FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	United States (US) Route 50 / Ripley County
Designation Number(s):	2100026
Project Description/Termini:	US 50/Old Michigan Road Intersection Improvements. On US 50, from a point approximately 475 feet west of the intersection to a point approximately 400 feet east of the intersection. On Old Michigan Road, from a point approximately 148 feet south of the intersection to a point approximately 145 feet north of the intersection.

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

Approval

INDOT DE Signature and Date

INDOT ESD Signature and Date

FHWA Signature and Date

Release for Public Involvement

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INDOT DE Initials and Date

INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date:

Name and Organization of CE/EA Preparer: Jason A. Stone / DLZ Indiana, LLC

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

Part I – Public Involvement

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

	Yes	No
Does the project have a historic bridge processed under the Historic Bridges PA*?		x
If No, then:		
Opportunity for a Public Hearing Required?	x	

**A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.*

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Notice of Entry letters were mailed to potentially affected property owners near the project area on January 27, 2023 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 F, page 1.

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

Public Controversy on Environmental Grounds

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

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

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

Sponsor of the Project: INDOT INDOT District: Seymour

Local Name of the Facility: US 50

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

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

PURPOSE AND NEED:

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

Need:
Within a 5-year period between April 2016 and January 2020, 14 crashes were reported within the US 50/Old Michigan Road intersection. One crash in 2019 resulted in two fatalities. Of the five crashes that resulted in injuries, one was reported as having

incapacitating injuries. The severe crashes were right angle crashes (Appendix H, page 11), which is indicative of conflicts between through vehicles and turning vehicles.

According to INDOT's Road Hazard Assessment Tool (RoadHAT) Crash Data Report, analysis of data from 2016 through 2018 determined an Index of Crash Frequency (ICF) of 2.31 and an Index of Crash Cost (ICC) of 1.96. Analysis of data from 2017 through 2019 determined an ICF of 2.49 and an ICC of 1.49 (Appendix H, page 13). ICF and ICC values greater than zero indicate there is higher than predicted crash volume and severity.

Purpose:
The purpose of this project is to reduce the frequency and severity of crashes at this intersection.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Ripley Municipality: N/A

Limits of Proposed Work:

On US 50, from a point approximately 75 feet west of the intersection, to a point approximately 100 feet east of the intersection. On Old Michigan Road, from a point approximately 148 feet south of the intersection, to a point approximately 145 feet north of the intersection.

Note that the limits stated above include incidental construction but do not include the limits of right of way acquisition.

Total Work Length: 1,168 feet (0.22 mile)* Mile(s) Total Work Area: 0.44 Acre(s)

*Total project length, including limits of right of way acquisition.

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

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

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

The Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) intend to proceed with a project involving safety enhancements at the intersection of US 50 with Old Michigan Road in Ripley County.

Location:
This project is located in Sections 1,12, 6 and 7, Township 7N, Range 10E and Range 11E, Otter Township, Ripley County, Indiana. The project is located at the intersection of US 50 with Old Michigan Road, approximately two miles east of the Town of Holton and one mile south of Town of Dabney, Indiana. Location maps are presented as Appendix B, pages 1 - 3. This project, including the limits of right of way acquisition, will extend approximately 475 feet east and west of the intersection along US 50, and approximately 148 feet south and 145 feet north of the intersection along Old Michigan Road (Appendix H, page 19). This results in a project length of approximately is approximately 1,243 feet.

Existing Conditions:
Within the project area, US 50 is functionally classified as a principal arterial roadway. US 50 is included on the National Truck Network and is a National Highway System (NHS) route. The posted speed limit is 55 miles per hour (mph) with one 12-foot lane in each direction and a 3-foot outside shoulder on each side (Appendix H, page 5).

Within the project area, Old Michigan Road is functionally classified as a minor collector roadway south of US 50, and a major collector roadway north of US 50. The posted speed limit through the project area is 45 mph. The north and south legs of Old

Michigan Road are stop-controlled. This roadway provides one 10-foot lane in each direction and a 1-foot outside shoulder on each side(Appendix H, page 6). US 50 traffic is free flowing. No signal equipment is present.

The project is located in a rural setting with agricultural and residential land uses in the southern quadrants, a church in the northwest quadrant and a business in the northeast quadrant (Appendix H, page 6). There is an existing corrugated metal pipe (CMP) that crosses Old Michigan Road approximately 40 feet south of the intersection. This pipe is used to convey flow from the ditches along the southeast quadrant of the intersection to the ditch in the southwest quadrant. This ditch conveys flow along the south side of US 50 to an existing pipe that flows south to north, approximately 1,700 feet west of the intersection and into an unnamed stream. Flow from the ditch along the north side of US 50 also flows into this unnamed stream (Appendix H, page 7). There is a driveway pipe culvert under the driveway for the business in the northeast quadrant. The pipe is mostly buried; however, it appears to be a 15-inch diameter CMP that is approximately 30 feet long.

An Indiana Historical Bureau Marker (ID #69.1949.1) and a Ripley County Historical Society Marker (O'Brien Corner) are both located in the southwest quadrant of the intersection of Old Michigan Road and US 50.

Preferred Alternative:
The preferred alternative provides safety enhancements while retaining the current intersection configuration. Proposed enhancements to the intersection include:

- Installation of advance intersection warning signage on US 50 and Old Michigan Road.
- Installation of oversize stop signs with retroreflective strips on sign posts.
- Installation of rumble strips on Old Michigan Road.
- Improved public road approaches.
- Raised pavement on the north leg of Old Michigan Road.

The existing traffic control will be perpetuated. Old Michigan Road will remain stop controlled, and US 50 will remain free flowing. These enhancements will alert drivers traveling on US 50 to the oncoming intersection and will increase their awareness of the potential for turning movements made by other vehicles. The preferred alternative also encourages drivers on Old Michigan Road to come to a complete stop at the intersection instead of "rolling" through the stop. Furthermore, the raised pavement on the north leg will improve the sight lines of drivers at the approach (Appendix H, pages 16 and 17). The CMP located approximately 40 feet south of the intersection will be replaced with an 18-inch diameter Type 1 circular pipe culvert that is 72 feet long, with two end sections. The CMP under the business driveway in the northeast quadrant will not be disturbed. Project plan sheets are presented as Appendix B, pages 7 – 14.

The Indiana Historical Bureau Marker and Ripley County Historical Society Marker (O'Brien Corner) will be removed, stored in a secure location, and reset in their previous locations (or in close proximity) (Appendix D, page 5).

The project will not result in impacts to wetlands or waterways; therefore, IDEM Section 401/USACE 404 permitting is not anticipated to be required. The project will result in impacts to terrestrial habitat adjacent to the roadway. The project requires acquisition of more than 0.5 acre of new right of way (permanent and temporary combined). Maintenance of traffic for the project will require US 50 to remain open during construction. Efforts to avoid, minimize, and/or mitigate project impacts, such as limiting the project's construction footprint to the degree practicable, have been made.

The preferred alternative will satisfy the purpose and need of reducing the frequency and severity of crashes at this intersection by providing advance intersection warning signage, oversize stop signs with retroreflective strips, rumble strips on Old Michigan Road, and improved Old Michigan Road approaches, which is predicted to reduce the total crashes at the intersection by 33%.

Logical Termini/Independent Utility:
On US 50, roadway approach work (including incidental construction) at a point approximately 75 feet west of the intersection and ends at a point approximately 100 feet east of the intersection. The Old Michigan Road termini are approximately 148 feet south of US 50 and approximately 145 feet north of US 50. The termini are logical as they encompass the minimum roadway approach distance needed to provide the desired approach configuration and improved intersection geometry. The project does not rely on construction of any other project to satisfy its purpose and need; therefore, it has independent utility.

OTHER ALTERNATIVES CONSIDERED:

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

Do Nothing Alternative:
The Do Nothing Alternative was considered. Under this alternative, no costs would be incurred and there would be no resulting impacts to environmental resources; however, this alternative was discarded as it would not meet the project purpose and need of reducing the frequency and severity of crashes at this intersection. Therefore, this alternative was discarded from further consideration.

Four-Way Stop Intersection
This alternative would convert the existing two-way stop-controlled intersection to a four-way stop-controlled intersection with exclusive left-turn lanes on US 50. In order to construct the additional pavement for the new turn lanes, US 50 would be widened 12 feet along the north side of the road to avoid the cemetery and existing utilities to the south. The new lane configuration for the eastbound and westbound approaches of US 50 would consist of a 12-foot through lane in each direction and a 12-foot left turn lane. Standard public road approaches would be constructed for Old Michigan Road.

This alternative would enhance the safety of the intersection by decreasing the likelihood of right-angle crashes but would also decrease the overall capacity and level of service at the US 50 approaches. This alternative would require approximately 5.53 acres of permanent right of way. This alternative would result in substantially increased costs and increased environmental resource impacts as compared to the preferred alternative.

Although this alternative would satisfy the purpose and need of the project conceptually, the intersection would not maintain continuity with the remainder of US 50. As such, drivers travelling along the high-speed corridor would not anticipate the need to come to a complete stop at the intersection. This will likely cause an increase rear-end crashes on US 50. For these reasons, this alternative was discarded from further consideration.

Signalized Intersection
This alternative would convert the two-way stop-controlled intersection to a signalized intersection with exclusive left-turn lanes on US 50. In order to construct the additional pavement for the new turn lanes, US 50 would be widened 12 feet along the north side of the road to avoid the cemetery and existing utilities to the south. The new lane configuration for the eastbound and westbound approaches of US 50 would consist of a 12-foot through lane in each direction and a 12-foot left turn lane. Standard public road approaches would be constructed for Old Michigan Road.

This alternative would enhance the safety of the intersection by decreasing the likelihood of right-angle crashes but decrease the overall capacity and level of service at the intersection. This alternative would require approximately 5.53 acres of permanent right of way. This alternative would result in substantially increased costs and increased environmental resource impacts as compared to the preferred alternative.

Although this alternative would satisfy the purpose and need of the project conceptually, the intersection would not maintain continuity with the remainder of US 50. As such, drivers travelling along the high-speed corridor would not anticipate the need to come to a complete stop at the intersection. This will likely cause an increase rear-end crashes on US 50. For these reasons, this alternative was discarded from further consideration.

High Speed Roundabout
This alternative would convert the two-way stop-controlled intersection to a single-lane high-speed roundabout. This alternative would require the westbound leg of US 50 to be shifted to the south to maintain acceptable entry angles. Construction of a conventional high-speed roundabout would restrict access to the church in the northwest quadrant and the water utility office in the northeast quadrant. To maintain full access for these parcels, a new drive would need to be constructed for the church that is opposite the northern access point for the water utility, which is approximately 75 feet north of the existing drive. A depressed median on the north approach leg would also be necessary to allow full vehicle access to these parcels. This alternative would require approximately 7.64 acres of permanent right of way. This alternative would result in substantially increased costs and increased environmental resource impacts as compared to the preferred alternative.

Although this alternative would satisfy the purpose and need of the project, the intersection does not maintain continuity with the remainder of US 50. As such, drivers travelling along the high-speed corridor would not anticipate the need to come to a complete stop at the intersection. In addition, utility conflicts that would require relocation are likely. For these reasons, this alternative was

discarded from further consideration.

Offset-T Intersection
This alternative would convert the two-way stop-controlled intersection to an offset-T intersection with the north leg of Old Michigan Road relocated approximately 500 feet to the east on US 50. The north leg of the intersection would be relocated to the northeast quadrant of the existing intersection. The lane configuration of the relocated north leg of Old Michigan Road would consist of one 10-foot travel lane in each direction, a 4-foot paved shoulder in each direction, and a standard public road approach at the intersection of US 50. An additional access road and a cul-de-sac would be constructed to connect the existing church, residences, and businesses to the relocated roadway. Improvements would also be made to the south leg (northbound approach) of Old Michigan Road, including updating the approach to a standard public road approach and installation of appropriate signs to provide proper guidance along the route. Mainline pavement treatment would not be needed for this alternative.

This alternative would require approximately 5.30 acres of permanent right of way. This alternative would result in substantially increased costs and increased environmental resource impacts as compared to the preferred alternative. Although this alternative would provide significant safety enhancements for drivers along Old Michigan Road and would protect the free-flow nature of US 50, it is not recommended alternative due to the costs, resource and utility impacts, and impacted access to adjacent properties. For these reasons, this alternative was discarded from further consideration.

The No Build Alternative is not feasible, prudent or practicable because (*Mark all that apply*)

It would not correct existing capacity deficiencies;	
It would not correct existing safety hazards;	x
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): It would not satisfy the project's purpose and need.	x

ROADWAY CHARACTER:

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

Name of Roadway	US 50				
Functional Classification:	Principal Arterial				
Current ADT:	4,041	VPD (2026)	Design Year ADT:	4,356	VPD (2046)
Design Hour Volume (DHV):	436	Truck Percentage (%)	24		
Designed Speed (mph):	55	Legal Speed (mph):	55		

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through Travel		Through Travel	
Pavement Width (lane)	12	ft.	12	ft.
Shoulder Width:	3	ft.	3	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Name of Roadway	Old Michigan Road				
Functional Classification:	Minor Collector				
Current ADT:	1,109	VPD (2026)	Design Year ADT:	1,196	VPD (2046)
Design Hour Volume (DHV):	120	Truck Percentage (%)	5		
Designed Speed (mph):	45	Legal Speed (mph):	45		

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	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through Travel		Through Travel	
Pavement Width (lane):	10	ft.	10	ft.
Shoulder Width:	1	ft.	1	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

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

BRIDGES AND/OR SMALL STRUCTURE(S):

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

Structure/NBI Number(s): N/A Sufficiency Rating: N/A
(Rating, Source of Information)

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

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.

There is an existing, 18-inch diameter CMP that is approximately 40 feet south of the intersection. This pipe conveys flow from the ditches along the southeast quadrant of the intersection to the ditch along eastbound US 50 in the southwest quadrant. This pipe will be replaced with an 18-inch diameter Type 1 circular pipe culvert that is 72 feet long, with two end sections.

The CMP under the business driveway in the northeast quadrant will not be disturbed.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

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

The MOT for the project will require closure of Old Michigan Road, and traffic to be detoured during construction. The detour will utilize CR 100S, CR 400W and Hopewell Road. The detour will add approximately 1.4 miles to through trips. Both lanes of US 50 traffic will remain open during construction.

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

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 100,000 (2023) Right-of-Way: $ 73,000.00 (2024) Construction: $ 483,000.00 (2026)

Anticipated Start Date of Construction: April, 2026

RIGHT OF WAY:

	Amount (acres)	
Land Use Impacts	Permanent	Temporary
Residential	0	0
Commercial	0.32	0
Agricultural	0.32	0
Forest	0	0
Wetlands	0	0
Other:	0	0
Other:	0	0
TOTAL	0.64	0

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 existing US 50 right of way (ROW) encompasses the existing pavement and is typically 30 feet wide throughout the project limits. The existing Old Michigan Road ROW encompasses the existing pavement and is typically 22 feet wide throughout the project limits.

The proposed maximum US 50 ROW width is 121 feet at the Old Michigan Road intersection. The proposed maximum Old Michigan Road ROW width is 124 feet at the south approach to US 50.

The project requires acquisition of approximately 0.64 acre of new permanent ROW, consisting of 0.32 acre of commercial land north of US 50, and 0.32 acre of agricultural land south of US 50. No temporary ROW, easements or advance acquisitions are required.

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.

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:
Early coordination letters were sent on April 28, 2023 (Appendix C, pages 1 and 2). In addition, early coordination requests were sent to the INDOT Aviation Office on November 27, 2023, and to Crossroads Wesleyan Church on August 13, 2024.

Agency	Date Sent	Date Response Received	Appendix C Page #
Indiana Department of Environmental Management (IDEM)	4/28/2023	No Response	N/A
Indiana Geological and Water Survey (IGWS) On-line	4/19/2023	4/19/2023	3-4
Natural Resource Conservation Service (NRCS)	4/28/2023	5/3/2023	5
INDOT Seymour District Environmental Manager	4/28/2023	No Response	N/A
INDOT Seymour District Project Manager	4/28/2023	No Response	N/A
Indiana Department of Natural Resources (IDNR)	4/28/2023	5/23/2023	7-8
National Parks Service (NPS)	4/28/2023	No Response	N/A
US Army Corps of Engineers (USACE)	4/28/2023	No Response	N/A
US Department of Housing and Urban Development (USHUD)	4/28/2023	No Response	N/A
Ripley County Commissioners	4/28/2023	No Response	N/A
Ripley County Surveyor	4/28/2023	No Response	N/A
Ripley County Highway Department	4/28/2023	No Response	N/A
Ripley County Plan Commission	4/28/2023	No Response	N/A
Ripley County Sheriff's Office	4/28/2023	No Response	N/A
South Ripley Community School Corporation	4/28/2023	No Response	N/A
Ripley County Emergency Management Agency	4/28/2023	No Response	N/A
Otter Creek Township Fire Department	4/28/2023	4/28/2023	9
INDOT Aviation Section	11/27/2023	11/27/2023	10
Crossroads Wesleyan Church	8/13/2024	No Response	N/A

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

SECTION B – ECOLOGICAL RESOURCES:

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

Total stream(s) in project area: N/A Linear feet Total impacted stream(s): N/A 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)

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

Based on the desktop review, the aerial map of the project area (Appendix B, page 3) and the RFI report (Appendix E, page 2), there are five streams, rivers, watercourse, or other jurisdictional features within the 0.5-mile search radius. There are no streams, rivers, watercourse, or other jurisdictional features within or adjacent to the project area, which was confirmed by the site visit on June 5, 2023 by DLZ Indiana, LLC (DLZ). Therefore, no impacts are expected.

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

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

Based on the desktop review, the aerial map of the project area (Appendix B, page 3) and the RFI report (Appendix E, page 2), there are six lake features within the 0.5-mile search radius. There are no lake features within or adjacent to the project area, which was confirmed by the site visit on June 5, 2023 by DLZ. Therefore, no impacts are expected.

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

Total wetland area: N/A Acre(s) Total wetland area impacted: N/A 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)

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

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

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

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

Based on the desktop review, the aerial map of the project area (Appendix B, page 3) and the RFI report (Appendix E, page 2), there are six NWI-mapped wetlands within the 0.5-mile search radius. There are no wetlands within or adjacent to the project area, which was confirmed by the site visit on June 5, 2023 by DLZ. Therefore, no impacts are expected.

	Presence	Impacts	
		Yes	NO
Terrestrial Habitat	x	x	

Total terrestrial habitat in project area: 0.23 Acre(s) Total tree clearing: N/A Acre(s)

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

Based on a desktop review, a site visit on June 5, 2023, by DLZ and the aerial map of the project area (Appendix B, page 3), there are roadside slopes vegetated with grass species, mowed lawn and agricultural fields within the project area. Approximately 0.23 acre of grassed roadway slope/mowed lawn will be disturbed.

The dominant grass species present in the affected roadside slopes are bluegrass (*Poa pratensis*), giant foxtail (*Setaria faberi*) and tall fescue (*Schedonorus arundinaceus*). The impacts to terrestrial habitat are the result of the placement of signs and regrading the roadway slopes. Impacts have been minimized by keeping work contained to the area necessary for the proposed construction. These impacts are necessary to achieve the proposed construction; therefore, avoiding the impacts is not practicable. Rehabilitation of disturbed areas will be accomplished per the current INDOT Standard Specifications. Mitigation is not anticipated to be required.

IDNR-DFW responded on May 23, 2023, with recommendations pertaining to revegetation of disturbed areas and erosion control (Appendix C, pages 7 and 8).

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

Protected Species

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

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

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

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

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

Based on a desktop review and the RFI report (Appendix E, page 4), completed by DLZ on February 21, 2023, the IDNR Ripley County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated May 23, 2023 (Appendix C, page 7), the Natural Heritage Program's Database has been checked. IDNR-DFW indicated that no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. An INDOT 0.5-mile bat review occurred on December 19, 2022. The review did not indicate the presence of endangered bat species in or within 0.5 mile of the project area.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages 11 - 20). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). Other species were generated in the IPaC species list along with the Indiana bat and northern long-eared bat.

The official species list generated from IPaC indicated the federal proposed endangered tricolored bat (*Perimyotis subflavus*), the federal experimental population whooping crane (*Grus americana*), the proposed endangererd salamander mussel (*Simpsonaias ambigua*) and the federal candidate species Monarch Butterfly (*Danaus plexippus*) are present within the project area. Because these species are not listed as threatened or endangered, no determinations of effect or further coordination are required at this time.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. A small structure inspection occurred on January 22, 2024 and no bats/birds or signs of bats/birds using the structure were found (Appendix C, page 34). An effect determination key was completed on January 23, 2024, and based on the responses provided, the project was found to "May Affect – Not Likely to Adversely Affect" the Indiana bat and/or the NLEB (Appendix C, pages 21 - 33). INDOT reviewed and verified the effect finding on May 10, 2023, and requested USFWS's review of the finding. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. This project includes Avoidance and Minimization Measures (AMMs) pertaining to contractor awareness, lighting and hibernacula. AMMs and/or commitments are included as firm commitments in the Environmental Commitments section of this document.

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

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

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): N/A

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

Based on a desktop review and the Indiana Karst Region map, the project is located inside the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction*. According to the topo map of the project area (Appendix B, page 2) and the RFI report (Appendix E, page 2), there are no karst features identified within or adjacent to the project area. In the early coordination response dated April 19, 2023, the IGWS did not indicate that karst features exist in the project area (Appendix C, page 3).

The IGWS Environmental Assessment Report indicated the following in the general project vicinity:

- Geological Hazards: high liquefaction potential, 0.2% annual chance protected by levee
- Bedrock Resources: high potential
- Sand and Gravel Resources - none documented in the area
- Active or abandoned mineral resources extraction sites: none documented in the area.

The features will not be affected because appropriate soils investigations will be conducted to assess the soils in the project area, and the project will be designed accordingly. The project involves sign installation, a minor roadway profile change and pavement widening. The project does not include excavation which could affect geological hazards or mineral resources. Response from IGWS has been communicated to the designer on September 19, 2023. No impacts are expected.

SECTION C – OTHER RESOURCES

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

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

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

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on April 19, 2023, by DLZ. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The Indiana Department of Natural Resources Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on September 19, 2023, by DLZ. A well is located in the southwest project quadrant. The features will not be affected because it is located outside of the project's proposed ROW and construction limits. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells will be affected, a cost to cure will likely be included in the appraisal to restore the wells.

Based on a desktop review of INDOT's Road Inventory and Functional Class Viewer (https://indot.maps.arcgis.com/apps/webappviewer/index.html?id=bfe9a3dede034fb588266593246342b8) by DLZ on September 19, 2023, this project is not located in an Urban Area Boundary. No impacts are expected.

Based on a desktop review, a site visit on June 5, 2023 by DLZ and the aerial map of the project area (Appendix B, page 3), this project is located where there is a public water system. Water mains that run along US 50 and Old Michigan Road within the project area will be relocated. Water service will not be disrupted because relocation of water utilities has been planned for in the development of this project's design. Utility coordination has been initiated and will continue as the project is developed.

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

If applicable, indicate the Floodplain Level?

Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Level 5 ☐

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

The Indiana Department of Natural Resources Indiana Floodway Information Portal website (https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e) was accessed on September 19, 2023 by DLZ. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix B, page 6). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

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

Total Points (from Section VII of CPA-106/AD-1006*) 155

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

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

Based on a desktop review, a site visit on June 5, 2023 by DLZ and the aerial map of the project area (Appendix B, page 3), the project will convert 0.64 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on April 28, 2023, to NRCS. Coordination with NRCS resulted in a score of 155 on the NRCS-AD 1006 Form (Appendix C, page 6). NRCS' threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION D – CULTURAL RESOURCES

	Category(ies) and Type(s)	INDOT Approval Date(s)	N/A
Minor Projects PA	Category B, Type 2 and Type 3	August 28, 2023	

Full 106 Effect Finding

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

Eligible and/or Listed Resources Present

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

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

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

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

On August 28, 2023 the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Types 2 and 3 under the Minor Projects Programmatic Agreement, (Appendix D, page 3). Category B, Type 2 projects include Installation of new lighting, signals, signage and other traffic control devices. Category B, Type 3 projects include construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening. An archaeological survey was required. There are no previously recorded archaeological sites within or adjacent to the project area. No archaeological resources were documented as a result of the survey, and no additional investigation was recommended.

The Indiana Historical Bureau Marker (ID #69.1949.1) and Ripley County Historical Society Marker (O'Brien Corner), both located in the southwest quadrant of the intersection of Old Michigan Road and US 50, will be removed, stored in a secure location, and reset in their previous locations (or in close proximity). INDOT shall coordinate, prior to construction, with the Indiana Historical Bureau, Ripley County Commissioners, and the Ripley County Historical Society regarding the removal/storage during construction and re-installation of the Indiana Historical Bureau marker and the Ripley County Historical Society Marker. A note will be added to the plans to reflect this commitment. Also, it will be added to INDOT's project commitment database and included in the environmental documentation for this project. If damage occurs during removal, storage, construction, or re-installation of the markers, work should be stopped and INDOT-CRO notified. Notification must be sent to Haley Brinker, INDOT-CRO, via both phone (317-601-0786) and email (hbrinker@indot.in.gov) (Appendix D, page 5).

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

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

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

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

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

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

Based on a desktop review, the aerial map of the project area (Appendix B, page 3), and the RFI report (Appendix E, page 2), there are no potential 4(f) resources located within the 0.5-mile search radius. According to additional research, the MPPA determination, and by the site visit on June 5, 2023 by DLZ, there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement	**Presence**	**Use**	
		Yes	**No**
Section 6(f) Property	☐	☐	☐

Discuss 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 13 projects within 5 properties in Ripley County (Appendix H, 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	Yes	No
Is the project in the most current STIP/TIP?	x	
Is the project located in an MPO Area?		x
Is the project in an air quality non-attainment or maintenance area?		x
If Yes, then:		
Is the project in the most current MPO TIP?		
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)?		

Location in STIP: Updated FY 2024-2028 State Preservation and Local initiated Project Listing, Page 178

Name of MPO (if applicable): N/A

Location in TIP (if applicable): N/A

Level of MSAT Analysis required?

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

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

This project is included in the Fiscal Year (FY) 2024 - 2028 Statewide Transportation Improvement Program (STIP) (Appendix G, page 1).

This project is located in Ripley County, which is currently in attainment for all criteria pollutants according to IDEM's *Current Status and Nonattainment History by County* (https://www.in.gov/idem/sips/files/nonattainment_county_list.pdf). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

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

SECTION G - NOISE

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

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

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

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

SECTION H – COMMUNITY IMPACTS

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

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

The project involves minor improvements to an existing intersection and does not result in impacts or traffic pattern alterations that could affect local development patterns. The project will not disrupt community cohesion or create a barrier between existing neighborhoods. The project is not anticipated to affect the local tax base or property values. No community events are held within the project area. The proposed MOT will ensure that any community events held near the project area will remain accessible.

Coordination has occurred with Ripley County throughout the planning process, and it was determined that this project would not be affected by the Ripley County Americans with Disabilities Act (ADA) Transition Plan. No pedestrian facilities exist in the project area, and no new pedestrian facilities are proposed.

Public Facilities and Services

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

Based on a desktop review, the aerial map of the project area (Appendix B, page 3), and the RFI report (Appendix E, page 2), there are two public facilities within the 0.5-mile search radius. There is one public facility within or adjacent to the project area. That number was confirmed by the site visit on June 5, 2023 by DLZ. Access to all properties will be maintained during construction.

Crossroads Wesleyan Church is located in the northwest project quadrant. The RFI report indicated that coordination with the Church should occur. The Church was contacted via telephone on August 13, 2024, and a voice message was left, which requested that DLZ be informed of any concerns relating to church operations. Also on August 13, 2024, a message which reiterated the telephone voice message was sent via the church's on-line chat. No responses have been received.

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. Crossroads Wesleyan Church will also be given two weeks advance notice of to any construction that would block or limit access.

Environmental Justice (EJ) (Presidential EO 12898)	**Yes**	**No**
During the development of the project were EJ issues identified?		
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?		

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

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will not require any relocations; however, the project will require approximately 0.64 acre of new permanent ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Ripley County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 9687. 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 was obtained from the US Census Bureau (https://data.census.gov/) on September 19, 2023 by DLZ. 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 ACS 5-Year Estimates)		
	COC – Ripley County	AC 1 – Census Tract 9687
Percent Minority	4.82	3.65
125% of COC	6.02	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	10.19	12.87
125% of COC	12.74	AC >125% COC
EJ Population of Concern		Yes

AC 1, Census Tract 9687 has a percent minority of 3.65 which is below 50% and below the 125% COC threshold. Therefore, AC 1 does not have a minority population of EJ concern. AC 1, Census Tract 9687 has a percent low-income of 12.87 which is below 50% and above the 125% COC threshold. Therefore, AC 1 has a low-income population of EJ concern.

Conclusion:
The project will not require any relocations; however, the project will approximately 0.64 acre of new permanent ROW. The required right of way consists of minor strip takes along the edges of the roadways and no community features will be impacted. Access to all remaining abutting properties will be maintained during construction. The MOT for the project will require the closure of Old Michigan Road and traffic to be detoured during construction. The detour will utilize CR 100S, CR 400W and Hopewell Road. The detour will add approximately 1.4 miles to through trips. Both lanes of US 50 traffic will be maintained during construction. The detour will affect EJ and non-EJ populations equally. Aside from short-term inconveniences during construction, the project will not disrupt community cohesion or negatively affect existing linkages between neighborhoods within or beyond the project area. Safety conditions for motorists will be improved. The census data sheets, map, and calculations can be found in Appendix H.

INDOT-Environmental Services Division (ESD) has reviewed the project information along with the EJ Analysis for this project (Appendix H, page 25). With the information provided, the project may require right-of-way, requires no relocations, and would not disrupt community cohesion or create a physical barrier. With the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required.

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

Number of relocations: Residences: 0 Businesses: 0 Farms: 0 Other: N/A

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

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

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

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

Date RFI concurrence by INDOT SAM (if applicable): February 21, 2023

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 February 21, 2023 by DLZ and INDOT SAM provided their concurrence on February 21, 2023 (Appendix E, page 4). One National Pollutant Discharge Elimination System (NPDES) site is located within 0.5 mile of the project area. None of the hazmat sites identified will impact the project. Further investigation for hazardous material concerns is not required at this time.

Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)	**Likely Required**
Army Corps of Engineers (404/Section10 Permit)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Individual Permit (IP)	
Other	
IN Department of Environmental Management (401/Construction Stormwater General Permit)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Individual Permit (IP)	
Isolated Wetlands	
Construction Stormwater General Permit	
Other	
IN Department of Natural Resources	
Construction in a Floodway	
Navigable Waterway Permit	
Other	
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the discussion below)	

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

The project does not require any permits.

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.

The INDOT Aviation Office early coordination response dated November 27, 2023 (Appendix C, page 10) indicated that no tall structure permit is required for the project if all equipment being used is under 200 feet in height.

It is the responsibility of the project sponsor to identify and obtain all required permits.

ENVIRONMENTAL COMMITMENTS

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

Firm:

1. If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT Seymour District Environmental Section will be contacted immediately. (INDOT ESD and Seymour District)
2. It is the responsibility of the project sponsor to notify school corporations, emergency services and Crossroads Wesleyan Church at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
3. Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT ESD)
4. A tall structure permit would be required for the project if equipment being used exceeds 200 feet in height. (INDOT Aviation Office)
5. The Indiana Historical Bureau Marker (ID #69.1949.1) and Ripley County Historical Society Marker (O'Brien Corner), both located in the southwest quadrant of the intersection of Old Michigan Road and US 50, will be removed, stored in a secure location, and reset in their previous locations (or in close proximity). INDOT shall coordinate, prior to construction, with the Indiana Historical Bureau, Ripley County Commissioners, and the Ripley County Historical Society regarding the removal/storage during construction and re-installation of the Indiana Historical Bureau marker and the Ripley County Historical Society Marker. A note will be added to the plans to reflect this commitment. Also, it will be added to INDOT's project commitment database and included in the environmental documentation for this project. If damage occurs during removal, storage, construction, or re-installation of the markers, work should be stopped and INDOT-CRO notified. Notification must be sent to Haley Brinker, INDOT-CRO, via both phone (317-601-0786) and email (hbrinker@indot.in.gov). (INDOT CRO)
6. 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)
7. 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)
8. LIGHTING AMM 1 - Direct temporary lighting away from suitable habitat during the active season. (USFWS)

For Further Consideration:
N/A.

Level 2 Categorical Exclusion
US 50 Intersection Improvement Project, 2 Miles East of the Town of Holton in Ripley County
Des. No. 2100026
Indiana Department of Transportation

APPENDICES TABLE OF CONTENTS

Appendix A

INDOT Supporting Documentation

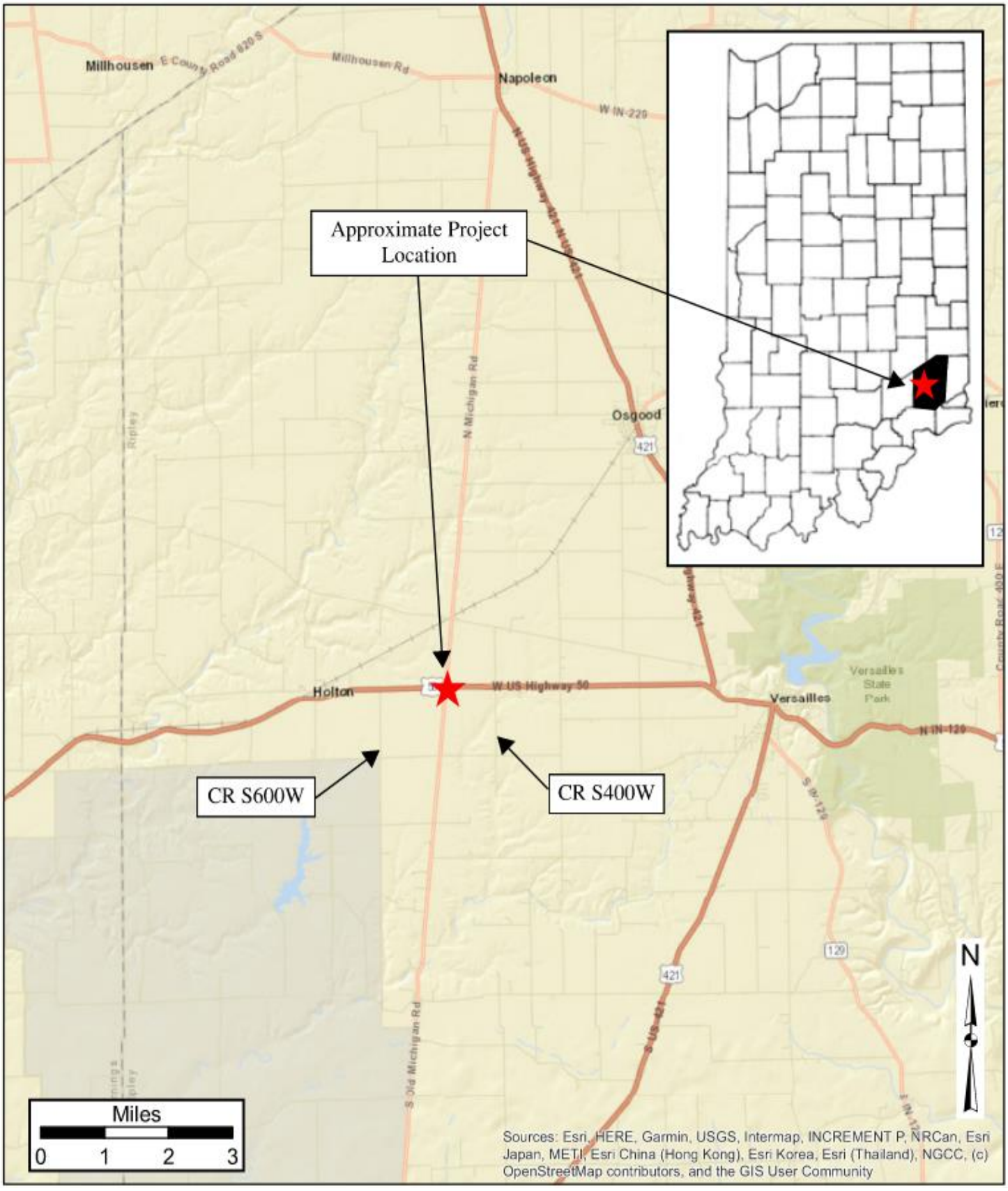
Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4[1]
Section 106	Falls within guidelines of Minor Projects PA	"No Historic Properties Affected"	"No Adverse Effect"	-	"Adverse Effect" Or Historic Bridge involvement[2]
Stream Impacts[3]	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	USACE Individual 404 Permit[4]
Wetland Impacts[3]	No adverse impacts to wetlands	< 0.1 acre	-	< 1.0 acre	≥ 1.0 acre
Right-of-way[5]	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations[6]	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)*	"No Effect", "Not likely to Adversely Affect" (With select AMMs[7])	"Not likely to Adversely Affect" (With any AMMs or commitments)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic[8]
Threatened/Endangered Species (Any other species)*	Falls within guidelines of USFWS 2013 Interim Policy or "No Effect"	"Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential[9]
Sole Source Aquifer	No Detailed Groundwater Assessment	-	-	-	Detailed Groundwater Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Section 4(f) Impacts	None	-	-	-	Any[10]
Section 6(f) Impacts	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes[11]
Approval Level • **District Env. (DE)** • **Env. Serv. Div. (ESD)** • **FHWA**	Concurrence by DE or ESD	DE or ESD	DE or ESD	DE and/or ESD	DE and/or ESD; and FHWA

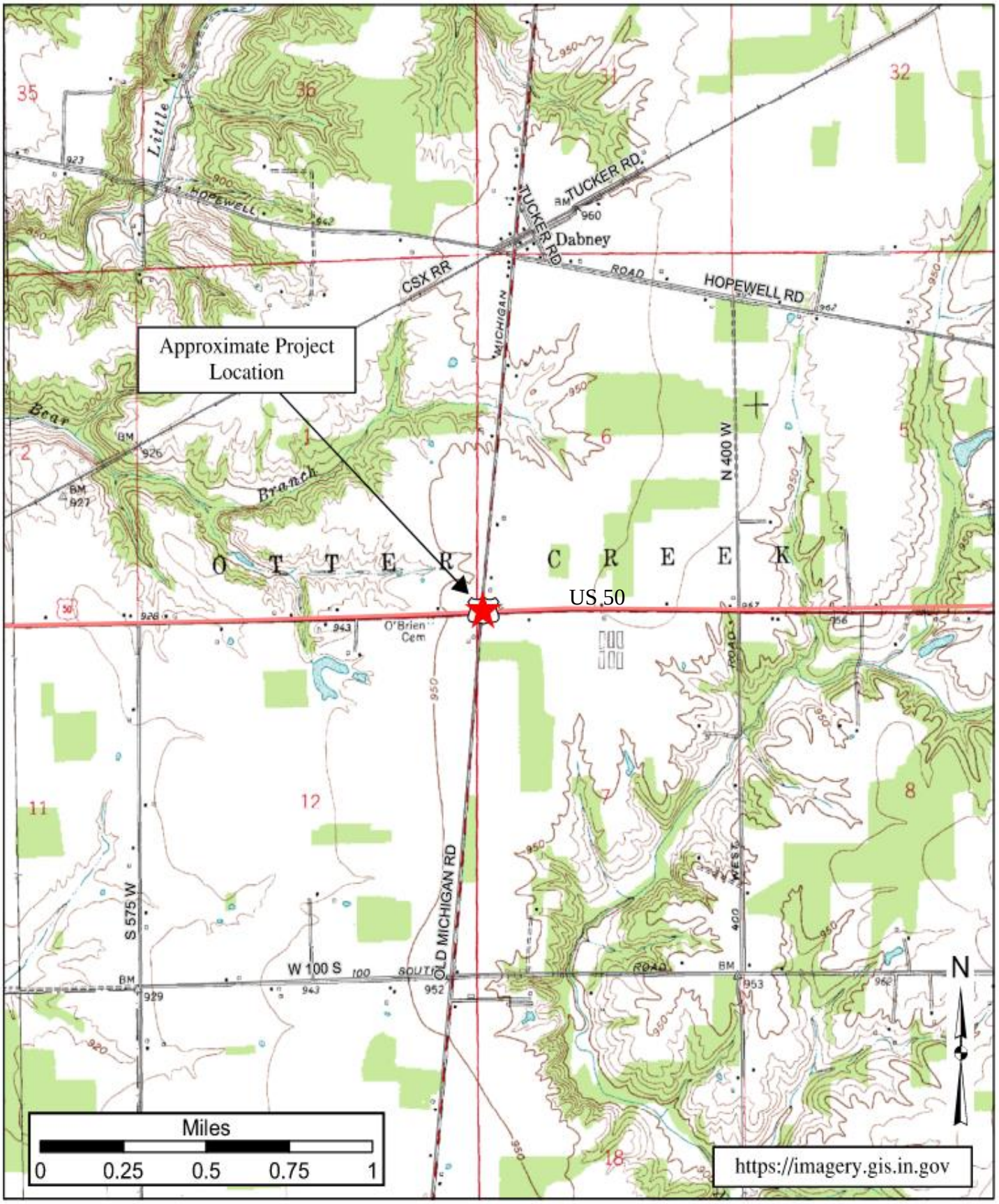
[1] Coordinate with INDOT Environmental Services Division. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.
[2] Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.
[3] Total permanent impacts to streams (linear feet) and wetlands (acres).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

Appendix B

Graphics

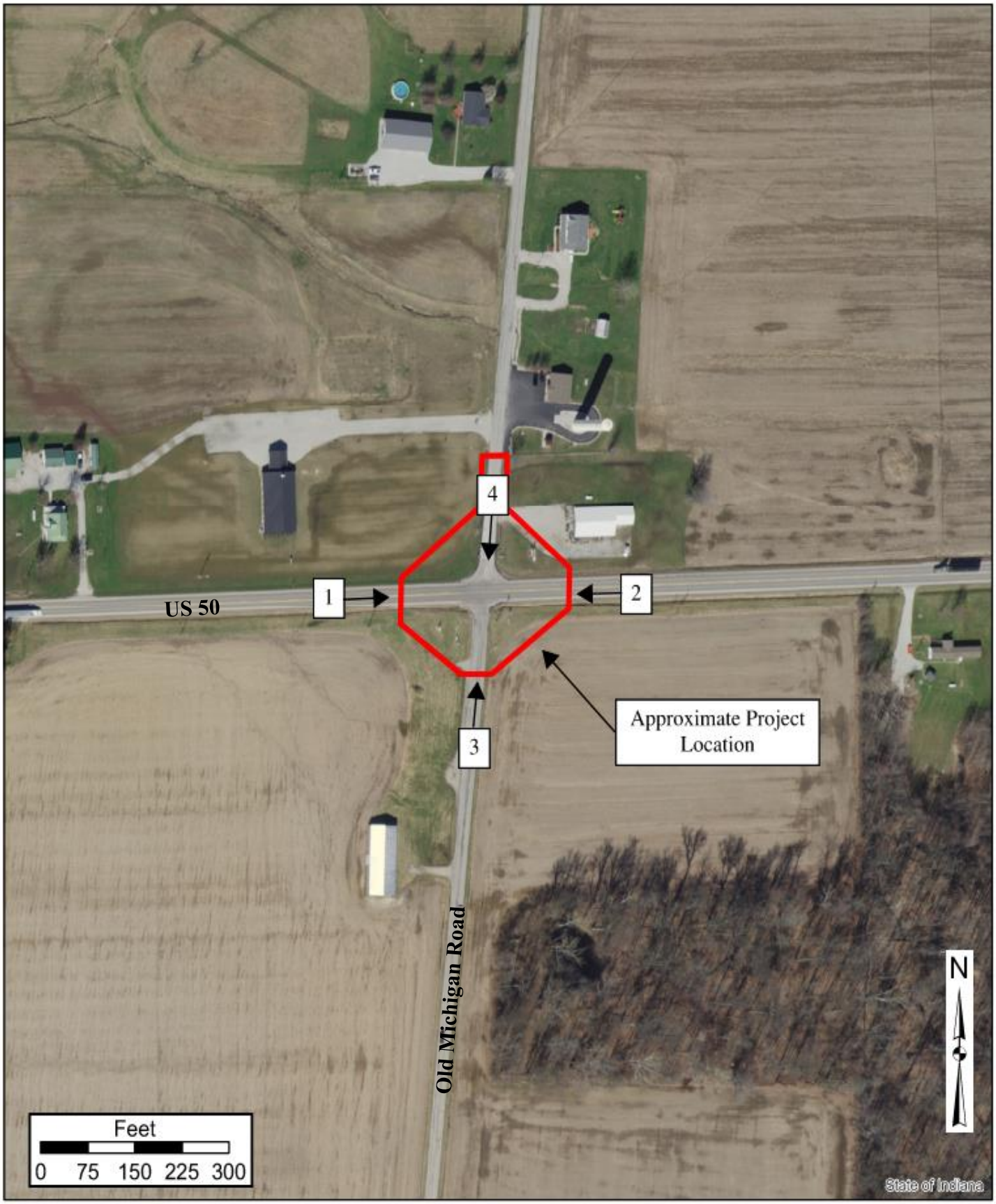


DLZ	**US 50 Intersection Improvement Project** **US 50 at Old Michigan Road, 2 Miles East of Holton** **Ripley County, INDOT Seymour District** **Des. No.: 2100026**	Scale: 1" = 10,500' Project Location



DLZ	**US 50 Intersection Improvement Project** **US 50 at Old Michigan Road, 2 Miles East of Holton** **Ripley County, INDOT Seymour District** **Des. No.: 2100026**	Scale: 1" = 2,000' USGS Topographic Map

DLZ	**US 50 Intersection Improvement Project** **US 50 at Old Michigan Road, 2 Miles East of Holton** **Ripley County, INDOT Seymour District** **Des. No.: 2100026**	Scale: 1" = 2675' Aerial Photograph



DLZ	**US 50 Intersection Improvement Project** **US 50 at Old Michigan Road, 2 Miles East of Holton** **Ripley County, INDOT Seymour District** **Des. No.: 2100026**	Scale: 1" = 200' Aerial Photo & Photo Key

Photo 1: Looking easterly along US 50 west of intersection.

Photo 2: Looking westerly along US 50 east of intersection.

Photo 3: Looking northerly along Old Michigan Road south of intersection.

Photo 4: Looking southerly along Old Michigan Road north of intersection.

DLZ	**US 50 Intersection Improvement Project** **US 50 at Old Michigan Road, 2 Miles East of Holton** **Ripley County, INDOT Seymour District** **Des. No.: 2100026**	Site Photographs 4/26/2022

DNR Indiana Department of Natural Resources

Floodplain Analysis & Regulatory Assessment (FARA)

Point of Interest

Base Flood Elevation Point

Point of Interest Coordinates (WGS84)

Long: **-85.3487856849**

Lat: **39.0751453649**

The information provided below is based on the point of interest shown in the map above.

County: **Ripley**

Stream Name: **Bear Branch**

Approximate Ground Elevation: **955.9 feet (NAVD88)**

Base Flood Elevation:**Not Available**

Drainage Area: **Not available**

Best Available Flood Hazard Zone: **Not Mapped**

National Flood Hazard Zone: **Not Mapped**

Is a Flood Control Act permit from the DNR needed for this location? **See following pages**

Is a local floodplain permit needed for this location? **Contact your local Floodplain Administrator-**

Floodplain Administrator: **Tad Brinson**

Community Jurisdiction: **Ripley County, County proper**

Phone: **(812) 689-6062**

Email: **tbrinson@ripleycounty.com**

US Army Corps of Engineers District: **Louisville**

Date Generated: 9/15/2023

PROJECT	DESIGNATION
2100026	2100026
CONTRACT	
R-43755	

INDIANA DEPARTMENT OF TRANSPORTATION

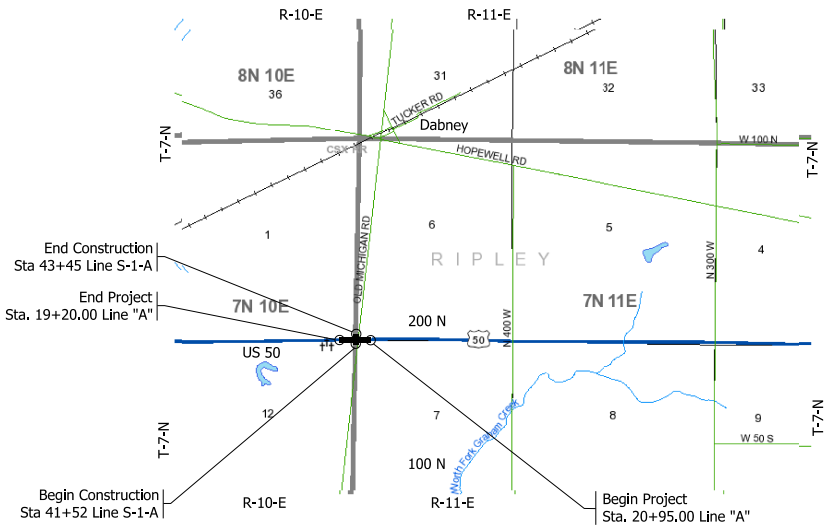
ROAD PLANS

Stage 2 Plans
March 2024

ROUTE: US 50 AT: OLD MICHIGAN ROAD

PROJECT NO. 2100026 P.E.
2100026 R/W
2100026 CONST.

US 50 & OLD MICHIGAN ROAD INTERSECTION IMPROVEMENT
Located approximately 2 Miles west of Town of Holton and 1 mile south of City of Dabney
Section 1,12, 6 & 7, T7N, R10E & R11E, Otter Township, Ripley County, Indiana



SCALE: 1" = 2,000'

TRAFFIC DATA US 50

A.A.D.T.	(2026)	4041 V.P.D.
A.A.D.T.	(2046)	4356 V.P.D.
D.H.V	(2046)	436 V.P.H.
DIRECTIONAL DISTRIBUTION		Eastbound 59% & Westbound 41%
TRUCKS		24% A.A.D.T.
		24% D.H.V.

DESIGN DATA

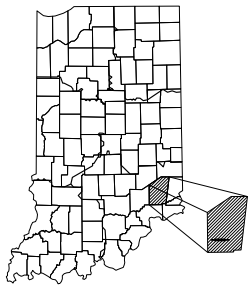
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	Partial 3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE

TRAFFIC DATA Old Michigan Road

A.A.D.T.	(2026)	1109 V.P.D.
A.A.D.T.	(2046)	1196 V.P.D.
D.H.V	(2046)	120 V.P.H.
DIRECTIONAL DISTRIBUTION		Northbound 35% Westbound 65%
TRUCKS		5% A.A.D.T.
		5% D.H.V.

DESIGN DATA

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



PROJECT LOCATION SHOWN BY
Ripley County

LATITUDE: 39°04'30"N LONGITUDE: 85°20'55"W

ROADWAY LENGTH: 0.07 MI.
TOTAL LENGTH: 0.07 MI.
MAX. GRADE: 2.10 %

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2024
TO BE USED WITH THESE PLANS.

CERTIFIED BY:
REGISTERED PROFESSIONAL ENGINEER
STATE OF INDIANA NO. 510382
COVERING OVERALL DESIGN
DATE

NOT FOR CONSTRUCTION
DLZ INDIANA, LLC

PLANS PREPARED BY:
DLZ INDIANA, LLC
138 N Delaware St,
Indianapolis, IN 46204
(317) 633-4120

APPROVED
FOR LETTING:
INDIANA DEPARTMENT OF TRANSPORTATION
DATE

SCALE	
1:2000	
	DESIGNATION
	2100026
	SHEETS
	1 of 19
CONTRACT	PROJECT
R-43755	2100026

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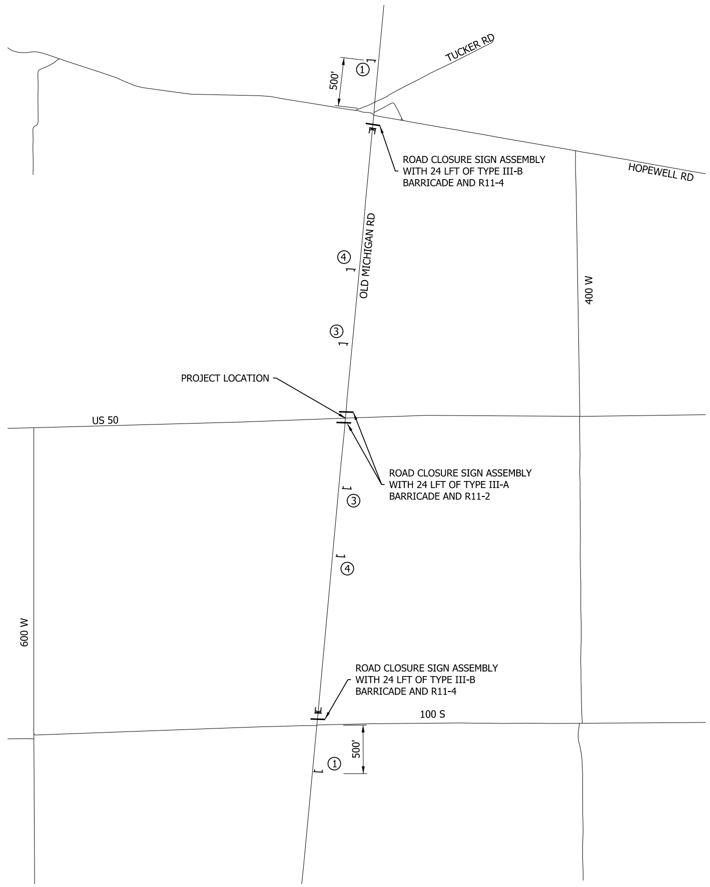


ROAD CLOSURE - SIGNS AND MARKERS

SCALE: Not to Scale

LEGEND

- Barricade
- Road Closure Sign Assembly
- Typical Construction Sign Standard

CONSTRUCTION SIGNS, TYPE "A"

① ROAD CLOSED AHEAD — XW20-3 48" x 48"

② DETOUR AHEAD — XW20-2 48" x 48"

③ ROAD CLOSED 500' — XW20-3 48" x 48"

④ ROAD CLOSED 1000' — XW20-3 48" x 48"

⑤ ONE LANE ROAD AHEAD — XW20-4 48" x 48"

⑥ ROAD CONSTRUCTION AHEAD — XW20-1 48" x 48"

⑦ END CONSTRUCTION — XG20-2 60" x 24"

ROAD CLOSURE SIGN ASSEMBLIES

⑪ ROAD CLOSED 1.0 MILES AHEAD LOCAL TRAFFIC ONLY — R11-4 5'-0" x 2'-6"

⑫ ROAD CLOSED — R11-2 4'-0" x 2'-6"

CONSTRUCTION SIGN SCHEDULE	
ITEM	TOTALS
TYPE 'A' SIGN	
XW20-3	6 EACH
R11-2	2 EACH
R11-4	2 EACH
TOTAL TYPE 'A' SIGN	10 EACH
TYPE 'B' SIGN	
TOTAL TYPE 'B' SIGN	0 EACH
ROAD CLOSURE SIGN ASSEMBLY	4 EACH
TYPE III-A BARRICADE	48 LFT
TYPE III-B BARRICADE	48 LFT
DETOUR ROUTE MARKER ASSEMBLY	0 EACH

GENERAL NOTES

1. Exact sign locations to be field determined.
2. Contractor to erect and maintain all signs and barricades.
3. Access to all properties shall be maintained by the contractor at all times.
4. Type B construction warning lights shall be used with all signs located at barricades.
5. Type A construction warning lights shall be used at all other construction signs.

X:\Projects\2022\2263\208150 INDOT US 50 Sight\01_ConstDocs\CAD\sheets\2081mt10.dgn

DLZ

NOT FOR CONSTRUCTION

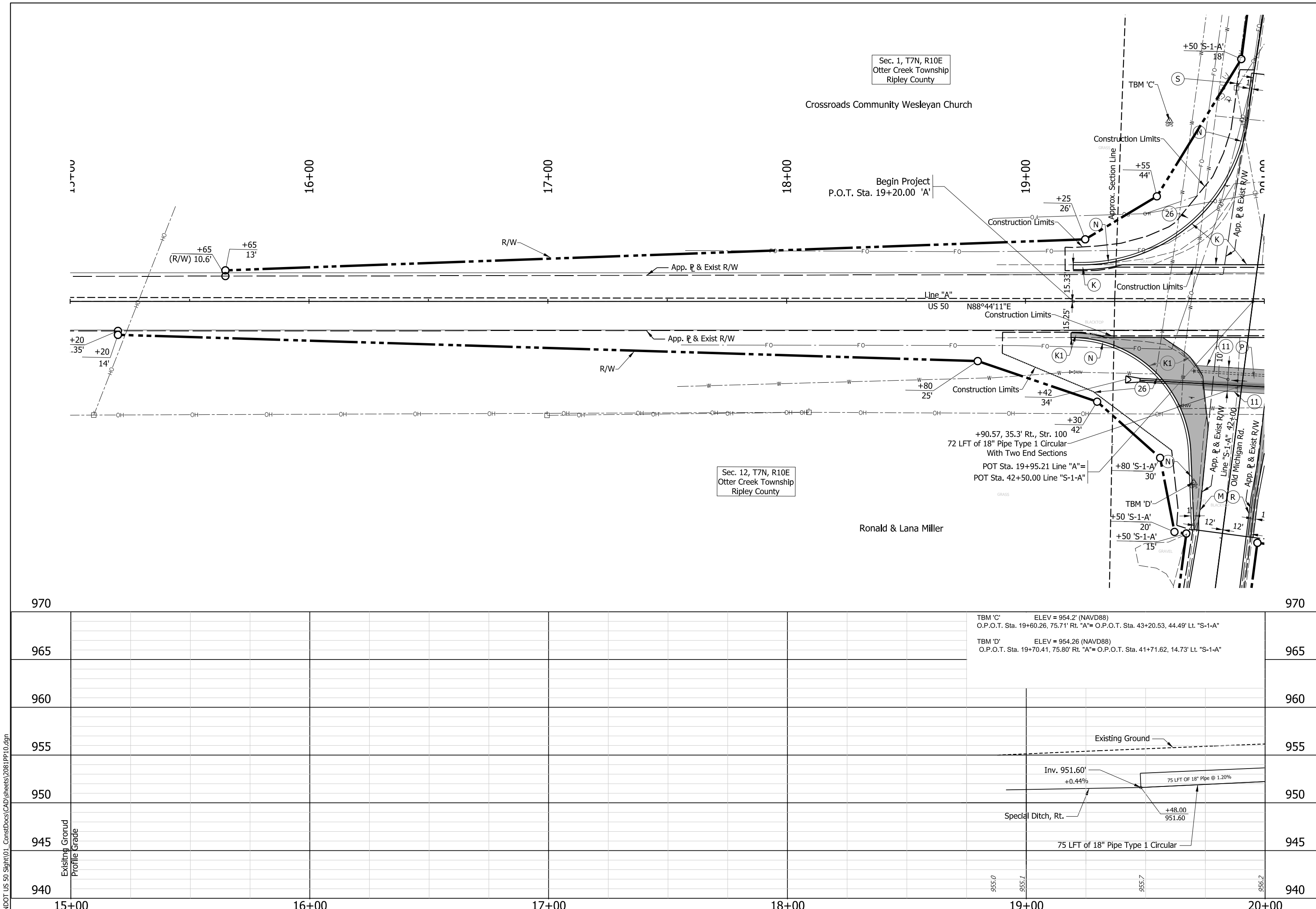
DLZ INDIANA, LLC

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: JH 05/2023	DRAWN: DPH 05/2023	
CHECKED: FS 05/2023	CHECKED: FS 05/2023	

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC

SCALE	IMPROVEMENT
AS NOTED	
	DESIGNATION
	2100026
SURVEY BOOK	SHEETS
ELECTRONIC	5 of 19
CONTRACT	PROJECT
R-43755	2100026



LEGEND:

- (K) HMA Pavement to be: 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm on 880 lbs/syd QC/QA-HMA 3, 64, base 19.0 mm on Subgrade Treatment IC on Geotextile for Pavement Type 2B
- (K1) HMA Widening to be: 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm on 880 lbs/syd QC/QA-HMA 3, 64, base 19.0 mm on Subgrade Treatment IC on Geotextile for Pavement Type 2B
- (M) Milling, Asphalt, 4 IN.
- (N) 12 IN. Depth Compacted Aggregate No. 53
- (P) HMA Patching to be: 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm on 880 lbs/syd QC/QA-HMA 3, 64, base 19.0 mm on Subgrade Treatment IC on Geotextile for Pavement Type 2B
- (R) 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm
- (S) Sign, Relocate Historic Marker Sign to R/W Line
- (11) Sawcut
- (26) Mulched Seeding R
- (29) Remove
- (70) Protect

Notes:

1. All R/W and existing topography described from Line "A", Unless noted otherwise.

X:\Projects\2022\2263\208150 INDOT US 50 Sight\01_ConstDocs\CAD\sheets\2081PP10.dgn

102 N= 1394048.267 E= 418300.101
5/8" REBAR w/ DLZ CAP
ELEV. = 954.2 (NAVD88)
O.P.O.T. Sta. 43+20.53, 44.49' Lt. "S-1-A"

103 N= 1393926.593 E= 417651.748
5/8" REBAR w/ DLZ CAP
ELEV. = 948.32 (NAVD88)
O.P.O.T. Sta. 13+09.39, 31.63' Rt. "A"

DLZ

NOT FOR CONSTRUCTION

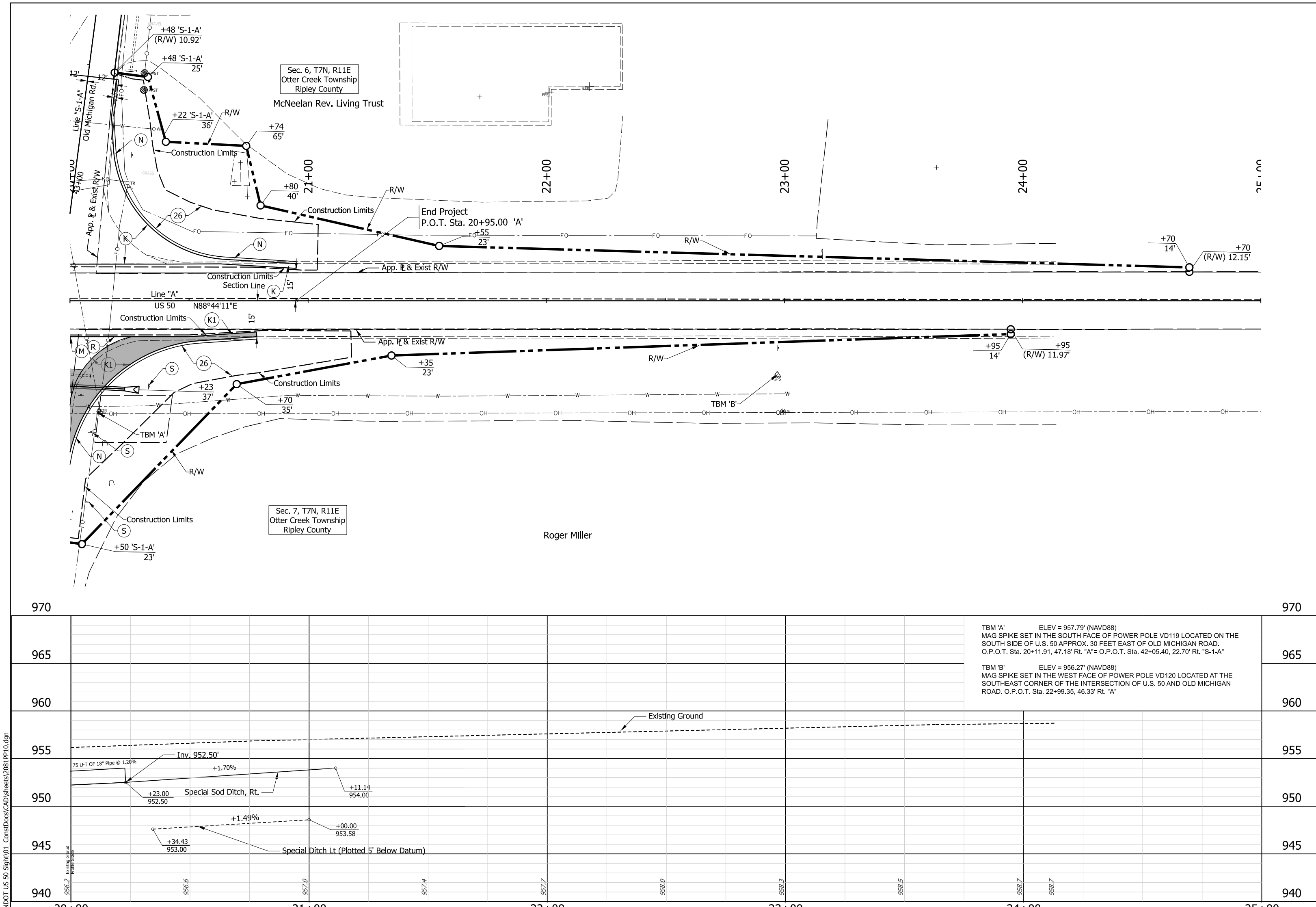
DLZ INDIANA, LLC

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER	DATE
DESIGNED: JH	05/2023	DRAWN: DPH	05/2023
CHECKED: FS	05/2023	CHECKED: FS	05/2023

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "A"

HORIZONTAL SCALE	IMPROVEMENT
1"=20'	
VERTICAL SCALE	DESIGNATION
1"=5'	2100026
SURVEY BOOK	SHEETS
ELECTRONIC	9 of 19
CONTRACT	PROJECT
R-43755	2100026



LEGEND:

- (K) HMA Pavement to be: 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm on 880 lbs/syd QC/QA-HMA 3, 64, base 19.0 mm on Subgrade Treatment IC on Geotextile for Pavement Type 2B
- (K1) HMA Widening to be: 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm on 880 lbs/syd QC/QA-HMA 3, 64, base 19.0 mm on Subgrade Treatment IC on Geotextile for Pavement Type 2B
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- (N) 12 IN. Depth Compacted Aggregate No. 53
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- (S) Sign, Relocate Historic Marker Sign to R/W Line
- (11) Sawcut
- (26) Mulched Seeding R
- (70) Protect

Notes:

1. All R/W and existing topography described from Line "A", Unless noted otherwise.

X:\Projects\2022\2263\208150 INDOT US 50 Slight\01_ConstDocs\CAD\sheets\2081PP10.dgn

101 N= 1393948.951 E= 418639.078
Power Pole VD119
US 50
11.2' Az=360°
16.0' Az=170°
East U.S. 50 Sign
5/8" REBAR w/ DLZ CAP ELEV. = 955.88 (NAVD) O.P.O.T. Sta. 22+96.97, 31.05' Rt. "A"

DLZ

NOT FOR CONSTRUCTION

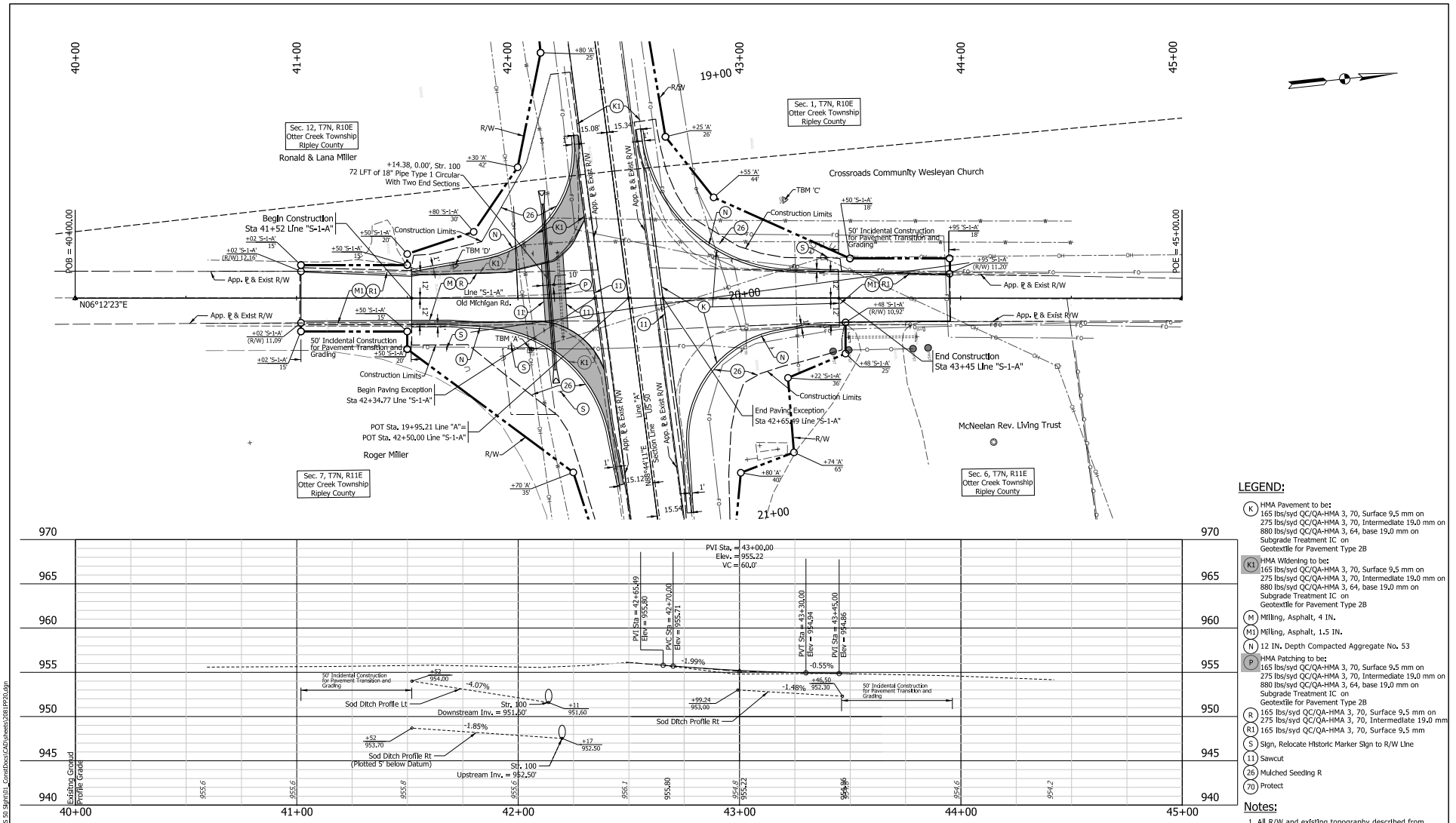
DLZ INDIANA, LLC

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER	DATE
DESIGNED: JH	05/2023	DRAWN: DPH	05/2023
CHECKED: FS	05/2023	CHECKED: FS	05/2023

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE LINE "A"

HORIZONTAL SCALE	1"=20'	IMPROVEMENT	
VERTICAL SCALE	1"=5'	DESIGNATION	2100026
SURVEY BOOK	ELECTRONIC	SHEETS	10 of 19
CONTRACT	R-43755	PROJECT	2100026



LEGEND:

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- (M) Milling, Asphalt, 4 IN.
- (M1) Milling, Asphalt, 1.5 IN.
- (N) 12 IN. Depth Compacted Aggregate No. 53
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- (R) 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm on 275 lbs/syd QC/QA-HMA 3, 70, Intermediate 19.0 mm
- (R1) 165 lbs/syd QC/QA-HMA 3, 70, Surface 9.5 mm
- (S) Sign, Relocate Historic Marker Sign to R/W Line
- (11) Sawcut
- (26) Mulched Seeding R
- (70) Protect

Notes:

1. All R/W and exfsting topography described from Line "S-1-A", Unless noted otherwise.

DLZ

NOT FOR CONSTRUCTION

DLZ INDIANA, LLC

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JH 05/2023 DRAWN: DPH 05/2023

CHECKED: FS 05/2023 CHECKED: FS 05/2023

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE LINE "S-1-A"

HORIZONTAL SCALE	IMPROVEMENT
1"=20'	
VERTICAL SCALE	DESIGNATION
1"=5'	2100026
SURVEY BOOK	SHEETS
ELECTRONIC	11 of 19
CONTRACT	PROJECT
R-43755	2100026

Appendix C

Early Coordination Documentation

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 28, 2023

Sample Early Coordination Request Letter

Dear Interested Party,

Re: Early Coordination Letter, Des. No. 2100026, Intersection Improvement Project, US 50 and Old Michigan Road, 4.18 Miles West of US 421, Ripley County, Indiana.

The Indiana Department of Transportation, with federal funding, intends to proceed with a project involving the aforementioned intersection in Ripley County. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above designation number and description in your reply. We will incorporate your comments into a study of the project's environmental impacts.

This project is located on US 50 at the intersection with Old Michigan Road, 4.18 miles west of US 421, in Ripley County. This section of US 50 is a two lane Principal Arterial – Other. The existing US 50 roadway typical section consists of two 12-foot lanes with 3-foot shoulders. The south leg of Old Michigan Road is functionally classified as a Minor Collector, and the north leg is classified as a Major Collector. The existing Old Michigan Road roadway typical section consists of two 10-foot lanes with 1-foot shoulders. Drainage is through sheet flow to an open drainage ditch system. The apparent existing right-of-way is 24 feet, centered on the roadway throughout the project.

The draft need is due to the number of crashes at the intersection. The draft purpose is to improve safety conditions at the intersection.

The preferred alternative would reconstruct the Old Michigan Road approaches to provide 10-foot lanes with 2-foot shoulders, to improve turning radii and intersection sight distances. Advance intersection warning signage will be installed along US 50. The north Old Michigan Road approach will be raised to improve sight distance. The project will require the acquisition of a minimum of 0.5 acres of new permanent right-of-way and less than 0.5 acre of temporary right-of-way. The project will extend approximately 100 feet along US 50 both east and west of the intersection to improve the turning radii and 325' east and west of the intersection to place the advance warning signs. The project will extend approximately 100 south and 150 feet north of the intersection along Old Michigan Road to improve turning radii and 175' along both north and south legs to place advance warning signs. Rumble strips will also be installed along old Michigan Road. The proposed method of traffic maintenance is closure of Old Michigan Road with detours utilizing county roads. US 50 will remain open during construction. Tree clearing is not anticipated to be required. Right of way will be obtained along each quadrant of the intersection to meet intersection sight distance requirements. The project is anticipated to begin construction in Spring 2026.

Land use in the vicinity of the project is primarily agricultural with a church to the northwest of the intersection and a commercial property to the northeast. Waters and wetlands determinations will be performed to identify water resources that may be present. The project is anticipated to qualify for the Rangewide Programmatic Agreement for the Indiana Bat and the Northern Long-eared Bat by completing the Information for Planning and Consultation (IPaC). Coordination will occur with INDOT Cultural Resources Office (CRO) to evaluate the project area for

archaeological and historic resources and for Section 106 compliance. The results of this investigation will be forwarded to the State Historic Preservation Office (SHPO) for review and concurrence as appropriate.

Please provide your response within thirty (30) calendar days from the date of this letter. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Bradley W. Smith, DLZ Indiana, LLC, email – bwsmith@dlz.com, phone – (574) 236-4400, ext. 632, or Chase Schneider, INDOT Project Manager , email – chschneider@indot.in.gov, phone – (812) 524-3985. Thank you in advance for your input.

Sincerely,

Bradley W. Smith
Survey/Mapping Assistant
DLZ Indiana, LLC

Cc: FHWA, INDOT Seymour District

Enclosures:
Project Location Graphics and Photographs

Graphics that accompanied this letter have been removed to avoid duplication. Similar graphics are presented in Appendix B.

The following agencies/parties received this early coordination request:

Regional Environmental Coordinator
Midwest Regional Office
National Park Service
Mwro_Compliance@nps.gov

Environmental Geology Section
Indiana Geological and Water Section
(Electronic Coordination)

Environmental Coordinator
Indiana Department of Natural Resources
environmentalreview.dnr.in.gov

Field Environmental Officer
Chicago Regional Office, USHUD
erik.r.sandstedt@hud.gov

Section Chief, Wetlands and Stormwater Program
Indiana Department of Environmental Management
JTurner2@idem.in.gov
rbraun@idem.in.gov

State Conservationist
Natural Resource Conservation Service
john.allen@in.usda.gov

Otter Creek Township Fire Department
holtonfiredept@gmail.com

Superintendent
South Ripley Community School Corporation
rmoorhead@sripley.k12.in.us

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

Ripley County Surveyor
surveyor@ripleycounty.com

Ripley County Highway Department
rchwy@ripleycounty.com

Ripley County Sherriff's Department
sheriff@ripleycounty.com

Ripley County Emergency Management Agency
ema@ripleycounty.in.gov

Ripley County Commissioners
commissionerhorstman@ripleycounty.com
cschmaltz@ripleycounty.com
khankins@ripleycounty.com

Organization and Project Information

Project ID: 2263-2081-50
Des. ID: 2100026
Project Title: US 50 & Old Michigan Road
Name of Organization: DLZ Indiana, LLC
Requested by: Brad Smith

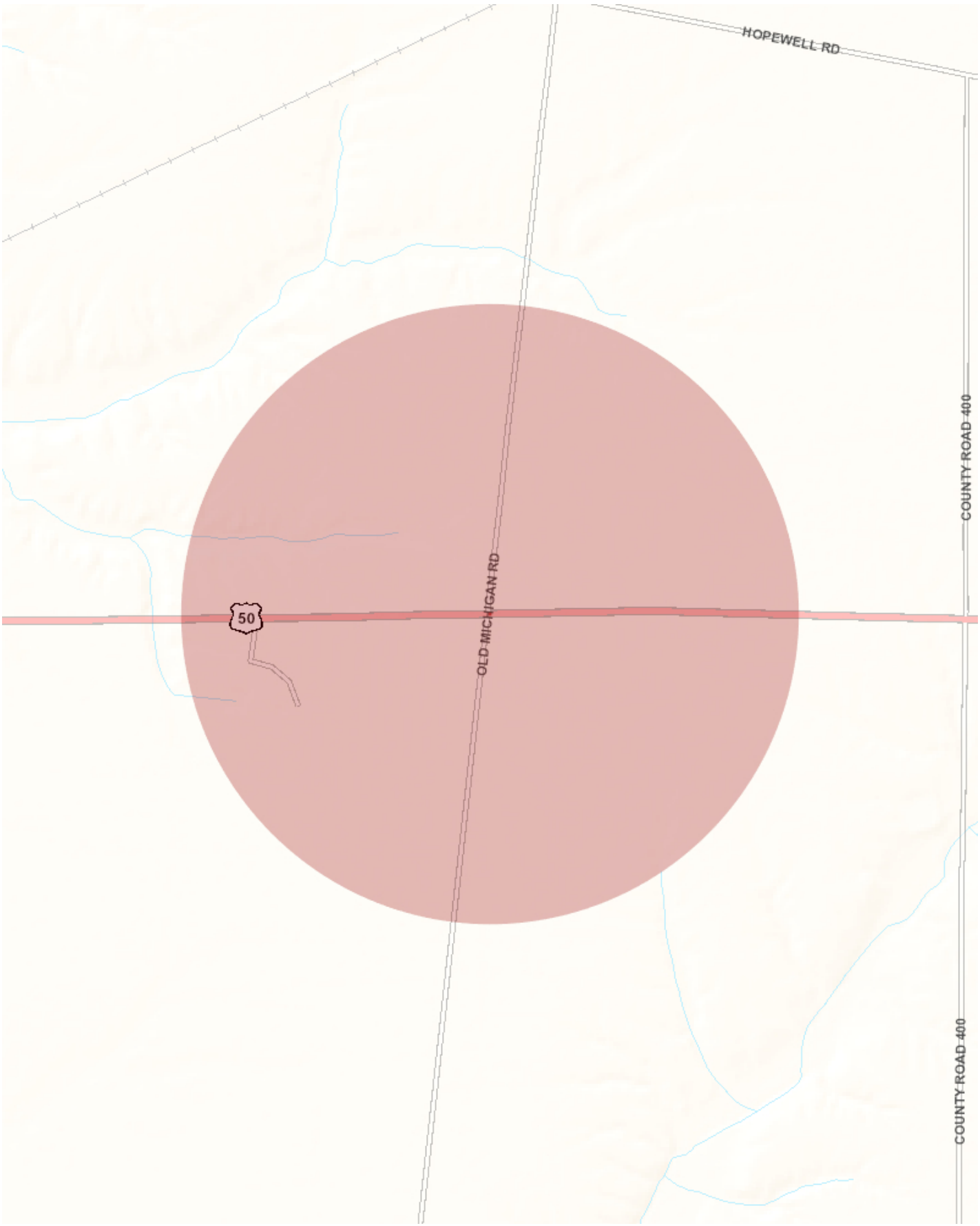
Environmental Assessment Report

1. Geological Hazards:
    - High liquefaction potential
    - 0.2% Annual Chance Protected by Levee
2. Mineral Resources:
    - Bedrock Resource: High Potential
    - Sand and Gravel Resource: None documented in the area
3. Active or abandoned mineral resources extraction sites:
    - None documented in the area

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

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

Date: April 19, 2023



United States Department of Agriculture

Farm Production and Conservation

Natural Resources Conservation Service

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

May 3, 2023

Angela R. Kattmann
3502 Woodview Trace #150
Indianapolis, Indiana 46268

Dear Ms. Kattmann:

The proposed Intersection Improvement project, US 50 and Old Michigan Road, 4.18 Miles West of US 421 in Ripley County, Indiana (Des. No. 2100026), as referred to in your letter received April 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.

Sincerely,

JOHN ALLEN

Digitally signed by JOHN ALLEN
Date: 2023.05.03 11:29:53 -04'00'

JOHN ALLEN
State Soil Scientist

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request	
Name of Project DES2100026_US50 at Old Michigan Rd		Federal Agency Involved	
Proposed Land Use		County and State Ripley County, Indiana	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS	Person Completing Form: JRA
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated	Average Farm Size: 200
Major Crop(s): Corn	Farmable Land In Govt. Jurisdiction Acres: 249119 % 87	Amount of Farmland As Defined in FPPA Acres: 189980 % 66	
Name of Land Evaluation System Used: LESA	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS: 5/3/23	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.64			
B. Total Acres To Be Converted Indirectly	0			
C. Total Acres In Site	0.64			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.13			
B. Total Acres Statewide Important or Local Important Farmland	0.00			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	<0.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	29			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	100			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	15			
2. Perimeter In Non-urban Use	(10)	10			
3. Percent Of Site Being Farmed	(20)	0			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	10			
6. Distance To Urban Support Services	(15)	10			
7. Size Of Present Farm Unit Compared To Average	(10)	5			
8. Creation Of Non-farmable Farmland	(10)	0			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	55	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	100	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	55	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	155	0	0	0

Site Selected: Site A	Date Of Selection: February 15, 2024	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

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

Name of Federal agency representative completing this form: Jason A. Stone / DLZ Indiana, LLC	Date: 2/15/2024

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

THIS IS NOT A PERMIT

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

DNR#: ER-25581

Request Received: April 28, 2023

Requestor:
Bradley Smith
DLZ Indiana, LLC
2211 East Jefferson Boulevard
South Bend, IN 46615

Project:
US 50 & Old Michigan Road intersection improvement and road reconstruction, 4.18 miles west of US 421; Des #2100026

County/Site Info: Ripley County

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

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

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

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

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

1. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in regularly mowed areas only.
2. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
3. 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:
Our agency appreciates this opportunity to be of service. Please contact me at mbuffington@dnr.in.gov or (317) 233-4666 if we can be of further assistance.

Matt Buffington

Date: May 23, 2023

Matt Buffington
Environmental Unit Supervisor
Division of Fish and Wildlife

From: Holton Fire <holtonfire@yahoo.com>
Sent: Friday, April 28, 2023 11:09 AM
To: Brad Smith
Subject: Auto Response: Early Coordination Letter, Des. #2100026, US 50 & Old Michigan Road, Intersection Improvement Project, Ripley County, Indiana

Holton Fire(Otter Creek Township) Volunteer Fire Department has a new email. Please remove this email and use holtonfiredept@gmail.com

Thank you,

Chief
Dale Comer
7043 W US Highway 50
Holton, IN 47023
(812)756-1546

Jason Stone

From: Lewandowski, Tyler <TLewandowski@indot.IN.gov>
Sent: Monday, November 27, 2023 9:50 AM
To: Jason Stone
Subject: RE: Early Coordination Letter, Des. #2100026, US 50 & Old Michigan Road, Intersection Improvement Project, Ripley County, Indiana

Thanks Jason,

After review, no tall structure permit is required for the project if all equipment being used is under 200 feet in height.

Thank you,

Tyler Lewandowski
Project Manager
INDOT Office of Aviation
(317) 495-4875
tlewandowski@indot.in.gov
www.aviation.indot.in.gov

From: Jason Stone <jstone@dlz.com>
Sent: Monday, November 27, 2023 9:45 AM
To: Lewandowski, Tyler <TLewandowski@indot.IN.gov>
Subject: FW: Early Coordination Letter, Des. #2100026, US 50 & Old Michigan Road, Intersection Improvement Project, Ripley County, Indiana

Here's the letter Tyler.

From: Brad Smith <bwsmith@dlz.com>
Sent: Friday, April 28, 2023 11:08 AM
To: Mwro_Compliance@nps.gov; DNR Environmental Review <environmentalreview@dnr.in.gov>; erik.r.sandstedt@hud.gov; JTurner2@idem.in.gov; rbraun@idem.in.gov; john.allen@in.usda.gov; RegulatoryApplicationsLRL@usace.army.mil; rmoorhead@sripley.k12.in.us; surveyor@ripleycounty.com; rchwy@ripleycounty.com; sheriff@ripleycounty.com; ema@ripleycounty.in.gov; commissionerhorstman@ripleycounty.com; cschmaltz@ripleycounty.com; khankins@ripleycounty.com; holtonfire@yahoo.com
Cc: erica.tait@dot.gov; Dye, David <Ddye@indot.in.gov>; chschneider@indot.in.gov; Jason Stone <jstone@dlz.com>; Faisal Saleem, PE, CPESC <fsaleem@dlz.com>
Subject: Early Coordination Letter, Des. #2100026, US 50 & Old Michigan Road, Intersection Improvement Project, Ripley County, Indiana

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

In Reply Refer To: January 23, 2024
Project Code: 2023-0075335
Project Name: Des. #2100026, US 50 & Old Michigan Road Intersection, Ripley County

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

To Whom It May Concern:

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

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

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

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process. For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

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

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

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

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

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

Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

PROJECT SUMMARY

Project Code: 2023-0075335
Project Name: Des. #2100026, US 50 & Old Michigan Road Intersection, Ripley County
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The Indiana Department of Transportation (INDOT) and Federal Highway Administration
(FHWA) intend to proceed with a project for improvements to the US 50 and Old Michigan Road intersection (Des. #2100026), in Ripley County, Indiana.

The project is located along US 50 at the Old Michigan Road intersection, 4.18 miles west of US 421. The project need relates to the number of crashes at the intersection. The project purpose is to improve safety conditions at the intersection.

The preferred alternative would reconstruct the Old Michigan Road approaches to provide 10-foot lanes with 2-foot shoulders, to improve turning radii and intersection sight distances. Advance intersection warning signage will be installed along US 50. The north Old Michigan Road approach will be raised to improve sight distance. The project will extend approximately 100 feet along US 50 both east and west of the intersection to improve the turning radii and 325' east and west of the intersection to place the advance warning signs. There is an existing 18-inch diameter corrugated metal pipe (CMP) under Old Michigan Road at the intersection. This CMP will be replaced with an 18-inch diameter Type 1 circular pipe culvert. This CMP was inspected by DLZ on January 22, 2024. No bats/birds or evidence of bats/birds were observed. The project will extend approximately 100 south and 150 feet north of the intersection along Old Michigan Road to improve turning radii and 175' along both north and south legs to place advance warning signs. Rumble strips will also be installed along old Michigan Road. All work will take place within 100 feet of the roadway. The project will require the acquisition of a minimum of 0.5 acres of new permanent right-of-way and less than 0.5 acre of temporary right-of-way. The proposed method of traffic maintenance is closure of Old Michigan Road with detours utilizing county roads. US 50 will remain open during construction. Construction is estimated to take place between April and November 2026.

INDOT checked the USFWS database for occurrences of bat species of concern within 0.5 mile of the project area on December 19, 2022, and no such occurrences were found. Suitable summer habitat is present within the US 50 and Old Michigan Road project area. No trees will be removed as part of the project. No new permanent traffic signals or new permanent

lighting will be installed. Temporary lighting may be installed if required during construction. Mitigation is not anticipated to be required.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0753263,-85.34871263650285,14z

Counties: Ripley County, Indiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Whooping Crane *Grus americana* Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non-Essential

CLAMS

NAME	STATUS
Salamander Mussel *Simpsonaias ambigua* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

BALD & GOLDEN EAGLES

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

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

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

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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

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

NAME	BREEDING SEASON
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

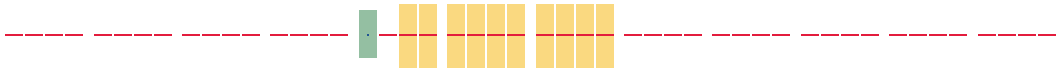
Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

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

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Bobolink
BCC Rangewide
(CON)



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

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

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

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

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: DLZ Indiana, LLC
Name: Jason Stone
Address: 2211 E Jefferson Blvd
City: South Bend
State: IN
Zip: 46615
Email jstone@dlz.com
Phone: 5742451674

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Transportation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

In Reply Refer To: January 23, 2024
Project code: 2023-0075335
Project Name: Des. #2100026, US 50 & Old Michigan Road Intersection, Ripley County

Subject: Concurrence verification letter for the 'Des. #2100026, US 50 & Old Michigan Road Intersection, Ripley County' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated January 23, 2024 to verify that the **Des. #2100026, US 50 & Old Michigan Road Intersection, Ripley County** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures. **At least one of the qualification interview questions indicated an activity or portion of your project is consistent with a not likely to adversely affect determination therefore, the overall determination for your project is, may affect, and is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the endangered northern long-eared bat (*Myotis septentrionalis*)**. Consultation with the Service pursuant to section 7(a)(2) of ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period

allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to the Service).

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:
If your initial bridge/culvert or structure assessments failed to detect Indiana bats and/or NLEB use or occupancy, yet bats are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

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

- Monarch Butterfly *Danaus plexippus* Candidate
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

PROJECT DESCRIPTION

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

NAME

Des. #2100026, US 50 & Old Michigan Road Intersection, Ripley County

DESCRIPTION

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project for improvements to the US 50 and Old Michigan Road intersection (Des. #2100026), in Ripley County, Indiana.

The project is located along US 50 at the Old Michigan Road intersection, 4.18 miles west of US 421. The project need relates to the number of crashes at the intersection. The project purpose is to improve safety conditions at the intersection.

The preferred alternative would reconstruct the Old Michigan Road approaches to provide 10-foot lanes with 2-foot shoulders, to improve turning radii and intersection sight distances. Advance intersection warning signage will be installed along US 50. The north Old Michigan Road approach will be raised to improve sight distance. The project will extend approximately 100 feet along US 50 both east and west of the intersection to improve the turning radii and 325' east and west of the intersection to place the advance warning signs. There is an existing 18-inch diameter corrugated metal pipe (CMP) under Old Michigan Road at the intersection. This CMP will be replaced with an 18-inch diameter Type 1 circular pipe culvert. This CMP was inspected by DLZ on January 22, 2024. No bats/birds or evidence of bats/birds were observed. The project will extend approximately 100 south and 150 feet north of the intersection along Old Michigan Road to improve turning radii and 175' along both north and south legs to place advance warning signs. Rumble strips will also be installed along old Michigan Road. All work will take place within 100 feet of the roadway. The project will require the acquisition of a minimum of 0.5 acres of new permanent right-of-way and less than 0.5 acre of temporary right-of-way. The proposed method of traffic maintenance is closure of Old Michigan Road with detours utilizing county roads. US 50 will remain open during construction. Construction is estimated to take place between April and November 2026.

INDOT checked the USFWS database for occurrences of bat species of concern within 0.5 mile of the project area on December 19, 2022, and no such occurrences were found. Suitable summer habitat is present within the US 50 and Old Michigan Road project area. No trees will be removed as part of the project. No new permanent traffic signals or new permanent lighting will be installed. Temporary lighting may be installed if required during construction. Mitigation is not anticipated to be required.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0753263,-85.34871263650285,14z

DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the endangered northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

QUALIFICATION INTERVIEW

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

   [1] See Indiana bat species profile

   Automatically answered
   Yes

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

   [1] See northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

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

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

   No

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

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

   No

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

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

   No

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

   Yes

8. Will the project include *any* type of activity that could impact a **known** hibernaculum[1], or impact a karst feature (e.g., sinkhole, losing stream, or spring) that could result in effects to a **known** hibernaculum?

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

   No

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

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

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   Yes

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

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

    No

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

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

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

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

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

    No

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

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

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

    No

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

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

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

    No

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

    No

15. Does the project include slash pile burning?

    No

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

    Yes

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

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

    Yes

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

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

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

    Yes

    SUBMITTED DOCUMENTS

    - *Structure AssessmentForm 2100026.pdf https://ipac.ecosphere.fws.gov/project/7UPA3QG6HRFSNJOEOJUIPPRRIU/projectDocuments/137425725*
    - *Des. 2100026 Bat Habitat Check Email.pdf https://ipac.ecosphere.fws.gov/project/7UPA3QG6HRFSNJOEOJUIPPRRIU/projectDocuments/125727753*

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

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

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

    No

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

    No

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

    No

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

    Yes

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

    Yes

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

    No

25. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    No

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

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

    Yes

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

    No

28. Are the project activities that are not associated with habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

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

29. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

30. **General AMM 1**
    Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

    Yes

31. **Hibernacula AMM 1**
    Will the project ensure that on-site personnel will use best management practices[1], secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula?

    [1] Coordinate with the appropriate Service Field Office on recommended best management practices for karst in your state.

    Yes

32. **Hibernacula AMM 1**
    Will the project ensure that, 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?

    Yes

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

    Yes

PROJECT QUESTIONNAIRE

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

   N/A

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

   N/A

3. Please describe the proposed bridge work:

   There is an existing 18-inch diameter corrugated metal pipe (CMP) under Old Michigan Road at the intersection. This CMP will be replaced with an 18-inch diameter Type 1 circular pipe culvert.

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

   April 1, 2026 through November 31, 2026

5. Please enter the date of the bridge assessment:

   January 22, 2024

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

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

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.

LIGHTING AMM 1

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

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on October 30, 2023. Keys are subject to periodic revision.

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

This decision key should only be used to verify project applicability with the Service's amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: Indiana Department of Transportation
Name: Taylor Schwering
Address: 185 Agrico Lane
City: Seymour
State: IN
Zip: 47201
Email tschwering@indot.in.gov
Phone: 8127160748

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Transportation

Bridge/Structure Bat Assessment Form

Date & Time of Assessment: 1/22/2024 1:00	DOT Project Number: 2100026	Route/Facility Carried: OLD Michigan Road / Ditch	County: Ripley
Federal Structure ID: N/A	Structure Coordinates (latitude and longitude): 39.075048 -85.349787	Structure Height (approximate): 15"	Structure Length: 38'

Structure Type (check one)

Bridge Construction Style

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

Culvert Type

- ○ Box
- ● Pipe/Round
- ○ Other:

Other Structure

- ○

Structure Material (check all that apply)

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

Creosote Evidence

- ○ Yes ● No ○ Unknown

Culvert Material

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

Notes:

Crossings Traversed (check all that apply)

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

Surrounding Habitat (check all that apply)

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

Areas Assessed (check all that apply)

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

Area (check if assessed)	Assessment Notes	Evidence of Bats (include photos if present)
☒ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☐ Not present; No bat evidence	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Concrete surfaces (open roosting on concrete)	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Spaces between concrete end walls and the bridge deck	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Crack between concrete railings on top of the bridge deck (Gap / Railing)	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Vertical surfaces on concrete I-beams	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Spaces between walls, ceiling joists	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Weep holes, scupper drains, and inlets/pipes	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ All guiderails	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ All expansion joints	☒ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species

Name: Daniel J. Stevens / DLZ Indiana, LLC

Signature: Daniel J Stevens

Appendix D

Section 106 Documentation

SECTION 1

Submittal of this form is only required for projects where Category B applies. Projects qualifying under Category A do not require submittal of this form. SECTION 2 (for Conditions of Category B.1 for curb/sidewalk) or SECTION 3 (for Conditions of Category B.9 for drainage structures) may be required as determined by INDOT-Cultural Resources Office (INDOT-CRO) review. INDOT-CRO will notify applicant if the Minor Projects PA does not apply.

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

**A qualified professional historian (QP) is not required to complete Part I INDOT-Cultural Resources Office (INDOT-CRO) staff will be responsible for completion of Part II.*

Original Submission Date: May 15, 2023 **Amended Submission Date*:**

**Consult with INDOT-CRO to determine whether an amendment is required. For revisions/updates to original form, please detail in applicable sections below. Please use red font to distinguish the revisions/updates.*

Submitted By (Provide Name and Firm/Organization):

Sydney Heidenreich
Metric Environmental, LLC
6958 Hillsdale Court
Indianapolis, IN 46250
317.981.2867
Sydneyh@metricenv.com

Project Designation Number: 2100026

Route Number: United States Highway 50 (US 50)

Feature crossed (if applicable):

City/Township: Otter Creek Township **County:** Ripley County

Project Description: *

The proposed project is located on United States Highway (US) 50 at the intersection with Old Michigan Road, approximately 4.2 miles west of US 421, west of the Town of Versailles in Ripley County, Indiana. US 50 is a rural arterial with two 12-foot through lanes and a three-foot paved shoulder. Old Michigan Road is a rural collector with two 10-foot lanes and no shoulders. The intersection is stop-controlled for the side street approach only.

No work along US 50 is planned other than the addition of advance signing and right-of-way acquisition for intersection sight distance. Old Michigan Road will require full-depth reconstruction work on both approaches to provide two 10-foot lanes and four-foot paved shoulders to improve turning radii and intersection sight distance. Work on Old Michigan Road will extend up to 250 feet on each side of the roadway. The addition of a second stop sign, and advance warning signs will also be added along Old Michigan Road. Right-of-way will need to be purchased and cleared to provide sufficient intersection sight distance.

The primary purpose of this project is to improve intersection safety at the intersection of US 50 and Old Michigan Road in Ripley County. The need for this project stems from the current safety conditions of the intersection.

Traffic flow will be maintained along US 50. Old Michigan Road will require a detour using CR 100S, CR 400W and W Hopewell Road. The length of the detour will be approximately four miles. The anticipated permanent right-of-way for this project is 0.44 acre, and anticipated temporary right-of-way is 0.05 acre.

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

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type:

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

☐ **Yes** ☐ **No**

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

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

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

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

The anticipated permanent right-of-way for this project is 0.44 acre, and portions will be taken at all four intersection quadrants; anticipated temporary right-of-way is 0.05 acre, and a portion will be taken from the southwest quadrant of the intersection and on the south side of SR 46 east of CR 350E.

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

Archaeology (check one):

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

☒ **Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming***
** If an archaeology report is required, the Minor Projects PA Form will not be finalized until the report is reviewed and approved by INDOT-CRO. For INDOT-sponsored projects, INDOT-CRO may be able to complete the archaeological investigation. If you would like to request that INDOT-CRO complete an archaeological investigation, please contact the INDOT-CRO archaeology team lead. See CRM Pt. 1 Ch. 3 for current contact information.*

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow) *:
**Include full category text, including any conditions. INDOT-CRO will finalize categories upon their review.*

B-2. Installation of new lighting, signals, signage and other traffic control devices under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

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

i. Work occurs in previously disturbed soils; *OR*

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

Condition B (Above-Ground Resources)
Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

B-3. Construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

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

i. Work occurs in previously disturbed soils; *OR*

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

Condition B (Above-Ground Resources)
Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

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

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

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

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

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

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

Bridge inspection information/BIAS ☐ Historic Bridge Inventory Database ☐

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

Other (please specify):

Stevenson, Christopher M., and Megan Copenhaver
2023 Phase Ia Archaeological Reconnaissance Survey for the Proposed US 50 and Old Michigan Road Intersection Improvement Project, Otter Creek Township, Ripley County, Indiana (INDOT Des. No. 2100026). Metric Environmental, Indianapolis. Document on file at INDOT-CRO.

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

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

Additional Comments:

Above-ground Resources

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

The National Register & IHSSI information for Ripley County is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The *Ripley County Interim Report* (1986; Otter Creek Township) of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted. The SHAARD information was checked against the Interim Report hard copy maps. The IHBBCM contains the most up to date IHSSI information. One IHSSI documented property rated above "Contributing" is located within 0.25 mile of the project area:

- IHSSI# 137-647-40010, Michigan Road Historic Marker, Exploration/Settlement/Transportation, rated "Notable"

According to the IHSSI rating system, generally properties rated "Contributing" do not possess the level of historical or architectural significance necessary to be considered individually National Register eligible, although they would contribute to a historic district. If they retain material integrity, properties rated "Notable" might possess the necessary level of significance after further research. Properties rated "Outstanding" usually possess the necessary level of significance to be considered National Register eligible if they retain material integrity. Historic districts identified in the IHSSI are usually considered eligible for the National Register.

The INDOT-CRO historian reviewed structures within 0.25 mile of the project area utilizing online aerial, street-view photography, and the Ripley County GIS website. The project area is located in a rural area surrounded by agricultural fields and scattered structures. The building stock within 0.25 mile consists of early twentieth to early twenty-first century residential, agricultural, and religious structures. None appear to possess the significance or integrity to be considered National Register-eligible.

During the review, it was noted that one (1) IHSSI documented resource, Michigan Road Historic Marker (IHSSI# 137-647-40010, rated "Notable"), and one (1) Ripley County Historical Society Marker (O'Brien Corner) are located in the southeast quadrant of the construction area. The project consultant and project designer confirmed that these features are within the construction area and cannot be avoided. (**See attached emails**.) See below for project commitments. While this resource is rated "Notable," the changes to the site and relocation of the marker due to the project will not alter nor detract from the significance of the marker. There is also a significant amount of signs, both private and state owned, present around the site, therefore the relocation of the marker will not alter the area in a significant way.

Commitment

The Indiana Historical Bureau Marker (ID #69.1949.1) and Ripley County Historical Society Marker (O'Brien Corner), both located in the southwest quadrant of the intersection of Michigan Road and US 50, will be removed, stored in a secure location, and reset in their previous locations (or in close proximity). INDOT shall coordinate, prior to construction, with the Indiana Historical Bureau, Ripley County Commissioners, and the Ripley County Historical Society regarding the removal/storage during construction and re-installation of the Indiana Historical Bureau marker and the Ripley County Historical Society Marker. A note will be added to the plans to reflect this commitment. Also, it will be added to INDOT's project commitment database and included in the environmental documentation for this project. If damage occurs during removal, storage, construction, or re-installation of the markers, work should be stopped and INDOT-CRO notified. Notification must be sent to Haley Brinker, INDOT-CRO, via both phone (317-601-0786) and email (hbrinker@indot.in.gov).

Based on the available information, no above-ground concerns exist as long as the project scope remains unchanged.

Archaeological Resources

An INDOT-CRO archaeologist who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 reviewed the Phase Ia field reconnaissance survey report completed for the project by Metric Environmental (Stevenson and Copenhaver 2023). There are no previously recorded archaeological sites within or adjacent to the project area. A 1.6-hectare (4-acre) survey area was investigated via a pedestrian walkover of the entire survey area at 5-m (16.4-ft) intervals to identify areas with undisturbed soils apart from obviously disturbed soils. The areas with undisturbed soils were investigated through pedestrian survey at 5 to 10 m intervals depending on the width of the survey area and shovel probing (n= 30) at 15 m intervals. No archaeological resources were documented as a result of the survey, and no additional investigation is recommended (Stevenson and Copenhaver 2023).

Therefore, there are no archaeological concerns provided that the project scope and footprint do not change.

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

INDOT-CRO staff reviewer(s): Haley Brinker and David Walton

INDOT Approval Date: 8/28/2023

Amendment Approval Date (if applicable):

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

Please attach the following to this form:

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

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

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

Excerpt from ArchaelogicalReport

ARCHAEOLOGICAL SHORT REPORT

PHASE IA ARCHAEOLOGICAL RECONNAISSANCE SURVEY FOR THE PROPOSED US 50 AND OLD MICHIGAN ROAD INTERSECTION IMPROVEMENT PROJECT, OTTER CREEK TOWNSHIP, RIPLEY COUNTY, INDIANA (INDOT DES. NO. 2100026)

PREPARED FOR:

DLZ INDIANA, LLC
2211 EAST JEFFERSON BOULEVARD
SOUTH BEND, IN 46615
TELEPHONE: (574) 236-4400 EXT. 614

LEAD AGENCY:

INDIANA DEPARTMENT OF TRANSPORTATION

Prepared by
Christopher M. Stevenson, MS, RPA
and Megan Copenhaver, MA, RPA

METRIC ENVIRONMENTAL

Complex Environment. Creative Solutions.

6958 Hillsdale Court
Indianapolis, IN 46250
Telephone: 317.400.1633
www.metricenv.com

_____
Karen N. Garrard, Ph.D., RPA
Archaeological Principal Investigator
kareng@metricenv.com

September 5, 2023

except for a gravel driveway at the northern terminus. This area was holding water and there were areas of standing water and saturated soils. A total of seventeen STPs were excavated along two transects in Area 2. Transect 1 was parallel to US 50 and was consisted of fourteen STPs. STP 1 displayed a disturbed soil profiles of a dark grayish brown (10YR 4/2) sod cap underlain by mixed brown (10YR 4/3) silty loam and pale brown (10YR 6/3) silty clay underlain by grayish brown (10YR 5/2) to light brownish gray (10YR 6/2) silty clay with strong brown (7.5 YR 5/8) mineral stains. STPs 2 through 14 displayed similar soil profiles of brown (10YR 4/3) silty loam extending to 15-22 cm (5.9-8.7 in) underlain by grayish brown (10YR 5/2) to light brownish gray (10YR 6/2) silty clay. STPs 4, 5, 6, and 14 encountered water upon reaching the subsoil. Transect 2 was parallel to Old Michigan Road and consisted of three STPs displaying brown (10YR 4/3) silty loam extending to 25-28 cm (9.8-11.0 in) underlain by grayish brown (10YR 5/2) silty clay with strong brown (7.5 YR 5/8) mineral stains.

Area 3 was located north of US 50 and east of Old Michigan Road and was comprised of road grade, roadside ditch, buried utilities, paved drive way, gravel driveway and parking area, commercial property, grass area, and an agricultural field of corn stubble (Figures 12 through 15). The cornfield was visually inspected and was found to have a surface visibility ranging between 30-80 percent (Figures 14-15) and was pedestrian-surveyed in two 5-m (16.4-ft) transects. A total of seven STPs were excavated along two transects in Area 3. Transect 1 was parallel to Old Michigan Road and consisted of two STPs displaying similar soil profiles of brown (10YR 4/3) silty loam extending to 13-28 cm (5.1-11.0 in) underlain by pale brown (10YR 6/3) to gray (10YR 5/1) silty clay with strong brown (7.5YR 5/8) mineral stains. Transect 2 was parallel to US 50 and consisted of five STPs displaying similar soil profiles of brown (10YR 4/3) silty loam extending to 5-16 cm (2.0-6.3 in) underlain by grayish brown (10YR 5/2) to pale brown (10YR 6/3) silty clay with strong brown (7.5YR 5/8) mineral stains.

Area 4 was located south of US 50 and east of Old Michigan Road and was comprised of road grade, roadside ditch, buried utilities, grass areas, and an agricultural field of soybean stubble (Figures 16 through 18). A Ripley County historical marker at the intersection identifying what is believed to be the Albert House and the historic Michigan Road was noted (Figures 19-20). Visual inspection determined that the portion of Area 4 parallel to US 50 was disturbed due to roadside ditch and buried utilities; as such, no STPs were excavated in this portion. The agricultural field was visually inspected and was found to have a surface visibility of 50-80 percent (Figure 18) and was pedestrian-surveyed in three 5-m (16.4-ft) transects.

No archaeological sites were identified during this survey.

RECOMMENDATIONS

Records check *(Check all that apply)*

- ☐ No archaeological investigation is recommended before the project is allowed to proceed because the records check has determined that the project area does not have the potential to contain archaeological resources.
- ☐ A Phase 1a archaeological reconnaissance is recommended.
- ☒ Based upon the records check results, a Phase 1a archaeological reconnaissance was recommended and has been conducted.
- ☒ A cemetery development plan may be required under Indiana Code 14-21-1-26.5 because project ground disturbance will be within 100 feet of a cemetery.

Phase 1a archaeological reconnaissance *(Check all that apply)*

- ☒ It is recommended that the project be allowed to proceed as planned because the Phase 1a archaeological reconnaissance has located no archaeological sites within the project area and/or previously recorded sites that were investigated warrant no additional investigation.
- ☐ It is recommended that Phase 1c archaeological subsurface reconnaissance be conducted before the project is allowed to proceed. The Phase 1a archaeological reconnaissance has determined that the project area includes landforms which have the potential to contain buried archaeological deposits.

Other recommendations / commitments

A cemetery development plan may be required should the project extend westward and into the O'Brien Cemetery grounds. Consultation with INDOT-CRO will be required.

In the southwest corner of intersection (Area 1) we recommend that if design plans change and the work plan involves additional work in the corner beyond the current Phase Ia survey area, then additional Phase Ia investigation should be completed.

If remnants of wooden planking or other pre-20th century materials associated with the construction of the historical Michigan Road are encountered during construction, then ground disturbance at that location must stop, INDOT CRO must be notified, and the discovery must be documented by a Qualified Professional archaeologist.

Pursuant to IC-14-21-1, if any 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 Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.

REQUIRED ATTACHMENTS

- ☒ Figure showing project location within Indiana
- ☒ USGS topographic map showing the project area *(1:24,000 scale)*
- ☒ Aerial photograph showing the project area, land use and survey methods
- ☒ Photographs of the project area, including, if applicable, photographs documenting disturbances
- ☐ Project plans *(if available)*

Appendix E

Red Flag Investigation

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: February 21, 2023

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: Bradley W. Smith
DLZ Indiana, LLC
2211 East Jefferson Boulevard
South Bend, IN 46615
bwsmith@dlz.com

Re: RED FLAG INVESTIGATION
DES #2100026, State Project
Project Description: Intersection Improvement Project
US 50 and Old Michigan Road, 4.18 Miles West of US 421
Ripley County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The project is for safety improvements to the US 50 and Old Michigan Road intersection, 4.18 miles west of US 421, in Ripley County, Indiana. The preferred alternative will retain the current US 50 configuration which consists of one 12-foot lane with a 3-foot outside shoulder in each direction. The Old Michigan Road approaches will be reconstructed to provide 10-foot lanes and 4-foot paved shoulders to improve turning radii and intersection sight distances. Advance intersection warning signage will be installed along US 50. No changes will be made to the horizontal alignments. The north intersection leg of Old Michigan Road will be raised to improve sight distance. Existing drainage patterns within the project limits will be perpetuated.

Bridge Work Included in Project: Yes ☐ No ☒ Structure #(s) _____

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).

Culvert Work Included in Project: Yes ☐ No ☒ Structure #(s) _____

Proposed right of way: Temporary ☒ # Acres < 0.5 Permanent ☒ # Acres > 0.5, Not Applicable ☐

Type and proposed depth of excavation: Maximum depth of excavation is not expected to exceed four (4) feet below ground surface for pavement construction, drainage pipes and subgrade construction along Michigan Road.

Maintenance of traffic (MOT): US 50 will remain open during construction. Old Michigan Road will be closed, and traffic will be maintained during construction by detours utilizing county roads.

Work in waterway: Yes ☐ No ☒ Below ordinary high water mark: Yes ☐ No ☐

State Project: ☒ LPA: ☐

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

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

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

Explanation:

Religious Facilities*
Although not mapped on the GIS layer, one (1) Religious Facility was identified within the 0.5 mile search radius. The religious facility, Crossroads Wesleyan Church, is located adjacent to the project area at the northwest corner of the US 50 and Old Michigan Road intersection. Coordination with Crossroads Wesleyan Church will occur.

Cemeteries
One (1) Cemetery is located within the 0.5 mile search radius. O'Brien Cemetery is located approximately 0.11 mile west of the western terminus of the project area. No impact is expected.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	**1**	Canal Routes - Historic	**N/A**
Karst Springs	**N/A**	NWI – Wetlands	**6**
Canal Structures – Historic	**N/A**	Lakes	**6***
NPS NRI Listed	**N/A**	Floodplain – DFIRM	**N/A**
NWI-Lines	**1**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**1**	Sinkhole Areas	**N/A**
Rivers and Streams	**5**	Sinking-Stream Basins	**N/A**

If unmapped water features are identified that might impact the project area, direct coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Explanation:

NWI – Points
One (1) NWI Point is located within the 0.5 mile search radius. The NWI point is located approximately 0.24 mile northwest of the western terminus of the project area. No impact is expected.

NWI-Lines

One (1) NWI Line is located within the 0.5 mile search radius. The NWI line is located approximately 0.48 mile northeast of the northern terminus of the project area. No impact is expected.

IDEM 303d Listed Streams and Lakes (Impaired)

One (1) 303d Listed Stream segment is located within the 0.5 mile search radius. The 303d stream segment is located approximately 0.48 mile southeast of the southern terminus of the project area. No impact is expected.

Rivers and Streams

Five (5) River and Stream segments are located within the 0.5 mile search radius. The nearest stream segment, Bear Branch, is located approximately 0.17 mile northwest of the northern terminus of the project area. No impact is expected.

NWI – Wetlands

Six (6) NWI Wetlands are located within the 0.5 mile search radius. The nearest wetland is located approximately 0.31mile northwest of the western terminus of the project area. No impact is expected.

Lakes*

Six (6) Lakes, five (5) mapped and one (1) unmapped, are located within the 0.5 mile search radius. The nearest lake is located approximately 0.18 mile northwest of the western terminus of the project area. No impact is expected.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	**N/A**	Mineral Resources	**N/A**
Mines – Surface	**N/A**	Mines – Underground	**N/A**

Explanation:

No mining or mineral exploration resources were identified within the 0.5 mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	**N/A**	Manufactured Gas Plant Sites	**N/A**
RCRA Generator/ TSD	**N/A**	Open Dump Waste Sites	**N/A**
RCRA Corrective Action Sites	**N/A**	Restricted Waste Sites	**N/A**
State Cleanup Sites	**N/A**	Waste Transfer Stations	**N/A**
Septage Waste Sites	**N/A**	Tire Waste Sites	**N/A**
Underground Storage Tank (UST) Sites	**N/A**	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**N/A**	Brownfields	**N/A**
Construction Demolition Waste	**N/A**	Institutional Controls	**N/A**
Solid Waste Landfill	**N/A**	NPDES Facilities	**1**

Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**N/A**
Leaking Underground Storage (LUST) Sites	**N/A**	Notice of Contamination Sites	**N/A**

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

Explanation:

NPDES Facilities
One (1) NPDES Facility is located within the 0.5 mile search radius. Versailles/Holton Wesleyan Church, 5112 US 50, Holton, is located adjacent to the project area at the northwest corner of the US 50 and Old Michigan Road intersection. Stormwater Permit # INR10I822 was issued August 8, 2014 and was terminated August 7, 2019. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Ripley 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_ripley.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A check 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 the Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation INDOT Projects."

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE:

Religious Facilities: One (1) religious facility is located adjacent to the project area. Coordination with Crossroads Wesleyan Church will occur.

WATER RESOURCES: N/A

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

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

INDOT ESD concurrence: Dariane Davis Digitally signed by Dariane Davis Date: 2023.02.21 14:26:30 -05'00' (Signature)

Prepared by:
Bradley W. Smith
Survey/Mapping Assistant
DLZ Indiana, LLC

Graphics:

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

SITE LOCATION: YES

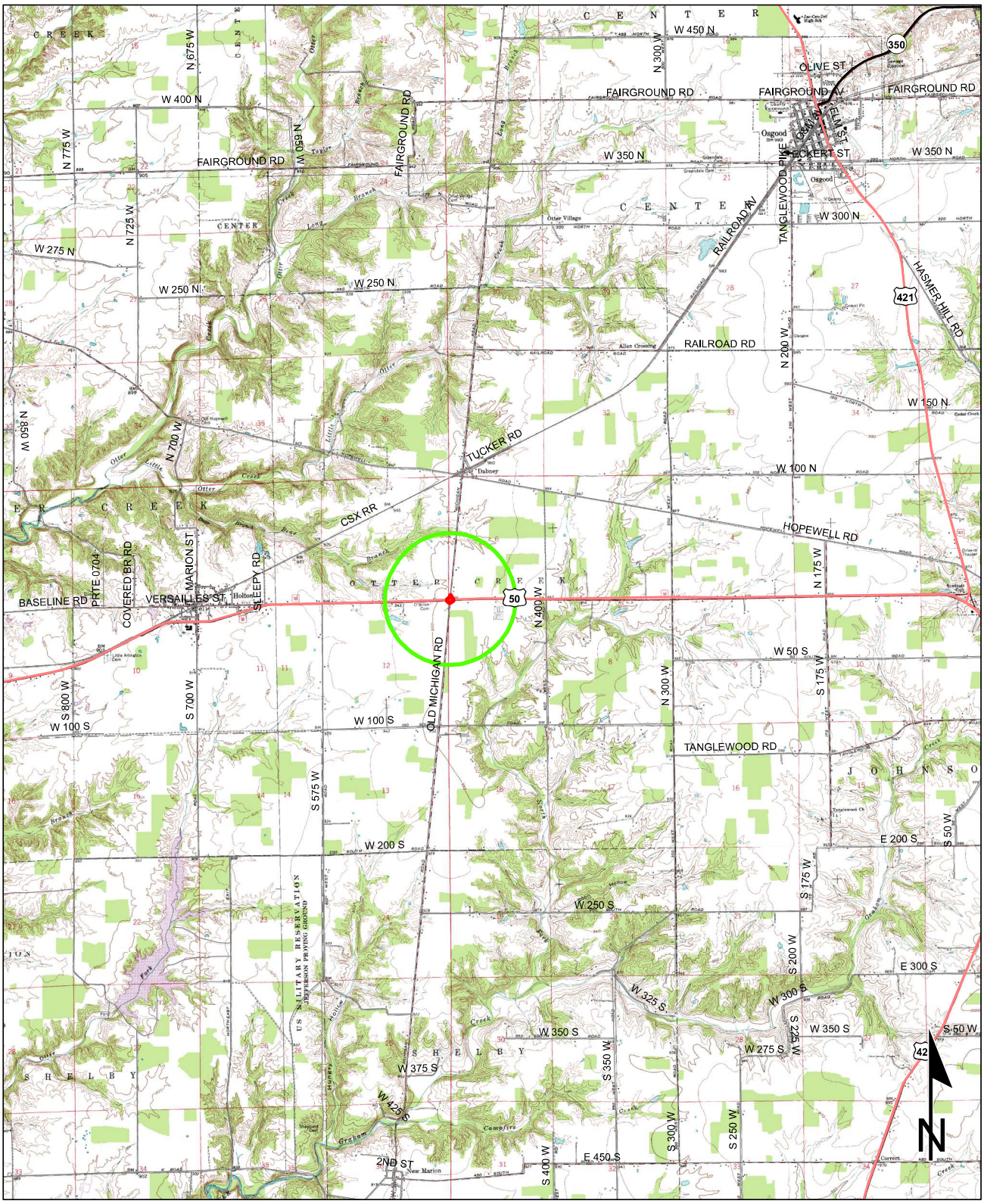
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
US 50 & Old Michigan Road, 4.18 Miles West of US 421
Des. No. 2100026, Intersection Improvement Project
Ripley County, Indiana



Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

1 0.5 0 1 Miles

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

VERSAILLES QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
US 50 & Old Michigan Road, 4.18 Miles West of US 421
Des. No. 2100026, Intersection Improvement Project
Ripley County, Indiana

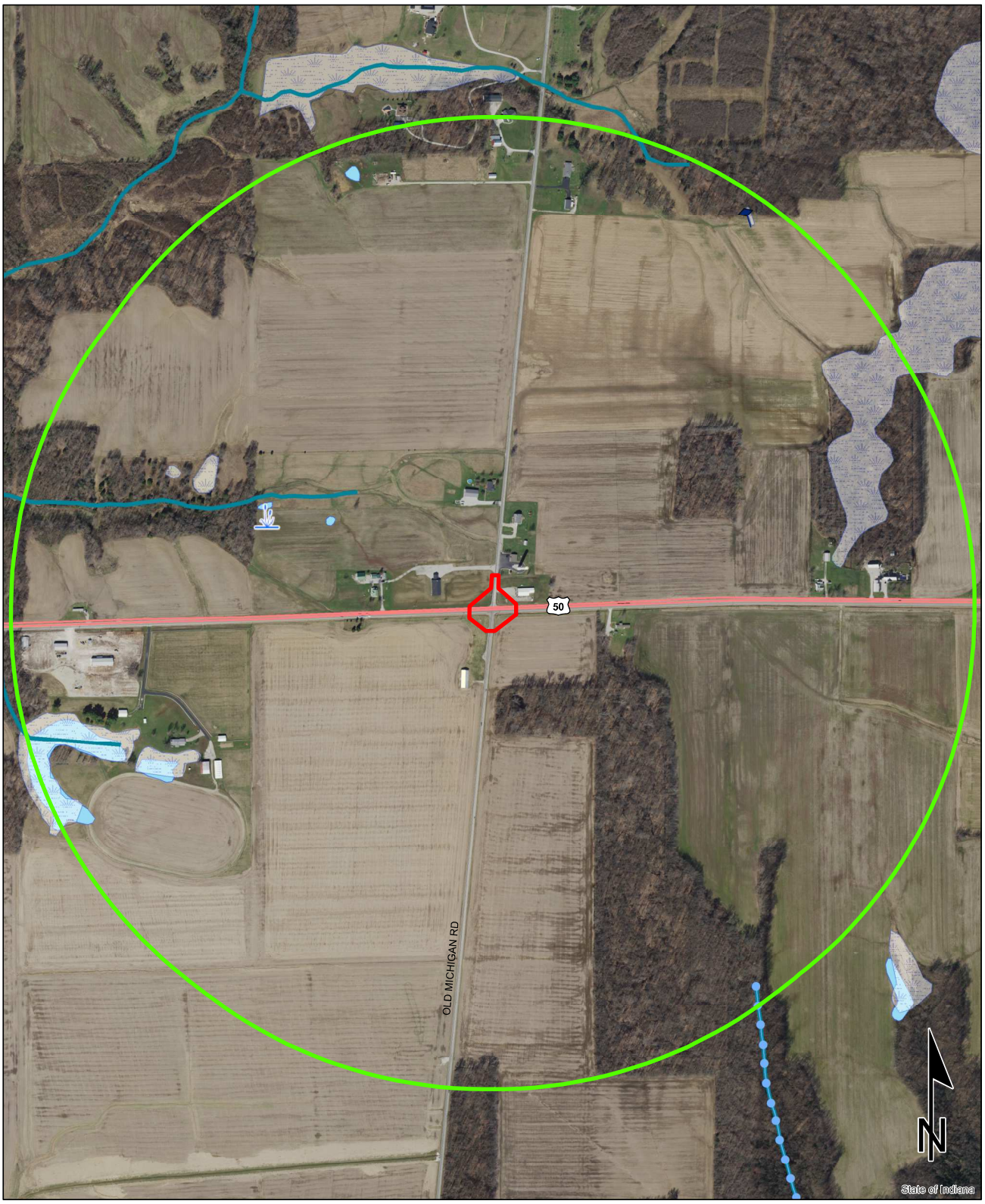
0.1 0.05 0 0.1 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

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

Red Flag Investigation - Water Resources
US 50 & Old Michigan Road, 4.18 Miles West of US 421
Des. No. 2100026, Intersection Improvement Project
Ripley County, Indiana



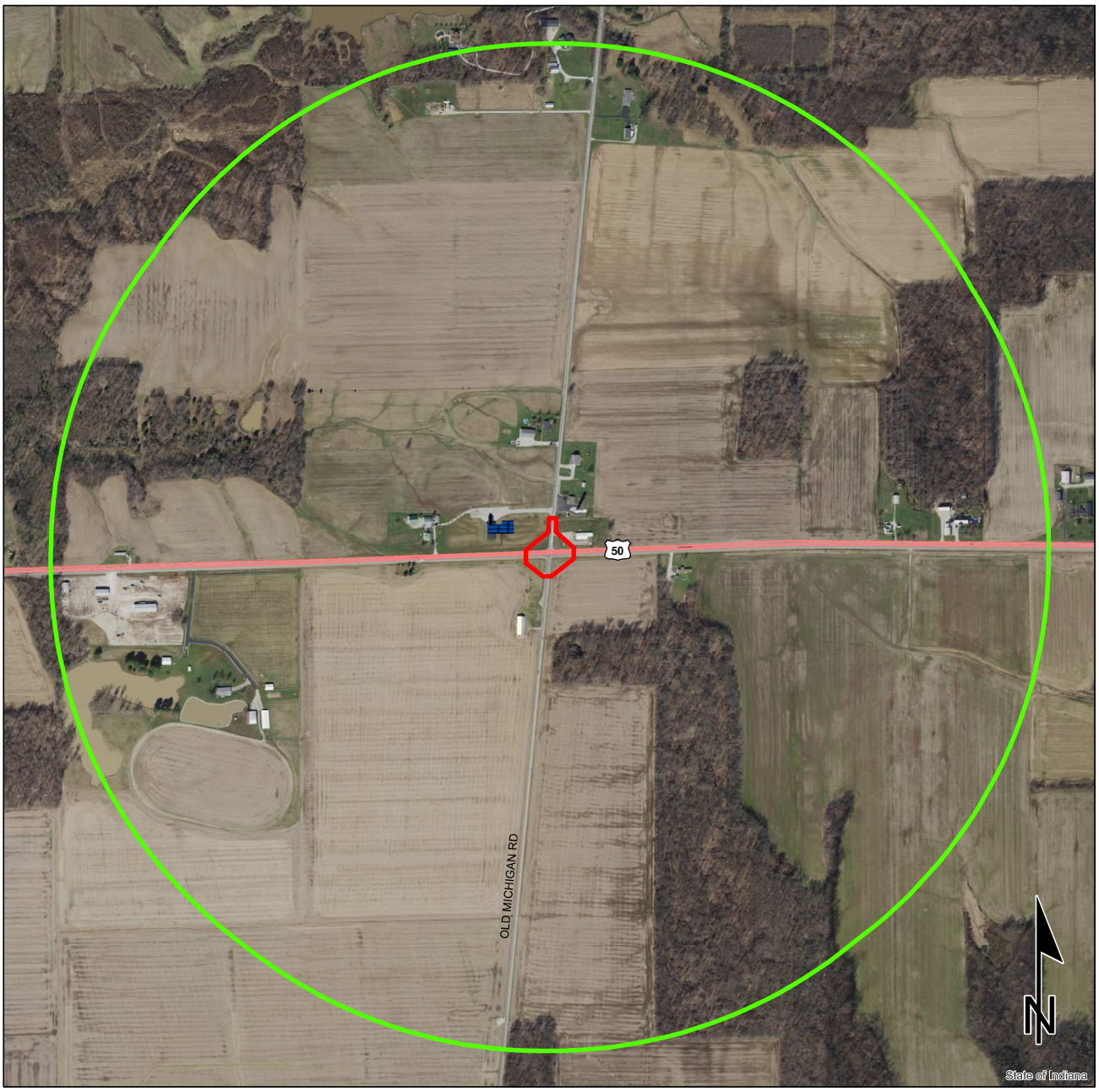
0.1 0.05 0 0.1 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Hazardous Material Concerns
US 50 & Old Michigan Road, 4.18 Miles West of US 421
Des. No. 2100026, Intersection Improvement Project
Ripley County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.1 0.05 0 0.1 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)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Appendix F

Public Involvement Documentation

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

January 27, 2023

«Owner»
«Mailing_address»
«City», «State» «Zip»

Sample Notice of Entry for Survey Letter

Re: Survey Notice for U.S. 50 Road Rehabilitation
DLZ Project #2263-2081-50
Property Key # «Tax_ID_»
Property Address: «Property_Address» «City1»

Dear Property Owner:

Our firm has been retained by the Indiana Department of Transportation (INDOT) to prepare a survey for the road rehabilitation project of U.S. 50 at its intersection with Old Michigan Road, Des. No. 2100026.

Our information indicates that you either own or occupy property near this proposed highway project. Our employees will be conducting a survey of the project area in the near future. It may be necessary for them to come onto your property to complete this work. This is allowed by law in accordance with Indiana Code IC 8-23-7-26 (see attached). They will show you their identification, if you are available, before coming onto your property. If you have sold this property, or it is occupied by someone else, please let us know the name and address of the new owner or current occupant so we can contact them about the survey.

The survey work will include the location of features such as streams, wetlands, bridges, curb and gutter, buildings, trees, fences, utilities, sewer structures and drives, and obtaining ground elevations. We will also be re-establishing public street right-of-way lines by looking for and locating property irons and subdivision block corners. This survey is needed for the proper planning and design of this project.

Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If any problems do occur, please contact our field crew or myself at the number listed below. A copy of IC-8-23-7-26 thru 28 is provided to help with your understanding of the process. In accordance with IC 8-23-7-28, any request for damages shall be made in writing to the INDOT – Seymour District – Anthony McClellan, Deputy Commissioner, 185 Agrico Lane, Seymour, IN 47274.

Sincerely,

DLZ INDIANA, LLC

Steve Jones, PS, CFedS
Survey & Right of Way Division Manager

Appendix G

Air Quality Documentation

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2024 - 2028

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2024	2025	2026	2027	2028
Indiana Department of Transportation	43755 / 2100026	Init.	US 50	Sight Distance Improvement	Seymour	0	NHPP	$656,000.00	Safety ROW	RW	$58,400.00	$14,600.00	$73,000.00				
									Safety Construction	CN	$386,400.00	$96,600.00			$483,000.00		
Performance Measure Impacted: Safety																	
Location: Intersection of Old Michigan Road																	
Comments:Include DES 2100026																	
Indiana Department of Transportation	43770 / 2100562	Init.	US 421	Replace Superstructure	Seymour	0	STBG	$1,789,000.00	Bridge Construction	CN	$1,208,800.00	$302,000.00			$1,510,000.00		
									Bridge ROW	RW	$12,000.00	$3,000.00	$15,000.00				
Performance Measure Impacted: Bridge Condition																	
Location: Over Branch Cedar Creek, 2.01 N US 50																	
Comments:Include DES 2100562																	
Indiana Department of Transportation	43788 / 2100823	Init.	SR 48	Small Structure Replacement	Seymour	.1	STBG	$1,138,809.00	Bridge Construction	CN	$554,400.00	$138,600.00			$693,000.00		
Performance Measure Impacted: Bridge Condition																	
Location: over UNT to N Branch Ripley Creek, 2.67 miles E of SR 229																	
Comments:Include DES 2100823, 2100838																	
Indiana Department of Transportation	44419 / 2200905	Init.	SR 129	Scour Protection (Erosion)	Seymour	0	STBG	$546,000.00	Bridge Construction	CN	$332,000.00	$83,000.00		$415,000.00			
Performance Measure Impacted: Safety																	
Location: Over UNT Little Raccoon Creek, 0.65 miles N of N SR 62 JCT																	
Comments:Include DES 2200905																	
Indiana Department of Transportation	44462 / 2200600	Init.	SR 46	Small Structure Replacement	Seymour	0	STBG	$3,554,818.00	Bridge Construction	CN	$1,806,400.00	$451,600.00				$2,258,000.00	
									Bridge ROW	RW	$36,000.00	$9,000.00		$45,000.00			
Performance Measure Impacted: Bridge Condition																	
Location: over UNT Pipe Creek, 0.31 miles E of SR 101																	
Comments:Include DES 2200496, 2200591, 2200595, 2200599, 2200600																	
Indiana Department of Transportation	44749 / 1700202	Init.	US 421	Bridge Replacement	Seymour	0	NHPP	$2,298,000.00	Bridge Construction	CN	$1,500,800.00	$375,200.00			$1,876,000.00		
Performance Measure Impacted: Bridge Condition																	
Location: 00.34 mile N of SR 229 at Laughery Creek																	
Comments:Include DES 1700202																	

Ripley County Total

Federal: $26,319,600.00 Match :$6,543,400.00 2024: $2,739,000.00 2025: $8,694,000.00 2026: $5,579,000.00 2027: $15,841,000.00 2028: $10,000.00

Report Created:8/28/2023 1:35:16PM

*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

Appendix H

Additional Information

Excerpt from INDOT Listing of LWCF in Ripley County (https://www.in.gov/indot/engineering/environmental-services/environmental-policy/) Accessed on September 15, 2023

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

ProjectNumber	SubProjectCode	County	Property
1800111	1800111	Ripley	Liberty Park & Park Reservoir
1800116	1800116	Ripley	Batesville Memorial Pool
1800171	1800171Q	Ripley	Versailles State Park
1800178	1800178	Ripley	Versailles State Park
1800181	1800181	Ripley	Versailles State Park
1800312	1800312S	Ripley	Versailles State Park
1800327	1800327M	Ripley	Versailles State Park
1800363	1800363HH	Ripley	Versailles State Park
1800378	1800378H	Ripley	Versailles State Park
1800413	1800413W	Ripley	Versailles State Park
1800471	1800471	Ripley	Milan Community Park
1800594	1800594D	Ripley	Versailles State Park
1800597	1800597	Ripley	Six Pines Ranch Park

Excerpt from Engineer's Assessment

Designer's note to reviewer: Project Plans are consistent with the recommendations made in the Engineer's Assessment (EA) report. INDOT requested that new Abbreviated Engineer's report should not prepared if project scope remains consistent with EA for this project. Therefore,a new Abbreviated Engineer's report has not been prepared for this project and we are utilizing the approved EA report for documentation purposes.

US 50 [illegible]vement at Old Michigan Road Engineer's Assessment

Des Number: TBD

Date: August 2020

RIPLEY COUNTY

Safety Asset Score: 67

CMT

8790 Purdue Road, Indianapolis, IN 46268

INDIANA DEPARTMENT OF TRANSPORTATION
DESIGN PLANS/DOCUMENTS REVIEWED

BY: Micah Reynolds DATE: 6/6/2023

OF BURGESS & NIPLE, INC. B&N burgessniple.com

TABLE OF CONTENTS

APPENDICES

1.0 PROJECT DESCRIPTION

1.1 REPORT PURPOSE

This report will outline the recommended alternative for an intersection improvement at US 50 with Old Michigan Road and document the engineering assessment phase of the project. The report will provide a framework to set the project scope and the design approach for the project. The engineering assessment will begin to identify potential design constraints and project obstacles, all of which will be documented in the following report.

1.2 PROJECT LOCATION

The project study area is located at the intersection of US 50 with Old Michigan Road within Ripley County, Indiana. The project study area falls within INDOT's Seymour District limits. The study area for the intersection improvement begins approximately 1,500 feet in advance of each leg of US 50 and approximately 850' in advance of each leg of Old Michigan Road. This results in a project length of 0.9 miles. The latitude and longitude of the intersection are 39° 4'30.44"N, 85°20'55.53"W which corresponds with Reference Post 134+0.351. US 50 is a principal rural arterial that provides east-west access from Holton to Versailles. The south leg of Old Michigan Road is classified as a minor collector and the north leg is classified as a major collector. Location maps for the proposed project area can be found in ***Appendix A – Project Graphics***.

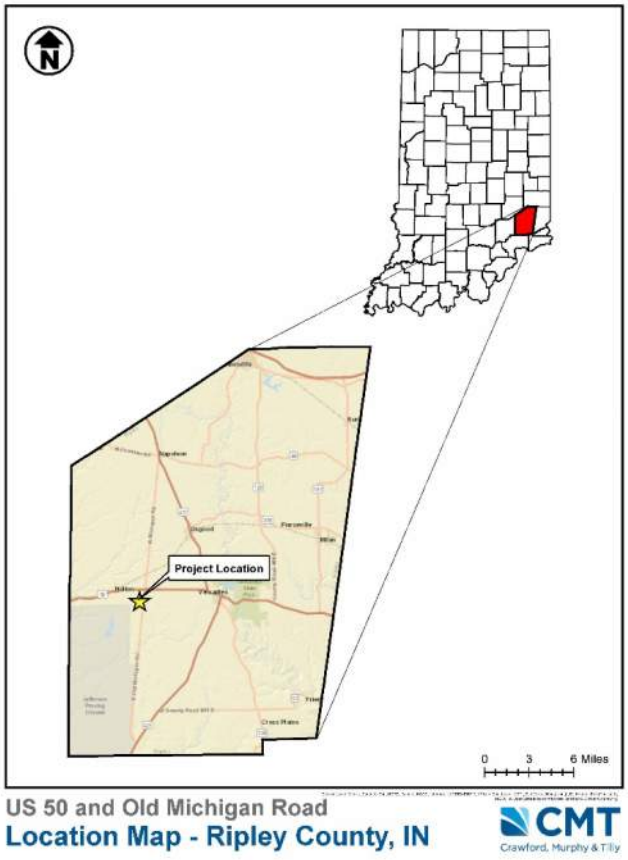


FIGURE 1 – COUNTY LOCATION MAP

1.3 PROJECT NEED AND PURPOSE

The need for this project is evidenced by the high number of crashes involving vehicles traveling across US 50 at the existing two-way stop intersection. The purpose of this project is to reduce the crash rate at this intersection. The formal need and purpose for the project will be

determined through the NEPA process.

1.4 ENVIRONMENTAL PROCESS

The results and recommendations in this report will be based on traffic and safety analyses. Any recommendations from the corridor evaluation would still need to be evaluated for environmental impacts through the NEPA process. A preliminary Red Flag Investigation will be conducted with the traffic study of the area to identify environmentally sensitive areas that should be considered in future phases of the project.

2.0 EXISTING FACILITIES

2.1 ROADWAYS

US 50

US 50 in Ripley County has a functional classification as a principal arterial, is included on the National Truck Network, and is an FHWA National Highway System (NHS) route. It travels east-west, connecting Vincennes, Indiana to Lawrenceburg, Indiana regionally. Through the project area, the speed limit is 55 miles per hour (mph) with one 12-foot lane in each direction and a 3-foot outside shoulder on each side. From a 24-hour traffic count in 2017, the roadway at this intersection has an average annual daily traffic count of 3,270 vehicles per day. The table below summarizes the design criteria for US 50.

Table 1 – US 50 Roadway Information

Geometric Criteria			
Design Speed	55 mph	**Functional Class**	Principal Arterial
Design Criteria	3R (Non Freeway)	**Rural/Urban**	Rural
Terrain	Level	**Access Control**	None
Approach Cross Section			
IDM Figure Reference	Rural Arterial, 2-Lane (IDM 55-3A)		
Travel Lane Count	1	**Travel Lane Width**	12’ (existing) 12’ (proposed) 12’ (criteria)
Should Width (Usable)	3’ (existing) 6’ (proposed) 6’-8’ (criteria)	**Shoulder Width (Paved)**	3’ (existing) 4’ (proposed) 2’-6’ (criteria)
Mainline Pavement	HMA on Subbase	**Shoulder Pavement**	HMA (existing) HMA/Agg. (criteria)
Alignment			
Horizontal	Tangent	**Vertical**	Straight grade (existing)

OLD MICHIGAN ROAD

Old Michigan Road in Ripley County has a functional classification as a minor collector south of US 50 and a major collector north of US 50. Old Michigan Road travels south-north between the town limits of Holton and Versailles from US Highway 421 to Napoleon, Indiana. The speed limit through the project area is 45 mph. The north and south legs of Old Michigan Road are stop-controlled with one 10-foot lane in each direction and a 1-foot outside shoulder on each side. From a 24-hour traffic count conducted in 2018, the roadway at this intersection has an average annual daily traffic count of 1,437 vehicles per day. The table below summarizes the design criteria for Old Michigan Road.

Table 2 - Old Michigan Road Roadway Information

Geometric Criteria			
Design Speed	45 mph	**Functional Class**	Major / Minor Collector
Design Criteria	3R (Non Freeway)	**Rural/Urban**	Rural
Terrain	Level	**Access Control**	None
Approach Cross Section			
IDM Figure Reference	Local Agency Rural Collector IDM 55-3C		
Travel Lane Count	1	**Travel Lane Width**	10’ (existing) 10’ (proposed) 10’-11’ (criteria)
Should Width (Usable)	1’ (existing) 5’ (proposed) 3’-6’ (criteria)	**Shoulder Width (Paved)**	1’ (existing) 4’ (proposed) 2’-4’ (criteria)
Mainline Pavement	HMA on Subbase	**Shoulder Pavement**	Aggregate Earth (existing) HMA/Agg./Earth (criteria)
Alignment			
Horizontal	Tangent	**Vertical**	Straight grade (existing)

2.2 MAJOR INTERSECTIONS

US 50 AND OLD MICHIGAN ROAD

This existing intersection is four-legged with stop control on Old Michigan Road. US 50 has a single lane for all movements on the eastbound and westbound approaches. Old Michigan Road also has a single lane for all movements on the northbound and southbound approach. The intersection is currently bounded by agricultural land to the south, a church to the northwest, and commercial property to the northeast. A water storage facility for a local rural water district is also present in the northeast quadrant.

FIGURE 2 – US 50 AT OLD MICHIGAN ROAD

2.3 DRAINAGE STRUCTURES

Existing drainage throughout the project is primarily an open drainage ditch system. Ditches parallel US 50 and Old Michigan Road through the project area. There is an existing pipe that crosses Old Michigan Road approximately 40 feet south of the intersection. This pipe is used to convey flow from the ditches along the southeast quadrant of the intersection to the ditch along eastbound US 50 in the southwest quadrant. This ditch conveys flow along the south side of US 50 to an existing pipe that flows south to north approximately 1,700 feet west of the intersection and into an unnamed stream. Flow from the ditch along the north side of US 50 also flows into this unnamed stream. This unnamed stream flows to Bear Branch and ultimately to Little Otter Creek.

Additionally, there is an existing pipe that crosses Old Michigan Road approximately 400 feet north of the intersection. This pipe is used to convey flow from the ditches along the northeast quadrant of the intersection into an unnamed stream in the northwest quadrant. Flow from the ditch along the west side of Old Michigan Road also flows into this unnamed stream. This unnamed stream flows to Bear Branch and ultimately into Little Otter Creek.

2.4 EXISTING UTILITIES

According to the Indiana 811 design ticket, the following utilities are in the project area: Frontier, Holton Community Water, Holton Sewage Works, SEI Communications, and

Southeastern Indiana REMC. A field inspection and early coordination provided some extra details:

- The REMC power poles are located along the south side of US 50 and assumed to be located within an easement.
- Underground telecommunications' markers/pedestals were found for Frontier and Verizon.
- Holton Water owns the tower in the northeast quadrant of the intersection. There is an 8" main along the south side of US 50 extending to the west and a 6" main to the east. These are assumed to not be within an easement.

2.5 FIELD CHECK

An on-site field check was held on July 15, 2020 (see minutes in the appendix). After reviewing the initial alternatives, a new, low-cost alternative was also created.

3.0 TRAFFIC DATA AND CAPACITY ANALYSIS

3.1 TRAFFIC DATA

Traffic Data used for the study was compiled from 24-hour counts provided by the Indiana Department of Transportation in March 2017 and November 2018. The existing intersection turning movement counts were collected by the Indiana Department of Transportation in January 2020. Growth factors were used to adjust and annualize all volumes. Based on historical AADT provided by INDOT Traffic Count Database and potential regional connectivity and growth a growth factor of 0.4% was chosen for the intersection. ***Table 3*** summarizes the AADT for the current year (2020) and the design year (2044) and the percentage of heavy vehicles at the intersection. Full turning movement forecasting is included in ***Appendix C – Traffic Analysis***.

Table 3 – Daily Traffic Characteristics

Approach	AADT		% Heavy Vehicles
	2020	2044	
Eastbound US 50	2,154	2,315	21.7
Westbound US 50	1,792	1,926	26.9
Northbound Old Michigan Road	376	424	6.7
Southbound Old Michigan Road	707	797	3.1

3.2 CAPACITY ANALYSIS

The operational analysis associated with this report includes an analysis of the existing conditions and design year traffic volumes. Highway Capacity Software 7 (HCS7) was used to analyze each alternative. Highway Capacity Manual (HCM) 2010 default values were used for modeling traffic behavior. While crash history was the main reason for studying this intersection, the existing conditions were modeled to make sure no congestion or capacity issues were noticed that had not been previously detected. The results of the existing conditions analysis are presented in ***Table 4.***

Table 4 – 2020 Existing Conditions

Approach	AM		PM	
	LOS	Delay	LOS	Delay
Eastbound US 50	A	1.6	A	1.7
Westbound US 50	A	0.3	A	0.3
Northbound Old Michigan Road	B	11.4	B	12.4
Southbound Old Michigan Road	B	10.7	B	10.7

The results in ***Table 4*** show that the intersection currently operates at an acceptable level of service (LOS). According to the Indiana Design Manual, the minimum acceptable level of service on a rural arterial is LOS D.

Intersection performance was analyzed as a mobility measure of effectiveness. The performance criteria set forth in the HCM 2010 for signalized intersections and unsignalized intersections were used to analyze intersection delays and provide a level of service (LOS) for the results of the HCS7 analyses. The design year intersection approach's LOS and delay for the No Build and the proposed improvement alternatives that required conversion of the intersection from its existing state are shown in ***Table 5*****.** Proposed improvement alternatives include conversions to (1) a 4-way stop with left-turn lanes; (2) a signalized intersection with left-turn lanes; (3) a high-speed roundabout; and (4) an offset-T intersection.

These alternatives were considered in accordance with the Intersection Decision Guides that are included in ***Appendix B – INDOT Intersection Decision Guide Preliminary Screening Form***. The alternatives considered for this study that are shown in ***Table 5*** provided significant safety enhancements compared to other intersection types and the current intersection configuration.

Table 5 - Level of Service Summary

Alternative		Eastbound US 50		Westbound US 50		Northbound Old Michigan Rd		Southbound Old Michigan Rd		OVERALL INTERSECTION	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
2044 No Build	AM	A	1.7	A	0.3	B	12.5	B	11.3		
	PM	A	1.8	A	0.2	B	13.6	B	11.5		
2044 4-way Stop w/ Left-Turn Lanes	AM	A	9.4	A	9.6	A	8.4	A	8.1	**A**	**9.2**
	PM	B	10.1	A	9.5	A	8.4	A	8.3	**A**	**9.5**
2044 Signalized Intersection	AM	A	6.9	A	6.7	C	30.2	C	28.9	**B**	**12.1**
	PM	A	7.4	A	6.9	C	29.4	C	29.2	**B**	**12.1**
2044 Roundabout Intersection	AM	A	4.8	A	4.8	A	4.4	A	4.0	**A**	**4.6**
	PM	A	5.2	A	4.6	A	3.9	A	3.8	**A**	**4.7**
2044 Offset-T Intersection	AM	A	1.8	A	0.2	B	10.6	A	10.0		
	PM	A	1.9	A	1.9	B	10.8	B	10.0		

The intersection performance resutls in ***Table 5*** shows that for the No Build scenario if no alignment, capacity, or intersection control changes are implemented, congestion issues will worsen slightly as traffic volumes increase by the design year. Although capacity is not a primary concern that warrants improvement of the intersection, the No Build scenario shows slight degradation in operations as traffic volumes increase.

The 4-Way Stop intersection without turn lanes, the 4-Way Stop intersection with left-turn lanes, and the Roundabout intersection all provide an improved LOS and decreased approach delay on the northbound and southbound approaches for the AM and PM peaks. The LOS of the eastbound and westbound approaches for these intersection types will continue to be LOS A with an increase in approach delay times, with the exception of the easbound PM peak. The Signalized intersection would cause a deterioration in LOS for the northbound and southbound approaches and an increase in approach delay for the easbound and westbound approaches. The Offset-T intersection would not improve upon the LOS for any approach at the intersection. However, the Offset-T would decrease the approach delay of the northbound and southbound approaches for the AM and PM peaks.

4.0 CRASH DATA AND ANALYSIS

This project analyzed traffic movements and crash history in the area surrounding the proposed project area. The extent of the analysis encompassed the existing conditions and geometric design of the study intersection.

To effectively measure the proposed improvements, the identified alternatives were evaluated for operational and safety impacts to the roadway. The analysis includes the existing conditions based upon counts conducted in 2017 and 2018. Future analyses include the design year (2044).

Six alternatives were developed for analysis, including a No Build alternative. Descriptions of the alternatives will be provided in ***Section 5.0.***

4.1 CRASH DATA ANALYSIS

A safety analysis was performed to evaluate historic crash data as well as to compare build and No Build alternatives. The analysis was done only for the study intersection.

Historic crash data were reviewed at the intersection of US 50 and Old Michigan Road. The crash data were provided by INDOT. Within a 5-year period between April 2016 and January 2020, 14 crashes were reported within the study intersection. One crash in 2019 resulted in two fatalities. The crash occurred on a clear evening with dry roadway conditions, involving two vehicles. The driver of Vehicle 1, traveling on Old Michigan Road, did not see any oncoming vehicles traveling on US 50 and proceeded to traverse the intersection. However, Vehicle 2 was traveling west on US 50 and entered the intersection simultaneously with Vehicle 1, thus causing a right-angle collision. The primary cause of the collision is due to failure to yield right of way on behalf of the driver of Vehicle 1. Of the five crashes that resulted in injuries, one was reported as having incapacitating injuries in 2018. The severe crashes were right angle crashes in 2018 and 2019. A breakdown of the crashes by type and location is provided in ***Table 6.***

Table 6 - Historical Crash Severity Data (2016-2020)

	Ran Off Road			Right Angle / Turning			Head On			Backing Crash			Total
	PDO	NIC	F/IC	PDO	NIC	F/IC	PDO	NIC	F/IC	PDO	NIC	F/IC	
2016	1	0	0	0	0	0	1	0	0	0	0	0	**2**
2017	1	0	0	0	0	0	0	0	0	0	0	0	**1**
2018	2	0	0	1	3	1	0	0	0	0	0	0	**7**
2019	1	0	0	1	0	1	0	0	0	0	0	0	**3**
2020	0	0	0	0	0	0	0	0	0	1	0	0	**1**
Total	**5**	**0**	**0**	**2**	**3**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**14**
Percentage	**36%**			**50%**			**7%**			**7%**			**100%**

PDO = Property Damage Only

NIC = Not Incapacitating Injury

F/IC = Fatality/Incapacitating

The data shows that approximately 50% of the crashes at the intersection are right angle or turning movement crashes. One of the common factors cited in right angle crashes was vehicles crossing US 50 failed to yield to the right-of-way, as many drivers reported they did not notice an oncoming vehicle driving towards the intersection. Some of these crashes may be due to drivers' inability to properly see opposing traffic before attempting to cross the opposing roadway, negligence to come to a complete stop before proceeding through the intersection, the high speed of opposing traffic, or driver confusion. There are also occurrences of southbound drivers on Old Michigan Road neglecting to come to a complete stop or running the stop sign entirely. In 2018, INDOT installed new stop signs (with reflective strips on the sign posts) for the Old Michigan Road approaches. However, this has not deterred drivers from running the stop sign at the intersection.

4.2 SAFETY ANALYSIS

The crash history for the study intersection was input into INDOT's RoadHAT 3.0[1] project to compare intersections to similar locations statewide. Indices of crash frequency (ICF) and crash cost (ICC) are calculated to determine how many standard deviations away from average an intersection's crash history and severity are compared to other similar intersections across Indiana. The RoadHAT results that were obtained from the current year (2020) traffic volumes provided by INDOT and crash history from 2016 to 2019 can be found in ***Table 7***. It should be noted that ICF and ICC values are

[1] RoadHAT version 4 was not available at the time of this report.

determined using three consecutive years of traffic data. As such, the ICF and ICC values provided in ***Table 7*** were evaluated from 2016 to 2018 and from 2017 to 2019 to understand how safety at the intersection has evolved.

Table 7 - RoadHAT Results

Intersection	Time Frame	ICF	ICC
US 50 and Old Michigan Road	2016-2018	2.31	1.96
	2017-2019	2.49	1.49

The ICF and ICC values for both time frames are more than one standard deviation higher than similar intersections in the state. Although a reduction is seen in the ICC value, an increase is seen in the ICF value suggesting that crashes have occurred at a higher frequency at this intersection over time. These results indicate that improvements to safety should be evaluated for this intersection.

To improve safety at the intersection of US 50 and Old Michigan Road, crash modification factors (CMFs) were reviewed for possible intersection improvements, as they can be used to compare countermeasures and their effect on safety. CMFs were found from INDOT's "CRFs and CMFs Most Suitable for Indiana" table and from FHWA's Crash Modification Clearinghouse website. The CMF for each alternative evaluated indicate a reduction in crashes. These values can be found in ***Appendix C – Traffic Analysis. Table 8*** below summarizes how each countermeasure could reduce predicted crashes at the intersection.

Table 8 – Crash reduction summary table

	CMF Value	Yearly Average PDO Crashes	Yearly Average F/I Crashes	% Crash Reduction
Existing Conditions	-	1.80	0.40	-
Converting to All-Way Stop	0.32	0.58	0.13	68%
Installing Signal	0.56	1.01	0.22	44%
Installing Roundabout	0.518	0.93	0.21	48.2%
Reconfigure to Offset-T	0.67	1.21	0.27	33%
Low-Cost Improvements (Improve intersection sight distance)	0.67	1.21	0.27	33%

It should be noted that the CMF value reported for reconfiguring the existing intersection into an offset-T intersection is meant for application at urban intersections. However, there is not a similar CMF available for a rural intersection. As such, engineering judgement should be used when analyzing the safety impacts of an offset-T intersection

within the study area. All the alternatives other than the offset-T intersection and the low-cost improvements also introduce traffic control on US 50 in an unanticipated rural location. Sufficient advance notice will be needed in the final design.

5.0 ALTERNATIVES ANALYSIS

5.1 INTRODUCTION

Six alternatives were analyzed: four build alternatives, one low-cost alternative, and the No Build alternative. The summary of each alternative is shown in the section below. Conceptual exhibits can be found in ***Appendix A – Project Graphics***. Any recommendations from the corridor evaluation would still need to be evaluated for environmental impacts through the NEPA process.

5.2 NO-BUILD (NOT RECOMMENDED)

The No Build alternative has no cost and involves no action in the project area. Old Michigan Road would remain a stop-controlled at-grade intersection with US 50. Traffic volumes are not anticipated to increase enough to result in an unacceptable LOS within the study area; however maintaining the current conditions will likely result in continued crashes experienced at the intersection, as sight distance is limited and advance warning of the intersection is not clear. The No Build alternative is not recommended because it does not meet the need and purpose of the project.

5.3 ALTERNATIVE 1 – FOUR-WAY STOP INTERSECTION (NOT RECOMMENDED)

This alternative converts the two-way stop-controlled intersection to a four-way stop-controlled intersection with exclusive left-turn lanes on US 50. In order to construct the additional pavement for the new turn lanes, US 50 will be widened 12 feet along the north side of the road to avoid the cemetery and existing utilities to the south. The new lane configuration for the eastbound and westbound approaches of US 50 consist of a 12-foot through lane in each direction and a 12-foot left turn lane. Standard public road approaches will be constructed for Old Michigan Road.

The Alternative 1 improvements enhance the safety of the intersection by decreasing the likelihood of right-angle crashes but decrease the overall capacity and level of service at the US 50 approaches. This alternative has an impact on 12 parcel owners and requires approximately 5.53 acres of permanent right of way. The cost estimate for Alternative 1 is $1,254,600 in construction, $163,000 in right of way acquisition costs, and $15,000 in utility impacts.

Although Alternative 1 serves the purpose and need of the project conceptually, the intersection does not maintain continuity with the remainder of US 50. As such, drivers travelling along the high-speed corridor will not anticipate the need to come to a

complete stop at the intersection after traveling at faster speeds; this will likely cause an increase rear-end crashes along US 50. Therefore Alternative 1 is not recommended.

5.4 ALTERNATIVE 2 – SIGNALIZED INTERSECTION (NOT RECOMMENDED)

This alternative converts the two-way stop-controlled intersection to a signalized intersection with exclusive left-turn lanes on US 50. In order to construct the additional pavement for the new turn lanes, US 50 will be widened 12 feet along the north side of the road to avoid the cemetery and existing utilities to the south. The new lane configuration for the eastbound and westbound approaches of US 50 consist of a 12-foot through lane in each direction and a 12-foot left turn lane. Standard public road approaches will be constructed for Old Michigan Road.

The Alternative 2 improvements enhance the safety of the intersection by decreasing the likelihood of right-angle crashes but decrease the overall capacity and level of service at the intersection. This alternative has an impact on 12 parcel owners and requires approximately 5.53 acres of permanent right of way. The cost estimate for Alternative 2 is $1,442,100 in construction, $163,000 in right of way acquisition costs, and $15,000 in utility impacts.

Although Alternative 2 serves the purpose and need of the project conceptually, the intersection does not maintain continuity with the remainder of US 50. As such, drivers travelling along the high-speed corridor will not anticipate the need to come to a complete stop at the intersection after traveling at faster speeds; this will likely cause an increase rear-end crashes along US 50. Further, Alternative 2 significantly decreases the overall capacity and level of service of the intersection and a traffic signal warrant analysis that can be found in ***Appendix C – Traffic Analysis*** indicates that a signal is not warranted based on the volumes experienced at the intersection. Therefore Alternative 2 is not recommended.

5.5 ALTERNATIVE 3 – HIGH SPEED ROUNDABOUT (NOT RECOMMENDED)

This alternative converts the two-way stop-controlled intersection to a single-lane high-speed roundabout. Studies and experience show that a roundabout can provide reductions in injury crashes and fatal crashes. The specific types of crashes which can be reduced include left-turn, head on, and angled crashes, which are the majority type of crashes experienced currently at the intersection of US 50 and Old Michigan Road.

Alternative 3 would require the westbound leg of US 50 to be shifted to the south to maintain acceptable entry angles. Construction of a conventional high-speed roundabout would restrict access to the church in the northwest quadrant and the water utility office in the northeast quadrant. To maintain full access for these parcels, a new drive should be constructed for the church that is opposite the northern access point for the water utility, which is approximately 75 feet north of the existing drive. A depressed median on the north approach leg is also necessary to allow full vehicle access to these parcels.

This alternative has an impact on 12 parcel owners and requires approximately 7.64 acres of permanent right of way. The cost estimate for Alternative 3 is $2,074,000 in construction, $284,000 in right of way acquisition costs, and $120,000 in utility impacts.

Although Alternative 3 serves the purpose and need of the project, the intersection does not maintain continuity with the remainder of US 50. Alternative 3 also requires significant construction costs and considerable potential impacts on existing utilities; it is likely that several underground utilities and power lines will be impacted and need to be relocated. As such, Alternative 3 is not recommended.

5.6 ALTERNATIVE 4 – OFFSET-T INTERSECTION (NOT RECOMMENDED)

This alternative converts the two-way stop-controlled intersection to an offset-T intersection with the north leg of Old Michigan Road relocated approximately 500 feet to the east along US 50. Studies and experience show that when safety is an issue at an intersection, it is preferred that the through-movement of the offset roadway should first make a right-turn onto the intersecting roadway and should then make a left-turn off the intersecting roadway to continue travel along the route. This is accomplished in Alternative 4 by relocating the north leg to the northeast quadrant of the existing intersection. The lane configuration of the relocated north leg of Old Michigan Road consists of one 10-foot travel lane in each direction, a 4-foot paved shoulder in each direction, and a standard public road approach at the intersection of US 50. An additional access road and a cul-de-sac will be constructed to connect the existing church, residences, and businesses to the relocated roadway. Improvements will also be made to the south leg (northbound approach) of Old Michigan Road; these improvements include updating the approach to a standard public road approach and installation of appropriate signs to provide proper guidance along the route. Mainline pavement treatment would not be needed for this alternative.

This alternative has an impact on 12 parcel owners and requires approximately 5.30 acres of permanent right of way. The cost estimate for Alternative 4 is $1,092,000 in construction, $162,000 in right of way acquisition costs, and $15,000 in utility impacts.

Although Alternative 4 provides significant safety enhancements for drivers along Old Michigan Road along with protecting the free-flow nature of US 50, it is not the recommended alternative due to the construction cost investment. The necessity to construct a new roadway and the segregation of existing parcels to accommodate the new roadway provide inherent challenges to local farmers.

5.7 ALTERNATIVE 5 – LOW-COST ENHANCEMENTS (RECOMMENDED)

This alternative retains the current configuration of the intersection yet provides enhancements to safety. Enhancements to the intersection include:

- Advance intersection warning signage along US 50 and Old Michigan Road;

- Oversize “Stop” signs with retroreflective strips on sign posts;
- Installation of rumble strips on Old Michigan Road;
- Improved public road approaches; and
- Raised pavement on the north leg of Old Michigan Road.

These enhancements will alert drivers traveling on US 50 to the oncoming intersection and will increase their awareness of the potential for turning movements made by other vehicles. Alternative 5 also encourages drivers on Old Michigan Road to come to a complete stop at the intersection instead of “rolling” through the stop. Furthermore, the raised pavement on the north leg will improve the sight lines of drivers at the approach.

Alternative 5 has an impact on 6 parcel owners and requires approximately 1.13 acres of permanent right of way. The cost estimate for Alternative 5 is $422,000 in construction, $73,000 in right of way acquisition costs and $15,000 in utility impacts.

This alternative works operationally to serve the purpose and need of the project, has low construction costs, and has low impacts to right of way and utilities. Therefore, Alternative 5 is the recommended alternative.

5.8 ALTERNTATIVE EVALUATION MATRIX

The evaluation matrix in ***Table 9*** below summarizes the comparison of the alternatives.

Table 9 – Alternative Evaluation Matrix

		No Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Traffic Operations	Eastbound LOS	A	A	A	B	A	A	A	A	A	A	A	A
	Westbound LOS	A	A	A	A	A	A	A	A	A	A	A	A
	Northbound LOS	B	B	A	A	C	C	A	A	B	B	B	B
	Southbound LOS	B	B	A	A	C	C	A	A	A	B	B	B
Safety	CMF predicts crash reduction	No		Yes		Yes		Yes		Yes		Yes	
	Free-flow traffic comes to complete stop	No		Yes		Yes		No		No		No	
Right of Way Impacts	Permanent Right of Way (acres)	0		5.53		5.53		7.64		5.30		1.13	
	Number of Parcels Impacted	0		12		12		12		12		6	
	Number of Residential Impacts	0		2		2		5		4		1	
Other Impacts	Relocation of Power Poles	No		Yes		Yes		Yes		Yes		Yes	
Project Costs	Construction Cost	$0		$1,254,600		$1,442,100		$2,074,000		$1,092,000		$422,000	
	ROW Acquisition Cost	$0		$163,000		$163,000		$284,000		$162,000		$73,000	
	Utility Relocation Cost	$0		$15,000		$15,000		$120,000		$15,000		$15,000	
	Total Project Costs	$0		$1,432,600		$1,620,100		$2,478,000		$1,269,000		$510,000	

6.0 RECOMMENDATIONS

The recommended alternative is #5, adding relatively low-cost enhancements to the intersection and continually monitoring the intersection.

The project shall be developed as a "3R" project in compliance with the Indiana Design Manual (IDM); specifically, those design criteria summarized in the Design Criteria Memorandum (see ***Appendix B – INDOT Intersection Design Guide Preliminary Screening Form***). A summary of the critical design components can be found in ***Table***

10. While these criteria provide a point of reference, the design team will utilize the existing condition as a baseline from which to begin.

Table 10 - Design Guidelines

Item	US 50	Old Michigan Road
Design Year	2044	
Design Classification	Rural Arterial (2-Lane)	Local Agency Rural Collector
Functional Classification	Principal Arterial	Major/Minor Collector
Design Speed	55 MPH	45 MPH
Terrain	Level	
Access Control	None	
NEPA Documentation Level	CE 1 or CE 2	
FHWA Oversight	None	

6.1 PROJECT LIMITS

The project will extend approximately 100’ down the east, west and south legs of the intersection; and about 150’ down the north leg.

6.2 TYPICAL CROSS SECTION

No changes will be made to the prevailing cross section of each roadway. Standard public road approaches will be constructed for the north and south legs which will provide 4’ paved shoulders around the radii.

6.3 ALIGNMENTS AND PROFILES.

No changes will be made to the roadways’ alignments.

The north intersection leg will be raised (anticipated maximum amount of 6”).

6.4 PRELIMINARY PAVEMENT DESIGN

Full depth pavement replacement will be completed for the public road approaches and work down the north leg. For estimating purposes, the presumed pavement section will consist of 7” of HMA over Subgrade Treatment, Type IC. Underdrains will not be installed.

6.5 HYDRAULICS

New pipes will need to be installed under the Old Michigan Road approaches. Ditches should be re-graded to perpetuate the drainage.

6.6 WORK ZONE

As it pertains to work zone impacts, this is considered a non-significant project. A Transportation Management Plan shall be prepared that also includes a Temporary Traffic Control Plan. A Traffic Operations Plan and Public Involvement Plan are not needed.

6.7 RECOMMENDED DELIVERY METHOD

This project should be delivered using the traditional design-bid-build approach.

7.0 MAINTENANCE OF TRAFFIC

- Old Michigan Road should be closed and detoured during construction. Very few other county roads in the immediate area are capable of handling all of the traffic volumes for such reasons as narrow widths, aging bridges, and/or aggregate pavement. However, local detour routes will need to be confirmed with local officials. In order to disperse the traffic volumes out, the following detour routes are proposed:
- Northbound traffic wanting to turn west on US 50: CR 200 South to CR 600 West.
- Northbound traffic wanting to turn east onto US 50 and continue northward on Old Michigan Road: CR 100 South, CR 300 West, and Hopewell Road.
- Southbound traffic: Hopewell Road, CR 175 West, US 50, CR 300 West, and CR 100 South

Post "Road Closed Ahead" signs at Old Michigan Road's intersections with US 421 to alert drivers that use Old Michigan as an alternate to US 421.

8.0 CONCEPTUAL COST ESTIMATE

The construction cost estimate for Alternative #5 is $422,000 (including a 25% contingency). A detailed breakdown of the costs is included in ***Appendix D – Engineer's Opinion of Probable Costs.***

9.0 ENVIRONMENTAL ISSUES

A preliminary red flag investigation was completed for the project area and can be found in ***Appendix E – Environmental Resources Overview***. This review identified two

potentially historic markers/structures at the intersection. One marker in the southwest quadrant is believed to have been a historic structure that has been demolished. The second marker in the southeast quadrant is in reference to the Old Michigan Road, and not a former structure. Coordination with cultural resources would be needed to check if moving the marker would present an issue. Usually, if the marker remains in close vicinity with its reference, moving the marker is not an issue.

Alternative #5 is likely to require a Level 1 or 2 CE document. No permits are expected for impacts to floodways, Waters of the US or erosion and sediment control.

10.0 RIGHT OF WAY IMPACT

Alternative #5 is anticipated to require new permanent right of way from 6 parcels for a total acreage of 1.13. The estimated costs for professional services and land (including a 10% contingency) is $73,000.

11.0 UTILITY IMPACTS

The power pole in the southeast corner will need to be shifted to the east to avoid the new roadway approach. The power service pole in the northwest corner should be relocated to the new right of way line to improve sight lines. The designer should exercise care when determining the location of the ditch culverts to avoid the underground watermains. Assuming the one power pole in the southeast corner is reimbursable, the utility relocation costs for this project is $15,000.

12.0 ADJACENT PROJECTS

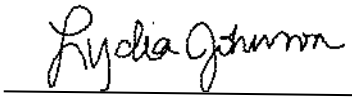
Considering this project is not planned to be programmed until FY2026, it is too far out to consider adjacent projects. The designer should do so once preliminary plans have started.

13.0 CHANGES TO PROPOSAL

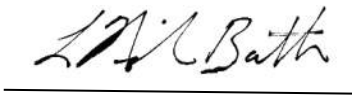
The designer is responsible for designing the project to comply with the intent of the published engineering assessment document. In the event the designer determines a need to deviate from the scope, the Project Manager, Asset Engineer, and Scoping Engineer must be notified to review and determine if the scope warrants revisions. Examples of changes that warrant scope revision include: change in work type, change in preferred alternative, inclusion of work outside the project purpose, revision of project termini sufficient to necessitate change management activities, change in design criteria or level of capital improvement intended by the project work type, change in proposed maintenance of traffic scheme.

14.0 CONCURRENCE

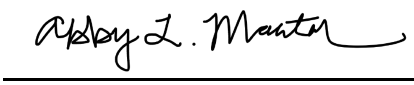
Prepared By:
Lydia Johnson, EIT
Crawford, Murphy & Tilly, Inc.



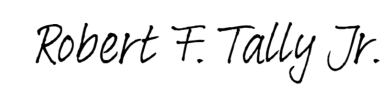
QA/QC Review:
Nick Batta, PE
Crawford, Murphy & Tilly, Inc.



INDOT Scoping Concurrence:
Abby Mantsch, PE
INDOT Seymour District

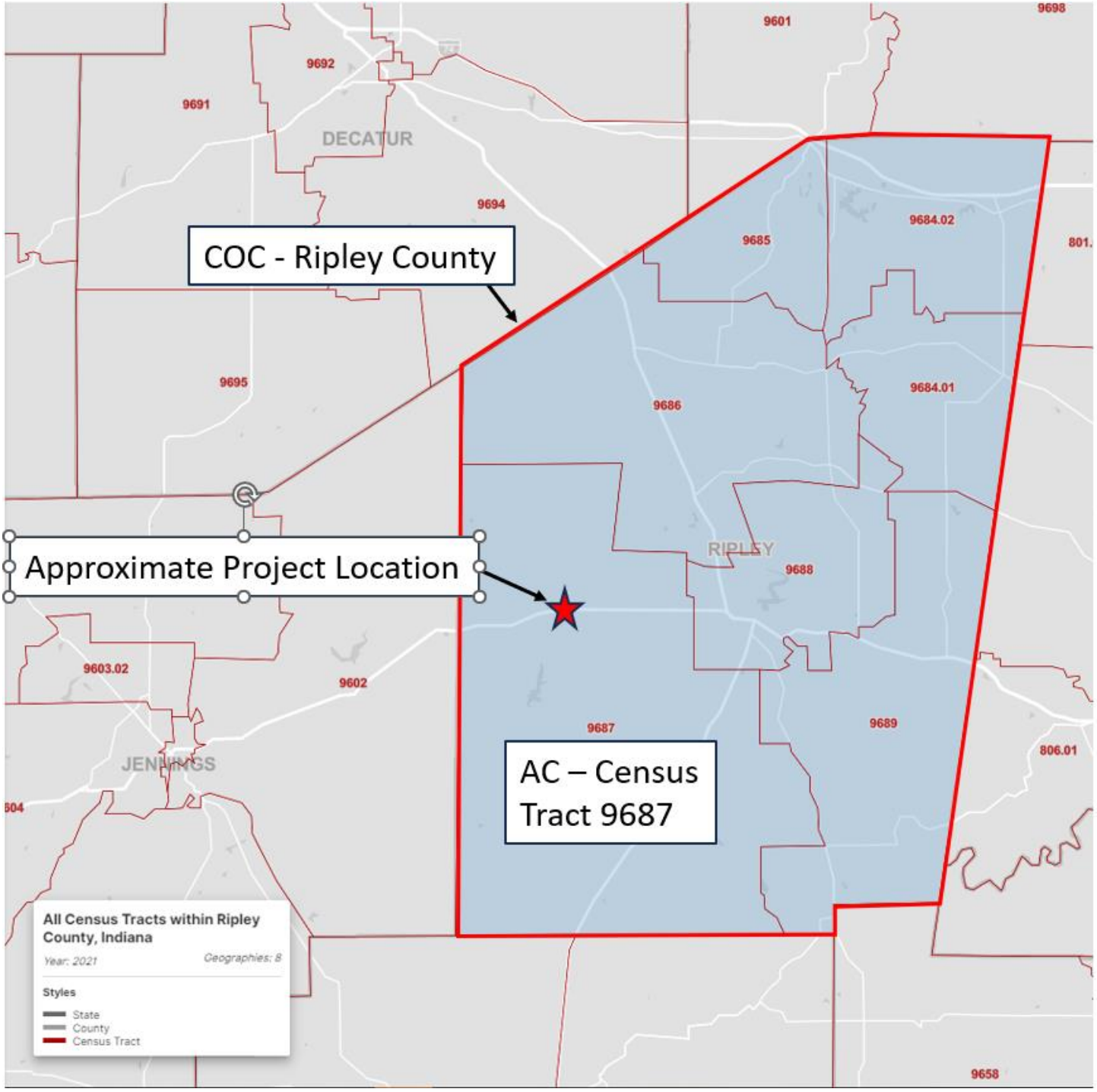


INDOT System Asset Manager Concurrence:
Robert F. Tally, PE
INDOT Seymour District



US 50 and Old Michigan Road Intersection Improvements
Indiana Department of Transportation
Des. No. 2100026

Ripley County and Census Tracts Map



Census Data and Analysis

B03002 | HISPANIC OR LATINO ORIGIN BY RACE

American Community Survey | Universe: Total population | 2021: ACS 5-Year Estimates Detailed Tables

Notes | Geos | Topics | Codes | Dataset | Year | Hide | Transpose

Label	Ripley County, Indiana Estimate	Census Tract 9687, Ripley County, Ind... Estimate
Total:	28,953	3,448
Not Hispanic or Latino:	28,421	3,411
White alone	27,558	3,322

B03002: HISPANIC OR LATINO ORIGIN BY RACE - Universe: Total population

	COC - Ripley County	AC 1 - Census Tract 9687
Total:	28,953	3,448
White alone	27,558	3,322
% Minority	4.82%	3.65%
125% COC	6.02%	
AC Greater than 50% or Greater than 125% COC?		No
Minority EJ Population of Concern?		No

B17001 | POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

American Community Survey | Universe: Population for whom poverty status is determined | –2021: ACS 5-...

Notes | Geos | Topics | Codes | Dataset | Year | Hide

Label	Ripley County, Indiana Estimate	Census Tract 9687, Ripley County, Ind... Estimate
Total:	28,490	3,426
Income in the past 12 months below poverty level:	2,903	441

B17001: POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

	COC - Ripley County	AC 1 - Census Tract 9687
Total:	28,490	3,426
Income in the past 12 months below poverty level:	2,903	441
% Low Income	10.19%	12.87%
125% COC	12.74%	
AC Greater than 50% or Greater than 125% COC?		Yes
Low Income EJ Population of Concern?		Yes

Jason Stone

From: Fair, Terri <TFair@indot.IN.gov>
Sent: Monday, February 19, 2024 10:42 AM
To: Jason Stone
Subject: US 50 Intersection Improvements in Ripley County, Des No 2100026 - EJ Analysis
Attachments: EJ Map and Data 2100026 for INDOT Review.pdf

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