow lanes, lack of shoulders, lack of sufficient clear zones, and poor sight distances on roadways increase the potential for crashes because there is no room to compensate for driving errors or unforeseen obstacles. See Appendix A, pages 1-3 for additional information on the need for this project. In addition, one of the roadways that connect SR 135 to the eastern termini of SR 11 (Old Highway 11) is located in the floodway of the Ohio River and requires closing of the roadway at times due to flooding.

The purpose of the SR 11 Roadway Project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 135 to SR 11 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances to reduce crash frequencies and crash costs.

### PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Harrison

Municipality: N/A

Limits of Proposed Work: SR 11, from SR 135/Watson Road to SR 11/Old Hwy 337/Melview Road Intersection

Total Work Length: 5.06 Mile(s)

Total Work Area: 88.67 Acre(s)

Is an Interstate Access Document (IAD)<sup>1</sup> required?

If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?

<sup>1</sup>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.

Yes <sup>1</sup>	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date: <input style="width: 100%;" type="text"/>	

*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 INDOT and FHWA intend to proceed with the SR 11 Roadway Project that will connect SR 135 and SR 11 in southern Harrison County, including a new bridge crossing of Buck Creek.

The Des 2001154 project is located between SR 135 and Watson Road junction (western limit) and the SR 11/Melview Road/Old Hwy 337 junction (eastern limit) in Harrison County. This is approximately 4.7 miles north of the existing junction between SR 135 and SR 11 and approximately 10 miles south of Corydon, Indiana along SR 135. Specifically, the project is located in Sections 11-14, Township 5 South, Range 3 East in Heth Township as depicted on the Mauckport U.S. Geological Survey 1:24,000 scale quadrangle and in Sections 7-9 and 16-18, Township 5 South, Range 4 East in Boone Township as depicted on the Laconia U.S. Geological Survey 1:24,000 scale quadrangle (Appendix B, pages 2-4).

#### Existing Conditions:

Within the project area, SR 135 is classified as Minor Collector; Watson Road, Union Chapel Road, Old Hwy 337, and SR 11 are classified as Major Collectors; and Melview Road is classified as a Local Road. SR 135 is a north-south roadway and SR 11 is an east-west roadway in this portion of southern Harrison County. SR 135 and SR 11 currently do not connect and are approximately 4.8 miles apart. The local roadways that connect SR 135 to SR 11 all have narrow lanes (9-10 feet wide); no shoulders; no clear zones; deficient horizontal and vertical curves; and poor site distances which attribute to the safety issues on the existing roadways in this area. The project includes both upgrading existing roadways and constructing portions of the project on new terrain, including a new bridge crossing of Buck Creek. The new terrain alignment portion of the project includes crossing agricultural fields, forest lands, Buck Creek, and residential properties.

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### Preferred Alternative:

Alternative 3 has been identified as the Preferred Alternative for this project. The Preferred Alternative will maximize the use of existing roadways and minimize the amount of new terrain construction. The total length of the Preferred Alternative is approximately 5.1 miles and begins at the intersection of SR 135 and Watson Road following along Watson Road for 2.25 miles to Union Chapel Road. The alternative will then follow along Union Chapel Road for 0.6 mile before turning east on new terrain for 0.2 mile to provide access to the proposed new 0.2-mile bridge crossing of Buck Creek. After crossing Buck Creek, the Preferred Alternative remains on new terrain alignment for 0.2 mile until it connects to an existing farm access road on the east side of Buck Creek where it follows the farm access road (gravel lane) for 0.75 mile to Melview Road. At Melview Road, the Preferred Alternative follows along Melview Road for 0.9 mile to the eastern terminus where it connects to SR 11. Approximately 4.5 miles of the Preferred Alternative will utilize existing roadway facilities (including 0.75 mile of gravel lane) and 0.6 mile will be constructed on new terrain. The preferred SR 11 roadway will be constructed as a two-lane Major Collector with 12 feet wide travel lanes, 6 feet wide shoulders, 16 feet wide clear zones, and adequate horizontal and vertical curves to meet current design standards for a Major Collector. The proposed roadway will have a design speed of 55 miles per hour and a posted speed limit of 45 miles per hour. Guardrail will be used on the bridge crossing of Buck Creek and along the bridge approaches where needed. The project includes a large bridge crossing over Buck Creek and several other smaller structures to convey roadside drainage and streams beneath the proposed roadway. In addition, karst treatments following the INDOT Karst Guidance will be installed within all karst features identified within the construction limits of the project to protect the karst from construction and post construction runoff impacts of the proposed roadway.

The traffic study completed in 2021 by CMT Engineers and Consultants identified that the SR 11 Roadway Project would divert approximately 35% to 50% of the traffic off the existing local roadways. This reduction in traffic volumes on the local roadways that do not meet current design standards onto a roadway that does meet current design standards is anticipated to decrease the crash frequencies and crash costs and improve safety for the traveling citizens in the southern region of Harrison County (Appendix A, pages 3-4)

The Preferred Alternative requires approximately 135.6 acres of permanent new ROW acquisition. Of the total ROW acquisition, approximately 3.8 acres will be required from residential parcels, approximately 50.4 acres will be required from agricultural parcels, approximately 41.6 acres will be required from undeveloped parcels, and approximately 39.8 acres will be required from existing ROW. Two residential relocations will be required for the construction of the project. Temporary ROW will be required for reconstruction of driveways to access adjacent parcels and for construction of the new bridge crossing of Buck Creek.

The Preferred Alternative identified above has gone through design revisions since the determination was completed to select Alternative 3 as the Preferred Alternative. The environmental information used for the remainder of this Environmental Assessment (EA) evaluation is based on the current design revisions and has been identified as the Refined Preferred Alternative. Therefore, this EA will use the Refined Preferred Alternative for all environmental evaluations. It is anticipated that similar refinements would be required for any alternative selected.

Due to the design revisions, the Refined Preferred Alternative will require approximately 132.75 acres of permanent ROW and 0.90 acre of temporary ROW. The permanent ROW will include 2.74 acres from residential, 50.60 acres from agricultural, 25.70 acres from forest, 0.09 acre from wetlands, 29.28 acres from undeveloped (vacant) land, and 24.34 acres from existing roadway. Ownership and determination of existing ROW, and whether any ROW needs to be reacquired, will occur in the Right-of-Way Engineering phase of this project. At this point, it is assumed all ROW will be acquired new. The temporary ROW will include 0.25 acres from residential, 0.28 acre from agricultural, 0.11 acre from forest, 0.07 acre from undeveloped (vacant) land, and 0.19 acre from existing roadway.

Please refer to Appendix B for maps depicting the project area (pages 1-18), photographs of the project area (pages 19-25), and preliminary design plans (pages 26-69).

The proposed maintenance of traffic (MOT) plan will require road closures with detours (Appendix B, pages 32-40). Please refer to the Maintenance of Traffic (MOT) During Construction section of this document for details.

The project will meet the objectives of its purpose and need by providing a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 135 to SR 11 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances to reduce crash frequencies and crash costs.

The proposed project exhibits independent utility as it is not dependent upon the completion of any other project to meet the objectives of its purpose and need and would function independent of other projects and improvements taking place in the vicinity of the project. The proposed project also does not create the need for additional work. The project termini are logical with the western

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terminus of the project tying into SR 135 and the eastern terminus of the project tying into the western end of SR 11 at the intersection of SR 11/Old Hwy 337/Melview Road, providing a connection between SR 135 and SR 11.

### 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.*

#### No-Build Alternative:

The No-Build Alternative would leave the existing roadways in southern Harrison County as they currently exist. This alternative would utilize the current local roadway network to connect SR 135 to SR 11 with no expenditure of federal funds. The No-Build Alternative would not address the safety concerns of the roadway network in southern Harrison County connecting SR 135 to SR 11. While this alternative eliminates cost, potential relocation of residents and commercial facilities, and environmental impacts, it would not meet the purpose and need for the project, which is to improve the safety concerns of the roadway network in southern Harrison County. Therefore, this alternative was discarded from further consideration.

#### Initial Screening Corridors:

An alternatives analysis document was completed on the project that analyzed three initial screening corridors for the project, which included the Old Hwy 11 Initial Screening Corridor, Heth-Washington/St. Michaels Road Initial Screening Corridor, and Watson Road/Melview Road Initial Screening Corridor. These three initial screening corridors were analyzed based on environmental impacts, ROW impacts, relocation impacts, and excavation volumes to determine which corridor to move forward for more detailed alternative analysis (Appendix A, pages 10-13). The results of the SR 11 Roadway Project Alternatives Analysis identified the Watson Road/Melview Road Initial Screening Corridor as the corridor to move forward for more detailed alternatives analysis.

#### Watson Road/Melview Road Initial Screening Corridor Detailed Alternatives Evaluation:

Three alternatives (Alternative 1, Alternative 2, and Alternative 3) were developed within the Watson Road/Melview Road Initial Screening Corridor to determine the preferred alternative; Alternative 3 has been identified as the preferred for this project (Appendix A, pages 13-14).

#### *Alternative 1*

Alternative 1 would meet the purpose and need for the project. Alternative 1 begins and ends at the same termini as the preferred alternative and shares the same alignment along Watson Road. At the intersection of Watson Road and Union Chapel Road, Alternative 1 turns to the north on new terrain and crosses Buck Creek approximately 0.35 mile north of the preferred alternative. Alternative 1 remains on new terrain and parallels the preferred alternative approximately 0.4 mile to the north before intersecting with an existing farm access road. Alternative 1 follows along the farm access road for approximately 0.6 mile at which point Alternative 1 takes off on new terrain before intersecting with existing Melview Road just west of the SR 11/Old Hwy 337/Melview Road intersection. From this point, Alternative 1 shares the same alignment as the preferred alternative to the eastern terminus of the project. Alternative 1 utilizes approximately 2.85 miles of existing facilities and will be on new terrain alignment for approximately 2.25 miles. Alternative 1 requires 3.1 acres more tree clearing, 0.25 acre more wetland/open water impacts, 407 feet more stream impacts, 16.7 acres more ROW, 129,017 cubic yard more common excavation, and 80,984 cubic yards more rock excavation than the preferred alternative. Due to the additional tree, wetland/open water, stream, and ROW impacts along with the additional excavation requirements for Alternative 1, Alternative 1 was discarded from further consideration.

#### *Alternative 2*

Alternative 2 would meet the purpose and need for the project. Alternative 2 begins and ends at the same termini as the preferred alternative and shares the same alignment along Watson Road. Approximately 0.25 mile southeast of the intersection of Watson Road and Union Chapel Road, Alternative 2 turns to the east on new terrain and crosses Buck Creek approximately 0.2 mile north of the preferred alternative. Alternative 2 remains on new terrain and parallels the preferred alternative approximately 0.15 mile to the north before intersecting with existing Melview Road. Alternative 2 follows along Melview Road for approximately 0.2 mile at which point Alternative 2 shares the alignment with the preferred alternative to the eastern termini. Alternative 2 utilizes approximately 3.25 miles of existing facilities and will be on new terrain alignment for approximately 1.75 miles. Alternative 2 requires 13.1 acres more tree clearing, 429 feet more stream impacts, 27.9 acres more ROW, 211,221 cubic yards more common excavation, and 203,078 cubic yards more rock excavation than the preferred alternative. Due to the additional tree, stream, and ROW impacts along with the additional excavation requirements for Alternative 2, Alternative 2 was discarded from further consideration.

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**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

It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe):

X
X

<b>ROADWAY CHARACTER:</b>
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*If the proposed action includes multiple roadways, complete and duplicate for each roadway.*

Name of Roadway: SR 135  
 Functional Classification: Minor Arterial  
 Current ADT: 4,504 VPD (2020) Design Year ADT: 4,806 VPD (2046)  
 Design Hour Volume (DHV): 480 Truck Percentage (%): 9  
 Designed Speed (mph): 55 Legal Speed (mph): 55

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Through	Through
Pavement Width:	11 ft.	12 ft.
Shoulder Width:	8 ft.	4 & 8 ft.
Median Width:	N/A ft.	N/A ft.
Sidewalk Width:	N/A ft.	N/A ft.

Setting:  Urban  Suburban  Rural  
 Topography:  Level  Rolling  Hilly

Name of Roadway: Watson Road<sup>1</sup>  
 Functional Classification: Major Collector  
 Current ADT: 265 VPD (2020) Design Year ADT: N/A VPD (2046)  
 Design Hour Volume (DHV): N/A Truck Percentage (%): 10  
 Designed Speed (mph): N/A Legal Speed (mph): N/A

	Existing	Proposed
Number of Lanes:	2	N/A
Type of Lanes:	Through	N/A
Pavement Width:	9 ft.	N/A ft.
Shoulder Width:	0 ft.	N/A ft.
Median Width:	N/A ft.	N/A ft.
Sidewalk Width:	N/A ft.	N/A ft.

Setting:  Urban  Suburban  Rural  
 Topography:  Level  Rolling  Hilly

<sup>1</sup> The Refined Preferred Alternative will fully replace Watson Road with the new SR 11

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Name of Roadway Union Chapel Road  
 Functional Classification: Major Collector  
 Current ADT: 221 VPD (2020) Design Year ADT: 236 VPD (2046)  
 Design Hour Volume (DHV): 26 Truck Percentage (%) 5  
 Designed Speed (mph): 40 Legal Speed (mph): 30 (North);  
40 (South)

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Through	Through
Pavement Width:	8 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  Rural  
 Topography:  Level  Rolling  Hilly

Name of Roadway SR 11 (Proposed Refined Preferred Alternative)  
 Functional Classification: Major Collector  
 Current ADT: N/A VPD (2020) Design Year ADT: 1,325 VPD (2046)  
 Design Hour Volume (DHV): 133 Truck Percentage (%) 5  
 Designed Speed (mph): 55 Legal Speed (mph): 45

	Existing	Proposed
Number of Lanes:	N/A	2
Type of Lanes:	N/A	Through
Pavement Width:	N/A ft.	12 ft.
Shoulder Width:	N/A ft.	4 ft.
Median Width:	N/A ft.	N/A ft.
Sidewalk Width:	N/A ft.	N/A ft.

Setting:  Urban  Suburban  Rural  
 Topography:  Level  Rolling  Hilly

Name of Roadway Old Hwy 11  
 Functional Classification: Major Collector  
 Current ADT: 979 VPD (2020) Design Year ADT: 953 VPD (2046)  
 Design Hour Volume (DHV): 200 Truck Percentage (%) 6  
 Designed Speed (mph): 40 Legal Speed (mph): 40

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Through	Through
Pavement Width:	10 ft.	11 ft.
Shoulder Width:	0 ft.	4 ft.
Median Width:	N/A ft.	N/A ft.
Sidewalk Width:	N/A ft.	N/A ft.

Setting:  Urban  Suburban  Rural  
 Topography:  Level  Rolling  Hilly

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Name of Roadway Old Hwy 337  
 Functional Classification: Major Collector  
 Current ADT: 651 VPD (2020) Design Year ADT: 695 VPD (2046)  
 Design Hour Volume (DHV): 83 Truck Percentage (%) 5  
 Designed Speed (mph): 40 Legal Speed (mph): 40

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Through	Through
Pavement Width:	10 ft.	11 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  Rural  
 Topography:  Level  Rolling  Hilly

Name of Roadway Melview Road  
 Functional Classification: Local Road  
 Current ADT: 100 VPD (2020) Design Year ADT: 107 VPD (2046)  
 Design Hour Volume (DHV): 2 Truck Percentage (%) 4  
 Designed Speed (mph): 40 Legal Speed (mph): 40

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Through	Through
Pavement Width:	9 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  Rural  
 Topography:  Level  Rolling  Hilly

Name of Roadway SR 11 (Existing segment east of Old Hwy 337)  
 Functional Classification: Major Collector  
 Current ADT: 260 VPD (2020) Design Year ADT: 1,045 VPD (2046)  
 Design Hour Volume (DHV): 115 Truck Percentage (%) 6  
 Designed Speed (mph): 45 Legal Speed (mph): 45

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	Existing		Proposed
Number of Lanes:	2		2
Type of Lanes:	Through		Through
Pavement Width:	12	ft.	12
Shoulder Width:	0	ft.	0
Median Width:	N/A	ft.	N/A
Sidewalk Width:	N/A	ft.	N/A

Setting:  Urban  Suburban  Rural  
 Topography:  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): 011-031-10782 (proposed) Sufficiency Rating: N/A  
 (Rating, Source of Information)

	Existing		Proposed
Bridge/Structure Type:	N/A		Continuous Composite Steel Plate Girder
Number of Spans:	N/A		6 spans
Weight Restrictions:	N/A	ton	None
Height Restrictions:	N/A	ft.	None
Curb to Curb Width:	N/A	ft.	37.33
Outside to Outside Width:	N/A	ft.	40.33
Shoulder Width:	N/A	ft.	6.67

Structure/NBI Number(s): CV 011-031-09.37 (proposed\*) Sufficiency Rating: N/A  
 \*existing culvert on private lane; no current structure number available (Rating, Source of Information)

	Existing		Proposed
Bridge/Structure Type:	6-foot x 3-foot Box Culvert		16-foot x 6-foot Box Culvert with Haunches
Number of Spans:	N/A		N/A
Weight Restrictions:	N/A	ton	N/A
Height Restrictions:	N/A	ft.	N/A
Curb to Curb Width:	N/A	ft.	N/A
Outside to Outside Width:	N/A	ft.	N/A
Shoulder Width:	N/A	ft.	N/A

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Structure/NBI Number(s): CV 011-031-10.10 (proposed\*) Sufficiency Rating: N/A  
 \*existing culvert on county system; no current structure number available (Rating, Source of Information)

	Existing	Proposed
Bridge/Structure Type:	24-inch Corrugated Metal Pipe (CMP)	4-foot x 3-foot Box Culvert with Haunches
Number of Spans:	N/A	N/A
Weight Restrictions:	N/A	N/A
Height Restrictions:	N/A	N/A
Curb to Curb Width:	N/A	N/A
Outside to Outside Width:	N/A	N/A
Shoulder Width:	N/A	N/A

Structure/NBI Number(s): CV 011-031-10.32 (proposed\*) Sufficiency Rating: N/A  
 \*existing culvert on county system; no current structure number available (Rating, Source of Information)

	Existing	Proposed
Bridge/Structure Type:	5-foot Span Smooth Walled Elliptical Pipe	7-foot x 4-foot Reinforced Concrete Box with Haunches, Raised Profile
Number of Spans:	N/A	N/A
Weight Restrictions:	N/A	N/A
Height Restrictions:	N/A	N/A
Curb to Curb Width:	N/A	N/A
Outside to Outside Width:	N/A	N/A
Shoulder Width:	N/A	N/A

*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.*

No existing bridges are located within the Refined Preferred Alternative. A new 6-span Continuous Composite Steel Plate Girder bridge, Structure Number 011-031-10782, is proposed to cross Buck Creek. The placement of piers for the new bridge is anticipated to impact approximately 50 feet of Buck Creek.

There are three existing structures with span length between 48 inch and 20 feet that will be replaced as part of the project. The proposed culvert CV 011-031-09.37 is a 16-foot by 6-foot box culvert with haunches on raised road profile that will replace an existing 6-foot by 3-foot box culvert conveying Unnamed Tributary (UNT) 10 to Buck Creek under Melview Road. UNT 10 to Buck Creek will be impacted by the new proposed culvert. The proposed culvert CV 011-031-10.10 is a 4-foot by 3-foot box culvert with haunches on raised road profile that will replace an existing 24-inch CMP that convey drainage under Melview Road. The proposed culvert CV 011-031-10.32 is a 7-foot by 4-foot reinforced concrete box with haunches on raised road profile that will replace an existing 5-foot span smooth walled elliptical pipe that conveys UNT 11 to Buck Creek under Melview Road. UNT 11 to Buck Creek will be impacted by the new proposed culvert.

All structures that require IDNR Construction in a Floodway permits will be designed following current IDNR wildlife passage guidelines.

There are also smaller pipes/maintenance pipes along the existing roadways that also may be replaced as part of the proposed construction. New pipes/maintenance pipes may be added to convey drainage along the proposed roadway. No impacts to jurisdictional streams are anticipated as a result of the new pipes/maintenance pipes.

**MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:**

Is a temporary bridge proposed?  
 Is a temporary roadway proposed?

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

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	Yes	No
Will the project involve the use of a detour or require a ramp closure? (describe below)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for access by local traffic and so posted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for through-traffic dependent businesses.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provisions will be made to accommodate any local special events or festivals.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the proposed MOT substantially change the environmental consequences of the action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there substantial controversy associated with the proposed method for MOT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project require a sidewalk, curb ramp, and/or bicycle lane closure? (describe below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provisions will be made for access by pedestrians and/or bicyclist and so posted (describe below).	<input type="checkbox"/>	<input type="checkbox"/>

*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 for the project is anticipated to be completed in six phases and require road closures with detours (Appendix B, pages 32-40).

- Phase 1 is proposed to close Watson Road from SR 135 to Robins Road with a detour utilizing SR 135, Squire Boone Road, and Robins Road. Detour length is approximately 3.8 miles. Phase 1 also includes closing a portion of Central Drive with a detour utilizing SR 135 and Heth Washington Road for a detour length of approximately 1.2 miles. Phase 1 is preliminarily estimated to be in place for approximately 6 months.
- Phase 2 is proposed to close Watson Road from Robins Road to Meridian Lane with a detour utilizing new SR 11, SR 135, Heth Washington Road, Union Chapel Road, and Watson Road. Detour length is approximately 5.4 miles. Phase 2 is preliminarily estimated to be in place for approximately 6 months.
- Phase 3 will close Watson Road from Meridian Road to Union Chapel Road with a detour utilizing new SR 11, SR 135, Heth Washington Road, and Union Chapel Road. Detour length is approximately 6.0 miles. Phase 3 is preliminarily estimated to be in place for approximately 2 months.
- Phase 4 will close Union Chapel Road from Watson Road to Buck Creek Crossing with a detour utilizing new SR 11, SR 135, Harrison Heth Road, Buck Creek Valley Road, Lake Road, Old Hwy 337, Old Goshen Road, and Union Chapel Road. Detour length is approximately 12.6 miles. Phase 4 is preliminarily estimated to be in place approximately 6 months.
- Phase 5 will close a farm access drive and a portion of Melview Road with a detour utilizing Melview Road, Old Goshen Road, Old Hwy 11, and Old Hwy 337. The majority of Phase 5 is new terrain and new bridge construction and can be constructed concurrently with various other phases. Detour length is approximately 1.7 miles. The preliminary estimate for Phase 5 is 9 months but the detour may only be needed for 1 month or less.
- Phase 6 will close a portion of Melview Road and Old Hwy 337 with a detour utilizing Melview Road, Old Goshen Road, and Old Hwy 11. Detour length is approximately 2.5 miles. Phase 6 also includes closing SR 337 at Melview Road with a detour utilizing SR 11, Main Street, Elizabeth New Middletown Road, Buck Creek Valley Road, and Lake Road for a detour length of approximately 15.0 miles. Although Phase 6 is not new terrain, this phase affects approximately 11 properties directly and could be constructed concurrently with other phases.

The vast majority of Phases 5 & 6 could be constructed while leaving open a portion of the existing roadway at the north/south part of Melview Road to keep traffic moving. The duration of Phase 6 is preliminarily estimated at approximately 6 months.

There are no known through-traffic dependent businesses or local special events or festivals requiring any provisions as a result of the detour. The closed roadways will re-open to thru-traffic immediately upon phase completion to minimize traffic disruption to the maximum possible extent. Access will be available to all local properties.

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

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### ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 2,330,000\* (2021\*) Right-of-Way: \$ 320,000 (2023) Construction: \$ 1,460,000 (2025)  
 \$ 29,073,370 (2026)

\*from 2020-2024 Updated Statewide Transportation Improvement Program (STIP) FY 2020-2024

Anticipated Start Date of Construction: August/September 2025

### RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	2.74	0.25
Commercial	0	0
Agricultural	50.60	0.28
Forest	25.70	0.11
Wetlands	0.09	0
Other: Undeveloped (vacant) Land*	29.28	0.07
Other: Existing Roadway	24.34	0.19
<b>TOTAL</b>	<b>132.75</b>	<b>0.90</b>

\* Based on parcel property class codes for vacant agricultural land and vacant residential land

*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.*

The proposed project will use portions of existing Watson Road, Union Chapel Road, and Melview Road. The typical width of existing Watson Road is approximately 50 feet. The typical width of existing Union Chapel Road and Melview Road is approximately 40 feet.

The project requires approximately 132.75 acres of permanent ROW consisting of 2.74 acres of residential, 50.60 acres of agricultural, 25.70 acres of forest, 0.09 acre of wetlands, 29.28 acres of undeveloped (vacant) land, and 24.34 acres of existing roadway. As the Right-of-Way process for the project continues, it is possible that the existing roadway can be reacquired instead of acquired as new permanent ROW. Ownership and determination of existing ROW, and whether any ROW needs to be reacquired, will occur in the Right-of-Way Engineering phase of this project. At this point, it is assumed all ROW will be acquired new. The project also requires approximately 0.90 acre of temporary ROW consisting of 0.25 acre of residential, 0.28 acre of agricultural, 0.11 acre of forest, 0.07 acre of undeveloped (vacant) land, and 0.19 acre existing roadway.

The proposed ROW widths for the new SR 11 roadway range from approximately 145 feet to 380 feet.

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

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### 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 October 6, 2021 (Appendix C, pages 1-4).

<u>Agency</u>	<u>Date Sent</u>	<u>Date Response Received</u>	<u>Appendix</u>
FHWA - Indiana	October 6, 2021	No response received	
Indiana Geological and Water Survey (IGWS)	October 6, 2021	October 6, 2021	Appendix C, pages 13-15
IDNR, Division of Fish and Wildlife	October 6, 2021	November 10, 2021	Appendix C, pages 33-36
IDEM	October 6, 2021	October 6, 2021	Appendix C, pages 5-12
National Park Service	October 6, 2021	No response received	
IDEM Groundwater	October 6, 2021	October 6, 2021*	*completed online
U.S. Housing and Urban Development (HUD)	October 6, 2021	No response received	
INDOT Environmental Services Division	October 6, 2021	No response received	
INDOT Seymour District Environmental	October 6, 2021	No response received	
Natural Resources Conservation Service (NRCS)	October 6, 2021	October 7, 2021 October 18, 2021 November 1, 2021 March 16, 2023	Appendix C, pages 16-17 Appendix C, page 16 Appendix C, page 18 Appendix C, pages 19-21
U.S. Environmental Protection Agency (USEPA)	October 6, 2021	November 5, 2021	Appendix C, pages 23-32
U.S. Army Corps of Engineers (USACE)	October 6, 2021	No response received	
Harrison County Board of Commissioners	October 6, 2021	No response received	
Harrison County Surveyor's Office	October 6, 2021	No response received	
Harrison County Highway Department	October 6, 2021	November 15, 2021	Appendix C, page 37
Harrison County Council	October 6, 2021	No response received	
Harrison County Sheriff's Department	October 6, 2021	No response received	
Harrison County Emergency Management Agency (EMA)	October 6, 2021	No response received	
Harrison County Plan Commission; Floodplain Administrator	October 6, 2021	October 13, 2021	Appendix C, page 22
South Harrison Community School Corporation	October 6, 2021	No response received	
Heth Township Fire Department	October 6, 2021	No response received	
Boone Township Volunteer Fire Department	October 6, 2021	No response received	
The Nature Conservancy	October 6, 2021	No response received	
IDNR Division of Oil and Gas	October 6, 2021	No response received	
U.S. Fish and Wildlife Service (USFWS)	April 12, 2022	April 27, 2022	Appendix J, pages 9-97

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

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**SECTION B – ECOLOGICAL RESOURCES:**

**Streams, Rivers, Watercourses & Other Jurisdictional Features**

- Federal Wild and Scenic Rivers
- State Natural, Scenic or Recreational Rivers
- Nationwide Rivers Inventory (NRI) listed
- Outstanding Rivers List for Indiana
- Navigable Waterways

**Presence**

X
X

**Impacts**

Yes	No
X	
X	

Total stream(s) in project area: 765 Linear feet      Total impacted stream(s): 393 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)
UNT 1 to Buck Creek	Ephemeral	74	40	UNT 1 to Buck Creek flows from southwest to northeast into subsurface flow before discharging into Buck Creek approximately 0.75 mile upstream of the proposed Refined Preferred Alternative bridge crossing of Buck Creek and is located approximately 0.4 mile east of the Watson Road and Union Chapel Road intersection. This stream is likely a Waters of the U.S. (Appendix F, pages 9-10 and 42).
Buck Creek	Perennial	177	50	Buck Creek flows from north to south through the center of the project area, and ultimately discharges into the Ohio River approximately 9.5 river miles downstream of the project. Buck Creek is listed as an Outstanding River in Indiana. Buck Creek is likely a Waters of the U.S. (Appendix F, pages 9 and 42-43).
UNT 10 to Buck Creek	Intermittent	252	199	UNT 10 to Buck Creek is located on the east side of Buck Creek and flows from north to south. This is a sinking stream; therefore, there is no direct surface connection of this stream to Buck Creek. Dye tracing within this stream identified that UNT 10 to Buck Creek flows into the ground and then resurfaces into a different stream before discharging into Buck Creek approximately 850 downstream of the proposed new bridge crossing. UNT 10 to Buck Creek is likely a Waters of the U.S. (Appendix F, pages 15 and 44-45).
UNT 11 to Buck Creek	Ephemeral	262	104	UNT 11 to Buck Creek is located on the east side of Buck Creek approximately 0.15 mile west of the Melview Road and Old Hwy 337 intersection and flows from northeast to southwest. This is a sinking stream that loses surface definition within the Refined Preferred Alternative project limits; therefore, there is no direct surface connection of this stream to Buck Creek. It is assumed that UNT 11 to Buck Creek connects through underground flow to UNT 10 to Buck Creek and ultimately flows into Buck Creek in the same location described above for UNT 10 to Buck Creek. UNT 11 to Buck Creek is likely a Waters of the U.S. (Appendix F, pages 15-16 and 46).

*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*

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*mitigate if impacts will occur.*

Based on a desktop review, the aerial maps of the project area (Appendix B, pages 5-11), and the RFI report (Appendix E, page 9), there are 27 stream segments within the 0.5 mile search radius. That number could not be confirmed by the site visits in April, May, and October of 2021 by Lochmueller Group as the field work for the project did not encompass the entire search radius used during the desktop review. There are 12 streams identified within the waters survey area; four of the identified streams are within the Refined Preferred Alternative and discussed below.

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT Ecology and Waterway Permitting Office on February 1, 2022. Please refer to Appendix F, pages 3-46 for the *Waters of the U.S. Report*. It was determined that 12 jurisdictional streams are located within the waters survey area, however; only four jurisdictional streams, UNT 1 to Buck Creek, Buck Creek, UNT 10 to Buck Creek, and UNT 11 to Buck Creek are located within the Refined Preferred Alternative. The USACE makes all final determination regarding jurisdiction.

UNT 1 to Buck Creek is an ephemeral stream feature located west of Buck Creek and north of Union Chapel Road. Approximately 40 feet of UNT 1 to Buck Creek will be permanently impacted by the Refined Preferred Alternative. UNT 1 to Buck Creek flows northeast and flows only in response to rainfall runoff; therefore, UNT 1 to Buck Creek is considered an ephemeral stream. USGS StreamStats (<https://streamstats.usgs.gov/ss/>) did not determine a drainage area for UNT 1 to Buck Creek; therefore, it is assumed the drainage area is less than one square mile. According to the Indiana Floodplain Information Portal (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>), there are no mapped floodway or floodplain zones associated with UNT 1 Buck Creek. UNT 1 to Buck Creek has a narrow streambed with no defined riffle/run/pool habitat. The ordinary high water mark (OHWM) of UNT 1 to Buck Creek is 3.3 feet wide and 0.3 feet deep. UNT 1 to Buck Creek is considered to display poor quality based on the lack of riffle/run/pool habitat, bank full width, and ephemeral nature. UNT 1 to Buck Creek is a non-relatively permanent waterway (RPW) with a connection to a traditionally navigable waterway (TNW), Buck Creek; therefore, UNT 1 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 1 to Buck Creek connects to Buck Creek through underground flow paths under low flow conditions, and overland flow via UNT 4 to Buck Creek in high flow conditions (see Appendix F, pages 9-10 for additional information on UNT 1 to Buck Creek). This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act. UNT 1 to Buck Creek will be impacted by the Refined Preferred Alternative by the installation of a culvert to maintain the water flow through the project area. UNT 1 to Buck Creek is not listed as an outstanding, scenic, wild, recreational, or navigable waterway on any state or federal listing and it is not listed as an impaired water on the Indiana 303d list. Impacts to this stream have been minimized to the maximum extent possible and stream flow to UNT 1 to Buck Creek will be maintained through the project area via a culvert to reduce impacts to this channel. Total cumulative stream impacts of the Refined Preferred Alternative are anticipated to be more than 300 linear feet; therefore, mitigation for impacts to UNT1 to Buck Creek will be required. Credits purchased from the Indiana Stream and Wetland Mitigation Program (IN SWMP) are anticipated to be used for mitigation for this stream.

Buck Creek is a perennial stream that generally flows north to south. The Refined Preferred Alternative will bridge Buck Creek with minimal impacts to the stream channel. Approximately 50 feet of the stream may be permanently impacted by the Refined Preferred Alternative. Buck Creek is fed by groundwater and flows throughout the year; therefore, it is considered perennial. The drainage area for Buck Creek, at the proposed Refined Preferred Alternative bridge crossing, was determined to be approximately 75 square miles using USGS StreamStats (<https://streamstats.usgs.gov/ss/>). According to the Indiana Floodplain Information Portal (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>), there is a mapped DNR Approximate Floodway and a DNR Approximate Floodway Fringe associated with Buck Creek and has a base flood elevation of 484.1 feet (North American Vertical Datum 88 (NAVD 88)). The stream has a wide streambed with defined riffle/run/pool habitat. The OHWM of Buck Creek is 75 feet wide and 4 feet deep. Buck Creek is considered to display excellent quality based on persistent stream flow, substrate, bank full width and depth, good species diversity, and the ability to support endangered species (see Appendix F, page 9 for additional information on Buck Creek). Buck Creek is a RPW that becomes an TNW (<https://www.in.gov/nrc/nonrule-policy-documents-npd/navigable-waterways-roster/roster-by-county/>) approximately 4 miles south of the project area. Buck Creek meets the definition of a Water of the U.S. based on perennial flow and connection to the Ohio River, a TNW; therefore, Buck Creek is subject to USACE jurisdiction under Section 404 of the Clean Water Act. The location of the Refined Preferred Alternative crossing of Buck Creek is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act. Buck Creek is listed as an Outstanding River in Indiana, but is not listed as a scenic, wild, recreational, or navigable waterway in the state or federal listing. Buck Creek is listed as an impaired water for both Impaired Biotic Communities (IBC) and E. coli on the Indiana 303d list. Concerning IBC, Best Management Practices (BMPs) will be used to avoid further degradation to the stream. Concerning E. coli, workers who are working in or near water with E. coli should take care to wear appropriate personal protective equipment (PPE), observe proper hygiene procedures, including regular handwashing, and limit personal exposure. These are included as firm commitments in the Environmental Commitments section of this document. Impacts to this stream have been minimized to the maximum extent possible and Buck Creek will be bridged to reduce impacts to the channel. Total cumulative stream impacts of the Refined Preferred Alternative are anticipated to be more than 300 linear feet; therefore, mitigation for impacts to Buck Creek will be required. Credits purchased from the IN SWMP are anticipated to be used for mitigation for this stream.

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UNT 10 to Buck Creek is an intermittent, sinking stream which flows from northeast to southwest through the Refined Preferred Alternative before it sinks into subsurface flow approximately 750 feet south of the Refined Preferred Alternative right-of-way. Approximately 199 feet of UNT 10 to Buck Creek will be permanently impacted by the Refined Preferred Alternative. UNT 10 to Buck Creek is fed by ground water and rainfall runoff but does not flow throughout the year; therefore, it is considered an intermittent stream. The drainage area for the UNT 10 to Buck Creek was determined to be 0.91 square mile using USGS StreamStats (<https://streamstats.usgs.gov/ss>); however, watershed areas determined within a karst landscape from surface topography should be considered rough estimates as underground flow patterns can be unpredictable. According to the Indiana floodplain Information Portal (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>), there are no mapped floodway or floodplain zones associated with UNT 10 to Buck Creek. UNT 10 to Buck Creek has a narrow streambed and defined riffle/run/pool habitat. The OHWM is 2.5 feet wide and 0.3 feet deep. UNT 10 to Buck Creek is considered to display excellent quality based on the substrate, bank full width, maximum pool depth, and good species diversity (see Appendix F, page 15 for additional information on UNT 10 to Buck Creek). UNT 10 to Buck Creek is a RPW with a significant underground connection to a TNW, Buck Creek; therefore, UNT 10 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act. UNT 10 to Buck Creek is not listed as an outstanding, scenic, wild, recreational, or navigable waterway on any state or federal listing, and it is not listed as an impaired water on the Indiana 303d list. Impacts to this stream have been minimized to the maximum extent possible as the stream flow of UNT 10 to Buck Creek will be maintained through the Refined Preferred Alternative via a culvert to reduce impacts to this channel. Total cumulative stream impacts of the Refined Preferred Alternative are anticipated to be more than 300 linear feet; therefore, mitigation for impacts to UNT 10 to Buck Creek will be required. Credits purchased from the IN SWMP are anticipated to be used for mitigation for this stream.

UNT 11 to Buck Creek is an ephemeral, sinking stream feature that starts east of Buck Creek and north of Melview Rd and flows southwest. Approximately 104 feet of UNT 11 to Buck Creek will be permanently impacted by the Refined Preferred Alternative. UNT 11 to Buck Creek flows only in response to rainfall runoff; therefore, UNT 11 to Buck Creek is an ephemeral stream. The drainage area for UNT 11 to Buck Creek was determined to be 0.15 square mile using USGS StreamStats (<https://streamstats.usgs.gov/ss>); however, watershed areas determined within a karst landscape from surface topography should be considered rough estimates as underground flow patterns can be unpredictable. According to the Indiana floodplain Information Portal (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>), there are no mapped floodway or floodplain zones associated with UNT 11 to Buck Creek. The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM of UNT 11 to Buck Creek is 3.3 feet wide and 0.3 feet deep. UNT 11 to Buck Creek is considered to display poor quality based on the substrate, bankfull width, and ephemeral nature (See Appendix F, pages 15-16 for additional information on UNT 11 to Buck Creek). UNT 11 to Buck Creek is a non-RPW with a significant nexus with a TNW, Buck Creek; therefore, UNT 11 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 11 to Buck Creek connects to Buck Creek through underground flow paths. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act. UNT 11 to Buck Creek is not listed as an outstanding, scenic, wild, recreational, or navigable waterway on any state or federal listing and it is not listed as an impaired water on the Indiana 303d list. Impacts to this stream have been minimized to the maximum extent possible and stream flow to UNT 11 to Buck Creek will be maintained through the Refined Preferred Alternative via a culvert to reduce impacts to this channel. Total cumulative stream impacts of the Refined Preferred Alternative are anticipated to be more than 300 linear feet; therefore, mitigation for impacts to UNT 11 to Buck Creek will be required. Credits purchased from the IN SWMP are anticipated to be used for mitigation for this stream.

The IDNR DFW responded on November 10, 2021, with recommendations to avoid and minimize impacts to fish to the greatest extent possible and compensate for impacts. IDNR DFW recommendations included bridging as much of the creek valley as possible; maintaining or improving fish and wildlife passage at existing or proposed crossing locations; minimizing and containing within the project limits inchannel disturbance; not working in the waterway from April 1 through June 30 without prior written approval of the DFW; not excavating in the low flow area except for the placement of piers, foundations, and riprap; not constructing any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds; using minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids; and implementing appropriately designed measures for controlling erosion and sediment (Appendix C, pages 33-36). All applicable IDNR DFW recommendations are included in the Environmental Commitments section of this EA document.

The USFWS responded on April 27, 2022, with recommendations to minimize adverse impacts on fish resources. USFWS recommendations included minimizing the extent of artificial bank stabilization and use bioengineering methods wherever feasible; if riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat; to use best methods to contain soil and sediment runoff during construction; and to restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap (Appendix J, pages 92-97). All applicable USFWS recommendations are included in the Environmental Commitments section of this EA document.

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The USEPA responded on November 5, 2021, with a recommendation to bridge across streams and their associated floodplains, wetlands, and unique habitats, such as riparian forest, if feasible (Appendix C, pages 23-32).

Open Water Feature(s)	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Reservoirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farm Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retention/Detention Basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water Management Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: <u>Sinkhole Depression</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*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 a desktop review, the aerial maps of the project area (Appendix B, pages 5-11), and the RFI report (Appendix E, page 9), there are 52 lakes within the 0.5 mile search radius. That number could not be confirmed by the site visits in April, May, and October of 2021 by Lochmueller Group as the field work for the project did not encompass the entire search radius used in the desktop review. There are eight open water features identified within the waters survey area; only one of the identified open water features is within the Refined Preferred Alternative and discussed below.

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT Ecology and Waterway Permitting Office on February 1, 2022. Please refer to Appendix F, pages 3-46 for the Waters of the U.S. Report. It was determined that eight open water features are located within the waters survey area, however; only one open water pond is located within the Refined Preferred Alternative. The USACE makes all final determination regarding jurisdiction.

Open Water 1 is a 1.41-acre feature that is situated west of Buck Creek and 55 feet north of Watson Road. This open water feature has developed within a sinkhole depression. Open Water 1 does not have clear connection to other surface water bodies and therefore is not considered a jurisdictional feature (Appendix F, page 31). Open Water 1 is located within the right-of-way of the Refined Preferred Alternative; however, the feature is not located within the construction limits and will not be impacted by the project. Appropriate erosion and sediment control measures will be installed prior to construction to prevent any incidental construction impacts to this pond. There are no open water features that will be impacted by the Refined Preferred Alternative.

The IDNR DFW responded on November 10, 2021, with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and compensate for impacts. IDNR DFW recommendations included revegetating all bare and disturbed areas disturbed during construction as soon as possible upon completion and implementing appropriately designed measures for controlling erosion and sediment (Appendix J, pages 92-97). All applicable IDNR DFW recommendations are included in the Environmental Commitments section of this EA document.

The USFWS responded on April 27, 2022, with recommendations to minimize adverse impacts on fish and wildlife resources. USFWS recommendations included revegetating all disturbed soil areas immediately upon project completion and to use best methods to contain soil and sediment runoff during construction (Appendix J, pages 92-97). All applicable USFWS recommendations are included in the Environmental Commitments section of this EA document.

The USEPA responded on November 5, 2021, with a recommendation to bridge across streams and their associated floodplains, wetlands, and unique habitats, such as riparian forest, if feasible (Appendix C, pages 23-32).

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**Wetlands**

Presence

Impacts

Yes

No

Total wetland area: 0.06 Acre(s) Total wetland area impacted: 0.02 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)
Wetland B	Emergent (PEM1)	0.06	0.02	Wetland B is an emergent wetland located east of Buck Creek, on the border between a forested area to the north and a graded gravel pad (Appendix F, pages 18-19 and 43). Wetland B is not likely a Waters of the U.S.

**Wetlands (Mark all that apply)**

- Wetland Determination
- Wetland Delineation
- USACE Isolated Waters Determination

Documentation

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

ESD Approval Dates

<b>February 1, 2022</b>
<b>February 1, 2022</b>
<input type="text"/>

**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.

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

*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 a desktop review, the aerial maps of the project area (Appendix B, pages 5-11), and the RFI report (Appendix E, page 9), there are 114 NWI-wetlands within the 0.5 mile search radius. That number could not be confirmed by the site visits in April, May, and October of 2021 by Lochmueller Group as the field work for the project did not encompass the entire search radius used in the desktop review. There are eight wetlands identified within the waters survey area; only one wetland is within the Refined Preferred Alternative and is discussed below.

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT Ecology and Waterway Permitting Office on February 1, 2022. Please refer to Appendix F, pages 3-46 for the Waters of the U.S. Report. It was determined that wetlands are located within the waters survey area, however; only one wetland is located within the Refined Preferred Alternative. The USACE makes all final determination regarding jurisdiction.

Wetland B is a 0.06-acre emergent wetland east of Buck Creek, on the border between a forested area to the north and a graded gravel pad. Wetland B is disturbed from debris and garbage dumping and receives drainage from the surrounding forested area. Wetland B would be considered an isolated wetland and therefore is not considered a jurisdictional water of the U.S. under the Clean Water Act. As defined by the Cowardin, et al. (1978), this wetland would be classified as a palustrine, emergent, persistent (PEM1) wetland. Based on a qualitative assessment of Wetland B, this wetland is of poor quality based on its size, disturbed nature, and quality of soil and vegetation (Appendix F, page 18). Approximately 0.02 acre of Wetland B will be permanently impacted by the Refined Preferred Alternative. Impacts to this wetland have been minimized to the maximum extent possible. Total cumulative stream impacts of the Refined Preferred Alternative are anticipated to be more than 300 linear feet; therefore, mitigation for impacts to Wetland B will be required. Credits purchased from the IN SWMP are anticipated to be used for mitigation for this wetland.

The IDNR DFW responded on November 10, 2021, with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and compensate for impacts. IDNR DFW recommendations included revegetating all bare and disturbed areas disturbed during construction as soon as possible upon completion and implementing appropriately

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designed measures for controlling erosion and sediment (Appendix C, pages 33-36). All applicable IDNR DFW recommendations are included in the Environmental Commitments section of this EA document.

The USFWS responded on April 27, 2022, with recommendations to minimize adverse impacts on fish and wildlife resources. USFWS recommendations included revegetating all disturbed soil areas immediately upon project completion and to use best methods to contain soil and sediment runoff during construction (Appendix J, pages 92-97). All applicable USFWS recommendations are included in the Environmental Commitments section of this EA document.

The USEPA responded on November 5, 2021, with a recommendation to bridge across streams and their associated floodplains, wetlands, and unique habitats, such as riparian forest, if feasible (Appendix C, pages 23-32).

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

Total terrestrial habitat in project area: 108.41 Acre(s)      Total tree clearing: 17.15 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, site visits in February, April, May, and November of 2021 and January and April of 2022 by Lochmueller Group, Inc., and the aerial maps of the project area (Appendix B, pages 5-11), there are 108.41 acres of forest, agricultural lands, undeveloped (based on parcel property class codes for vacant agricultural land and vacant residential land), and lawn habitats (residential) present within the project area. Terrestrial habitats include American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), bush honeysuckle (*Diervilla lonicera*), twinleaf (*Jeffersonia diphylla*), Christmas fern (*Polystichum acrostichoides*), rue anemone (*Thalictrum thalictroides*), yellow trout lily (*Erythronium rostratum*), wild blue phlox (*Phlox divaricata*), American sycamore (*Platanus occidentalis*), Ohio buckeye (*Aesculus glabra*), flowering dogwood (*Cornus florida*), autumn olive (*Elaeagnus umbellata*), eastern red cedar (*Juniperus virginiana*), cress-leaf groundsel (*Packera glabella*), wild mustard (*Sinapis arvensis*), beaked cornsalad (*Valerianella radiata*), tall goldenrod (*Solidago altissima*), aster (*Symphotrichum spp*), and spotted touch-me-not (*Impatiens capensis*), tulip poplar (*Liriodendron tulipifera*), red bud (*Cercis canadensis*), blackberry (*Rubus spp.*), and Japanese honeysuckle (*Lonicera japonica*). Total tree clearing is estimated at approximately 17.15 acres. Dominant tree species include red cedar (*Juniperus virginiana*), sugar maple (*Acer saccharum*), tulip tree (*Liriodendron tulipifera*), black cherry (*Prunus serotina*), ash (*Fraxinus*), sycamore (*Platanus occidentalis*), American Beech (*Fagus grandifolia*), shagbark hickory (*Carya ovata*), red oak (*Quercus rubra*), sassafras (*Sassafras albidum*), white oak (*Quercus alba*), and black walnut (*Juglans nigra*). The construction limits have been minimized to only include the amount of tree clearing necessary for construction of the new roadway and bridge. Mitigation measures were developed through the Section 7 consultation process with USFWS. Details of these mitigation measures can be found in the Protected Species section of the EA document below.

The IDNR DFW responded on November 10, 2021, with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and compensate for impacts. IDNR DFW recommendations included mitigation ratios for non-wetland forest impacts, revegetating all bare and disturbed areas, minimizing tree and brush clearing, time of year tree removal restrictions, implementing appropriate erosion and sediment control measures, and seeding and protecting all disturbed streambanks and slopes. (Appendix C, pages 33-36). All applicable IDNR DFW recommendations are included in the Environmental Commitments section of this EA document. IDNR also commented on impacts to forest due to fragmentation caused by roadway construction. The Refined Preferred Alternative has the least amount of forest fragmentation (Appendix J, pages 434-439)..

The USFWS responded on April 27, 2022, with recommendations to minimize adverse impacts on fish and wildlife resources. USFWS recommendations included to not clear trees or understory vegetation outside of construction zone boundaries and to use project design and ROW control to prohibit or restrict secondary development in large forest blocks and near currently undeveloped forested waterways. (Appendix J, pages 92-97). All applicable USFWS recommendations are included in the Environmental Commitments section of this EA document.

The USEPA responded on November 5, 2021, with a recommendation to bridge across streams and their associated floodplains, wetlands, and unique habitats, such as riparian forest, if feasible (Appendix C, pages 23-32).

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**Protected Species**

**Federally Listed Bats**

Information for Planning and Consultation (IPaC) determination key completed  
 Section 7 informal consultation completed (IPaC cannot be completed)  
 Section 7 formal consultation Biological Assessment (BA) required

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

Determination Received for Listed Bats from USFWS:      NE       NLAA       LAA

**Other Species not included in IPaC**

Additional federal species found in project area (based on IPaC species list)  
 State species (not bird) found in project area (based upon consultation with IDNR)

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

**Migratory Birds**

Known usage or presence of birds (i.e. nests)  
 State bird species based upon coordination with IDNR

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

*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 4) completed by Lochmueller Group on March 31, 2022, the IDNR Harrison County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR DFW early coordination response letter dated October 6, 2021 (Appendix C, page 33), the Natural Heritage Program's Database has been checked and indicates that the state special concern wavyrayed lampmussel (*Lampsilis fasciola*) and the state special concern little spectaclecase (*Villosa lienosa*) have been documented in Buck Creek within ½ mile of the project area. An INDOT 0.5-mile bat review occurred on May 4, 2021, and did not indicate the presence of endangered bat species in or within 0.5 mile of the project area; however, the project is located within the 10-mile Indiana bat hibernacula buffer. Harrison County is considered critical habitat for the Indiana bat.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix J, pages 2-8). The project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally endangered northern long-eared bat (NLEB) (*Myotis septentrionalis*). The project is located within the 10-mile Indiana bat hibernacula buffer. Other species were identified in the IPaC species list along with the Indiana bat and northern long-eared bat. Refer to the paragraph below.

Based on assumed presence and assumed maternity colony impacts for the Indiana bat and northern long-eared bat, this project does not qualify for the *Rangewide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. Through coordination with the USFWS, in an e-mail response dated September 24, 2021, the Service determined that formal Section 7 Endangered Species Act consultation would be required for the SR 11 Roadway Project (Appendix J, page 1). Therefore, a draft Biological Assessment (BA) was prepared and submitted to USFWS for review on August 12, 2022. USFWS provided comments to the draft BA on September 16, 2022, and October 5, 2022. On November 15, 2022, a revised BA was submitted to USFWS. On March 20, 2023, an addendum to the BA was prepared and submitted to USFWS. The purpose of the addendum was to update forest impacts based on minor alignment shifts in the Refined Preferred Alternative and to estimate anticipated acreage of tree clearing required for utility relocation at the request of USFWS.

The official species list generated from IPaC and the early coordination response dated April 27, 2022 (Appendix J, pages 211-225) from USFWS indicated one other species present within the project area. The project is within the range of the federally endangered gray bat (*Myotis grisescens*). The project does not qualify for the USFWS Interim Policy due to impacts to forested ROW greater than 75 feet from the existing pavement. USFWS correspondence indicates that there are summer capture records on Buck Creek, as well as winter and summer presence records in caves to the northwest of the project. A determination on the gray bat was included in the BA and is discussed below.

A bridge inspection (31-00038, Union Chapel Road at Buck Creek) occurred on April 1, 2022, and no bats or evidence of bats using the structure were documented (Appendix J, page 232). Removal or replacement of the Union Chapel Road Bridge is not part of the proposed action for the SR 11 Roadway Project. All culverts (24 total) under Watson Road, Union Chapel Road, Melview Road, and

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private access roads were inspected on April 22, 2021, and no bats or evidence of bats using the structures were documented (Appendix J, page 202). USFWS Bridge Structure Assessments are only valid for two years. If construction will begin after April 1, 2024, an inspection of the structure by a qualified individual must be performed. Inspection of the structure must indicate no signs of bats or birds. If signs of bats or birds are documented during the inspection, the INDOT District Environmental Manager must be contacted immediately. This firm commitment is included in the Environmental Commitments section of this document.

Two residences and multiple outbuildings will be removed as a result of the project. Prior to any demolition, the structure(s) will be inspected for bats or evidence of bats. If bats, or evidence of bats, are found, coordination will occur with INDOT ESD and USFWS before demolition may occur. If further coordination is needed, no demolition shall occur until coordination is concluded with INDOT ESD and USFWS. This firm commitment is included in the Environmental Commitments of this document.

Structure No. 31-00038 spanning Buck Creek for Union Chapel Road 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). Since the bridge will not be removed or replaced as part of the SR 11 Roadway Project proposed action, additional inspections prior to construction are not warranted.

On December 21, 2022, the FHWA initiated Formal Consultation with the USFWS to review the November 15, 2022, BA and prepare a Biological Opinion (BO) that provides concurrence with the determination of effect for each bat species covered in the BA and documents all special conditions associated with the proposed action (Appendix J). FHWA concluded that a "may affect, likely to adversely affect" determination was warranted for the Indiana bat and northern long-eared bat and that a determination of "may affect, not likely to adversely affect" determination was warranted for the gray bat for the proposed action. On January 9, 2023, USFWS acknowledged that they had received sufficient documentation to evaluate potential project impacts to bats and prepare a BO to address concurrence with the proposed determinations.

The BO was completed by USFWS on April 19, 2023, and transmitted to FHWA on April 20, 2023 (Appendix J, pages 441-486). USFWS concurred that the project is not likely to adversely affect the gray bat. It is also USFWS's opinion that the SR 11 project, as proposed, is not likely to jeopardize the continued existence of the Indiana bat or NLEB.

The following avoidance and minimization measures (AMMs) have been developed through coordination with the USFWS to minimize impacts to bats and are firm commitments included in the Environmental Commitments of this document:

- Avoid clearing trees between April 1 and November 15.
- Incorporate routine inspections of the bridge for bats during construction. If bats are found to be using portions of the bridge for roosting during construction, an avoidance or minimization measure for physical exclusion techniques (Styrofoam sheets, foam backer rolls, expansion foam) to seal off gaps and crevices will be evaluated and implemented if considered appropriate.
- Prohibit or limit night construction and the use of temporary lighting during active season bridge construction within the Buck Creek valley.
- Direct temporary lighting away from adjacent woodland foraging habitat.
- Develop an erosion control plan sensitive to the unique challenges of protecting karst groundwater in accordance with INDOT standards and Indiana Department of Environmental Management requirements. The erosion plan will include, but not necessarily be limited to, silt fences, and temporary seed mix to control migration of sediment into Buck Creek, contributing surface water features, and sinkholes.
- Confine fueling and other hazardous material activities at locations where accidental spills can be best managed.
- Incorporate measures into the design to intercept contaminants leaving the roadway prior to discharge into Buck Creek and develop measures to protect the underground karst system. This will include detention basins along the roadway and a system to control drainage runoff from the new Buck Creek Bridge. The bridge design will either eliminate drop drains on the bridge deck directly above Buck Creek or will capture the bridge runoff within an enclosed drainage system and direct the discharge onto the floodplain to the west of the channel where the runoff water can be filtered via the floodplain soils and vegetation.
- To minimize construction noise, maintain equipment in good working order.
- Restrict construction within Buck Creek valley to daytime except for nighttime pouring of concrete bridge deck to minimize noise impacts at night.
- Consider restricting blasting activities to avoid the months of May, June, and July during the maternity/pup season for Indiana bats and northern long-eared bats.
- Compensate for unavoidable and irreversible loss of roosting, swarming, and foraging bat habitat associated with construction of the project via payment into the Range-Wide Indiana Bat and Northern Long-eared Bat In Lieu Fee Program (amended in 2022 to include the NLEB).
- FHWA/INDOT will minimize impacts to forest and wetland areas when developing the proposed alignment. They also will provide compensatory mitigation for unavoidable loss of forest.

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- FHWA/INDOT will follow best management practices and will mitigate for stream impacts as appropriate. Buck Creek and most of its floodplain will be bridged and no piers are planned within the waterway.
- Impacts will be minimized by spanning as much of the floodplain as possible to preserve wildlife corridors and to minimize fill. FHWA/INDOT will span the floodplain at the proposed crossing of the Buck Creek and the height of the structure will allow for continued movement beneath the bridge.
- Roadway lighting is not proposed at this time. If lighting is deemed necessary in the future, downward facing lights with full cut-off lenses are suggested.
- INDOT will routinely assess bridges for bat use and will coordinate with the Service if needed to reduce unnecessary disturbances.
- Impacts to aquatic habitat will be reduced or avoided via standard best management practices such as low salt and no spray areas. The bridge drainage system will be designed to prevent runoff from being deposited directly into Buck Creek.
- Design the project footprint to have the minimum feasible width within the forested corridors and maintain habitat connectivity wherever possible.
- Any injured or dead bats incidentally observed should be reported to USFWS.
- Construction personnel and INDOT maintenance staff should be made aware of potential construction, maintenance or operation issues concerning Indiana bats and NLEBs.
- Any dead bats located within the construction limits, roadway, or right-of-way should be immediately reported to INFO [(812) 334-4261], and subsequently transported (frozen or on ice) to INFO. No attempt should be made to handle any live bat, regardless of its condition; report bats that appear to be sick or injured to INFO. INFO will make a species determination on any dead or moribund bats. If an Indiana bat is identified, INFO will contact the appropriate Service Law Enforcement office as required.
- Provide the Service with final construction impact figures and compensatory mitigation fee details for review and notify the INFO of payment to the TCF In Lieu Fee Program.

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

### Geological and Mineral Resources

- Project located within the Indiana Karst Region
- Karst features identified within or adjacent to the project area
- Oil/gas or exploration/abandoned wells identified in the project area

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

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): Karst Report Approved September 9, 2022

*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 in the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction*. According to the topo maps of the project area (Appendix B, pages 2-4), the RFI report (Appendix E, page 9), and the Karst Report (Appendix K, pages 6-14), there are karst features identified within and adjacent to the project area.

Due to the nature of the project, which includes approximately five miles of combined road improvement and roadway construction, impacts to the surface karst features and subsurface karst system will take place. Impacts will be associated with changes to grading and hard surface cover both of which will alter drainage patterns. A detailed karst investigation was completed for the project and a Karst Report documenting the details of the investigation was approved by INDOT Ecology and Waterway Permitting Office (EWPO) on September 9, 2022 (Appendix K, page 2-33). The karst investigation included a preliminary evaluation, a search of relevant literature and documentation, and a field check for signs of karst visible at the surface. A multi-phase geophysical investigation which included ground penetrating radar (GPR), electrical magnetism (EM) survey, and an electrical resistivity (ER) survey was conducted to identify karst features. Based on information collected during the field check and geophysical survey, a geotechnical investigation was conducted. The geotechnical investigation included 27 borings at select locations in the project area to investigate potential underground karst features and bedrock quality. In addition, a dye trace study, consisting of six dye traces, was conducted to determine groundwater flows and drainage patterns in and around the project area. The geophysical, geotechnical, and dye trace studies can be found in the Karst Report in Appendix K.

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**Field Survey:**

The karst field investigation found 133 surface karst features within the survey area. Karst surface features include sinkholes, soil piping, sinking streams, sinkpoints, springs, and other features. These features are described in more detail in the Karst Report (Appendix K, pages 6-14). The Karst Report compared the number of surface karst features within 20 feet of the construction limits of the three alternative alignments (Alternative 1, Alternative 2, and Alternative 3) under consideration. This comparison found that while impacts to surface karst features are of a similar order of magnitude, Alternative 3 has the least cumulative impact to surface karst features (Appendix K, pages 14-16). This is attributable to the fact that Alternative 3 follows existing roadways for a greater distance through the project area.

**Field Identified Karst Feature Alternative Comparison Table**

Karst Feature Type	Alternative 1	Alternative 2	Alternative 3
Sinkholes	17	16	12
Soil Piping	3	6	4
Sinking Stream	3	2	2
Sinkpoint	N/A	2	N/A
Spring	N/A	1	N/A
Other	4	1	5
Total	27	28	23

**Karst Impacts:**

Karst impacts will include the grouting and plugging of sinkholes beneath the pavement of the roadway. Sinkholes adjacent to the roadway pavement will be treated with a reverse aggregate cap to prevent eventually undermining of the roadway embankment and roadway. If the road is constructed over any springs, a spring box will be installed to capture the water and move it out from under the roadway. The deep cut through bedrock east of Buck Creek will interrupt and alter karst drainage pathways in the vicinity. An increase in paved surface may increase stormwater runoff into karst sinks. Mitigation will take place through the installation of karst feature treatments that are designed to maintain the quantity and quality of water reaching the subsurface wherever possible. Where possible, stormwater basins will be installed to slow and filter runoff before it enters karst. Reverse aggregate caps on sinkholes will help prevent washing of fine sediments into the subsurface. The Field Identified Karst Feature Table above quantifies the known karst impacts for each of the alternatives; however, unknown and covered karst features are likely to be uncovered during construction and will need to be treated. The subsurface karst system could be impacted by changes to the quantity and quality of water entering the system. The Dye Trace Report provides information on the geographic extent of the subsurface drainage system that could be impacted by the project. These impacts will primarily be minimized by erosion control BMPs during and post construction.

Karst avoidance alternatives are not feasible or practical due to the geographic extent of the Mitchell Plateau which starts at the Ohio River and continues north through the middle of Harrison County. Alternative alignments south and north of Watson Road would have similar impacts on the karst plain. In order to avoid the Mitchell Plateau, the proposed road would have to be moved to a location that would no longer meet the project’s purpose and need.

**Commitments:**

Karst mitigation is anticipated for the project. The focus of mitigation is maintaining the quality and quantity of water entering the feature (*Protection of Karst Features During Project Development and Construction*, July 15, 2021). Where possible, surface water draining to karst inlets should be perpetuated unless alternative drainage is approved with Agency coordination. Additionally, if unknown karst features are discovered during construction, all work within 100 feet of the feature shall stop and the Engineer shall be notified immediately. Karst features include, but are not limited to, voids, caves, sinking streams, springs, seeps, and sinkholes. The Department will provide the treatment measures to be incorporated for the feature. The karst feature shall be protected from sedimentation runoff until a final treatment measure is identified and installed. Work shall not resume in the area until directed by the Engineer. This is included as a firm commitment in the Environmental Commitments section of this EA document.

The USEPA responded on November 5, 2021 (Appendix C, pages 23-32), with the following recommendations:

- Give special attention to work that would occur upstream of a drinking water intake. In addition, special attention should be given to how work is conducted in areas with karst feature where contaminants introduced into the karst system may travel underground for miles and show up in private and/or public drinking water supply wells, streams/rivers and/or springs used by people and/or livestock for drinking water. Impacts to these resources should be evaluated and mitigation measures identified, if applicable.
- Class V injection well permits may be required for various types of projects. For example, in Indiana, such a permit could be required by USEPA Region 5 if a Class V injection well is located within the karst region of the state, a sole source aquifer area, a state designated source water protection area for a public water supply, or anywhere

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untreated fluids discharged through a Class V well may otherwise endanger an underground source of drinking water. For example, if sinkholes will be modified for stormwater drainage for the proposed road and/or related facilities, they would be considered Class V wells under the Safe Drinking Water Act's Underground Injection Control (UIC) program.

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

The IDNR responded on October 6, 2021 (Appendix C, pages 33-36) with the following recommendations:

- Construction activities that occur within the drainage area of active karst features could potentially cause significant impacts to sensitive karst ecosystems and biota. Should any karst features be located within the construction limits or that may receive drainage from the construction, we recommend that a karst assessment be conducted by a qualified geologist with experience in karst geology assessments and a determination made as to whether or not the karst feature/sinkhole is active. If a karst assessment is not done, any sinkhole that construction runoff may drain to should be assumed to be active. To protect active sinkholes (or those not assessed), the most protective erosion control methods should be implemented to avoid potentially impacting sensitive karst ecosystems (such as runoff containment and filtering prior to discharge).
- Construction should be avoided within 25 feet of the topmost closed contour of any active karst features. Runoff from construction located outside of the drainage area of any karst feature should be directed away from any karst features. Where construction within the closed contours of a karst feature is unavoidable, runoff must be filtered prior to discharge.
- INDOT's karst protection procedures should be followed during all phases of the project.

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

In their early coordination response dated October 6, 2021, the Indiana Geological and Water Survey (IGWS) did indicate that karst features may exist in the project area (Appendix C, pages 13-15). The IGWS early coordination letter identified one percent annual chance of flooding and potential karst as geologic hazards in the project area. In addition, the IGWS identified that there are petroleum exploration wells and abandoned industrial mineral quarries in the project area. Responses from IGWS were communicated to the designer on October 6, 2021.

Karst Agency coordination, which included the Approved Karst Report, was sent to the Karst Coordinating Agencies (USFWS, IDEM Groundwater Section, IDNR DFW, IGWS, and the EPA) on February 7, 2023.

IDEM Ground Water Section responded on February 20, 2023, with the following recommendation that should be included as a firm commitment.

- Sampling of springs and seeps in the area is needed to show road construction is not affecting water quality. Sampling of springs needs to include samples collected under base flow conditions (less than 0.75 inches of rain has fallen in the previous 24 hours) and storm flow conditions (more than 0.75 inches of rain has fallen over the previous 24 hours).

To address this recommendation, a water quality monitoring plan has been developed and approved by INDOT EWPO and will be implemented as part of construction (pre-, during, and post-construction) (Appendix K, pages 34-41). This has been included as a firm commitment in the Environmental Commitments section of this EA.

USFWS responded to Karst Agency Coordination on February 22, 2023, and IGWS responded on February 24, 2023, respectively with input into karst resource protection but with no additional commitments to be included.

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

Based on the RFI report (Appendix E, page 10), there were 18 petroleum wells located within or adjacent to the RFI project area. Of the 18 petroleum wells, 4 are mapped within or adjacent to the Refined Preferred Alternative. An early coordination letter was sent to IDNR Oil and Gas Division and no response has been received to date. There is an entire system of natural gas extraction wells, connecting pipes, and collection facilities within the project area that appear to be owned by BreitBurn Energy Partners. No impacts are anticipated to any wells or collection facilities but there may be impacts to some of the pipe network. It is anticipated that any crossing pipe owned by BreitBurn Energy Partners within the proposed ROW limits will need to be replaced. Coordination is on-going as part of the design process. Coordination is also on-going with property owners that have leases with BreitBurn Energy Partners.

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## SECTION C – OTHER RESOURCES

### Drinking Water Resources

- Wellhead Protection Area(s)
- Source Water Protection Area(s)
- Water Well(s)
- Urbanized Area Boundary
- Public Water System(s)

Presence

X
X

Impacts

Yes	No
X	
X	

- Is the project located in the St. Joseph Sole Source Aquifer (SSA):
- If Yes, is the FHWA/EPA SSA MOU Applicable?
- If Yes, is a Groundwater Assessment Required?

Yes	No
	X

*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.*

The project is located in Harrison 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/Environmental Protection Agency (EPA)/INDOT 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.

IDEM's Wellhead Proximity Determinator website (<https://www.in.gov/idem/cleanwater/information-about/groundwater-monitoring-and-source-water-protection/wellhead-protection-program/source-water-proximity-determination-tool/>) was accessed on July 8, 2022 by Lochmueller Group. This project is not located within a Wellhead Protection Area or a Source Water Area. No Impacts are expected.

The IDNR Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on March 1, 2023, by Lochmueller Group. The nearest well is located near the Old Hwy 337 and existing SR 11 intersection. The feature will be affected because it is located within the proposed ROW. This well is likely a private well associated with the residence that will be relocated as part of this project. The well will be closed following current well closure guidelines. This is included as a firm commitment in the Environmental Commitments section of this EA document. Avoidance alternatives are not practicable or feasible due to its location at the tie-in with existing SR 11 at the eastern terminus of the project and would likely have been impacted by all alternatives. Three additional wells are located adjacent to but outside of the proposed ROW and are not anticipated to be impacted by the project.

Based on a desktop review of INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Lochmueller Group on March 1, 2023, this project is not located in an Urban Area Boundary. No impacts are expected.

Based on a desktop review, site visits in 2021 and 2022 by Lochmueller Group, the aerial maps of the project area (Appendix B, pages 5-11), and utility coordination, this project is located where there is a public water system. The public water system will be impacted as the South Harrison Water Corporation water line along Watson Road will need to be relocated. Avoidance alternatives would not be practicable with trying to minimize project impacts by reusing existing roadways. Coordination with South Harrison Water Corporation is ongoing and will continue as the design process moves forward.

### Floodplains

- Project located within a regulated floodplain
- Longitudinal encroachment
- Transverse encroachment
- Homes located in floodplain within 1000' up/downstream from project

Presence

X
X

Impacts

Yes	No
X	
X	

If applicable, indicate the Floodplain Level?

Level 1     Level 2     Level 3     Level 4     Level 5

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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 (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>) by Lochmueller Group on February 28, 2023, and the RFI report, this project is located in a regulatory floodway as determined from approved IDNR floodplain maps (Appendix F, pages 1-2). An early coordination letter was sent on October 6, 2021, to the local Floodplain Administrator. The floodplain administrator responded on October 13, 2021, but did not provide any responses related to floodplains (Appendix C, page 22). With the crossing of Buck Creek being on new alignment, this project qualifies as a Category 5 per the current INDOT CE Manual, which states there will be no substantial 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. The proposed structure will have no substantial impact per the completed hydraulic study.

Farmland	<b>Presence</b>	<b>Impacts</b>	
		Yes	No
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Points (from Section VII of CPA-106/AD-1006*)	<b>156</b>		

*\*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, site visits in 2021 and 2022 by Lochmueller Group, the aerial maps of the project area (Appendix B, pages 5-11), and statewide county parcel data, the project will convert 60.58 acres of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on October 6, 2021, to NRCS. On February 28, 2023, Lochmueller Group sent updated information for the preferred alternative to NRCS. NRCS responded on March 16, 2023, stating the project will cause a conversion of prime farmland (Appendix C, page 19). Coordination with NRCS resulted in a score of 156 on the NRCS-CPA-106 Form (Appendix C, page 20). The 131.59 acres of permanent ROW shown on the NRCS form has increased slightly to 132.75 acres, of which 60.58 acres is from agricultural parcels. 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

<b>Minor Projects PA</b>	<b>Category(ies) and Type(s)</b>	<b>INDOT Approval Date(s)</b>	<b>N/A</b>
	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>
<b>Full 106 Effect Finding</b>			
No Historic Properties Affected	<input type="checkbox"/>	No Adverse Effect	<input checked="" type="checkbox"/>
		Adverse Effect	<input type="checkbox"/>
<b>Eligible and/or Listed Resources Present</b>			
NRHP Building/Site/District(s)	<input checked="" type="checkbox"/>	Archaeology	<input type="checkbox"/>
		NRHP Bridge(s)	<input type="checkbox"/>

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**Documentation Prepared** (mark all that apply)

APE, Eligibility and Effect Determination	<b>X</b>
800.11 Documentation	<b>X</b>
Historic Properties Report or Short Report	<b>X</b>
Archaeological Records Check and Assessment	<b>X</b>
Archaeological Phase Ia Survey Report	<b>X</b>
Archaeological Phase Ic Survey Report	
Other: Archaeological Phase Ia Addendum	<b>X</b>

**ESD Approval Date(s)**

May 24, 2023
May 24, 2023
March 10, 2022
December 9, 2022
December 9, 2022
May 16, 2023

**SHPO Approval Date(s)**

June 15, 2023
June 15, 2023
April 6, 2022
December 20, 2022
December 20, 2022
June 15, 2023

Memorandum of Agreement (MOA)

**MOA Signature Dates** (List all signatories)

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*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.*

As this is a federal aid highway project, a Section 106 evaluation is required as mandated by the National Historic Preservation Act of 1966, as amended (54 USC § 306108) and as governed by the process established by 36 CFR Part 800. This process mandates the evaluation of the effects of the undertaking on properties that are listed on or eligible for listing on the National Register of Historic Places.

**Area of Potential Effect (APE):**

The APE is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE encompasses all resources immediately adjacent to the project area and those which may not be immediately adjacent, but which have a proximate viewshed of the project area. The project area encompasses the area required to support the purpose and need of the project. At the west end of the project area near the intersection of SR 135 and Watson Road the APE extends along SR 135 approximately 650 feet south and 630 feet north along the road. Due to the vegetation west of SR 135, the APE only extends about 150 feet beyond the project limits at this intersection. Generally, along Watson Road the APE extends approximately between 50 to 720 feet north and between 100 to 700 feet south of the project limits with the viewshed limited in some areas by vegetation and landforms. In the area of the anticipated road construction, heavy forestation significantly restricted the APE. Between the intersection of Watson Road/Union Chapel Road and Melview Road, the APE extends between 100 and 600 feet and between 100 and 1000 feet south of the project limits, limited in some areas by vegetation and topography. At the east end of the APE near the intersection of Old Hwy 337 and SR 11, the land is slightly less vegetative and flatter, resulting in a wider APE. Therefore, the APE extends between 200 and 1000 feet north of the east end project limits and approximately 660 feet south of the east end project limits. Finally, the APE extends approximately 750 feet east of the east end project limits (Appendix D, pages 17-20). The Archaeological APE is defined as the 133.0-acre survey area investigated for the presence of archaeological resources.

**Coordination with Consulting Parties:**

Early coordination was initiated with potential consulting parties on July 6, 2021, with an email to consulting parties (Appendix D, pages 28-29). The email asked consulting parties to review the early coordination letter attached to the email and via IN SCOPE, which is INDOT's Section 106 document website (<https://erms12c.indot.in.gov/Section106Documents>). A hard copy of these materials was mailed to the State Historic Preservation Officer (SHPO). Those who were invited to become consulting parties at that time are shown below, with those who accepted consulting party status at that time shown in **bold** below. Please note, SHPO is considered an automatic consulting party.

Section 106 Invited Consulting Parties	Date of Response
<b>State Historic Preservation Officer (SHPO)</b>	July 15, 2021
Harrison County Commissioners	No response received
Harrison County Historian	No response received
Harrison County Historical Society	No response received
Harrison County Discovery Center	No response received
Harrison County Highway Engineer	No response received
Indiana Landmarks – Southern Regional Office	No response received
River Hills Economic Development District	No response received
Delaware Tribe of Indians, Oklahoma	No response received
<b>Eastern Shawnee Tribe of Oklahoma</b>	September 3, 2021
Miami Tribe of Oklahoma	No response received

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Peoria Tribe of Indians of Oklahoma	No response received
Pokagon Band of Potawatomi Indians	No response received
Shawnee Tribe	No response received
United Keetoowah Band of Cherokee Indians	No response received

In a letter dated July 15, 2021, the SHPO staff responded to the early coordination letter and asked that property owners be invited if right-of-way is planned to be taken from adjacent historic properties. The following property owners were invited to become consulting parties with the distribution of the Historic Property Report. Those who accepted consulting party status are shown in **bold** below.

Section 106 Invited Consulting Parties	Date of Response
Ralph & Cora Frakes	No response received
Hauswald Partners, LLC	No response received
David Hisery	No response received
<b>Amanda Uhl</b>	March 16, 2022 (accepted consulting party status as the executor of estate for Cora Frakes)

### Archaeology:

An Indiana Archaeological Report, which included an archaeological records review check and Phase 1a archaeological reconnaissance, was completed by qualified professionals at Cultural Resource Analysts, Inc. (CRA) on December 6, 2022. The field reconnaissance resulted in the re-identification of one previously recorded site (12HR583) and documented four new archaeological sites (12HR864-12HR867). Sites 12HR583 and 12HR864 are prehistoric lithic scatters of indeterminate temporal/cultural affiliation. Site 12HR865 is a historic farmstead dating from the early nineteenth century through the present day. Site 12HR866 is a historic artifact scatter dating from the late nineteenth through early twentieth centuries. Site 12HR867 is a historic root cellar dating from the mid-twentieth century through the present day. The portions of Sites 12HR583, 12HR864, and 12HR865 within the survey area are recommended not eligible for inclusion in the National Register of Historic Places. Sites 12HR866 and 12HR867 are entirely within the survey area and are also not recommended eligible for the National Register of Historic Places. No further work is recommended at these archeological sites within the survey area. No further archaeological work was recommended (Appendix D, pages 76-77). The report of these findings was submitted to INDOT CRO on August 26, 2022 for review. Following INDOT CRO concurrence on December 9, 2022, the report was sent to the IDNR DHPA who also concurred with the findings of the report on December 20, 2022, stating that sites 12Hr866 and 12Hr867 do not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. The portions of sites 12Hr583, 12Hr864, and 12Hr865 within the proposed project area do not appear to contain significant, intact archaeological deposits. No further archaeological investigations were determined necessary provided the remainder of sites 12Hr583, 12Hr864, and 12Hr865 outside of the proposed project area are avoided (Appendix D, pages 55-56). The report was sent to the tribes (listed above) utilizing IN SCOPE on February 1, 2023. No comments regarding the report were received from the tribes.

Due to the advancement of the design for Alternative 3 (the recommended Refined Preferred Alternative), expansion of the archaeological APE occurred warranting additional archaeological investigations. The Phase 1a archaeological reconnaissance addendum was completed by CRA on April 4, 2023. The results of this investigation included the re-identification of two previously recorded sites (12HR864 and 12HR865) and the identification of two new archaeological sites (12HR873 and 12HR874). Sites 12HR864, 12HR873, and 12HR874 are prehistoric lithic scatters of indeterminate temporal/cultural affiliation. Site 12HR865 is an isolated find with an indeterminate temporal/cultural affiliation and a historic farmstead dating from the late nineteenth century to the present day. The portions of Sites 12HR864, 12HR865, and 12HR873 within the addendum survey area are recommended not eligible for inclusion in the NRHP. Site 12HR874 is entirely within the addendum survey area and is also recommended not eligible for the NRHP. No further work is recommended at these archaeological sites within the survey area (Appendix D, pages 78-79). The addendum report was sent to the IDNR DHPA who also concurred with the findings of the report on June 15, 2023, stating they concur that sites 12Hr873 and 12Hr874 do not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. The reinvestigated portions of sites 12Hr583, 12Hr584, 12Hr864, and 12Hr865 within the proposed project area do not appear to contain significant, intact archaeological deposits. No further archaeological investigations are necessary provided the remainder of sites 12Hr583, 12Hr584, 12Hr864, and 12Hr865 outside of the proposed project area are avoided (Appendix D, pages 86-87). The addendum report was sent to the tribes (listed above) utilizing IN SCOPE on May 24, 2023 and May 30, 2023. No comments regarding the report were received from the tribes.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery must be reported to the Indiana SHPO within two business days.

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### Historic Properties:

The National Register of Historic Places (NRHP), Indiana Register of Historic Sites and Structures (State Register), the State Historic Architectural and Archaeological Research Database (SHAARD), the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBM), and the Indiana Historic Sites and Structures Inventory (IHSSI) were consulted. Survey work of Harrison County began in 1986 for the IHSSI. The resulting *Harrison County Interim Report* (1987) was also reviewed. No resources already listed in the NRHP were located within the APE.

The *Indiana Historic Bridge Inventory Volume 2: Listing of Historic and Non-Historic Bridges* (February 2009) by Mead & Hunt was reviewed. No bridges eligible for listing in the NRHP are located within the project area.

A Qualified Professional with Lochmueller Group conducted a site inspection of the project area on June 22-23, October 13, and December 15, 2021, and documented resources that will be at least 50 years of age at the time of the project letting within the APE. The APE was investigated for the existence of any historic properties, structures, objects, or districts listed in or eligible for listing in the NRHP. The historian walked the APE, taking photographs of all resources meriting a Contributing or higher rating. Non-Contributing resources or those that did not meet the age requirements were noted but not documented other than in general view photographs. One (1) previously surveyed resource that appears in the interim report is located within the APE. Thirteen (13) newly identified aboveground resources were recorded within the APE. One (1) previously surveyed IHSSI property that is no longer extant was located within the APE: Harrison County Bridge Number 38 (IHSSI #061-329-40007/HB-0676).

As a result of identification and evaluation efforts for this project, three properties are recommended eligible for listing in the NRHP:

- Farm (Lochmueller #1) at 8265 SR 135; Corydon, IN
- Farm (Lochmueller #7) at 140 Watson Road SE; Corydon, IN
- Farm (Lochmueller #10) at 2275 Melview Road; Corydon, IN.

*Farm at 8265 SR 135:* The Farm at 8265 SR 135 is a 120-acre farm consisting of a c. 1890 Queen Anne farmhouse (rated Notable), a c. 1900 wash house and shed (considered Contributing to the property), a c. 1950 pole barn (considered Contributing to the property), and two c. 1900 English barns (considered Contributing to the property). The c. 1890 Queen Anne farmhouse is situated in the southeast corner of the parcel and is the closest building to SR 135. Despite its current slightly neglected appearance, with only two one-story additions, the farmhouse retains many original features including the decorative elements on the front porch which include spindled spandrels and brackets on the columns. All outbuildings are associated with agricultural/domestic use and are considered contributing to the property. Similar to the house, the outbuildings appear slightly neglected with weathered boards, missing and broken components, and rusted metal roofs. Despite the additions to the house on this property, Harrison County lacks rural residences of the Queen Anne style, making this farm an unusual architectural resource within the local cultural landscape. The number of outbuildings, most of the same era of construction as the dwelling, convey the agricultural significance of this late nineteenth/early twentieth century farm. As such, this resource is recommended eligible under Criterion C of the NRHP for its architectural merit.

*Farm at 140 Watson Road SE:* The Farm at 140 Watson Road SE sits north of Watson Road and consists of two residential structures and multiple outbuildings on a 68-acre farm. The oldest residence on the property is a c. 1840 Hall and Parlor log house that is surrounded by large mature trees. The house has a limestone foundation, wood siding over its original log construction, and a brick exterior chimney. Largely neglected, the house maintains a shed roof porch that stretches across the entire front façade supported by square plain porch columns. The second residential building on the property is a c. 1990 modular house that is located just north of the log house. Also located on the property are multiple outbuildings including a c. 1920 shed, a c. 1920 gable end barn, a c. 1840 double-pen log barn, a c. 1930 metal corn crib, a c. 1950 shed, a c. 1960 chicken house, a c. 1940 livestock shed, a c. 1900 drive through corn crib, a c. 1960 pole barn, and a c. 1900 English barn, all of which are considered Contributing elements to the property. The log house remains within its original setting, retains a good amount of architectural integrity sufficient to convey its significance, and has a clear connection with early European-American emigration within Harrison County. The log barn, while structurally compromised, is associated with local early agriculture and the remaining standing pen continues to convey its significance. Therefore, this property is recommended eligible for listing in the NRHP under Criterion A for its association with early settlement patterns in Boone Township and Criterion C for architectural merit as a good example of vernacular log construction.

*Farm at 2275 Melview Road:* The Farm at 2275 Melview Road in Boone Township consists of a c. 1910 Free Classic style farmhouse, a c. 1900 English barn, a c. 1930 outhouse, a c. 1960 livestock shed, and a detached modern garage on a 90-acre farm. The large two-story farmhouse sits on a rock faced concrete block foundation, has modern vinyl siding, and a wraparound front porch. Like most Free Classic style homes, this house has fish scale shingles in the front gable. The farmhouse has vinyl siding, modern vinyl replacement windows, and two additions. The additions are located largely to the south and west sides of the house and do not detract significantly from the original structure. In addition to the farmhouse, the English Barn has experienced alterations with the addition of metal sheeting to the exterior barn walls and roof. Harrison County lacks rural properties of the Free Classic

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style, making this farm an unusual architectural resource within the local cultural landscape. As such, this resource is recommended eligible under Criterion C of the NRHP for its architectural significance.

A Historic Property Report (HPR) was completed by Lochmueller Group on March 10, 2022 (Appendix D, pages 74-75) and provided NRHP boundaries for the newly identified NRHP-eligible properties. The HPR was submitted to the INDOT CRO on November 2, 2021, and on March 10, 2022, INDOT CRO concurred with the findings of the report. The HPR was subsequently submitted to the IDNR DHPA and to the other consulting parties on March 10, 2022. Amanda Uhl responded on March 16, 2022, wanting to be considered a consulting party. On March 21, 2022, the Eastern Shawnee Tribe of Oklahoma responded that the project proposes no adverse effect or endangerment to known sites of interest to the Eastern Shawnee Tribe. On March 29, 2022, Amanda Uhl inquired about the historical significance to Harrison County of the farm at 140 Watson Road. Lochmueller Group provided additional information to Amanda Uhl on April 4, 2022.

In a letter dated April 6, 2022, the SHPO staff agreed with the recommendations within the HPR but regarding the farms at 8625 SR 135 and 2275 Melview Road, based on the information provided, SHPO believed that the farms may also be eligible under Criterion A in addition to Criterion C. Stating that they were "one of over three thousand [farms] operating in Harrison County" is not justification for ineligibility. They are intact farmsteads that convey historic use/significance through the extant buildings, which meets the National Register criteria.

### Documentation Findings:

An effects report was prepared that presented the project's anticipated impacts to the three identified historic properties. The supporting basis for the recommended finding in association with each historic property is discussed below.

*Farm at 8265 SR 135:* The undertaking will not encroach upon the recommended NRHP boundary for the Farm at 8265 SR 135. The project will have "No Adverse Effect" to this resource because the proposed changes will not alter the Farm at 8265 SR 135 in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP. A portion of the project, including the improvements to the SR 135/Watson Road (future SR 11) intersection and the reconstruction of a portion of Watson Road (future SR 11), may be visible from the recommended NRHP boundary and is the basis for the "No Adverse Effect" determination.

*Farm at 140 Watson Road SE:* The undertaking will encroach upon the southern portion of the recommended NRHP boundary. The realignment of Watson Road (future SR 11) will shift the road 57 feet closer (north) to the contributing structures on the property, which are currently located 600 feet north of existing Watson Road. It is anticipated that 0.11 acre of the historic property boundary will be acquired as permanent ROW for the proposed reconstruction and realignment of the road and reconstruction of the driveway to the farm. The portion within the recommended NRHP boundary that will be acquired consists entirely of the existing gravel drive leading into the historic property. It is estimated that approximately 164 feet of the existing drive will be acquired due to its location within the proposed construction limits and proposed ROW. Currently the drive is approximately 631 feet, 85 feet of which is within the proposed construction limits which would leave approximately 546 feet of drive after the completion of the undertaking.

The project will have "No Adverse Effect" to this resource because the proposed changes will not alter the historic property in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP. Though 0.11 acre of the historic property boundary will be acquired from the property for the reconstruction and realignment of the road and drive reconstruction, this action takes place at the southern portion of the recommended property boundary. This area is not adjacent to any contributing historic structures or features. The closest structure on the property to this work is approximately 600 feet north of the existing alignment of Watson Road. The physical encroachment and visibility to the resource, in addition to the avoidance of impacts to contributing elements of the resource are the basis for the "No Adverse Effect" determination.

*Farm at 2275 Melview Road:* The undertaking will encroach upon the northern portion of the recommended NRHP boundary. It is anticipated that 0.07 acre of the historic property boundary will be acquired for the reconstruction of the road and the farm driveway. The alignment of proposed SR 11 shifts the proposed road closer to the property at the existing drive by approximately 4 feet when comparing to its current distance to Melview Road (the existing road feature being improved as part of SR 11 project). Proposed SR 11 also shifts closer to the property as it diverges from Melview Road and continues on new alignment to the southwest. In this area, proposed SR 11 will be located approximately 820 feet from the main contributing structure, whereas the current distance between this structure and existing Melview Road is 915 feet.

It is estimated that approximately 83 feet of the existing drive will be acquired due to its location within the proposed construction limits and proposed ROW. Currently the drive is approximately 881 feet long, 16 feet of which is within the proposed construction limits, which would leave approximately 865 feet of drive after the completion of the undertaking.

The project will have "No Adverse Effect" to this resource because the proposed changes will not alter the historic property in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP. Though 0.07 acre of the historic property

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boundary will be acquired from the property for the reconstruction of the road and driveway reconstruction, this action takes place at the north end of the recommended property boundary. This area is not adjacent to any contributing historic structures or features. The closest structure on the property to this work is approximately 710 feet to the south of the existing alignment of Melview Road. The physical encroachment and visibility to the resource, in addition to the avoidance of impacts to contributing elements of the resource are the basis for the "No Adverse Effect" determination.

The effects report was submitted to INDOT CRO on March 21, 2023, and was subsequently approved on April 14, 2023. The effects report was sent to consulting parties on April 14, 2023. On May 8, 2023, the SHPO staff responded to the effects report. The letter clarified SHPO's statement from their previous correspondence stating the properties at 8625 SR 135 and 2275 Melview Road, "may also be eligible under Criterion A for Agriculture for the reasons given within the letter, not for their association with early settlement patterns in their respective townships as stated within the effects report." In addition, the letter stated that, "... overall, we agree with the conclusions of the effects report will not adversely affect these historic properties." There were no additional comments regarding the effects report from the other consulting parties.

The Section 106 "No Adverse Effect" finding was sent to INDOT CRO on May 4, 2023, and was subsequently signed by INDOT CRO, on behalf of FHWA, on May 24, 2023 (Appendix D, pages 3-4). The effects finding and supporting 800.11(e) documentation were sent to consulting parties, including the SHPO on May 24, 2023. The SHPO concurred with the "No Adverse Effect" finding on June 15, 2023 (Appendix D, pages 86-87). There were no additional comments regarding the finding from the other consulting parties.

**Public Involvement:**

Pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4), the public will be provided an opportunity to comment on FHWA's finding of "No Adverse Effect." Upon release of the EA for public involvement, a legal advertisement will be placed in a local publication soliciting public input on FHWA's Section 106 effects finding. Comments from the public will be accepted for 30 days following the publication of the notice. If any substantive comments are received during this period, the appropriate Section 106 documents will be revised.

FHWA's responsibilities under Section 106 process will be fulfilled following the completion of the public involvement process. This section will be updated following the completion of the public involvement activities.

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

	<u>Presence</u>	<u>Use</u>	
		Yes	No
<b>Parks and Other Recreational Land</b>			
Publicly owned park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publicly owned recreation area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (school, state/national forest, bikeway, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Wildlife and Waterfowl Refuges</b>			
National Wildlife Refuge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Natural Landmark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Wildlife Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Nature Preserve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Historic Properties</b>			
Site eligible and/or listed on the NRHP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b><u>Evaluations</u></b>			
<b><u>Prepared</u></b>			
Programmatic Section 4(f)	<input type="checkbox"/>		
"De minimis" Impact	<input checked="" type="checkbox"/>		
Individual Section 4(f)	<input type="checkbox"/>		
Any exception included in 23 CFR 774.13	<input type="checkbox"/>		

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the discussion below. Individual Section 4(f) documentation

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*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, recreational areas, wildlife/waterfowl refuges, and NRHP eligible or listed historical properties. Public ownership of historic properties is not a requirement for 4(f) protection. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, site visits in June, October, and December of 2021 by Lochmueller Group, the aerial maps of the project area (Appendix B, pages 5-11), the RFI report (Appendix E, page 8), and the documentation prepared during the Section 106 consultation, there are three Section 4(f) resources located within the project area. The Farm (Lochmueller #1) at 8265 SR 135, the Farm (Lochmueller #7) at 140 Watson Road SE, and the Farm (Lochmueller #10) at 2275 Melview Road are historic properties located within or adjacent to the project area. In addition, The Nature Conservancy's Indiana Forest Bank – Harrison managed land is located adjacent to the project area.

### **Nature Conservancy's Indiana Forest Bank - Harrison:**

The Indiana Forest Bank – Harrison is a conservation alternative from The Nature Conservancy (TNC) in Indiana to conserve working woodlands while preserving opportunities for recreation, wildlife habitat, natural beauty and solitude. This managed land is not a 4(f)-resource due to being privately owned. Therefore, no 4(f) impact is expected.

### **Farm (Lochmueller #1) at 8265 SR 135:**

The Farm at 8265 SR 135 is a 120-acre farm consisting of a c. 1890 Queen Anne farmhouse (rated Notable), a c. 1900 wash house and shed (considered Contributing to the property), a c. 1950 pole barn (considered Contributing to the property), and two c. 1900 English barns (considered Contributing to the property). The Farm at 8265 SR 135 is eligible for listing in the NRHP under Criterion C for its architectural significance. The project will not encroach upon the recommended historic boundary. A portion of the project, including the improvements to the SR 135/Watson Road (future SR 11) intersection and the reconstruction of a portion of Watson Road (future SR 11), may be visible from the recommended NRHP boundary. The project will not use this resource by taking permanent right of way and will not indirectly use the resource in such a way that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Therefore, no 4(f) use is expected.

### **Farm (Lochmueller #7) at 140 Watson Road SE:**

The Farm at 140 Watson Road SE consists of two residential structures and multiple outbuildings on a 68-acre farm. The oldest residence on the property is a c. 1840 Hall and Parlor log house that is surrounded by large mature trees. The Farm at 140 Watson Road SE is eligible for listing in the NRHP under Criterion A for its association with early settlement patterns in Boone Township and Criterion C for its architectural significance. The project will encroach upon the southern portion of the recommended NRHP boundary. The realignment of Watson Road (future SR 11) will shift the road 57 feet closer (north) to the contributing structures on the property, which are currently located 600 feet north of existing Watson Road. It is anticipated that 0.11 acre of the historic property boundary will be acquired as permanent ROW for the reconstruction and realignment of the road and for reconstruction of the driveway to the farm. The portion within the recommended NRHP boundary to be acquired consists entirely of the existing gravel drive leading into the historic property. It is estimated that approximately 164 feet of the existing drive will be acquired due to its location within the construction limits and permanent ROW. Currently, the drive is approximately 631 feet, 85 feet of which is within the proposed construction limits which would leave approximately 546 feet of drive after the completion of the undertaking. The current viewshed from the historic property will remain the same, but 57 feet closer to the structures on the historic property within the recommended NRHP boundary following the completion of the project. The project will have "No Adverse Effect" to this resource because the proposed changes will not alter the Farm at 140 Watson Road SE in a manner that would diminish its historic integrity.

According to the June 2020 Memorandum of Understanding (MOU) between the FHWA, the Indiana SHPO, and the INDOT, a *de minimis* use of a property applies for all projects that the SHPO has concurred with a "No Adverse Effect" finding. INDOT CRO, acting on FHWA's behalf, has determined the appropriate Section 106 finding is "No Adverse Effect." As such, a *de minimis* finding was determined to be appropriate and it was determined that no further analysis was required (Appendix D, pages 3-4). It should be noted that FHWA's approval of this environmental document is also FHWA's approval of the Section 4(f) *de minimis* finding. In accordance with the MOU, SHPO's June 15, 2023 concurrence with the "No Adverse Effect" finding (Appendix D, pages 86-87) constitutes concurrence with the *de minimis* finding.

### **Farm (Lochmueller #10) at 2275 Melview Road:**

The Farm at 2275 Melview Road in Boone Township consists of a c. 1910 Free Classic style farmhouse, a c. 1900 English barn, a c. 1930 outhouse, a c. 1960 livestock shed, and a detached modern garage on a 90-acre farm. The Farm at 2275 Melview Road is eligible for listing in the NRHP under Criterion C for its architectural significance. The project resulted in a Section 106 finding of "No Adverse Effect" on the Farm at 140 Watson Road SE. The project will encroach upon the northern portion of the recommended NRHP boundary for the Farm at 2275 Melview Road. It is anticipated that 0.07 acre of the historic property boundary will be acquired

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for the reconstruction of the road and for reconstruction of the farm driveway. The alignment of proposed SR 11 shifts the proposed road closer to the property at the existing drive by approximately 4 feet when compared to its current distance to Melview Road (the existing road feature being improved as part of the SR 11 project). The SR 11 Roadway Project also shifts closer to the property as it diverges from Melview Road and continues on new alignment to the southwest. In this area, proposed SR 11 will be located approximately 820 feet from the main contributing structure, whereas the current distance between this structure and existing Melview Road is 915 feet. The current viewshed from the historic property will remain the same, but 83 feet closer to the structures on the historic property within the recommended NRHP boundary following the completion of the project. The project will have "No Adverse Effect" to this resource because the proposed changes will not alter the Farm at 2275 Melview Road in a manner that would diminish its historic integrity.

According to the June 2020 Memorandum of Understanding (MOU) between the FHWA, the Indiana SHPO, and the INDOT, a *de minimis* use of a property applies for all projects that the SHPO has concurred with a "No Adverse Effect" finding. INDOT CRO, acting on FHWA's behalf, has determined the appropriate Section 106 finding is "No Adverse Effect." As such, a *de minimis* finding was determined to be appropriate and it was determined that no further analysis was required (Appendix D, pages 3-4). It should be noted that FHWA's approval of this environmental document is also FHWA's approval of the Section 4(f) *de minimis* finding. In accordance with the MOU, SHPO's June 15, 2023 concurrence with the "No Adverse Effect" finding (Appendix D, pages 86-87) constitutes concurrence with the *de minimis* finding.

**Section 6(f) Involvement**

**Presence**

**Use**

**Section 6(f) Property**

**Yes**

**No**

*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 Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the INDOT ESD website revealed a total of 15 properties in Harrison County (Appendix I, page 1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources.

### SECTION F – Air Quality

**STIP/TIP and Conformity Status of the Project**

- Is the project in the most current STIP/TIP?
- Is the project located in an MPO Area?
- Is the project in an air quality non-attainment or maintenance area?
- If Yes, then:
  - Is the project in the most current MPO TIP?
  - Is the project exempt from conformity?
- If No, then:
  - Is the project in the Transportation Plan (TP)?
  - Is a hot spot analysis required (CO/PM)?

Yes	No
<b>X</b>	
	<b>X</b>
	<b>X</b>

Location in STIP: Pages 167-168

Name of MPO (if applicable): N/A

Location in TIP (if applicable): N/A

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Level of MSAT Analysis required?

Level 1a  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.*

This project is included in the Fiscal Year (FY) 2022-2026 Statewide Transportation Improvement Program (STIP) (Appendix H, pages 1-2).

This project is located in Harrison County, which is currently in attainment for all criteria pollutants according to the EPA Green Book website (<https://www.epa.gov/green-book>). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

The purpose of this project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 135 to SR 11 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances. This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Greenhouse gas emissions from vehicles is directly related to the amount of CO<sub>2</sub> that is released from vehicle exhaust. The amount of CO<sub>2</sub> emissions from vehicle exhaust depends on the speed of travel, acceleration, deceleration, and roadway geometrics. Studies have shown that the optimal speed of travel for lowering CO<sub>2</sub> emissions from vehicles is 30 to 50 miles per hour and that the more times a vehicle decelerates and accelerates causes CO<sub>2</sub> emissions to increase (<https://learn.eartheasy.com/guides/fuel-efficient-driving/#:~:text=Avoid%20Speeding&text=You%20can%20improve%20your%20gas,efficiency%20drops%20after%2060%20mph>). In addition, steep roadway grades require more emissions from vehicles due to the added engine power needed to travel over steep grades.

The current roadway network connecting SR 135 to SR 11 have narrow lanes and require a minimum of two start and stop conditions along with a minimum of six narrow radius curves that require vehicles to significantly decelerate and accelerate while traveling between SR 135 and SR 11. In addition, the existing roadway network contains steep grades that have maximum slopes of up to 20%. Due to the current conditions of the existing roadway network, the speed limits for these roadways range from 15 to 45 miles per hour. The shortest route currently connecting SR 135 with SR 11 is approximately 6.75 miles in length.

The Refined Preferred Alternative will be designed with large radius curves, maximum slopes of 4.6%, and will not have any stop conditions between SR 135 and SR 11. The Refined Preferred Alternative will be designed for 55 miles per hour with a posted speed limit of 45 miles per hour and will have a total length of 5.1 miles. The traffic studies completed within the project area identified that the project would divert approximately 35% to 50% of the traffic from the existing roadways. The project is not anticipated to result in additional traffic through the area. These improvements are anticipated to result in the project having a benefit in reducing CO<sub>2</sub> emissions.

The Council on Environmental Quality's (CEQ) greenhouse gas (GHG) interim guidance (<https://www.regulations.gov/document/CEQ-2022-0005-0001>) was reviewed and considered in the above greenhouse gas emissions analysis. The intent of the guidance is to consider a proposed project's effects on GHG emissions to ensure that FHWA projects do not have any negative impacts to GHG and how the selected alternative will improve GHG emissions. The purpose of this project is to improve safety and it is not being developed to promote development in this area; therefore, the project is not projected to increase vehicular traffic in this region of Harrison County. The above analysis indicates the proposed project is anticipated to result in a net reduction in GHG emissions by diverting traffic to a shorter route between SR 135 and SR 11 with no stop conditions and less steep grades. All of the proposed alternatives for this project are anticipated to result in a near equal net benefit to GHG emissions; therefore, air quality from GHG emissions was not considered a deciding factor in the selection of the preferred alternative.

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The USEPA responded to early coordination on November 5, 2021, with recommendations for air quality and construction emission control (Appendix C, pages 23-32). Construction trucks and heavy equipment are potential emission sources during the construction phase of this project. Specific measures recommended include requiring the use of equipment with clean diesel engines and limits on the length of time equipment idles when not in active use. The USEPA Construction Emission Control Checklist, regarding mobile and stationary source diesel controls, fugitive dust source controls, and occupational health, will be evaluated as design continues based on current standards at that time.

**SECTION G - NOISE**

Noise	Yes	No
Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Date Noise Analysis was approved/technically sufficient by INDOT ESD: <u>May 11, 2023 (Appendix L, page 1)</u>		

*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.*

The project is a Type I project under 23 CFR 772.5 because it involves the construction of roadway (SR 11) on new alignment. Based on the studies completed to date, CMT Engineers and Consultants have identified no impacted receptors. As a result, noise abatement was not evaluated. This noise analysis was based on preliminary design criteria. A reevaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed and noise impacts are identified, noise abatement will be evaluated at that time as to whether it is feasible and reasonable. The Noise Analysis Report was approved/technically sufficient by INDOT ESD on May 11, 2023, and a copy of the report can be found in Appendix L, pages 1-32.

Traffic noise was evaluated at all receptors (39) within 500 feet of edge of pavement within the study area. The receptors were all residences. Traffic noise levels were evaluated for the existing (2026) and projected (2046) traffic volumes for the build alternative. Predicted design year (2046) noise levels would not approach or exceed the Noise Abatement Criteria (NAC) at any receptors resulting in no need to evaluate noise abatement.

**SECTION H – COMMUNITY IMPACTS**

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

*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.*

The project will ultimately be beneficial to local businesses and properties due to improvements to the existing roadway network in southern Harrison County by providing a safer connection of SR 135 to SR 11 with a roadway that meets current design standards. Impacts to property owners within the project area will be required for the purchasing of 132.75 acres of new permanent right-of-way and from construction of the roadway project. The proposed 132.75 acres accounts for approximately 0.26% of the total land area of Heth and Boone townships so converting this taxable land to a tax-exempt status is not anticipated to have any substantial impacts to the local tax base. The project is utilizing existing roadway facilities as much as possible, but due to the limited locations within the Watson Road / Melview Road Initial Screening Corridor to cross Buck Creek, portions of the project will be on new terrain, which will negatively impact properties. A total of two residential relocations are expected to be impacted. The relocations are at the extreme

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west and east ends of the project. The relocation on the west end of the project is at the proposed new intersection at SR 135, which needs to be realigned to address safety concerns with sight distances for the intersection. The second relocation is at the east end of the project where the proposed project connects to the western termini of SR 11 and is required to provide adequate sight distance for the intersection at SR 11, Old Highway 11, and Old Highway 337. During kitchen table meetings with the two residential relocation property owners, neither property owner expressed any concern with being displaced from their local community or neighborhood. The remaining property owners will be provided access throughout the duration of the project to reduce temporary construction impacts as much as possible. The project is not anticipated to result in substantial impacts to community cohesion because it will not change access to the remaining properties within the area. Discussion during the May 26, 2021 CAC Meeting indicated that farmers in the southern and central part of Harrison County would use the proposed SR 11 over current options; many farmers have chosen to use county roads over the state highways in the area because the state highways are not as suited for farm vehicles due to terrain challenges (Appendix G, page 23). Additionally, the project proposes to convert only approximately 0.05% of farmland in the county. The proposed project is not expected to impact the surrounding community or cause economic impacts to the surrounding area. Therefore, this project is anticipated to have minimal impacts to the community or local economy.

According to the Fairs and Festivals website (<https://www.fairsandfestivals.net/>), accessed on March 2, 2023 by Lochmueller Group, there are no fairs or festivals scheduled within 10 miles of the project. The MOT may pose delays and temporary inconveniences to traveling motorists (including school buses and emergency services); however, all inconveniences will cease upon project completion. The MOT for the project is not anticipated to impact access to community events.

Harrison County has an approved Americans with Disabilities (ADA) transition plan. The project will comply with the published ADA transition plan and will not create any additional barriers for access as there are no ADA elements included as part of the project.

### 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.*

South Central Jr-Sr High School, South Harrison Park, Chariot Run Golf Club, Freedom Christian Church, Grace Tabernacle, and First Baptist Church are all located on SR 11 east of the project area. The project will not result in any permanent impacts to these facilities; however, temporary impacts to these facilities may be caused by the project due to temporary access limitation from SR 135 during construction of the project. The MOT will provide adequate detours around the project area to access these facilities from SR 135 to mitigate for the temporary construction impacts. Upon project completion, the project will result in an overall benefit to these facilities by providing a safer roadway connecting SR 135 to SR 11 that meets current design standards.

The Community Advisory Committee (CAC) includes members of the school board, fire department, and police department that have jurisdiction in this portion of Harrison County. Although the project may have temporary impacts to school bus routes and emergency response during construction, none of the members of the CAC identified any concerns with the project. The MOT will provide access to all properties during construction to avoid having impacts to emergency response to properties located within the project area. The only public transit system within the project area is a call as needed transit system, which would be allowed access to all properties within the project area during construction. Upon completion of the project, the project will result in a benefit to school bus routes, emergency response, and the public call as needed transit system by providing a safer roadway that meets current design standards connecting SR 135 to SR 11.

### Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

Will the project result in adversely high and disproportionate impacts to EJ populations?

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

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

*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

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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 2 relocations and 132.75 acres of additional permanent ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Harrison County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Harrison County Census Tract 606.02. 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 2021 American Community Survey 5-Year Estimates was obtained from the <https://data.census.gov/cedsci/> on January 23, 2023, by Lochmueller Group. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (2021 American Community Survey 5-Year Estimates)		
	COC – Harrison County, Indiana	AC – Census Tract 606.02 Harrison County, Indiana
Percent Minority	5.27%	5.61%
125% of COC	6.59%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	8.43%	5.84%
125% of COC	10.54%	AC < 125% COC
EJ Population of Concern		No

The AC, Census Tract 606.02, has a percent minority of 5.27% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

The AC, Census Tract 606.02, has a percent low-income of 8.43% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain low-income populations of EJ concern.

Additional efforts were made through individual kitchen table meetings with property owners to identify EJ populations in the area that may not have been captured in the census data. No additional EJ populations were identified as a result of the kitchen table meetings.

The census data sheets, map, and calculations can be found in Appendix I (pages 2-7). The project will benefit the community by providing a safer transportation route between SR 135 and SR 11 for both citizens driving private vehicles and the call as needed public transit system by constructing a roadway that meets current design standards. No further environmental justice analysis is warranted.

**Relocation of People, Businesses or Farms**

Will the proposed action result in the relocation of people, businesses or farms?  
Is a BIS or CSRS required?

Yes	No
<b>X</b>	
	<b>X</b>

Number of relocations:      Residences:   2        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.**

Two residential relocations will be required for the project. Both relocations are single family residences. One is located on the western end of the project near the proposed new intersection of SR 135 and SR 11 (Appendix B, page 5) and the second is located near the eastern termini of the project near the SR 11 and Old Hwy 337 intersection (Appendix B, page 11). Avoidance and minimization of these relocations was not feasible due to the location of these properties being at the logical termini of the project on both ends while also meeting the current design standards for intersection geometry and sight distance. The acquisition and relocation program will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocatees without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person.

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<b>SECTION I – HAZARDOUS MATERIALS &amp; REGULATED SUBSTANCES</b>
---

**Hazardous Materials & Regulated Substances** (Mark all that apply)

Red Flag Investigation (RFI)

Phase I Environmental Site Assessment (Phase I ESA)

Phase II Environmental Site Assessment (Phase II ESA)

Design/Specifications for Remediation required?

**Documentation**

X

Date RFI concurrence by INDOT SAM (if applicable): April 14, 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 a review of GIS and available public records, the RFI was completed on March 31, 2022, by Lochmueller Group and INDOT SAM provided their concurrence on April 14, 2022 (Appendix E, pages 5 and 11). One leaking underground storage tank (LUST) site is located within 0.5 mile of the project area. The identified LUST will not impact the project. Further investigation for hazardous material concerns or regulated substances is not required at this time. The field work conducted during 2021 and 2022 did not identify any additional hazardous materials concerns within the project area.

## Part IV – Permits and Commitments

<b>PERMITS CHECKLIST</b>
--------------------------

**Permits** (mark all that apply)

**Likely Required**

**Army Corps of Engineers (404/Section10 Permit)**

Nationwide Permit (NWP)

Regional General Permit (RGP)

Individual Permit (IP)

Other

X

**IN Department of Environmental Management (401/Rule 5)**

Nationwide Permit (NWP)

Regional General Permit (RGP)

Individual Permit (IP)

Isolated Wetlands

Rule 5

Other (Construction Stormwater General Permit)

X
X

**IN Department of Natural Resources**

Construction in a Floodway

Navigable Waterway Permit

Other

X

**Mitigation Required**

**US Coast Guard Section 9 Bridge Permit**

**Others (EPA Class V Injection Well Permit)**

X
X

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

A USACE Section 404 Regional General Permit and an IDEM 401 Individual Water Quality Certification are anticipated due to impacts greater than 300 linear feet below the OHWM of jurisdictional streams. The project will result in greater than one acre of land disturbance and will require an IDEM Construction Stormwater General Permit.

The IDNR DFW early coordination response letter dated November 10, 2021, states that the proposal will require formal IDNR approval for construction in a floodway (Appendix C, pages 33-36). The project is located within a floodway; therefore, an IDNR CIF permit will likely be necessary. Mitigation will likely be required and will be determined during permitting.

EPA Class V Injection Well permits are anticipated for this project due to the karst features in the project area, some of which may receive runoff from the roadway.

Applicable recommendations provided by resource agencies are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all 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 Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)
- 2) It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
- 3) General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
- 4) Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely. (USFWS)
- 5) Tree Removal AMM 2: Apply time of year (TOY) restrictions (April 1 – November 14) 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 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) Hibernacula AMM 1: For projects located within karst areas, on-site personnel will use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula. Where practicable, a 300 foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography. (USFWS)
- 9) Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)

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- 10) Revegetate all disturbed soil areas immediately upon project completion, using native trees and shrubs in the riparian zone wherever feasible. We recommend reforestation along riparian areas extend at least 30 meters perpendicular from the streambank. (USFWS)
- 11) Minimize the extent of artificial bank stabilization and use bioengineering methods wherever feasible. (USFWS)
- 12) If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat (if applicable). (USFWS)
- 13) Use best methods to contain soil and sediment runoff during construction. Use silt curtains or other devices at the downstream end of the project to contain bottom sediment in the newly excavated channel and to prevent it from adding to the downstream sediment load. Maintain such devices by removal of accumulated sediment. (USFWS)
- 14) Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottomed culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community. (USFWS)
- 15) Use project design and right-of-way control to prohibit or restrict secondary development in large forest blocks and near currently undeveloped forested waterways. (USFWS)
- 16) Incorporate routine inspections of the bridge for bats during construction. If bats are found to be using portions of the bridge for roosting during construction, an avoidance or minimization measure for physical exclusion techniques (Styrofoam sheets, foam backer rolls, expansion foam) to seal off gaps and crevices will be evaluated and implemented if considered appropriate.(USWS)
- 17) Prohibit or limit night construction and the use of temporary lighting during active season bridge construction within the Buck Creek valley. (USFWS)
- 18) Direct temporary lighting away from adjacent woodland foraging habitat. (USFWS)
- 19) Develop an erosion control plan sensitive to the unique challenges of protecting karst groundwater in accordance with INDOT standards and Indiana Department of Environmental Management requirements. The erosion plan will include, but not necessarily be limited to, silt fences, and temporary seed mix to control migration of sediment into Buck Creek, contributing surface water features, and sinkholes. (USFWS)
- 20) Confine fueling and other hazardous material activities at locations where accidental spills can be best managed. (USFWS)
- 21) Incorporate measures into the design to intercept contaminants leaving the roadway prior to discharge into Buck Creek and develop measures to protect the underground karst system. This will include detention basins along the roadway and a system to control drainage runoff from the new Buck Creek Bridge. The bridge design will either eliminate drop drains on the bridge deck directly above Buck Creek or will capture the bridge runoff within an enclosed drainage system and direct the discharge onto the floodplain to the west of the channel where the runoff water can be filtered via the floodplain soils and vegetation. (USFWS)
- 22) To minimize construction noise, maintain equipment in good working order. (USFWS)
- 23) Restrict construction within Buck Creek valley to daytime except for nighttime pouring of concrete bridge deck to minimize noise impacts at night. (USFWS)
- 24) Consider restricting blasting activities to avoid the months of May, June, and July during the maternity/pup season for Indiana bats and northern long-eared bats. (USFWS)
- 25) Compensate for unavoidable and irreversible loss of roosting, swarming, and foraging bat habitat associated with construction of the project via payment into the Range-Wide Indiana Bat and Northern Long-eared Bat In Lieu Fee Program (amended in 2022 to include the NLEB). (USFWS)

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- 26) FHWA/INDOT will minimize impacts to forest and wetland areas when developing the proposed alignment. They also will provide compensatory mitigation for unavoidable loss of forest. (USFWS)
- 27) FHWA/INDOT will follow best management practices and will mitigate for stream impacts as appropriate. Buck Creek and most of its floodplain will be bridged and no piers are planned within the waterway. (USFWS)
- 28) Impacts will be minimized by spanning as much of the floodplain as possible to preserve wildlife corridors and to minimize fill. FHWA/INDOT will span the floodplain at the proposed crossing of the Buck Creek and the height of the structure will allow for continued movement beneath the bridge. (USFWS)
- 29) Roadway lighting is not proposed at this time. If lighting is deemed necessary in the future, downward facing lights with full cut-off lenses are suggested. (USFWS)
- 30) INDOT will routinely assess bridges for bat use and will coordinate with the Service if needed to reduce unnecessary disturbances. (USFWS)
- 31) Impacts to aquatic habitat will be reduced or avoided via standard best management practices such as low salt and no spray areas. The bridge drainage system will be designed to prevent runoff from being deposited directly into Buck Creek. (USFWS)
- 32) Design the project footprint to have the minimum feasible width within the forested corridors and maintain habitat connectivity wherever possible. (USFWS)
- 33) Any injured or dead bats incidentally observed should be reported to USFWS. (USFWS)
- 34) Construction personnel and INDOT maintenance staff should be made aware of potential construction, maintenance or operation issues concerning Indiana bats and NLEBs. (USFWS)
- 35) Any dead bats located within the construction limits, roadway, or right-of-way should be immediately reported to INFO [(812) 334-4261], and subsequently transported (frozen or on ice) to INFO. No attempt should be made to handle any live bat, regardless of its condition; report bats that appear to be sick or injured to INFO. INFO will make a species determination on any dead or moribund bats. If an Indiana bat is identified, INFO will contact the appropriate Service Law Enforcement office as required. (USFWS)
- 36) Provide the Service with final construction impact figures and compensatory mitigation fee details for review and notify the INFO of payment to the TCF In Lieu Fee Program. (USFWS)
- 37) Buck 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 personal protective equipment (PPE), observe proper hygiene procedures, including regular handwashing, and limit personal exposure. (INDOT SAM)
- 38) Buck Creek is listed as impaired for IBC. Best Management Practices (BMPs) will be used to avoid further degradation to the stream. (INDOT SAM)
- 39) Require construction contractors to establish material hauling routes away from places where children live, learn, and play, to the extent feasible. Consider homes, schools, daycare centers, and playgrounds. In addition to air quality benefits, careful routing may protect children from vehicle-pedestrian accidents. (USEPA)
- 40) Use native pollinator friendly species recommended for restoration and roadside plantings. (USEPA)
- 41) Consider protective measures from the USEPA Emission Control Checklist related to mobile and stationary source diesel controls, fugitive dust source controls, and occupational health. (USEPA)
- 42) Consider strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and limits on the length of time equipment idles when not in active use. (USEPA)
- 43) Give special attention to work that would occur upstream of a drinking water intake. In addition, special attention should be given to how work is conducted in areas with karst feature where contaminants introduced into the karst system may travel

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underground for miles and show up in private and/or public drinking water supply wells, streams/streams and/or springs used by people and/or livestock for drinking water. Impacts to these resources should be evaluated and mitigation measures identified, if applicable. (USEPA)

- 44) Class V injection well permits may be required for various types of projects. For example, in Indiana, such a permit could be required by EPA Region 5 if a Class V injection well is located within the karst region of the state, a sole source aquifer area, a state designated source water protection area for a public water supply, or anywhere untreated fluids discharged through a Class V well may otherwise endanger an underground source of drinking water. For example, if sinkholes will be modified for stormwater drainage for the proposed road and/or related facilities, they would be considered Class V wells under the Safe Drinking Water Act's Underground Injection Control (UIC) program. (USEPA)
- 45) Construction activities that occur within the drainage area of active karst features could potentially cause significant impacts to sensitive karst ecosystems and biota. Should any karst features be located within the construction limits or that may receive drainage from the construction, we recommend that a karst assessment be conducted by a qualified geologist with experience in karst geology assessments and a determination made as to whether or not the karst feature/sinkhole is active. If a karst assessment is not done, any sinkhole that construction runoff may drain to should be assumed to be active. To protect active sinkholes (or those not assessed), the most protective erosion control methods should be implemented to avoid potentially impacting sensitive karst ecosystems (such as runoff containment and filtering prior to discharge). (IDNR DFW)
- 46) Construction should be avoided within 25 feet of the topmost closed contour of any active karst features. Runoff from construction located outside of the drainage area of any karst feature should be directed away from any karst features. Where construction within the closed contours of a karst feature is unavoidable, runoff must be filtered prior to discharge. (IDNR DFW)
- 47) INDOT's karst protection procedures should be followed during all phases of the project as outlined in the *Protection of Karst Features during Project Development and Construction* (Ecology and Waterway Permitting Office; Environmental Service Division; July 15, 2021). (IDNR DFW)
- 48) Sampling of springs and seeps in the area is needed to show road construction is not affecting water quality. Sampling of springs needs to include samples collected under base flow conditions (less than 0.75 inches of rain has fallen in the previous 24 hours) and storm flow conditions (more than 0.75 inches of rain has fallen over the previous 24 hours). (IDEM Ground Water)
- 49) Implement the water quality monitoring plan, that has been developed and approved by INDOT EWPO, as part of construction (pre-, during, and post-construction). (INDOT EWPO)
- 50) Where possible, surface water draining to karst inlets should be perpetuated unless alternative drainage is approved with Agency coordination. (INDOT EWPO)
- 51) The IDNR Water Well located near the Old Hwy 337 and existing SR 11 intersection will be closed following current well closure guidelines. (INDOT)
- 52) For brand new crossings in areas that currently do not have a crossing, the new structure must accommodate white-tailed deer passage where appropriate. Minimum structure dimensions for white-tailed deer passage are 20 feet of width clearance (overall size of the structure span) and 8 feet of height clearance measured from the OHWM to the low chord elevation and where deer passage is provided. (IDNR DFW)
- 53) For crossing replacements, the new structure must include wildlife passage appropriate for the type of replacement structure being proposed. If the replacement structure is sized to accommodate white-tailed deer passage then it should be included in the design of the new structure. If white-tailed deer passage is not possible with the existing structure, deer passage still needs to be considered in the design and at minimum the bank lines must be restored within structures to allow for smaller wildlife passage above the ordinary high water mark. (IDNR DFW)
- 54) All wildlife passage designs must include a smooth level pathway a minimum of 1-2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream. The stream crossing repairs or modifications, and any bank stabilization under or around the structure, must not create conditions that are less favorable for wildlife passage when compared to existing conditions.

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Upgrading wildlife passage for rehabilitated/modified structures is encouraged whenever possible to improve wildlife/vehicle safety. (IDNR DFW)

- 55) All culverts (24 total) under Watson Road, Union Chapel Road, Melview Road, and private access roads were inspected on April 22, 2021, and no bats or evidence of bats using the structures were documented. USFWS Bridge Structure Assessments are only valid for two years. If construction will begin after April 1, 2024, an inspection of the structure by a qualified individual must be performed. Inspection of the structure must indicate no signs of bats or birds. If signs of bats or birds are documented during the inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT)
- 56) Two residences and multiple outbuildings will be removed as a result of the project. Prior to any demolition, the structure(s) will be inspected for bats or evidence of bats. If bats, or evidence of bats, are found, coordination will occur with INDOT ESD and USFWS before demolition may occur. If further coordination is needed, no demolition shall occur until coordination is concluded with INDOT ESD and USFWS. (INDOT)
- 57) If unknown karst features are discovered during construction, all work within 100 feet of the feature shall stop and the Engineer shall be notified immediately. Karst features include, but are not limited to, voids, caves, sinking streams, springs, seeps, and sinkholes. The Department will provide the treatment measures to be incorporated for the feature. The karst feature shall be protected from sedimentation runoff. Work shall not resume in the area until directed by the Engineer. (INDOT EWPO)
- 58) Sites 12Hr583, 12Hr584, 12Hr864, and 12Hr865 located outside of the proposed project are will be added to design plans with the label "Environmentally Sensitive Area – Do Not Disturb" and will be avoided. (IDNR DHPA)

### For Further Consideration:

- 1) Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR DFW)
- 2) Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR DFW)
- 3) Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR DFW)
- 4) 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, 1 inch to 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10 inch 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 DFW)
- 5) The mitigation site should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat. (IDNR DFW)
- 6) If box or pipe culverts are used, the bottoms should be buried a minimum of 6 inch (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2 feet) 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. Banklines should be restored within box and pipe structures to allow for wildlife passage above the ordinary highwater mark. (IDNR DFW)

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## SR 11 Roadway Project Purpose and Need

The Harrison County 2040 Long Range Transportation Plan adopted on August 5, 2019, stated that, “Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level.” The plan also identified a need for a safe east west route in southern Harrison County, Indiana. The current roadway network in southern Harrison County connecting SR 11 to SR 135 contains no roadways that meet current design standards. Current design standards for a roadway facility of this type require a minimum lane width of 11 feet, minimum useable shoulder widths of 6 feet with 4 feet paved, minimum clear zone widths of 16 feet, minimum vertical curvature length crest of 176 feet, and minimum horizontal curvature radius of 960 feet to provide sufficient sight distances. The typical maximum allowable grade for a State Highway in this type of landscape is 7%. The current roadways in this area have lane widths that average between 9 feet to 10 feet wide with no shoulders and no clear zones. In additions, these roadways have numerous deficient horizontal and vertical curves, which cause sight distance issues and grades as steep as 20%. Current design standards require wider lanes, usable shoulders, clear zones, and adequate sight distances for vertical and horizontal curves to allow drivers using the roadways to have more visibility of the surrounding landscape and sufficient safe zones to compensate for unforeseen issues that commonly occur during travel, including avoidance of oncoming traffic, avoidance of obstacles that may encroach on the roadway (i.e., wildlife and/or pedestrians), and vehicle malfunctions. Narrow lanes, lack of shoulders, lack of sufficient clear zones, and poor site distances on roadways increase the potential for crashes because there is no room to compensate for driving errors or unforeseen obstacles. The following identifies the current geometric deficiencies of the roadways that connect SR 11 with SR 135 in southern Harrison County:

- Old SR 11 to Old Goshen Road to Union Chapel Road to Watson Road to SR 135 – These roadways are narrow and have lane widths between 9 feet and 10 feet with no shoulders and no clear zones. There are seven locations where horizontal curvature is deficient and some with as low as 100-foot radius and eight locations where the vertical curvature causes sight distance issues. In addition, sections of these roadways have profile grades as steep as 20%.
- Old SR 11 to SR 135 – This roadway is narrow and has a lane width of 10 feet with no shoulders and no clear zones. There are twenty locations where the horizontal curvature is deficient requiring warning signs with advisory speed plaques as low as 20 mph and have deficient site distances. In addition, approximately 1 mile of the Old SR 11 is located within the floodway of the Ohio River and floodwaters from the Ohio River can cause the roadway to be closed to traffic.
- Old SR 337 to Lake Road to SR 135 – These roadways are narrow and have lane widths between 9 feet and 10 feet with no shoulders and no clear zones. There are fifteen locations where the horizontal curvature is deficient and have deficient sight distances. Ten of the fifteen locations where the horizontal curvature is deficient require warning signs with advisory speed plaques as low as 15 mph.
- Old SR 337 to Wiseman Road to SR 135 – These roadways are narrow and have lane widths between 9 feet and 10 feet with no shoulders and no clear zones. There are eighteen locations where the horizontal curvature is deficient requiring warning signs with advisory speed plaques of 15 to 20 mph and have deficient sight distances.

These deficient roadway geometrics lead to high crash rates on various roadway segments and intersections along routes connecting SR 11 and SR 135. The Historic Crash Severity Data (2010-2020) included in the Engineers Report for the SR 11 project identified that 75% of the crashes along the roadways in this region that connect SR 135 to SR 11 are either Head on Collision, Ran off Road, or Collision with Object crashes. All of these types of crashes can be attributed to the deficient roadway geometrics in this area. The routes included in the Historic Crash Severity Data (2010-2020) were Watson Road / Union Chapel Road / Old Goshen Road, Old Highway 337, and Old Highway 11. INDOT's RoadHAT<sup>1</sup> Version 4.1 tool was used to identify crash rates at multiple locations in this region of Harrison County. The two key indicators which RoadHAT provides are the Index of Crash Frequency ( $I_{cf}$ ) and the Index of Crash Cost ( $I_{cc}$ ). The  $I_{cf}$  assesses how the number of crashes recorded at intersections or along defined segments of roadways compares with those at comparable roads and intersections throughout Indiana. The  $I_{cc}$  assesses how the total cost of crashes at intersections or along defined segments of roadways compares with those on comparable roads and intersections throughout Indiana. In this context "cost" is an indicator of severity. Crashes resulting in fatalities or incapacitating injuries are far more costly than crashes which result in property damage only. A high  $I_{cc}$  indicates a higher-than-expected number of crashes resulting in fatalities or incapacitating injuries.

The RoadHAT measures are expressions of standard deviation, comparing crash data for similar roadways and intersections throughout the state. For example, an  $I_{cf}$  or  $I_{cc}$  index of 1.00 indicates that crash frequencies or costs are higher than approximately 83% (one standard deviation) of similar locations across the state of Indiana. Similarly, an  $I_{cf}$  or  $I_{cc}$  index of 2.0 indicates that the location has crash frequencies/costs which are higher than approximately 98% (two standard deviations) of similar locations across the state of Indiana.

There are three east-west crossings of Buck Creek in southern Harrison County, which include Old Hwy 11, Union Chapel Road, and Old Hwy 337. Currently traffic travelling east and west utilizing SR 11 must choose between one of these three routes to access SR 135, all of which have elevated  $I_{cf}$ . Because currently all these routes are being used for east-west travel connecting SR 11 and SR 135, this area was reviewed as the project study area for crash data analysis. The high indices identified at multiple locations in the project study area show that there are safety concerns at multiple locations within the project study area. These locations include:

- The intersection of SR 135 / Watson Road has an  $I_{cf}$  of 2.82 and has had 5 crashes since 2010 that involved either a fatality or incapacitating injury and has an  $I_{cc}$  of 1.72
- The intersection of Old Hwy 11 / Old Goshen Road has an  $I_{cf}$  of 1.95 and  $I_{cc}$  of 0.77
- The intersection of SR 11 / Old Hwy 11 / SR 337 has an  $I_{cf}$  of 1.21 and  $I_{cc}$  of -0.15
- Old Hwy 11 between SR 135 and Old Hwy 337 has an  $I_{cf}$  of 1.25 and  $I_{cc}$  of 1.36
- Wiseman Road between SR 135/Wiseman Road intersection to Old SR 337/Wiseman Road intersection has an  $I_{cf}$  of 3.48 and  $I_{cc}$  of 1.44

---

<sup>1</sup> Purdue University researchers developed RoadHAT for INDOT as a comprehensive and complete software-based tool for safety management related to road improvements. This program supports evaluation of crash hazards for road sections and intersections; identification of hazards causing road deficiencies and related safety countermeasures; estimations of economic effectiveness for proposed safety countermeasures; and estimations of effectiveness of implemented road improvements to increase safety.

- Old SR 337 / Wiseman Road intersection to Old SR 337/SR 11 intersection has an  $I_{cf}$  of 0.31 and  $I_{cc}$  of 0.17.

There are multiple locations in the project study area where the safety performance places these locations in the “worst” two to three percent of all locations across the state of Indiana based on the  $I_{cf}$ . Figure 1 below contains a map that shows the traffic and crash data within the project study area used for this analysis. The Harrison County 2040 Long Range Transportation Plan identified that over half (52%) of the crashes in Harrison County are due to roadway departures caused by narrow, winding roads that have little to no shoulders.

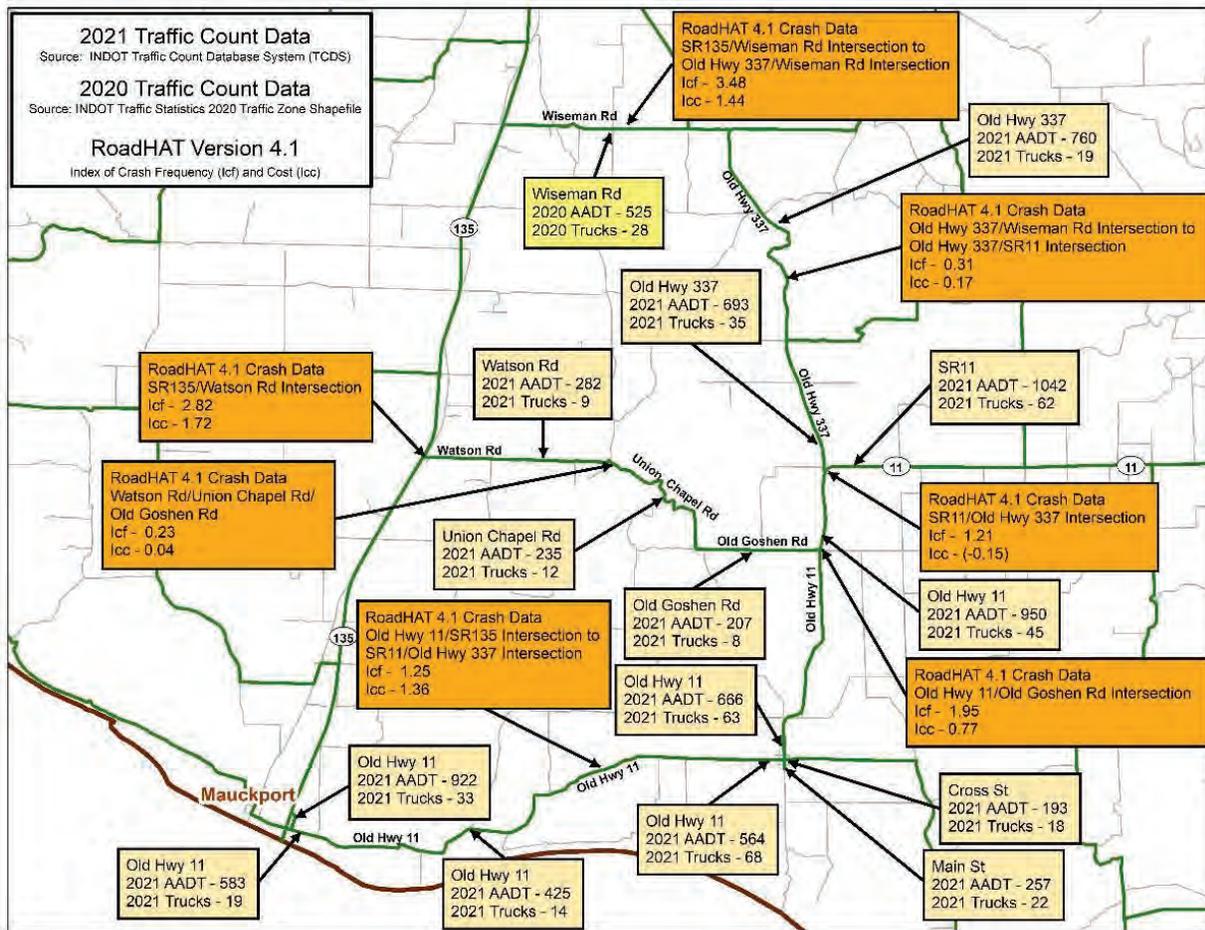


Figure 1 Project Study Area Crash and Traffic Data

The 2040 Long-Range Transportation Plan for Harrison County, developed in 2003, identified multiple transportation improvement projects within the county which are designed to improve safety, increase capacity, accommodate traffic flow, and meet the needs of planned future land uses. A reconstruction/widening/realignment/new roadway for an east-west road in southern Harrison County was one of the identified projects. East-west connections in the southern portion of Harrison County are limited with the presence of the Ohio River that borders the southwest, south, and southeast regions of the county and the limited bridge crossings of Buck Creek. The Harrison County, Indiana Comprehensive Plan Update, completed in 2008, identified the necessity for an east-west connection in southern

DES 2001154

Date: Nov 22, 2022

Harrison County. The plan was updated with the adoption of the new Harrison County 2040 Long Range Transportation Plan in 2019. The Commissioners adopted the “2040 Long Range Transportation Plan” on August 5, 2019.

The purpose for the SR 11 Roadway project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 11 to SR 135 by designing and constructing a roadway that meets current INDOT design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances. A traffic study completed in 2021 by CMT Engineers and Consultants identified that the SR 11 Roadway Project would divert approximately 35% to 50% of the traffic off the local roadways. This reduction in traffic volumes on the local roadways that do not meet current design standards onto a roadway that does meet current design standards is anticipated to decrease the crash frequencies/costs and improve safety for the traveling public in the southern region of Harrison County.



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758  
Indianapolis, Indiana 46204

PHONE: (317) 552-9692

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

December 22, 2022

Kari Carmany-George  
Environmental Program Manager  
Federal Highway Administration  
575 N. Pennsylvania Street, Room 254  
Indianapolis, IN 46204

Dear Kari,

The Indiana Department of Transportation (INDOT) proposes to initiate the environmental review process for the following project:

**Des. No:** 2001154

**Route:** SR 11 Roadway

**County and Location (see attached project location map):** Harrison County, Indiana

**Project Description/Type of Work:** The SR 11 Roadway Project includes connecting SR 11 and SR 135 in southern Harrison County, Indiana with a roadway that meets current design standards, including a new bridge crossing of Buck Creek. The need for the project is to improve the safety of the roadway network in southern Harrison County by reducing traffic on local roadways which do not meet current design standards and currently have high RoadHAT indices for both crash frequencies and crash costs. Below is a summary of the environmental technical documents completed on this project to date.

- Right-of-Way (ROW) acquisition and relocations will be required for this project. Approximately 109 acres of permanent ROW acquisition, which includes approximately 12 acres of residential land, approximately 66 acres of agricultural land, and approximately 31 acres of undeveloped land will need to be acquired for this project. In addition, two relocations will be necessary for construction of the project. Per the preliminary Environmental Justice (EJ) review, one of the proposed relocations is within a Minority Population of Concern per the Environmental Justice Block Group map developed for Harrison County and all alternatives would impact this property. The other relocation is located outside of all preliminarily identified Environmental Justice Block Groups. Public Outreach has been ongoing with both relocation property owners and both property owners are willing sellers and neither owner would be considered as a minority population. The proposed project is not expected to result in disproportionate negative impacts to EJ populations. All ROW activities will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended.
- The Waters of the U.S. Report for DES 2001154 was approved by INDOT EWPO on February 1, 2022. The report identified 12 streams, 8 wetlands, and 8 open waters within the project area. The alternatives being evaluated for the project would impact from 291 feet to 808 feet of streams, 0 acre to 0.138 acre of wetlands, and 0.003 acre to 0.118 acre of open water. The proposed recommend preferred alternative for the project is anticipated to impact 291 feet of streams, 0 acre of wetlands, and 0.003 acre of open water.
- The Historic Properties Report received concurrence from SHPO on April 6, 2022. The report evaluated 13 sites and/or structures within the APE for potential recommendations for eligibility for the National Register of Historic Places (NRHP). A total of 3 sites were recommend for listing in the NRHP within the APE. The proposed recommended preferred alternative is not anticipated to have any adverse impacts to the 3 NRHP eligible sites.

[www.in.gov/dot/](http://www.in.gov/dot/)

**An Equal Opportunity Employer**



- The Karst Report completed for the project was approved by INDOT EWPO on September 9, 2022. The report identified 133 karst features within the project area. These features included sinkholes, sinking streams, soil piping areas, springs, sinkpoints, and other. There where no caves identified within the project study area. The alternatives being evaluated for the project would impact from 23 to 28 karst features. The proposed preferred alternative is anticipated to impact 23 karst features.
- The Section 7 Consultation with the U.S. Fish and Wildlife Service (USFWS) has been initiated and a Biological Assessment (BA) has been submitted to the USFWS for review. The species currently being addressed in the BA include the federally listed Indiana bat, Northern Long-eared bat, and the Gray bat. The BA has identified that the project as currently planned utilizing the proposed preferred alternative would have a “Likely to Adversely Affect” determination for both the Indiana bat and Northern Long-eared bat and a “Not Likely to Adversely Affect” determination for the Gray bat.

**Proposed Environmental Document Type (check the appropriate designation):**

It is proposed that an Environmental Impact Statement (EIS) will serve as the environmental document for the proposed project.

It is proposed that an Environmental Assessment (EA) will be prepared to determine the appropriate environmental document.

In general, Environmental Assessments that are terminated with a “Finding of No Significant Impact” (FONSI) are not subject to the EIS procedures outlined in 23 USC 139. In some instances, however, FHWA-Indiana Division and INDOT Environmental Services Division (ESD) may decide to prepare an EA using the more formal EIS procedures in 23 USC 139. In these instances, prior coordination with FHWA-Indiana Division and INDOT ESD is necessary.

This EA will be prepared in the usual manner, following the EA procedures in 23 CFR 771.119 and INDOT’s Procedural Manual for Preparing Environmental Studies and Categorical Exclusion Manual.

Previous coordination between FHWA-Indiana Division and INDOT ESD has led to a decision that the more formal environmental documentation process in 23 USC 139 **WILL** be used in preparing the Environmental Assessment for this project.

Please provide confirmation of your receipt of this letter and supporting documentation. If you have questions, please call (the INDOT ESD contact phone number here).

Sincerely,

*LEHilden*

Laura Hilden  
Director of Environmental Services

KARSTIN MARIE  
CARMANY-GEORGE

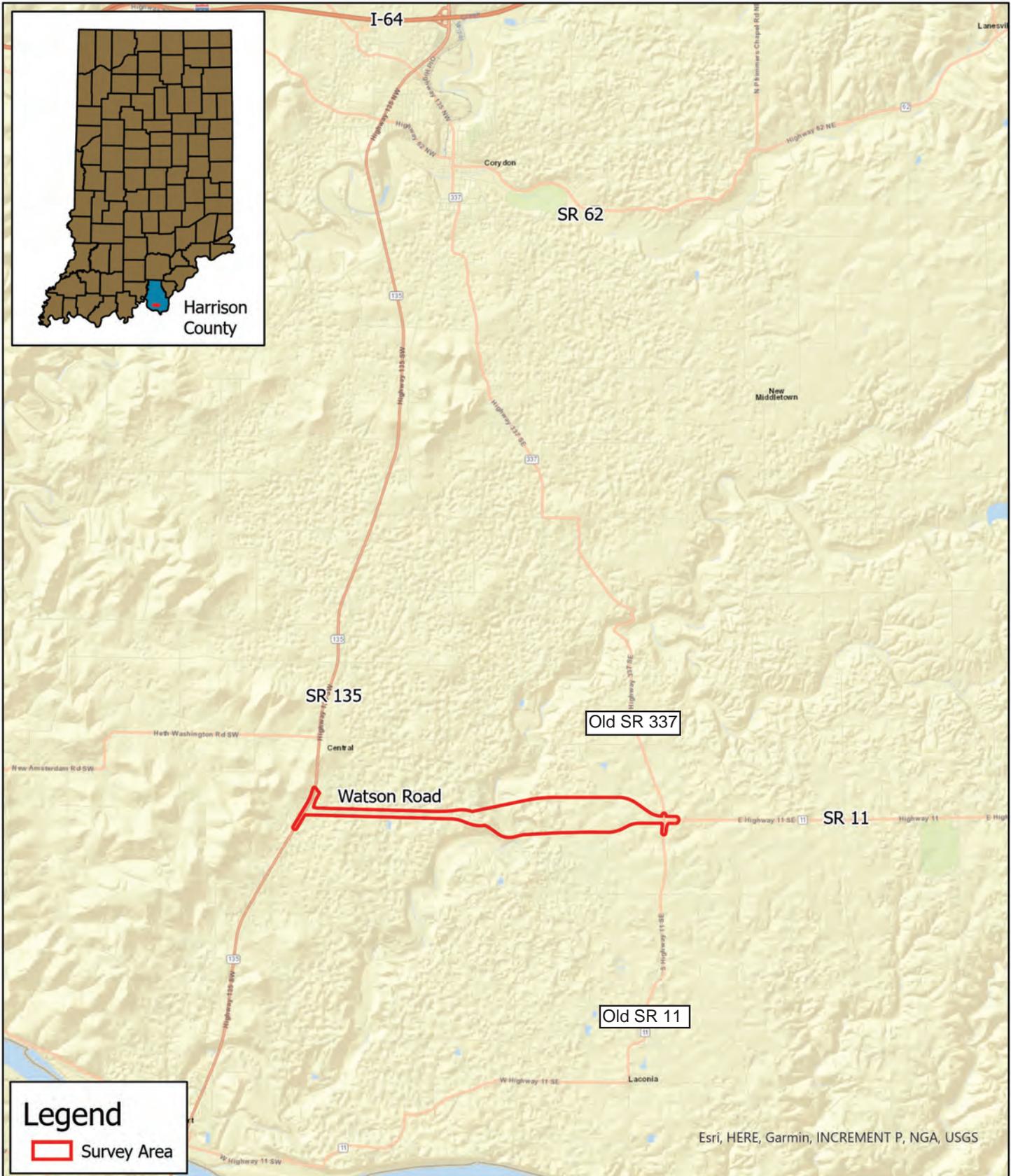
Digitally signed by KARSTIN  
MARIE CARMANY-GEORGE  
Date: 2022.12.22 13:56:51  
-05'00'

FHWA Concurrence: \_\_\_\_\_

Karstin Carmany-George, Environmental Program Manager  
Federal Highway Administration – Indiana Division

cc: Division Administrator - FHWA Indiana Division Office  
Director of Project/Program Support – INDOT Program Support Division  
Others as appropriate

Enclosures: Project location map  
Completed Project and Program Action Information System (PAPAI) worksheet



**Legend**  
 Survey Area

Esri, HERE, Garmin, INCREMENT P, NGA, USGS

 6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411	<b>Location Map</b> Des. No. 2001154 Waters of the U.S. Report	County: Harrison Township: Heth & Boone State: Indiana
	0      1      2  Miles	

SR 11 New Roadway - NEPA Schedule

Des No. 2001154

ID	Task Name	Duration	Start	2021	2022	2023	2024														
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	Notice to Proceed	0 days	Mon 1/25/21	◆ 1/25																	
2	Red Flag	282 days	Fri 10/17/21																		
3	Development	112 days	Fri 10/17/21																		
4	INDOT Review	125 days	Tue 3/8/22																		
5	Approval	41 days	Mon 9/5/22																		
6	Early Coordination Letters	41 days	Mon 3/21/22																		
7	Development	16 days	Mon 3/21/22																		
8	Response Time	25 days	Tue 4/12/22																		
9	Waters of the US Survey	196 days	Tue 6/1/21																		
10	Field Work	15 days	Tue 6/1/21																		
11	Development	100 days	Tue 6/22/21																		
12	INDOT Review	76 days	Tue 11/9/21																		
13	Approval	5 days	Wed 2/23/22																		
14	Korst Investigations	359 days	Tue 6/1/21																		
15	Electroresistivity	25 days	Tue 6/1/21																		
16	Test Borings	30 days	Wed 9/1/21																		
17	Korst Report	164 days	Tue 3/1/22																		
18	Noise Study	109 days	Sat 10/1/22																		
19	Data Collection, Analysis, and Report	66 days	Sat 10/1/22																		
20	INDOT Review	22 days	Mon 2/1/23																		
21	Approval	22 days	Mon 2/1/23																		
22	Sec 7 Endangered Species - (Formal Consultation)	325 days	Mon 1/5/22																		
23	Development BA	143 days	Mon 1/5/22																		
24	INDOT Review	16 days	Thu 7/21/22																		
25	Address INDOT Comments and Resubmit	1 day	Fri 8/12/22																		
26	USFWS Review/Draft BO	25 days	Mon 8/15/22																		
27	Final BA/BO	140 days	Mon 9/19/22																		
28	Section 106	478 days	Thu 7/1/21																		
29	Historic Properties Report	148 days	Thu 7/1/21																		
30	Development	88 days	Thu 7/1/21																		
31	INDOT Review	21 days	Tue 11/2/21																		
32	INDOT Approval	14 days	Wed 12/1/21																		
33	CP Review	25 days	Tue 12/21/21																		
34	Archaeology IA	177 days	Wed 6/1/22																		
35	Develop Documentation	64 days	Wed 6/1/22																		
36	INDOT Review	46 days	Tue 8/30/22																		
37	INDOT Approval	44 days	Wed 11/2/22																		
38	SIPO & Tribes Review	23 days	Tue 1/9/23																		
39	Effects Report	129 days	Wed 11/2/22																		
40	Develop Documentation	42 days	Wed 11/2/22																		
41	INDOT Review	35 days	Fri 12/30/22																		
42	INDOT Approval	31 days	Fri 2/17/23																		
43	CP Review	21 days	Mon 4/3/23																		
44	800.11 (NAE)	129 days	Wed 11/2/22																		
45	Development	42 days	Wed 11/2/22																		
46	INDOT Review	35 days	Fri 12/30/22																		
47	INDOT Approval	31 days	Fri 2/17/23																		
48	CP Review	21 days	Mon 4/3/23																		
49	NEPA Class of Action Determination	0 days	Sat 12/31/22																		
50	Draft NEPA Documentation	116 days	Wed 2/1/23																		
51	Draft NEPA Report	64 days	Wed 2/1/23																		
52	Incorporate Section 106 Documents	4 days	Tue 5/2/23																		
53	INDOT Review	25 days	Mon 5/8/23																		
54	Release for PI	25 days	Mon 6/12/23																		
55	Public Hearing	30 days	Mon 7/17/23																		
56	Scheduling and Notice	15 days	Mon 7/17/23																		
57	Address Comments and Certification	15 days	Mon 8/7/23																		
58	Final NEPA Document	46 days	Mon 8/28/23																		
59	Development	5 days	Mon 8/28/23																		
60	INDOT / FHWA Review	20 days	Mon 9/14/23																		
61	FHWA Decision Document	21 days	Mon 10/2/23																		
62	Target NEPA Approval (15 Mos Pre-REC)	0 days	Tue 1/30/24																		

# SR 11 Roadway Project Alternatives Analysis

This document has been developed to identify a recommended preferred alternative corridor for the SR 11 Roadway Project. The information below provides the justification for the how the preferred alternative was selected. The logical termini for the project are defined as SR 135 on the west end of the project and the terminus of SR 11 at the SR 11 / Old Hwy 337 / Melview Road intersection on the east end of the project.

## **Project Background**

The Long-Range Transportation Plan for Harrison County, first developed in 2003, serves as the official guide to transportation improvements located within Harrison County. An improved east west route in southern Harrison County was one of the projects identified as important to the county. The Long-Range Transportation Plan identified two project corridors for this east west route project: Watson Road and Lake Road/Buck Valley Creek Road. When the plan was updated in both 2008 and 2019, the need for this east west roadway was affirmed each time. In addition, both the 2008 and 2019 plans specifically recommended using the Watson Road corridor to establish a new east-west connection.

In 2019, a SR 11 Preliminary Corridor Study and Planning Level Cost Estimate memo was developed by Crawford, Murphy, and Tilly (CMT) for INDOT to evaluate alternative alignments for a connection along Watson Road from SR 135 to the intersection of SR 11 / Old Hwy 337 / Melview Road. After the completion of the alternative comparisons, no likely preferred alternative was apparent. Based on the outcome of the SR 11 Preliminary Corridor Study and Planning Level Cost Estimate, it was recommended that a more complete and detailed study be conducted on the project following the National Environmental Policy Act (NEPA) procedures for transportation projects. This Alternatives Analysis has been completed to assist in the development of the NEPA document for this project and more detailed environmental information will be included in the Environmental Assessment document being prepared.

## **Purpose and Need**

The Harrison County 2040 Long Range Transportation Plan adopted on August 5, 2019, stated that, "Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level." The plan also identified a need for a safe east west route in southern Harrison County, Indiana.

There are safety concerns with the current roadway network in southern Harrison County. The existing roadways within the project area that connect SR 11 to SR 135 have RoadHAT indices that range from 0.31 to 3.48 for the Index of Crash Frequencies ( $I_{cf}$ ) and from -0.15 to 1.72 for the Index of Crash Costs ( $I_{cc}$ ). The RoadHAT measures are expressions of standard deviation, comparing crash data for similar roadways and intersections throughout the state. For example, an  $I_{cf}$  or  $I_{cc}$  index of 1.00 indicates that crash frequencies or costs are higher than approximately 83% (one standard deviation) of similar locations across the state of Indiana. Similarly, an  $I_{cf}$  or  $I_{cc}$  index of 2.0 indicates that the location has crash frequencies/costs which are higher than approximately 98% (two standard deviations) of similar locations across the state of Indiana. The RoadHAT index scores for  $I_{cf}$  show that there are multiple

locations within the project area where the safety performance places these locations in the worst two to three percent of all locations across the state of Indiana.

The existing roadways in the project area have lane widths that average between 9 feet to 10 feet wide with no shoulders and no clear zones. In addition, these roadways have numerous deficient horizontal and vertical curves, which cause sight distance issues. Narrow lanes, lack of shoulders, lack of sufficient clear zones, and poor site distances on roadways increase the potential for crashes because there is no room to compensate for driving errors or unforeseen obstacles.

The purpose of the SR 11 Roadway Project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 135 to SR 11 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances. The traffic study completed in 2021 by CMT Engineers and Consultants identified that the SR 11 Roadway Project would divert approximately 35% to 50% of the traffic off the existing local roadways. This reduction in traffic volumes on the local roadways that do not meet current design standards onto a roadway that does meet current design standards is anticipated to decrease the crash frequencies and crash costs and improve safety for the traveling citizens in the southern region of Harrison County.

### **No-Build Alternative**

The No-Build Alternative would leave the existing roadways in southern Harrison County as they currently exist. This alternative would utilize the current local roadway system to connect SR 135 to SR 11 with no expenditure of federal funds. The No-Build Alternative would not address the safety concerns of the roadway network in southern Harrison County connecting SR 135 to SR 11. While this alternative eliminates cost; potential relocation of residents and commercial facilities; and environmental impacts; it would not meet the purpose and need for the project, which is to improve the safety concerns of the roadway network in southern Harrison County. Therefore, this alternative was discarded from further consideration.

### **Initial Screening Corridors**

Three Initial Screening Corridors were created for the purposes of completing a high-level initial screening process to determine the best general location for the SR 11 Roadway Project before development of more detailed alternatives was completed (see map in Attachment 1). This analysis was completed using existing desktop data (i.e, National Wetland Inventory maps, USGS maps, Aerial Photographs, etc.).

All three of the Initial Screening Corridors would fulfill the project's purpose and need and provide an improved east west connection between SR 135 and SR 11 to address the current safety concerns of the roadway network in southern Harrison County. Once the Initial Screening Corridors were defined, a basic typical cross section and vertical profile was developed to compare each Initial Screening Corridor. The basic typical cross section consisted of two 12 feet wide lanes with 6 feet wide shoulders (4 feet paved), and 16 feet wide clear zones. The basic typical section and vertical profile was used to generate preliminary construction limits and estimate earthwork volumes for the purposes of comparing each Initial Screening Corridor to determine the best general location for the project.

### Old Hwy 11 Initial Screening Corridor

This Initial Screening Corridor would maximize usage of Old Highway (Hwy) 11, beginning at SR 135 near the Ohio River, traverse easterly to Laconia, turn northward, and end at the intersection of SR 11/Old Hwy 337/Melview Road. Only one alignment option was evaluated for the Old Hwy 11 Initial Screening Corridor because this options utilizes as much of the existing Old Hwy 11 roadway as possible. As it exists today, Old Hwy 11 has numerous geometric deficiencies that would require improvements in order to meet current design standards for a Rural Major Collector and address the safety concerns. This new corridor would need to widen the travel lanes from the existing 9 feet wide lanes to 12 feet wide lanes, construct shoulders, construct clear zones, and realign the roadway in at least six locations to correct narrow radius curves. In addition, the existing Old Hwy 11 would require the profile be raised for approximately 0.8-mile to raise the roadway above the base flood elevation where the existing alignment is located within the floodway of the Ohio River. The Old Hwy 11 Initial Screening Corridor would result in 10.4 miles of construction, 34.3 acres of tree removal impacts, 1.64 acres of wetland/open water impacts, 1,820 feet of stream impacts, 303.6 acres of right-of-way, 22 residential relocations, 1,039,622 cubic yards of common excavation, and 222,217 cubic yards of rock excavation.

### Heth-Washington Road / St. Michaels Road Initial Screening Corridor

This Initial Screening Corridor would begin at the SR 135 and Heth-Washington Road intersection and follow the existing Heth-Washington Road alignment before diverting south to cross Buck Creek closer to a right angle (thus reducing the proposed bridge length and avoiding realignment of Buck Creek), then connects to the existing St. Michaels Road alignment and follow St. Michaels Road to Old Hwy 337. Since the logical termini of the project is SR 135 and SR 11, additional improvements would need to be made to Old Hwy SR 337 from St. Michaels Road to SR 11/Melview Road which includes widening of the roadway to 12 feet travel lanes along with construction of shoulders and clear zones to meet current design standards on the existing Old Hwy 337 roadway. Only one alignment for the Heth-Washington / St. Michaels Road Initial Screening Corridor was evaluated because if the alignment was moved north or south it would result in significantly more tree removal impacts and potentially requiring realignment of Buck Creek. The Heth-Washington / St. Michaels Road Initial Screening Corridor would result in 5.6 miles of construction, 32.8 acres of tree removal, 0.39 acre of wetland/open water impacts, 141 feet of stream impacts, 119.0 acres of right-of-way, 6 residential relocations, 4 commercial relocations, 473,747 cubic yards of common excavation, and 332,720 cubic yards of rock excavation.

### Watson Road / Melview Road Initial Screening Corridor

This Initial Screening Corridor would begin at the Watson Road and SR 135 intersection and follow along the Watson Road alignment before widening out to provide bridge crossing options over Buck Creek and then narrows down on the east side of Buck Creek to follow the Melview Road alignment to the intersection of SR 11 / Old SR 337 / Melview Road. Three conceptual working alignments were developed within the Watson Road / Melview Road Initial Screening Corridor to evaluate potential impacts due to the different location options for the bridge crossing of Buck Creek. These conceptual working alignments were used to calculate impacts for the Watson Road / Melview Road Initial

Screening Corridor to provide consistency when evaluating the initial screening corridors. The corridor would require a new bridge crossing of Buck Creek along with new terrain alignments for portions of the roadway on the west and east side of Buck Creek to access the new bridge. The Watson Road / Melview Road Initial Screening Corridor would require widening of the travel lanes on Watson Road and Melview Road from the existing 9 to 10 feet wide lanes to 12 feet wide lanes, construct shoulders, and construct clear zones to address the safety concerns of the existing roadways. The Watson Road / Melview Road Initial Screening Corridor Conceptual Working Alignments ranged from 5.0 to 5.1 miles of construction, 13.9 to 27.4 acres of tree removal, 0.11 to 0.47 acre of wetland/open water impacts, 397 to 536 feet of stream impacts, 103.3 to 149.5 acres of right-of-way impacts, 2 residential relocations, 408,676 cubic yards of common excavation, and 178,736 cubic yards of rock excavation.

#### Initial Screening Corridor Evaluation Conclusion

The Watson Road / Melview Road corridor was selected to continue forward to a more detailed evaluation based upon the following reasons (see Comparison of Initial Screening Corridors Table in Attachment 2 of this report):

- The Watson Road / Melview Road Initial Screening Corridor has least acres of tree removal compared to the Heth-Washington Road / St. Michaels Road and Old Hwy 11 Initial Screening Corridors.
- The Old Hwy 11 Initial Screening Corridor had the highest amount of stream and wetland impacts of the three initial screening corridors followed by the Watson Road / Melview Road Initial Screening Corridor. The Heth-Washington Road / St. Michaels Road Initial Screening Corridor had the least amount of stream and wetland/open water impacts. The impacts to streams and wetlands/open waters were considered minor for both the Watson Road / Melview Road and Heth-Washington / St. Michaels Road Initial Screening Corridors.
- The Watson Road / Melview Road and Old Hwy 11 Initial Screening Corridors have no commercial relocations. At the intersection of Heth-Washington Road and State Road 135 there are several businesses and commercial buildings adjacent to the road, requiring commercial right-of-way acquisition for the Heth-Washington / St. Michaels Road Initial Screening Corridor, including several buildings that would be impacted due to the improved roadway.
- The Watson Road / Melview Road Initial Screening Corridor has the fewest number of residential relocations. Due to the existing terrain and proximity of several houses along Heth-Washington Road / St Michaels Road Initial Screening Corridor, there are three times more residential relocations compared to the Watson Road / Melview Road Initial Screening Corridor. In addition, due to the amount of widening and realignment needed for the Old Hwy 11 Initial Screening Corridor, it has the highest number of residential relocations of the 3 initial screening corridors and has eleven times more residential relocations than the Watson Road / Melview Road Initial Screening Corridor.
- The Watson Road / Melview Road Initial Screening Corridor has the least amount of common excavation and least amount of rock excavation compared to the other initial screening

corridors. The new terrain alignment connecting Heth-Washington Road to St. Michaels Road along with the improvements to existing Old Hwy 337 required more common excavation and significantly more rock excavation compared to the Watson Road / Melview Road Initial Screening Corridor. The same is true for the Old Hwy 11 corridor due to the areas where Old Hwy 11 requires realignments to address horizontal and vertical curve issues and the Ohio River floodway issue. The additional excavation would lead to a higher estimated construction costs for both the Heth-Washington / St. Michaels Road and the Old Hwy 11 Initial Screening Corridors.

Based on this analysis, along with the additional construction length of the Heth-Washington Road / St. Michaels Road and Old Hwy 11 Initial Screening Corridors, it was determined that the Watson Road / Melview Road Initial Screening Corridor would be carried forward for more Detailed Alternatives Evaluation.

### **Watson Road / Melview Road Detailed Alternatives Evaluation**

The Watson Road / Melview Road Initial Screening Corridor was selected as the corridor to be further evaluated utilizing more detailed studies than used for the screening process identified above, including field studies to verify impacts. There were three preliminary alternatives developed within the Watson Road / Melview Road Initial Screening Corridor that were further analyzed in more detail to determine a recommended preferred alternative for the SR 11 Roadway Project. All three alternatives begin at the intersection of SR 135 and Watson Road and end at the intersection of SR 11 / Melview Road / Old Hwy 337 intersection (see maps of Alternative 1 in Attachment 3, Alternative 2 in Attachment 4, and Alternative 3 in Attachment 5 of this report). These alternatives included the north (Alternative 1), central (Alternative 2), and south (Alternative 3) alternatives. All the alternatives meet the Purpose and Need for the project. In addition to the criteria used during the initial screening analysis (i.e. environmental impacts, right-of-way impacts, and earthwork volumes), preliminary construction cost estimates for each alternative were developed. A simplified breakdown of the overall comparable impacts for each alternative is provided in Attachment 6. All three alternatives share alignments in the areas near the historic properties identified in the Historic Properties Report completed for this project; therefore, all three alternatives have the same potential impacts to historic properties. In addition, all three alternatives will require the same two residential relocations.

The environmental impacts evaluated for Alternatives 1, 2, and 3 include: 15 to 28 acres of tree removal, 0.0 to 0.14 acre of wetland, 0.0 to 0.11 acre of open water, 377 to 806 linear feet of streams, and 23 to 28 field verified karst features. Tree removal acreage between Alternatives 1 and 3 were similar (18 acres and 15 acres respectively), with Alternative 2 having nearly double the acreage of tree removal (28 acres) compared to Alternative 3. Alternative 1 has the most wetland impacts at 0.14 acre while Alternative 2 and Alternative 3 have no wetland impacts. Alternative 3 has the least amount of stream impacts (377 feet) followed by Alternative 1 (784 feet) and Alternative 2 has the most stream impacts (806 feet). The open water impacts were comparable between all three alternatives with Alternative 1

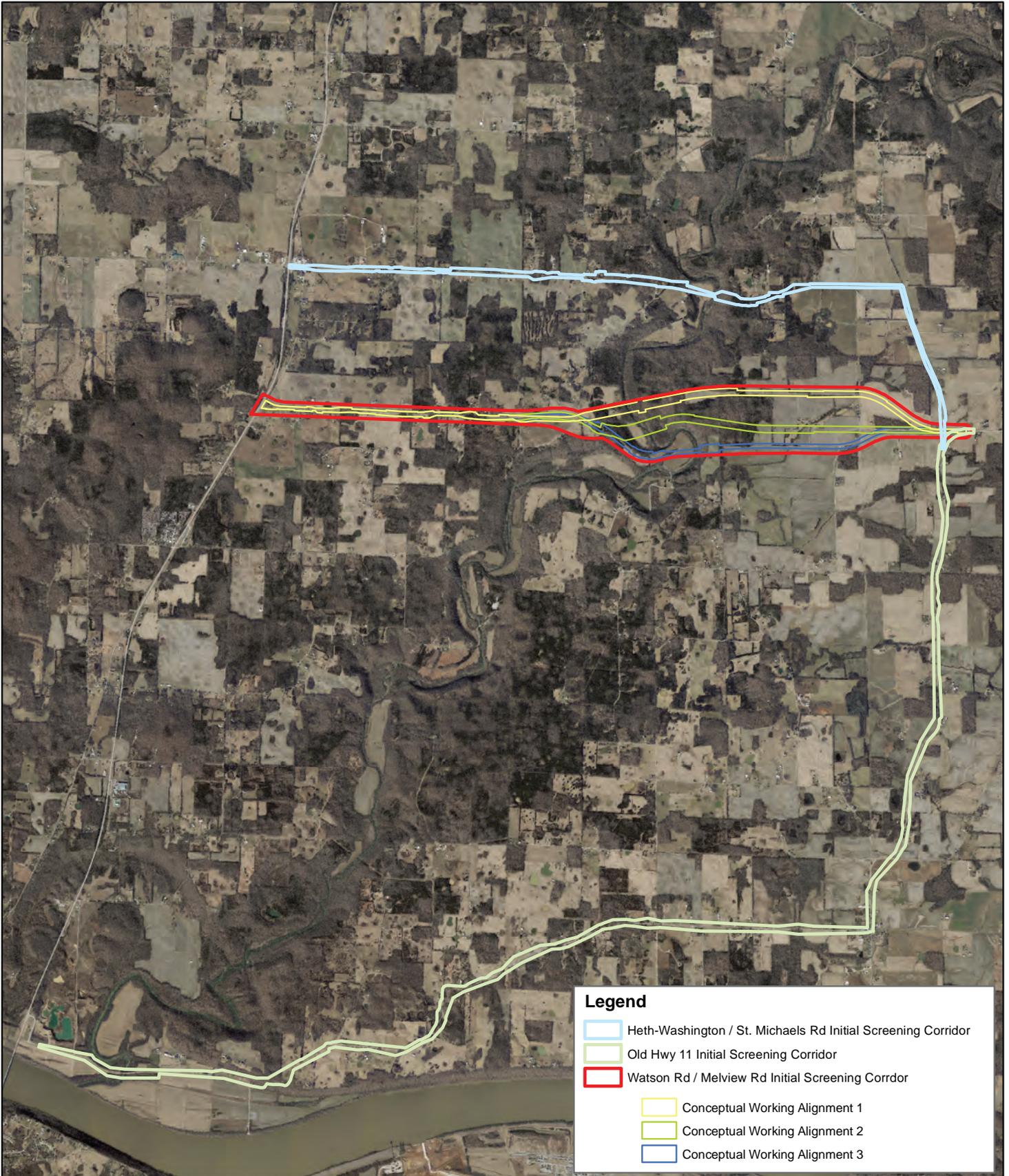
having the highest impact 0.11 acre and Alternative 2 and Alternative 3 both having 0.0 acre of open water impact. Alternative 3 impacts the least amount of field verified karst features (23) followed by Alternative 1 (27) and Alternative 2 has the highest number of field verified karst features (28). In addition, Alternative 1 will impact one managed land area (Nature Conservancy Forest Bank Property) which is avoided by Alternatives 2 and 3.

The three alternatives were evaluated for impacts to individual parcels to determine the right-of-way impacts required for the SR 11 Roadway Project. Right-of-way impacts were similar between all three alternatives, with Alternative 3 requiring the least amount of total acreage of right-of-way (135.6 acres) followed by Alternative 1 with 152.3 acres of right-of-way and Alternative 2 having the highest amount of right-of-way at 163.5 acres. All three alternatives will require two residential relocations.

Preliminary earthwork volumes were calculated for each of the alternatives. Preliminary earthwork volumes were developed with assumptions regarding the location of and depth to rock within the Watson Road / Melview Road Initial Screening Corridor. The majority of assumed rock locations are in the Buck Creek Valley with an assumed depth of 10 feet beneath the existing ground surface. Alternative 1 and Alternative 2 have assumed rock excavation on both the east and west sides of Buck Creek. However, due to the existing terrain along the Alternative 3 alignment, there is no assumed rock cut on the west side of Buck Creek. Overall, Alternative 3 has the least amount of total excavation required for construction and the least amount of rock excavation. The excavation was used to assist in the cost estimating for each alternative. Each of the three alternatives was evaluated to estimate the cost of construction. Alternative 1 has the lowest estimated construction cost of the three alternatives at \$54,700,000 and Alternative 2 has the highest construction cost at \$64,610,000. The construction cost estimate for Alternative 3 was \$55,620,000. Even though Alternative 3 has the least amount of rock excavation and total excavation, Alternative 3 requires a longer bridge crossing of Buck Creek compared to Alternative 1, which accounts for the higher estimated construction cost.

### **Preferred Alternative Recommendation**

Alternative 3 has the overall least amount of environmental and right-of-way impacts. In addition, Alternative 3 has the least amount of excavation compared to the other alternatives evaluated within the Watson Road / Melview Road Initial Screening Corridor. Even though Alternative 3 has a slightly higher construction cost estimate, Alternative 3 is being recommended as the preferred alternative for the State Road 11 Roadway Project because it has the overall least amount of environmental impacts, least amount of right-of-way impacts, and least amount of excavation requirements.



**Legend**

- Heth-Washington / St. Michaels Rd Initial Screening Corridor
- Old Hwy 11 Initial Screening Corridor
- Watson Rd / Melview Rd Initial Screening Corridor
- Conceptual Working Alignment 1
- Conceptual Working Alignment 2
- Conceptual Working Alignment 3

<b>LochGroup Proj No.: 120-0046-0HY</b> <b>Created: 3/1/2023, JKieffner</b>	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	0      3,500      7,000 Feet	<b>Attachment 1</b> <b>Initial Screening Corridors</b>

## Attachment 2

Comparison of Initial Screening Corridors				
		Heth-Washington / St Michael Road Corridor	Old Hwy 11 Corridor	Watson Road / Melview Road Corridor*
<b>Corridor Length (Miles)</b>		5.6	10.4	5.0 - 5.1
<b>Environmental Impacts</b>	<b>Tree Removal (Acres)</b>	32.8	34.3	13.9 – 27.4
	<b>Wetland Impacts (Acres)</b>	0.04	0.77	0.10 – 0.46
	<b>Open Water Impacts (Acres)</b>	0.35	0.87	0.01
	<b>Stream Impact (Feet)</b>	141	1820	397 - 536
<b>ROW Impacts</b>	<b>Residential ROW (Acres)</b>	13.9	21.4	2.8 – 2.9
	<b>Agricultural ROW (Acres)</b>	48.3	119.5	48.4 – 61.7
	<b>Undeveloped ROW (Acres)</b>	30.2	70.7	36.2 – 64.1
	<b>Commercial ROW (Acres)</b>	0.5	2.1	0
	<b>Existing ROW (Acres)</b>	26.1	81.7	15.9 – 20.8
	<b>Industrial ROW (Acres)</b>	0	0.6	0
	<b>Exempt ROW (Acres)</b>	0	7.6	0
	<b>Total ROW (Acres)</b>	119.0	303.6	103.3 – 149.5
	<b>No. of Relocations Residential</b>	6	22	2
	<b>No. of Relocations Commercial</b>	4	0	0
<b>Earthwork</b>	<b>CYS Common Excavation</b>	473,747	1,039,622	408,676
	<b>CYS Rock Excavation</b>	332,720	222,217	178,736
		Lowest Value		
		Middle Value		
		Highest Value		

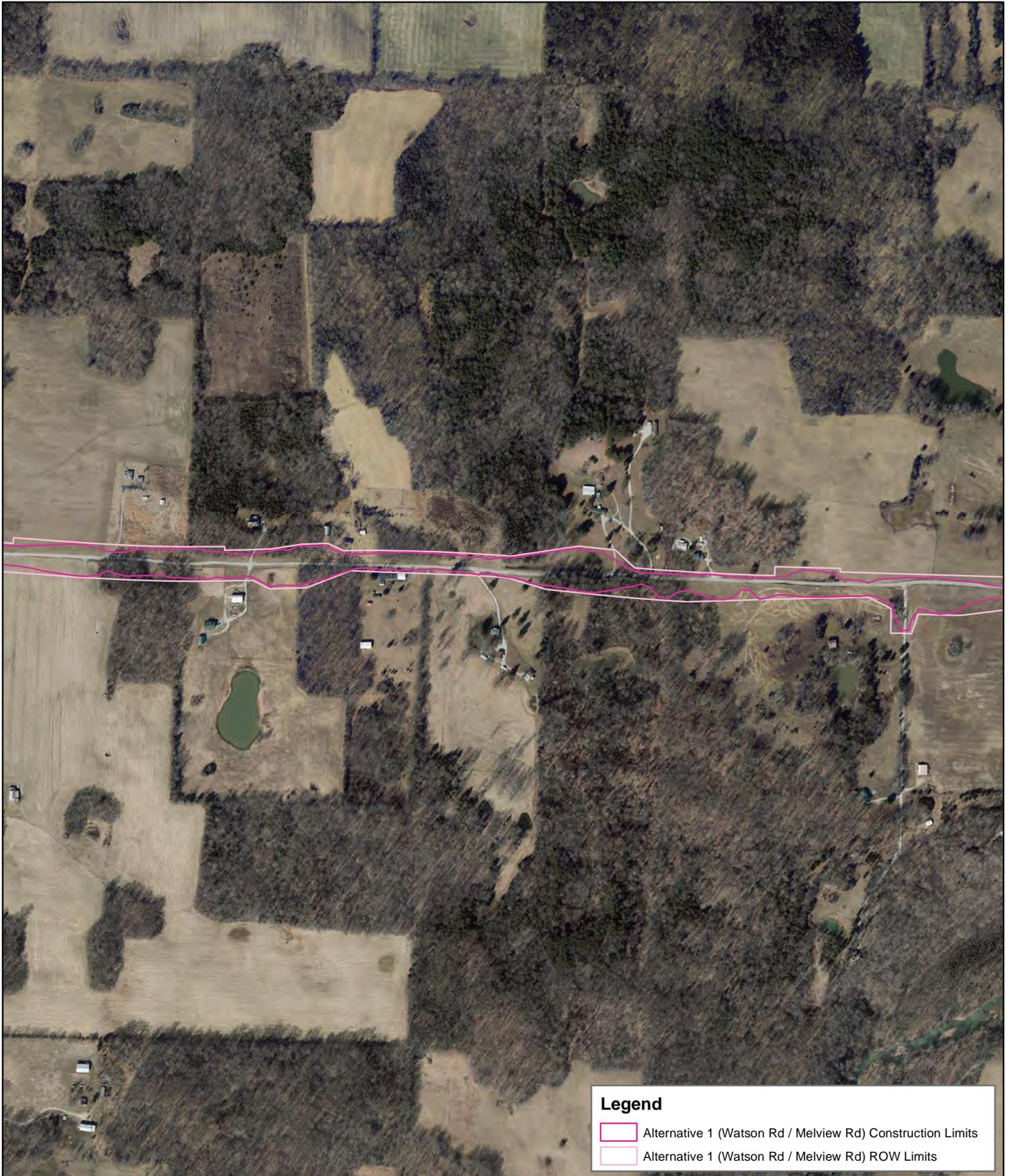
\* The impacts are based on the minimum and maximum impacts based on the three conceptual working alignments developed within the Watson Road / Melview Road Initial Screening Corridor.



**Legend**

- Alternative 1 (Watson Rd / Melview Rd) Construction Limits
- Alternative 1 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
 6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="text-align: center;">  <span style="margin: 0 10px;">0</span> <span style="margin: 0 10px;">500</span> <span style="margin: 0 10px;">1,000</span> <span style="margin: 0 10px;">Feet</span> </div>	<b>Attachment 3</b> <b>Map 1 of 5</b> <b>Alternative 1 (Watson Rd / Melview Rd)</b>



**Legend**

- Alternative 1 (Watson Rd / Melview Rd) Construction Limits
- Alternative 1 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
 6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="text-align: center;">  <span style="font-size: 24px; margin: 0 10px;">0</span> <span style="font-size: 24px; margin: 0 10px;">500</span> <span style="font-size: 24px; margin: 0 10px;">1,000</span> <span style="font-size: 24px;">Feet</span> </div>	<b>Attachment 3</b> <b>Map 2 of 5</b> <b>Alternative 1 (Watson Rd / Melview Rd)</b>



**Legend**

- Alternative 1 (Watson Rd / Melview Rd) Construction Limits
- Alternative 1 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="text-align: center;"> <span style="font-size: 2em; vertical-align: middle;">0</span> <span style="font-size: 2em; vertical-align: middle;">500</span> <span style="font-size: 2em; vertical-align: middle;">1,000</span>  <span style="font-size: 1.5em;">Feet</span> </div>	<b>Attachment 3</b> <b>Map 3 of 5</b> <b>Alternative 1 (Watson Rd / Melview Rd)</b>



**Legend**

- Alternative 1 (Watson Rd / Melview Rd) Construction Limits
- Alternative 1 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="text-align: center;"> <span style="font-size: 2em; vertical-align: middle;">0</span> <span style="font-size: 2em; vertical-align: middle;">500</span> <span style="font-size: 2em; vertical-align: middle;">1,000</span>  <span style="font-size: 1.2em;">Feet</span> </div>	<b>Attachment 3</b> <b>Map 4 of 5</b> <b>Alternative 1 (Watson Rd / Melview Rd)</b>



<p><b>LochGroup Proj No.: 120-0046-0HY</b>  <b>Created: 3/1/2023, JKieffner</b></p>	<p><b>County: Harrison</b>  <b>Municipality: Laconia and Maukport</b>  <b>Township: Boone and Heth</b></p>	<p><b>Project: SR 11 Roadway</b>  <b>DES No.: 2001154</b></p>
 <p>6200 Vogel Road          Evansville, IN 47715          Phone: 812.479.6200          Toll Free: 800.423.7411</p>	 <p>0 500 1,000 Feet</p>	<p><b>Attachment 3</b>  <b>Map 5 of 5</b>  <b>Alternative 1 (Watson Rd / Melview Rd)</b></p>



**Legend**

- Alternative 2 (Watson Rd / Melview Rd) Construction Limits
- Alternative 2 (Watson Rd / Melview Rd) ROW Limits

<p><b>LochGroup Proj No.: 120-0046-0HY</b>  <b>Created: 3/1/2023, JKieffner</b></p>	<p><b>County: Harrison</b>  <b>Municipality: Laconia and Maukport</b>  <b>Township: Boone and Heth</b></p>	<p><b>Project: SR 11 Roadway</b>  <b>DES No.: 2001154</b></p>
 <p>6200 Vogel Road          Evansville, IN 47715          Phone: 812.479.6200          Toll Free: 800.423.7411</p>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div style="margin-right: 10px;"> <p>0      500      1,000</p>  </div> <div> <p>Feet</p> </div> </div>	<p><b>Attachment 4</b>  <b>Map 1 of 5</b>  <b>Alternative 2 (Watson Rd / Melview Rd)</b></p>



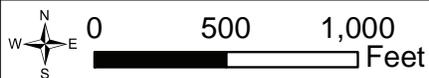
**LochGroup Proj No.: 120-0046-0HY**  
**Created: 3/1/2023, JKieffner**

**County: Harrison**  
**Municipality: Laconia and Maukport**  
**Township: Boone and Heth**

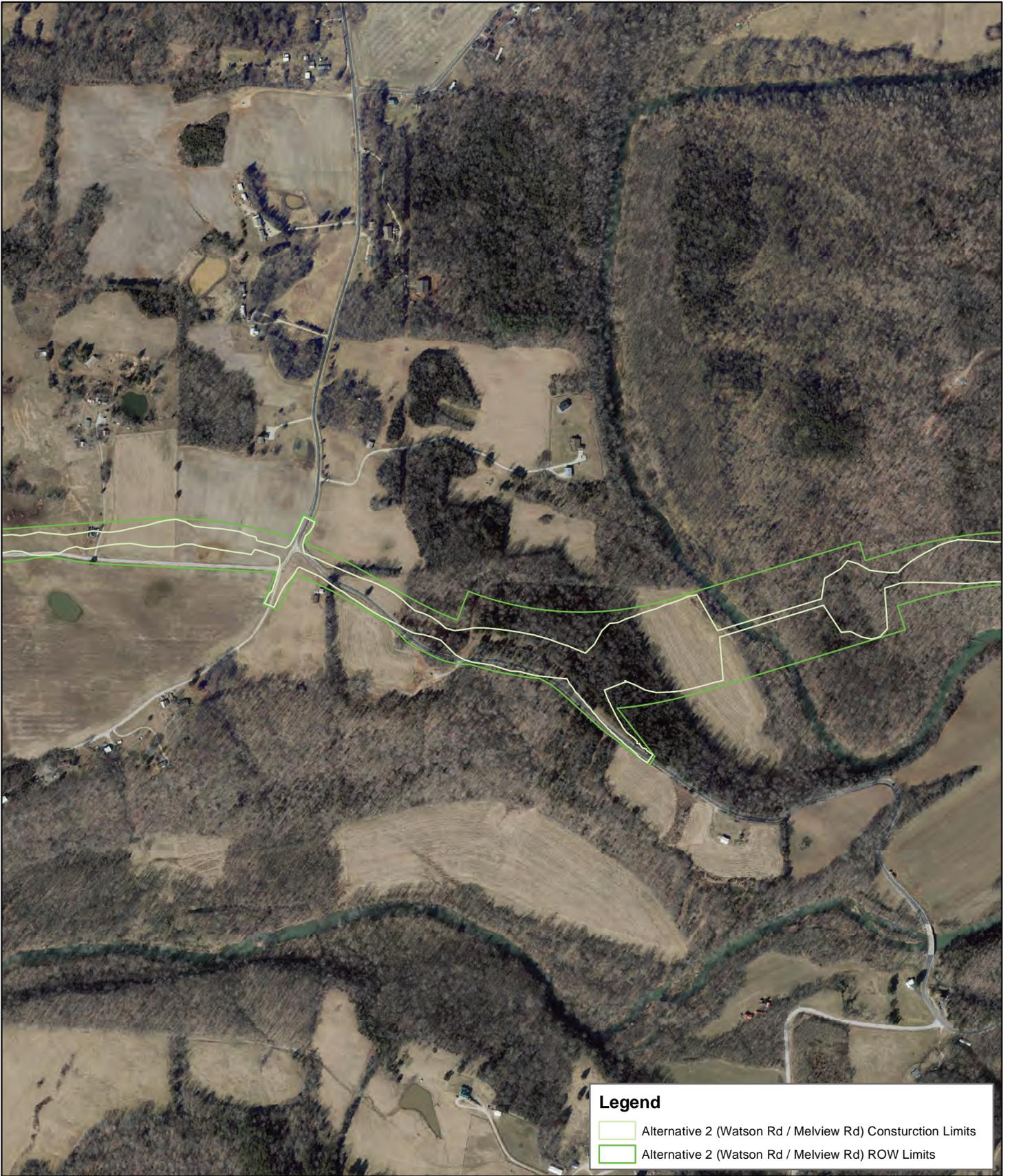
**Project: SR 11 Roadway**  
**DES No.: 2001154**



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 Toll Free: 800.423.7411

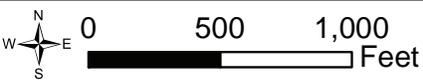


**Attachment 4**  
**Map 2 of 5**  
**Alternative 2 (Watson Rd / Melview Rd)**



**Legend**

- Alternative 2 (Watson Rd / Melview Rd) Construction Limits
- Alternative 2 (Watson Rd / Melview Rd) ROW Limits

<p><b>LochGroup Proj No.: 120-0046-0HY</b>  <b>Created: 3/1/2023, JKieffner</b></p>	<p><b>County: Harrison</b>  <b>Municipality: Laconia and Maukport</b>  <b>Township: Boone and Heth</b></p>	<p><b>Project: SR 11 Roadway</b>  <b>DES No.: 2001154</b></p>
 <p>6200 Vogel Road          Evansville, IN 47715          Phone: 812.479.6200          Toll Free: 800.423.7411</p>	 <p>0      500      1,000          Feet</p>	<p><b>Attachment 4</b>  <b>Map 3 of 5</b>  <b>Alternative 2 (Watson Rd / Melview Rd)</b></p>



**LochGroup Proj No.: 120-0046-0HY**  
**Created: 3/1/2023, JKieffner**

**County: Harrison**  
**Municipality: Laconia and Maukport**  
**Township: Boone and Heth**

**Project: SR 11 Roadway**  
**DES No.: 2001154**



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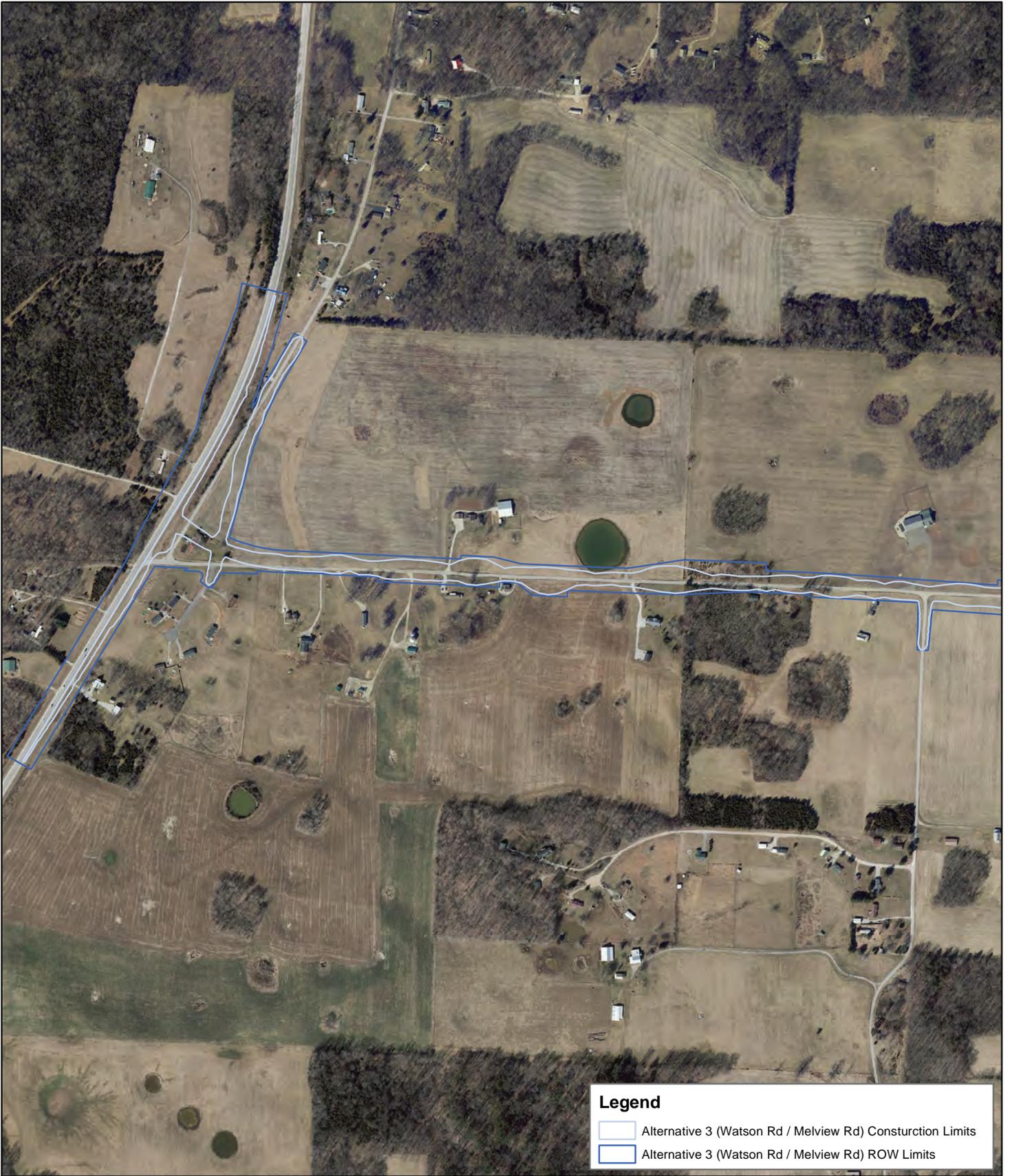
**Attachment 4**  
**Map 4 of 5**  
**Alternative 2 (Watson Rd / Melview Rd)**



**Legend**

- Alternative 2 (Watson Rd / Melview Rd) Construction Limits
- Alternative 2 (Watson Rd / Melview Rd) ROW Limits

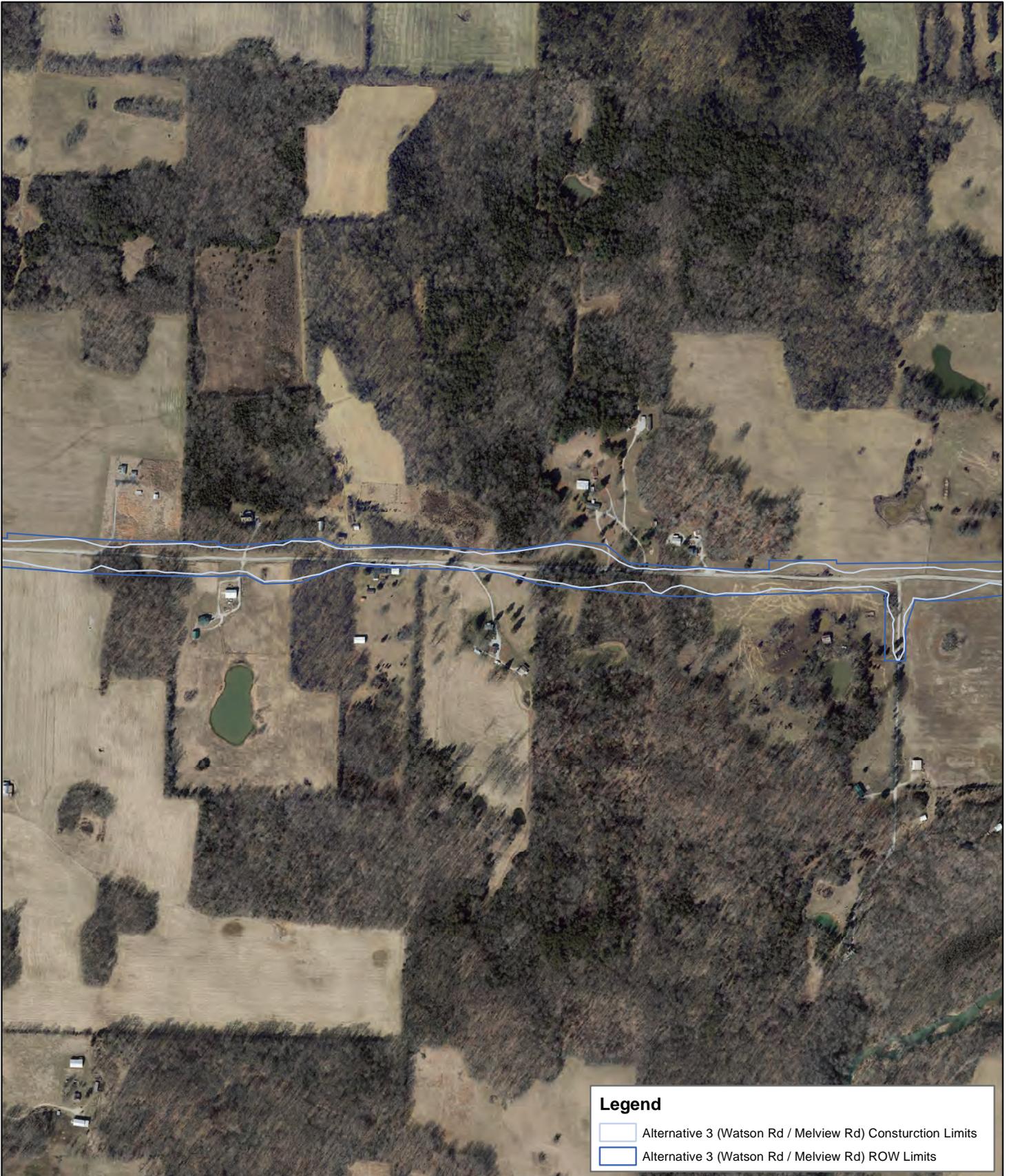
<p><b>LochGroup Proj No.: 120-0046-0HY</b>  <b>Created: 3/1/2023, JKieffner</b></p>	<p><b>County: Harrison</b>  <b>Municipality: Laconia and Maukport</b>  <b>Township: Boone and Heth</b></p>	<p><b>Project: SR 11 Roadway</b>  <b>DES No.: 2001154</b></p>
 <p>6200 Vogel Road          Evansville, IN 47715          Phone: 812.479.6200          Toll Free: 800.423.7411</p>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div style="margin-right: 10px;"> <p>0      500      1,000</p>  </div> <div> <p>Feet</p> </div> </div>	<p><b>Attachment 4</b>  <b>Map 5 of 5</b>  <b>Alternative 2 (Watson Rd / Melview Rd)</b></p>



**Legend**

- Alternative 3 (Watson Rd / Melview Rd) Construction Limits
- Alternative 3 (Watson Rd / Melview Rd) ROW Limits

<p><b>LochGroup Proj No.: 120-0046-0HY</b>  <b>Created: 3/1/2023, JKieffner</b></p>	<p><b>County: Harrison</b>  <b>Municipality: Laconia and Maukport</b>  <b>Township: Boone and Heth</b></p>	<p><b>Project: SR 11 Roadway</b>  <b>DES No.: 2001154</b></p>
 <p>6200 Vogel Road          Evansville, IN 47715          Phone: 812.479.6200          Toll Free: 800.423.7411</p>	<div style="text-align: center;">  <p>0      500      1,000              Feet</p> </div>	<p><b>Attachment 5</b>  <b>Map 1 of 5</b>  <b>Alternative 3 (Watson Rd / Melview Rd)</b></p>



**Legend**

- Alternative 3 (Watson Rd / Melview Rd) Construction Limits
- Alternative 3 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
 6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div style="margin-right: 10px;">             0      500      1,000           </div> <div style="margin-right: 10px;">  </div> <div>             Feet           </div> </div>	<b>Attachment 5</b> <b>Map 2 of 5</b> <b>Alternative 3 (Watson Rd / Melview Rd)</b>



**Legend**

- Alternative 3 (Watson Rd / Melview Rd) Construction Limits
- Alternative 3 (Watson Rd / Melview Rd) ROW Limits

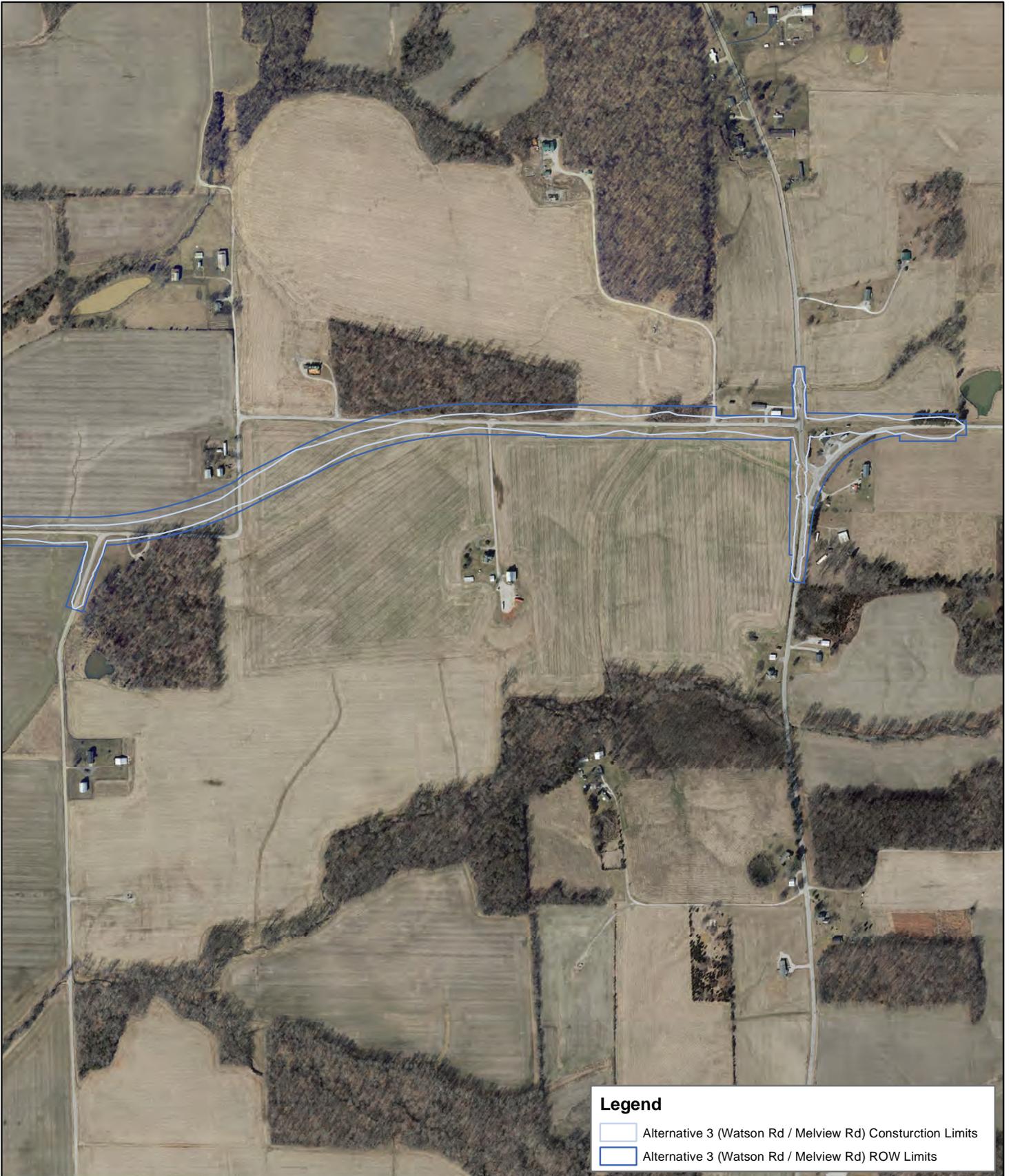
<p><b>LochGroup Proj No.: 120-0046-0HY</b>  <b>Created: 3/1/2023, JKieffner</b></p>	<p><b>County: Harrison</b>  <b>Municipality: Laconia and Maukport</b>  <b>Township: Boone and Heth</b></p>	<p><b>Project: SR 11 Roadway</b>  <b>DES No.: 2001154</b></p>
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**Legend**

- Alternative 3 (Watson Rd / Melview Rd) Construction Limits
- Alternative 3 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
 6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div style="margin-right: 10px;">             0      500      1,000           </div> <div style="margin-right: 10px;">  </div> <div>             Feet           </div> </div>	<b>Attachment 5</b> <b>Map 4 of 5</b> <b>Alternative 3 (Watson Rd / Melview Rd)</b>



**Legend**

- Alternative 3 (Watson Rd / Melview Rd) Construction Limits
- Alternative 3 (Watson Rd / Melview Rd) ROW Limits

<b>LochGroup Proj No.: 120-0046-0HY</b> Created: 3/1/2023, JKieffner	<b>County: Harrison</b> <b>Municipality: Laconia and Maukport</b> <b>Township: Boone and Heth</b>	<b>Project: SR 11 Roadway</b> <b>DES No.: 2001154</b>
 6200 Vogel Road Evansville, IN 47715 Phone: 812.479.6200 Toll Free: 800.423.7411	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div style="margin-right: 10px;"> <span style="font-size: 24px;">0</span> </div> <div style="margin-right: 10px;"> <span style="font-size: 24px;">500</span> </div> <div style="margin-right: 10px;"> <span style="font-size: 24px;">1,000</span> </div> <div style="margin-right: 10px;"> <span style="font-size: 24px;">Feet</span> </div> </div> 	<b>Attachment 5</b> <b>Map 5 of 5</b> <b>Alternative 3 (Watson Rd / Melview Rd)</b>

## Attachment 6

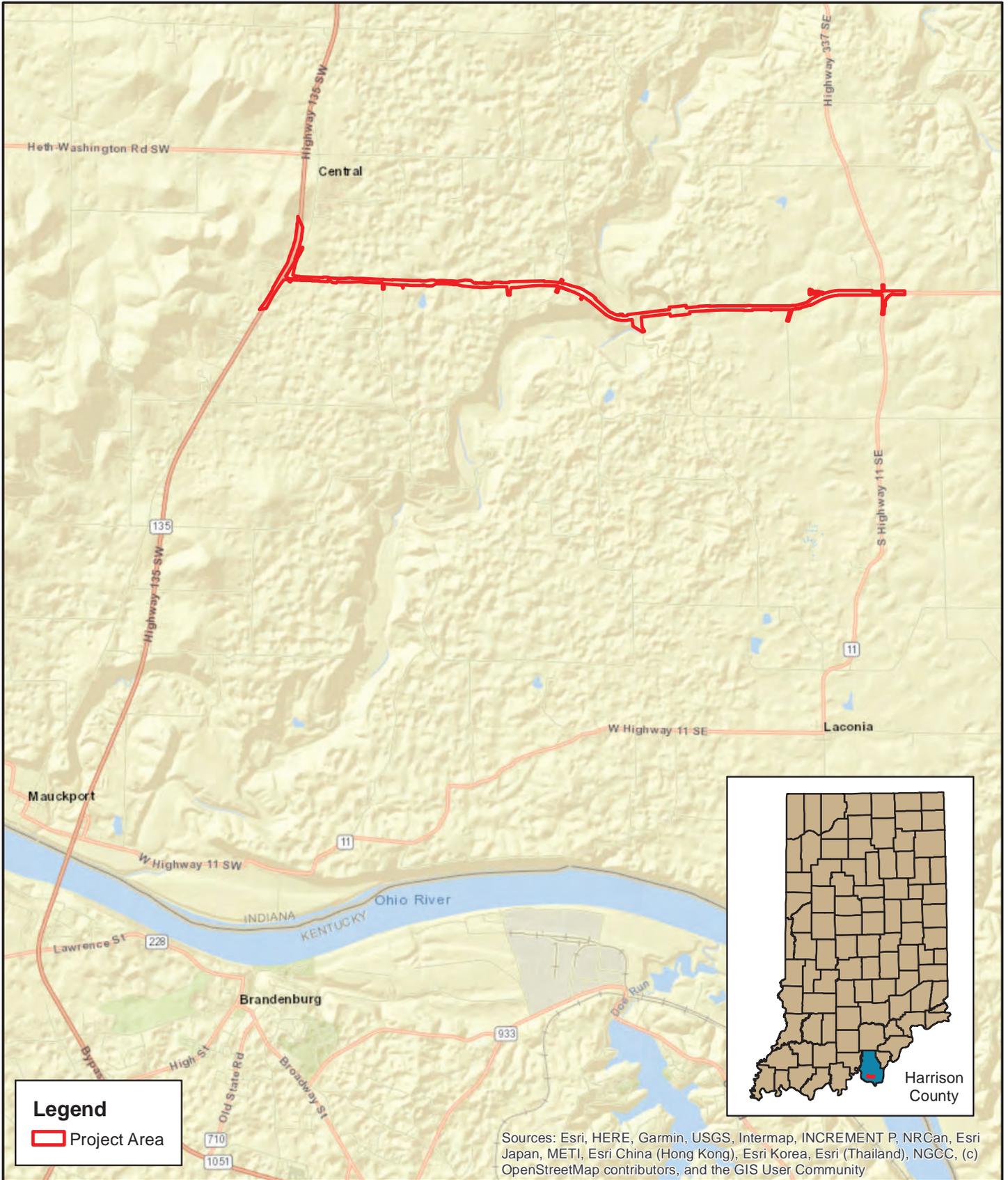
Watson Road / Melview Road Corridor Alternative Evaluation Matrix Table				
		Alternative 1	Alternative 2	Alternative 3
<b>Environmental Impacts</b>	<b>Tree Removal (Acres)</b>	18.2	28.2	15.1
	<b>Wetland Impacts (Acres)</b>	0.14	0	0
	<b>Open Water Impacts (Acres)</b>	0.11	0	0
	<b>Stream Impact (Feet)</b>	784	806	377
	<b>Field Verified Karst Features (No.)</b>	27	28	23
	<b>Historic Properties (No.)</b>	2	2	2
<b>ROW Impacts</b>	<b>Residential ROW (Acres)</b>	3.6	3.5	3.8
	<b>Agricultural ROW (Acres)</b>	65.4	54.9	50.4
	<b>Undeveloped ROW (Acres)</b>	48.1	67.1	41.6
	<b>Existing ROW (Acres)</b>	35.2	38.0	39.8
	<b>Total ROW (Acres)</b>	152.3	163.5	135.6
	<b>No. of Relocations Residential</b>	2	2	2
	<b>No. of Relocations Commercial</b>	0	0	0
<b>Earthwork</b>	<b>CYS Common Excavation West of Buck Creek</b>	259,667	195,915	249,878
	<b>CYS Rock Excavation West of Buck Creek</b>	82,371	101,434	0
	<b>CYS Borrow West of Buck Creek</b>	18,412	403,463	157,635
	<b>CYS Common Excavation East of Buck Creek</b>	346,721	274,882	251,636
	<b>CYS Rock Cut East of Buck Creek</b>	184,605	251,106	110,649
	<b>CYS Borrow East of Buck Creek</b>	0	0	0
<b>Project Cost</b>	<b>Length of Project (Miles)</b>	5.1	5.0	5.1
	<b>Utility Cost</b>	\$4,351,980	\$4,834,485	\$4,782,515
	<b>Right-Of-Way (ROW) Cost</b>	\$2,443,473	\$1,825,784	\$1,783,860
	<b>Mitigation Cost*</b>	\$930,830	\$1,213,070	\$603,720
	<b>Construction Cost</b>	\$54,700,000	\$64,610,000	\$55,620,000
	Lowest Value			
	Middle Value			
	Highest Value			

\* Mitigation costs were based on a 3:1 mitigation ratio for upland forest habitat and wetland habitat impacts and a 1:1 mitigation ratio for open water and stream impacts. In addition, the mitigation costs for upland forest were based on the August 2022 – December 2022 USFWS Fee Schedule from the Range-Wide Indiana Bat In-Lieu Fee Program Instrument and for the wetland, open water, and stream mitigation were based on the May 20, 2018 IDNR Indiana Stream and Wetland Mitigation Program Credit Pricing Schedule.

**Environmental Assessment**

**Appendix B**

**Graphics**



6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

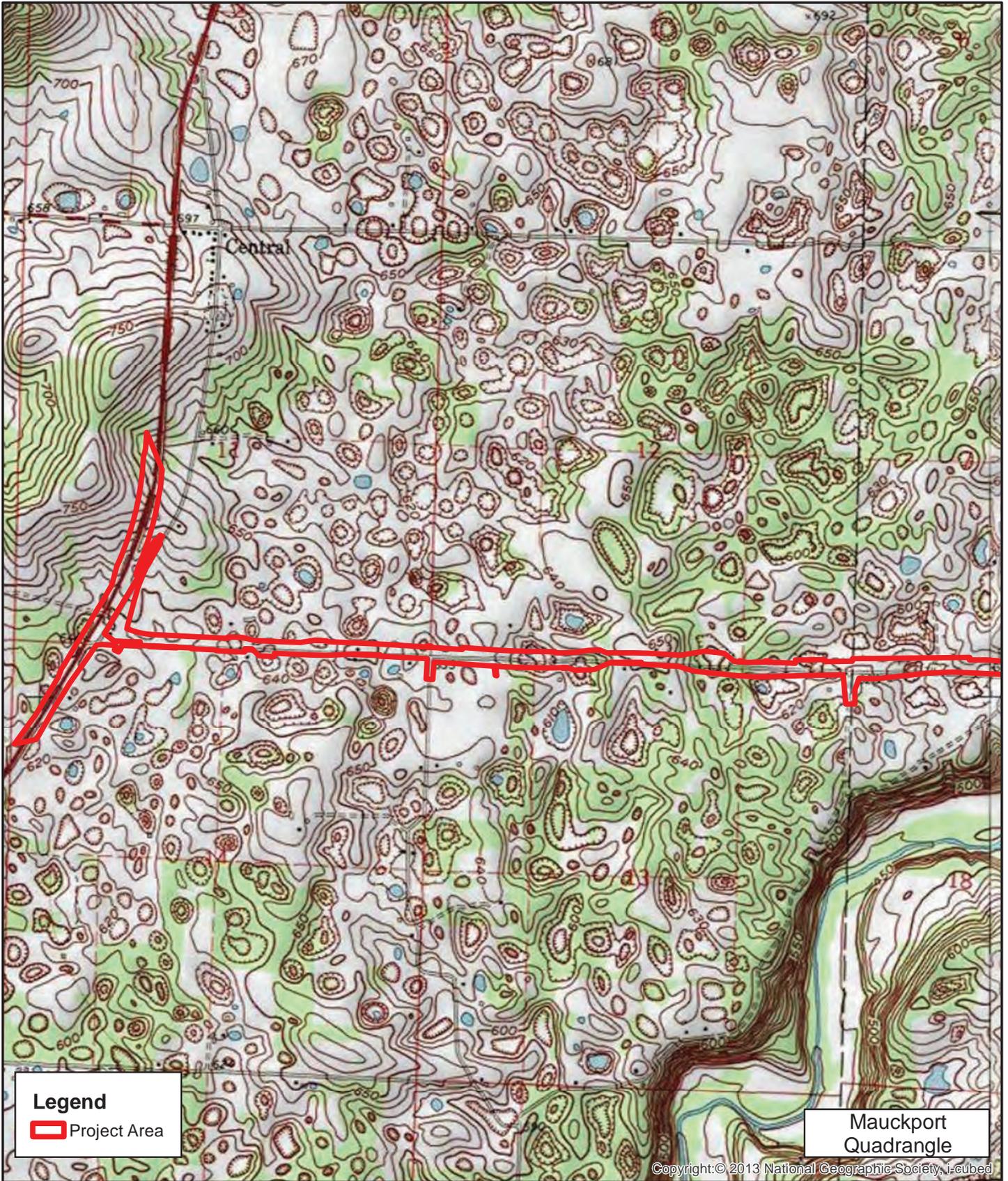
**General Location Map**  
 Des No. 2001154



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume

X:\Production\FGDB\20201120-0046\Projects\PRJ-011\Working\Staff\CEVE\_General\_Location\_Map.mxd



**Legend**  
 Project Area

Mauckport  
 Quadrangle

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**LOCHMUELLER GROUP**  
 6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**USGS Topographic Map (1 of 3)**  
 Des. No. 2001154

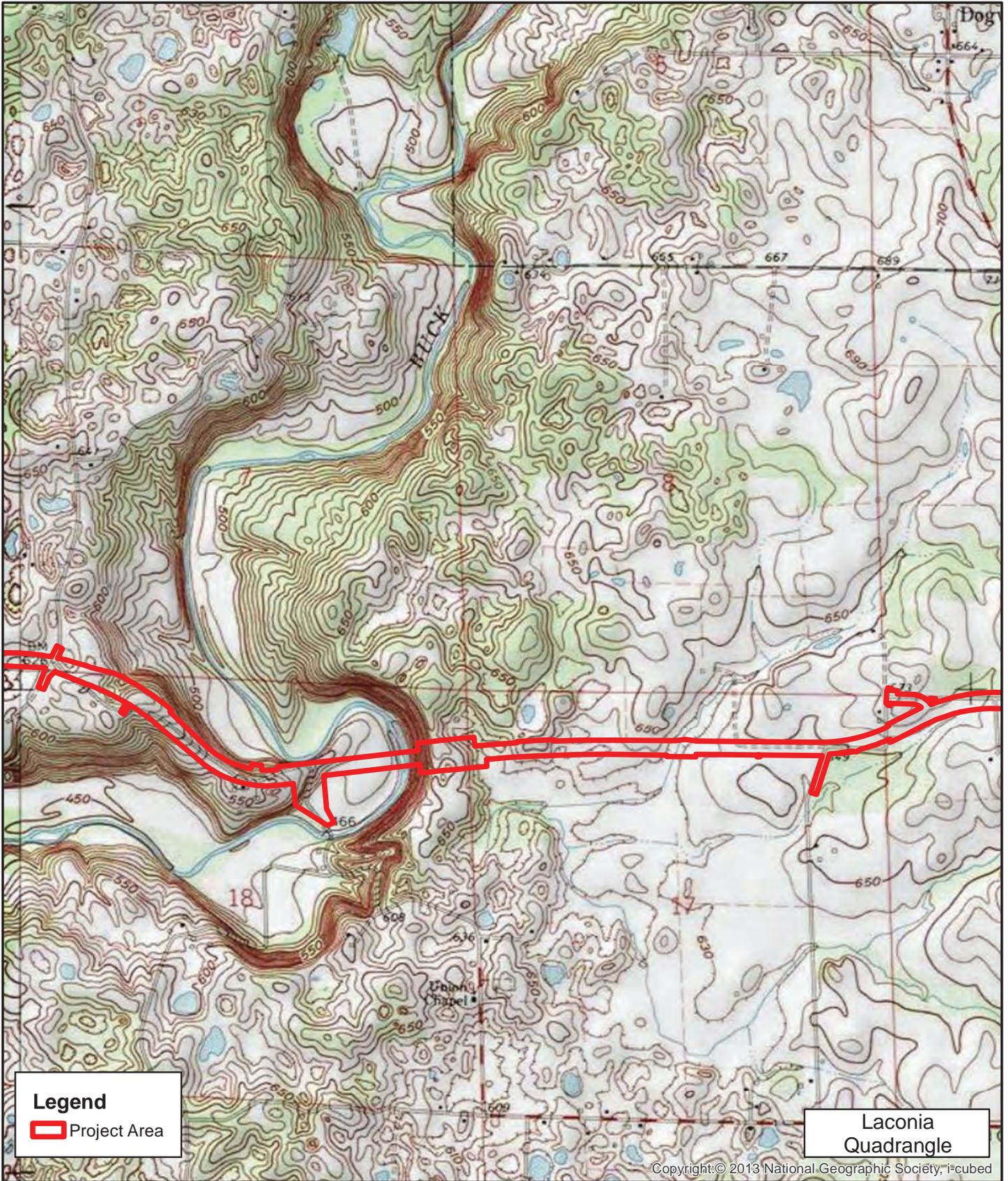
0    0.25    0.5  
 Miles



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume

X:\Production\FGDB\202012\0046\Projects\PRJ-01\WorkingSurface\USGS TopoMap\_1.mxd



**Legend**  
 Project Area

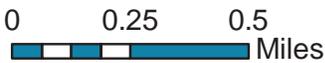
Laconia  
 Quadrangle

Copyright: © 2013 National Geographic Society, i-cubed



6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

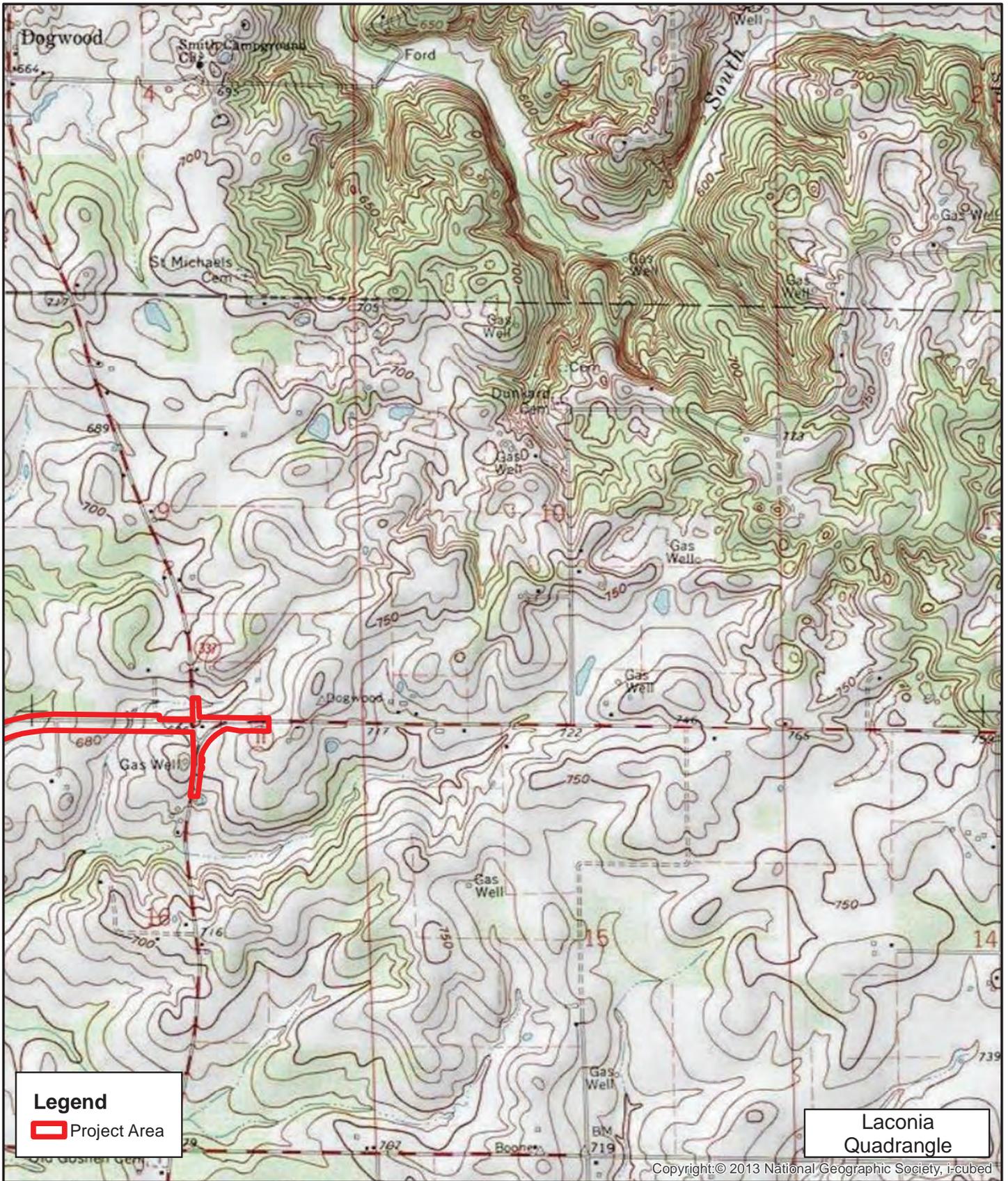
**USGS Topographic Map (2 of 3)**  
 Des. No. 2001154



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume

X:\Production\FGDB\202012\0046\Projects\PRJ-01\Work\Map\SR11\CE\USGS\TopoMap\_2.mxd



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**Legend**  
 Project Area

**Laconia Quadrangle**



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 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**USGS Topographic Map (3 of 3)**  
 Des. No. 2001154

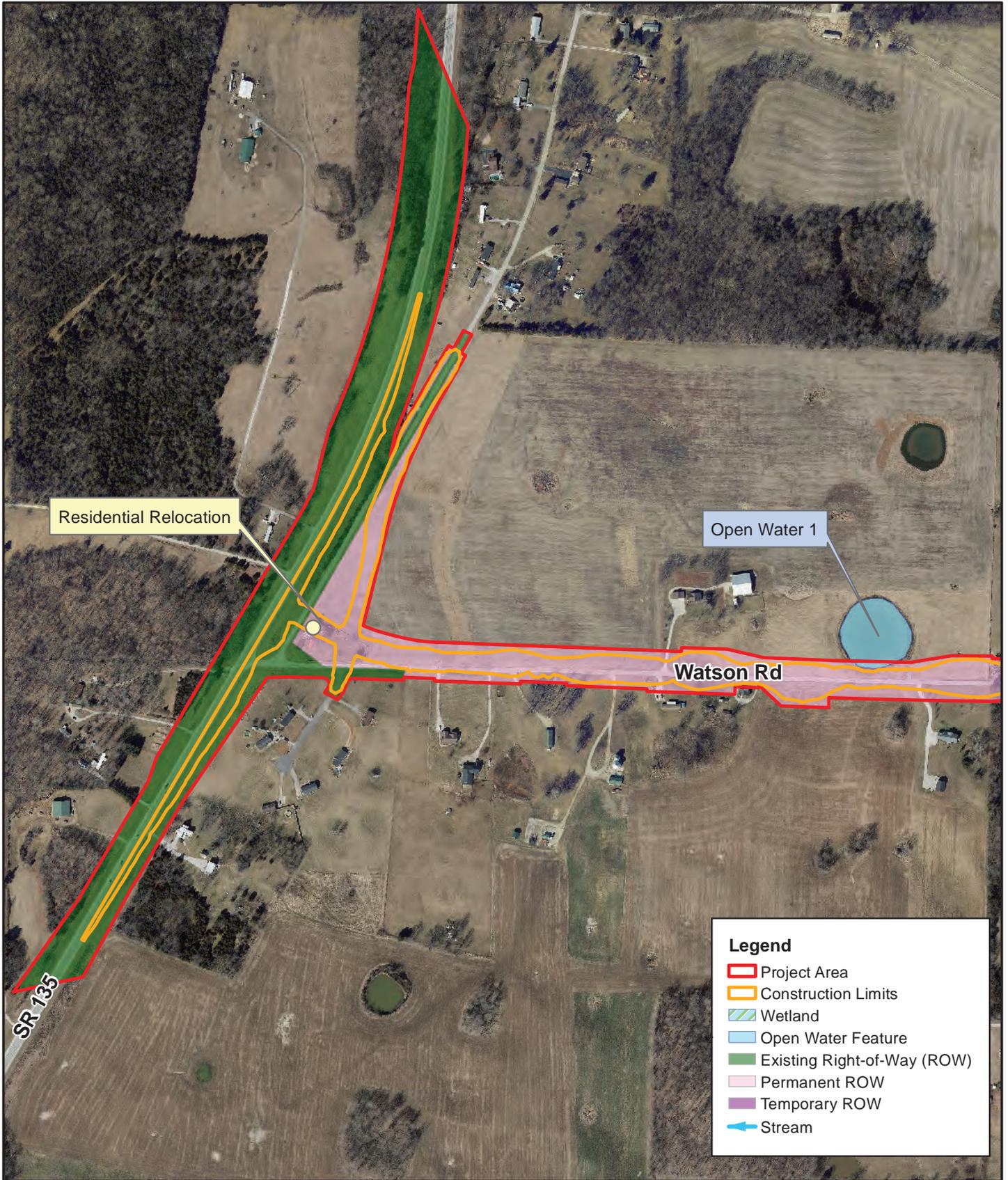
0 0.25 0.5 Miles



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume

X:\Production\FGDB\202012\0046\Projects\PRJ-01\Working\Surface\USGS TopoMap\_3.mxd



**Legend**

- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- ← Stream

X:\Production\EGDB\2020120-0046\Projects\PRJ-01\Working\Surface\ProjectMap\_1.mxd

**LOCHMUELLER GROUP**  
 6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Project Map (1 of 7)**  
 Des. No. 2001154

0    250    500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume



X:\Production\FGDB\2020120-0046\Projects\PRJ-01\Working\Surface\ProjectMap\_2.mxd

**LOCHMUELLER GROUP**

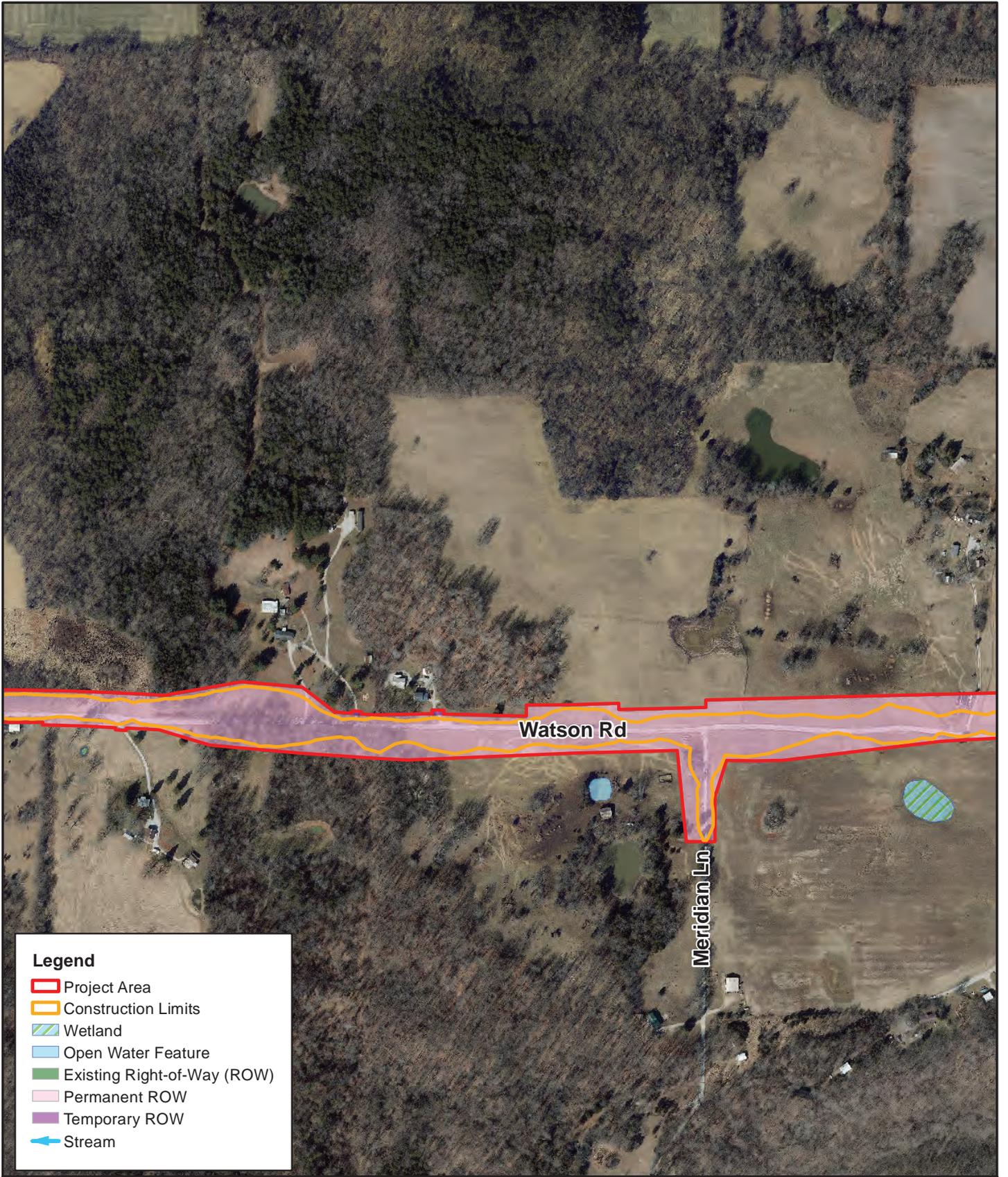
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 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Project Map (2 of 7)**  
 Des. No. 2001154

0 250 500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume



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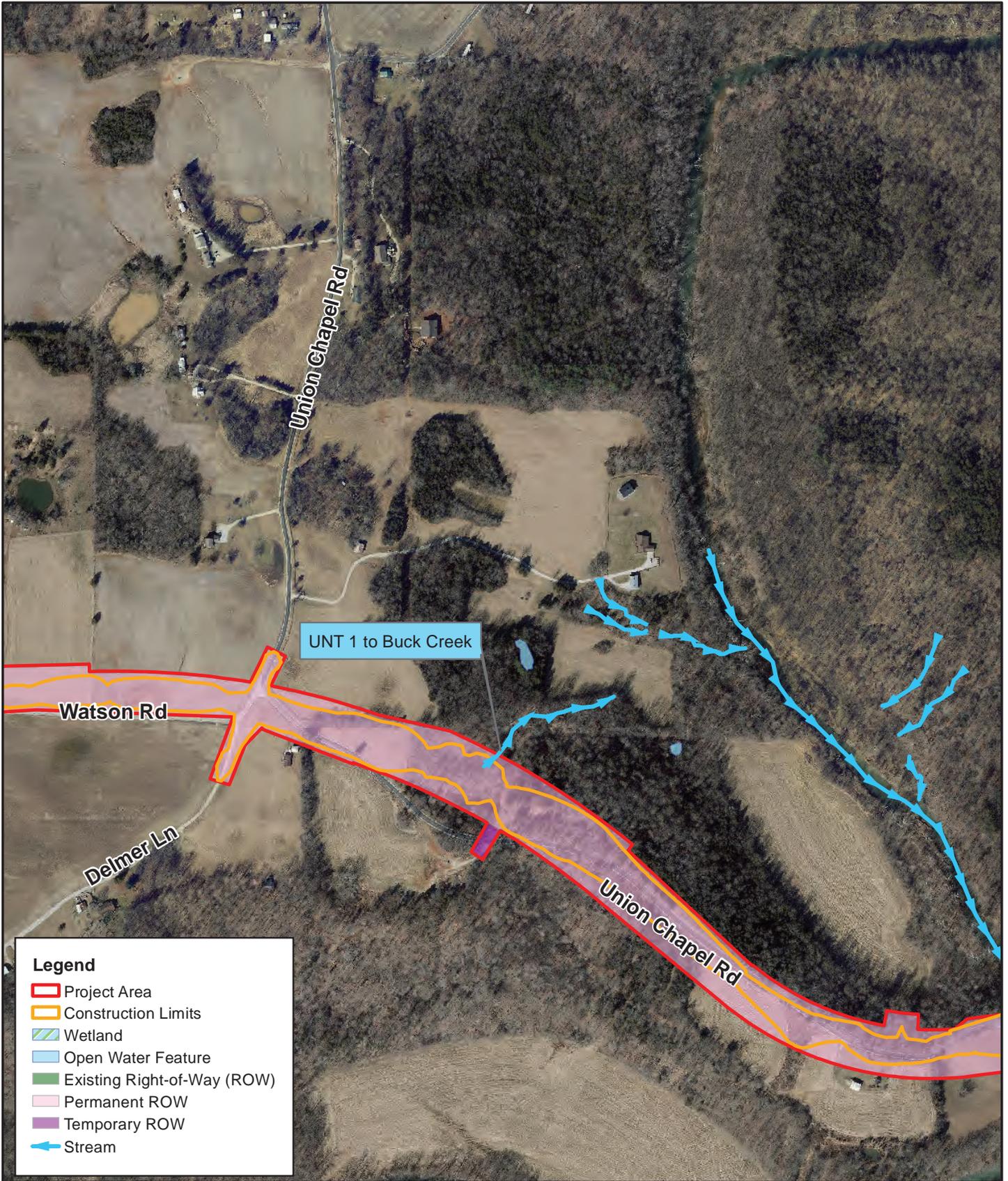
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Evansville, IN 47715  
Phone: (812) 479-6200  
Fax: (812) 479-6262

**Project Map (3 of 7)**  
Des. No. 2001154

0 250 500 Feet

County: Harrison  
Townships: Boone & Heth

SR 11  
Roadway Project  
Created: 4/14/2023, H. Hume



**Legend**

- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

**LOCHMUELLER GROUP**  
 6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Project Map (4 of 7)**  
 Des. No. 2001154

0    250    500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume

X:\Production\FGDB\2020120-0046\Projects\PRJ-01\Working\Surface\ProjectMap\_4.mxd



**Legend**

- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

X:\Production\FGDB\2020120-0046\Projects\PRJ-01\WorkingSurface\ProjectMap\_5.mxd

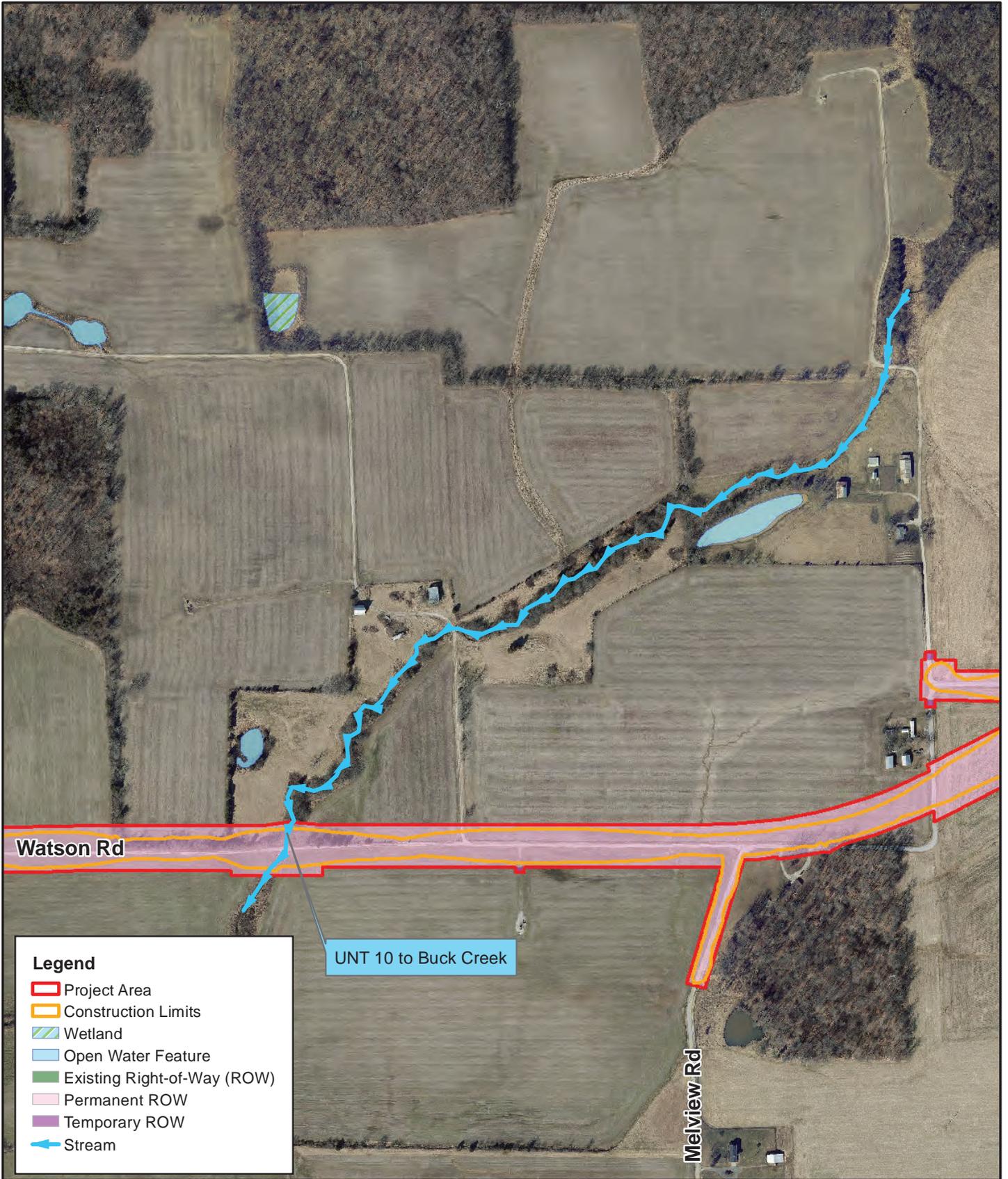
**LOCHMUELLER GROUP**  
 6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Project Map (5 of 7)**  
 Des. No. 2001154

0    250    500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume



X:\Production\FGDB\202012\0046\Projects\PRJ-01\Working\Surface\ProjectMap\_6.mxd

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 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Project Map (6 of 7)**  
 Des. No. 2001154

0 250 500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume



**Legend**

- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- ← Stream

6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

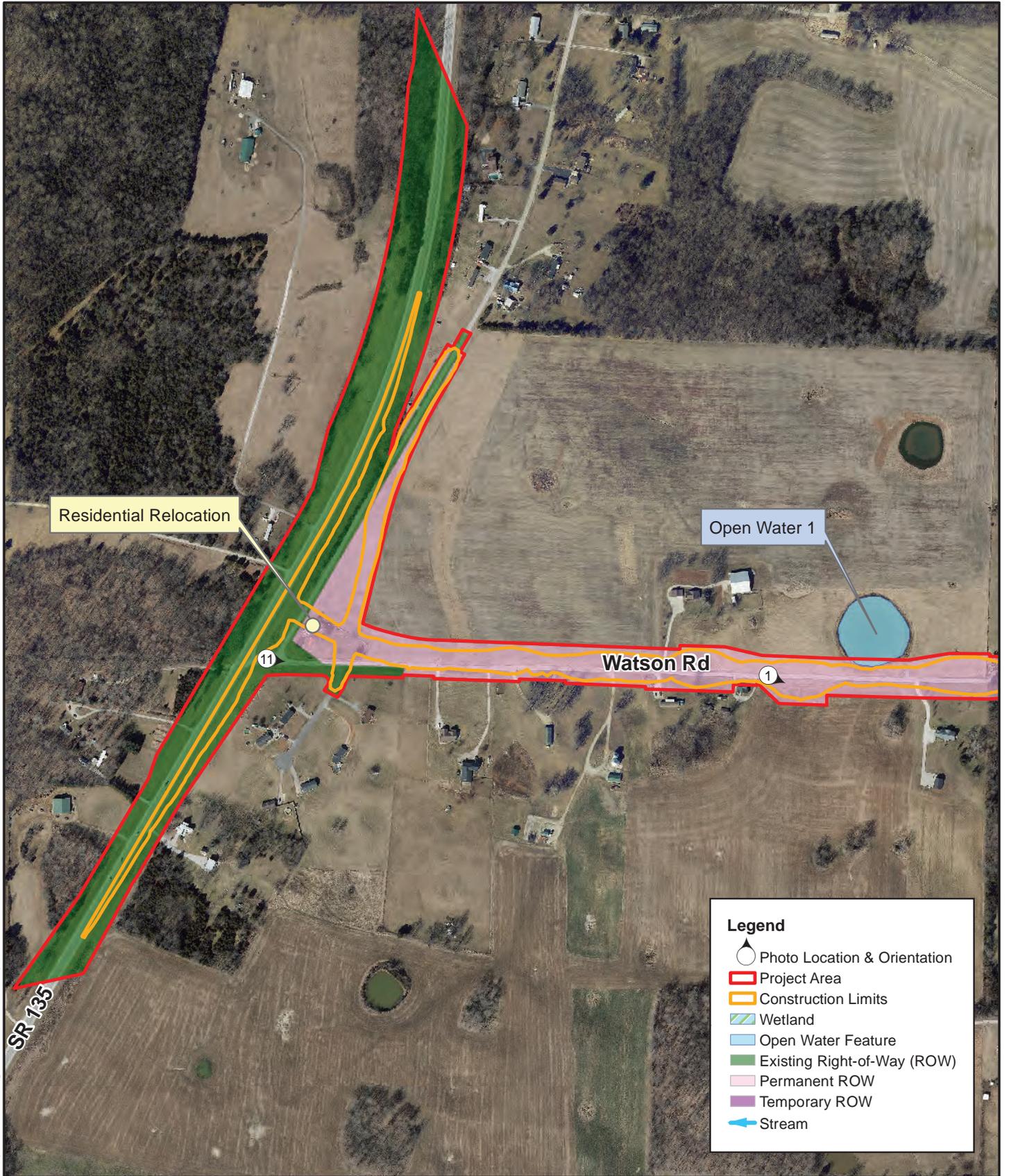
**Project Map (7 of 7)**  
 Des. No. 2001154

0    250    500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/14/2023, H. Hume

X:\Production\FGDB\2020120-0046\Projects\PRJ-01\Working\Surface\ProjectMap\_7.mxd



**Legend**

- Photo Location & Orientation
- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

X:\Products\EGDB\2001120-0046\Projects\SR\_11\Working\Start\CE\PhotoLocationMap\_1.mxd

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 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Photo Location Map (1 of 7)**  
 Des. No. 2001154

0 250 500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/17/2023, H. Hume



X:\Production\FGDB\202012\0046\Projects\PRJ-01\WorkingSurface\PhotoLocationMap\_2.mxd

**Legend**

-  Photo Location & Orientation
-  Project Area
-  Construction Limits
-  Wetland
-  Open Water Feature
-  Existing Right-of-Way (ROW)
-  Permanent ROW
-  Temporary ROW
-  Stream



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 Phone: (812) 479-6200  
 Fax: (812) 479-6262

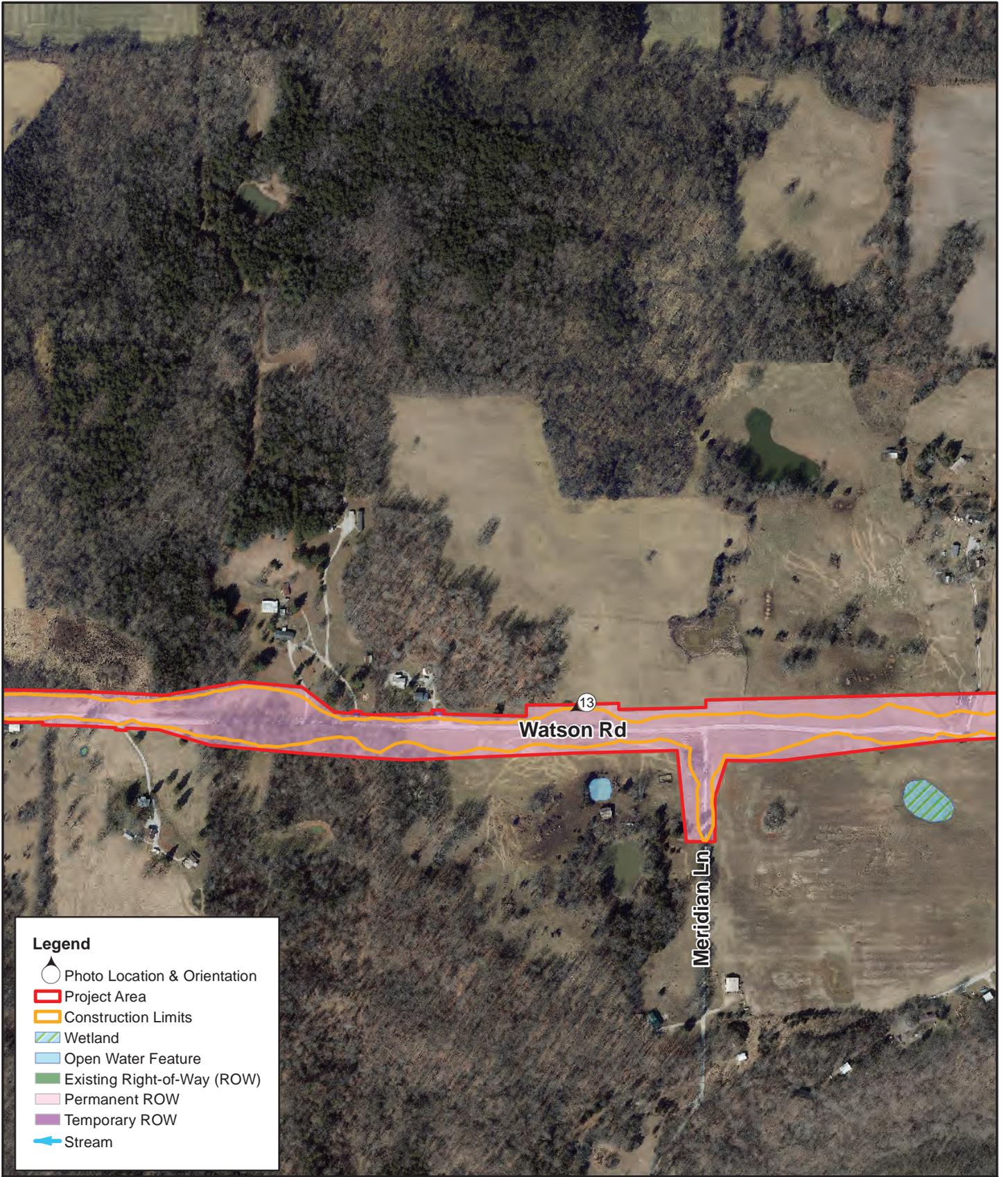
**Photo Location Map (2 of 7)**  
 Des. No. 2001154

0 250 500  
 Feet



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/17/2023, H. Hume



**Legend**

- Photo Location & Orientation
- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

X:\Production\FGDB\2020120-0046\Projects\PRJ-01\WorkingSurface\PhotoLocationMap\_3.mxd



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 Phone: (812) 479-6200  
 Fax: (812) 479-6262

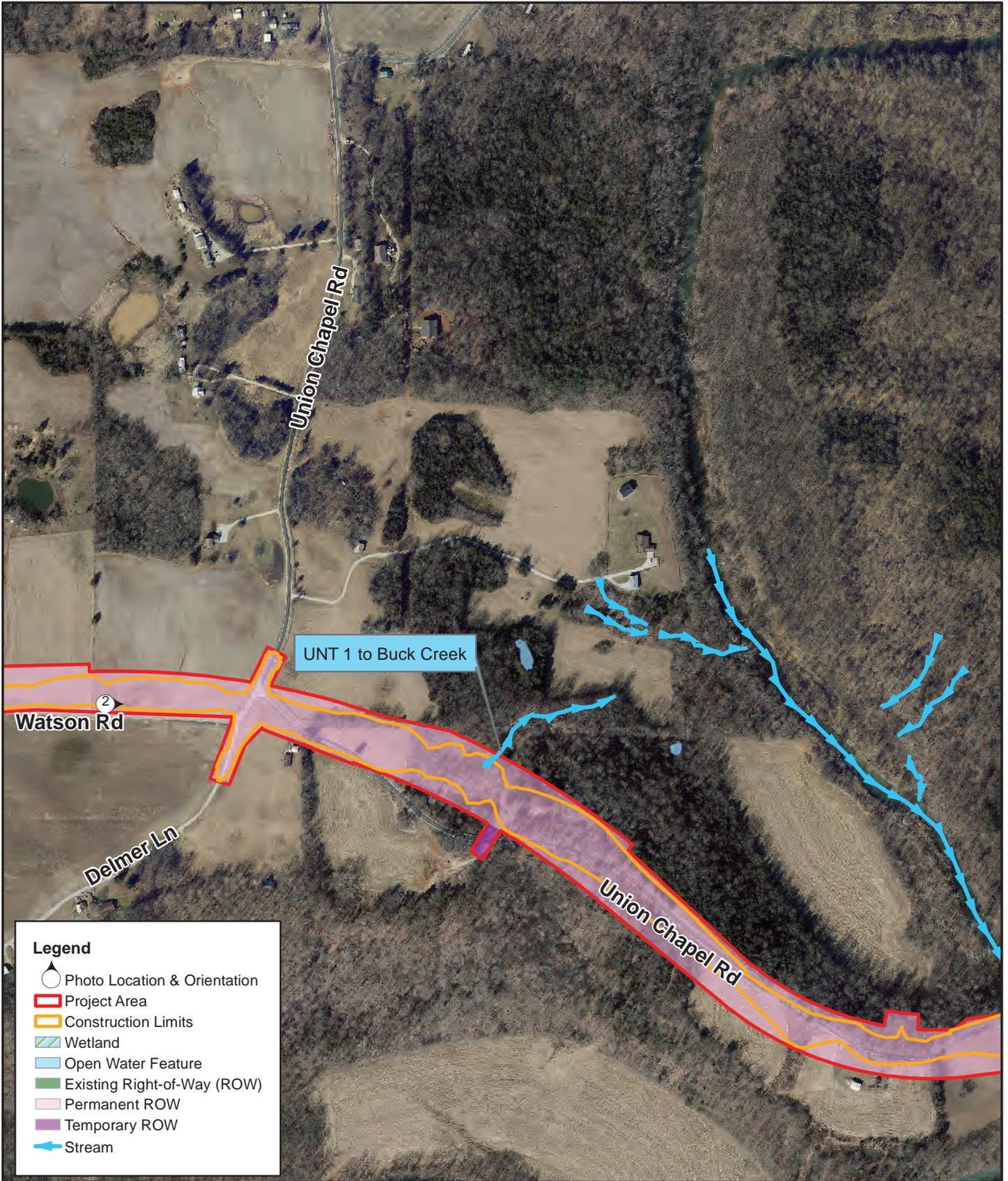
**Photo Location Map (3 of 7)**  
 Des. No. 2001154

0 250 500  
 Feet



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/17/2023, H. Hume



X:\Production\FGDB\20201120-0046\Projects\PRJ-01\WorkingSurface\PhotoLocationMap\_4.mxd

**Legend**

- Photo Location & Orientation
- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Photo Location Map (4 of 7)**  
 Des. No. 2001154

0 250 500  
 Feet

County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/17/2023, H. Hume



**Legend**

- Photo Location & Orientation
- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

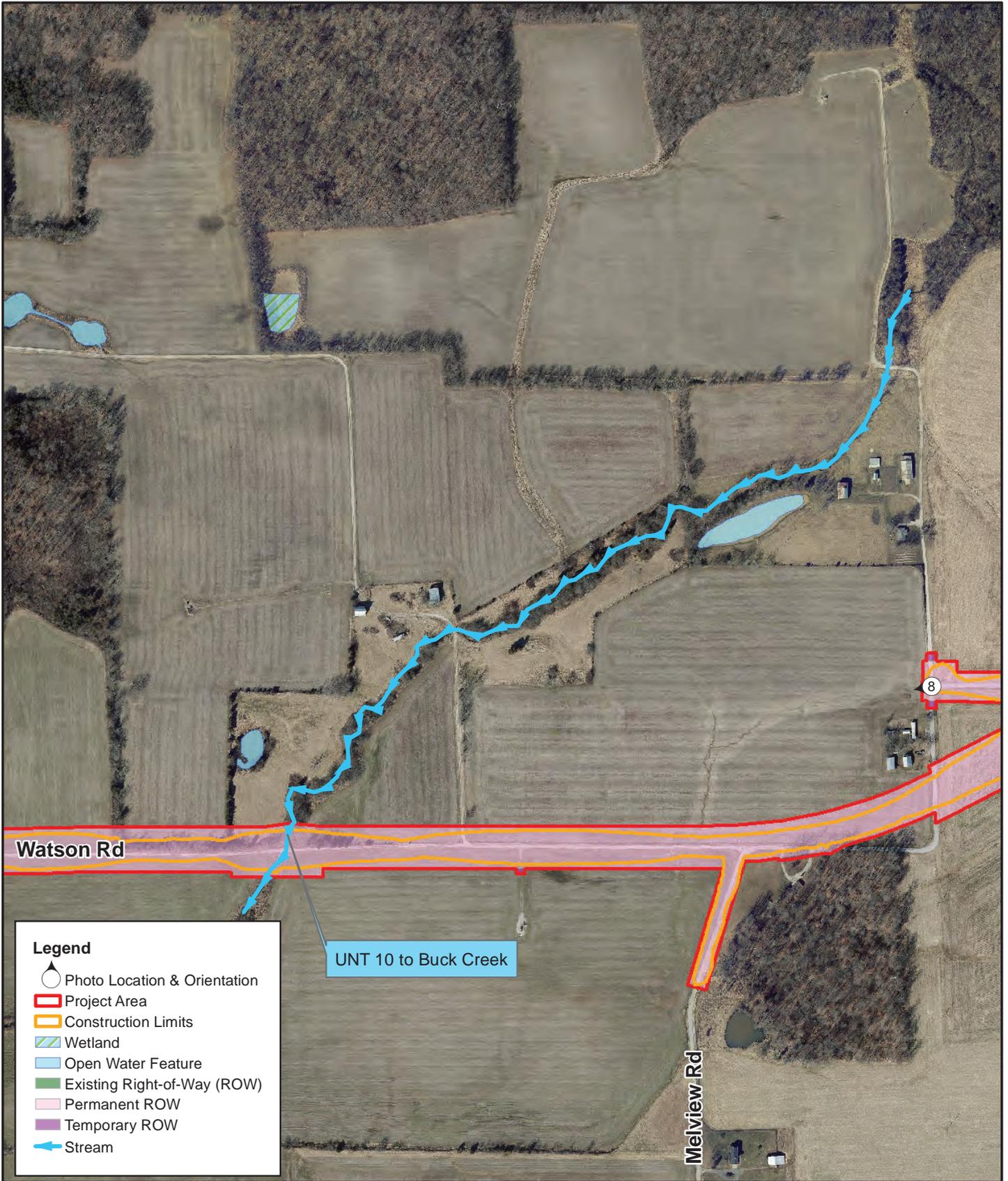
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**Photo Location Map (5 of 7)**  
Des. No. 2001154

0 250 500 Feet

County: Harrison  
Townships: Boone & Heth

SR 11  
Roadway Project  
Created: 4/17/2023, H. Hume

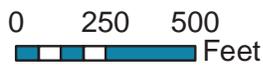


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6200 Vogel Road  
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 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Photo Location Map (6 of 7)**  
 Des. No. 2001154



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/17/2023, H. Hume



**Legend**

- Photo Location & Orientation
- Project Area
- Construction Limits
- Wetland
- Open Water Feature
- Existing Right-of-Way (ROW)
- Permanent ROW
- Temporary ROW
- Stream

6200 Vogel Road  
 Evansville, IN 47715  
 Phone: (812) 479-6200  
 Fax: (812) 479-6262

**Photo Location Map (7 of 7)**  
 Des. No. 2001154



County: Harrison  
 Townships: Boone & Heth

SR 11  
 Roadway Project  
 Created: 4/17/2023, H. Hume

X:\Production\FGDB\2020120-0046\Projects\PRJ-01\Working\Surface\PhotoLocationMap\_7.mxd



1. View of survey area along Watson Rd facing southeast



2. View of project area north of Watson Rd facing east



3. View of Survey Area facing southeast



4. View of the bank of UNT 4 facing north



5. View of Buck Creek facing upstream and north



6. Looking east (upstream) at Buck Creek north of Union Chapel Road



7. View of Survey Area facing east – dominant vegetation



8. View of field in the survey area from Melview Rd facing west



9. View of Melview Rd facing east



10. View of Melview Rd facing west



11. View of west side of project area on Watson Rd facing east



12. View of project area along north side of Watson Road facing east



13. View north of Watson Road facing southwest



14. View of SR 11 facing west

PROJECT	DESIGNATION
2001154	2001154
CONTRACT	BRIDGE FILE
R-42857	N/A

KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
2201171	SR 11 OVER BUCK CREEK NEW BRIDGE CONSTRUCTION

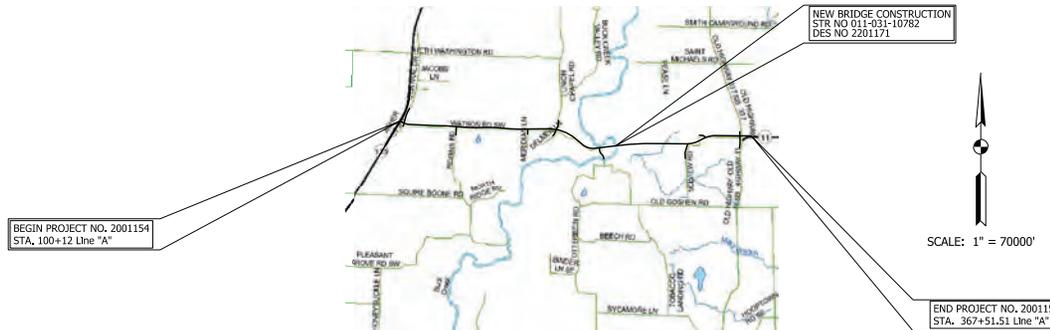
# INDIANA DEPARTMENT OF TRANSPORTATION



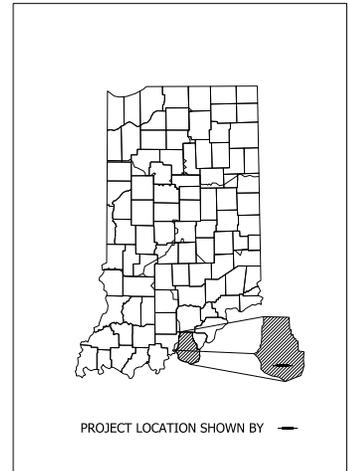
## ROAD PLANS

ROUTE: SR 11 FROM: RP 5+0.57 TO: RP 10+0.64  
 PROJECT NO. 2001154 P.E.  
 2001154 R/W  
 2001154 CONST.

New Road Construction on SR 11 from SR 135/Watson Road to SR 11/SR 337/Melview Road, located in Southern Harrison County, Indiana  
 Section 7, 8, 9, 11, 12, 13, 14, 16, 18 , T-5-S, R-3-E, R-4-E, Heth and Boone Township, Harrison County, Indiana



TRAFFIC DATA		SR 11
A.A.D.T. (2021)		1,240 V.P.D.
A.A.D.T. (2046)		1,325 V.P.D.
D.H.V. (2046)		133 V.P.H.
DIRECTIONAL DISTRIBUTION		60 / 40 %
TRUCKS		5% A.A.D.T. 4% D.H.V.
DESIGN DATA		
DESIGN SPEED		55 M.P.H.
PROJECT DESIGN CRITERIA		NEW CONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION		STATE COLLECTOR
RURAL/URBAN		RURAL
TERRAIN		ROLLING
ACCESS CONTROL		PARTIAL



LATITUDE: 38°01'45"N LONGITUDE: 86°07'47"W

GROSS LENGTH:	5.06	MI.
NET LENGTH:	4.83	MI.
MAX. GRADE:	4.59%	%

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

DATE: 4/13/2023

FILE NAMES: Models\MODEL\NAMES

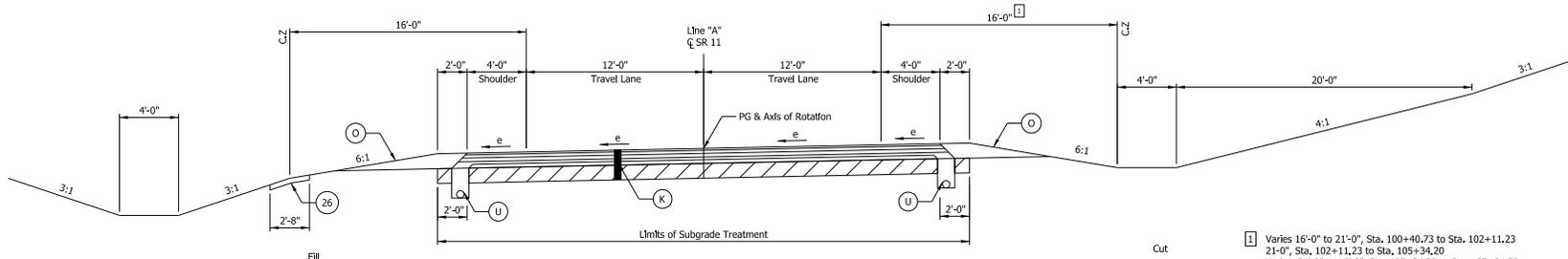
**PRELIMINARY**

**NOT FOR CONSTRUCTION**

PLANS PREPARED BY:	Crawford, Murphy, and Tilly, Inc.	(317) 298-4500
		PHONE NUMBER
CERTIFIED BY:		4/13/2023
		DATE
RECOMMENDED FOR LETTING:		
	INDIANA DEPARTMENT OF TRANSPORTATION	DATE

BRIDGE FILE	
	N/A
DESIGNATION	
	2001154
SHEETS	
Electronic	1 of 71
PROJECT	
	2001154

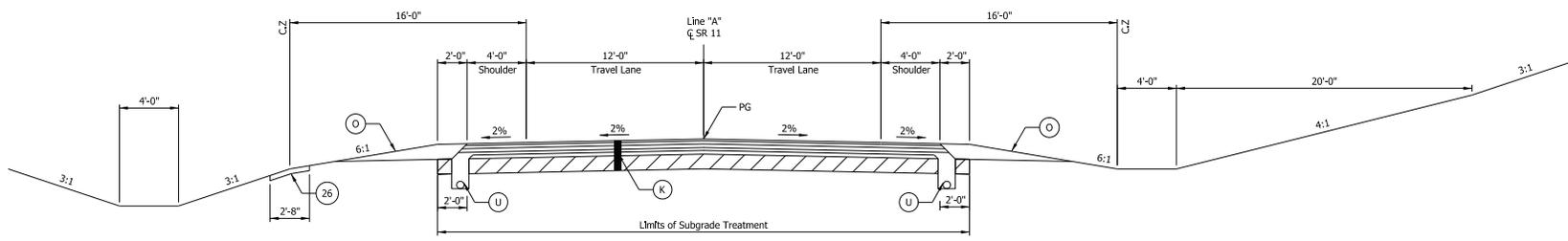




**TYPICAL SUPERELEVATED SECTION**

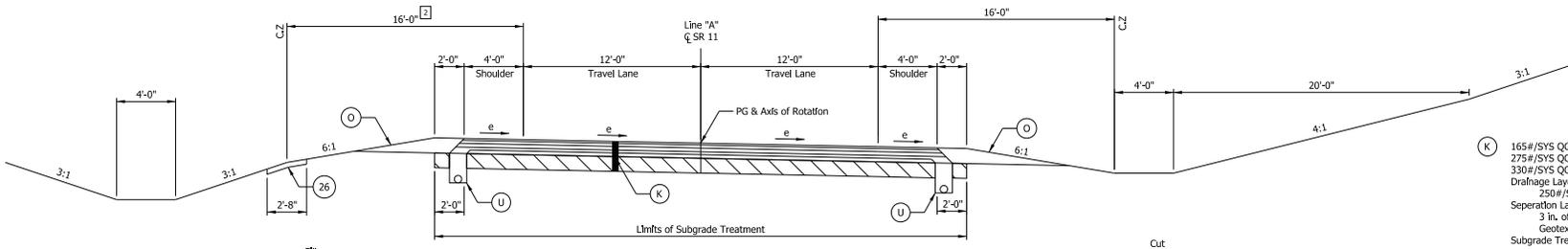
Sta. 100+12.00 to Sta. 108+93.25 (SE = 0.0807/FT R = 1,000')  
 Sta. 237+93.00 to Sta. 251+44.95 (SE = 0.0777/FT R = 1,200')  
 Sta. 316+54.00 to Sta. 329+72.00 (SE = 0.0599/FT R = 2,000')

1 Varies 16'-0" to 21'-0", Sta. 100+40.73 to Sta. 102+11.23  
 21'-0", Sta. 102+11.23 to Sta. 105+34.20  
 Varies, 21'-0" to 16'-0", Sta. 105+34.20 to Sta. 107+04.70  
 Varies 16'-0" to 20'-0", Sta. 238+08.34 to Sta. 239+78.84  
 20'-0", Sta. 239+78.84 to Sta. 247+88.80  
 Varies 20'-0" to 16'-0", Sta. 247+88.80 to Sta. 249+59.30  
 Varies 16'-0" to 19'-0", Sta. 316+39.54 to Sta. 318+10.04  
 19'-0", Sta. 318+10.04 to Sta. 325+88.29  
 Varies 19'-0" to 16'-0", Sta. 325+88.29 to Sta. 327+58.79



**TYPICAL TANGENT SECTION**

Sta. 108+93.25 to Sta. 209+59.00  
 Sta. 234+26.38 to Sta. 237+93.00  
 Sta. 251+44.95 to Sta. 256+80.50  
 Sta. 268+97.50 to Sta. 316+54.00  
 Sta. 342+94.54 to Sta. 367+51.51



**TYPICAL SUPERELEVATED SECTION**

Sta. 209+59.00 to Sta. 234+26.38 (SE = 0.042/FT R = 3,100')  
 Sta. 329+72.00 to Sta. 342+94.54 (SE = 0.0599/FT R = 2,000')

2 Varies 16'-0" to 19'-0", Sta. 331+86.17 to Sta. 333+56.67  
 19'-0", Sta. 333+56.67 to Sta. 341+38.89  
 Varies 19'-0" to 16'-0", Sta. 341+38.89 to Sta. 343+09.39

- (K) 165#/SYS QC/QA HMA, 3, 64, Surface, 9.5mm on 275#/SYS QC/QA HMA, 2, 64, Intermediate, 19mm on 230#/SYS QC/QA HMA, 2, 64, Base, 19.0mm on Drainage Layer Consisting of 250#/SYS QC/QA HMA, 4, 76, Intermediate, OG 19.0mm on Separation Layer Consisting of 3 in. of Compacted Aggregate, No. 53 on Geotextile for Pavement, Type 2A on Subgrade Treatment, Type IBC
- (O) Variable Depth Compacted Aggregate, No. 53
- (U) 6" Underdrain
- (26) Sodding

BRIDGE DATES: STIMES

PRELIMINARY

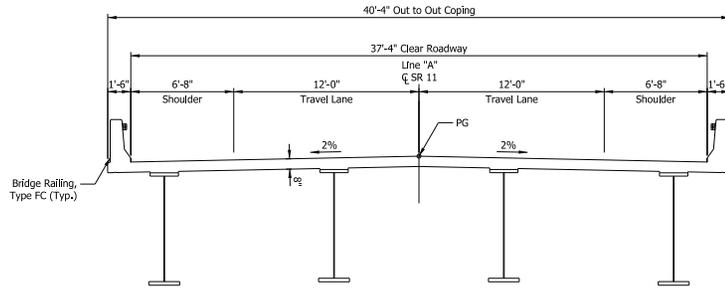
NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	4/13/2023
		DATE
DESIGNED BY: NLP	4/13/2023	DRAWN BY: NLP
		4/13/2023
CHECKED BY: DJR	4/13/2023	CHECKED BY: DJR
		4/13/2023

INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL SECTIONS LINE "A"

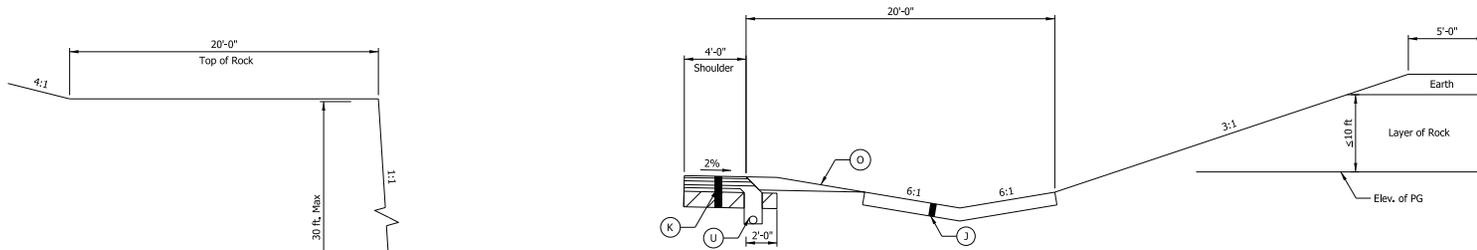
HORIZONTAL SCALE	BRIDGE FILE
1/4" = 1'-0"	N/A
	DESIGNATION
	2001154
SURVEY	SHEETS
3 SURVEYS	3 of 71
CONTRACT	PROJECT
R-42857	2001154

FILE STILES  
 MODELS\MODEL\NAMES



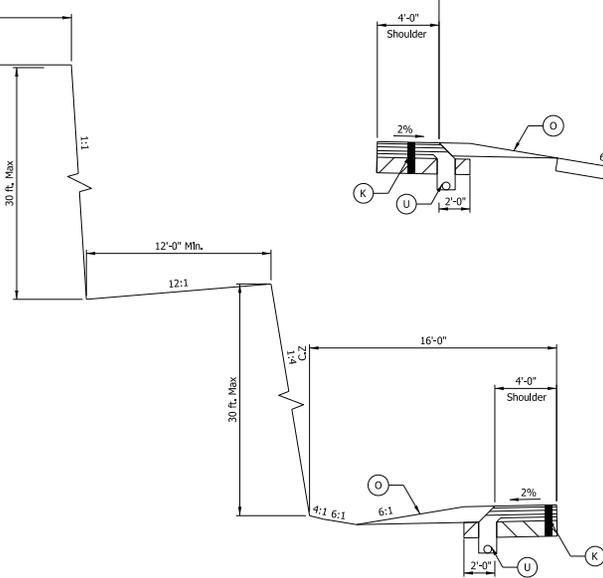
TYPICAL BRIDGE SECTION (PAVING EXCEPTION)

Sta. 256+80.50 to Sta. 268+97.50



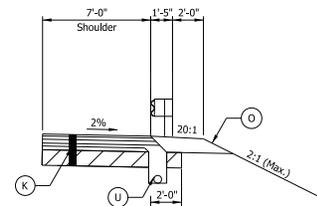
AUXILIARY ROCK CUT SECTION

(Depth < 10')  
Sta. 275+90.00 to Sta. 276+80



AUXILIARY ROCK CUT SECTION

(Depth > 10')  
Sta. 269+00.00 to Sta. 275+90.00



AUXILIARY GUARDRAIL SECTION

Sta. 239+20.92 to Sta. 256+86.54 LT  
Sta. 251+08.42 to Sta. 256+86.54 RT  
Sta. 268+91.46 to Sta. 271+02.33 LT  
Sta. 268+91.46 to Sta. 269+85.08 RT

- Ⓜ 440#/SYS HMA for Approaches Type B on  
165#/SYS HMA Surface Type B on  
275#/SYS HMA Intermediate Type B  
6" Compacted Aggregate, No. 53
- Ⓚ 165#/SYS QC/QA HMA, 3, 64, Surface, 9.5mm on  
275#/SYS QC/QA HMA, 2, 64, Intermediate, 19mm on  
330#/SYS QC/QA HMA, 2, 64, Base, 19.0mm on  
Drainage Layer Consisting of  
250#/SYS QC/QA HMA, 4, 76, Intermediate, OG 19.0mm on  
Separation Layer Consisting of  
3 in. of Compacted Aggregate, No. 53 on  
Geotextile for Pavement, Type 2A on  
Subgrade Treatment, Type 18C
- Ⓞ Variable Depth Compacted Aggregate, No. 53
- Ⓤ 6" Underdrain
- Ⓜ Sodding

DATE: 4/13/2023

**PRELIMINARY**

**NOT FOR CONSTRUCTION**

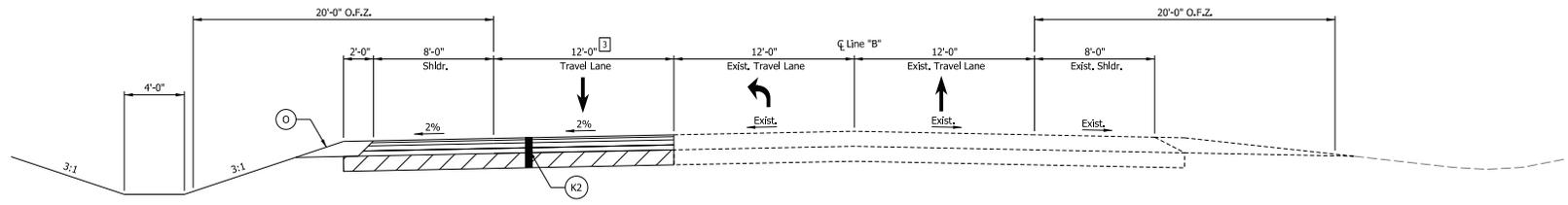
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS  
LINE "A"

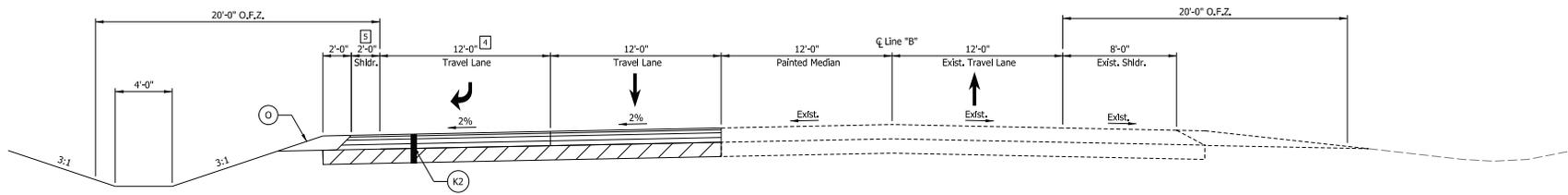
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1/4" = 1'-0"	N/A
	DESIGNATION
	2001154
SURVEY	SHEETS
4	of 71
CONTRACT	PROJECT
R-42857	2001154

- Ⓚ2 165#/SYS QC/QA HMA, 3, 64, Surface, 9.5mm on 275#/SYS QC/QA HMA, 2, 64, Intermediate, 19mm on 440#/SYS QC/QA HMA, 2, 64, Base, 19.0mm on 440#/SYS QC/QA HMA, 2, 64, Base, 19.0mm on Subgrade Treatment, Type IBC
- Ⓚ 0 Variable Depth Compacted Aggregate, No. 53



**TYPICAL SECTION - SB LEFT TURN LANE**  
 Sta. 113+35.34 to Sta. 126+82.42 "B"  
 Sta. 133+04.48 to Sta. 142+63.65 "B"

Ⓚ3 Varies 8'-0" to 12'-0", Sta. 113+35.34 to Sta. 119+95.46  
 Varies 12'-0" to 0'-0", Sta. 136+03.65 to Sta. 142+63.65



**TYPICAL SECTION - NB RIGHT TURN LANE**  
 Sta. 126+82.42 to Sta. 133+04.48 "B"

- Ⓚ4 Varies 12'-0" to 0'-0", Sta. 133+03.65 to Sta. 134+03.65
- Ⓚ5 Varies 2'-0" to 8'-0", Sta. 133+03.65 to Sta. 134+03.65

DATE: STAGES

**PRELIMINARY**

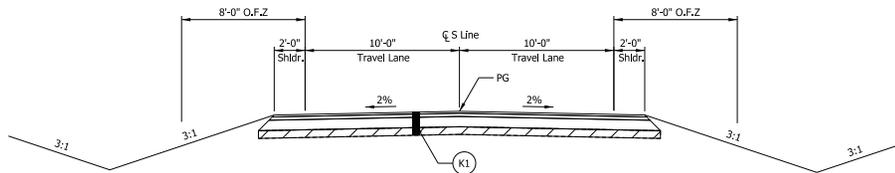
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA DEPARTMENT OF TRANSPORTATION	
TYPICAL SECTIONS LINE "B"	

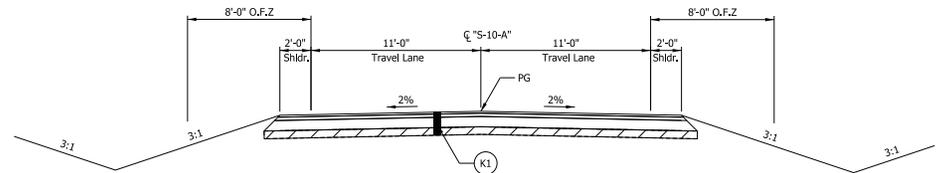
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1/4" = 1'-0"	N/A
	DESIGNATION
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SURVEY	SHEETS
5	of 71
CONTRACT	PROJECT
R-42857	2001154

FILE PATHS  
 MODEL\$MODEL\$NAME\$



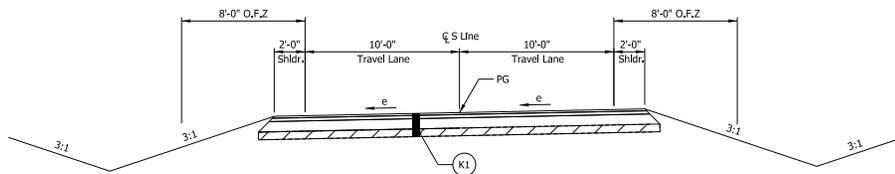
TYPICAL TANGENT SECTION

Sta. 0+00.00 to Sta. 1+34.00 "S-1-A"  
 Sta. 8+42.14 to Sta. 12+06.49 "S-1-A"  
 Sta. 12+38.56 to Sta. 14+15.00 "S-2-A"  
 Sta. 0+16.00 to Sta. 2+85.00 "S-3-A"  
 Sta. 0+12.00 to Sta. 3+95.00 "S-4-A"  
 Sta. 5+35.00 to Sta. 7+29.83 "S-5-A"  
 Sta. 7+57.50 to Sta. 10+20.00 "S-6-A"  
 Sta. 0+19.00 to Sta. 1+17.00 "S-7-A"  
 Sta. 0+12.77 to Sta. 5+50.00 "S-8-A"  
 Sta. 0+16.00 to Sta. 5+59.11 "S-9-A"



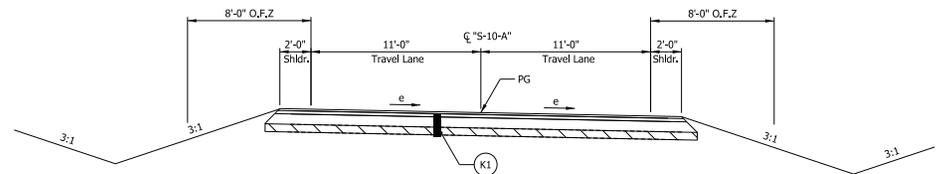
TYPICAL TANGENT SECTION

Sta. 0+50.05 to Sta. 3+30.17 "S-10-A"  
 Sta. 3+58.19 to Sta. 6+57.00 "S-10-A"  
 Sta. 11+25.54 to Sta. 11+64.94 "S-10-A"



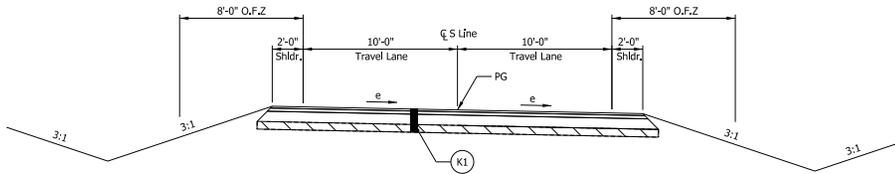
TYPICAL SUPERELEVATED SECTION

Sta. 1+17.00 to Sta. 5+56.73 "S-7-A" (SE = 0.070/FT R = 360')



TYPICAL SUPERELEVATED SECTION

Sta. 6+57.00 to Sta. 11+25.54 "S-10-A" (SE = 0.037/FT R = 2,000')



TYPICAL SUPERELEVATED SECTION

Sta. 1+34.00 to Sta. 8+42.4 "S-1-A" (SE = 0.037/FT R = 2,000')  
 Sta. 5+56.73 to Sta. 7+50.00 "S-7-A" (SE = 0.040/FT R = 350')

(K1) HMA on Aggregate Pavement  
 (Final Composition to be determined during future design phases)

PRELIMINARY

NOT FOR CONSTRUCTION

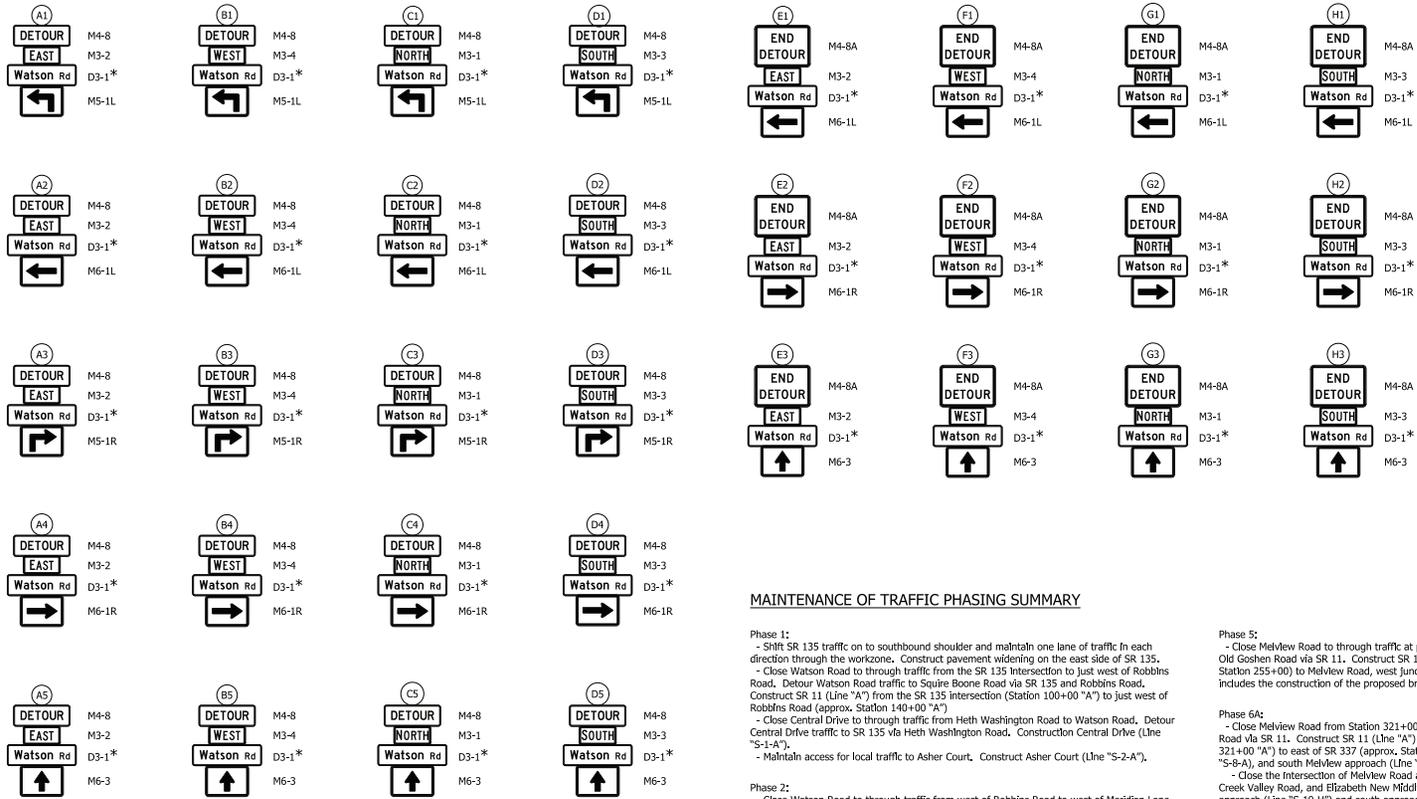
RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	4/13/2023	DATE:
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS S-LINES

HORIZONTAL SCALE	BRIDGE FILE
1/4" = 1'-0"	N/A
	DESIGNATION
	2001154
SURVEY	SHEETS
\$SURVEYS	6 of 71
CONTRACT	PROJECT
R-42857	2001154

DETOUR ROUTE MARKER ASSEMBLIES



\* D3-1 Sign to identify the Route being detoured.  
Watson Rd shown as example only.

MAINTENANCE OF TRAFFIC PHASING SUMMARY

- Phase 1:  
 - Shift SR 135 traffic on to southbound shoulder and maintain one lane of traffic in each direction through the workzone. Construct pavement widening on the east side of SR 135.  
 - Close Watson Road to through traffic from the SR 135 Intersection to just west of Robbins Road. Detour Watson Road traffic to Squire Boone Road via SR 135 and Robbins Road.  
 - Construct SR 11 (Line "A") from the SR 135 Intersection (Station 100+00 "A") to just west of Robbins Road (approx. Station 140+00 "A")  
 - Close Central Drive to through traffic from Heth Washington Road to Watson Road. Detour Central Drive traffic to SR 135 via Heth Washington Road. Construct Central Drive (Line "S-1-A").  
 - Maintain access for local traffic to Asher Court. Construct Asher Court (Line "S-2-A").
- Phase 2:  
 - Close Watson Road to through traffic from west of Robbins Road to west of Meridian Lane. Detour Watson Road traffic to Heth Washington Road via SR 135 and Union Chapel Road.  
 - Construct SR 11 (Line "A") from west of Meridian Lane (approx. Station 140+00 "A") to west of Delmer Lane (approx. Station 215+00 "A") and Meridian Lane (Line "S-3-A").
- Phase 3:  
 - Close Watson Road to through traffic from west of Meridian Lane to west of Delmer Lane. Detour Watson Road traffic to Heth Washington Road via SR 135 and Union Chapel Road.  
 - Construct SR 11 (Line "A") from west of Meridian Lane (approx. Station 140+00 "A") to west of Delmer Lane (approx. Station 215+00 "A") and Meridian Lane (Line "S-4-A").
- Phase 4:  
 - Close Union Chapel Road to through traffic from Watson Road to north of Otterbein Road. Detour Watson Road and Union Chapel Road to Harrison Heth and Buck Creek Valley Road via SR 135, SR 337, and SR 11. Construct SR 11 (Line "A") from west of Delmer Lane (approx. Station 215+00 "A") to the proposed south approach for Union Chapel Road (approx. Station 255+00 "A"). Construct proposed intersection of SR 11/Union Chapel Road/Delmer Lane (Line "S-5-A" and "S-6-A"). Construct proposed Intersection of SR 11 and Union Chapel, east junction (Line S-7-A).

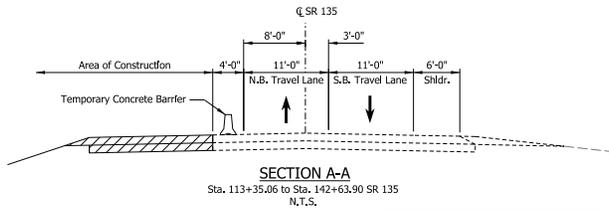
- Phase 5:  
 - Close MelView Road to through traffic at proposed SR 11 west junction. Detour MelView to Old Goshen Road via SR 11. Construct SR 11 from Union Chapel Road, east junction (approx. Station 255+00) to MelView Road, west junction (approx. Station 321+00). This phase includes the construction of the proposed bridge over Buck Creek.
- Phase 6A:  
 - Close MelView Road from Station 321+00 to east of SR 337. Detour traffic to Old Goshen Road via SR 11. Construct SR 11 (Line "A") from east of MelView Road (approx. Station 321+00 "A") to east of SR 337 (approx. Station 363+00 "A"), MelView cul-de-sac (Line "S-8-A), and south MelView approach (Line "S-9-A").  
 - Close the Intersection of MelView Road and SR 337. Detour traffic to Lake Road, Buck Creek Valley Road, and Elizabeth New Middletown Road via SR 11. Construct Old SR 337 north approach (Line "S-10-H") and south approach (approx. Station 0+00 to 7+50 "S-10-A").  
 - Shift SR 11 traffic to the SB/WB shoulder and maintain one lane of traffic in each direction through the workzone. Construct SR 11 (Line "A") SB/WB lane from east of SR 337 (approx. Station 363+00 "A") to the end of the project (approx. Station 368+00 "A") and the SB lane of Old SR 11 (approx. Station 7+50 to 12+00 "S-10-A").
- Phase 6B:  
 - Shift SR 11 traffic to NB/EB shoulder, direct traffic through the new intersection, and maintain one lane of traffic in each direction through the workzone. Construct SR 11 (Line "A") NB/EB lane from east of SR 337 (approx. Station 363+00 "A") to the end of the project (approx. Station 368+00 "A") and the NB lane of Old SR 11/337 (approx. Station 7+50 to 12+00 "S-10-A").

DATE: 4/13/2023 3:28 PM  
FILE:FILES  
Model:SHFT\_Detour\_Sign

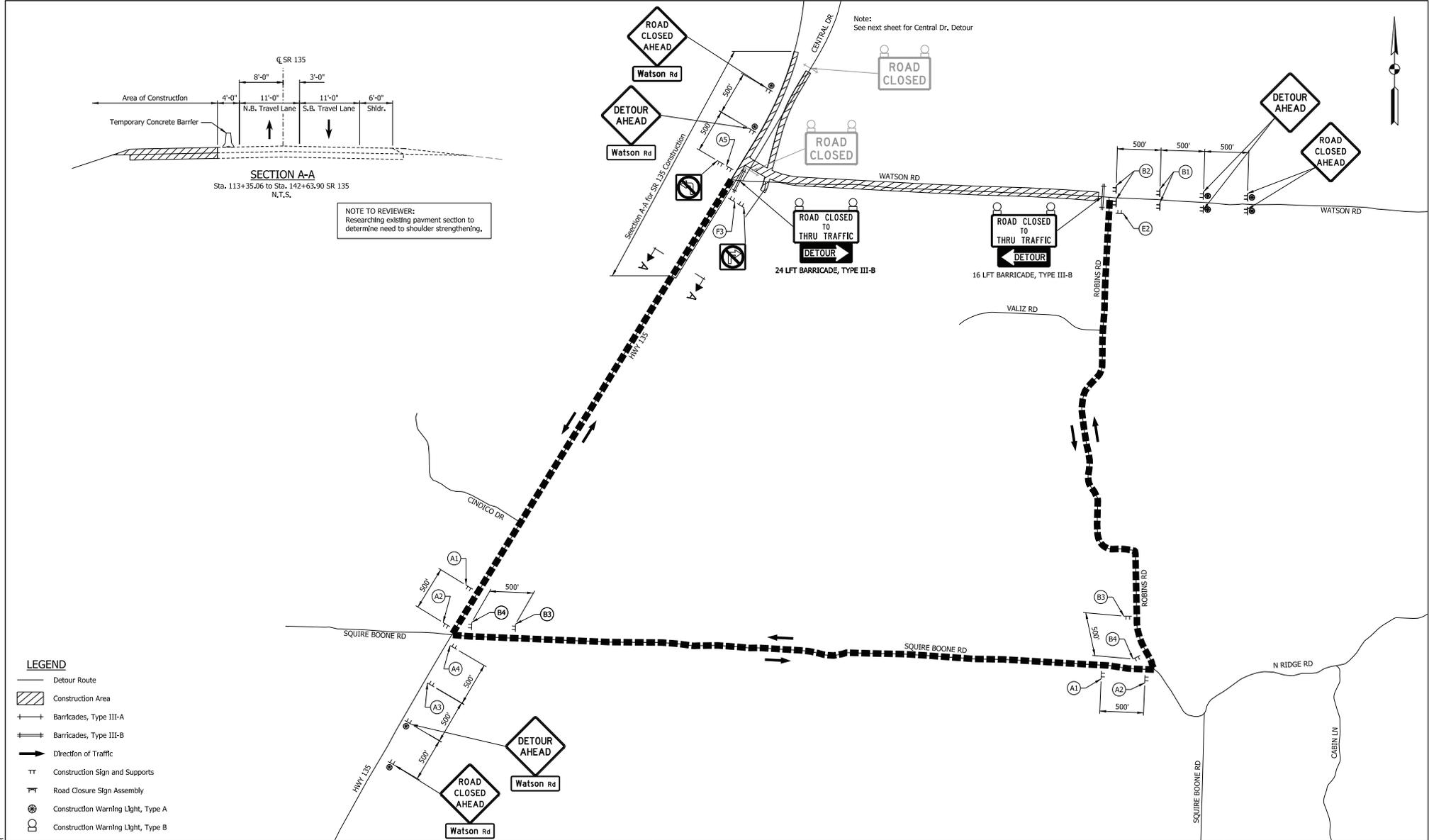


PRELIMINARY

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CHECKED: SAW	CHECKED: DSS		MAINTENANCE OF TRAFFIC DETOUR ROUTE SIGNAGE	VERTICAL SCALE	DESIGNATION
				N/A	2001154
				SURVEY BOOK	SHEETS
					7 of 71
				CONTRACT	PROJECT
				R-42857	2001154



**NOTE TO REVIEWER:**  
Researching existing pavement section to determine need to shoulder strengthening.



- LEGEND**
- Detour Route
  - ▨ Construction Area
  - TT Barricades, Type III-A
  - TT Barricades, Type III-B
  - Direction of Traffic
  - TT Construction Sign and Supports
  - TT Road Closure Sign Assembly
  - ⊙ Construction Warning Light, Type A
  - ⊙ Construction Warning Light, Type B



**PRELIMINARY**

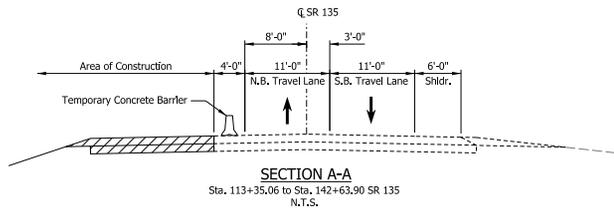
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MAB	DRAWN: MAB	
CHECKED: SAW	CHECKED: DSS	

INDIANA  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
PHASE 1 DETOUR ROUTE  
WATSON RD.

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
	8 of 71
CONTRACT	PROJECT
R-42857	2001154

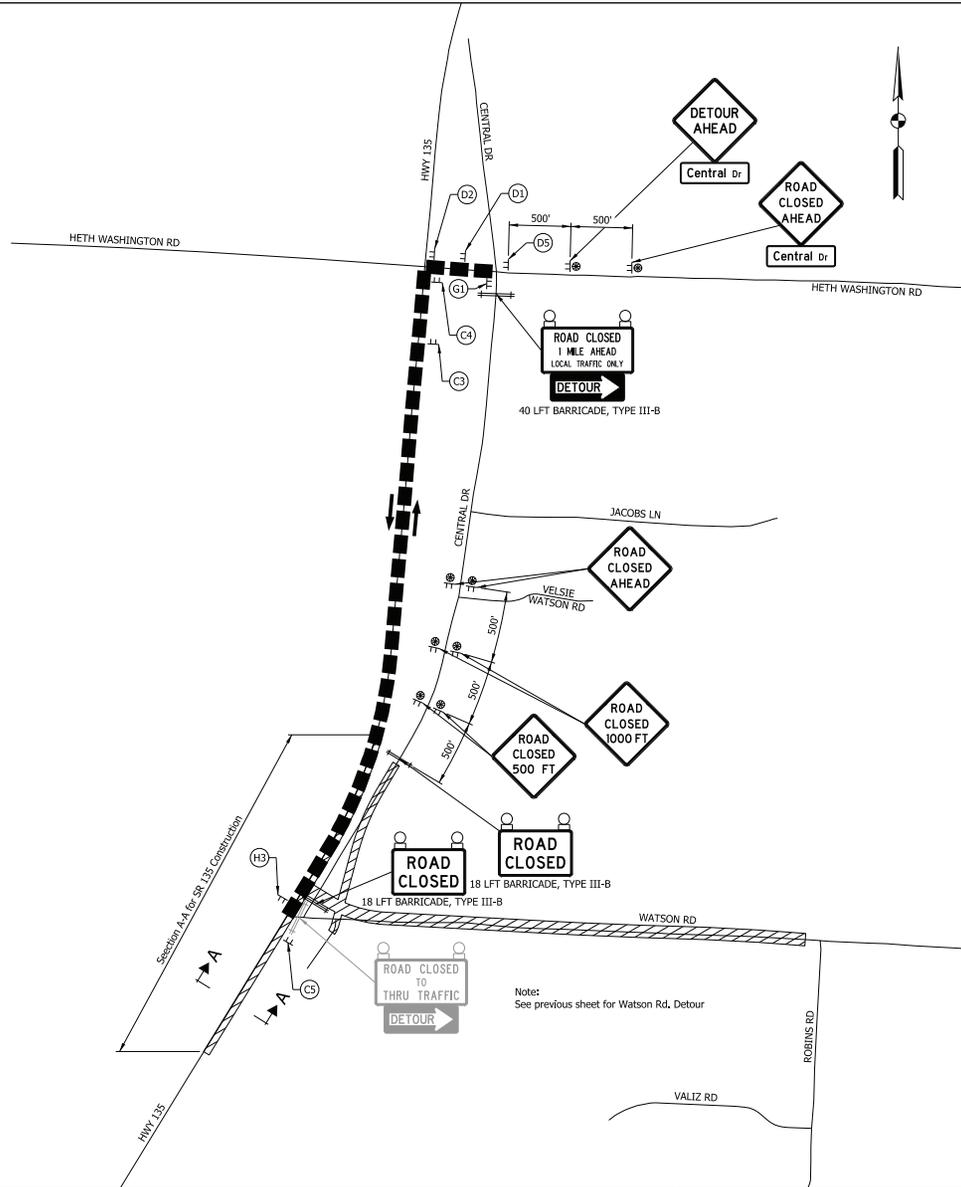
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 F:\SFILES  
 Model: SHT\_D1A



**SECTION A-A**  
Sta. 113+35.06 to Sta. 142+63.90 SR 135  
N.T.S.

NOTE TO REVIEWER:  
Researching existing pavement section to  
determine need to shoulder strengthening.

- LEGEND**
- ▬▬▬ Detour Route
  - ▨▨▨ Construction Area
  - ⊕ Barricades, Type III-A
  - ⊕ Barricades, Type III-B
  - ➔ Direction of Traffic
  - ⊕ Construction Sign and Supports
  - ⊕ Road Closure Sign Assembly
  - ⊕ Construction Warning Light, Type A
  - ⊕ Construction Warning Light, Type B



Note:  
See previous sheet for Watson Rd. Detour



PRELIMINARY

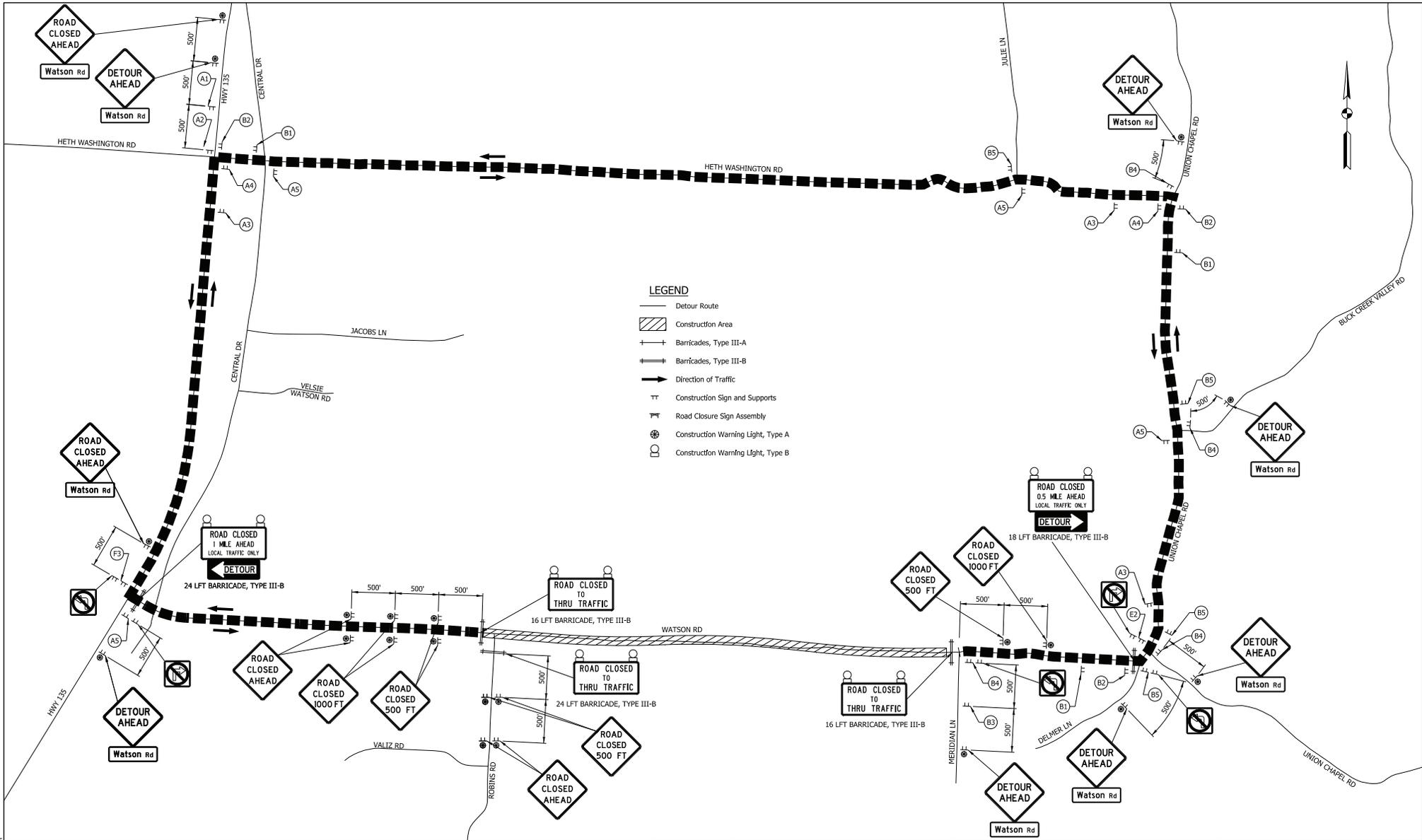
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DESIGNED: MAB	DRAWN: MAB	
CHECKED: SAW	CHECKED: DSS	

INDIANA  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
PHASE 1 DETOUR ROUTE  
CENTRAL DR.

HORIZONTAL SCALE	BRIDGE FILE
1"=500'	
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
	9 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 3:28 PM  
 FILE: SFILES  
 Model: SHT\_Detour\_018



- LEGEND**
- Detour Route
  - ▨ Construction Area
  - ⊕ Barricades, Type III-A
  - ⊕ Barricades, Type III-B
  - Direction of Traffic
  - TT Construction Sign and Supports
  - ⊕ Road Closure Sign Assembly
  - ⊕ Construction Warning Light, Type A
  - ⊕ Construction Warning Light, Type B

**PRELIMINARY**

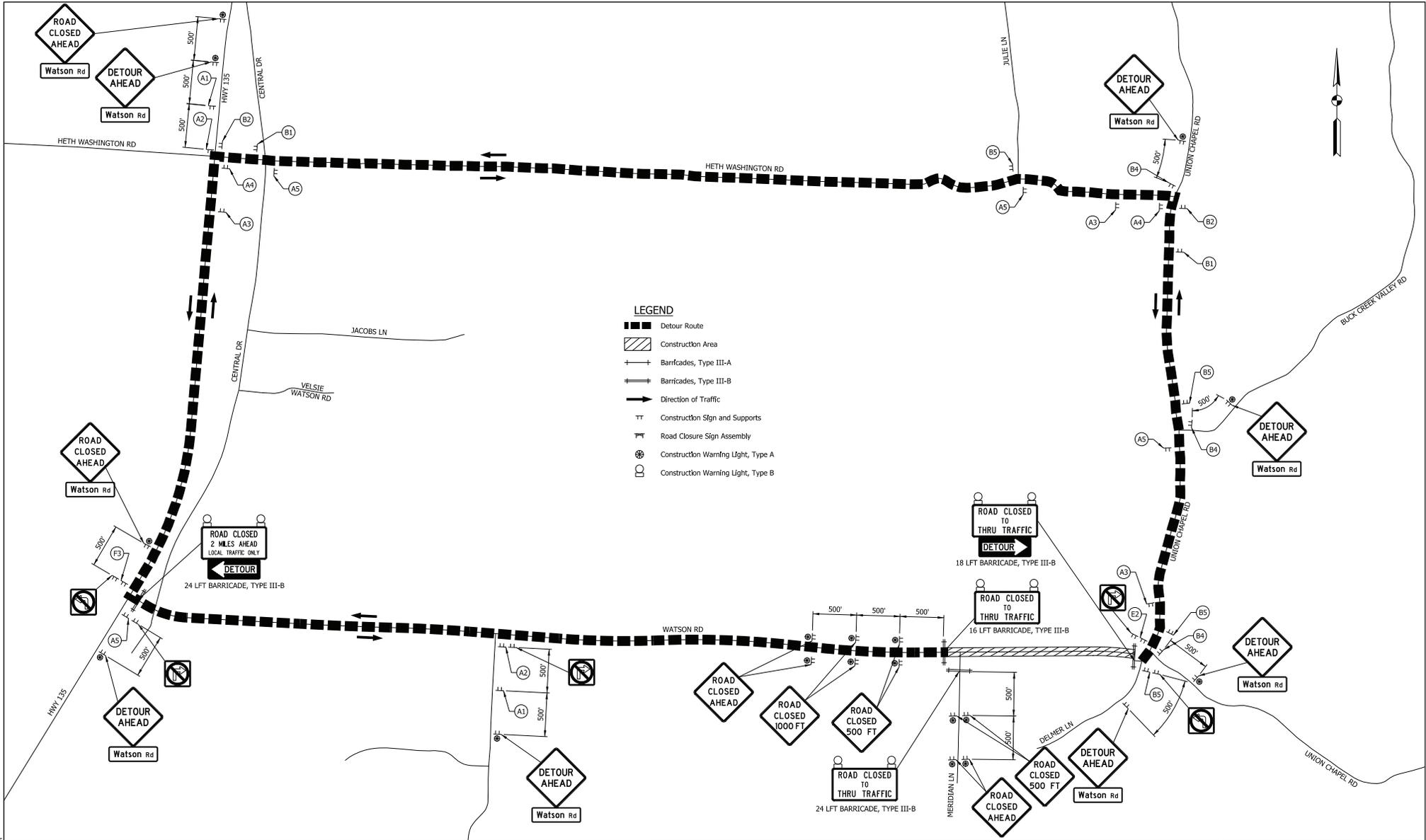
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DESIGNED BY: MAB	DRAWN BY: MAB	
CHECKED BY: SAW	CHECKED BY: DSS	

INDIANA  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
PHASE 2 DETOUR ROUTE  
WATSON RD.

HORIZONTAL SCALE 1"=500'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2001154
SURVEY BOOK	SHEETS
CONTRACT R-42857	10 of 71
PROJECT	2001154

DATE: 4/13/2023 3:30 PM  
FILE: S:\FILES  
Model: SH\_DetourP2



- LEGEND**
- ▬▬▬ Detour Route
  - ▨ Construction Area
  - ⊥ Barricades, Type III-A
  - ⊥ Barricades, Type III-B
  - Direction of Traffic
  - ⊥ Construction Sign and Supports
  - ⊥ Road Closure Sign Assembly
  - ⊙ Construction Warning Light, Type A
  - ⊙ Construction Warning Light, Type B

**PRELIMINARY**



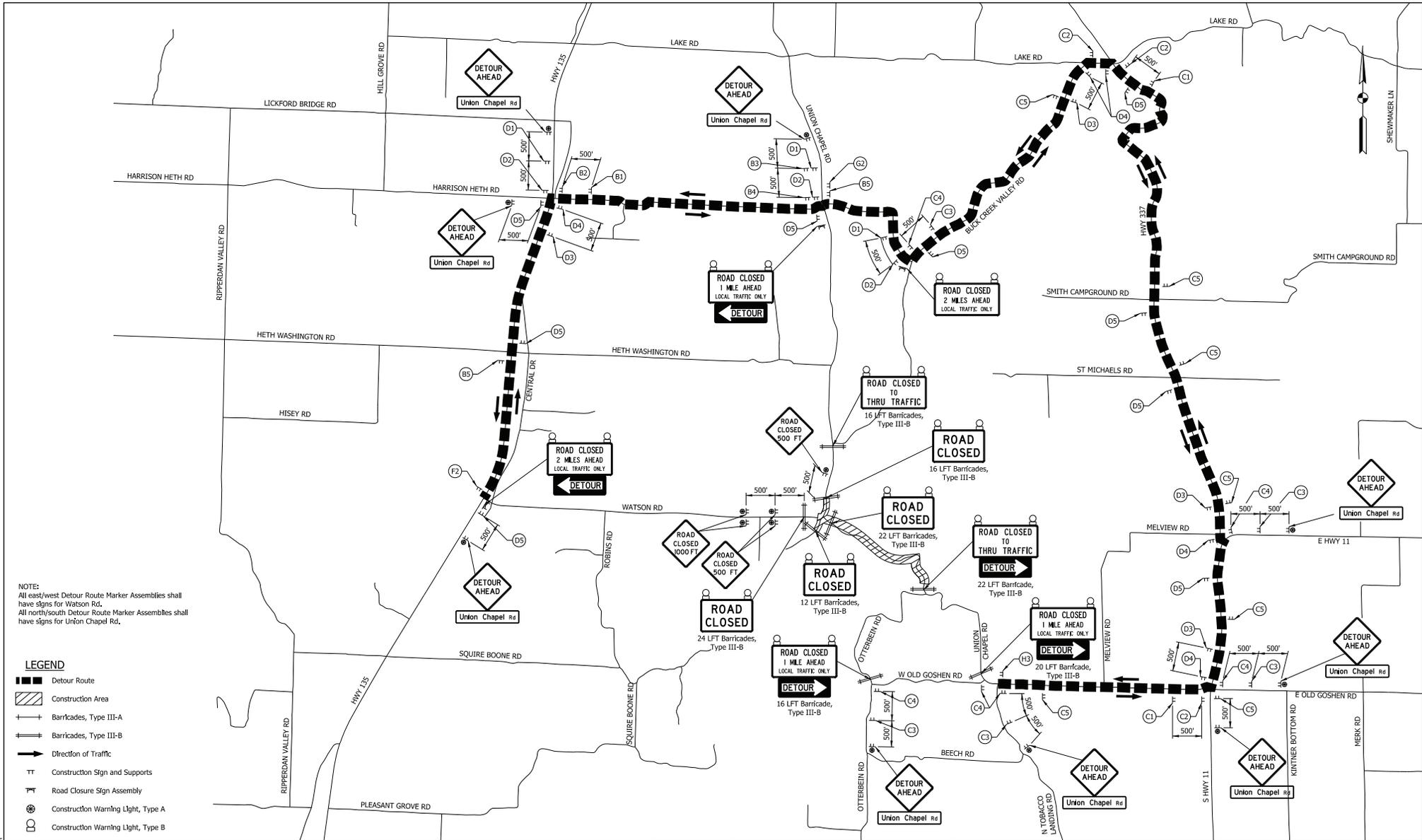
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DESIGNED: MAB	DRAWN: MAB	
CHECKED: SAW	CHECKED: DSS	

INDIANA  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
PHASE 3 DETOUR ROUTE  
WATSON RD.

HORIZONTAL SCALE 1"=500'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2001154
SURVEY BOOK	SHEETS 11 of 71
CONTRACT B-42857	PROJECT 2001154

DATE: 4/13/2023 3:22 PM  
 FILE: SH FILES  
 MODEL: SH\_DRS



NOTE:  
 All east/west Detour Route Marker Assemblies shall have signs for Watson Rd.  
 All north/south Detour Route Marker Assemblies shall have signs for Union Chapel Rd.

- LEGEND**
- Detour Route
  - ▨ Construction Area
  - ⊥ Barricades, Type III-A
  - ⊥ Barricades, Type III-B
  - Direction of Traffic
  - TT Construction Sign and Supports
  - TT Road Closure Sign Assembly
  - ⊙ Construction Warning Light, Type A
  - ⊙ Construction Warning Light, Type B



PRELIMINARY

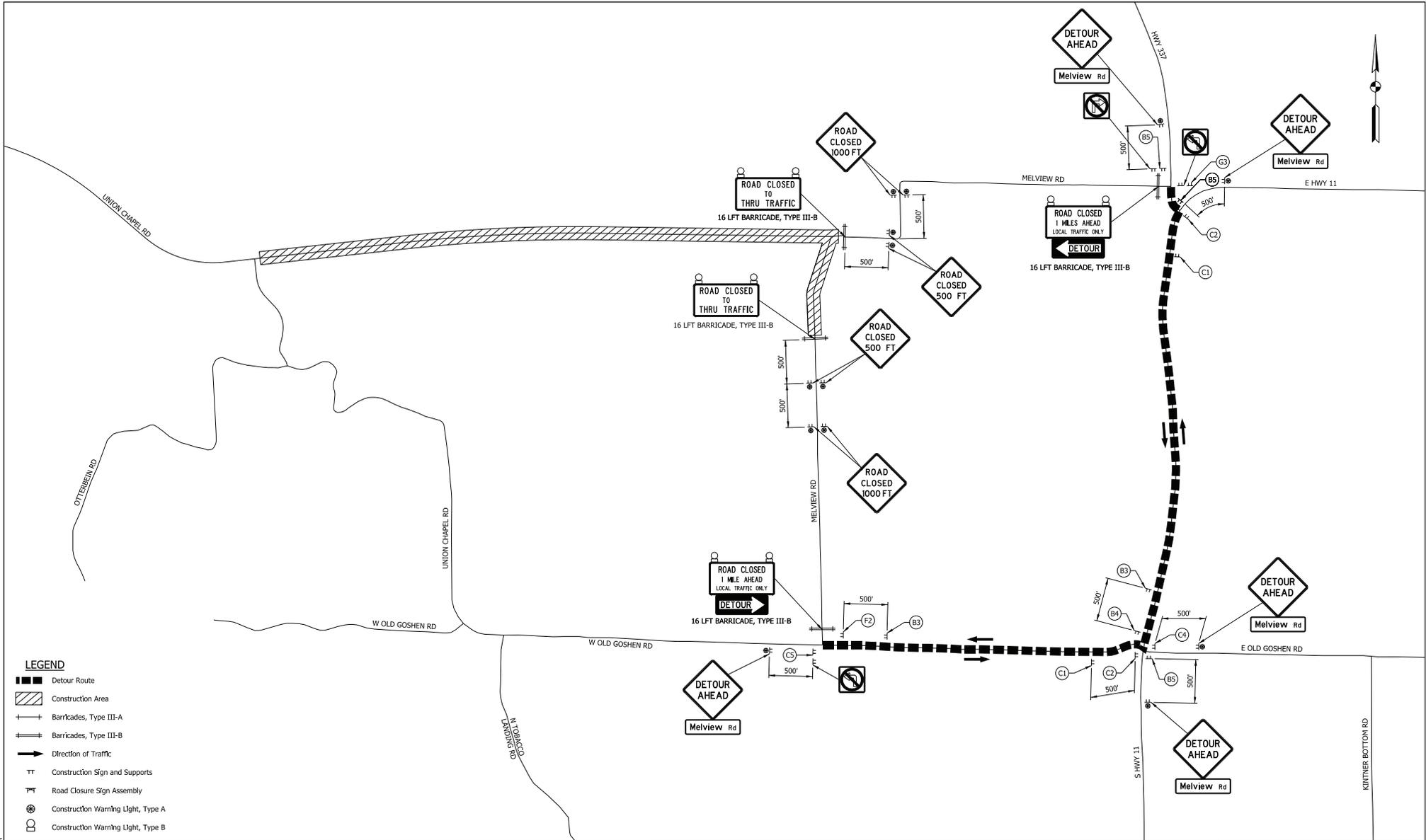
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DESIGNED: MAB	DRAWN: MAB	
CHECKED: SAW	CHECKED: DSS	

INDIANA  
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
 PHASE 4 DETOUR ROUTE  
 WATSON RD, UNION CHAPEL RD.

HORIZONTAL SCALE	BRIDGE FILE
1"=150'	
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
	12 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 3:33 PM  
 FILE: S:\FILES  
 Model: SHT\_Detour4



- LEGEND**
- ▬▬▬ Detour Route
  - ▨▨▨ Construction Area
  - ⊥ Barricades, Type III-A
  - ⊥ Barricades, Type III-B
  - ➔ Direction of Traffic
  - TT Construction Sign and Supports
  - TT Road Closure Sign Assembly
  - ⊙ Construction Warning Light, Type A
  - ⊙ Construction Warning Light, Type B



PRELIMINARY

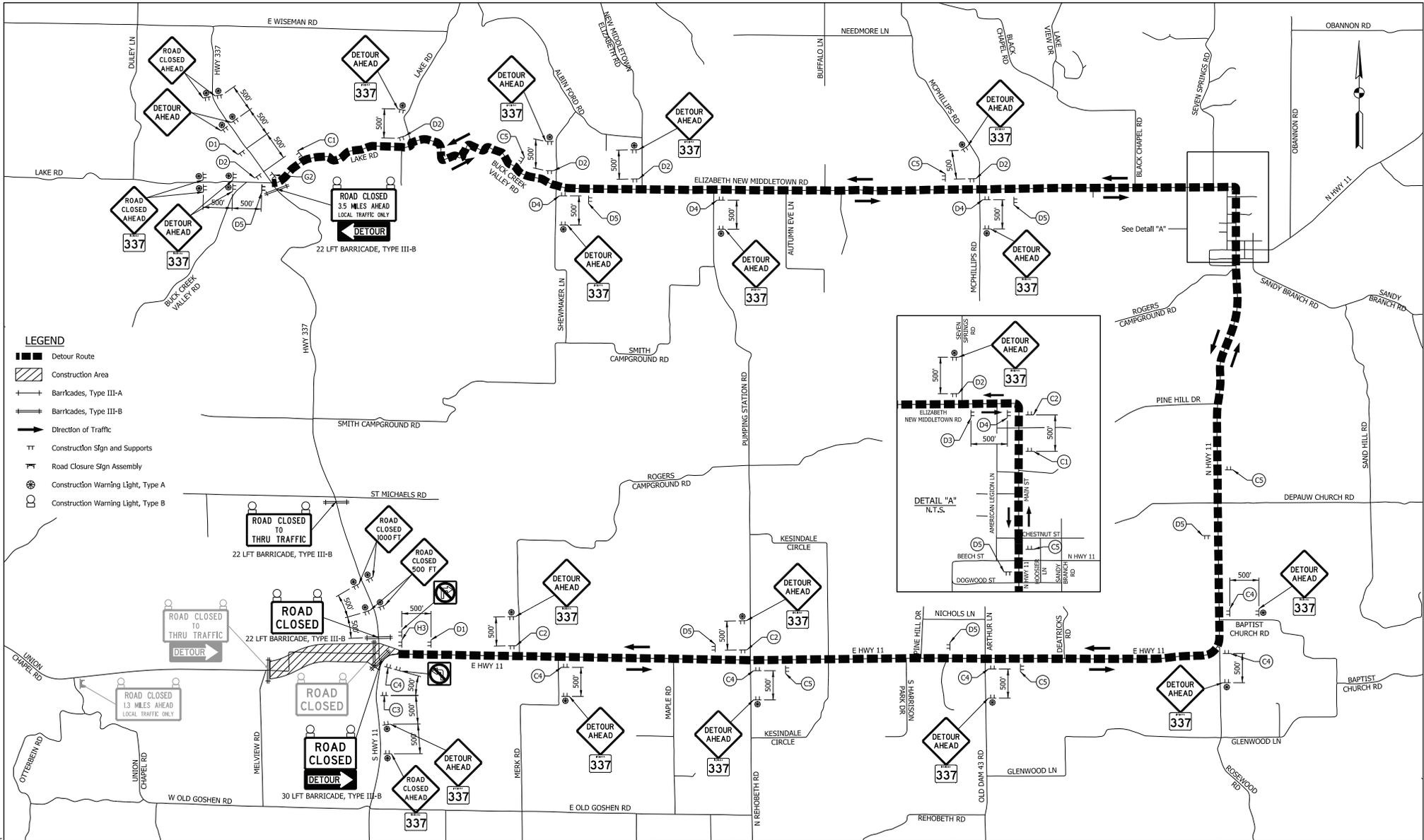
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DESIGNED: MAB	DRAWN: MAB		
CHECKED: SAW	CHECKED: DSS		

INDIANA  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
PHASE 5 DETOUR ROUTE  
MELVIEW RD

HORIZONTAL SCALE 1"=500'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2001154
SURVEY BOOK	SHEETS
CONTRACT R-42857	13 of 71
PROJECT	2001154

PLOT: 4/13/2023 3:35 PM  
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 Model: SHT\_DRS



- LEGEND**
- Detour Route
  - ▨ Construction Area
  - ⊥ Barricades, Type III-A
  - ⊥ Barricades, Type III-B
  - Direction of Traffic
  - ⊥ Construction Sgn and Supports
  - ⊥ Road Closure Sgn Assembly
  - ⊙ Construction Warning Light, Type A
  - ⊙ Construction Warning Light, Type B

PRELIMINARY



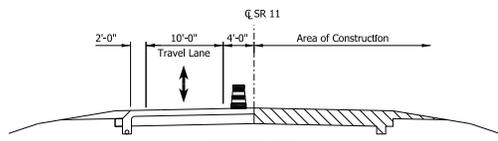
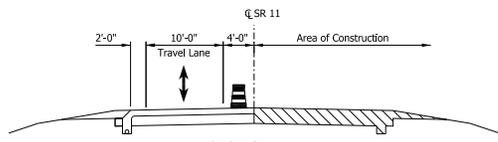
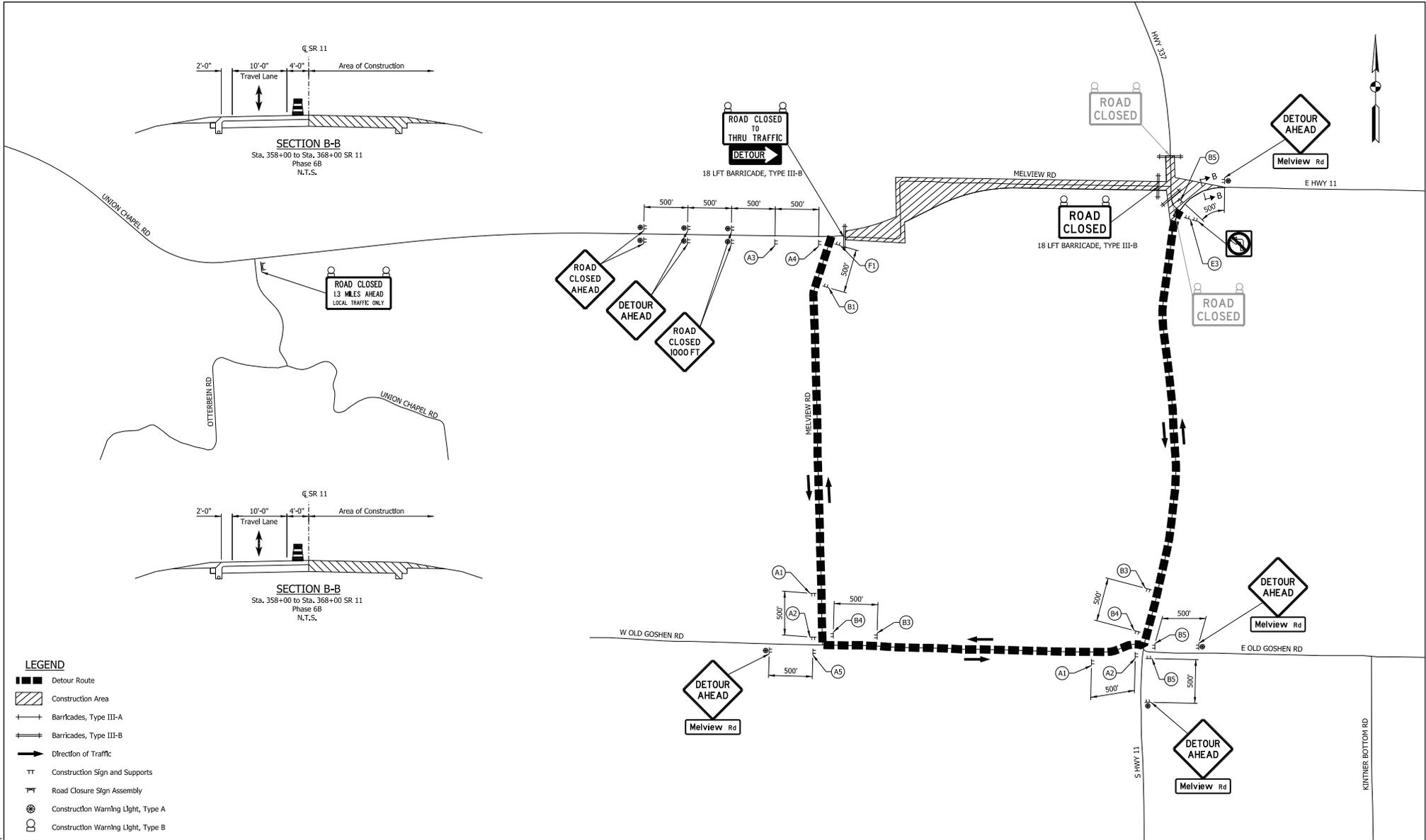
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MAB	DRAWN: MAB	
CHECKED: SAW	CHECKED: DSS	

INDIANA  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC  
PHASE 6 DETOUR ROUTE  
S.R. 337

HORIZONTAL SCALE	BRIDGE FILE
1"=1500'	
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
	14 of 71
CONTRACT	PROJECT
R-42857	2001154

DATE: 4/13/2023 3:36 PM  
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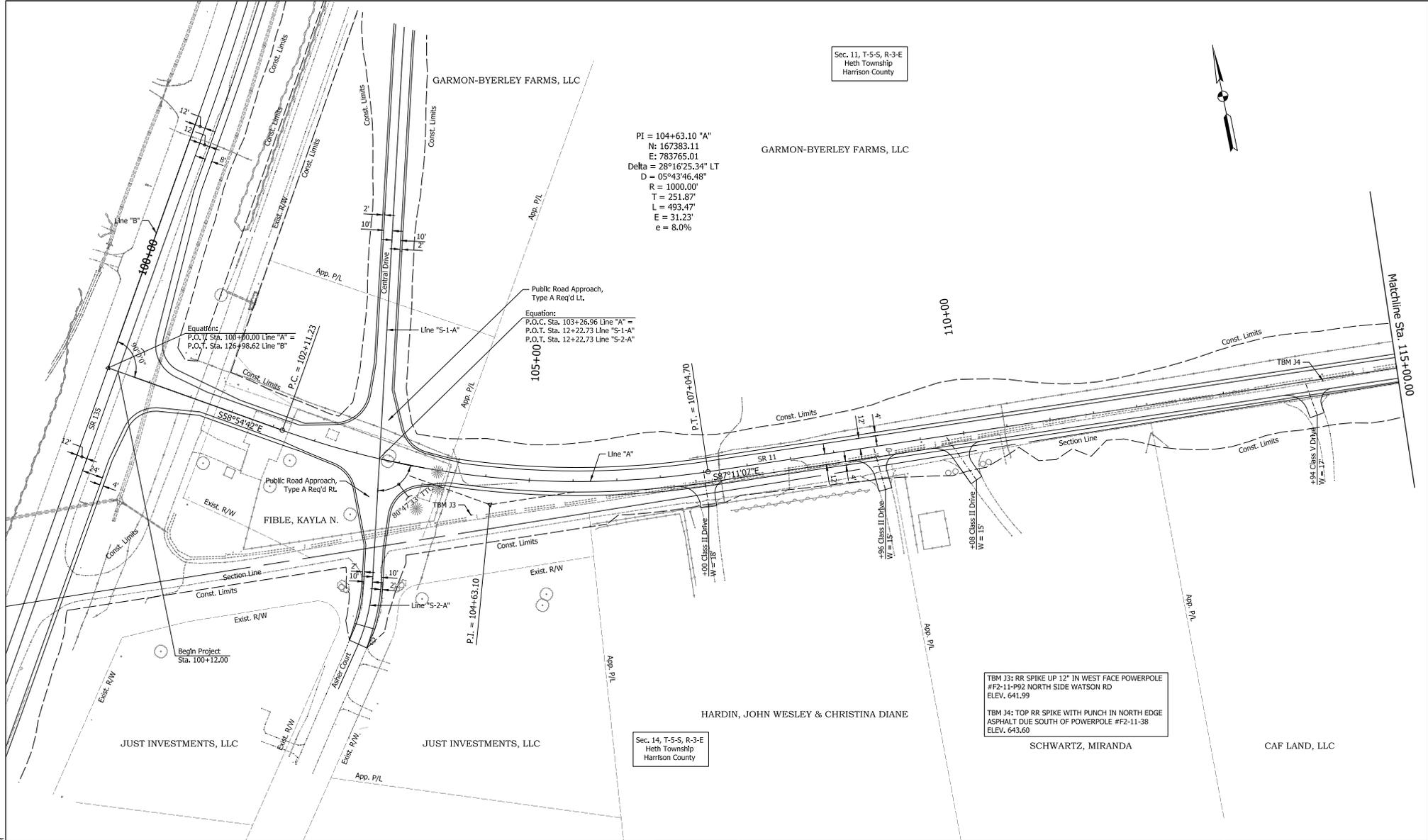


- LEGEND**
- ▬▬▬ Detour Route
  - ▨ Construction Area
  - ⊥ Barricades, Type III-A
  - ⊥ Barricades, Type III-B
  - ➔ Direction of Traffic
  - ⊥ Construction Sign and Supports
  - ⊥ Road Closure Sign Assembly
  - ⊙ Construction Warning Light, Type A
  - ⊙ Construction Warning Light, Type B

PRELIMINARY

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____ DESIGNED: MAB DRAWN: MAB CHECKED: SAW CHECKED: DSS	<b>INDIANA DEPARTMENT OF TRANSPORTATION</b>  MAINTENANCE OF TRAFFIC PHASE 6 DETOUR ROUTE MELVIEW RD.	HORIZONTAL SCALE 1"=500' VERTICAL SCALE N/A SURVEY BOOK _____ CONTRACT R-42857 PROJECT 2001154	BRIDGE FILE DESIGNATION 2001154 SHEETS 15 of 71 PROJECT 2001154
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PLOT: 4/13/2023 3:08 PM  
 FILE: SHT\_01.DWG  
 Model: SHT\_01.DWG



Sec. 11, T-5-S, R-3-E  
Heth Township  
Harrison County

PI = 104+63.10 "A"  
N = 167383.11  
E = 783765.01  
Delta = 28°16'25.34" LT  
D = 05°43'46.48"  
R = 1000.00'  
T = 251.87'  
L = 493.47'  
E = 31.23'  
e = 8.0%

Public Road Approach,  
Type A Req'd LT.  
Equation:  
P.O.C. Sta. 103+26.96 Line "A" =  
P.O.T. Sta. 12+22.73 Line "S-1-A"  
P.O.T. Sta. 12+22.73 Line "S-2-A"

Equation:  
P.O.C. Sta. 100+00.00 Line "A" =  
P.O.T. Sta. 126+98.62 Line "B"

TBM J3: RR SPIKE UP 12" IN WEST FACE POWERPOLE #F2-11-992 NORTH SIDE WATSON RD ELEV. 641.99  
TBM J4: TOP RR SPIKE WITH PUNCH IN NORTH EDGE ASPHALT DUE SOUTH OF POWERPOLE #F2-11-38 ELEV. 643.60

Sec. 14, T-5-S, R-3-E  
Heth Township  
Harrison County

**NOTE TO REVIEWER:**  
The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

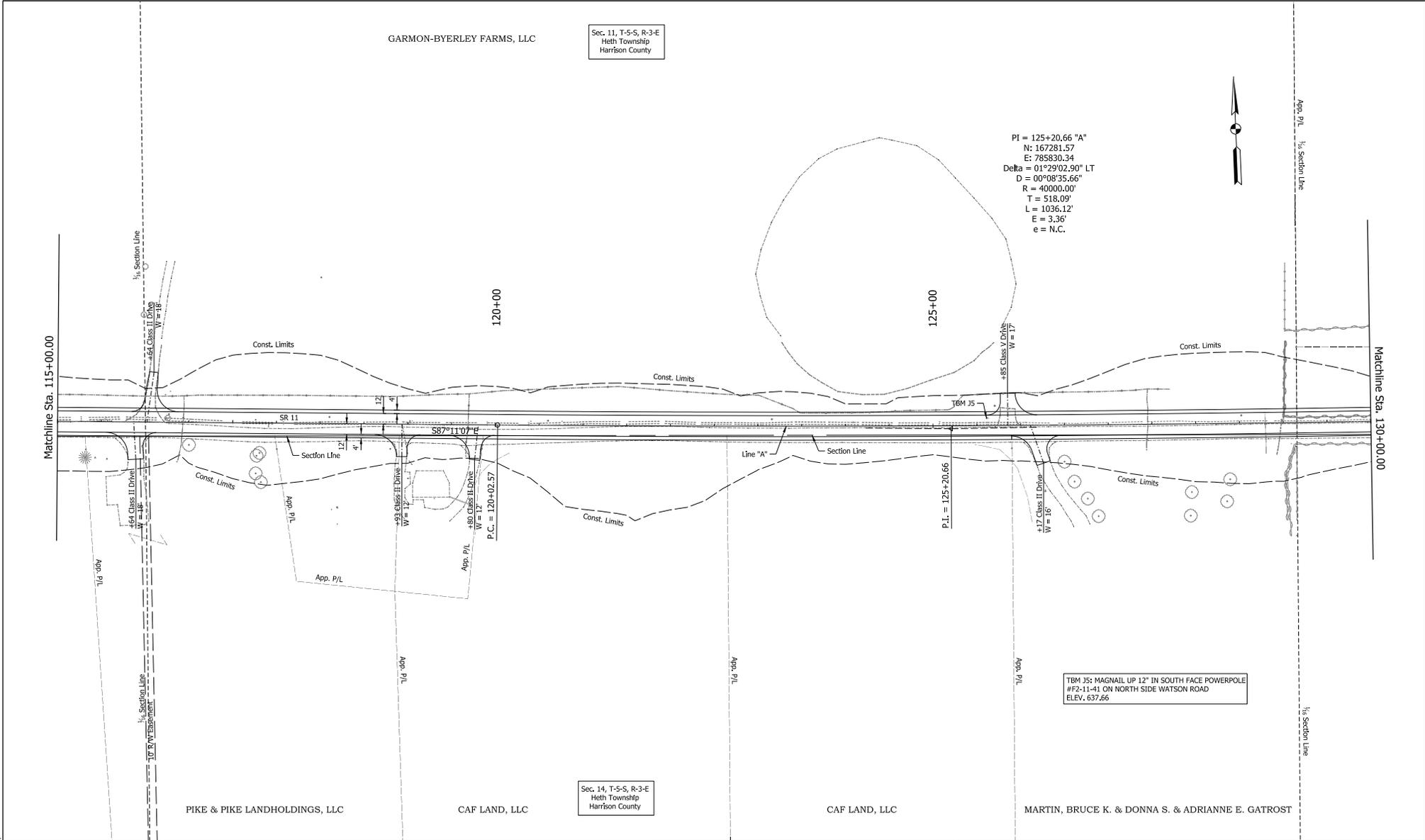
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CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION  
PLAN SHEET  
SR 11  
STA. 100+12 "A" TO STA. 115+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	16 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:05 PM  
FILES: Model\sr\_11r\_01



Sec. 11, T-5-S, R-3-E  
Heth Township  
Harrison County

PI = 125+20.66 "A"  
N: 167281.57  
E: 785830.34  
Delta = 01°29'02.90" LT  
D = 00°08'35.66"  
R = 40000.00'  
T = 518.09'  
L = 1036.12'  
E = 3.36'  
e = N.C.

Sec. 14, T-5-S, R-3-E  
Heth Township  
Harrison County

TBM JS: MAGNAIL UP 12" IN SOUTH FACE POWERPOLE  
#F2-11-41 ON NORTH SIDE WATSON ROAD  
ELEV. 637.66

**NOTE TO REVIEWER:**  
The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

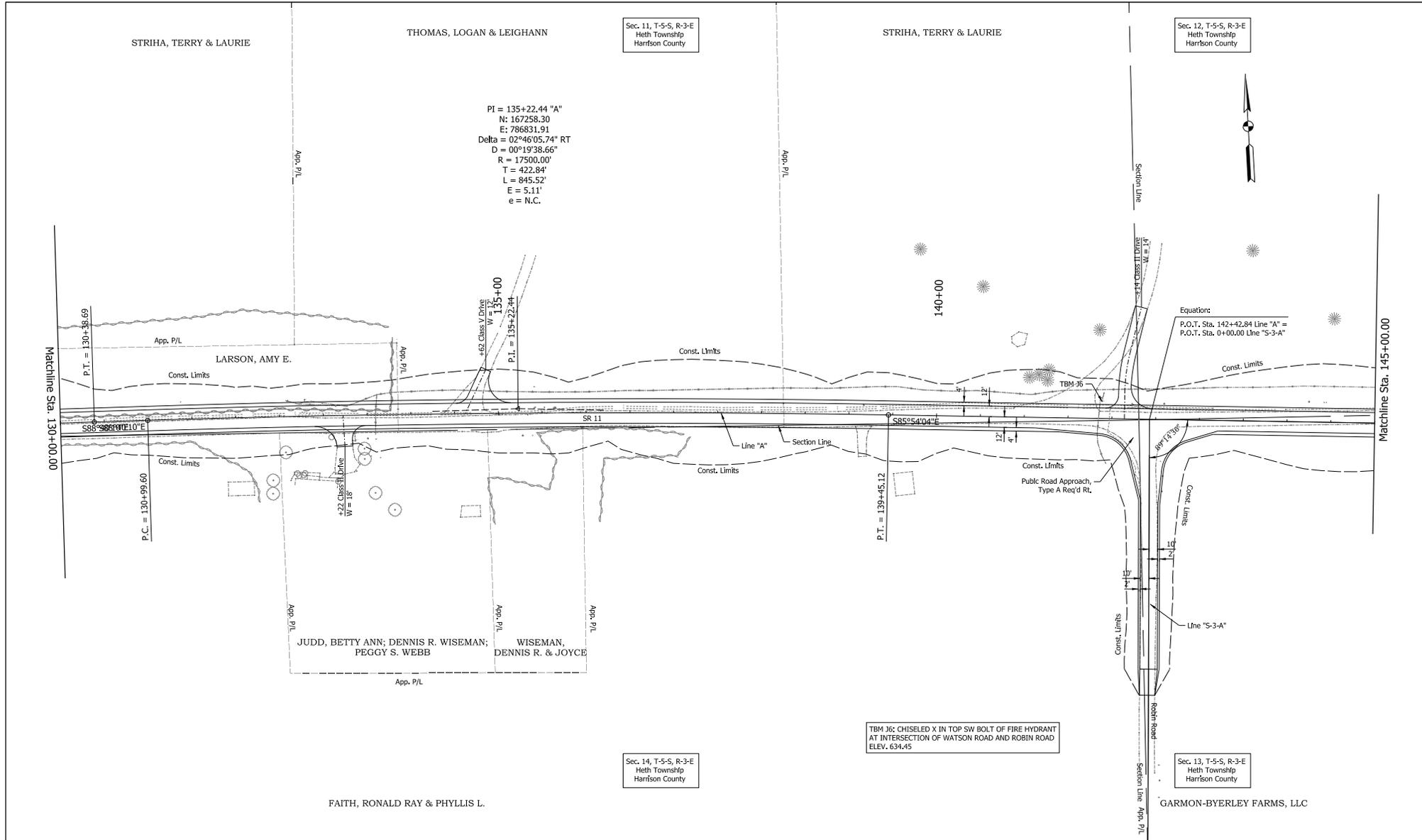
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION  
  
PLAN SHEET  
SR 11  
STA. 115+00 "A" TO STA. 130+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	18 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:07 PM

FILES  
Model\_Plan\_02



PI = 135+22.44 "A"  
 N: 167258.30  
 E: 786831.91  
 Delta = 02°46'05.74" RT  
 D = 00°19'38.66"  
 R = 17500.00'  
 T = 422.84'  
 L = 845.52'  
 E = 5.11'  
 e = N.C.

Equation:  
 P.O.T. Sta. 142+42.84 Line "A" =  
 P.O.T. Sta. 0+00.00 Line "S-3-A"

TBM J6: CHISEL X IN TOP SW BOLT OF FIRE HYDRANT  
 AT INTERSECTION OF WATSON ROAD AND ROBIN ROAD  
 ELEV. 634.45

NOTE TO REVIEWER:  
 The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

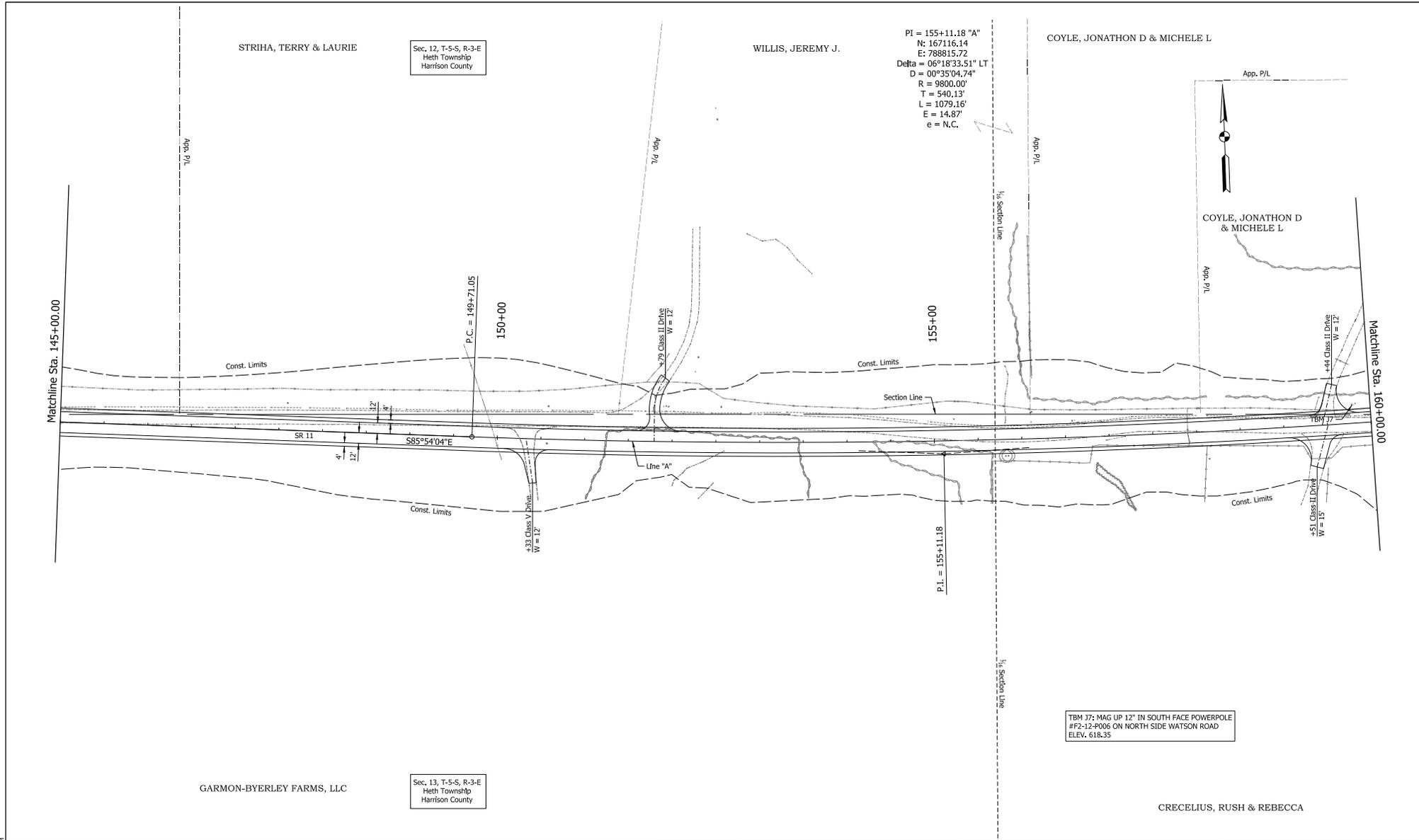
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA. 115+00 "A" TO STA. 145+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	20 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:09 PM

FILES  
 Model\sr\_11n\_03



Sec. 12, T-5-S, R-3-E  
Heth Township  
Harrison County

WILLIS, JEREMY J.

PI = 155+11.18 "A"  
N: 167116.14  
E: 788815.72  
Delta = 06°18'33.51" LT  
D = 00°35'04.74"  
R = 9800.00'  
T = 540.13'  
L = 1079.16'  
E = 14.87'  
e = N.C.

COYLE, JONATHON D & MICHELE L

COYLE, JONATHON D  
& MICHELE L

GARMON-BYERLEY FARMS, LLC

Sec. 13, T-5-S, R-3-E  
Heth Township  
Harrison County

CRECELIUS, RUSH & REBECCA

TBM J7; MAG UP 12" IN SOUTH FACE POWERPOLE  
#F2-12-P006 ON NORTH SIDE WATSON ROAD  
ELEV. 618.35

NOTE TO REVIEWER:  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

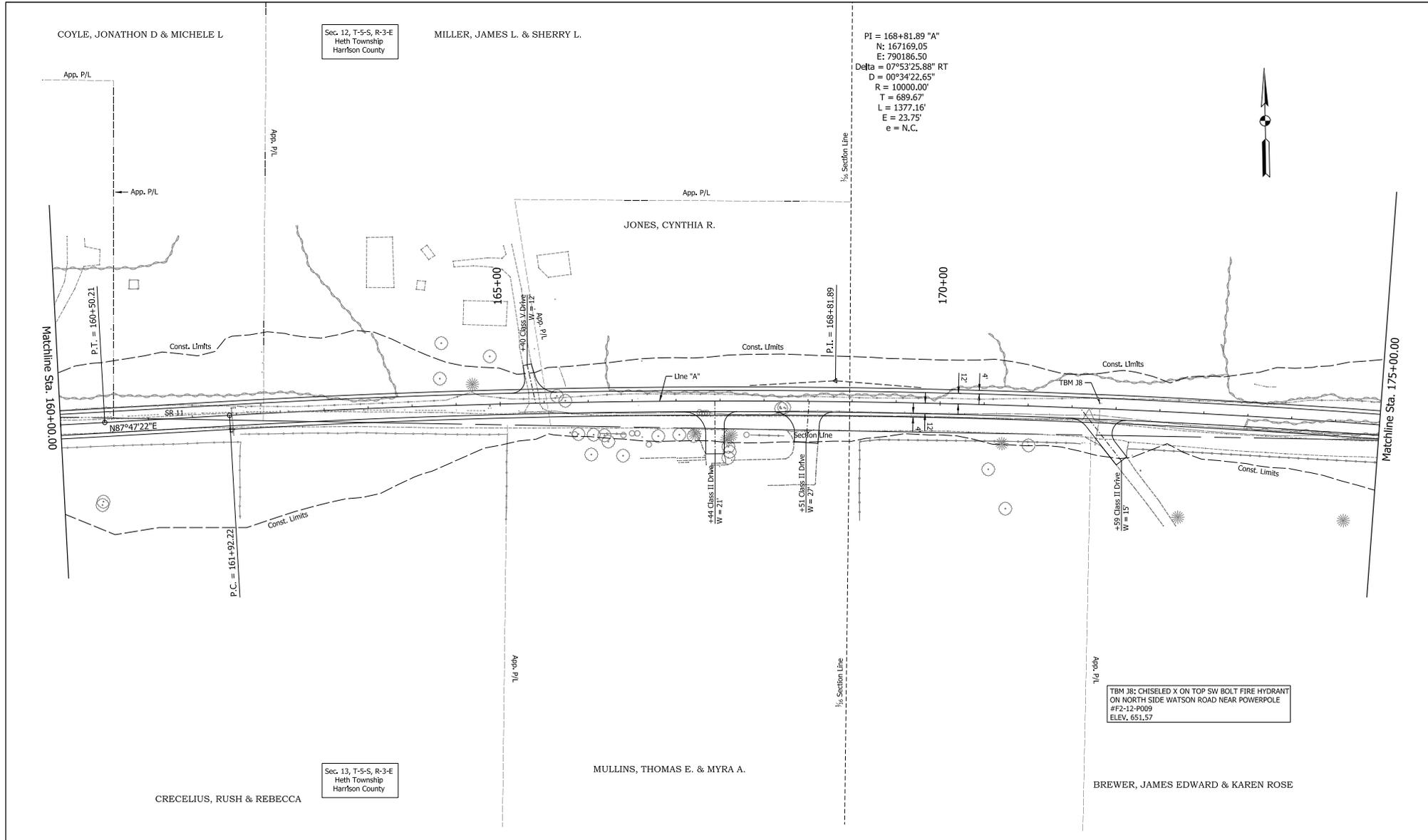
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION  
PLAN SHEET  
SR 11  
STA, 145+00 "A" TO STA, 160+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	22 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:11 PM

FILES  
Model\sr\_11r\_04



**NOTE TO REVIEWER:**  
 The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

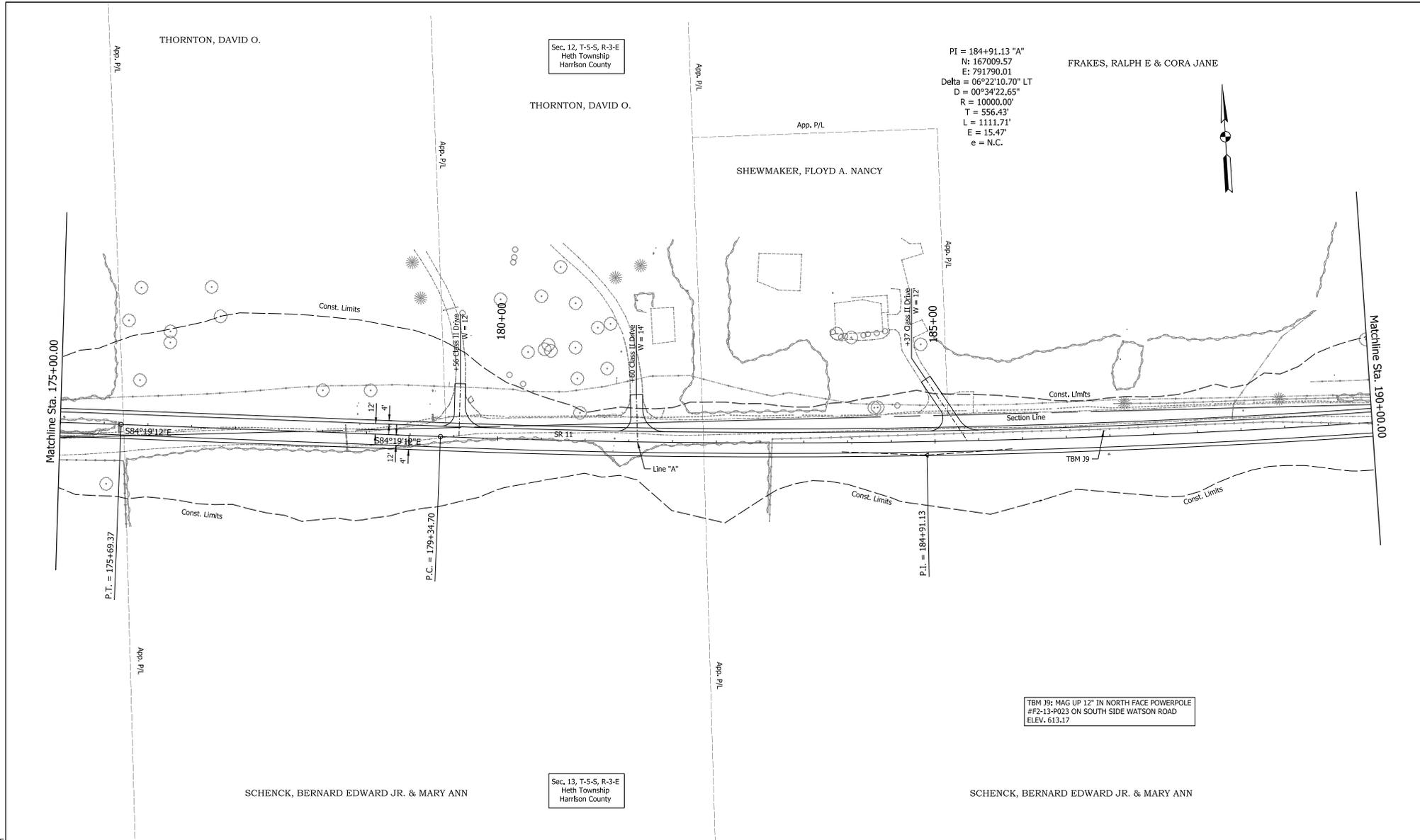
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA. 160+00 "A" TO STA. 175+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	24 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:13 PM

FILES  
 Model\sr\_11n\_05



**NOTE TO REVIEWER:**  
 The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

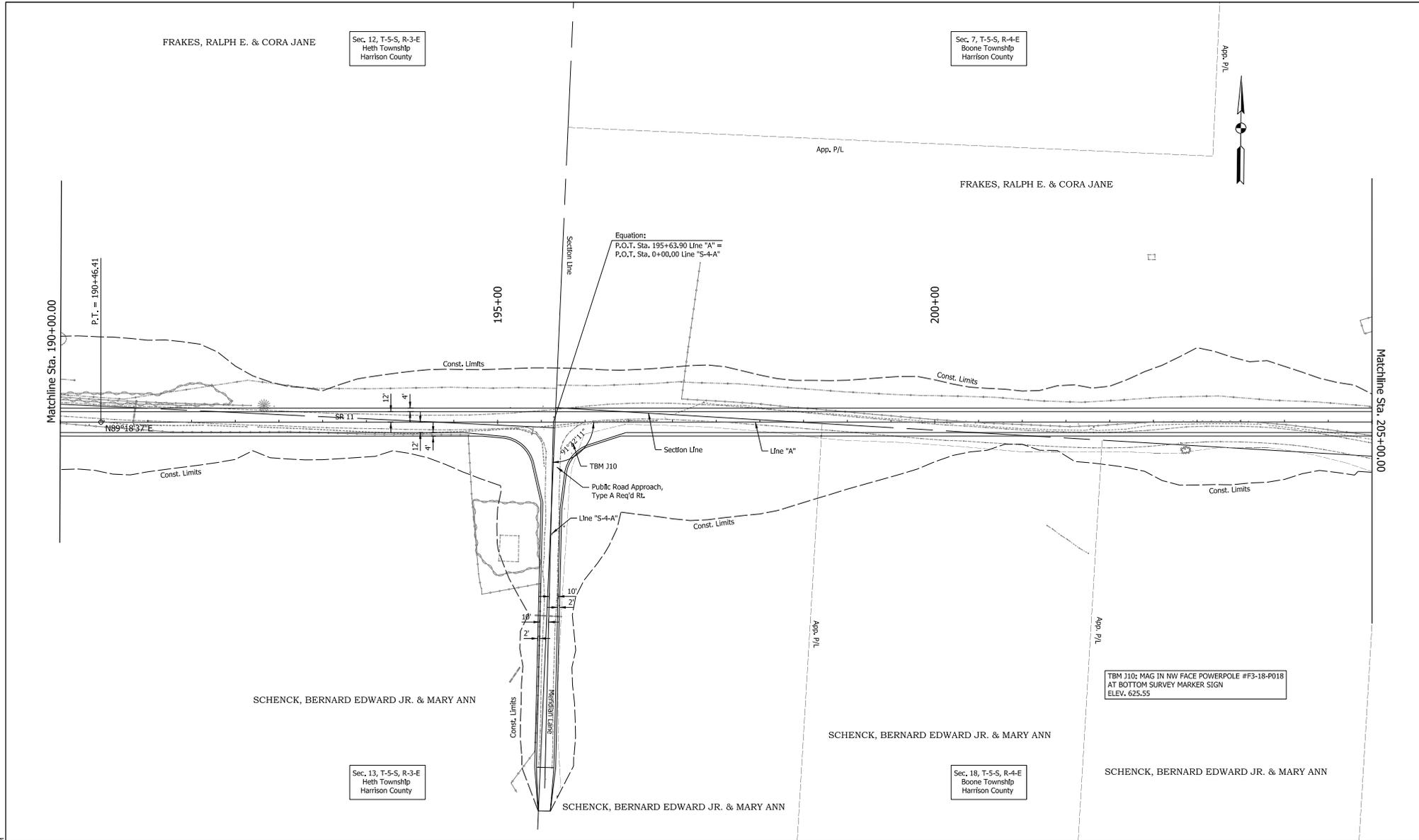
**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA. 175+00 "A" TO STA. 190+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	26 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:14 PM  
 FILE: SR11\_175+00.00



**NOTE TO REVIEWER:**  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN SHEET  
SR 11  
STA. 190+00 "A" TO STA. 205+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	28 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:16 PM

FILES  
Modeling\_rln\_07

FRAKES, RALPH E. & CORA JANE

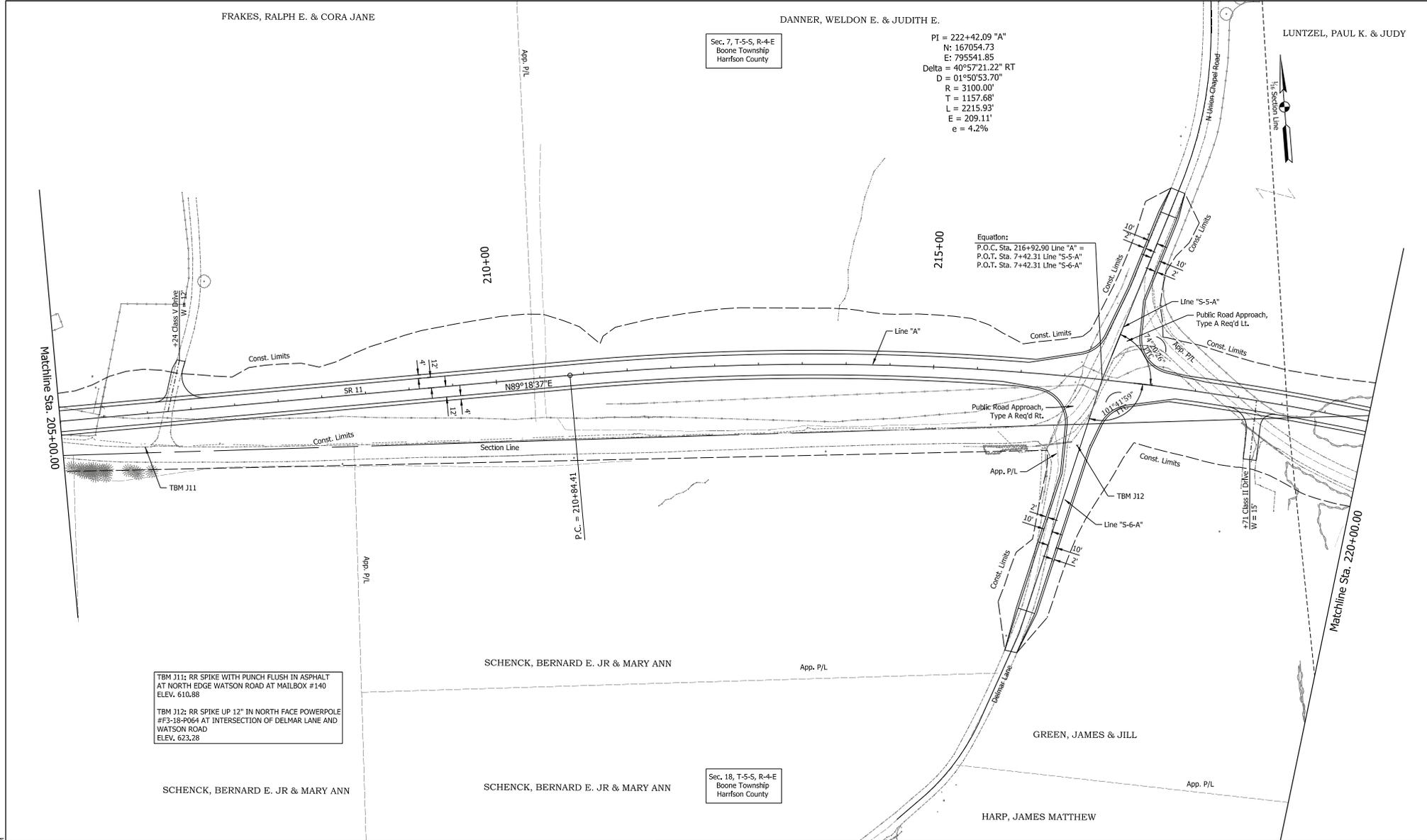
DANNER, WELDON E. & JUDITH E.

LUNTZEL, PAUL K. & JUDY

Sec. 7, T-5-S, R-4-E  
Boone Township  
Harrison County

PI = 222+42.09 "A"  
N: 167054.73  
E: 795541.85  
Delta = 40°57'21.22" RT  
D = 01°50'53.70"  
R = 3100.00'  
T = 1157.68'  
L = 2215.93'  
E = 209.11'  
e = 4.2%

Equation:  
P.O.C. Sta. 216+92.90 Line "A" =  
P.O.T. Sta. 7+42.31 Line "S-5-A"  
P.O.T. Sta. 7+42.31 Line "S-6-A"



TBM J11: RR SPIKE WITH PUNCH FLUSH IN ASPHALT AT NORTH EDGE WATSON ROAD AT MAILBOX #140 ELEV. 610.88  
TBM J12: RR SPIKE UP 12" IN NORTH FACE POWERPOLE #F3-18-P064 AT INTERSECTION OF DELMAR LANE AND WATSON ROAD ELEV. 623.28

SCHENCK, BERNARD E. JR & MARY ANN

SCHENCK, BERNARD E. JR & MARY ANN

SCHENCK, BERNARD E. JR & MARY ANN

HARP, JAMES MATTHEW

GREEN, JAMES & JILL

NOTE TO REVIEWER:  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION  
PLAN SHEET  
SR 11  
STA, 205+00 "A" TO STA, 220+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	30 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:18 PM

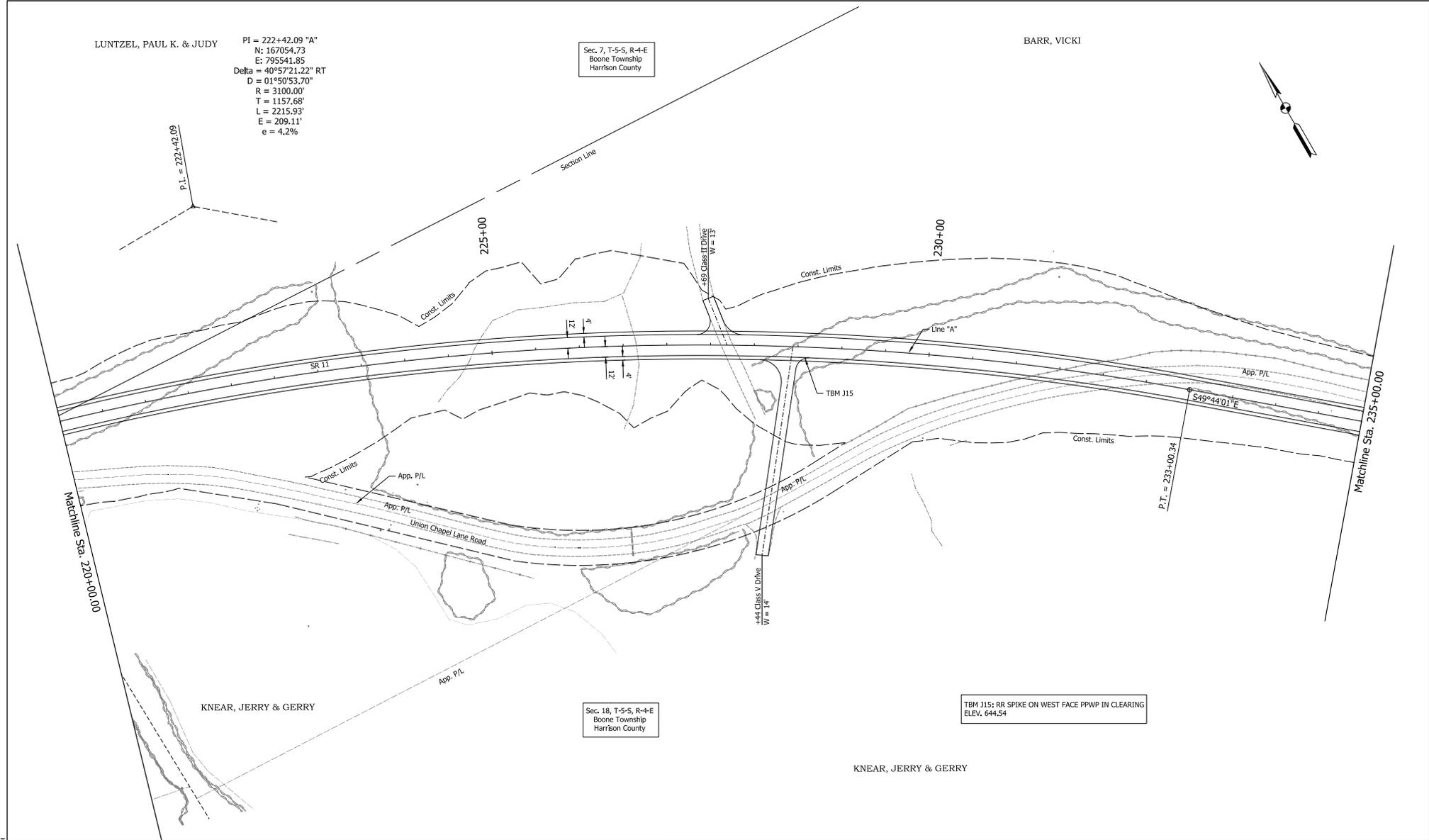
FILES  
Roads\sr\_11n\_08

LUNTZEL, PAUL K. & JUDY

PI = 222+42.09 "A"  
 N: 167054.73  
 E: 795541.85  
 Delta = 40°57'21.22" RT  
 D = 01°50'53.70"  
 R = 3100.00'  
 T = 1157.68'  
 L = 2215.93'  
 E = 209.11'  
 e = 4.2%

Sec. 7, T-5-S, R-4-E  
 Boone Township  
 Harrison County

BARR, VICKI



Matchline Sta. 220+00.00

Matchline Sta. 235+00.00

KNEAR, JERRY & GERRY

Sec. 18, T-5-S, R-4-E  
 Boone Township  
 Harrison County

TBM J15: RR SPIKE ON WEST FACE PPWP IN CLEARING  
 ELEV. 644.54

KNEAR, JERRY & GERRY

**NOTE TO REVIEWER:**  
 The field survey book and LRSF are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

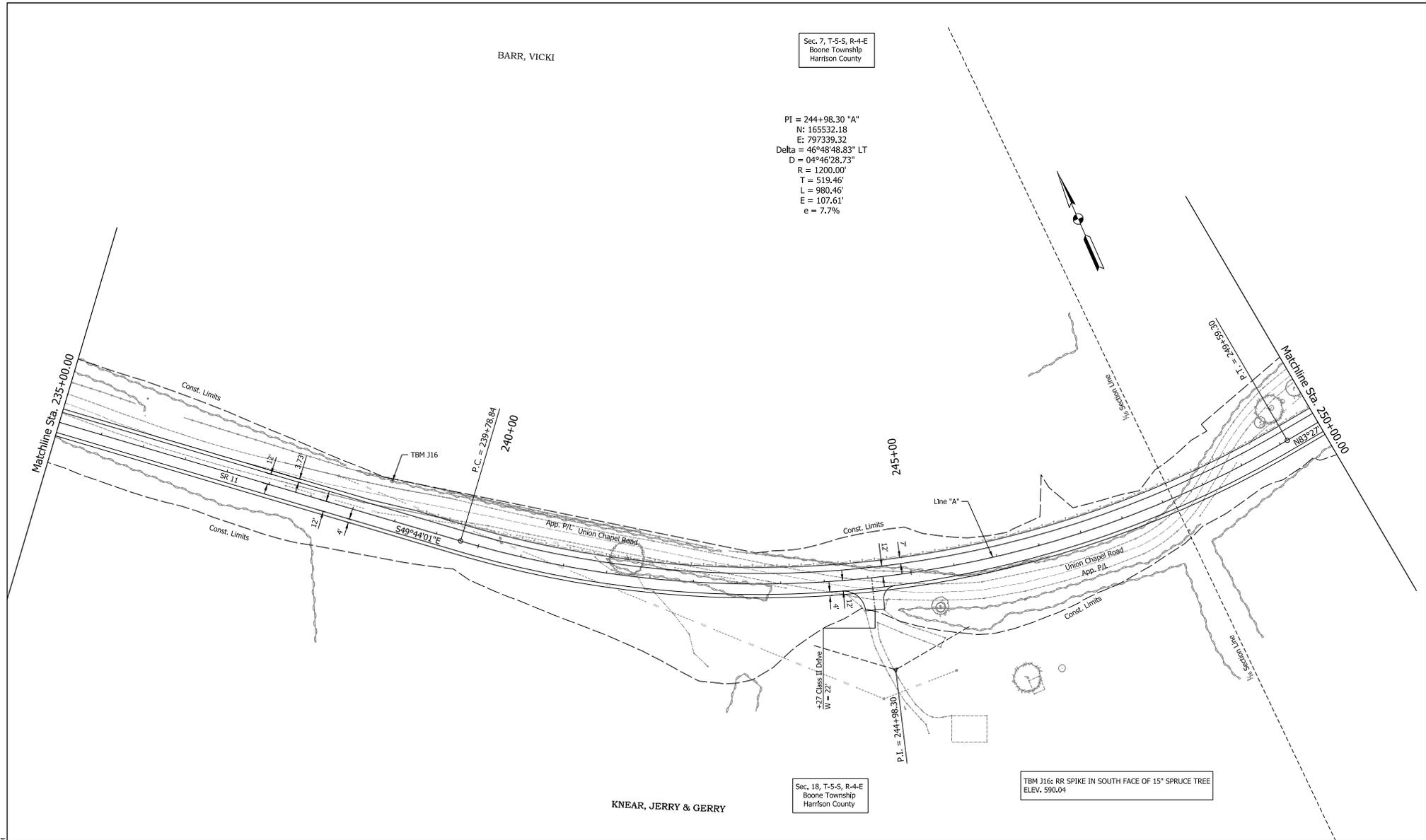
**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA. 220+00 "A" TO STA. 235+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	32 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 2:20 PM  
 FILE: FILES  
 Model: h\_rn\_09



Sec. 7, T-5-S, R-4-E  
Boone Township  
Harrison County

PI = 244+98.30 "A"  
N = 165532.18  
E = 797339.32  
Delta = 46°48'48.83" LT  
R = 1200.00'  
T = 519.46'  
L = 980.46'  
E = 107.61'  
e = 7.7%

Sec. 18, T-5-S, R-4-E  
Boone Township  
Harrison County

TBM J16: RR SPIKE IN SOUTH FACE OF 15" SPRUCE TREE  
ELEV. 590.04

KNEAR, JERRY & GERRY

NOTE TO REVIEWER:  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

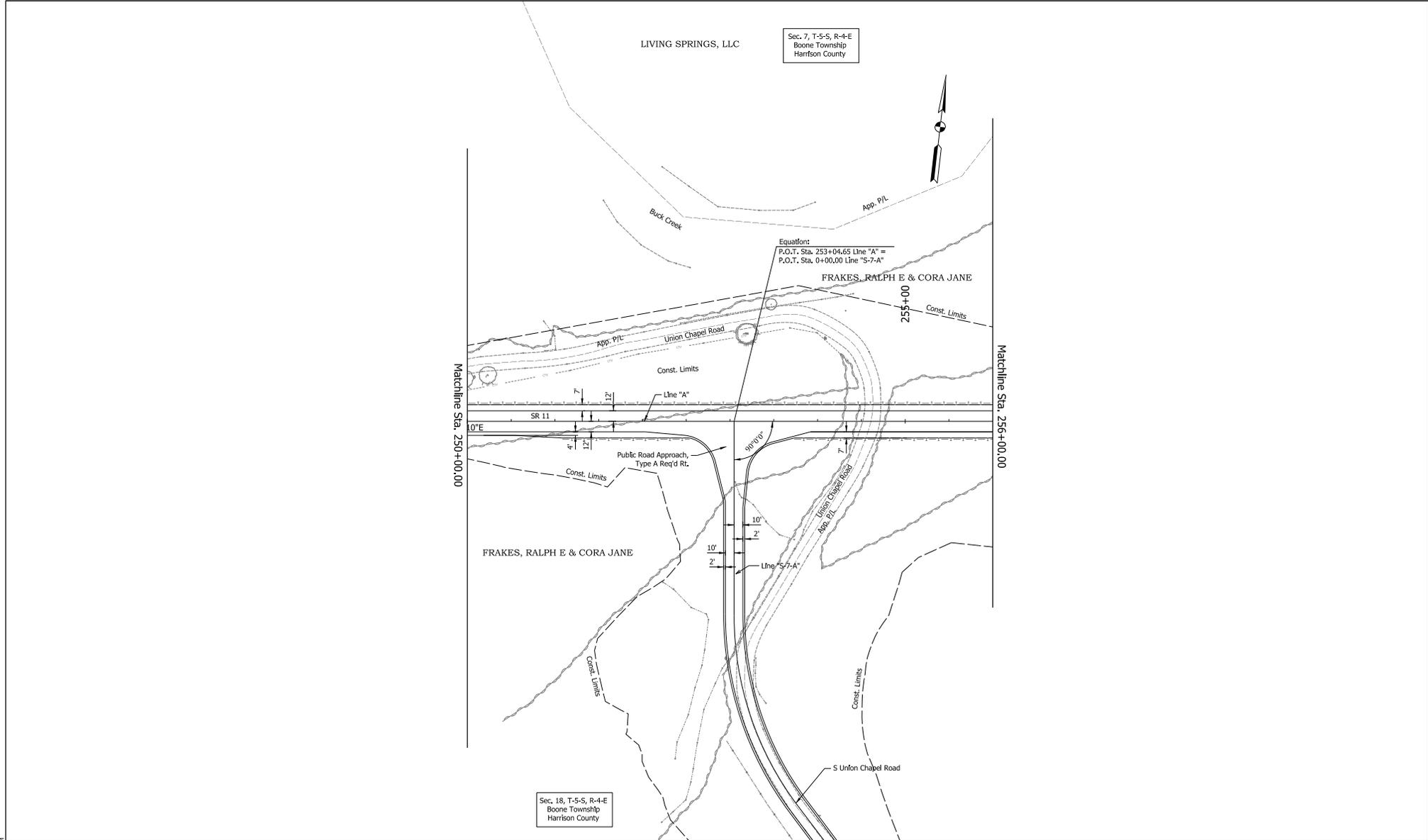
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN SHEET  
SR 11  
STA. 235+00 "A" TO STA. 250+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	34 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 2:22 PM

FILES  
Modisr\_nbr\_10



Matchline Sta. 250+00.00

Matchline Sta. 256+00.00

Sec. 7, T-5-S, R-4-E  
Boone Township  
Harrison County

Sec. 18, T-5-S, R-4-E  
Boone Township  
Harrison County

Equation:  
P.O.T. Sta. 253+04.65 Line "A" =  
P.O.T. Sta. 0+00.00 Line "S-7-A"

**NOTE TO REVIEWER:**  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

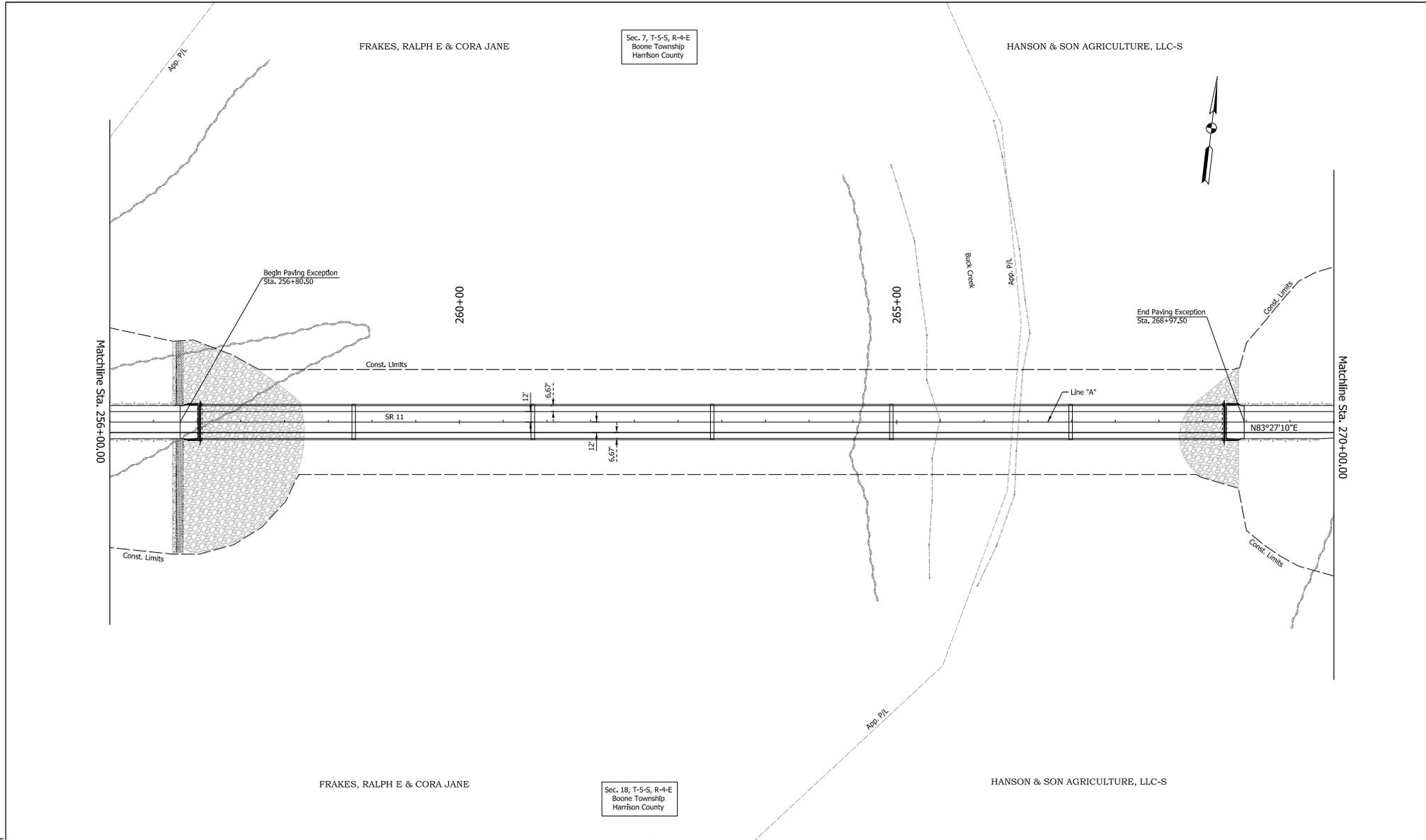
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION  
  
PLAN SHEET  
SR 11  
STA, 250+00 "A" TO STA, 265+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	36 of 71
CONTRACT	PROJECT
R-42857	2001154

PRN: 4/13/2023 2:23 PM

FILES  
Model\br\_11



**NOTE TO REVIEWER:**  
 The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

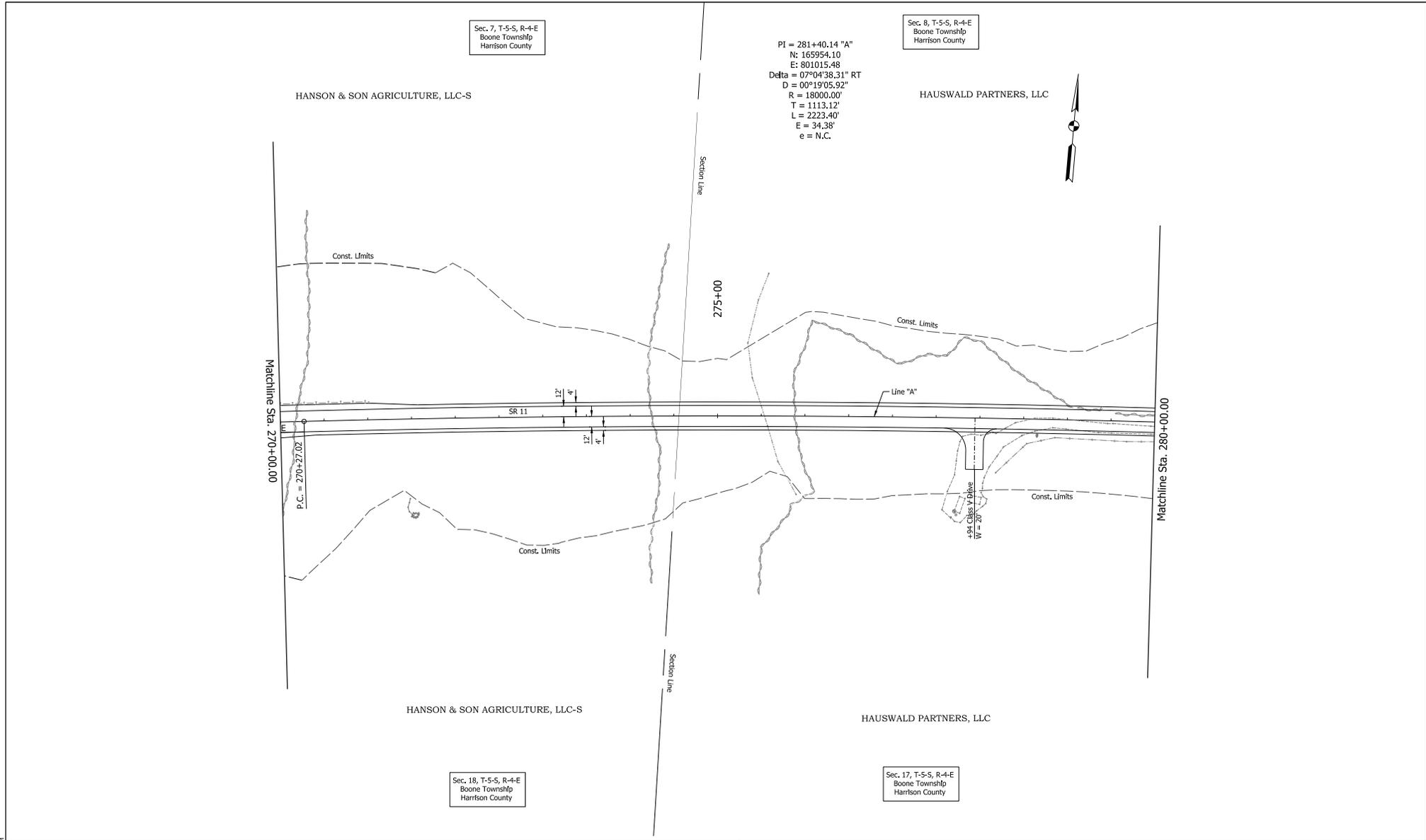
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA, 265+00 "A" TO STA, 270+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	38 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 3:04 PM

FILES  
 Model\sr\_11r\_12



NOTE TO REVIEWER:  
 The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA, 270+00 "A" TO STA, 280+00 "A"

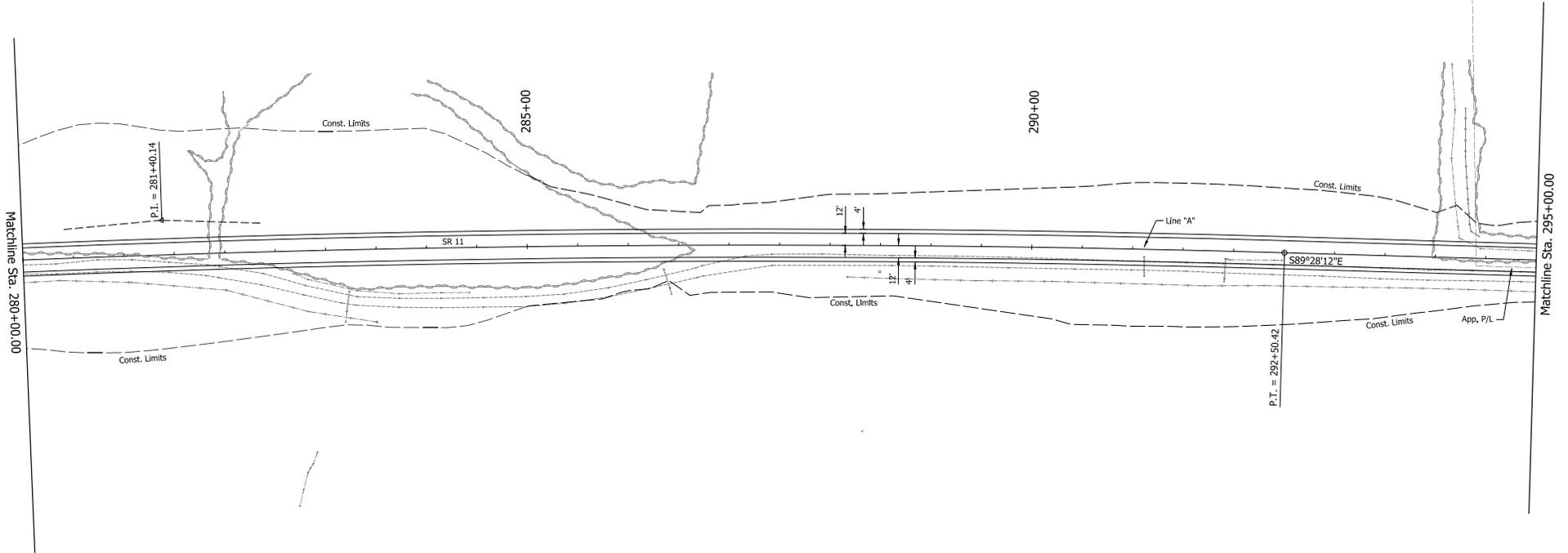
HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	40 of 71
CONTRACT	PROJECT
R-42857	2001154

PREL: 4/13/2023 2:27 PM  
 FILE: FILES  
 Modisrc\_r1r\_13

PI = 281+40.14 "A"  
 N: 165954.10  
 E: 801015.48  
 Delta = 00°04'38.31" RT  
 D = 00°19'05.92"  
 R = 18000.00'  
 T = 1113.12'  
 L = 2223.40'  
 E = 34.38'  
 e = N.C.

HAUSWALD PARTNERS, LLC

Sec. 8, T-5-S, R-4-E  
 Boone Township  
 Harrison County



HAUSWALD PARTNERS, LLC

Sec. 17, T-5-S, R-4-E  
 Boone Township  
 Harrison County

**NOTE TO REVIEWER:**  
 The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

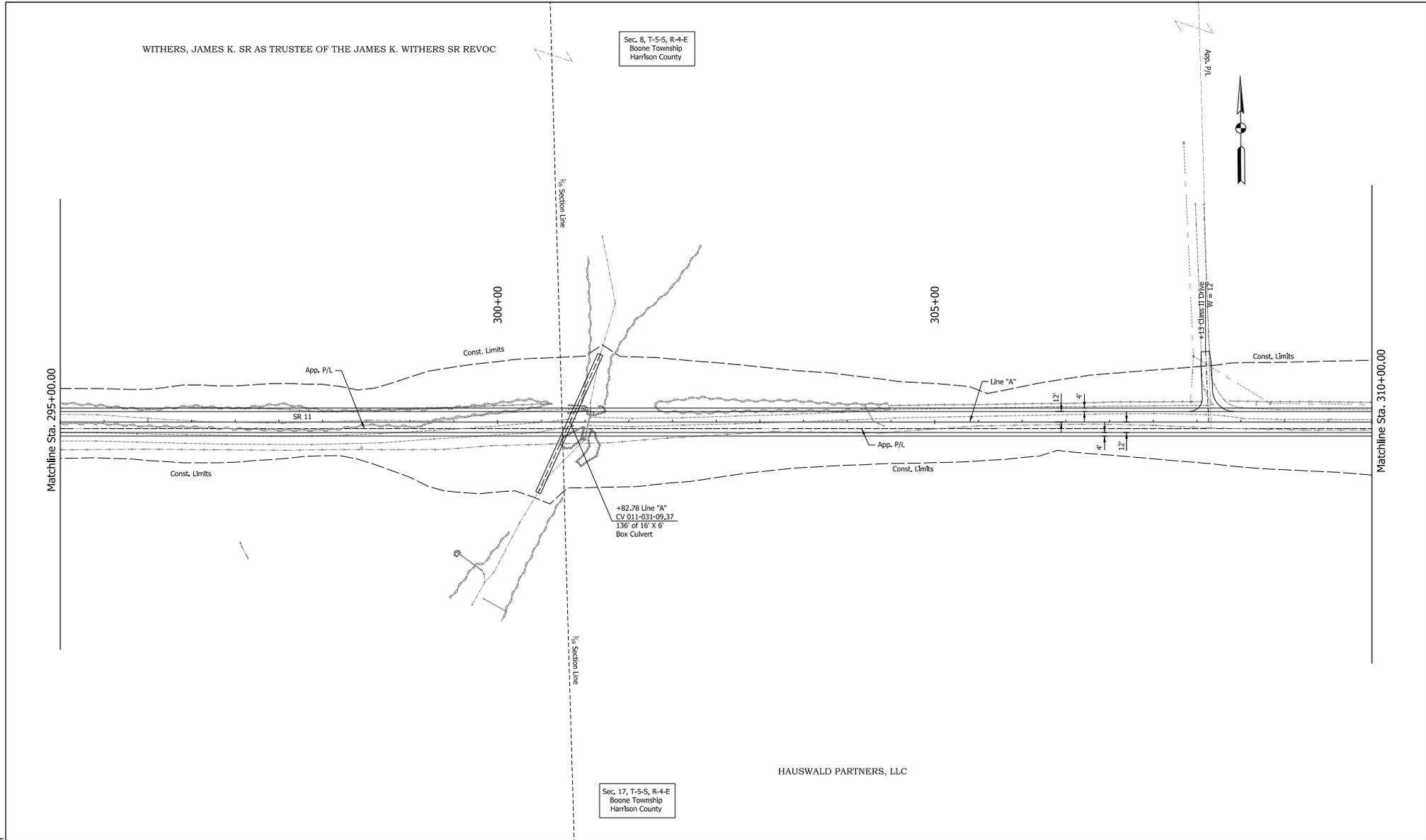
INDIANA  
 DEPARTMENT OF TRANSPORTATION

PLAN SHEET  
 SR 11  
 STA, 280+00 "A" TO STA, 295+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	42 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:30 PM

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 Modis\br\_14



**NOTE TO REVIEWER:**  
 The field survey book and LRSF are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION

PLAN SHEET  
 SR 11  
 STA, 295+00 "A" TO STA, 310+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	44 of 71
CONTRACT	PROJECT
R-42857	2001154

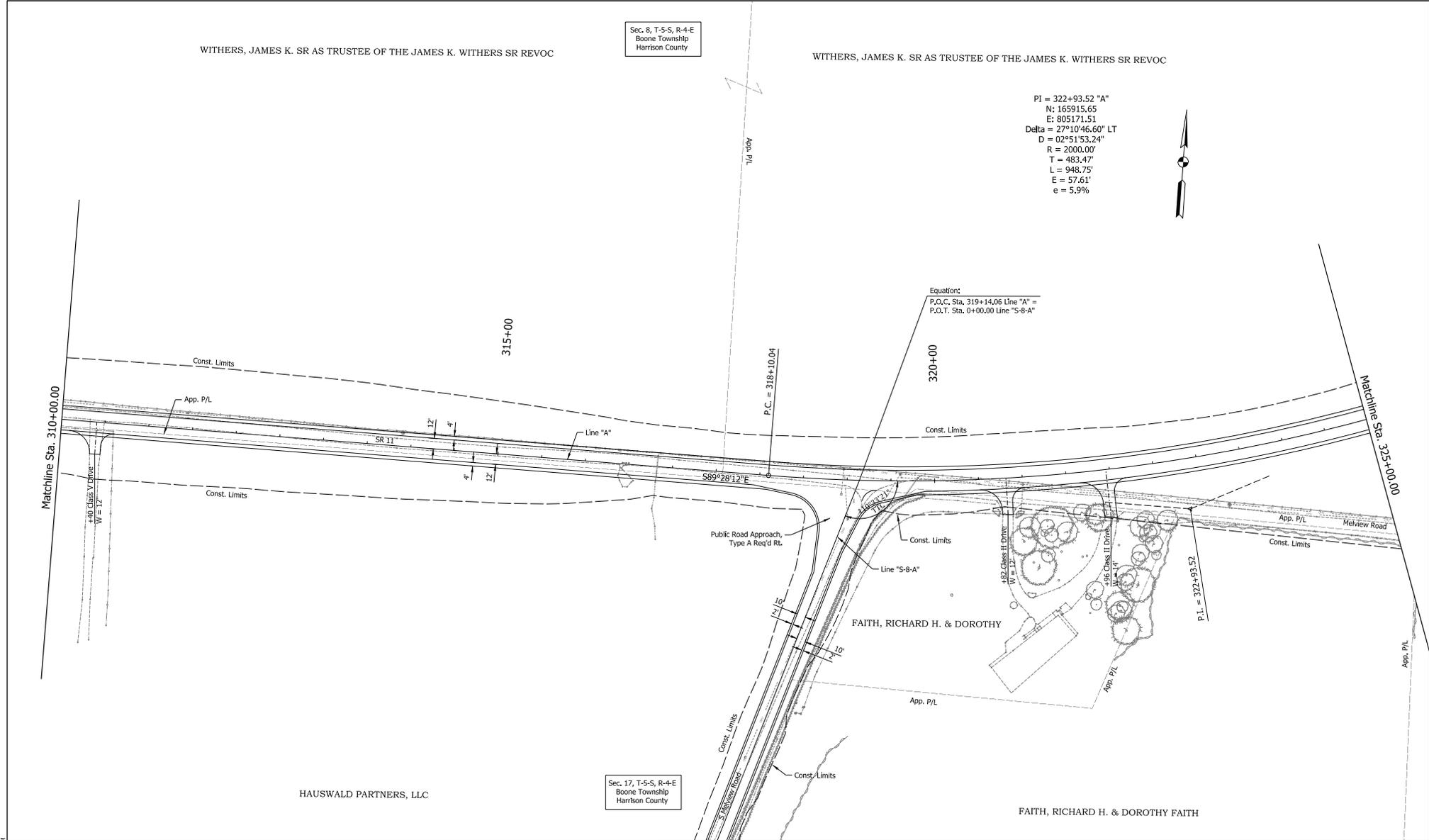
PLOT: 4/13/2023 2:32 PM  
 FILE: I:\FILES\Modis\sr\_11r\_15

WITHERS, JAMES K. SR AS TRUSTEE OF THE JAMES K. WITHERS SR REVOC

Sec. 8, T-5-S, R-4-E  
Boone Township  
Harrison County

WITHERS, JAMES K. SR AS TRUSTEE OF THE JAMES K. WITHERS SR REVOC

PI = 322+93.52 "A"  
N: 165915.65  
E: 805171.51  
Delta = 27°10'46.60" LT  
D = 02°51'53.24"  
R = 2000.00'  
T = 483.47'  
L = 948.75'  
E = 57.61'  
e = 5.9%



**NOTE TO REVIEWER:**  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

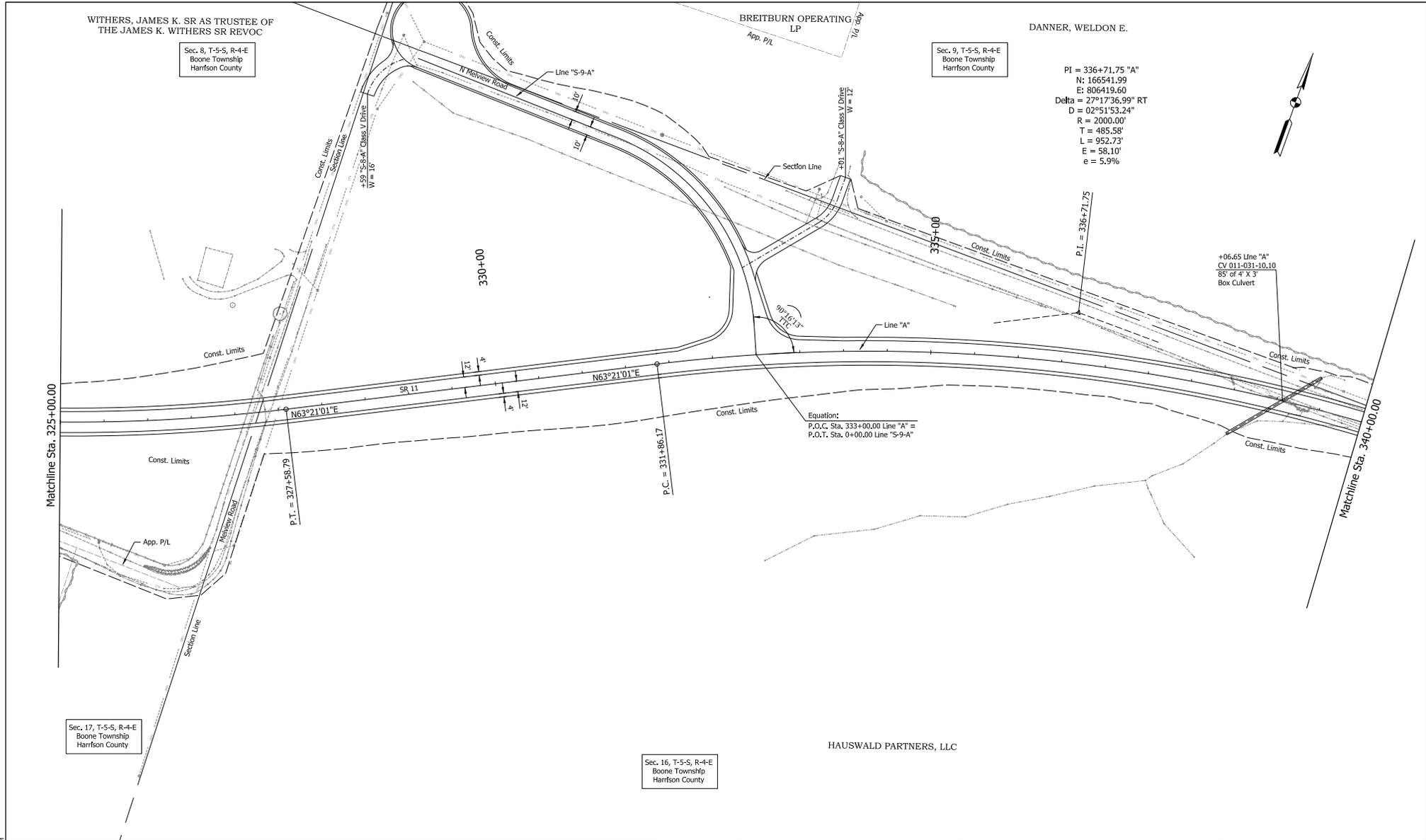
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN SHEET  
SR 11  
STA, 310+00 "A" TO STA, 325+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	46 of 71
CONTRACT	PROJECT
R-42857	2001154

DATE: 4/13/2023 2:24 PM

FILES  
Roads\sr\_11r\_16



PI = 336+71.75 "A"  
 N = 166541.99  
 E = 806419.60  
 Delta = 27°17'36.99" RT  
 D = 02°51'53.24"  
 R = 2000.00'  
 T = 485.58'  
 L = 952.73'  
 E = 58.10'  
 e = 5.9%



Equation:  
 P.O.C. Sta. 333+00.00 Line "A" =  
 P.O.T. Sta. 0+00.00 Line "S-9-A"

+06.65 Line "A"  
 CV 011-031-10.10  
 85' of 4' X 3'  
 Box Culvert

**PRELIMINARY**

**NOTE TO REVIEWER:**  
 The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

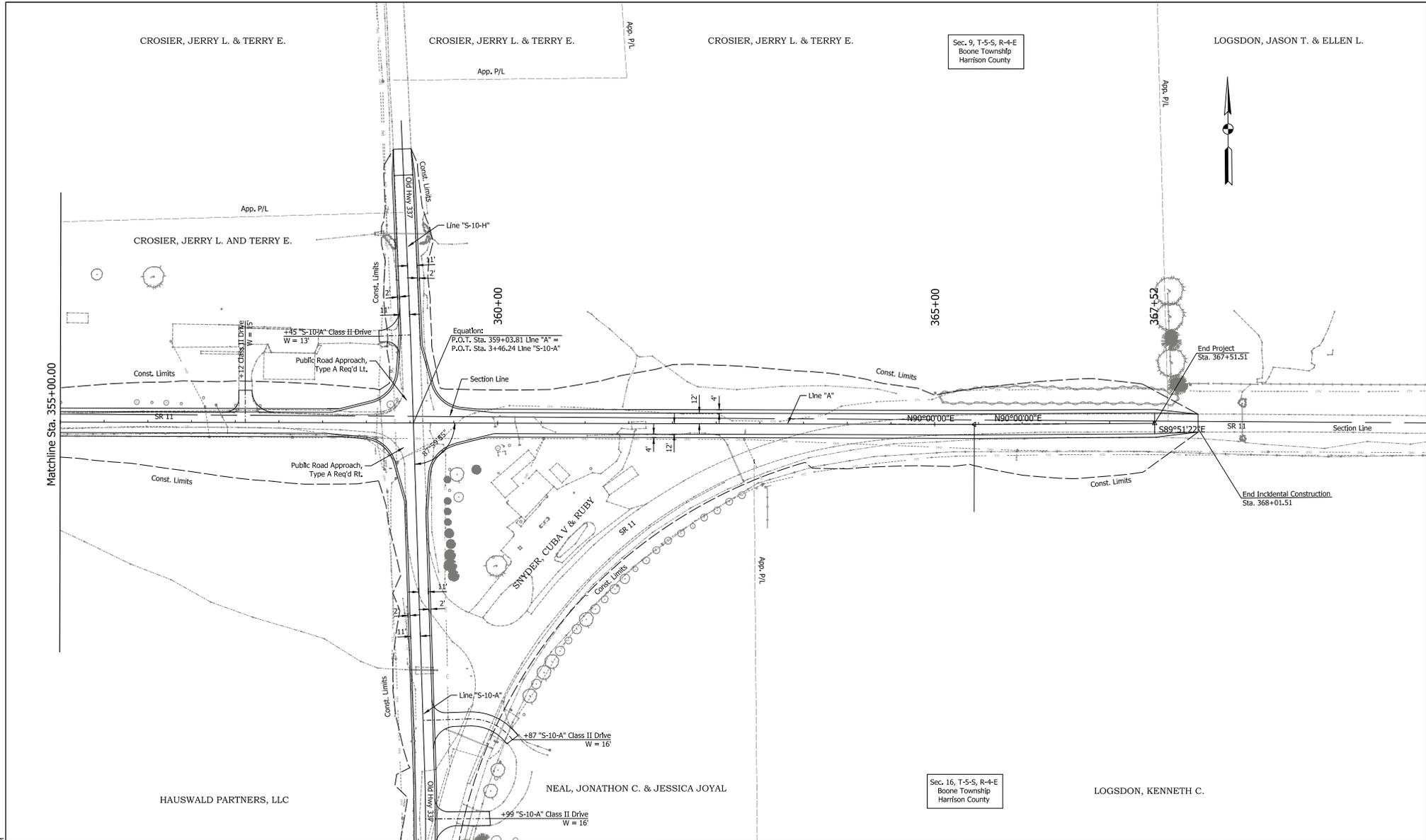
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN SHEET  
 SR 11  
 STA. 325+00 "A" TO STA. 340+00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	2001154
SURVEY BOOK	SHEETS
Electronic	48 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 2:35 PM  
 FILE: FILES Model\sr\_11r\_17





Sec. 9, T-5-S, R-4-E  
Boone Township  
Harrison County

Sec. 16, T-5-S, R-4-E  
Boone Township  
Harrison County



**NOTE TO REVIEWER:**  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

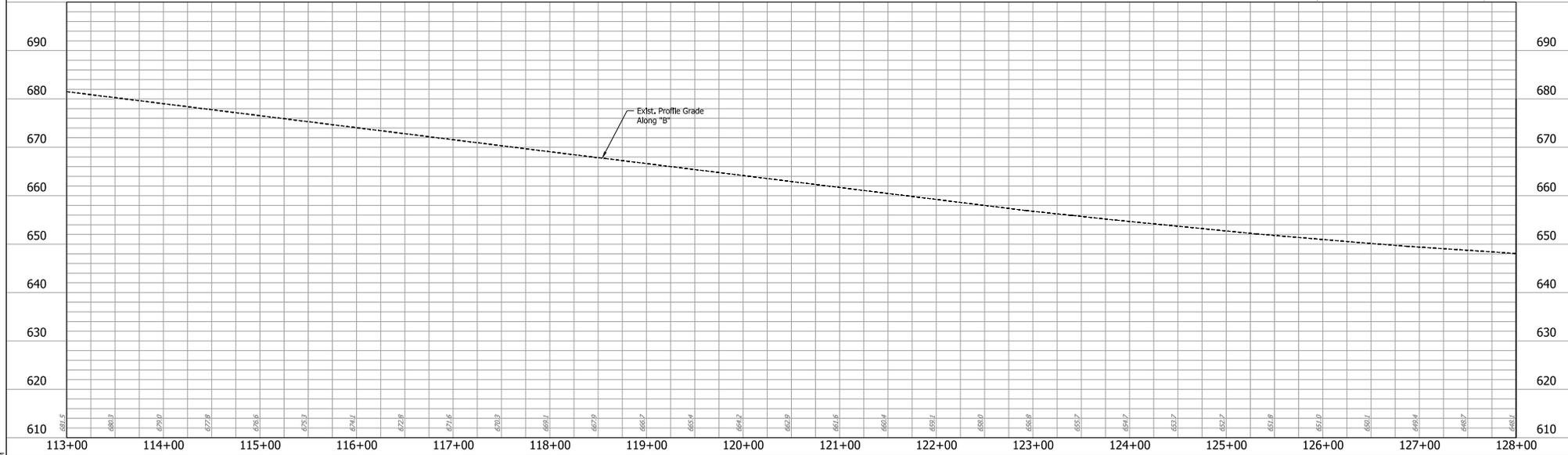
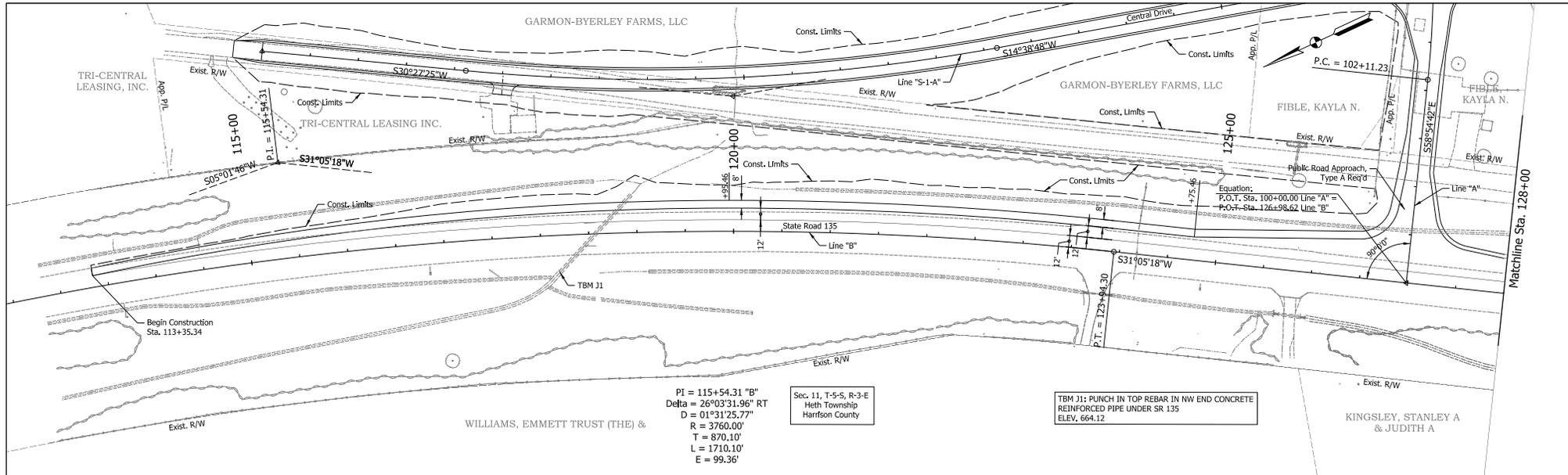
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION  
  
PLAN SHEET  
SR 11  
STA. 335+00 "A" TO STA. 267+51.51 "A"

HORIZONTAL SCALE	BRIDGE FILE
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VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
Electronic	52 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 2:39 PM

FILES  
Model\$tr\_n\_19



NOTE TO REVIEWER:  
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**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

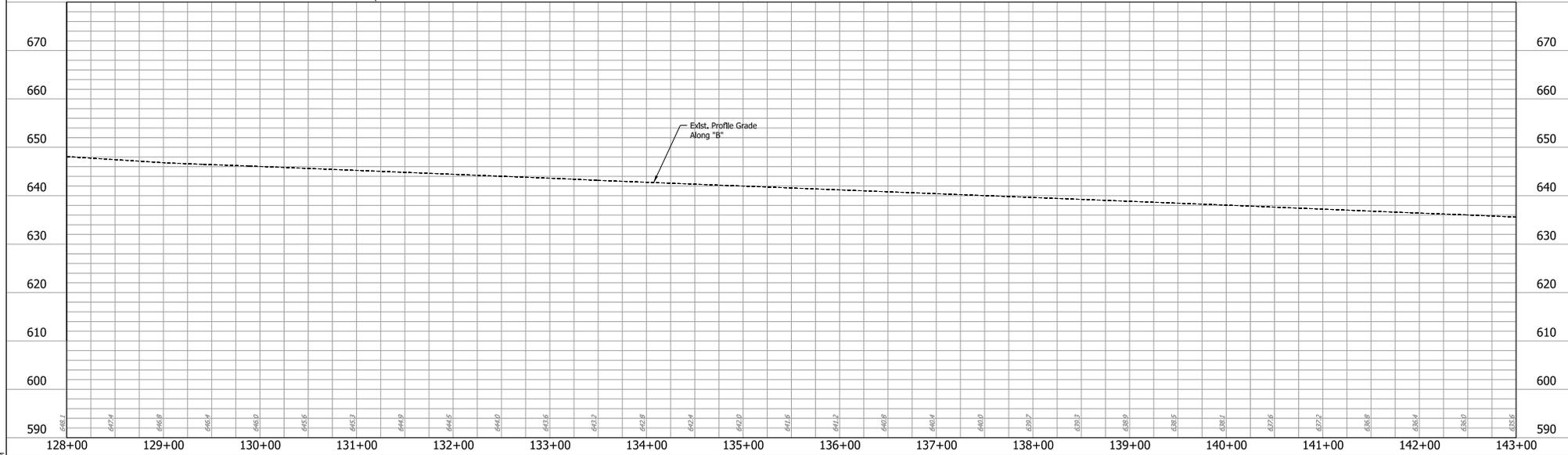
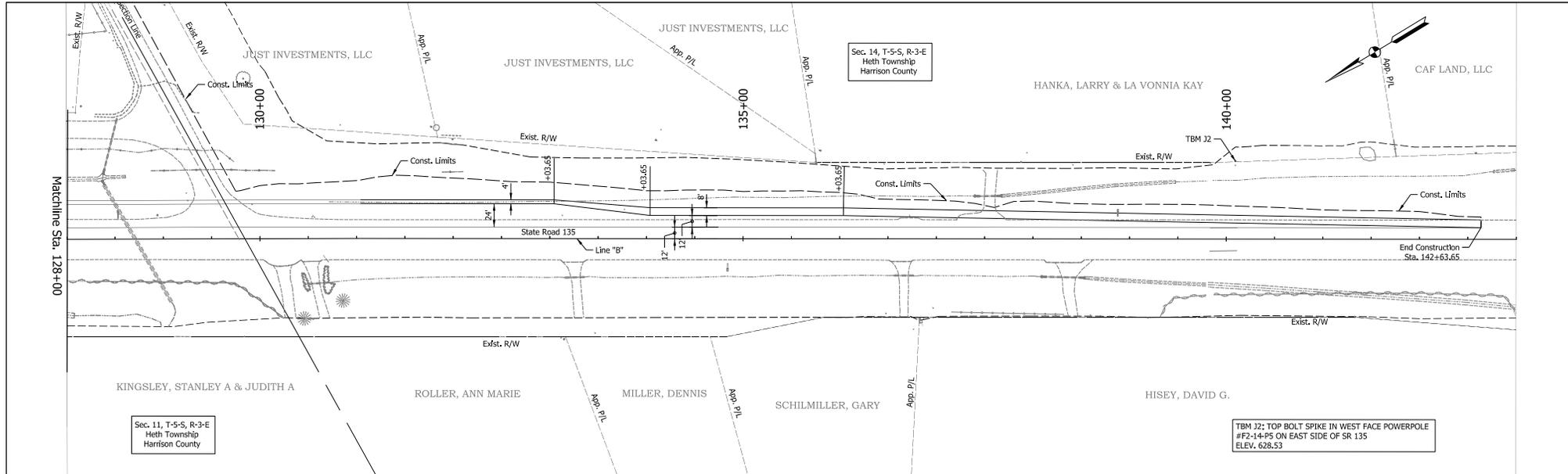
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
LINE "B"  
STA. 113+00 TO STA. 128+00

HORIZONTAL SCALE	BRIDGE FILE
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VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	54 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:41 PM

FILES  
RoadSR 135 - SR 135-1



NOTE TO REVIEWER:  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
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CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

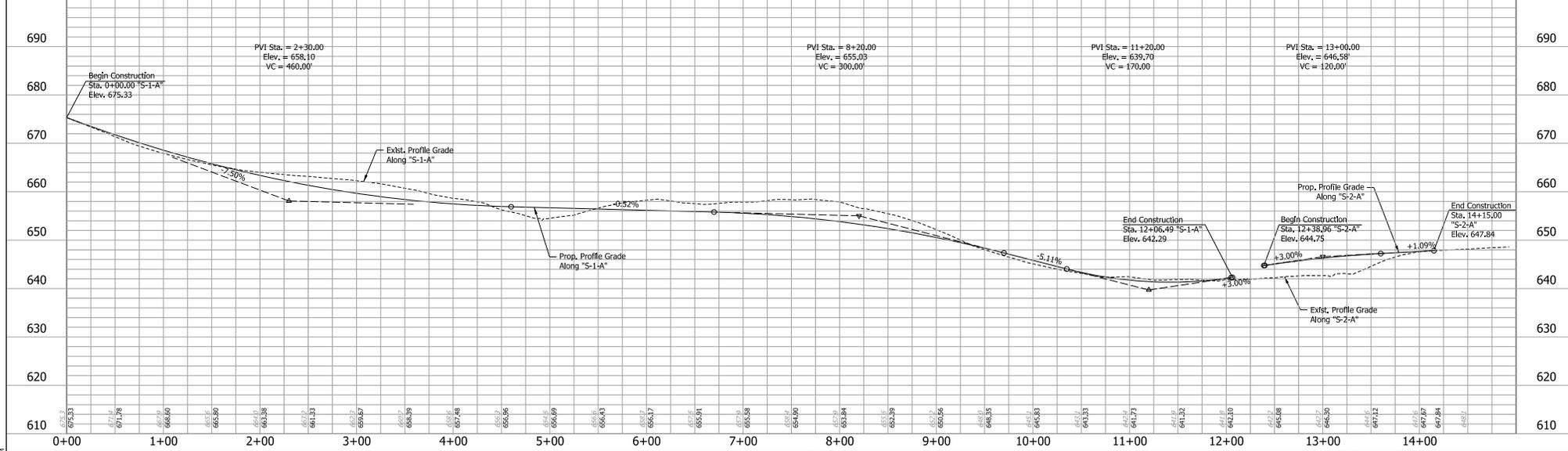
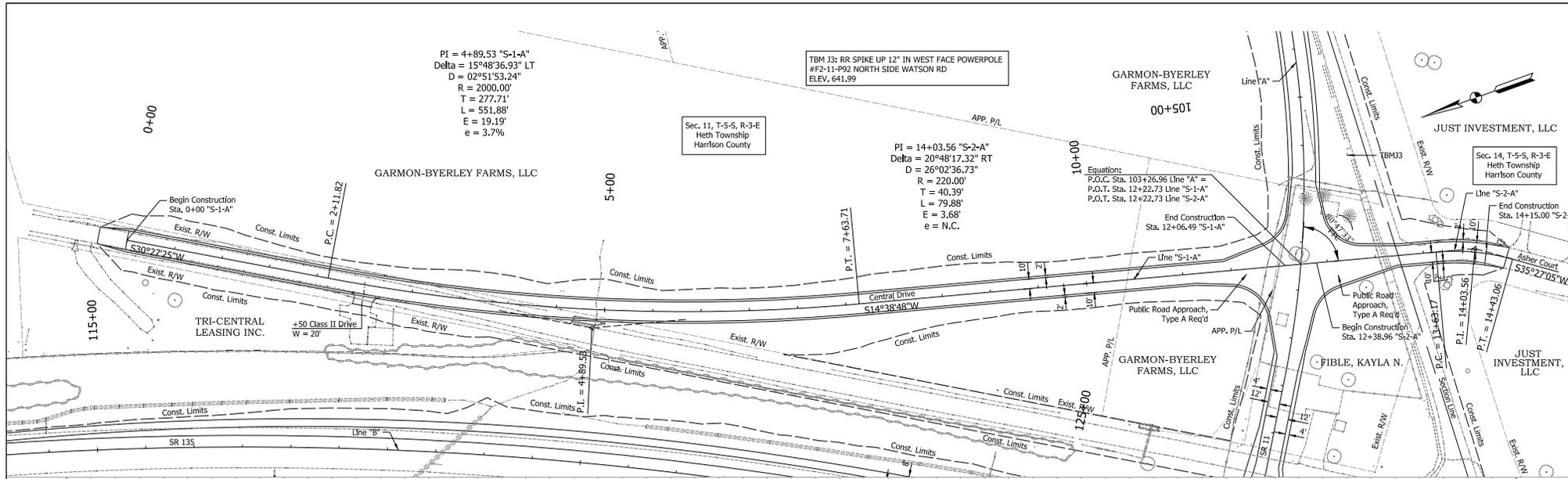
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE SHEET  
LINE "B"  
STA. 128+00 TO STA. 143+00

HORIZONTAL SCALE	BRIDGE FILE
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VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	55 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 2:42 PM

FILES  
RoadSR\_135 - SR 135-2



NOTE TO REVIEWER:  
The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

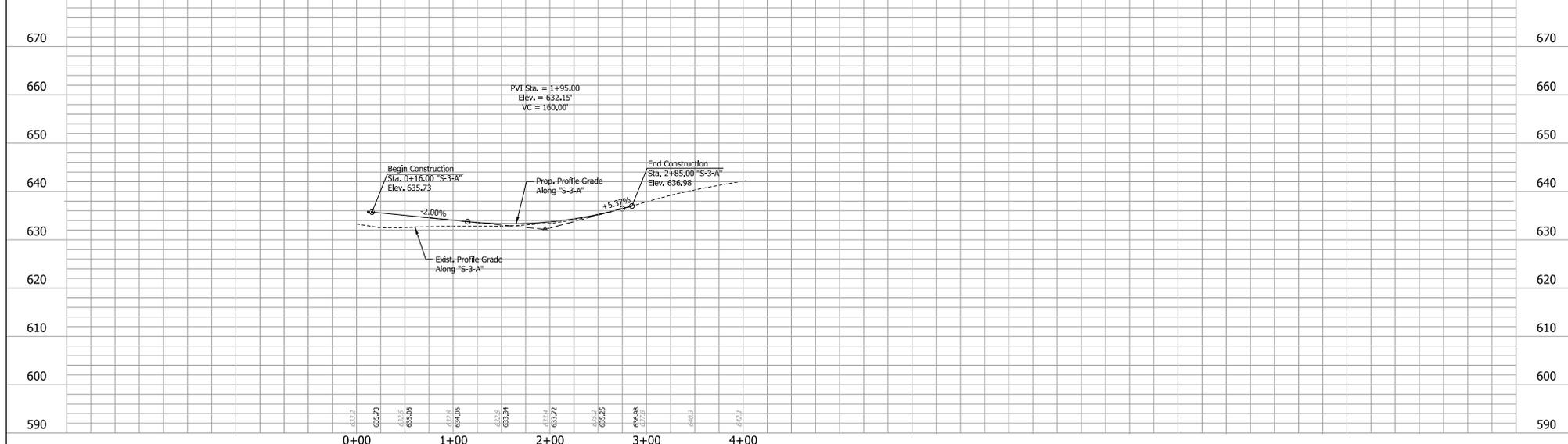
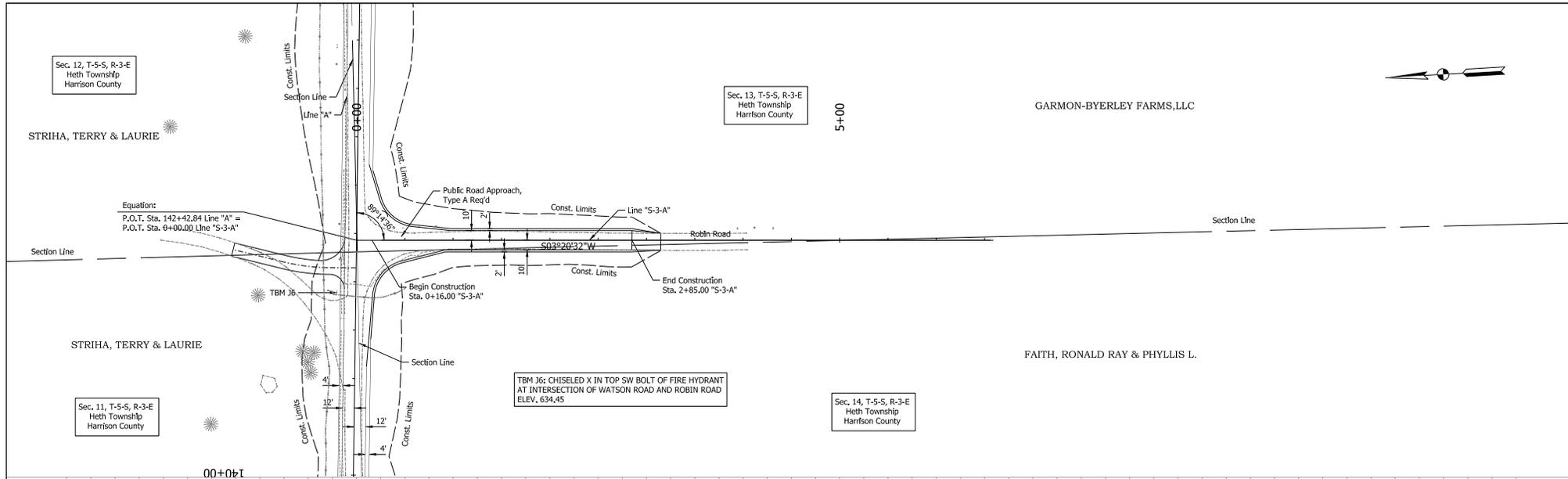
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
LINE "S-1-A" & "S-2-A"  
STA. 0+00 TO STA. 14+50

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	56 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:24 PM

FILES  
Model: Central Drive - Alt 3 - Central Drive



**NOTE TO REVIEWER:**  
The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

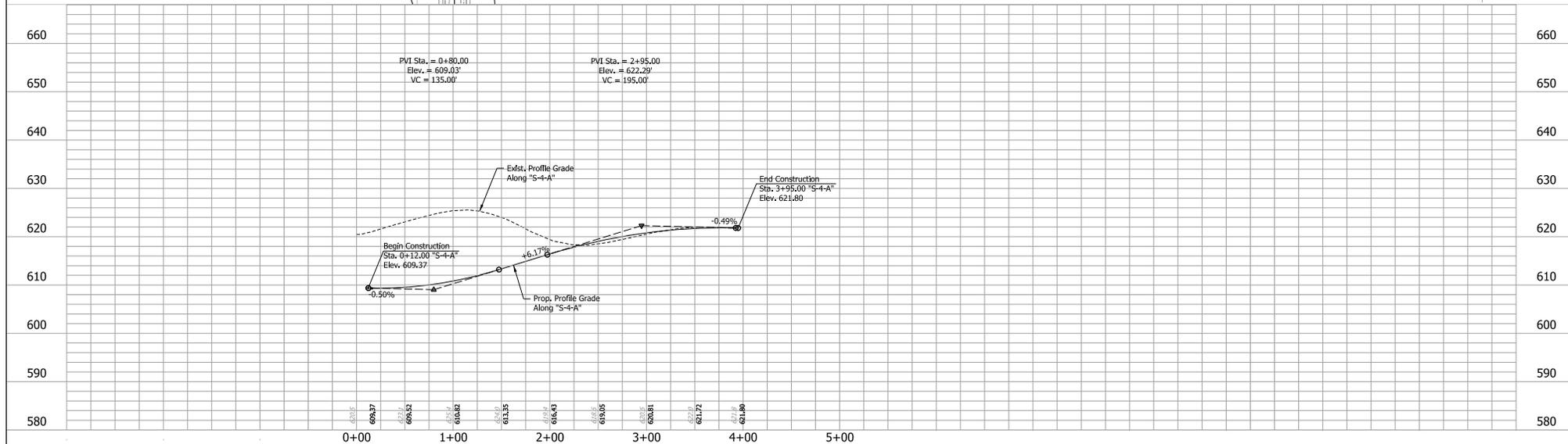
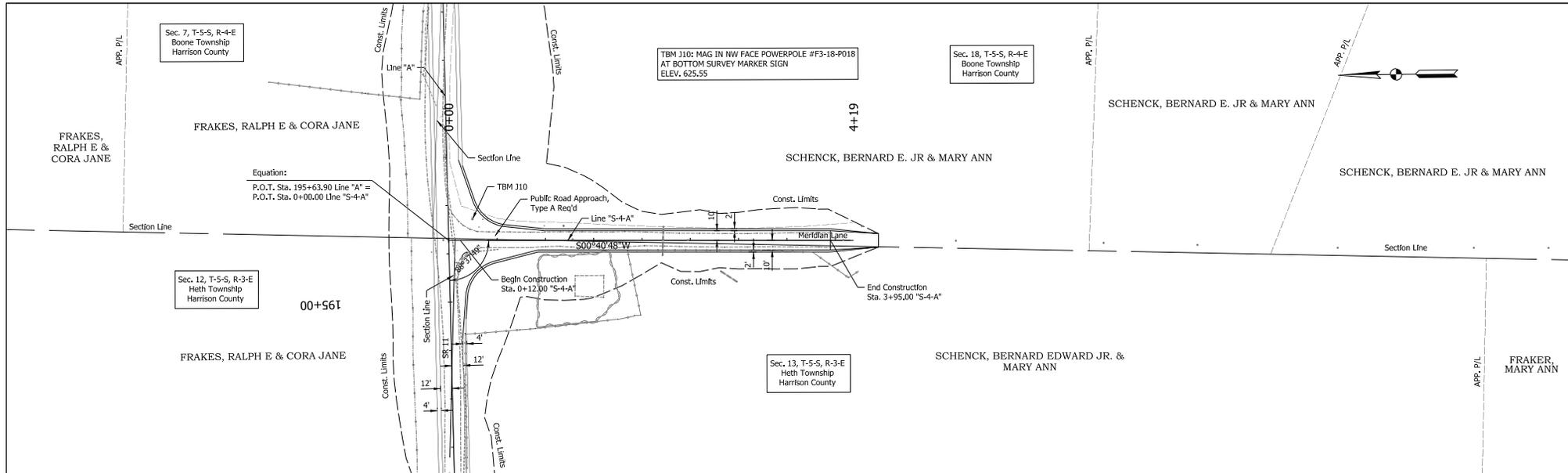
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
"S-3-A"  
Sta. 0+00 TO Sta. 4+00

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	57 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:45 PM

FILES  
Roblin Road - Alt 3 - Roblin Road-3



**NOTE TO REVIEWER:**  
 The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
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CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

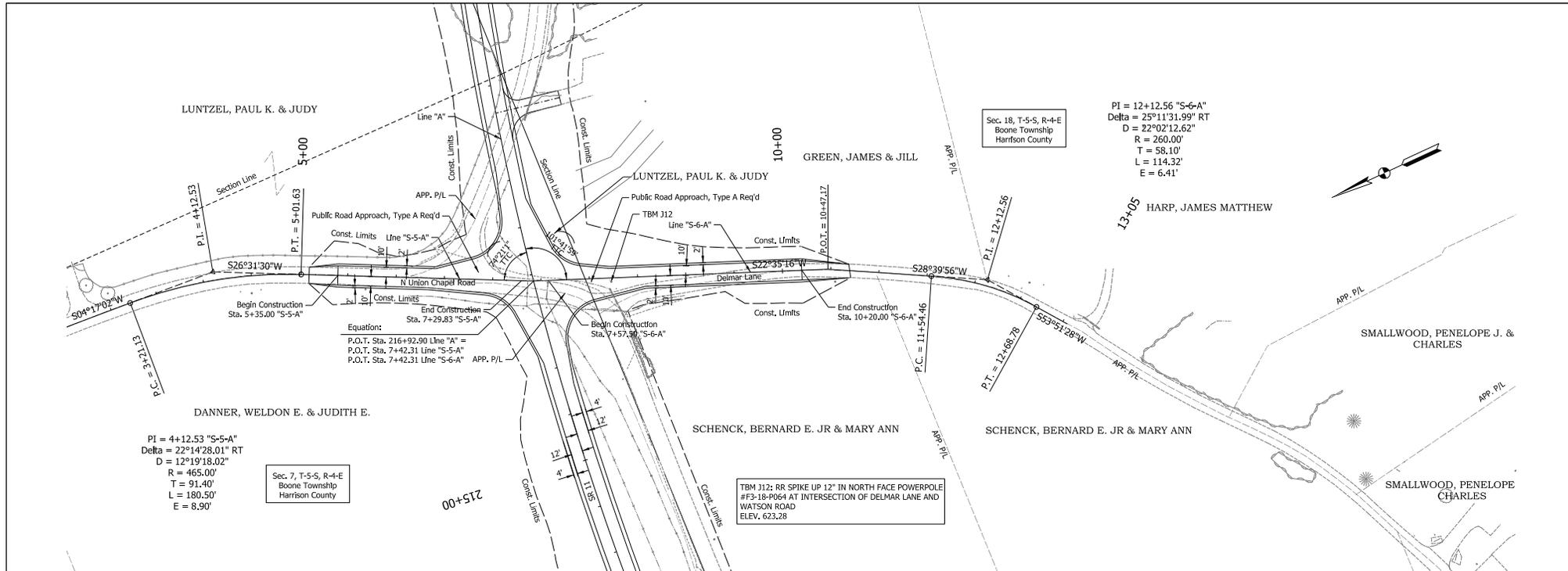
INDIANA  
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
 "S-4-A"  
 Sta. 0+00 TO Sta. 5+00

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	58 of 71
CONTRACT	PROJECT
R-42857	2001154

PLOT: 4/13/2023 2:47 PM

FILES  
 ModelMeridian Lane - Meridian Road



PI = 4+12.53 "S-5-A"  
 Delta = 22°14'28.01" RT  
 D = 12°19'18.02"  
 R = 465.00'  
 T = 91.40'  
 L = 180.50'  
 E = 8.90'

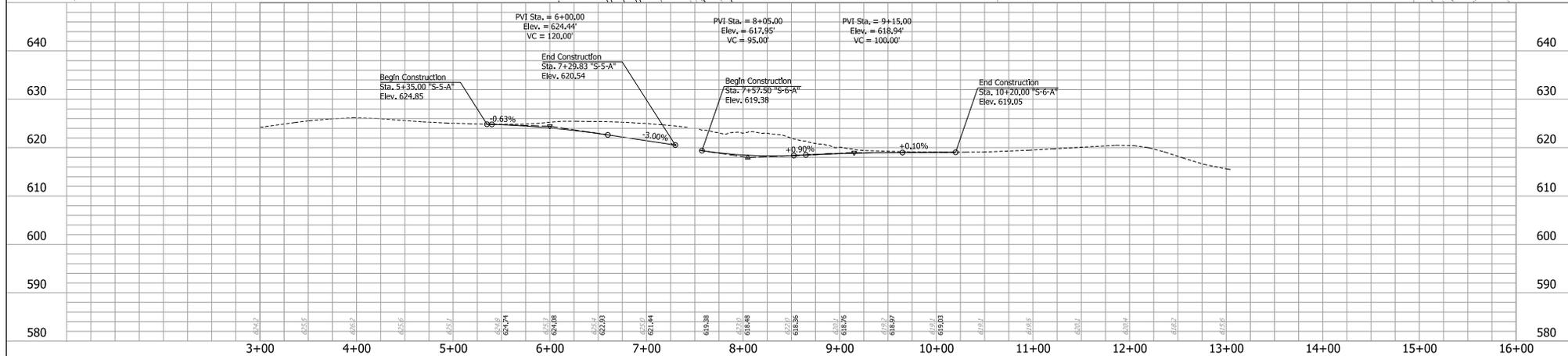
Sec. 7, T-5-S, R-4-E  
 Boone Township  
 Harrison County

PI = 12+12.56 "S-6-A"  
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 D = 22°02'12.62"  
 R = 260.00'  
 T = 58.10'  
 L = 114.32'  
 E = 6.41'

Sec. 18, T-5-S, R-4-E  
 Boone Township  
 Harrison County

Equation:  
 P.O.T. Sta. 216+92.90 Line "A" =  
 P.O.T. Sta. 7+42.31 Line "S-5-A"  
 P.O.T. Sta. 7+42.31 Line "S-6-A"

TBM J12: RR SPIKE UP 12" IN NORTH FACE POWERPOLE #F3-18-P064 AT INTERSECTION OF DELMAR LANE AND WATSON ROAD ELEV. 623.28



NOTE TO REVIEWER:  
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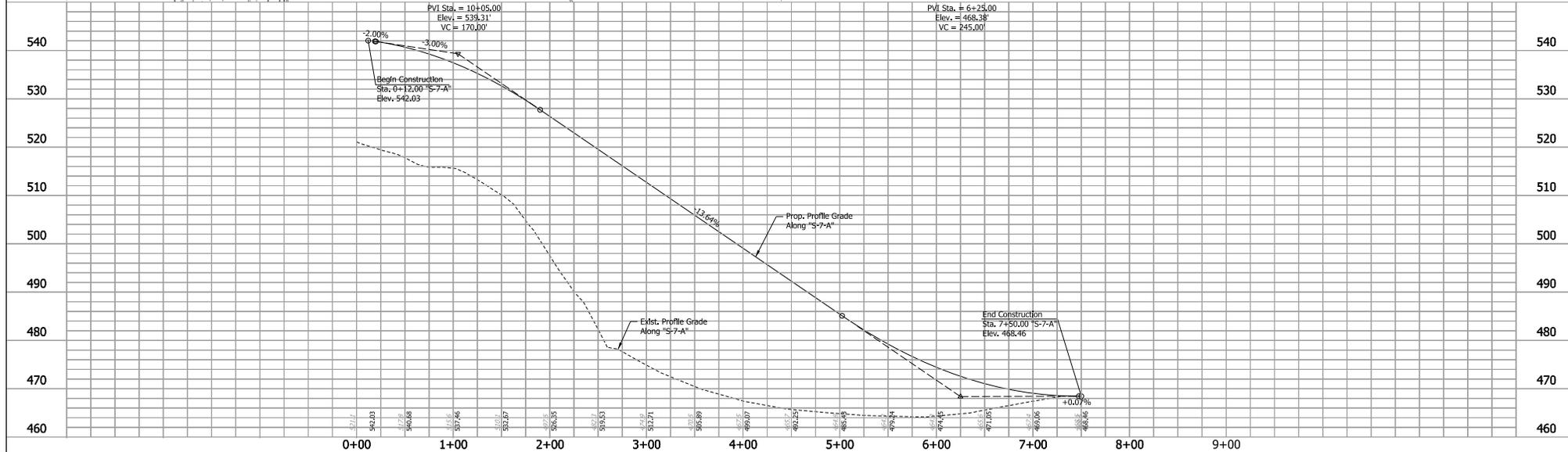
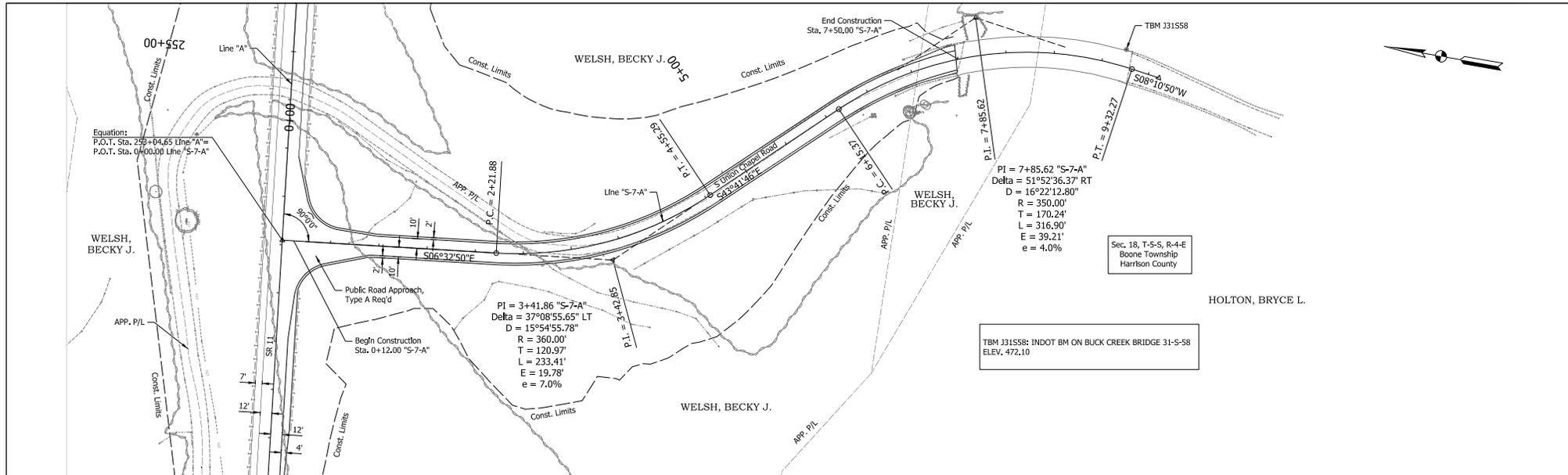
**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 PLAN AND PROFILE  
 "S-5-A" & "S-6-A"  
 STA. 5+00 TO STA. 11+00

HORIZONTAL SCALE	BRIDGE FILE
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VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
Electronic	59 of 71
CONTRACT	PROJECT
R-42857	2001154

PREL: 4/13/2023 2:48 PM  
 FILE: I:\FILES  
 Model\N Union Chapel - Alt 3 - N Union Chapel



**NOTE TO REVIEWER:**  
 The field survey book and URSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

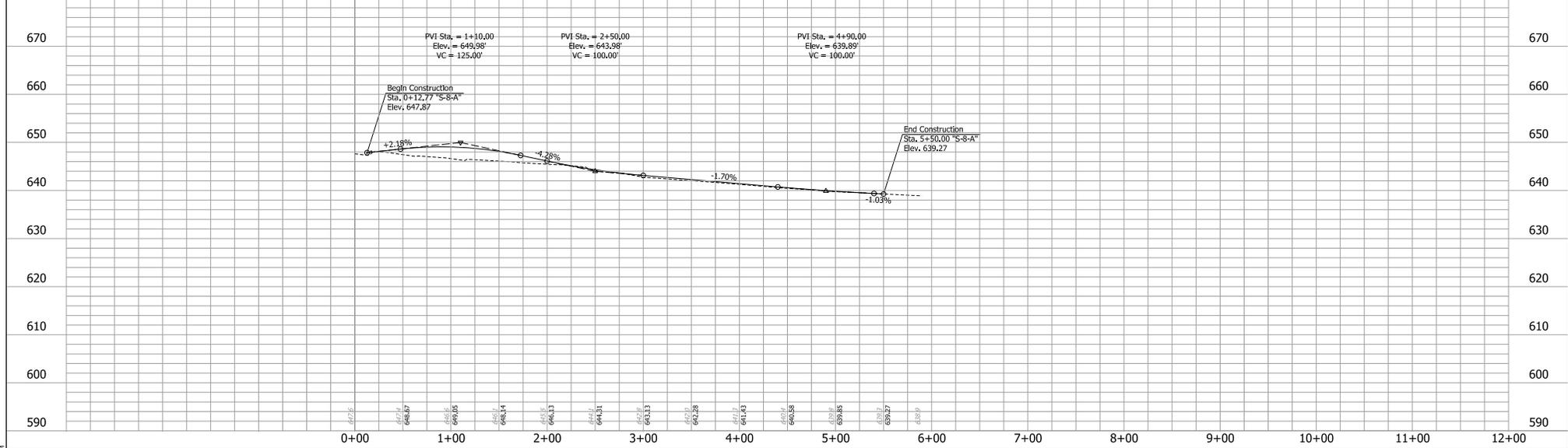
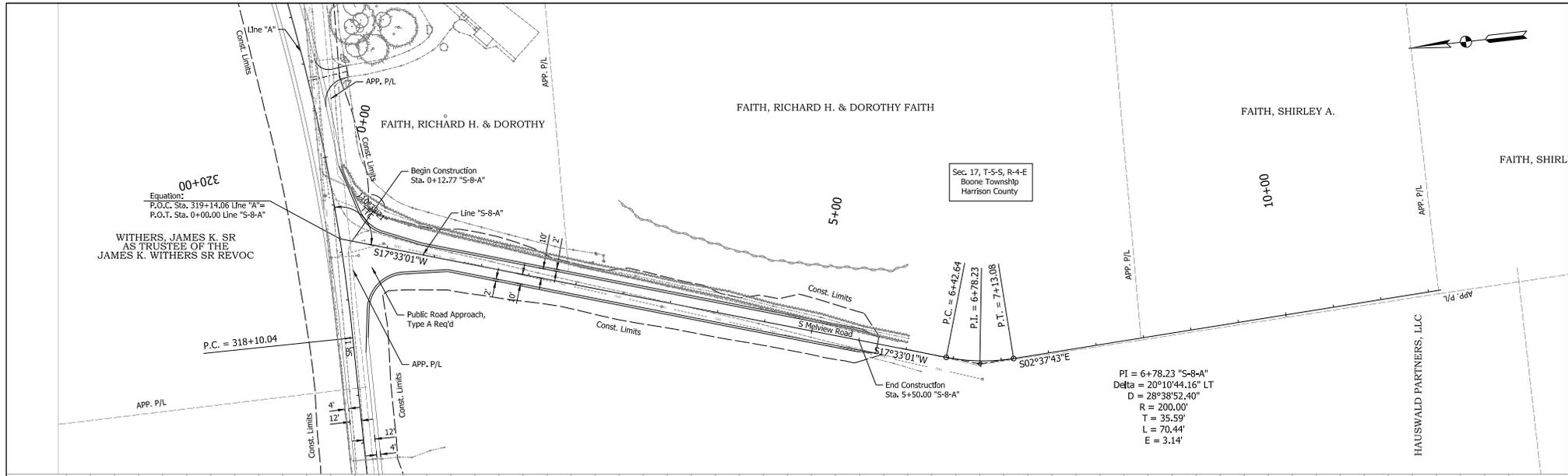
INDIANA  
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
 "S-7-A"  
 STA. 0+00 TO STA. 8+00

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
Electronic	60 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:49 PM

FILE FILES  
 Model: 3 Union Chapel - S Union Chapel



**NOTE TO REVIEWER:**  
 The field survey book and LRSP are currently being finalized by the surveying consultant for the project. Once complete, the appropriate survey reference ties and benchmarks will be added to the plan and profile sheets for a future submittal.

PRELIMINARY

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CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

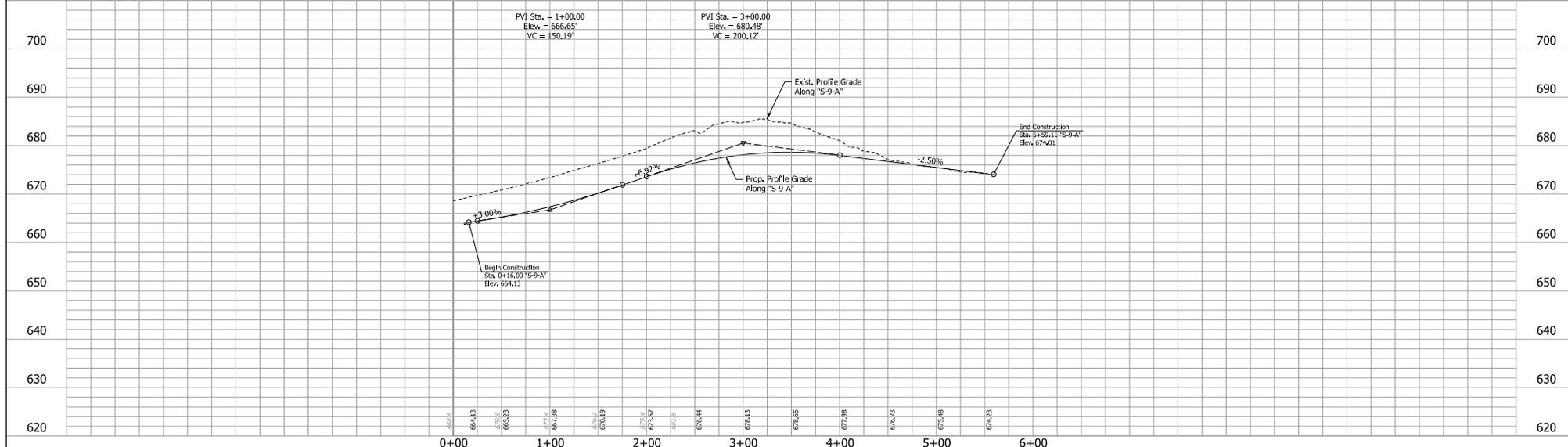
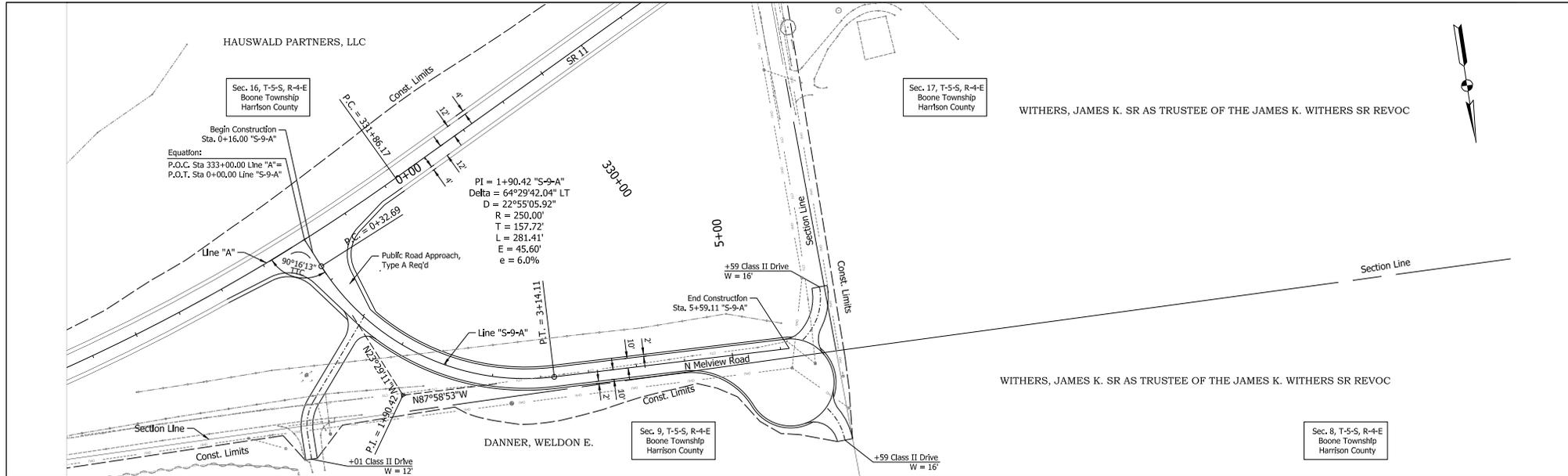
INDIANA  
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
 "S-8-A"  
 STA. 0+00 TO STA. 12+00

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	61 of 71
CONTRACT	PROJECT
R-42857	2001154

PRJ: 4/13/2023 2:55 PM

FILES  
 Models\Melview Road - S Melview Road



**NOTE TO REVIEWER:**  
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**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
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CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

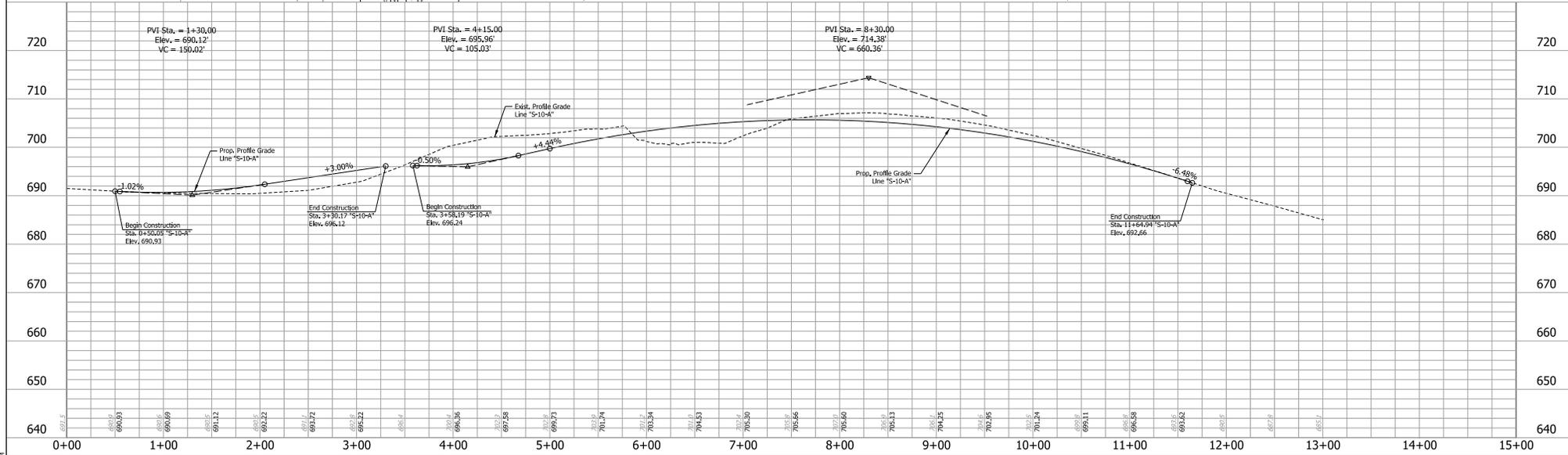
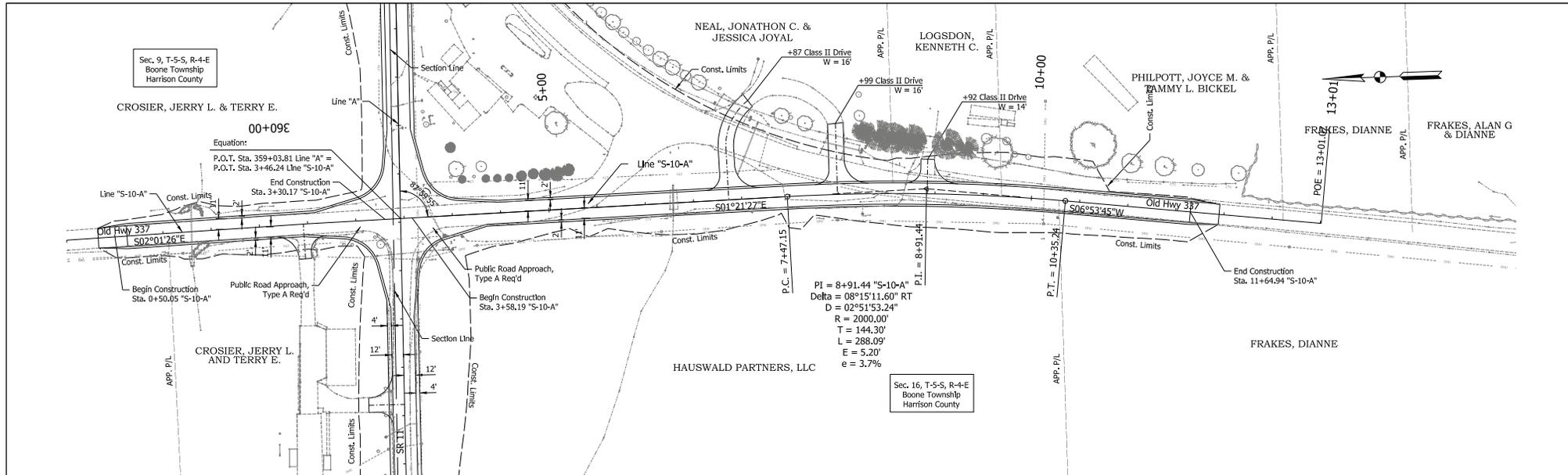
INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
"S-9-A"  
STA, 0+00 TO STA, 6+00

HORIZONTAL SCALE	BRIDGE FILE
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VERTICAL SCALE	DESIGNATION
1" = 10'	2001154
SURVEY BOOK	SHEETS
Electronic	62 of 71
CONTRACT	PROJECT
R-42857	2001154

FILED: 4/13/2023 2:52 PM

FILED: Model N Melview Road - N Melview Road



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**PRELIMINARY**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4/13/2023	DATE
DESIGNED: NLP	4/13/2023	DRAWN: NLP	4/13/2023
CHECKED: DJR	4/13/2023	CHECKED: DJR	4/13/2023

INDIANA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE  
"S-10-A"  
STA. 0+00 TO STA. 13+00

HORIZONTAL SCALE	1" = 50'	BRIDGE FILE	N/A
VERTICAL SCALE	1" = 10'	DESIGNATION	2001154
SURVEY BOOK		SHEETS	63 of 71
ELECTRONIC CONTRACT	R-42857	PROJECT	2001154

PRJ: 4/13/2023 2:25 PM

FILES  
ModelSR 337 - Old SR 337-1

**Environmental Assessment**

**Appendix C**

**Early Coordination**



# INDIANA DEPARTMENT OF TRANSPORTATION

October 6, 2021

«Name»

«Title»

«Address1»

«Address2»

«City», «State» «Zip»

Sample Early Coordination Letter

Re: Des. No.: 2001154  
Road Project  
State Project  
State Road (SR) 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection  
Harrison County, Indiana

Dear «Salu»:

The Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT) intend to proceed with a new road construction project located in Harrison County (Des. No. 2001154).

This letter is part of the early coordination phase of the environmental review. At this time, we are requesting comments from your area of expertise regarding any possible environmental effects (social and natural) associated with this project. **Please use the above Des. No. and project description in your reply.** Your comments will be incorporated into the formal environmental study. Your cooperation in this endeavor is appreciated.

This study will be conducted in accordance with the National Environmental Policy Act (NEPA). INDOT and FHWA have not yet determined the NEPA class of action for the project (i.e., Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement). This determination will be made once more details about the proposed action are defined and potential human and natural environmental resources near the project have been identified.

### *Project Location and Existing Conditions*

The project is located between the SR 135 and Watson Road junction in the west and the SR 11 and Melview Road/SR 337 junction in the east, 4.7 miles north of the existing junction between SR 135 and SR 11 and approximately 10 miles south of Corydon, Indiana along SR 135. Specifically, the project is located in Sections 11, 12, 13, and 14, Township 5 S, Range 3 E in Heth Township and Sections 7 and 18, Township 5 S, Range 4 E in Boone Township as depicted on the Mauckport U.S. Geological Survey 1:24,000 scale quadrangle, as well as Sections 7, 8, 9, 16, 17, and 18, Township 5 S, Range 4 E in Boone Township as depicted on the Laconia U.S. Geological Survey 1:24,000 scale quadrangle. Adjacent land use consists of mature forests, riparian corridors, agricultural fields, and scattered residences.



Within the study area, Watson Road is functionally classified as a rural major collector and Melview Road is functionally classified as a local road. The typical cross section of Watson and Melview Roads consists of two 9- to 10-foot travel lanes (one lane in each direction) with no shoulder or median. The portion of the study area that will have new road constructed currently consists of agricultural fields, forests, and streams with scattered residences. Please see attachments for maps and photographs of the proposed study area.

#### *Draft Purpose and Need*

The need for the SR 11 project is due to the limited direct and safe east to west connection routes in southern Harrison County. The existing roadway network does not meet current design standards. The existing roadways are narrow with little to no shoulders and have substandard horizontal and vertical curves. In addition, the existing SR 11 roadway alignment is located in the Ohio River floodplain and does flood when the Ohio River reaches high flood levels resulting in access limitations.

The purpose of the SR 11 project in southern Harrison County is to provide an improved east-west transportation link between SR 337/SR 11 and SR 135 including a crossing of Buck Creek.

#### *Proposed Project*

The proposed project will involve upgrading existing county roads and building a new terrain road to create a new east-west SR 11 connection across Buck Creek. The project proposes the construction of a new bridge across Buck Creek and installation of additional culverts spanning smaller streams. The exact size of these new structures is not yet known. Once they are, asset numbers will be created and used for final design. Up to 29 acres of tree clearing may occur as part of the project.

The proposed maintenance of traffic (MOT) includes closure with detour for any existing county roads (Watson Rd and Melview Rd) that are utilized. Existing portions of SR 135 and SR 11 are expected to remain open to traffic but will require temporary lane shifting to make room for construction. Access for property owners will be maintained at all times.

Construction is anticipated to begin in Summer 2025.

#### *Right-of-Way (ROW)*

This project is anticipated to require up to 45 acres of permanent right-of-way (ROW) and up to 5 acres of temporary ROW.

#### *Environmental Resources*

A Red Flag Investigation (RFI) was performed for a 0.5-mile radius of the study area. Several "Red Flags" were identified within the 0.5-mile search radius; however, not all will affect the project. A managed land, Indiana Forest Bank, is within the study area. Three NWI-Line segments (associated with Buck Creek and an unnamed tributary to Buck Creek), six stream segments (associated with Buck Creek and unnamed tributaries to Buck Creek), and 12 lakes are located within the study area. Twenty-six NWI-wetlands are located within or adjacent to the study area. The study area is located within a floodplain polygon. Buck Creek is listed as impaired for Impaired Biotic Communities (IBC) and E. coli. Two cave entrance density polygons, two sinkhole area polygons, and two sinking-stream basin polygons are located within the study area. Thirteen petroleum wells are located within or adjacent to the study area.

### *Section 106*

The National Register of Historic Places (National Register) and the Indiana Register of Historic Sites and Structures (State Register) were reviewed using the State Historic Architectural and Archaeological Research Database (SHAARD) and SHAARD Geographic Information System (GIS) data published online. No above-ground historical resources on either list are within the study area. The 1987 *Harrison County Interim Report: Indiana Historic Sites and Structures Inventory* (IHSSI) data was also examined; no surveyed resources from this inventory were located within the study area. The *Indiana Historic Bridge Inventory Volume 2: Listing of Historic and Non-Historic Bridges* by Mead & Hunt (2009) was reviewed. No bridges eligible for listing in the National Register are within the study area. No cemeteries were noted within the vicinity of the study area. This project is anticipated to require full Section 106 due to the project's scope.

### *Range-wide Informal Programmatic Consultation*

Land use in the vicinity of the project is primarily mature forests, riparian corridors, agricultural fields, and scattered residences. Harrison County is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*). A determination key will be completed using the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) portal. It is anticipated that the project will be disqualified from IPaC and will require additional coordination with USFWS.

### *Early Coordination*

This letter is part of the early coordination review process. You are asked to review this information and provide any comments you may have relative to anticipated impacts of the project on areas in which you have jurisdiction or special expertise. We will incorporate your comments into a study of the project's environmental impacts. To facilitate the development of this project, you are asked to reply within **30 calendar days** of receipt of this letter. However, should you find that an extension to the response time is needed, a reasonable amount may be granted upon request.

If you have any questions regarding this project, please feel free to contact me at (812) 759-4107 or at [hhume@lochgroup.com](mailto:hhume@lochgroup.com). Additionally, should you want to contact the sponsor of this project, the INDOT-Seymour District, please contact the Project Manager, Matthew Rhoads, at (812) 524-3941 or at [mrhoads@indot.in.gov](mailto:mrhoads@indot.in.gov).

Thank you in advance for your input.

Sincerely,



Holly Hume  
Environmental Department  
Lochmueller Group, Inc.

Attachments:

- General Location Map
- USGS Topographic Maps
- Red Flag Investigation Maps
- Photographs
- Preliminary Design Plans

Note: Attachments have been removed to avoid duplication and reduce file size.

Distribution List:

- FHWA – Indiana Division (electronic submission)
- Indiana Geological and Water Survey (online submission)
- IDNR, Division of Fish and Wildlife (electronic submission)
- IDEM (online submission)
- National Park Service (electronic submission)
- IDEM Groundwater (electronic submission)
- U.S. Housing and Urban Development (electronic submission)
- INDOT, Environmental Services Division (electronic submission)
- INDOT, Seymour District (electronic submission)
- Natural Resources Conservation Service, Indianapolis Office (electronic submission)
- U.S. Environmental Protection Agency (electronic submission)
- U.S. Army Corps of Engineers, Louisville District (electronic submission)
- Harrison County Board of Commissioners
- Harrison County Surveyor’s Office
- Harrison County Highway Department
- Harrison County Council
- Harrison County Sheriff’s Department
- Harrison County Emergency Management Agency
- Harrison County Plan Commission; Floodplain Administrator
- South Harrison Community School Corporation
- Heth Township Fire Department
- Boone Township Volunteer Fire Department
- The Nature Conservancy (electronic submission)
- IDNR, Division of Oil and Gas (electronic submission)



# Indiana Department of Environmental Management

*We Protect Hoosiers and Our Environment.*

100 North Senate Avenue - Indianapolis, IN 46204  
(800) 451-6027 - (317) 232-8603 - [www.idem.IN.gov](http://www.idem.IN.gov)

INDOT  
Matthew Rhoads  
185 Agrico Lane  
Seymour , IN 47274  
Date

Lochmueller Group, Inc.  
Holly Hume  
6200 Vogel Road  
Evansville , IN 47715

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: The Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT) intend to proceed with a new road construction project located in Harrison County (Des. No. 2001154). This study will be conducted in accordance with the National Environmental Policy Act (NEPA). INDOT and FHWA have not yet determined the NEPA class of action for the project (i.e., Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement). This determination will be made once more details about the proposed action are defined and potential human and natural environmental resources near the project have been identified. The project is located between the SR 135 and Watson Road junction in the west and the SR 11 and Melview Road/SR 337 junction in the east, 4.7 miles north of the existing junction between SR 135 and SR 11 and approximately 10 miles south of Corydon, Indiana along SR 135. Specifically, the project is located in Sections 11, 12, 13, and 14, Township 5 S, Range 3 E in Heth Township and Sections 7 and 18, Township 5 S, Range 4 E in Boone Township as depicted on the Mauckport U.S. Geological Survey 1:24,000 scale quadrangle, as well as Sections 7, 8, 9, 16, 17, and 18, Township 5 S, Range 4 E in Boone Township as depicted on the Laconia U.S. Geological Survey 1:24,000 scale quadrangle. Adjacent land use consists of mature forests, riparian corridors, agricultural fields, and scattered residences. The proposed project will involve upgrading existing county roads and building a new terrain road to create a new east-west SR 11 connection across Buck Creek. The project proposes the construction of a new bridge across Buck Creek and installation of additional culverts spanning smaller streams. The exact size of these new structures is not yet known. Once they are, asset numbers will be created and used for final design. Up to 29 acres of tree clearing may occur as part of the project. The proposed maintenance of traffic (MOT) includes closure with detour for any existing county roads (Watson Rd and Melview Rd) that are utilized. Existing portions of SR 135 and SR 11 are expected to remain open to traffic but will require temporary lane shifting to make room for construction. Access for property owners will be maintained at all times. Construction is anticipated to begin in Summer 2025. This project is anticipated to require up to 45 acres of permanent right-of-way (ROW) and up to 5 acres of temporary ROW. A Red Flag Investigation (RFI) was performed for a 0.5-mile radius of the study area. Several "Red Flags" were identified within the 0.5-mile search radius; however, not all will affect the project. A managed land, Indiana Forest Bank, is within the study area. Three NWI-Line segments (associated with Buck Creek and an unnamed tributary to Buck Creek), six stream segments (associated with Buck Creek and unnamed tributaries to Buck Creek), and 12 lakes are located within the study area. Twenty-six NWI-wetlands are located within or adjacent to the study area. The study area is located within a floodplain polygon. Buck Creek is listed as impaired for Impaired Biotic Communities (IBC) and E. coli. Two cave entrance density polygons, two sinkhole area polygons, and two sinking-stream basin polygons are located within the study area. Thirteen petroleum wells are located within or adjacent to the study area.

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

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

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

## WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

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

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

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at

<http://www.in.gov/idem/4396.htm> (<http://www.in.gov/idem/4396.htm>). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: <http://www.in.gov/idem/4384.htm> (<http://www.in.gov/idem/4384.htm>).
3. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.
4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: <http://www.in.gov/idem/4384.htm> (<http://www.in.gov/idem/4384.htm>) for the appropriate staff contact to further discuss your project.
5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:
  - IC 14-26-2 Lakes Preservation Act 312 IAC 11
  - IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
  - IC 14-28-1 Flood Control Act 310 IAC 6-1
  - IC 14-29-1 Navigable Waterways Act 312 IAC 6
  - IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
  - IC 14-29-4 Construction of Channels Act No related code

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

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

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

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

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are

deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: <http://www.in.gov/idem/4900.htm> (<http://www.in.gov/idem/4900.htm>).

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

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

7. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.
8. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.
9. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.
10. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

## AIR QUALITY

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

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

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

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

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

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

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

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

To learn more about radon, radon risks, and ways to reduce exposure visit:

<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm> (<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>), <http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>), or <http://www.epa.gov/radon/index.html> (<http://www.epa.gov/radon/index.html>).

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

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

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

However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at

<http://www.in.gov/icpr/webfile/formsdiv/44593.pdf> (<http://www.in.gov/icpr/webfile/formsdiv/44593.pdf>).

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

For more information about IDEM policy regarding asbestos removal and disposal, visit:

<http://www.in.gov/idem/4983.htm> (<http://www.in.gov/idem/4983.htm>).

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: <http://www.in.gov/isdh/19131.htm> (<http://www.in.gov/isdh/19131.htm>).
5. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2, Asphalt Paving Rule (<http://www.ai.org/legislative/iac/T03260/A00080.PDF> (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>)).
6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: [www.ai.org/legislative/iac/t03260/a00020.pdf](http://www.ai.org/legislative/iac/t03260/a00020.pdf) (<http://www.ai.org/legislative/iac/t03260/a00020.pdf>)). New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.
7. For more information on air permits visit: <http://www.in.gov/idem/4223.htm> (<http://www.in.gov/idem/4223.htm>), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or [OAMPROD@dem.state.in.us](mailto:OAMPROD@dem.state.in.us).

## LAND QUALITY

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

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.
2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit <http://www.in.gov/idem/4998.htm> (<http://www.in.gov/idem/4998.htm>).
3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.

4. If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.
5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).
6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: <http://www.in.gov/idem/4999.htm> (<http://www.in.gov/idem/4999.htm>).

## FINAL REMARKS

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

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

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

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## Signature(s) of the Applicant

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

## Project Description

The Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT) intend to proceed with a new road construction project located in Harrison County (Des. No. 2001154). This study will be conducted in accordance with the National Environmental Policy Act (NEPA). INDOT and FHWA have not yet determined the NEPA class of action for the project (i.e., Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement). This determination will be made once more details about the proposed action are defined and potential human and natural environmental resources near the project have been identified. The project is located between the SR 135 and Watson Road junction in the west and the SR 11 and Melview Road/SR 337 junction in the east, 4.7 miles north of the existing junction between SR 135 and SR 11 and approximately 10 miles south of Corydon, Indiana along SR 135. Specifically, the project is located in Sections 11, 12, 13, and 14, Township 5 S, Range 3 E in Heth Township and Sections 7 and 18, Township 5 S, Range 4 E in Boone Township as depicted on the Mauckport U.S. Geological Survey 1:24,000 scale quadrangle, as well as Sections 7, 8, 9, 16, 17, and 18, Township 5 S, Range 4 E in Boone Township as depicted on the Laconia U.S. Geological Survey 1:24,000 scale quadrangle. Adjacent land use consists of mature forests, riparian corridors, agricultural fields, and scattered residences. The proposed project will involve upgrading existing county roads and building a new terrain road to create a new east-west SR 11 connection across Buck Creek. The project proposes the construction of a new

bridge across Buck Creek and installation of additional culverts spanning smaller streams. The exact size of these new structures is not yet known. Once they are, asset numbers will be created and used for final design. Up to 29 acres of tree clearing may occur as part of the project. The proposed maintenance of traffic (MOT) includes closure with detour for any existing county roads (Watson Rd and Melview Rd) that are utilized. Existing portions of SR 135 and SR 11 are expected to remain open to traffic but will require temporary lane shifting to make room for construction. Access for property owners will be maintained at all times. Construction is anticipated to begin in Summer 2025. This project is anticipated to require up to 45 acres of permanent right-of-way (ROW) and up to 5 acres of temporary ROW. A Red Flag Investigation (RFI) was performed for a 0.5-mile radius of the study area. Several "Red Flags" were identified within the 0.5-mile search radius; however, not all will affect the project. A managed land, Indiana Forest Bank, is within the study area. Three NWI-Line segments (associated with Buck Creek and an unnamed tributary to Buck Creek), six stream segments (associated with Buck Creek and unnamed tributaries to Buck Creek), and 12 lakes are located within the study area. Twenty-six NWI-wetlands are located within or adjacent to the study area. The study area is located within a floodplain polygon. Buck Creek is listed as impaired for Impaired Biotic Communities (IBC) and E. coli. Two cave entrance density polygons, two sinkhole area polygons, and two sinking-stream basin polygons are located within the study area. Thirteen petroleum wells are located within or adjacent to the study area.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: 10-7-21

Signature of the INDOT  
Project Engineer or Other Responsible Agent Matthew Rhoads

Matthew Rhoads

Date: 10/07/21

Signature of the  
For Hire Consultant Holly Hume  
Holly Hume



INDIANA  
GEOLOGICAL SURVEY

## Organization and Project Information

**Project ID:** INDOT  
**Des. ID:** Des 2001154  
**Project Title:** SR 11, New Road Construction  
**Name of Organization:** Lochmueller Group, Inc.  
**Requested by:** Holly Hume

## Environmental Assessment Report

### 1. Geological Hazards:

- Potential Karst
- 1% Annual Chance Flood Hazard

### 2. Mineral Resources:

- Bedrock Resource: High Potential
- Sand and Gravel Resource: None documented in the area

### 3. Active or abandoned mineral resources extraction sites:

- Petroleum Exploration Wells
- Abandoned Industrial Minerals Quarries

\*All map layers from Indiana Map ([maps.indiana.edu](http://maps.indiana.edu))

### DISCLAIMER:

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

This information was furnished by Indiana Geological Survey

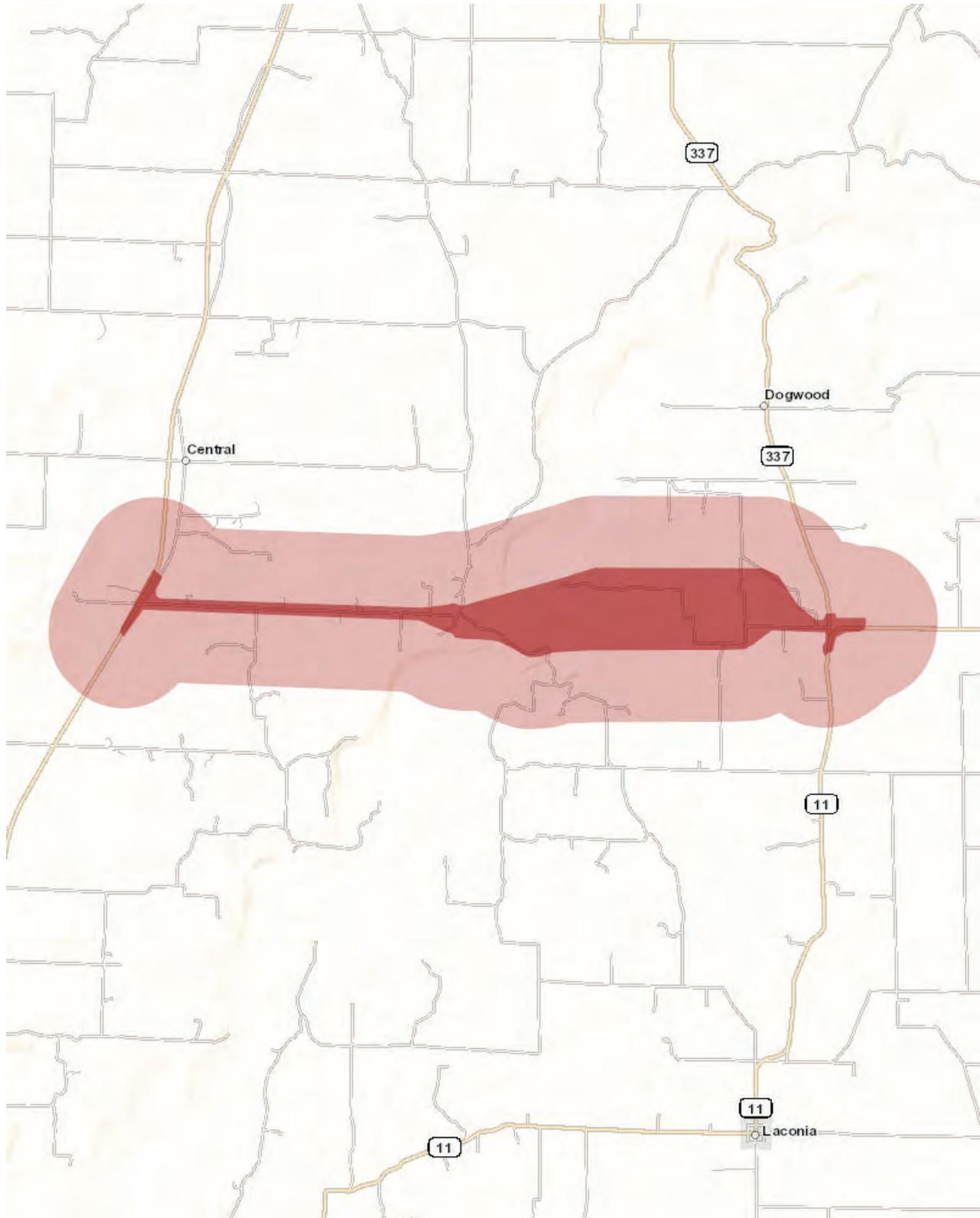
Address: 420 N. Walnut St., Bloomington, IN 47404

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: October 06, 2021





## Metadata:

- [https://maps.indiana.edu/metadata/Hydrology/Karst\\_Cave\\_Density.html](https://maps.indiana.edu/metadata/Hydrology/Karst_Cave_Density.html)
- [https://maps.indiana.edu/metadata/Hydrology/Karst\\_Sinkhole\\_Areas.html](https://maps.indiana.edu/metadata/Hydrology/Karst_Sinkhole_Areas.html)
- [https://maps.indiana.edu/metadata/Hydrology/Karst\\_Springs.html](https://maps.indiana.edu/metadata/Hydrology/Karst_Springs.html)
- [https://maps.indiana.edu/metadata/Geology/Petroleum\\_Wells.html](https://maps.indiana.edu/metadata/Geology/Petroleum_Wells.html)
- [https://maps.indiana.edu/metadata/Geology/Industrial\\_Minerals\\_Quarries\\_Abandoned.html](https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Quarries_Abandoned.html)
- [https://maps.indiana.edu/metadata/Hydrology/Floodplains\\_FIRM.html](https://maps.indiana.edu/metadata/Hydrology/Floodplains_FIRM.html)
- [https://maps.indiana.edu/metadata/Geology/Bedrock\\_Geology.html](https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html)

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**From:** Allen, John - NRCS, Indianapolis, IN <john.allen@usda.gov>  
**Sent:** Monday, October 18, 2021 10:50 AM  
**To:** Holly Hume  
**Subject:** FW: [External Email]Early Coordination - Des 2001154 SR 11 Road Project  
**Attachments:** Early Coordination Letter - Des 2001154 SR 11\_2021-10-06 - NRCS.pdf; Des 2001154 CPA-106 Form.pdf

Hi Holly,

It was nice talking with you this morning. As we discussed on the phone, I will not be able to do a farmland impact response because the information provided is not specific enough. Because the footprint or area noted on the map for this project is quite large (several hundred acres), I will need to know exactly where the 45 acres of direct impact is coming from or where you are exactly putting in the new road. Please send me a new request when you have more specific information.

Thanks,  
John

John Allen  
Assistant State Soil Scientist  
USDA-Natural Resources Conservation Service  
6013 Lakeside Boulevard  
Indianapolis, IN 46278

(317) 295-5859

e-mail: [john.allen@usda.gov](mailto:john.allen@usda.gov)

<https://casoilresource.lawr.ucdavis.edu/gmap/>

[Soil Explorer](#)

[Web Soil Survey](#)

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**From:** Neilson, Rick - NRCS, Indianapolis, IN <rick.neilson@usda.gov>  
**Sent:** Thursday, October 7, 2021 7:01 AM  
**To:** Allen, John - NRCS, Indianapolis, IN <john.allen@usda.gov>  
**Subject:** FW: [External Email]Early Coordination - Des 2001154 SR 11 Road Project

John,

For your review. They look like that are converting the existing road to a State Road. Due to the large footprint, you may want to ask if they have a GIS layer of the footprint to use in the calculation. Thanks.

Rick

Rick Neilson  
State Soil Scientist  
Natural Resources Conservation Service  
6013 Lakeside Blvd.  
Indianapolis, IN 46278  
[Rick.Neilson@usda.gov](mailto:Rick.Neilson@usda.gov)  
Office: (317) 295-5875  
Mobile: (317) 501-2991

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**From:** Holly Hume <[HHume@lochgroup.com](mailto:HHume@lochgroup.com)>  
**Sent:** Wednesday, October 6, 2021 5:15 PM  
**To:** Neilson, Rick - NRCS, Indianapolis, IN <[rick.neilson@usda.gov](mailto:rick.neilson@usda.gov)>  
**Cc:** Ruffner, Shelby - NRCS, Indianapolis, IN <[shelby.ruffner@usda.gov](mailto:shelby.ruffner@usda.gov)>; Daniel Townsend <[DTownsend@lochgroup.com](mailto:DTownsend@lochgroup.com)>  
**Subject:** [External Email]Early Coordination - Des 2001154 SR 11 Road Project

**[External Email]**  
If this message comes from an **unexpected sender** or references a **vague/unexpected topic**;  
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Please send any concerns or suspicious messages to: [Spam.Abuse@usda.gov](mailto:Spam.Abuse@usda.gov)

Dear Mr. Neilson,  
We are working on the environmental document for a road construction project located on SR 11, from SR 135/Watson Rd to the SR 11/SR 337/Melview Rd intersection in Harrison County, IN (Des 2001154). This project is anticipated to require up to 45 acres of permanent right-of-way (ROW) and up to 5 acres of temporary ROW. The early coordination package and partially completed CPA-106 form are attached for your review and comment.  
Thank you,  
Holly



## Holly Hume

Environmental Specialist I

 **Lochmueller Group**  
6200 Vogel Road, Evansville, IN 47715

 **Email:** [HHume@lochgroup.com](mailto:HHume@lochgroup.com)

**Direct:** 812.759.4107  
 **Mobile:** 812.582.1993

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November 1, 2021

Holly Hume  
Lochmueller Group, Inc.  
6200 Vogel Road  
Evansville, Indiana 47715

Dear Ms. Hume:

The proposed project to proceed with road improvements along State Road 135/Watson Road to State Road 11/State Road 337/Melview Road intersection in Harrison County, Indiana, (Des No 2001154), as referred to in your letter received October 6, 2021, will not be able to be determined at this time due to a lack of site-specific information. Please resubmit when specific/potential impacts are determined.

If you need additional information, please contact John Allen at 317-295-5859 or [john.allen@usda.gov](mailto:john.allen@usda.gov).

Sincerely,

RICK NEILSON  
State Soil Scientist

---

Helping People Help the Land.



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March 16, 2023

Daniel Townsend  
6200 Vogel Road  
Evansville, Indiana 47715

Dear Mr. Townsend:

The proposed SR 11 road project in Harrison County, Indiana (Des. No. 2001154), as referred to in your letter received February 28, 2023, will cause a conversion of prime farmland.

The attached packet of information is for your use competing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact John Allen at 317-295-5859 or [john.allen@usda.gov](mailto:john.allen@usda.gov).

Sincerely,

**JOHN ALLEN**

Digitally signed by JOHN ALLEN  
Date: 2023.03.16 12:49:31 -04'00'

JOHN ALLEN  
State Soil Scientist

Enclosures

**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

<b>PART I (To be completed by Federal Agency)</b>		3. Date of Land Evaluation Request <b>2/28/23</b>	4. Sheet 1 of <b>1</b>
1. Name of Project <b>Des 2001154 SR 11 Update</b>		5. Federal Agency Involved <b>FHWA</b>	
2. Type of Project <b>New Road Construction</b>		6. County and State <b>Harrison County, Indiana</b>	
<b>PART II (To be completed by NRCS)</b>		1. Date Request Received by NRCS	2. Person Completing Form <b>JRA</b>
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated   Average Farm Size <b>141 ac</b>	
5. Major Crop(s) <b>Corn</b>	6. Farmable Land in Government Jurisdiction Acres: <b>194275</b> % <b>62</b>	7. Amount of Farmland As Defined in FPPA Acres: <b>77509</b> % <b>25</b>	
8. Name Of Land Evaluation System Used <b>LESA</b>	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS <b>3/16/23</b>	

	Alternative Corridor For Segment <u>Preferred Alt</u>			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	<b>131.59</b>			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	<b>0</b>			
C. Total Acres In Corridor	<b>154.56</b>			

<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>				
A. Total Acres Prime And Unique Farmland	<b>86.70</b>			
B. Total Acres Statewide And Local Important Farmland	<b>0.00</b>			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	<b>0.170</b>			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	<b>114</b>			

<b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b>	<b>83</b>			
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<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>	Maximum Points				
1. Area in Nonurban Use	15	<b>8</b>			
2. Perimeter in Nonurban Use	10	<b>5</b>			
3. Percent Of Corridor Being Farmed	20	<b>13</b>			
4. Protection Provided By State And Local Government	20	<b>20</b>			
5. Size of Present Farm Unit Compared To Average	10	<b>4</b>			
6. Creation Of Nonfarmable Farmland	25	<b>5</b>			
7. Availability Of Farm Support Services	5	<b>5</b>			
8. On-Farm Investments	20	<b>10</b>			
9. Effects Of Conversion On Farm Support Services	25	<b>0</b>			
10. Compatibility With Existing Agricultural Use	10	<b>3</b>			
<b>TOTAL CORRIDOR ASSESSMENT POINTS</b>	<b>160</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)	100	<b>83</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total Corridor Assessment (From Part VI above or a local site assessment)	160	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL POINTS (Total of above 2 lines)</b>	<b>260</b>	<b>156</b>	<b>0</b>	<b>0</b>	<b>0</b>

1. Corridor Selected: <b>Corridor A - Preferred Alt</b>	2. Total Acres of Farmlands to be Converted by Project: <b>60.58</b>	3. Date Of Selection: <b>3/28/23</b>	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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5. Reason For Selection:  
**This alternative has an impact rating score of less than 160 and will have minimal impacts to prime farmland.**

Signature of Person Completing this Part: **Daniel Townsend** DATE **4/5/23**

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

## CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

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

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

More than 90 percent - 15 points  
 90 to 20 percent - 14 to 1 point(s)  
 Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

More than 90 percent - 10 points  
 90 to 20 percent - 9 to 1 point(s)  
 Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

More than 90 percent - 20 points  
 90 to 20 percent - 19 to 1 point(s)  
 Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected - 20 points  
 Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ?

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

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project - 25 points  
 Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)  
 Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available - 5 points  
 Some required services are available - 4 to 1 point(s)  
 No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment - 20 points  
 Moderate amount of on-farm investment - 19 to 1 point(s)  
 No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is converted - 25 points  
 Some reduction in demand for support services if the site is converted - 1 to 24 point(s)  
 No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points  
 Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)  
 Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

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**From:** Holly Hume  
**Sent:** Thursday, October 14, 2021 8:25 AM  
**To:** Eric Wise  
**Subject:** RE: DES. No.:2001154

Hi Eric,

Thank you for the information. I passed your response along to the designer and he stated that coordination with the owner of the wells and pipelines is already occurring.

Thanks again,  
Holly

---

**From:** Eric Wise <EWise@harrisoncounty.in.gov>  
**Sent:** Wednesday, October 13, 2021 12:10 PM  
**To:** Holly Hume <HHume@lochgroup.com>  
**Subject:** RE: DES. No.:2001154

Attached is a map I created showing the likely location of gas extraction lines in the area. Shape file available. Line locations are based on well head electric permits and evidence of trenching from well to well in aerial photos taken every 2-3 years.

Eric M. Wise, AICP  
Harrison County Plan Commission &  
Land Conservation Program  
245 Atwood St. Suite 215  
Corydon IN 47112  
812-738-8927  
812-738-8939(fax)

---

**From:** Eric Wise  
**Sent:** Wednesday, October 13, 2021 12:59 PM  
**To:** 'hhume@lochgroup.com' <[hhume@lochgroup.com](mailto:hhume@lochgroup.com)>  
**Subject:** DES. No.:2001154

Holly,

I received your environmental review letter and the only item that comes to mind is the reported encampment of Morgan's Raiders during the civil war that I have been told occurred in the circle on the attached map. Though a one night stay somewhere may not have any significance I figured you would rather be aware of it in advance in case someone with more knowledge on the subject brings it up later. I am no historian or civil war buff but this is what I have heard over the years -If you need an official letter to that effect let me know.

Eric M. Wise, AICP  
Harrison County Plan Commission &  
Land Conservation Program  
245 Atwood St. Suite 215



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

November 5, 2021

REPLY TO THE ATTENTION OF:  
Mail Code RM-19J

**VIA ELECTRONIC MAIL ONLY**

Holly Hume  
Environmental Department  
Lochmueller Group, Inc.  
6200 Vogel Road  
Evansville, Indiana 47715  
[HHume@lochgroup.com](mailto:HHume@lochgroup.com)

RE: Early Coordination / NEPA Scoping - Proposed Extension of State Road 11 (SR 11),  
from SR 135/Watson Road to the SR 11/SR 337/Melview Road Intersection, Harrison  
County, Indiana. (Des. No.: 2001154)

Dear Ms. Hume:

This letter with enclosure responds to your October 6, 2021, letter request on behalf of the Indiana Department of Transportation (INDOT) for the U.S. Environmental Protection Agency (EPA) to provide early coordination comments regarding any possible environmental effects associated with the above referenced project. EPA understands the Lochmueller Group is assisting the Federal Highway Administration (FHWA) and INDOT with the proposed project's environmental study conducted in accordance with the National Environmental Policy Act (NEPA). Your letter identifies FHWA and INDOT have not yet determined the NEPA class of action for the project (i.e., Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement).

EPA review of the preliminary information provided indicates the proposed project study area is in a geologic area of southern Harrison County that has numerous karst features (e.g., sink holes, sinking streams, caves, and springs). In addition, the current study area, in part, contains floodplain, wetlands, streams (e.g., Buck Creek and unnamed tributaries), lakes and forest. Construction and operation of a road project in this area has the potential to impact the quality and quantity of surface water and ground water resources, drinking water wells, and terrestrial and aquatic wildlife habitats some of which may harbor federal- and/or state-listed species. The enclosure to this letter provides our detailed early coordination comments and recommendations for the environmental study and NEPA documentation.

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Thank you for giving us the opportunity to provide early coordination comments regarding the NEPA environmental study for the proposed SR 11 Project. If you have any questions, please contact Virginia Laszewski at (312) 886-7501 or at [laszewski.virginia@epa.gov](mailto:laszewski.virginia@epa.gov).

Sincerely,

Kenneth A. Westlake  
Deputy Director, Tribal and Multi-media Programs Office  
Office of the Regional Administrator

Enclosure: EPA Detailed Comments, and EPA Construction Emission Control Checklist

e-cc (via email):

Carmany-George, Project Manager, Federal Highway Administration - Indiana Division,  
[k.carmanygeorge@dot.gov](mailto:k.carmanygeorge@dot.gov)

Matthew Rhoads, Project Manager, Indiana Department of Transportation,  
[mrhoads@indot.in.gov](mailto:mrhoads@indot.in.gov)

U.S. Army Corps of Engineers, Louisville District, Gregory McKay, Chief, North Branch  
Regulatory Division, [Gregory.A.Mckay@usace.army.mil](mailto:Gregory.A.Mckay@usace.army.mil)

Debra Snyder, U.S. Army Corps of Engineers – Indianapolis Regulatory Office,  
[Deborah.D.Snyder@usace.army.mil](mailto:Deborah.D.Snyder@usace.army.mil)

Robin McWilliams-Munson, U.S. Fish and Wildlife Service, Region 3, Bloomington  
Ecological Services Office, [Robin\\_McWilliams@fws.gov](mailto:Robin_McWilliams@fws.gov)

Randy Braun / Jay Turner, Indiana Department of Environmental Management, Office of  
Water Quality, Section 401 Water Quality Certification Program, Indianapolis,  
[rbraun@idem.IN.gov](mailto:rbraun@idem.IN.gov), / [JTurner2@idem.IN.gov](mailto:JTurner2@idem.IN.gov)

Matt Buffington, Indiana Department of Natural Resources, Indianapolis,  
[mbuffington@dnr.in.gov](mailto:mbuffington@dnr.in.gov)

Lawrence Curley, EPA R5, Water Division, UIC Program, [Curley.Lawrence@epa.gov](mailto:Curley.Lawrence@epa.gov)

Dana Rzeznik, EPA R5, Wetlands and Watersheds, [rzeznik.dana@epa.gov](mailto:rzeznik.dana@epa.gov)

**EPA Early Coordination/NEPA Scoping Comments - Proposed Extension of State Road 11 (SR 11), from SR 135/Watson Road to the SR 11/SR 337/Melview Road Intersection, Harrison County, IN. (Des. No.: 2001154).**

Based on the October 6, 2021 letter with information provided for our review, EPA offers the following comments regarding the ongoing environmental study and NEPA documentation.

**Proposed Project**

The letter states: *“The proposed project will involve upgrading existing county roads and building a new terrain road to create a new east-west SR 11 connection across Buck Creek. The project proposes the construction of a new bridge across Buck Creek and installation of additional culverts spanning smaller streams.”*

*“The portion of the study area that will have new road constructed currently consists of agricultural fields, forests, and streams with scattered residences.”*

**Draft Purpose and Need**

*The need for the SR 11 project is due to the limited direct and safe east to west connection routes in southern Harrison County. The existing roadway network does not meet current design standards. The existing roadways are narrow with little to no shoulders and have substandard horizontal and vertical curves. In addition, the existing SR 11 roadway alignment is located in the Ohio River floodplain and does flood when the Ohio River reaches high flood levels resulting in access limitations.*

*The purpose of the SR 11 project in southern Harrison County is to provide an improved east-west transportation link between SR 337/SR 11 and SR 135 including a crossing of Buck Creek.*

EPA recommendation: A substantiated purpose and need is the basis for identifying practical alternatives for NEPA analysis. The NEPA documentation for this project should contain a level of information that substantiates the purpose and need for the proposed project. What is the underlying problem that needs to be solved? For example: What is the condition of the existing Buck Creek bridge in southern Harrison County? How often is it impassable due to flooding? Why is a new bridge in a new location needed? Identify the specific areas that experience access limitations on SR 11 when the Ohio River reaches high flood levels. Identify and discuss what the access limitations are, their frequency and extent.

**Corridor Alternatives**

Based on the information provided, only one east-west corridor alternative for an improved SR 11 roadway and new Buck Creek bridge crossing in southern Harrison County is identified for analysis in the NEPA study.

EPA recommendation: There may be other east-west corridors for an improved east-west roadway, if needed, in southern Harrison County that might have fewer/less impacts and still

satisfy a substantiated purpose and need. For example, has improving existing SR11 been considered? EPA recommends the NEPA document identify and disclose potential impacts associated with an alternative that upgrades/improves existing SR11, and other potential east-west corridors and Buck Creek crossing locations in southern Harrison County, if applicable. Please document other alternatives that were considered and dropped, and the rationale for dropping them from the range of alternatives to be analyzed. (see additional comments regarding alternatives under **Clean Water Act (CWA) Section 404 permits and compliance with CWA Section 404(b)(1) Guidelines**)

**Affected Environment and Karst Geology/Karst Features** – Information provided identifies many karst features may be encountered throughout southern Harrison County, the study area of the one identified proposed east-west corridor alternative. To identify, assess, disclose, and compare potential impacts between alternatives regarding various above ground and underground resources, the NEPA documentation will need to include a detailed characterization/studies of the resources in the southern portion of Harrison County.

EPA Recommendations: We recommend the NEPA document include detailed descriptions of the surface and underground resources in the study areas for the various alternatives, supported with photos and figures/maps. Direction of surface and groundwater flow should be identified. Include results of dye trace studies in relation to surface waters, caves, springs, and public and private wells used for potable water supply. It is particularly important to know where potential roadway drainage, a source of surface and groundwater pollution, could show up. The figures and maps should depict the various east-west alternative corridors and potential roadway routes within the corridors, and existing SR 11 in relation to the study area resources.

**Clean Water Act (CWA) Section 404 permits and compliance with CWA Section 404(b)(1) Guidelines** – Initial information identifies there are wetlands and streams that may be impacted. The proposal will need a Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (Corps). Mitigation requirements under 40 CFR Section 230 address the replacement of unavoidable losses of wetland functions and values.

EPA Recommendations: We recommend the NEPA document contain a level of information and analysis adequate to support compliance with the CWA, Section 404(b)(1) Guidelines, including **alternatives** and mitigation sequencing requirements (first avoid, then minimize, and finally compensate for those impacts that cannot be avoided or minimized). **Direct, indirect, and cumulative impacts** analysis should be included in the NEPA document. Of particular concern is the effect of the construction and operation of the proposal on the hydrology and water quality of existing wetlands and streams. If mitigation banking is proposed, we recommend providing details of the proposed mitigation bank/s in the NEPA document.

**Surface Water and Groundwater Quality/Quantity** – The NEPA document will need to clearly describe water bodies, streams, springs, and ground water resources within the various alternatives' study areas.

EPA Recommendations (Impaired Waters/401 Certification/TMDLs): Impacts of the various east-west corridors and corridor roadway alternatives on water quality should address, but not be

limited to, a water body's designated use and compliance with Indiana Water Quality Standards and CWA Section 401 Water Quality Certifications. In addition to identifying Buck Creek as *impaired for Impaired Biotic Communities (IBC) and E. coli.*, the NEPA document should also identify whether additional water bodies located in other corridor alternative study areas are listed as impaired, and, if so, are part of a Total Maximum Daily Load (TMDL) plan. If impaired waters are identified, the NEPA document should identify the impairment/s and the reason/s for the impairment/s. The Project's impacts on TMDLs should be analyzed and disclosed, and mitigation identified in the NEPA document.

EPA Recommendations (Drinking Water Supply, Well-head Protection Areas, Water Supply Intake, Springs, and Karst Geology/Karst Features): Information provided shows there are sinking streams and springs in the area. The NEPA document should disclose if any of the springs are used, even occasionally, by locals as a source of drinking water for themselves and/or their pets or livestock.

We recommend giving special attention to work that would occur in or near an identified well head (drinking water) protection zones, or upstream of a drinking water intake. In addition, special attention should be given to how work is conducted in areas with karst features where contaminants introduced into the karst system may travel underground for miles and show up in private and/or public drinking water supply wells, streams/rivers and/or springs used by people and/or livestock for drinking water. Impacts to these resources should be evaluated and mitigation measures identified, if applicable.

**Safe Drinking Water Act - Class V Permits** - Class V injection well permits may be required for various types of projects. For example, in Indiana, such a permit could be required by EPA Region 5 if a Class V injection well is located within the karst region of the state, a sole source aquifer area, a state designated source water protection area for a public water supply, or anywhere untreated fluids discharged through a Class V well may otherwise endanger an underground source of drinking water. For example, if sinkholes will be modified for stormwater drainage for the proposed road and/or related facilities, they would be considered Class V wells under the Safe Drinking Water Act's Underground Injection Control (UIC) program.

EPA Recommendation (Class V Permits): For Indiana, EPA, Region 5 is the agency that must be notified and would need to approve any Class V well construction. For additional information regarding EPA Class V permits and UIC program, we recommend you contact Lawrence Curley of EPA's UIC Branch at 312/886-6339 or at [Curley.Lawrence@epa.gov](mailto:Curley.Lawrence@epa.gov). The NEPA document should discuss whether Class V permit/s may be needed for the project.

Recommendations (Water Body – Stream Crossings): We recommend the widths of proposed stream crossings and how these crossings will be accomplished be disclosed in the NEPA document. Where feasible, we recommend bridging across streams and their associated floodplains, wetlands, and unique wildlife habitats, such as riparian forest, if feasible.

**Hazardous Materials** - Events such as construction equipment spills of hazardous or toxic materials could result in substantial adverse impacts to surface and ground water quality and

aquatic habitats. The construction and operation of a road can generate used oils and solvents from maintenance and fueling of equipment and inadvertent release of hazardous materials.

EPA Recommendations: We recommend the NEPA document disclose the frequency or likelihood of hazardous materials spill events and describe spill and release response capabilities. In addition, we recommend appropriate state-identified Best Management Practices (BMPs) to reduce potential non-point sources of pollution from project proposed activities are designed into the project and identified in the NEPA document.

**Federally listed Species, Critical Habitat, Migratory Birds, National Wildlife Refuges, and State-listed Species** - The proposed project may adversely affect threatened and endangered species.

EPA Recommendations: Coordinate with the U.S. Fish and Wildlife Service (USFWS) and the Indiana Department of Natural Resources (IDNR) on: 1) methodologies for assessing potential impacts to species and their habitats, 2) likely project impacts on species, and 3) measures to minimize and mitigate impacts. Summarize coordination in the NEPA document and provide documentation of the coordination in a document appendix.

**Forest and Wildlife Habitats** – Preliminary information identifies the study area includes forest and “[u]p to 29 acres of tree clearing may occur as part of the project.” Forests provide valuable habitat for wildlife. Forests protect surface water and ground water quantity and quality in the watershed, in part, by providing soil stabilization. In addition, forests act as a carbon-sink.

EPA Recommendations (mitigation): We recommend the NEPA document assess and disclose impacts to the various habitats associated with the proposal. We recommend mitigation for habitat loss be included in the NEPA document. Mitigation might include, but not be limited to, providing funds for the local community, watershed group, and/or resource agency to maintain and/or enhance forest in the watershed/s affected by the proposed project.

**Community, Social and Economic Impacts** – Preliminary information, in part, identifies the study area as agricultural with a few residences.

EPA Recommendation: We recommend the NEPA document identify and address the social and economic impacts this project may have on area communities. This would include, but is not limited to, identifying the number of outside workers that would be brought in to construct the project and duration of proposed construction and/or modification activities in the various communities.

**Environmental Justice (EJ) and Sensitive Receptors** – No information was provided regarding whether there are environmental justice communities or other sensitive receptor locations (e.g., schools, day care centers, hospitals, etc.) within or near the proposed study area.

EPA Recommendations: If applicable, the NEPA document should identify and evaluate the impacts of this proposal on low-income and/or minority communities (i.e., EJ communities) and sensitive receptors (e.g., children, people with asthma, etc.), as compared to the general

population. This might include, but is not limited to, an assessment of risk of exposure to hazardous/toxic materials associated with road construction and operation, and air quality and noise impacts due to operation. EPA recommends using census-tract-level information to initially help define/locate environmental justice populations/communities. FHWA/INDOT may wish to look at <http://www.epa.gov/ejscreen>. We recommend identifying mitigation measures in the NEPA document, if applicable.

**Children’s Health and Safety-** Executive Order (E.O.) 13045 on Children’s Health and Safety directs each Federal agency, to the extent permitted by law, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and to ensure that its policies, programs, activities, and standards address these risks.

EPA Recommendations: Establish material hauling routes away from places where children live, learn, and play, to the extent feasible. Consider homes, schools, daycares, and playgrounds. In addition to air quality benefits, careful routing may protect children from vehicle-pedestrian accidents.

**Project Design, Construction and Operation -**

EPA Recommendations (Resiliency): We recommend that the NEPA document describe potential changes to the affected environment that may result from the expected increased frequency, and severity of precipitation events in the project area. Consider including future climate scenarios, such as those provided by the U.S. Global Change Research Program’s (USGCRP) National Climate Assessment (<http://nca2014.globalchange.gov/>). Provide information useful to determine whether the proposal includes appropriate construction and operation resilience and preparedness measures for the impacts associated with increased frequency, amount, and severity of precipitation events in the project area.

EPA Recommendation (Management of Stormwater / Road Drainage): EPA recommends the NEPA document provide a discussion regarding sustainability of the proposed project and identify the measures that will be taken during project design, construction, and operation to adequately handle extreme precipitation events.

EPA Recommendation (Wildlife Crossings): EPA recommends the NEPA document discuss and identify opportunities to incorporate suitable wildlife crossings into project bridge and culvert designs.

EPA Recommendations (Air Quality - Construction): To protect air quality for the people who live, work and/or play near the project area during construction consider strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and limits on the length of time equipment idles when not in active use. See the enclosed Construction Emission Control Checklist for information regarding ways to reduce construction equipment diesel emissions. EPA recommends the NEPA document identify the diesel emissions reduction strategies that INDOT will identify as firm commitments.

EPA Recommendation (Invasive Species Control / Pollinator Friendly Species): We recommend the NEPA document identify the measures that will be taken to control the introduction and

spreading of invasive species during and after project construction. EPA recommends restoration and roadside plantings include native pollinator friendly species.

## **U.S. Environmental Protection Agency Construction Emission Control Checklist**

Consider measures that apply to the proposed project from the following list.

### **Mobile and Stationary Source Diesel Controls**

Purchase or solicit bids that require the use of vehicles that are equipped with zero-emission technologies or that most advance emission control systems available. Commit to the best available emissions control technologies for project equipment to meet the following standards.

- **On-Highway Vehicles:** On-highway vehicles should meet, or exceed, the EPA exhaust Emissions standards for model year 20210 and newer heavy-duty, on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, shuttle busses, etc.).<sup>1</sup>
- **Non-road Vehicles and Equipment:** Non-road vehicles and equipment should meet, or exceed, the EPA Tier 4 exhaust emissions standards for heavy-duty, on-road compression-ignition engines (ie.e.g., constitution equipment, on-road trucks, etc.).<sup>2</sup>
- **Locomotives:** Locomotives servicing infrastructure sites should meet, or exceed, the U.S. EPA Tier 4 exhaust emissions standards for line-haul and switch locomotive engines where possible.<sup>3</sup>
- **Low Emission Equipment Exemptions:** The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.

Consider requiring the following best practices through the construction contracting or oversight process:

- Establish and enforce a clear anti-idling policy for the construction site.
- Use on-site renewable electricity generation and/or grid-based electricity rather than diesel-powered generators or other equipment.
- Use electric starting aids such as block heaters with older vehicles to warm the engine.
- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning).
- Retrofit engines with an exhaust filtration devise to capture diesel particulate matter before it enters the construction site.
- Repower older vehicles and/or equipment with diesel- or alternative-fueled engines certified to meet newer, more stringent emissions standards (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.).

### **Fugitive Dust Source Controls**

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<sup>1</sup> <http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm>

<sup>2</sup> <http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm>

<sup>3</sup> <http://www.epa.gov/otaq/standards/nonroad/locomotives.htm>

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

### **Occupational Health**

- Reduce exposure through work practices and training, such as turning off engines when vehicles are stopped for more than a few minutes, training diesel-equipment operators to perform routine inspections, and maintaining filtration devices.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed.
- Use enclosed, climate-controlled cabs pressurized and equipped with high-efficiency particulate air (HEPA) filters to reduce the operator's exposure to diesel fumes. Pressurization ensures air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.

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**Division of Fish and Wildlife**  
**Early Coordination/Environmental Assessment**

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**DNR #:** ER-24108

**Request Received:** October 6, 2021

**Requestor:** Lochmueller Group Inc  
Holly Hume  
6200 Vogel Road  
Evansville, IN 47715

**Project:** SR 11 new road connection from SR 135/Watson Road to SR 11/SR 337/Melview Road with a new bridge over Buck Creek and new culverts in other streams, 10 miles south of Corydon; Des #2001154

**County/Site info:** Harrison

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 for construction in a floodway under the Flood Control Act, IC 14-28-1. Please submit a copy of this letter with the permit application.

**Natural Heritage Database:** The Natural Heritage Program's data have been checked. The Nature Conservancy's Indiana Forest Bank is located within 1/2 mile northwest of the project area. Also, the Wavyrayed Lampmussel (*Lampsilis fasciola*) and Little Spectaclecase (*Villosa lienosa*), both state species of special concern, have been documented in Buck Creek within 1/2 mile of the project area.

**Fish & Wildlife Comments:** As long as in-stream impacts are minimized in Buck Creek, and standard erosion control measures are implemented, we do not foresee any impacts to the mussel species above as a result of this project.

New-terrain road alignments through previously undisturbed area such as the area proposed can result in significant direct and indirect impacts due to habitat destruction and degradation. The project study area contains large tracts of closed-canopy forested habitat located on high-density karst terrain (in the most karst feature-rich area of the state), with previously undisturbed forested floodways, rivers, creeks, and sensitive species such as karst ecosystem species.

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

1) Road Fragmentation:

Road corridor fragmentation is especially problematic compared to other types of forest fragmentation impacts. "Road edge habitat is unique in many respects from natural edges or edges produced by clearcuts. Whereas natural and clearcut edges will become progressively less defined as the forest regenerates to a patch, road edges tend to exist long-term and be disturbed more frequently. Road edges increase air pollution, soil erosion, noise, disturbance by human activity, and exotic species introductions, and may induce populations changes in the vegetation and animal

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communities included in the areas of edge influence. These factors combine to create particularly deleterious habitat situations, and endanger the existence and perpetuation of all native species on the landscape" (Reed, R.A., Johnson-Barnard, J., and Baker, W.A. 1996. "Contribution of Roads to Forest Fragmentation in the Rocky Mountains." *Conservation Biology* 10: 1098-1106).

2) Alternatives:

We strongly recommend considering lower-impact alternatives. For example, an alignment along St. Michael's Road deflected to the south between St. Michael's Road and Heth-Washington Road SW would minimize forested habitat impacts associated with that crossing location. Other options should be investigated as potential connector alignments with consideration of using existing road corridors and previously disturbed areas to the greatest extent possible, and minimizing impacts to forested areas, creeks, forested creek valleys, karst terrain, etc.

3) Crossing Structures:

We recommend bridging as much of the creek valley as possible to avoid impacts to the steep, forested valley sides and to the forested margins along the creek listed as wetland by the National Wetland Inventory maps.

Maintaining or improving fish and wildlife passage at existing or proposed crossing locations is a priority for the Division of Fish & Wildlife (DFW) to reduce wildlife mortality along roadways. The DFW has outlined different requirements for different types of crossing structure impacts. For brand new crossings in areas that currently do not have a crossing, the new structure must accommodate white-tailed deer passage where appropriate. Minimum structure dimensions for white-tailed deer passage are 20 feet of width clearance (overall size of the structure span) and 8 feet of height clearance measured from the OHWM to the low chord elevation and where deer passage is provided. For crossing replacements, the new structure must include wildlife passage appropriate for the type of replacement structure being proposed. If the replacement structure is sized to accommodate white-tailed deer passage then it should be included in the design of the new structure. If white-tailed deer passage is not possible with the existing structure, deer passage still needs to be considered in the design and at minimum the bank lines must be restored within structures to allow for smaller wildlife passage above the ordinary high water mark. All wildlife passage designs must include a smooth level pathway a minimum of 1-2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream. The stream crossing repairs or modifications, and any bank stabilization under or around the structure, must not create conditions that are less favorable for wildlife passage when compared to existing conditions. Upgrading wildlife passage for rehabilitated/modified structures is encouraged whenever possible to improve wildlife/vehicle safety.

There are a number of techniques and materials for incorporating wildlife passage into the design of a crossing structure. Coordination with a Regional Environmental Biologist to address wildlife passage issues before submitting a permit application (if required) is encouraged to avoid delays in the permitting process. The following links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage: <http://www.fs.fed.us/wildlifecrossings/library/>, [https://roadeology.ucdavis.edu/files/content/projects/DOT-FHWA\\_Wildlife\\_Crossing\\_Structures\\_Handbook.pdf](https://roadeology.ucdavis.edu/files/content/projects/DOT-FHWA_Wildlife_Crossing_Structures_Handbook.pdf), [https://www.fs.fed.us/biology/nsaec/fishxing/aop\\_pdfs.html](https://www.fs.fed.us/biology/nsaec/fishxing/aop_pdfs.html), <https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>.

For purposes of maintaining fish and wildlife passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and

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

**4) Riparian Habitat:**

We recommend a mitigation plan be developed (and submitted with the permit application) for any unavoidable habitat impacts that will occur. The DNR's 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, 1 inch to 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 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.

The mitigation site should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat.

**5) Karst Features:**

Construction activities that occur within the drainage area of active karst features could potentially cause significant impacts to sensitive karst ecosystems and biota. Should any karst features be located within the construction limits or that may receive drainage from the construction, we recommend that a karst assessment be conducted by a qualified geologist with experience in karst geology assessments and a determination made as to whether or not the karst feature/sinkhole is active. If a karst assessment is not done, any sinkhole that construction runoff may drain to should be assumed to be active. To protect active sinkholes (or those not assessed), the most protective erosion control methods should be implemented to avoid potentially impacting sensitive karst ecosystems (such as runoff containment and filtering prior to discharge).

Construction should be avoided within 25' of the topmost closed contour of any active karst features. Runoff from construction located outside of the drainage area of any karst feature should be directed away from any karst features. Where construction within the closed contours of a karst feature is unavoidable, runoff must be filtered prior to discharge.

INDOT's karst protection procedures should be followed during all phases of the project, which can be found at

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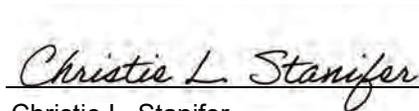
<https://www.in.gov/indot/engineering/files/KARST-PROTECTION-and-INDOT-Construction-7.15.2021.pdf>.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

1. Revegetate all bare and disturbed areas with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs if any woody plants are disturbed during construction as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants, including prohibited invasive species (see 312 IAC 18-3-25).
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
7. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
8. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
9. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

**Contact Staff:**

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife  
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.



**Date:** November 10, 2021

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

## Holly Hume

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**From:** Kevin Russel <K.Russel@harrisoncounty.in.gov>  
**Sent:** Monday, November 15, 2021 11:15 AM  
**To:** Holly Hume  
**Subject:** Des#2001154 Environmental Early Coordination

Ms. Hume,

The Harrison County Highway Department has no comments at this time concerning the early coordination information request letter dated 10/6/21.

Please change your contact information for the Harrison County Highway Department from Glen Bube to Kevin Russel. My email address is [k.russel@harrisoncounty.in.gov](mailto:k.russel@harrisoncounty.in.gov) and the rest of my contact information is in the signature line below.

Thank you!  
Kevin

Kevin Russel, PE  
Highway Director / County Engineer  
Harrison County Highway Department  
1359 Old Highway 135 SW  
Corydon, Indiana 47112

812-738-2920 - office  
[www.HarrisonCounty.in.gov](http://www.HarrisonCounty.in.gov)



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**Environmental Assessment**

**Appendix D**

**Section 106 of the National Historic  
Preservation Act (NHPA)**

**NOTE:** Appendix D will be updated following the completion of public involvement for Section 106

# SR 11 ROADWAY PROJECT

## Finding/800.11(e) Document

*From SR 135/Watson Road to SR 11/SR  
337/Melview Road Intersection*

*Boone and Heth Townships,  
Harrison County, Indiana*

*Des. No. 2001154*

*DHPA No. 27742*



Lochmueller Group, Inc.

112 W. Jefferson Blvd., Suite 500

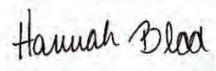
South Bend, Indiana 46601

Phone: 574.334.5460

Prepared For:

Indiana Department of Transportation  
Federal Highway Administration

Prepared By:

A handwritten signature in black ink that reads "Hannah Blad". The signature is written in a cursive style and is placed on a light blue rectangular background.

Hannah Blad

Date

May 17, 2023

**FEDERAL HIGHWAY ADMINISTRATION'S  
SECTION 4(F) COMPLIANCE REQUIREMENTS (FOR HISTORIC PROPERTIES) AND  
SECTION 106 FINDINGS AND DETERMINATIONS  
AREA OF POTENTIAL EFFECTS  
ELIGIBILITY DETERMINATIONS  
EFFECT FINDING**

**SR 11 ROADWAY PROJECT  
FROM SR 135/WATSON ROAD TO SR 11/SR 337/MELVIEW ROAD  
BOONE AND HETH TOWNSHIPS, HARRISON COUNTY, INDIANA  
DES. NO.: 2001154**

**AREA OF POTENTIAL EFFECTS  
(Pursuant to 36 CFR Section 800.4(a)(1))**

The APE for this project encompasses all resources immediately adjacent to the project area and those that may not be immediately adjacent but have a proximate viewshed of the project area. The project area encompasses the area required to support the purpose and need of the project. At the west end of the project area, near the intersection of SR 135 and Watson Road, the APE extends along SR 135 approximately 650 feet south and 630 feet north along the road. Due to the vegetation west of SR 135, the APE only extends about 150 feet beyond the project limits at this intersection. Generally, along Watson Road the APE extends approximately between 50 to 720 feet north and between 100 to 700 feet south of the project limits with the viewshed limited in some areas by vegetation and landforms. In the area of the anticipated new road construction, heavy forestation significantly restricted the APE. Between the intersection of Watson Road/Union Chapel Road and Melview Road, the APE extends between 100 and 600 feet and between 100 and 1,000 feet south of the project limits, limited in some areas by vegetation and topography. At the east end of the APE near the intersection of SR 337/SR 11 and Melview Road the land is slightly less vegetative and flatter, resulting in a wider APE. Therefore, the APE extends between 200 and 1,000 feet north and approximately 660 feet south of the eastern project terminus. Finally, the APE extends approximately 750 east of the eastern project terminus. Please see the APE map in Appendix A, page 3. The Archaeological APE is defined as the 133-acre survey area investigated for the presence of archaeological resources.

**ELIGIBILITY DETERMINATIONS  
(Pursuant to 36 CFR Section 800.4(c)(2))**

There are no properties currently listed in the National Register of Historic Places (NRHP) within the APE.

There are three properties recommended eligible for listing in the NRHP within the APE:

**Farm at 8265 SR 135 (Lochmueller #1).** The Farm at 8265 SR 135 is a 120-acre farm consisting of a c. 1890 Queen Anne farmhouse (rated Notable), a c. 1900 wash house and shed (considered Contributing to the property), a c. 1950 pole barn (considered Contributing to the property), and two c. 1900 English barns (considered Contributing to the property). The number of outbuildings, most of the same era of construction as the dwelling, convey the agricultural significance of this late nineteenth/early twentieth century farm. The Farm at 8265 SR 135 is eligible for listing in the NRHP under Criterion A for its association with agriculture and Criterion C for its architectural significance.

**Farm at 140 Watson Road SE (Lochmueller #7).** The Farm at 140 Watson Road SE consists of two residential structures and multiple outbuildings on a 68-acre farm. The oldest residence on the property is a c. 1840 Hall and Parlor log house that is surrounded by large mature trees. The other residence is a c. 1990 modular house. Also located on the property are multiple outbuildings including a c. 1920 shed, a c. 1920 gable end barn, a c. 1840 double-pen log barn, a c. 1930 metal corn crib, a c. 1950 shed, a c. 1960 chicken house, a c. 1940 livestock shed, a c. 1900 drive through corn crib, a c. 1960 pole barn, and a c. 1900 English barn, all of which are considered Contributing elements to the property. The Farm at 140 Watson Road SE is eligible for listing in the NRHP under Criterion A for its association with early settlement patterns in Boone Township and Criterion C for its architectural significance.

**Farm at 2275 Melview Road (Lochmueller #10).** The Farm at 2275 Melview Road in Boone Township consists of a c. 1910 Free Classic style farmhouse, a c. 1900 English barn, a c. 1930 outhouse, a c. 1960 livestock shed, and a detached modern garage on a 90-acre farm. Harrison County lacks rural properties of the Free Classic style, making this farm an unusual architectural resource within the local cultural landscape. The Farm at 2275 Melview Road is eligible for listing in the NRHP under Criterion A for its association with agriculture and Criterion C for its architectural significance.

**EFFECT FINDING**

**Farm at 8265 SR 135 (Lochmueller #1) – No Adverse Effect**  
**Farm at 140 Watson Road SE (Lochmueller #7) – No Adverse Effect**  
**Farm at 2275 Melview Road (Lochmueller #10) – No Adverse Effect**

INDOT, acting on FHWA’s behalf, has determined a “No Adverse Effect” finding is appropriate for this undertaking.

INDOT respectfully requests the Indiana State Historic Preservation Officer provide written concurrence with the Section 106 determination of effect.

**SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties)**

**Farm at 8265 SR 135 (Lochmueller #1)** - This undertaking will not convert property from the Farm at 8265 SR 135 (Lochmueller #1), a Section 4(f) historic property, to a transportation use; FHWA has determined the appropriate Section 106 finding is “No Adverse Effect”; therefore, no Section 4(f) evaluation is required for the Farm at 8265 SR 135 (Lochmueller #1).

**Farm at 140 Watson Road SE (Lochmueller #7)** - This undertaking will convert property from the Farm at 140 Watson Road SE (Lochmueller #7), a Section 4(f) historic property, to a transportation use; INDOT, acting on FHWA’s behalf has determined the appropriate Section 106 finding is “No Adverse Effect”; therefore FHWA hereby intends to issue a “de minimis” finding for the Farm at 140 Watson Road SE (Lochmueller #7), pursuant to SAFETEA-LU, thereby satisfying FHWA’s responsibilities under Section 4(f) for this historic property.

**Farm at 2275 Melview Road (Lochmueller #10)** - This undertaking will convert property from the Farm at 2275 Melview Road (Lochmueller #10), a Section 4(f) historic property, to a transportation use; INDOT, acting on FHWA’s behalf has determined the appropriate Section 106 finding is “No Adverse Effect”; therefore FHWA hereby intends to issue a “de minimis” finding for the Farm at 2275 Melview Road (Lochmueller #10), pursuant to SAFETEA-LU, thereby satisfying FHWA’s responsibilities under Section 4(f) for this historic property.



Matt Coon, Manager  
Cultural Resources Office, Environmental Services  
INDOT for FHWA

May 24, 2023  
Approval Date

**FEDERAL HIGHWAY ADMINISTRATION  
DOCUMENTATION OF SECTION 106 FINDING OF  
NO ADVERSE EFFECT  
SUBMITTED TO THE STATE HISTORIC PRESERVATION OFFICER  
PURSUANT TO 36 CFR 800.5(c)**

**SR 11 ROADWAY PROJECT  
FROM SR 135/WATSON ROAD TO SR 11/SR 337/MELVIEW ROAD  
BOONE AND HETH TOWNSHIPS, HARRISON COUNTY, INDIANA  
DES. NO.: 2001154**

**1. DESCRIPTION OF THE UNDERTAKING**

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with a roadway project (Des. No. 2001154). The FHWA is providing funding and is the lead federal agency for this Section 106 undertaking. The proposed undertaking takes place between the intersections of SR 135/Watson Road and SR 11/SR 337/Melview Road intersection in Harrison County, Indiana. The project is within Boone and Heth Townships, Mauckport and Laconia USGS Topographic Quadrangles, in Sections 11, 12, 13, 14, Township 5 South, Range 3 East and Sections 7, 8, 9, 16, 17, 18, Township 5 South, and Range 4 East. Adjacent land use consists of mature forests, riparian corridors, agricultural fields, and scattered residences. Please see maps and photographs of the project area in Appendices A and B.

The Harrison County 2040 Long Range Transportation Plan adopted on August 5, 2019, stated that, “Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level.” The plan also identified a need for a safe east-west route in southern Harrison County, Indiana.

There are safety concerns with the current roadway network in southern Harrison County. The existing roadways within the project area that connect SR 11 to SR 135 have RoadHAT indices that range from 0.31 to 3.48 for the Index of Crash Frequencies (Icf) and from -0.15 to 1.72 for the Index of Crash Costs (Icc). RoadHAT measures are expressions of standard deviation, comparing crash data for similar roadways and intersections throughout the state. For example, an Icf or Icc index of 1.00 indicates that crash frequencies or costs are higher than approximately 83% (one standard deviation) of similar locations across the state of Indiana. Similarly, an Icf or Icc index of 2.0 indicates that the location has crash frequencies/costs which are higher than approximately 98% (two standard deviations) of similar locations across Indiana. The RoadHAT index scores for Icf show that there are multiple locations within the project area where the safety performance places these locations in the worst two to three percent of all locations across the state of Indiana.

The existing roadways in the project area have lane widths that average between 9 feet to 10 feet wide with no shoulders and no clear zones. In addition, these roadways have numerous deficient horizontal and vertical curves, which cause sight distance issues. Narrow lanes, lack of shoulders, lack of sufficient clear zones, and poor sight distances on roadways increase the potential for crashes because there is no room to compensate for driving errors or unforeseen obstacles.

The purpose of the SR 11 Roadway Project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 11 to SR 135 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances. The traffic study completed in 2021 by CMT Engineers and Consultants identified that the SR 11 Roadway Project would divert approximately 35% to 50% of the traffic off the existing local roadways. This reduction in traffic volumes on the local roadways that do not meet current design standards onto a roadway that does meet current design standards is anticipated to decrease the crash frequencies and crash costs and improve safety for the traveling citizens in the southern region of Harrison County.

This project will extend the SR 11 roadway with a wider, arterial facility from the existing SR 337 and SR 11 intersection to the SR 135 and Watson Road intersection in southern Harrison County. The proposed project includes improving the existing SR 337, SR 11 and Melview Road intersection; upgrading existing Melview Road to its western termini; constructing a new terrain roadway from the western termini of Melville Road west to the intersection of Watson Road and Union Chapel Road, including a new bridge across Buck Creek; upgrading Watson Road to the intersection of SR 135; and improving the SR 135 intersection with Watson Road. Originally, three routes were being considered, but the decision has been made to advance alternative 3 (which follows the described alignment above) as the preferred alternative. Alternative 3 has the least amount of environmental and right-of-way impacts. In addition, Alternative 3 has the least amount of excavation compared to the other alternatives evaluated within the Watson Road/Melview Road Initial Screening Corridor. Even though Alternative 3 has a slightly higher construction cost estimate, Alternative 3 is being recommended as the preferred alternative for the SR 11 Roadway Project because it has the fewest environmental impacts, least amount of right-of-way impacts, and least amount of excavation requirements.

The proposed cross section of SR 11 will consist of two 12-foot-wide paved travel lanes with 4-foot paved and 2-foot aggregate shoulders along each side. A 16-foot clear zone will be provided outward from the outside of each travel lane and transitions to a 3:1 foreslope, 4-foot bottom ditch, and 3:1 backslope. The exact structure size and type of the new bridge across Buck Creek has not been determined. However, it is anticipated the new bridge will have six spans, an out-to-out coping width of 40-feet and 4 inches, and a structure length of 1,175 feet. On structure, SR 11 will consist of two 12-foot-wide travel lanes with 6-foot, 8-inch shoulders. Anticipated work along SR 135 (the western project terminus) will include widening of the pavement to the east for the incorporation of a 12-foot-wide southbound left-turn lane and a 12-foot-wide northbound right-turn lane onto SR 11. In total, the project will extend SR 11 approximately five miles along mostly existing roadways/field drives between SR 135 and SR 337 but does include some (approximately one mile) of new terrain. This project is anticipated to require up to 131.6 acres of permanent right-of-way (ROW) and 0.9 acre of temporary ROW.

A noise analysis report has been prepared for this undertaking and it concluded that no noise abatement is recommended. A reevaluation will occur during final design.

The APE for this project encompasses all resources immediately adjacent to the project area and those that may not be immediately adjacent but have a proximate viewshed of the project area. The project area encompasses the area required to support the purpose and need of the project. At the west end of the project area, near the intersection of SR 135 and Watson Road, the APE extends along SR 135 approximately 650 feet south and 630 feet north along the road. Due to the vegetation west of SR 135, the APE only extends about 150 feet beyond the project limits at this intersection. Generally, along Watson Road the APE extends approximately between 50 to 720 feet north and between 100 to 700 feet south of the project limits with the viewshed limited in some areas by vegetation and landforms. In the area of the anticipated new road construction, heavy forestation significantly restricted the APE. Between the intersection of Watson Road/Union Chapel Road and Melview Road, the APE extends between 100 and 600 feet and between 100 and 1,000 feet south of the project limits, limited in some areas by vegetation and topography. At the east end of the APE near the intersection of SR 337 and SR 11, the land is slightly less vegetative and flatter, resulting in a wider APE. Therefore, the APE extends between 200 and 1,000 feet north and approximately 660 feet south of the eastern project terminus. Finally, the APE extends approximately 750 east of the eastern project terminus. Please see the APE map in Appendix A, page 3. The Archaeological APE is defined as the 130-acre survey area investigated for the presence of archaeological resources.

## **2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES**

The NRHP, Indiana Register of Historic Sites and Structures (State Register), the State Historic Architectural and Archaeological Research Database (SHAARD), the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM), and the Indiana Historic Sites and Structures Inventory (IHSSI) were consulted. Survey work of Harrison County began in 1986 for the IHSSI. The resulting *Harrison County Interim Report* (1987) was also reviewed. No resources already listed in the NRHP were located within the APE.

The *Indiana Historic Bridge Inventory Volume 2: Listing of Historic and Non-Historic Bridges* (February 2009) by Mead & Hunt was reviewed. No bridges eligible for listing in the NRHP are located within the project area.

Gary Francis Quigg, a Lochmueller Group historian who meets the Secretary of the Interior's Professional Qualification Standards, performed a site inspection of the project area on June 22-23, October 13, and December 15, 2021, and documented resources that will be at least 50 years of age at the time of the project letting within the APE. The APE was investigated for the existence of any historic properties, structures, objects, or districts listed in or eligible for listing in the NRHP. The historian walked the APE, taking photographs of all resources meriting a Contributing or higher rating. Non-Contributing resources or those that did not meet the age requirements were noted but not documented other than in general view photographs. One (1) previously surveyed resource that appears in the interim report is located within the APE. Thirteen (13) newly identified aboveground resources were recorded within the APE. One (1) previously surveyed IHSSI property that is no longer extant was located within the APE: Harrison County Bridge Number 38 (IHSSI #061-329-40007/HB-0676). Please see Appendix E, page 3, for a summary of the Historic Property Report (HPR).

A Phase Ia archaeological reconnaissance survey was conducted by Cultural Resource Analysts, Inc. (CRA) between June 27 and July 14, 2022. The field reconnaissance resulted in the relocation of one previously recorded site (12HR583) and documented four new archaeological sites (12HR864-12HR867). Sites 12HR583 and 12HR864 are prehistoric lithic scatters of indeterminate temporal/cultural affiliation. Site 12HR865 is a historic farmstead dating from the early nineteenth century through the present day. Site 12HR866 is a historic artifact scatter dating from the late nineteenth through early twentieth centuries. Site 12HR867 is a historic root cellar dating from the mid-twentieth century through the present day. The portions of Sites 12HR583, 12HR864, and 12HR865 within the survey area are recommended not eligible for inclusion in the National Register of Historic Places. Sites 12HR866 and 12HR867 are entirely within the survey area and are also not recommended eligible for the NRHP. No further work was recommended at these archeological sites within the survey area. No further archaeological work was recommended. See Appendix E, pages 4-5 for a summary of the Phase Ia archaeological reconnaissance survey.

Early coordination was initiated on July 6, 2021, with an email to consulting parties. The email asked consulting parties to review the early coordination letter attached to the email and via IN SCOPE, which is INDOT's Section 106 document website <https://erms12c.indot.in.gov/Section106Documents>. A hard copy of these materials was mailed to the SHPO.

In a letter dated July 15, 2021, the SHPO staff responded to the early coordination letter stating they did not know of any other parties that should be invited to participate in the Section 106 consultation process. In that same letter, the SHPO staff asked: 1) that property owners be invited as soon as possible if right-of-way is planned to be taken from adjacent historic properties, and 2) that SHPO be notified of what organizations/individuals had accepted consulting party status in the next communication. Please see Appendix D, pages 8-9 for a copy of the communication.

In a letter dated September 3, 2021, the Eastern Shawnee Tribe of Oklahoma responded to the early coordination letter accepting consulting party status and stating that, "... the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe." Please see Appendix D, page 10 for a copy of the communication.

An HPR, based on the results of the June 22-23, October 13, and December 15, 2021, aboveground field survey, was completed (Blad, March 10, 2022) and provided NRHP boundaries for the newly identified NRHP-eligible properties. Three properties were recommended eligible for listing in the NRHP: Farm at 8265 SR 135 (Lochmueller #1); Farm at 140 Watson Road SE (Lochmueller #7); and Farm at 2275 Melview Road (Lochmueller #10). Please see Appendix E, page 3, for a summary of the HPR.

The HPR was uploaded to IN SCOPE, and an email was sent to consulting parties notifying them of the availability of the report online on March 10, 2022. Hard copies of these materials were also mailed to the SHPO and other consulting parties on that same day. Please see Appendix D, page 11 for a copy of the communication.

In an email dated March 16, 2022, Amanda Uhl responded to the HPR accepting consulting party status and stating she had a few questions. Lochmueller Group responded to Amanda in an email dated March 17, 2022 acknowledging Uhl's acceptance of consulting party status and inquired about the questions Uhl alluded to her in first email. Lochmueller Group sent a further follow-up email on March 29, 2022 asking Uhl about her questions. In an email dated March 29, 2022, Uhl responded and asked if her property has some historical significance and what it means for the project. In an email dated April 4, 2022, Lochmueller Group responded to Uhl explaining the historical significance of her property, explained the remainder of the Section 106 process, and provided her with a link to the Citizen's Guide to Section 106 Review. Please see Appendix D, page 16-20 for a copy of the communications.

In a letter dated March 21, 2022, the Eastern Shawnee Tribe of Oklahoma responded to the HPR indicating the "... project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe." Please see Appendix D, page 21 for a copy of the communication.

In a letter dated April 6, 2022, the SHPO staff concurred with the conclusions in the HPR, noting that "[t]he area of potential effects ("APE") proposed in the HPR appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature could occur." In the same letter, the SHPO also stated, "Regarding the farms at 8625 SR 135 and 2275 Melview Road, based on the information provided, we believe that they may also be eligible under Criterion A in addition to Criterion C." No additional questions or concerns were noted in the SHPO letter. All NRHP eligible properties are now considered eligible for the NRHP under both Criterion A and Criterion C. Please see Appendix D, page 22-23 for a copy of the communication.

A Phase 1a Archaeological Reconnaissance Report based on the results of the June 27 and July 14, 2022, field work was completed (Curran, December 6, 2022). Please see Appendix E, page 5 for a summary of the Phase 1a.

The Phase 1a was uploaded to IN SCOPE, and an email was sent to non-tribal consulting parties notifying them of the availability of the report online (Tribes only) on December 9, 2022. Hard copies of this material was also mailed to the SHPO on that same day. On February 1, 2023, an email was sent to Tribal consulting parties notifying them of the availability of the report online. This discrepancy in notification dates between the non-tribal and tribal consulting parties was the result of a communication oversight. Upon discovery of this oversight by the consultant and INDOT, corrective steps were taken to get the information into the hands of the tribal consulting parties. This did not affect their review period, as an additional 30 days were afforded to account for the oversight.

In a letter dated December 20, 2022, the SHPO responded to the Phase 1a concurring with the findings within. Please see Appendix D, page 28-29 for a copy of the communication.

In a letter dated February 14, 2023, the Miami Tribe of Oklahoma responded to the Phase 1a noting that, "[t]he Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site." Please see Appendix D, page 31 for a copy of the communication.

In a letter dated March 2, 2023, the Eastern Shawnee Tribe of Oklahoma responded to the Phase 1a stating that, "... the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe." Please see Appendix D, page 32 for a copy of the communication.

Though not a Section 106 consulting party, on October 13, 2021, the Harrison County Plan Commission responded to the distribution of the NEPA Early Coordination Letter (ECL) noting that an encampment for the Morgan's Raiders has been reported within the project area near Buck Creek. No sites associated with the encampment were identified when fieldwork was conducted by the archaeologists in this area within the footprint of the chosen alternative. Please see Appendix D, page 33-35 for a copy of the communication.

No additional comments were received from consulting parties regarding the above-mentioned identification of historic properties.

Since the distribution of the archaeology report, preliminary ROW limits were established. The limits of the proposed ROW extend beyond the archaeological footprint investigated by CRA (116.2 acres). An additional archaeological reconnaissance was undertaken. Between March 13 and 16, 2023, additional field reconnaissance was conducted by CRA. In total, the two survey areas now total 130-acres. This reconnaissance resulted in the location of two previously recorded sites, 12HR864 and 12HR865. The survey also resulted in the location of two newly identified sites, 12HR873 and 12HR874. Sites 12HR864, 12HR873, and 12HR874 are prehistoric lithic scatters of indeterminate temporal/cultural affiliation. Site 12HR865 is an isolated find with an indeterminate temporal/cultural affiliation and a historic farmstead dating from the late nineteenth century to the present date. The portions Sites 12HR864, 12HR865, and 12HR873 within the addendum survey area are recommended not eligible for inclusion in the NRHP. Site 12HR874 is entirely within the addendum survey area and is also recommended not eligible for the NRHP. No further work is recommended. This report is currently being reviewed by consulting parties in conjunction with this 800.11/Finding Document. As such, no consulting party comments have currently been received regarding the addendum Phase 1a report. Please see Appendix E, page 6-7 for a summary of the addendum report.

### **3. DESCRIBE AFFECTED HISTORIC PROPERTIES**

**Farm at 8265 SR 135 (Lochmueller #1).** The Farm at 8265 SR 135 is a 120-acre farm consisting of a c. 1890 Queen Anne farmhouse (rated Notable), a c. 1900 wash house and shed (considered Contributing to the property), a c. 1950 pole barn (considered Contributing to the property), and two c. 1900 English barns (considered Contributing to the property). The number of outbuildings, most of the same era of construction as the dwelling, convey the agricultural significance of this late nineteenth/early twentieth century farm. The Farm at 8265 SR 135 is eligible for listing in the NRHP under Criterion A for its association with agriculture and Criterion C for its architectural significance.

**Farm at 140 Watson Road SE (Lochmueller #7).** The Farm at 140 Watson Road SE consists of two residential structures and multiple outbuildings on a 68-acre farm. The oldest residence on the property is a c. 1840 Hall and Parlor log house that is surrounded by large mature trees. The other residence is a c. 1990 modular house. Also located on the property are multiple outbuildings including a c. 1920 shed, a c. 1920 gable end barn, a c. 1840 double-pen log barn, a c. 1930 metal corn crib, a c. 1950 shed, a c. 1960 chicken house, a c. 1940 livestock shed, a c. 1900 drive through corn crib, a c. 1960 pole barn, and a c. 1900 English barn, all of which are considered Contributing elements to the property. The Farm at 140 Watson Road SE is eligible for listing in the NRHP under Criterion A for its association with early settlement patterns in Boone Township and Criterion C for its architectural significance.

**Farm at 2275 Melview Road (Lochmueller #10).** The Farm at 2275 Melview Road in Boone Township consists of a c. 1910 Free Classic style farmhouse, a c. 1900 English barn, a c. 1930 outhouse, a c. 1960 livestock shed, and a detached modern garage on a 90-acre farm. Harrison County lacks rural properties of the Free Classic style, making this farm an unusual architectural resource within the local cultural landscape. The Farm at 2275 Melview Road is eligible for listing in the NRHP under Criterion A for its association with agriculture and Criterion C for its architectural significance.

### **4. DESCRIBE THE UNDERTAKING'S EFFECT ON HISTORIC PROPERTIES**

**Farm at 8265 SR 135 (Lochmueller #1) – No Adverse Effect**

The proposed undertaking will not encroach upon the recommended NRHP boundary for the Farm at 8265 SR 135. The project will have “No Adverse Effect” to this resource because the proposed changes will not alter the Farm at 8265 SR 135 in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP. A portion of the project, including the improvements to the SR 135/Watson Road (future SR 11) intersection and the reconstruction of a portion of Watson Road (future SR 11), may be visible from the recommended NRHP boundary. See Appendix F, page 7 for plan sheet adjacent showing general location of the historic property compared to proposed work.

#### **Farm at 140 Watson Road SE (Lochmueller #7) – No Adverse Effect**

The proposed undertaking will encroach upon the southern portion of the recommended NRHP boundary. The realignment of Watson Road (future SR 11) will shift the road 57 feet closer (north) to the contributing structures on the property, which are currently located 600 feet north of existing Watson Road. It is anticipated that 0.11 acre of the historic property boundary will be acquired as permanent ROW for the proposed reconstruction and realignment of the road and for reconstruction of the driveway to the farm. The portion within the recommended NRHP boundary that will be acquired consists entirely of the existing gravel drive leading into the historic property. It is estimated that approximately 164 feet of the existing drive will be acquired due to its location within the proposed construction limits and proposed ROW. Currently the drive is approximately 631 feet, 85 feet of which is within the proposed construction limits which would leave approximately 546 feet of drive after the completion of the undertaking. The proposed road will be 57 feet closer to the historic property at its drive after construction.

The project will have “No Adverse Effect” to this resource because the proposed changes will not alter the historic property in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP. Though 0.11 acre of the historic property boundary will be acquired from the property for the reconstruction and realignment of the road and drive reconstruction, this action takes place at the southern portion of the recommended property boundary. This area is not adjacent to any contributing historic structures or features. The closest structure on the property to this work is approximately 600 feet north of the existing alignment of Watson Road. See Appendix F, page 21 for plan sheet showing proposed work adjacent to historic property.

#### **Farm at 2275 Melview Road (Lochmueller #10) – No Adverse Effect**

The proposed undertaking will encroach upon the northern portion of the recommended NRHP boundary for the Farm at 2275 Melview Road. It is anticipated that 0.07 acre of the historic property boundary will be acquired for the reconstruction of the road and for reconstruction of the farm driveway. The alignment of proposed SR 11 shifts the proposed road closer to the property at the existing drive by approximately 4 feet when comparing to its current distance to Melview Road (the existing road feature being improved as part of SR 11 project). Proposed SR 11 also shifts closer to the property as it diverges from Melview Road and continues on new alignment to the southwest. In this area, proposed SR 11 will be located approximately 820 feet from the main contributing structure, whereas the current distance between this structure and existing Melview Road is 915 feet.

It is estimated that approximately 83 feet of the existing drive will be acquired due to its location within the proposed construction limits and proposed ROW. Currently the drive is approximately 881 feet long, 16 feet of which is within the proposed construction limits, which would leave approximately 865 feet of drive after the completion of the undertaking.

The project will have “No Adverse Effect” to this resource because the proposed changes will not alter the historic property in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP. Though 0.07 acre of the historic property boundary will be acquired from the property for the reconstruction of the road and driveway reconstruction, this action takes place at the north end of the recommended property boundary. This area is not adjacent to any contributing historic structures or features. The closest structure on the property to this work is approximately 710 feet to the south of the existing alignment of Melview Road. See Appendix F, page 41 for plan sheet showing proposed work adjacent to historic property.

**5. EXPLAIN APPLICATION OF CRITERIA OF ADVERSE EFFECT – INCLUDE CONDITIONS OR FUTURE ACTIONS TO AVOID, MINIMIZE OR MITIGATE ADVERSE EFFECTS**

According to 36 CFR 800.5(a)(1), “an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.”

*Examples of an Adverse Effect:*

Per 36 CFR 800.5(a)(2)(i), the undertaking will result in the “Physical destruction of or damage to all or part of the property.”

Per 36 CFR 800.5(a)(2)(ii), the undertaking will cause “Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties and/or other applicable guidelines.”

Per 36 CFR 800.5(a)(2)(iii), the undertaking will result in the “Removal of the property from its historic location.”

Per 36 CFR 800.5(a)(2)(iv), the undertaking will result in a “Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance.”

Per 36 CFR 800.5(a)(2)(v), the undertaking will cause the “Introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.”

Per 36 CFR 800.5(a)(2)(vi), the undertaking will result in the “Neglect of a property which causes its deterioration...”

Per 36 CFR 800.5(a)(2)(vii), the undertaking will cause the “Transfer, lease, or sale of property out of Federal ownership or control...”

The following discusses potential effects to the Farm at 8265 SR 135 (Lochmueller #1), the Farm at 140 Watson Road SE (Lochmueller #7), and the Farm at 2275 Melview Road (Lochmueller #10). Please see maps and photographs of these resources in Appendices A and B.

**Farm at 8265 SR 135 (Lochmueller #1)** – According to 36 CFR 800.5(a)(1) the criteria of adverse effect do not apply. The undertaking will not alter the existing setting within the property beyond its present condition.

Per 800.5(a)(2)(i), the undertaking will not result in the “Physical destruction of or damage to all or part of the property.” The project will not encroach upon the NRHP boundary for the property.

Per 36 CFR 800.5(a)(2)(ii), the undertaking will not cause “Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties and/or other applicable guidelines.” The project will not encroach upon the NRHP boundary for the property.

Per 36 CFR 800.5(a)(2)(iii), the undertaking will not result in the “Removal of the property from its historic location.” The project will not encroach upon the NRHP boundary for the property.

Per 36 CFR 800.5(a)(2)(iv), the undertaking will not result in a “Change of the character of the property’s use or of physical features within the property setting that contribute to its historic significance.” The project will not encroach upon the NRHP boundary for the property.

Per 36 CFR 800.5(a)2(v), the undertaking will not cause the “Introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.” The project will not encroach upon the NRHP boundary for the property. Generally, what is visible from the historic property will remain the same following the completion of the undertaking. Regarding audible impacts, a noise analysis was completed for the project. While this property was not included as a modeled receptor in this analysis, due to its distance from the actual construction elements associated with the project, there was a receptor comparable is setback from SR 135 and closer to proposed construction activities that was modeled nearly 900 feet to the northeast of this property. The analysis at this receptor found the existing (in 2026) noise levels to be 53 decibels (dBA) and the predicted 2046 noise levels to be 54 dBA. The Noise Abatement Criteria (NAC) for this particular type of land use activity is 67 dBA as defined by FHWA and INDOT. An impact is considered to be a measurement that approaches (within 1 dBA) or exceeds the NAC. A substantial increase in traffic noise level occurs when the predicted 20-year level is at least 15 dBA higher than the existing. In either case, audible impacts to this property are not expected.

Per 36 CFR 800.5(a)2(vi), the undertaking will not cause the “Neglect of a property which causes its deterioration...”

Per 36 CFR 800.5(a)2(vii), the undertaking will not cause the “Transfer, lease, or sale of property out of Federal ownership or control...” Ownership of the historic resource will not change as a result of this project.

**Farm at 140 Watson Road SE (Lochmueller #7)** – According to 36 CFR 800.5(a)(1) the criteria of adverse effect do not apply. The undertaking will alter the existing setting within the property beyond its present condition, but it will not alter the property in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP.

Per 800.5(a)2(i), the undertaking will result in the “Physical destruction of or damage to all or part of the property.” The project will encroach upon the NRHP boundary for the property. A 164-foot segment of the existing drive will be acquired within the proposed permanent ROW and the road will be constructed within that section of the property.

Per 36 CFR 800.5(a)2(ii), the undertaking will not cause “Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties and/or other applicable guidelines.” The paved road at the south end of the property (Watson Road) will be wider following the road reconstruction and the realignment shifts the proposed roadway approximately 57 feet closer to the structures on the property than the existing Watson Road alignment. Though the road will encroach upon the historic property boundary, the contributing structures associated with this historic property will not be impacted by the project due to their distance (approximately 600 feet north of the proposed road) from the proposed undertaking. The acquisition of the additional permanent ROW (0.11 acre) within the recommended NRHP boundary and related construction will not adversely alter the setting within the property.

Per 36 CFR 800.5(a)2(iii), the undertaking will not result in the “Removal of the property from its historic location.” The project will not remove the property from its historic location.

Per 36 CFR 800.5(a)2(iv), the undertaking will not result in a “Change of the character of the property’s use or of physical features within the property setting that contribute to its historic significance.” A portion of the drive will be acquired for this undertaking, but that area does not include any physical features that contribute to the property’s historic significance.

Per 36 CFR 800.5(a)2(v), the undertaking will not cause the “Introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.” Generally, what is visible from the historic property will remain the same, but 57 feet closer to the structures on the historic property within the NRHP boundary following the completion of the undertaking. A noise analysis was completed for

this project, but no receptors were placed at this property due to its distance from the proposed road (more than 500 feet). At this distance, any receptor would have fallen outside the 500-foot noise study area, which coincides with the general reliability limits of FHWA's Traffic Noise Model (TNM) program. Therefore, it is anticipated that no audible impacts are expected to occur at this location.

Per 36 CFR 800.5(a)(2)(vi), the undertaking will not cause the "Neglect of a property which causes its deterioration..."

Per 36 CFR 800.5(a)(2)(vii), the undertaking will not cause the "Transfer, lease, or sale of property out of Federal ownership or control..." Ownership of the historic resource will not change as a result of this project.

**Farm at 2275 Melview Road (Lochmueller #10)** – According to 36 CFR 800.5(a)(1) the criteria of adverse effect do not apply. The undertaking will alter the existing setting within the property beyond its present condition, but it will not alter the property in a manner that would diminish its historic integrity or its eligibility for listing in the NRHP.

Per 800.5(a)(2)(i), the undertaking will result in the "Physical destruction of or damage to all or part of the property." The project will encroach upon the NRHP boundary for the property. An 83-foot segment of the existing drive will be acquired within the boundary, and the new road will be constructed within that section of the property.

Per 36 CFR 800.5(a)(2)(ii), the undertaking will not cause "Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties and/or other applicable guidelines." The paved road at the north end of the property (Melview Road) will be wider following the road reconstruction and the realignment shifts the proposed roadway approximately 4 feet closer to the structures on the property than the existing Melview Road alignment. Though the road will encroach upon the historic property boundary, the contributing structures associated with this historic property will not be impacted by the project due to their distance (710 feet south of existing Melview Road) from the proposed undertaking. The acquisition of additional permanent ROW (0.07 acre) within the recommended NRHP boundary and related construction will not adversely alter the setting within the property.

Per 36 CFR 800.5(a)(2)(iii), the undertaking will not result in the "Removal of the property from its historic location." The project will not remove the property from its historic location.

Per 36 CFR 800.5(a)(2)(iv), the undertaking will not result in a "Change of the character of the property's use or of physical features within the property setting that contribute to its historic significance." A portion of the drive will be acquired for this undertaking, but that area does not include any physical features that contribute to its historic significance.

Per 36 CFR 800.5(a)(2)(v), the undertaking will not cause the "Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features." Generally, what is visible from the historic property will remain the same, but 83 feet closer to the historic property boundary following the completion of the undertaking. A noise analysis was completed for this project, but no receptors were placed at this property due to its distance from the proposed road (more than 500 feet). At this distance, any receptor would have fallen outside the 500-foot noise study area, which coincides with the general reliability limits of FHWA's Traffic Noise Model (TNM) program. Therefore, it is anticipated that no audible impacts are expected to occur at this location.

Per 36 CFR 800.5(a)(2)(vi), the undertaking will not cause the "Neglect of a property which causes its deterioration..."

Per 36 CFR 800.5(a)2(vii), the undertaking will not cause the “Transfer, lease, or sale of property out of Federal ownership or control...” Ownership of the historic resource will not change as a result of this project.

## 6. SUMMARY OF CONSULTING PARTIES AND PUBLIC VIEWS

As noted above, early coordination was initiated on July 6, 2021. All consulting parties received the early coordination materials via email and in addition, the SHPO was mailed a hard copy of the materials. The complete list of those who agreed to be consulting parties throughout the 106 process is shown in bold below and in Appendix C, page 1.

- **State Historic Preservation Officer (automatic consulting party)**
- Harrison County Commissioners
- Harrison County Historian
- Harrison County Historical Society
- Harrison County Discovery Center
- Harrison County Highway Engineer
- Indiana Landmarks – Southern Regional Office
- River Hills Economic Development District
- **Amanda Uhl**
- Delaware Tribe of Indians, Oklahoma
- **Eastern Shawnee Tribe of Oklahoma**
- **Miami Tribe of Oklahoma**
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians

The following is a summary of the comments of the consulting parties following the distribution of the early coordination materials and HPSR (July 2021 through December 2022). These comments have been previously presented in detail above in “Section 2. Efforts to Identify Historic Properties” and the correspondence may be viewed in Appendix D, pages 1-35:

- July 15, 2021: A letter from SHPO stated that they were unaware of any additional consulting parties that should be invited to participate in the Section 106 process but that if ROW is to be taken from the historic properties their owners should be invited as soon as possible.
- September 3, 2021: A letter from the Eastern Shawnee Tribe of Oklahoma responded to the early coordination letter accepting consulting party status.
- October 13, 2021: An email from a non-Consulting Party received during the NEPA process stating the location of Morgan’s Raiders encampment was potentially within the project area.
- March 10, 2022: An HPR (Blad, March 10, 2022) was sent to consulting parties for their review.
- March 16 – April 4, 2022: Emails between Amanda Uhl and Lochmueller Group responding to her questions about the project and her property.
- March 21, 2022: A letter from the Eastern Shawnee Tribe of Oklahoma stating the project will not adversely impact sites known to the tribe.
- April 6, 2022: A letter from SHPO concurring with the recommendations therein plus an opinion that all NRHP-eligible properties are also eligible under Criterion A as well as C.

- December 9, 2022: A Phase 1a Archaeological Reconnaissance Report (Curran, December 6, 2022) was sent to consulting parties for their review.
- December 20, 2022: A letter from SHPO concurring with the recommendations within the Phase 1a.
- February 1, 2023: Tribal consulting parties were notified that the Phase 1a Archaeological Reconnaissance Report (Curran, December 6, 2022) was available for their review.
- February 14, 2023: A letter from the Maimi Tribe of Oklahoma accepting consulting party status and offering no objection to the undertaking.
- March 2, 2023: A letter from the Eastern Shawnee Tribe of Oklahoma stating the project will not adversely impact sites known to the tribe.

On April 14, 2023, an effects report recommending a finding of “No Adverse Effect” was uploaded to IN SCOPE and an email was sent to consulting parties notifying them of the report. A hard copy of the report was mailed to SHPO. Please see Appendix D, page 36-42 for a copy of the correspondence and Appendix E page 8-11 for a summary of the effects report.

On May 8, 2023, the SHPO staff responded to the effects report. The letter clarified SHPO’s statement from their previous correspondence stating the properties at 8625 SR 135 and 2275 Melview Road, “may also be eligible under Criterion A for Agriculture for the reasons given within the letter, not for their association with early settlement patterns in their respective townships as stated within the effects report.” In addition, the letter stated that, “... overall, we agree with the conclusions of the effects report will not adversely affect these historic properties.” Please see Appendix D, page 43-44 for a copy of the correspondence.

No other consulting party comments were received. No consulting parties expressed an interest in participating in a consulting party meeting.

A public notice will be published in the *Corydon Democrat* newspaper seeking the views of the public regarding the effects of the proposed project on the historic elements within the APE. Comments from the public will be accepted for 30 days following the publication of the notice. If any substantive comments are received during this period, this document will be revised to include them.

## APPENDICES

Note: A portion of the appendices has been removed to avoid duplication and reduce file size.

A – Maps

~~B – General Photographs~~

C – Consulting Parties List

D – Consulting Parties Correspondence

E – Historic Property Report Summary/Phase 1a Archaeological Report Summaries

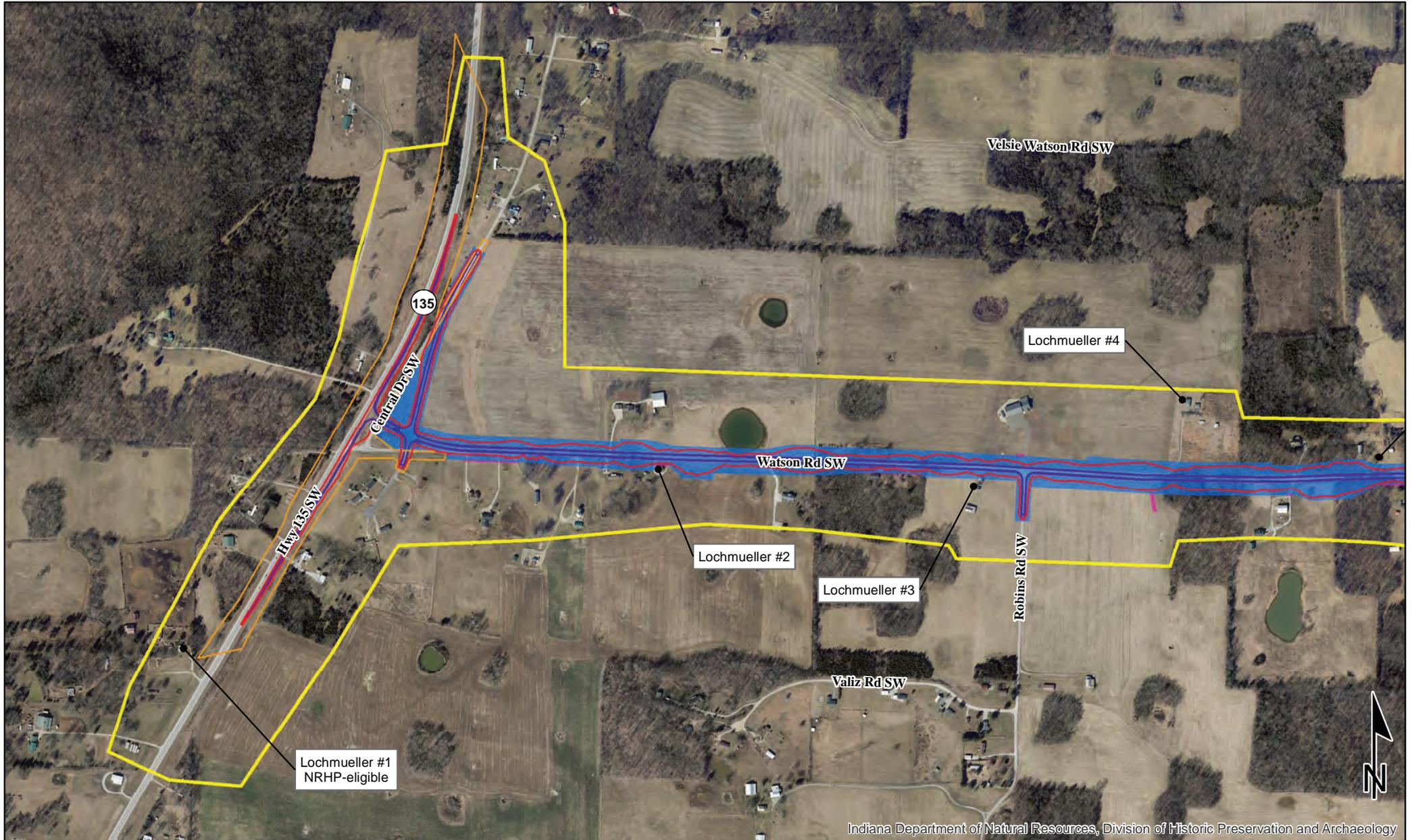
~~F – Grade Plans~~

**Section 106 800.11(e)**

# **Appendix A**

**Maps**

Note: A portion of this appendix has been removed to avoid duplication and reduce file size.



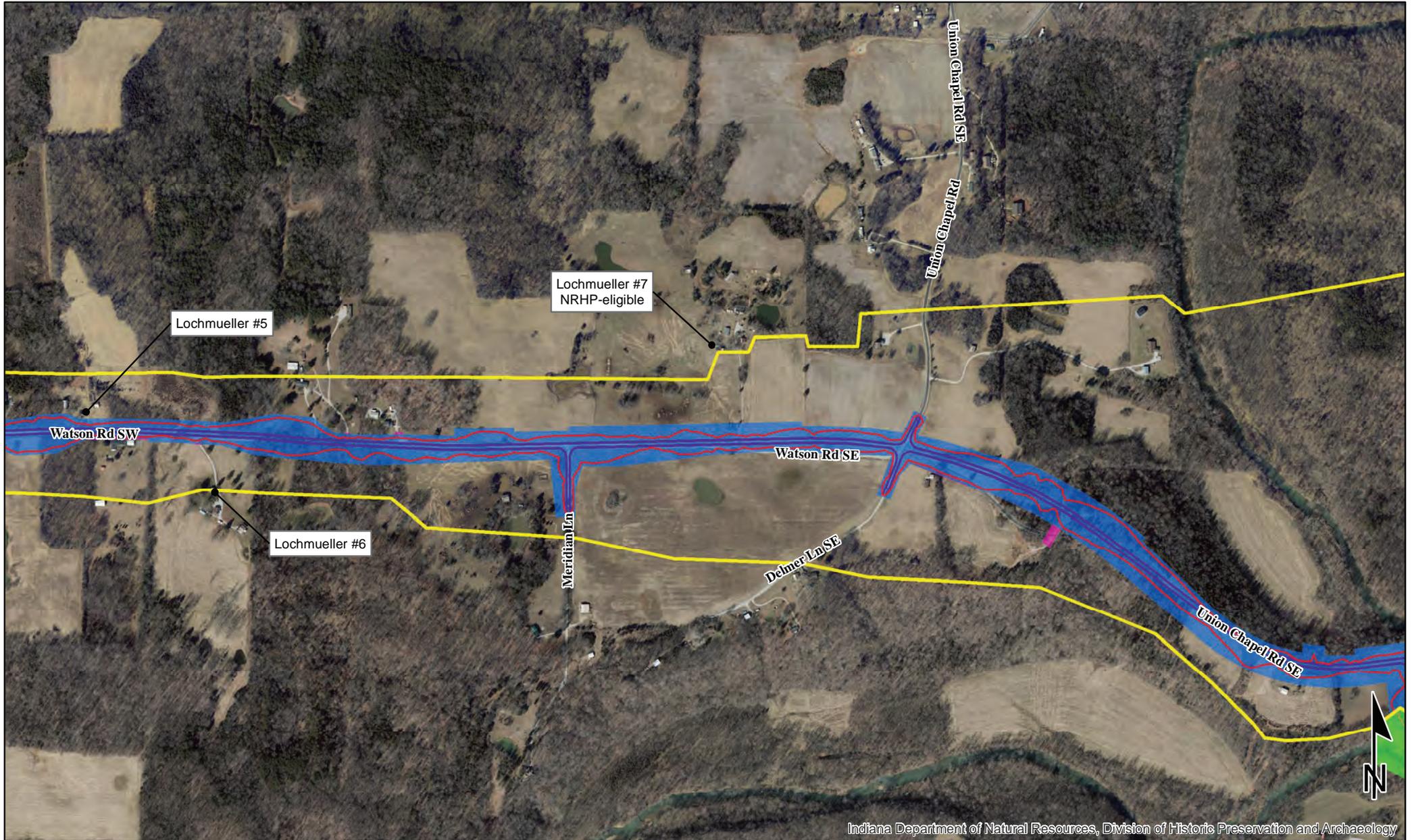
Sources: 600 300 0 600 Feet  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
 Map Projection: UTM Zone 16 N Map Datum: NAD83

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

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

**Area of Potential Effects Map 1**

APE	Extended APE	Construction Limits	Existing ROW	Proposed Design	Permanent ROW	Temporary ROW	National Register Sites	Historic Districts	Cemeteries																
<table border="0"> <tr> <td><b>County Survey Sites</b></td> <td><b>Historic Bridges</b></td> </tr> <tr> <td><b>RATING</b></td> <td><b>RATING</b></td> </tr> <tr> <td> Outstanding</td> <td> Outstanding</td> </tr> <tr> <td> Notable</td> <td> Notable</td> </tr> <tr> <td> Contributing</td> <td> Contributing</td> </tr> <tr> <td> Non-Contributing</td> <td> Non-Contributing</td> </tr> <tr> <td> Demolished</td> <td> Demolished</td> </tr> <tr> <td> Unknown</td> <td> Unknown</td> </tr> </table>										<b>County Survey Sites</b>	<b>Historic Bridges</b>	<b>RATING</b>	<b>RATING</b>	Outstanding	Outstanding	Notable	Notable	Contributing	Contributing	Non-Contributing	Non-Contributing	Demolished	Demolished	Unknown	Unknown
<b>County Survey Sites</b>	<b>Historic Bridges</b>																								
<b>RATING</b>	<b>RATING</b>																								
Outstanding	Outstanding																								
Notable	Notable																								
Contributing	Contributing																								
Non-Contributing	Non-Contributing																								
Demolished	Demolished																								
Unknown	Unknown																								



Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology

Sources: 600 300 0 600 Feet  
**Non Orthophotography**

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

**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))

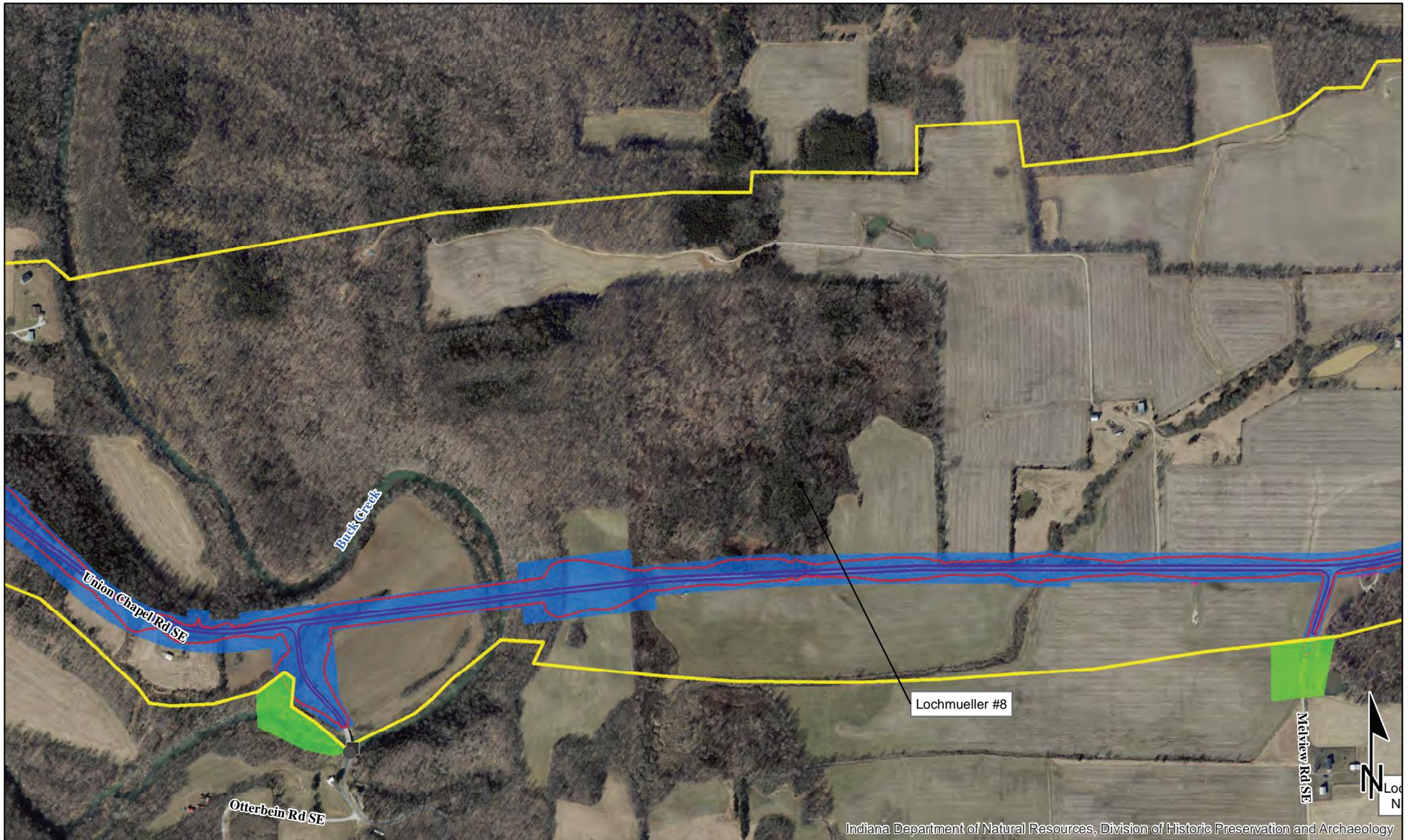
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

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

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

## Area of Potential Effects Map 2

APE	Extended APE	Construction Limits	Existing ROW	Proposed Design	Permanent ROW	Temporary ROW	National Register Sites	Historic Districts	Cemeteries
					<b>County Survey Sites</b>		<b>Historic Bridges</b>		
					<b>RATING</b>		<b>RATING</b>		
					Outstanding	Notable	Contributing	Non-Contributing	Unknown
					Outstanding	Notable	Contributing	Non-Contributing	Unknown
					Demolished	Demolished			



Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology

**Sources:** 600 300 0 600 Feet  
**Non Orthophotography Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.**

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

**Area of Potential Effects Map 3**

APE	Extended APE	Construction Limits	Existing ROW	Proposed Design	Permanent ROW	Temporary ROW	National Register Sites	Historic Districts	Cemeteries	
					<b>County Survey Sites</b>		<b>Historic Bridges</b>			
					<b>RATING</b>		<b>RATING</b>			
					Outstanding	Notable	Contributing	Non-Contributing	Unknown	Outstanding
					Contributing	Non-Contributing	Demolished	Demolished	Unknown	Notable
					Non-Contributing	Demolished	Demolished	Demolished	Demolished	Non-Contributing
					Unknown	Unknown	Unknown	Unknown	Unknown	Non-Contributing



Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology

Sources: 600 300 0 600 Feet  
 Non Orthophotography

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

Orthophotography - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

### Area of Potential Effects Map 4

APE	<b>County Survey Sites</b>	<b>Historic Bridges</b>
Extended APE	<b>RATING</b>	<b>RATING</b>
Construction Limits	Outstanding	Outstanding
Existing ROW	Notable	Notable
Proposed Design	Contributing	Contributing
Permanent ROW	Non-Contributing	Non-Contributing
Temporary ROW	Demolished	Demolished
National Register Sites	Unknown	Unknown
Historic Districts		
Cemeteries		



Sources: 100 50 0 100 Feet  
**Non Orthophotography**

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

**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.**

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

**Farm at 8265 SR 135 (Lochmueller #1)  
 Recommended NRHP Boundary Map**

Recommended NRHP Boundary	APE	Construction Limits	Permanent ROW	Temporary ROW	Existing ROW	Proposed Design	National Register Sites	Historic Districts	Cemeteries
<b>County Survey Sites</b>		<b>Historic Bridges</b>							
<b>RATING</b>		<b>RATING</b>							
	Outstanding		Outstanding						
	Notable		Notable						
	Contributing		Contributing						
	Non-Contributing		Non-Contributing						
	Demolished		Demolished						
	Unknown		Unknown						



**Sources:** 150 75 0 150  
**Non Orthophotography** Feet  
**Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.**

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

**Farm at 140 Watson Road SE  
 (Lochmueller #7)  
 Recommended NRHP Boundary Map**

Recommended NRHP boundary	APE	Construction Limits	Permanent ROW	Temporary ROW	Existing ROW	Proposed Design	National Register Sites	Historic Districts	Cemeteries	<b>County Survey Sites</b>	<b>Historic Bridges</b>
										<b>RATING</b>	<b>RATING</b>
										Outstanding	Outstanding
										Notable	Notable
										Contributing	Contributing
										Non-Contributing	Non-Contributing
										Demolished	Demolished
										Unknown	Unknown



**Sources:** 150 75 0 150 Feet  
**Non Orthophotography Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.**

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

**Farm at 2275 Melview Road (Lochmueller #10)  
 Recommended NRHP Boundary Map**

Recommended NRHP Boundary	National Register Sites	Notable	Notable
APE	Non-Contributing	Unknown	Unknown
Construction Limits	Demolished	Demolished	Demolished
Permanent ROW	Cemeteries		
Temporary ROW			
Existing ROW			
Proposed Design			
Historic Districts			
Cemeteries			

**Section 106 800.11(e)**

# **Appendix B**

**General Photographs**

Note: This appendix has been removed to avoid duplication and reduce file size.

**Section 106 800.11(e)**

# **Appendix C**

**Consulting Parties List**

**Consulting Party List**  
Des. No. 2001154  
SR 11 Roadway Project  
From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana

**Automatic Section 106 Consulting Party:**

**Indiana Department of Natural Resources**  
**Division of Historic Preservation & Archaeology**  
**Chad Slider, Assistant Director for Environmental Review**  
**402 W. Washington St., Room W274**  
**Indianapolis, Indiana 46204**  
[cslider@dnr.in.gov](mailto:cslider@dnr.in.gov)

**Invited Consulting Parties:**

Harrison County Commissioners  
245 Atwood Street, Suite 100  
Corydon, IN 47712  
Charlie Crawford [ccrawford@harrisoncounty.in.gov](mailto:ccrawford@harrisoncounty.in.gov)  
Nelson Stepro [nelson.stepro@harrisoncounty.in.gov](mailto:nelson.stepro@harrisoncounty.in.gov)  
Jim Heitkemper [jheitkemper@harrisoncounty.in.gov](mailto:jheitkemper@harrisoncounty.in.gov)

Harrison County Historian  
Daniel L. Bays  
161 Ponder Lane NE  
Corydon, IN 47112  
[danbayshistorian@hotmail.com](mailto:danbayshistorian@hotmail.com)

Historical Society of Harrison County  
Historical Society of Harrison County  
5850 Devil's Elbow Road NW  
Corydon, IN 47112  
[karengleitz@hotmail.com](mailto:karengleitz@hotmail.com)

Harrison County Discovery Center  
233 N Capitol Avenue  
Corydon, IN 47112  
Mail hard copy

Harrison County Highway Engineer  
Kevin Russel, P.E.  
1359 Old Highway 135 SW  
Corydon, IN 47112  
[k.russel@harrisoncounty.in.gov](mailto:k.russel@harrisoncounty.in.gov)

Indiana Landmarks – Southern Regional Office  
Greg Sekula, Director  
911 State Street  
New Albany, IN 47150  
[gsekula@indianalandmarks.org](mailto:gsekula@indianalandmarks.org)

River Hills Economic Development District  
300 Spring Street, Suite 2A  
Jeffersonville, IN 47130  
[info@riverhills.cc](mailto:info@riverhills.cc)

**Amanda Uhl**  
[aluhl@gmail.com](mailto:aluhl@gmail.com)

Delaware Tribe of Indians, Oklahoma  
**Eastern Shawnee Tribe of Oklahoma**  
**Miami Tribe of Oklahoma**  
Peoria Tribe of Indians of Oklahoma  
Pokagon Band of Potawatomi Indians  
Shawnee Tribe  
United Keetoowah Band of Cherokee Indians

\*Participating Consulting Parties in **BOLD**

**Section 106 800.11(e)**

# **Appendix D**

**Consulting Parties Correspondence**

## Hannah Blad

---

**From:** Hannah Blad  
**Sent:** Tuesday, July 6, 2021 11:47 AM  
**To:** Slider, Chad; ccrawford@harrisoncounty.in.gov; nelson.stepro@harrisoncounty.in.gov; jheitkemper@harrisoncounty.in.gov; danbayshistorian@hotmail.com; karengleitz@hotmail.com; k.russel@harrisoncounty.in.gov; gsekula@indianalandmarks.org; info@riverhills.cc  
**Cc:** Moffatt, Charles D; SBranigin (SBranigin@indot.IN.gov); Miller, Shaun (INDOT); Chad Costa; Gary Quigg; Kumar, Anuradha; Daniel Townsend; Jeremy Kieffner; Mankin, Travis  
**Subject:** FHWA Project: Des. No. 2001154; Early Coordination Letter, SR 11 New Roadway Alignment Project, Harrison County, Indiana  
**Attachments:** SR11NewRoadwayAlignmentProject\_Des2001154\_EarlyCoordinationLetter\_2021-07-06.pdf

### **Des. No.: 2001154**

#### **Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 37/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154).

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

- State Historic Preservation Officer
- Harrison County Commissioners
- Harrison County Historian
- Harrison County Historical Society
- Harrison County Discovery Center
- Harrison County Highway Engineer
- Indiana Landmarks – Southern Regional Office
- River Hills Economic Development District
- Delaware Tribe of Indians, Oklahoma
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the attached letter, which is also located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comments. If we do not receive a response from an invited consulting party within the time allotted, the project will proceed consistent with the proposed design. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317-416-0876 or Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Thank you in advance for your input,

**Hannah Blad**

Hist/Sec 106 Specialist II

**Lochmueller Group**

3502 Woodview Trace, Suite 150, Indianapolis, IN 46268

574.334.5487 (direct) | 574.248.2121 (mobile)

[HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)

<http://lochgroup.com>

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## Hannah Blad

---

**From:** Moffatt, Charles D <CMoffatt@indot.IN.gov>  
**Sent:** Tuesday, July 6, 2021 12:16 PM  
**To:** thpo@estoo.net; Diane Hunter; lpappenfort@peoriatribe.com; Matthew Bussler (Matthew.Bussler@pokagonband-nsn.gov); tonya@shawnee-tribe.com; Larry Heady; egorsuch@ukb-nsn.gov  
**Cc:** Miller, Shaun (INDOT); Carmany-George, Karstin (FHWA); sbranigin; Hannah Blad  
**Subject:** FHWA Project: Des. No. 2001154; Early Coordination Letter, SR 11 New Roadway Alignment Project, Harrison County, Indiana  
**Attachments:** SR11NewRoadwayAlignmentProject\_Des2001154\_EarlyCoordinationLetter\_2021-07-06.pdf

Des. No.: 2001154

Project Description: New Roadway Alignment

Location: From SR 135/Watson Road to SR 11/SR 37/Melview Road Intersection in Boone and Heth Townships

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154).

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

- State Historic Preservation Officer
- Harrison County Commissioners
- Harrison County Historian
- Harrison County Historical Society
- Harrison County Discovery Center
- Harrison County Highway Engineer
- Indiana Landmarks – Southern Regional Office
- River Hills Economic Development District
- Delaware Tribe of Indians, Oklahoma
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the attached letter, which is also located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comments. If we do not receive a response from an invited consulting party within the time allotted, the project will proceed consistent with the proposed design. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317-416-0876 or Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Thank you in advance for your input,

David Moffatt  
Archaeologist  
Environmental Services  
Cultural Resources Office  
Indiana Department of Transportation  
1-317-439-3337



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (317) 296-0799

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

July 6, 2021

This letter was sent to the listed parties.

RE: Des. No. 2001154  
SR 11 New Roadway Alignment Project  
From SR 135/Watson Road to SR 11/SR 37/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana

Dear Consulting Party (see attached list),

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project. Lochmueller Group is under contract with INDOT to advance the environmental documentation for the referenced project.

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

The proposed undertaking is from the intersection of SR 135/Watson Road to SR 11/SR 37/Melview Road intersection in Harrison County, Indiana. It is within Boone and Heth Townships, Mauckport and Laconia USGS Topographic Quadrangles, in Sections 11, 12, 13, 14, Township 5 South, Range 3 East and Sections 7, 8, 9, 16, 17, 18, Township 5 South, and Range 4 East.

The need for the project is due to the limited direct east-to-west connection routes in southern Harrison County that meet current design standards. The purpose of the project is to provide an improved transportation link between SR 337/SR11 and SR 135, including approximately 2.5 miles of new-terrain road construction and a new bridge crossing of Buck Creek. The total length of the project is approximately 5 miles.

This project will extend the SR 11 roadway with a wider, arterial facility from the existing SR 337 and SR 11 intersection to the SR 135 and Watson Road intersection in southern Harrison County. The proposed project includes improving the existing SR 337, SR 11 and Melview Road intersection; upgrading existing Melview Road to its western termini; constructing a new terrain roadway from the western termini of Melview Road west to the intersection of Watson Road and Union Chapel Road, including a new bridge across Buck Creek; upgrading Watson Road to the intersection of SR 135; and improving the SR 135 intersection with Watson Road. Currently, three routes are being considered. New right-of-way will be required for this project, the exact amount is unknown at this time. As the project develops more information will become available.

[www.in.gov/dot/](http://www.in.gov/dot/)  
**An Equal Opportunity Employer**



Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. In accordance with 36 CFR 800.2 (c), you are hereby requested to be a consulting party to participate in the Section 106 process. Entities that have been invited to participate in the Section 106 consultation process for this project are identified in the attached list. Per 36 CFR 800.3(f), we hereby request that the Indiana State Historic Preservation Officer (SHPO) notify this office if the SHPO staff is aware of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the project.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. At this time, no cultural resource investigations have occurred; however, the results of cultural resource identification and evaluation efforts, both above-ground and archaeological, will be forthcoming. Consulting parties will receive notification when these reports are completed.

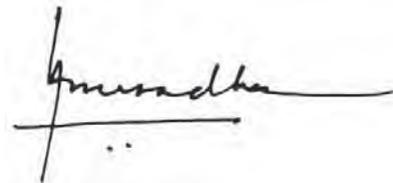
Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party, or if you do not respond, you will not be included on the list of consulting parties for this project. If we do not receive your response in the time allotted, the project will proceed consistent with the proposed design and you will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Hannah Blad of Lochmueller Group at 574.334.5487 or [hblad@lochgroup.com](mailto:hblad@lochgroup.com). All future responses regarding the proposed project should be forwarded to Lochmueller Group at the following address:

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601  
[hblad@lochgroup.com](mailto:hblad@lochgroup.com)

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317-416-0876 or Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Sincerely,



Anuradha V. Kumar, Manager

[www.in.gov/dot/](http://www.in.gov/dot/)  
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Cultural Resources Office  
Environmental Services

Enclosures:

- Topographic Maps

**Enclosures removed to prevent  
duplication**

Distribution List:

- State Historic Preservation Officer
- Harrison County Commissioners
- Harrison County Historian
- Harrison County Historical Society
- Harrison County Discovery Center
- Harrison County Highway Engineer
- Indiana Landmarks – Southern Regional Office
- River Hills Economic Development District
- Delaware Tribe of Indians, Oklahoma
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians



July 15, 2021

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Early coordination letter for SR 11 New Roadway alignment project from SR 135/Watson  
Road to SR 11/SR 337/Melview Road Intersection (Des. No. 2001154; DHPA No. 27742)

Dear Ms. Blad:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your July 6, 2021 submission which enclosed INDOT’s early coordination letter, received by our office the same day for this project.

We note that both the review request submittal form and the early coordination letter interchangeably use SR 37 and SR 337. Based on the project description and reviewing aerial mapping, SR 37 appears to be a typo and SR 337 is the correct road name. We wish to point that out to resolve confusion in future submissions.

We are not aware of any parties who should be invited to participate in the Section 106 consultation on this federal undertaking, beyond those whom INDOT already has invited. However, if right-of-way is likely to be taken from a potentially historic property, it might be advisable to invite the owner of that property as soon as possible. In your next regular correspondence on this project, please advise us as to which of the invited consulting parties has accepted the invitation.

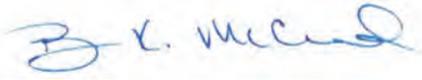
We look forward to reviewing the proposed area of potential effects and the reports on investigations of above-ground cultural resources and archaeological resources that the early coordination letter indicated will be forthcoming.

The Indiana SHPO staff’s archaeological reviewer for this project is Rachel Sharkey, and the structures reviewers are Caitlin Lehman and Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

Hannah Blad  
July 15, 2021  
Page 2

In all future correspondence about the SR 11 New Roadway alignment project (Des. No. 2001154), please refer to DHPA No. 27742.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:DMK:dmk

emc: Anuradha Kumar, INDOT  
Shaun Miller, INDOT  
Susan Branigin, INDOT  
Hannah Blad, Lochmueller Group  
Gary Quigg, Lochmueller Group  
Chad Costa, Lochmueller Group  
Danielle Kauffmann, DNR-DHPA  
Caitlin Lehman, DNR-DHPA  
Rachel Sharkey, DNR-DHPA



**EASTERN SHAWNEE**  
**CULTURAL PRESERVATION DEPARTMENT**  
70500 East 128 Road, Wyandotte, OK 74370

September 3, 2021

INDOT - Indiana Department of Transportation  
100 N. Senate Ave. IGCN642  
Indianapolis, IN 46201

**RE: Des. No. 2001154, Harrison County, Indiana**

Dear Mr. Miller,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Harrison County, Indiana. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)  
Eastern Shawnee Tribe of Oklahoma  
(918) 666-5151 Ext:1833

## Hannah Blad

---

**From:** Hannah Blad  
**Sent:** Thursday, March 10, 2022 2:57 PM  
**To:** Sharkey, Rachel; Lehman, Caitlin M; Kauffmann, Danielle M  
**Cc:** Carpenter, Patrick A; sbranigin; Kelly, Clinton; Chad Costa; Gary Quigg; Daniel Townsend; Jeremy Kieffner; Dye, David (DDYE@indot.IN.gov); Rhoads, Matthew; Carleton, Greg; Coon, Matthew; Holly Hume  
**Subject:** FHWA Project: Des. No. 2001154; Historic Property Report, SR 11 Extension New Roadway Construction Project, Harrison County, Indiana

**Des. No.: 2001154**

**Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154). The Section 106 Early Coordination Letter for this project was originally distributed on July 6, 2021.

As part of Section 106 of the National Historic Preservation Act, a Historic Property Report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Patty Jo Korzeniewski at [pkorzeniewski@indot.in.gov](mailto:pkorzeniewski@indot.in.gov) or 317-416-4377 or Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Thank you in advance for your input,



### Hannah Blad

Hist/Sec 106 Specialist II



**Lochmueller Group**

112 W Jefferson Blvd, Suite 500, South Bend, IN 46601



**Email:** [HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)

**Direct:** 574.334.5487



**Mobile:** 574.248.2121

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## Hannah Blad

---

**From:** Carpenter, Patrick A <PACarpenter@indot.IN.gov>  
**Sent:** Monday, March 14, 2022 4:43 PM  
**To:** 'thpo@estoo.net'  
**Cc:** Korzeniewski, Patricia J; Carmany-George, Karstin (FHWA); Hannah Blad; sbranigin  
**Subject:** FHWA Project: Des. No. 2001154; Historic Property Report, SR 11 Extension New Roadway Construction Project, Harrison County, Indiana

Dear Consulting Parties,

**Des. No.: 2001154**

**Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154). The Section 106 Early Coordination Letter for this project was originally distributed on July 6, 2021.

As part of Section 106 of the National Historic Preservation Act, a Historic Property Report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Patty Jo Korzeniewski at [pkorzeniewski@indot.in.gov](mailto:pkorzeniewski@indot.in.gov) or 317-416-4377 or Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Thank you in advance for your input,

Patrick Carpenter  
Section 106 Specialist, Cultural Resources Office  
Environmental Services  
Indiana Department of Transportation  
100 N Senate Ave., IGCN- Room N758-ES  
Indianapolis, IN 46204-2216  
317-416-7960



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (317) 296-0799

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

March 10, 2022

This letter was sent to the listed parties.

RE: Des. No. 2001154/DHPA No. 27742  
SR 11 Extension New Roadway Construction Project  
From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with a new roadway alignment project (Des. No. 2001154).

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on July 6, 2021.

The proposed undertaking is from the intersection of SR 135/Watson Road to SR 11/SR 337/Melview Road intersection in Harrison County, Indiana. It is within Boone and Heth Townships, Mauckport and Laconia USGS Topographic Quadrangles, in Sections 11, 12, 13, 14, Township 5 South, Range 3 East and Sections 7, 8, 9, 16, 17, 18, Township 5 South, and Range 4 East.

The need for the project is due to the limited direct east-to-west connection routes in southern Harrison County that meet current design standards. The purpose of the project is to provide an improved transportation link between SR 337/SR11 and SR 135, including approximately 2.5 miles of new-terrain road construction and a new bridge crossing of Buck Creek. The total length of the project is approximately 5 miles.

This project will extend the SR 11 roadway with a wider, arterial facility from the existing SR 337 and SR 11 intersection to the SR 135 and Watson Road intersection in southern Harrison County. The proposed project includes improving the existing SR 337, SR 11 and Melview Road intersection; upgrading existing Melview Road to its western termini; constructing a new terrain roadway from the western termini of Melview Road west to the intersection of Watson Road and Union Chapel Road, including a new bridge across Buck Creek; upgrading Watson Road to the intersection of SR 135; and improving the SR 135 intersection with Watson Road. Currently, three routes are being considered. This project is anticipated to require up to 45 acres of

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permanent right-of-way (ROW) and up to 5 acres of temporary ROW. As the project develops more information will become available.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. In accordance with 36 CFR 800.2 (c), you are hereby requested to be a consulting party to participate in the Section 106 process. Entities that have been invited to participate in the Section 106 consultation process for this project are identified in the attached list. Per 36 CFR 800.3(f), we hereby request that the Indiana State Historic Preservation Officer (SHPO) notify this office if the SHPO staff is aware of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the project.

Lochmueller Group is under contract with INDOT to advance the environmental documentation for the referenced project. Cultural Resource Analysts, Inc. (CRA) has been subcontracted to complete the below-ground Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, Farm at 8265 SR 135 (Lochmueller #1), Farm at 140 Watson Road SE (Lochmueller #7) and Farm at 2275 Melview Road (Lochmueller #10) are recommended as eligible for listing in the NRHP.

An archaeologist who meets the Secretary of the Interior's Professional Qualification Standards is conducting a survey of archaeological resources within the APE for potential eligibility for listing in the NRHP. A report of that investigation is forthcoming and will be distributed to the appropriate consulting parties for review at a later date.

Since the distribution of the early coordination materials, the Shawnee Tribe and the State Historic Preservation Officer accepted consulting party status.

The Historic Property Report (HPR) is available for review in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other

input to be considered in the preparation of the environmental document. If you prefer a hard copy of this material, please respond to this email with your request as soon as you can.

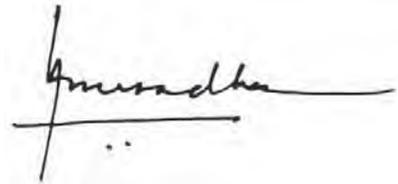
Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Hannah Blad of Lochmueller Group at 574.334.5487 or [hblad@lochgroup.com](mailto:hblad@lochgroup.com). All future responses regarding the proposed project should be forwarded to Lochmueller Group at the following address:

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601  
[hblad@lochgroup.com](mailto:hblad@lochgroup.com)

Tribal contacts may contact Patty Jo Korzeniewski at [pkorzeniewski@indot.in.gov](mailto:pkorzeniewski@indot.in.gov) or 317-416-4377 or Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Sincerely,



Anuradha V. Kumar, Manager  
Cultural Resources Office  
Environmental Services

Enclosures:

- APE Map

**Enclosures removed to prevent  
duplication**

Distribution List:

- State Historic Preservation Officer
- Ralph & Cora Frakes (property owners 140 Watson Road SE)
- Hauswald Partners, LLC (property owner 2275 Melview Road)
- David Hisey (property owner 8265 Highway 135 SW)

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## Hannah Blad

---

**From:** Hannah Blad  
**Sent:** Monday, April 4, 2022 4:01 PM  
**To:** Amanda Uhl  
**Cc:** Peter Putzier; Gary Quigg; Chad Costa; David Goffinet; Carpenter, Patrick A  
**Subject:** RE: SR11 Extension, Des. No. 201154/DHPA No. 27742

Hi Amanda,

I'm sorry I did not get your last email, but my colleagues did forward it to me. It seems you may be using an incorrectly spelled email address for me, I noticed it when I did not receive your first email that a 'b' was used instead of a 'd' in my last name. I think if you just make sure you reply to [hblad@lochgroup.com](mailto:hblad@lochgroup.com) I should get all future emails.

To answer your question: Yes, your grandmother's property does have historical significance to Harrison County. The land was acquired c. 1835 by the Fravel family and my colleague Gary spoke with Kip Keifer when he visited the property, who indicated that the land was still owned by descendants of the family. The property has also remained around its current size, the original plot was around 50 acres. The current parcel is up to 60 acres, but the original 50 acres purchased by the Fravel family is contained within the current parcel. The property also contains a number of buildings associated with the early agricultural nature of the property including a log house, log barn, and numerous other outbuildings. As it stands, the property is an example of an intact, though slightly deteriorated, early European-American settlement agricultural property in Boone Township. This is why we recommended the property eligible for the [National Register of Historic Places](#) (sometimes abbreviated to National Register or NRHP).

As far as more work to determine its importance, on our end we do not need to delve anymore into the historic significance of the farm unless a consulting party pushes back on the significance of the property. The only other consulting party at this point that we have not received comments back from is the State Historic Preservation Officer. They will either concur with our recommendations regarding which properties are eligible for the National Register or they may not agree with us.

Because we have recommended the farm eligible for the National Register, projects with federal funding need to take into account the effect the project will have on eligible properties. As such, we will be preparing an Effects Report which will document the proposed changes the project will have on surrounding properties, particularly those properties eligible for the National Register, and how the project will affect the farm at 140 Watson Road SE, if the State Historic Preservation Officer concurs with the National Register eligibility of the farm. The report will be quite detailed and tell you if any right-of-way is anticipated to be purchased from the property and how close construction activities will take place to the property. At that time, you can respond with any concerns you may have about the anticipated changes to 140 Watson Road SE. At this time a number of Native American tribes are consulting parties as well as the State Historic Preservation Officer. They too will be given the report and provide feedback on the anticipated changes to historic properties along the project area.

Here is the [link](#) to the Citizen's Guide to Section 106 Review, you may find it helpful as we move through this process.

I hope this is not too much information to process. Let me know if you have more questions.



**Hannah Blad**  
Hist/Sec 106 Specialist II



Web: <http://lochgroup.com>



**Lochmueller Group**

112 W Jefferson Blvd, Suite 500, South Bend, IN 46601



Email: [HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)



Direct: 574.334.5487

Mobile: 574.248.2121

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**From:** Peter Putzier <[PPutzier@lochgroup.com](mailto:PPutzier@lochgroup.com)>  
**Sent:** Wednesday, March 30, 2022 8:54 AM  
**To:** Hannah Blad <[HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)>  
**Subject:** FW: SR11 Extension, Des. No. 201154/DHPA No. 27742

Hi Hannah, Did you receive Amanda's email from Tuesday? See below?

**Peter Putzier**

Environmental Specialist II

**Lochmueller Group**



Direct: 812.759.4113

Mobile: 952.564.8977

**From:** Amanda Uhl <[aluhl1987@gmail.com](mailto:aluhl1987@gmail.com)>  
**Sent:** Wednesday, March 30, 2022 7:22 AM  
**To:** Hannah Blad <[HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)>  
**Cc:** David Goffinet <[DGoffinet@lochgroup.com](mailto:DGoffinet@lochgroup.com)>; Gary Quigg <[GQuigg@lochgroup.com](mailto:GQuigg@lochgroup.com)>; Peter Putzier <[PPutzier@lochgroup.com](mailto:PPutzier@lochgroup.com)>  
**Subject:** Re: SR11 Extension, Des. No. 201154/DHPA No. 27742

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Hello,

I tried to reply to Hannah yesterday. However, each time I try to email her I get an automatic message back saying my email is blocked to her. Could one of you please be sure that she gets my previous email with my question please?

Amanda Uhl

On Tue, Mar 29, 2022, 4:14 PM Amanda Uhl <[aluhl1987@gmail.com](mailto:aluhl1987@gmail.com)> wrote:

Hello Hannah,

Thank you for getting back with me. I apologize for my delay. Taking care of my grandmother's estate since she has passed has been just one of my many hats. Again, my apologies.

Here is my first big question then I will go from there.

I reviewed the booklet, but have not had a chance to pick through every page. I understand that the farm at 140 Watson Road may have some historical significance to Harrison County. What does this mean for the farm vs the road? Is there more work to be done to determine the importance?

Ok, I will start slow, with just those questions. I look forward to hearing from you.

Amanda Uhl

On Tue, Mar 29, 2022, 4:01 PM Hannah Blad <[HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)> wrote:

Hi Amanda,

Do you still have questions for us about the proposed project? If so feel free to email me or call me at the numbers below.

**Web:** <http://lochgroup.com>

### Hannah Blad

Hist/Sec 106 Specialist II

#### Lochmueller Group

112 W Jefferson Blvd, Suite 500, South Bend, IN 46601

**Email:** [HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)

**Direct:** 574.334.5487

**Mobile:** 574.248.2121

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**From:** Hannah Blad <[HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)>

**Sent:** Thursday, March 17, 2022 8:39 AM

**To:** Peter Putzier <[PPutzier@lochgroup.com](mailto:PPutzier@lochgroup.com)>; Amanda Uhl <[aluhl1987@gmail.com](mailto:aluhl1987@gmail.com)>

**Cc:** David Goffinet <[DGoffinet@lochgroup.com](mailto:DGoffinet@lochgroup.com)>; Gary Quigg <[GQuigg@lochgroup.com](mailto:GQuigg@lochgroup.com)>

**Subject:** RE: SR11 Extension, Des. No. 201154/DHPA No. 27742

Good Morning Amanda,

I'm sorry to hear about your grandmother. Thank you for accepting consulting party status, I will be sure to include you on all future Section 106 correspondence regarding this project. I think you may have called me yesterday to talk about your questions but I was out of the office all day. I will be in the office today and tomorrow if you would like to call again. We can also schedule a call as well. I can answer all your questions regarding the Historic Property Report and the Section 106 process but Peter is more knowledgeable about the project itself.

I cc'd my colleague Gary on this email, he did the fieldwork for this project and so he was on site at your grandmother's place.

Let me know if you want to set up a time to talk about the project or the Historic Property Report.

Have a wonderful day,

**Web:** <http://lochgroup.com>

## Hannah Blad

Hist/Sec 106 Specialist II

### Lochmueller Group

112 W Jefferson Blvd, Suite 500, South Bend, IN 46601

**Email:** [HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)

**Direct:** 574.334.5487

**Mobile:** 574.248.2121

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---

**From:** Peter Putzier <[PPutzier@lochgroup.com](mailto:PPutzier@lochgroup.com)>  
**Sent:** Wednesday, March 16, 2022 11:20 AM  
**To:** Amanda Uhl <[aluhl1987@gmail.com](mailto:aluhl1987@gmail.com)>; Hannah Blad <[HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)>  
**Cc:** David Goffinet <[DGoffinet@lochgroup.com](mailto:DGoffinet@lochgroup.com)>  
**Subject:** RE: SR11 Extension, Des. No. 201154/DHPA No. 27742

Hi Amanda,

Good to hear from you! Are you interested in finding a time to schedule a Kitchen Table Meeting? This would be an opportunity to provide you current SR11 project information, share alignment maps, and go through a property survey form.

We were able to meet with Becca Welsch in late February and provide her information about the project.

I'll let Hannah field the Historic Properties questions.

Sincerely,

Peter

## Peter Putzier

Environmental Specialist II

### Lochmueller Group

**Direct:** 812.759.4113

**Mobile:** 952.564.8977

---

**From:** Amanda Uhl <[aluhl1987@gmail.com](mailto:aluhl1987@gmail.com)>  
**Sent:** Wednesday, March 16, 2022 9:07 AM  
**To:** Peter Putzier <[PPutzier@lochgroup.com](mailto:PPutzier@lochgroup.com)>; [hblab@lochgroup.com](mailto:hblab@lochgroup.com)  
**Subject:** SR11 Extension, Des. No. 201154/DHPA No. 27742

Hello Peter and Hannah,

My name is Amanda Uhl. I am the granddaughter of Ralph & Cara Jane Frakes. Cora Jane passed away January 3rd, 2022. I am now the executor of estate for her. I can send that documentation to you, if needed. I just received the "Historic Property Report" packet in the mail. I am responding to let you know that I would like to be considered as a consulting party. I would also like to add that I have some questions about this as well. Please let me know what I need to do from here. Thank you,

*Amanda L. Uhl*

*812-596-4310*



**EASTERN SHAWNEE**  
**CULTURAL PRESERVATION DEPARTMENT**  
70500 East 128 Road, Wyandotte, OK 74370

March 21, 2022

INDOT - Indiana Department of Transportation  
100 N. Senate Ave. IGCN642  
Indianapolis, IN 46201

**RE: Des No. 2001154, Harrison County, Indiana**

Dear Ms. Korzeniewski,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Harrison County, Indiana. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)  
Eastern Shawnee Tribe of Oklahoma  
(918) 666-5151 Ext:1833



April 6, 2022

Hannah Blad  
Historic/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Boulevard, Suite 500  
South Bend, Indiana 46601

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Historic property report (Blad, 3/10/2022) for the SR 11 New Roadway alignment project from  
SR 135/Watson Road to SR 11/SR 337/Melview Road intersection (Des. No. 2001154; DHPA  
No. 27742)

Dear Ms. Blad:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your March 10, 2022, review request submittal form which enclosed the historic property report (“HPR”; Blad, 3/10/2022), received by our office the same day for this project in Boone and Heth townships of Harrison County, Indiana.

The area of potential effects (“APE”) proposed in the HPR appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature could occur. We note that at this time, three routes for the new roadway alignment are still being considered within this project area.

For the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions in the HPR that the farms at 8265 SR 135, 140 Watson Road SE, and 2275 Melview Road are all eligible for inclusion in the National Register of Historic Places (“NRHP”). Regarding the farms at 8625 SR 135 and 2275 Melview Road, based on the information provided, we believe that they may also be eligible under Criterion A in addition to Criterion C. Stating that they were “one of over three thousand [farms] operating in Harrison County” is not justification for ineligibility. They are intact farmsteads that convey historic use/significance through the extant buildings, which meets the National Register criteria.

We agree that there are no other historic properties listed or eligible for inclusion in the NRHP within the project’s APE. We look forward to reviewing the effects the proposed project may have on these historic properties once the preferred alignment route has been finalized.

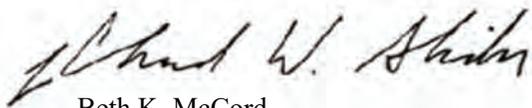
As INDOT’s March 10, 2022, letter indicates, the report on investigations of archaeological resources is forthcoming. We look forward to reviewing and commenting on that report.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Rachel Sharkey, and the structures reviewer are Danielle Kauffmann and Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the SR 11 new roadway alignment project in Harrison County (Des. No. 2001154), please refer to DHPA No. 27742.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:DMK:dmk

- emc: Erica Tait, FHWA  
Anuradha Kumar, INDOT  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Hannah Blad, Lochmueller Group  
Gary Quigg, Lochmueller Group  
Chad Costa, Lochmueller Group  
Danielle Kauffmann, DNR-DHPA  
Caitlin Lehman, DNR-DHPA  
Rachel Sharkey, DNR-DHPA

## Hannah Blad

---

**From:** Hannah Blad  
**Sent:** Friday, December 9, 2022 11:30 AM  
**To:** Sharkey, Rachel; Kauffmann, Danielle M; Lehman, Caitlin M; Amanda Uhl  
**Cc:** Blum, Kaylee; Coon, Matthew; sbranigin; Kelly, Clint; Chad Costa; Gary Quigg; Jeremy Kieffner; Lisa Kelley; Rhoads, Matthew; Carleton, Greg; Michael Curran  
**Subject:** FHWA Project: Des. No. 2001154; Archaeology Report, SR 11 Roadway Project, Harrison County, Indiana

**Des. No.: 2001154**

**Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154). The Section 106 Early Coordination Letter for this project was originally distributed on July 6, 2021. The Historic Property Report was distributed on March 10, 2022 to non-tribal consulting parties and on March 14, 2022 to Tribes.

As part of Section 106 of the National Historic Preservation Act, an Archaeology Report (Tribes only), has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

**Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon** at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,



### Hannah Blad

Hist/Sec 106 Specialist II

**Lochmueller Group**  
112 W Jefferson Blvd, Suite 500, South Bend, IN 46601

**Email:** [HBlad@lochgroup.com](mailto:HBlad@lochgroup.com)

**Direct:** 574.334.5487  
 **Mobile:** 574.248.2121

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# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

December 9, 2022

RE: Des. No. 2001154/DHPA No. 27742  
SR 11 Roadway Project  
From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with a new roadway alignment project (Des. No. 2001154).

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on July 6, 2021. In addition, a letter distributed on March 10, 2022 (non-Tribal consulting parties) and March 14, 2022 (Tribes) notified consulting parties that a archaeology report was available for review and comment.

The proposed undertaking is from the intersection of SR 135/Watson Road to SR 11/SR 337/Melview Road intersection in Harrison County, Indiana. It is within Boone and Heth Townships, Mauckport and Laconia USGS Topographic Quadrangles, in Sections 11, 12, 13, 14, Township 5 South, Range 3 East and Sections 7, 8, 9, 16, 17, 18, Township 5 South, and Range 4 East.

The need for the project is due to the limited direct east-to-west connection routes in southern Harrison County that meet current design standards. The purpose of the project is to provide an improved transportation link between SR 337/SR11 and SR 135, including approximately 2.5 miles of new-terrain road construction and a new bridge crossing of Buck Creek. The total length of the project is approximately 5 miles.

This project will extend the SR 11 roadway with a wider, arterial facility from the existing SR 337 and SR 11 intersection to the SR 135 and Watson Road intersection in southern Harrison County. The proposed project includes improving the existing SR 337, SR 11 and Melview Road intersection; upgrading existing Melview Road to its western termini; constructing a new terrain roadway from the western termini of Melview Road west to the intersection of Watson Road and Union Chapel Road, including a new bridge across Buck Creek; upgrading Watson Road to the intersection of SR 135; and improving the SR 135 intersection with Watson

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Road. This project is anticipated to require up to 45 acres of permanent right-of-way (ROW) and up to 5 acres of temporary ROW. As the project develops more information will become available.

Lochmueller Group is under contract with INDOT to advance the environmental documentation for the referenced project. Cultural Resource Analysts Inc. (CRA) has been subcontracted to complete the below-ground Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, Farm at 8265 SR 135 (Lochmueller #1), Farm at 140 Watson Road SE (Lochmueller #7) and Farm at 2275 Melview Road (Lochmueller #10) are recommended as eligible for listing in the NRHP.

With regard to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards identified five sites within the project area. As a result of these efforts, sites 12HR583, 12HR864-12HR867 were recommended as not eligible for listing in the NRHP and no further work or further work is recommended.

Since the distribution of the Historic Property Report, Amanda Uhl the property owner of Farm at 140 Watson Road SE has requested consulting party status.

The Archaeology Report (Tribes only) is available for review in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes.

For questions concerning specific project details, you may contact Hannah Blad of Lochmueller Group at 574.334.5487 or [hblad@lochgroup.com](mailto:hblad@lochgroup.com). All future responses regarding the proposed project should be forwarded to Lochmueller Group at the following address:

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601  
[hblad@lochgroup.com](mailto:hblad@lochgroup.com)

*Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).*

Sincerely,



Matthew S. Coon, Acting Manager  
Cultural Resources Office  
Environmental Services

Distribution List:

- **State Historic Preservation Officer**
- **Amanda Uhl (property owner Farm at 140 Watson Road SE)**
- Delaware Tribe of Indians, Oklahoma
- **Eastern Shawnee Tribe of Oklahoma**
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians
- Osage Nation\*

\*Participating consulting parties in **BOLD**

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December 20, 2022

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Phase Ia archaeological reconnaissance report (Martin, 12/6/2022) for the SR 11 New Roadway  
alignment project from SR135/Watson Road to SR11/SR 37/Melview Road intersection,  
Harrison County (Des. No. 2001154; DHPA No. 27742)

Dear Ms. Blad:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your December 9, 2022, review request submittal form which enclosed the phase Ia archaeological reconnaissance report (Martin, 12/6/2022), received by our office the same day, for this project in Boone and Heth Townships, Harrison County, Indiana.

As previously stated, for the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions in the HPR that the farms at 8265 SR 135, 140 Watson Road SE, and 2275 Melview Road are all eligible for inclusion in the National Register of Historic Places (“NRHP”). Regarding the farms at 8625 SR 135 and 2275 Melview Road, based on the information provided, we believe that they may also be eligible under Criterion A in addition to Criterion C. We agree that there are no other historic properties listed or eligible for inclusion in the NRHP within the project’s APE. We look forward to reviewing the effects the proposed project may have on these historic properties once the preferred alignment route has been finalized.

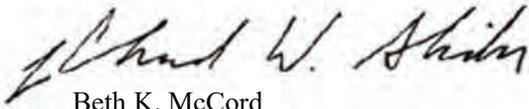
Regarding the archaeological resources, based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we concur with the opinion of the archaeologist, as expressed in the submitted archaeological reconnaissance survey report (Martin 2022), that sites 12Hr866 and 12Hr867 do not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. The portions of sites 12Hr583, 12Hr864, and 12Hr865 within the proposed project area do not appear to contain significant, intact archaeological deposits. No further archaeological investigations are necessary provided that the remainder of sites 12Hr583, 12Hr864, and 12Hr865 outside of the proposed project area are avoided. Please note that site forms have **not** been submitted in SHAARD. Now would be an appropriate time to submit the forms for review and approval. Please send an email notification to Melody Pope once the forms have been submitted.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Dr. Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the SR135/Watson Road to SR11/SR 37/Melview Road intersection project in Harrison County (Des. No. 2001154), please refer to DHPA No. 27742.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:MKP:mkp

- cc: Amanda Uhl, Property Owner
- emc: Erica Tait, FHWA
- Matt Coon, INDOT
- Susan Branigin, INDOT
- Hannah Blad, Lochmueller Group
- Chad Costa, Lochmueller Group
- Gary Quigg, Lochmueller Group
- Andrew Martin, Cultural Resource Analysts, Inc.
- Melody Pope, DNR-DHPA
- Caitlin Lehman, DNR-DHPA

## Hannah Blad

---

**From:** Blum, Kaylee <KBlum@indot.IN.gov>  
**Sent:** Wednesday, February 1, 2023 3:27 PM  
**To:** Hannah Blad  
**Subject:** FW: FHWA Project: Des. No. 2001154; Archaeology Report, SR 11 Roadway Project, Harrison County, Indiana

EXTERNAL

---

**From:** Blum, Kaylee <KBlum@indot.IN.gov>  
**Sent:** Wednesday, February 1, 2023 3:26 PM  
**To:** thpo@estoo.net; thpo@miamination.com; bfletcher@peoriatribe.com; Matthew Bussler <matthew.bussler@pokagonband-nsn.gov>; Section106@shawnee-tribe.com; lheady@delawaretribe.org; sbachor@delawaretribe.org; egorsuch@ukb-nsn.gov; s106@osagenation-nsn.gov; deseray.helton@osagenation-nsn.gov  
**Cc:** Coon, Matthew <mcoon@indot.IN.gov>; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Blum, Kaylee <KBlum@indot.IN.gov>  
**Subject:** FHWA Project: Des. No. 2001154; Archaeology Report, SR 11 Roadway Project, Harrison County, Indiana

**Des. No.: 2001154**

**Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154). The Section 106 Early Coordination Letter for this project was originally distributed on July 6, 2021. The Historic Property Report was distributed on March 10, 2022 to non-tribal consulting parties and on March 14, 2022 to Tribes.

As part of Section 106 of the National Historic Preservation Act, an Archaeology Report (Tribes only), has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

**Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon** at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

**KayLee A. Blum, M.S.**



## Miami Tribe of Oklahoma

3410 P St. NW, Miami, OK 74354 • P.O. Box 1326, Miami, OK 74355  
Ph: (918) 541-1300 • Fax: (918) 542-7260  
www.miamination.com



Via email: [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov)

February 14, 2023

Matt Coon, Tribal Liaison  
INDOT, Cultural Resources Office  
100 North Senate Avenue, N758-ES  
Indianapolis, Indiana 46204

Re: Des. No. 2001154, SR 11 Roadway Project, Harrison County, Indiana – Comments of the Miami Tribe of Oklahoma

Dear Mr. Coon:

Aya, kweehsitoolaani– I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding Des. No. 2001154, SR 11 Roadway Project in Harrison County, Indiana.

The Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, given the Miami Tribe's deep and enduring relationship to its historic lands and cultural property within present-day Indiana, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966 or by email at [THPO@miamination.com](mailto:THPO@miamination.com) to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Diane Hunter  
Tribal Historic Preservation Officer



**EASTERN SHAWNEE**  
**CULTURAL PRESERVATION DEPARTMENT**  
70500 East 128 Road, Wyandotte, OK 74370

March 2, 2023

INDOT - Indiana Department of Transportation  
100 N. Senate Ave. IGCN642  
Indianapolis, IN 46201

**RE: Des No. 2001154, Harrison County, Indiana**

Dear Mr. Coon,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Harrison County, Indiana. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)  
Eastern Shawnee Tribe of Oklahoma  
(918) 666-5151 Ext:1833  
THPO@estoo.net

## Hannah Blad

---

**From:** Gary Quigg  
**Sent:** Thursday, October 14, 2021 9:39 AM  
**To:** Hannah Blad  
**Subject:** FW: DES. No.:2001154  
**Attachments:** morgan camp.JPG

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Even though the plan commission is not a 106 CP, we should work this correspondence into the effects report once we have a preferred alternative.

## Gary Quigg, MA, RPA

Senior Cultural Resource Investigator

### Lochmueller Group

 **Direct:** 317.334.6803  
**Mobile:** 765.376.2051

---

**From:** Holly Hume <HHume@lochgroup.com>  
**Sent:** Thursday, October 14, 2021 9:03 AM  
**To:** Gary Quigg <GQuigg@lochgroup.com>; Jeremy Kieffner <JKieffner@lochgroup.com>; Steven Fleming <SFleming@lochgroup.com>; Nick Batta <nbatta@cmtengr.com>  
**Cc:** Daniel Townsend <DTownsend@lochgroup.com>  
**Subject:** FW: DES. No.:2001154

Good morning,  
I received the below early coordination response regarding a possible Civil War encampment site in the Des 2001154 study area from the Harrison County Plan Commission.  
Thanks,  
Holly

## Holly Hume

Environmental Specialist I

### Lochmueller Group

 **Direct:** 812.759.4107  
**Mobile:** 812.582.1993

---

**From:** Eric Wise <[EWise@harrisoncounty.in.gov](mailto:EWise@harrisoncounty.in.gov)>  
**Sent:** Wednesday, October 13, 2021 11:59 AM  
**To:** Holly Hume <[HHume@lochgroup.com](mailto:HHume@lochgroup.com)>  
**Subject:** DES. No.:2001154

Holly,  
I received your environmental review letter and the only item that comes to mind is the reported encampment of Morgan's Raiders during the civil war that I have been told occurred in the circle on the

attached map. Though a one night stay somewhere may not have any significance I figured you would rather be aware of it in advance in case someone with more knowledge on the subject brings it up later. I am no historian or civil war buff but this is what I have heard over the years -If you need an official letter to that effect let me know.

Eric M. Wise, AICP  
Harrison County Plan Commission &  
Land Conservation Program  
245 Atwood St. Suite 215  
Corydon IN 47112  
812-738-8927  
812-738-8939(fax)



Des. No. 2001154

Appendix D

Page 35

## Hannah Blad

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**From:** Hannah Blad  
**Sent:** Friday, April 14, 2023 12:03 PM  
**To:** Lehman, Caitlin M; MPope@dnr.IN.gov; Amanda Uhl  
**Cc:** Kelly, Clint; Branigin, Susan; Coon, Matthew; Chad Costa; Gary Quigg; Jeremy Kieffner; Steven Fleming; Rhoads, Matthew  
**Subject:** FHWA Project: Des. No. 2001154; Effects Report, SR 11 Roadway Project, Harrison County, Indiana

**Des. No.: 2001154**

**Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154). The Section 106 Early Coordination Letter for this project was originally distributed on July 6, 2021.

As part of Section 106 of the National Historic Preservation Act, an Effects Report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <https://erms12c.indot.in.gov/Section106Documents> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

**Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon** at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,



 **Web:** <http://lochgroup.com>  
  

### Hannah Blad

Hist/Sec 106 Specialist II

 **Lochmueller Group**  
112 W Jefferson Blvd, Suite 500, South Bend, IN 46601

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## Hannah Blad

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**From:** Kelly, Clint <CKelly1@indot.IN.gov>  
**Sent:** Friday, April 14, 2023 12:29 PM  
**To:** thpo@estoo.net; THPO@MiamiNation.com  
**Cc:** Coon, Matthew; Branigin, Susan; Rhoads, Matthew; Hannah Blad; Carmany-George, Karstin (FHWA)  
**Subject:** FHWA Project: Des. No. 2001154; Effects Report, SR 11 Roadway Project, Harrison County, Indiana

EXTERNAL

**Des. No.: 2001154**

**Project Description: New Roadway Alignment**

**Location: From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection in Boone and Heth Townships**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with a new roadway alignment project (Des. No. 2001154). The Section 106 Early Coordination Letter for this project was originally distributed on July 6, 2021.

As part of Section 106 of the National Historic Preservation Act, an Effects Report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <https://erms12c.indot.in.gov/Section106Documents> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

**Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon** at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

**Clint Kelly**

**Section 106 Specialist/Historian**

*Cultural Resources Office*

*Environmental Services*

100 N. Senate Ave., Rm. N758-ES

Indianapolis, IN 46204

**Office:** (317) 447-8707

**Email:** [ckelly1@indot.in.gov](mailto:ckelly1@indot.in.gov)

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# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

April 14, 2023

This letter was sent to the listed parties.

RE: SR 11 Extension New Roadway Construction Project  
From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana  
Des. No. 2001154  
DHPA No. 27742

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with a new roadway alignment project (Des. No. 2001154).

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on July 6, 2021. In addition, a letter distributed on March 10, 2022 (non-Tribal consulting parties) and March 14, 2022 (Tribes) notified consulting parties that a Historic Property Report (HPR) was available for review and comment. On December 9, 2022, non-Tribal consulting parties were notified that an archaeology report was available for review and comment. On February 1, 2023 Tribes were notified that an archaeology report was available for review and comment.

The proposed undertaking is from the intersection of SR 135/Watson Road to SR 11/SR 337/Melview Road intersection in Harrison County, Indiana. It is within Boone and Heth Townships, Mauckport and Laconia USGS Topographic Quadrangles, in Sections 11, 12, 13, 14, Township 5 South, Range 3 East and Sections 7, 8, 9, 16, 17, 18, Township 5 South, and Range 4 East. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

Since the distribution of the archaeology report, the Purpose and Need has been expanded and refined. The Harrison County 2040 Long Range Transportation Plan adopted on August 5, 2019, stated that, "Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level." The plan also identified a need for a safe east west route in southern Harrison County, Indiana.

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There are safety concerns with the current roadway network in southern Harrison County. The existing roadways within the project area that connect SR 11 to SR 135 have RoadHAT indices that range from 0.31 to 3.48 for the Index of Crash Frequencies (Icf) and from -0.15 to 1.72 for the Index of Crash Costs (Icc). RoadHAT measures are expressions of standard deviation, comparing crash data for similar roadways and intersections throughout the state. For example, an Icf or Icc index of 1.00 indicates that crash frequencies or costs are higher than approximately 83% (one standard deviation) of similar locations across the state of Indiana. Similarly, an Icf or Icc index of 2.0 indicates that the location has crash frequencies/costs which are higher than approximately 98% (two standard deviations) of similar locations across the state of Indiana. The RoadHAT index scores for Icf show that there are multiple locations within the project area where the safety performance places these locations in the worst two to three percent of all locations across the state of Indiana.

The existing roadways in the project area have lane widths that average between 9 feet to 10 feet wide with no shoulders and no clear zones. In addition, these roadways have numerous deficient horizontal and vertical curves, which cause sight distance issues. Narrow lanes, lack of shoulders, lack of sufficient clear zones, and poor site distances on roadways increase the potential for crashes because there is no room to compensate for driving errors or unforeseen obstacles.

The purpose of the SR 11 Roadway Project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 11 to SR 135 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances. The traffic study completed in 2021 by CMT Engineers and Consultants identified that the SR 11 Roadway Project would divert approximately 35% to 50% of the traffic off the existing local roadways. This reduction in traffic volumes on the local roadways that do not meet current design standards onto a roadway that does meet current design standards is anticipated to decrease the crash frequencies and crash costs and improve safety for the traveling citizens in the southern region of Harrison County.

This project will extend the SR 11 roadway with a wider, arterial facility from the existing SR 337 and SR 11 intersection to the SR 135 and Watson Road intersection in southern Harrison County. The proposed project includes improving the existing SR 337, SR 11 and Melview Road intersection; upgrading existing Melview Road to its western termini; constructing a new terrain roadway from the western termini of Melville Road west to the intersection of Watson Road and Union Chapel Road, including a new bridge across Buck Creek; upgrading Watson Road to the intersection of SR 135; and improving the SR 135 intersection with Watson Road. Originally, three routes were being considered, but the decision has been made to advance alternative 3 (which follows the described alignment above) as the preferred alternative. Alternative 3 has the least amount of environmental and right-of-way impacts. In addition, Alternative 3 has the least amount of excavation compared to the other alternatives evaluated within the Watson Road/Melview Road Initial Screening Corridor. Even though Alternative 3 has a slightly higher construction cost estimate, Alternative 3 is being recommended as the preferred alternative for the SR 11 Roadway Project because it has the fewest environmental impacts, least amount of right-of-way impacts, and least amount of excavation requirements.

The proposed cross section of SR 11 will consist of two 12-foot-wide paved travel lanes with 4-foot paved and 2-foot aggregate shoulders along each side. A 16-foot clear zone will be provided outward from the outside of each travel lane and transitions to a 3:1 foreslope, 4-foot bottom ditch, and 3:1 backslope. The exact structure size and type of the new bridge across Buck Creek has not been determined. However, it is anticipated the new bridge will have six spans, an out-to-out coping width of 40-feet and 4 inches, and a structure length of 1,175 feet. On structure, SR 11 will consist of two 12-foot-wide travel lanes with 6-foot, 8-inch shoulders. Anticipated work along SR 135 (the western project terminus) will include widening of the pavement to the east for the incorporation of a 12-foot-wide southbound left-turn lane and a 12-foot-wide northbound right-turn lane onto

SR 11. In total, the project will extend SR 11 approximately five miles along mostly existing roadways/field drives between SR 135 and SR 337 but does include some (approximately one mile) of new terrain. This project is anticipated to require up to 131.6 acres of permanent right-of-way (ROW) and 0.9 acre of temporary ROW.

A noise analysis report has been prepared for this undertaking and it concludes that no noise abatement is recommended. A reevaluation will occur during final design.

Lochmueller Group is under contract with INDOT to advance the environmental documentation for the referenced project. Cultural Resource Analysts, Inc. (CRA) has been subcontracted to complete the below-ground Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, Farm at 8265 SR 135 (Lochmueller #1), Farm at 140 Watson Road SE (Lochmueller #7) and Farm at 2275 Melview Road (Lochmueller #10) are recommended as eligible for listing in the NRHP.

With regard to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards identified five sites within the project area. As a result of these efforts, sites 12HR583, 12HR864-12HR867 were recommended as not eligible for listing in the NRHP and no further work is recommended.

Since the distribution of the archaeology report and the decision to move forward with Alternative 3, the project area has been further defined and as a result the APE was revised in two areas to reflect the new refinement of Alternative 3. The first area is located on Union Chapel Road near its crossing over Buck Creek. The expanded APE in that area encompasses adjacent vegetation and no new structures are located within this area. The second area is located along Melview Road SE. The expanded APE in this area includes adjacent agricultural and forested areas. No additional structures are located within this section. As no new structures are located within the expanded APE, no new NRHP evaluations are necessary for above-ground resources. See the attached APE map for the locations of the APE expansion.

Furthermore, since the distribution of the archaeology report, preliminary ROW limits were established. The limits of the proposed ROW extend beyond the archaeological footprint investigated by CRA (116.2 acres). An

additional archaeological reconnaissance was undertaken, and an addendum to the Phase Ia Archaeological Reconnaissance Report has been completed which is currently under review at INDOT. This addendum report recommends archaeological clearance for the additional areas beyond the original archaeological investigation limits. This addendum will be available for SHPO and tribal review concurrently with the Effects Finding issued for the project.

The Effects Report is available for review in IN SCOPE at <https://erms12c.indot.in.gov/Section106Documents> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes.

For questions concerning specific project details, you may contact Hannah Blad of Lochmueller Group at 574.334.5487 or [hblad@lochgroup.com](mailto:hblad@lochgroup.com). All future responses regarding the proposed project should be forwarded to Lochmueller Group at the following address:

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601  
[hblad@lochgroup.com](mailto:hblad@lochgroup.com)

*Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).*

Sincerely,



Matthew S. Coon, Manager  
Cultural Resources Office  
Environmental Services

Enclosures:

- Area of Potential Effects Map

**Enclosures removed to prevent  
duplication**

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Distribution List:

- State Historic Preservation Officer
- Eastern Shawnee Tribe of Oklahoma
- Amanda Uhl (property owner of 140 Watson Road SE)\*
- Miami Tribe of Oklahoma

\*New owner of property

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May 8, 2023

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Effects report (Blad, 4/14/2023) for the SR 11 New Roadway alignment project from  
SR135/Watson Road to SR11/SR 37/Melview Road intersection (Des. No. 2001154; DHPA  
No. 27742)

Dear Ms. Blad:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your April 14, 2023, submission which enclosed the effects report (Blad, 4/14/23), received by our office the same day, for this project in Boone and Heth Townships, Harrison County, Indiana.

As previously stated, for the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions in the HPR that the farms at 8265 SR 135, 140 Watson Road SE, and 2275 Melview Road are all eligible for inclusion in the National Register of Historic Places (“NRHP”). We agree that there are no other historic properties listed or eligible for inclusion in the NRHP within the project’s APE.

We wish to clarify, however, that in our April 6, 2022, letter, our intention was to state that we believed that the farms at 8625 SR 135 and 2275 Melview Road, which were recommended eligible under Criterion C for Architecture, may also be eligible under Criterion A for Agriculture for the reasons given within the letter, not for their association with early settlement patterns in their respective townships as is stated within the effects report.

In regard to effects to above ground properties, we agree with the conclusion of the effects report that the project as proposed will not adversely affect the farm at 8265 SR 135. In regard to the farms at 140 Watson Road SE and 2275 Melview Road, we understand that .11 and .07 acres of permanent right-of-way (ROW) will be acquired from these historic property boundaries, reducing the driveway lengths from 631 feet to 546 feet and 881 to 865 feet, respectively, in order to accommodate the shifted or widened roadway. Although the existing roads will be shifted closer in distance to the contributing buildings on these properties, because the right-of-way will only be taken from the driveways, no contributing features will be affected, and each property will retain a prominent setback from the roadway, overall, we agree with the conclusions of the effects report will not adversely affect these historic properties.

As previously stated, regarding the archaeological resources, based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we concur with the opinion of the archaeologist, as expressed in the submitted archaeological reconnaissance survey report (Curran 2022), that sites 12Hr866 and 12Hr867 do not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. The portions of sites 12Hr583, 12Hr864, and 12Hr865 within the proposed project area do not appear to contain significant, intact archaeological deposits. No further archaeological investigations are necessary provided that the remainder of sites 12Hr583, 12Hr864, and 12Hr865 outside of the proposed project area are avoided. Thank you for submitting the site forms in SHAARD for the above referenced archaeological sites. Regarding concerns of an encampment of a Morgan's Raiders party in the project area, no evidence was found by the archaeological survey (Curran 2022).

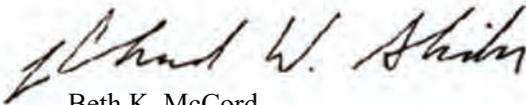
As INDOT's April 14, 2023, letter indicates, an addendum report on investigations of archaeological resources is forthcoming. We look forward to reviewing and commenting on that report.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the SR 11 New Roadway alignment project from SR135/Watson Road to SR11/SR 37/Melview Road intersection project in Harrison County (Des. No. 2001154), please refer to DHPA No. 27742.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:MKP:mkp

emc: Patrick Carpenter, FHWA  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Hannah Blad, Lochmueller Group  
Gary Quigg Lochmueller Group  
Chad Costa, Lochmueller Group  
Andrew Martin, Cultural Resource Analysts, Inc.  
Amanda Uhl, Property Owner  
Erin Wise, Harrison County Plan Commission & Land Conservation Program  
Melody Pope, DNR-DHPA  
Caitlin Lehman, DNR-DHPA

**Section 106 800.11(e)**

# **Appendix E**

**Historic Property Report Summary  
Phase 1a Archaeology Report Summaries**

# SR 11 EXTENSION NEW ROADWAY CONSTRUCTION PROJECT

## Historic Property Report

*From SR 135/Watson Road to  
SR 11/SR 337/Melview Road  
Intersection*

*Boone and Heth Townships,  
Harrison County, Indiana*

Des. No. 2001154  
DHPA No. 27742



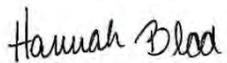
Lochmueller Group, Inc.

112 W. Jefferson Blvd., Suite 500

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Phone: 574.334.5460

Prepared For:  
Indiana Department of Transportation  
Federal Highway Administration

Prepared By:  
  
Hannah Blad

March 10, 2022

**SR 11 Extension New Roadway Construction Project  
From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana  
Des. No. 2001154  
Historic Property Report**

**I. MANAGEMENT SUMMARY**

This report documents the identification and evaluation efforts for properties included in the Area of Potential Effects (APE) for the SR 11 Extension New Roadway Construction Project from SR 135/Watson Road to SR 11/SR 337/Melview Road intersection in Boone and Heth Townships of Harrison County, Indiana. Above-ground resources located within the project APE were identified and evaluated in accordance with Section 106, National Historic Preservation Act (NHPA) of 1966, as amended, and the regulations implementing Section 106 (36 CFR Part 800).

As a result of the NHPA, as amended, and CFR Part 800, federal agencies are required to take into account the impact of federal undertakings upon historic properties in the area of the undertaking. Historic properties include buildings, structures, sites, objects, and/or districts that are eligible for or listed in the National Register of Historic Places (NRHP). As this project is receiving funding from the Federal Highway Administration (FHWA), it is subject to a Section 106 review.

The APE contains no properties listed in the NRHP.

The APE contains three properties that are recommended eligible for listing in the NRHP:

- Farm (Lochmueller #1) at 8265 SR 135; Corydon, IN
- Farm (Lochmueller #7) at 140 Watson Road SE; Corydon, IN
- Farm (Lochmueller #10) at 2275 Melview Road; Corydon, IN

**A PHASE IA ARCHAEOLOGICAL RECONNAISSANCE  
FOR THE PROPOSED SR 11 REALIGNMENT PROJECT  
LOCATED BETWEEN THE SR 135/WATSON ROAD AND  
THE SR 11/SR 337/MELVIEW ROAD INTERSECTIONS, IN  
HARRISON COUNTY, INDIANA  
(INDOT DES. NO. 2001154)**

by  
Michael J. Curran  
With contributions by Aaron Harth and Brian Mabelitini

*Prepared for*

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CRA Project No.: I210056



Andrew V. Martin, RPA 61710  
Principal Investigator

December 6, 2022

Lead Agency: Indiana Department of Transportation  
INDOT Des. No.: 2001154  
Ball State University, Applied Anthropology Laboratories Accession No.: 22.29

# ABSTRACT

Between June 27 and July 14, 2022, Cultural Resource Analysts, Inc., personnel conducted a phase Ia archaeological survey for a proposed SR 11 realignment project in Harrison County, Indiana (INDOT Des. No. 2001154). In addition, an intensive metal detector survey was conducted in portions of the survey area. In total, the survey area covers approximately 47.0 ha (116.2 acres) and was investigated by shovel testing, pedestrian survey, bucket augering, and visual inspection of obviously disturbed areas.

Prior to initiating the fieldwork, a records review was conducted utilizing data from the Indiana Division of Historic Preservation and Archaeology's State Historic Architectural and Archaeological Research Database. The records review indicated that portions of the current survey area had been previously surveyed. Three previously recorded archaeological sites (12HR400, 12HR583, and 12HR584) are situated within, or in close proximity to, the current survey area.

The current reconnaissance resulted in the relocation of one previously recorded archaeological site (12HR583) and the identification of four new archaeological sites (12HR864–12HR867). Sites 12HR583 and 12HR864 are prehistoric lithic scatters of indeterminate temporal/cultural affiliation. Site 12HR865 is a historic farmstead dating from the early nineteenth century through the present day. Site 12HR866 is a historic artifact scatter dating from the late nineteenth through early twentieth centuries. Site 12HR867 is a historic root cellar dating from the mid-twentieth century through the present day. The portions of Sites 12HR583, 12HR864, and 12HR865 within the survey area are recommended not eligible for inclusion in the National Register of Historic Places. Sites 12HR866 and 12HR867 are entirely within the survey area and are also not recommended eligible for the National Register of Historic Places. No further work is recommended at these archeological sites within the survey area. No further work is required for the SR 11 realignment project, and archaeological clearance is recommended.

**ADDENDUM REPORT  
A PHASE IA ARCHAEOLOGICAL RECONNAISSANCE  
FOR THE PROPOSED SR 11 REALIGNMENT PROJECT  
LOCATED BETWEEN THE SR 135/WATSON ROAD AND  
THE SR 11/SR 337/MELVIEW ROAD INTERSECTIONS  
IN HARRISON COUNTY, INDIANA  
(INDOT DES. NO. 2001154)**

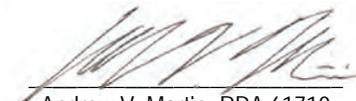
by  
Michael J. Curran  
With a contribution by Lisa J. Kelley

*Prepared for*

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CRA Project No.: I210056



Andrew V. Martin, RPA 61710  
Principal Investigator

April 4, 2023

Lead Agency: Indiana Department of Transportation  
INDOT Des. No.: 2001154  
Ball State University, Applied Anthropology Laboratories Accession No.: 22.29

# ABSTRACT

Between March 13 and 16, 2023, Cultural Resource Analysts, Inc., personnel conducted an additional phase Ia archaeological survey for a proposed State Road 11 realignment project in Harrison County, Indiana (Indiana Department of Transportation Designation Number 2001154). In total, the survey area covers approximately 53.8 ha (133.0 acres) and was surveyed in its entirety. The 2022 phase Ia archaeological investigation covered approximately 41.4 ha (102.3 acres) within the survey area. The addendum survey area encompassed approximately 12.4 ha (30.7 acres). The current investigation conducted within the addendum survey area consisted of shovel testing, pedestrian survey, and visual inspection of obviously disturbed areas.

Reviews of the Indiana Division of Historic Preservation and Archaeology's State Historic Architectural and Archaeological Research Database were conducted during June 2022 prior to conducting the initial phase Ia archaeological investigation, and during March 2023 before beginning the additional archaeological investigation within the addendum survey area. According to the reviews, portions of the survey area had been previously surveyed. These reviews indicated that four previously recorded archaeological sites (12HR583, 12HR584, 12HR864, and 12HR865) are situated within, or in close proximity to, the addendum survey area.

The current reconnaissance resulted in the relocation of two previously recorded archaeological sites (12HR864 and 12HR865) and the identification of two new archaeological sites (12HR873 and 12HR874). Sites 12HR864, 12HR873, and 12HR874 are prehistoric lithic scatters of indeterminate temporal/cultural affiliation. Site 12HR865 is an isolated find with an indeterminate temporal/cultural affiliation and a historic farmstead dating from the late nineteenth century to the present day. The portions of Sites 12HR864, 12HR865, and 12HR873 within the addendum survey area are recommended not eligible for inclusion in the National Register of Historic Places. Site 12HR874 is entirely within the addendum survey area and is also recommended not eligible for the National Register of Historic Places. No further work is recommended at these archaeological sites within the survey area. Archaeological clearance is recommended.

**Section 106 800.11(e)**

# **Appendix F**

**Stage 1 Plans**

Note: This appendix has been removed to avoid duplication and reduce file size.



## INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

May 24, 2023

This letter was sent to the listed parties.

RE: SR 11 Extension New Roadway Construction Project  
From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
Boone and Heth Townships, Harrison County, Indiana  
Des. No. 2001154  
DHPA No. 27742

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with a new roadway alignment project (Des. No. 2001154).

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on July 6, 2021. In addition, a letter distributed on March 10, 2022 (non-Tribal consulting parties) and March 14, 2022 (Tribes) notified consulting parties that a Historic Property Report (HPR) was available for review and comment. On December 9, 2022, non-Tribal consulting parties were notified that an archaeology report was available for review and comment (Tribes only). On February 1, 2023, Tribes were notified that an archaeology report was available for review and comment. This discrepancy in notification dates between the non-tribal and tribal consulting parties was the result of a communication oversight. Upon discovery of this oversight by the consultant and INDOT, corrective steps were taken to get the information into the hands of the tribal consulting parties. This did not affect their review period, as an additional 30 days were afforded to account for the oversight.

The proposed undertaking is from the intersection of SR 135/Watson Road to SR 11/SR 337/Melview Road intersection in Harrison County, Indiana. It is within Boone and Heth Townships, Mauckport and Laconia USGS Topographic Quadrangles, in Sections 11, 12, 13, 14, Township 5 South, Range 3 East and Sections 7, 8, 9, 16, 17, 18, Township 5 South, and Range 4 East. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

The Harrison County 2040 Long Range Transportation Plan adopted on August 5, 2019, stated that, “Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level.” The plan also identified a need for a safe east-west route in southern Harrison County, Indiana.

There are safety concerns with the current roadway network in southern Harrison County. The existing roadways within the project area that connect SR 11 to SR 135 have RoadHAT indices that range from 0.31 to 3.48 for the Index of Crash Frequencies (Icf) and from -0.15 to 1.72 for the Index of Crash Costs (Icc). RoadHAT measures are expressions of standard deviation, comparing crash data for similar roadways and intersections throughout the state. For example, an Icf or Icc index of 1.00 indicates that crash frequencies or costs are higher than approximately 83% (one standard deviation) of similar locations across the state of Indiana. Similarly, an Icf or Icc index of 2.0 indicates that the location has crash frequencies/costs which are higher than approximately 98% (two standard deviations) of similar locations across the state of Indiana. The RoadHAT index scores for Icf show that there are multiple locations within the project area where the safety performance places these locations in the worst two to three percent of all locations across the state of Indiana. The existing roadways in the project area have lane widths that average between 9 feet to 10 feet wide with no shoulders and no clear zones. In addition, these roadways have numerous deficient horizontal and vertical curves, which cause sight distance issues. Narrow lanes, lack of shoulders, lack of sufficient clear zones, and poor site distances on roadways increase the potential for crashes because there is no room to compensate for driving errors or unforeseen obstacles.

The purpose of the SR 11 Roadway Project is to provide a roadway in the southern region of Harrison County that provides improved safety performance connecting SR 11 to SR 135 by designing and constructing a roadway that meets current design standards, which includes wider lanes, usable shoulders, clear zones, and adequate sight distances. The traffic study completed in 2021 by CMT Engineers and Consultants identified that the SR 11 Roadway Project would divert approximately 35% to 50% of the traffic off the existing local roadways. This reduction in traffic volumes on the local roadways that do not meet current design standards onto a roadway that does meet current design standards is anticipated to decrease the crash frequencies and crash costs and improve safety for the traveling citizens in the southern region of Harrison County.

This project will extend the SR 11 roadway with a wider, arterial facility from the existing SR 337 and SR 11 intersection to the SR 135 and Watson Road intersection in southern Harrison County. The proposed project includes improving the existing SR 337, SR 11 and Melview Road intersection; upgrading existing Melview Road to its western termini; constructing a new terrain roadway from the western termini of Melville Road west to the intersection of Watson Road and Union Chapel Road, including a new bridge across Buck Creek; upgrading Watson Road to the intersection of SR 135; and improving the SR 135 intersection with Watson Road. Originally, three routes were being considered, but the decision has been made to advance alternative 3 (which follows the described alignment above) as the preferred alternative. Alternative 3 has the least amount of environmental and right-of-way impacts. In addition, Alternative 3 has the least amount of excavation compared to the other alternatives evaluated within the Watson Road/Melview Road Initial Screening Corridor. Even though Alternative 3 has a slightly higher construction cost estimate, Alternative 3 is being recommended as the preferred alternative for the SR 11 Roadway Project because it has the fewest environmental impacts, least amount of right-of-way impacts, and least amount of excavation requirements.

The proposed cross section of SR 11 will consist of two 12-foot-wide paved travel lanes with 4-foot paved and 2-foot aggregate shoulders along each side. A 16-foot clear zone will be provided outward from the outside of each travel lane and transitions to a 3:1 foreslope, 4-foot bottom ditch, and 3:1 backslope. The exact structure size and type of the new bridge across Buck Creek has not been determined. However, it is anticipated the new bridge will have six spans, an out-to-out coping width of 40-feet and 4 inches, and a structure length of 1,175

feet. On structure, SR 11 will consist of two 12-foot-wide travel lanes with 6-foot, 8-inch shoulders. Anticipated work along SR 135 (the western project terminus) will include widening of the pavement to the east for the incorporation of a 12-foot-wide southbound left-turn lane and a 12-foot-wide northbound right-turn lane onto SR 11. In total, the project will extend SR 11 approximately five miles along mostly existing roadways/field drives between SR 135 and SR 337 but does include some (approximately one mile) of new terrain. This project is anticipated to require up to 131.6 acres of permanent right-of-way (ROW) and 0.9 acre of temporary ROW.

A noise analysis report has been prepared for this undertaking and it concluded that no noise abatement is recommended. A reevaluation will occur during final design.

Lochmueller Group is under contract with INDOT to advance the environmental documentation for the referenced project. Cultural Resource Analysts, Inc. (CRA) has been subcontracted to complete the below-ground Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, Farm at 8265 SR 135 (Lochmueller #1), Farm at 140 Watson Road SE (Lochmueller #7) and Farm at 2275 Melview Road (Lochmueller #10) are recommended as eligible for listing in the NRHP.

With regard to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards identified seven sites within the project area. As a result of these efforts, sites 12HR583-12HR584, 12HR864-12HR867, 12HR873-12HR874 were recommended as not eligible for listing in the NRHP and no further work is recommended.

The Addendum Phase 1a (Tribes only), Effects Finding and related 800.11(e) documentation are available for review in IN SCOPE at <https://erms12c.indot.in.gov/Section106Documents> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes.

For questions concerning specific project details, you may contact Hannah Blad of Lochmueller Group at 574.334.5487 or [hblad@lochgroup.com](mailto:hblad@lochgroup.com). All future responses regarding the proposed project should be forwarded to Lochmueller Group at the following address:

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601  
[hblad@lochgroup.com](mailto:hblad@lochgroup.com)

***Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon*** at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Sincerely,



Matthew S. Coon, Manager  
Cultural Resources Office  
Environmental Services

Enclosures:

- Area of Potential Effects Map

Distribution List:

- State Historic Preservation Officer
- Eastern Shawnee Tribe of Oklahoma
- Amanda Uhl (property owner of 140 Watson Road SE)
- Miami Tribe of Oklahoma



Sources: 0.4 0.2 0 0.4 Miles  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.

Des. No. 2001154  
 SR 11 Roadway Project  
 From SR 135/Watson Road to SR 11/SR 337/Melview Road Intersection  
 Boone and Heth Townships, Harrison County, Indiana

## Area of Potential Effects Map

APE	<b>County Survey Sites</b>	<b>Historic Bridges</b>
Extended APE	<b>RATING</b>	<b>RATING</b>
Construction Limits	Outstanding	Outstanding
Proposed Design	Notable	Notable
Existing ROW	Contributing	Contributing
Permanent ROW	Non-Contributing	Non-Contributing
Temporary ROW	Demolished	Demolished
National Register Sites	Unknown	Unknown
Historic Districts		
Cemeteries		

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov ·



June 15, 2023

Hannah Blad  
Historian/Section 106 Specialist  
Lochmueller Group  
112 W. Jefferson Blvd., Suite 500  
South Bend, IN 46601

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Addendum phase Ia archeological reconnaissance report (Curran, 5/16/2023) and Indiana Department of Transportation’s finding of “no adverse effect” on behalf of the Federal Highway Administration for the SR 11 New Roadway alignment project from SR135/Watson Road to SR11/SR 37/Melview Road intersection (Des. No. 2001154; DHPA No. 27742)

Dear Ms. Blad:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your May 24, 2023, submission, which enclosed the addendum phase Ia archaeological report, and INDOT’s finding and supporting documentation, received by our office the same day for this project in Boone and Heth Townships, Harrison County, Indiana.

As previously stated, for the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions in the HPR that the farms at 8265 SR 135, 140 Watson Road SE, and 2275 Melview Road are all eligible for inclusion in the National Register of Historic Places (“NRHP”). We agree that there are no other historic properties listed or eligible for inclusion in the NRHP within the project’s APE. Additionally, we agree that these properties will not be adversely affected by the proposed undertaking.

As previously stated, regarding the archaeological resources, based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we concur with the opinion of the archaeologist, as expressed in the submitted archaeological reconnaissance survey report (Curran 2022), that sites 12Hr866 and 12Hr867 do not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. The portions of sites 12Hr583, 12Hr864, and 12Hr865 within the proposed project area do not appear to contain significant, intact archaeological deposits. No further archaeological investigations are necessary provided that the remainder of sites 12Hr583, 12Hr864, and 12Hr865 outside of the proposed project area are avoided. Regarding concerns of an encampment of a Morgan’s Raiders party in the project area, no evidence was found by the archaeological survey (Curran 2022). Regarding the addendum archaeological reconnaissance survey report (Curran, 5/16/2023), we concur with the opinion of the archaeologist that sites 12Hr873 and 12Hr874 do not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. The reinvestigated portions of sites 12Hr583, 12Hr584, 12Hr864 and 12Hr865 within the proposed project area

do not appear to contain significant, intact archaeological deposits. No further archaeological investigations are necessary provided that the remainder of sites 12Hr583, 12Hr584, 12Hr864 and 12Hr865 outside of the proposed project area are avoided. Thank you for submitting the site forms in SHAARD for the above revered archaeological sites.

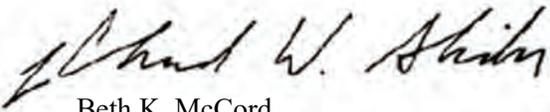
Accordingly, we concur with INDOT's May 24, 2023, Section 106 finding of "No Adverse Effect" on behalf of FHWA for this federal undertaking.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the SR 11 new roadway project in Harrison County (Des. No. 2001154), please refer to DHPA No. 27742.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:MKP:mkp

- emc: Patrick Carpenter, FHWA  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Hannah Blad, Lochmueller Group  
Gary Quigg, Lochmueller Group  
Chad Costa, Lochmueller Group  
Andrew Martin, Cultural Resources Analysts, Inc.  
Amanda Uhl, Property Owner  
Erin Wise, Harrison County Plan Commission & Land Conservation Program  
Melody Pope, DNR-DHPA  
Caitlin Lehman, DNR-DHPA

**Environmental Assessment**

# **Appendix E**

**Red Flag Investigation &  
Hazardous Materials**



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848  
(855) INDOT4U

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

Date: March 31, 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: Payton Parke  
Lochmueller Group, Inc  
6200 Vogel Rd  
Evansville, IN 47715  
pparke@lochgroup.com

Re: RED FLAG INVESTIGATION  
DES 2001154, State Project  
New Road Construction  
SR 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection  
Harrison County, Indiana

## PROJECT DESCRIPTION

Brief Description of Project: The Federal Highway Administration (FHWA) and Indiana Department of Transportation (INDOT) plan to proceed with a new road construction project located in Harrison County. The project is located between the SR 135 and Watson Road junction in the west and the SR 11 and Melview Road/SR 337 junction in the east, 4.7 miles north of the existing junction between SR 135 and SR 11 and approximately 10 miles south of Corydon, Indiana along SR 135. The project involves upgrading existing county roads and building a new terrain road to create a new east-west SR 11 connection across Buck Creek. The project proposes the construction of a new bridge across Buck Creek and installation of additional culverts spanning smaller streams. The exact size of these new structures is not yet known. Once they are, asset numbers will be created and used for final design.

Bridge and/or Culvert Project: Yes  No  Structure # See project description

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 up to 5 Permanent  # Acres up to 45, Not Applicable

Type and proposed depth of excavation: Excavation is expected to occur up to a depth of 60 feet near the Buck Creek valley. For alternatives running along existing roadways, excavation is expected to occur up to a depth of 5 feet.

Maintenance of traffic: If existing county roads (Watson Rd and Melview Rd) are utilized, those roadways will be closed and detoured. Existing portions of SR 135 and SR 11 are expected to remain open to traffic but require temporary lane shifting to make room for construction. Access to property owners will be maintained at all times.

Work in waterway: Yes  No  Below ordinary high water mark: Yes  No

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State Project:  LPA:

Any other factors influencing recommendations: Several alternative routes are still being considered within the project area corridor at this time. Total ROW acreage is not final as design is not yet complete.

**INFRASTRUCTURE TABLE AND SUMMARY**

<b>Infrastructure</b>			
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	<b>1</b>	Recreational Facilities	<b>N/A</b>
Airports <sup>1</sup>	<b>N/A</b>	Pipelines	<b>N/A</b>
Cemeteries	<b>2</b>	Railroads	<b>N/A</b>
Hospitals	<b>N/A</b>	Trails	<b>N/A</b>
Schools	<b>N/A</b>	Managed Lands	<b>1</b>

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

Explanation:

Religious Facilities: One (1) religious facility is located within the 0.5 mile search radius. Bethel United Methodist Church is located 0.46 mile north of the western terminus of the project area. No impact is expected.

Cemeteries: Two (2) cemeteries are located within the 0.5 mile search radius. The nearest cemetery, Cotner family cemetery (CR-31-30), is located 0.06 mile north of the eastern portion of the project area. Coordination with INDOT Cultural Resources Office (CRO) will occur.

Managed Lands: One (1) managed land is located within the 0.5 mile search radius. Indiana Forest Bank is within the project area. Coordination with The Nature Conservancy is recommended.

**WATER RESOURCES TABLE AND SUMMARY**

<b>Water Resources</b>			
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	<b>N/A</b>	Canal Routes - Historic	<b>N/A</b>
Karst Springs	<b>2</b>	NWI - Wetlands	<b>114</b>
Canal Structures – Historic	<b>N/A</b>	Lakes	<b>52</b>
NPS NRI Listed	<b>N/A</b>	Floodplain - DFIRM	<b>1</b>
NWI-Lines	<b>12</b>	Cave Entrance Density	<b>5</b>
IDEM 303d Listed Streams and Lakes (Impaired)	<b>5</b>	Sinkhole Areas	<b>3</b>
Rivers and Streams	<b>27</b>	Sinking-Stream Basins	<b>2</b>

Explanation:

Karst Springs: Two (2) karst springs are located within the 0.5 mile search radius. The nearest karst spring is located 0.15 mile south of the central portion of the project area. No impact is expected.

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NWI-Lines: Twelve (12) NWI-Line segments are located within the 0.5 mile search radius. Three (3) NWI-Line segments, associated with Buck Creek and an unnamed tributary to Buck Creek, are located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

IDEM 303d Listed Streams and Lakes: Five (5) 303d Listed stream segments are located within the 0.5 mile search radius. Buck Creek is located within the project area. Review of the IDEM Online e303d Tool indicated Buck Creek is listed as impaired for Impaired Biotic Communities (IBC) and E. coli. Concerning IBC, Best Management Practices (BMPs) will be used to avoid further degradation to the stream. Concerning 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 and Streams: Twenty-seven (27) stream segments are located within the 0.5 mile search radius. Six (6) stream segments, associated with Buck Creek and unnamed tributaries to Buck Creek, are located within the project area. A Waters of the U.S. Report will be prepared and coordination with INDOT ESD Ecology and Waterway permitting will occur.

NWI-Wetlands: One hundred fourteen (114) NWI-wetlands are located within the 0.5 mile search radius. Twenty-six (26) NWI-wetlands are located within or adjacent to the project area. A Waters of the U.S. Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Lakes: Fifty-two (52) lakes are located within the 0.5 mile search radius. Twelve (12) lakes are located within the project area. A Waters of the U.S. Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Floodplains: One (1) floodplain is located within the 0.5 mile search radius. The project area is located within the floodplain polygon. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Cave Entrance Density: Five (5) cave entrance density polygons are located within the 0.5 mile search radius. One (1) cave entrance density polygon is located within the project area. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Sinkhole Area: Three (3) sinkhole areas are located within the 0.5 mile search radius. Two (2) sinkhole areas are located within the project area. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Sinking-Stream Basin: Two (2) sinking-stream basins are located within the 0.5 mile search radius. Both sinking-stream basins are located within the project area. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**MINING AND MINERAL EXPLORATION TABLE AND SUMMARY**

<b>Mining/Mineral Exploration</b>			
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	<b>53</b>	Mineral Resources	<b>N/A</b>
Mines – Surface	<b>N/A</b>	Mines – Underground	<b>N/A</b>

Explanation:

Petroleum Wells: Fifty-three (53) petroleum wells are located within the 0.5 mile search radius. Eighteen (18) petroleum wells are located within or adjacent to the project area. Coordination with Indiana Department of Natural Resources (IDNR) Oil and Gas Division will occur.

**HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY**

<b>Hazardous Material Concerns</b>			
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	1	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:

Leaking Underground Storage Tank (LUST) Site: One (1) LUST site is located within the 0.5 mile search radius. The INDOT Elizabeth Unit maintenance garage, 3135 East State Road 11 SE, Elizabeth, IN 47135; AI ID 51038, is located 0.47 mile east of the eastern terminus of the project area. IDEM issued a No Further Action Approval Determination Pursuant to Remediation Closure Guide on July 18, 1997. Low levels of soil and groundwater contamination remain on the site. No impact is expected.

**ECOLOGICAL INFORMATION SUMMARY**

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

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The 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".

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## RECOMMENDATIONS SECTION

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

### INFRASTRUCTURE:

Cemeteries: One (1) cemetery, associated with Cotner family cemetery (CR-31-30), is located 0.06 mile north of the eastern portion of the project area. Coordination with INDOT CRO will occur.

Managed Land: One (1) managed land, associated with the Indiana Forest Bank, is located within the project area. Coordination with The Nature Conservancy is recommended.

### WATER RESOURCES:

IDEM 303d Listed Streams and Lakes (Impaired): Buck Creek is located within the project area and is listed as impaired for IBC and E. coli. Concerning IBC, BMPs will be used to avoid further degradation to the stream. Concerning 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.

The presence of the following water resources will require the preparation of a Waters of the US Report and coordination with INDOT ESD Ecology and Waterway Permitting:

- Three (3) NWI-Line segments, associated with Buck Creek and an unnamed tributary to Buck Creek, are located within the project area.
- Six (6) River and Stream segments, associated with Buck Creek and unnamed tributaries to Buck Creek, flow through the project area.
- Twenty-six (26) wetlands are located within or adjacent to the project area.
- Twelve (12) lakes are located within the project area.
- The project area is located within a floodplain (coordination only).
- The project area is located within one (1) cave entrance density polygon (coordination only).
- The project area is located within two (2) sinkhole areas (coordination only).
- The project area is located within two (2) sinking-stream basins (coordination only).

### MINING/MINERAL EXPLORATION:

Petroleum Wells: Eighteen (18) petroleum wells are located within or adjacent to the project area. Coordination with IDNR Oil and Gas Division will occur.

HAZARDOUS MATERIAL CONCERNS: N/A

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

INDOT ESD concurrence: Nicole Fohey-Breting Digitally signed by  
Nicole Fohey-Breting  
Date: 2022.04.14  
09:12:32 -04'00' (Signature)

Prepared by:  
Payton Parke  
Environmental Specialist  
Lochmueller Group, Inc.

**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

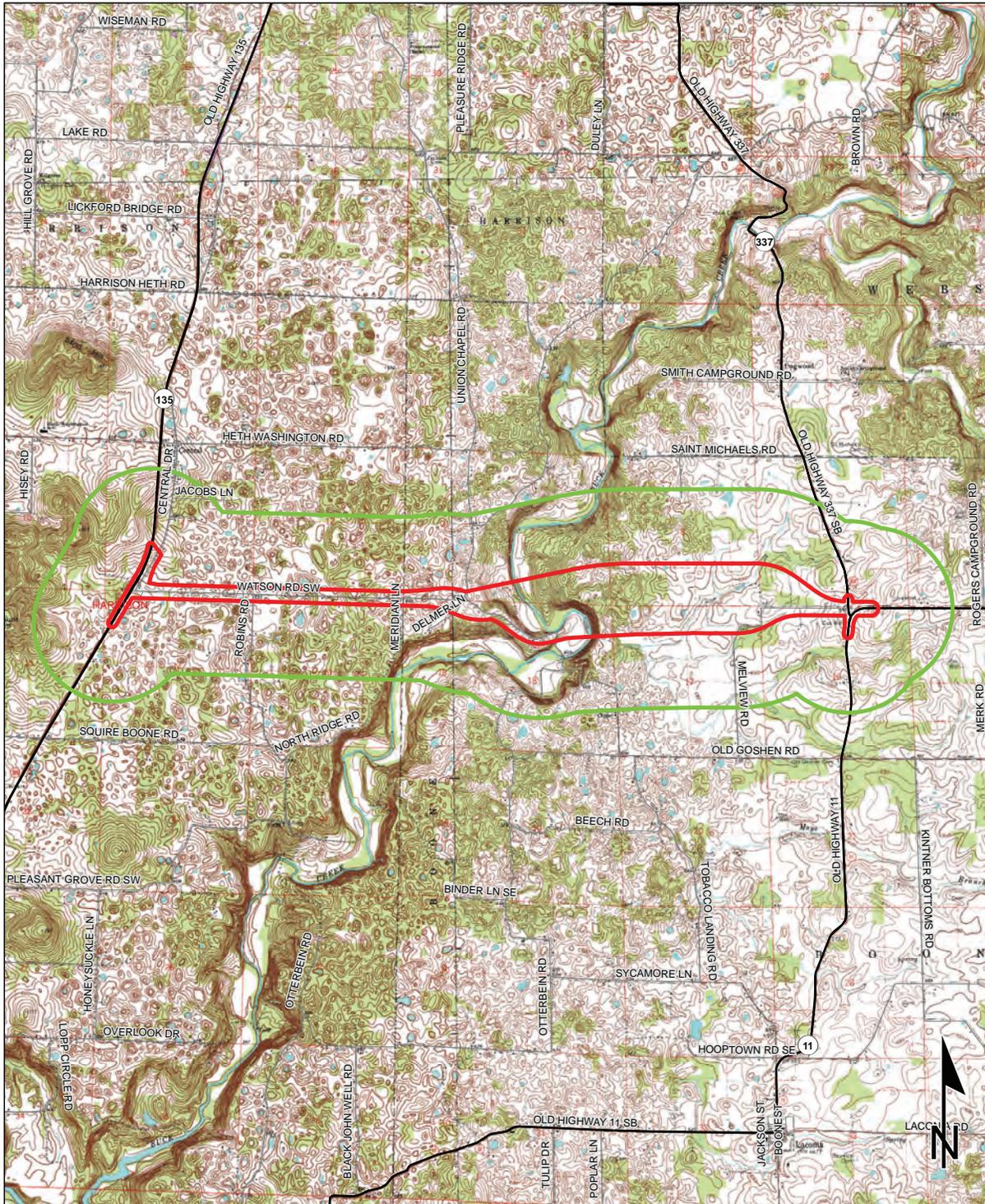
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location  
 SR 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection  
 Des No. 2001154, New Road Construction  
 Harrison County, Indiana



Sources: 0.85 0.425 0 0.85 Miles  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.

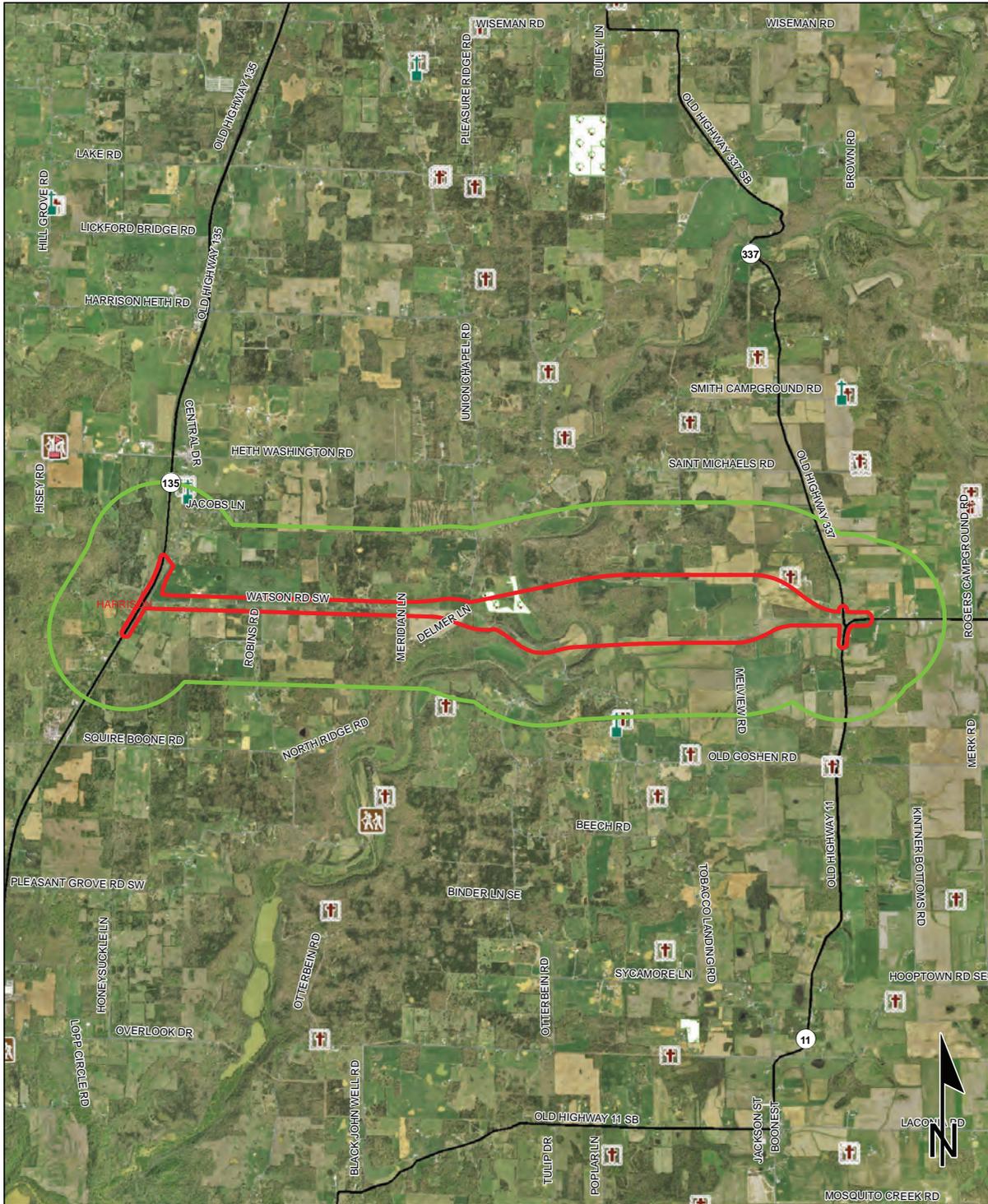
**MAUCKPORT/ LACONIA  
 QUADRANGLES  
 INDIANA  
 7.5 MINUTE SERIES**

# Red Flag Investigation - Infrastructure

## SR 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection

### Des No. 2001154, New Road Construction

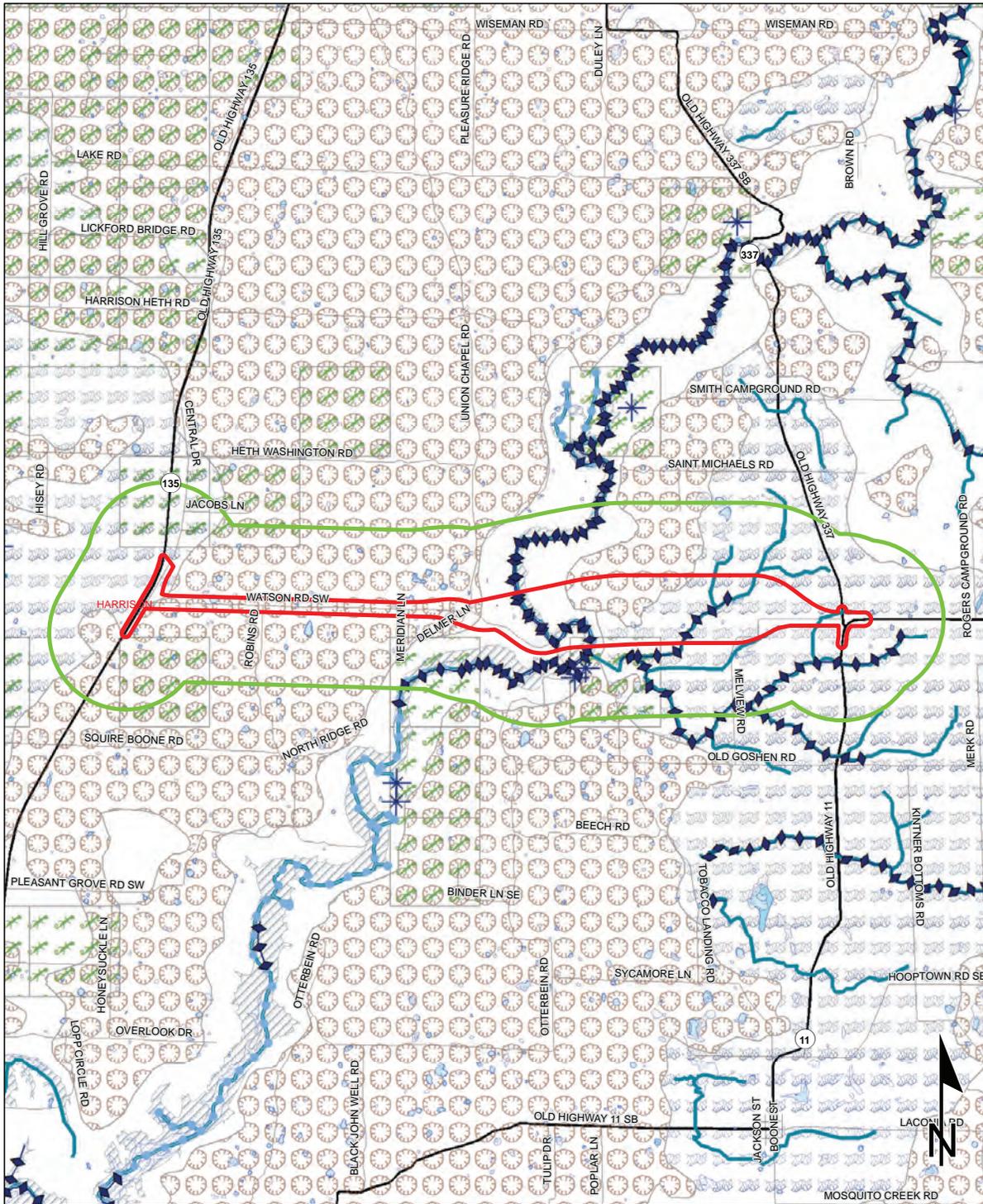
#### Harrison County, Indiana



Sources: 0.85 0.425 0 0.85 Miles  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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		Recreation Facility		Project Area
	Airport		Pipeline		Half Mile Radius
	Cemeteries		Railroad		Toll
	Hospital		Trails		Interstate
	School		Managed Lands		State Route
			County Boundary		US Route
					Local Road

Red Flag Investigation - Water Resources  
 SR 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection  
 Des No. 2001154, New Road Construction  
 Harrison County, Indiana



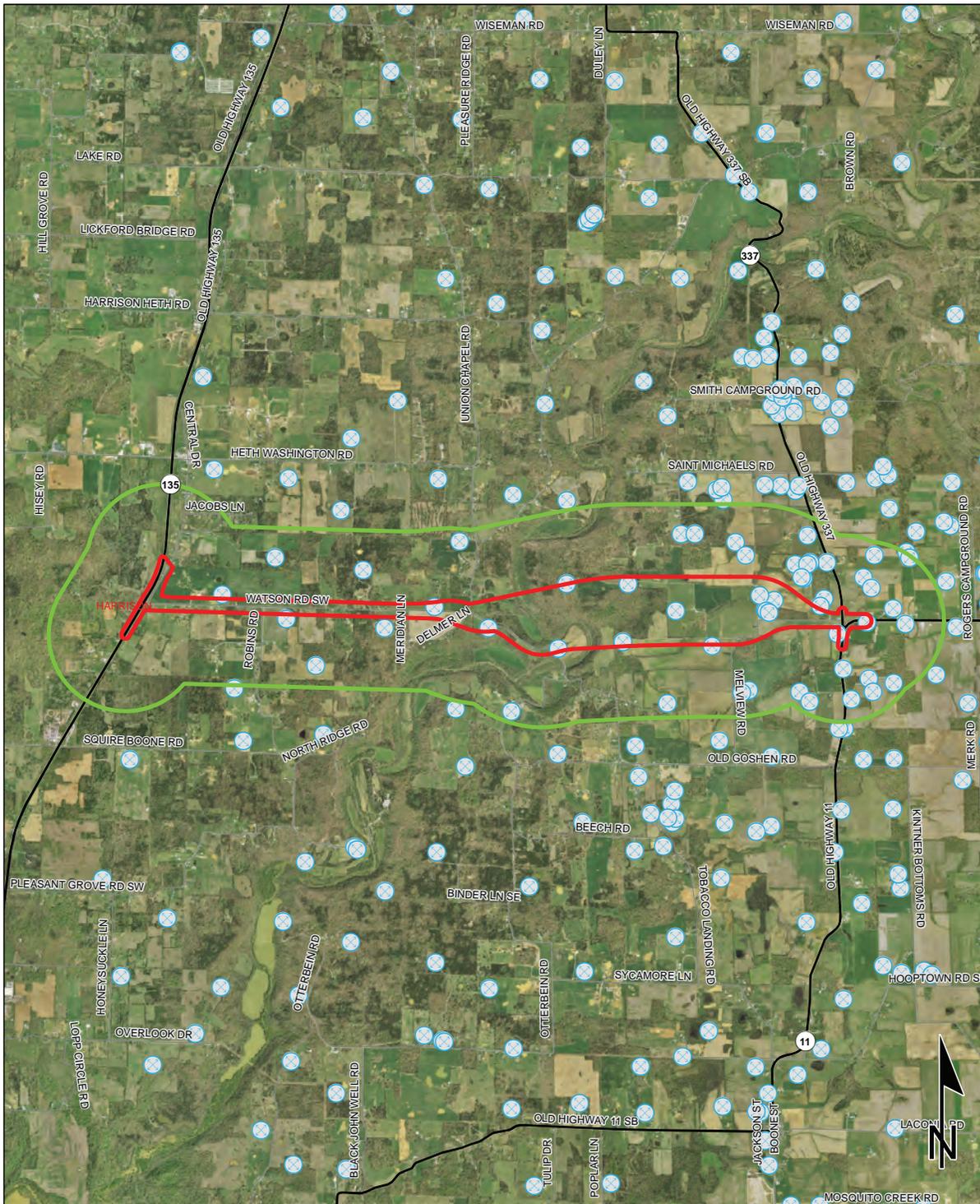
**Sources:**  
 0.85 0.425 0 0.85 Miles  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone 16 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.**


# Red Flag Investigation - Mining/Mineral Exploration

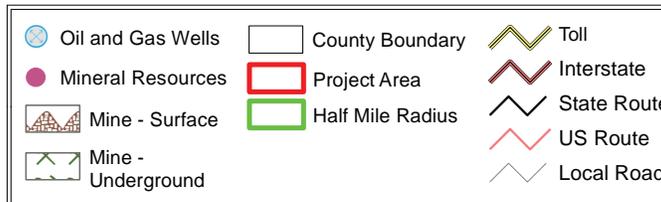
## SR 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection

### Des No. 2001154, New Road Construction

#### Harrison County, Indiana



**Sources:**  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://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.

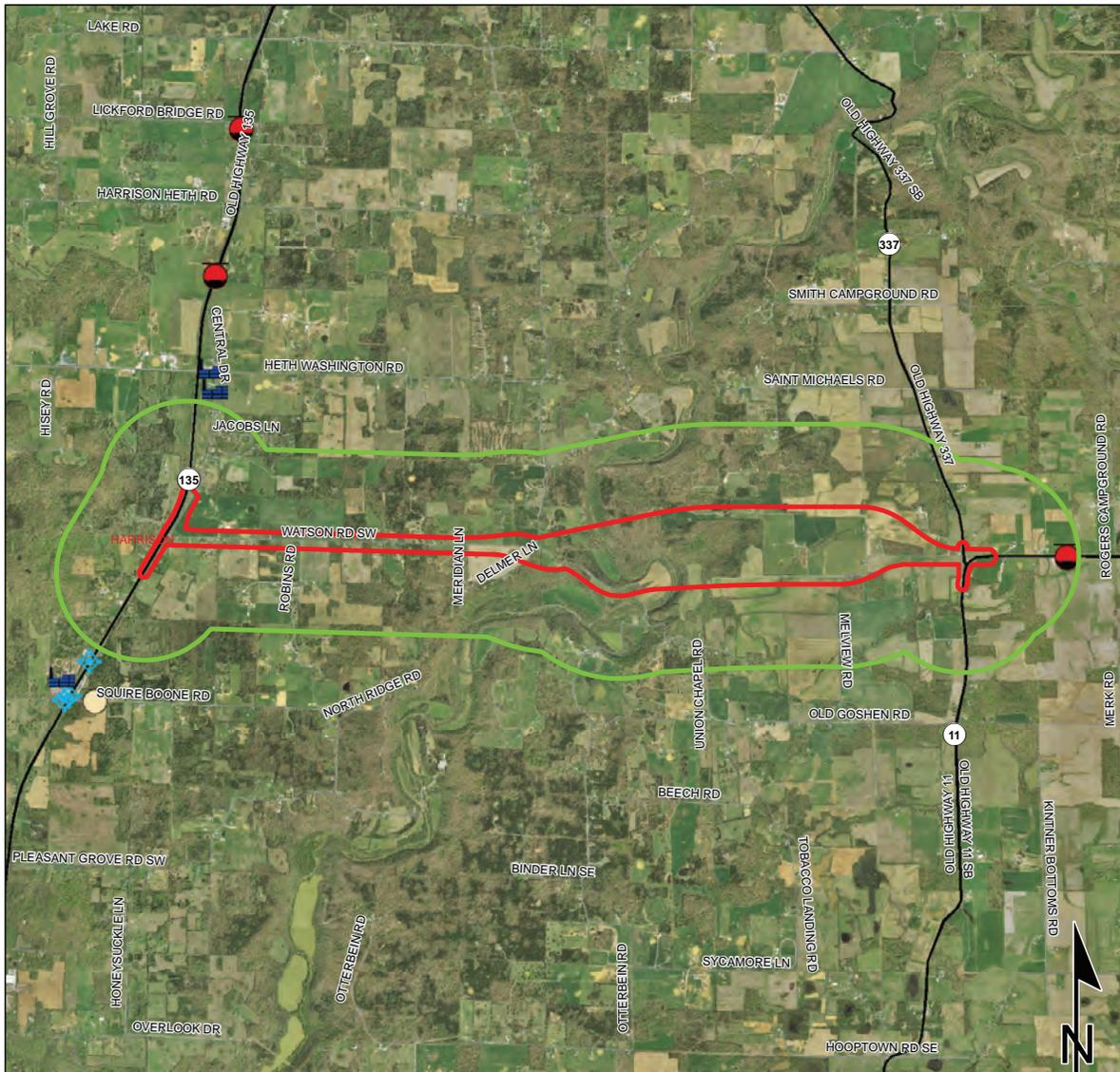


# Red Flag Investigation - Hazardous Material Concerns

## SR 11, From SR 135/Watson Rd to SR 11/SR 337/Melview Rd Intersection

### Des No. 2001154, New Road Construction

#### Harrison County, Indiana



	Brownfield		RCRA Generator/TSD		Institutional Controls
	RCRA Corrective Action Sites		Restricted Waste Site		County Boundary
	Confined Feeding Operation		Septage Waste Site		Project Area
	Notice_Of_Contamination		Solid Waste Landfill		Half Mile Radius
	Construction/Demolition Site		State Cleanup Site		Toll
	Infectious/Medical Waste Site		Superfund		Interstate
	Leaking Underground Storage Tank		Tire Waste Site		State Route
	Manufactured Gas Plant		Underground Storage Tank		US Route
	NPDES Facilities		Voluntary Remediation Program		Local Road
	NPDES Pipe Locations		Waste Transfer Station		
	Open Dump Waste Site				

0.85 0.425 0 0.85  
Miles

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

**Sources:**  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
 Map Projection: UTM Zone 16 N Map Datum: NAD83

**Environmental Assessment**

**Appendix F**

**Water Resources**



**Legend**

**Local Flood Plain Administrator Jurisdiction**

**Drainage Areas for Indiana NHD Flowlines**

Rivers and Streams at least 1 square mile

- 1 - 10
- 10 - 100
- 100 - 500
- > 500

**Best Available Flood Hazard Layer (BAFL)**

Best Available Flood Hazard Layer

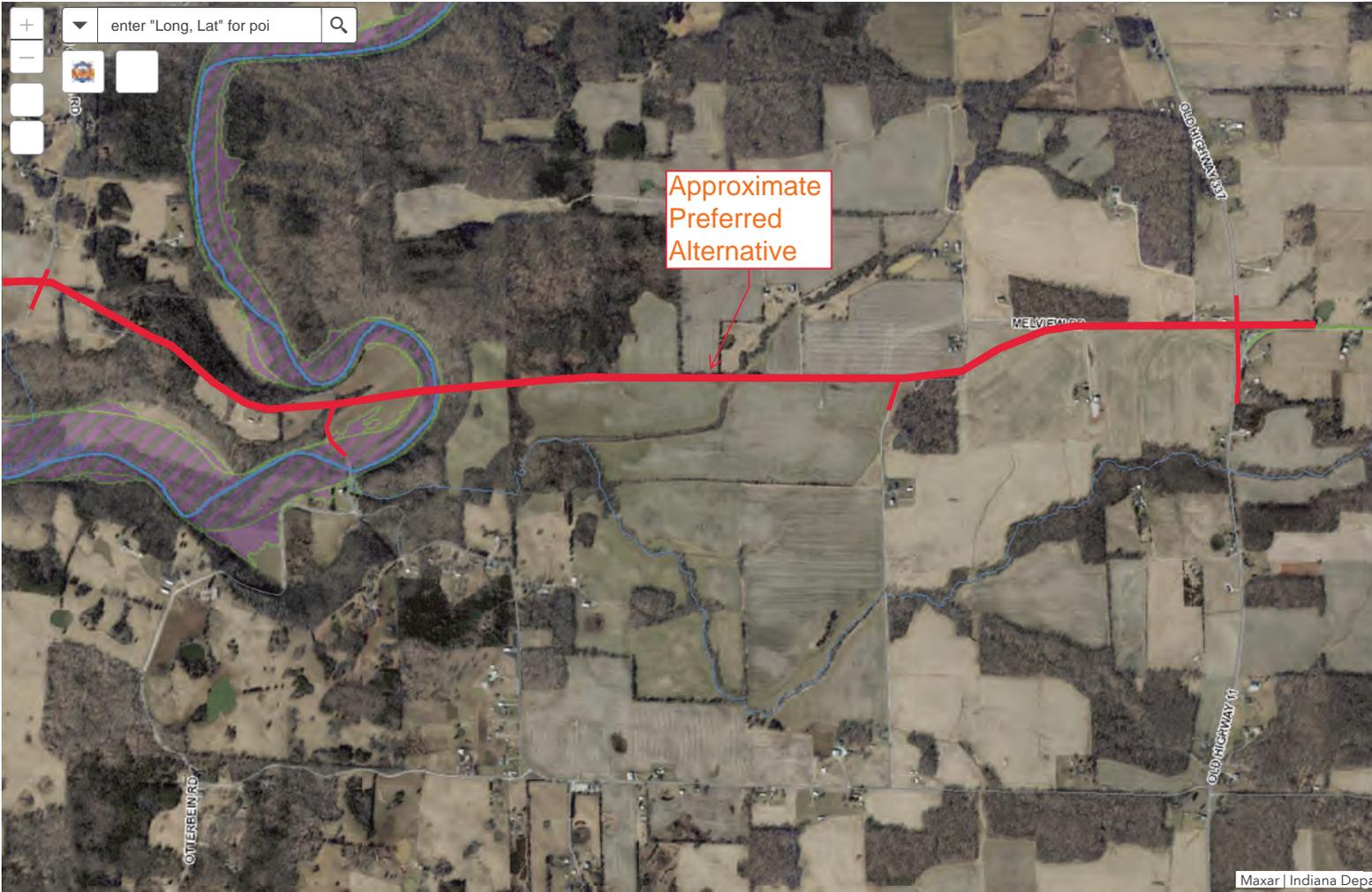
- FEMA Zone AE Floodway; FEMA Administrative Floodway; AE, NFHL, RIVERINE FLOODWAY SHOWN IN COASTAL ZONE
- DNR Detailed Floodway
- DNR Approximate Floodway
- FEMA Zone A
- FEMA Zone AE; AE, NFHL, COASTAL FLOODPLAIN; AE, NFHL, COMBINED RIVERINE AND COASTAL FLOODPLAIN; AE, NFHL, Coastal Floodplain
- VE, NFHL, Coastal Floodplain; VE, NFHL, <Null>
- DNR Detailed Fringe
- DNR Approximate Fringe
- Additional Floodplain Area; DNR .2 Percent Flood Hazard; X, NFHL, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD IN COASTAL ZONE; X, IDNR\_MR, AREA OF MINIMAL FLOOD HAZARD
- FEMA Protected by Levee
- FEMA Floodplain - Ponding (Depth)
- FEMA Floodplain - Sheet Flow (Depth); AO, IDNR\_MR, DNR APPROVED STUDY
- Not Mapped

1:18056

-86.094 38.094 Degrees

<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>

1/1



Legend

Local Flood Plain Administrator Jurisdiction



Drainage Areas for Indiana NHD Flowlines

Rivers and Streams at least 1 square mile

- 1 - 10
- 10 - 100
- 100 - 500
- > 500

Best Available Flood Hazard Layer (BAFL)

Best Available Flood Hazard Layer

- FEMA Zone AE Floodway; FEMA Administrative Floodway; AE, NFHL, RIVERINE FLOODWAY SHOWN IN COASTAL ZONE
- DNR Detailed Floodway
- DNR Approximate Floodway
- FEMA Zone A
- FEMA Zone AE; AE, NFHL, COASTAL FLOODPLAIN; AE, NFHL, COMBINED RIVERINE AND COASTAL FLOODPLAIN; AE, NFHL, Coastal Floodplain
- VE, NFHL, Coastal Floodplain; VE, NFHL, <Null>
- DNR Detailed Fringe
- DNR Approximate Fringe
- Additional Floodplain Area; DNR .2 Percent Flood Hazard; X, NFHL, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD IN COASTAL ZONE; X, IDNR\_MR, AREA OF MINIMAL FLOOD HAZARD
- FEMA Protected by Levee
- FEMA Floodplain - Ponding (Depth)
- FEMA Floodplain - Sheet Flow (Depth); AO, IDNR\_MR, DNR APPROVED STUDY
- Not Mapped

1:18056

-86.051 38.093 Degrees

<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>

1/1

# SR 11 EXTENSION NEW ROADWAY CONSTRUCTION PROJECT HARRISON COUNTY, IN

*January 27, 2022*

*Waters of the U.S. Report*

*Prepared by: Peter Putzier*

*Jacob Burskey*  
Approved 2/1/2022

**Des. No.: 2001154**

**Contract No.: R-42857**

**Prepared for: INDOT**



Lochmueller Group, Inc.

6200 Vogel Road

Evansville, Indiana 47715

Phone: 812.479.6200

**Waters of the U.S. Report**  
**SR 11 Extension New Roadway Construction Project**  
**Harrison County, Indiana**  
**Des. No. 2001154**

**Date(s) of Field Reconnaissance**

April 20, 22, 23, 27, and 30  
May 13  
October 11 and 30, 2021

**Location**

The SR 11 Extension New Roadway Construction Project (project) is located between the State Road 135 and Watson Road junction and the SR 11, SR 337, and Melview Road junction in Harrison County, Indiana (Page A1).

- Boone and Heth Township, Harrison County, Indiana
- Sections 11-14, Township 5 South, Range 3 East; Sections 7-9, Township 5 South, Range 4 East; Sections 16-18, Township 5 South, Range 4 East.
- Laconia and Maukport 1:24,000 United States Geological Survey (USGS) Quadrangles (Page A2-A7)
- Latitude: 38.0836711°N, Longitude -86.11065277° W

**Project Description**

The project is located between the SR 135 and Watson Road junction and the SR 11 and SR 337 and Melview Road junction, and 4.7 miles north of the existing junction between SR 135 and SR 11 and approximately 10 miles south of Corydon, Indiana along SR 135. The project involves upgrading existing county roads and construction of a new terrain road for a new east-west SR 11 connection across Buck Creek.

The Waters of the U.S. (WOTUS) investigation survey area is 5 miles long between SR 135 and SR 11 (Page A2). Along Watson Road and Melview Road the survey area is 500 feet wide. The survey area extends north from the intersection of SR 135 and SR 11 approximately 1,800 ft and south approximately 1,460 ft. The survey area along SR 135 is 300 ft wide south of SR 11 and 500 feet wide north of SR 11. The survey area centered on Buck Creek, where approximately 2 miles of new terrain road will be constructed, is approximately 2,500 ft wide. In the east, the survey area extends north 500 ft from the intersection of SR 337 and SR 11, south from the intersection 800 ft and east from the intersection 1,000 ft. The survey area is 300 ft wide along SR 337.

Twelve streams; Unnamed Tributary (UNT) 1 to Buck Creek through UNT 11 to Buck Creek and Buck Creek, eight wetlands; Wetland A through H, and eight Open Water Areas; Open Water 1 through 8, and sixteen roadside ditches (RSDs); RSD 1 through 16 were identified within the survey area and are described in this report. The landscape within and around the survey area is predominantly composed of rural residential properties, pasture, agricultural fields, mature forest, and floodplain surrounding Buck Creek. The project is located within the karst region of Indiana in the south-central portion of the



Mitchell Plain, an area of relatively low relief and abundant sinkholes and cave systems that have developed in limestone bedrock. In March 2021 a karst field review was conducted by Lochmueller Group. The findings of the karst investigation have been submitted in a separate report.

**Soils**

According to the Soil Survey Geographic (SSURGO) Database dated June 4, 2020 for Harrison County, Indiana, the majority of the survey area does not contain nationally listed hydric soils (Page A9-A17).

Soil Name	Map Abbreviation	Hydric Range
Bedford silt loam, 2 to 6 percent slopes	BdoB	Nonhydric (0%)
Brussels-Rock outcrop complex, 35 to 90 percent slopes, rubbly	BvsG	Nonhydric (0%)
Caneyville-Rock outcrop complex, 25 to 60 percent slopes	CcaG	Nonhydric (0%)
Crider silt loam, karst, undulating	CtaB	Nonhydric (0%)
Crider-Vertrees silt loams, karst, rolling, eroded	CteC2	Nonhydric (0%)
Elkinsville silt loam, 0 to 2 percent slopes	EepA	Nonhydric (0%)
Elkinsville silt loam, 2 to 6 percent slopes, eroded	EepB2	Nonhydric (0%)
Elkinsville silt loam, 6 to 12 percent slopes, eroded	EepC2	Nonhydric (0%)
Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	HcgAW	Nonhydric (0%)
Haymond silt loam, depression, 0 to 2 percent slopes, frequently ponded, very brief duration	HcpAP	Nonhydric (0%)
Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	KunAW	Nonhydric (0%)
Knobcreek-Haggatt-Caneyville complex, karst, hilly, severely eroded	KxpD2	Nonhydric (0%)
Knobcreek-Haggatt-Caneyville silt loams, karst, hilly, eroded	KxpD2	Nonhydric (0%)
Knobcreek-Navilleton-Haggatt complex, karst, rolling, severely eroded	KxrC3	Nonhydric (0%)
Knobcreek-Navilleton-Haggatt silt loams, karst, rolling, eroded	KxoC2	Nonhydric (0%)
Laconia silt loam, 0 to 1 percent slopes	LaaA	Predominantly Hydric (66-99%)
Vertrees-Crider-Caneyville complex, karst, rolling, severely eroded	VcaC3	Nonhydric (0%)
Vertrees-Crider-Caneyville silt loams, karst, hilly, eroded	VcbD2	Nonhydric (0%)
Vertrees-Haggatt-Caneyville complex, karst, hilly, severely eroded	VccD3	Nonhydric (0%)

**National Wetlands Inventory (NWI) Information**

There are thirty-one U.S. Fish and Wildlife Service (USFWS) mapped National Wetland Inventory (NWI) features within the survey area (A19-A29). The wetland types are based on *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.* 1979). NWI wetland features are listed from east to west in the table below. Field evaluation determined that twenty six of the thirty one NWI mapped NWI features did not meet all three wetland criteria of hydric soil, hydrology, and hydrophytic vegetation; therefore, are not considered wetlands. Five of the NWI features were found to have met the three wetland criteria and are discussed in the wetland section.

Wetland Type	Description	Location
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	North of Watson Road 0.06 mile east of SR 135
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	South of Watson Road 0.42 mile east of SR 135



SR 11 Extension New Roadway Construction Project  
Des. No. 2001154  
Harrison County, Indiana  
Waters of the U.S. Report

Wetland Type	Description	Location
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	North of Watson Road 0.45 mile east of SR 135
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	North of Watson Road 1.07 mile east of SR 135
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	South of Watson Road 0.46 mile west of Meridian LN SW (Wetland A)
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	North of Watson Road 0.1 mile west of Meridian LN SW
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	South of Watson Road 0.07 mile west of Meridian LN SW
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	South of Watson Road 0.14 mile east of Meridian LN SW (Wetland E)
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	South of Watson Road 0.12 mile west of Delmer LN SE
PEM1A	Freshwater Emergent Wetland, Persistent, Temporarily Flooded	North of Watson Road 0.09 mile west of Delmer LN SE
PEM1F	Freshwater Emergent Wetland, Persistent, Semipermanently Flooded	North of Union Chapel RD SE 0.04 mile east of Watson RD SE
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	0.1 mile north of Union Chapel RD SE 0.35 mile east of Watson RD SE
PFO1A	Freshwater Forested/Shrub Wetland, Broad-Leaved Deciduous, Temporarily Flooded	Borders both sides of Buck Creek from north to south through the middle of the survey area.
R2UBH	Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	Buck Creek meanders from north to south through the middle of the survey area.
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	East of and adjacent to Buck Creek north of Union Chapel RD
PAB3G	Freshwater Pond, Aquatic bed, Rooted Vascular Plants, Intermittently Exposed	1.45 miles west of intersection between Melview Road and Highway 337 (Wetland C)
PEM1A	Freshwater Emergent Wetland, Persistent, Temporarily Flooded	1.40 miles west of intersection between Melview Road and Highway 337
PEM1F	Freshwater Emergent Wetland, Persistent, Semi permanently Flooded	1.3 miles west of intersection between Melview Road and Highway 337
PEM1F	Freshwater Emergent Wetland, Persistent, Semi permanently Flooded	1.24 miles west of intersection between Melview Road and Highway 337
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	1.13 miles west of intersection between Melview Road and Highway 337 (Wetland G)
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	1.1 miles west of intersection between Melview Road and Highway 337
PFO1A	Freshwater Forested/Shrub Wetland, Broad-Leaved Deciduous, Temporarily Flooded	0.99 mile west of intersection between Melview Road and Highway 337
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	0.82 mile west of intersection between Melview Road and Highway 337
R4SBC	Riverine, Upper Perennial, Streambed, Seasonally Flooded	0.88 mile west of intersection between Melview Road and Highway 337 through the north survey area boundary (Wetland F)
R4SBC	Riverine, Upper Perennial, Streambed, Seasonally Flooded	0.76 mile west of intersection between Melview Road and Highway 337 through the north survey area boundary
PEM1C	Freshwater Emergent Wetland, Persistent, Seasonally Flooded	0.7 mile west of the intersection between Melview Road and Highway 337



Wetland Type	Description	Location
PFO1A	Freshwater Forested/Shrub Wetland, Broad-Leaved Deciduous, Temporarily Flooded	0.65 mile west of the intersection between Melview Road and Highway 337, south of Melview Road
R4SBC	Riverine, Upper Perennial, Streambed, Seasonally Flooded	Begins 0.44 mile west of the intersection between Melview Road and Highway 337, south of Melview Road
R4SBC	Riverine, Upper Perennial, Streambed, Seasonally Flooded	Crosses under Melview Road 0.15 mile west of intersection between Melview Road and Highway 337
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	0.17 mile south of the intersection between Melview Road and Highway 337 and east of SR 11
PUBG	Freshwater Pond, Intermittently Exposed, Unconsolidated Bottom, Intermittently Exposed	0.17 mile east of the intersection between Melview Road and Highway 337 and north of SR 11

**12-Digit HUC (Hydrologic Unit Code)**

The SR 11 Extension Project survey area spans three 12-Digit HUC watersheds: 051401040203 (Town of Central), 051401040205 (Outlet Buck Creek), and 051401040204 (Mary’s Branch) (Page A2).

The project lies within a karst sinkhole plane, as a result, hydrology is dominated by subsurface flow that is not easily delineated into watersheds using surface drainage and topography. Where possible, watersheds were determined using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats>) (Page A28). The watershed, upstream of the survey area, for Buck Creek was determined to be 75 square miles. The watershed for UNT 1 to Buck Creek is within the watershed of UNT 4 to Buck Creek and Buck Creek. The watershed for UNT 2 to Buck Creek is within the watershed of UNT 4 to Buck Creek and Buck Creek. The watershed for UNT 3 to Buck Creek is within the watershed of UNT 4 to Buck Creek and Buck Creek. The watershed for UNT 4 to Buck Creek was determined to be 0.08 square miles and is within the watershed of Buck Creek. The watershed for UNT 5 to Buck Creek is within the watershed of Buck Creek. The watershed for UNT 6 to Buck Creek was determined to be 0.02 square miles and is within the watershed of Buck Creek. The watershed for UNT 7 to Buck Creek is within the watershed of Buck Creek. The watershed for UNT 8 to Buck Creek is within the watershed of Buck Creek. The watershed for UNT 9 to Buck Creek, a short spring fed sinking stream, was not calculated using USGS *StreamStats*, which states that delineation of flow statistics is not advised. The watershed, upstream of the survey area, for UNT 10 to Buck Creek was determined to be 0.91 square miles. The watershed, upstream of the survey area, for UNT 11 to Buck Creek was determined to be 0.15 square miles.

**FEMA Floodway/Floodplain**

The Federal Emergency Management (FEMA) Flood Map Service Center (<https://msc.fema.gov/portal/home>) and the Indiana Floodplain Information Portal (<https://dnrmapping.dnr.in.gov/appsphp/fdms/>) Best Available Flood Zones data indicated that a mapped FEMA Zone A floodway, associated with Buck Creek, is present within the survey area (Page A29-A33). No other mapped floodways or FEMA Zone A/AE floodplain areas are present within the survey area.

**Attached Documents**

Select attachments have been removed to reduce file size

- ~~Location Map ..... A1~~
- ~~USGS Topographic Map (1:48,000) ..... A2~~
- ~~USGS Topographic Map Key (1:12,000) ..... A3~~



<del>• USGS Topographic Maps (1:12,000)</del> .....	<del>A4-A7</del>
<del>• USDA SSURGO Soils Map Key</del> .....	<del>A8</del>
<del>• USDA SSURGO Soils Maps</del> .....	<del>A9-A17</del>
<del>• USFWS NWI Feature Map Key</del> .....	<del>A18</del>
<del>• USFWS NWI Features Maps</del> .....	<del>A19-A27</del>
<del>• USGS StreamStats Watershed Map</del> .....	<del>A28</del>
<del>• Best Available Flood Hazard Map Key</del> .....	<del>A29</del>
<del>• Best Available Flood Hazard Maps</del> .....	<del>A30-A33</del>
• Water Resources and Photo Map Key .....	A34
• Water Resources Maps .....	A35-A43
<del>• Photo Location Maps</del> .....	<del>A44-A52</del>
<del>• Photographs</del> .....	<del>A53-A75</del>
<del>• Wetland Determination Forms</del> .....	<del>A76-A194</del>
<del>• USACE Pre-Jurisdictional Determination Form</del> .....	<del>A195-A199</del>

**Field Reconnaissance**

This field survey was conducted within the growing season. Wetland boundaries were mapped using data points collected in the field, aerial photography, and contours generated from DEM coverage. For those features that displayed bed and bank, the ordinary high-water mark (OHWM) width and depth was measured at the maximum dimension observed beyond the influence of bridge and culvert structures. OHWM measurements were also documented for any stream features observed in the field that were not included as USGS blue-line or NHD features.

**Stream Features**

The USGS Laconia and Maukport 1:24,000 topographic quadrangles include two solid and three dashed blue-line stream features within the survey area for the SR 11 Extension Project (Pages A2-A7). The blue-line stream features are associated with Buck Creek, UNT 10 to Buck Creek, UNT 11 to Buck Creek, a drainage swale south of Melview RD SE, and a drainage swale north of UNT 10 to Buck Creek. The NHD GIS dataset includes 71 classified flowline features and 54 unclassified flowline features within the survey area. Of the 71 classified flowline features; 34 represent underground conduit flowlines, 24 represent artificial flow paths, 12 represent streams/rivers, and one represents a canal/ditch (Page A29-A33). None of the 34 NHD lines classified as underground conduit flow lines represented field identified water resources. Underground conduits are prevalent because the project area is within a karst sinkhole plane that favors the development of underground drainage. From the 24 NHD lines classified as artificial flow paths: one flowline is associated with Wetland E, one flowline is associated with Open Water 7, four flowlines are associated with Open Water 6, one flowline is associated with UNT 6 to Buck Creek, one flowline is associated with Open Water 8, one flowline is associated with Wetland G, three flowlines are associated with Wetland C, one flowline is associated with UNT 5 to Buck Creek, seven flowlines are associated with Buck Creek, and four flowlines are short segments draining into Buck Creek that do not have bed and bank with an OHWM. From the 12 NHD flowlines classified as stream/river: six flowlines are associated with UNT 10 to Buck Creek, two flowlines are associated with UNT 11 to Buck Creek, two flowlines are associated with a drainage swale that drains into UNT 10 to Buck Creek from the north and does not have a bed and bank with OHWM, one flowline is associated with a drainage



swale west of UNT 11 to Buck Creek that does not have bed and bank with and OHWM, and one flowline is associated with a drainage swale downstream of UNT 11 to Buck Creek that does not have a bed and bank with OHWM. The one NHD flowline classified as a canal-ditch is associated with RSD 6. The field investigation identified that Buck Creek and UNT 1 to Buck Creek through UNT 11 to Buck Creek have bed and bank and an OHWM (Pages A34-A43).

#### Buck Creek

Buck Creek is a perennial stream that generally flows north to south through the center of the survey area (Pages A34,39,40). Approximately 4,443 feet of the stream are within the survey area. Buck Creek is fed by groundwater and flows throughout the year; therefore, it is considered perennial. The drainage area for Buck Creek, determined from where Buck Creek crosses the southern project area boundary, was determined to be approximately 75 square miles using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmaps.dnr.in.gov/appsphp/fdms/>), there is a mapped DNR Approximate Floodway and a DNR Approximate Floodway Fringe associated with Buck Creek and has a base flood elevation of 484.1 feet (North American Vertical Datum 88 (NAVD 88)) (Page A29-A33).

The stream has a wide streambed with a defined riffle/run/pool habitat. The OHWM was measured to be 75 feet wide and 4 feet deep. The substrate is dominated by bedrock (60%), boulder slabs (20%) and silt (10%). The stream displays moderate sinuosity and a flat to moderate gradient. Riparian vegetation is comprised primarily of American sycamore (*Platanus occidentalis*, FACW), Ohio buckeye (*Aesculus glabra*, FACU), flowering dogwood (*Cornus florida*, FACU), American beech (*Fagus grandifolia*, FACU), and autumn olive (*Elaeagnus umbellata*, FACU). Buck Creek is considered to display excellent quality based on persistent stream flow, substrate, bank full width and depth, good species diversity, and the ability to support endangered species. Photos 54, 55, and 57 to 61 (Pages A61-A63) indicate stream and bank conditions for this reach.

Buck Creek is considered to be a relatively permanent waterway (RPW) that becomes a traditionally navigable waterway (TNW) (<https://www.in.gov/nrc/nonrule-policy-documents-ncpd/navigable-waterways-roster/roster-by-county/>) approximately 4 miles south of the survey area. Buck Creek meets the definition of a Water of the U.S. based on perennial flow and connection to a TNW; therefore, Buck Creek is subject to USACE jurisdiction under Section 404 of the Clean Water Act. Within the survey area, this stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

#### UNT 1 to Buck Creek

UNT 1 to Buck Creek is an ephemeral stream feature that is contained within the survey area, west of Buck Creek and north of Union Chapel Road SE (Page A39). UNT 1 to Buck Creek flows northeast and flows only in response to rainfall runoff; therefore, UNT 1 to Buck Creek is ephemeral. UNT 1 to Buck Creek is approximately 634 feet. The drainage area for UNT 1 to Buck Creek was determined to be within the drainage area for UNT 4 to Buck Creek using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmaps.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 1 Buck Creek.



The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 3.33 feet wide and 0.33 feet deep. The substrate is dominated by cobble (40%), gravel (30%), sand (20%), and silt (10%). The stream displays moderate sinuosity and a flat to moderate gradient. Riparian vegetation is comprised primarily of American beech (*Fagus grandifolia*, FACU), sugar maple (*Acer saccharum*, FACU), bush honeysuckle (*Diervilla lonicera*, FACU), twinleaf (*Jeffersonia diphylla*, FACU), Christmas fern (*Polystichum acrostichoides*, FACU), rue anemone (*Thalictrum thalictroides*, FACU), yellow trout lily (*Erythronium rostratum*, UPL), and wild blue phlox (*Phlox divaricata*, FACU). UNT 1 to Buck Creek is considered to display poor quality based on the lack of riffle/run/pool habitat, bank full width, and ephemeral nature. Photos 38-41 (Page A59) indicate stream and bank conditions for this reach.

UNT 1 to Buck Creek is considered to be a non-RPW with a connection to a TNW, Buck Creek; therefore, UNT 1 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 1 to Buck Creek connects to Buck Creek through underground flow paths, under low flow conditions, and overland flow via UNT 4 to Buck Creek in high flow conditions. Water sinks where a defined bed and bank terminate at the edge of the forest. Overland flow connects to Buck Creek via a swale across the field and an erosional feature in the woods adjacent to Buck Creek. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

#### UNT 2 to Buck Creek

UNT 2 to Buck Creek is an ephemeral stream feature that is contained within the survey area, west of Buck Creek and flows east southeast toward Buck Creek (Page A39). UNT 2 to Buck Creek is not groundwater fed and flows only in response to rainfall runoff; therefore, UNT 2 to Buck Creek is ephemeral. Approximately 243 feet of stream is within the survey area. The drainage area for UNT 2 to Buck Creek was determined to be within the drainage area for UNT 4 to Buck Creek using USGS StreamStats (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmapping.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 2 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 3.33 feet wide and 0.33 feet deep. The substrate is dominated by silt (95%) and gravel (5%). The stream displays low sinuosity and a moderate gradient. Riparian vegetation is comprised primarily of tulip poplar (*Liliodendron tulipifera*, FACU), sugar maple (*Acer saccharum*, FACU), eastern red cedar (*Juniperus virginiana*, FACU), Japanese honeysuckle (*Lonicera japonica*, FACU), black cherry (*Prunus serotina*, FACU), Ohio buckeye (*Aesculus glabra*, FACU), and autumn olive (*Elaeagnus umbellata*, FACU). UNT 2 to Buck Creek is considered to display poor quality based on the substrate, bank full width, and ephemeral nature. Photos 45, 46, and 47 (Page A60) indicate stream and bank conditions for this reach.

UNT 2 to Buck Creek is considered a non-RPW with a connection to a TNW, Buck Creek, via UNT 4 to Buck Creek; therefore, UNT 2 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Waters Act. UNT 2 to Buck Creek connects to UNT 4 to Buck Creek via both underground and overland flow depending on the flow rate. Water sinks at the end of UNT 2 to Buck Creek. A swale, lacking bed and bank with OHWM, creates a surface connection between the end of



UNT 2 to Buck Creek and the beginning of UNT 4 to Buck Creek. This stream is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

#### UNT 3 to Buck Creek

UNT 3 to Buck Creek is an ephemeral stream feature that is contained within the survey area, west of Buck Creek and flows east-southeast toward Buck Creek (Page A39). UNT 3 to Buck Creek is not groundwater fed and flows only in response to rainfall runoff; therefore, UNT 3 to Buck Creek is ephemeral. Approximately 206 feet of stream is within the survey area. The drainage area for UNT 3 to Buck Creek was determined to be within the drainage area for UNT 4 to Buck Creek using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>)(Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmapping.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 3 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 4.3 feet wide and 0.25 feet deep. The substrate is dominated by silt (95%) and gravel (5%). The stream displays low sinuosity and a moderate gradient. Riparian vegetation is composed primarily of tulip poplar (*Liliodendron tulipifera*, FACU), sugar maple (*Acer saccharum*, FACU), red cedar (*Juniperus virginiana*, FACU), Japanese honeysuckle (*Lonicera japonica*, FACU), black cherry (*Prunus serotina*, FACU), Ohio buckeye (*Aesculus glabra*, FACU), and autumn olive (*Elaeagnus umbellata*, FACU). UNT 3 to Buck Creek is considered to display poor quality based on the substrate, bank full width, and ephemeral nature. Photos 48 and 49 (Page A60-A61) indicate stream and bank conditions for this reach.

UNT 3 to Buck Creek is considered a non-RPW with a connection to a TNW, Buck Creek, via UNT 4 to Buck Creek; therefore, UNT 3 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Waters Act. UNT 3 to Buck Creek connects to UNT 4 to Buck Creek via underground and/or overland flow depending on the flow rate. Water sinks at the end of UNT 3 to Buck Creek. A swale, lacking bed and bank with OHWM, creates a surface connection between the end of UNT 3 to Buck Creek and the beginning of UNT 4 to Buck Creek. This stream is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

#### UNT 4 to Buck Creek

UNT 4 to Buck Creek is an ephemeral stream feature that is contained within the survey area, west of Buck Creek and flows east-southeast into Buck Creek (Page A39). UNT 4 to Buck Creek is not fed by groundwater and only flows in response to rainfall runoff; therefore, UNT 4 to Buck Creek is ephemeral. Approximately 354 feet of stream is within the survey area. The drainage area for UNT 4 to Buck Creek was determined to be 0.08 square miles using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>)(Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmapping.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 4 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 3.75 feet wide and 0.33 feet deep. The substrate is dominated by bedrock (80%), gravel (10%), and silt (10%). The stream displays moderate sinuosity and a moderate to severe gradient. Riparian vegetation is composed primarily of sugar maple (*Acer saccharum*, FACU), American beech (*Fagus*

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*grandifolia*, FACU), Ohio buckeye (*Aesculus glabra*, FACU), Christmas fern (*Polystichum acrostichoides*, FACU), and Virginia Creeper (*Parthenocissus quinquefolia*, FACU). UNT 4 to Buck Creek is considered average quality based on the substrate, bank full width, good species diversity, and the ability to support endangered species. Photos 50 through 53 (Page A61) indicate stream and bank conditions for this reach.

UNT 4 to Buck Creek is considered a non-RPW with a connection to a TNW, Buck Creek; therefore, UNT 4 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Waters Act. This stream is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

#### UNT 5 to Buck Creek

UNT 5 to Buck Creek is a perennial stream that is contained within the survey area and flows south into Buck Creek (Page A39). UNT 5 to Buck Creek is spring fed and flows year-round; therefore, UNT 5 to Buck Creek is perennial. Approximately 211 feet of stream is within the survey area. The drainage area for UNT 5 to Buck Creek was determined to be within the drainage area for Buck Creek using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana floodplain Information Portal (<https://dnrmaps.dnr.in.gov/appsphp/fdms/>), a portion of UNT 5 to Buck Creek is within a mapped DNR Approximate Floodway and a DNR Approximate Floodway Fringe associated with Buck Creek.

The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 4.17 feet wide and 0.25 feet deep. The substrate is dominated by gravel (40%), sand (40%), and silt (20%). The stream displays moderate sinuosity and moderate gradient. Riparian vegetation is composed primarily of northern spicebush (*Lindera benzoin*, FAC), clustered black snakeroot (*Sanicula odorata*, FACU), green-head coneflower (*Rudbeckia laciniata*, FACW), Christmas fern (*Polystichum acrostichoides*, FACU), wild blue phlox (*Phlox divaricata*, FACU), spotted touch-me-not (*Impatiens capensis*, FACW), wingstem (*Verbesina alternifolia*, FAC), wild mint (*Mentha arvensis*, FACW), American elm (*Ulmus americana*, FACW), and Ash-Leaf-Maple (*Acer negundo*, FAC), American beech (*Fagus grandifolia*, FACU), sugar maple (*Acer saccharum*, FACU) and green brier (*Smilax spp.*, FAC). UNT 5 to Buck Creek is considered excellent quality based on its perennial natural channel, substrate, bank full width, good species diversity, and the ability to support endangered species. Photos 63 to 66 (Page A63) indicate stream and bank conditions for this reach.

UNT 5 to Buck Creek is considered a RPW with a connection to a TNW, Buck Creek; therefore, UNT 5 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Waters Act. This stream is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

#### UNT 6 to Buck Creek

UNT 6 to Buck Creek is an intermittent stream that is contained within the survey area and flows southeast into Buck Creek (Page A40). UNT 6 to Buck Creek is fed by a spring and rainfall runoff. Flow is only periodically sufficient for overland flow to reach Buck Creek; therefore, UNT 6 to Buck Creek is intermittent. Approximately 799 feet of the stream is within the survey area. The drainage area for UNT 6 to Buck Creek was determined to be 0.02 square miles using USGS *StreamStats* (Page A28). According



to the Indiana floodplain Information Portal (<https://dnrmmaps.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 6 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run habitat. The OHWM was measured to be 4.33 feet wide and 0.33 feet deep. The maximum pool depth was measured to be 0.33 feet. The substrate is dominated by cobble (80%), gravel (15%) and sand (5%). The stream displays moderate sinuosity and a moderate stream gradient. Riparian vegetation is composed primarily of American beech (*Fagus grandifolia*, FACU), sugar maple (*Acer saccharum*, FACU), Ohio buckeye (*Aesculus glabra*, FACU), clustered black snakeroot (*Sanicula odorata*, FACU), and small spike false nettle (*Boehmeria cylindrica*, FACW). UNT 6 to Buck Creek is considered average quality based on its intermittent natural channel, substrate, bank full width, good species diversity, and the ability to support endangered species. Photos 67 to 70 (Page A64) indicate stream and bank conditions for this reach.

UNT 6 to Buck Creek is considered a RPW with a connection to a TNW, Buck Creek; therefore, UNT 6 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

#### UNT 7 to Buck Creek

UNT 7 to Buck Creek is an ephemeral stream that is contained within the survey area and flows southwest toward Buck Creek (Page A39-A40). UNT 7 to Buck Creek flows only in response to rainfall runoff; therefore, UNT 7 to Buck Creek is ephemeral. Approximately 378 feet of the stream is within the survey area. The drainage area for UNT 7 to Buck Creek was determined to be within the drainage area for Buck Creek using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana floodplain Information Portal (<https://dnrmmaps.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 7 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 2.08 feet wide and 0.17 feet deep. The substrate is dominated by gravel (40%), boulder slabs (30%), cobble (20%), and sand (10%). The stream displays moderate sinuosity and a severe steep gradient. Riparian vegetation is composed of green ash (*Fraxinus pennsylvanica*, FACW), sugar maple (*Acer saccharum*, FACU), Ohio buckeye (*Aesculus glabra*, FACU), northern spicebush (*Lindera benzoin*, FAC), clustered black snakeroot (*Sanicula odorata*, FACU), poison ivy (*Toxicodendron radicans*, FAC), fire pink (*Silene virginica*, FACU), early meadow rue (*Thalictrum dioicum*, FAC), and Christmas fern (*Polystichum acrostichoides*, FACU). UNT 7 to Buck Creek is considered to display poor quality based on the lack of riffle/run/pool habitat, bank full width, and ephemeral nature. Photos 71 through 74 (Page A64–A65) indicate stream and bank conditions for this reach.

UNT 7 to Buck Creek is considered a non-RPW with a significant nexus with a TNW, Buck Creek; therefore, UNT 7 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 7 to Buck Creek flows into the Buck Creek floodway and connects to Buck Creek through underground flow paths. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.



#### UNT 8 to Buck Creek

UNT 8 to Buck Creek is an ephemeral stream that is within the survey area and flows southwest toward Buck Creek (Page A39). UNT 8 to Buck Creek flows only in response to rainfall runoff; therefore, UNT 8 to Buck Creek is ephemeral. Approximately 356 feet of the stream is within the survey area. The drainage area for UNT 8 to Buck Creek was determined to be within the drainage area for Buck Creek using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmmaps.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 8 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run habitat. The OHWM was measured to be 2.67 feet wide and 0.25 feet deep. The maximum pool depth was measured to be 0.25 feet deep. The substrate is dominated by bedrock (50%), cobble (20%), boulders (10%), gravel (10%), and sand (10%). The stream displays low sinuosity and a severe steep gradient. Riparian vegetation is composed of American beech (*Fagus grandifolia*, FACU), American elm (*Ulmus americana*, FACW), sugar maple (*Acer saccharum*, FACU), northern spicebush (*Lindera benzoin*, FAC), black snakeroot (*Sanicula odorata*, FACU), small spike false nettle (*Boehmeria cylindrica*, FACW). UNT 8 to Buck Creek is considered to display poor quality based on the lack of riffle/run habitat, bank full width, and ephemeral nature. Photos 75 through 78 (Page A65) indicate stream and bank conditions for this reach.

UNT 8 to Buck Creek is considered a non-RPW with a significant nexus with a TNW, Buck Creek; therefore, UNT 8 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 8 to Buck Creek flows into the Buck Creek floodway and connects to Buck Creek through underground flow paths. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

#### UNT 9 to Buck Creek

UNT 9 to Buck Creek is an intermittent stream that is within the survey area and flows southeast before it sinks into the ground (Page A41). UNT 9 to Buck Creek is fed by a spring and rainfall runoff; therefore, UNT 9 to Buck Creek is intermittent. Approximately 195 feet of the stream is within the survey area. The drainage area for UNT 9 to Buck Creek was not available and the upstream drainage area is assumed to be less than 1.0 square miles using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28). According to the Indiana Floodplain Information Portal (<https://dnrmmaps.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 9 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run habitat. The OHWM was measured to be 1.25 feet wide and 0.08 feet deep. The maximum pool depth was measured to be 0.25 feet deep. The substrate is dominated by silt (40%), gravel (30%), and sand (30%). The stream displays medium sinuosity and a moderate to severe gradient. Riparian vegetation consists of sugar maple (*Acer saccharum*, FACU), American beech (*Fagus grandifolia*, FACU), green ash saplings (*Fraxinus pennsylvanica*, FACW), northern spicebush (*Lindera benzoin*, FAC), green brier (*Smilax spp.*, FAC), and may-apple (*Podophyllum peltatum*, FACU). UNT 9 to Buck Creek is considered to display average quality based on the substrate, bank full width, good species diversity, and the ability to support endangered species. Photos 83 through 86 (Page A66-A67) indicate stream and bank conditions for this reach.

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UNT 9 to Buck Creek is considered a RPW with a significant nexus with a TNW, Buck Creek; therefore, UNT 9 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 9 to Buck Creek connects to Buck Creek through underground flow paths. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

#### UNT 10 to Buck Creek

UNT 10 to Buck Creek is an intermittent, sinking stream which flows from northeast to southwest through the survey area before it sinks 750 feet south of the survey area (Page A41-A42). UNT 10 to Buck Creek is fed by ground water and rainfall runoff but does not flow throughout the year along the entire reach through the survey area; therefore, UNT 10 to Buck Creek is intermittent. Approximately 2,290 feet of the stream is within the survey area. The drainage area for the UNT 10 to Buck Creek was determined to be 0.91 square miles using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28); however, watershed areas determined within a karst landscape from surface topography should be considered rough estimates as underground flow patterns can be unpredictable. USGS *StreamStats* states that delineating flow statistics is possible but not advised in the area. According to the Indiana floodplain Information Portal (<https://dnrmaps.dnr.in.gov/appsphp/fdms/>), there are no mapped floodways or floodplains associated with UNT 10 to Buck Creek.

The stream has a narrow streambed and a defined riffle/run/pool habitat. The OHWM was measured to be 2.58 feet wide and 0.29 feet deep. The maximum pool depth was measured to be 0.33 feet deep. The substrate is dominated by gravel (80%) and sand (20%). The stream displays moderate sinuosity and a flat to moderate gradient. Riparian vegetation consists of eastern red cedar (*Juniperus virginiana*, FACU), cress-leaf groundsel (*Packera glabella*, OBL), wild mustard (*Sinapis arvensis*, FACU), beaked cornsalad (*Valerianella radiata*, FAC), tall goldenrod (*Salidago altissima*, FACU), aster (*Symphyotrichum spp*, FAC), and spotted touch-me-not (*Impatiens capensis*, UPL). UNT 10 to Buck Creek is considered to display excellent quality based on the substrate, bank full width, maximum pool depth, and good species diversity. Photos 94 through 100, 102, and 103 (Page A68-A70) indicate stream and bank conditions for this reach.

UNT 10 to Buck Creek is considered a RPW with a significant underground connection to a TNW, Buck Creek; therefore, UNT 10 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

#### UNT 11 to Buck Creek

UNT 11 to Buck Creek is an ephemeral, sinking stream feature that starts inside the survey area east of Buck Creek and north of Melview Rd SE and flows southwest (Page A43). UNT 11 to Buck Creek flows only in response to rainfall runoff; therefore, UNT 11 to Buck Creek is ephemeral. Approximately 325 feet of the stream is within the survey area. The drainage area for UNT 11 to Buck Creek was determined to be 0.15 square miles using USGS *StreamStats* (<https://water.usgs.gov/osw/streamstats/>) (Page A28); however, watershed areas determined within a karst landscape from surface topography should be considered rough estimates as underground flow patterns can be unpredictable. USGS



*StreamStats* states that delineating flow statistics is possible but not advised in the area. There are no mapped floodways of floodplains associated with UNT 11 to Buck Creek.

The stream has a narrow streambed with no defined riffle/run/pool habitat. The OHWM was measured to be 3.33 feet wide and 0.25 feet deep. The substrate is dominated by gravel (50%), sand (30%), silt (15%), and cobble (5%). The stream displays moderate sinuosity and a flat to moderate gradient. Riparian vegetation is comprised primarily of tulip poplar (*Liliodendron tulipifera*, FACU), red bud (*Cercis canadensis*, FACU), flowering dogwood (*Conus florida*, FACU), blackberry (*Rubus spp.*, FACU), and Japanese honeysuckle (*Lonicera japonica*, FACU). UNT 11 to Buck Creek is considered to display poor quality based on the substrate, bankfull width, and ephemeral nature. Photos 119 through 122 (Page A72-A73) indicate stream and bank conditions for this reach.

UNT 11 to Buck Creek is considered a non-RPW with a significant nexus with a TNW, Buck Creek; therefore, UNT 11 to Buck Creek meets the definition of a Waters of the U.S. under Section 404 of the Clean Water Act. UNT 11 to Buck Creek connects to Buck Creek through underground flow paths. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

**Stream Summary Table**  
**SR 11 Extension, Harrison County, Indiana**

Water Feature Name	Photo	Lat/Long	OHW Width (ft)	OHW Depth (ft)	USGS Blue-line? Type?	Riffles? Pools?	Substrate*	Quality	Likely Waters of U.S.?
Buck Creek	54, 55, 57-60	38.083846/ -86.115684	75	4	Yes, Perennial	Yes	Bedrock, Boulder Slabs	Excellent	Yes
UNT 1 to Buck Creek	38-41	38.083770/ -86.120055	3.33	0.33	No, Ephemeral	No	Cobble, Gravel	Poor	Yes
UNT 2 to Buck Creek	45, 46, 47	38.085083/ -86.118631	3.33	0.25	No, Ephemeral	No	Silt, Gravel	Poor	Yes
UNT 3 to Buck Creek	48-49	38.085080/ -86.118207	4.3	0.25	No, Ephemeral	No	Silt, Gravel	Poor	Yes
UNT 4 to Buck Creek	50-53	38.084806/ -86.117366	3.75	0.33	No, Ephemeral	No	Bedrock, Gravel	Average	Yes
UNT 5 to Buck Creek	63-66	38.083384/ -86.114411	4.17	0.25	No, Perennial	No	Gravel, Sand	Excellent	Yes
UNT 6 to Buck Creek	67-70	38.083516/ -86.112817	4.33	0.33	No, Intermittent	No	Cobble, Gravel	Average	Yes
UNT 7 to Buck Creek	71-74	38.083890/ -86.114370	2.08	0.17	No, Ephemeral	No	Gravel, Boulder Slabs	Poor	Yes
UNT 8 to Buck Creek	75-78	38.084442/ -86.114286	2.67	0.25	No, Ephemeral	No	Bedrock, Cobble	Poor	Yes



Water Feature Name	Photo	Lat/Long	OHW Width (ft)	OHW Depth (ft)	USGS Blue-line? Type?	Riffles? Pools?	Substrate*	Quality	Likely Waters of U.S.?
UNT 9 to Buck Creek	83-86	38.084131/ -86.102276	1.25	0.08	No, Intermittent	No	Silt, Gravel	Average	Yes
UNT 10 to Buck Creek	94-100, 102, 103	38.081019/ -86.096141	2.58	0.29	Yes, Intermittent	Yes	Gravel, Sand	Excellent	Yes
UNT 11 to Buck Creek	119-122	38.083088/ -86.078568	3.33	0.25	Yes, Ephemeral	No	Gravel, Sand	Poor	Yes

\*Two most prevalent substrate types.

### Wetlands

The field investigations identified eight wetland features (Wetland A through H) within the SR 11 Extension Project survey area (Water Resource Maps, Pages A34 through A43).

#### Wetland A

Wetland A is a 0.01-acre pond with a wetland fringe within a closed sinkhole depression located 135 feet south of the centerline of Watson Road (Page A37). Wetland A receives runoff from the surrounding land. Wetland A is an isolated wetland and therefore not considered a jurisdictional water of the U.S. under the Clean Water Act. Two data points defining Wetland A (AW1 and AU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified palustrine, emergent, persistent (PEM1) wetland. Based on a qualitative assessment of Wetland A, this wetland is of average quality based on its size and quality of vegetation. Photograph 22 (Page A56) shows the conditions of Wetland A during the time of field review.

#### Data point AW1

Data point AW1 represents wetland conditions within Wetland A (Pages A76-A79). There are no tree, sapling/shrub, or woody vine stratum within the plot area. The dominant species within the herbaceous stratum consists of common rush (*Juncus effusus*, FACW) and floating water primrose (*Ludwigia pepioides*, OBL). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. Primary indicators of hydrology are surface water (A1) and high water table (A2). Therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Crider silt loam (CtaB) which is not considered a hydric soil. The soil profile consists of 10 YR 4/3 silty clay from 0 to 3 inches, organic grass layer from 3 to 4 inches, 10 YR 4/3 silty clay from 4 to 5 inches, and 10 YR 4/4 (65%) silt with 10 YR 4/6 (10%), 10 YR 2/1 (5%), and 10 YR 6/1 (20%) redox features from 5 to 18 inches. Hydric soil indicators are not present; however, the soil has developed in a seasonally ponded karst sinkhole which is listed in the *USACE Eastern Piedmont Regional Supplement (2012)* as a problematic hydric soil that may be a hydric soil without typical indicators. Therefore, the soil will be considered hydric. This data point meets the requirements for wetland vegetation, wetland hydrology, and hydric soils; therefore, this data point is within a wetland.



#### Data Point AU1

Data point AU1 represents upland conditions within Wetland A (Pages A80-A83). There are no tree, sapling/shrub, or woody vine stratum within the plot area. The dominant species within the herbaceous stratum consists of orchard grass (*Dactylis glomerata*, FACU) and tall false rye grass (*Schedonorus arundinaceus*, FACU). Hydrophytic vegetation is not present since none of the dominant species are FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS Web Soil Survey indicates that this data point is within the Crider silt loam (CtaB) which is not considered a hydric soil. The soil profile consists of 10 YR 4/4 (100%) silty clay with some gravel from 0 to 16 inches and 10 YR 3/3 (85%) silty clay with 7.5 YR 5/8 (15%) redox features from 16 to 18 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Wetland B

Wetland B is a 0.06 acre emergent wetland located east of Buck Creek, on the border between a forested area to the north and a graded gravel pad (Page A40). Wetland B is disturbed from debris and garbage dumping and receives drainage from the surrounding forested area. Wetland B would be considered an isolated wetland and therefore is not considered a jurisdictional water of the U.S. under the Clean Water Act. Two data points defining Wetland B (BW1 and BU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified as a palustrine, emergent, persistent (PEM1) wetland. Based on a qualitative assessment of Wetland B, this wetland is of poor quality based on its size, disturbed nature, and quality of soil and vegetation. Photograph 81 (Page A66) shows the conditions of Wetland B during the time of field review.

#### Data Point BW1

Data point BW1 represents wetland conditions within Wetland B (Pages A84-A87). There are no tree, sapling /shrub, or woody vine stratum within the plot area. The dominant species within the herbaceous stratum consists of narrow leaf cattail (*Typha angustifolia*, OBL). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. Primary indicators of hydrology are surface water (A1), a high water table (A2), and oxidized rhizospheres on living roots (C3). Therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Bedford silt loam (BdoB), which is not considered a hydric soil. The soil profile consists of 10 YR 2/2 organic matter from 0 to 3 inches, 10 YR 4/2 (80%) silty clay with 5 YR 4/6 (20%) redox features from 3 to 6 inches, and 10 YR 4/3 silty clay from 6 to 18 inches. The soil meets the depleted matrix (F3) hydric soil indicator; therefore, hydric soils are present. This data point meets the requirements for wetland vegetation, wetland hydrology, and hydric soils; therefore, this data point is within a wetland.

#### Data Point BU1

Data point BU1 represents upland conditions for Wetland B (Pages A88-A91). There are no tree, or woody vine stratum within the plot area. The dominant species within the sapling/shrub stratum consists of American sycamore (*Platanus occidentalis*, FACW). The dominant species within the herbaceous stratum consists of Canada goldenrod (*Solidago canadensis*, FACU), Queen Anne's lace

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(*Daucus carota*, UPL), and red clover (*Trifolium pratense*, FACU). Hydrophytic vegetation is not present based on the dominance test for hydrophytic vegetation since only 25 percent of the dominant species are FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS Web Soil Survey indicates that this data point is within the Bedford silt loam (BdoB), which is not considered a hydric soil. The soil profile consists of 10 YR 4/4 (70%) and 5 YR 4/6 (30%) redox features from 0 to 12 inches and 10 YR 3/4 (90%) and 10 YR 2/1 (10%) redox features from 12 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Wetland C

Wetland C is a 0.8 acre forested wetland located east of Buck Creek, west of UNT 10 to Buck Creek, and 370 feet northeast of Wetland B (Page A41). Wetland C receives runoff from the surrounding area. Wetland C would be considered an isolated wetland and therefore not considered a jurisdictional water of the U.S. under the Clean Water Act. Two data points defining Wetland C (CW1 and CU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified as a palustrine, aquatic bed, intermittently exposed (PABG3) wetland. Based on a qualitative assessment of Wetland C, this wetland is of excellent quality based on its size, quality of soils, and vegetation. Photograph 82 (Page A66) shows the conditions of Wetland C during the time of field review.

#### Data Point CW1

Data point CW1 represents wetland conditions within Wetland C (Pages A92-A95). There are no sapling/shrub or woody vine strata within the plot area. The dominant species within the tree stratum is green ash (*Fraxinus pennsylvanica*, FACW). The dominant species within the herbaceous stratum are clammy hyssop (*Gratiola neglecta*, OBL) and sedge (*Carex spp.*, OBL). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. Primary indicators of wetland hydrology are surface water (A1) and saturation (A3); therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Vertrees-Haggatt-Caneyville complex (VccD3) which is not considered a hydric soil. The soil profile consists of 10 YR 4/2 (100%) organic matter from 0 to 4 inches and 10 YR 6/2 (60%) silty clay with 5 YR 4/6 (40%) redox features from 4 to 18 inches. The soil meets the depleted matrix (F3) hydric soil indicator; therefore, hydric soils are present. This data point meets the requirement for wetland vegetation, wetland hydrology, and hydric soils; therefore, this data point is within a wetland.

#### Data Point CU1

Data point CU1 represents upland conditions for Wetland C (Pages A96-A99). There is no woody vine stratum within the plot area. The dominant species within the tree stratum is tulip poplar (*Liliodendron tulipifera*, FACU). The dominant species within the sapling/shrub stratum is Ash-Leaf-Maple (*Acer negundo*, FAC). The dominant species within the herbaceous stratum is Japanese stilt grass (*Microstegium vimineum*, FAC). Hydrophytic vegetation is present based on the dominance test for hydrophytic vegetation since 67% of the dominant species are FAC or wetter. No primary or secondary

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indicators of hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS Web Soil Survey indicates that this data point is within the Vertrees-Haggatt-Caneyville complex (VccD3) which is not considered a hydric soil. The soil profile consists of 10 YR 4/3 (100%) silty clay from 0 to 2 inches and 10 YR 4/4 (80%) silty clay with 10 YR 5/8 (20%) redox features from 2 to 18 inches. No hydric soil indicators were observed. Although hydrophytic vegetation was present, this data point did not meet the requirements for hydrology or hydric soils; therefore, this data point is not within a wetland.

#### Wetland D

Wetland D is a 0.09 acre emergent wetland located east of Buck Creek near the north edge of the survey area. Wetland D formed behind a man-made berm that prevents water from draining downslope and receives drainage from the surrounding area. Wetland D would be considered an isolated wetland and therefore not considered a jurisdictional water of the U.S. under the Clean Water Act. Two data points defining Wetland D (DW1 and DU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified as a palustrine, emergent, non-persistent (PEM1B) wetland. Based on a qualitative assessment of Wetland D, this wetland is of poor quality based on its size, quality of soils, and vegetation. Photograph 87 (Page A67) shows the conditions of Wetland D during the time of field review.

#### Data Point DW1

Data point DW1 represents wetland conditions within Wetland D (Pages A100-A103). The data point was collected within the wetland area. There are no tree or woody vine strata identified within the plot area. The dominant species within the sapling/shrub stratum are green ash (*Fraxinus pennsylvanica*, FACW) and Ash-Leaf-Maple (*Acer negundo*, FAC). The dominant species within the herbaceous stratum are Japanese honeysuckle (*Lonicera japonica*, FACU) and clammy hyssop (*Gratiola neglecta*, OBL). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. Primary indicators of hydrology are high water table (A2) and saturation (A3); therefore, wetland hydrology is present. The USDA NRCS web soil survey indicated that this data point is within the Vertrees-Crider-Caneyville complex (VcaC3), which is not considered a hydric soil. The soil profile consists of 10YR 4/6 (100%) silty clay from 0 to 18 inches. No hydric soil indicators were observed; however, the soil is considered a problematic hydric soil because the wetland is a seasonally ponded, manmade, perched, depressional wetland where typical hydric soil indicators have not developed. Therefore, the soil is considered hydric. This data point meets the requirement for wetland vegetation, wetland hydrology, and hydric soils; therefore, this data point is within a wetland.

#### Data Point DU1

Data point DU1 represents non-wetland conditions for Wetland D (Pages A104-A107). There is no woody vine stratum identified in the plot area. The dominant species within the tree stratum consists of eastern red cedar (*Juniperus virginiana*, FACU) and sassafras (*Sassafras albidum*, FACU). The dominant species within the sapling/shrub stratum consists of tulip poplar (*Liquidambar tulipifera*, FACU). The dominant species within the herbaceous stratum consists of Japanese honeysuckle (*Lonicera japonica*, FACU). Hydrophytic vegetation is not present since none of the dominant species are FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, wetland hydrology is not

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present. The USDA NRCS web soil survey indicated that this data point is within the Vertrees-Crider-Caneyville complex (VcaC3), which is not considered a hydric soil. The soil profile consists of 10 YR 3/3 (100%) silty clay from 0 to 3 inches, 10 YR 5/4 (70%) silty clay with 10 YR 5/3 (30%) redox features from 3 to 10 inches, and 5 YR 4/6 (70%) silty clay with 7.5 YR 5/4 (30%) redox features from 10 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Wetland E

Wetland E is a 0.56 acre emergent wetland located west of Buck Creek and south of Watson Rd (Page A38). Wetland E formed in a broad closed depression in a row crop field and receives drainage from the surrounding field. Wetland E would be considered an isolated wetland and therefore not considered a jurisdictional water of the U.S. under the Clean Water Act. Two data points defining Wetland E (EW1 and EU1) are discussed below.

As defined by *Cowardin et al.* (1979), this wetland would be classified as a palustrine, emergent, permanently flooded (PEM1H) wetland. Based on a qualitative assessment of Wetland E, this wetland is of average quality base on size, and the quality of soils and vegetation. Photographs 27 and 28 (Page A57) indicate conditions of Wetland E at the time of field review.

#### Data Point EW1

Data point EW1 represents wetland conditions within Wetland E (Pages A108-A111). There are no tree, sapling/shrub, or woody vine strata within the plot area. The dominant species within the herbaceous stratum is barnyard grass (*Echinochloa muricata*, FACW). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. Primary indicators of wetland hydrology are surface water (A1), high water table (A2), saturation (A3), and oxidized rhizospheres on living roots (C3); therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Vertrees-Crider-Caneyville complex (VcaC3) which is not considered a hydric soil. The soil profile consists of 10 YR 5/2 (90%) clay loam with 7.5 YR 4/6 (10%) redox features from 0 to 2 inches, 10 YR 5/2 (75%) clay loam with 7.5 YR 4/6 (25%) redox features from 2 to 12 inches, and 10 YR 5/3 (95%) clay loam with 7.5 YR 4/6 (5%) redox features from 12 to 16 inches. The soil meets the depleted matrix (F3) hydric soil indicator; therefore, hydric soils are present. This data point meets the requirement for wetland vegetation, wetland hydrology, and hydric soils; therefore, this data point is within a wetland.

#### Data Point EU1

Data point EU1 represents non-wetland conditions for Wetland E (Pages A112-A115). There are no tree, sapling/shrub, or woody vine strata within the plot area. The dominant species within the herbaceous stratum is soybeans (*Glycine max*, UPL). Hydrophytic vegetation is not present since none of the dominant species are FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS web soil survey indicates that this data point is with the Vertrees-Crider-Caneyville complex (VcaC3), which is not considered a hydric soil. The soil profile consists of 10 YR 4/4 (100%) clayey silt from 0 to 5 inches and 10 YR 5/4 (60%) with 7.5 YR 4/6 (40%) redox features from 5 to 16 inches. No hydric soil indicators were observed; therefore, hydric



soil is not present. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Wetland F

Wetland F is a 0.05 acre wetland located east of Buck Creek along UNT 10 to Buck Creek (Page A42). Wetland F formed where UNT 10 to Buck Creek has been backed up behind a gravel road crossing. Wetland F has significant connection to a UNT 10 to Buck Creek and therefore is likely a jurisdictional water of the U.S. Two data points defining Wetland F (FW1 and FU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified as a palustrine, scrub-shrub, broad-leaved deciduous (PSS1) wetland. Based on a qualitative assessment of Wetland F, this wetland is of average quality base on its size, and the quality of its soils and vegetation. Photographs 110 through 112 (Page A71) indicate conditions of Wetland E at the time of field review.

#### Data Point FW1

Data point FW1 represents wetland conditions within Wetland F (Pages A116-A119). There is no tree or woody vine strata within the plot area. The dominant species within the sapling/shrub stratum is black willow (*Salix nigra*, OBL). The dominant species within the herbaceous stratum are broad leaf cattail (*Typha latifolia*, OBL), and rice cut grass (*Leersia oryzoides*, OBL). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. Primary indicators of wetland hydrology are a high water table (A2) and saturation (A3); therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Kintner loam (KunAW), which is not considered a hydric soil. The soil profile consists of 10 YR 4/3 (90%) with 10 YR 4/6 redox features from 0 to 18 inches. Hydric soil indicators were not observed; however, the soil is considered a problematic hydric soil because the wetland appears to have recently developed in a manmade pooling of UNT 10 to Buck Creek. The wetland has not been in place for sufficient duration to develop easily identifiable hydric soil indicators; therefore, the soil is considered hydric. This data point meets the requirement for wetland vegetation, wetland hydrology, and hydric soils; therefore, the data point is within a wetland.

#### Data Point FU1

Data point FU1 represents upland conditions adjacent to Wetland F (Pages A120-A123). There is no woody vine stratum within the plot area. The dominant species within the tree stratum is Osage orange (*Maclura pomifera*, UPL). The dominant species in the sapling/shrub stratum is elderberry (*Sambucus nigra*, FAC). The dominant species within the herbaceous stratum are tall rye grass (*Schedonorus arundinaceus*, UPL) and field bindweed (*Convolvus arvensis*, UPL). Hydrophytic vegetation is not present since less than 50% of the dominant species are FAC or wetter. No primary or secondary indicators of wetland hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS web soil survey indicates that this data point is within the Kintner loam (KunAW), which is not considered a hydric soil. The soil profile consists of 10 YR 5/4 (100%) clayey silt from 0 to 16 inches. Hydric soil indicators were not observed; therefore, hydric soil is not present. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.



#### Wetland G

Wetland G is a 0.41 acre wetland located east of Buck Creek and west of UNT 10 to Buck Creek (Page A41). Wetland G formed in a broad closed depression surrounded by a row crop field and receives drainage from the field. Aerial imagery indicates that the depression is avoided when planted. Wetland G would be considered an isolated wetland and therefore not considered a jurisdictional water of the U.S. under the Clean Water Act. Two data points defining Wetland G (GW1 and GU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified as a palustrine, emergent, persistent (PEM1) wetland. Based on a qualitative assessment of Wetland G, this wetland is of poor quality based on its size, and the quality of its soils and vegetation. Photograph 133 (Page A75) indicate conditions of Wetland G at the time of field review.

#### Data Point GW1

Data point GW1 represents wetland conditions within wetland G (Pages A124-A127). There are no tree, sapling/shrub, or woody vine strata within the plot area. The dominant species within the herbaceous stratum are climbing dayflower (*Commelina diffusa*, FACW), and barnyard grass (*Echinochloa crus-galli*, FAC). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. A primary indicator of wetland hydrology was inundation visible on aerial imagery (B7) and secondary indicators of wetland hydrology was saturation visible on aerial imagery (C9), stunted or stressed plants (D1), and geomorphic position (D2); therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Bedford silt loam (BdC2), which is not considered a hydric soil. The soil profile consists of 10 YR 5/3 (90%) clayey silt with 5 YR 3/4 (10%) redox features from 0 to 10 inches, 2.5 YR 5/4 (80%) clayey silt with 2.5 Y 5/6 (20%) redox features from 10 to 17 inches, and 10 YR 6/1 (70%) clayey silt with 7.5 YR 5/8 (30%) redox features from 17 to 20 inches. Hydric soil indicators were not observed but the data point represents conditions in a broad concave depression that ponds seasonally. Reducing conditions are present in the 17 to 20 inch interval. The wetland is surrounded by active agricultural land and is tilled. The data point meets the requirements for hydrophytic vegetation and hydrology. The data point is within a seasonally ponded concave landscape setting with hydrophytic vegetation and hydrology; therefore, the soil is considered hydric. The data point meets the requirements for wetland vegetation, hydrology, and hydric soils; therefore, the data point is within a wetland.

#### Data Point GU1

Data point GU1 represents upland conditions adjacent to Wetland G (Pages A128-A131). There is no tree or woody vine stratum within the plot area. The dominant species within the sapling/shrub stratum is blackberry (*Rubus allegheniensis*, FAC). The dominant species within the herbaceous stratum are corn (*Zea mays*, UPL) and cress-leaf groundsel (*Packera glabella*, OBL). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. No primary or secondary indicators of wetland hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS web soil survey indicates that this data point is within Bedford silt loam (BdC2), which is not considered a hydric soil. The soil profile consists of 10 YR 4/4 (100%) clayey silt from 0 to 12 inches and 2.5 YR 6/4 (100%) clayey silt from 12 to 20 inches.

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The data point lacks hydric soil indicators; therefore, hydric soil is not present. This data point meets the requirement for hydrophytic vegetation but does not meet the requirements for hydrology or hydric soils; therefore, this data point is not within a wetland.

#### Wetland H

Wetland H is a 0.06 acre wetland located east of Buck Creek and SR 11 (Page A43). Wetland H formed in the small steep-walled depression of an old farm pond. Wetland H would be considered an isolated wetland and therefore not considered a jurisdictional Water of the U.S. under the Clean Water Act. Two data points defining Wetland H (HW1 and HU1) are discussed below.

As defined by Cowardin *et al.* (1979), this wetland would be classified as a palustrine, unconsolidated bottom, temporarily flooded (PUBA) wetland. Based on a qualitative assessment of Wetland H, this wetland is of poor quality based on its size, and the quality of its soils and vegetation. Photograph 132 (Page A74) indicate conditions of Wetland G at the time of field review.

#### Data Point HW1

Data point HW1 represents wetland conditions within Wetland H (Pages A132-A135). There are no sapling/shrub or woody vine stratum within the plot area. The dominant species within the tree stratum is sweetgum (*Liquidambar styraciflua*, FAC). The dominant species within the herbaceous stratum is Pennsylvania smartweed (*Polygonum pensylvanicum*, FACW). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. The primary indicators of wetland hydrology is saturation (A3) and inundation visible on aerial imagery (B7) ; therefore, wetland hydrology is present. The USDA NRCS Web Soil Survey indicates that this data point is within the Knobcreek-Haggatt-Caneyville complex (KxsD3) which is not considered a hydric soil. The soil profile consists of 10 YR 4/4 (100%) clayey silt from 0 to 5 inches and 10 YR 5/6 (80%) silty clay with 7.5 YR 5/8 (20%) redox features from 5 to 14 inches. Hydric soil indicators were not observed; however, the data point represents conditions in a concave depression in a farm pond that is seasonally ponded. The data point is within a concave landscape setting with hydrophytic vegetation and hydrology; therefore, the soil is considered hydric. The data point meets the requirements for wetland vegetation, hydrology, and hydric soils; therefore, the data point is within a wetland.

#### Data Point HU1

Data point HU1 represents upland conditions adjacent to Wetland H (Pages A136-A139). There is no woody vine or herbaceous stratum within the plot area. The dominant species within the sapling/shrub stratum is green ash (*Fraxinus pennsylvanica*, FACW). The dominant species within the tree stratum are sassafras (*Sassafras albidum*, FAC), black cherry (*Prunus serotina*, FACU), and sweet gum (*Liquidambar styraciflua*, FAC). The plant community passes the dominance test for hydrophytic vegetation; therefore, hydrophytic vegetation is present and no further vegetation analysis is required. No primary or secondary indicators of wetland hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS web soil survey indicates that this data point is within Knobcreek-Haggatt-Caneyville complex (KxsD3) which is not considered a hydric soil. The soil profile consists of 10 YR 3/4 (100%) clayey silt from 0 to 3 inches and 10 YR 5/6 (100%) clayey silt from 3 to 16 inches. The data point lacks hydric soil indicators; therefore, hydric soil is not present. This data point meets the requirement for

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hydrophytic vegetation but does not meet the requirements for hydrology or hydric soils; therefore, this data point is not within a wetland.

Negative Point 1 (Neg1)

Negative Point 1 represents conditions identified for a mapped PUBG NWI feature located south of Watson Road and 0.42 mile east of SR 135 within an actively farmed field (Pages A140-A143; Photograph 18, Page A55). This area was investigated due to the mapped NWI feature. There is no tree, sapling/shrub, or woody vine stratum identified in the plot area. The dominant species within the herb stratum consists of winter wheat (*Triticum aestivum*, FACU). Hydrophytic vegetation is not present since none of the dominant species are FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, wetland hydrology is not present. The USDA NRCS web soil survey indicated that this data point is within the Vertrees-Haggatt-Caneyville complex (VccD3), which is not considered a hydric soil. The soil profile consists of 10 YR 3/3 (95%) clayey silt with 10 YR 2/1 (5%) redox features from 0 to 8 inches, and 10 YR 5/3 (70%) with 5 YR 4/6 (30%) redox features from 8 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

Negative Point 2 (Neg2)

Negative Point 2 represents conditions identified within a mapped PUBG NWI feature located north of Watson Road and 1.07 mile east of SR 135 (Pages A144-A147; Photograph 21, Page A56). This area was investigated due to the mapped NWI feature. There is no tree, sapling/shrub, or woody vine stratum identified in the plot area. The dominant species within the herb stratum consists of Johnson grass (*Sorghum halepense*, FACU), tall false rye grass (*Schedonorus arundinaceus*, FACU), and Kentucky bluegrass (*Poa pratensis*, FACU). Hydrophytic vegetation is not present since none of the dominant species are FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicated that this data point is within the Vertrees-Haggatt-Caneyville complex (VccD3), which is not considered a hydric soil. The soil profile consists of 10 YR 4/3 (100%) silty clay from 0 to 5 inches, and 10 YR 4/4 (100%) silt from 5 to 15 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

Negative Point 3 (Neg3)

Negative Point 3 represents conditions identified north of Watson Road and 1.49 miles east of the intersection of Watson Road and SR 135 (Pages A148-A151; Photograph 23, Page A56). This area was investigated due to the presence of surface water. There is no sapling/shrub or woody vine stratum identified in the plot area. The dominant species within the tree stratum is weeping willow (*Salix babylonica*, FACW). The dominant species within the herb stratum is Kentucky blue grass (*Poa pratensis*, FACU). The prevalence index for hydrophytic vegetation is 3.0. Hydric soils and hydrology are co-requisites for passing the prevalence test for hydrophytic vegetation. Although the prevalence index is 3.0, because hydric soils are not present the point does not pass the prevalence index test; therefore, hydrophytic vegetation is not present. Primary indicators of hydrology, surface water (A1) is present. Therefore, wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Vertrees-Haggatt-Caneyville complex (VccD3), which is not considered a hydric soil. The soil profile consists of 10 YR 3/2 (100%) silty clay from 0 to 1 inch, 10 YR 4/3 (60%) silty clay with 7.5 YR 5/4

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(40%) from 1 to 4 inches, and 7.5 YR 4/6 (100%) silty clay from 4 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation or hydric soils; therefore, this data point is not within a wetland.

#### Negative Point 4 (Neg4)

Negative Point 4 represents conditions identified within a mapped PEM1C NWI feature located north of Watson Road 0.1 mile west of Meridian LN SW (Pages A152-A155; Photograph 24, Page 56). This area was investigated due to the mapped NWI feature. There is no woody vine stratum identified in the plot area. The dominant species within the tree stratum are chestnut oak (*Quercus montana*, UPL), black walnut (*Juglans nigra*, FACU), and sugar maple (*Acer saccharum*, FACU). The dominant species within the sapling/shrub stratum is multiflora rose (*Rosa multiflora*, FACU). The dominant species within herb stratum are Kentucky blue grass (*Poa pratensis*, FACU), orchard grass (*Dactylis glomerata*, FACU), and tall false rye grass (*Schedonorus arundinaceus*, FACU). Hydrophytic vegetation is not present since none of the dominant species is FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Vertrees-Haggatt-Caneyville complex (VccD3), which is not considered a hydric soil. The soil profile consists of 10 YR 3/2 (100%) silty clay from 0 to 4 inches, 10 YR 4/4 (90%) silty clay with 7.5 YR 5/8 (10%) redox features from 4 to 15 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Negative Point 5 (Neg5)

Negative Point 5 represents conditions in a farmed closed depression south of Watson Rd and 0.12 miles west of the intersection of Delmer Ln and Watson Rd (Pages A156-A159; Photograph 29, Page A57). This area was investigated due to the presence of surface water. Aerial imagery indicates that the area has been farmed since 1985. There is no tree, sapling/shrub or woody vine stratum identified in the plot area. The dominant species within the herb stratum is cress-leaf groundsel (*Packera glabella*, OBL) and Short-Awn Meadow-Foxtail (*Alopecurus aequalis*, OBL). Hydrophytic vegetation is present since both dominant species are FAC or wetter. Two primary wetland hydrology indicators; surface water (A1) and algal crust (B4) are present. Three secondary indicators of hydrology, surface soil cracks (B6), sparsely vegetated concave surfaces (B8), and saturation visible on aerial imagery (C9) are present; therefore, wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Haymond silt loam (HcpAP), which is not considered a hydric soil. The soil profile consists of 10 YR 5/3 (60%) silty clay with 7.5 YR 4/6 redox features from 0 to 4 inches, and 10 YR 4/4 (100%) silty clay from 4 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydric soils and is actively farmed; therefore, this data point is not within a wetland.

#### Negative Point 6 (Neg6)

Negative Point 6 represents conditions in an actively farmed closed depression north of Watson Rd and 0.09 miles west of the intersection of Delmer Ln and Watson Rd (Pages A160-A163; Photograph 30, Page A57). This area was investigated due to the concave surface. The point is on recently tilled, bare ground and there is no tree, sapling/shrub, herbaceous or woody vine stratum identified in the plot area. No primary indicators of wetland hydrology are present. Two secondary indicators of hydrology, sparsely vegetated concave surfaces (B8) and saturation visible on aerial imagery (C9) are present; therefore,

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wetland hydrology is present. The USDA NRCS web soil survey indicates that this data is within the Haymond silt loam (HcpAP), which is not considered a hydric soil. The soil profile consists of 10 YR 4/3 (70%) silty clay and trace gravel with 10 YR 4/6 (30%) redox features from 0 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydric soils or hydric vegetation and is actively farmed; therefore, this data point is not within a wetland.

#### Negative Point 7 (Neg7)

Negative Point 7 represents conditions in a mapped PEM1F NWI feature northeast of the intersection between Watson Rd and Union Chapel Rd (Pages A164-A167; Photograph 32, Page A58). This area was investigated due to the mapped NWI feature. No tree, sapling/shrub, or woody vine stratum were identified in the plot area. The dominant species within the herb stratum is tall fescue (*Schedonorus arundinaceus*, FACU). Hydrophytic vegetation is not present since none of the dominant vegetation is FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Crider silt loam (CtaB), which is not considered a hydric soil. The soil profile consists of 10 YR 3/3 (100%) silty clay from 0 to 2 inches and 10 YR 4/4 (80%) silty clay with 10 YR 4/6 (20%) redox features from 2 to 17 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydric vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Negative Point 8 (Neg8)

Negative Point 8 represents conditions in a closed grassy depression 0.09 miles east of the intersection between Watson Rd and Union Chapel Rd (Pages A168-A171; Photograph 33, Page A58). This area was investigated due to the concave depression. No tree, sapling/shrub, or woody vine stratum were identified in the plot area. The dominant species within the herb stratum is tall fescue (*Schedonorus arundinaceus*, FACU). Hydrophytic vegetation is not present since none of the dominant vegetation is FAC or wetter. No primary or secondary indicators of hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the crider silt loam (CtaB), which is not considered a hydric soil. The soil profile consists of 10 YR 3/3 (100%) silty clay from 0 to 2 inches and 10 YR 4/4 (80%) silty clay with 10 YR 4/6 (20%) redox features from 2 to 17 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydric vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

#### Negative Point 9 (Neg9)

Negative Point 9 represents conditions in a mapped PFO1A NWI feature on the west bank of Buck Creek (Pages A172-A175; Photograph 56, Page A62). This area was investigated due to the mapped NWI feature. No woody vine stratum was identified in the plot area. The dominant species within the tree stratum are sugar maple (*Acer saccharinum*, FACU), chestnut oak (*Quercus montana*, UPL), and black walnut (*Juglans nigra*, FACU). The dominant species within the sapling/shrub stratum is black cherry (*Prunus serotina*, FACU). The dominant species in the herb stratum are Japanese honeysuckle (*Lonicera japonica*, FACU), daisy fleabane (*Erigeron strigosus*, FACU), and small hop flower (*Trifolium dubium*, UPL). Hydrophytic vegetation is not present since none of the dominant vegetation is FAC or wetter. No primary or secondary indicators of wetland hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Elkinsville silt loam, which is not considered a hydric soil. The soil profile consists of 10 YR 4/6 (100%) silty clay with

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trace sand from 0 to 12 inches and 7.5 YR 4/6 (100%) silty clay from 12 to 15 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydric vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

Negative Point 10 (Neg10)

Negative Point 10 represents conditions in a mapped PEM1A NWI feature in a forested area east of Buck Creek (Pages A176-A179). No tree or woody vine stratum were identified in the plot area. The dominant species within the sapling/shrub stratum are northern spicebush (*Lindera benzoin*, FAC) and Ash-Leaf-Maple (*Acer negundo*, FAC). Hydrophytic vegetation is present since all of the dominant species are FAC or wetter. No primary or secondary indicators of wetland hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Vertrees-Crider-Caneyville complex which is not considered a hydric soil. The soil profile consists of 10 YR 3/2 (100%) silt from 0 to 2 inches and 10 YR 4/6 (95%) silty clay with 5 YR 4/6 (5%) redox features from 2 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for wetland hydrology or hydric soils; therefore, this data point is not within a wetland.

Negative Point 11 (Neg11)

Negative Point 11 represents conditions in a mapped PEM1C NWI feature in an open field east of UNT 10 to Buck Creek (Pages A180-A183; Photograph 105, Page A70). This area was investigated due to a mapped NWI feature. No tree, sapling/shrub, or woody vine stratum were identified in the plot area. The dominant species within the herb stratum are purple dead nettle (*Lamium perperum*, UPL), Carolina crane's bill (*Geranium carolinianum*, UPL), and shepherd's purse (*Capsella bursa-pastoris*, FACU). Hydrophytic vegetation is not present since none of the dominant vegetation is FAC or wetter. No primary or secondary indicators of wetland hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Crider silt loam which is not considered a hydric soil. The soil profile consists of 10 YR 4/4 (100%) gravel with silty clay from 0 to 14 inches and 7.5 YR 4/6 (100%) clay from 14 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydric vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

Negative Point 12 (Neg12)

Negative Point 12 represents conditions in a mapped PEM1C NWI feature in an open field east of SR 135 (Page A184-Page A187; Photograph 134, Page A75). This area was investigated due to a mapped NWI feature. No tree, sapling/shrub, or woody vine stratum were identified in the plot area. The dominant species within the herb stratum are Johnsongrass (*Sorghum halepense*, FACU), and white clover (*Trifolium repens*, FACU). Hydrophytic vegetation is not present since none of the dominant vegetation is FAC or wetter. No primary or secondary indicators of wetland hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Haymond silt loam which is not considered a hydric soil. The soil profile consists of 10 YR 3/4 (100%) silty clay from 0 to 3 inches and 10 YR 5/6 (85%) clayey silt with 5 YR 4/8 redox features from 3 to 16 inches. No hydric soil indicators were observed. This data point did not meet the requirements for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.



**Negative Point 13 (Neg13)**

Negative Point 13 represents conditions in a mapped PEM1C NWI feature on the wooded east slope of Buck Creek north of Union Chapel Road (Page A188-Page A191). This area was investigated due to a mapped NWI feature. No woody/vine or herbaceous stratum were identified in the plot area. The dominant species within the tree stratum are American beech (*Fagus grandifolia*, FACU), sugar maple (*Acer saccharum*, FACU) and sassafras (*Sassafras albidum*, FACU). The dominant sapling/shrub species within the tree stratum are American beech, and flowering dogwood (*Cornus florida*, FACU). Hydrophytic vegetation is not present since none of the dominant vegetation is FAC or wetter. No primary or secondary indicators of wetland hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Brussels-Rock outcrop complex, 35 to 90 percent slopes, rubbly which is not considered a hydric soil. Refusal was met at the surface due to bedrock and gravel on the steep rocky slope. Due to the steep slope and rocky substrate hydric soil is not present. This data point did not meet the requirement for hydrophytic vegetation, hydrology, or hydric soils; therefore, this data point is not within a wetland.

**Negative Point 14 (Neg14)**

Negative Point 14 represents conditions in a mapped PFO1A NWI feature in a wooded area east of Buck Creek and 0.03 mile south of Melview Road (Pages A191-194; Photograph 135, Page A75). This area was investigated due to a mapped NWI feature. No woody/vine or herbaceous stratum were identified in the plot area. The dominant species within the tree stratum are American Beech (*Fagus grandifolia*, FACU), and White Oak (*Quercus alba*, FACU). The dominant species within the sapling/shrub stratum are Pawpaw (*Asimina triloba*, FAC) and green ash (*Fraxinus pennsylvanica*, FACW). Hydrophytic vegetation is present since the vegetation passes the dominance test. No primary or secondary indicators of wetland hydrology were observed; therefore, no wetland hydrology is present. The USDA NRCS web soil survey indicates that this data point is within the Haymond silt loam which is not considered a hydric soil. The soil profile consists of 10 YR 3/4 (100%) clayey silt from 0 to 8 inches and 10 YR 5/6 (100%) clayey silt from 8 to 16 inches. No hydric soil indicators were observed. This data did not meet the requirements for hydrology or hydric soils; therefore, this data point is not within a wetland.

**Data Point Summary Table  
 SR 11 Extension, Harrison County, Indiana**

Data Point	Vegetation	Soils	Hydrology	Wetland
AW1	Yes	Yes*	Yes	Yes
AU1	No	No	No	No
BW1	Yes	Yes	Yes	Yes
BU1	No	No	No	No
CW1	Yes	Yes	Yes	Yes
CU1	Yes	No	No	No
DW1	Yes	Yes*	Yes	Yes
DU1	No	No	No	No
EW1	Yes	Yes	Yes	Yes
EU1	No	No	No	No
FW1	Yes	Yes***	Yes	Yes
FU1	No	No	No	No



GW1	Yes	Yes*	Yes	Yes
GU1	Yes	No	No	No
HW1	Yes	Yes*	Yes	Yes
HU1	Yes	No	No	No
Neg1	No	No	No	No
Neg2	No	No	No	No
Neg3	No	No	Yes	No
Neg4	No	No	No	No
Neg5	Yes	No	Yes	No**
Neg6	No	No	Yes	No**
Neg7	No	No	No	No
Neg8	No	No	No	No
Neg9	No	No	No	No
Neg10	Yes	No	No	No
Neg11	No	No	No	No
Neg12	No	No	No	No
Neg13	No	No	No	No
Neg14	Yes	No	No	No

\*Karst sinkhole/seasonally ponded wetland, \*\*Actively farmed field, \*\*\*Problematic soils, recently ponded

**Wetland Summary Table**  
**SR 11 Extension, Harrison County, Indiana**

Wetland Name	Photo(s)	Lat/Long	Type	Total Area (acres)	Quality	Likely Waters of U.S.?
Wetland A	22	38.0841734/ -86.139665	PEM1C	0.01	Average	No
Wetland B	81	38.081426/ -86.103732	PEM1C	0.06	Poor	No
Wetland C	82	38.082645/ -86.102926	PAB3G	0.8	Excellent	No
Wetland D	87	38.086873/ -86.102808	PEM1B	0.09	Poor	No
Wetland E	27, 28	38.083640/ -86.127870	PEM1C	0.56	Average	No
Wetland F	110-112	38.086717/ -86.087442	R4US5	0.05	Average	Yes
Wetland G	133	38.087095/ -86.095869	PEM1C	0.41	Poor	No
Wetland H	132	38.080248/ -86.075818	PUBG	0.06	Poor	No

**Open Water**

There are eight open water features (Open Water 1 through 8) identified within the survey area.



#### Open Water 1

This 1.41 acre feature within the survey area is situated west of Buck Creek and 55 ft north of Watson Road. The Open Water feature has developed within a sinkhole depression. The dominant herbaceous vegetation around the open water feature is roadside grass consisting of tall fescue (*Schedonorus arundinaceus*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 1 does not have clear connection to other surface water bodies and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom, permanently flooded (PUB3H). Photos 19 and 20 (Page A56) indicate conditions around the feature.

#### Open Water 2

This is 0.11 acre manmade feature within the survey area is situated 930 feet west of Buck Creek and 185 feet north of UNT 1 to Buck Creek. The open water feature collects water from upland areas west of the feature behind a retention berm and prevents concentrated flow from crossing an open grassy field to the east. The feature is within a forested area. Dominant vegetation in the tree stratum around the Open Water 2 consists of red bud (*Cercis canadensis*, FACU), tulip poplar (*Liriodendron tulipifera*, FACU), sycamore (*Platanus occidentalis*, FACW), and eastern red cedar (*Juniperus virginiana*, FACU). The dominant vegetation in the shrub stratum consists of autumn olive (*Elaeagnus umbellata*, UPL). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 2 does not have clear connection a TNW and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom and permanently flooded (PUBHh). Photo 43 (Page A60) indicates conditions around the feature.

#### Open Water 3

This is 0.04 acre manmade feature within the survey area is situated 600 feet west of Buck Creek and 630 feet north of Union Chapel Road. The open water feature collects water from upland areas west of the feature behind a retention berm and prevents concentrated flow from crossing an agricultural field to the east. The feature is within a forested area. Dominant vegetation in the tree stratum around the Open Water 3 consists of flowering dogwood (*Cornus florida*, FACU), sycamore (*Platanus occidentalis*, FACW), and eastern red cedar (*Juniperus virginiana*, FACU). The dominant vegetation in the shrub stratum consists of autumn olive (*Elaeagnus umbellata*, FACU) and multiflora Rose (*Rosa multiflora*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 3 does not have clear connection a TNW and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom and permanently flooded (PUBHh). Photo 42 (Page 59) indicates conditions around the feature.

#### Open Water 4

This 0.26 acre manmade feature within the survey area is situated 335 feet west of UNT 10 to Buck Creek. The open water feature is situated within a field and is surrounded by trees and saplings. The dominant vegetation in the tree stratum around Open Water 4 consists of eastern red cedar (*Juniperus virginiana*, FACU), tulip poplar (*Liriodendron tulipifera*, FACU), black cherry (*Prunus serotina*, FACU). The

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dominant vegetation in the shrub stratum is Japanese honeysuckle (*Lonicera japonica*, FACU). The dominant herbaceous vegetation is little bluestem (*Schizachyrium scoparium*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 4 does not have clear connection to a TNW and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom and permanently flooded (PUBH). Photos 92-93 (Page A68) indicate conditions around the feature.

#### Open Water 5

This 0.16 acre feature within the survey area is situated 185 feet south of Watson Road and west of Buck Creek. The open water feature has developed within a sinkhole depression. The open water feature is situated within a pasture and is surrounded by trees. The dominant vegetation in the tree stratum around Open Water 5 consists of eastern red cedar (*Juniperus virginiana*, FACU), and black walnut (*Juglans nigra*, FACU). The dominant vegetation in the shrub stratum consisted of Japanese honeysuckle (*Lonicera japonica*, FACU), and multiflora rose (*Rosa multiflora*, FACU). The dominant herbaceous vegetation is red clover (*Trifolium pratense*, FACU), and orchard grass (*Dactylis glomerata*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 5 does not have clear connection to a TNW and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom and permanently flooded (PUBH). Photos 25 and 26 (Page A57) indicate conditions around the feature.

#### Open Water 6

This 0.16 acre manmade feature is situated on the north edge of the survey area, east of Buck Creek, and west of UNT 10 to Buck Creek. The open water feature is situated within a field and is surrounded by shrubs and grass. The dominant vegetation within the shrub stratum around Open Water 6 is multiflora rose (*Rosa multiflora*, FACU). The dominant herbaceous vegetation is orchard grass (*Dactylis glomerata*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 6 does not have clear connection to a TNW and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom and permanently flooded (PUBH). Photos 88 and 89 (Page A67) indicate conditions around the feature.

#### Open Water 7

This 0.79 acre manmade feature is located east of Buck Creek and northwest of Melview Rd. The open water feature is located behind a homestead, bordered on the north side by trees and on the south by a yard, and is approximately 80 feet south of UNT 10 to Buck Creek. The dominant vegetation within the tree stratum is black walnut (*Juglans nigra*, FACU), and green ash (*Fraxinus pennsylvanica*, FACW). The dominant species in the shrub stratum is multiflora rose (*Rosa multiflora*, FACU). The dominant herbaceous vegetation is tall false rye grass (*Schedonorus arundinaceus*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 7 does not have clear connection to a TNW and therefore is not considered a jurisdictional feature. As defined by Cowardin *et al.* (1979), this open water feature would be classified



as palustrine, unconsolidated bottom and permanently flooded (PUBH). Photo 104 (Page A70) indicates conditions around the feature.

**Open Water 8**

This 0.8 acre manmade feature is situated east of Buck Creek and north of SR 11. The open water feature is bordered by grass and trees. The dominant vegetation within the tree stratum is red cedar (*Juniperus virginiana*, FACU). The dominant herbaceous vegetation is tall false rye grass (*Schedonorus arundinaceus*, FACU). A wetland fringe was not identified during the field reconnaissance; therefore, wetland data points were not taken for this feature. Open Water 8 does not have clear connection to a TNW and therefore is not considered a jurisdictional feature. As defined by *Cowardin et al.* (1979), this open water feature would be classified as palustrine, unconsolidated bottom and permanently flooded (PUBH). Photo 131 (Page A74) indicates conditions around the feature.

**Open Water Summary Table  
SR 11 Extension, Harrison County, Indiana**

Open Water Name	Photo(s)	Latitude/Longitude	Total Area (acres)	Likely Waters of U.S.?
Open Water 1	19-20	38.085538/-86.155701	1.41	No
Open Water 2	43	38.084750/-86.119814	0.11	No
Open Water 3	42	38.083540/-86.117723	0.04	No
Open Water 4	92-93	38.082434/-86.096343	0.26	No
Open Water 5	25-26	38.083677/-86.132495	0.16	No
Open Water 6	88-89	38.087183/-86.099095	0.62	No
Open Water 7	104	38.084863/ -86.089363	0.79	No
Open Water 8	131	38.083441/ 38.083441	0.80	No

**Roadside Ditch**

Sixteen roadside ditch (RSD) features within the survey area limits were evaluated and documented.

**RSD 1**

RSD 1 is a 658-foot-long concrete lined ditch along the west side of SR 135 that receives drainage from the slope adjacent to and facing SR 135 and drains south toward a culvert beneath SR 135. Photo 5 (Page A53) indicates conditions along RSD 1. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 1 is not considered a jurisdictional feature.

**RSD 2**

RSD 2 is a 682-foot-long concrete lined ditch along the west side of SR 135 that receives drainage from the roadway and drains south toward a culvert beneath SR 135. Photos 3 and 4 (Page A53) indicate conditions along RSD 2. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 2 is not considered a jurisdictional feature.

**RSD 3**

RSD 3 is a 755-foot-long concrete lined ditch along the east side of SR 135 that receives drainage from the roadway and drains south toward a culvert beneath Central Dr where the water sinks into the



ground. Photos 1 and 2 (Page A53) indicate conditions along RSD 3. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 3 is not considered a jurisdictional feature.

#### RSD 4

RSD 4 is a 260-foot-long concrete lined ditch along the west side of Central Dr that receives drainage from the roadway and drains south toward a culvert beneath Central Dr after which the water sinks into the ground. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 4 is not considered a jurisdictional feature.

#### RSD 5

RSD 5 is a 224-foot-long concrete lined ditch along the west side of SR 135 that receives drainage from the roadway and drains north toward a culvert beneath SR 135. Photo 6 (Page A53) indicates conditions along RSD5. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD5 is not considered a jurisdictional feature.

#### RSD 6

RSD 6 is an 838-foot long grass and concrete lined ditch along the west side of SR 135 that receives drainage from the roadway and drains north toward a culvert beneath SR 135. Photo 9 (Page A54) indicates conditions along RSD6. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 6 is not considered a jurisdictional feature.

#### RSD 7

RSD 7 is a 833-foot long concrete lined ditch along the east side of SR 135 that receives drainage from the roadway and drains southwest toward a culvert beneath SR 135 and to a sinkhole. Photo 10 (Page A54) indicates conditions along RSD 7. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 7 is not considered a jurisdictional feature.

#### RSD 8

RSD 8 is a 1,400-foot-long grass and concrete lined ditch along the west side of SR 135 that receives drainage from the roadway and drains southwest. Photos 11 and 14 (Page A54-A55) indicate conditions along RSD8. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 8 is not considered a jurisdictional feature.

#### RSD 9

RSD 9 is a 1,139-foot-long grass lined ditch along the east side of SR 135 that receives drainage from the roadway and drains southwest. Photos 12 and 13 (Page A54-A55) indicate conditions along RSD 9. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 9 is not considered a jurisdictional feature.

#### RSD 10

RSD 10 is a 202-foot-long grass lined ditch along the east sided of SR 135 that receives drainage from the roadway and drains southwest. Photo 15 (Page A55) indicates conditions along RSD10. The roadside



ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 10 is not considered a jurisdictional feature.

#### RSD 11

RSD 11 is a 83-foot long grass lined ditch along the south side of Union Chapel Road that receives drainage from the roadway and tree covered embankment to the south which drains north to UNT 11 to Buck Creek and to Buck Creek. Photo 36 and 37 (Page A58-A59) indicate conditions along RSD 11. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 11 is not considered a jurisdictional feature.

#### RSD 12

RSD 12 is a 57-foot long grass lined ditch along the south side of Union Chapel Road that receives drainage from the roadway and grass field to the south which drains to UNT 12 and to Buck Creek. Photo 34 (Page A58) indicates conditions along RSD 12. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 12 is not considered a jurisdictional feature.

#### RSD 13

RSD 13 is a 332-foot-long riprap lined ditch along the east side of Melview Rd that receives drainage from the roadway and drains south. Photo 106 (Page A70) indicated conditions along RSD 13. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 13 is not considered a jurisdictional feature.

#### RSD 14

RSD 14 is a 454-foot-long grass lined ditch along the east side of SR 11 that receives drainage from the roadway and drains southwest. Photo 126 (Page A73) indicated conditions along RSD 14. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 14 is not considered a jurisdictional feature.

#### RSD 15

RSD 15 is a 142-foot-long grass lined ditch along the east side of SR 11 that receives drainage from the roadway and drains north to a culvert under SR 11. Photo 127 (Page A74) indicates conditions along RSD 15. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 15 is not considered a jurisdictional feature.

#### RSD 16

RSD 16 is a 282-foot-long grass lined ditch along the east side of SR 11 that receives drainage from the roadway and drains south. Photo 128 (Page A74) indicates conditions along RSD16. The roadside ditch does not exhibit bed and bank and is not a realigned segment of a natural stream. RSD 16 is not considered a jurisdictional feature.

### **Conclusions**

The Waters of the U.S. investigation conducted for the SR 11 Extension Project concludes that there are twelve stream features (Buck Creek and UNT 1 to Buck Creek through UNT 11 to Buck Creek), eight

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wetland features (Wetland A through H), eight open water features (Open Water 1 through 8), and sixteen roadside ditches (RSD 1 through RSD 16) within the survey area. Portions of the site are within the IDNR floodway for Buck Creek. Buck Creek, UNT 1 to Buck Creek, UNT 2 to Buck Creek, UNT 3 to Buck Creek, UNT 4 to Buck Creek, UNT 5 to Buck Creek, UNT 6 to Buck Creek, UNT 7 to Buck Creek, UNT 8 to Buck Creek, UNT 9 to Buck Creek, UNT 10 to Buck Creek, and UNT 11 to Buck Creek are likely to be considered under USACE jurisdiction per Section 404 of the Clean Water Act. Wetland F is adjacent to UNT 10 to Buck Creek and therefore is likely to be considered under USACE jurisdiction per Section 404 of the Clean Waters Act. Wetland A, B, C, D, E, G, and H are isolated wetlands and not subject to USACE jurisdiction under Section 404 of the Clean Water Act. There are no water resources under USACE jurisdiction per Section 10 of the Rivers and Harbors Act within the survey area. RSD 1 through RSD 16 do not have bed and bank and are not realigned portions of natural streams and therefore are not considered jurisdictional features.

These waterways are likely Waters of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway and wetlands. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers. This report is our best judgement based on the guidelines set forth by the Corps.

Bat inspections for twenty-four culverts throughout the survey area were performed on April 22, 2021 and no evidence of bats was identified within any of the culverts.

#### **Acknowledgement**

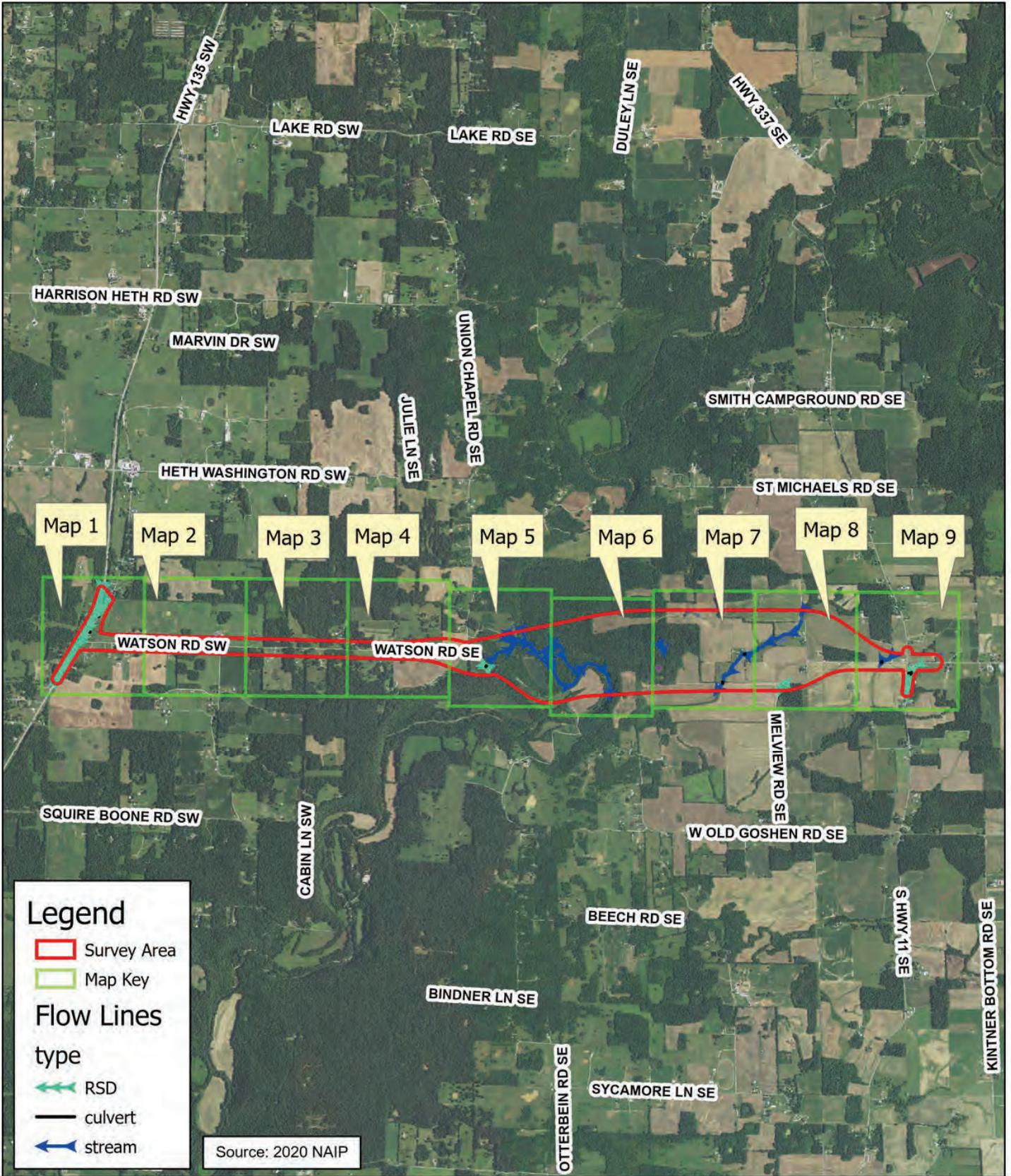
This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience and professional judgement in conformance with the *1987 Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement, the USACE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

Peter Putzier

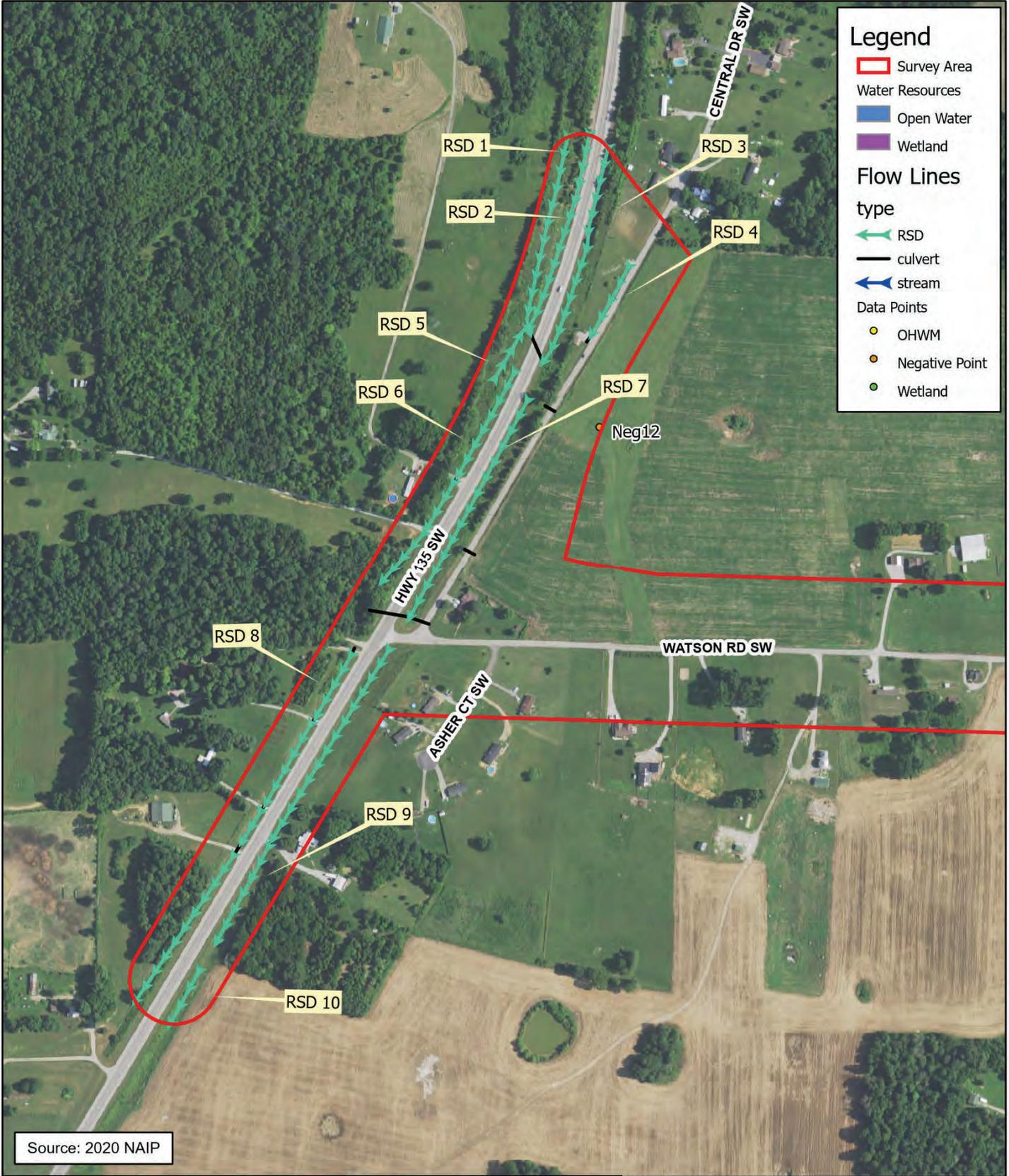


Environmental Specialist  
Lochmueller Group, Inc.  
January 27, 2022





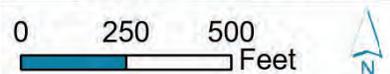
 6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411	<b>Water Resource and Photo Map Key</b> Des. No. 2001154 Waters of the U.S. Report	County: Harrison Township: Heth & Boone State: Indiana
	0 0.5 1 Miles	

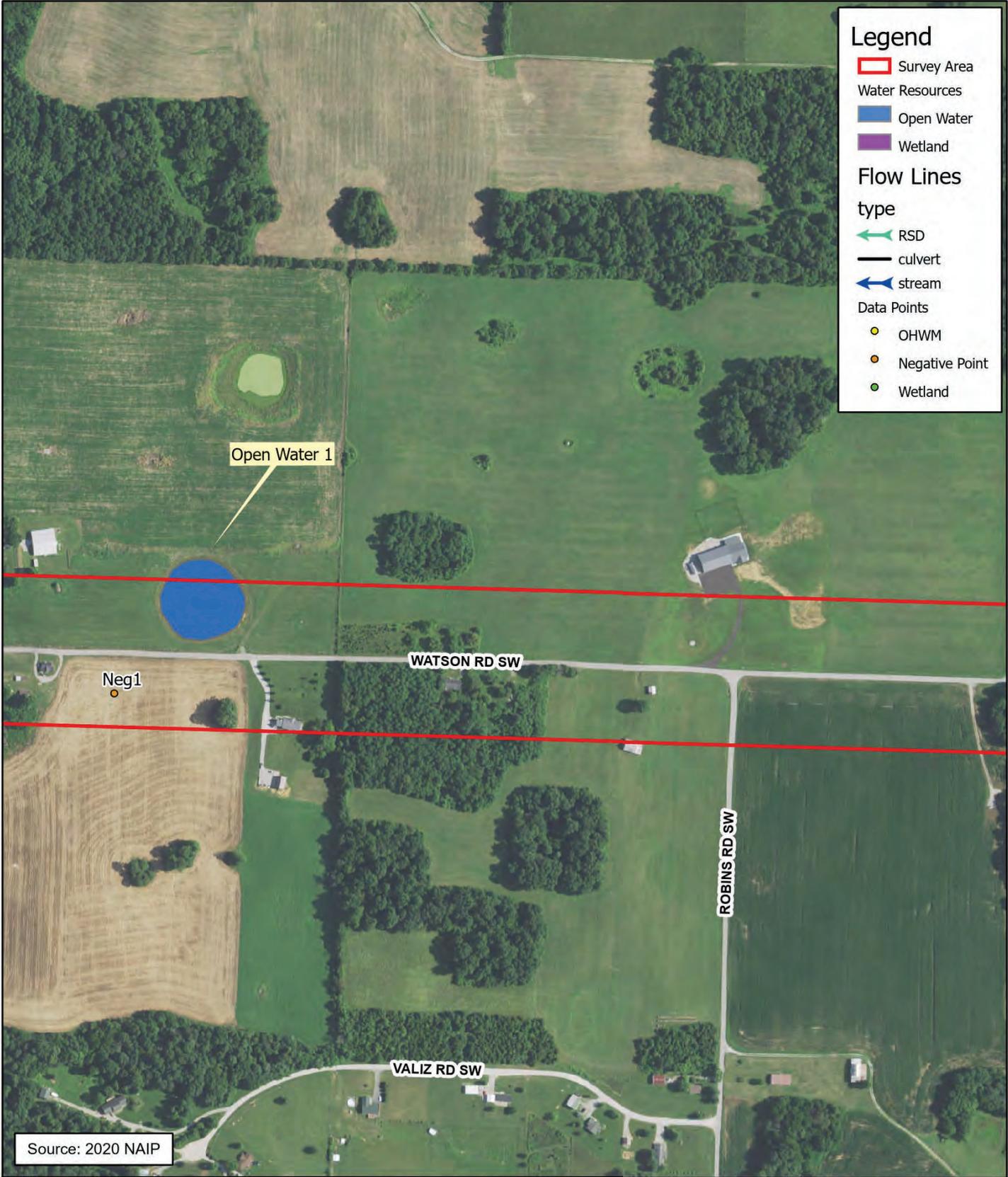


**Legend**

- Survey Area
- Water Resources
  - Open Water
  - Wetland
- Flow Lines
  - RSD
  - culvert
  - stream
- Data Points
  - OHWM
  - Negative Point
  - Wetland

Source: 2020 NAIP

 <p>6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411</p>	<p><b>Water Resource Map 1</b> Des. No. 2001154 Waters of the U.S. Report</p>	<p>County: Harrison Township: Heth &amp; Boone State: Indiana</p>
<p>0      250      500 Feet</p> 		<p>SR 11 Extension New Roadway Construction Project Created: 1/14/2022, P.Putzier</p>



**Legend**

Survey Area

Water Resources

Open Water

Wetland

Flow Lines

type

← RSD

— culvert

← stream

Data Points

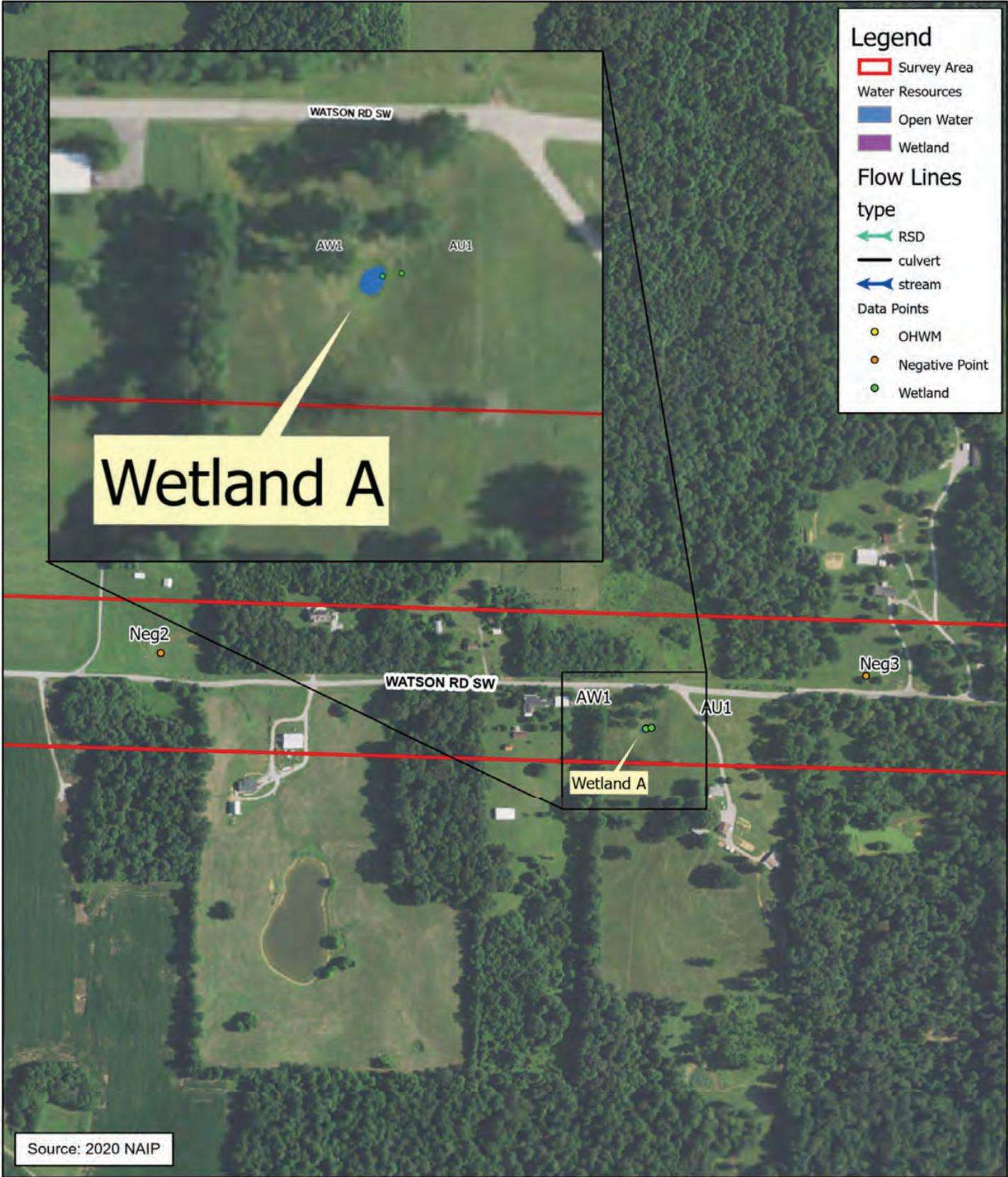
● OHWM

● Negative Point

● Wetland

Source: 2020 NAIP

 6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411	<b>Water Resource Map 2</b> Des. No. 2001154 Waters of the U.S. Report	County: Harrison Township: Heth & Boone State: Indiana
	0    250    500 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black;"></span> Feet	



**Legend**

Survey Area

Water Resources

Open Water

Wetland

Flow Lines

type

RSD

culvert

stream

Data Points

OHWM

Negative Point

Wetland

**Wetland A**

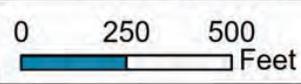
Wetland A

Source: 2020 NAIP



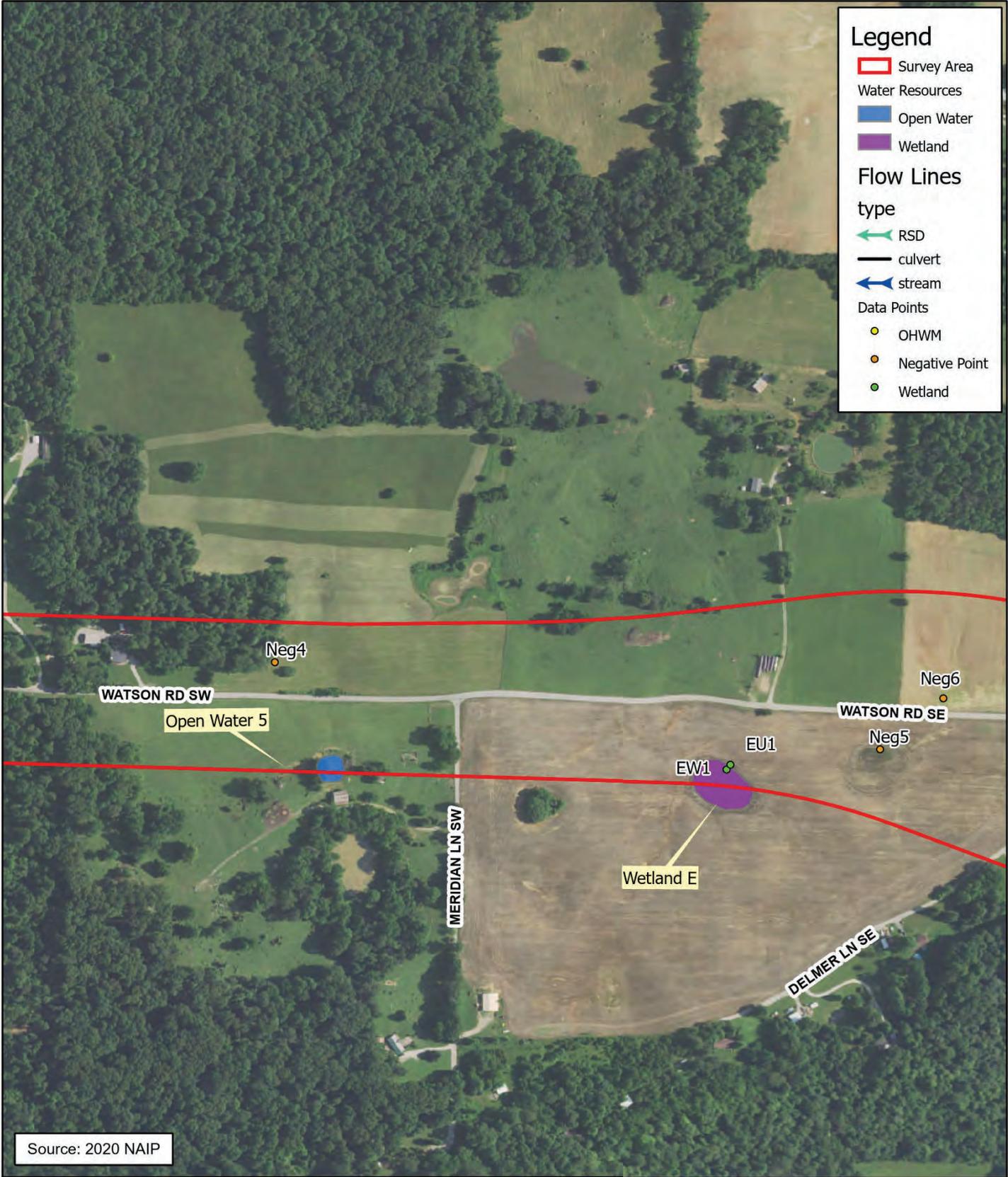
6200 Vogel Road  
 Evansville IN, 47715  
 Phone: (812) 479-6200  
 Toll Free: (800) 423-7411

**Water Resource Map 3**  
 Des. No. 2001154  
 Waters of the U.S. Report



County: Harrison  
 Township: Heth & Boone  
 State: Indiana

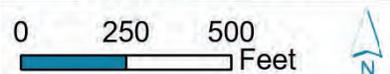
SR 11 Extension  
 New Roadway Construction Project  
 Created: 1/14/2022, P.Putzier

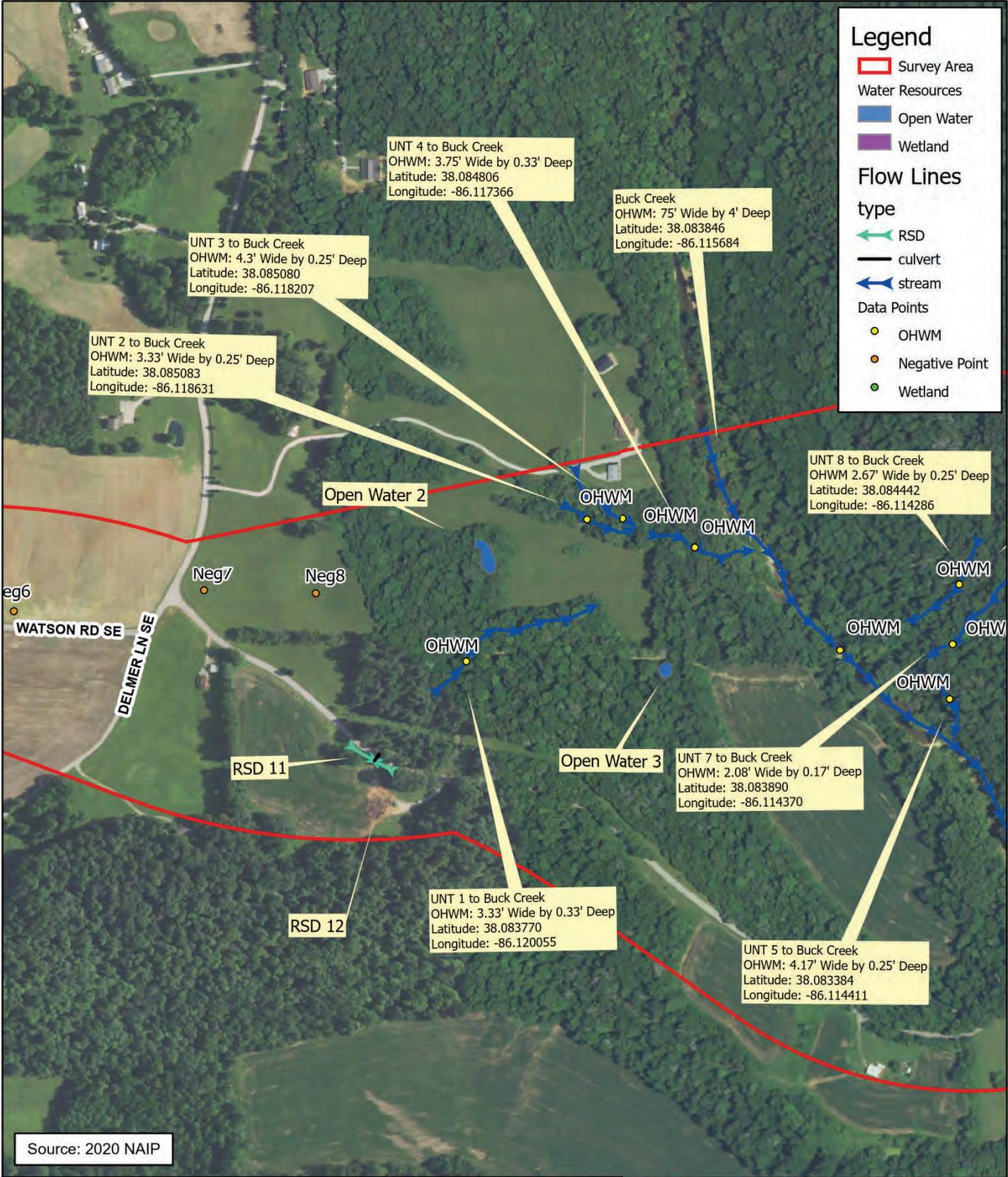


**Legend**

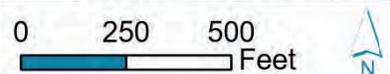
- Survey Area
- Water Resources
- Open Water
- Wetland
- Flow Lines
- type
- ← RSD
- culvert
- ← stream
- Data Points
- OHWM
- Negative Point
- Wetland

Source: 2020 NAIP

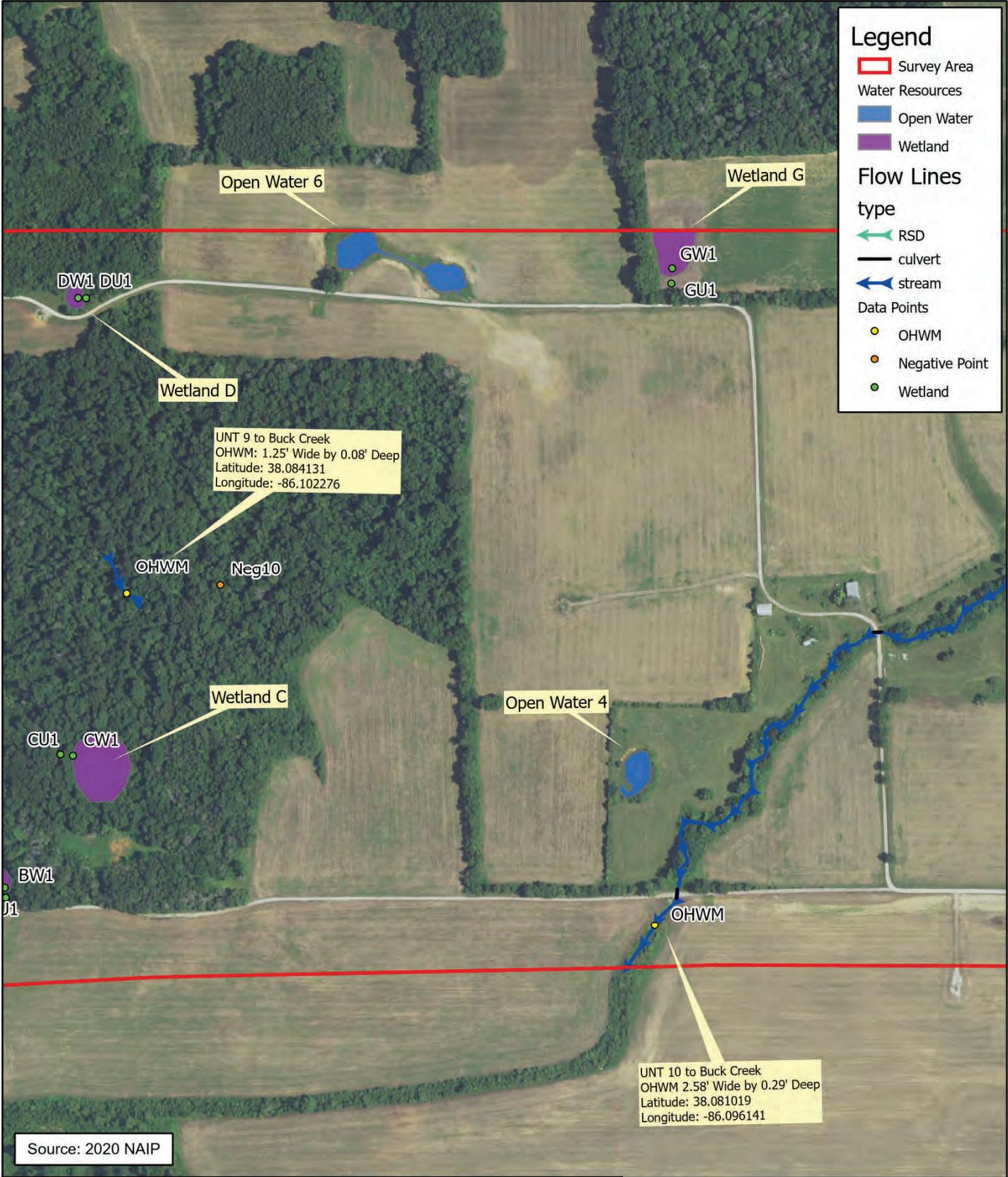
 <p>6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411</p>	<p><b>Water Resource Map 4</b> Des. No. 2001154 Waters of the U.S. Report</p>	<p>County: Harrison Township: Heth &amp; Boone State: Indiana</p>
	<p>0 250 500 Feet</p> 	<p>SR 11 Extension New Roadway Construction Project Created: 1/14/2022, P.Putzier</p>



Source: 2020 NAIP

 <p>6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411</p>	<p><b>Water Resource Map 5</b> Des. No. 2001154 Waters of the U.S. Report</p>	<p>County: Harrison Township: Heth &amp; Boone State: Indiana</p>
	<p>0 250 500 Feet</p> 	<p>SR 11 Extension New Roadway Construction Project Created: 1/14/2022, P.Putzier</p>





Source: 2020 NAIP

<p>6200 Vogel Road          Evansville IN, 47715          Phone: (812) 479-6200          Toll Free: (800) 423-7411</p>	<p><b>Water Resource Map 7</b>          Des. No. 2001154          Waters of the U.S. Report</p>	<p>County: Harrison          Township: Heth &amp; Boone          State: Indiana</p>
	<p>0 250 500 Feet</p>	<p>SR 11 Extension          New Roadway Construction Project          Created: 1/14/2022, P.Putzier</p>



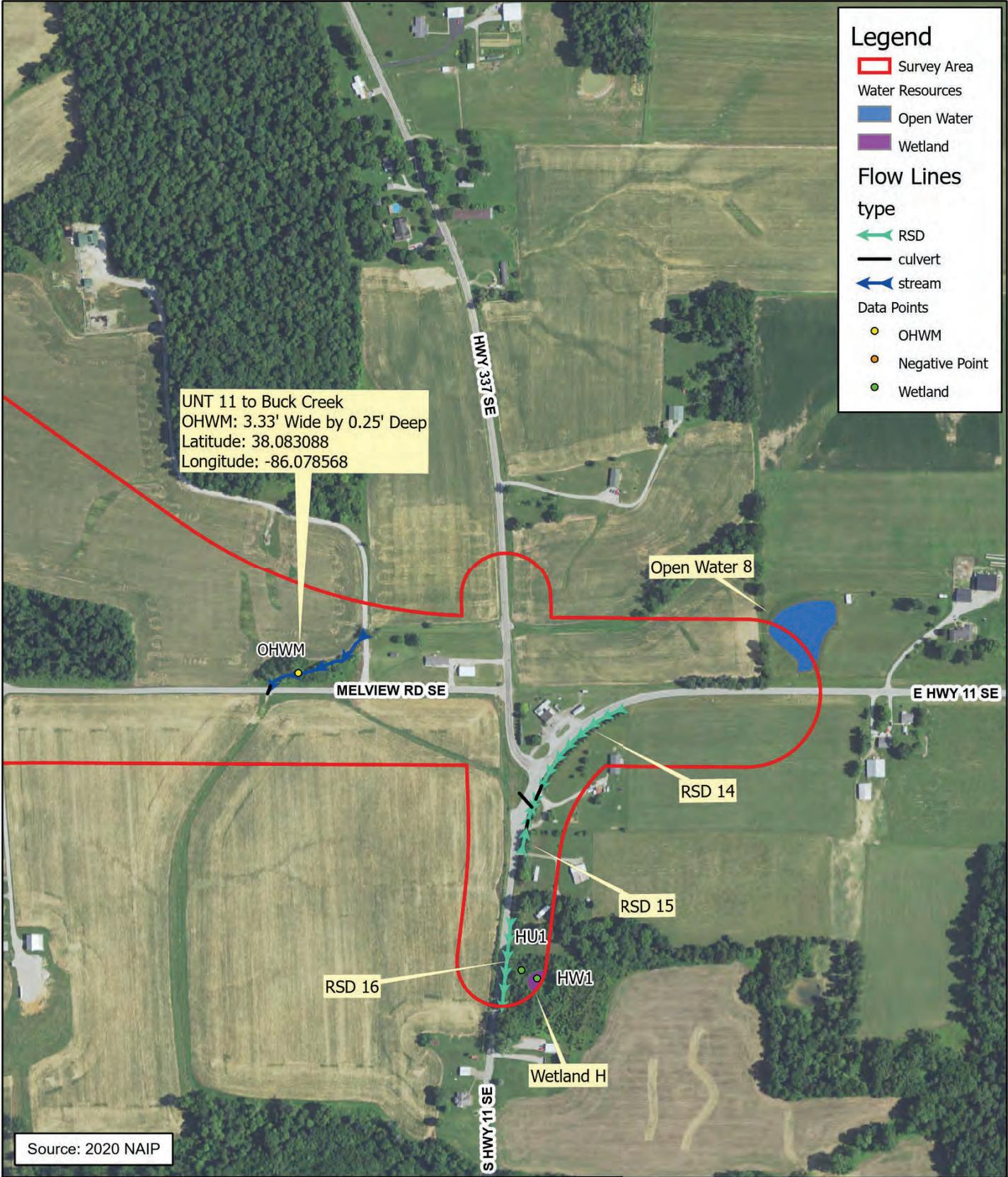
**Legend**

- Survey Area
- Water Resources**
- Open Water
- Wetland
- Flow Lines**
- type**
- RSD
- culvert
- stream
- Data Points**
- OHWM
- Negative Point
- Wetland

UNT 10 to Buck Creek  
OHWM 2.58' Wide by 0.29' Deep  
Latitude: 38.081019  
Longitude: -86.096141

Source: 2020 NAIP

 6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411	<b>Water Resource Map 8</b> Des. No. 2001154 Waters of the U.S. Report	County: Harrison Township: Heth & Boone State: Indiana
	0    250    500 <span style="display: inline-block; width: 100px; height: 10px; background: linear-gradient(to right, blue, white); border: 1px solid black;"></span> Feet	



<p>6200 Vogel Road Evansville IN, 47715 Phone: (812) 479-6200 Toll Free: (800) 423-7411</p>	<p><b>Water Resource Map 9</b> Des. No. 2001154 Waters of the U.S. Report</p>	<p>County: Harrison Township: Heth &amp; Boone State: Indiana</p>
	<p>0 250 500 Feet</p>	<p>SR 11 Extension New Roadway Construction Project Created: 1/14/2022, P. Putzier</p>