

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

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

<b>Road No./County:</b>	<b>State Road (SR) 28 in Tippecanoe County</b>
<b>Designation Number:</b>	<b>1592968</b>
<b>Project Description/Termini:</b>	SR-28 Road Rehabilitation using Full Depth Reclamation; from United State (US) Route 231 Jct. to US-52 Jct. for approximately 10.45 miles.

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

<input type="checkbox"/>	<b>Categorical Exclusion, Level 2</b> – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
<input checked="" type="checkbox"/>	<b>Categorical Exclusion, Level 3</b> – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division)
<input type="checkbox"/>	<b>Categorical Exclusion, Level 4</b> – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA
<input type="checkbox"/>	<b>Environmental Assessment (EA)</b> – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

**Approval** \_\_\_\_\_  
 ESM Signature \_\_\_\_\_ Date \_\_\_\_\_ ES Signature \_\_\_\_\_ Date \_\_\_\_\_

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

**Release for Public Involvement**

N/A \_\_\_\_\_ REP \_\_\_\_\_ 5/20/19 \_\_\_\_\_  
 ESM Initials \_\_\_\_\_ Date \_\_\_\_\_ ES Initials \_\_\_\_\_ Date \_\_\_\_\_

**Certification of Public Involvement** \_\_\_\_\_  
 Office of Public Involvement \_\_\_\_\_ Date \_\_\_\_\_

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

This is page 1 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

INDOT ES/District Env.

Reviewer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Organization of CE/EA Preparer: Harlan M. Ford, GAI Consultants

### Part I - PUBLIC INVOLVEMENT

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

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

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

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

Remarks:

**Notice of Survey**

Notice of Survey letters were sent out on February 22, 2018 by GAI to all property owners within the project area. No responses were received and therefore, it was deemed no property owners had any objections to the project. A sample Notice of Survey letter can be found in Appendix C, page C4.

**Early Coordination**

An early coordination letter was sent to the INDOT Office of Public Involvement on March 12, 2018 by GAI. No response was received within 30 days; therefore, it is deemed that they have no objections to this project as it is currently proposed.

**Public Hearing**

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

**Public Controversy on Environmental Grounds**

Will the project involve substantial controversy concerning community and/or natural resource impacts? Yes  No

Remarks:

At this time, no substantial public controversy concerning impacts to the human or natural environment is anticipated.

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

Sponsor of the Project: Indiana Department of Transportation INDOT District: Crawfordsville  
Local Name of the Facility: State Road 28

Funding Source (mark all that apply): Federal  State  Local  Other\*

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

This is page 2 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

Indiana Department of Transportation

County Tippecanoe

Route SR-28

Des. No. 1592968

PURPOSE AND NEED:

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

The need for this project stems from the overall deterioration of pavement and crash severity on SR-28. The existing pavement exhibits signs of moderate raveling, minor rutting, and longitudinal cracks in wheel path and along the edge, longitudinal cracking at centerline, alligator cracking, block cracking, and transverse cracking at most of the culvert pipes. Several small diameter culvert pipes have moderate to severe sediment build up that is impeding the flow of water and causing additional pavement degradation.

In addition to the deteriorating pavement, increasing motorist safety is of utmost importance. The index of crash frequency is +0.21, which does not indicate that the number of crashes occurring on the roadway is significantly more than normal for similar road segments and traffic volume, but the index of crash cost, which is an indicator of severity, is +1.23 standard deviations high. Crashes on SR-28 within the project area tend to be severe, specifically at the intersections with CR 700E and CR 975E. Each of these locations has sub-standard stopping sight distance within 245 feet west of CR 700E and 280 feet west of CR 975E attributed to vertical curvature deficiencies. There are additional locations along SR-28 that has sub-standard sight stopping distances attributed to the current vertical curvature. This information was obtained from the engineer's assessment prepared by GAI Consultants in March of 2018. All crash data was obtained from the INDOT Crawfordsville District, and reflects all known crashes within the project limits from 2012 to 2016.

The purpose of the project will be to address the deteriorating condition of the SR 28 pavement and to reduce the crash severity to improve safety. In addition, the work on the culvert pipes will allow for optimized roadway and roadside drainage by eliminating sediment build-up, overtopping, and achieving hydraulic adequacy. In summary, the purpose of this project is to provide improved pavement structure, a smoother riding surface, and a safer roadway.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Tippecanoe Municipality: SR-28

Limits of Proposed Work: From US-231 Junction to US-52 Junction

Total Work Length: 10.45 Mile(s) Total Work Area: 125 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required? Yes1 No X
If yes, when did the FHWA grant a conditional approval for this project? Date:

1If an IMS or IJS is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IMS/IJS.

In the remarks box below, describe existing conditions, provide in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

## Indiana Department of Transportation

County Tippecanoe

Route SR-28

Des. No. 1592968

### Project Location

This project is located on SR-28 from US-231 to US-52, Reference Post (RP) 37+48 to RP 47+86, located in Tippecanoe County, Indiana. Specifically, the proposed project is located in Sections 13, 14, 15, 22, 23, and 24, Township 21 North, Range 3 West of the Mulberry, Indiana United States Geological Survey (USGS) 7.5 Minute Topographic Map, Sections 16, 17, 18, 19, 20, and 21, Township 21 North, Range 4 West of the Romney, Indiana USGS 7.5 Minute Topographic Map, and Sections 16, 17, 18, 19, 20, 21, and 22, Township 21 North, Range 3 West, Sections 13, 14, 15, 16, 21, 22, 23, and 24, Township 21 North, Range 4 West of the Stockwell, Indiana USGS 7.5 Minute Topographic Map (Appendix B, page B2).

### Existing Conditions

SR-28 is an east-west two lane rural minor arterial, with one 11 foot travel lane in each direction and accompanying 2-3ft. wide shoulder. Existing side slopes are 4:1 max with roadside ditches that have filled with sediment impeding the flow of culvert pipes under the roadway. The existing pavement exhibits locations of moderate raveling, minor rutting, and longitudinal cracks in wheel path and along edge, longitudinal cracking at centerline, alligator cracking, block cracking and transverse cracking at the culvert pipes.

### Land Use

The existing land use in the project corridor is predominately agricultural use with some wooded areas and residential/commercial properties. There are several utility companies that have facilities located within the project corridor. Utility coordination will be ongoing as the project progresses.

### Preferred Alternative

SR-28 within the project area, is a rural minor arterial route and the pavement is showing signs of advanced deterioration. In addition to the advance deterioration, there have been several locations along SR-28 that have sub-standard sight stopping distance and is creating a safety concern. The sub-standard sight stopping distance is attributed to vertical curvature deficiencies. This alternative addresses the failing condition of the pavement on SR-28 by means of full depth reclamation. This alternative will also address the sub-standard sight stopping distances by enhancing the crest of the vertical curves. No intersection improvements are taking place as part of this project.

The scope of work that will occur to correct sub-standard sight stopping distance:

- Maintain existing horizontal alignment and intersection radii while improving vertical curvature.

This table represents the location and size of each sub-standard stop sight distance location to be corrected with this project. Please refer to Appendix B, pages B26 to B84 for plan sheets that show these locations provided the below stationing.

S.R. 28 Substandard Stopping Sight Distance Locations				
Eastbound Station "Crown"		Westbound Station "Crown"		Length of Obstruction (Linear Feet)
From	To	From	To	
18+95.88	19+17.31	18+82.79	19+23.68	40.89
		25+22.71	25+44.83	22.12
53+35.85	53+72.31	53+75.37	54+38.05	102.20
247+99.30	248+65.39	248+68.16	249+64.67	165.37
255+68.80	256+58.56	256+23.35	257+33.47	164.67
310+71.56	311+47.02	311+17.92	312+13.16	141.60
322+57.31	323+00.51	322+70.93	323+33.78	76.47
		349+19.50	349+30.26	10.76

This is page 4 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

361+12.35	361+63.61	361+74.17	362+62.23	149.88
380+28.60	381+08.78	380+65.08	381+23.04	94.44
437+24.97	438+55.03	438+53.39	439+58.51	233.54
469+78.33	471+20.49	470+66.27	472+31.74	253.41
485+34.16	485+92.77	485+74.16	486+11.17	77.01
491+29.73	493+41.25	492+89.72	494+23.44	293.71
509+15.79	509+49.76	510+03.30	510+40.91	125.12
514+48.42	515+00.12	515+05.61	515+81.35	132.93
524+69.10	525+14.91	525+05.89	526+07.08	137.98
Total				2222.10

The scope of work that will occur to rehabilitate the roadway:

- Close SR-28 to through traffic and detour traffic north on US-231 to SR-25 to US-52.
- Widen the travel lanes from 11ft. to 12ft. and widen each shoulder by approximately 4ft. (also improves safety)
- Mill the existing pavement 2 inches to remove the deterioration documented in the engineer's report and reduce pavement section to a depth suitable for full depth reclamation.
- Scarify and pulverize existing pavement as required.
- Mix, grade, and compact the reclaimed asphalt mixture.
- Install underdrains.
- Install new asphalt over the existing full depth reclaimed asphalt.
- Grade recoverable ditches to improve roadside safety and drainage.
- Provide transition milling and overlay of public road approaches.
- Installation of sporadic curb and gutter along the north side of the roadway.
- Replace or extend existing culverts as required.

This table represents the location and size of each culvert pipe to be replaced with this project. Please refer to Appendix B, pages B26 to B84 for plan sheets that show these locations provided the below stationing.

Station	Structure Description	Replacement or Extension
31+70.02	10" CMP	Replace
59+56.49	15" RCP	Replace
76+33.17	15" RCP	Replace
89+57.88	15" RCP	Replace
144+38.06	15" RCP	Extend
199+21.57	15" RCP	Replace
234+09	18" CMP	Replace
246+18	6" CMP	Replace
296+38	18" RCP	Extend
312+86.11	24" RCP	Replace
326+40	15" CMP	Replace
327+45.82	24" RCP	Replace
354+82	15" RCP	Pending Hydraulics
375+72.74	15" RCP	Replace
378+42	15" RCP	Extend
384+06.55	15" CMP	Replace

This is page 5 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

391+15	15" CMP	Replace
395+03	15" RCP	Replace
409+49	12" RCP	Replace
466+07	24" CMP	Replace
470+64	12" RCP	Replace
491+22	15" RCP	Extend
497+81	15" RCP	Replace
516+46	12" RCP	Replace
520+77	15" CMP	Replace
544+02	36" x 20" Concrete Box	Pending Hydraulics

**Maintenance of Traffic (MOT)**

The preferred MOT for this project is to utilize a road closure with a detour. The official detour route will utilize US-231 to SR-25 to US-52. The length of the detour route will be approximately 24 miles in length. The straight-line distance of SR-28 is approximately 10.45 miles. This detour route will add roughly 13.55 miles for motorists utilizing the detour route. An official local detour route has not been determined at this time, but the local detour route will consist of the adjacent county roads. Access to homes and/or businesses will be maintained. The road closure is expected to be in effect for the duration of the project. This project is expected to take approximately 6 months from start to finish. Please refer to Appendix B, pages B30 to B35 for MOT plan details.

**Project Costs**

The project is included in the Fiscal Year (FY) 2018-2021 Statewide Transportation Improvement Program (STIP; Appendix G, page G1). This project is also included in the Area Plan Commission of Tippecanoe County (APCTC) Transportation Improvement Program (TIP; Appendix G, page G2). The total cost for this project in the STIP is \$12,715,000 and the total cost represented in the TIP is \$13,990,978. Please note that the total cost of this project will need to be updated and it is the responsibility of the INDOT project manager to update and coordinate the TIP/STIP as appropriate before letting. A *Firm* commitment to this effect has been added to the *Environmental Commitments* section of this document.

This project starts at the US-231 and SR-28 junction and extends all the way to the US-52 and SR-28 junction for approximately 10.45 miles. This section of SR-28 connects these two highways and is used by motorists and commercial vehicles alike as a connector route. Along this section of SR-28 the pavement is showing signs of advanced deterioration and several vertical curvature deficiencies has been noted. This project is a standalone project that will correct the advanced deterioration of the pavement and enhance the vertical curves to eliminate the substandard stopping sight distances.

Based on the above information, the preferred alternative will meet the Purpose and Need of the project by addressing the deteriorating pavement of SR-28 by means of full-depth reclamation. The preferred alternative also addresses the safety concerns regarding crash severity by correcting the substandard stopping sight distance locations along SR-28. In addition, the preferred alternative also proposes to replace several culverts along the project area which will allow for optimized roadway and roadside drainage by eliminating sediment build-up, overtopping, and achieving hydraulic adequacy. In summary, the preferred alternative will provide improved pavement structure, a smoother riding surface, and a safer roadway for years to come.

**OTHER ALTERNATIVES CONSIDERED:**

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

**The "No Build" Alternative (Alternative #1)**

The "No-Build" alternative was considered for the proposed project. This alternative would eliminate any environmental impacts by utilizing the existing facility with no expenditure of capital funds for improvement. However, this alternative would not meet the purpose and need of the project and was eliminated from further consideration.

## Indiana Department of Transportation

County Tippecanoe

Route SR-28

Des. No. 1592968

### **Mill and Structural Overlay with Shoulder Widening (Alternative #2)**

This alternative consists of full depth patching of deteriorated sections and a mill and structural overlay of the two travel lanes 12 feet wide and the construction of 8 feet shoulders with 2 feet paved. The pavement patching is estimated to be approximately 15 percent of the overall pavement area to repair longitudinal cracking and alligator cracking. The scope of work for this alternative includes:

- Close SR 28 to through traffic and detour traffic north on US 231 to SR 25 to US 52.
- Mill the existing pavement 2 inches to remove the deterioration documented in this report.
- Excavate areas of failed pavement and substandard sight distance. For purposes of this estimate, 15 percent of the pavement will be removed.
- Perform appropriate subgrade treatment as determined by geotechnical investigation to the depth of the existing subgrade.
- Install underdrains
- Install full depth patch with the same build-up of HMA Base, Type C used for shoulder widening.
- Install improved shoulders and recoverable ditches to improve roadside safety and drainage and the integrity of the existing pavement.
- Maintain existing horizontal alignment and intersection radii.
- Provide transition milling and overlay of public road approaches.
- Replace or extend existing culvert as required.

This alternative would have similar environmental impacts as the preferred alternative, but greater cost than the preferred alternative. This alternative is estimated to cost \$20,274,911. Although this alternative meets the purpose and need of this project, it was eliminated from further consideration due to the considerably higher cost.

### **Full Depth Reconstruction (Alternative #3)**

This alternative consists of the complete removal of the existing pavement on SR-28 and rebuilding the entire roadway at full depth. The scope of work for this alternative includes:

- Close S.R. 28 to through traffic and detour traffic north on U.S. 231 to S.R. 25 to U.S. 52.
- Excavate existing pavement.
- Perform appropriate subgrade treatment as determined by geotechnical investigation to the depth of the existing subgrade.
- Install underdrains
- Install full depth replacement consisting of an estimated 9.75 inches of asphalt and 4 inches of compacted aggregate.
- Grade recoverable ditches to improve roadside safety, drainage, and the integrity of the existing pavement.
- Maintain existing horizontal alignment and intersection radii.
- Provide transition milling and overlay of public road approaches.
- Replace or extend existing culvert pipes as required.

This alternative would have similar environmental impacts as the preferred alternative, however the cost would be significantly higher. This alternative is estimated to cost \$25,070,950 and does not meet the purpose and need of the project. Due to these reasons, this alternative was dismissed from further consideration.

### **Wetland Avoidance Alternative (Alternative #4)**

This alternative addresses the failing condition of the pavement on SR-28 by means of Full depth reclamation just like the preferred alternative. The scope of work for this alternative includes the following:

- Close SR-28 to through traffic and detour traffic north on US-231 to SR-25 to US-52.
- Mill the existing pavement 2 inches to remove the deterioration documented in the engineer's report and reduce pavement section to a depth suitable for full depth reclamation.
- Scarify and pulverize existing pavement as required.
- Mix, grade, and compact the reclaimed asphalt mixture.
- Install underdrains where applicable.
- Install new asphalt over the existing full depth reclaimed asphalt.

This is page 7 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

- Grade recoverable ditches to improve roadside safety and drainage where applicable.
- Maintain existing horizontal alignment and intersection radii.
- Provide transition milling and overlay of public road approaches.
- Replace or extend existing culverts where applicable.

This alternative would result in less environmental impacts and less cost than the preferred alternative. However, in order to avoid impacts to wetlands some culverts and underdrains would not be replaced or installed. In addition, some areas where ditch regrading has been deemed necessary to improve drainage and roadway safety would no longer be possible. Therefore, it has been determined that this alternative does not meet the purpose and need of the project. For this reason, this alternative was dismissed from further consideration.

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

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

X
X
X

**ROADWAY CHARACTER: SR-28**

Functional Classification: Rural Minor Arterial  
 Current ADT: 2,619 VPD (2017) Design Year ADT: 3,340 VPD (2040)  
 Design Hour Volume (DHV): 216 Truck Percentage (%): 19  
 Designed Speed (mph): 55mph Legal Speed (mph): 55mph

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	11ft. Travel Lane	12ft. Travel Lane
Pavement Width:	26 ft.	36 ft.
Shoulder Width:	2-3 ft.	6-7 ft.
Median Width:	N/A ft.	N/A ft.
Sidewalk Width:	N/A ft.	N/A ft.

Setting:  Urban  Suburban  Rural  
 Topography:  Level  Rolling  Hilly

*If the proposed action has multiple roadways, this section should be filled out for each roadway.*

**DESIGN CRITERIA FOR BRIDGES:**

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

	Existing	Proposed
Bridge 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.



## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

Outside to Outside Width:	N/A	ft.	N/A	ft.
Shoulder Width:	N/A	ft.	N/A	ft.
Length of Channel Work:	N/A		N/A	ft.

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

Remarks: There is an existing bridge within the project area located at Big Wea Creek (Bridge No. 028-79-06709 A) and one Dual 9.75ft. X 7ft. corrugated metal pipe arch (Structure No. 028-79-07014). No work will occur to this bridge or structure. However, this project does involve work on various small culverts. These culverts are not included in the Bridge Inspection Application System (BIAS) due to their size. A complete list of these culverts and their specific location can be found in the above *Project Description* section of this document and in Appendix B, pages B26 to B84. These culverts will be replaced and/or extended as required by the project.

Will the structure be rehabilitated or replaced as part of the project?  Yes  No  N/A  
*If the proposed action has multiple bridges or small structures, this section should be filled out for each structure.*

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

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

Remarks: The preferred MOT for this project is to utilize a road closure with a detour. The official detour route will utilize US-231 to SR-25 to US-52. The length of the detour route will be approximately 24 miles in length. The straight-line distance of SR-28 is approximately 10.45 miles. This detour route will add roughly 13.55 miles for motorists utilizing the detour route. A local detour route has not been determined at this time, but local traffic will likely utilize the adjacent county roads. Please refer to Appendix B, pages B41 to B46 for plan sheets illustrating the MOT. The road closure is expected to be in effect for the duration of the project. This project is expected to take approximately 6 months from start to finish. Construction is anticipated to begin in the Spring of 2020 and conclude in the Fall of 2020.

Indiana festival listings (<http://indianafestivals.org>), an Indiana State Festivals Association website, were consulted for nearby festivals or fairs that may be impacted by the proposed project. No nearby festival is planned within 10 miles of the project area during estimated construction time. Therefore, no interruptions or impacts to festivals or fairs is anticipated.

The project sponsor will be responsible for contacting school districts and emergency services at least two weeks prior to construction for the road closure. Access will be maintained to all properties during construction. These measures should alleviate any potential concerns regarding the closure and associated detour.

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

### ESTIMATED PROJECT COST AND SCHEDULE:

*Please note that the TIP/STIP will need to be updated by the INDOT PM prior to letting. This process has been initiated and is currently in progress.*

Engineering: \$ \*2,795,000 (2018- 19) Right-of-Way: \$ 100,000 (2019) Construction: \$ 12,715,000 (2020)

\*Engineering funds are not included in the STIP, but are in the TIP.

Anticipated Start Date of Construction: Spring of 2020

Date project incorporated into STIP July 3, 2017 (Appendix G1)

Is the project in an MPO Area?  Yes  No

If yes,

Name of MPO Area Plan Commission of Tippecanoe County (APCTC)

Location of Project in TIP Table 6, Line 33, Pg. 25 (Appendix G2)

Date of incorporation by reference into the STIP July 3, 2017

### RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	5.45	0
Commercial	1.15	0
Agricultural	41.09	1.0
Forest	1.75	0
Wetlands	0.56	0
Other:	0	0
Other:	0	0
<b>TOTAL</b>	<b>50.0</b>	<b>1.0</b>

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

Remarks:

It is anticipated that this project will need to acquire 50 acres of permanent right-of-way and 1 acre of temporary right-of-way.

Permanent right-of-way in the amount of 50 acres will be acquired from various land use types such as: residential, commercial, agricultural, and wetlands. Permanent right-of-way is needed to accommodate the wider roadway and to replace some of the small diameter culvert pipes. Permanent right-of-way will also allow for continued maintenance of these structures, roadway maintenance, maintenance of the side slopes, and drainage ditches.

This is page 10 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

Temporary right of way in the cumulative amount of 1 acre will be acquired from agricultural land to allow for temporary construction access in multiple locations where necessary for replacement of small culvert structures (Appendix B, pages B26 to B84).

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

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

**SECTION A – ECOLOGICAL RESOURCES**

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

Remarks: Based on a desktop review, multiple site visits on June 4, 5, 28, and July 12, 2018 by GAI, the aerial maps of the project area (Appendix B, pages B3 to B7), USGS map, (Appendix B, page B2), and the water resources maps in the Red Flag Investigation (RFI) report (Appendix E, pages E15 to E17), there are 10 streams located within the project area. Out of these 10 streams only East Branch Wea Creek, an unnamed tributary (UNT) to East Branch Wea Creek, Platt Ditch, and Anderson Ditch intersect the project area. Anderson Ditch is listed as a 303d impaired stream for E. coli and it crosses in the eastern portion of the project area. Workers who are working in or near waters with E. coli should take care to wear proper personal protective equipment (PPE), observe proper hygiene procedures, including regular handwashing, and limit personal exposure. A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on January 18, 2019. Please refer to Appendix F, pages F1 to F139 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that a total of four streams were identified as likely jurisdictional waterways. These four streams are: UNT 1- UNT to East Branch Wea Creek, UNT 2- UNT to East Branch Wea Creek, East Branch Big Wea Creek, and Moses Baker/Platt Ditch. The USACE makes all final determinations regarding jurisdiction.

The Federal Wild and Scenic Rivers listing, State Natural, Scenic, and Recreational Rivers listing, the Nationwide Rivers Inventory, Outstanding Rivers List for Indiana, and the U.S. Army Corps of Engineers list of Navigable Waterways were reviewed by GAI to determine the possible presence of one of these waterways within the project area. No waterways within the project area were identified on any of the above lists. This project involves the replacement of several small culverts within the project area. A list of these culverts and their locations can be found in the above *Project's Description Section* of this document. All impacts associated with the removal, replacement, and/or extension of these small culverts are not associated with any likely jurisdictional streams. All four likely jurisdictional streams identified within the project area are outside of the construction limits and no work will occur within these waterways. Therefore, no impacts are expected.

Early coordination packets (Appendix C, pages C1 to C3) were sent by GAI to the USFWS, USACE, Indiana

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

Department of Environmental Management (IDEM), the IDNR, and the Tippecanoe County Surveyor on March 12, 2018. The IDNR responded on April 11, 2018 (Appendix C, pages C22 to C24). In their response letter, the IDNR provided a number of recommendations to help avoid and minimize impacts to fish, wildlife, and botanical resources. The recommendations applicable to water resources generally include, waterway work restrictions, types of bank stabilization to be utilized, temporary erosion control techniques, and permanent erosion control techniques. These recommendations have been included in the *Environmental Commitments* section of this document as *For Consideration* and will be addressed during final project design.

The USFWS responded on March 21, 2018 (Appendix C, pages C19 to C20). Their response stated that the proposed project area is mainly cropland and some residential trees may need to be removed. Regarding streams, they stated that approximately 500 feet of an unnamed tributary of the East Branch Wea Creek parallels the south side of SR 28 west of CR 400 East and may require relocation to accommodate the widened roadway. The stream banks contain grasses and herbaceous species and no trees are present: cropland is present to the south. Mitigation may be required for impacts to jurisdictional streams.

Coordination with IDEM was accomplished electronically by GAI consultants on March 12, 2018 through the standardized environmental review process (<http://www.in.gov/idem/5284.htm>). A list of standard recommendations can be found in the *Environmental Commitments* section for this document (Appendix C, pages C5 to C12).

The USACE did not respond to the early coordination letter.

The Tippecanoe County Surveyor did not respond to the early coordination letter. Please refer to the below table for a list and Appendix B, pages B26 to B84 for the locations of all culverts to be replaced within legal drains. A follow up call on April 17, 2019 with the Tippecanoe County Surveyor's office occurred to verify that this project does not require a Legal County Drain Permit. Based on this phone discussion, and a review of the of Tippecanoe County's website at: <https://www.tippecanoe.in.gov/493/Drainage-Board>, it was determined that a County Legal Drain Permit is not required for this project.

Station	Replacement or Extension	Legal Drain Name
89+57.88	Replacement	George Inskeep
144+38.06	Extension	Waples McDill
327+45.82	Replacement	Gustav Swanson
375+72.74	Replacement	Gustav Swanson
466+07	Replacement	*Moses Baker
544+02	Pending Hydraulics	Jesse Anderson

\*Moses Baker Ditch crosses SR-28 in two locations. This location is not a jurisdictional waterway.

### Other Surface Waters

Reservoirs

Lakes

Farm Ponds

Detention Basins

Storm Water Management Facilities

Other: \_\_\_\_\_

### Presence

### Impacts

Yes

No

X


X

Remarks:

The USFWS Wetland Mapper, USGS map, and the IndianaMap were reviewed by GAI for the presence of reservoirs, lakes, farm ponds, detention basins, and storm water management facilities (Appendix F, pages F243 to F247 and Appendix B, page B3). No other surface waters were identified within or adjacent to the project area. To confirm this information, a Wetland Delineation and Stream Identification was completed on June 4, 5, and 28, and July 12, 2018 (Appendix F1 to F139). The investigation confirmed that no additional surface water resources are located within or directly adjacent to the project area.

This is page 12 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

## Indiana Department of Transportation

County Tippecanoe

Route SR-28

Des. No. 1592968

INDOT's SAM unit concurred with the RFI on November 9, 2018 (Appendix E, pages E1 to E22) found that a total of seven lakes identified within 0.5 miles of the project area. Two of these mapped lakes are approximately 0.20 miles north of the project area near the S 100 E intersection. Due to their distance from the project area these lake features will not be impacted.

Early coordination packets (Appendix C, pages C1 to C3) were sent out by GAI environmental staff to the USFWS, USACE, Indiana Department of Environmental Management (IDEM), and the IDNR on March 12, 2018. The IDNR responded on April 11, 2018 (Appendix C pages C22 to C24). In their response letter, the IDNR did not provide any recommendations to avoid or minimize impacts regarding other surface waters.

The USFWS responded on March 21, 2018 (Appendix C, pages C19 to C20). The USFWS did not provide any recommendations to avoid or minimize impacts regarding other surface waters.

Coordination with IDEM was accomplished electronically by GAI on March 12, 2018 through the standardized environmental review process (<http://www.in.gov/idem/5284.htm>). A list of standard recommendations can be found in the Environmental Commitments section for this document (Appendix C, pages C5 to C12).

The USACE did not respond to the early coordination letter.

	<u>Presence</u>	<u>Impacts</u>	
<b>Wetlands</b>	<input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Total wetland area: 4.474 acre(s)      Total wetland area impacted: 0.560 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
A	PEM	0.32	0.0	Class I Isolated Waters of the State: Poor Quality
B	PEM	0.026	0.0	Class I Isolated Waters of the State: Poor Quality
C	PEM	0.064	0.0	Class I Isolated Waters of the State: Poor Quality
D	PEM	0.384+	0.0	Class I Isolated Waters of the State: Poor Quality
E	PEM	0.067+	0.0	Class I Isolated Waters of the State: Poor Quality
F	PEM	0.030	0.0	Class I Isolated Waters of the State: Poor Quality
G	PEM	0.112+	0.0	Class I Isolated Waters of the State: Poor Quality
H	PEM	0.254	0.054	Class I Isolated Waters of the State: Poor Quality
I	PEM	0.010	0.0	Class I Isolated Waters of the State: Poor Quality
J	PEM	0.028	0.0	Waters of the U.S.: Average Quality
K	PEM	0.124+	0.062	Waters of the U.S.: Average Quality
L	PEM	0.039	0.039	Waters of the U.S.: Average Quality
M	PEM	0.003	0.003	Waters of the U.S.: Average Quality
N	PEM	0.044	0.044	Waters of the U.S.: Average Quality

This is page 13 of 32    Project name: SR-28 Pavement Rehabilitation      Date: May 16, 2019

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

O	PEM	0.101	0.101	Waters of the U.S.: Average Quality
P	PEM	0.012	0.012	Waters of the U.S.: Average Quality
Q	PEM	0.148	0.047	Waters of the U.S.: Average Quality
R	PEM	0.023	0.023	Waters of the U.S.: Average Quality
S	PEM	0.039	0.0	Class I Isolated Waters of the State: Poor Quality
T	PEM	0.437	0.036	Class I Isolated Waters of the State: Poor Quality
U	PEM	0.036	0.018	Class I Isolated Waters of the State: Poor Quality
V	PEM	0.082	0.003	Class I Isolated Waters of the State: Poor Quality
W	PEM	0.018	0.011	Class I Isolated Waters of the State: Poor Quality
X	PEM	0.119+	0.0	Waters of the U.S.: Poor Quality
Y	PEM	0.008	0.011	Class I Isolated Waters of the State: Poor Quality
Z	PEM	1.404	0.0175	Class II Isolated Waters of the State: Average Quality
AA	PEM	0.023+	0.0	Class I Isolated Waters of the State: Poor Quality
AB	PEM	0.010+	0.001	Class I Isolated Waters of the State: Poor Quality
AC	PEM	0.015+	0.0	Class I Isolated Waters of the State: Poor Quality
AD	PEM	0.187+	0.034	Class I Isolated Waters of the State: Poor Quality
AE	PEM	0.187	0.024	Class I Isolated Waters of the State: Poor Quality
AF	PEM	0.027	0.020	Class I Isolated Waters of the State: Poor Quality
AG	PEM	0.093	0.0	Class I Isolated Waters of the State: Poor Quality

**Documentation**

**ES Approval Dates**

**Wetlands (Mark all that apply)**

- Wetland Determination
- Wetland Delineation
- USACE Isolated Waters Determination
- Mitigation Plan

X
X

January 19, 2019
January 19, 2019

**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.

X

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

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

Remarks:

The USFWS Wetland Mapper, USGS map, and the IndianaMap were reviewed by GAI for the presence of potential jurisdictional wetlands located within the project area (Appendix F, pages F243 to F247 and B3). No other wetlands than listed in the preceding table were identified within or adjacent to the project area. To confirm this information, a Wetland Delineation and Stream Identification was completed on June 4, 5, and 28, and July 12, 2018 (Appendix F, pages F1 to F267). The investigation confirmed that 33 wetlands are located within or directly adjacent to the project area. Impacts to these wetlands are anticipated to occur with this project.

INDOT's SAM unit concurred with the RFI on November 9, 2018 (Appendix E, pages E1 to E22) found that a total of 65 NWI mapped wetlands were identified within 0.5 mile of the project area. Out of these 65 wetlands, 5 are mapped either adjacent to or near the middle of the project between just east of the S 500 E and S 700 E intersections. Impacts to these 5 wetlands are anticipated. No impacts to the other 60 wetlands within the project area is anticipated due to their location from the project area.

The Waters of the U.S. Report approved by INDOT Environmental Services on January 18, 2019 identified a total of 33 wetlands that cumulatively total 4.474 acres within the project study area. Wetland impacts associated with this project has been minimalized to most practical and viable option. Wetland impacts were minimalized by restricting construction limits to what is necessary to meet the purpose and need of this project. By doing so, this allowed for the complete avoidance of some wetlands within the project area. However, impacts to all wetlands are not avoidable due to their location within construction limits. A total of 0.560 acre of wetlands will be impacted by this project. Out of the impacted 0.560 acre of wetlands, 0.331 acre are will be temporary impacts and 0.229 acre will be permanent impacts. All temporary wetland impacts will result in the retention of wetland acreage, but more importantly it will preserve wetland function. There is no compensatory mitigation requirement for temporary impacts. However, permanent impacts will occur to Wetlands H, T, U, V, W, Y, Z, AB, AD, AE, AF. These wetlands are all considered to be SRW's (State Regulated Wetlands) and all are Isolated Class 1 wetlands except for Wetland Z, which is an Isolated Class II wetland. Wetland mitigation may be required for this project if IDEM determines these wetlands to be considered non-exempt features. Coordination with IDEM through INDOT's EWPO Office has been initiated to determine the exemption status of these wetlands. Permits will be required for both temporary and permanent impacts to these likely jurisdictional and SRW wetlands. Please refer to the *Permits* section of this document for more details.

Early coordination packets (Appendix C, pages C1 to C3) were submitted by GAI environmental staff to the USFWS, USACE, Indiana Department of Environmental Management (IDEM), and the IDNR on March 12, 2018. The IDNR responded on April 11, 2018 (Appendix C, pages C21 to C24). In their response letter, the IDNR provided a number of recommendations to help avoid and minimize impacts to fish, wildlife, and botanical resources. The recommendations applicable to wetlands have been included in the *Environmental Commitments* section of this document and will be addressed during final project design.

The USFWS responded on March 21, 2018 (Appendix C, pages C19 to C20). Regarding wetlands, they stated that some wetlands may be present in the expanded right-of-way, although they could be farmed wetlands or prior-converted: a wetland delineation will determine the presence of and impacts to any wetlands. Mitigation may be required for impacts to jurisdictional wetlands.

Coordination with IDEM was accomplished electronically by GAI on March 12, 2018 through the standardized environmental review process (<http://www.in.gov/idem/5284.htm>). A list of standard recommendations can be found in the *Environmental Commitments* section for this document (Appendix C, pages C5 to C12).

The USACE did not respond to the early coordination letter.

This is page 15 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
<b>Terrestrial Habitat</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unique or High Quality Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Remarks:

The proposed project is located in a mostly flat, rural area. The immediate surrounding area is primarily comprised of agricultural land with some residential, forested, and riparian habitats present as well. These habitat types support a variety of species including various species of birds, mammals, reptiles, and rodents. Multiple field investigations were conducted on June 4, 5, and 28, and July 12, 2018 to confirm this information and determine if any unique or high-quality habitat is present.

The dominant species in the flora along the project area consisted of: soybeans (*Glycine max*), corn (*Zea mays*), smooth crab grass (*Digitaria ischaemum*), red fescue (*Festuca rubra*), downy brome (*Bromus tectorum*), Kentucky blue grass (*Poa pratensis*), Canadian thistle (*Cirsium arvense*), great ragweed (*Ambrosia trifida*), green foxtail (*Setaria verdis*), reed canary grass (*Phalaris arundinacea*), smooth brome (*Bromus inermis*), common fox sedge (*Carex vulpinoidea*), scouring rush (*Equisetum hyemale*), prairie cordgrass (*Spartina pectinate*), johnson grass (*Sorghum halepense*), hedge false bindweed (*Calystegia sepium*), tall fescue (*Schedonorus arundinaceous*), common timothy (*Phelum pretense*), common milkweed (*Asclepias syriaca*), Queen Anne's-lace (*Daucus carota*), common dandelion (*Taraxacum officinale*), Virginia wild rye (*Elymus virginicus*), honeysuckle (*Lonicera periclyenum*) box elder (*Acer negundo*), black walnut (*Juglans nigra*), green ash (*fraxinus pennsylvanica*), and silver maple (*Acer saccharinum*).

This project will require approximately 0.24 acre of tree clearing for construction activities and to accommodate the wider roadway. Tree species within this area are hackberry (*Celtis occidentals*) silver maple (*Acer saccharinum*), black walnut (*Juglans nigra*), box elder (*Acer negundo*), and white pine (*Pinus strobus*). Established mature trees will be avoided to the greatest extent possible and all trees will be clearly marked for removal. Tree clearing will occur between the months of October through April. The total area of land disturbance caused by construction activities will be 87.12 acres. No unique or prime habitat will be impacted by this project.

Early coordination packets (Appendix C, pages C1 to C3) were submitted by GAI environmental staff to the USFWS, Indiana Department of Environmental Management (IDEM), and the IDNR on March 12, 2018. The IDNR responded on April 11, 2018 (Appendix C, pages C21 to C24). In their response letter, the IDNR provided a number of recommendations to help avoid and minimize impacts botanical resources. These recommendations have been included in the *Environmental Commitments* section of this document as for consideration and will be addressed during final project design.

The USFWS responded on March 21, 2018 (Appendix C, pages C19 to C20). Their response stated that the proposed project area is primarily cropland and some residential trees may require removal. The USFWS did not provide any specific recommendations regarding terrestrial habitat. However, they did state that should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinstate consultation.

Coordination with IDEM was accomplished electronically by GAI on March 12, 2018 through the standardized environmental review process (<http://www.in.gov/idem/5284.htm>). A list of standard recommendations can be found in the *Environmental Commitments* section for this document (Appendix C, pages C5 to C12).

If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

This is page 16 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019



## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

**Karst**

Is the proposed project located within or adjacent to the potential Karst Area of Indiana?	Yes	No
Are karst features located within or adjacent to the footprint of the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
If yes, will the project impact any of these karst features?	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks: The project is located outside of the designated karst area of Indiana as identified in the October 13, 1993 Memorandum of Understanding (MOU) between INDOT, IDNR, USFWS and IDEM. The IGS confirmed in their early coordination response on March 14, 2018 stated that there is a moderate risk of liquefaction potential in the soils and a floodway is present in the area. They also stated that there is a moderate potential of encountering bedrock resources and a high potential of encountering sand or gravel resources. In addition, they also confirmed that there are abandoned Industrial Mineral Sand Gravel Pits within the area. (Appendix C, pages C13 to C15). The designer has been notified and made aware of the potential resources that may exist within the project area based on the IGS's response.

The RFI report indicated that no karst features mapped within a half mile of the project area (Appendix E, pages E1 to E22).

**Threatened or Endangered Species**

	<u>Presence</u>		<u>Impacts</u>	
Within the known range of any federal species	<input checked="" type="checkbox"/>		Yes	No
Any critical habitat identified within project area	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

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

Remarks: Based on a desktop review and the RFI (Appendix E, pages E1 to E22) completed by GAI on November 9, 2018, the IDNR Tippecanoe County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix E, pages E19 to E22). The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-DFW early coordination response letter dated April 11, 2018 (Appendix C, pages C21 to C24) the Natural Heritage Program's Database has 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.

**Bats, Programmatic Informal Consultation – Not Likely to Adversely Affect**

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), and USFWS. 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 C25 to C30) and no other species were found. Tippecanoe County is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). In addition, an effect determination key was completed on February 19, 2019, and based on the responses provided, the project was found to Not Likely to Adversely Affect the Indiana Bat and/or the NLEB (Appendix C, pages C33 to C46). INDOT reviewed and verified the effect finding on February 26, 2019, and requested USFWS's review of the finding (Appendix C, pages C47 to C49). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section of this document.

This project does involve several small culverts that are not included in the Bridge Inspection Application

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

System (BIAS) due to their size. All of the small culvert pipes that were not buried were visually inspected by GAI during the field investigations. No bats or signs of bats was seen or heard at any of these small culverts.

The IDNR was contacted on March 12, 2018 as part of the early coordination process. In their April 11, 2018 response (Appendix C page C21 to C24), the IDNR indicated that 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. The IDNR went on to make recommendations to help avoid and minimize impacts to fish, wildlife, and botanical resources.

The USFWS was contacted on March 12, 2018 as part of the early coordination process. They responded on March 21, 2018 (Appendix C, pages C19 to C20). Their response stated that "the proposed project is within the range of the Federally endangered Indiana bat (*Myotis sodalis*), clubshell mussel (*Pleurobema clava*), fanshell mussel (*Cyprogenia stegaria*), rayed bean mussel (*Villosa fabalis*), sheepnose mussel (*Plethobasus cyphus*), and snuffbox mussel (*Epioblasma triquetra*), and the threatened northern long-eared bat (*Myotis septentrionalis*), rabbitsfoot mussel (*Quadrula cylindrical cylindrical*), and eastern massasauga rattlesnake (*Sistrurus catenatus*). Although your letter mentions the endangered rusty patched bumble bee (*Bombus affinis*), this species is not currently known from Tippecanoe County. Possible impacts to the 2 bat species will be determined utilizing the Range-wide Programmatic Informal Consultation process. There is no habitat for the mussels and eastern massasauga within the proposed project area, so we agree that the proposed project is not likely to adversely affect these endangered and threatened species." Their response went on to say "this precludes the need for further consultation on the listed mussels and eastern massasauga rattlesnake for this project as required under Section 7 of the Endangered Species Act, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinstate consultation."

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

**SECTION B – OTHER RESOURCES**

Drinking Water Resources	Presence	Impacts	
		Yes	No
Wellhead Protection Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Water System(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Well(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sole Source Aquifer (SSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?	<input type="checkbox"/>	<input type="checkbox"/>
Is the FHWA/EPA SSA MOU Applicable?	<input type="checkbox"/>	<input type="checkbox"/>
Initial Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>
Detailed Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: **Wellhead Protection Area**  
 The IDEM, Wellhead Proximity Determinator Map (<http://www.in.gov/idem/cleanwater/pages/wellhead/>), was accessed by GAI on February 14, 2019 to determine if the proposed project is located within a Wellhead

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

Protection Area. The required project location data was provided and it was determined that this project is not located within a wellhead protection area (Appendix I, page I2).

**Public Water System(s)**  
 Based on a desktop review, the aerial map, a site visit by GAI, and IDEM's Public Water Systems Search website <https://myweb.in.gov/IDEM/DWWW/>, was reviewed for the presence of community public water supply systems (CPWSS) within the project area. No CPWSS systems were indented within the project area. No impacts are expected.

**Residential Well(s)**  
 The IDNR, Water Wells Web Viewer was reviewed by GAI environmental staff on March 12, 2018 for the presence of residential wells within the project area. A total of 14 residential water wells were identified within the project area. The location of the wells within the project area are outside of the construction limits and given the scope of the project area no impacts are expected. In the event any residential or public wells are encountered, they will be re-drilled as part of the right-of-way agreement with the property owner.

**Source Water Protection Area(s)**  
 No Source Water Protection Areas were identified by IDEM or the IDNR as part of the early coordination process. Therefore, no source water protection areas are anticipated to be impacted by the proposed project.

**Sole Source Aquifer**  
 The project is not located within the boundaries of the St. Joseph Aquifer System, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Agreement (MOA) is not applicable to this project, and a groundwater assessment is not required. No other water resources were identified within or directly adjacent to the project area.

Flood Plains	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Longitudinal Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse Encroachment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Project located within a regulated floodplain	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Homes located in floodplain within 1000' up/downstream from project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".*

Remarks: The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM; Panels 18157C0245D, 18157C0263D, 18157C0264D, 18157C0270D, and 18157C0290D), representing the floodplains and Flood Hazard Zones in the area, was reviewed by GAI environmental staff (Appendix F, pages F253 to F257). The proposed project is located within the floodplain of East Branch Wea Creek therefore, it does fall within the guidelines for implementation of 23 CFR 650, 23 CFR 771 and 44 CFR. Portions of the floodplain are designated as the floodway and Zone AE. FEMA defines the floodway as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Zone AE is defined as areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. Floodplain management standards apply.

This project does involve the replacement of several small culvert pipes, but none of which are located in the floodplain of East Fork Wea Creek. The bridge at East Fork Wea Creek will not be a part of this project. Therefore, as indicated in the INDOT Procedural Manual for Preparing Environmental Studies, the project will fall under a Category 4 Action. Zero homes are located within the base floodplain within 1,000 feet upstream and zero homes are located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

be included with the Field Check Plans.

According to the IDNR response received on April 11, 2018 this project may require IDNR formal approval pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile, unless it qualifies for a bridge exemption (Appendix C, pages C21 to C24). This project meets the bridge exemption criteria of: being a state highway department project, be a bridge (The IDNR considers culverts bridges), is located in a rural area as defined by the IDNR, and all culverts to be replaced has an upstream drainage area of less than 50 square miles. Therefore, no IDNR Construction in a Floodway (CIF) Permit is required.

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
<b>Farmland</b>			
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Points (from Section VII of CPA-106/AD-1006* <u>133</u>			
<i>*If 160 or greater, see CE Manual for guidance.</i>			

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

Remarks: Early coordination was conducted with the National Resource Conservation Service (NRCS) on March 12, 2018 by GAI. The NRCS issued a response letter dated March 22, 2018 stating that the project will cause a conversion of prime farmland (Appendix C, page C16).

As is required by the Farmland Protection Policy Act, the NRCS has been coordinated with and the Form NRCS-CPA-106 has been completed. Since this project received a total point value of less than 160 points, this site will receive no further consideration for farmland protection. No other alternatives other than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. This project will not have a significant impact to farmland (Appendix C, page C17).

**SECTION C – CULTURAL RESOURCES**

	<u>Category</u>	<u>Type</u>	<u>INDOT Approval Dates</u>	<u>N/A</u>
Minor Projects PA Clearance	B	1, 4, & 9	1/31/2019	<input type="checkbox"/>

Eligible and/or Listed  
Resource Present

**Results of Research**

Archaeology	<input checked="" type="checkbox"/>
NRHP Buildings/Site(s)	<input type="checkbox"/>
NRHP District(s)	<input type="checkbox"/>
NRHP Bridge(s)	<input type="checkbox"/>

**Project Effect**

No Historic Properties Affected  No Adverse Effect  Adverse Effect

This is page 20 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

**Indiana Department of Transportation**

County Tippecanoe

Route SR-28

Des. No. 1592968

**Documentation  
Prepared**

Documentation (mark all that apply)

- Historic Properties Short Report
- Historic Property Report
- Archaeological Records Check/ Review
- Archaeological Phase Ia Survey Report
- Archaeological Phase Ic Survey Report
- Archaeological Phase II Investigation Report
- Archaeological Phase III Data Recovery
- APE, Eligibility and Effect Determination
- 800.11 Documentation

X

ES/FHWA Approval Date(s)	
10/31/2018	

SHPO Approval Date(s)	

Memorandum of Agreement (MOA)

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

--

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

Remarks:

INDOT, acting on behalf of FHWA, is required to comply with Section 106 of the National Historic Preservation Act of 1966 as amended (Section 106) and its' implementing federal regulation, 36 CFR 800. Section 106 and 36 CFR 800 outline a process that requires FHWA and INDOT to evaluate the effects of undertakings on properties that are listed on or eligible for listing on the National Register of Historic Places (National Register). A Minor Projects Programmatic Agreement (MPPA between FHWA, INDOT, the Advisory Council on Historic Preservation, and the Indiana State Historic Preservation Officer was signed on October 12, 2006. This document streamlines the Section 106 process for certain actions that typically have no adverse effect on properties listed on or eligible for listing on the National Register. This project meets the MPPA under Category A; Item: 3 as well as Category B; Items: 1, 4, and 9.

**A-3:** Replacement, repair, lining, or extension of culverts and other drainage structures in previously disturbed soils and do not exhibit stone or brick structures or parts therein.; AND

**B-1:** Replacement, repair, or installation of curbs, curb ramps, or sidewalks, including when such projects are associated with roadway work such as surface replacement, reconstruction, rehabilitation, or resurfacing projects, including overlays, shoulder treatments, pavement repair, seal coating, pavement grinding, and pavement marking.

**B-4:** Installation of new safety appurtenances, including but not limited to, guardrails, barriers, glare screens, and crash attenuators.

**B-9:** Installation, replacement, repair, lining, or extension of culverts and other drainage structures.

Please refer to Appendix D, pages D3 to D5 to see how the above listed Category B items meets both Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources.

**Phase 1a Archaeological Report**  
An archaeological records check and Phase Ia field reconnaissance (Bubb and Culver 2018) were conducted by CRA personnel who meet the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61. The records check identified two previously recorded sites within or adjacent to the project area

**Indiana Department of Transportation**

County Tippecanoe

Route SR-28

Des. No. 1592968

but no cultural material associated with either site was encountered. The field reconnaissance examined 178.2 acres through shovel probing, pedestrian survey, and visual inspection. Twenty new archaeological sites were identified and evaluated as ineligible for listing on the NRHP. No further work was recommended. The report has been reviewed by INDOT Cultural Resources personnel who meet the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61. INDOT CRO staff deemed the report to be acceptable and concurred with the evaluations and recommendations made in it. Therefore, there are no archeological concerns with this project. Please refer to Appendix D, pages D10 to D12 for a copy of all applicable pages of the Archeology Report.

According to the RFI that INDOT's SAM unit concurred with on November 9, 2018 (Appendix E, pages E1 to E22) there are four cemeteries located within 0.5 mile of the project area. The nearest cemetery is known as the Yorktown Cemetery and is located approximately 0.14 mile north of the project area along S 700 E. In addition, Clark Cemetery is located approximately 0.18 mile south of the project area along S 975 E. The RFI report recommended coordination with both cemeteries. However, since these cemeteries are not located along SR-28 and access will be maintained throughout construction, coordination was not conducted. No impacts are expected.

Since the project falls under the MPPA, INDOT, and FHWA, Section 106 obligations have been met and no additional actions are needed at this time. Please refer to the MPPA Determination Form (Appendix D, pages D1 to D6) and email correspondence with the CRO office in Appendix D, pages D7 to D9.

**SECTION D – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES**

**Section 4(f) Involvement (mark all that apply)**

<b>Parks &amp; Other Recreational Land</b>	<u>Presence</u>	<u>Use</u>	
		<u>Yes</u>	<u>No</u>
	Publicly owned park	<input type="checkbox"/>	<input type="checkbox"/>
Publicly owned recreation area	<input type="checkbox"/>	<input type="checkbox"/>	
Other (school, state/national forest, bikeway, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Evaluations Prepared</u>	<u>FHWA Approval date</u>	
Programmatic Section 4(f)*	<input type="checkbox"/>	<input type="text"/>	
"De minimis" Impact*	<input type="checkbox"/>		
Individual Section 4(f)	<input type="checkbox"/>		

<b>Wildlife &amp; Waterfowl Refuges</b>	<u>Presence</u>	<u>Use</u>	
		<u>Yes</u>	<u>No</u>
	National Wildlife Refuge	<input type="checkbox"/>	<input type="checkbox"/>
National Natural Landmark	<input type="checkbox"/>	<input type="checkbox"/>	
State Wildlife Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Nature Preserve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Evaluations Prepared</u>	<u>FHWA Approval date</u>	
Programmatic Section 4(f)*	<input type="checkbox"/>	<input type="text"/>	
"De minimis" Impact*	<input type="checkbox"/>		
Individual Section 4(f)	<input type="checkbox"/>		

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

<b>Historic Properties</b>	<u>Presence</u>	<u>Use</u>	
Sites eligible and/or listed on the NRHP	<input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	<u>Evaluations</u>		
	<u>Prepared</u>	<u>FHWA</u>	
Programmatic Section 4(f)*	<input type="checkbox"/>	<u>Approval date</u>	
"De minimis" Impact*	<input type="checkbox"/>		
Individual Section 4(f)	<input type="checkbox"/>	<input type="text"/>	

\*FHWA approval of the environmental document also serves as approval of any Section 4f Programmatic and/or De minimis evaluation(s) discussed below.

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the remarks box below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, "de minimis" and Individual Section 4(f) evaluations please refer to the "Procedural Manual for the Preparation of Environmental Studies". Discuss proposed alternatives that satisfy the requirements of Section 4(f).

Remarks: Section 4(f) of the U.S. Department of Transportation Act of 1996 prohibits U.S. Department of Transportation funded projects from using land from certain properties unless no feasible and prudent alternative exists and the action includes all possible planning to minimize harm to the property. Section 4(f) properties are any publicly owned parks, recreational areas, wildlife and waterfowl refuges of national, state or local significance as determined by the Federal, State, or local officials with jurisdiction thereof, as well as properties listed or determined eligible for inclusion in the NRHP, and/or archaeological sites that warrant preservation in place.

According to the RFI report (Appendix E, page E2) one recreational facility is located within the 0.5-mile search radius. The Romney Community Center is located approximately 0.32 mile south of the western project terminus. Due to the distance of the facility from the project area, no impact is expected.

No parks, recreational lands, wildlife or waterfowl refuges, or properties eligible for the National Register of Historic Places will be impacted as a result of this project. There will be no Section 4(f) properties impacted by the proposed project; therefore, no Section 4(f) evaluation was completed for the project.

<b>Section 6(f) Involvement</b>	<u>Presence</u>	<u>Use</u>	
<b>Section 6(f) Property</b>	<input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.

Remarks: Section 6(f) resources are lands that were purchased with or improved using funds from the Land and Water Conservation Fund (LWCF). The fund was created through the Land and Water Conservation Fund Act of 1965 to preserve, develop and assure accessibility to outdoor recreation resources, and to strengthen the health and vitality of the public. These public recreation lands are to be maintained for public outdoor recreation use. Section 6(f) of the act prohibits the conversion of LWCF lands unless the National Park Service (NPS) approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value.

To determine the presence of 6(f) properties within the project area, the United States Department of the Interior, National Parks Service, Land and Water Conservation Fund (LWCF), Detailed Listing of Grants Grouped by County at the InvestigateWest website (<http://projects.invw.org/data/lwcf/grants-in.html>), was examined by environmental staff at GAI. The investigation showed no LWCF properties in the project area (Appendix I, page I1).

An early coordination letter was sent to the National Park Service (NPS) on March 12, 2018. The NPS did not

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

respond to the early coordination effort and therefore, it is assumed that they have no concerns nor objections to this project. No section 6(f) resources will be impacted by this project.

### SECTION E – Air Quality

#### Air Quality

##### Conformity Status of the Project

	Yes	No
Is the project in an air quality non-attainment or maintenance area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If YES, then:		
Is the project in the most current MPO TIP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	<input type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input type="checkbox"/>

Level of MSAT Analysis required?

Level 1a  Level 1b  Level 2  Level 3  Level 4  Level 5

Remarks:

This project resides in Tippecanoe County, which is in attainment for all criteria pollutants under the National Ambient Air Quality Standards (NAAQS) according to IDEM's website: [https://www.in.gov/idem/airquality/files/nonattainment\\_areas\\_map.pdf](https://www.in.gov/idem/airquality/files/nonattainment_areas_map.pdf). The 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 93.116, and as such, a Mobile Source Air Toxics analysis is not required.

This project is not of regional significance; thus, it has been identified as being exempt from air quality analysis in accordance with 40 CFR Part 93.126 and this project is not a project of air quality concern (40 CFR Part 93.123). It can therefore be concluded that the project will have no significant impact on air quality.

This project is listed in INDOT's FY 2018-2021 STIP (Appendix G, page G1). This project is located in southeast Tippecanoe county, which is within the jurisdiction of the Area Plan Commission of Tippecanoe County (APCTC). Therefore, this project is subject to be included in the Transportation Improvement Program (TIP). This project has been included in the most current APCTC TIP and can be found in Appendix G, page G2. Please note that the total cost of this project will need to be updated and it is the responsibility of the INDOT project manager to update and coordinate the TIP/STIP as appropriate before letting. A *Firm* commitment to this effect has been added to the *Environmental Commitments* section of this document.

### SECTION F - NOISE

#### Noise

	Yes	No
Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	No	Yes/ Date
ES Review of Noise Analysis	X	

This is page 24 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019





## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

facility. Therefore, the project is not likely to cause substantial indirect or cumulative impacts.

**Public Facilities & Services**

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*

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

Remarks: The project may pose a temporary inconvenience to traveling motorists (including school buses and emergency services) due to the proposed road closure and detour routes; however, no significant delays are anticipated and all inconveniences will cease upon project completion.

Utilities known to be within the project area include buried gas, fiber, copper cable, conduit lines. Also, overhead electric and phone lines are present within the project area. Please refer to the below list of all utilities known to exist within the project corridor.

- Vectren Energy- Has transmission facilities that cross perpendicular in an easement near US-52.
- Indiana Gas has three pipelines that intersect the project area in the western terminus of the project near US-231.
- Tipmont R.E.M.C.- Facilities are located in a dedicated easement and will likely need to be relocated.
- Indiana Dataline Corp. and Comcast- Have facilities on the Tipmont R.E.M.C.
- Tri-County Telephone Co.- Has buried conduit, fiber, and copper cable along the project corridor.
- Frontier Communications of Indiana- Has copper and fiber cables in the right of way on the north side of SR-28.

Coordination with INDOT Utilities and Railroad has occurred and Utility coordination will be ongoing as this project advances.

An early coordination letter was sent out to the INDOT Office of Aviation on March 12, 2018 by GAI (Appendix C, pages C1 to C3). They responded on March 21, 2018 and stated that the nearest public-use airport is beyond five nautical miles of the proposed project corridor. They also stated that based on the provided information and Indiana Tall Structure permit will not be required unless the project involves the construction of a temporary (i.e., crane) or permanent structure that exceeds a height of 200 feet above ground level (Appendix C, page C18).

According to the RFI approved on November 9, 2018 (Appendix E, pages E1 to E22) three pipelines and two railroads were identified within 0.5 miles of the project area. All three pipelines intersect the western project area near US 231. These natural gas pipelines are owned by the Indiana Gas Co. Inc. and coordination is currently ongoing. Out of the two railroads identified, only one crosses the eastern project terminus and it is known as the Conrail Railroad. Further investigation revealed that this railroad is no longer active and therefore no impact will occur.

Access to all properties will be maintained during construction.

The project sponsor will be responsible for contacting school districts and emergency services at least two weeks prior to construction for the road closure.

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

During the development of the project were EJ issues identified?	Yes	No
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project require an EJ analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If YES, then:

Are any EJ populations located within the project area?	Yes	No
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project result in adversely high or disproportionate impacts to EJ populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

Remarks:

Under FHWA Order 6640.23A, FHWA and INDOT, 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. As proposed, the project will require the acquisition of more than 0.5 acre of permanent right-of-way, therefore, an environmental justice analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Tippecanoe County. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is Census Tract 110. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the (US Census Bureau, 2012 -2016 American Community Survey 5 Year Estimates) was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on January 1, 2018 by GAI. The data collected for minority and low-income populations within the AC are summarized in the below table.

	COC - (Tippecanoe County)	AC-1 - (Census Tract 110, Tippecanoe County, Indiana)
Percent Minority	22.24%	2.46%
125% of COC	27.80%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	21.76%	6.12%
125% of COC	27.19%	AC < 125% COC
EJ Population of Concern		No

AC-1, Census Tract 110 has a percent minority of (2.46%) which is below 50% and is below the 125% COC threshold. Therefore, AC-1 does not contain minority populations of EJ concern.

AC-1, Census Tract 110 has a percent low income of (6.12%) which is which is below 50% and is below the 125% COC threshold. Therefore, AC-1 do not contain low-income populations of EJ concern.

**Conclusion**

The census data sheets, map, and calculations can be found in Appendix H. No further environmental justice analysis is warranted.

**Relocation of People, Businesses or Farms**

Will the proposed action result in the relocation of people, businesses or farms?

Is a Business Information Survey (BIS) required?

Is a Conceptual Stage Relocation Study (CSRS) required?

Has utility relocation coordination been initiated for this project?

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

Number of relocations: Residences: 0 Businesses: 0 Farms: 0 Other: 1

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

Remarks: No relocations or displacements of any residences, businesses, or farms will be required as a result of this project.

This is page 27 of 32 Project name: SR-28 Pavement Rehabilitation Date: May 16, 2019

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

Notice was sent out to the following utility companies: Frankfort Sewer Department, Frankfort Water Works, Frankfort, City Light & Power, Century Link, Frontier Communications of Indiana, Indiana Dataline Corp, MCI/Verizon Business, Purdue I-Light, Windstream, Comcast, Tri-County Telephone Company, Duke Energy, Tipmont R.E.M.C., Indiana Gas and Vectren Energy. Coordination with all present utilities will be ongoing during the project.

Out of the above listed facilities, Tipmont R.E.M.C (overhead power lines) are located within a dedicated easement along SR-28. Indiana Dataline Corp. and Comcast both have facilities located on the Tipmont R.E.M.C. utility poles. It is anticipated that these utilities will need to be relocated. Coordination is currently ongoing and will continue as this project advances.

**SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES**

<b>Hazardous Materials &amp; Regulated Substances</b> (Mark all that apply)	<u>Documentation</u>
Red Flag Investigation	<input checked="" type="checkbox"/>
Phase I Environmental Site Assessment (Phase I ESA)	<input type="checkbox"/>
Phase II Environmental Site Assessment (Phase II ESA)	<input type="checkbox"/>
Design/Specifications for Remediation required?	<input type="checkbox"/>

	No	Yes/ Date
<b>ES Review of Investigations</b>	<input type="checkbox"/>	November 9, 2018

*Include a summary of findings for each investigation.*

Remarks: A Red Flag Investigation was conducted and INDOT's SAM unit concurred with the findings on November 9, 2018 (Appendix E, pages E1 to E22). The following features were investigated further due to their proximity to the project area and potential to impact the project through means of contaminant migration:

- **Leaking Underground Storage Tanks (LUSTs):** One LUST is located within the 0.5-mile search radius. The Romney Auto Shop is located within the project area at the northwest quadrant of the intersection of US 231 and SR 28. The site is currently being monitored for plume stability, which is limited to the eastern portion of the site. Since the air sparging and soil vapor extraction system (AS-SVE) ceased operations in April 2015 (since removed), benzene concentrations in groundwater samples collected during quarterly monitoring sampling events have been below the IDEM RISC IDCL for benzene and below detection limits for other COCs. IDEM issued a No Further Action (NFA) Approval Determination Pursuant to Remediation Closure Guide on January 24, 2019. This NFA stated that soil sampling at the site indicated that concentrations of all COC's are below the Remediation Closure Guide (RCG) residential direct contact screening level. The NFA also stated that Groundwater sampling results indicated that benzene remains in the groundwater at concentrations up to 7.6 micrograms per liter, exceeding the RCG residential tap water screening level. Naphthalene remains in the groundwater at concentrations up to 2.2 micrograms per liter, exceeding the RCG residential tap water screening level. In addition, the NFA determination also stated that the vapor intrusion testing indicated that all COC's are below the RCG residential vapor intrusion ground water screening levels. Groundwater flow is generally to the east towards the project area. A follow up call with IDEM on April 23, 2018 occurred and IDEM stated that they had no additional information other than what is stated above concerning this site. Impacts may occur. If contaminated soils are encountered during construction, appropriate PPE should be used. Contaminated materials will need to be properly handled by trained personnel and disposed in accordance with current regulations.
- **NPDES Facilities:** One NPDES facility is located within the 0.5-mile search radius. The Clarks Hill Municipal Waste Water Treatment Plant is located 0.20 mile south of the project area near S 975 E. Although the RFI report recommended coordination, since access will be maintained throughout the duration of construction and due to the location of this facility, coordination was not conducted. No

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

impact is expected.

- NPDES Pipe Locations: One NPDES pipe is located within the 0.5-mile search radius. The Clarks Hill Municipal Waste Water Treatment Plant pipe is mapped approximately 0.06 mile north of the project area. Although the RFI report recommended coordination, since access will be maintained throughout the duration of construction and due to the location of this facility, coordination was not conducted. No impact is expected.

If a spill occurs or contaminated soils or water are encountered during construction, appropriate personal protective equipment (PPE) should be used. Contaminated materials will need to be properly handled by trained personnel and disposed in accordance with current regulations. IDEM should be notified through the spill line at (888) 233-7745 within 24 hours of discovery of a release from a UST system and within 2 (two) hours of discovery of a spill.

**SECTION I – PERMITS CHECKLIST**

Permits (mark all that apply)

Likely Required

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

Individual Permit (IP)	<input type="checkbox"/>
Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input checked="" type="checkbox"/>
Pre-Construction Notification (PCN)	<input type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>

**IDEM**

Section 401 WQC	<input checked="" type="checkbox"/>
Isolated Wetlands determination	<input checked="" type="checkbox"/>
Rule 5	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>

**IDNR**

Construction in a Floodway	<input type="checkbox"/>
Navigable Waterway Permit	<input type="checkbox"/>
Lake Preservation Permit	<input type="checkbox"/>
Other	<input type="checkbox"/>
Mitigation Required	<input type="checkbox"/>

**US Coast Guard Section 9 Bridge Permit**

**Others (Please discuss in the remarks box below)**

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

Remarks:

This project will likely require a USACE RGP 404 and IDEM 401 WQC for temporary impacts to jurisdictional wetlands. In addition, this project will also likely require an IDEM Isolated Wetland General Permit (IWGP) for permanent impacts to State Regulated Wetlands.

Wetland mitigation with IDEM may be required, as cumulative permanent wetland impacts exceed 0.1 acre. Coordination with IDEM through INDOT's EWPO Office has been initiated to determine the exemption status of these wetlands. As this project advances, and IDEM makes their decision during the permitting process; wetland mitigation will be determined at that time.

An IDEM Rule 5 permit will be required as ground disturbance associated with this project is 87.12 acres.

Indiana Department of Transportation

County Tippecanoe

Route SR-28

Des. No. 1592968

SECTION J- ENVIRONMENTAL COMMITMENTS

The following information should be provided below: List all commitments, name of agency/organization requesting the commitment(s), and indicating which are firm and which are for further consideration. The commitments should be numbered.

Remarks:

Firm:

- 1. If a spill occurs or contaminated soils or water are encountered during construction, appropriate personal protective equipment (PPE) should be used. Contaminated materials will need to be properly handled by trained personnel and disposed in accordance with current regulations. IDEM should be notified through the spill line at (888) 233-7745 within 24 hours of discovery of a release from a UST system and within 2 (two) hours of discovery of a spill. (INDOT)
2. It is the responsibility of the INDOT project manager to update and coordinate the TIP/STIP as appropriate before letting. (INDOT)
3. If contamination is encountered the material will be removed, transported, and disposed of properly in accordance with federal, state, and local guidance. Workers will be provided appropriate personal protective equipment (PPE) based on the particular types of contaminants present on site. (INDOT)
4. If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (IC 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. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations. (IDNR, Division of Historic Preservation and Archaeology).
5. If the scope of work or permanent or temporary right-of-way amounts change, INDOT Environmental Services Division (ESD) will be contacted immediately. (INDOT)
6. The project sponsor will be responsible for contacting school districts and emergency services at least two weeks prior to construction for the road closure. (INDOT)
7. Anderson Ditch is impaired with E. coli. Workers who are working in or near Anderson Ditch should take care to wear proper personal protective equipment (PPE), observe proper hygiene procedures, including regular handwashing, and limit personal exposure. (INDOT)
8. 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 AMM's. (USFWS)
9. Lighting AMM 1: Direct Temporary Lighting away from suitable habitat during the active season. (USFWS)
10. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g. temporary work areas, alignments) to avoid tree removal. (USFWS)
11. Tree Removal AMM 2: Apply time of the year restrictions (April 1st through September 30th) for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS, IDNR)
12. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
13. Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of the year. (USFWS)
14. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months of April through October. (IDEM)

For Further Consideration:

- 1. Appropriate structures and techniques should be utilized both during the construction phase, and

**Indiana Department of Transportation**

County Tippecanoe Route SR-28 Des. No. 1592968

- after completion of the project, to minimize the impacts associated with storm water runoff. (IDEM)
2. Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. Dirt tracked onto paved roads from unpaved areas should be minimized. (IDEM)
  3. Install silt fence or other erosion control measures around the perimeter of any wetlands and/or other waterbodies to remain undisturbed at the project site. (IDEM)
  4. Stabilize all disturbed areas upon completion of land disturbing activities. (IDEM)
  5. Sediment-laden water which otherwise would flow from the project site shall be treated by erosion and sediment control measures appropriate to minimize sedimentation. (IDEM)
  6. A stable construction site access shall be provided at all points of construction traffic ingress and egress to the project site. (IDEM)
  7. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. (IDEM)
  8. Public or private roadways shall be kept cleared of accumulated sediment that is a result of run-off or tracking. (IDEM)
  9. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion. (IDNR)
  10. Do not excavate in the low flow area except for the placement of the piers, foundations, and riprap, or removal of the old structure. (IDNR)
  11. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR)
  12. Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)
  13. Do not use broken concrete as riprap. (IDNR)
  14. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap. (IDNR)
  15. Minimize the movement of resuspended bottom sediment from the immediate project area. (IDNR)
  16. Do not deposit or allow demolition/construction materials or debris to fall or otherwise enter the waterway. (IDNR)
  17. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized. (IDNR)
  18. Seed and protect disturbed stream banks and slopes that are 3:1 or steeper or areas where runoff is conveyed through a channel/swale with heavy duty net-free biodegradable erosion control blankets to minimize the entrapment and snaring of small wildlife such as snakes and turtles (follow manufacture's recommendation for installation) or use an appropriate structural armament: seed and apply mulch on all other disturbed areas. (IDNR)
  19. Protect the area around and below any concentrated discharge points, down to the waterway's normal flow level, with an appropriate structural armament such as riprap. (IDNR)

## Indiana Department of Transportation

County Tippecanoe Route SR-28 Des. No. 1592968

**SECTION K- EARLY COORDINATION**

*Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received. INDOT and FHWA are automatically considered early coordination participants and should only be listed if a response is received.*

Remarks: Early coordination letters were sent to agencies on March 12, 2018. If no response was received, it was assumed the agency did not feel the project would result in substantial impacts. Please see a copy of the early coordination letter and agencies responses in Appendix C.

The following agencies/individuals were contacted during early coordination.

Agency	Coordination Sent	Response Received	Appendix Page(s)
U.S. Fish Wildlife Service	3/12/2018	3/21/2018	C19 to C20
Natural Resources Conservation Service	3/12/2018	3/22/2018	C16 to C17
Department of the Army, Louisville District, Corps of Engineers	3/12/2018	No Response	-
National Park Service, Midwest Regional Office	3/12/2018	No Response	-
U.S. Department of Housing & Urban Development, Chicago Regional Office	3/12/2018	No Response	-
Indiana Geological Survey, Environmental Geology Section	3/12/2018	3/14/2018	C13 to C15
IDNR, Division of Fish and Wildlife	3/12/2018	4/11/2018	C21 to C24
IDEM	3/12/2018	3/12/2018	C5 to C12
INDOT Aviation Section	3/12/2018	3/21/2018	C18
INDOT, Public Hearings	3/12/2018	No Response	-
Tippecanoe County Surveyor	3/12/2018	No Response	-
Tippecanoe Highway Department	3/12/2018	No Response	-
Tippecanoe MPO	3/12/2018	No Response	-



# Table of Appendices

## Appendix A: INDOT Supporting Documentation

Threshold Chart.....	A1
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## Appendix B: Graphics

Maps of the Project Area.....	B1
Photo Key Map.....	B8
Photographs of the Project Area.....	B13
Project Plans.....	B26

## Appendix C: Early Coordination

Early Coordination Example Letter.....	C1
Early Coordination Distribution List.....	C3
Notice of Survey Letters.....	C4
Early Coordination Responses.....	C5
USFWS Official Species List.....	C25
INDOT Bat Database Email Correspondence.....	C31
USFWS Concurrence Verification Letter.....	C32
INDOT Concurrence Verification Request.....	C47

## Appendix D: Section 106 Consultation

MPPA Determination.....	D1
INDOT CRO Email Correspondence.....	D7
Phase 1a Arch. Report.....	D10

## Appendix E: Red Flag and Hazardous Materials

Red Flag Investigation.....	E1
-----------------------------	----

## Appendix F: Water Resources

Wetland Delineation and Stream Identification Report.....	F1
---	----

## Appendix G: Air Quality

Statewide Transportation Improvement Program (STIP), approved on 07/03/17.....	G1
Transportation Improvement Program (TIP).....	G2

## Appendix H: Environmental Justice

EJ Analysis.....	H1
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## Appendix I: Additional Studies

DOI Land & Water Conservation Fund Grants.....	I1
IDEM Wellhead Proximity Determinator.....	I2

# Appendix A

## INDOT Supporting Documentation

Item	Appendix Page
Threshold Chart	A1

## Categorical Exclusion Level Thresholds

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

<sup>1</sup>Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

<sup>2</sup>Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

<sup>3</sup>Permanent and/or temporary right-of-way.

<sup>4</sup>AMMs = Avoidance and Mitigation Measures.

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

<sup>6</sup>Potential for causing a disproportionately high and adverse impact.

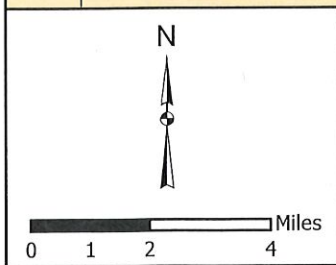
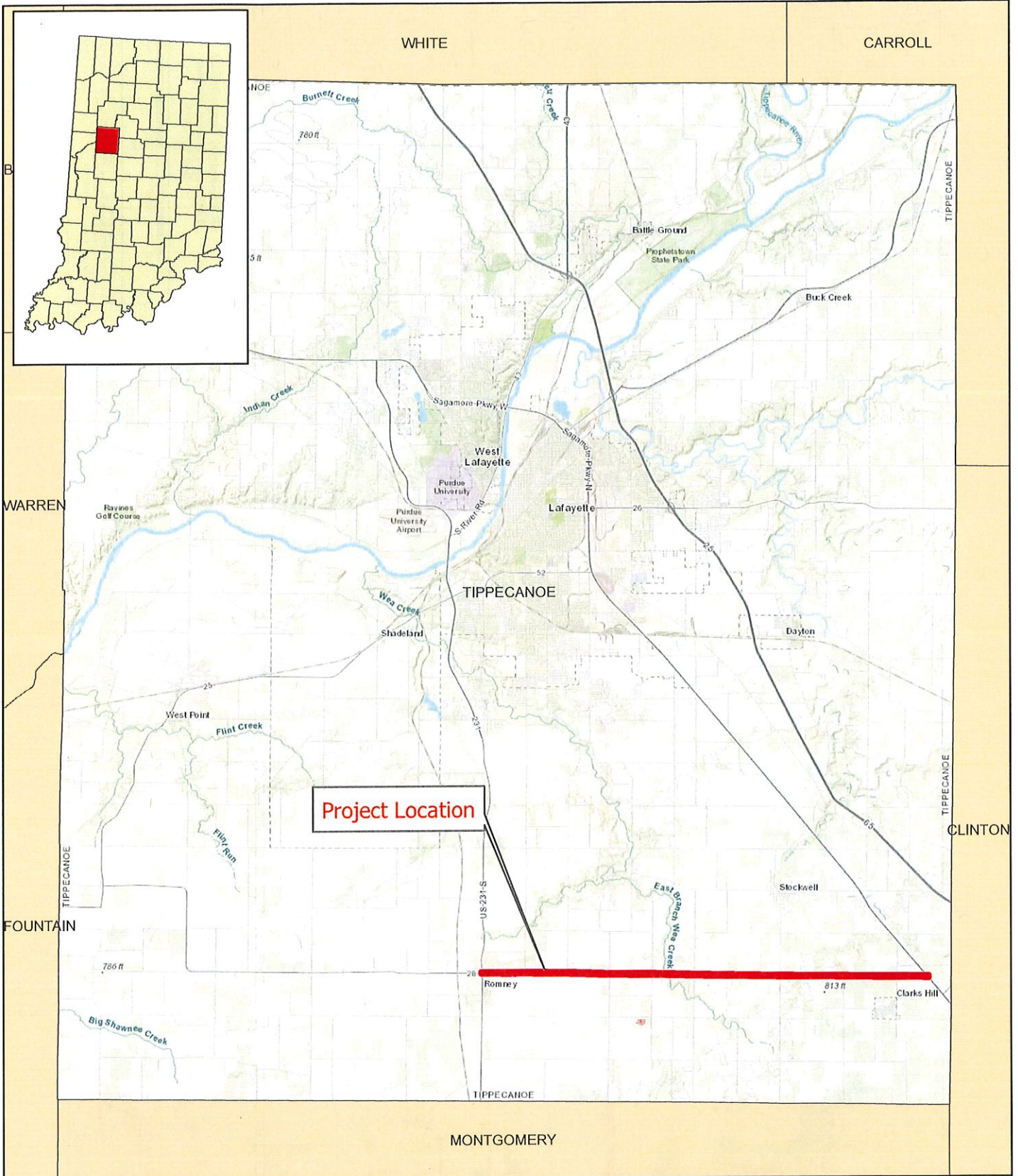
<sup>7</sup>Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

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

## Appendix B

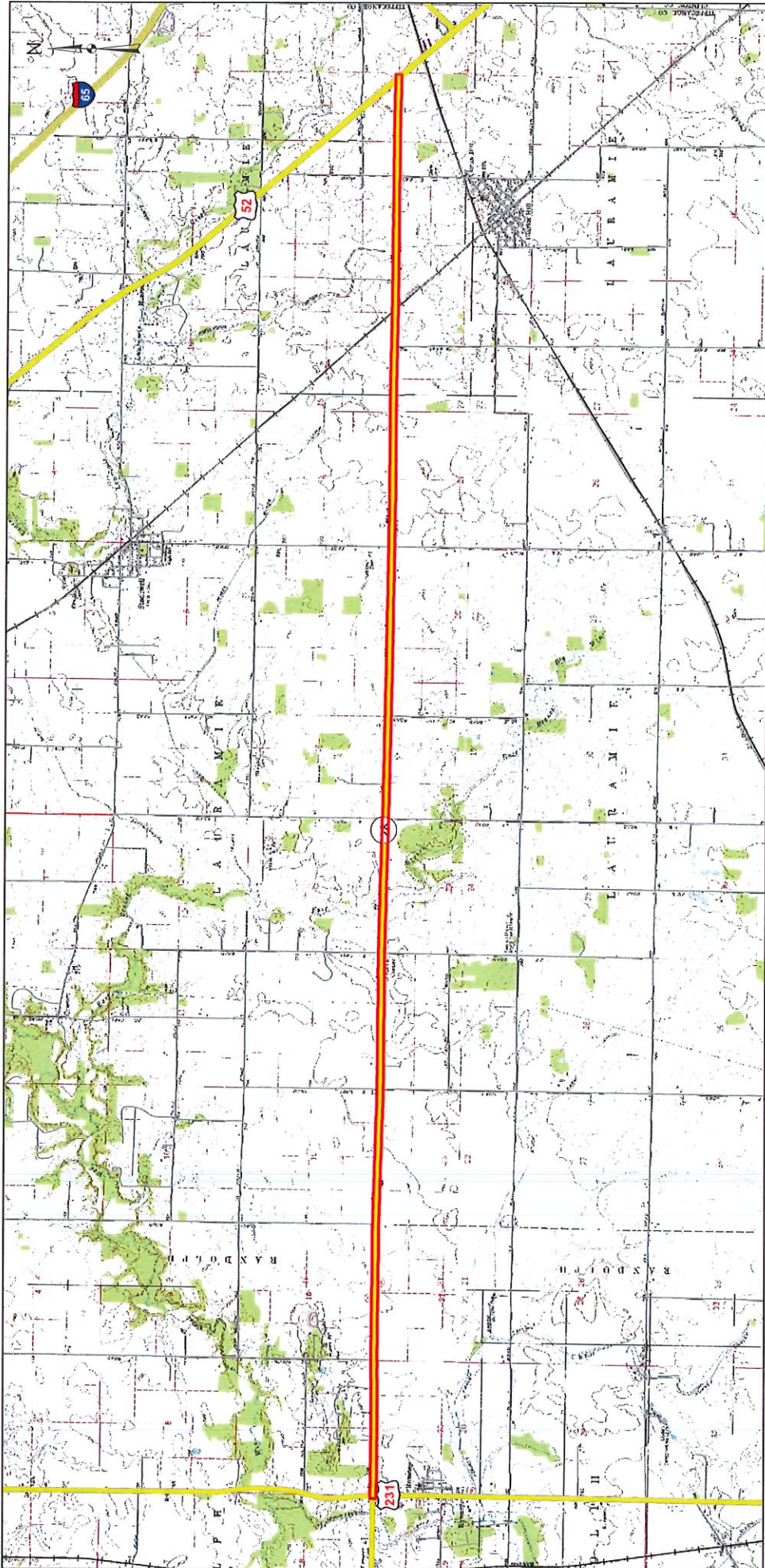
### Graphics

<b>Item</b>	<b>Appendix Page</b>
Maps of the Project Area	B1 to B7
Photo Key Map	B8 to B12
Photographs of the Project Area	B13 to B25
Project Plans	B26 to B84



**State Location Map**  
**SR 28 Roadway Rehabilitation**  
**Tippecanoe County, Indiana**  
**Des 1592968**





**USGS Topo Map**  
 SR 28 Roadway Rehabilitation  
 Tippecanoe County, Indiana  
 Des 1592968

0 2,350 4,700 9,400  
 Feet

Service Layer Credits: INDOT, Jishanma, Inroads, Inc, GEBCO, USGS, FSG, NPS, NSCA, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox, © OpenStreetMap contributors, and the GIS User Community

**Legend**

- Study Area
- Interstate
- State Route
- US Route
- Local Road
- Railroad

MULLBERRY, STOCKWELL, ROMNEY  
 USGS 7.5 Minute Topo Maps

