

**APPENDIX D**

Section 106 of the NHPA

**FEDERAL HIGHWAY ADMINISTRATION'S  
SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties) AND  
SECTION 106 FINDINGS AND DETERMINATIONS  
AREA OF POTENTIAL EFFECTS  
ELIGIBILITY DETERMINATIONS  
EFFECT FINDING  
US 231 AND PARRISH AVENUE INTERSECTION IMPROVEMENT PROJECT  
IN LAKE COUNTY, INDIANA.  
DES. NO.: 1702994; DHPA NO.: 30113**

**AREA OF POTENTIAL EFFECTS**

**(Pursuant to 36 CFR Section 800.4(a)(1))**

The Area of Potential Effects (APE) was generally drawn to include properties adjacent to and/or within view of the project. The APE for archaeology includes all existing, temporary, and proposed right-of way; it is encompassed by the survey area, which includes the archaeology APE and any areas investigated beyond it (See Appendix A: Maps).

**ELIGIBILITY DETERMINATIONS**

**(Pursuant to 36 CFR 800.4(c)(2))**


No properties are listed in, or eligible for listing in, the National Register of Historic Places (National Register) within the APE.

**EFFECT FINDING**

The Indiana Department of Transportation (INDOT), acting on behalf of the Federal Highway Administration (FHWA), has determined a "No Historic Properties Affected" finding is appropriate for this undertaking. INDOT respectfully requests the Indiana State Historic Preservation Officer provide written concurrence with the Section 106 determination of effect.

**SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties)**

The undertaking will not convert property from any Section 4(f) historic property to a transportation use; INDOT, acting on FHWA's behalf, has determined the appropriate Section 106 finding is "No Historic Properties Affected"; therefore, no Section 4(f) evaluation is required.




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Matthew S. Coon, for  
FHWA Manager  
INDOT Cultural Resources

February 23, 2024  


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Approved Date

**FEDERAL HIGHWAY ADMINISTRATION'S  
 DOCUMENTATION OF SECTION 106 FINDING OF  
 NO HISTORIC PROPERTIES AFFECTED  
 SUBMITTED TO THE STATE HISTORIC PRESERVATION OFFICER  
 PURSUANT TO 36 CFR Section 800.4(d)(1)  
 US 231 AND PARRISH AVENUE INTERSECTION IMPROVEMENT PROJECT  
 IN LAKE COUNTY, INDIANA.  
 DES. NO.: 1702994; DHPA NO.: 30113**

## **1. DESCRIPTION OF THE UNDERTAKING**

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with the United States Highway (US) 231 and Parrish Avenue Intersection Improvement Project (DES No. 1702994; DHPA No.: 30113) (Appendix A: Maps and Appendix F: Plans).

The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Drainage improvements will include installation of curb turnouts, drainage structures, and ditch grading. Intersection improvements will also include new intersection street lighting and landscaping. No relocations are planned. The project requires the acquisition of 2.663 acres of permanent right of way (ROW) and 0.228 acre of temporary ROW. Proposed ROW widths along US 231 vary from 35 feet to 125 feet from centerline and along Parrish Avenue vary from 25 feet to 60 feet from centerline. The project will be approximately 0.27 mile in length along US 231 and 0.14 mile along Parrish Avenue. The proposed method of traffic maintenance is anticipated to be phased lane closures with a complete closure eventually, utilizing a detour along US 41 to the west, US 30 the north, and then SR 53 to the east. Approximately 0.54 acre of trees will be cleared as part of this project. The project is anticipated to begin construction in Fall of 2025 (Appendix F: Plans).

The Area of Potential Effects (APE) is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" [36 CFR § 800.16(d)].

The APE for above-ground resources was generally drawn to include properties adjacent to and/or within view of the project (Appendix A: Maps).

The APE for archaeology includes all existing, temporary, and proposed right-of way; it is encompassed by the survey area which includes the archaeology APE and any areas investigated beyond it (Appendix A: Maps).

## **2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES**

A Section 106 Early Coordination Letter (ECL), dated November 30, 2022, invited the following consulting parties to join in consultation:

- Indiana State Historic Preservation Office (SHPO)
- Northern Indiana Regional Planning Committee
- Indiana Landmarks, Northwest Regional Office

- Lake County Historical Society & Museum
- St. John Historical Society
- Lake County Historian
- Lake County Commissioners
- Lake County Highway Department

Emails sent the same day provided instructions for accessing the ECL via INSCOPE (<http://erms.indot.in.gov/Section106Documents>). The SHPO, a designated consulting party, was sent a paper copy of the ECL (Appendix B. Consulting Parties and Appendix C. Correspondence).

On November 30, 2022, the Lake County Historian responded to the ECL, stating that he felt “confident that the necessary fieldwork will reveal any archaeological and historical resources that would be adversely affected by this project” (Appendix C: Correspondence).

On December 1, 2022, INDOT distributed the ECL to the following Tribes (Appendix C: Correspondence):

- Eastern Shawnee Tribe of Oklahoma
- Forest County Potawatomi Community
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe

On December 5, 2022, the Miami Tribe of Oklahoma Tribal Historic Preservation Officer (THPO) responded to the ECL and offered “no objection to the above-referenced project at this time.” The THPO requested immediate consultation if “any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project...” (Appendix C: Correspondence).

On December 9, 2022, the staff of the SHPO responded to the ECL, stating that they were “not aware of any parties who should be invited to participate in the Section 106 consultation... beyond those whom INDOT already has invited.” The SHPO staff stated that “if right-of-way is likely to be taken from a potentially historic property, it might be advisable to invite the owner of the property as soon as possible.” The SHPO staff also asked to be advised in the “next regular correspondence on this project ... as to which of the invited consulting parties has accepted the invitation.” Finally, the SHPO staff stated they looked forward to reviewing forthcoming “reports on investigations of above-ground and archaeological resources” (Appendix C: Correspondence).

On December 22, 2022, the THPO for the Pokagon Band of Potawatomi responded to the ECL. The THPO determined that the “project will have no adverse effect on any historic, religious, or culturally significant resources to the Pokagon Band of Potawatomi.” The THPO also asked that all work stop and that he be contacted immediately, should the project uncover archaeological resources during construction (Appendix C: Correspondence).



On January 4, 2023, the THPO for the Eastern Shawnee Tribe responded to the ECL. The THPO stated that the “project proposes no adverse effect or endangerment to known sites of interest to the Eastern Shawnee Tribe,” and that it should continue as planned. The THPO also asked that all ground disturbing activity stop and that the Eastern Shawnee Tribe and appropriate state agencies be contacted (within 24 hours) if the project inadvertently discovers archaeological sites or objects (Appendix C: Correspondence).

Pursuant to 36 CFR § 800.4(b), W&A staff archaeologists conducted a Phase Ia records check on January 5, 2023 and a field reconnaissance on January 23, 2023. The field survey located no additional archaeological sites within the survey area. The report recommended that the project proceed as planned and that no further archaeological investigations were necessary for this project (Appendix D: Report Summaries).

Pursuant to 36 CFR § 800.4(b), historians for Weintraut & Associates (W&A) reviewed the National Register of Historic Places (National Register), Indiana Register of Historic Sites and Structures (State Register), Indiana Historic Sites and Structures Inventory (IHSSI), the State Historical Architectural and Archaeological Research Database (SHAARD), the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBM), the *Indiana Historic Bridge Inventory*, and the *Lake County Interim Report* (1996) for previously identified properties. They also reviewed prior Section 106 studies completed by W&A and conducted research in county histories, aerial photographs, and online resources.

Following the literature review, W&A drew an APE, taking into account any potential for effect and then conducted a field reconnaissance of the APE on January 4, 2023 (see details below). W&A historians recorded survey notes and took photographs of properties that would be more than fifty years of age by the letting date, which is 2025, and photographed representative landscapes/views of the APE. Historians evaluated resources for architectural and contextual integrity and historical significance using the information gleaned from their research (Appendix A: Maps and Appendix E: Photographs).

Qualified professional historians for W&A prepared a Historic Property Short Report (HPSR). Historians identified no Contributing resources within the APE and recommended no properties as eligible for listing in the National Register (Appendix D: Report Summaries).

Consulting parties were notified of the availability of the HPSR on April 26, 2023, and provided directions to access it and the transmittal letter on INDOT’s online document portal INSCOPE (at <http://erms12c.indot.in.gov/Section106Documents>). In addition, paper copies of the documents were sent to the Indiana SHPO as a designated consulting party for review and comment on the same day. INDOT was copied on the correspondence (Appendix C: Correspondence).

On April 26, 2023, INDOT notified tribal organizations of the availability of the HPSR and provided directions to access the transmittal letter and report on INSCOPE (Appendix C: Correspondence).

On April 26, 2023, the Lake County Historian responded to the HPSR and stated that he felt “comfortable with the progression of the US 231 and Parrish Avenue Intersection Improvement project to the next phase” (Appendix C: Correspondence).

On May 4, 2023, the staff of the Indiana SHPO responded to the HPSR and agreed with the APE utilized in the report. Additionally, the SHPO staff concurred with the findings in the report

that for the purposes of Section 106 review, the APE contained no National Register listed or eligible resources. Finally, the SHPO staff noted that the archaeology report would be forthcoming and cautioned that “If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days” (Appendix C: Correspondence).

Qualified professional archaeologists for W&A prepared an Archaeology Short Report (ASR) (September 2023). The report recommended “that the project be allowed to proceed as planned because the Phase 1a reconnaissance has located no archaeological sites within the project area and/or previously recorded sites that were investigated warrant no additional investigation.” On October 16, 2023, consulting parties were notified of the availability of the ASR and its report distribution letter<sup>1</sup> (Appendix C: Correspondence).

On October 16, 2023, the Lake County Historian responded to the ASR’s distribution letter stating that he has reviewed the documentation and is “comfortable with the progression of the project to the next phase” (Appendix C: Correspondence).

On October 24, 2023, staff from the Indiana SHPO responded to the ASR and its distribution letter. The staff agreed that the “project area does not have the potential to contain archaeological resources and no further investigation appears to be necessary.” Additionally, the staff stated that “[u]nless another consulting party expresses a different opinion about this project’s effects, it might now be appropriate to ask INDOT for a finding” (Appendix C: Correspondence).

On December 21, 2023, INDOT notified tribal organizations of the availability of the ASR and provided directions to access the transmittal letter and report on INSCOPE (Appendix C: Correspondence).

On December 21, 2023, the THPO of the Forest County Potawatomi Community (FCPC) responded to the ASR offering “a finding of No Historic Properties affected of significance to the FCPC,” but requested to remain as a consulting party on the project. The THPO also asked that work cease immediately if human remains or archaeologically significant materials are exposed as a result of project activities and that the FCPC be included with SHPO in any consultation regarding treatment and disposition of the find (Appendix C: Correspondence).

The THPO of the Shawnee Tribe responded to the ASR on January 4, 2024 and agreed “that no known historic properties will be negatively impacted by this project. However, there is still potential for the discovery of unknown resources.” The THPO stated that the project should continue as planned but “in the event archaeological materials are encountered during construction, use, or maintenance of this location, please re-notify us at that time as we would like to resume immediate consultation under such a circumstance” (Appendix C: Correspondence).

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<sup>1</sup> Due to design updates prior to the submission of this Finding, portions of the project area expanded slightly outside the archaeological survey area used in the ASR (see Appendix 1 for map showing expanded project area). As noted in the ASR, no sites were encountered in the survey area during the field reconnaissance, and no additional work was recommended. The portions of the project area that expanded beyond the survey area in the ASR were generally about 5 meters (15 feet) long; therefore, additional work was not recommended or performed because these areas were reasoned to fall within the survey universe of the original report.

No other efforts were undertaken to identify and evaluate historic properties, and no other comments were received.

A public notice of "No Historic Properties Affected" will be posted in the *Northwest Indiana Times*, and the public will be afforded thirty (30) days to respond. If appropriate, this document will be revised after the expiration of the public comment period.

### **3. BASIS FOR FINDING**

A finding of "No Historic Properties Affected" is appropriate for this undertaking because there are no resources listed in, or eligible for listing in, the National Register within the APE.

**Appendices**

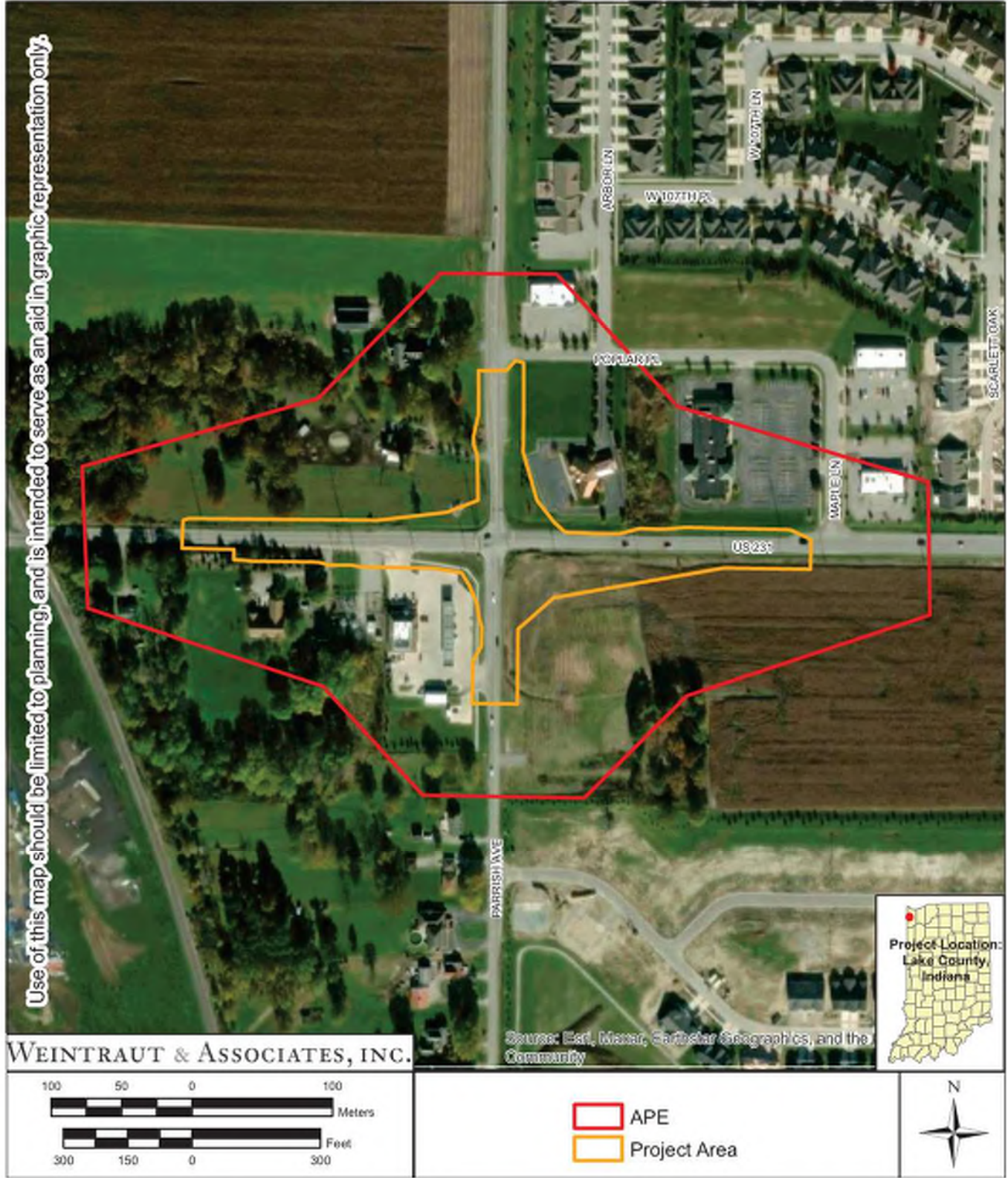
- Appendix A: Maps**
- Appendix B: Consulting Parties**
- Appendix C: Correspondence**
- Appendix D: Report Summaries**
- Appendix E: Photographs**
- Appendix F: Plans**

## Appendix A: Maps



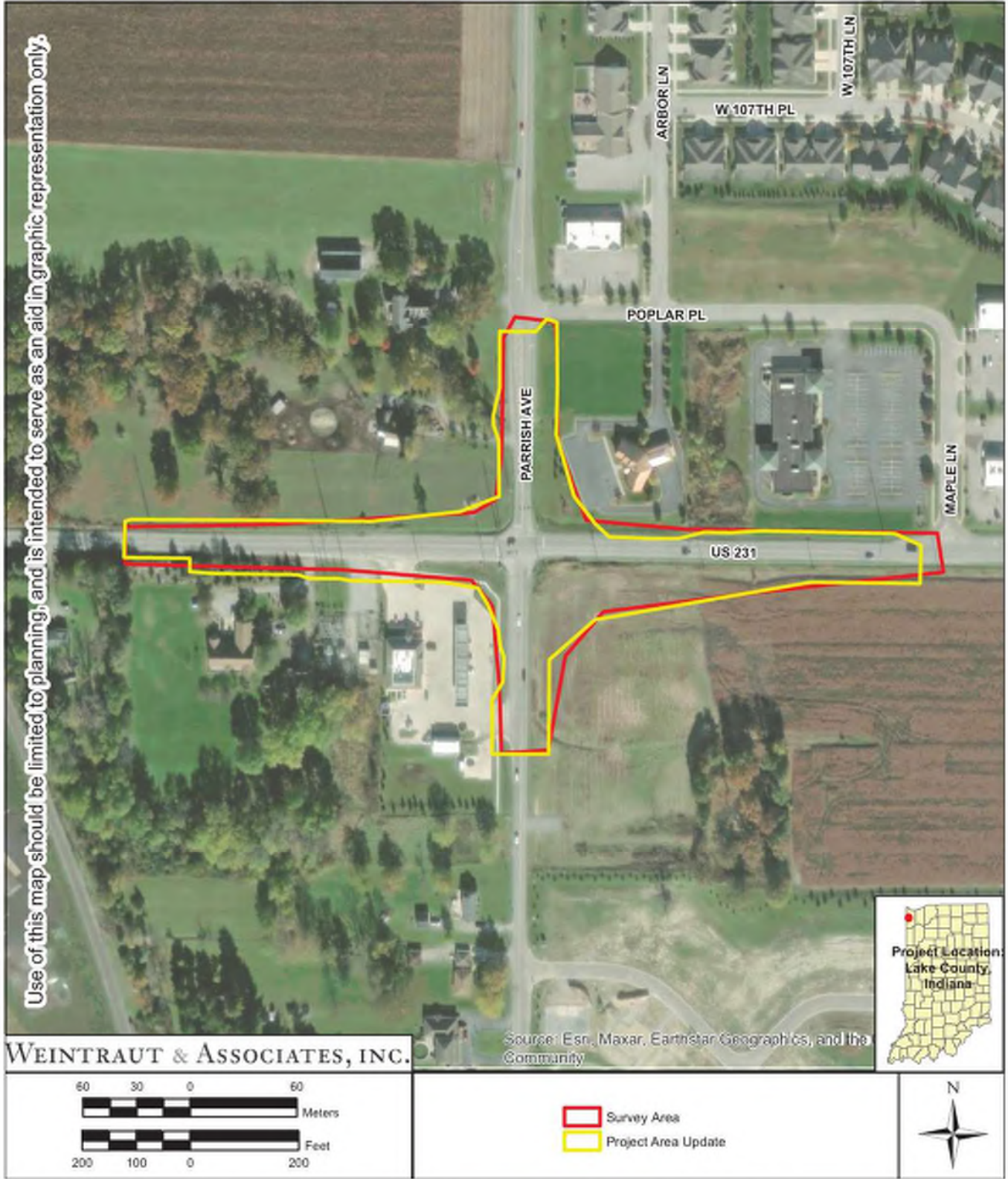
Project location and area of potential effects shown on portions of the Middletown, Indiana USGS Topographic Quadrangle (1:24,000).





Project location and area of potential effects shown on an aerial photograph (2021).





Archaeological survey area and updated project area shown on an aerial photograph (2021).  
(See note on page 5.)



## Appendix B: Consulting Parties

US 231 and Parrish Avenue									
Des No.: 1702994									
Lake County, Indiana									
Name	Title	Agency/Company	Address 1	City	State	Zip	Method	Notes	Response?
		Indiana SHPO					email & mail	<a href="mailto:bmccord@dnr.in.gov">bmccord@dnr.in.gov</a> ; <a href="mailto:cslider@dnr.in.gov">cslider@dnr.in.gov</a>	Yes (Designated)
		Northern Indiana Regional Planning Committee					email	<a href="mailto:nirpc@nirpc.org">nirpc@nirpc.org</a>	
		Indiana Landmarks Northwest Field Office					email	<a href="mailto:northwest@indianalandmarks.org">northwest@indianalandmarks.org</a>	
Scott Hudnall	President	Lake County Historical Society & Museum	1 Courthouse Sq, Ste 205	Crown Point	IN	46307	mail		
		St. John Historical Society					email	<a href="mailto:sjhistorical@att.net">sjhistorical@att.net</a>	
Scott Bocoock		Lake County Historian					email	<a href="mailto:scott.bocoock@yahoo.com">scott.bocoock@yahoo.com</a>	YES - Email 11/30/2022
Kyle W. Allen Sr.		Lake County Commissioner	293 N. Main Street	Crown Point	IN	46307	mail		
Jerry Tippy		Lake County Commissioner	293 N. Main Street	Crown Point	IN	46307	mail		
Michael C. Repay		Lake County Commissioner	293 N. Main Street	Crown Point	IN	46307	mail		
Jan S. Smoljan	Administrator	Lake County Highway Dept.	1100 East Monitor Street	Crown Point	IN	46307	mail		
		Eastern Shawnee Tribe of Oklahoma							Yes (Ltr 1/4/2023)
		Forest County Potawatomi Community							
		Miami Tribe of Oklahoma							Yes (Ltr 12/5/2022)
		Peoria Tribe of Indians of Oklahoma							
		Pokagon Band of Potawatomi Indians							Yes (Ltr 12/22/2022)
		Shawnee Tribe							

## Appendix C: Correspondence



## INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

November 30, 2022

This letter was sent to the listed parties.

RE: US 231 and Parrish Avenue Intersection Improvement Project (Des. No. 1702994) in Lake County, Indiana.

Dear Consulting Party (see attached list),

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with the United States Highway (US) 231 and Parrish Avenue Intersection Improvement Project (DES No. 1702994). Kaskaskia Engineering Group, LLC is under contract with Fishbeck, INDOT's consultant, to advance the environmental documentation for the referenced project. Weintraut & Associates is under contract with Fishbeck to complete the cultural resources studies.

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

The proposed undertaking is located on US 231 and Parrish Avenue in Lake County, Indiana. It is within Hanover Township on the Saint John USGS Quadrangle, in Sections 3, 4, 9, and 10, Township 34 North, Range 9 West. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

US 231 is a two-lane Principal Arterial and Parrish Avenue is a two-lane local road. The existing US 231 and Parrish Avenue cross sections consist of (1) 12-foot lane in each direction with variable width paved shoulders. The approximate existing right-of-way (ROW) is 35 feet each side of centerline on US 231 and 35 feet each side of centerline on Parrish Avenue.

The need of the project is to improve the Index of Crash Frequency (ICF), the Index of Crash Cost (ICC), and the Level of Service (LOS) for the intersection. The intersection has an elevated crash frequency, with rear-end collisions accounting for 76% of reported crashes. The ICF was calculated as 1.90 and the ICC was calculated to be 1.67. Additionally, the intersection has an increased motorist delay with an existing LOS rating of C with a 27.2 second delay during the PM peak hour. The intersection's performance was evaluated in the Design Year (2045) as part of the Alternative Analysis by applying an INDOT supplied growth rate to current traffic volumes. The projected growth would further degrade the intersection's LOS with a resulting PM peak LOS rating of E and a 77.7 second overall delay.<sup>1</sup>

<sup>1</sup> Engineering Assessment Report – US 231 & Parrish Avenue Intersection Improvement Project, produced for Indiana Department of Transportation, 2019, 1-2.

The purpose of the project is to reduce crash potential and provide a long-term solution to ensure safe and efficient operation of the US 231 and Parrish Avenue intersection.

The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Drainage improvements will include installation of curb turnouts, drainage structures, and ditch grading. Utility relocation will include relocation of approximately eight poles for overhead utilities. Intersection improvements will also include new intersection street lighting and landscaping. No relocations are planned. The project requires the acquisition of 1.3 acres of permanent ROW and 0.5 acre of temporary ROW. Proposed ROW widths along US 231 vary from 35 feet to 75 feet from centerline and along Parrish Avenue vary from 35 feet to 75 feet from centerline. The project will be approximately 0.47 mile in length. The proposed method of traffic maintenance is anticipated to be phased lane closures with a complete closure eventually, utilizing a detour along US 41 to the west, US 30 the north, and then SR 55 to the east. Approximately 0.54 acre of trees will be cleared as part of this project. The project is anticipated to begin construction in late Spring or early Summer of 2025.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. In accordance with 36 CFR 800.2 (c), you are hereby requested to be a consulting party to participate in the Section 106 process. Entities that have been invited to participate in the Section 106 consultation process for this project are identified in the attached list. Per 36 CFR 800.3(f), we hereby request that the Indiana State Historic Preservation Officer (SHPO) notify this office if the SHPO staff is aware of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the project.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. At this time, no cultural resource investigations have occurred; however, the results of cultural resource identification and evaluation efforts, both above-ground and archaeological, will be forthcoming. Consulting parties will receive notification when these reports are completed.

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party, or if you do not respond, you will not be included on the list of consulting parties for this project. If we do not receive your response in the time allotted, the project will proceed consistent with the proposed design and you will not receive further information about the project unless the design changes.

For questions concerning specific project details, you may contact Dr. Linda Weintraut of Weintraut & Associates, Inc. at (317) 733-9770 or [Linda@weintrautinc.com](mailto:Linda@weintrautinc.com). All future responses regarding the proposed project should be forwarded to Weintraut & Associates, Inc. at the following address:

Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
P.O. Box 5034  
Zionsville, IN 46077



Linda@weintrautinc.com

Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Sincerely,




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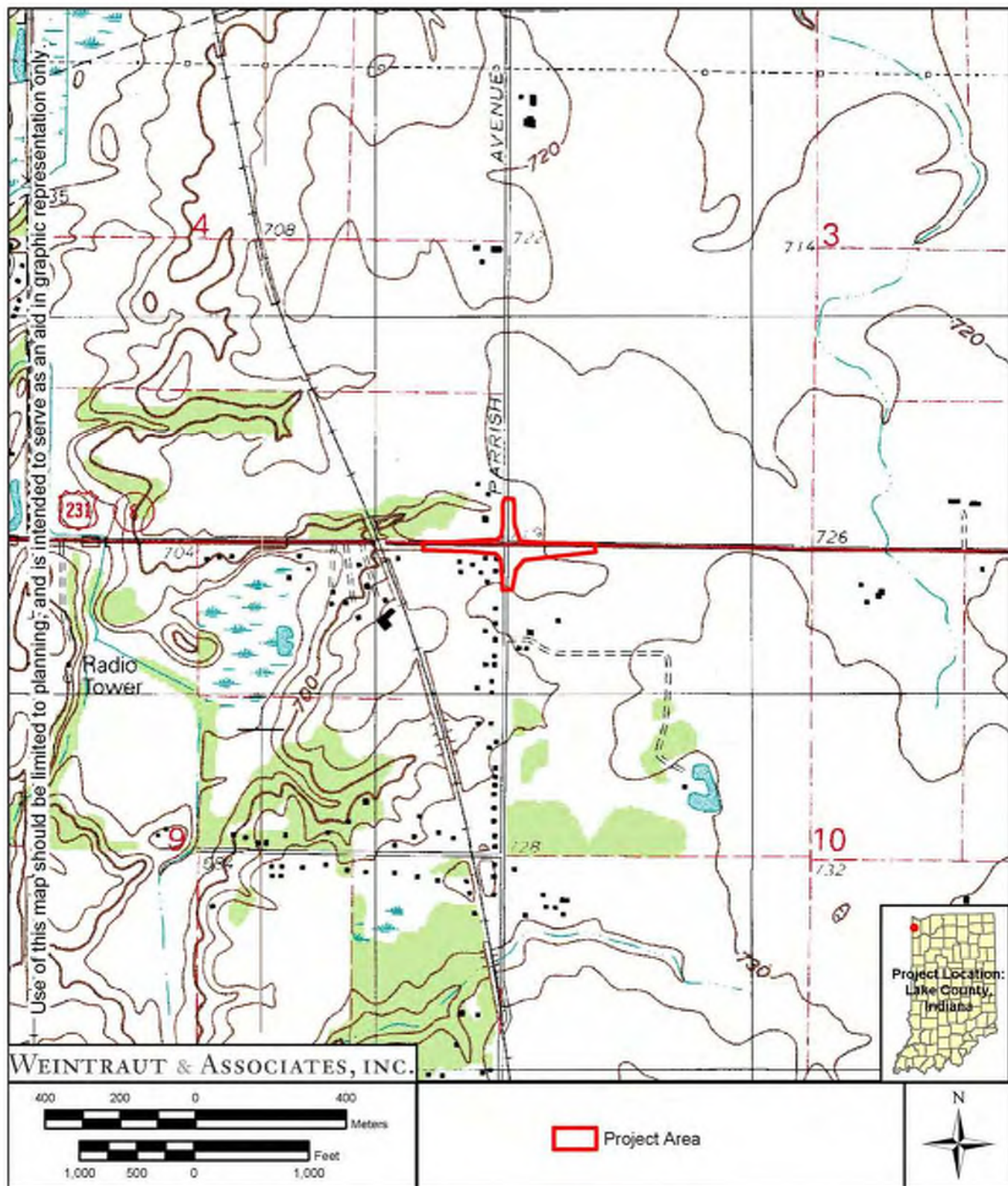
Matthew S. Coon, Acting Manager  
Cultural Resources Office  
Environmental Services

**Enclosures:**

Topographic map showing project area

**Distribution List:**

State Historic Preservation Officer  
Eastern Shawnee Tribe of Oklahoma  
Forest County Potawatomi Community  
Miami Tribe of Oklahoma  
Peoria Tribe of Indians of Oklahoma  
Pokagon Band of Potawatomi Indians  
Shawnee Tribe  
Northern Indiana Regional Planning Committee, [nirpc@nirpc.org](mailto:nirpc@nirpc.org)  
Indiana Landmarks, Northwest Regional Office, [northwest@indianalandmarks.org](mailto:northwest@indianalandmarks.org)  
Lake County Historical Society & Museum, 1 Courthouse Sq, Ste 205 Crown Point, IN 46307  
St. John Historical Society, [sjhistorical@att.net](mailto:sjhistorical@att.net)  
Lake County Historian, [scott.bocock@yahoo.com](mailto:scott.bocock@yahoo.com)  
Lake County Commissioners:  
    Kyle W. Allen Sr., 293 N. Main St. Crown Point, IN 46307  
    Jerry Tippy, 293 N. Main St. Crown Point, IN 46307  
    Michael C. Repay, 293 N. Main St. Crown Point, IN 46307  
Lake County Highway Department  
    Jan S. Smoljan, 1100 E. Monitor St. Crown Point, IN 46307





## FHWA Project: Des. No. 1702994; US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana Early Coordination Letter

Linda Weintraut <linda@weintrautinc.com>

Wed 11/30/2022 4:25 PM

To: bmccord@dnr.in.gov <bmccord@dnr.in.gov>;cslider@dnr.in.gov <cslider@dnr.in.gov>;northwest@indianalandmarks.org <northwest@indianalandmarks.org>;nirpc@nirpc.org <nirpc@nirpc.org>;sjhistorical@att.net <sjhistorical@att.net>;scott.bocock@yahoo.com <scott.bocock@yahoo.com>;dhporeview@dnr.in.gov <dhporeview@dnr.in.gov>

Cc: Hiller, Jerod <jahiller@fishbeck.com>;Molly Barletta <MBarletta@kaskaskiaeng.com>;Coon, Matthew <mcoon@indot.IN.gov>;Branigin, Susan <SBranigin@indot.IN.gov>;Grylewicz, Michael J <MGrylewicz@indot.IN.gov>;Michels, Stewart <SMichels@indot.IN.gov>;Doug Fivecoat <dfivecoat@weintrautinc.com>;Craig Arnold <carnold@weintrautinc.com>

 1 attachments (4 MB)

US 231 and Parrish Ave\_Des1702994\_Section 106 ECL\_2022.1130.pdf;

### **Des. No.: 1702994**

**Project Description: US 231 and Parrish Avenue Intersection Improvement Project**

**Location: Lake County, Indiana**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project (Des No.: 1702994).

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

*State Historic Preservation Officer  
Eastern Shawnee Tribe of Oklahoma  
Forest County Potawatomi Community  
Miami Tribe of Oklahoma  
Peoria Tribe of Indians of Oklahoma  
Pokagon Band of Potawatomi Indians  
Shawnee Tribe  
Northern Indiana Regional Planning Committee  
Indiana Landmarks Northwest Field Office  
Lake County Historical Society & Museum  
St. John Historical Society  
Lake County Historian  
Lake County Commissioners  
Lake County Highway Department*

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the attached letter, which is also located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN



SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. If we do not receive a response from an invited consulting party within the time allotted, the project will proceed consistent with the proposed design. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

Linda Weintraut, Ph.D.

**FW: FHWA Project: Des. No. 1702994; US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana Early Coordination Letter**

Linda Weintraut <linda@weintrautinc.com>

Wed 11/30/2022 5:08 PM

To: Branigin, Susan <SBranigin@indot.IN.gov>; Coon, Matthew <mcoon@indot.IN.gov>

Cc: Hiller, Jerod <jahiller@fishbeck.com>; Doug Fivecoat <dfivecoat@weintrautinc.com>

**From:** Linda Weintraut

**Sent:** Wednesday, November 30, 2022 5:06 PM

**To:** scott.bocock@yahoo.com

**Subject:** FW: FHWA Project: Des. No. 1702994; US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana Early Coordination Letter

Thank you for your email. We will add you as a consulting party so that you receive project information.

Sincerely, Linda Weintraut

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**From:** Scott Bocock <[scott.bocock@yahoo.com](mailto:scott.bocock@yahoo.com)>

**Sent:** Wednesday, November 30, 2022 5:01 PM

**To:** Linda Weintraut <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

**Subject:** RE: FHWA Project: Des. No. 1702994; US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana Early Coordination Letter

Hi Ms. Weintraut,

I feel confident that the necessary fieldwork will reveal any archaeological and historical resources that would be adversely affected by this project. Thank you.

Scott Bocock,  
Lake County Historian

Sent from [Mail](#) for Windows

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**From:** [Linda Weintraut](#)

**Sent:** Wednesday, November 30, 2022 3:25 PM

**To:** [bmccord@dnr.in.gov](mailto:bmccord@dnr.in.gov); [cslider@dnr.in.gov](mailto:cslider@dnr.in.gov); [northwest@indianalandmarks.org](http://northwest@indianalandmarks.org); [nirpc@nirpc.org](mailto:nirpc@nirpc.org); [sjhistorical@att.net](mailto:sjhistorical@att.net); [scott.bocock@yahoo.com](mailto:scott.bocock@yahoo.com); [dhperview@dnr.in.gov](mailto:dhperview@dnr.in.gov)

**Cc:** [Hiller, Jerod](#); [Molly Barletta](#); [Coon, Matthew](#); [Branigin, Susan](#); [Grylewicz, Michael J](#); [Michels, Stewart](#); [Doug Fivecoat](#); [Craig Arnold](#)

**Subject:** FHWA Project: Des. No. 1702994; US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana Early Coordination Letter

**Des. No.:** 1702994

**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project

**Location:** Lake County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project (Des No.: 1702994).

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

*State Historic Preservation Officer  
 Eastern Shawnee Tribe of Oklahoma  
 Forest County Potawatomi Community  
 Miami Tribe of Oklahoma  
 Peoria Tribe of Indians of Oklahoma  
 Pokagon Band of Potawatomi Indians  
 Shawnee Tribe  
 Northern Indiana Regional Planning Committee  
 Indiana Landmarks Northwest Field Office  
 Lake County Historical Society & Museum  
 St. John Historical Society  
 Lake County Historian  
 Lake County Commissioners  
 Lake County Highway Department*

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the attached letter, which is also located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. If we do not receive a response from an invited consulting party within the time allotted, the project will proceed consistent with the proposed design. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon at [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov) (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

Linda Weintraut, Ph.D.

Des. No. 1702994; US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana Early Coordination Letter

Branigin, Susan <SBranigin@indot.IN.gov>

Thu 12/1/2022 8:01 AM

To: thpo@estoo.net <thpo@estoo.net>;benjamin.rhodd@fcp-nsn.gov <benjamin.rhodd@fcp-nsn.gov>;THPO <THPO@MiamiNation.com>;cechohawk@peoriatribe.com <cechohawk@peoriatribe.com>;Matthew.Bussler@pokagonband-nsn.gov <Matthew.Bussler@pokagonband-nsn.gov>;Section106@shawnee-tribe.com <Section106@shawnee-tribe.com>

Cc: Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>;Coon, Matthew <mcoon@indot.IN.gov>;Branigin, Susan <SBranigin@indot.IN.gov>;Linda Weintraut <linda@weintrautinc.com>;Doug Fivecoat <dfivecoat@weintrautinc.com>

**Dear Consulting Parties:**

**Des. No.: 1702994**

**Project Description: US 231 and Parrish Avenue Intersection Improvement Project**

**Location: Lake County, Indiana**

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project (Des No.: 1702994).

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Miami Tribe of Oklahoma  
Peoria Tribe of Indians of Oklahoma  
Pokagon Band of Potawatomi Indians  
Shawnee Tribe  
Northern Indiana Regional Planning Committee  
Indiana Landmarks Northwest Field Office  
Lake County Historical Society & Museum  
St. John Historical Society  
Lake County Historian  
Lake County Commissioners  
Lake County Highway Department*

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Thank you in advance for your input,

**Susan R. Branigin**

*History Team Lead*

*Cultural Resources Office*

*Environmental Services*

100 N. Senate Ave., Rm. N758-ES

Indianapolis IN 46204

**Office:** 317.417.1622

**Email:** [sbranigin@indot.in.gov](mailto:sbranigin@indot.in.gov)

**Work Hours:** M-F 7:30 a.m.-3:30 p.m.



**\*\*For the latest updates from INDOT's Cultural Resources Office, subscribe to the Environmental Services listserv: <https://www.in.gov/indot/3217.htm>**

**\*\*Link to the CRO-Public Web Map App can be found [here](#)**



## Miami Tribe of Oklahoma

3410 P St. NW, Miami, OK 74354 • P.O. Box 1326, Miami, OK 74355  
 Ph: (918) 541-1300 • Fax: (918) 542-7260  
[www.miamination.com](http://www.miamination.com)



Via email: [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov)

December 5, 2022

Matt Coon, Tribal Liaison  
 INDOT, Cultural Resources Office  
 100 North Senate Avenue, N758-ES  
 Indianapolis, Indiana 46204

Re: Des. No. 1702994, US 231 and Parrish Avenue Intersection Improvement, Lake County, Indiana  
 – Comments of the Miami Tribe of Oklahoma

Dear Mr. Coon:

Aya, kwechsitoolaani– I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding Des. No. 1702994, US 231 and Parrish Avenue Intersection Improvement in Lake County, Indiana.

The Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, given the Miami Tribe's deep and enduring relationship to its historic lands and cultural property within present-day Indiana, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966 or by email at [THPO@miamination.com](mailto:THPO@miamination.com) to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

*Diane Hunter*

Diane Hunter  
 Tribal Historic Preservation Officer



Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · [dhp@dnr.IN.gov](mailto:dhp@dnr.IN.gov)



December 9, 2022

Linda Weintraut, Ph.D.  
Weintraut & Associates  
P.O. Box 5034  
Zionsville, Indiana 46077

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Early coordination letter for the US 231 and Parrish Avenue intersection improvement  
project (Des. No. 1702994; DHPA No. 30113)

Dear Dr. Weintraut:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your November 30, 2022 review request submittal form which enclosed INDOT’s early coordination letter, received by our office the same day, for this project in Hanover Township, Lake County, Indiana.

We are not aware of any parties who should be invited to participate in the Section 106 consultation on this federal undertaking, beyond those whom INDOT already has invited. However, if right-of-way is likely to be taken from a potentially historic property, it might be advisable to invite the owner of that property as soon as possible. In your next regular correspondence on this project, please advise us as to which of the invited consulting parties has accepted the invitation.

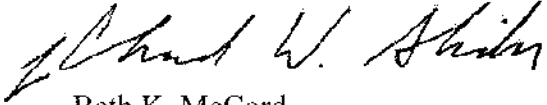
We look forward to reviewing the proposed area of potential effects and the reports on investigations of above-ground cultural resources and archaeological resources that the early coordination letter indicated will be forthcoming.

The Indiana SHPO staff’s archaeological reviewer for this project is Dr. Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

Weintraut  
December 9, 2022  
Page 2

In all future correspondence about the US 231 and Parrish Avenue intersection improvement project in Lake County (Des. No. 1702994), please refer to DHPA No. 30113.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:cml

emc: Matt Coon, INDOT  
Susan Branigin, INDOT  
Linda Weintraut, Weintraut & Associates  
Melody Pope, DNR-DHPA  
Caitlin Lehman, DNR-DHPA





## Pokégnek Bodéwadmik

POKAGON BAND OF POTAWATOMI  
HISTORY & CULTURE CENTER

12/22/2022

Matt Coon  
INDOT  
Tribal Liaison

Des. No. 1702994 - US 231 and Parrish Avenue Intersection Improvement Project

Dear Responsible Party:

Migwéth for contacting me regarding this project. As THPO, I am responsible for handling Section 106 Consultations on behalf of the tribe. I am writing to inform you that I have reviewed the details for the project referenced above. The proposed work is occurring within a mile of known archaeological sites, historic sites or features that are considered sensitive or recorded in the Pokagon Band Historic Inventory Database. I have made the determination that the project will have **No Adverse Effect** on any historic, religious, or culturally significant resources to the Pokagon Band of Potawatomi Indians.

If any cultural or archaeological resources are uncovered during construction, please stop work, and contact me immediately. Should you have any other questions, please don't hesitate to contact me at your earliest convenience.

Sincerely,

Matthew J.N. Bussler  
Tribal Historic Preservation Officer  
Pokagon Band of Potawatomi Indians  
Office: (269) 462-4316  
Cell: (269) 519-0838  
Matthew.Bussler@Pokagonband-nsn.gov



**EASTERN SHAWNEE  
CULTURAL PRESERVATION DEPARTMENT**

70500 East 128 Road, Wyandotte, OK 74370

January 4, 2023

INDOT - Indiana Department of Transportation  
100 N. Senate Ave. IGCN642  
Indianapolis, IN 46201

**RE: Des No. 1702994, Lake County, Indiana**

Dear Mr. Coon,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Lake County, Indiana. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)  
Eastern Shawnee Tribe of Oklahoma  
(918) 666-5151 Ext:1833  
THPO@estoo.net





## INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

April 26, 2023

This letter was sent to the listed parties.

RE: US 231 and Parrish Avenue Intersection Improvement Project, Des. No. 1702994 and DHPA No. 30113

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project, Des. No. 1702994.

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on November 30, 2022.

The proposed undertaking is located on US 231 and Parrish Avenue in Lake County, Indiana. It is within Hanover Township on the Saint John USGS Quadrangle, in Sections 3, 4, 9, and 10, Township 34 North, Range 9 West. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

The need of the project is to improve the Index of Crash Frequency (ICF), the Index of Crash Cost (ICC), and the Level of Service (LOS) for the intersection. The intersection has an elevated crash frequency, with rear-end collisions accounting for 76% of reported crashes. The ICF was calculated as 1.90 and the ICC was calculated to be 1.67. Additionally, the intersection has an increased motorist delay with an existing LOS rating of C with a 27.2 second delay during the PM peak hour. The intersection's performance was evaluated in the Design Year (2045) as part of the Alternative Analysis by applying an INDOT supplied growth rate to current traffic volumes. The projected growth would further degrade the intersection's LOS with a resulting PM peak LOS rating of E and a 77.7 second overall delay. The purpose of the project is to reduce crash potential and provide a long-term solution to ensure safe and efficient operation of the US 231 and Parrish Avenue intersection.



The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Drainage improvements will include installation of curb turnouts, drainage structures, and ditch grading. Utility relocation will include relocation of approximately eight poles for overhead utilities. Intersection improvements will also include new intersection street lighting and landscaping. No relocations are planned. The project requires the acquisition of 1.3 acres of permanent ROW and 0.5 acre of temporary ROW.

Proposed ROW widths along US 231 vary from 35 feet to 75 feet from centerline and along Parrish Avenue vary from 35 feet to 75 feet from centerline. The project will be approximately 0.30 mile in length. The proposed method of traffic maintenance is anticipated to be phased lane closures with a complete closure eventually, utilizing a detour along US 41 to the west, US 30 the north, and then SR 53 to the east. Approximately 0.54 acre of trees will be cleared as part of this project. The project is anticipated to begin construction in late Spring or early Summer of 2025.

Fishbeck is under contract with INDOT to advance the environmental documentation for the referenced project. Weintraut & Associates, Inc. has been subcontracted to complete the Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, no above-ground resources are recommended as eligible for listing in the NRHP.

An archaeologist who meets the Secretary of the Interior's Professional Qualification Standards is conducting a survey of archaeological resources within the APE for potential eligibility for listing in the NRHP. A report of that investigation is forthcoming and will be distributed to the appropriate consulting parties for review at a later date.

The Historic Property Short Report is available for review in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes.

For questions concerning specific project details, you may contact Dr. Linda Weintraut of Weintraut & Associates, Inc. at (317) 733-9770 or [Linda@weintrautinc.com](mailto:Linda@weintrautinc.com). All future responses regarding the proposed project should be forwarded to Weintraut & Associates, Inc. at the following address:

Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
P.O. Box 5034  
Zionsville, IN 46077  
[Linda@weintrautinc.com](mailto:Linda@weintrautinc.com)

***Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).***

Sincerely,



Matthew S. Coon, Acting Manager  
Cultural Resources Office  
Environmental Services

Distribution List:

Accepted Consulting Parties:

State Historic Preservation Officer  
Lake County Historian ([scott.bocock@yahoo.com](mailto:scott.bocock@yahoo.com))  
Miami Tribe of Oklahoma  
Pokagon Band of Potawatomi Indians



FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

Linda Weintraut <linda@weintrautinc.com>

Wed 4/26/2023 11:57 AM

To: dhpareview@dnr.in.gov <dhpareview@dnr.in.gov>;scott.bocock@yahoo.com <scott.bocock@yahoo.com>;Slider, Chad (DNR) <CSlider@dnr.IN.gov>;clehman1@dnr.IN.gov <clehman1@dnr.IN.gov>

Cc: Hiller, Jerod <jahiller@fishbeck.com>;Molly Barletta <MBarletta@kaskaskiaeng.com>;Branigin, Susan <SBranigin@indot.IN.gov>;Coon, Matthew <mcoon@indot.IN.gov>;Doug Fivecoat <dfivecoat@weintrautinc.com>

**FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**

**Des. No.: 1702994**

**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project

**Location:** Lake County, Indiana

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As part of Section 106 of the National Historic Preservation Act, a Historic Property Short Report (HPSR) has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

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Thank you in advance for your input,

Linda Weintraut, Ph.D. | Weintraut & Associates, Inc. | 4649 Northwestern Drive | Zionsville, Indiana 46077  
Tel: 317.733.9770 | [www.weintrautinc.com](http://www.weintrautinc.com)

FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

Branigin, Susan <SBranigin@indot.IN.gov>

Wed 4/26/2023 12:23 PM

To: THPO <THPO@MiamiNation.com>; Matthew.Bussler@pokagonband-nsn.gov <Matthew.Bussler@pokagonband-nsn.gov>

Cc: Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Coon, Matthew <mcoon@indot.IN.gov>; Branigin, Susan <SBranigin@indot.IN.gov>; Linda Weintraut <linda@weintrautinc.com>; Doug Fivecoat <dfivecoat@weintrautinc.com>

Dear Consulting Parties:

**FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**

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**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project

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Thank you in advance for your input,

**Susan R. Branigin, MS**

*Team Lead/Supervisor: History Unit*

*Cultural Resources Office (CRO)*

Environmental Services Division

Indiana Department of Transportation

100 N. Senate Ave., Rm. N758-ES

Indianapolis IN 46204

**Phone:** 317.417.1622

**Email:** [sbranigin@indot.in.gov](mailto:sbranigin@indot.in.gov)

Work Hours: M-F\_7:30 a.m.-3:30 p.m.



**\*\*For the latest updates from INDOT's Cultural Resources Office, subscribe to the Environmental Services listserv: <https://www.in.gov/indot/3217.htm>**

**\*\*Link to the CRO-Public Web Map App can be found [here](#)**



Fwd: FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

Linda Weintraut <linda@weintrautinc.com>

Wed 4/26/2023 4:30 PM

To: Doug Fivecoat <dfivecoat@weintrautinc.com>; Susan Branigin <SBranigin@indot.IN.gov>; Jerod Hiller <jahiller@fishbeck.com>; Molly Barletta <MBarletta@kaskaskiaeng.com>

FYI

Linda Weintraut

Begin forwarded message:

**From:** Scott Bocoock <scott.bocoock@yahoo.com>  
**Date:** April 26, 2023 at 4:28:24 PM EDT  
**To:** Linda Weintraut <linda@weintrautinc.com>  
**Subject:** RE: FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

Hello Ms. Weintraut,

I have reviewed the Historic Property Short Report and feel comfortable with the progression of the US 231 and Parrish Avenue Intersection Improvement project to the next phase. Thank you.

Scott Bocoock,  
Lake County Historian

Sent from [Mail](#) for Windows

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**From:** [Linda Weintraut](#)  
**Sent:** Wednesday, April 26, 2023 10:57 AM  
**To:** [dhpereview@dnr.in.gov](#); [scott.bocoock@yahoo.com](#); [Slider, Chad \(DNR\)](#); [clehman1@dnr.IN.gov](#)  
**Cc:** [Hiller, Jerod](#); [Molly Barletta](#); [Branigin, Susan](#); [Coon, Matthew](#); [Doug Fivecoat](#)  
**Subject:** FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

**FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**  
**Des. No.: 1702994**  
**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project  
**Location:** Lake County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project in Lake

County, Indiana. The Section 106 Early Coordination Letter for this project was originally distributed on November 30, 2022.

As part of Section 106 of the National Historic Preservation Act, a Historic Property Short Report (HPSR) has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

***Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon*** [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

**Linda Weintraut, Ph.D. | Weintraut & Associates, Inc. | 4649 Northwestern Drive | Zionsville, Indiana 46077**

Tel: 317.733.9770 | [www.weintrautinc.com](http://www.weintrautinc.com)

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · [dhp@dnr.IN.gov](mailto:dhp@dnr.IN.gov)



May 4, 2023

Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
P.O. Box 5034  
Zionsville, IN 46077

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Historic property short report (Fivecoat, 2/2023) for the US 231 and Parrish Avenue intersection  
improvement project (Des. No. 1702994; DHPA No. 30113)

Dear Dr. Weintraut:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your April 26, 2023, review request submittal form which enclosed the historic property short report (“HPSR”; Fivecoat, 2/2023), received by our office the same day, for this project in Hanover Township, Lake County, Indiana.

The area of potential effects (“APE”) proposed in the HPSR appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature could occur.

For the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the HPSR that there are no historic properties listed in or eligible for listing in the National Register of Historic Places within the APE for this project.

As INDOT’s April 26, 2023, letter indicates, the report on investigations of archaeological resources is forthcoming. We look forward to reviewing and commenting on that report.

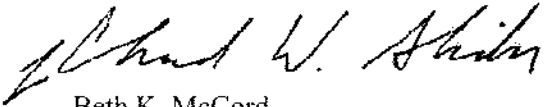
If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff’s archaeological reviewer for this project is Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

Weintraut  
May 4, 2023  
Page 2

In all future correspondence about the US 231 and Parrish Avenue intersection improvement project in Lake County (Des. No. 1702994), please refer to DHPA No. 30113.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:eml

emc: Kari Carmany-George, FHWA  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Linda Weintraut, Ph.D., Weintraut & Associates  
Scott Boccock, Lake County Historian  
Melody Pope, DNR-DHPA  
Caitlin Lehman, DNR-DHPA





## INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

October 3, 2023

This letter was sent to the listed parties.

RE: US 231 and Parrish Avenue Intersection Improvement Project, Des. No. 1702994 and DHPA No. 30113

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project, Des. No. 1702994.

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on November 30, 2022. A Historic Property Short Report (HPSR) was distributed on April 26, 2023.

The proposed undertaking is located on US 231 and Parrish Avenue in Lake County, Indiana. It is within Hanover Township on the Saint John USGS Quadrangle, in Sections 3, 4, 9, and 10, Township 34 North, Range 9 West. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

The need of the project is to improve the Index of Crash Frequency (ICF), the Index of Crash Cost (ICC), and the Level of Service (LOS) for the intersection. The intersection has an elevated crash frequency, with rear-end collisions accounting for 76% of reported crashes. The ICF was calculated as 1.90 and the ICC was calculated to be 1.67. Additionally, the intersection has an increased motorist delay with an existing LOS rating of C with a 27.2 second delay during the PM peak hour. The intersection's performance was evaluated in the Design Year (2045) as part of the Alternative Analysis by applying an INDOT supplied growth rate to current traffic volumes. The projected growth would further degrade the intersection's LOS with a resulting PM peak LOS rating of E and a 77.7 second overall delay. The purpose of the project is to reduce crash potential and provide a long-term solution to ensure safe and efficient operation of the US 231 and Parrish Avenue intersection.

The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Drainage improvements will include installation of curb turnouts, drainage structures, and ditch grading. Utility relocation will include relocation of approximately eight poles for overhead utilities. Intersection improvements will also include new intersection street lighting and landscaping. No relocations are planned. The project requires the acquisition of 1.3 acres of permanent ROW and 0.5 acre of temporary ROW.

Proposed ROW widths along US 231 vary from 35 feet to 75 feet from centerline and along Parrish Avenue vary from 35 feet to 75 feet from centerline. The project will be approximately 0.30 mile in length. The proposed method of traffic maintenance is anticipated to be phased lane closures with a complete closure eventually, utilizing a detour along US 41 to the west, US 30 the north, and then SR 53 to the east. Approximately 0.54 acre of trees will be cleared as part of this project. The project is anticipated to begin construction in late Spring or early Summer of 2025.

Fishbeck is under contract with INDOT to advance the environmental documentation for the referenced project. Weintraut & Associates, Inc. has been subcontracted to complete the Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, no above-ground resources are recommended as eligible for listing in the NRHP.

With regard to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards identified no sites within the project area. As a result of these efforts, no sites were recommended as eligible for listing in the NRHP and no further work is recommended.

The Archaeological Short Report (Tribes only) is available for review in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes.

For questions concerning specific project details, you may contact Dr. Linda Weintraut of Weintraut & Associates, Inc. at (317) 733-9770 or [Linda@weintrautinc.com](mailto:Linda@weintrautinc.com). All future responses regarding the proposed project should be forwarded to Weintraut & Associates, Inc. at the following address:

Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
P.O. Box 5034  
Zionsville, IN 46077  
[Linda@weintrautinc.com](mailto:Linda@weintrautinc.com)

***Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).***

Sincerely,




---

Matthew S. Coon, Manager  
Cultural Resources Office  
Environmental Services

**Distribution List:**

**Accepted Consulting Parties:**

State Historic Preservation Officer  
Lake County Historian ([scott.bocock@yahoo.com](mailto:scott.bocock@yahoo.com))  
Eastern Shawnee Tribe of Oklahoma  
Miami Tribe of Oklahoma  
Pokagon Band of Potawatomi Indians



**FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**

Linda Weintraut <linda@weintrautinc.com>

Mon 10/16/2023 3:29 PM

To: dhpareview@dnr.in.gov <dhpareview@dnr.in.gov>; scott.bocock@yahoo.com <scott.bocock@yahoo.com>; Slider, Chad (DNR) <CSlider@dnr.IN.gov>; clehman1@dnr.IN.gov <clehman1@dnr.IN.gov>

Cc: Hiller, Jerod <jahiller@fishbeck.com>; Molly Hollcraft <mhollcraft@weintrautinc.com>; Branigin, Susan <SBranigin@indot.IN.gov>; Coon, Matthew <mcoon@indot.IN.gov>; Doug Fivecoat <dfivecoat@weintrautinc.com>

 1 attachments (716 KB)

US231ParrishRd\_Des1702994\_RDL\_2023-10-03.pdf;

**If you received an earlier email, it was sent in error; please delete!**

**FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**

**Des. No.: 1702994**

**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project

**Location:** Lake County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 36 & Raider Road Intersection Improvement Project (Des. No. 2000152; DHPA No. 30075). The Section 106 Early Coordination Letter for this project was originally distributed on November 14, 2022.

As part of Section 106 of the National Historic Preservation Act, an Archaeological Report (Tribes only) has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment.

**Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon** [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

Linda Weintraut, Ph.D. | Weintraut & Associates, Inc. | 4649 Northwestern Drive | Zionsville, Indiana 46077  
Tel: 317.733.9770 | [www.weintrautinc.com](http://www.weintrautinc.com)

Linda Weintraut, Ph.D.



## WEINTRAUT & ASSOCIATES

4649 Northwestern Drive | Zionsville, Indiana 46077  
Tel: 317.733.9770 | [www.weintrautinc.com](http://www.weintrautinc.com)

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Fwd: FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

Linda Weintraut <linda@weintrautinc.com>

Tue 10/17/2023 7:55 AM

To: Doug Fivecoat <dfivecoat@weintrautinc.com>

Linda Weintraut

Begin forwarded message:

**From:** Scott Bocock <scott.bocock@yahoo.com>  
**Date:** October 16, 2023 at 4:12:32 PM EDT  
**To:** Linda Weintraut <linda@weintrautinc.com>  
**Subject: RE: FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**

Hi Ms. Weintraut,

I have reviewed all of the documentation and feel comfortable with the progression of the project to the next phase. Thank you.

Scott Bocock,  
Lake County Historian

Sent from [Mail](#) for Windows

---

**From:** [Linda Weintraut](#)  
**Sent:** Monday, October 16, 2023 2:29 PM  
**To:** [dhpareview@dnr.in.gov](mailto:dhpareview@dnr.in.gov); [scott.bocock@yahoo.com](mailto:scott.bocock@yahoo.com); [Slider, Chad \(DNR\)](#); [clehman1@dnr.IN.gov](mailto:clehman1@dnr.IN.gov)  
**Cc:** [Hiller, Jerod](#); [Molly Hollcraft](#); [Branigin, Susan](#); [Coon, Matthew](#); [Doug Fivecoat](#)  
**Subject:** FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

**If you received an earlier email, it was sent in error; please delete!**

**FHWA Project: Des. No. 1702994; HPSR, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana**  
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**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project  
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Thank you in advance for your input,

Linda Weintraut, Ph.D. | Weintraut & Associates, Inc. | 4649 Northwestern Drive | Zionsville, Indiana 46077  
Tel: 317.733.9770 | [www.weintrautinc.com](http://www.weintrautinc.com)

Linda Weintraut, Ph.D.

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Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov ·



October 24, 2023

Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
P.O. Box 5034  
Zionsville, IN 46077

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Phase Ia archaeological reconnaissance report (Coulter, 9/28/2023) for the US 231 and Parrish  
Avenue intersection improvement project (Des. No. 1702994; DHPA No. 30113)

Dear Dr. Weintraut:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your October 3, 2023, review request submittal form which enclosed the phase Ia archaeological reconnaissance report (Coulter, 9/28/2023), received by our office on October 16, 2023, for this project in Hanover Township, Lake County, Indiana.

As previously stated, for the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the HPSR that there are no historic properties listed in or eligible for listing in the National Register of Historic Places within the APE for this project.

In terms of archaeology, thank you for submitting the Phase Ia archaeology short report (Coulter, 9/29/2023; AR-45-00785). A review of the report indicates that the project area does not have the potential to contain archaeological resources and no further investigation appears to be necessary.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

Unless another consulting party expresses a different opinion about this project’s effects, it might now be appropriate to ask INDOT for a finding.

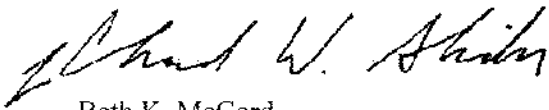


Weintraut  
October 24, 2023  
Page 2

The Indiana SHPO staff's archaeological reviewer for this project is Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the US 231 and Parrish Avenue intersection improvement project in Lake County (Des. No. 1702994), please refer to DHPA No. 30113.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:MKP:mkp

emc: Kari Carmany-George, FHWA  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Linda Weintraut, Ph.D., Weintraut & Associates  
Scott Boccock, Lake County Historian  
Melody Pope, DNR-DHPA  
Caitlin Lehman, DNR-DHPA

FHWA Project: Des. No. 1702994; Archaeology Report, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

Coon, Matthew <mcoon@indot.IN.gov>

Thu 12/21/2023 9:50 AM

To: thpo@estoo.net <thpo@estoo.net>; THPO <THPO@MiamiNation.com>; Burgundy Fletcher <bfletcher@peoriatribe.com>; Matthew.Bussler@pokagonband-nsn.gov <Matthew.Bussler@pokagonband-nsn.gov>; Section106@shawnee-tribe.com <Section106@shawnee-tribe.com>; Benjamin Rhodd <benjamin.rhodd@fcp-nsn.gov>  
Cc: Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Linda Weintraut <linda@weintrautinc.com>; Doug Fivecoat <dfivecoat@weintrautinc.com>; Branigin, Susan <SBranigin@indot.IN.gov>

**Des. No.:** 1702994

**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project

**Location:** Lake County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project in Lake County, Indiana. The Section 106 Early Coordination Letter for this project was originally distributed on November 30, 2022.

As part of Section 106 of the National Historic Preservation Act, an archaeological report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment.

**Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon** [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

**Matt Coon**

*Manager, Cultural Resources Office*

*Interim Archaeology Team Lead*

*Acting Tribal Liaison*

Indiana Department of Transportation

100 North Senate Ave., N758 — Environmental Services

Indianapolis, IN 46204

**Phone:** 317-697-9752

**Email:** [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov)



---

**From:** Benjamin Rhodd <Benjamin.Rhodd@fcp-nsn.gov>  
**Sent:** Thursday, December 21, 2023 2:16 PM  
**To:** Coon, Matthew  
**Subject:** RE: FHWA Project: Des. No. 1702994; Archaeology Report, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

\*\*\*\* This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. \*\*\*\*

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Mr. Coon,

Pursuant to consultation under Section 106 of the National Historic Preservation Act (1966 as amended) the Forest County Potawatomi Community (FCPC), a Federally Recognized Native American Tribe, reserves the right to comment on Federal undertakings, as defined under the act inclusive of licensing, permitting or use of federal funds by a delegated agency.

The Tribal Historic Preservation Office (THPO) staff has reviewed the information you provided for this project. Upon review of site data and supplemental cultural history within our Office, the FCPC THPO is pleased to offer a finding of No Historic Properties affected of significance to the FCPC, however, we request to remain as a consulting party for this project.

As a standard caveat sent with each proposed project reviewed by the FCPC THPO, the following applies. In the event an Inadvertent Discovery (ID) occurs at any phase of a project or undertaking as defined, and human remains or archaeologically significant materials are exposed as a result of project activities, work should cease immediately. The Tribe(s) must be included with the SHPO in any consultation regarding treatment and disposition of an ID find.

Thank you for protecting cultural and historic properties and if you have any questions or concerns, please contact me at the email or number listed below.

Respectfully,

Ben Rhodd, MS, RPA, Tribal Historic Preservation Officer  
 Forest County Potawatomi  
 Historic Preservation Office  
 8130 Mish ko Swen Drive, P.O. Box 340, Crandon, Wisconsin 54520  
 P: 715-478-7354 C: 715-889-0202 Main: 715-478-7474  
 Email: Benjamin.Rhodd@fcp-nsn.gov  
[www.fcpotawatomi.com](http://www.fcpotawatomi.com)

---

**From:** Coon, Matthew <mcoon@indot.IN.gov>  
**Sent:** Thursday, December 21, 2023 8:50 AM  
**To:** thpo@estoo.net; THPO <THPO@MiamiNation.com>; Burgundy Fletcher <bfletcher@peoriatribe.com>; Matthew.Bussler@pokagonband-nsn.gov; Section106@shawnee-tribe.com; Benjamin Rhodd <Benjamin.Rhodd@fcp-nsn.gov>  
**Cc:** Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Linda Weintraut <linda@weintrautinc.com>; Doug

Fivecoat <dfivecoat@weintrautinc.com>; Branigin, Susan <SBranigin@indot.IN.gov>

**Subject:** FHWA Project: Des. No. 1702994; Archaeology Report, US 231 and Parrish Avenue Intersection Improvement Project, Lake County, Indiana

**Des. No.:** 1702994

**Project Description:** US 231 and Parrish Avenue Intersection Improvement Project

**Location:** Lake County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 231 and Parrish Avenue Intersection Improvement Project in Lake County, Indiana. The Section 106 Early Coordination Letter for this project was originally distributed on November 30, 2022.

As part of Section 106 of the National Historic Preservation Act, an archaeological report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment.

**Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon** [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov); (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) (317-226-5629).

Thank you in advance for your input,

### **Matt Coon**

**Manager, Cultural Resources Office**

*Interim Archaeology Team Lead*

*Acting Tribal Liaison*

Indiana Department of Transportation

100 North Senate Ave., N758 — Environmental Services

Indianapolis, IN 46204

**Phone:** 317-697-9752

**Email:** [mcoon@indot.in.gov](mailto:mcoon@indot.in.gov)





---

**From:** Laserfiche Notification <donotreply@laserfiche.com>  
**Sent:** Thursday, January 4, 2024 2:43 PM  
**To:** Coon, Matthew  
**Subject:** Section 106 Consultation - 1702994

\*\*\*\* This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. \*\*\*\*

---

This email is in response to 1702994.

The Shawnee Tribe's Tribal Historic Preservation Department concurs that no known historic properties will be negatively impacted by this project. However, there is still potential for the discovery of unknown resources.

We have no issues or concerns at this time. Please continue with the project as planned, but in the event archaeological materials are encountered during construction, use, or maintenance of this location, please re-notify us at that time as we would like to resume immediate consultation under such a circumstance.

If you have any questions, you may contact me via email at [Section106@shawnee-tribe.com](mailto:Section106@shawnee-tribe.com)

Thank you for giving us the opportunity to comment on this project

## Appendix D: Report Summaries



**Historic Property Short Report  
United States (US) Highway 231 and Parrish Avenue  
Intersection Improvement Project  
Lake County, Indiana (Des. No.: 1702994)**

*Prepared for*  
**Fishbeck/Indiana Department of Transportation**

*Prepared by*  
**WEINTRAUT & ASSOCIATES**  
*Principal Investigator:* Linda Weintraut, Ph.D. | *Author:* Douglas K. Fivecoat, M.A.  
PO Box 5034 | Zionsville, Indiana | (317) 733-9770 | (Linda@weintrautinc.com)

*Contact for Fishbeck:* Jerod Hiller  
8520 Allison Pointe Boulevard, Suite 100, Indianapolis, IN 46250 | (317) 577-9050  
(jahiller@fishbeck.com)

**February 2023**

## **Executive Summary: United States (US) Highway 231 and Parrish Avenue Intersection Improvement Project | Lake County, Indiana (DES. No.: 1702994)**

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This report documents the identification and evaluation efforts for properties included in the Area of Potential Effects (APE) for the US 231 and Parrish Avenue Intersection Improvement Project in Lake County, Indiana. Above-ground resources located within the project APE were identified and evaluated in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the regulations implementing Section 106 (36 CFR Part 800).

As a result of the NHPA, as amended, and CFR Part 800, federal agencies are required to take into account the impact of federal undertakings upon historic properties in the area of the undertaking. Historic properties include buildings, structures, sites, objects, and/or districts that are eligible for or listed in the National Register of Historic Places (National Register). As this project is receiving funding from the Federal Highway Administration (FHWA), it is subject to a Section 106 review.

The APE contains no properties listed in the National Register.

The APE contains no properties that are recommended eligible for listing in the National Register.





**United States (US) Highway 231 and Parrish Avenue  
Intersection Improvement Project in Lake County, Indiana**

**(Des. No.: 1702994)**

*Prepared for:*

**Fishbeck and Indiana Department of Transportation**

Contact for Fishbeck: Jerod Hiller  
8520 Allison Pointe Boulevard, Suite 100, Indianapolis, IN 46250 | (317)  
577-9050 (jahiller@fishbeck.com)

*Prepared by:*

**WEINTRAUT & ASSOCIATES, INC.**

P.O. Box 5034 | Zionsville, Indiana 46077 | 317.733.9770 | (Carnold@weintrautinc.com)

*Principal Investigator:* Craig Arnold, M.A.

September 2023


**INDIANA ARCHAEOLOGICAL  
SHORT REPORT**

State Form 54586 (R3 / 3-22)

**INDIANA DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY**

402 West Washington Street, Room W274

Indianapolis, Indiana 46204-2739

Telephone Number: (317) 232-1646

Fax Number: (317) 232-0693

 E-mail: [dnpa@dnr.IN.gov](mailto:dnpa@dnr.IN.gov)

Where applicable, the use of this form is recommended but not required by the Division of Historic Preservation and Archaeology (DHPA).

Name(s) of author(s) Jade Coulter, B.S.		Date (month, day, year) September 28, 2023
Title of project A Phase Ia Archaeological Reconnaissance for the proposed US 231 and Parrish Avenue intersection improvement project, 0.85 mile East of US 41 to 1.20 miles east of US 41, in Saint John, Lake County, Indiana, INDOT Des No. 1702994		
This document is being used to report on the results of: <input type="checkbox"/> Records check only <input checked="" type="checkbox"/> Records check and Phase 1a archaeological reconnaissance <input type="checkbox"/> An addendum to a previous archaeological report. For an addendum, provide the following information.		
Name(s) of author(s) of previous report N/A		
Title of previous report N/A		
Date of previous report (month, day, year) N/A		DHPA number N/A

**PROJECT OVERVIEW**

Description of project

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with a United States (US) 231 and Parrish Avenue Intersection Improvement Project (Des. No.: 1702994) (Figure 1). Weintraut & Associates is under contract with Fishbeck, INDOT's consultant, to advance the Section 106 documentation for the referenced project. The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue.

The undertaking is within Hanover Township on the Saint John, Indiana, US Geological Survey 7.5-minute series topographic quadrangle map in Sections 3, 4, 9, and 10, Township 34 North, Range 9 West (Figure 2). Specifically, the undertaking is on US 231 beginning 0.85-mile east of US 41 and extending to 1.20-miles east of US 41, in Lake County. The project has an approximately 0.47-mile total length. The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue.

US 231 is a two-lane Principal Arterial and Parrish Avenue is a two-lane local road. The existing US 231 and Parrish Avenue cross sections consist of one 12-foot lane in each direction with variable width paved shoulders. The need is to improve the Index of Crash Frequency (ICF), the Index of Crash Cost (ICC), and the level of service (LOS) for the intersection. The purpose of the project is to reduce crash potential and provide a long-term solution to ensure the safe and efficient operation of the busy US 231 and Parrish Avenue intersection.

It is anticipated the project will require the acquisition of 1.3 acres of permanent Right-of-Way (R/W) and 0.5 acre of temporary R/W.

INDOT designation number(s) 1702994	Project number	DHPA number	DHPA plan number
Prepared for: (Company / Institution / Agency) Fishbeck			
Name of contact Jerod A. Hiller			
Address (number and street, city, state, and ZIP code) 8520 Allison Pointe Blvd, Suite 100, Indianapolis, IN 46250			
Telephone number (618) 363-1010		E-mail address jahiller@fishbeck.com	
Name of principal investigator Craig R. Arnold, M.A.			
Name of company / institution Weintraut & Associates, Inc.			
Address (number and street, city, state, and ZIP code) 4649 Northwestern Dr, PO Box 5034, Zionsville, IN 46077			
Telephone number (317) 733-9770		E-mail address carnold@weintrautinc.com	



Northeast survey quadrant: Much of the northeast quadrant had been previously surveyed. The remaining unsurveyed areas included a linear area in the east half of the quadrant and a triangular area adjacent to the First Savings Bank parking lot. The east survey portion is wholly occupied by underground utilities including telephone, natural gas, and sanitary and stormwater sewer lines. One shovel probe was placed in this area near the intersection of US 231 and Maple Lane; it encountered disturbed, reworked soils. Three shovel probes were placed in the unsurveyed area west of the bank parking lot. All three exhibited mixed, commingled soils resulting from earth moving during property development. Figures 12 to 14 are photographs of portions of the northeast survey quadrant.

Northwest survey quadrant: The greater portion of the northwest quadrant had been previously surveyed and was not revisited during this reconnaissance. A single transect of shovel probes was placed in the unsurveyed western half of the survey quadrant fronting the north side of US 231. This area was in a fallow, grassed horse pasture in close proximity to an electrified fence line. Six shovel probes were excavated along a single transect north of US 231, with the far western end of the survey area occupied by a steeply sloped gradient leading downward to an open ditch, or otherwise occupied by buried utilities. None of the six excavated shovel probes in this quadrant contained artifacts. A typical shovel test probe profile had a very dark grayish brown (10YR 3/2) silty clay loam extending from the surface to between 12 and 28 centimeters below surface. This was underlain by a mottled dark yellowish brown and brown (10YR 4/4 and 5/3) subsoil. Figures 15 and 16 are representative photographs of areas within the northwest survey quadrant.

In summary, 33 shovel test probes were placed throughout the survey area. The majority of the shovel tests were dug in the agricultural fields in the Southeast quadrant (n = 21). Observed and evident disturbances in the Northeast (n = 4) and Southwest (n = 2) quadrants resulted in minimal shovel testing. The Northwest quadrant, consisting of a grassed horse pasture, had six shovel tests plotted (see Figure 4). None of the shovel test probes contained precontact or historical cultural materials.

#### RECOMMENDATIONS

##### Records check (Check all that apply)

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

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

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

##### Other recommendations / commitments

W&A located no cultural material or deposits within the current survey area. Therefore, no further archaeology work is recommended as necessary prior to construction.

**Pursuant to IC-14-21-1, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.**

#### REQUIRED ATTACHMENTS

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

##### Other attachments

Information shown on maps is not warranted for accuracy or merchantability. GIS data used to create the maps are from best-known sources existing at this time. However, experience shows that many national datasets are not all inclusive and can have differing projections, precision, and geographic control points. Use of maps should be limited to planning, and should not replace field review or background checks with other sources. It is intended to serve as an aid in graphic representation only. The maps created for this report do not represent a legal document.

## Appendix E: Photographs









1. This view looks south-southwest along Parrish Avenue from the north end of the APE.



2. The residential property at 10816 Parrish Avenue (1997) and its pole barn (2021) sit adjacent to a large agricultural field at the north end of the APE, looking southwest.



3. Commercial properties have developed within the APE, including the liquor store located at 9540 Poplar Place, looking northeast.



4. This view looks south at the intersection of US 231/109th Avenue and Parrish Avenue.





5. The property at 10816 Parrish Avenue also contains a barn and silo that date to the 1920s, looking west.



6. The residential property at 9803 West 109th Avenue (1979) is an example of a Non-Contributing property in the APE, looking south





7. The project would replace the current signalized intersection of US 231/109th Avenue and Parrish Avenue with a roundabout, looking southeast.



8. The eastern APE contains newer commercial development and a large agricultural field, looking east along US 231/109th Avenue.



9. The Franciscan Health St. John Health Center located at 10860 Maple Lane was constructed in 2008, looking west-northwest.



10. The retail property located at 10865 Maple Lane (1997) was constructed in 2013 at the east end of the APE, looking north-northeast.





11. The Family Express gas station and convenience store located at 10902 Parrish Avenue was constructed in 2019, looking west.



12. The Northern Indiana Public Service substation has had an additional entrance added along Parrish Avenue at the south end of the APE, looking west.



13. This view looks north along Parrish Avenue from the south end of the APE.



## Appendix F: Plans

Omitted to avoid duplication. See project plans in Appendix B in this CE document.

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · [dhp@dnr.IN.gov](mailto:dhp@dnr.IN.gov)



March 5, 2024

Linda Weintraut  
Weintraut & Associates  
PO Box 5034  
Zionsville, Indiana 46077

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Indiana Department of Transportation’s finding of “no historic properties affected” on behalf  
of the Federal Highway Administration for the US 231 and Parrish Avenue intersection  
improvement project (Des. No. 1702994; DHPA No. 30113)

Dear Dr. Weintraut:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your February 27, 2024, submission, which enclosed INDOT’s finding and supporting documentation, received by our office the same day for this project in Hanover Township, Lake County, Indiana.

As previously stated, for the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the HPSR that there are no historic properties listed in or eligible for listing in the National Register of Historic Places within the APE for this project.

Also as previously stated, in terms of archaeology, a review of the phase Ia archaeology short report (Coulter, 9/29/2023; AR-45-00785) indicates that the project area does not have the potential to contain archaeological resources and no further investigation appears to be necessary.

Accordingly, we concur with INDOT’s February 23, 2024, Section 106 finding of “No Historic Properties Affected” on behalf of FHWA for this federal undertaking.

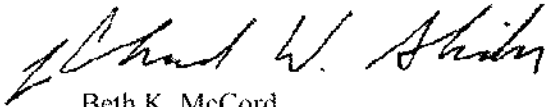
If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

Weintraut  
March 5, 2024  
Page 2

The Indiana SHPO staff's archaeological reviewer for this project is Melody Pope, and the structures reviewer is Caitlin Lehman. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the US 231 and Parrish Avenue intersection project in Lake County (Des. No. 1702994), please refer to DHPA No. 30113.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:CML:cmf

emc: Kari Carmany-George, FHWA  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Linda Weintraut, Weintraut & Associates  
Scott Boccock, Lake County Historian  
Melody Pope, DNR-DHPA  
Caitlin Lehman, DNR-DHPA

**AFFIDAVIT OF PUBLICATION**

**Northwest Indiana Times**  
**601 W. 45th Ave.**  
**(219) 933-3333**

I, Laquansay Nickson Watkins, of lawful age, being duly sworn upon oath depose and say that I am an agent of Column Software, PBC, duly appointed and authorized agent of the Publisher of Northwest Indiana Times, a publication that is a "legal newspaper" as that phrase is defined for the city of Munster, for the County of Lake, in the state of Indiana, that this affidavit is Page 1 of 2 with the full text of the sworn-to notice set forth on the pages that follow, and that the attachment hereto contains the correct copy of what was published in said legal newspaper in consecutive issues on the following dates:

**PUBLICATION DATES:**  
 Mar. 4, 2024

**Notice ID:** RjngWpeNF0Q7WCq1qWc3  
**Publisher ID:** 84989  
**Notice Name:** US231 & Parrish Public Notice

**PUBLICATION FEE:** \$48.71

*Laquansay Watkins*

Agent

**VERIFICATION**

State of Florida  
 County of Orange

Signed or attested before me on this: 03/05/2024

*[Signature]*

Notary Public

Notarized remotely online using communication technology via Proof.


**Public Notice**  
**Des. No. 1702994**

The Indiana Department of Transportation (INDOT) is planning to undertake an intersection improvement project, funded in part by the Federal Highway Administration. The project is located at the intersection of US 231 and Parrish Avenue in Lake County, Indiana.

Under the preferred alternative, the proposed project involves converting the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Drainage improvements will include installation of curb turnouts, drainage structures, and ditch grading. Intersection improvements will also include new intersection street lighting and landscaping. No relocations are planned. The project requires the acquisition of 2.663 acres of permanent right of way (ROW) and 0.228 acre of temporary ROW. Proposed ROW widths along US 231 vary from 25 feet to 125 feet from centerline and along Parrish Avenue vary from 25 feet to 60 feet from centerline. The project will be approximately 0.27 mile in length along US 231 and 0.14 mile along Parrish Avenue. The proposed method of traffic maintenance is anticipated to be phased lane closures with a complete closure eventually utilizing a detour along US 41 to the west, US 30 the north, and then SR 33 to the east. Approximately 0.54 acre of trees will be cleared as part of this project. The project is anticipated to begin construction in Fall of 2025.

The proposed action does not impact properties listed in or eligible for the National Register of Historic Places. The Indiana Department of Transportation (INDOT), on behalf of the FHWA, has issued a "No Historic Properties Affected" finding for the project due to the fact that no historic properties are present within the Area of Potential Effects (APE). In accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(c), 800.3(e) and 800.6(a) (4). Pursuant to 36 CFR 800.6(c) (1), the documentation specified in 36 CFR 800.11(d) is available for inspection in the office of Weittraut & Associates, Inc. Additionally, this documentation can be viewed electronically by accessing INDOT's Section 106 document posting website (M-SCOPE) at <http://enr612c.indot.in.gov/Section106Documents>. This documentation serves as the basis for the "No Historic Properties Affected" finding. The views of the public on this effect finding are being sought. Please reply with any comments to Weittraut & Associates, Inc., PO Box 5034, 4949 Northwestern Drive, Zionsville, Indiana, 46077, 317-733-9770; [info@weittrautinc.com](mailto:info@weittrautinc.com) no later than April 4, 2024.

In accordance with the "Americans with Disabilities Act", if you have a disability for which INDOT needs to provide accessibility to the document(s) such as interpreters or readers, please contact Michael Grylewicz, (219) 325-7539, [mgryle@indot.in.gov](mailto:mgryle@indot.in.gov).





## **APPENDIX E**

Red Flag Investigation and Hazardous Materials



## INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848  
(855) INDOT4U

**Eric Holcomb, Governor**  
**Mike Smith, Commissioner**

Date: December 19, 2023

To: Site Assessment & Management (SAM)  
Environmental Policy Office - Environmental Services Division (ESD)  
Indiana Department of Transportation (INDOT)  
100 N Senate Avenue, Room N758-ES  
Indianapolis, IN 46204

From: April Arroyo-Monroe  
Kaskaskia Engineering Group, LLC (KEG)  
323 Main St, Suite E  
Evansville, IN 47708  
april@kaskaskiaeng.com

Re: RED FLAG INVESTIGATION ADDENDUM 2  
DES 1702994, State Project  
Intersection Improvement  
US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41  
Lake County, Indiana

### PROJECT DESCRIPTION

A review of the original RFI signed on January 3, 2023 and the RFI Addendum 1 signed on March 29, 2023, for the above DES # indicated substantive changes have occurred within the 0.5 mile radius and/or project area limits that will have an impact to the project. Due to design refinements, the project extents have changed to extend beyond the original limits and the scope has changed to include three pipe replacements. The pipe replacements include replacing: the existing 15-inch corrugated pipe in the southeast quadrant with a 24-inch pipe; the existing 18-inch concrete pipe in the northeast quadrant with a 36-inch pipe; and the 18-inch concrete pipe under the north leg of the intersection, Parrish Avenue, with a 36-inch pipe. The depth of excavation for the pipe replacements will not be different from what was in the original RFI, no more than approximately 5 feet-below ground surface.

The following features and/or items were not detailed in the original RFI document (January 3, 2023), but have since been identified as having an impact on the project area and requiring additional coordination.

#### 1. Water Resources –

**IDEM 303d Listed Streams and Lakes:** One (1) IDEM listed Stream segment is located within the 0.5 mile search radius. The stream segment, Kankakee/Iroquois River, is located 0.44 mile southwest of the project area. No impact is expected.

**NWI-Wetlands:** Twenty-six (26), rather than twenty-five (25), NWI-Wetland polygons are located within the 0.5 mile search radius. The NWI-wetland polygon that was located adjacent to the project area in the southeast quadrant in the original RFI (January 3, 2023) is no longer present and a new adjacent NWI-wetland polygon in the northeast quadrant

of the intersection is present. A Waters of the US Report is being re-evaluated based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**Lakes:** Six (6), rather than two (2), lake polygons are located within the 0.5 mile search radius. The nearest lake polygon remains the same as was in the original RFI (January 3, 2023). No impact is expected.

2. Hazardous Material Concerns –

**NPDES Facilities:** Seven (7), rather than three (3), (NPDES) Facilities are now located within the 0.5 mile search radius. The nearest facility, Northern Indiana Public Service Company (NIPSCO) Hanover Substation Access Roadway, US 231 and Parrish Avenue, INRA08603, is located 0.01 mile south of the project area. The permit was issued October 27, 2021 and will expire October 26, 2026. Coordination with NIPSCO will occur.

3. Ecological –

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

INDOT ESD concurrence: Peter Washburn (Signature)  
Digitally signed by Peter Washburn  
 Date: 2024.01.31 13:27:40  
 05/202

Prepared by:



Molly Barletta  
 Project Manager  
 Kaskaskia Engineering Group, LLC

**Graphics:**

Water Resources: Yes

Hazardous Material Concerns: Yes



Red Flag Investigation Addendum 2 - Water Resources  
 US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41  
 Des. No. 1702994, Intersection Improvement  
 Lake County, Indiana



## Sources:

## Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

## Orthophotography

- Obtained from Indiana Map Framework Data

([www.indianamap.org](http://www.indianamap.org))

Map Projection: UTM Zone 16 N Map Datum: NAD83

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

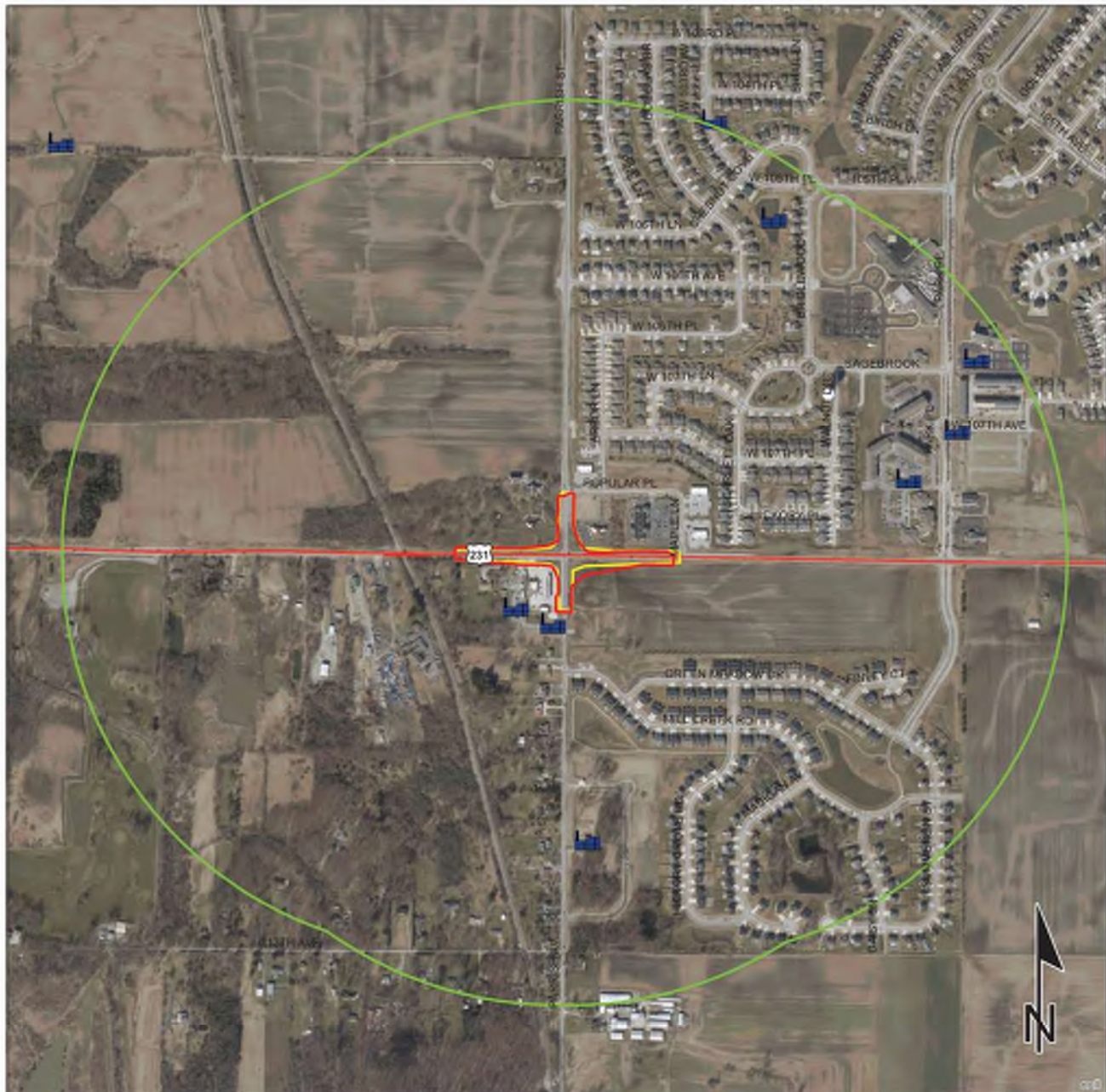
0.15 0.075 0 0.15  
 Miles





E-4

**Red Flag Investigation Addendum 2 - Hazardous Material Concerns**  
**US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41**  
**Des. No. 1702994, Intersection Improvement**  
**Lake County, Indiana**



0.15 0.075 0 0.15  
Miles

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

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



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848  
(855) INDOT4U

**Eric Holcomb, Governor**  
**Mike Smith, Commissioner**

Date: March 22, 2023

To: Site Assessment & Management (SAM)  
Environmental Policy Office - Environmental Services Division (ESD)  
Indiana Department of Transportation (INDOT)  
100 N Senate Avenue, Room N758-ES  
Indianapolis, IN 46204

From: April Arroyo-Monroe  
Kaskaskia Engineering Group, LLC (KEG)  
323 Main St, Suite E  
Evansville, IN 47708  
april@kaskaskiaeng.com

Re: RED FLAG INVESTIGATION ADDENDUM  
DES 1702994, State Project  
Intersection Improvement  
US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41  
Lake County, Indiana

## PROJECT DESCRIPTION

An RFI for Des No. 1702994 was reviewed and signed on January 3, 2023. While project scope and extents have not had substantive changes since the original RFI, geotechnical activities, completed on January 5, 2023, identified potential petroleum contamination adjacent to a retail fueling station that was present and evaluated in the original RFI. Since the approval of the original RFI, during soil borings for geotechnical activities for the project on January 5, 2023, a petroleum-like odor was noted from 8 inches-below ground surface to 2 feet below the ground surface (ft-bgs). The project scope, extents, or depth of excavation have not changed. The boring hole (RB-6) was in the northbound lane of Parrish Avenue across from the Family Express, 10902 Parrish Ave, AI # 122566, mentioned as an UST site in the original RFI (see attached boring location plan. The boring was detailed as follows:

### Boring RB-6/PC

0.0-0.3 ft-bgs HMA  
0.3-2.0 ft-bgs GRAVEL & SAND medium dense, moist black with petroleum and asphalt odor (fill)  
2.0 – 5.0 ft-bgs CLAY, medium stiff, moist, brown  
5.0-10.0 ft-bgs SILTY LOAM, stiff to very stiff, moist, brown

Samples were not collected for environmental analysis and photoionization detector (PID) measurements were not obtained.

The following feature and/or item was not detailed in the original RFI document (January 3, 2023). Due to field observations noted during the geotechnical activities, an update to the original recommendation is needed.



1. Hazardous Material Concerns –

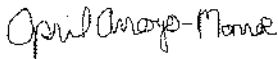
UST: Family Express, 10902 Parrish Ave, AI #122566. This site is located adjacent to the southwest side of the project area intersection. The initial RFI (January 3, 2023), indicated that an Underground Storage Tank Inspection occurred on September 11, 2019, and the facility was found to be in compliance with equipment, operating, and maintenance requirements set forth in Indiana’s UST Rule 329 IAC 9 and no impact was expected. However, after encountering signs of fuel during borings for the geotechnical analysis adjacent to this site along the east side of Parrish Street, there is the potential for contamination. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

Peter Washburn

Digitally signed by Peter Washburn  
Date: 2023.03.29 11:23:50 -04'00'

INDOT ESD concurrence: \_\_\_\_\_ (Signature)

Prepared by:

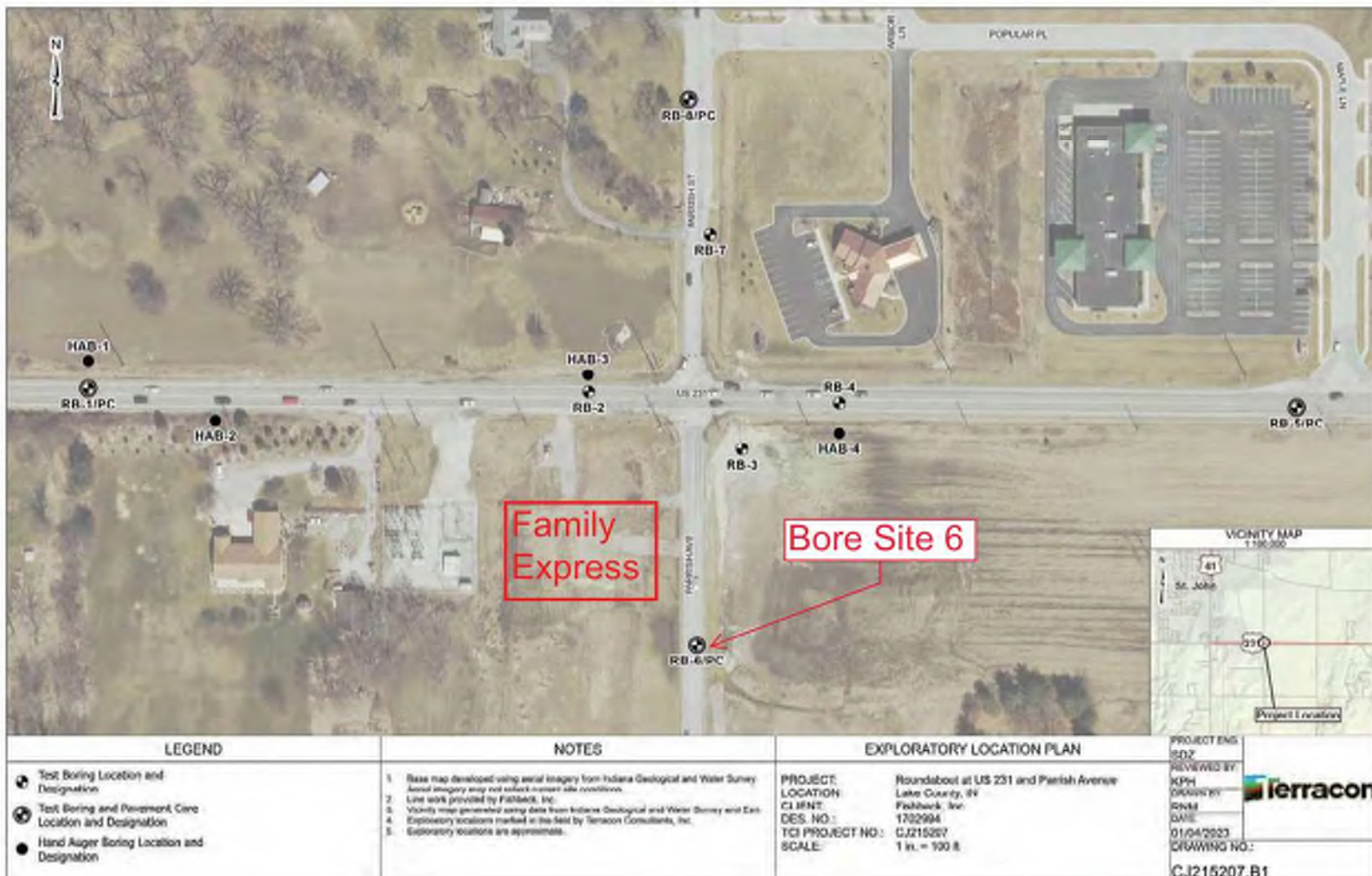


April Arroyo-Monroe  
Environmental Scientist  
Kaskaskia Engineering Group, LLC

**Graphics:**

Boring site location







# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848  
(855) INDOT4U

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

Date: January 3, 2023

To: Site Assessment & Management (SAM)  
Environmental Policy Office - Environmental Services Division (ESD)  
Indiana Department of Transportation (INDOT)  
100 N Senate Avenue, Room N758-ES  
Indianapolis, IN 46204

From: April Arroyo-Monroe  
Kaskaskia Engineering Group, LLC  
477 South Third Street, Suite 280  
Geneva, IL 60134  
april@kaskaskiaeng.com

Re: RED FLAG INVESTIGATION  
DES 1702994, State Project  
Intersection Improvement  
US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41  
Lake County, Indiana

## PROJECT DESCRIPTION

Brief Description of Project: The Indiana Department of Transportation (INDOT) has identified the need to improve the safety of the US 231 and Parrish Avenue intersection, located 0.85 mile south (east) of US 41 to 1.20 miles south (east) of US 41 in Lake County, Indiana. INDOT proposes to convert the current signaled intersection into a roundabout. The roundabout will consist of two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additionally, the US 231 approaches will be widened to include two through lanes.

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

If this is a bridge project, is the bridge Historical? Yes  No , Select  Non-Select

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

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

Proposed right of way: Temporary  # Acres 0.5 Permanent  # Acres 1.3, Not Applicable

Type and proposed depth of excavation: Excavation activities regarding pavement and subgrade work, drainage ditches, lighting circuitry, and storm sewer work is anticipated to be approximately 5 feet below ground surface (ft/bgs) or less.

Maintenance of traffic (MOT): Phased lane closure using temporary crossovers on either side of the intersection.

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

State Project:  LPA:

Any other factors influencing recommendations: N/A

### INFRASTRUCTURE TABLE AND SUMMARY

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

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

Explanation:

**Schools:** One (1) school is located within the 0.5 mile search radius. The school, Crown Point Christian School, is approximately 0.49 mile northeast of the project area. No impact is expected.

**Recreational Facilities:** One (1) recreation facility is located within the 0.5 mile search radius. The facility, Cedar Creek Golf Center, is approximately 0.48 mile west of the project area. No impact is expected.

**Railroads:** One (1) railroad segment is located within the 0.5 mile search radius. The railroad segment, CSX RR, is approximately 0.06 mile west of the project area. Standard coordination will occur with INDOT Utilities and Railroads by the Project Management Team or their consultant no later than the Ready for Contract (RFC) date.

### WATER RESOURCES TABLE AND SUMMARY

<b>Water Resources</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI – Points	N/A	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI – Wetlands	<b>25</b>
Canal Structures – Historic	N/A	Lakes	<b>2</b>
NPS NRI Listed	N/A	Floodplain – DFIRM	<b>2</b>
NWI-Lines	N/A	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A
Rivers and Streams	<b>2</b>	Sinking-Stream Basins	N/A

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



Explanation:

**Rivers and Streams:** Two (2) rivers and streams segments are located within the 0.5 mile search radius. The nearest stream (unnamed) is approximately 0.43 mile southwest of the project area. No impact is expected.

**NWI-Wetlands:** Twenty-five (25) NWI-Wetland polygons are located within the 0.5 mile search radius. One (1) wetland polygon is located adjacent to the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**Lakes:** Two (2) lake polygons are located within the 0.5 mile search radius. The nearest lake polygon is approximately 0.26 mile southwest of the project area. No impact is expected.

**Floodplain – DFIRM:** Two (2) floodplain polygons are located within the 0.5 mile search radius. The nearest floodplain polygon is located approximately 0.19 mile southwest of the project area. No impact is expected.

#### MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

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

Explanation: No mining and mineral exploration resources were identified within the 0.5 mile search radius.

#### HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

<b>Hazardous Material Concerns</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	N/A	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	1*	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	N/A
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	N/A	NPDES Facilities	3
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A
Leaking Underground Storage (LUST) Sites	N/A	Notice of Contamination Sites	N/A

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the

## Explanation:

- **Underground Storage Tank (UST) Sites:** Although not mapped on the GIS layer, one (1) UST site is located adjacent to the project area. The site, Family Express, 10902 Parrish Ave, St. John, AI # 122566 is located adjacent to the southwest side of the project area. IDEM conducted an Underground Storage Tank Inspection on September 11, 2019, and the facility was found to be in compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. No impact is expected.
- **NPDES Facilities:** Three (3) NPDES Facilities are located within the 0.5 mile search radius. The nearest facility, Park Place of Saint John, 10700 Park Place, is located approximately 0.29 mile northeast of the project area. The associated permit is listed as terminated and has expired as of November 10, 2019. No impact is expected.

**ECOLOGICAL INFORMATION SUMMARY**

The Putnam County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at [https://www.in.gov/dnr/nature-preserves/files/np\\_lake.pdf](https://www.in.gov/dnr/nature-preserves/files/np_lake.pdf). A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with IDNR will occur. Due to the nature of the project activities, this project will fall under the guidelines set forth under USFWS Interim Policy for the Review of Highway Transportation Projects in Indiana dated May 29, 2013.

A review of the USFWS database did not indicate the presence of endangered bat species in or within the 0.5 mile of the project area. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for listed Bat Consultation for INDOT Projects".

**RECOMMENDATIONS SECTION**

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

## INFRASTRUCTURE:

Railroads: One (1) railroad segment, CSX RR, is approximately 0.06 mile west of the project area. Standard coordination will occur with INDOT Utilities and Railroads by the Project Management Team or their consultant no later than the Ready for Contract (RFC) date.

WATER RESOURCES: A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur for the following features:

- One (1) NWI-wetland is adjacent to the project area.

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

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

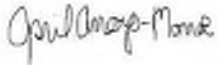
Peter Washburn

Digitally signed by Peter Washburn  
Date: 2023.01.03 10:40:47 -05'00'

(Signature)

INDOT ESD concurrence: \_\_\_\_\_

Prepared by:



April Arroyo-Monroe  
Environmental Scientist  
Kaskaskia Engineering Group, LLC

**Graphics:**

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

SITE LOCATION: YES

INFRASTRUCTURE: YES

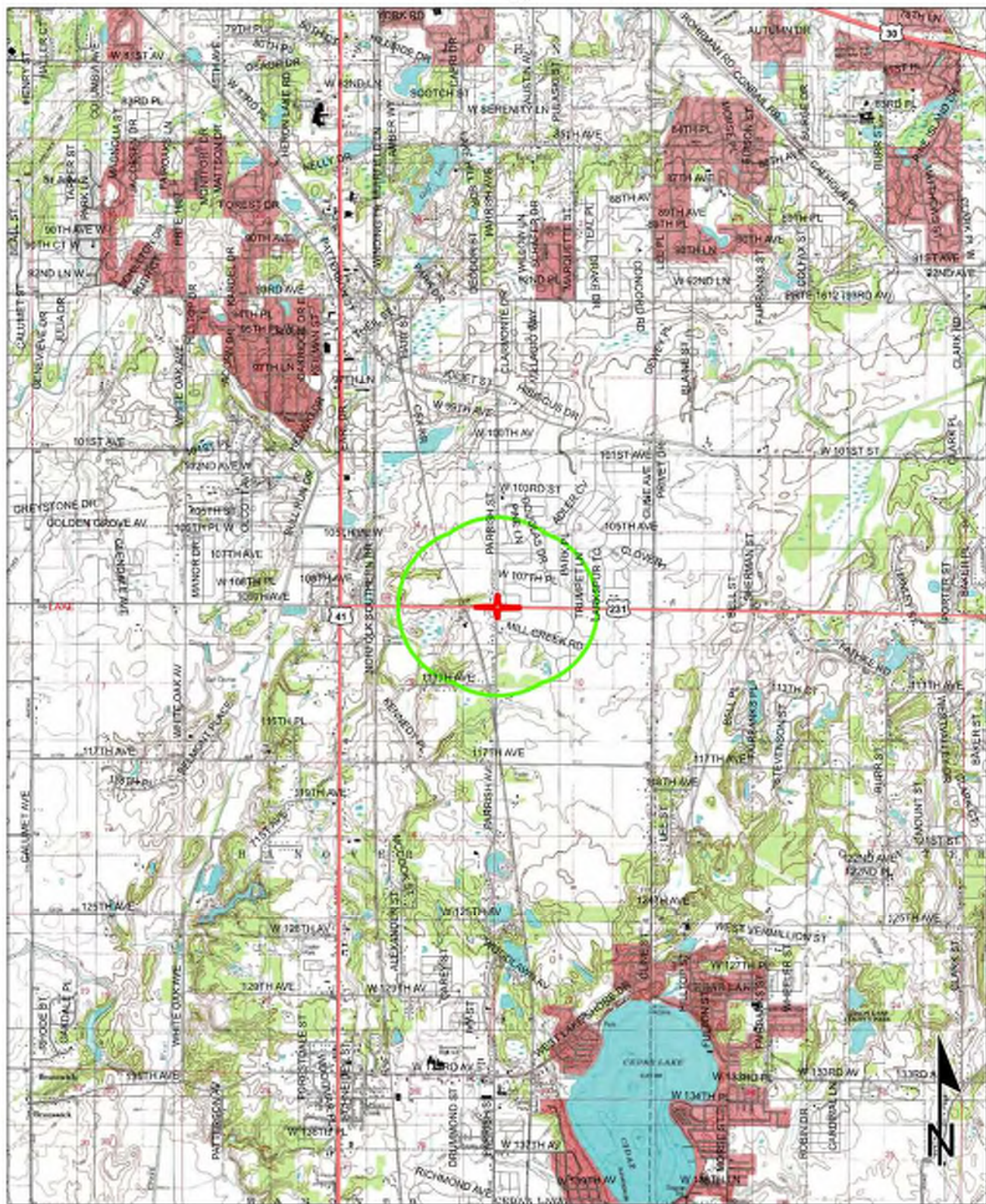
WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: YES



**Red Flag Investigation - Site Location**  
**US 231 & Parrish Avenue, 0.85 S (East) of US 41 to 1.20 Miles S (East) of US 41**  
**Des. No. 1702994, Intersection Improvement**  
**Lake County, Indiana**



Sources: 0.8 0.4 0 0.8 Miles  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
 Map Projection: UTM Zone 16 N Map Datum: NAD83  
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**SAINT JOHN QUADRANGLE**  
**INDIANA**  
**7.5 MINUTE SERIES**  
**(TOPOGRAPHIC)**



Red Flag Investigation - Infrastructure  
 US 231 & Parrish Avenue, 0.85 Mile S (East) of to 1.20 Miles S (East) of US 41  
 Des. No. 1702994, Intersection Improvement  
 Lake County, Indiana



## Sources:

Non Orthophotography

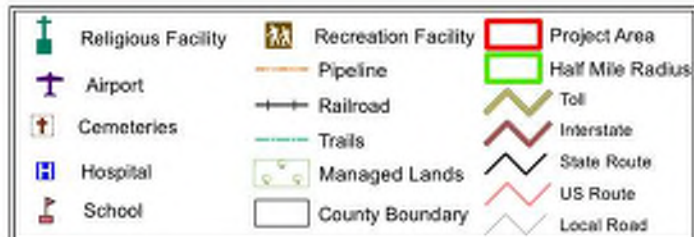
Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))

Map Projection: UTM Zone 16 N Map Datum: NAD83

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

0.2 0.1 0 0.2 Miles







## Sources:

## Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

## Orthophotography

- Obtained from Indiana Map Framework Data

[www.indianamap.org](http://www.indianamap.org)

Map Projection: UTM Zone 16 N Map Datum: NAD83

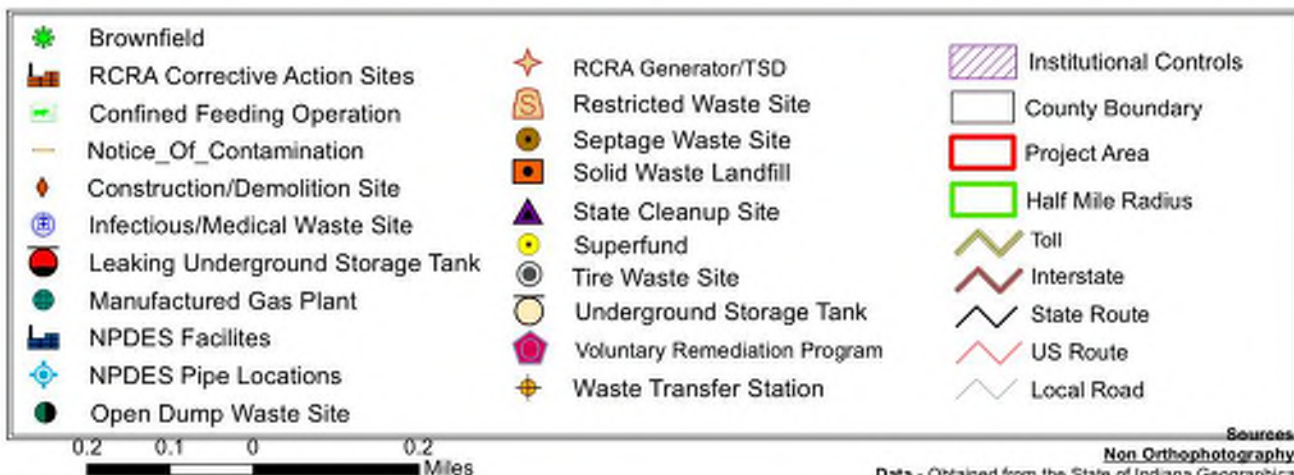
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

0.2 0.1 0 0.2  
Miles





Red Flag Investigation - Hazardous Material Concerns  
 US 231 & Parrish Avenue, 0.85 S (East) of US 41 to 1.20 Miles S (East) of US 41  
 Des. No. 1702994, Intersection Improvement  
 Lake County, Indiana



0.2 0.1 0 0.2  
 Miles

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



## **APPENDIX F**

Water Resources

**WATERS OF THE U.S. DETERMINATION REPORT  
US 231 & Parrish Avenue, Intersection Improvement Project  
INDOT DES. NO. 1702994**

Prepared by: Jessica Stern

Contact Information: Jstern@kaskaskiaeng.com, 217-213-3046

Kaskaskia Engineering Group, LLC

Completed Date: May 21, 2024

**1.0 PROJECT INFORMATION**

**Date of Waters Field Investigation:**

October 6, 2022, April 27, 2023, and April 10, 2024

**Project Location:**

Saint John, Indiana Quadrangle  
Sections 3, 4, 9, and 10, Township 34 N, Range 9 W  
41.421111 N, -87.450556 W  
Hanover Township  
Lake County, Indiana

Photo directional maps, photolog, and wetland data sheets have been omitted to avoid duplication.

**Project Description:**

The proposed state project (Des. No. 1702994) is located on US 231 and Parrish Avenue, 0.85 miles south (east) of US 41 to 1.20 miles south (east) of US 41 in the Indiana Department of Transportation (INDOT) LaPorte District. The location is in Lake County, Hanover Township, Saint John Quadrangle (Figure 1). The proposed project is to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additional work will include drainage improvements with the installation of curb turnouts, new drainage structures, ditch grading, and pipe replacements. The pipe replacements include replacing the existing 15-inch corrugated pipe in the southeast quadrant with a 24-inch pipe; replacing the existing 18-inch concrete pipe in the northeast quadrant with a 36-inch pipe; and, replacing the 18-inch concrete pipe under the north leg of the intersection, Parrish Avenue, with a 36-inch pipe.

**2.0 OFFICE EVALUATION**

**Results:**

USGS Mapping

The USGS Saint John, Indiana 7.5-minute topographic quadrangle map does not indicate a stream within the investigated area. (Figures 2 and 3).

NWI Mapping

The NWI map was reviewed for the presence of potential wetlands in, or adjacent to, the investigated area (Figure 4). Two NWI features are mapped within the investigated area, and one is adjacent to the investigated area. They are listed below in Table 1. The palustrine emergent wetland is not associated with any wetland features identified during the site visit within the investigated area. One of the riverine wetlands is associated with Unnamed Tributary (UNT) to West Creek. One of the riverine wetlands is associated with roadside ditch (RSD) 1.

**Table 1 - NWI Wetlands Within and Adjacent to the Investigated Area**

Wetland Type	Cowardin Classification Code	Location
Palustrine Emergent, Persistent, Seasonally Flooded	PEM1C	North of US 231 and east of Parrish Avenue, adjacent to the investigated area.
Riverine Lower Perennial, Unconsolidated Bottom, Semi-Permanently Flooded, Excavated	R2UBFx	Flows from southeast of the investigated area, underneath US 231, along the east side of Parrish Avenue, and underneath Parrish Avenue and to the west of the project area.
Riverine Lower Perennial, Unconsolidated Bottom, Semi-Permanently Flooded, Excavated	R2UBFx	South of US 231 and west of Parrish Avenue, parallel to the south side of US 231.

Source: USFWS NWI, 2022

### Mapped Soil Units

According to the Web Soil Survey geographic database for Lake County, Indiana (USDA- NRCS Web Soil Survey, 2022), the investigated area contains four map units (Figure 5, Table 2).

**Table 2 - Soil Units within the Investigated Area**

Soil Unit Symbol	Soil Unit Name	Hydric Rating
BIA	Blount silt loam, Lake Michigan Lobe, 0 to 2 percent slopes	Predominantly Nonhydric (4%)
EI	Elliott silt loam, 0 to 2 percent slopes	Predominantly Nonhydric (4%)
OzaE	Ozaukee silt loam, 18 to 30 percent slopes	Predominantly Nonhydric (2%)
Pc	Pewamo silty clay loam	Hydric (100%)

Source: NRCS Web Soil Survey, 2022

### Hydrology

According to the USGS NHD map, there are three flowlines located within the investigated area (Figure 6). The stream/river flowline that flows from southeast to northwest along the east side of US 231 is associated with the Unnamed Tributary (UNT) to West Creek. The drainageway flowline that flows east to west drains into the stream/river flowline. The canal/ditch flowline that flows east to west along the south side of US 231 is associated with RSD1. According to USGS StreamStats, UNT to West Creek has an upstream drainage of 0.089 square miles. It is within USGS 12-digit Hydrological Unit Code (HUC) 071200011308 (Bull Run-West Creek). UNT to West Creek flows into West Creek, approximately 1.89 miles northwest of the investigated area.

According to the IDNR Best Available Floodplain Layer, the investigated area is not located within a floodplain (<https://dnrmmaps.dnr.in.gov/appsphp/fdms/>) (Figure 7).

This project does not lie within the karst region of Indiana.



### 3.0 FIELD RECONNAISSANCE

#### **Methodology:**

A field visit was conducted by Kaskaskia Engineering Group on October 6, 2022, April 27, 2023, and April 10, 2024 to document and survey the presence of streams, wetlands, and other water resources within the investigated area. The investigated area is shown on the attached maps. The field investigation area encompassed a slightly larger area than the construction survey footprint to account for water resources adjacent to the project site.

Water resources are summarized in Tables 3 and 4 below. Water resource maps showing all identified features within the investigated area are located on Figure 8. Photographs and photo direction maps are included after the figures.

#### **Results:**

##### Bats and Birds:

The structure that carries UNT to West Creek underneath Parrish Avenue was investigated for the presence of migratory bird nests and/or evidence of bats during the site visit. No bird nests and/or evidence of bats was found during the visit.

##### Wildlife Evidence and Concerns:

No evidence of wildlife use was seen at the structure that carries UNT to West Creek. Crayfish burrows were observed in Wetlands 3 - 6.

##### Streams:

One stream was identified within the investigated area. Hydrologic conditions were drier than normal based on the previous three months of rainfall data (USACE APT v 1.0.20).

##### UNT to West Creek

UNT to West Creek would likely be classified as an intermittent stream because it has water within the channel that is not flowing. The channel flows from southeast to northwest under US 231 and Parrish Avenue. The upstream drainage consists of agricultural fields and residential areas. The stream had an OHWM of 4.66 feet wide and approximately 0.66 feet deep. The water was stagnant during the site visit. Banks are estimated at 3 feet and 2 feet high. The OHWM was characterized by a clear, natural line impressed on the bank, sediment sorting, vegetation matted down, bent, or absent, leaf litter disturbed or washed away, presence of litter and debris, and scour. The substrate within the channel in this section was gravel, sand, and silt. Riprap was found along the bank and above the inlet of the structure carrying UNT to West Creek under Parrish Avenue from the east, directly adjacent to the structure inlet and approximately 6 feet west along the bank. No riffles or pools were present. In-stream cover from overhanging vegetation was 50 percent. Dominant plant species within the stream were maple leaf arrowwood (*Viburnum acerifolium*, FACU), small leaf enchanter's nightshade (*Circaea canadensis*, FACU), and silver maple (*Acer saccharinum*, FACW). Dominant vegetation along the banks consisted of poison ivy (*Toxicodendron radicans*, FAC), black elder (*Sambucus nigra*, FAC), false lily of the valley (*Maianthemum canadense*, FACU), English ivy (*Hedera helix*, UPL), American elm (*Ulmus americana*, FACW), and white oak (*Quercus alba*, FACU). Based on a qualitative assessment, this resource is of poor quality within this reach due to in-stream cover and habitat potential. UNT to West Creek flows into West Creek, which then flows into Bull Run and then the Kankakee River, a Traditional Navigable Waterway. UNT to West Creek would be considered a Waters of the United States.

**Table 3 - Stream Summary Table**

ID	Coordinates (Decimal Degrees)		USGS Blue-Line (Y/N)	Stream Type	Riffles/Pools (Y/N)	Substrate	OHWM Width (ft.)	OHWM Depth (ft.)	Stream Relative Quality	Estimated Amount of Aquatic Resources within Investigated Area (acres / linear feet)	Photo Numbers	Likely Water of the U.S.?
	Latitude	Longitude										
UNT to West Creek	41.421704	-87.450785	No	Intermittent	No	Gravel, sand, silt	4.66	0.66	Poor	0.01 ac. /128.7 lf	32-37,50, 51	Yes

Wetlands:

Six wetlands were identified within the investigated area.

Wetland 1

Wetland 1 is a 0.001-acre palustrine emergent wetland (PEM) (Cowardin et al. 1979) on the north side of US 231 and west of Parrish Avenue. The quality of the wetland is poor due to disturbance, habitat quality, and vegetation cover. It functions as roadside drainage retention.

Data Point 1 was taken on the north side of US 231, in a depression next to the roadway. The dominant vegetation at the data point consisted of eastern red cedar (*Juniperus virginiana*, FACU), hybrid cattail (*Typha x glauca*, OBL) and reed canary grass (*Phalaris arundinacea*, FACW). The vegetation satisfied the dominance test and the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicator of Redox Depression (F8). Three primary indicators of hydrology were present: Water Marks (B1), Sparsely Vegetated Concave Surface (B8), and Water-Stained Leaves (B9). Three secondary indicators of hydrology were also present: Stunted or Stressed Plants (D1), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 1, this area would likely be considered a wetland.

Data Point 2 was taken north of Data Point 1, on a slope. The dominant vegetation at the data point consisted of eastern red cedar (FACU) and reed canary grass (FACW). The vegetation satisfied the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicators of Depleted Below Dark Surface (A11) and Depleted Matrix (F3). No primary indicators of hydrology were present. One secondary indicator of hydrology was present: FAC-Neutral Test (D5). Since only two of the three wetland criteria were met at Data Point 2, this point was determined to be upland. Data Point 2 helped establish the wetland/upland boundary for Wetland 1.

Wetland 1 is likely not jurisdictional because it lacks a connection to UNT to West Creek.

Wetland 2

Wetland 2 is a 0.009-acre palustrine emergent wetland (PEM) (Cowardin et al. 1979) on the north side of US 231 and west of Parrish Avenue. The quality of the wetland is poor due to disturbance, habitat quality, and vegetation cover. It functions as roadside drainage retention.

Data Point 3 was taken on the north side of US 231, in a ditch line next to the roadway. The dominant vegetation at the data point consisted of reed canary grass (FACW) and Kentucky bluegrass (*Poa pratensis*, FAC). The vegetation satisfied the dominance test and the prevalence

index for hydrophytic vegetation. The soil profile met the hydric soil indicators of Depleted Below Dark Surface (A11), Depleted Matrix (F3), Redox Dark Surface (F6), and Redox Depressions (F8). Two primary indicators of hydrology were present: Surface Water (A1) and Saturation (A3). Three secondary indicators of hydrology were also present: Stunted or Stressed Plants (D1), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 3, this area would likely be considered a wetland.

Data Point 4 was taken north of Data Point 3, on a slope. The dominant vegetation at the data point consisted of reed canary grass (FACW) and Kentucky bluegrass (FAC). The vegetation satisfied the dominance test and the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicator of Depleted Matrix (F3). No primary indicators of hydrology were present. One secondary indicator of hydrology was also present: FAC-Neutral Test (D5). Since only two of the three wetland criteria were met at Data Point 4, this data point was determined to be upland. Data Point 4 helped establish the wetland/upland boundary for Wetland 2.

Wetland 2 is likely jurisdictional due to its connection to RSD3 and UNT to West Creek.

### Wetland 3

Wetland 3 is a 0.01-acre palustrine emergent wetland (PEM) (Cowardin et al. 1979) on the east side of Parrish Avenue and north of US 231, within a ditch line. The quality of the wetland is poor due to habitat quality and vegetation cover. It functions as roadside drainage retention.

Data Point 5 was taken on the east side of Parrish Avenue, north of US 231, in a ditch line next to the roadway. The dominant vegetation at the data point consisted of reed canary grass (FACW), yellow bristle grass (*Setaria pumila*, FAC), and Kentucky blue grass (FAC). The vegetation satisfied the dominance test and the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicators of Depleted Below Dark Surface (A11) and Depleted Matrix (F3). Three primary indicators of hydrology were present: Saturation (A3), Sparsely Vegetated Concave Surface (B8), and Oxidized Rhizospheres on Living Roots (C3). Three secondary indicators of hydrology were also present: Crayfish Burrows (C8), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 5, this area would likely be considered a wetland.

Data Point 6 was taken south of Data Point 5, within the ditch line. Dominant vegetation at this data point consisted of reed canary grass (FACW), yellow bristle grass (FAC), and Kentucky blue grass (FAC). The vegetation satisfied dominance test for hydrophytic vegetation. The soil profile did not meet any hydric soil indicators. One primary indicator of hydrology was present: Sparsely Vegetated Concave Surface (B8). Three secondary indicators of hydrology were present: Crayfish Burrows (C8), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since only two of the three wetland indicators were met, this point was determined to be upland. Data Point 6 helped establish the wetland/upland boundary for Wetland 3.

Wetland 3 is likely jurisdictional due to its connection to RSD4 and UNT to West Creek.

### Wetland 4

Wetland 4 is a 0.09-acre palustrine emergent wetland (PEM) (Cowardin et al. 1979) on the east side of Parrish Avenue and north of US 231, within a ditch line. The quality of the wetland is poor due to habitat quality and vegetation cover. It functions as roadside drainage retention.

Data Point 7 was taken on the east side of Parrish Avenue, north of US 231, in the ditch line out



of the structure inlet which carries UNT to West Creek. The dominant vegetation consisted of hybrid cattail (OBL), Kentucky blue grass (FAC), and yellow bristle grass (FAC). The vegetation satisfied the dominance test and the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicators of Loamy Mucky Mineral (F1) and Redox Dark Surface (F6). Two primary indicators of hydrology were met: Saturation (A3) and Oxidized Rhizospheres on Living Roots (C3). Two secondary indicators of hydrology were met: Geomorphic Position (D2) and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 7, this area would likely be considered a wetland.

Data Point 8 was taken southeast of Data Point 7, on a hillside. Dominant vegetation at this data point was Kentucky blue grass (FAC). The vegetation satisfied the dominance test for hydrophytic vegetation. The soil profile met the hydric soil indicator of Redox Dark Surface (F6). One secondary indicator of hydrology was present: FAC-Neutral Test (D5). Since only two of the three wetland indicators were met, this point was determined to be upland. Data Point 8 helped establish the wetland/upland boundary for Wetland 4.

Data Point 9 was taken on the east side of Parrish Avenue and north of US 231, in the ditch line north of US 231 that drains to UNT to West Creek. Data Point 9 was taken to determine the eastern extent of Wetland 4. Dominant vegetation at this data point was Kentucky blue grass (FAC). The vegetation satisfied the dominance test and prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicators of Depleted Below Dark Surface (A11), Loamy Mucky Mineral (F1), and Depleted Matrix (F3). One primary indicator of hydrology was observed: Saturation (A3). Three secondary indicators of hydrology were observed: Crayfish Burrows (C8), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 9, this area would likely be considered a wetland.

Data Point 10 was taken northwest of Data Point 9, on a slope. Data Point 10 was taken to determine the wetland/upland boundary and extent of Wetland 4. Dominant vegetation at this data point was Kentucky blue grass (FAC). The vegetation passed the dominance test and the prevalence index for hydrophytic vegetation. The soil profile did not meet a hydric soil indicator. No primary or secondary indicators of hydrology were met. Since only one of the three wetland criteria were met at Data Point 10, this point was determined to be upland. Data Point 10 helped establish the wetland/upland boundary for Wetland 4.

Wetland 4 is likely jurisdictional due to its connection to UNT to West Creek.

#### Wetland 5

Wetland 5 is a 0.24-acre palustrine emergent wetland (PEM) (Cowardin et al. 1979) on the south side of US 231 and east of Parrish Avenue, within a ditch line. The quality of the wetland is poor due to habitat quality and vegetation cover. It functions as roadside drainage retention.

Data Point 11 was taken on the south side of US 231 and east of Parrish Avenue, in a ditch line. The dominant vegetation consisted of common reed (FACW) and reed canary grass (FACW). The vegetation satisfied the rapid test, the dominance test, and the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicator of Redox Depressions (F8). Three primary indicators of hydrology were observed: High Water Table (A2), Saturation (A3), Water Marks (B1), and Sparsely Vegetated Concave Surface (B8). Four secondary indicators of hydrology were observed: Crayfish Burrows (C8), Stunted or Stressed Plants (D1), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 11, this area would likely be considered a wetland.

Data Point 12 was taken south of Data Point 11, on a terrace. The dominant vegetation consisted of reed canary grass (FACW) and common reed (FACW). The vegetation satisfied the rapid test and the dominance test for hydrophytic vegetation. The soil profile did not meet a hydric soil indicator. No primary indicators of hydrology were observed. One secondary indicator of hydrology was observed: FAC-Neutral Test (D5). Since only one of the three wetland criteria were met at Data Point 12, this point was determined to be upland. Data Point 12 helped establish the wetland/upland boundary for Wetland 5.

Data Point 15 was taken on the south side of US 231 and east of Parrish Avenue, in a flood fallow agricultural land. The dominant vegetation consisted of reed canary grass (FACW). The vegetation satisfied the rapid test, the dominance test, and the prevalence index for hydrophytic vegetation. The soil profile did not meet a hydric soil indicator but was considered to be a problematic hydric soil since it is a previously tilled agricultural field and wetland. Two primary indicators of hydrology were observed: Surface Water (A1) and Saturation (A3). One secondary indicator of hydrology was observed: FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 15, this area would likely be considered a wetland. This data point was used to verify the continuation of Wetland 5 into the previously tilled agricultural field.

Data Point 16 was taken northwest of Data Point 15, on a terrace. The dominant vegetation consisted of annual fleabane (*Erigeron annuus*, FACU), and reed canary grass (FACW). The vegetation did not meet the criteria for hydrophytic vegetation. The soil did not meet a hydric soil indicator. No primary or secondary indicators of hydrology were observed. Since none of the three wetland criteria were met at Data Point 16, this point was determined to be upland. Data Point 16 helped establish the wetland/upland boundary for Wetland 5.

Wetland 5 drains north via a culvert under US 231 into Wetland 4, which is connected to UNT to West Creek. Wetland 5 is likely jurisdictional due to its connection to UNT to West Creek.

#### Wetland 6

Wetland 6 is a 0.08-acre palustrine emergent wetland (PEM) (Cowardin et al. 1979) on the east side of Parrish Avenue and south of US 231, within a ditch line. The quality of the wetland is poor due to habitat quality and vegetation cover. It functions as roadside drainage retention.

Data Point 13 was taken on the east side of Parrish Avenue and south of US 231, in a ditch line. The dominant vegetation consisted of common reed (FACW), hybrid cattail (OBL), and summer grape (*Vitis aestivalis*, FACU). The vegetation satisfied the dominance test and the prevalence index for hydrophytic vegetation. The soil profile met the hydric soil indicator of Depleted Matrix (F3). Two primary indicators of hydrology were met: Saturation (A3) and Oxidized Rhizospheres on Living Roots (C3). Three secondary indicators of hydrology were met: Crayfish Burrows (C8), Geomorphic Position (D2), and FAC-Neutral Test (D5). Since all three wetland criteria were met at Data Point 13, this area would likely be considered a wetland.

Data Point 14 was taken east of Data Point 13, on a terrace. The dominant vegetation consisted of Kentucky blue grass (FAC) and hybrid cattail (OBL). The vegetation passed the dominance test for hydrophytic vegetation. The soil profile did not meet a hydric soil indicator. One secondary indicator of hydrology was met: FAC-Neutral Test (D5). Since only one of the three wetland criteria were met at Data Point 14, this data point was determined to be upland. Data Point 14 helped establish the wetland/upland boundary for Wetland 6.

Wetland 6 is not jurisdictional because it lacks a connection to UNT to West Creek, a ditch, or Wetland 5.

**Table 4 - Wetland Summary Table**

ID	Coordinates		Classification	Relative Quality	Estimated Amount of Aquatic Resources in Review Area (acres)	Photo Numbers	Likely Water of the U.S.?
	Latitude	Longitude					
Wetland 1	41.421134	-87.451671	PEM	Poor	0.001	7-10, 13, 14	No*
Wetland 2	41.421132	-87.450798	PEM	Poor	0.009	16-20, 23, 24, 26-29	Yes
Wetland 3	41.422112	-87.450459	PEM	Poor	0.01	39-45	Yes
Wetland 4	41.421622	-87.450469	PEM	Poor	0.09	52-56, 58-67, 70, 71, 73	Yes
Wetland 5	41.420972	-87.450268	PEM	Poor	0.24	83-87, 90-98, 122, 124, 126-133, 138-140	Yes
Wetland 6	41.420275	-87.450502	PEM	Poor	0.08	99, 101-105, 107-109, 117, 118, 123, 144	No*

\* INDOT is requesting that USACE take jurisdiction of this wetland.

**Table 5 - Wetland Data Point Summary Table**

Data Point	Latitude	Longitude	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within Wetland
1	41.421134	-87.451671	Yes	Yes	Yes	Yes
2	41.421149	-87.451669	Yes	Yes	No	No
3	41.421132	-87.450798	Yes	Yes	Yes	Yes
4	41.421138	-87.450787	Yes	Yes	No	No
5	41.422112	-87.450459	Yes	Yes	Yes	Yes
6	41.422068	-87.450462	Yes	No	Yes	No



Data Point	Latitude	Longitude	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within Wetland
7	41.421622	-87.450469	Yes	Yes	Yes	Yes
8	41.421617	-87.450459	Yes	Yes	No	No
9	41.421165	-87.449854	Yes	Yes	Yes	Yes
10	41.421177	-87.44988	Yes	No	No	No
11	41.420972	-87.450268	Yes	Yes	Yes	Yes
12	41.420962	-87.450268	Yes	No	No	No
13	41.420275	-87.450502	Yes	Yes	Yes	Yes
14	41.420278	-87.450470	Yes	No	No	No
15	41.420847	-87.449855	Yes	Yes	Yes	Yes
16	41.420878	-87.449898	No	No	No	No

**Roadside Ditch:**

Six roadside ditches (RSDs) were located within the investigated area. Table 6 summarizes the RSDs found in the investigated area. The RSDs did not have a defined OHWM, they were determined to be excavated wholly in and draining only uplands and did not carry a relatively permanent flow of water. RSDs 1-6 are likely not jurisdictional. The location of the RSDs is shown in Figure 8.

**Table 6 – Roadside Ditches Summary Table**

ID	Latitude	Longitude	Location	Description	Length (ft)
RSD1	41.421011	-87.452956	Drains from east to west along the south side of US 231, west of Parrish Avenue	Concrete ditch	236
RSD2	41.421125	-87.452910	Drains from east to west along the north side of US 231, west of Parrish Avenue	Concrete, gravel, dirt, and vegetation bottom ditch	274
RSD3	41.421128	-87.450968	Drains from west to north along the north side of US 231 and the west side of Parrish Avenue	Vegetation and dirt bottom ditch	562

ID	Latitude	Longitude	Location	Description	Length (ft)
RSD4	41.421107	-87.448806	Drains from east to west along the north side of US 231, east of Parrish Avenue	Vegetation and dirt bottom ditch	611
RSD5	41.420968	-87.448893	Drains from east to west along the south side of US 231, east of Parrish Avenue	Vegetation and dirt bottom ditch	810
RSD6	41.420084	-87.450505	Drains from south to north along the east side of Parrish Avenue, south of US 231	Vegetation and dirt bottom ditch	39

#### 4.0 CONCLUSIONS

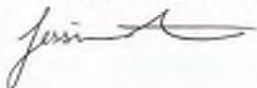
Field observations revealed one likely intermittent jurisdictional stream (UNT to West Creek) and four likely jurisdictional emergent wetlands (Wetlands 2-5) that have the potential to be impacted by the proposed project. INDOT is requesting that USACE take jurisdiction of Wetland 1 and Wetland 6. Every effort should be taken to avoid and minimize impacts to wetlands and waterways. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by the USACE.

#### 5.0 ACKNOWLEDGEMENT

This waters determination report has been prepared based on the best available information, interpreted in the light of the investigator's training, experience, and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.

Respectfully,

**Kaskaskia Engineering Group, LLC**



Jessica Stern

Date: 05/21/2024



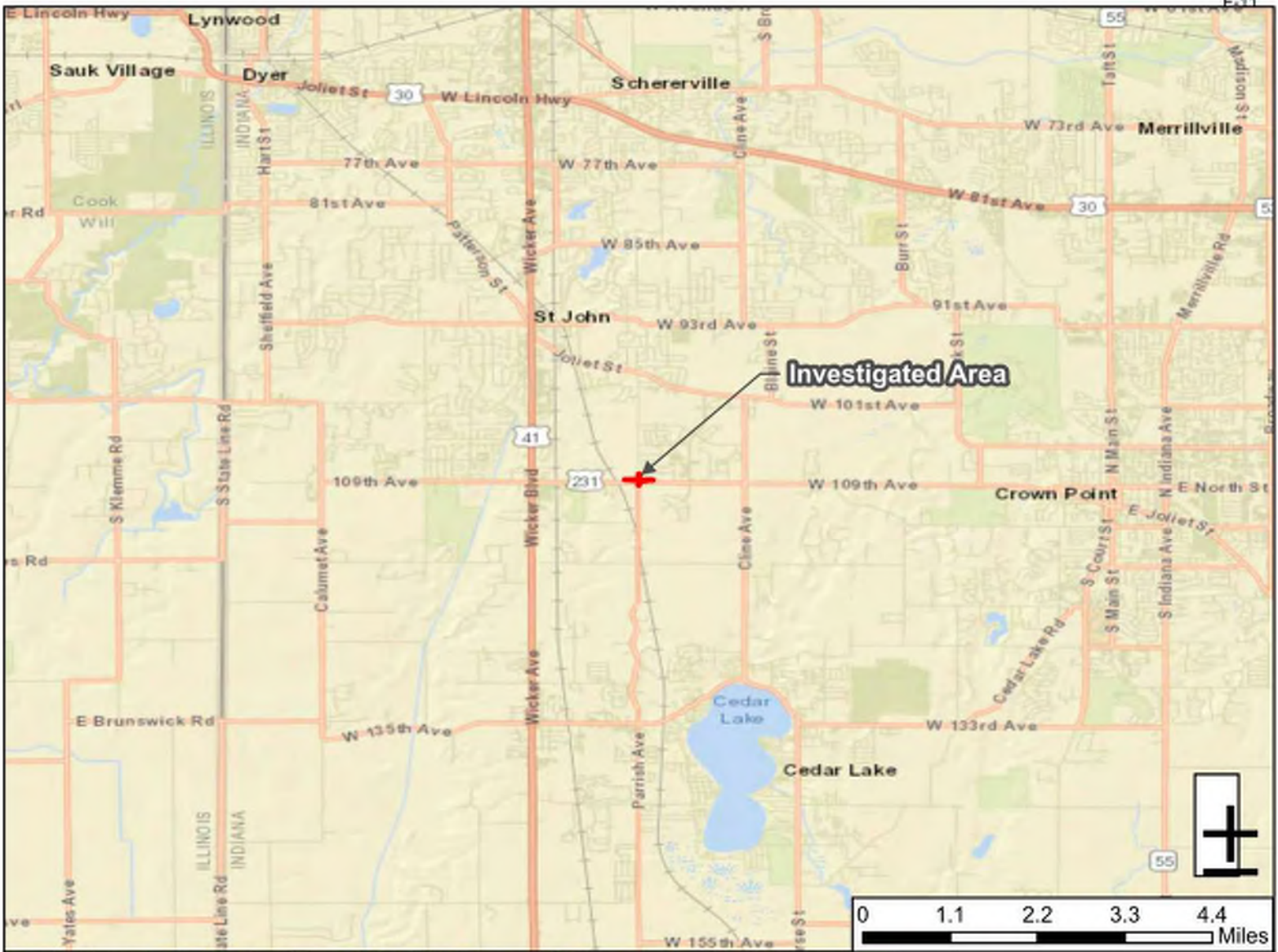



Figure 1  
 Site Location Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

 Investigated Area





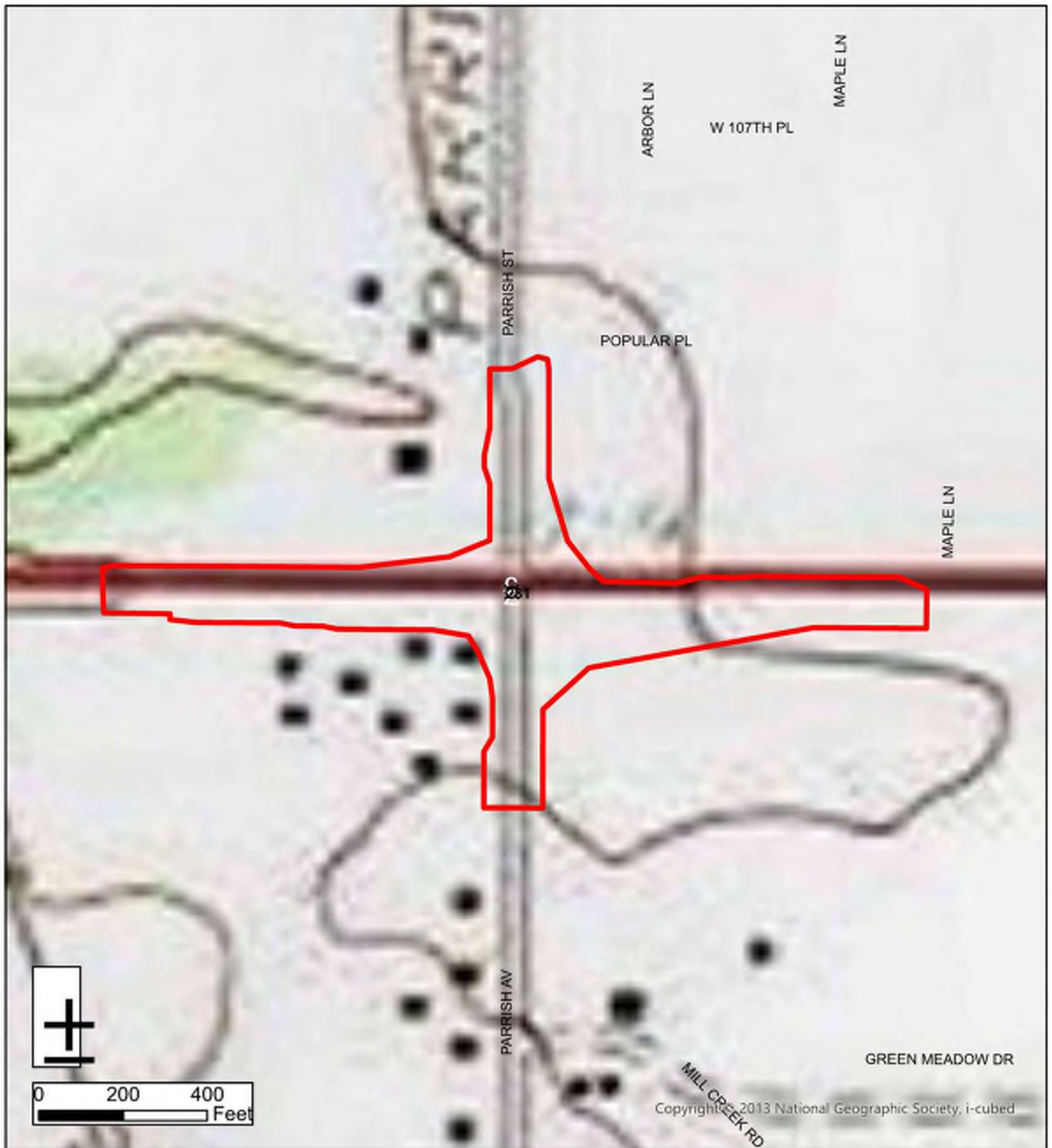


Figure 2  
USGS Topographic Saint John Quadrangle  
Large Scale Map  
US 231 and Parrish Ave  
Intersection Improvement  
Lake County, Indiana  
Des. No. 1702994

 Investigated Area



Created 12/19/2023



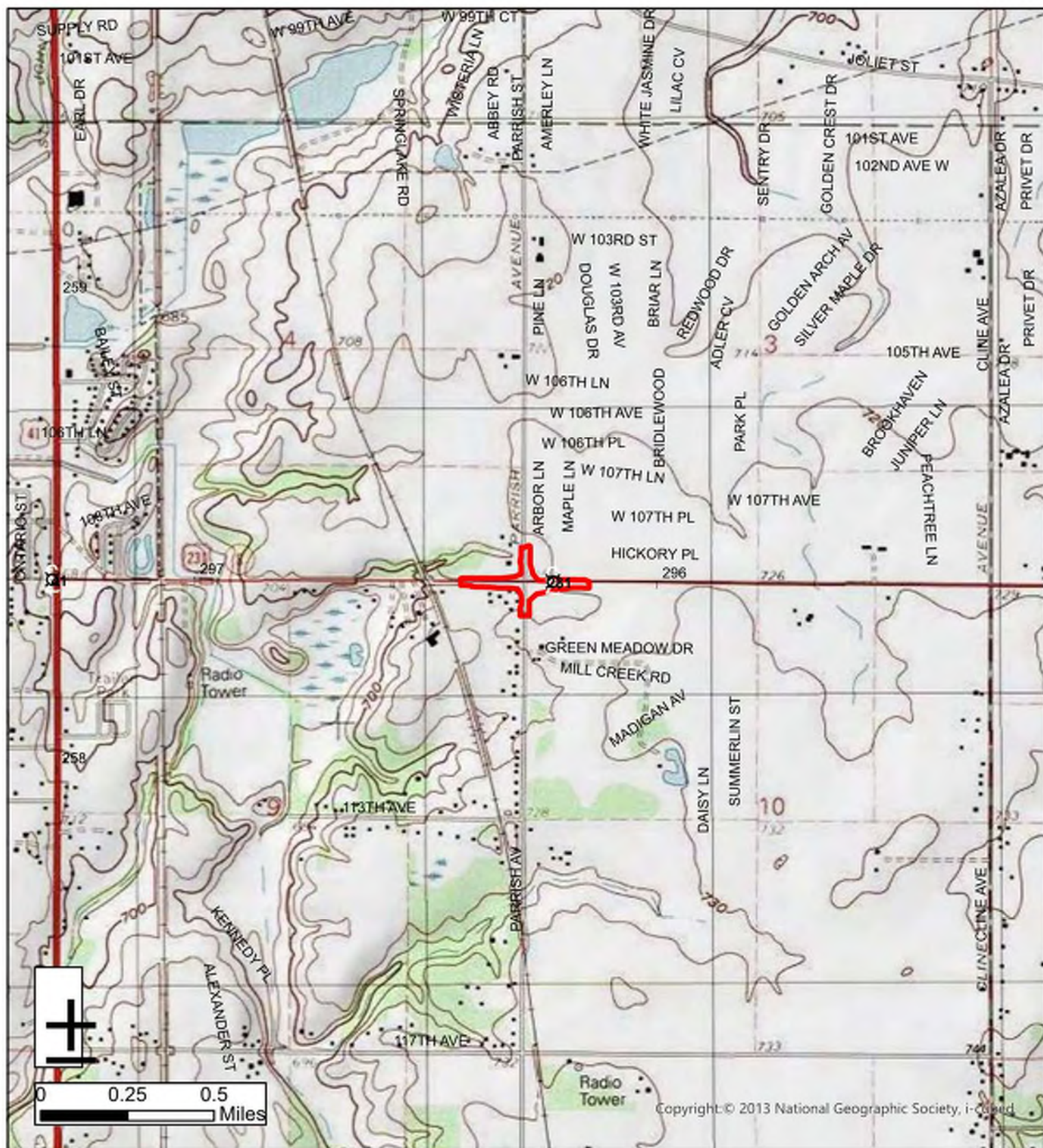


Figure 3  
 USGS Topographic Saint John Quadrangle  
 Small Scale Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

 Investigated Area





Created 12/19/2023





Figure 4  
 USFWS National Wetland Inventory Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

-  NWI Wetland
-  Investigated Area



Source: USFWS NWI Wetlands 2022

Created 12/19/2023



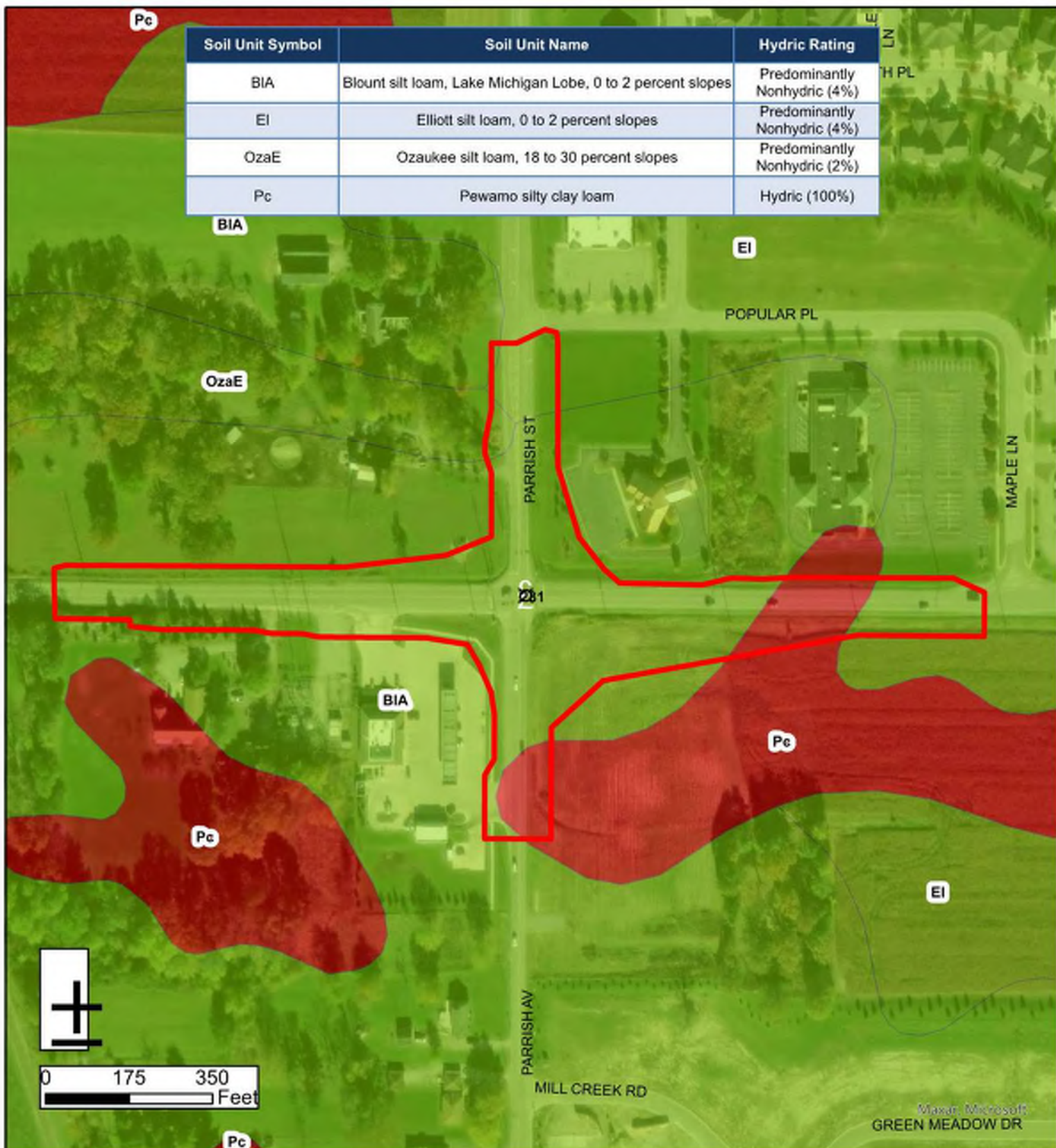


Figure 5  
 USDA NRCS Soil Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

- Non Hydric
- Predominantly Nonhydic
- Partially Hydric
- Predominantly Hydric
- Hydric
- Investigated Area

Source: USDA NRCS 2022



Created 12/19/2023



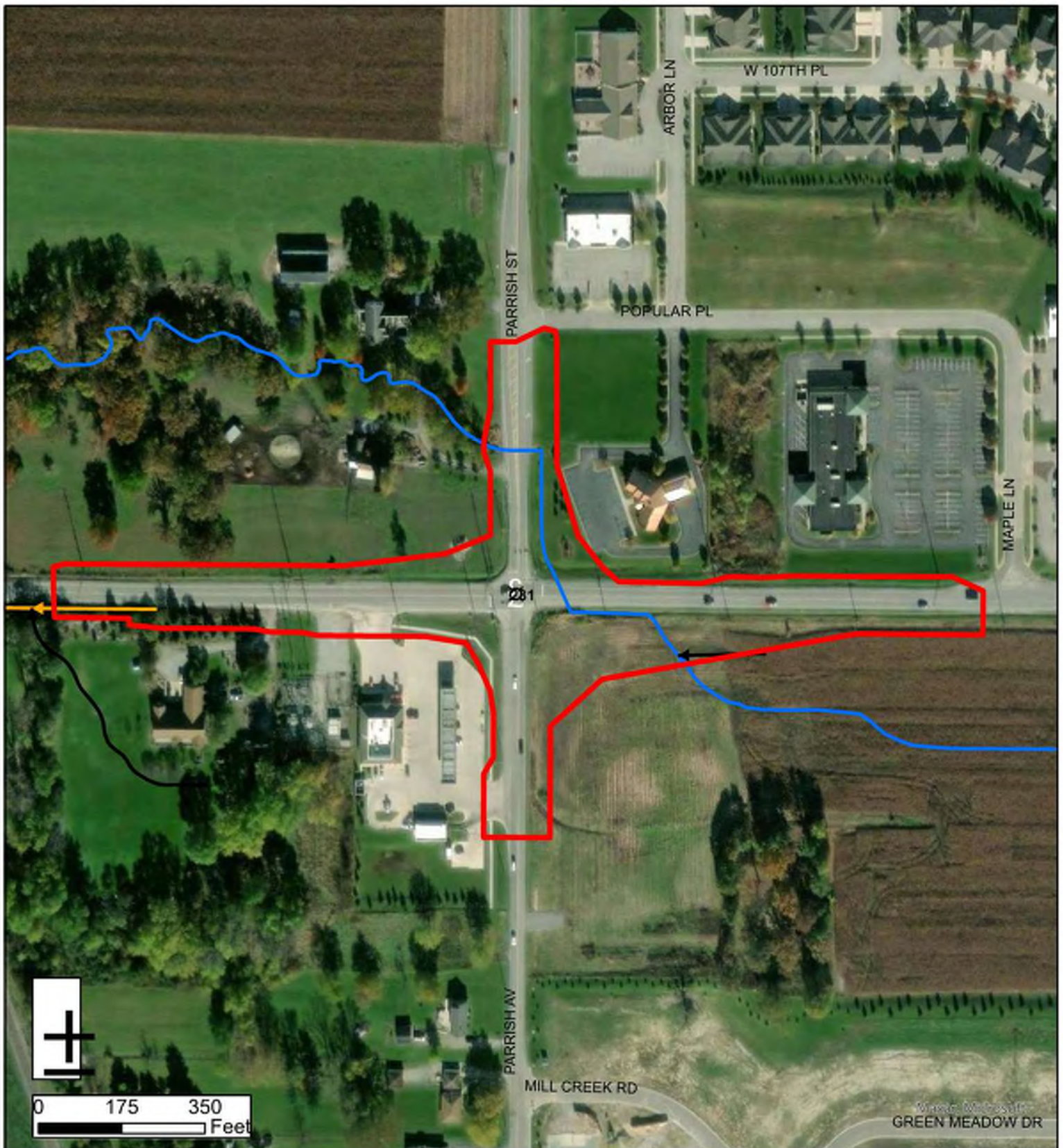






Figure 6  
 USGS National Hydrography Data Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

-  Canal/Ditch
-  Stream/River
-  Drainageway
-  Investigated Area

Source: USGS NHD 2022



Created 12/19/2023



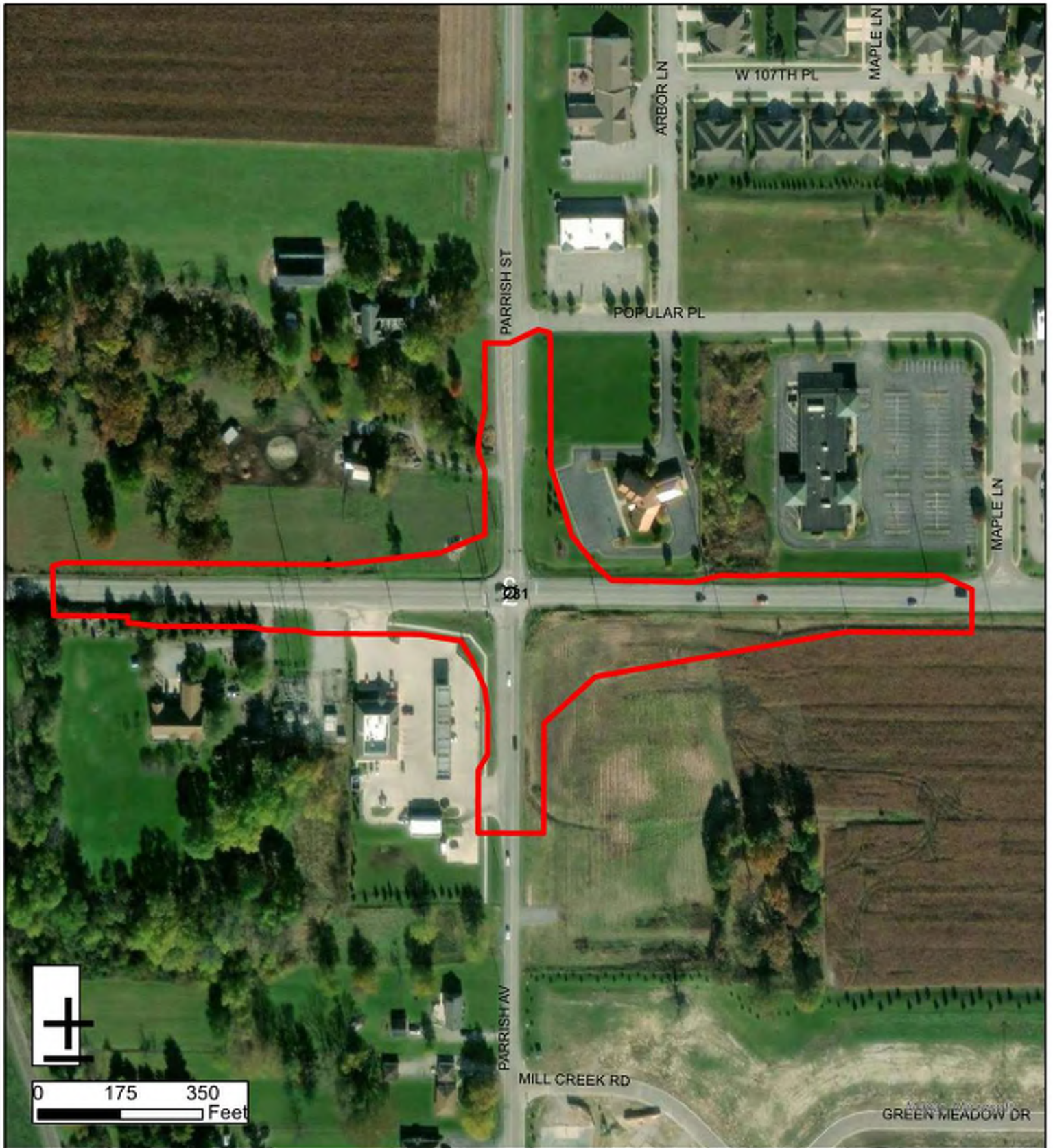




Figure 7  
 IDNR Best Available Floodplain Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

 IDNR Best Available Floodplain  
 Investigated Area



Source: IDNR 2022

Created 12/19/2023



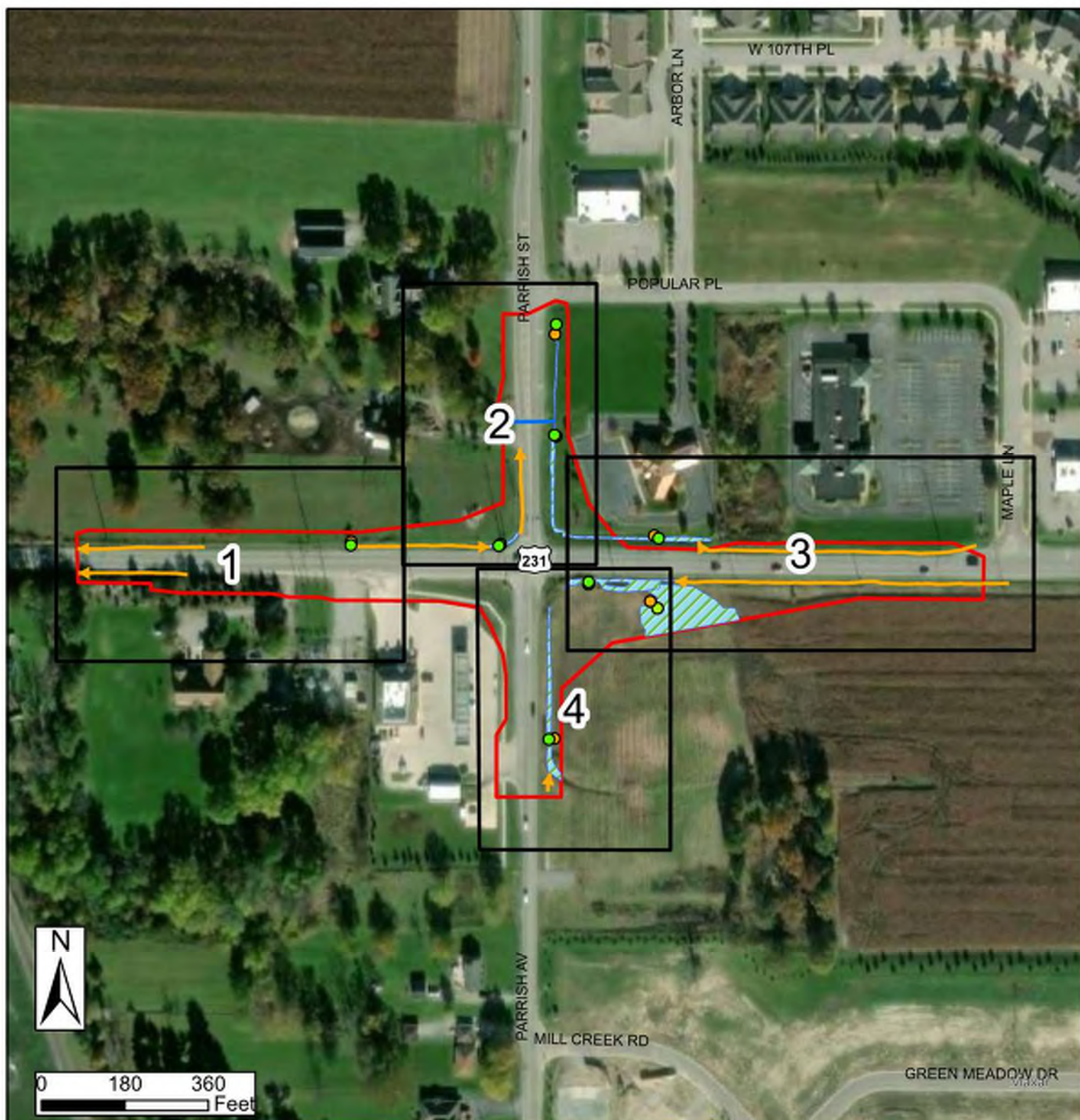


Figure 8  
Overall Water Resources Map  
US 231 and Parrish Ave  
Intersection Improvement  
Lake County, Indiana  
Des. No. 1702994

-  Stream Data Point
-  Upland Data Point
-  Wetland Data Point
-  Stream
-  Roadside Ditch
-  Wetlands
-  Investigated Area





Figure 8  
Water Resources Map  
US 231 and Parrish Ave  
Intersection Improvement  
Lake County, Indiana  
Des. No. 1702994

-  Stream Data Point
-  Upland Data Point
-  Wetland Data Point
-  Stream
-  Roadside Ditch
-  Wetlands
-  Investigated Area



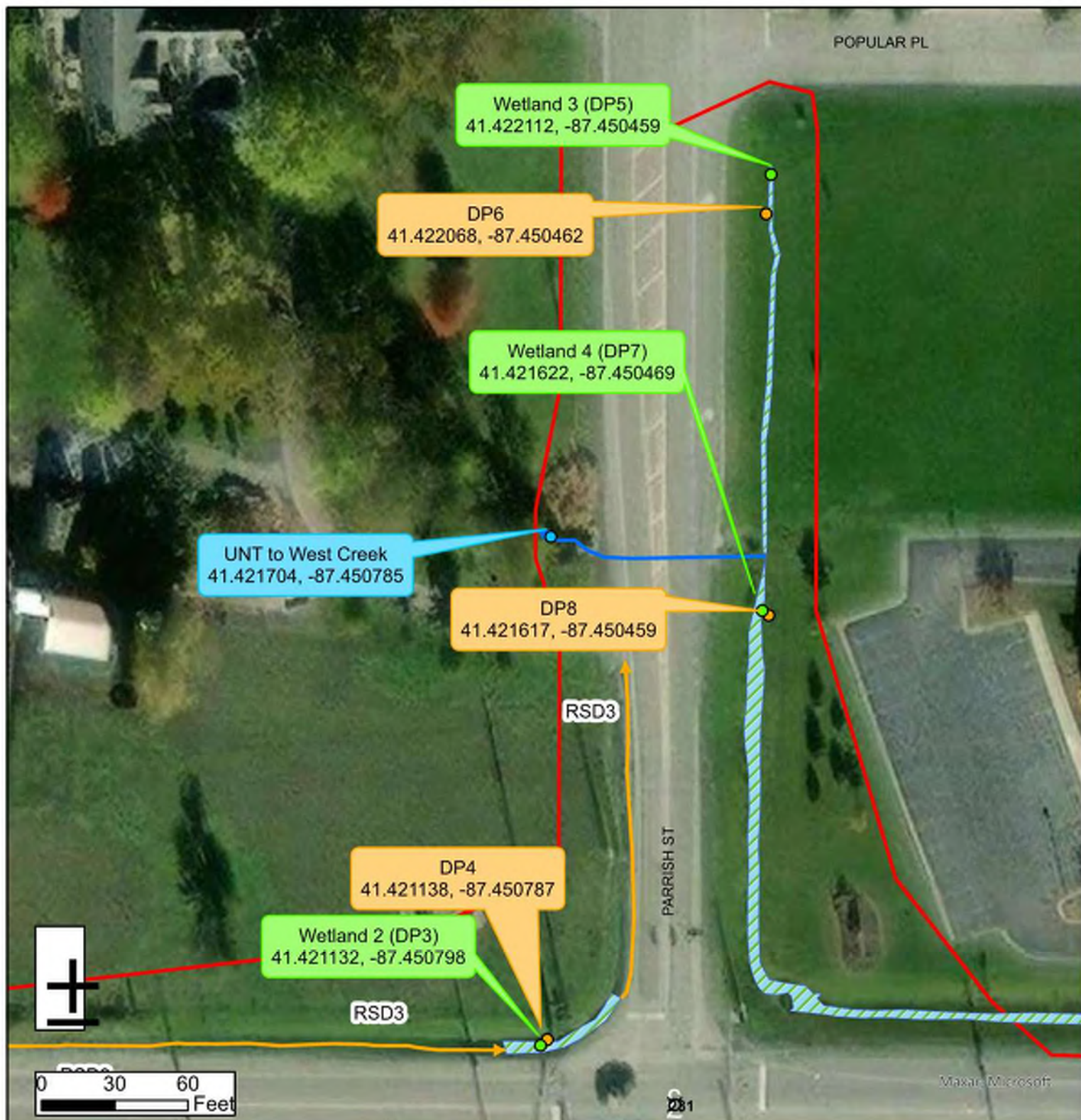


Figure 8  
Water Resources Map  
US 231 and Parrish Ave  
Intersection Improvement  
Lake County, Indiana  
Des. No. 1702994

- Stream Data Point
- Upland Data Point
- Wetland Data Point
- Stream
- Roadside Ditch
- Wetlands
- Investigated Area



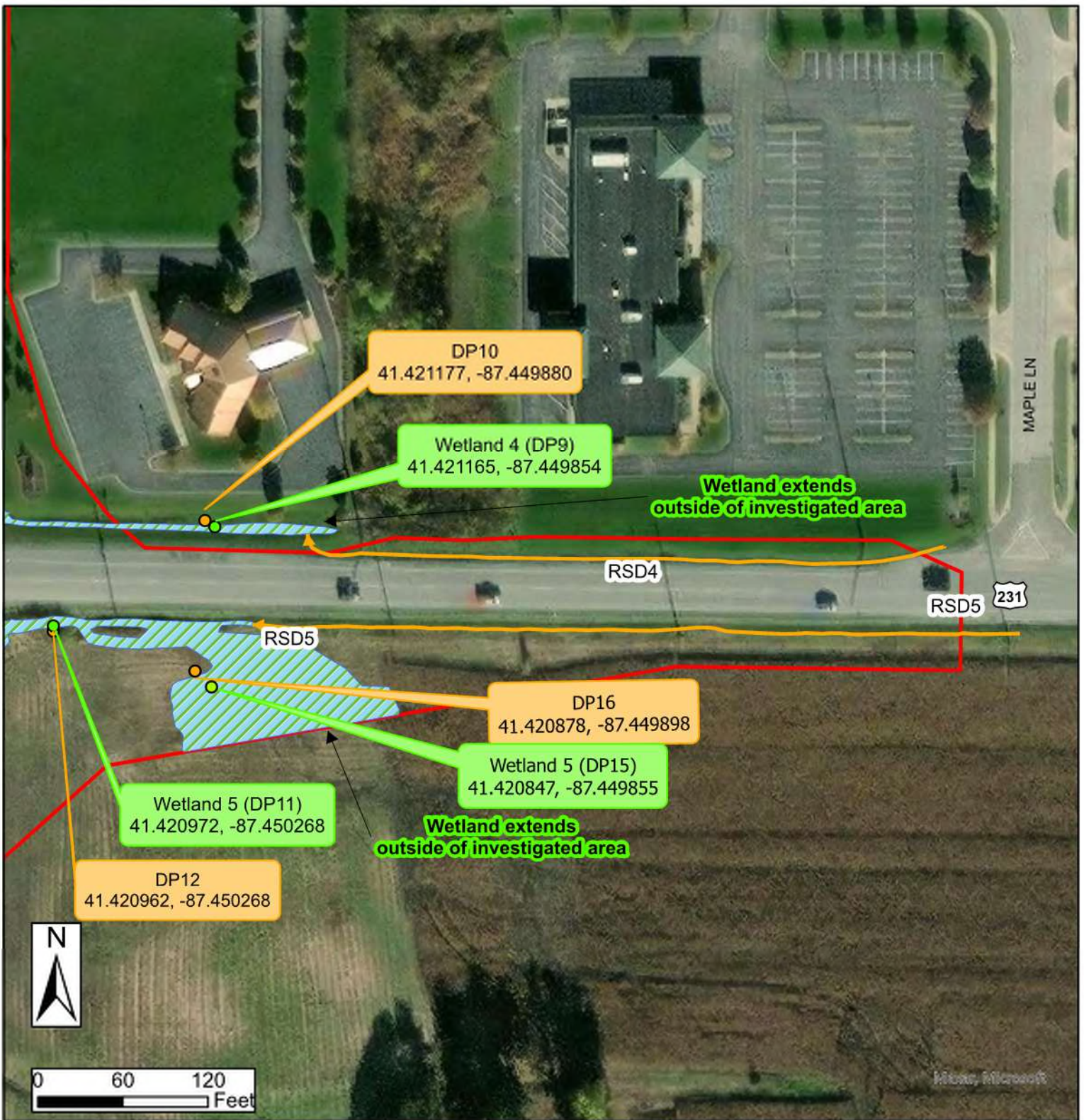


Figure 8  
 Water Resources Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

- Stream Data Point
- Upland Data Point
- Wetland Data Point
- Stream
- Roadside Ditch
- Wetlands
- Investigated Area





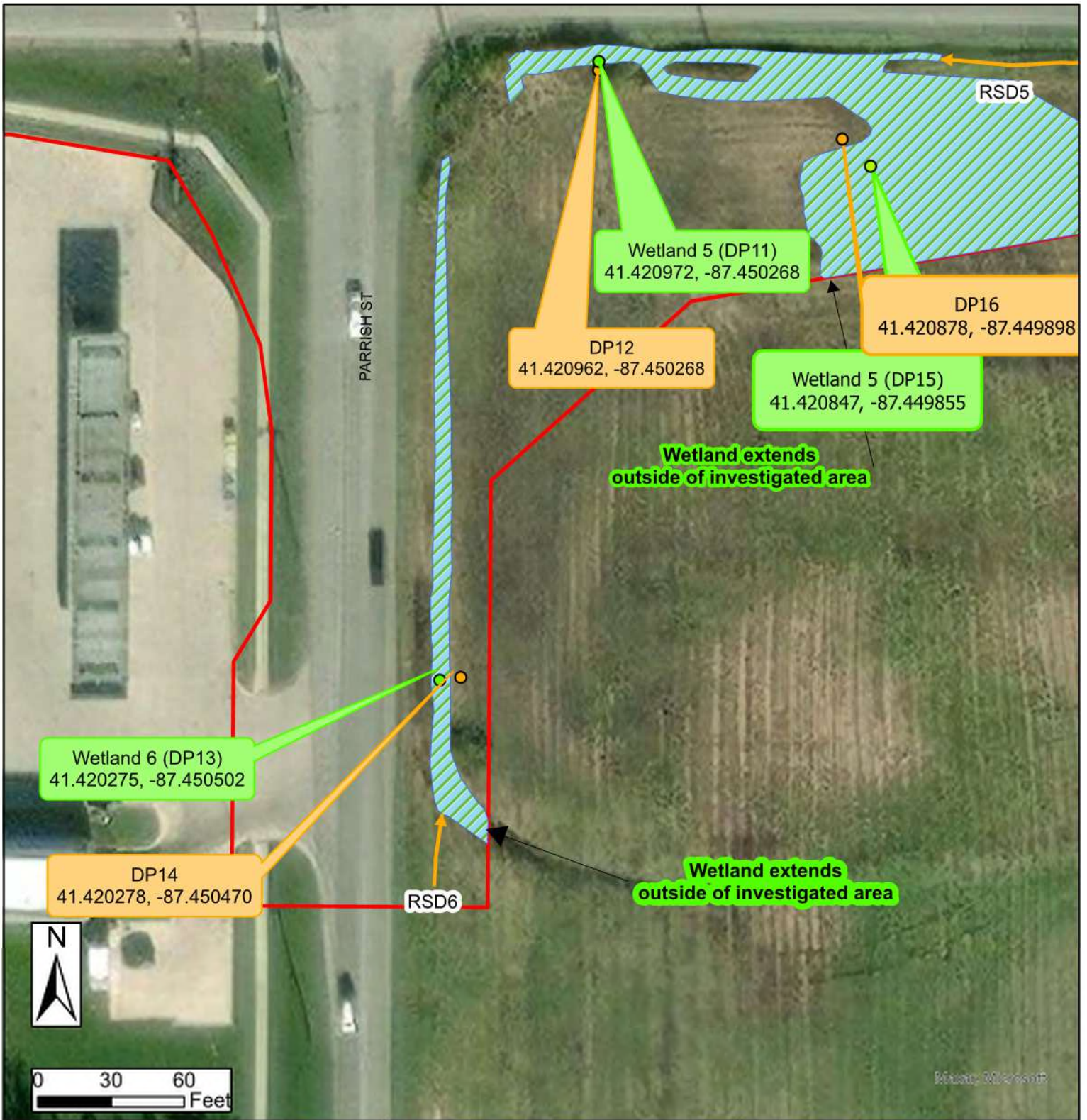


Figure 8  
 Water Resources Map  
 US 231 and Parrish Ave  
 Intersection Improvement  
 Lake County, Indiana  
 Des. No. 1702994

- Stream Data Point
- Upland Data Point
- Wetland Data Point
- Stream
- Roadside Ditch
- Wetlands
- Investigated Area



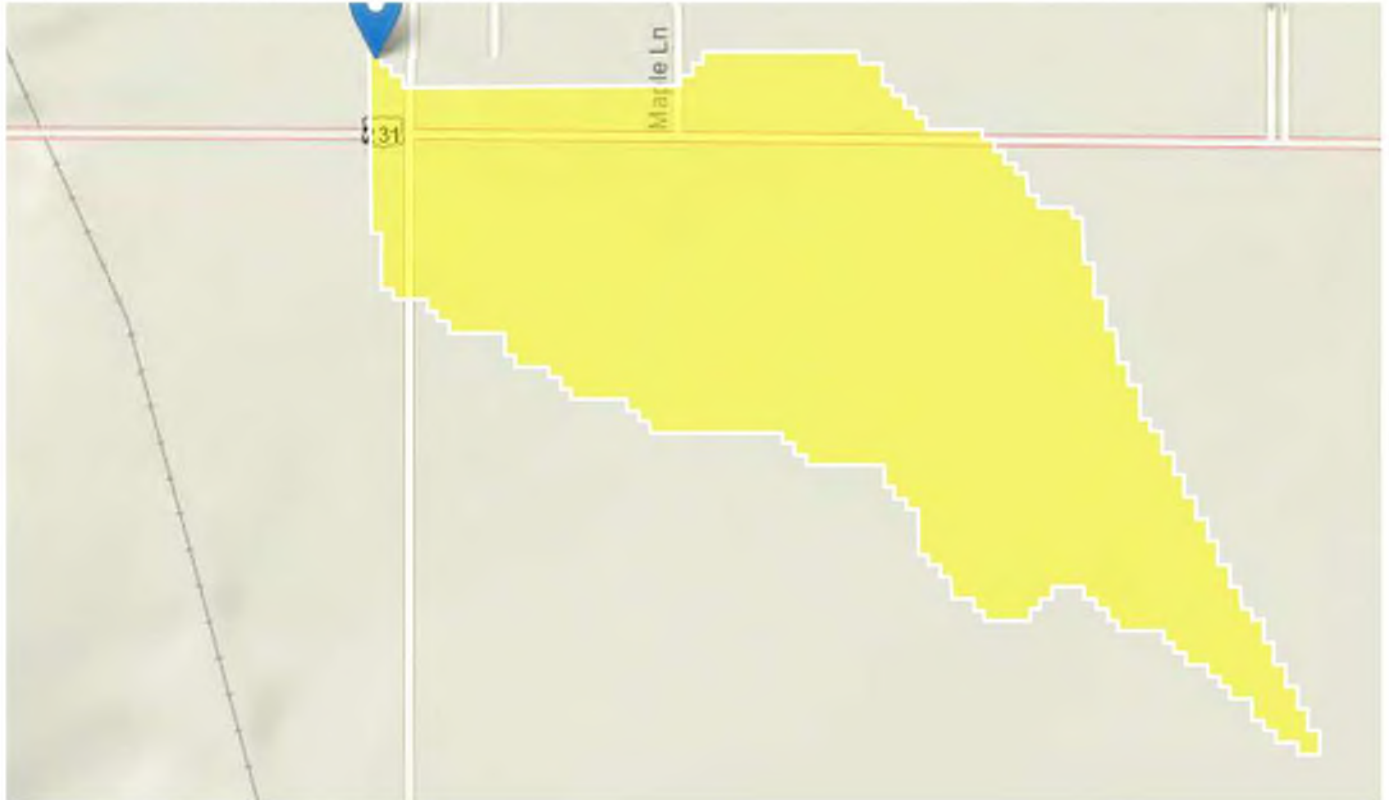
# StreamStats Report

**Region ID:** IN

**Workspace ID:** IN20221221192806702000

**Clicked Point (Latitude, Longitude):** 41.42170, -87.45096

**Time:** 2022-12-21 13:28:28 -0600



**+** Collapse All

## ➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CONTDA	Area that contributes flow to a point on a stream	0.089	square miles
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	28.7	feet per mi
DRNAREA	Area that drains to a point on a stream	0.089	square miles
HIGHREG	HIGHREG	1009	dimensionless





- Point of Interest
  - Base Flood Elevation Point
- FLD\_ZONE, SOURCE\_DNR,  
ZONE\_SUBTY
- FEMA Zone AE
  - Additional Floodplain Area; DNR  
.2 Percent Flood Hazard
  - Not Mapped

Long: -87.45059296217217

Lat: 41.4211116966675

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

County: **Lake**

Stream Name:

**West Creek Tributary Wj**

Approximate Ground Elevation: **717.4 feet (NAVD88)**

Base Flood Elevation: **680.6 Feet (NAVD88)**

Drainage Area: **Not Available**

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

National Flood Hazard Zone: **Not Mapped**

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

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

Floodplain Administrator: **Ned Kovachevich, Executive Director, Lake County Plan Commission**

Community Jurisdiction: **Lake County, County proper**

Phone: **(219) 755-3700**

Email: **kovacnx@lakecountyin.org**

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

Date Generated: 11/2/2023



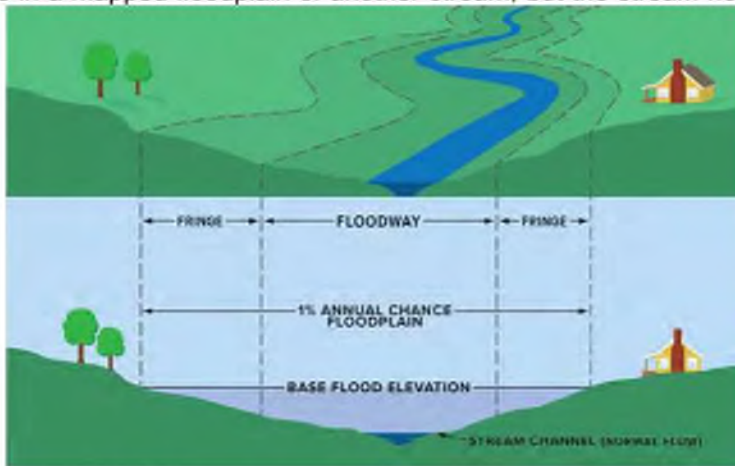
## About the Floodplain Analysis and Regulatory Assessment (FARA):

All streams have a floodplain, whether mapped or not. This FARA, and the information provided herein, is designed for sites along streams with a mapped floodplain that delineates the floodway portion of the floodplain; see the image below for a visual guide to the floodplain, floodway, and flood fringe. The information in this document was determined using an automated mapping tool. The DNR has high confidence in the tool, but there are scenarios where the floodplain information provided requires additional review from the DNR.

All streams in DNR jurisdiction (streams that have a drainage area one square mile or greater) are shown by a blue line on the map on page 1. However, a floodplain/floodway may or may not be mapped for every stream. In any of the following scenarios, or if you have more detailed floodplain information, use the link at the bottom of this page to request a staff review of the site. Please note that staff review may take several weeks to complete.

Scenarios that require additional DNR review:

- The base flood elevation on page 1 is not available
- The tool selects the nearest flood elevation point for a stream outside the floodplain associated with the point of interest
- There is not a delineated floodway for the stream nearest your point of interest
- The point of interest is along a stream without a mapped floodplain
- The point of interest is in a mapped floodplain of another stream, but the stream nearest the point of interest does not



If DNR review is required, do not use this FARA for your site's determination.

If you have questions about DNR permitting requirements, you can contact DNR, Division of Water toll-free at 1-877-928-3755 and select option 1 to speak to a Technical Services staff member. You can also write to the division at [water\\_inquiry@dnr.IN.gov](mailto:water_inquiry@dnr.IN.gov) or use the Indiana Waterways Inquiry Request tool at [waterways.IN.gov](http://waterways.IN.gov) to submit a permitting determination request to both DNR and the Indiana Department of Environmental Management at once.

We recommend keeping a copy of this FARA for your records as the DNR will not have a copy on file.

LINK:

[https://survey123.arcgis.com/share/3293526dfdca453e95c19b08fb7bdcfb?FIELD%3ALAT1=41.4211116966675&FIELD%3ALON1=-87.45059296217217&FIELD%3ADNR\\_PERMIT=See+following+pages&FIELD%3ALOCAL\\_PERMIT=Cont&FIELD%3ASTREAM=WEST+CREEK+TRIBUTARY+WJ&FIELD%3AINIT\\_DATE=11%2F02%2F2023&FIELD%3ABFE=680.6](https://survey123.arcgis.com/share/3293526dfdca453e95c19b08fb7bdcfb?FIELD%3ALAT1=41.4211116966675&FIELD%3ALON1=-87.45059296217217&FIELD%3ADNR_PERMIT=See+following+pages&FIELD%3ALOCAL_PERMIT=Cont&FIELD%3ASTREAM=WEST+CREEK+TRIBUTARY+WJ&FIELD%3AINIT_DATE=11%2F02%2F2023&FIELD%3ABFE=680.6)

If the link above does not work, copy and paste the blue text into a web browser to open the survey you will fill out and submit. If this does not work then send a copy of this FARA to [infipinquiry@dnr.IN.gov](mailto:infipinquiry@dnr.IN.gov) and describe the reason you are requesting a staff review. Include your name and contact information so that staff can follow-up with you.

**Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM****BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR PJD:** 04/30/2024**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Jessica Stern, 301 North Neil Street, Suite 400, Champaign, IL, 61820**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:****D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

The proposed state project (Des. No. 1702994) is located on US 231 and Parrish Avenue, 0.85 miles south (east) of US 41 to 1.20 miles south (east) of US 41 in the Indiana Department of Transportation (INDOT) LaPorte District. The location is in Lake County, Hanover Township, Saint John Quadrangle (Figure 1). The proposed project is to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additional work will include drainage improvements with the installation of curb turnouts, new drainage structures, ditch grading, and pipe replacements. The pipe replacements include replacing the existing 15-inch corrugated pipe in the southeast quadrant with a 24-inch pipe; replacing the existing 18-inch concrete pipe in the northeast quadrant with a 36-inch pipe; and, replacing the 18-inch concrete pipe under the north leg of the intersection, Parrish Avenue, with a 36-inch pipe.

**(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**State: **IN** County/parish/borough: **Lake** City: **Hanover Township**

Center coordinates of site (lat/long in degree decimal format):

Lat.: **41.421111** Long.: **-87.450556**Universal Transverse Mercator: **16**Name of nearest waterbody: **N/A****E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):** Office (Desk) Determination. Date: 5/19/2023 Field Determination. Date(s): 6/2022; 4/27/2023; 4/10/2024



**Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM****BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR PJD:** 05/21/2024**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Jessica Stern, 301 North Neil Street, Suite 400, Champaign, IL, 61820**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:****D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

The proposed state project (Des. No. 1702994) is located on US 231 and Parrish Avenue, 0.85 miles south (east) of US 41 to 1.20 miles south (east) of US 41 in the Indiana Department of Transportation (INDOT) LaPorte District. The location is in Lake County, Hanover Township, Saint John Quadrangle (Figure 1). The proposed project is to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additional work will include drainage improvements with the installation of curb turnouts, new drainage structures, ditch grading, and pipe replacements. The pipe replacements include replacing the existing 15-inch corrugated pipe in the southeast quadrant with a 24-inch pipe; replacing the existing 18-inch concrete pipe in the northeast quadrant with a 36-inch pipe; and, replacing the 18-inch concrete pipe under the north leg of the intersection, Parrish Avenue, with a 36-inch pipe.

**(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**State: **IN** County/parish/borough: **Lake** City: **Hanover Township**

Center coordinates of site (lat/long in degree decimal format):

Lat.: **41.421111** Long.: **-87.450556**Universal Transverse Mercator: **16**Name of nearest waterbody: **N/A****E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):** Office (Desk) Determination. Date: 5/19/2023 Field Determination. Date(s): 6/2022; 4/27/2023; 4/10/2024

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e. non wetland vs. non- wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e. Section 404 or Section 10/404)
UNT to West Creek	41.421704	-87.450785	128.7 lf / 0.01 ac	non-wetland	Section 404
Wetland 1	41.421134	-87.451671	0.001 ac.	wetland	Section 404
Wetland 2	41.421132	-87.450798	0.009 ac.	wetland	Section 404
Wetland 3	41.422112	-87.450459	0.01 ac.	wetland	Section 404
Wetland 4	41.421622	-87.450469	0.09 ac.	wetland	Section 404
Wetland 5	41.420972	-87.450268	0.24 ac.	wetland	Section 404
Wetland 6	41.420275	-87.450502	0.08 ac.	wetland	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:



**SUPPORTING DATA. Data reviewed for PJD (check all that apply)**

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:  
Map: Figures 1-8
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report. Rationale: \_\_\_\_\_
- Data sheets prepared by the Corps: \_\_\_\_\_
- Corps navigable waters' study: \_\_\_\_\_
- U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: \_\_\_\_\_
- Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey, 2023
- National wetlands inventory map(s). Cite name: USFWS NWI Online Mapper, 2023
- State/local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: INDR Best Available, 2023
- 100-year Floodplain Elevation is: \_\_\_\_\_.(National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Indiana, Best Available  
or  Other (Name & Date): \_\_\_\_\_
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

\_\_\_\_\_  
Signature and date of  
Regulatory staff member  
completing PJD

**Jessica Stern** Digitally signed by Jessica Stern  
Date: 2024.05.21 23:34:57 -05'00'  
\_\_\_\_\_  
Signature and date of  
person requesting PJD  
(REQUIRED, unless obtaining  
the signature is impracticable)<sup>1</sup>

<sup>1</sup> Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

**APPENDIX G**

Public Involvement



Certified MBE, State of Indiana; City of Indianapolis

INDOT Certified DBE

Job #21SU065

**NOTICE OF SURVEY**

October 25, 2021

RE: PROJECT: U.S. 231 & Parrish Avenue  
Road Improvement Project  
St. John, Indiana

Dear Property Owner:

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

At this stage we generally do not know what effect, if any, our project may eventually have on your property. If we determine later your property is involved, we will contact you with additional information.

The survey work will include mapping the location of features such as buildings, trees, fences, and drives, and obtaining ground elevations. This work is necessary for the proper planning and design of the Road Improvement Project. Please be assured of our sincere desire to cause you as little inconvenience as possible during the survey. If any problems do occur, please contact our field crew or contact me at the phone number or address shown below.

We do appreciate your input regarding any issues that this project may encounter during the design phase. Included with this notice is a short questionnaire that you can fill out and return to us in the enclosed self-addressed stamped envelope. Thank you, in advance, for your participation in this process.

Sincerely,

SJCA Inc.

*Corey A. Chenault*

Corey A. Chenault  
Survey Crew Coordinator  
[CChenault@SJCAinc.com](mailto:CChenault@SJCAinc.com)



## **APPENDIX H**

Air Quality



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758-Executive Office  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

August 28, 2023

Mr. Jermaine R. Hannon, Division Administrator  
FHWA Indiana Division  
575 North Pennsylvania St., Room 254  
Indianapolis, IN 46204

Ms. Kelley Brookins, Regional Administrator  
FTA Region 5  
200 West Adams St.  
Suite 320  
Chicago, IL 60606-5253

Dear Mr. Hannon /Ms. Brookins:

The Indiana Department of Transportation is pleased to submit its FY 2024-2028 Statewide Transportation Improvement Program (STIP) for review and approval by your offices.

Included in the final submitted document is a listing of the state's expansion/preservation and local small urban and rural and rural transit projects. The following Metropolitan Planning Organization TIPs will be included in the FY 2024-2028 STIP by reference.

Area Plan Commission of Tippecanoe County (APCTC)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="https://www.tippecanoe.in.gov/DocumentCenter/View/40728/FY-2024-2028-TIP-including-0-amendments">https://www.tippecanoe.in.gov/DocumentCenter/View/40728/FY-2024-2028-TIP-including-0-amendments</a></li> </ul>	
Bloomington-Monroe County Metropolitan Planning Organization (BMCMPPO)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="https://bloomington.in.gov/sites/default/files/2023-08/BMCMPPO%20FY%202024%20-%202028%20TIP%20-%20006-30-23%20-%20ADOPTED%20FINAL.pdf">https://bloomington.in.gov/sites/default/files/2023-08/BMCMPPO%20FY%202024%20-%202028%20TIP%20-%20006-30-23%20-%20ADOPTED%20FINAL.pdf</a></li> </ul>	
Columbus Area Metropolitan Planning Organization (CAMPO)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="https://www.columbus.in.gov/planning/tip/">https://www.columbus.in.gov/planning/tip/</a></li> </ul>	
Delaware-Muncie Metropolitan Plan Commission (DMMPC)	FY 2022-2025
<ul style="list-style-type: none"> <li>• <i>Including Amendments/modifications through 2/14/23</i></li> <li>• <a href="https://www.co.delaware.in.us/egov/documents/1692987897_47263.pdf">https://www.co.delaware.in.us/egov/documents/1692987897_47263.pdf</a></li> </ul>	
Evansville Metropolitan Planning Organization (EMPO)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="http://www.evansvillempo.com/Docs/TIP/TIP_2024-2028/TIP_2024-2028.pdf">http://www.evansvillempo.com/Docs/TIP/TIP_2024-2028/TIP_2024-2028.pdf</a></li> </ul>	
Kokomo-Howard County Governmental Coordinating Council (KHCGCC)	FY 2022-2026
<ul style="list-style-type: none"> <li>• <i>Including Amendments/modification through 7/28/23</i></li> <li>• <a href="https://www.kokomompo.com/project/tip-2020-2024/">https://www.kokomompo.com/project/tip-2020-2024/</a></li> </ul>	

[www.in.gov/dot/](http://www.in.gov/dot/)  
An Equal Opportunity Employer



Kentuckiana Regional Planning and Development Agency (KIPDA)	FY 2023-2026
<ul style="list-style-type: none"> <li>• <a href="https://www.kipda.org/wp-content/uploads/2023/05/FY2023-TIP-FINAL-5-25.pdf">https://www.kipda.org/wp-content/uploads/2023/05/FY2023-TIP-FINAL-5-25.pdf</a></li> </ul>	
Indianapolis Metropolitan Planning Organization (IMPO)	FY 2024-2027
<ul style="list-style-type: none"> <li>• <a href="https://www.indympo.org/whats-underway/irtip">https://www.indympo.org/whats-underway/irtip</a></li> </ul>	
Michiana Area Council of Governments (MACOG)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="http://www.macog.com/docs/transportation/tip/approved/fy2028tip_projects.pdf">http://www.macog.com/docs/transportation/tip/approved/fy2028tip_projects.pdf</a></li> </ul>	
Madison County Council of Governments (MCCOG)	FY 2022-2026
<ul style="list-style-type: none"> <li>• <i>Including Amendments/modifications through 7/28/23</i></li> <li>• <a href="https://irp.cdn-website.com/65a760a0/files/uploaded/TIP%202022-2026%20-%20updated%205-1-23.pdf">https://irp.cdn-website.com/65a760a0/files/uploaded/TIP%202022-2026%20-%20updated%205-1-23.pdf</a></li> </ul>	
Northeastern Indiana Regional Coordinating Council (NIRCC)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="https://www.nircc.com/uploads/1/2/9/8/129837621/final_2024-2028_tip_5-25-23.pdf">https://www.nircc.com/uploads/1/2/9/8/129837621/final_2024-2028_tip_5-25-23.pdf</a></li> </ul>	
Northwestern Indiana Regional Planning Commission (NIRPC)	FY 2022-2026
<ul style="list-style-type: none"> <li>• <i>Including Amendments/modifications through 7/25/23</i></li> <li>• <a href="https://nirpc.org/2040-plan/mobility/transportation-improvement-program/">https://nirpc.org/2040-plan/mobility/transportation-improvement-program/</a></li> </ul>	
Ohio-Kentucky-Indiana Regional Council of Governments (OKI)	FY 2024-2027
<ul style="list-style-type: none"> <li>• <a href="https://www.oki.org/transportation-planning/transportation-improvement-program-tip/">https://www.oki.org/transportation-planning/transportation-improvement-program-tip/</a></li> </ul>	
Terre Haute Area Metropolitan Planning Organization (THAMPO)	FY 2024-2028
<ul style="list-style-type: none"> <li>• <a href="https://www.terrehaitempo.com/images/THAMPO_2024_2028_AdoptionTIP.pdf">https://www.terrehaitempo.com/images/THAMPO_2024_2028_AdoptionTIP.pdf</a></li> </ul>	

In addition, INDOT has expanded our public involvement process by taking advantage of virtual meeting techniques and allowing accessibility to online documents, materials, virtual meeting registration, recorded virtual meetings, and comment forms. INDOT also leveraged our planning partner contacts (MPOs, RPOs, LTAP), social media, and notifications sent to local libraries, housing authorities, senior aging centers, and local newspapers across the state.

We greatly appreciate FHWA/FTA support in the development of the STIP 2024-2028 and look forward to working together to achieve our mutual goals. Should you have any questions pertaining to this amendment, please contact April Leckie, STIP Administration at 317-232-5466 or at [aleckie@indot.in.gov](mailto:aleckie@indot.in.gov).

Sincerely,



Michael Smith, Commissioner  
Indiana Department of Transportation

cc: (w/enclosure): Angelica Salgado, FTA  
Cecilia Crenshaw, FTA  
Erica Tait, FHWA  
Lyndsay Quist, INDOT  
Kristin Brier, INDOT  
Kathy Eaton-McKalip, INDOT  
Louis Feagans, INDOT

April Leckie, INDOT  
Roy Nunnally, INDOT  
Larry Buckel, INDOT  
Jay Mitchell, INDOT  
Jason Casteel, INDOT  
Michael McNeil, INDOT



**Federal Transit  
Administration**  
Region V  
200 West Adams St., Suite 320  
Chicago, IL 60606-5253



**U.S. Department  
of Transportation**

**Federal Highway Administration**  
Indiana Division  
575 N. Pennsylvania St., Rm 254  
Indianapolis, IN 46204-1576

September 1, 2023

Mr. Michael Smith  
Commissioner  
Indiana Department of Transportation  
100 N Senate Ave. N955  
Indianapolis, IN 46204

**SUBJECT: Indiana FY2024-2028 STIP Approval and Associated Federal Planning Finding**

Dear Mr. Smith:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the FY2024-2028 Indiana Statewide Transportation Improvement Program (INSTIP), which was submitted by the Indiana Department of Transportation (INDOT) request letter dated August 23, 2023.

Based on our review of the information provided, certifications of the Statewide and Metropolitan transportation planning processes for and within the state of Indiana, and our participation in those transportation planning processes (including planning certification reviews conducted in Transportation Management Areas), FHWA and FTA are jointly approving the FY2024-2028 STIP, including the Metropolitan Planning Organization (MPO) Transportation Improvement Programs (TIPs) incorporated into the STIP by reference, subject to the corrective actions identified in the attached Federal Planning Finding (FPF) report. FHWA and FTA consider the projects in the 5<sup>th</sup> year for informational purposes only, and our approval does not exceed four years per 23 CFR 450.220(c).

FHWA and FTA are required under 23 CFR 450.220(b) to document and issue an FPF in conjunction with the approval of the FY2024-2028 STIP. At a minimum, the FPF verifies that the development of the STIP is consistent with the provisions of both the Statewide and Metropolitan transportation planning requirements. FHWA and FTA find that the Indiana FY2024-2028 STIP substantially meets the transportation planning requirements and are approving the STIP subject to the corrective actions outlined in the FPF. This approval is effective September 1, 2023 and is given with the understanding that an eligibility determination of individual projects for funding must be met, and INDOT must ensure the satisfaction of all administrative and statutory requirements, as well as address the corrective actions outlined in the attached report.

If you have questions or need additional information concerning our approval and the FPF, please contact Ms. Erica Tait of the FHWA Indiana Division at (317) 226-7481, or by email at [erica.tait@dot.gov](mailto:erica.tait@dot.gov), or Mr. Tony Greep of the FTA Region 5 Office at (312) 353-1646, or by email at [anthony.greep@dot.gov](mailto:anthony.greep@dot.gov).

Sincerely,

**KELLEY  
BROOKINS** Digitally signed by  
KELLEY BROOKINS  
Date: 2023.08.31  
17:33:15 -05'00'

Kelley Brookins  
Regional Administrator  
FTA Region V

Sincerely,

**JERMAINE  
R HANNON** Digitally signed by  
JERMAINE R HANNON  
Date: 2023.09.01  
11:46:31 -04'00'

Jermaine R. Hannon  
Division Administrator  
FHWA Indiana Division

Indiana Department of Transportation (INDOT)

State Privatization and Local Invested Projects FY 2024 - 2028

SPONSOR	COVER ACT # / LEAD	SIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project	PROGRAM	PHASE	FEDERAL	MATCH	2024	2025	2026	2027	2028	
Comments moved from Item FY 2019 FY 24																		
INDOT M&D 22-20																		
ACC Example																		
City	42164 / 1802915	M 21	91 1000	Signal Rehabilitation (Signal Bandwidth)	Jefferson	3	NIHPP	\$896,000.00	Local Funds	CN	\$0.00	\$0.00	\$0.00	\$0.00				
									Northwest Indiana MPO	CN	\$0.00	\$0.00	\$0.00	\$0.00				

Location: Airport Road Phase IV Street Enhancement

Comments: No funding change, change in title to reflect actual scope of project. Original title Road Frontage Airport Road Phase IV

INDOT M&D 22-49

ACC Example

City	41777 / 1907148	M 02	57 1308	Intersection Improvement Roundabout	Jefferson	0	STBG	\$2,145,409.00	Northwest Indiana MPO	CN	\$1,469,199.00	\$0.00		\$1,469,199.00				
									Local Funds	CN	\$0.00	\$367,300.00		\$367,300.00				

Performance Measure Investigated: Safety

Location: Roundabout at the intersection of US 231 and 113th.

Comments: Move from Item FY 2019 FY 24 to INDOT Admin Mail 20-83 dated Friday Oct 6, 2023. Manual CULDESSA of delay with sec 106, New TP

ACC Example

City	41777 / 1907148	M 08	57 1308	Intersection Improvement Roundabout	Jefferson	0	STBG	\$2,295,409.00	Northwest Indiana MPO	CN	\$496,999.00	\$0.00	(\$972,500.00)	\$1,469,199.00				
									Local Funds	CN	\$0.00	\$174,500.00	(\$192,500.00)	\$367,000.00				

Performance Measure Investigated: Safety

Location: Roundabout at the intersection of US 231 and 113th.

Comments: Move CN from FY 24 to FY 25 and increased. INDOT Manual. INDOT modification 22-05 approved on 10/9/23. ACC Example

ACC Example

Indiana Department of Transportation	41994 / 2001994	M 37	128 12	INDOT Overlay. Preventive Maintenance	Jefferson	2	833 STBG	\$10,115,711.00	Road Consulting	PE	\$567,056.00	\$141,764.00	\$709,820.00					
--------------------------------------	-----------------	------	--------	---------------------------------------	-----------	---	----------	-----------------	-----------------	----	--------------	--------------	--------------	--	--	--	--	--

Performance Measure Investigated: Safety

Location: US 231 @ France, 0.65mi S (east of US241 to 120th S (east of US241

INDOT M&D 22-17

ACC Example

Indiana Department of Transportation	42088 / 1102994	M 37	128 251	Intersection Improvement Roundabout	Jefferson	0	NIHPP	\$4,409,711.00	Safety Construction	CN	-\$104,000.00	-\$28,000.00		(\$190,000.00)				
									Safety Consulting	PE	\$64,000.00	\$16,000.00	\$80,000.00					

Performance Measure Investigated: Safety

Location: US 231 @ France, 0.65mi S (east of US241 to 120th S (east of US241

Comments: Added FY24 PE 500,000 Safety Funds (1057) and Move CN from FY25 to FY26, no amount added to 26 as it is illustrative for NIHPP.

INDOT M&D 22-17

ACC Example

Indiana Department of Transportation	42088 / 1102994	M 37	128 251	Intersection Improvement Roundabout	Jefferson	0	NIHPP	\$4,409,711.00	Safety Construction	CN	-\$104,000.00	-\$28,000.00		(\$190,000.00)				
									Safety Consulting	PE	\$64,000.00	\$16,000.00	\$80,000.00					

\*Estimated Costs list is Computer Project volumes is for cases that may not be included beyond the five years of a STIP. This volume is not strictly constrained and is for information purposes.



Northwestern Indiana Regional Planning Commission 2022-2026 Transportation Improvement Program

Tip ID	Work Type	Project Title	Lead Agency	FED Fund Type	FED	STATE	LOC	PE	RW	CN	CE	Funding In Prior Years	2022	2023	2024	2025	2026	Total Project Costs	Air Quality Exempt
1901869	Intersect. Improv. W/ Leaded Burn Lanes	Intersect. Improvement with median U-Turn Lane in County	INDOT	State Non-Intermodal	\$1,048,000	\$62,000	\$0	\$260,000	\$0	\$1,050,000	\$0	\$160,000	\$50,000	\$1,100,000	\$0	\$0	\$0	\$1,310,000	Yes
2000052	Intersect. or Intersect. Groups	Intersect. Improvement Project in LaSalle County	INDOT	State Intermodal	\$1,755,000	\$195,000	\$0	\$150,000	\$0	\$1,800,000	\$0	\$0	\$150,000	\$120,000	\$0	\$1,680,000	\$0	\$1,950,000	Yes
1100294	Intersect. or Intersect. Groups	Dist. Intersect. Improvement Project in LaSalle County	INDOT	State Non-Intermodal	\$2,900,298	\$340,000	\$0	\$340,000	\$80,000	\$2,820,298	\$0	\$0	\$340,000	\$530,000	\$0	\$2,370,298	\$0	\$3,240,298	Yes
1380919	Intersect. or Intersect. Groups	Intersect. Improvement, Roundabout at SR 55 in Marshall	INDOT	State Funds	\$0	\$3,058,486	\$0	\$290,000	\$500,000	\$2,268,486	\$0	\$620,000	\$2,138,486	\$0	\$0	\$0	\$0	\$3,058,486	No
1100249	Intersect. or Intersect. Groups	Intersect. Improvement, Roundabout in Marshall	INDOT	State Non-Intermodal	\$1,055,040	\$323,760	\$0	\$164,800	\$20,000	\$1,194,000	\$0	\$164,800	\$40,000	\$1,174,000	\$0	\$0	\$0	\$1,378,800	Yes
1100122	Intersect. or Intersect. Groups	Intersect. Improvement Project, Lane County	INDOT	State Funds	\$0	\$2,511,899	\$0	\$0	\$54,000	\$2,457,899	\$0	\$74,000	\$2,437,899	\$0	\$0	\$0	\$0	\$2,511,899	No
1000994	Intersect. or Intersect. Groups	Intersect. Improvement, Roundabout in Howard	INDOT	State Funds	\$0	\$1,658,058	\$0	\$0	\$0	\$1,658,058	\$0	\$0	\$1,658,058	\$0	\$0	\$0	\$0	\$1,658,058	No
1901861	ITS Devices Maintenance Contracts	ITS Maintenance Contract	INDOT	State Funds	\$0	\$1,846,515	\$0	\$0	\$0	\$1,846,515	\$0	\$0	\$1,846,515	\$0	\$0	\$0	\$0	\$1,846,515	Yes
1901865	ITS Traffic Management Systems	ITS Maintenance	INDOT	State Intermodal	\$270,000	\$30,000	\$0	\$0	\$0	\$300,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$300,000	Yes
1901861	ITS Traffic Management Systems	ITS Maintenance	INDOT	State Funds	\$0	\$200,000	\$0	\$0	\$0	\$200,000	\$0	\$0	\$0	\$200,000	\$0	\$0	\$0	\$200,000	Yes
2002912	ITS Traffic Management Systems	Traffic Management System Project	INDOT	State Funds	\$0	\$1,180,000	\$0	\$0	\$0	\$1,180,000	\$0	\$0	\$1,180,000	\$0	\$0	\$0	\$0	\$1,180,000	Yes
1901865	ITS Traffic Management Systems	ITS services associated with maintenance	INDOT	State Funds	\$0	\$600,000	\$0	\$0	\$0	\$600,000	\$0	\$0	\$600,000	\$0	\$0	\$0	\$0	\$600,000	Yes
1901843	ITS Traffic Management Systems	ITS Traffic Management	INDOT	State Intermodal	\$32,000,000	\$3,000,000	\$0	\$5,000,000	\$0	\$30,000,000	\$0	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$35,000,000	No
1901843	ITS Traffic Management Systems	ITS Traffic Management	INDOT	State Intermodal	\$32,000,000	\$3,000,000	\$0	\$5,000,000	\$0	\$30,000,000	\$0	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$35,000,000	No
1901843	ITS Traffic Management Systems	ITS Traffic Management	INDOT	State Funds	\$0	\$1,693,847	\$5,166,435	\$1,030,282	\$0	\$5,830,000	\$0	\$1,030,282	\$0	\$0	\$0	\$0	\$0	\$6,860,282	Yes

## **APPENDIX I**

Additional Information

# Engineering Assessment Report

U.S. 231 and Parrish Avenue  
Intersection Improvement Project  
St John, Indiana

Des. No. 1702994  
Indiana Department of Transportation

February 18, 2022



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**List of Abbreviations/Acronyms**

HCS	Highway Capacity Software
ICC	Crash Cost
ICF	Crash Frequency
INDOT	Indiana Department of Transportation
LOS	Level of Service
ROW	right-of-way

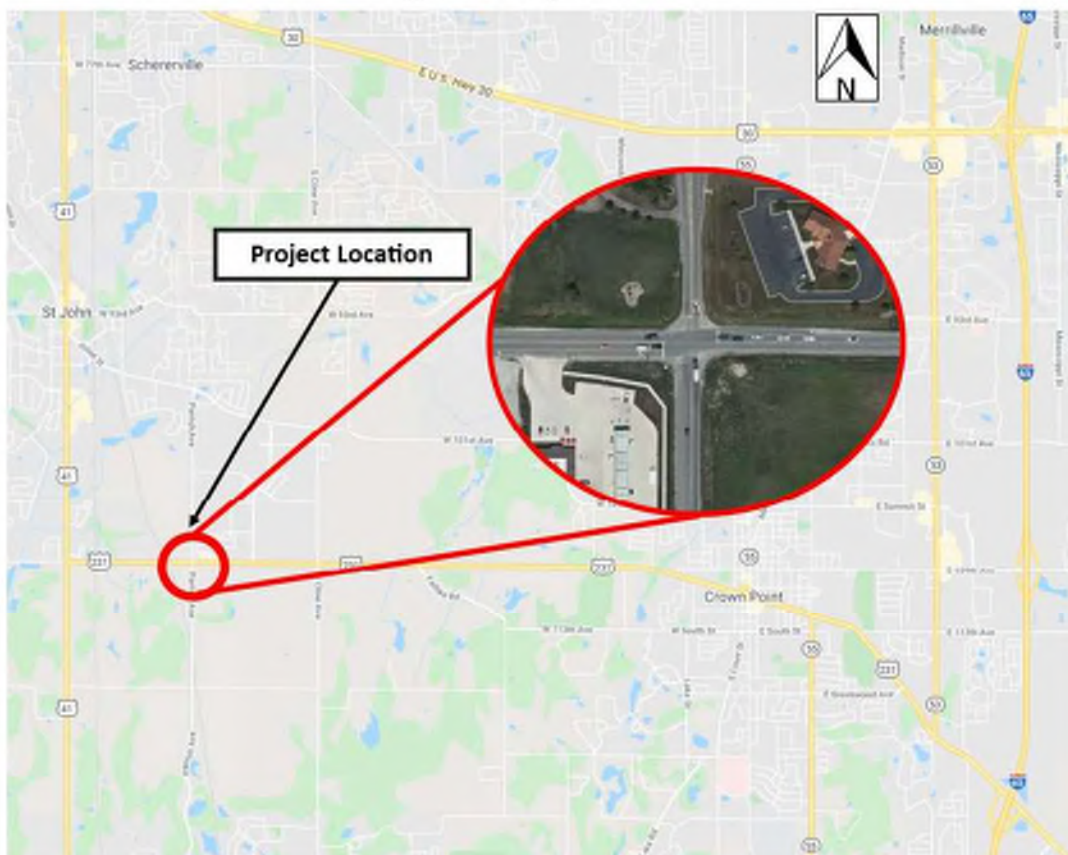
## 1.0 Purpose of Report

The purpose of this report is to document the engineering assessment phase of project development, including all coordination that has been completed in preparation for this intersection improvement project. This document outlines the proposal and is intended to serve as a guide for subsequent survey, design, environmental, right-of-way (ROW), and other project activities leading to construction. The preferred alternative identified in this document is considered predecisional, pending the outcome of environmental studies.

## 2.0 Project Location

The project is located on U.S. 231, 1.0 mile east of U.S. 41, at reference post 296+32 in Lake County. The GPS coordinates are 41°25'15.8" North and 87°27'02.1" West. This project is in the Indiana Department of Transportation's (INDOT) LaPorte District, Gary Sub-District. This location is within Northwest Indiana Regional Planning Commission regional boundaries. At the project intersection of U.S. 231 and Parrish Avenue, U.S. 231 runs east to west, and Parrish Avenue runs north to south. A location map for the project limits can be seen in Figure 1 – Project Location below.

Figure 1 – Project Location



## 3.0 Project Need and Purpose

The primary need of this project is to reduce crash potential and user delay at the intersection. The intersection has an elevated crash frequency, with rear-end collisions accounting for 76% of reported crashes. The Index of Crash Frequency (ICF) was calculated as 1.90 and the Index of Crash Cost (ICC) was calculated to be 1.67. The



elevated ICF and ICC values indicate that the frequency and severity of crashes are higher than expected for this type of intersection.

Additionally, current analysis shows increased motorist delay at the intersection with an existing Level of Service (LOS) rating C with a 27.2 second delay during the PM Peak hour. The intersection's performance was evaluated in the Design Year (2045) as part of the Alternative Analysis by applying an INDOT supplied growth rate to current traffic volumes. The projected growth would further degrade the intersection's LOS with a resulting PM Peak LOS rating E and a 77.7 second overall delay.

The purpose of this project is to reduce crash potential and provide a long-term solution to ensure safe and efficient operation of the U.S. 231 and Parrish Avenue intersection.

## 4.0 Existing Facilities

### 4.1 Roadways

**Table 1 – Basic Design Elements**

	<b>U.S. 231</b>	<b>Parrish Avenue</b>
Functional Class	Principal Arterial	Local Road
Posted Speed	50 mph	40 mph (N of U.S. 231) 30 mph (S of U.S. 231)
Cross Section	One 12-foot lane in each direction with variable width paved shoulder.	One 12-foot lane in each direction with variable width paved shoulder.
Access Control	None	None

### 4.2 Intersection

The existing intersection is signalized with loop detectors on all four approaches operating as a two-phase signal. U.S. 231 has one through lane in each direction and a dedicated right turn lane on the western approach. Parrish Avenue has one shared left/through/right turn lane for each approach. Each leg has a single approach with varying shoulder widths near the intersection insufficient for use as a by-pass for turning traffic.

The traffic control at the intersection includes two 3-section signal heads for each approach. The signals are supported by signal span wires.

The only pedestrian facilities present at the intersection are sidewalks adjacent to the gas station site in the southwest quadrant. The sidewalks run along the site on the south side of U.S. 231 and the west side of Parrish Avenue but do not connect to any additional sidewalk, nor do they connect to the intersection. There is no additional pedestrian or non-motorized facilities provided at the intersection or within the surrounding area.

### 4.3 Utilities

Coordination with the utilities which have facilities within the project limits needs to be initiated, based on the preferred alternative selected. Fishbeck has engaged Northern Indiana Public Service Company (NIPSCO) who have overhead electric lines and poles exist on both sides of U.S. 231 within the project limits. Widening of the roadway and/or intersection will likely impact these utility poles and they would need to be relocated.

The overhead lines on the north side of U.S. 231 are 138kV transmission lines with concrete poles. The overhead lines on the south side of U.S. 231 are 69kV lines on wood poles. Relocation of the 138kV facilities would be much more difficult and replacement poles have up to a 14-month lead time. NIPSCO plans to place some additional overhead lines and poles on the southwest quadrant of the intersection in 2022 to meet increased electrical supply demands of the area.

## 4.4 Railroads

Within the project limits there are no railroad tracks. Therefore, railroad impacts are non-applicable. CSX Railroad has a grade-separated crossing of U.S. 231 approximately 1,100 feet west of Parrish Avenue but outside of the construction limits of the proposed project. The railroad may be within the construction influence area for maintaining traffic during construction with lead-in signing extending to the railroad structure.

## 4.5 Right of Way

The existing ROW along U.S. 231 varies in width. West of Parrish Avenue, along the north side of U.S. 231 the width is 30 feet while along the south side it is primarily 35 feet except for some widening out at the rail crossing and at the Parrish Avenue intersection. East of Parrish Avenue, along the north side of U.S. 231 the width is 50 feet and along the south side of U.S. 231 the width is 30 feet. South of U.S. 231, Parrish Avenue has a ROW width of 30 feet along the east side and 20 feet along the west side. North of U.S. 231, Parrish Avenue has a ROW width of 50 feet along the east side and 20 feet along the west side.

## 4.6 Related Projects

INDOT's LaPorte District has a planned project for 2024 construction in the vicinity of this intersection. The project is an intersection improvement project at the intersection of U.S. 231 and Cline Avenue (Des No. 1700022), approximately one mile east of Parrish Avenue. The intersection improvement project at the intersection of U.S. 231 and Parrish Avenue is slated for 2025 construction, so coordination between the projects for maintenance of traffic is not anticipated.

## 4.7 Drainage

The existing drainage pattern within the intersection is sheet flow into roadside ditches that ultimately convey runoff to a drainage channel 230 feet north of the intersection. There is not an existing storm sewer network and only small diameter culverts are used to convey the runoff under driveways and the roadways.

## 5.0 Traffic Analysis

As a part of the project, traffic volumes and crash history were reviewed at the intersection of U.S. 231 with Parrish Avenue. For this report, AADT and peak hour turning movement volume information from INDOT's Project Traffic Forecast Report are provided in Appendix C – Traffic Data.

### 5.1 Traffic Data Forecasting

An annual growth rate of 1.03% for U.S. 231 and 1.10% for Parrish Avenue were provided by INDOT's Office of Traffic Statistics from the Technical Planning Support and Programming Division. The average annual daily traffic (AADT) volumes were provided for the construction year and design year, these results are summarized in Table 2 – Traffic Data. Additional traffic volume and peak hour data can be found in Appendix C – Traffic Data.

Table 2 – Traffic Data

Roadway	Location	Collection AADT (2018)	Design Year AADT (2045)	DHV (% of AADT)	Commercial (% of AADT)
U.S. 231		16,343	20,888	8.98%	3.41%
Parrish Avenue	North of U.S. 231	2,841	3,681	10.91%	11.30%
Parrish Avenue	South of U.S. 231	2,016	2,612	13.19%	10.96%

## 5.2 Capacity Analysis

Highway Capacity Software (HCS) (Version 7.8.5) was used to perform operational analyses for this study for all alternatives except for the roundabout. SIDRA 9.0 was used to perform operational analysis for the roundabout alternative. HCS and SIDRA use methodologies described in the Highway Capacity Manual to provide several measures of effectiveness for a transportation network based on geometric configurations and operational conditions. LOS is a letter grade that describes traffic operations based on the amount of delay experienced by vehicles at an intersection, along an intersection approach. LOS is measured using letter grades ranging from A to F, with LOS A being the best and LOS F being the worst. For an urban arterial, the INDOT Design Manual specifies a minimum LOS D for projects not involving reconstruction (Alternative 1). For reconstruction projects (Alternative 2 and 3), the minimum threshold is LOS C, with a desirable LOS B.

**Table 3 – LOS Criteria for Intersections**

LOS	Average Stopped Vehicle Delay (seconds)	
	Unsignalized	Signalized
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

INDOT provided turning movement volumes, in 60-minute increments, that were collected at the intersection on Wednesday, December 01, 2021. From that data, it was determined that the morning peak hour was from 7:00-8:00 AM and the afternoon peak hour was from 3:45-4:45 PM. The traffic volumes and percentage of heavy vehicles from that data set were used in the capacity analyses.

### 5.2.1 Existing Intersection Layout

The capacity analysis for the existing conditions were completed using Synchro 10. A summary of the results can be seen below in Table 4 – Existing Intersection Delay and LOS. The HCS analysis reports can be found in Appendix D – Operational Analysis.

**Table 4 – Existing Intersection Delay and LOS**

Intersection of U.S. 231 at Parrish Avenue		
Approach/Lane Group	Delay(s) / LOS	
	Existing Year (2021)	
	AM Peak Hour	PM Peak Hour
Existing Conditions		
U.S. 231 EB	14.0 (B)	13.5 (B)
U.S. 231 WB	11.6 (B)	13.5 (B)
Parrish Ave NB	21.4 (C)	24.9 (C)
Parrish Ave SB	27.6 (C)	73.4 (E)
<b>Overall</b>	<b>15.9 (B)</b>	<b>27.2 (C)</b>



As indicated in Table 4 the intersection's capacity and LOS is operates within acceptable parameters. However, the PM Peak is operating at a 27.2 second level C which is approaching the LOS D (35 seconds). Notably, the southbound approach has been calculated to have significant delays during the PM Peak Hour.

### 5.3 Crash Analysis

Crash data was reviewed as part of this assessment to evaluate the crash history at the project intersection. A total of 46 recorded crashes took place at the intersection during the three-year crash study period (2016-2018). The following tables summarize the type and severity of crashes. The RoadHAT analysis resulted in an Index of ICF of 1.90 and an Index of ICC of 1.67. These values indicate that the frequency and severity of crashes are higher than expected for this type of intersection. Based on the existing crash patterns, this report will focus on alternatives which incorporate crash mitigation treatments, specifically those which aim to reduce rear end crashes. Additional information on the crash data and a collision diagram can be found in Appendix B – Crash Data.

**Table 5 - Crash Data Collision Type (2016 - 2018)**

Crash Type	2016	2017	2018	Total	Total (%)
Left Turning	1	2	0	3	7%
Left/Right Turning	0	2	0	2	4%
Rear End	11	12	12	35	76%
Right Angle	0	3	2	5	11%
Sideswipe Same	1	0	0	1	2%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	

**Table 6 - Crash Data Severity (2016 - 2018)**

Crash Type	2016	2017	2018	Total	Total (%)
Property Damage	12	13	10	35	76%
Non-Incapacitating	0	4	2	6	13%
Incapacitating Injury	1	2	2	5	11%
Fatality	0	0	0	0	0%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	

There were a total of 46 crashes at the intersection over the 3-year study period. An analysis of the crashes shows that 76% of the crashes have resulted in property damage, and 11% have resulted in an incapacitating injury. No fatalities have occurred during this period of crash data. Rear-end crashes account for a significant majority (76%) of the crashes that occurred, this is expected at signalized intersections. Turning and right-angle crashes combined to make up 22% of the crashes. 85% of the collisions have occurred during dry conditions. The majority (80%) of crashes occurred during daylight hours.

### 5.4 Queue Analysis

HCS and SIDRA were used to perform queue analyses and to evaluate the implications of queueing at the existing intersection, along with the queueing for each alternative. The U.S. 231 eastbound approach has an existing right-turn lane that is approximately 225 feet in length. The remaining approaches all have a single lane. The queue length results are shown for the Existing Year (2021) in Table 7 – Existing Queue Lengths. The 95th percentile queue lengths are shown in feet. The 95th percentile queue is defined as the queue length that has a 5% probability of being exceeded in the analyzed time period. The 95th percentile queue is useful for determining turn lane lengths but is not typical of what the average motorist experiences. The HCS analysis reports can be found in Appendix D – Operational Analysis.

**Table 7 - Existing Queue Lengths**

Intersection of U.S. 231 at Parrish Avenue			
Approach/Lane Group	Existing Storage	95th Percentile Queue Lengths	
		Existing Year (2021)	
		AM Peak Hour	PM Peak Hour
<b>Existing</b>			
U.S. 231 EB Thru-LT	N/A	220'	230'
U.S. 231 EB RT	225'	5'	10'
U.S. 231 WB LTR	N/A	200'	225'
Parrish Ave NB LTR	N/A	100'	165'
Parrish Ave SB LTR	N/A	185'	460'

As indicated in Table 7, the current queue lengths are within acceptable limits for existing storage lengths. It should be noted that the SB Parrish Avenue queue during the PM Peak is calculated to be 460 feet which extends north of the intersection beyond the intersection with Poplar Place.

## 6.0 Project Alternatives

Fishbeck analyzed a variety of alternatives to determine the feasibility of each, following the *INDOT Intersection Decision Guide*. An initial Feasibility Screening was completed for a variety of alternatives, and based on the answers to the feasibility questions, the list of alternatives was narrowed down to three alternatives. A list of the nine alternatives and a brief description of each can be found below.

The following alternatives were deemed feasible with the initial screening and moved along for further evaluation.

- **Alternative 1 – No Build Alternative:** This alternative involves doing nothing to the existing intersection. The intersection would continue to operate as it currently exists.
- **Alternative 2 – Conventional Intersection:** This alternative would modify the existing intersection by widening each approach, adding dedicated left- and right-turn lanes along each approach and an additional through lane along U.S. 231. The traffic signals would also be modernized with optimized phasing and timings.
- **Alternative 3 – Roundabout Intersection:** This alternative involves converting the existing intersection into a roundabout with two circulating lanes for U.S. 231 and one circulating lane for Parrish Avenue. This option is similar to the proposed roundabout at the U.S. 231 and Cline Avenue intersection, located approximately one mile east of the Parrish Avenue intersection. A single lane on U.S. 231 was also analyzed but the LOS was D or worse for the EB U.S. 231 approach in the PM peak hour starting in the construction year. In the design year (2045), the SB Parrish Ave approach also degrades to LOS D. For these reasons, and the planned future widening of U.S. 231 to a four-lane cross-section, it was determined to use a two-by-one roundabout with two lanes in each direction on U.S. 231 and one lane in each direction on Parrish Avenue. The second U.S. 231 lane on each approach can be a short, flared lane for the purposes of this project.

The following alternatives were deemed infeasible with the initial screening and were not further evaluated.

- **Median U-Turn Intersection:** As neither U.S. 231 nor Parrish Avenue have medians, this alternative would require significant geometric modifications. Geometric impacts could potentially reach the CSX Railroad crossing to the west. This alternative intersection design eliminates direct left turns from U.S. 231 and Parrish Avenue at the main intersection. The intersection of U.S. 231 and Parrish Avenue would still be signalized while the crossovers could potentially be stop-controlled for the indirect left-turn movements.
- **Displaced Left-Turn Intersection:** This alternative intersection design is similar to the previous alternative: all mainline and/or crossroad left turn movements would be shifted to a point upstream of the main intersection. This alternative is not considered feasible as U.S. 231 does not have a median/boulevard and the left turn volumes at the intersection are not high enough in volume to warrant displacing the movement.
- **Jug-Handle Intersection:** This alternative would reconfigure the intersection to include “at grade ramps” to permit indirect left turns and/or U-turns. The footprint required for such a design is beyond the scope and necessity of this project as it would require significant ROW acquisition. The U.S. 231 at Parrish Avenue does not have high enough left turn volumes to warrant this alternative.
- **Offset “T” Intersection:** This alternative would effectively split the intersection from a single 4-legged intersection into two “T” junctions. The volumes along each roadway are not low enough to warrant this design. Additionally, Parrish Avenue would be altered significantly to form two “T” junctions with U.S. 231, which would require significant ROW acquisition and geometric modification to the existing roadways.
- **Green “T” Intersection:** This alternative is only applicable to three-legged intersections. The U.S. 231 and Parrish Avenue intersection has four approaches.
- **Quadrant Roadway Intersection:** The alternative would shift all left-turning movements away from the main intersection to a two-way connector roadway constructed within one of the intersection’s quadrants. This would effectively construct two additional intersections downstream of the primary intersection. This alternative would require significant ROW acquisition and modification to the existing roadway geometry.
- **Grade Separation:** This alternative, also known as an overpass, would require significant earthwork and modification to the existing roadway geometry. This would also restrict mobility and access to the businesses and residences surrounding the intersection.

## 7.0 Evaluation of Alternatives

### 7.1 Capacity Analysis

The capacity analyses included the traffic volumes for the Existing Year (2021), Construction Year (2025), and Design Year (2045). Additional information on the capacity analyses can be found in Appendix D – Operational Analysis.

#### 7.1.1 *Alternative 1 – No Build*

Under the No Build Alternative, the intersection would remain under current traffic signal control with only one dedicated turn lane (EB U.S. 231 right-turn lane) on any approach. The queue lengths and capacity analysis for Alternative 1 are shown in the tables below.



**Table 8 – Alternative 1 (No Build) Delay and LOS**

Intersection of U.S. 231 at Parrish Avenue						
Approach/Lane Group	Delay(s) / LOS					
	Existing Year (2021)		Construction Year (2025)		Design Year (2045)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
<b>Alternative 1 – No Build Alternative</b>						
<i>U.S. 231 EB</i>	14.0 (B)	13.5 (B)	16.5 (B)	14.9 (B)	74.1 (E)	63.5 (E)
<i>U.S. 231 WB</i>	11.6 (B)	13.5 (B)	12.5 (B)	14.7 (B)	17.8 (B)	43.5 (D)
<i>Parrish Ave NB</i>	21.4 (C)	24.9 (C)	21.2 (C)	26.1 (C)	23.0 (C)	37.3 (D)
<i>Parrish Ave SB</i>	27.6 (C)	73.4 (E)	28.2 (C)	86.7 (F)	38.1 (D)	178.5 (F)
<b>Overall</b>	<b>15.9 (B)</b>	<b>27.2 (C)</b>	<b>17.3 (B)</b>	<b>31.0 (C)</b>	<b>42.6 (D)</b>	<b>77.7 (E)</b>

As indicated in Table 8, the No Build alternative would result in deteriorating capacity and LOS as time advances and projected traffic volumes increase. Notably, the southbound approach has been calculated to have significant delays during the PM Peak Hour in all scenarios.

**Table 9 – Alternative 1 (No Build) Queue Lengths**

Intersection of U.S. 231 at Parrish Avenue							
Approach/Lane Group	Existing Storage	95th Percentile Queue Lengths					
		Existing Year (2021)		Construction Year (2025)		Design Year (2045)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
<b>Alternative 1 – No Build Alternative</b>							
<i>U.S. 231 EB Thru-LT</i>	<i>N/A</i>	220'	230'	250'	250'	750'	690'
<i>U.S. 231 EB RT</i>	225'	5'	10'	5'	10'	5'	15'
<i>U.S. 231 WB LTR</i>	<i>N/A</i>	200'	225'	220'	240'	305'	510'
<i>Parrish Ave NB LTR</i>	<i>N/A</i>	100'	165'	105'	180'	135'	260'
<i>Parrish Ave SB LTR</i>	<i>N/A</i>	185'	460'	200'	525'	270'	960'

Table 9 shows the projected queues, under the No Build Alternative, along U.S. 231 are expected to increase significantly by the Design Year (2045). The eastbound left-thru queue is calculated to increase from 220 feet in 2021 to 750 feet in 2045. Similarly, the westbound queue is projected to increase from 225 feet to 510 feet. The southbound Parrish Avenue queue is projected to increase from 460 feet in 2021 to 960 feet in 2045. The southbound queue would extend past the Parrish Avenue and Poplar Place intersection, which is located approximately 460 feet north of U.S. 231.

**7.1.2 Alternative 2 – Conventional Intersection**

The capacity analysis for Alternative 2 was completed using HCS. In addition to the roadway widening, the traffic signal phasing was also updated in this alternative to utilize left-turn phasing for improved capacity and safety. A summary of the results can be seen below in Table 10 – Alternative 2 (Conventional Intersection) Delay and LOS.

**Table 10 – Alternative 2 (Conventional Intersection) Delay and LOS**

Intersection of U.S. 231 at Parrish Avenue						
Approach/Lane Group	Delay(s) / LOS					
	Existing Year (2021)		Construction Year (2025)		Design Year (2045)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
<b>Alternative 2 – Conventional Intersection</b>						
U.S. 231 EB	15.3 (B)	21.9 (C)	15.4 (B)	22.2 (C)	19.6 (B)	27.8 (C)
U.S. 231 WB	13.9 (B)	21.6 (B)	14.0 (B)	21.1 (C)	30.4 (C)	25.8 (C)
Parrish Ave NB	28.4 (C)	17.6 (B)	29.0 (C)	17.9 (B)	29.1 (C)	16.9 (B)
Parrish Ave SB	33.0 (C)	30.5 (C)	32.8 (C)	32.1 (C)	33.8 (C)	30.4 (C)
<b>Overall</b>	<b>18.8 (B)</b>	<b>23.0 (C)</b>	<b>18.9 (B)</b>	<b>23.4 (C)</b>	<b>26.8 (C)</b>	<b>26.4 (C)</b>

The proposed signal modification and lane additions are expected to improve the intersection’s operational capacity and reduce delay times. In each scenario, the overall intersection is expected to operate within acceptable limits (LOS C or better).

**Table 11 - Alternative 2 (Conventional Intersection) Queue Lengths**

Intersection of U.S. 231 at Parrish Avenue							
Approach/Lane Group	Proposed Storage	95th Percentile Queue Lengths					
		Existing Year (2021)		Construction Year (2025)		Design Year (2045)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
<b>Alternative 2 – Conventional Intersection</b>							
U.S. 231 EB LT	150'	65'	55'	65'	55'	115	75'
U.S. 231 EB RT	150'	5'	20'	5'	20'	5'	25'
U.S. 231 WB LT	150'	20'	55'	20'	60'	25'	80'
U.S. 231 WB RT	150'	10'	10'	10'	15'	10'	15'
Parrish Ave NB LT	100'	40'	30'	40'	35'	45'	40'
Parrish Ave NB RT	150'	15'	45'	15'	45'	20'	50'
Parrish Ave SB LT	100'	25'	25'	25'	25'	25'	30'
Parrish Ave SB RT	150'	120'	70'	125'	75'	160'	85'

Table 11, above, presents the projected queues calculated for the conventional intersection in Alternative 2. As expected, the queue lengths are much less than those calculated in the Alternative 1 (No Build) analysis. In fact,

no queue is projected to extend beyond 150 feet. This would eliminate any potential blockage of adjacent intersections or driveways along both U.S. 231 and Parrish Avenue. It should be noted that the INDOT Design Manual requires a minimum turn lane storage length of 100 feet.

### 7.1.3 **Alternative 3 – Roundabout**

The capacity analysis for Alternative 3 was completed using SIDRA software. A summary of the results can be seen below in Table 12 – Alternative 3 (Roundabout) Delay and LOS.

**Table 12 - Alternative 3 (Roundabout) Delay and LOS**

Intersection of U.S. 231 at Parrish Avenue								
Approach/Lane Group	Delay(s) / LOS							
	Existing Year (2021)		Construction Year (2025)		Intermediate Year (2035)		Design Year (2045)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
<b>Alternative 3 – Roundabout</b>								
<i>U.S. 231 EB</i>	7.8 (A)	8.7 (A)	7.8 (A)	8.9 (A)	7.8 (A)	8.9 (A)	7.9 (A)	9.2 (A)
<i>U.S. 231 WB</i>	7.5 (A)	7.8 (A)	7.6 (A)	7.9 (A)	7.6 (A)	7.9 (A)	7.8 (A)	8.1 (A)
<i>Parrish Ave NB</i>	5.5 (A)	5.4 (A)	5.6 (A)	5.7 (A)	5.3 (A)	5.3 (A)	5.5 (A)	5.7 (A)
<i>Parrish Ave SB</i>	7.1 (A)	8.2 (A)	7.3 (A)	8.6 (A)	6.9 (A)	8.0 (A)	7.3 (A)	8.9 (A)
<b>Overall</b>	<b>7.4 (A)</b>	<b>7.9 (A)</b>	<b>7.4 (A)</b>	<b>8.1 (A)</b>	<b>7.3 (A)</b>	<b>7.9 (A)</b>	<b>7.5 (A)</b>	<b>8.4 (A)</b>

Table 12 - Alternative 3 (Roundabout) Delay and LOS shows that the roundabout improves the overall intersection operations to an acceptable LOS A for all design years. The proposed roundabout alternative has two lanes in each direction on U.S. 231 and one lane in each direction on Parrish Avenue. The second lane on each bound of U.S. 231 can be a short (100-foot) lane to improve operations at the roundabout. With a single U.S. 231 lane in each direction, the roundabout degrades to a LOS E for the EB U.S. 231 approach and LOS D for SB Parrish Avenue in the Design Year (2045). The proposed layout with two lanes on U.S. 231 is consistent with the proposed roundabout at U.S. 231 and Cline Avenue, approximately one mile to the east. It has also been discussed that U.S. 231 would be widened to two lanes in each direction at some point in the future. Operationally, the delays and LOS for the roundabout are acceptable for the AM and PM peak hours in each of the years analyzed with additional capacity available. For Alternative 3, an Intermediate Year (2035) analysis was also performed per the INDOT Traffic Analysis Procedures requirement for an opening year, 10-year, and 20-year traffic analysis.



**Table 13 - Alternative 3 (Roundabout) Queue Lengths**

Intersection of U.S. 231 at Parrish Avenue							
Approach/Lane Group	Proposed Storage	95th Percentile Queue Lengths					
		Existing Year (2021)		Construction Year (2025)		Design Year (2045)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
<b>Alternative 3 - Roundabout</b>							
U.S. 231 EB Thru-LT	N/A	40'	58'	42'	63'	50'	79'
U.S. 231 EB Thru-RT	100'	40'	61'	43'	66'	52'	87'
U.S. 231 WB Thru-LT	N/A	42'	43'	45'	46'	54'	56'
U.S. 231 WB Thru-RT	100'	43'	44'	46'	47'	56'	59'
Parrish Ave NB LTR	N/A	20'	36'	21'	40'	25'	51'
Parrish Ave SB LTR	N/A	37'	74'	40'	83'	50'	105'

Table 13 presents the queues calculated by SIDRA for the roundabout intersection in Alternative 3. The roundabout design further improves on projected queues over Alternatives 1 and 2. The longest projected queue is 105 feet along northbound Parrish Avenue during the Design Year (2045) PM Peak Hour. This would eliminate any potential blockage of adjacent intersections or driveways along both U.S. 231 and Parrish Avenue.

## 7.2 Crash Analysis

As part of the crash analysis for the intersection, crash reduction factors (CRF's) were researched for potential intersection improvements, based on the alternatives. The CRF's were selected from INDOT's *Updating Crash Modification Factors and Calibrating the IHSDM for Indiana* report for CRF's most suitable for the state of Indiana. For each alternative the applicable CRFs were reviewed and selected related to the specific improvement. To apply the CRFs consistently to the crashes, the total crashes over the three years were converted into an annual property damage equivalent. To calculate the property damage equivalent, a factor was applied to the non-property damage crashes, and an average was calculated to determine an annual property damage equivalent number of crashes of 121, per the INDOT Design Guide reference. The CRFs can then be applied to see the benefit in safety for each alternative. Table 14 - Crash Modification Summary provides the outputs for each alternative.

**Table 14 - Crash Modification Summary**

Alternative	Total Crash CRF	PD Equivalent No. of Crashes	Annual Expected Crash Reduction
1 - No Build	N/A	121	0
2 - Conventional Intersection	10.0	121	12
3 - Roundabout Intersection	12.4	121	15

Based on the Crash Modification analysis for each alternative, the roundabout intersection (Alternative 3) would have the greatest reduction in crashes. Roundabouts are notable for reducing injury and fatal crashes. The CRF (12.4) used in the crash modification analysis was for the total crash type to compare directly with Alternative 2. However, it should be noted that the CRF for Alternative 3 is anticipated to reduce injury/fatal crashes by 66%.

### 7.3 Cost Analysis

Table 15 below presents the total costs for each alternative. Detailed construction cost estimates for provided in Appendix A.

Table 15 – Cost Analysis

Alternative	MOT Cost	Construction Cost	Total Cost
1 - No Build	\$0	\$0	\$0
2 - Conventional Intersection	\$150,000	\$1,963,000	\$2,113,000
3 – Roundabout Intersection	\$75,000	\$1,787,000	\$1,862,000

### 7.4 Right-of-Way Impacts

Table 16 below shows the estimated ROW for each alternative.

Table 16 – Right-of-Way Impacts

Alternative	# of Parcels	Total Acreage
1 - No Build	0	0
2 - Conventional Intersection	9	1.2
3 – Roundabout Intersection	5	1.3

### 7.5 Utility Impacts

Table 17 below shows the estimated overhead utility impacts for each alternative.

Table 17 – Utility Impacts

Alternative	138 kV Poles Relocated	69 kV Poles Relocated
1 - No Build	0	0
2 - Conventional Intersection	4	9
3 – Roundabout Intersection	2	5

### 7.6 Cost Effectiveness Comparison

Table 18 presents the cost effectiveness of each alternative based on calculations from INDOT's *Intersection Decision Guide*. The first step of the cost effectiveness calculations translates the project's cost into an equivalent annual value, based on a 20-year design life. Step 2 of the cost effectiveness calculations translates the related project cost to traffic mobility benefits. The mobility cost effectiveness reinforces and conveys information about the alternative's return on investment with respect to mobility service. Based on the average peak hour delay for the project intersection in the Design Year (2045). Step 3 of the cost effectiveness translates the related project cost to traffic safety benefits. The safety cost effectiveness calculates the annual cost per annual property-damage equivalent crash reduced.

Table 18 – Cost Analysis

Alternative	Annual Equivalent Cost (\$/year)	CE <sub>Mobility</sub>	CE <sub>Safety</sub> (\$/crash)
1 - No Build	\$0	\$0	\$0
2 - Conventional Intersection	\$169,550	\$169,550/ C (26.6)	\$14,000
3 – Roundabout Intersection	\$149,410	\$149,410/ A (8.0)	\$9,960

## 7.7 Alternative Analysis

The three previously discussed alternatives were evaluated, relative to one another, on a scale from 1 to 3 based on the *INDOT Engineer's Assessment Manual* and *Intersection Decision Guide*. The alternative with the lowest total sum of scores is the highest-ranking alternative. In cases where there is little difference between the alternatives, the alternatives may receive the same ranking. The alternative evaluation criteria are summarized in Table 19 – The Alternative Evaluation Matrix.

Safety:	Reduction in Number and/or Severity of Collisions
Operational Performance:	Projected LOS/Delay Reduction and Queue Lengths of the intersection
Construction Cost:	Projected Construction Costs of the Alternatives Improvements
Cost Effectiveness:	Projected performance of the alternative in terms of traffic safety and mobility
ROW Impacts:	Projected ROW acquisition required

Table 19 – The Alternative Evaluation Matrix

Intersection of U.S. 231 at Parrish Avenue						
Alternative	Safety	Operational Performance	Construction Cost	Cost Effectiveness	ROW Impacts	Total
1 - No Build	3	3	1	3	1	<b>11</b>
2 - Conventional Intersection	2	2	3	2	2	<b>10</b>
3 – Roundabout Intersection	1	1	2	1	2	<b>7</b>

## 8.0 Recommended Alternative

Based on the analysis of crash history, traffic operations, costs, cost effectiveness related to mobility and safety and other considerations (i.e., corridor continuity, ROW impacts, utility impacts, etc.), Alternative 3 (Roundabout) is the most favorably ranked alternative. This alternative converts the signal-controlled intersection into a roundabout with two lanes on U.S. 231 and single lanes on Parrish Avenue approaches.

Alternative 3 provides increased safety, by eliminating the traffic signal and the need for full stops during red light phases, further improving capacity and facilitating traffic flow. This should result in a decrease Rear-End crashes as compared to the existing conditions. Additionally, roundabout intersections have fewer conflict points reducing the expected turning style crashes. Roundabouts are also expected to dramatically decrease the severe (injury/fatal) crashes. Alternative 3 would also widen U.S. 231 approaches to include two through lanes which would be consistent with INDOT's vision for a four-lane section of U.S. 231 along this corridor. Alternative 3 addresses the project's need and purpose to improve safety (reducing crash frequency and severity) and improve mobility by decreasing delays.



## 9.0 Maintenance of Traffic

Alternative 3 would be constructed in a phased approach. Phase 1 will be a partial closure of the intersection while maintaining U.S. 231 through traffic and closing Parrish Avenue. Local detours will be implemented for Parrish Avenue and coordinated with Lake County. Phase 2 will be a complete closure of the intersection to complete the work. U.S. 231 would be detoured along routes U.S. 41 to the west, U.S. 30 to the north, and SR 55 to the east. The goal of the phasing is to complete as much work as possible during Phase 1 to limit the duration of a full intersection closure (Phase 2).

This project is considered a mobility significant project per IDM Section 503-2.02. The *Determination of Significant Work Zone Impacts* document can be found in Appendix C. A Transportation Management Plan will be needed during design to guide efforts to ensure that the work zone activity and maintaining traffic plan is integrated with project stakeholders.

## 10.0 Environmental Impacts

Environmental impact for all build alternatives is fairly minor. The intersection improvement will disturb more than one acre of ground. There is a potential wetland on the southeast corner of the intersection, but it is likely outside the construction limits of the project. A Level 2 Categorical Exclusion is required for the project for both alternatives due to ROW impacts.

## 11.0 Permits Required

Due to project impacts of greater than one acre of ground disturbance, the project will require a NPDES Rule 5 permit. Waterway permits (401 and 404) may be required for each of the alternatives.

## 12.0 Cost Estimate

The cost of Alternative 3 (Roundabout) is as follows:

**Table 20 – Alternative 3 (Roundabout) Cost Estimate**

Intersection of U.S. 231 at Parrish Avenue	
Phase	Amount
ROW Purchase	\$32,525
ROW Services	\$50,000
Preliminary Engineering	\$477,000
Railroad PE	\$0
Utilities PE	\$50,000
Utilities CN	\$400,000
Construction (CN)	\$1,862,000
<b>TOTAL</b>	<b>\$2,871,525</b>

## 13.0 Concurrence

### Prepared By:

Kyle Reidsma, PE PTOE  
Fishbeck

Reidsma, Kyle

Digitally signed by Reidsma, Kyle  
DN: CN="Reidsma, Kyle",  
OU="Transportation, CU+All Staff,  
DC=indsp, DC=dot, DC=com,  
Date: 2022.03.01 12:55:11-0500'

### Fishbeck Project Manager

Jerod Hiller, PE  
Fishbeck

Hiller, Jerod

Digitally signed by Hiller,  
Jerod  
Date: 2022.03.01  
12:24:50 -0500'

### INDOT Scoping Manager

Paul South, PE  
INDOT LaPorte District

Paul South

Digitally signed by Paul  
South  
Date: 2022.03.02  
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### INDOT Traffic Engineer

Alan Holderread, PE  
INDOT LaPorte District

Alan  
Holderread

Digitally signed by Alan  
Holderread  
Date: 2022.03.02  
13:48:50 -0600'

### INDOT System Asset Manager

Steve Benczik, PE  
INDOT LaPorte District

Steve J.  
Benczik

Digitally signed by Steve  
J. Benczik  
Date: 2022.03.22  
11:10:06 -0500'

# Appendix A

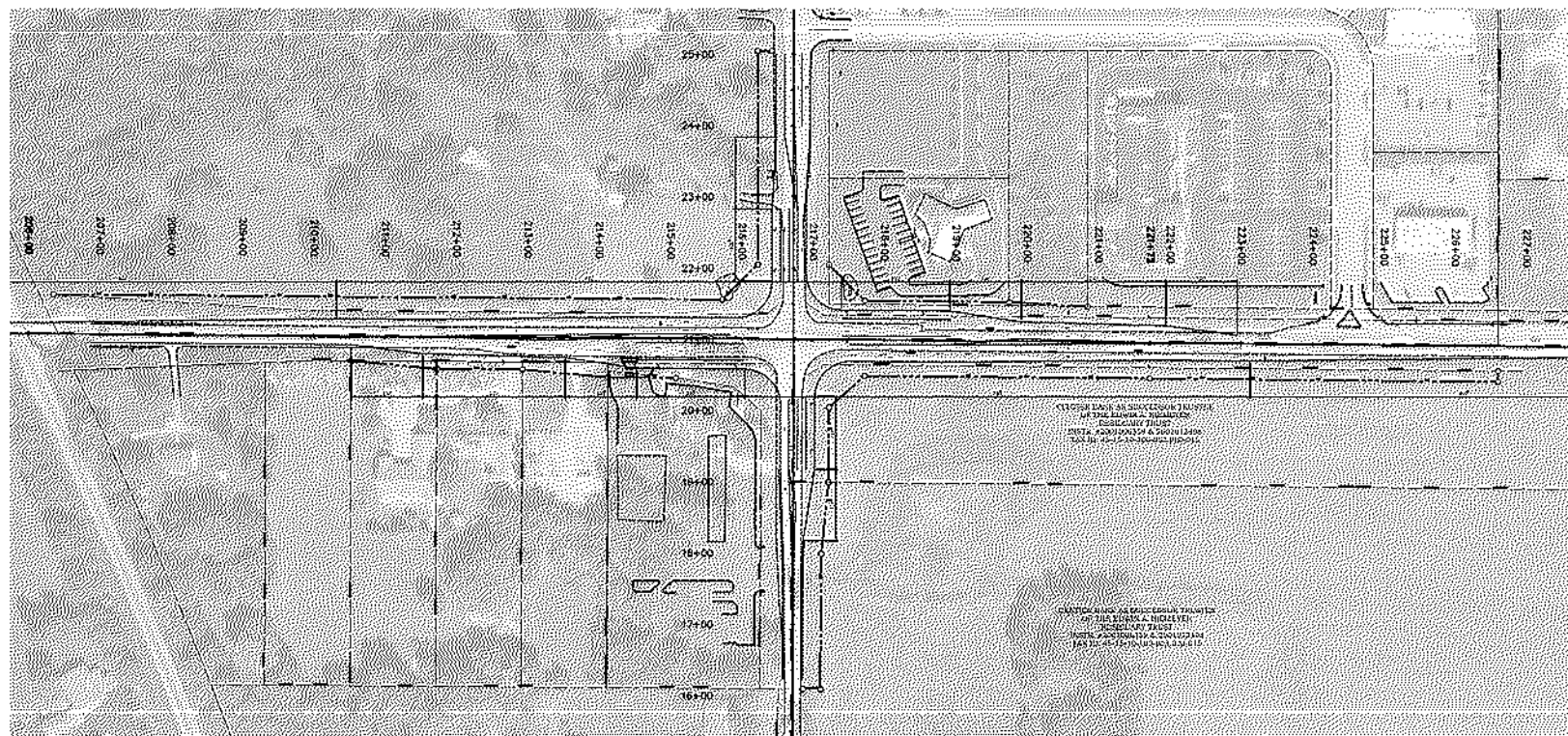
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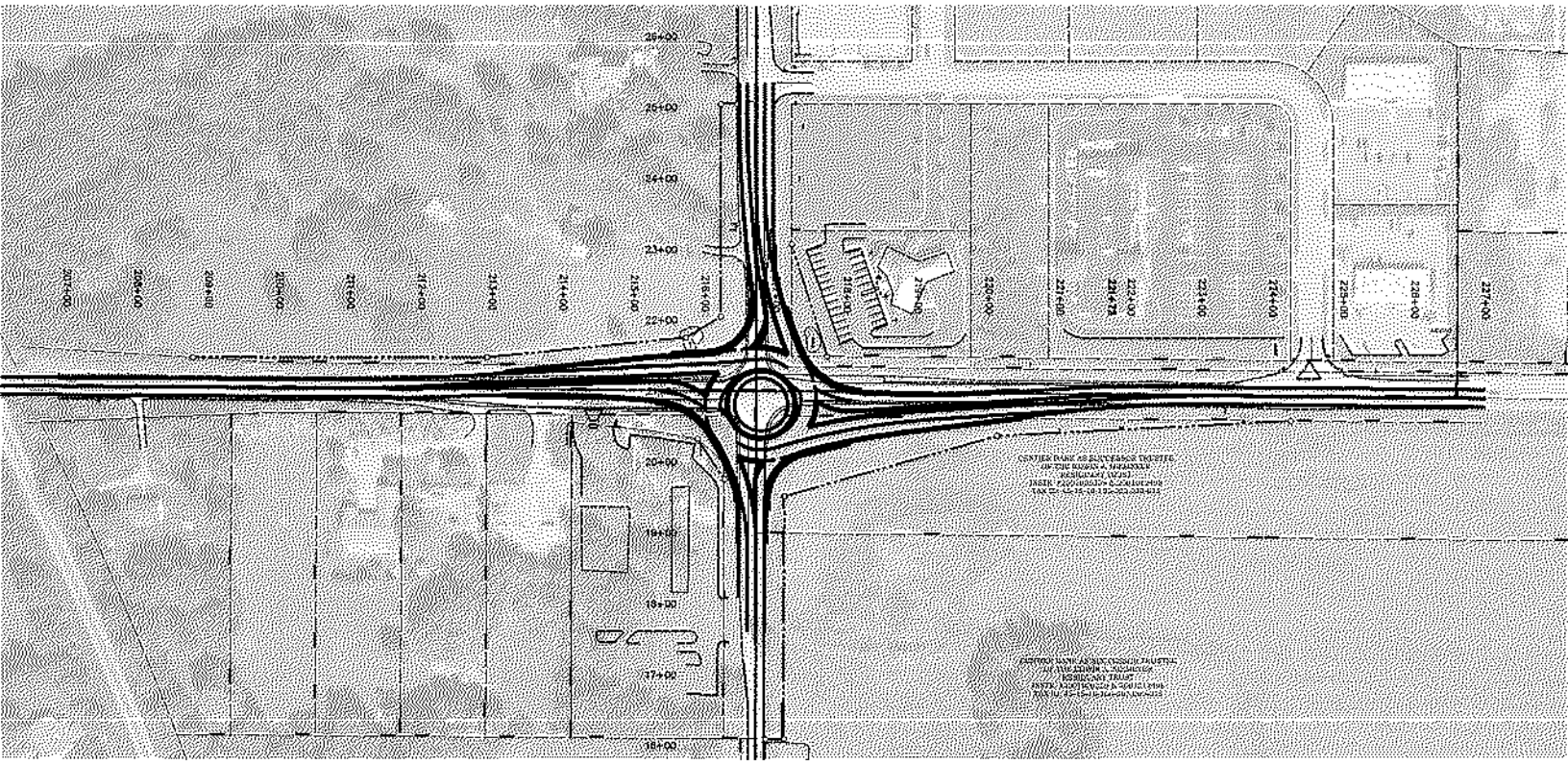
Alternative Layouts



### U.S. 231 at Parrish Avenue - Cost Estimate Summary

Item No.	Item	Alternative 2 Signalized	Alternative 3 Roundabout
110	Mobilization and Demobilization	\$75,920	\$66,910
201	Clearing and Grubbing	\$15,184	\$13,382
202	Pavement Removal	\$37,333	\$75,833
203	Embankment	\$75,370	\$69,889
203	Erosion Control	\$15,184	\$13,382
207	Subgrade Treatment, Type II	\$180,785	\$143,267
306	Milling, Asphalt, 1 1/2 in	\$16,224	\$0
401	QC/QA-HMA, 3, 70, Surface, 9.5 mm	\$161,903	\$54,237
401	QC/QA-HMA, 3, 70, Intermediate, 19.0 mm	\$106,320	\$73,517
401	QC/QA-HMA, 3, 64, Base, 25.0 mm	\$326,807	\$225,977
406	Asphalt for Tack Coat	\$18,631	\$7,165
501	QC/QA-PCCP, 12 in	\$0	\$97,336
605	Curb, Concrete	\$0	\$99,000
605	Curb, Concrete B	\$0	\$16,974
622	Landscaping	\$15,000	\$40,000
715	Drainage	\$175,000	\$150,000
801	Maintaining Traffic	\$150,000	\$75,000
802	Signs and Markings	\$35,000	\$60,000
805	Traffic Signal	\$180,000	\$0
807	Lighting	\$40,000	\$150,000
---	Contingency (30%)	\$487,399	\$429,561
<b>Total</b>		<b>\$2,113,000</b>	<b>\$1,862,000</b>





20+00 20+50 21+00 21+50 22+00 22+50 23+00 23+50 24+00 24+50 25+00 25+50 26+00

27+00 27+50 28+00 28+50 29+00 29+50 30+00 30+50 31+00 31+50 32+00 32+50 33+00 33+50 34+00

35+00 35+50 36+00 36+50 37+00 37+50 38+00 38+50 39+00 39+50 40+00 40+50 41+00 41+50 42+00

43+00 43+50 44+00 44+50 45+00 45+50 46+00 46+50 47+00 47+50 48+00 48+50 49+00 49+50 50+00

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# Appendix B

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Safety Data

Crash Data: 2016-2018

Master Record Number	Collision Date	Collision Time	Number Injured	Number Dead	Number Deaf	Feet From	Direction	Light Condition	Weather Conditions	Surface Condition	Road Character	Primary Factor	Manner of Collision
902693008	4/22/2016	1525	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902707827	5/19/2016	1650	0	0	0	200	E	DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	FAILURE TO YIELD RIGHT OF WAY	SAME DIRECTION SIDESWIPE
902731334	6/29/2016	1215	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902735826	7/7/2016	2049	0	0	0			DAWN/DUSK	CLOUDY	WET	STRAIGHT/LEVEL	UNSAFE SPEED	REAR END
902736072	7/8/2016	925	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902743492	7/20/2016	2015	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	LEFT TURN
902763373	8/22/2016	1608	1	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902777539	9/14/2016	1750	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902795821	10/14/2016	1046	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	FOLLOWING TOO CLOSELY	REAR END
902797562	10/17/2016	1510	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	REAR END
902809015	11/3/2016	822	0	0	0	500	W	DAYLIGHT	RAIN	WET	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902823221	11/22/2016	1702	0	0	0			DARK (LIGHTED)	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902844163	12/21/2016	1707	0	0	0	500	W	DARK (NOT LIGHTED)	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902856871	1/13/2017	2155	0	0	0			DARK (NOT LIGHTED)	CLEAR	WET	STRAIGHT/LEVEL	UNSAFE LANE MOVEMENT	LEFT/RIGHT TURN
902879049	2/23/2017	1439	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	RIGHT ANGLE
902888108	3/10/2017	1540	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902904282	4/12/2017	820	1	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	FOLLOWING TOO CLOSELY	REAR END
902914641	4/24/2017	1046	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902926007	5/17/2017	1528	0	0	0	1000	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	FOLLOWING TOO CLOSELY	REAR END
902939907	6/6/2017	1733	2	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	LEFT TURN
902948154	6/22/2017	830	1	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902960823	7/13/2017	1645	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	DRIVER DISTRACTED - EXPLAIN IN NARRATIVE	REAR END
902972711	8/3/2017	1233	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
902980697	8/17/2017	1619	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	UNSAFE LANE MOVEMENT	REAR END
903002537	9/19/2017	1238	2	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	LEFT TURN
903002170	9/22/2017	1125	0	0	0	300	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/HILLCREST	FOLLOWING TOO CLOSELY	REAR END
903018024	10/16/2017	1719	10	0	0			DAWN/DUSK	CLEAR	DRY	STRAIGHT/HILLCREST	ONLOOKER SIGNAL/REG SIGN	RIGHT ANGLE
903013357	11/7/2017	1608	0	0	0			DAYLIGHT	CLOUDY	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903050172	11/29/2017	1737	2	0	0			DARK (LIGHTED)	CLEAR	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	LEFT/RIGHT TURN
903054195	12/8/2017	1936	0	0	0			DARK (NOT LIGHTED)	CLEAR	DRY	STRAIGHT/LEVEL	IMPROPER PASSING	REAR END
903064609	12/23/2017	1435	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	RIGHT ANGLE
903069793	12/30/2017	1345	0	0	0			DAYLIGHT	CLEAR	WET	STRAIGHT/LEVEL	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	REAR END
903109759	1/2/2018	12:47 PM	1	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903117783	3/17/2018	2:49 PM	0	0	0	400	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903137533	4/23/2018	6:30 PM	0	0	0			DAYLIGHT	CLOUDY	DRY	STRAIGHT/LEVEL	FAILURE TO YIELD RIGHT OF WAY	RIGHT ANGLE
903143828	5/4/2018	4:20 PM	1	0	0	500	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	DRIVER DISTRACTED - EXPLAIN IN NARRATIVE	REAR END
903144832	5/7/2018	7:50 AM	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903146926	5/10/2018	7:48 AM	0	0	0	100	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/GRADE	FOLLOWING TOO CLOSELY	REAR END
903162528	6/5/2018	2:45 PM	0	0	0	200	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	UNSAFE SPEED	REAR END
903168966	6/14/2018	1:51 PM	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903182601	7/9/2018	12:58 PM	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	DRIVER DISTRACTED - EXPLAIN IN NARRATIVE	REAR END
903201788	8/10/2018	3:23 PM	0	0	0			DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	DRIVER DISTRACTED - EXPLAIN IN NARRATIVE	REAR END
903258714	11/4/2018	7:02 PM	0	0	0			DARK (NOT LIGHTED)	RAIN	WET	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903262054	11/17/2018	4:13 PM	1	0	0			DAWN/DUSK	RAIN	WET	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END
903262016	11/17/2018	1:18 PM	0	0	0			DAYLIGHT	RAIN	WET	STRAIGHT/LEVEL	IMPROPER LANE USAGE	RIGHT ANGLE
903277601	12/11/2018	9:55 AM	1	0	0	50	W	DAYLIGHT	CLEAR	DRY	STRAIGHT/LEVEL	FOLLOWING TOO CLOSELY	REAR END

## Crash Analysis for U.S. 231 and Parrish Avenue

Date: 01/01/2016 - 12/31/2018

## Crash Data Collision Type (2016 - 2018)

Crash Type	2016	2017	2018	Total	Total (%)
Left Turning	1	2	0	3	7%
Left/Right Turning	0	2	0	2	4%
Rear End	11	12	12	35	76%
Right Angle	0	3	2	5	11%
Sideswipe Same	1	0	0	1	2%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	

## Crash Data Severity (2016 - 2018)

Crash Type	2016	2017	2018	Total	Total (%)
Property Damage	12	13	10	35	76%
Non-Incapacitating	0	4	2	6	13%
Incapacitating Injury	1	2	2	5	11%
Fatality	0	0	0	0	0%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	

## Crash Road Conditions (2016 - 2018)

Crash Type	2016	2017	2018	Total	Total (%)
Dry	11	17	11	39	85%
Wet	2	1	3	6	13%
Ice	0	1	0	1	2%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	

## Light Road Conditions (2016 - 2018)

Crash Type	2016	2017	2018	Total	Total (%)
Daylight	10	15	12	37	80%
Dawn/Dusk	1	1	1	3	7%
Dark (Lighted)	1	1	0	2	4%
Dark (Not Lighted)	1	2	1	4	9%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	



Crash Type	2016	2017	2018	Total	Total (%)
Property Damage	12	13	10	35	76%
Non-Incapacitating	0	4	2	6	13%
Incapacitating Injury	1	2	2	5	11%
Fatality	0	0	0	0	0%
<b>Total</b>	<b>13</b>	<b>19</b>	<b>14</b>	<b>46</b>	

PD equivalent# 351  
 Annual PD equivalent# 121

						Step 1 Equivalent Annual Value	Step 2 CL Mobility	Step 3 CL Safety	
Ait 2	CRF# Signal Improvements and Lane Modifications	CRF composite#	10.0	CR#	22.1	Construction Cost \$ 2,113,000	*20 Year Design Life \$ 169,553	* Avg PH delay 2045 \$ 169,553 (128.0)	\$ 14,012.61
Ait 3	Roundabout Intersection	CRF composite#	12.4	CR#	15.004	\$ 1,862,000	\$ 149,412	\$ 149,412 (18.0)	\$ 9,958.12

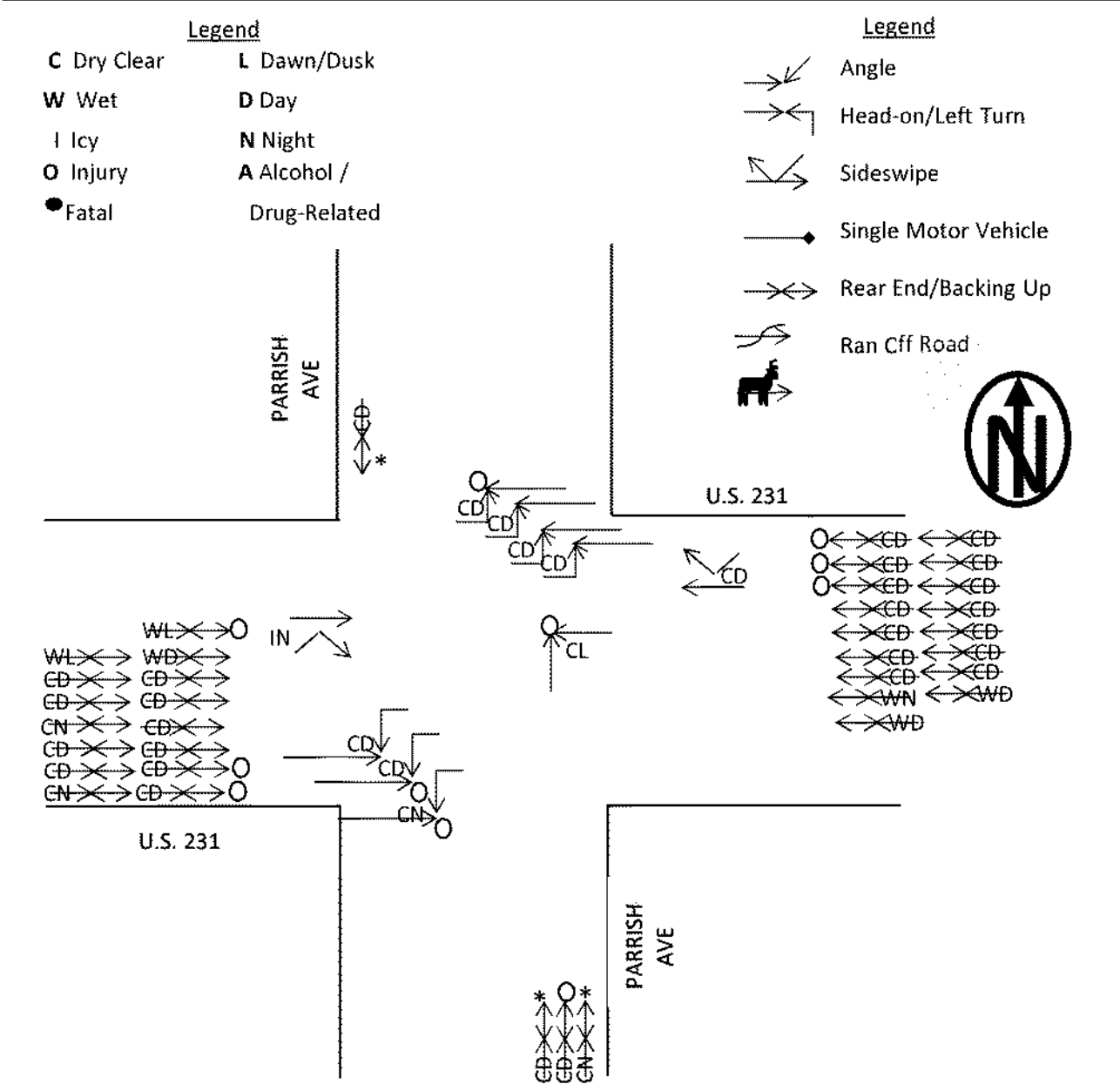
## Description

This table presents the CRFs/CMFs for safety countermeasures that were identified as being the most suitable for Indiana based on the criteria presented in the Joint Transportation Research Program technical report, "Updating the Crash Modification Factors and Calibrating the HHSDM for Indiana". The table contains 82 safety countermeasures spanning 16 different categories. For each countermeasure, the applicable areas type (urban and/or rural), facility type, and CRF/CMF values for various crash types and severities are presented. Finally, the state(s) where each study was conducted and the corresponding reference are provided in the table.

Category	Countermeasure	Area Type	Facility type	Crash Type	CRF	CMF	States and (reference number)
Intersection geometry	Add a left-turn lane on one major approach to a signalized intersection	Urban	Three-leg intersections	Total	7.0	0.930	IA, IL, LA, MN, NE, NC, OR, VA (18)
			Four-leg intersections	Total	10.0	0.900	
		Rural	Three-leg intersections	Total	15.0	0.850	
			Four-leg intersections	Total	18.0	0.820	
Intersection geometry	Convert signalized intersection to a roundabout	Urban	Intersections on two- or four-lane roads	Total	12.4	0.876	CA, CO, CT, FL, IN, KS, MD, ME, MI, MO, MS, NC, NV, NY, OR, SC, UT, VT, WA, WI (15,31,33)
				KABC	66.1	0.339	
		Rural	Intersections on two- or four-lane roads	Total	26.2	0.738	
				KABC	71.5	0.285	

**COLLISION DIAGRAM - INTERSECTION**

General Analysis Information			
Intersection Number	1		
Intersection Name	U.S. 231 & Parrish Ave	Location	St. John, IN
Analysis Years	01/2016-12/2018	Project Number	1702994



\* Exact location was not on Crash Report, best judgement for location was used



# Appendix C

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Traffic Data

**PROJECT TRAFFIC FORECAST REPORT****DES No.:** 1702994

US-231 US 231 @ Parish, 0.85mi S (east) of US41 to 1.20mi  
S (east) of US41

From RP 296+22 to RP 296+4

Lake County

**Prepared For**

Michael Grylewicz

**On**

10/25/2021

**By**

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# INDIANA DEPARTMENT OF TRANSPORTATION

December 13, 2021 2:16 pm

## PROJECT TRAFFIC FORECAST REPORT

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Project Map

Segment 1 Forecast

Segment 2 Forecast

Segment 3 Forecast

Intersection 1 Forecast





# INDIANA DEPARTMENT OF TRANSPORTATION

December 13, 2021 2:16 pm

## PROJECT TRAFFIC FORECAST REPORT



Sources: Esri, HERE, Garmin, Intermap, InCREMENT P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



## PROJECT TRAFFIC FORECAST REPORT

### Segment: 1

Route Name **US-231**  
 From Measure **265.460** From RP **296+22**  
 To Measure **265.600** To RP **296+4**

Forecast Year	Projected Annual Average Daily Traffic	Negative AADT	Positive AADT
2018	16,343	8,520	7,823
2025	17,521	9,134	8,387
2030	18,363	9,573	8,790
2035	19,205	10,012	9,193
2045	20,888	10,889	9,999

#### Design Hourly Volume (DHV) in Design Year as percentage of AADT

Year	DHV
2045	8.98%

#### Peak Hour Forecast

AM Peak Hour 06:30  
 PM Peak Hour 04:45

#### Commercial Vehicles (FHWA Scheme F Classes 4 - 13)

3.41% of AADT  
 1.30% of DHV

#### Directional Split

47.87% of AADT Travels in Positive Travel Direction

The per year growth user for this forecast is 1.03% and is applied as a linear growth.

It should be recognized by users of this forecast that the base year AADT has an accuracy of plus or minus 10%. It should also be understood that while this report may include forecasts with up to six apparent significant figures, the accuracy should not be interpreted as being greater than two significant figures. It is the responsibility of designers to exercise professional judgement when using this data to influence decisions.



**PROJECT TRAFFIC FORECAST REPORT**

**Segment: 2**

Route Name **PARRISH ST**  
 From Measure **0.000** From RP **296+22**  
 To Measure **0.090** To RP **296+4**

Forecast Year	Projected Annual Average Daily Traffic	Negative AADT	Positive AADT
2018	2,016	1,199	817
2025	2,171	1,291	880
2030	2,281	1,357	924
2035	2,391	1,422	969
2045	2,612	1,553	1,059

**Design Hourly Volume (DHV) in Design Year as percentage of AADT**

Year	DHV
2045	13.19%

**Peak Hour Forecast**

AM Peak Hour 11:00  
 PM Peak Hour 04:00

**Commercial Vehicles (FHWA Scheme F Classes 4 - 13)**

10.96% of AADT  
 9.77% of DHV

**Directional Split**

40.53% of AADT Travels in Positive Travel Direction

The per year growth user for this forecast is 1.10% and is applied as a linear growth.

It should be recognized by users of this forecast that the base year AADT has an accuracy of plus or minus 10%. It should also be understood that while this report may include forecasts with up to six apparent significant figures, the accuracy should not be interpreted as being greater than two significant figures. It is the responsibility of designers to exercise professional judgement when using this data to influence decisions.





## PROJECT TRAFFIC FORECAST REPORT

## Segment: 3

Route Name **PARRISH AV**  
 From Measure **1.920** From RP **296+22**  
 To Measure **2.030** To RP **296+4**

Forecast Year	Projected Annual Average Daily Traffic	Negative AADT	Positive AADT
2018	2,841	1,860	981
2025	3,059	2,003	1,056
2030	3,214	2,104	1,110
2035	3,370	2,206	1,164
2045	3,681	2,410	1,271

## Design Hourly Volume (DHV) in Design Year as percentage of AADT

Year	DHV
2045	10.91%

## Peak Hour Forecast

AM Peak Hour 07:00  
 PM Peak Hour 05:00

## Commercial Vehicles (FHWA Scheme F Classes 4 - 13)

11.30% of AADT  
 5.48% of DHV

## Directional Split

34.53% of AADT Travels in Positive Travel Direction

The per year growth user for this forecast is 1.10% and is applied as a linear growth.

It should be recognized by users of this forecast that the base year AADT has an accuracy of plus or minus 10%. It should also be understood that while this report may include forecasts with up to six apparent significant figures, the accuracy should not be interpreted as being greater than two significant figures. It is the responsibility of designers to exercise professional judgement when using this data to influence decisions.



# INDIANA DEPARTMENT OF TRANSPORTATION

December 13, 2021 2:16 pm

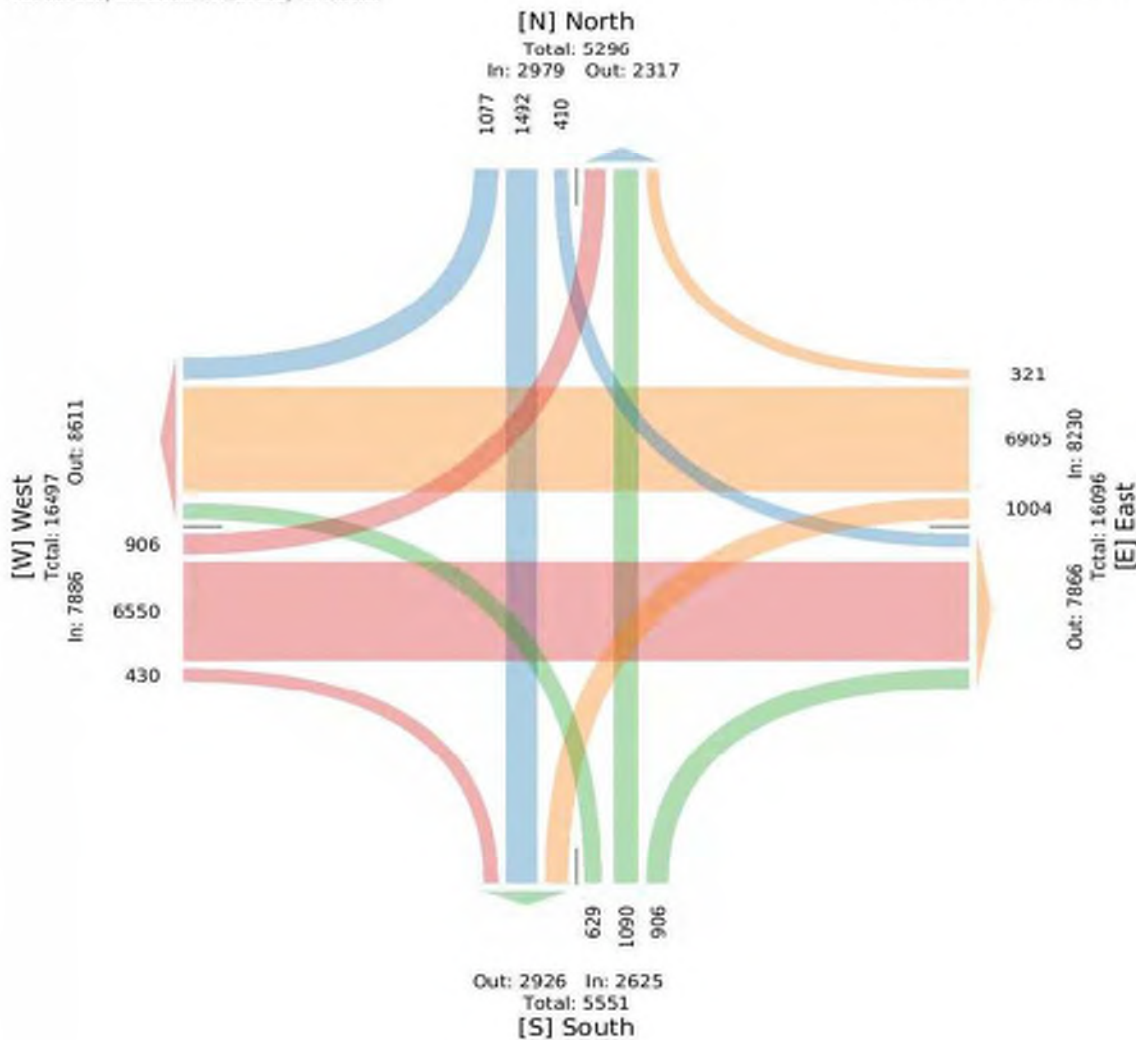
## PROJECT TRAFFIC FORECAST REPORT

### Intersection: 1

US 231 & Parrish Ave - TMC  
 Wed Dec 1, 2021  
 Full Length (8 AM-8 AM (+1))  
 All Classes (Motorcycles, Cars, Light Goods Vehicles, Single-Unit Trucks, Articulated Trucks, Buses)  
 All Movements  
 ID: 907618, Location: 41.421052, -87.45059



Provided by: Indiana DOT  
 100 N. Senate Ave.,  
 Indianapolis, IN, 46204, US





# INDIANA DEPARTMENT OF TRANSPORTATION

December 13, 2021 2:16 pm

## PROJECT TRAFFIC FORECAST REPORT

**Location:** US 231 @ Parish, 0.85mi S (east) of US41 to 1.20mi S (east) of US41

The table below contains the projected Annual Average Daily Traffic (AADT) in each requested year for each approach and movement.

The per year growth rate used for each approach is indicated in the table below. It is applied as a straight line growth.

For the purpose of this report a commercial vehicle would fall into FHWA Scheme F Classes 4 through 13. They are identified by MioVision as either an Articulated Truck, a Bus, or a Single-Unit Truck.

Daily Movement Forecast										
Approach Road Name	Approach Direction	Movement	Total	Count Year AADT	Growth Rate	Construction Year AADT 2025	Intermediate Year 1 AADT 2030	Intermediate Year 2 AADT 2035	Design Year AADT 2045	Commercial Percentage
US 231	East	Right	321	321	1.03%	334	351	367	400	2.80%
US 231	East	Thru	6,905	6,905	1.03%	7,189	7,545	7,901	8,612	3.84%
US 231	East	Left	1,004	1,004	1.03%	1,045	1,097	1,149	1,252	4.58%
US 231	East	U-Turn	0	0	1.03%	0	0	0	0	0.00%
US 231	East	Total	8,230	8,230	1.03%	8,569	8,993	9,417	10,264	0.00%
PARRISH ST	North	Right	1,077	1,077	1.10%	1,124	1,183	1,242	1,360	3.99%
PARRISH ST	North	Thru	1,492	1,492	1.10%	1,557	1,639	1,721	1,884	1.14%
PARRISH ST	North	Left	410	410	1.10%	428	450	473	518	3.17%
PARRISH ST	North	U-Turn	0	0	1.10%	0	0	0	0	0.00%
PARRISH ST	North	Total	2,979	2,979	1.10%	3,109	3,273	3,436	3,762	0.00%
PARRISH AV	South	Right	906	906	1.10%	946	995	1,045	1,144	4.86%
PARRISH AV	South	Thru	1,090	1,090	1.10%	1,138	1,197	1,257	1,376	1.93%
PARRISH AV	South	Left	629	629	1.10%	657	691	725	794	4.13%
PARRISH AV	South	U-Turn	0	0	1.10%	0	0	0	0	0.00%
PARRISH AV	South	Total	2,625	2,625	1.10%	2,740	2,884	3,027	3,315	0.00%
US 231	West	Right	430	430	1.03%	448	470	492	536	5.12%
US 231	West	Thru	6,550	6,550	1.03%	6,820	7,157	7,495	8,169	3.98%
US 231	West	Left	906	906	1.03%	943	990	1,037	1,130	3.86%
US 231	West	U-Turn	0	0	1.03%	0	0	0	0	0.00%
US 231	West	Total	7,886	7,886	1.03%	8,211	8,617	9,023	9,835	0.00%

### Growth Rate Notes





PROJECT TRAFFIC FORECAST REPORT

Location: US 231 @ Parish, 0.85mi S (east) of US41 to 1.20mi S (east) of US41

The table below contains the projected traffic volumes in each requested year for approach and movement during the morning and afternoon peak hour.

The morning and afternoon peak hours are those 60 minute periods during which the most vehicles pass through the intersection.

AM PM Peak Movement Forecast										
Approach Direction	Growth Rate	Movement	Interval	Total Vehicles	Commercial % AADT	Count Year AADT	Construction Year AADT 2025	Intermediate Year 1 AADT 2030	Intermediate Year 2 AADT 2035	Design Year AADT 2045
East	1.03%	Left	7:00 AM	31	0.03%	31	32	34	35	39
East	1.03%	Thru	7:00 AM	556	0.05%	556	579	608	636	693
East	1.03%	Right	7:00 AM	18	0.06%	18	19	20	21	22
East	1.03%	U-Turn	7:00 AM	0	0.00%	0	0	0	0	0
North	1.10%	Left	7:00 AM	28	0.00%	28	29	31	32	35
North	1.10%	Thru	7:00 AM	82	0.01%	82	86	90	95	104
North	1.10%	Right	7:00 AM	141	0.01%	141	147	155	163	178
North	1.10%	U-Turn	7:00 AM	0	0.00%	0	0	0	0	0
South	1.10%	Left	7:00 AM	47	0.11%	47	49	52	54	59
South	1.10%	Thru	7:00 AM	85	0.00%	85	89	93	98	107
South	1.10%	Right	7:00 AM	24	0.04%	24	25	26	28	30
South	1.10%	U-Turn	7:00 AM	0	0.00%	0	0	0	0	0
West	1.03%	Left	7:00 AM	122	0.02%	122	127	133	140	152
West	1.03%	Thru	7:00 AM	475	0.06%	475	495	519	543	592
West	1.03%	Right	7:00 AM	11	0.27%	11	11	12	13	14
West	1.03%	U-Turn	7:00 AM	0	0.00%	0	0	0	0	0
East	1.03%	Left	3:45 PM	75	0.03%	75	78	82	86	94
East	1.03%	Thru	3:45 PM	521	0.02%	521	542	569	596	650
East	1.03%	Right	3:45 PM	23	0.00%	23	24	25	26	29
East	1.03%	U-Turn	3:45 PM	0	0.00%	0	0	0	0	0
North	1.10%	Left	3:45 PM	35	0.00%	35	37	38	40	44
North	1.10%	Thru	3:45 PM	249	0.01%	249	260	274	287	314
North	1.10%	Right	3:45 PM	109	0.00%	109	114	120	126	138
North	1.10%	U-Turn	3:45 PM	0	0.00%	0	0	0	0	0
South	1.10%	Left	3:45 PM	46	0.04%	46	48	51	53	58
South	1.10%	Thru	3:45 PM	99	0.00%	99	103	109	114	125
South	1.10%	Right	3:45 PM	85	0.01%	85	89	93	98	107
South	1.10%	U-Turn	3:45 PM	0	0.00%	0	0	0	0	0
West	1.03%	Left	3:45 PM	84	0.04%	84	87	92	96	105
West	1.03%	Thru	3:45 PM	545	0.02%	545	567	596	624	680
West	1.03%	Right	3:45 PM	44	0.00%	44	46	48	50	55
West	1.03%	U-Turn	3:45 PM	0	0.00%	0	0	0	0	0

It should be recognized by users of this forecast that the base year AADT has an accuracy of plus or minus 10%. It should also be understood that while this report may include forecasts with up to six apparent significant figures, the accuracy should not be interpreted as being greater than two significant figures. It is the responsibility of designers to exercise professional judgement when using this data to influence decisions.

(Rev. 08/05/2021)

<b>DETERMINATION OF SIGNIFICANT WORK ZONE IMPACTS</b>		
Route: <u>US231</u> Des: <u>1702994</u> Project Development Stage: _____ Date: <u>02/16/22</u>		
<i>Note: this worksheet should be completed during scoping and the results placed in the SPMS project schedule.</i>		
<b>1. Determination by Federal Rule (Interstate corridors only)</b>	<b>YES</b>	<b>NO</b>
a. Is the project in a Traffic Management Area (see list below)?	<input type="checkbox"/>	<input type="checkbox"/> N/A
b. Will travel lane(s) be affected, continuously or intermittently, for more than three days?	<input type="checkbox"/>	<input type="checkbox"/> N/A
If answers to both 1a and 1b are yes, then the project is significant If no proceed to item 2, If yes, item 2 may be skipped	Significant <input type="checkbox"/>	
<b>2. Determination by INDOT Policy (All INDOT corridors)</b>		
a. Is project scope major reconstruction or new construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Is AADT > 12,000 for 2 lane roads or 30,000 for multilane?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Is the project in an urban or suburban area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Will mobility along corridor be significantly impacted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Will capacity of the highway be significantly reduced?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Will alternative routing be needed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Will communities, local businesses, schools, hospitals be significantly impacted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Are seasonal impacts significant?	<input type="checkbox"/>	<input type="checkbox"/>
i. Are grade changes significant?	<input type="checkbox"/>	<input type="checkbox"/>
If the answers to one or more of 2a thru 2i are yes, then the project may be significant – engineering judgment should be applied. If answers to all questions are no, then project is non-significant.	Significant <input checked="" type="checkbox"/> Non-Significant <input type="checkbox"/>	
<b>3. Comments:</b>		

**Indiana Traffic Management Areas:**

- Gary (all of Lake, Porter, and La Porte counties)
- South Bend/Elkhart (all of St Joseph and Elkhart counties)
- Fort Wayne (all of Allen County)
- Indianapolis (all of Marion, Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, and Shelby counties)
- Evansville (all of Vanderburgh and Warrick counties)
- Cincinnati (all of Dearborn County)
- Louisville (all of Clark and Floyd counties)

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

ProjectNumber	SubProjectCode	County	Property
1800005	1800005	Lake	Dowling Park
1800011	1800011	Lake	Tolleston Park
1800012	1800012	Lake	Washington Park
1800040	1800040	Lake	Homestead Park
1800055	1800055	Lake	Sheppard Memorial Park
1800059	1800059	Lake	Cheever Park
1800062	1800062	Lake	Leroy Township Park
1800063	1800063	Lake	Markley Memorial ParkEllendale Park
1800071	1800071	Lake	Cheever Park
1800087	1800087	Lake	Sheppard Memorial Park
1800102	1800102	Lake	Grand Boulevard Lake Recreation Area
1800108	1800108	Lake	Riverview Park
1800137	1800137	Lake	Northgate Park
1800150	1800150	Lake	Meadows Park
1800168	1800168	Lake	Sunnyside Park
1800170	1800170	Lake	Howe Park
1800189	1800189	Lake	Dowling Park
1800193	1800193	Lake	Harrison Park
1800194	1800194	Lake	Martin Luther King Jr. Park (Formerly Maywood Park
1800199	1800199	Lake	Ridgeway Park
1800202	1800202	Lake	Hatcher Park
1800206	1800206	Lake	Meadows Park
1800226	1800226	Lake	Hoosier Prairie Nature Preserve
1800227	1800227	Lake	Liberty Park
1800231	1800231	Lake	Pheasant Hills Community Park & Cherry Hill Tot-Lot
1800237	1800237	Lake	Wolf Lake Park (N & S)
1800239	1800239	Lake	Bluebird Park
1800253	1800253	Lake	Centennial Park
1800272	1800272	Lake	Wolf Lake Park (N & S)
1800273	1800273	Lake	Grand Kankakee Marsh County Park
1800302	1800302	Lake	Munster Community Park



1800329	1800329	Lake	Jackson Park
1800369	1800369H	Lake	Harrison Park
1800369	1800369D	Lake	Lemon Lake County Park
1800377	1800377	Lake	Main Square Park
1800386	1800386	Lake	Gibson Woods Nature Preserve & Tolleston Ridges Nature Preserve
1800405	1800405G	Lake	Clark and Pine Dune Swale Nature Preserve
1800414	1800414	Lake	Wolf Lake Park (N & S)
1800417	1800417	Lake	Centennial (Dan Rabin) Plaza & Trail
1800424	1800424	Lake	Lake Etta County Park
1800455	1800455	Lake	Deep River - Woods Mill County Park
1800464	1800464	Lake	Festival Park & Lakefront Park
1800473	1800473	Lake	Oak Ridge Prairie Co. Park
1800488	1800488	Lake	Marquette Park
1800489	1800489	Lake	Festival Park & Lakefront Park
1800522	1800522	Lake	Pavese Park
1800523	1800523	Lake	Lakewood Park
1800523.5	1800523.5	Lake	River Drive Park
1800528	1800528	Lake	Lowell Sports Park
1800533	1800533	Lake	Hobart City Ball Park
1800555	1800555	Lake	Scherwood Golf Course
1800580	1800580	Lake	Oak Ridge Park
1800586	1800586	Lake	Teibel Nature Park
1800586.1	1800586.1	Lake	Teibel Nature Park
1800590	1800590	Lake	Deep River County Park
1800622	1800622	Lake	Fireman's Park
1800636	1800636	Lake	Parrish Avenue Park

\*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

Table: ACSDTSY2021.B17001

	Lake County, Indiana	Census Tract 429.04, Lake County, Indiana
Label	Estimate	Estimate
Total:	490,255	4,983
Income in the past 12 months below poverty level:	72,308	348
Male:	31,496	187
Under 5 years	3,337	0
5 years	637	0
6 to 11 years	5,140	46
12 to 14 years	2,159	0
15 years	939	0
16 and 17 years	1,473	0
18 to 24 years	2,832	24
25 to 34 years	3,103	18
35 to 44 years	3,633	14
45 to 54 years	2,557	0
55 to 64 years	3,107	18
65 to 74 years	1,692	67
75 years and over	887	0
female:	40,812	161
Under 5 years	3,654	0
5 years	876	0
6 to 11 years	3,947	0
12 to 14 years	2,425	35
15 years	774	7
16 and 17 years	1,232	0
18 to 24 years	4,196	0
25 to 34 years	5,937	65
35 to 44 years	5,961	0
45 to 54 years	3,497	7
55 to 64 years	3,875	16
65 to 74 years	2,341	31
75 years and over	2,097	0
Income in the past 12 months at or above poverty level:	417,947	4,635
Male:	207,023	2,248
Under 5 years	11,495	131
5 years	2,108	14
6 to 11 years	14,466	135
12 to 14 years	8,718	24
15 years	3,040	0
16 and 17 years	5,331	33
18 to 24 years	18,292	152
25 to 34 years	26,301	428
35 to 44 years	27,099	201
45 to 54 years	27,791	343
55 to 64 years	29,721	129
65 to 74 years	20,948	349
75 years and over	11,713	309
Female:	210,924	2,387
Under 5 years	10,431	248
5 years	2,530	56
6 to 11 years	14,114	98
12 to 14 years	8,016	70
15 years	2,267	16
16 and 17 years	6,150	70
18 to 24 years	16,285	148
25 to 34 years	24,641	334
35 to 44 years	26,684	256
45 to 54 years	28,314	311
55 to 64 years	31,223	200
65 to 74 years	23,487	357
75 years and over	16,782	223

Table: ACSDT5Y2021.B03002

	Lake County, Indiana	Census Tract 429.04, Lake County, Indiana
Label	Estimate	Estimate
Total:	495,925	4,983
Not Hispanic or Latino:	398,040	4,355
White alone	263,960	3,813
Black or African American alone	114,170	79
American Indian and Alaska Native alone	732	32
Asian alone	7,257	123
Native Hawaiian and Other Pacific Islander alone	132	0
Some other race alone	1,145	0
Two or more races:	10,644	308
Two races including Some other race	1,424	0
Two races excluding Some other race, and three or more races	9,220	308
Hispanic or Latino:	97,885	628
White alone	33,839	461
Black or African American alone	1,141	0
American Indian and Alaska Native alone	632	0
Asian alone	155	0
Native Hawaiian and Other Pacific Islander alone	27	0
Some other race alone	41,139	102
Two or more races:	20,952	65
Two races including Some other race	17,570	47
Two races excluding Some other race, and three or more races	3,382	18

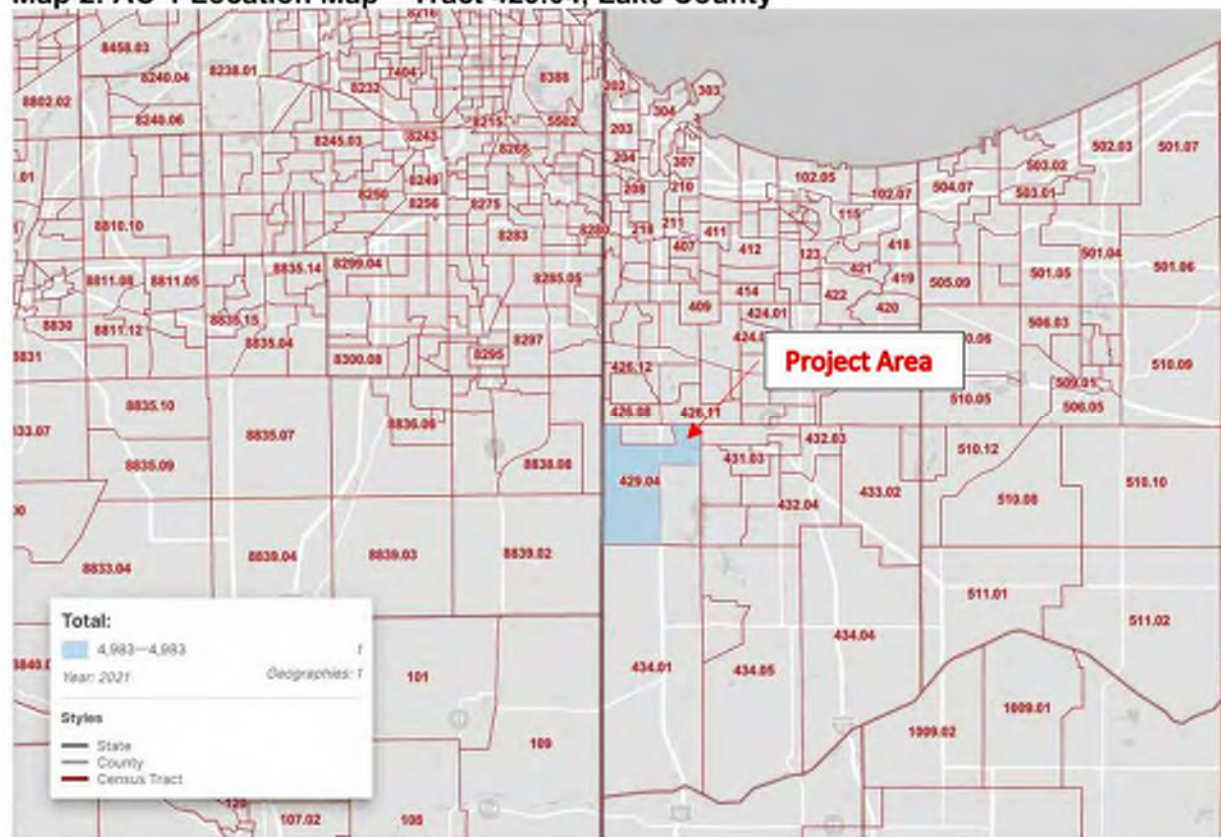


**Map 1: COC Location Map – Lake County**



Source: US Census Bureau Maps, accessed November 7, 2023

**Map 2: AC-1 Location Map – Tract 429.04, Lake County**



Source: US Census Bureau Maps, accessed November 7, 2023

Census Table	Census Table Line Item	COC		AC-1	Notes
		Lake County	Census Tract 429,04, Lake County		
<b>Low-Income</b>					
B17001	Pop, for whom Poverty Status Determined: Total	490,255	4,983		
B17001	Pop, for whom Poverty Status Determined: Income past 12 mos below poverty level	72,308	348		
	% Low-Income	15	7		
	125 % COC	18	9		
	Potential Low-Income EI Impact?		No		Is the AC greater than 50%?
			No		Is the AC 25% higher than the COC?
<b>Minority</b>					
B03002	Total Population: Total	495,925	4,983		
B03002	Total Population - Not Hispanic or Latino: White Alone	263,960	3,813		
	Number Non-White/Minority	231,965	1,170		
	% Non-White/Minority	47	23		
	125 % COC	58	29		
	Potential Minority EI Impact?		No		Is the AC greater than 50%?
			No		Is the AC 25% higher than the COC?