

Indiana Department of Transportation

County Porter Route State Road 2 Des. No. 1298302

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

Road No./County:	State Road 2 at County Road 100 S, Porter County
Designation Number:	1298302
Project Description/Termini:	Intersection Improvements at State Road 2 at County Road 100 S

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 checked="" type="checkbox"/>	Categorical Exclusion, Level 2 – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
<input type="checkbox"/>	Categorical Exclusion, Level 3 – 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"/>	Categorical Exclusion, Level 4 – 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"/>	Environmental Assessment (EA) – 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 _____ Date _____
 ESM Signature _____ Date _____

 ES Signature Jessica Spiess Date 6/5/17

_____ Date _____
 FHWA Signature _____ Date _____

Release for Public Involvement
RMQ _____ Date 02/13/17
 ESM Initials _____ Date _____

 ES Initials _____ Date _____

4-20-17
RC Certification of Public Involvement _____ Date 4-20-17
 Office of Public Involvement _____ Date _____

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

INDOT ES/District Env. Reviewer Signature: Jessica Spiess Date: 6/5/17
 Name and Organization of CE/EA Preparer: C.J. Cunningham - Troyer Group

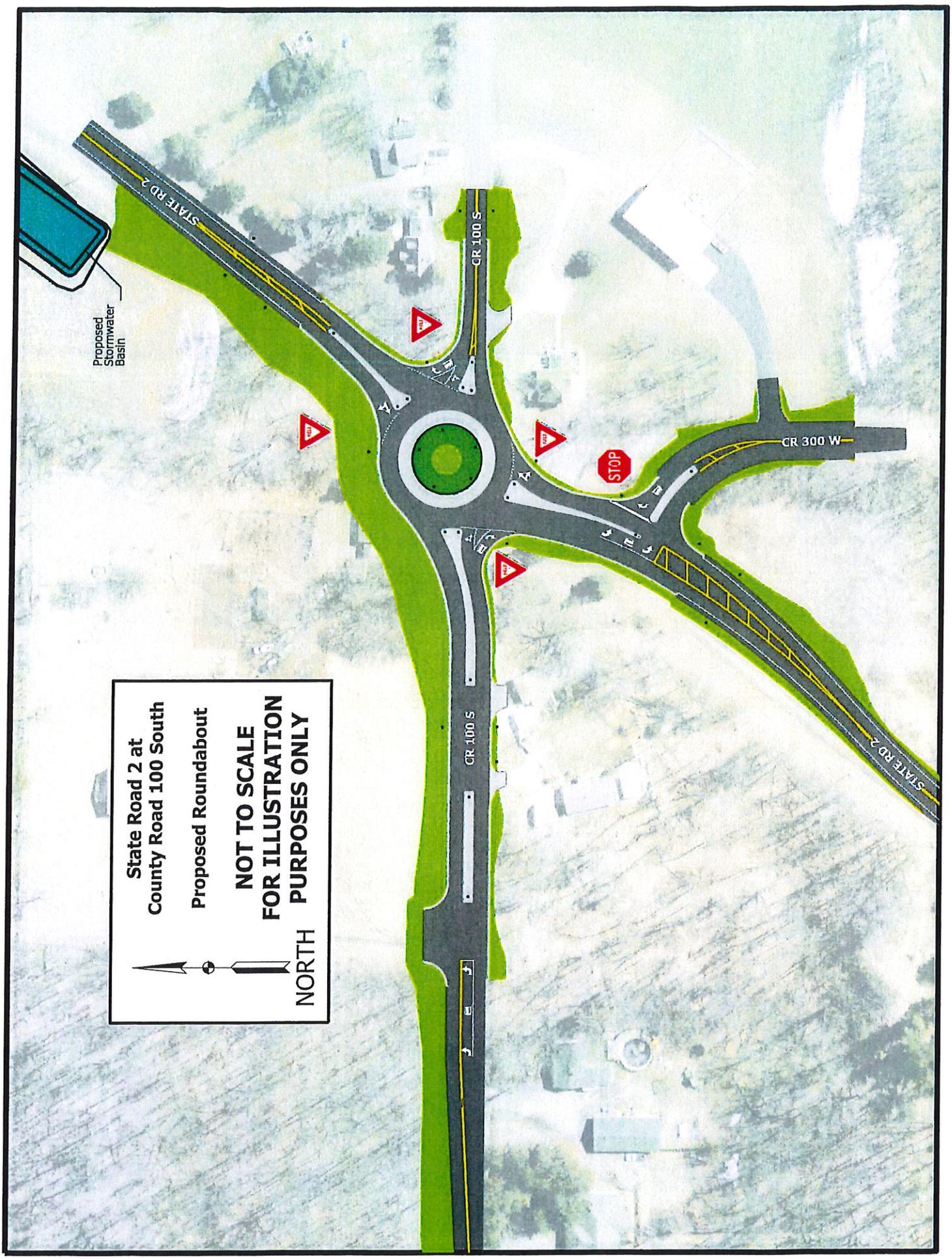
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State Road 2 at
County Road 100 South
Proposed Roundabout

**NOT TO SCALE
FOR ILLUSTRATION
PURPOSES ONLY**

NORTH

Proposed
Stormwater
Basin



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Part I - PUBLIC INVOLVEMENT

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

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

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

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

Remarks: A Notice of Entry for Survey or Investigation was sent to affected property owners within the project area on May 20, 2015 (Appendix G-1, page 186).

To meet the public involvement requirements of Section 106, a legal notice (at the end of Appendix D, pages 118-119) was published in the *Northwest Indiana Times* on October 6, 2016. The notice offered the public an opportunity to comment on the "No Historic Properties Affected" Section 106 finding. The public had a 30 day comment period to respond to the notice. The comment period expired on November 7, 2016 and no comments were received.

The proposed project meets one or more of the conditions described in the current Indiana Department of Transportation (INDOT) Public Involvement Manual 2012, Part 1, Section IV.C.4, which would require INDOT to offer the public an opportunity to request a public hearing. This project will require 4.12 acres of permanent right of way and 0.71 acres of temporary right-of-way. In accordance with the FHWA approved INDOT public involvement policy this project will require an opportunity for public comment based on the acquisition of more than 0.5 acres of new permanent right of way. However, given the anticipated public concern with a roundabout being constructed in a rural location, INDOT LaPorte District decided to forego the offering of a public hearing, and instead arranged a public hearing without first offering one via a legal notice.

A legal notice of public hearing was advertised in the *Northwest Indiana Times* on Wednesday, March 8, 2017 and Thursday, March 16, 2017. The legal notice text can be found in Appendix G-3, page 188, while the proof of publication is located in Appendix G-4, page 190. The advertisement announced the project type and the time, date, and location of the hearing. The notice of public hearing was sent to affected property owners. A list of the owners to which the notice was sent can be found in Appendix G-5, page 192. The legal notice was distributed via email on two occasions to various local elected officials and various local city and county public works staff. Copies of the emails are located in Appendix G-6, pages 194-207. The public hearing was also advertised on INDOT's website, documentation of which can be found in Appendix G-7, page 208.

The public hearing was held by INDOT's Office of Public Involvement in coordination with Troyer Group on Thursday, March 23, 2017 at 6:00 pm (CST), at the Boone Grove High School, 260 South 500 West, Valparaiso, Indiana 46385. There were 88 attendees in total, plus six INDOT personnel and three design consultant representatives. The sign-in sheet can be found in Appendix G-8, pages 209-220. A presentation was given by INDOT and the design consultant. Handouts to the attendees included instructions for providing comments, a preliminary project illustration, and copies of the presentation slides, all of which can be found in Appendix G-9, pages 221-229. Attendees were invited to sign-up as speakers to submit official comments. Only two speakers signed up (Appendix G-10, page 230), but others were invited to submit comment. In total, eight attendees provided official comment during the hearing. Their comments were transcribed and are located in Appendix G-11, page 231-234. Written comments were also accepted for a period of 18 days following the public hearing. Written comments were received from 18 members of the public, all of which can be found in Appendix G-12, pages 235-264.

The comments received centered around a few primary topics. One such topic was the public's preference for other alternatives such as reduced speeds, increase warning signage, sight distance improvements, and a signalized intersection. The public also raised concern with the maneuverability of farm equipment, semi-trucks, and specialized heavy-haul vehicles. The unsafe conditions present at the existing intersection were also brought into question by some commenters. All of the comments received both during the hearing and submitted in writing have been summarized in tables located in Appendix G-13, pages 265-274. The tables also include responses to each of the comments, as prepared by INDOT and the design consultant.

Public Controversy on Environmental Grounds

	Yes	No
Will the project involve substantial controversy concerning community and/or natural resource impacts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Remarks: <u>The opportunity is needed to educate the public about roundabout features and the safety they provide.</u>		

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

Sponsor of the Project: Indiana Department of Transportation INDOT District: LaPorte
 Local Name of the Facility: State Road 2 at County Road 100 South

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

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

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 purpose of the project is to improve the operational safety and functionality of the existing intersection of State Road 2 at County Road 100 South/County Road 300 West.

The need of the project is evidenced by the existing intersection geometry. State Road 2 is a minor arterial which runs southwest to northeast. County Road 100 South is a major collector running east to west, and County Road 300 West is a local road running north to south, and T's into the existing intersection from the south. The current configuration of the five-way intersection is unsafe because State Road 2, the intersection's most heavily traveled roadway (8,460 V.P.D., 2015), is aligned on a significant skew, which impedes driver sight distance. Moreover, the existing intersection lies atop vertical curve along State Road 2, which further impedes intersection sight distance. The existing thru movement along State Road 2 (posted speed of 45 m.p.h.), coupled with the intersection sight distance issues, has resulted in severe crashes. Review of crash data between 2010 and 2016 reveals that 58 crashes have occurred at this intersection during that time frame, and 16 (27.6%) have resulted in injury. Accidents occur at a rate of 1.92 per one-million vehicles entering (M.V.E.) the existing intersection. INDOT recognizes an operational deficiency when accidents occur at a rate of 1.5 M.V.E. or higher.

Additionally, the project is needed to ensure efficient movement of the travelling public in southwest Valparaiso. It is anticipated that southwest Valparaiso continues to grow by way of residential development. On a macro level, traffic is assumed to continue to grow at a rate of 1% per year. On a micro level, the intersection must accommodate traffic associated to a proposed residential development planned immediately northwest of the intersection.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Porter Municipality: Southwest of Valparaiso

Limits of Proposed Work: Northern Terminus (SR 2): 430 ft. north of intersection's center
 Eastern Terminus (CR 100 S): 270 ft. east of intersection's center
 Southern Terminus (SR 2): 410 ft. south of intersection's center
 Southern Terminus (CR 300 W): 100 ft. south of tie-in with SR 2
 Western Terminus (CR 100 S): 870 ft. west of intersection's center

Total Work Length: 0.39 Mile(s) Total Work Area: 4.47 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?
 If yes, when did the FHWA grant a conditional approval for this project?

Yes ¹	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.

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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.

Project Location

The referenced project is located in southwestern Porter County in Perry Township, approximately 4.3 miles southwest of US 30. Specifically, the project is located in Sections 4, 5, 8, and 9, T34N, R6W as shown on the 7.5 minute Palmer and Valparaiso U.S.G.S. quadrangles (Appendix B-1, page 29). Additional project location maps, aerial photographs and ground level photographs are attached in Appendix B.

Existing Roadways and Intersection

State Road 2 is classified as a Minor Arterial and consists of a two-way, northeast-southwest, roadway with 11-foot travel lanes and 2-foot shoulders. No sidewalks are present. The posted speed on State Road 2 is 45 mph.

County Road 100 S is classified as a Major Collector and consists of a two-way, east-west, roadway with 11-foot travel lanes and ½-foot shoulders. No sidewalks are present. The posted speed on CR 100 S is 40 mph.

County Road 300 W is classified as a local road and consists of a two-way, north-south, roadway with 101-foot travel lanes and ½-foot shoulders. No sidewalks are present. The posted speed on CR 300 W is 40 mph.

The SR 2 and CR 100S intersection is currently a five-way intersection with 2-way stop control on CR 100 S, which runs east to west, and stop control on CR 300 W, which T's into the intersection from the south. State Road 2 runs northeast to southwest through the intersection. The intersection has poor sight distance resulting from the intersection's skew and side slopes very near the intersection corners. Overhead warning flashers are currently used to alert drivers of the intersection.

Proposed Improvement

The proposed project will convert the existing five-way stop-controlled intersection into a four-legged single-lane roundabout. CR 300 W will be re-aligned to 'T' into State Road 2 southwest of the intersection. The center of the roundabout will be shifted slightly north of the existing intersection in order to minimize impact to adjacent residential properties southeast, southwest, and northeast of the intersection. The new intersection of CR 300 W at SR 2 will occur approximately 150' southwest of the intersection. A State Road 2 southbound left turn lane is included in the design.

A 228-acre residential development is planned immediately northwest of the intersection. The intersection's west leg has been designed to accommodate one of the development's two entrances, which is located approximately 400 feet west of the roundabout. An eastbound left turn lane into the development is included in the design.

All improved roadway will be surrounded by concrete curb and gutter, which will drain into a new storm sewer system. The storm sewer system will drain stormwater generally away from the center of intersection where it will empty into existing drainage swales. One exception is the stormwater collected within the roundabout and its northeast leg, which will discharge into a detention basin on the west side of State Road 2, north of the intersection. Lighting improvements will also be included, with the addition of approximately 13 decorative light fixtures located along the roundabout approaches. All driveways adjacent to the improved roadway will be improved in concrete within the limits of the proposed right-of-way.

In total, 4.12 acres of permanent right-of-way will be acquired, while 0.71 acres of temporary right of way will be necessary to accommodate construction activities.

The roundabout design offers many safety advantages. Roundabouts have been shown to reduce the number of overall collisions, while significantly reducing the rate of injury and fatality crashes. This is a result of the lower speed at which vehicles traverse the intersection and the angles at which vehicles interact, eliminating the possibility for T-bone or head-on collisions.

Refer to Appendix B-3, pages 38-58 for the proposed plans, which exclude detail-type sheets such as quantity tables, structure data tables, and cross-sections.

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OTHER ALTERNATIVES CONSIDERED:

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

1. Improved Signage and Markings

Low-impact improvements were considered for the intersection. Such improvements would have included rumble strips, reduced speed limits, and advance warning signage alerting drivers of the upcoming intersection. This alternative would only partially address the project's purpose, as it would still permit high-speed accidents to occur and it would not address the existing sight distance issues. For the stated reasons, this alternative was not determined to be prudent and was not considered further.

2. Signalized Intersection

Signalized intersection improvements were considered for the project, and it would have addressed the project's purpose of increasing the intersection's safety. Preliminary engineering revealed that the grade changes along CR 100 necessary to construct a signalized intersection according to INDOT design standards would have resulted in substantial impacts to adjacent private property. A signalized intersection would still permit high-speed crashes and the sight distance problems resulting from the intersection skew would still remain. For these reasons, a roundabout was chosen as the preferred alternative.

3. The Do-Nothing Alternative

The "Do Nothing" alternative was considered for the proposed project. The "Do Nothing" alternative would not have addressed the overall purpose of the project which is to improve the safety of the intersection. If the "Do Nothing" alternative would have been selected, dangerous vehicle accidents would have continued to persist. For the stated reasons, the "Do Nothing" alternative was not determined to be feasible or prudent and was not considered further.

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 2:

Functional Classification:	<u>Minor Arterial</u>				
Current ADT:	<u>8,460</u>	VPD (2015)	Design Year ADT:	<u>11,871</u>	VPD (2038)
Design Hour Volume (DHV):	<u>1,084</u>	Truck Percentage (%)	<u>6.7</u>		
Designed Speed (mph):	<u>45 mph</u>	Legal Speed (mph):	<u>45 mph</u>		

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Travel, one in each direction		Travel, one in each direction	
Pavement Width:	26	ft.	24	ft.
Shoulder Width:	2	ft.	N/A*	ft. *curb/gutter
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

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CR 100 S:

Functional Classification: Major Collector
 Current ADT: 2,083 VPD (2014) Design Year ADT: 2,934 VPD (2038)
 Design Hour Volume (DHV): 263 Truck Percentage (%) 6.7
 Designed Speed (mph): 40 Legal Speed (mph): 40

Existing		Proposed		
Number of Lanes:	2	2		
Type of Lanes:	Travel, one in each direction		Travel, one in each direction	
Pavement Width:	21	ft.	22	ft.
Shoulder Width:	1	ft.	N/A*	ft. *curb/gutter
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

CR 300 W:

Functional Classification: Local
 Current ADT: 1,334 VPD (1999) Design Year ADT: 2,339 VPD (2038)
 Design Hour Volume (DHV): - Truck Percentage (%) -
 Designed Speed (mph): 40 Legal Speed (mph): 40

Existing		Proposed		
Number of Lanes:	2	2		
Type of Lanes:	Travel, one in each direction		Travel, one in each direction	
Pavement Width:	21	ft.	22	ft.
Shoulder Width:	1	ft.	N/A*	ft. *curb/gutter
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: _____
 (Rating, Source of Information)

Existing		Proposed	
Bridge Type:			
Number of Spans:			
Weight Restrictions:		ton	
Height Restrictions:		ft.	
Curb to Curb Width:		ft.	
Outside to Outside Width:		ft.	
Shoulder Width:		ft.	
Length of Channel Work:		ft.	

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

Remarks: There are no bridges or small structures involved in this 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.

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MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:
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	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:

A full intersection traffic closure will be utilized with a posted detour route. The following detour route will be utilized for the closure of State Road 2:

- Vehicles traveling northbound on State Road 2 in the area of Hebron, Indiana will be directed eastward along State Road 8. This divergence will occur approximately 9.3 miles southwest of the improved intersection. Traffic will be directed toward State Road 49, where it will head northward toward US 30/State Road 2. Traffic into Valparaiso will be directed west along US 30/State Road 2 to Washington Street.
- Vehicles traveling southbound on State Road 2 in the area of Valparaiso, Indiana will be directed southward along State Road 49. This divergence will occur approximately 4.3 miles northeast of the improved intersection. Traffic will be directed toward State Road 8, where it will head westward toward State Road 2 in the area of Hebron, Indiana.
- The detour route will be approximately 20.5 miles long, which is 6.9 miles longer than the direct route.

The following detour route will be utilized for the closure of County Road 100 South:

- Vehicles traveling eastbound on County Road 100 S will be directed northward along County Road 500 W. This divergence will occur approximately 2.0 miles west of the improved intersection. Traffic will be directed toward West Division Road where it will head eastward toward County Road 200 W. Traffic will then turn south on County Road 200 W, which will intersect with County Road 100 South.
- Vehicles wishing to travel west on County Road 100 S on the east side of the intersection will be directed northward along County Road 200 S. This divergence will occur approximately 1.0 miles east of the improved intersection. Traffic will be directed toward West Division Road where it will head westward toward County Road 500 W. Traffic will then turn south on County Road 500 W, which will intersect with County Road 100 South.
- The detour route will be approximately 4.9 miles long, which is 1.9 miles longer than the direct route.

The following detour route will be utilized for the closure of County Road 300 West. County 300 West T-s into the intersection of State Road 2 and County Road 100 South, thereby only requiring a detour from its south approach that will link into the County Road 100 South detour route.

- Vehicles traveling northbound on County Road 300 W will be directed westward along County Road 300 S. This divergence will occur approximately 2.0 miles south of the improved intersection. Traffic will be directed toward County Road 500 W where it will head northward, and connect to the detour route for County Road 100 S.

The detour route will be maintained by road closure signs at the end of each route, and will be marked along the length of the detour.

Emergency services and area schools will be notified of any closures two weeks prior to construction. Detailed maintenance of traffic plans can be seen in Appendix B-3, pages 43-44.

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ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 252,000 (2016) Right-of-Way: \$ 750,000 (2017) Construction: \$ 1,392,000 (2017/18)

Anticipated Start Date of Construction: March, 2019

Date project incorporated into STIP July 1, 2015 by way of NIRPCS TIP. See STIP/TIP approval letters in Appendix H-3, page 278. Also listed directly in STIP – See Appendix H-2, page 277.

Is the project in an MPO Area? **Yes** **No**

If yes,

Name of MPO Northwest Indiana Regional Planning Commission

Location of Project in TIP 2016-2019 NIRPC TIP Project (Adopted May 21, 2015), page 19 (Appendix H-1, page 276).

Date of incorporation by reference into the STIP July 1, 2015 - see STIP/TIP approval letters in Appendix H-3, page 278.

RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	2.13	0.37
Commercial	0.0	0.0
Agricultural	1.65	0.30
Forest	0.34	0.04
Wetlands	0.0	0.0
Other:	0.0	0.0
Other:	0.0	0.0
TOTAL	4.12	0.71

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:

In total, 4.12 acres of permanent right-of-way will be acquired, while 0.71 acres of temporary right of way will be necessary to accommodate construction activities. Five parcels will be affected by permanent right-of-way acquisitions, while four of those properties will have both permanent and temporary right-of-way impacts.

The right of way surrounding the roadway lacks clear title within the project limits. Accordingly, the existing right-of-way is assumed to be the edge of the existing roadway pavement. Right-of-way beyond the roadway pavement must be acquired to accommodate the construction of the roundabout, roadway approaches, and corresponding grading work.

The current use of the parcels from which proposed right-of-way will be acquired is primarily residential lawn. Areas of forest will be affected north of CR 100, west of SR 2. Agricultural field will be affected west of SR 2, north of the intersection. Refer to the chart above for a breakdown of right-of-way for each land use by both permanent and temporary right-of-way. The areas of proposed right-of-way acquisition can be seen the plat sheet in design plans, located in Appendix B-3 (page 42).

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

SECTION A – ECOLOGICAL RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Streams, Rivers, Watercourses & Jurisdictional Ditches	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Federal Wild and Scenic Rivers			
State Natural, Scenic or Recreational Rivers			
Nationwide Rivers Inventory (NRI) listed			
Outstanding Rivers List for Indiana			
Navigable Waterways			

Remarks:

Waters resources in the area were mapped while preparing the Red Flag Investigation (prepared May 28, 2015; revised June 11, 2015). The Waters Resources Map can be found in Appendix E-1, page 128. Waters resources were also examined on USGS topographic maps (Appendix E-1, page 126) and flood insurance rate maps prepared by the Federal Emergency Management Administration (FEMA) (Appendix F-4, page 184), and during field investigations.

A regulated Waters and Wetland Delineation Report was prepared by Cardno, Inc. and approved by INDOT on December 14, 2015. Field investigations related to the report's preparation were conducted by Cardno, Inc. on June 15, 2015. The project area consists of two jurisdictional waterways which drain into Sievers Creek. Sievers Creek, a tributary of the nearby Kankee River, flows north to south underneath State Road 2, approximately 500 feet northeast of the existing intersection. No impacts to Sievers Creek are anticipated.

The first un-named tributary of Sievers Creek (UNT 1) flows from north to south into other unnamed tributaries of Sievers Creek. The stream flow originates approximately 50 feet south County Road 100 South, 850 west of the intersection. The stream has ephemeral flow and the average width of its Ordinary High Water Mark (OHWM) is approximately 2 feet. No impacts to this stream are anticipated because project activities in this area are limited to roadway resurfacing within the existing shoulder. No grading work will occur.

The second un-named tributary of Sievers Creek (UNT 2) flows from northwest to southeast into Sievers Creek. The stream crosses State Road approximately 650 feet southeast of the intersection. The stream has intermittent flow and the average width of its OHWM is approximately 2 feet. No impacts to this stream are anticipated because approach work on the southwest leg of the intersection will only extend approximately 410 feet from the center of the intersection. No grading work will occur near this stream.

Early Coordination letters were sent to environmental resource agencies on August 11, 2015 (Appendix C-1, page 60). In their response dated October 16, 2015 (Appendix C-5, page 71), the United States Fish and Wildlife Service (USFWS) identified Sievers Creek as being near the project area, and stated that they did not think it would be affected by the proposed roundabout. The Indiana Department of Natural Resources (IDNR) Division of Fish and Wildlife responded to early coordination on September 11, 2015 (Appendix C-6 page 73) and noted that formal approval by IDNR would be required for any proposal to construct, excavate, or fill in or on the floodway of a stream which has a drainage area greater than one square mile. No such activities will take place within any of the nearby streams, therefore formal approval by IDNR will not be required.

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Other Surface Waters			
Reservoirs			
Lakes			
Farm Ponds	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Detention Basins			
Storm Water Management Facilities	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Other: _____			

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Remarks: Surface waters in the area were mapped while preparing the Red Flag Investigation (prepared May 28, 2015; revised June 11, 2015). The Waters Resources Map can be found in Appendix E-1, page 128. Surface water resources were also examined on USGS topographic maps (Appendix E-1, page 126), National Wetland Inventory (NWI) maps (Appendix F-1, page 157), and during field investigations.

The Red Flag Investigation revealed no lakes or ponds near the project's construction limits. The field investigation completed by Cardno in June, 2015 revealed an open water pond to be present northeast of the intersection, on the southeast side of SR 2. This is a residential pond approximately 80 feet from the road, and no impacts are anticipated.

Stormwater management in the area consists of roadside drainage swales, which flow towards Siever Creek or its tributaries as dictated by the area topography. There are no existing stormwater detention or retention facilities in the area.

Early Coordination letters were sent to environmental resource agencies on August 11, 2015 (Appendix C-1, page 60). In their response dated September 11, 2015 (Appendix C-6, page 73), the IDNR Division of Fish and Wildlife did not note any surface waters.

Presence **Impacts**

Yes No

Wetlands x

Total wetland area: 0.09 acre(s) Total wetland area impacted: 0.0 acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland 1	Palustrine Emergent (PEM)	0.06	0.0	Wetland 1 consists of a concave topographic relief with PEM wetland habitat adjacent to existing road infrastructure. Localized hydrology originates from surface runoff and groundwater sources. Invasive species are the dominant species present throughout the wetland. The vegetated community here is emergent community surrounded by a residential landscape.
Wetland 2	Palustrine unconsolidated bottom (PUB)	0.03	0.0	Wetland 2 is an open water pond located on a flood plain of Sievers Creek within a residential landscape. It has a predominance of hydrophytic vegetation and is surrounded by emergent vegetation.

Documentation	ES Approval Dates
Wetlands (Mark all that apply)	
Wetland Determination	<input type="checkbox"/>
Wetland Delineation	<input checked="" type="checkbox"/>
USACE Isolated Waters Determination	<input type="checkbox"/>
Mitigation Plan	<input type="checkbox"/>
	12/14/15
	<input type="checkbox"/>
	<input type="checkbox"/>

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.

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

Remarks: A regulated Waters and Wetland Delineation Report was prepared by Cardno, Inc. and approved by INDOT on December 14, 2015. Field investigations related to the report's preparation were conducted by Cardno, Inc. on June 15, 2015. According to Cardno, two wetlands totaling 0.09 acres are present in the survey area. Both wetlands were determined to be jurisdictional Waters of the United States. The regulated Waters and Wetland Delineation Report can be found in Appendix F-1, pages 142-174.

In January of 2017, the report was supplemented in order to investigate proposed project impacts outside of the initial survey area. The supplement to the original report concluded that the additional project area does not contain wetland or stream resources. The supplemental report was approved by INDOT on January 18, 2017 and can be found in Appendix F-2, pages 175-181. The email from INDOT approving the supplemental report can be found on page 182.

Both wetlands identified in the original Regulated Waters and Wetland Delineation Report are near the edge of the project survey area. Preliminary design has indicated that neither wetland will be impacted by the proposed improvements. The western extent of Wetland 1 is along the right of way near the far northern limits of the project. The construction activity to occur nearest the wetland is roadway resurfacing to be contained within the existing roadway shoulder. This work will take place a minimum of 30 feet from the wetland boundary, as defined by Cardno. The western extent of Wetland 2 is approximately 80 feet from the nearest construction activity. No impacts are anticipated upon either wetland.

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Terrestrial Habitat	<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: Impacts to terrestrial habitat will be minimal in nature. There are no known sensitive biological resources to be affected by the proposed improvements. Habitat areas affected include mown lawn, grassy/brushy roadway shoulders and side-slopes containing brown fox sedge (*carex utriculata*), garlic mustard (*alliarica petiolata*), and scattered deciduous trees such as oak (*Quercus*) and maple (*Acer*). Fauna species in the area include squirrels (*Sciuridae*) and birds, predominated by American robin (*Turdus migratorius*).

IDNR Division of Fish and Wildlife was sent an early coordination letter on August 11, 2015 (Appendix C-1, pages 60-61). Their response, dated September 11, 2015, (Appendix C-6, pages 73-74) recommended that work be contained within the existing manicured grass areas to the greatest extent possible. Recommendations were also provided to reduce impacts to riparian and wetland habitat.

USFWS was sent an early coordination letter on August 11, 2015 (Appendix C-1, pages 60-61). Their response, dated September 2, 2015, (Appendix C-5, pages 71-72) interpreted from the project illustrations that a number of trees in residential yards, including evergreens and hardwoods, would be removed as a result of the project. USFWS requested in their letter that these trees be replaced as close to the project impact area as possible. USFWS also stated that there is no habitat within the project area for any endangered, threatened, or rare (ETR) species within the proposed project area. Tree removal will not impact ETR species habitat.

Some loss of mature trees will occur in order to accommodate the footprint of the proposed roundabout and the necessary intersection sight distances. The following habitat areas will require removal to accommodate the proposed trail: 12 mature deciduous trees, two ornamental trees, and 5 mature coniferous trees. The tree removal is scattered among each quadrant of the intersection.

Consideration was given to the USFWS recommendation for tree replacement, however given sight distance constraints and the developed nature of the intersection, there is not adequate space within the project limits. There will remain insufficient available area for revegetation on the intersection's southwest, southeast, and northeast quadrants due to the proximity of nearby houses and the need to maintain adequate sight distance. The minimal loss of mature trees does not represent a significant loss or degradation of the overall large number of mature trees that will remain elsewhere surrounding the project area. Significant or valuable terrestrial habitat will not be affected by the project.

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.

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Karst

Is the proposed project located within or adjacent to the potential Karst Area of Indiana?
 Are karst features located within or adjacent to the footprint of the proposed project?

Yes	No
<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?

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 the state as identified in the October 13, 1993 Memorandum of Understanding (MOU) between INDOT, Indiana Department of Environmental Management (IDEM), IDNR and the USFWS. No karst features are known to exist within or adjacent to the proposed project area. Refer to the map of potential Indiana karst areas located in Appendix I-1, page 280.

Threatened or Endangered Species

Within the known range of any federal species
 Any critical habitat identified within project area
 Federal species found in project area (based upon informal consultation)
 State species found in project area (based upon consultation with IDNR)

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

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

Remarks: The proposed project is within the range of the Federally endangered Indiana at (*Myotis sodalis*) and Karner blue butterfly (*Lycaeides melissa samuelis*), the Federally threatened northern long-eared bat (*Myotis septentrionalis*) and Pitcher's thistle (*Cirsium pitcheri*), and the candidate eastern massasauga rattlesnake (*Sistrurus catenatus*). In an early coordination response dated September 1, 2015, the USFWS made no mention of impacts to the above-listed species and stated the following:

“There is no habitat available for any of these species within the proposed project area, so we agree that the proposed project is not likely to adversely affect these endangered, threatened, and candidate species.” (full response letter in Appendix C-5, pages 71-72)

In an early coordination response dated September 11, 2015 (Appendix C-6, pages 73-74), the IDNR stated the following:

“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.”

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list, re-coordination will be necessary.

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SECTION B – OTHER RESOURCES

Drinking Water Resources

- Wellhead Protection Area
- Public Water System(s)
- Residential Well(s)
- Source Water Protection Area(s)
- Sole Source Aquifer (SSA)

	<u>Presence</u>	<u>Impacts</u>	
		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:

- Is the Project in the St. Joseph Aquifer System?
- Is the FHWA/EPA SSA MOU Applicable?
- Initial Groundwater Assessment Required?
- Detailed Groundwater Assessment Required?

	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:

The project is not located within St. Joseph Aquifer System, the only legally designated sole source aquifer in the state of Indiana. Refer to the map illustrating the boundary of the St. Joseph Aquifer System in Appendix F-3, page 183.

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://idemmaps.idem.in.gov/whpa/>) was accessed on August 13, 2015 by Troyer Group. The required project location data was provided and it was determined that this project is not located within a Wellhead Protection Area.

Residential wells are present, which service the residences surrounding the intersection. Topographic survey, which would identify any well components, was acquired within the area of all anticipated construction activities. No direct impacts to residential wells are anticipated. IDEM guidelines regarding handling hazardous materials will be followed to prevent contamination of residential wells.

Flood Plains

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

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

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

Remarks:

The project does not encroach upon the Housing and Urban Development (HUD) Special Flood Hazard Area. The project is not located in a regulatory floodplain as determined from available Federal Emergency Management Agency (FEMA) flood plain maps. The area west of the proposed improvements has been mapped by FEMA, and there are no floodplains near the anticipated construction limits. The area immediately surrounding and east of the proposed improvements has not been mapped by FEMA because there are no floodplains in this vicinity.

Please refer to Appendix F-4, page 184, which contains a portion of FEMA flood insurance rate map (FIRM) for the area west of the proposed improvements.

Because no floodplains are present, the project does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR.

Farmland

- Agricultural Lands
- Prime Farmland (per NRCS)

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Total Points (from Section VII of CPA-106/AD-1006* 0

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

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

Remarks: Agriculture lands are present within the project area. Approximately 1.65 acres of agriculture land will be acquired as part of the intersection improvement, as will be necessary for grading and drainage improvement adjacent to the proposed intersection and roadway work.

As is required by the Farmland Protection Policy Act, coordination with the Natural Resources Conservation Service (NRCS) has occurred by completing and providing to them Form NRCS-AD-1006. An email and attached form was sent to NRCS on October 7, 2016 (Appendix C-8, page 76). NRCS responded in a letter dated October 12, 2016 (Appendix C-9, page 77) indicating that the project will not cause a conversion of prime farmland. Appended to NRCS's letter was the AD-1006 form, on which NRCS indicated that the project site does not contain prime farmland.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance				x

Eligible and/or Listed
Resource Present

Results of Research

Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

Documentation
Prepared

Documentation (mark all that apply)

	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report	x	7/5/16
Historic Property Report		9/1/16
Archaeological Records Check/ Review		
Archaeological Phase Ia Survey Report	x	10/16/15
Archaeological Phase Ib Survey Report	x	8/4/16
Archaeological Phase II Investigation Report		11/25/15
Archaeological Phase III Data Recovery		9/1/16
APE, Eligibility and Effect Determination	x	9/29/16
800.11 Documentation	x	10/25/16
		9/29/16

MOA Signature Dates (List all signatories)

Memorandum of Agreement (MOA)

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.

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Remarks: All documentation related to cultural resources can be found in the Section 106, 800.11 findings documentation in Appendix D, pages 80-119. In some instances, specific page numbers within that appendix are called out below.

Area of Potential Effect (APE):

An Area of Potential Effects (APE) was identified, inside of which all above ground resources were identified and evaluated. The proposed project footprint served as the APE for identifying & evaluating archaeological resources. The APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties. The APE is influenced by the scale and nature of an undertaking..." (36 CFR 800.9 a). The APE for this project encompasses all areas from which the intersection and improved approaches can be seen. The boundary roughly includes all properties adjacent to SR 2, CR 100 S and CR 300 W near the proposed roadway improvements.

Coordination with Consulting Parties:

On August 4, 2016 the agencies/individuals listed below were sent early coordination letters inviting them to become Section 106 consulting parties and providing access to the Historic Properties Short Report (HPSR). Those agreeing to become consulting parties are shown in bold.

1. Porter County Historian
2. Porter County Museum
3. Porter County Commissioners
4. Indiana Landmarks, Northwest Field Office
5. Northwest Indiana Genealogical Society
6. Northwestern Indiana Regional Planning Commission
7. **Indiana Department of Transportation, Cultural Resources Office**
8. **Indiana State Historic Preservation Officer**

The Northwest Indiana Genealogical Society replied to the early coordination request via email on August 19th, indicating they did not wish to be a consulting party.

In their letter dated September 1, 2016, the Indiana State Historic Preservation Officer (SHPO) concurred with the Historic Properties Short Report stating, "Based on the documentation available, to the staff of the Indiana SHPO, we have not identified any historic buildings, structures, districts, or objects listed in or eligible for inclusion in the National Register of Historic Places (NRHP) within the probable area of potential effects." (Appendix D, page 113).

Archaeology:

A Phase Ia Archeological Field Reconnaissance was conducted on July 15-16, 2015 and accompanying Archaeological Report was completed on October 9, 2015 (Weintraut, 2015). The Phase Ia archaeological investigation revealed two previously unidentified archaeological sites. Based on historic background research in conjunction with artifacts predating 1870, both sites were determined potentially eligible for the NRHP and avoidance or additional archaeological work was recommended. The report's findings (Appendix D, page 103) were approved by SHPO in a letter dated November 25, 2015 (Appendix D, page 107).

Because of the sites' proximity to the existing intersection, it was determined that neither site could feasibly be avoided and both should undergo additional investigation. Through coordination with INDOT's Cultural Resource Office (CRO), it was determined that a Phase Ib investigation would be appropriate for examining the sites in more detail. A detailed Phase Ib workplan was prepared by Cardno, Inc., in which Cardno described the plan to better assess subsurface deposits and artifact concentrations at the identified sites in order to make a recommendation regarding the eligibility of the sites for listing in the NRHP. SHPO approved the workplan on May 12, 2016 (Appendix D, page 108). Phase Ib field work was conducted from May 16 through May 19, 2016. As a result of this investigation, Cardno's Phase Ib Archaeological Report (Cardno, 2016) completed on June 30, 2016 recommended that the archaeological sites located within the project area are not eligible for listing in the NRHP. The report's findings (Appendix D, page 105) were approved by SHPO in a letter dated September 1, 2016 (Appendix D, page 113).

Historic Properties:

A Historic Properties Report (HPSR) (prepared by Troyer Group, 2016) evaluated the structures within the APE built in or before 1968. The HPSR concluded that no properties are eligible for the NRHP (Appendix D, pages 97-99). INDOT CRO approved the HPSR on July 5, 2016. The SHPO concurred with the findings of the report in a letter dated September 1, 2016 (Appendix D, page 113).

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Documentation, Findings:

A finding of "no historic properties affected" was approved by INDOT's CRO, acting on behalf of the FHWA, on September 29, 2016 (Appendix D, page 81). A letter informing consulting parties of the finding, including the SHPO, was sent on October 5, 2016. The SHPO concurred with the finding of "no historic properties affected" in a letter dated October 25, 2016 (Appendix D, page 115).

Public Involvement:

A public notice, requesting any comments on the project, the APE, and "No Historic Properties Affected" finding was published in the Northwest Indiana Times on October 6, 2016. A 30-day comment period was given. No comments were received from the public. The legal notice's proof of publication and text are located in Appendix D, pages 118-119.

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

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

Parks & Other Recreational Land

- Publicly owned park
- Publicly owned recreation area
- Other (school, state/national forest, bikeway, etc.)

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- "De minimis" Impact*
- Individual Section 4(f)

FHWA Approval date

Wildlife & Waterfowl Refuges

- National Wildlife Refuge
- National Natural Landmark
- State Wildlife Area
- State Nature Preserve

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- "De minimis" Impact*
- Individual Section 4(f)

FHWA Approval date

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

--

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- "De minimis" Impact*
- Individual Section 4(f)

FHWA Approval date

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

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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) properties include publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places. No such properties are present adjacent to the project area, as determined through review of appropriate data layers during preparation of the Red Flag Investigation (Appendix E, page 127).

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

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

Remarks: There are no Section 6(f) resources located adjacent to the project area. Section 6(f) resources include properties acquired by or improved with the Land and Water Conservation Fund (LWCF). According the LWCF, Detailed Listing of Grants Grouped by County accessed by Troyer Group on December 3, 2015, no projects within Porter County receiving LWCF dollars are located near the project area. (Appendix I-2, page 281)

SECTION E – Air Quality

Air Quality

Conformity Status of the Project

Is the project in an air quality non-attainment or maintenance area?

Yes	No
<input checked="" type="checkbox"/>	<input 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: The project is located in Porter County. Porter County is currently a nonattainment area for Ozone. The project is exempt from conformity because it is part of the FY 2016-2019 Transportation Improvement Program implemented by the Michiana Area Council of Governments. The plan can be viewed at www.nirpc.org. The page listing the project as part of the FY2016-2019 TIP can be found in Appendix H-1, page 276.

The project scope is accurately reflected in the NIRPC TIP, the STIP, and the USDOT TP (conformity finding dated June 24, 2015) (Appendix H-2, page 277).

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

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SECTION F - NOISE

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

	No	Yes/ Date
ES Review of Noise Analysis	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: This project is a Type III project. In accordance with 23 CFR 772 and the INDOT Traffic Noise Policy, this action does not require formal noise analysis.

SECTION G – COMMUNITY IMPACTS

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

Remarks:
 The proposed intersection improvement will not impact development patterns in the area. There will be no negative impacts to community cohesion, the local tax base, or property values. Construction is not expected to affect planned community events. The Maintenance of Traffic (MOT) plan will not impact emergency services, schools, or utilities.

 Porter County has an approved ADA transition plan, which is viewable online at :
<http://www.porterco.org/DocumentCenter/View/3708>

 This project will not affect any area identified as priorities for improvement.

 The construction of the roundabout is not anticipated to impact any community events such as festivals or fairs. The website Valparaisoevents.com was consulted and none of the events listed occur near the proposed project.

 Once constructed, project will have a positive impact on the community as it will improve safety and traffic efficiency for the motoring public.

Indirect and Cumulative Impacts Yes No
 Will the proposed action result in substantial indirect or cumulative impacts?

Remarks:
 Indirect impacts are effects caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. They may include growth inducing effects, inducing changes in the pattern of land use, and related effects on air and water and other natural systems. Cumulative impacts are those resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time

 The proposed project is located in a rural area. The proposed improvement will not add travel lanes or traffic capacity, and therefore additional development as a result of the proposed project is not anticipated.

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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

Remarks:

There are none of the following facility types near the project area: health, religious institutions, educational, emergency service, airports, or public transportation. No significant impacts are expected to these facility types. There are currently no pedestrian or bicycle facilities in the project area due to its rural location.

Private utilities are present within the right-of-way and could conflict with the proposed improvement. Private underground utilities include natural gas and fiber optic. Electric, broadband cable, and phone are located both above and belowground throughout the project area. Utility coordination is ongoing with each utility's respective owner to ensure project impacts can be avoided or an appropriate relocation can occur.

No significant impacts are expected to emergency services. The project sponsor is responsible to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. This is a firm commitment included in Section J.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

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

Yes No

Remarks:

The project will require more than 0.5 acres of permanent right of way, therefore requires an Environmental Justice analysis. There are both low-income and minority populations known in the project area, as determined by a review of data gathered from the 2010-2014 American Community Survey 5-year Estimates (see Appendix I-3, pages 282-283).

Community of Comparison	Area of Concern
-------------------------	-----------------

Porter County, Indiana	Census Tracts 510.07, 510.08 Porter County, Indiana
------------------------	---

Minority

Total:	165,819	9,481
White alone	153,218	9,120
Number of Non-White Minority	12,601	361
Percentage of Non-White/Minority	7.6%	3.8%
125-Percent of COC	9.5%	AC < 125% COC
Potential Minority EJ Impact?		No

Low-Income

Total:	162,110*	8,461
Income in the past 12 months below poverty	18,424	547
Percent Low-Income	11.4%	6.5%
125-Percent of COC	14.2%	AC < 125% COC
Potential Low-Income EJ Impact?		No

*Population for whom poverty status is determined

Data acquired from 2010-2014 American Community Survey, 5-year estimates

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Affected communities (AC) which are more than 50 percent minority or low-income are automatically considered EJ populations. For all other affected communities, an EJ population exists if the low-income population or minority population is 25 percent higher than the population in the community of comparison (COC). For this analysis, the COC is Porter County and the AC is Census Tracts 510.07 and 510.08, which are divided by State Road 2.

The AC's low-income and minority populations do not exceed the EJ thresholds. Therefore, there will be no disproportionately high adverse environmental or health impacts to low-income populations or minority populations as a result of this project.

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
x	
	x
	x
x	

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

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

Remarks: The project requires the acquisition of right-of-way resulting in the relocation of one residential building. The single-family home on the intersection's northwest quadrant will require acquisition and relocation.

The acquisition and relocation program will be conducted in accordance with 49 CFR 24 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential relocatees without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person.

Private utilities are present within the right-of-way and could conflict with the proposed improvement. Private underground utilities include a natural gas fiber optic. Electric, broadband cable, and phone are located both above and belowground throughout the project area. Utility coordination is ongoing with each utility's respective owner to ensure project impacts can be avoided or an appropriate relocation can occur.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Documentation

Hazardous Materials & Regulated Substances (Mark all that apply)

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
ES Review of Investigations		Approved June 11, 2015

Include a summary of findings for each investigation.

Remarks: A Red Flag Investigation was performed by Troyer Group on May 28, 2015 (revised on June 11, 2015), and was approved by INDOT Hazardous Materials Unit on June 11, 2015. The investigation did not reveal any hazardous materials, nor any other red flag items of concern within the project area. A site inspection on August 20, 2015 did not show any evidence of hazardous materials within the right of way for this project. Further investigation for hazardous materials is not required at this time. The completed Red Flag Investigation is located in Appendix E-1, pages 121-140.

If a spill occurs or contaminated soils or water are encountered during construction, appropriate Personal Protective Equipment should be utilized. Contaminated materials will need to be properly handled 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 contamination.

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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 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 type="checkbox"/>
Isolated Wetlands determination	<input type="checkbox"/>
Rule 5	x
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)

Remarks: An IDEM Rule 5 storm water permit will be required for the project because more than 1.0 acre of land will be disturbed. It is the responsibility of the project sponsor or the designer/agent on behalf of the project sponsor to obtain any necessary permits and comply with their conditions.

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. **INDR-SHPO** - If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days.
2. **INDOT** - The project sponsor is responsible to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.
3. **INDOT** - If additional permanent or temporary right-of-way is determined to be required, INDOT Environmental Services will be contacted immediately.
4. **INDOT** - 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. Remove all broken concrete and construction debris upon completion of the project.
5. **IDEM** - No open burning of construction wastes is to be permitted without proper variance from IDEM. Vegetative wastes are to be removed to a registered yard waste composting facility or the waste may be chipped or shredded with composting on site. The finished compost can then be used as a mulch or soil amendment. Vegetative wastes (leaves, twigs, braches, limbs, tree trunks, and stumps) can be buried onsite.
6. **IDEM** - Fugitive dust must be controlled by proper wetting, chemical stabilizers, or wind barriers. Dirt tracked

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onto paved roads from unpaved areas is to be minimized.

- 7. **IDEM** - Proper measures are to be taken to ensure that asphalt paving plants are permitted and operating properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent oil distillate is prohibited during the month of April through October. The Asphalt Paving Rule 326 IAC 8-5 should be reviewed.
- 8. **IDEM** - If a spill occurs or contaminated soils or water are encountered during construction, appropriate PPE should be utilized. Contaminated materials will need to be properly handled 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 contamination.
- 9. **IDEM** - Install erosion control methods prior to any soil disturbance to prevent soil from leaving the construction site. Appropriate erosion control methods include, but are not limited to, straw bale barriers, silt fencing, erosion control blankets, phased construction sequencing, and earthen berms. Monitor and maintain erosion control structures and devices regularly, especially after rain events, until all soils disturbed by construction activities have been permanently stabilized.

For Further Consideration:

- 10. **IDNR-DFW** - Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion; low endophyte tall fescue may be used in the ditch bottom and side slopes only
- 11. **IDNR-DFW** - Minimize and contain within the project limits all tree and brush clearing.
- 12. **IDNR-DFW** - Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.
- 13. **IDNR-DFW** - 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
- 14. **IDNR-DFW** - Seed and protect all disturbed slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.
- 15. **IDNR-DFW** - Do not excavate or place fill in any riparian wetland.
- 16. **IDNR-DFW** - The disturbed wooded riparian habitat should be replanted with a mixture of grasses, sedges, wildflowers, shrubs, and trees per IDNR guidelines.
- 17. **USFWS** - Replace removed evergreen and hardwood trees as close to the project impact area as possible.

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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.

An early coordination packet was mailed and emailed to environmental resource agencies on August 12, 2015 (original letters and responses are in Appendix C). Farmland Protection Policy Act coordination with the Natural Resource Conservation Service occurred in October, 2016 upon preparing the draft right-of-way plans.

Remarks:

<i>AGENCY:</i>	<i>DATE:</i>	<i>RESPONSE RECEIVED:</i>
USFWS (Chesterton)	8/12/15	9/1/15
IDNR Division of Fish and Wildlife	8/12/15	9/11/15
Department of the Army Chicago District, Corps of Engineers	8/12/15	(No response)
IDEM	8/12/15	8/12/15 (Auto-generated response)
US Environmental Protection Agency	8/12/15	(No response)
National Park Service	8/12/15	(No response)
Indiana Geological Survey	8/12/15	9/23/15
Indiana Office of Aviation	8/12/15	8/20/15
FHWA	8/12/15	(No response)
US Department of Housing & Urban Development	8/12/15	8/17/15
INDOT – Public Hearings Office	8/12/15	(No response required)
INDOT – LaPorte District	8/12/15	(No response required)
Northwestern Indiana Regional Planning Commission	8/12/15	(No response)
Porter County Highway Department	8/12/15	(No response)
Porter County Drainage Board	8/12/15	(No response)
Porter County Engineering Department	8/12/15	(No response)
Porter County Board of Commissioners	8/12/15	(No response)
Natural Resources Conservation Service	10/7/16	10/12/16

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