FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	United States (US) 231 and Parrish Avenue, Lake County
Designation Number(s):	1702994
Project Description/Termini:	Intersection improvement project at US 231 and Parrish Avenue, in Lake County, Indiana. The project will extend approximately 430 feet north on Parrish Avenue, 760 feet east on US 231, 360 feet south on Parrish Avenue, and 745 feet west on US 231/West 109th Avenue.

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

Approval

INDOT DE Signature and Date

INDOT ESD Signature and Date

FHWA Signature and Date

Release for Public Involvement

INDOT DE Initials and Date

ADWP June 11, 2024

INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date:

Name and Organization of CE/EA Preparer: Chad Kelly, Kaskaskia Engineering Group, LLC

Part I – Public Involvement

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

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

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

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

Notice of Survey letters were mailed to potentially affected property owners near the project area on October 25, 2021, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Survey letter is included in Appendix G, page 1.

To meet the public involvement requirement of Section 106, a legal notice of the Federal Highway Administration's (FHWA) finding of "No Historic Properties Affected" was published in the *Northwest Indiana Times* on March 4, 2024, offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public was afforded 30 days to comment. The comment period ended April 4, 2024. Comments from the public in response to the finding of "No Historic Properties Affected" were not received. A copy of the public notice and affidavit of publication is included in Appendix D, page 71.

The project will meet the minimum requirements described in the current *Indiana Department of Transportation (INDOT) Project Development Public Involvement Procedures Manual* which requires the project sponsor to offer the public an opportunity to submit comments and/or request a public hearing. However, INDOT determined that it is in the community's best interest to host a public hearing due to the nature of the project. A Legal Notice of Public Hearing will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.

Public Controversy on Environmental Grounds

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

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

Part –I – General Project Identification, Description, and Design Information

Sponsor of the Project: Indiana Department of Transportation (INDOT) INDOT District: LaPorte

Local Name of the Facility: US 231 and Parrish Avenue

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

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

PURPOSE AND NEED:

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

The need for this project is due to a high relative incidence of crashes and associated damage costs, as well as user delays during certain peak hours of traffic at the US 231 and Parrish Avenue intersection. According to the Engineering Assessment Report, dated February 18, 2022, (Appendix I, pages 1 to 39), the RoadHAT 3.0 analysis (INDOT traffic engineering safety modeling software) of 2016-2018 crash data, the most recent incident data available for the intersection, illustrates the index of crash frequency (ICF) is 1.90 and the index of crash cost (ICC) is 1.67. These values are considered high for this type of intersection. These indices compare the crash cost and crash frequency for this intersection to intersections with similar volumes, roadway classifications, and control type throughout Indiana. The ICF and ICC exceed the threshold of 1.00 set by INDOT's Office of Traffic Safety, indicating that the intersection is a safety concern. Additionally, increased motorist delays at the subject intersection depicts a level of service (LOS) rating of C (stable flow), with a 27.2 second delay during the PM peak hour. The LOS, which measures the quality of motor vehicle traffic service, is measured on a scale of A through F, with F being the worst. LOS A indicates less than or equal to ten seconds of vehicular delay for both unsignalized and signalized intersections. LOS F indicates greater than 50 seconds of vehicular delay at unsignalized intersections, and greater than 80 seconds of vehicular delay at signalized intersections. The intersection's current LOS rating of C was measured in 2021 and the overall LOS was predicted to have a rating of E in 2045 if the safety concern is not addressed.

The purpose of the project is to reduce crash potential, improve the ICF and ICC to 1.00 or less, improve the overall LOS to at least a B, and provide a long-term solution to ensure safe and sufficient operation of the intersection.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Lake Municipality: LaPorte

Limits of Proposed Work: The project will occur at the intersection of US 231 and Parrish Avenue, extending approximately 430 feet north on Parrish Avenue, 760 feet east on US 231, 360 feet south on Parrish Avenue, and 745 feet west on US 231/West 109th Avenue.

Total Work Length (gross): 0.47 Mile(s) Total Work Area: 5.03 Acre(s)

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

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

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

The INDOT and the FHWA intend to proceed with this intersection improvement project.

The project is located at the intersection of US 231 and Parrish Avenue, in Sections 3, 4, 9 and 10, Township 34 North, Range 9 West, Hanover Township, Lake County, Indiana (Appendix B, page 1).

The existing intersection is signalized with loop detectors on all four approaches. This section of US 231 is classified as a *Principal Arterial*, consisting of two, 12-foot through lanes, with variable width paved shoulders and a dedicated right turn lane on the western approach. Parrish Avenue is classified as a Minor Arterial south of US 231, and a Local Road north of US 231, consisting of one 12-foot left/through/right turn lane for each approach with variable width paved shoulders. The project also includes the replacement of three drainage pipes. The drainage pipes will be upsized to accommodate INDOT design standards to meet proposed roadway width dimensions associated with the roundabout design. The project is located in an urbanized area consisting of mowed vegetation associated with a single-family residence in the northwest quadrant, a bank in the northeast quadrant, agricultural fields in the southeast quadrant, and a gas station in the southwest quadrant. Sidewalks are only present adjacent to the gas station on the south side of US 231 and the west side of Parrish Avenue. Adjacent to these areas are forested tracts, agricultural land, and subdivisions intermixed with commercial facilities. Per RoadHAT 3.0 analysis of 2016-2018 crash data, the ICF is 1.90 and the ICC is 1.67, which is considered high for both indices for this type of intersection. These indices compare the crash cost and crash frequency for this intersection to intersections with similar volumes, roadway classifications, and control type throughout Indiana. The ICF and ICC exceed the threshold of 1.00 set by INDOT's Office of Traffic Safety, indicating that the intersection is a safety concern.

The preferred alternative for this project will convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additionally, drainage improvements will include 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 west leg of US 231 with a 24-inch pipe; replacing the existing 18-inch concrete pipe in the east leg of US 231 with a 36-inch pipe; and, replacing the 18-inch concrete pipe under the north leg of the intersection, Parrish Avenue, with a 42-inch pipe. Additionally, one 18-inch concrete pipe under the north leg of Parrish Avenue will be partially removed to help connect the new storm system manhole. Each drainage pipe is to be upsized to satisfy project design that includes wider pavement specifications, and to meet current INDOT standards. Drainage pipe replacement details are illustrated in the table below:

Pipe Location (Station)	Structure Number (associated with project plans)	Existing/Proposed Size (inch)	Existing/Proposed Material	Existing/Proposed Length (feet)
West Leg – US 231 (22+83)	112	15/24	Corrugated Metal/Concrete	48/91
East Leg – US 231 (217+23)	107	18/36	Concrete	65/144
North Leg - Parrish Ave (23+31)	115	18/42	Concrete	62/83
North Leg – Parrish Ave (23+29)	114 (partially removed)	18/18	Concrete	6/3

Utility relocations for eight utility poles will be required at the corners of the existing intersection. Intersection improvements will include new street lighting and landscaping. The project will require approximately 2.933 acres of permanent right-of-way (ROW), and approximately 0.228 acre of temporary ROW. Anticipated impacts include approximately 0.54 acres of tree removal, 2.8 acres of terrestrial habitat disturbance, 0.270 acre of permanent impacts to wetlands, and 93 linear feet (0.010 acre) of permanent impacts to waterways. Since the project will disturb at least one acre of soil, a Construction Stormwater General Permit (CSGP) will be required. Every effort to avoid, minimize, and/or mitigate project impacts will be made. Preliminary project plans are included in Appendix B, pages 45 to 77.

The proposed maintenance of traffic (MOT) will include phased lane closures, with eventual full closure of the intersection, utilizing a state detour (Appendix B, pages 50 to 52). The MOT for the project is discussed in further detail in the MOT During Construction section of this document.

The project will reduce crash potential, improve the ICF and ICC to 1.00 or less, improve the overall LOS to at least a B, and provide a long-term solution to ensure safe and efficient operation of the intersection. This improves overall safety in the area and meets the purpose and need.

The construction limits extend approximately 430 feet north on Parrish Avenue, 760 feet east on US 231, 360 feet south on Parrish Avenue, and 745 feet west on US 231/West 109th Avenue, which are the logical termini for the project since these are the rational end

points of the transportation improvement and subsequent review of its environmental impacts. This project demonstrates independent utility because it will improve the intersection as an independent project and does not depend on any other planned projects.

OTHER ALTERNATIVES CONSIDERED:

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

Median U-Turn Intersection: This alternative will modify the existing intersection by eliminating direct left turns from US 231 and Parrish Avenue at the main intersection and include medians. Since neither US 231 nor Parrish Avenue currently have medians, this alternative would require significant modifications to the configuration to the intersection. These alterations could potentially reach the CSX Railroad crossing to the west of the intersection, which would require additional ROW acquisition and potential utility disturbance, directly impacting the existing railroad crossing. The additional acquired ROW would also increase the chance of enhanced environmental impacts. The aggregate of these impacts would subsequently increase construction costs compared to the preferred alternative. Although this alternative does meet the purpose and need, the impacts and subsequent costs associated with this intersection design caused this alternative to not be evaluated after the initial screening. Therefore, this alternative was discarded.

Displaced Left-Turn Intersection: This alternative will modify the existing intersection similarly to the Median U-Turn Intersection alternative. This intersection design would move all mainline and/or crossroad left turn movements southeast of the main intersection. This alternative was not deemed feasible as US 231 does not have a median, nor does US 231 have the volume of traffic to warrant displacing the movement. This alternative would require significant ROW acquisitions compared to the preferred alternative. The additional acquired ROW would increase the chance of enhanced environmental impacts. The aggregate of these impacts would subsequently increase construction costs compared to the preferred alternative. Although this alternative does meet the purpose and need, this alternative was not further evaluated after the initial screening due to additional impacts and subsequent costs compared to the preferred alternative. Therefore, this alternative was discarded.

Jug-Handle Intersection: This alternative will modify the existing intersection by introducing "at grade ramps" to promote indirect left turns and U-turns. However, this alternative would require significant ROW acquisitions compared to the preferred alternative. The additional acquired ROW would also increase the chance of enhanced environmental impacts. Additionally, the US 231 and Parrish Avenue intersection does not have high enough left turn traffic volumes to warrant the alternative. Although this alternative does meet the purpose and need, this alternative was not further evaluated after the initial screening due to additional impacts and subsequent costs compared to the preferred alternative. Therefore, this alternative was discarded.

Offset "T" Intersection: This alternative will modify the existing intersection by splitting the intersection from a single four-legged intersection into two "T" junctions. This alternative would also require additional ROW acquisitions compared to the preferred alternative. The additional acquired ROW would also increase the chance of enhanced environmental impacts to wetlands. Additionally, volumes along each roadway are not low enough to warrant this alternative design and associated intersection modifications. Although this alternative does meet the purpose and need, this alternative was not further evaluated after the initial screening due to additional impacts and subsequent costs compared to the preferred alternative. Therefore, this alternative was discarded.

Green "T" Intersection: This alternative is only applicable to three-legged intersections, or simply, intersections with three approaches. US 231 and Parrish Avenue intersection is a four-legged intersection with four approaches. For this reason, this alternative does not apply to the subject intersection of US 231 and Parrish Avenue, and does not meet the purpose and need. Hence, this alternative was not further evaluated after the initial screening. Therefore, this alternative was discarded.

Quadrant Roadway Intersection: This alternative will modify the existing intersection by shifting all left-turning movements away from the main intersection to a two-way connector roadway constructed within an existing intersection quadrant. This alternative would essentially result in the construction of two additional intersection northwest of the primary intersection. This alternative would require additional ROW acquisitions compared to the preferred alternative and require significant modifications to the existing roadway geometry, altering the cost of the project significantly. The additional acquired ROW would also increase the chance of enhanced environmental impacts. Although this alternative does meet the purpose and need, this alternative was not further evaluated after the initial screening due to additional impacts and subsequent costs compared to the preferred alternative. Therefore, this alternative was discarded.

Grade Separation: This alternative will modify the existing intersection by introducing an overpass. This alternative would require significant earthwork and modifications to the existing roadway geometry, resulting in greater environmental impacts. This alternative would also restrict mobility and access to surrounding businesses and residences in the project area. This modification would result in

higher construction costs, far exceeding costs associated with the preferred alternative. Although this alternative does meet the purpose and need, this alternative was not further evaluated after the initial screening due to additional impacts and subsequent costs compared to the preferred alternative. Therefore, this alternative was discarded.

No Build: The no build alternative would result in no construction activities. If no action is taken, the intersection safety issues will persist, and the traffic incidents will not be addressed. No environmental impacts are associated with the no-build alternative. LOS is predicted to diminish to D or E in design year 2045, which would not address the purpose and need. Therefore, this alternative was discarded.

Conventional Intersection: This alternative will modify the existing intersection by widening each approach, adding dedicated left-hand and right-hand turn lanes along each approach and an additional through lane along US 231. The traffic signals would also be modernized with optimized phasing and timings. This alternative will reduce crashes and improve operational performance of the intersection; however, widening each approach would result in significant ROW acquisition. The additional acquired ROW would also increase the chance of enhanced environmental impacts. This alternative would also cause additional utility relocation of overhead utility poles, altering projects costs. Additionally, this alternative would result in a predicted LOS of C in design year 2045, which would not address the purpose and need. Therefore, this alternative was discarded.

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

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

ROADWAY CHARACTER:

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

Name of Roadway: US 231
Functional Classification: Principal Arterial
Current ADT: 16,343 VPD (2022) Design Year ADT: 20,888 VPD (2045)
Design Hour Volume (DHV): 1,876 Truck Percentage (%): 3
Designed Speed (mph): 50 Legal Speed (mph): 55

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	2 through lanes		2 through lanes	
Pavement Width:	12	ft.	12	ft.
Shoulder Width:	variable	ft.	2.7 to 2.8	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

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

Name of Roadway: Parrish Avenue North
Functional Classification: Local Road
Current ADT: 2,841 VPD (2022) Design Year ADT: 3,681 VPD (2045)
Design Hour Volume (DHV): 402 Truck Percentage (%): 11
Designed Speed (mph): 40 Legal Speed (mph): 40

County Lake Route US 231 Des. No. 1702994

	Existing		Proposed	
Number of Lanes:	2		1	
Type of Lanes:	1 through lane		1 through lane	
Pavement Width:	12	ft.	12	ft.
Shoulder Width:	variable	ft.	2.7 to 2.8	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

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

Name of Roadway: Parrish Avenue South
Functional Classification: Minor Arterial
Current ADT: 2,016 VPD (2022) Design Year ADT: 2,612 VPD (2045)
Design Hour Volume (DHV): 345 Truck Percentage (%): 11
Designed Speed (mph): 30 Legal Speed (mph): 30

	Existing		Proposed	
Number of Lanes:	2		1	
Type of Lanes:	1 through lane		1 through lane	
Pavement Width:	12	ft.	12	ft.
Shoulder Width:	variable	ft.	2.7 to 2.8	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

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

BRIDGES AND/OR SMALL STRUCTURE(S):

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

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

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

Describe impacts and work involving bridge(s), culvert(s), pipe(s), and small structure(s). Provide details for small structure(s): structure number, type, size (length and dia.), location and impacts to water. Use a table if the number of small structures becomes large. If the table exceeds a complete page, put it in the appendix and summarize the information below with a citation to the table.

The project includes the replacement of three pipes within the project area. All the pipes are less than 48 inches and therefore not listed in the Indiana Bridge Inspection Application System (BIAS) system, as well as the INDOT Total Assets Management System (iTAMS). Nor do the pipes have an assigned structure number. Details for the pipe replacement work is as follows:

Pipe Location (Station)	Structure Number (associated with project plans)	Existing/Proposed Size (inch)	Existing/Proposed Material	Existing/Proposed Length (feet)
West Leg – US 231 (22+83)	112	15/24	Corrugated Metal/Concrete	48/91
East Leg – US 231 (217+23)	107	18/36	Concrete	65/144
North Leg - Parrish Ave (23+31)	115	18/42	Concrete	62/83
North Leg – Parrish Ave (23+29)	114*	18/18	Concrete	6/3

*Note: structure 114 will undergo partial removal to accommodate a new storm system manhole. Additionally, manholes and catch basins associated with the above structures will be removed. The replacement of these pipes will result in impacts to streams and wetlands.

The installation of new drainage features will occur as part of this project to accommodate new intersection design modifications.

The below table illustrates existing drainage structures within the project area, with no proposed work:

Station Location	Structure Number (associated with project plans)	Existing Size (inch)	Existing Material/Structure Type
208+11	101	12	Concrete / drain pipe
209+73	102	8	Unknown / drain tile
210+05	103	8	Unknown / drain tile
215+37	104	12	Unknown / catch basin
217+91	108	12	Unknown / catch basin
219+87	109	15	Concrete / drain pipe
222+01	110	15	Unknown / catch basin
225+03	111	15	Unknown / catch basin
25+77	116	15	Concrete / drain pipe

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

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

The MOT for the project will occur in two phases. Phase 1 includes partial closure of the intersection while maintaining US 231 through traffic and closing Parrish Avenue. A local detour will be implemented for Parrish Avenue consisting of W 117th Avenue, US 41, and Joliet Street, adding 2.7 miles of travel. Phase 2 includes a full closure of the intersection (US 231 and Parrish Avenue) with a detour. The detour for US 231 includes US 41, US 30, and I-65. The proposed detour will add nearly 10.6 miles of travel. Expected duration of this MOT is anticipated to last one construction season. MOT plans are included in Appendix B, pages 50 to 52.

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

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 340,000 (FY 2022) Right-of-Way: $ 80,000 (FY 2025) Construction: $ 4,409,711.00* (FY 2026)

Note*: Final costs are pending approval

Anticipated Start Date of Construction: Spring 2026

RIGHT OF WAY:

Land Use Impacts	Amount (acres) Permanent	Temporary
Residential	0.813	0.090
Commercial	0.416	0.138
Agricultural	1.434	0
Forest	0	0
Wetlands	0.270	0
Other:	0	0
Other:	0	0
Other:	0	0
Other:	0	0
TOTAL	2.933	0.228

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

The existing ROW is approximately 35 feet north and south of the centerline on US 231 and approximately 35 east and west of the centerline on Parrish Avenue and mostly consists of mowed grasses and scrub shrub typical of being adjacent to a suburban roadway.

The project requires approximately 2.933 acres of permanent ROW consisting of residential, commercial, agricultural, and wetlands within all four quadrants. The project will also require 0.228 acre of temporary ROW consisting of mowed areas of the residential lot northwest quadrant along US 231 and at the drive to the residence, along Parrish Avenue south of Poplar Place in a commercial area, and along US 231 and Parrish Avenue in the southwest quadrant in a commercial area. Proposed ROW widths vary along US 231 from 35 feet to75 feet from the centerline and vary along Parrish Avenue from 35 feet to 75 feet from the centerline.

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

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

SECTION A - EARLY COORDINATION:

List the date(s) coordination was sent and all resource agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received.

Early coordination letters were sent on February 1, 2023, February 9, 2023, and March 20, 2024 (Appendix C, pages 1 to 2).

Agency	Date Sent	Response Date	Appendix
FHWA	February 1, 2023	No response received	N/A
Indiana Geological and Water Survey (IGWS) (Automated Response)	February 1, 2023	February 1, 2023	Appendix C, pages 3 to 4
U.S. Department of Housing and Urban Development (HUD)	February 1, 2023	No response received	N/A
Natural Resources Conservation Service (NRCS)	March 20, 2024	March 29, 2024	Appendix C, page 10
Indiana Department of Environmental Management (IDEM) – Wetlands and Stormwater Programs	February 1, 2023	No response received	N/A
IDEM - Groundwater Section	February 1, 2023	February 8, 2023	Appendix C, pages 7 to 9
Indiana Department of Natural Resources, Division of Fish and Wildlife (IDNR-DFW)	February 1, 2023	March 3, 2023	Appendix C, pages 14 to 15
National Park Service (NPS)	February 1, 2023	No response received	N/A
INDOT LaPorte Environmental Section Manager - Supervisor	February 1, 2023	February 2, 2023	Appendix C, page 5
INDOT Project Manager	February 1, 2023	No response received	N/A
U.S. Army Corps of Engineers (USACE)	February 1, 2023	February 8, 2023	Appendix C, pages 16
Kankakee River Basin and Yellow River Basin – Development Commission	February 1, 2023	No response received	N/A
Northwestern Indiana Regional Planning Commission – Executive Director	February 1, 2023	No response received	N/A
Lake County Sheriff's Department	February 1, 2023	No response received	N/A
Lake County Commissioners – 2nd District	February 1, 2023	No response received	N/A
Lake County Plan Commission – Executive Director	February 1, 2023	No response received	N/A
Lake County Highway Department - Superintendent	February 1, 2023	No response received	N/A
Town of St. John – Police Chief	February 1, 2023	No response received	N/A
Town of St. John Fire Department – Fire Chief	February 1, 2023	No response received	N/A
Town of St. John – Town Manager	February 1, 2023	No response received	N/A
Town of St. John – Town Council Member	February 1, 2023	No response received	N/A
Town of St. John Public Works Department	February 1, 2023	No response received	N/A
Town of St. John Municipal Water Utility - Director	February 9, 2023	February 10, 2023	Appendix C, pages 12 to 13
Crown Point Christian School – Head of School	February 1, 2023	No response received	N/A
Hanover Community School Corporation – Superintendent	February 1, 2023	No response received	N/A
Lake Central School Corporation - Superintendent	February 1, 2023	February 1, 2023	Appendix C, page 6

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

SECTION B – ECOLOGICAL RESOURCES:

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

Total stream(s) in project area: 128.7 Linear feet Total impacted stream(s): 93 Linear feet

Stream Name	Classification	Total Size in Project Area (linear feet)	Impacted linear feet	Comments (i.e. location, flow direction, likely Water of the US, appendix reference)
Unnamed Tributary (UNT) to West Creek	Intermittent	128.7	93	Located under US 231 and Parrish Avenue, flow direction to the northwest, likely Water of the US (Appendix F)

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

Based on the desktop review, the aerial map of the project area, and the Red Flag Investigation (RFI) report (Appendix E, pages 8 to 16), there are two streams, rivers, watercourse, or other jurisdictional features within the 0.5-mile search radius. There are no streams, rivers, watercourses, or other jurisdictional features within or adjacent to the project area. That number was updated to one stream located in the project area by the site visits on October 6, 2022, and April 27, 2023, by Kaskaskia Engineering Group, LLC (KEG).

No Federal, Wild and Scenic Rivers; State Natural, Scenic, and Recreational Rivers; Outstanding Rivers for Indiana; navigable waterways or National Rivers Inventory waterway are present in or adjacent to the project area.

A *Waters of the U.S. Determination Report* was approved by INDOT Ecology, Waterway, Permitting, and Stormwater Office (EWPSO) on June 3, 2024. Please refer to Appendix F, pages 1 to 28 for the *Waters of the U.S. Determination Report.* It was determined that one likely intermittent jurisdictional stream is located within the investigated area with the potential to be impacted by the project. The USACE makes all final determinations regarding jurisdiction. Due to project design change and additional scope, an updated *Waters of the U.S. Determination Report* was completed. Updated results are provided in Appendix F.

UNT to West Creek is an intermittent stream that flows from southeast to northwest beneath US 231 and Parrish Avenue that eventually flows into the Kankakee River, a Traditional Navigable Waterway. A defined ordinary high water mark (OHWM) was observed that was approximately 4.66 feet wide and approximately 0.66 feet deep. Upstream drainage comes from agricultural fields and residential areas. Based on a qualitative assessment, this resource is of poor quality within this reach due to lack of in-stream cover and habitat potential. Approximately 128.7 linear feet (LF) of the stream is within the investigated area.

Approximately 93 LF (0.010 acre) of permanent impacts to UNT to West Creek will occur due to upgrading and upsizing a storm pipe. Temporary impacts to UNT to West Creek are not anticipated. Avoidance was not practicable, as project limits have been constrained to the smallest possible to complete the project.

Due to impacts to likely Waters of the U.S., a USACE Section 404 Permit and an IDEM Section 401 Water Quality Certification (WQC) will be required. No mitigation will likely be required for this permit.

IDNR-DFW responded on March 3, 2023, with recommendations regarding bank stabilization, riparian habitat, and excavation and erosion control standards (Appendix C, pages 14 to 15). All applicable recommendations are included in the Environmental Commitments section of this CE document.

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

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

Based on the desktop review, the aerial map of the project area, and the RFI Addendum 2 report (Appendix E, pages 1 to 4), there are six open water features within the 0.5-mile search radius. There are no open water features within or adjacent to the project area. That number was confirmed by the site visits on October 6, 2022, and April 27, 2023, by KEG.

A *Waters of the U.S. Determination Report* was approved by INDOT EWPSO) on June 3, 2024. Please refer to Appendix F, pages 1 to 28 for the *Waters of the U.S. Determination Report*. It was determined that no jurisdictional open water features were located within the investigated area and will be impacted by the project. The USACE makes all final determinations regarding jurisdiction. Due to project design change and additional scope, an updated *Waters of the U.S. Determination Report* was completed. Updated results are provided in Appendix F.

Wetlands	Presence	Impacts Yes	Impacts No
	X	X	

Total wetland area: 0.430 Acre(s) Total wetland area impacted: 0.270 Acre(s)

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres (permanent)	Comments (i.e. location, likely Water of the US, appendix reference)
1	PEM	0.001	0.001	North side of US 231, west of Parrish Avenue, likely not jurisdictional (Appendix F)
2	PEM	0.009	0.005	North side of US 231, west of Parrish Avenue, likely jurisdictional (Appendix F)
3	PEM	0.010	0.008	North side of US 231, east of Parrish Avenue, likely jurisdictional (Appendix F)
4	PEM	0.090	0.030	North side of US 231, east of Parrish Avenue, likely jurisdictional (Appendix F)
5	PEM	0.240	0.189	South side of US 231, east of Parrish Avenue, likely jurisdictional (Appendix F)
6	PEM	0.080	0.037	South side of US 231, east of Parrish Avenue, likely not jurisdictional (Appendix F)

Indiana Department of Transportation

County Lake Route US 231 Des. No. 1702994

Wetlands (*Mark all that apply*)	**Documentation**	**ESD Approval Dates**
Wetland Determination	X	June 3, 2024
Wetland Delineation	X	June 3, 2024
USACE Isolated Waters Determination		

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

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

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

Based on the desktop review, the aerial map of the project area, and the RFI Addendum 2 report (Appendix E, pages 1 to 4), there are 26 wetlands within the 0.5-mile search radius. There are no wetlands within or adjacent to the project area. That number was updated to six wetlands located in the project area by the site visits on October 6, 2022, and April 27, 2023, by KEG.

A *Waters of the U.S. Determination Report* was approved by INDOT EWPSO on June 3, 2024. Please refer to Appendix F, pages 1 to 28 for the *Waters of the U.S. Determination Report.* It was determined that four likely jurisdictional wetlands (Wetlands 2, 3, 4, and 5) and two likely non jurisdictional wetlands (Wetlands 1 and 6) are located within the investigated area and will be impacted by the project. The USACE makes all final determinations regarding jurisdiction. Due to project design change and additional scope, an updated *Waters of the U.S. Determination Report* was completed. Updated results are provided in Appendix F.

Wetland 1 is an approximately 0.001-acre palustrine emergent wetland (PEM) of poor quality that is located on the north side of US 231 and west of Parrish Avenue. Hydrology within Wetland 1 is due to drainage from the adjacent roadway. Wetland 1 would likely be considered non jurisdictional by the USACE because it lacks a connection to UNT to West Creek. Permanent impacts to Wetland 1 include 0.001 acre due to roundabout approach grading. No temporary impacts are anticipated. Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project.

Wetland 2 is an approximately 0.009-acre PEM of poor quality that is located on the north side of US 231 and west of Parrish Avenue. Hydrology within Wetland 2 is due to drainage from the adjacent roadway. Wetland 2 would likely be considered jurisdictional by the USACE due to its connection to Roadside Ditch 3 (RSD3) and UNT to West Creek, which flows into West Creek, which then flows into Bull Run and then the Kankakee River, a Traditional Navigable Waterway (TNW). Permanent impacts to Wetland 2 include 0.005 acre due to roundabout pavement placement. No temporary impacts are anticipated. Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project.

Wetland 3 is an approximately 0.010-acre PEM of poor quality that is located on the north side of US 231 and east of Parrish Avenue. Hydrology within Wetland 3 is due to drainage from the adjacent roadway. Wetland 3 would likely be considered jurisdictional by the USACE due to its connection to UNT to West Creek, which flows into West Creek, which then flows into Bull Run and then the Kankakee River, a TNW. Permanent impacts to Wetland 3 include 0.008 acre due to roundabout pavement placement, sidewalks, and grading. No temporary impacts are anticipated. Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project.

Wetland 4 is an approximately 0.090-acre PEM of poor quality that is located on the north side of US 231 and east of Parrish Avenue. Hydrology within Wetland 4 is due to drainage from the adjacent roadway. Wetland 4 would likely be considered jurisdictional by the USACE due to its connection to West Creek, which flows into West Creek, which then flows into Bull Run and then the Kankakee River, a TNW. Permanent impacts to Wetland 4 include 0.030 acre due to roundabout pavement placement, sidewalks, and grading. No temporary impacts are anticipated. Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project.

Wetland 5 is an approximately 0.240-acre PEM of poor quality that is located on the south side of US 231 and east of Parrish Avenue. Hydrology within Wetland 5 is due to drainage from the adjacent roadway. Wetland 5 would likely be considered jurisdictional by the

USACE due to its connection to UNT to West Creek, which flows into West Creek, which then flows into Bull Run and then the Kankakee River, a TNW. Permanent impacts to Wetland 5 include 0.189 acre due to roundabout pavement placement. No temporary impacts are anticipated. Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project.

Wetland 6 is an approximately 0.080-acre PEM of poor quality that is located on the south side of US 231 and east of Parrish Avenue. Hydrology within Wetland 6 is due to drainage from the adjacent roadway. Wetland 6 would likely be considered non jurisdictional by the USACE because it lacks a connection to UNT to West Creek, a ditch, or Wetland 5. Permanent impacts to Wetland 6 include 0.037 acre due to roundabout pavement placement, sidewalks, and grading. No temporary impacts are anticipated. Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project.

Due to impacts to likely Waters of the U.S., a USACE Section 404 Permit and an IDEM Section 401 Water Quality Certification (WQC) will be required. No mitigation will likely be required for this permit.

IDNR-DFW responded on March 3, 2023, recommending coordination with the IDEM 401 and USACE 404 programs due to the presence or potential presence of wetland habitat at the site, as well as standard recommendations for erosion control measures and revegetating disturbed areas (Appendix C, pages 14 to 15). USACE responded on June 12, 2023, stating the likely need for a USACE permit for work within or adjacent to wetlands (Appendix C, page 16). All applicable recommendations are included in the Environmental Commitments section of this CE document.

	Presence	Impacts	
		Yes	No
Terrestrial Habitat	X	X	

Total terrestrial habitat in project area: 2.8 Acre(s) Total tree clearing: 0.54 Acre(s)

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

Based on a desktop review, a site visit on October 6, 2022, and April 27, 2023, by KEG, and the aerial map of the project area (Appendix B, page 1), there are agricultural fields, forested tracts, businesses, and single-family residences surrounding the project area. The dominant species include maple leaf arrowwood (*Viburnum acerifolium*), small leaf enchanter's nightshade (*Circaea canadensis*), silver maple (*Acer saccharinum*), poison ivy (*Toxicodendron radicans*), black elder (*Sambucus negra*), American elm (*Ulmus americana*), and white oak (*Quercus alba*). Approximately 2.8 acre of terrestrial habitat will be disturbed due to construction of the roundabout. Approximately 0.54 acre of trees will be removed. The dominate species of trees to be removed include black elder (*Sambucus nigra*), American elm (*Ulmus americana*), and white oak (*Quercus alba*). Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project. Mitigation is not anticipated.

The IDNR-DFW responded on March 3, 2023, regarding tree removal dates, revegetation, and erosion control (Appendix C, pages 14 to 15). All applicable recommendations are included in the Environmental Commitments section of this CE document.

Protected Species

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

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

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

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

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

Based on a desktop review and the RFI Addendum 2 report (Appendix E, pages 1 to 4), completed by KEG on December 19, 2023, the IDNR Lake County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated March 3, 2023 (Appendix C, pages 14 to 15), the Natural Heritage Program's Database has been checked and to date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. An INDOT 0.5-mile bat review occurred on July 8, 2022, and did not indicate the presence of endangered bat species in or within the project area.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages 17 to 29). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (NLEB) (*Myotis septentrionalis*).

The official species list generated from IPaC indicated one other species present within the project area. The project is within range of the federally threatened Mead's Milkweed (*Asclepias meadii*). The project qualifies for the most current INDOT/USFWS agreement. Further coordination with USFWS is not warranted.

The project qualifies for the *Rangewide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between the FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on December 20, 2023, and based on the responses provided, the project was found to "May Affect – Not Likely to Adversely Affect" the Indiana bat and/or the NLEB (Appendix C, pages 33 to 47). INDOT reviewed and verified the effect finding on December 21, 2023, and requested USFWS's review of the finding. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. General construction, lighting, and tree removal Avoidance and Minimization Measures (AMMs) are applicable to this project. AMMs and/or commitments are included as firm commitments in the Environmental Commitments section of this document.

Drainage pipe inspections were conducted on April 27, 2023, and no evidence of bats or birds was seen or heard in the structures (Appendix C, pages 30 to 32). USFWS Bridge/Structure Assessments are only valid for two years. If construction will begin after April 27, 2025, an inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. This firm commitment is included in the Environmental Commitments of this document.

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

Geological and Mineral Resources	Yes	No
Project located within the Potential Karst Features Area of Indiana		X
Karst features identified within or adjacent to the project area		X
Oil/gas or exploration/abandoned wells identified in the project area		X

Date Karst Study/Report reviewed by INDOT EWPO (if applicable): _____

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

Based on a desktop review and the Indiana Karst Region Map, the project is located outside the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction.* According to the topo map of the project area (Appendix B, page 1) and the RFI report (Appendix E, page 8 to 16), there are no karst resources located within 0.5 mile of the project area. In the early coordination response on February 1, 2023, the IGWS did not indicate that karst features exist in the project area (Appendix C, pages 3 to 4). IGWS did indicate moderate liquefaction potential, one percent annual chance flood hazard, high potential for bedrock resources, low potential for sand and gravel resources, and no documented active or abandoned mineral resource extraction sites. Response from IGWS has been communicated with the designer on June 12, 2023. No impacts are expected.

SECTION C – OTHER RESOURCES

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

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

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

This project is located in Lake County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/Environmental Protection Agency (EPA) / INDOT Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project, a detailed groundwater assessment is not needed, and no impacts are expected.

In an early coordination letter dated February 8, 2023, IDEM stated the project is not located within a Source Water Assessment Area, but is located within 1,000 feet of a Wellhead Protection Area, the St. John Municipal Water Utility's Wellhead Protection Area (Appendix C, pages 7 to 9). An early coordination letter was sent to the St. John Municipal Water Utility on February 9, 2023. A response was received on February 10, 2023, indicating no issues associated with the proposed project (Appendix C, pages 12 to 13). No impacts are expected.

The IDNR Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on November 2, 2023, by KEG. No wells are located near this project. Therefore, no impacts are expected.

Based on a desktop review of the INDOT Roadway Inventory and Functional Class Viewer by KEG on November 2, 2023 (https://indot.maps.arcgis.com/apps/webappviewer/index.html?id=df731deeaa704512923b7732ed3ddad2), this project is located in an Urban Area Boundary (UAB). An early coordination letter was sent on February 1, 2023, and February 9, 2023, to St. John Public Works and St. John Municipal Water Utility, respectively. St. John Public Works did not respond within the 30-day time frame. St. John Municipal Water Utility responded on February 10, 2023, and indicated no issues associated with the project (Appendix C, pages 12 to 13). Avoidance alternatives would not be practical as the project limits have been constrained to the smallest area possible to complete the project. The project will adhere to the St. John's Ordinance 1432, which covers Stormwater Management. Before project construction activities begin the project will obtain a stormwater permit issued by the Department of Planning and Building and obtain an IDEM CSGP. The project will also comply with NPDES General Rule Permit Program "Rule 13—Storm Drainage Control Management Plan Postconstruction Storm Water Run-Off Control MCM".

Based on a desktop review, a site visit on October 6, 2022, and April 27, 2023, by KEG, and the aerial map of the project area (Appendix B, page 1), this project is located where there is a public water system. The public water system will not be affected because the depth of the location of the existing system is deeper than the proposed project excavation. An early coordination letter was sent on February 9, 2023, to the St. John Municipal Water Utility. In their response to the early coordination letter on February 10, 2023, they had no comments (Appendix C, pages 12 to 13). Due to the location of the existing public water system, the proposed action is not expected to have any indirect or direct impacts to the public water system.

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

If applicable, indicate the Floodplain Level?

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

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

The IDNR's Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) was accessed on November 2, 2023, by KEG. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page 24). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

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

Total Points (from Section VII of CPA-106/AD-1006*) **89**

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

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

Based on a desktop review, a site visit on October 6, 2022, and April 27, 2023, by KEG, and the aerial map of the project area (Appendix B, page 1), the project will convert 1.434 acres of farmland as defined by the Farmland Protection Policy. An early coordination letter was sent on March 20, 2024, to the NRCS. Coordination with NRCS resulted in a score of 89 on the AD 1006 Form (Appendix C, page 11). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION D – CULTURAL RESOURCES

	Category(ies) and Type(s)	INDOT Approval Date(s)	N/A
Minor Projects PA			X

Full 106 Effect Finding

No Historic Properties Affected [X] No Adverse Effect [ ] Adverse Effect [ ]

Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) [ ] Archaeology [ ] NRHP Bridge(s) [ ]

Documentation Prepared (mark all that apply)		ESD Approval Date(s)	SHPO Approval Date(s)
APE, Eligibility and Effect Determination	X	February 23, 2024	March 5, 2024
800.11 Documentation	X	February 23, 2024	March 5, 2024
Historic Properties Report or Short Report	X	April 26, 2023	May 4, 2023
Archaeological Records Check and Assessment	X	October 16, 2023	October 24, 2023
Archaeological Phase Ia Survey Report			
Archaeological Phase Ic Survey Report			
Other:			

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

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

Area of Potential Effects (APE): Pursuant to 36 CFR 800.16(d), the APE for aboveground resources included properties adjacent to and/or within view of the project (Appendix D, page 1). The APE for archaeology included all existing and proposed ROW (Appendix D, page 10).

Coordination with Consulting Parties: Early coordination was initiated on November 30, 2022, with a letter inviting organizations and individuals to become consulting parties (Appendix D, page 15). Early coordination was initiated to tribal organizations on December 1, 2022 (Appendix D, page 23). The Indiana State Historic Preservation Officer (SHPO) from IDNR Division of Historic Preservation (DHPA) is a designated consulting party. The following is a list of the organizations formally invited to become a consulting party (those who agreed to be consulting parties are shown in bold):

- **SHPO**
- Northern Indian 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
- **Eastern Shawnee Tribe of Oklahoma**
- Forest County Potawatomi Community
- **Miami Tribe of Oklahoma**
- Peoria Tribe of Indiana of Oklahoma
- **Pokagon Band of Potawatomi Indians**
- Shawnee Tribe

The following is a summary of the comments of the consulting parties following the distribution of the early coordination materials:

- November 30, 2022: The Lake County Historian stated they felt "confident that the necessary fieldwork will reveal any archaeological and historical resources that would be adversely affected by this project" (Appendix D, page 21).
- December 5, 2022: The Miami Tribe of Oklahoma Tribal Historic Preservation Officer (THPO) offered no objection to the project. 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 the project (Appendix D, page 25).
- December 9, 2022: A letter from SHPO stated that they were unaware of any additional consulting parties that should be invited to participate in the Section 106 process beyond those whom already invited. If ROW is to be taken from a potentially historic property, owners of the property should be invited as soon as possible (Appendix D, page 26).
- December 22, 2022: The Pokagon Band of Potawatomi 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 requested that work to be stopped and contacted immediately if archaeological resources are uncovered during construction (Appendix D, page 28).
- January 4, 2023: The Eastern Shawnee Tribe of Oklahoma THPO stated that the "project proposes No Adverse Effect or endangerment to known sites of interest of the Eastern Shawnee Tribe of Oklahoma". Additionally, the THPO requested if the project inadvertently discovers an archaeological site or object(s) to contact the Eastern Shawnee Tribe of Oklahoma, as well as appropriate state agencies within 24 hours (Appendix D, page 29).

Historic Properties: W&A prepared a Historic Property Short Report (HPSR) identifying no contributing resources within the APE (Appendix D, page 54). W&A determined there no resources were recommended eligible for listing in the National Register of Historic Places (NRHP) for the purpose of this project.

The HPSR was distributed to consulting parties on Aril 26, 2023 (Appendix D, page 31). Additionally, INDOT notified tribal organizations regarding the available HPSR on April 26, 2023. On April 26, 2023, the Lake County Historian responded to the HPSR, stating they were comfortable with the progression of the intersection improvement project (Appendix D, page 36). SHPO responded on May 4, 2023, and agreed with the HPSR's conclusions and recommendations (Appendix D, page 38). No other consulting party responses were received.

Archaeology: Staff for Weintraut & Associates (W&A) conducted a Phase Ia records check on January 5, 2023, and a field reconnaissance on January 23, 2023. Results of the field survey located no additional archaeological sites within the survey area. W&A recommended that the project proceed as planned and that nor further archaeological investigations deemed necessary for the project.

An Archaeology Short Report (ASR) was prepared by qualified professional archaeologists for W&A on September 28, 2023 (Appendix D, page 56). The ASR recommended that the project be allowed to proceed as planned. The Phase 1a site reconnaissance located no archaeological sites within the project area, nor identified previously recorded sites warranting additional investigation. Consulting parties were notified of the ASR availability on October 16, 2023 (Appendix D, page 43). On October 16, 2023, the Lake County Historian responded to the ASR with a statement of comfortability with the progression of the project to the next phase (Appendix D, page 45). SHPO responded on October 24, 2023, and agreed that the project area does not have the potential to contain archaeological resources and no further investigation appears to be necessary (Appendix D, page 47). INDOT notified tribal organizations of the availability of ASR on December 21, 2023 (Appendix D, page 49). On December 21, 2023, the Forest County Potawatomi Community THPO responded to the ASR stating a finding of No Historic Properties affected of significance to the Community (Appendix D, page 50). The THPO requested to remain as a consulting party on the project and requested to cease work if any human remains or archaeologically significant materials are exposed as a result of project activities. Additionally, on January 4, 2024, the Shawnee Tribe THPO responded to the ASR agreeing that no known historic properties will be negatively impacted by the project; however, in the event archaeological materials are encountered during construction, use, or maintenance of the location, the Shawnee Tribe requests to be contacted immediately (Appendix D, page 52). No other consulting party responses were received.

Documentation Finding: INDOT, acting on behalf of FHWA, issued a "No Historic Properties Affected" finding on February 23, 2024 (Appendix D, page 1). SHPO concurred within the finding on March 5, 2024 (Appendix D, page 69). Consulting parties were then notified of the finding and provided 30 days to comment on the effect finding. No comments were received regarding the effect finding.

Public Involvement: Pursuant to 36 CFR 800.2(d), 800.3(e) and 800.6(a)(4), the public will be provided an opportunity to comment on FHWA's finding of "No Historic Properties Affected". Upon release of the CE for public involvement, a legal advertisement was placed in a local publication on March 4, 2024 (Appendix D, page 71) in the *Northwest Indiana Times*, soliciting public input on FHWA's Section 106 effects finding. Comments from the public were accepted for 30 days following the publication of the notice. The comment period closed April 4, 2024. No comments were received from the public regarding the effect finding.

This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

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

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

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

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

Based on a desktop review, the aerial map of the project area (Appendix B, page 1), and the RFI report (Appendix E, pages 8 to 16), there are two potential 4(f) resources located within the 0.5-mile search radius. According to additional research and by the site visit on October 6, 2022, and April 27, 2023, by KEG, there are no Section 4(f) resources located within or adjacent to the project area. Therefore, no use is expected.

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

Discuss Section 6(f) resources present or not present. Discuss if any conversion would occur as a result of this project. If conversion will occur, discuss the conversion approval.

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits the conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the INDOT ESD website revealed a total of 48 properties in Lake County (Appendix I, pages 40 to 41). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources.

SECTION F -- Air Quality

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

Location in STIP: The project is part of the Fiscal Year (FY) 2022-2026 NIRPC Transportation Improvement Program (TIP) (Adopted April 15, 2021), which has been directly incorporated into the FY 2024-2028 Statewide TIP (STIP) (Approved September 1, 2023).

Name of MPO (if applicable): NIRPC

Location in TIP (if applicable): NIRPC 2022-2026 TIP, page 69 (Appendix H, page 6) (amendment pending)

Level of MSAT Analysis required?

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

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

This project is included in the FY 2022-2026 NIRPC TIP, which has been directly incorporated into the FY 2024-2028 STIP (Appendix H, pages 1 to 6). An amendment to the TIP is pending and this CE document will be updated to reflect its approval and incorporation into the TIP and STIP following public involvement and prior to this document's final approval.

This project is located in Lake County, which is currently a nonattainment area for 1-hour ozone and 8-hour ozone (2015) and a maintenance area for 8-hour ozone (1997), 8-hour ozone (2008), carbon monoxide, PM-10, PM-2.5, and sulfur dioxide pollutants according to IDEM (https://www3.epa.gov/airquality/greenbook/anayo_in.html). This project has been identified as being exempt from air quality analysis in accordance with 40 CFR Part 93.126 and this project is not a project of air quality concern (40 CFR Part 93.123). Therefore, the project will have no significant impact on air quality.

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

SECTION G - NOISE

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

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

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

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

SECTION H – COMMUNITY IMPACTS

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

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

The 2018 Comprehensive Plan for Lake County (https://lakecounty.in.gov/departments/planning-commission/comprehensive-plan) was reviewed by KEG on November 3, 2023, and did not identify any future plans for this project area or local/regional development patterns. The project is not anticipated to negatively affect community cohesion, the local tax base, or property values, since transportation within the community and connectivity to community resources will not be permanently affected.

On November 3, 2023, KEG reviewed www.indianafestivals.org for any special events or festivals in Lake County throughout the year. The following seven special events or festivals were noted, assuming an annual occurrence:

- St. John Festival: July 6 through July 9.
- St. John Oktoberfest: September 22 through September 24.
- Summer Market on the Lake: May 24 through August 16.
- 40th Annual Vintage Tractor and Farm Festival: July 13 through July 15.
- Festival of the Lakes: July 17 through July 24.
- Pierogi Fest: July 26 through July 28.
- "A Christmas Story" Comes Home on November 11 through December 30.

If these events are held during the proposed construction activities, the travel times to events may be impacted causing a short-term impact. Announcements regarding construction activities will be published on the INDOT social media pages and coordination with the community will occur to minimize disruption to the extent practical.

The intersection will be closed in phases and then a complete closure is anticipated, with construction anticipated to last one construction season. Delays will occur during construction but will cease with project completion. Temporary community and economic impacts will occur due to increased travel time; however, no long-term negative impacts to the community or its economy are expected.

Public Facilities and Services

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

Based on a desktop review, the aerial map of the project area (Appendix B, page 1), and the RFI report (Appendix E, pages 8 to 16) there are two public facilities within the 0.5-mile search radius. There are no public facilities within or adjacent to the project area, which was confirmed by the site visit on October 6, 2022, and April 27, 2023, by KEG. Therefore, no impacts are expected. Access to all properties will be maintained during construction.

It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

Environmental Justice (EJ) (Presidential EO 12898)	**Yes**	**No**
During the development of the project were EJ issues identified?		X
Does the project require an EJ analysis?	X	
If YES, then:		
Are any EJ populations located within the project area?		X
Will the project result in adversely high and disproportionate impacts to EJ populations?		X

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

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an EJ Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent ROW. The project will not require any relocations. The project will require 2.933 acres of permanent ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Lake County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 429.04, Lake County. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2021 ACS 5-Year Estimates was obtained from the U.S. Census website (*https://data.census.gov/cedsci/*) on November 3, 2023, by KEG. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (2021: US Census Bureau, ACS 5-Year Estimates)

	COC – Lake County	AC-1 – Census Tract 429.04, Lake County
Percent Minority	47	23
125% of COC	58	AC > 125% COC
EJ Population of Concern		No
Percent Low-Income	15	7
125% of COC	18	AC < 125% COC
EJ Population of Concern		No

AC-1, Census Tract 429.04, Lake County has a percent minority of 23% which is below 50% and is below the 125% COC threshold. Therefore, AC-1 does not contain minority populations of EJ concern.

AC-1, Census Tract 429.04, Lake County has a percent low-income of 7% which is below 50% and is below the 125% COC threshold. Therefore, AC-1 does not contain low-income populations of EJ concern.

The census data sheets, map, and calculations can be found in Appendix I, pages 42 to 45. No further environmental justice analysis is warranted.

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

Number of relocations: Residences: _____ Businesses: _____ Farms: _____ Other: _____

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

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

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

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

Date RFI concurrence by INDOT SAM (if applicable): January 3, 2023 (initial)
March 29, 2023 (addendum 1)
January 31, 2024 (addendum 2)

Include a summary of the potential hazardous material concerns found during review. Discuss in depth sites found within, directly adjacent to, or ones that could impact the project area. Refer to current INDOT SAM guidance. If additional documentation (special provisions, pay quantities, etc.) will be needed, include in discussion. Include applicable commitments.

Based on a review of Geographic Information Systems (GIS) and available public records, the RFI was completed on July 18, 2022, by KEG and INDOT Site Assessment & Management (SAM) provided their concurrence on January 3, 2023 (Appendix E, pages 8 to 16). The RFI identified one Underground Storage (UST) site and three National Pollutant Discharge Elimination System (NPDES) facilities located within 0.5 mile of the project area. An RFI Addendum was completed on March 22, 2023, by KEG and INDOT SAM provided their concurrence on March 29, 2023 (Appendix E, pages 5 to 7). Geotechnical activities completed on January 5, 2023, identified potential petroleum contamination at the UST location identified in the original RFI report. Due to field observations noted during the geotechnical activities, an update to the original RFI hazardous materials recommendation was warranted, as follows: Family Express, 10902 Parrish Ave, AI #122566. This site is located adjacent to the southwest side of the project area intersection. The RFI (January 3, 2023), indicated that an UST 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. RFI Addendum 2 was completed on December 19, 2023, by KEG and INDOT SAM provided their concurrence on January 31, 2024 (Appendix E, pages 1 to 4). RFI Addendum 2 was warranted due to design refinements to the project, altering the 0.5 mile radius and potential impacts. RFI Addendum 2 identified seven NPDES Facilities within 0.5 mile of the project, rather than three identified in the initial RFI. The nearest facility, Northern Indiana Public Service Company (NIPSCO) Hanover Substation Access Roadway, is located 0.01 mile south of the project area. The permit issued October 27, 2021, will expire October 26, 2026. Coordination with NIPSCO was completed via utility coordination by Fishbeck. 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.

Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)	**Likely Required**
Army Corps of Engineers (404/Section10 Permit)	
Nationwide Permit (NWP)	X
Regional General Permit (RGP)	
Individual Permit (IP)	
Other	
IN Department of Environmental Management (401/Rule 5)	
Nationwide Permit (NWP)	X
Regional General Permit (RGP)	
Individual Permit (IP)	
Isolated Wetlands	
Rule 5	X
Other	
IN Department of Natural Resources	
Construction in a Floodway	
Navigable Waterway Permit	
Other	
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the discussion below)	

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

Due to waterway and wetland impacts, a USACE 404 and IDEM 401 permits will likely be required. Additionally, since project will disturb more than one acre of land, a CSGP, is anticipated.

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

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

ENVIRONMENTAL COMMITMENTS

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

Firm:

1. If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT LaPorte District)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
3. Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT EWPSO)
4. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
5. Lighting AMM 2: When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and a "backlight" as low as practicable. (USFWS)
6. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
7. Tree Removal AMM 2: Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS and IDNR)
8. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
9. Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year. (USFWS)
10. General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
11. UST: Family Express, 10902 Parrish Ave, AI #122566. This site is located adjacent to the southwest side of the project area intersection. The 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 the site along the east side of Parrish Street, there is the potential for contamination. If excavation occurs in this area, proper handing, 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. (INDOT SAM)
12. 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. (INDOT SAM)
13. USFWS Bridge/Structure Assessments are only valid for two years. If construction will begin after April 27, 2025, an inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT ESD)

Further Consideration:

1. Plant five trees, one inch to two inches in diameter-at-breast height, for each tree which is removed that is 10 inches or greater in diameter-at-breast height. (IDNR-DFW)
2. All excavated material must be properly spread or completely removed from the project site such that erosion and off-site sedimentation of the material is prevented. (IDNR-DFW)

Categorical Exclusion Level 3
US 231
DES 1702994, Intersection Improvement
Lake County, Indiana

APPENDICES

Title **Page**

G: Public Involvement

H: Air Quality

I: Additional Information

APPENDIX A

INDOT Supporting Documents

Categorical Exclusion Level Thresholds

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

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

APPENDIX B

Graphics

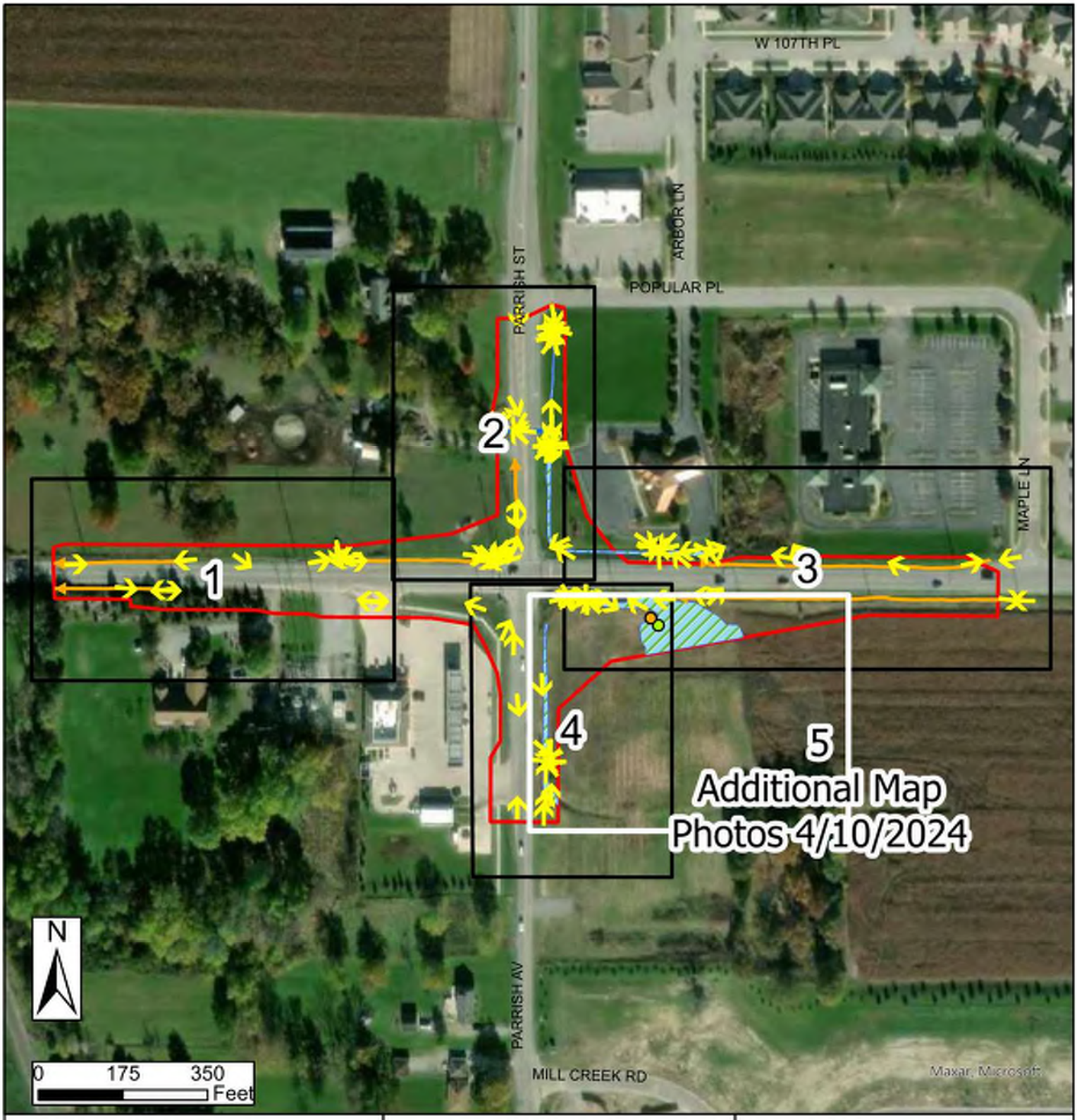
Site Location Map
US 231 & Parrish Avenue
0.85 Mile S (East) of US 41 to
1.20 Miles S (East) of US 41
Des. No. 1702994, Intersection Improvement
Lake County, Indiana

Project Area

Map Source: Esri and IndianaMAP, 2023

Kaskaskia Engineering Group, LLC

Created 4/3/2024



Overall Photo Direction Map
US 231 and Parrish Ave
Intersection Improvement
Lake County, Indiana
Des. No. 1702994

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

Kaskaskia Engineering Group, LLC

Created 4/30/2024

Photo Direction Map
US 231 and Parrish Ave
Intersection Improvement
Lake County, Indiana
Des. No. 1702994

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

Kaskaskia Engineering Group, LLC

Created 12/19/2023

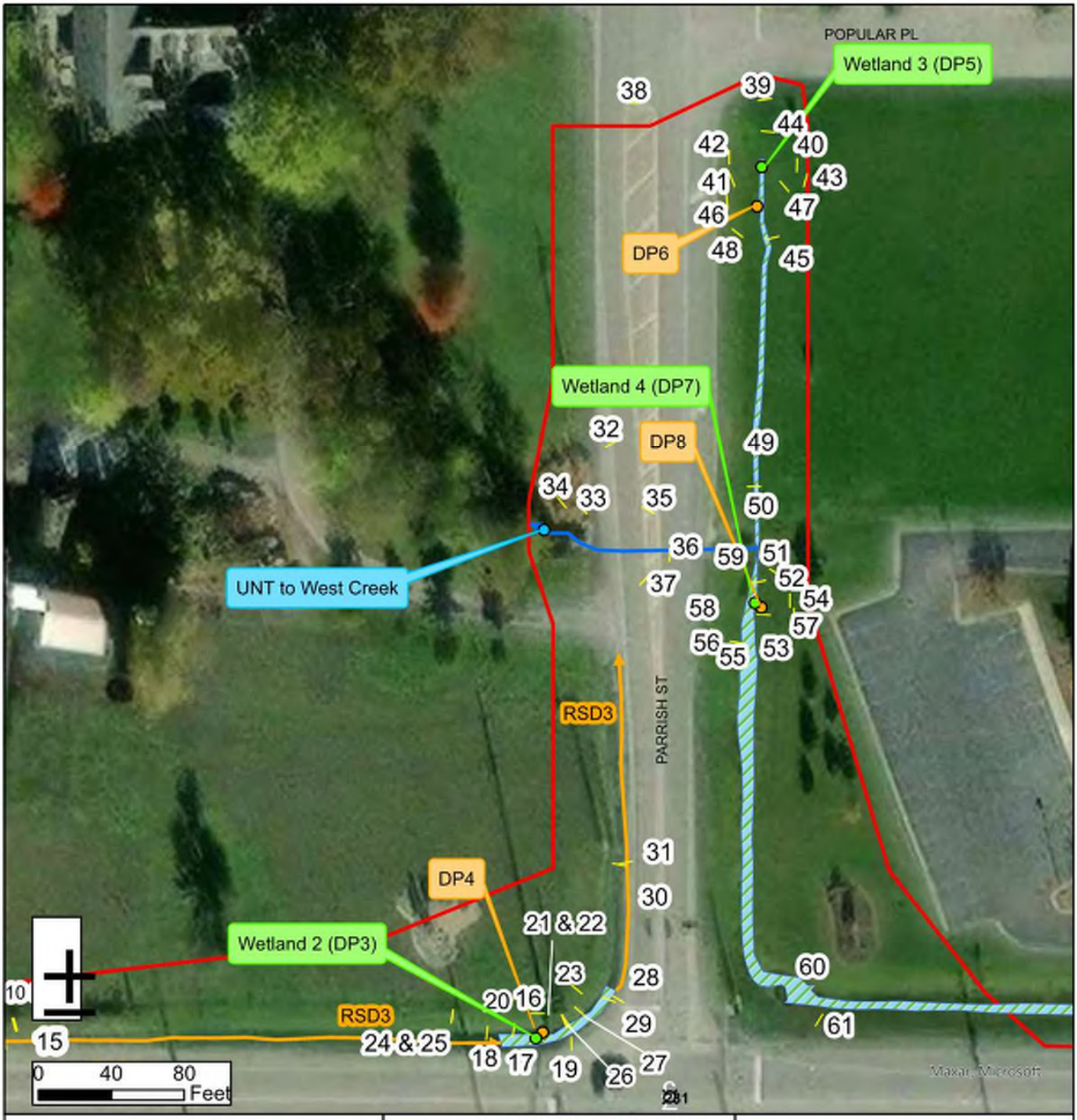


Photo Direction Map
US 231 and Parrish Ave
Intersection Improvement
Lake County, Indiana
Des. No. 1702994

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Kaskaskia Engineering Group, LLC

Created 12/19/2023

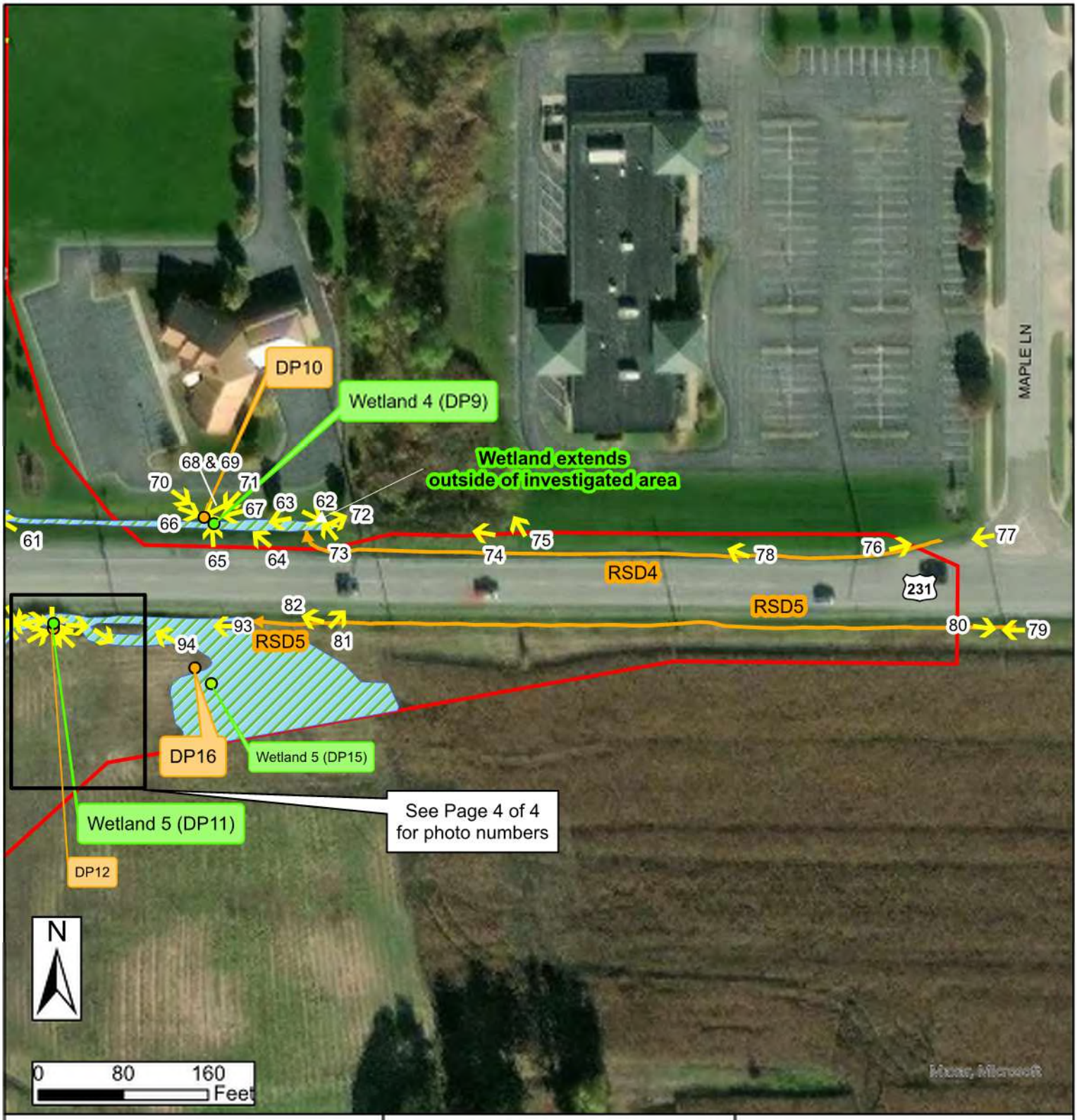

Photo Direction Map
US 231 and Parrish Ave
Intersection Improvement
Lake County, Indiana
Des. No. 1702994

- Stream Data Point
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Kaskaskia Engineering Group, LLC

Created 4/29/2024

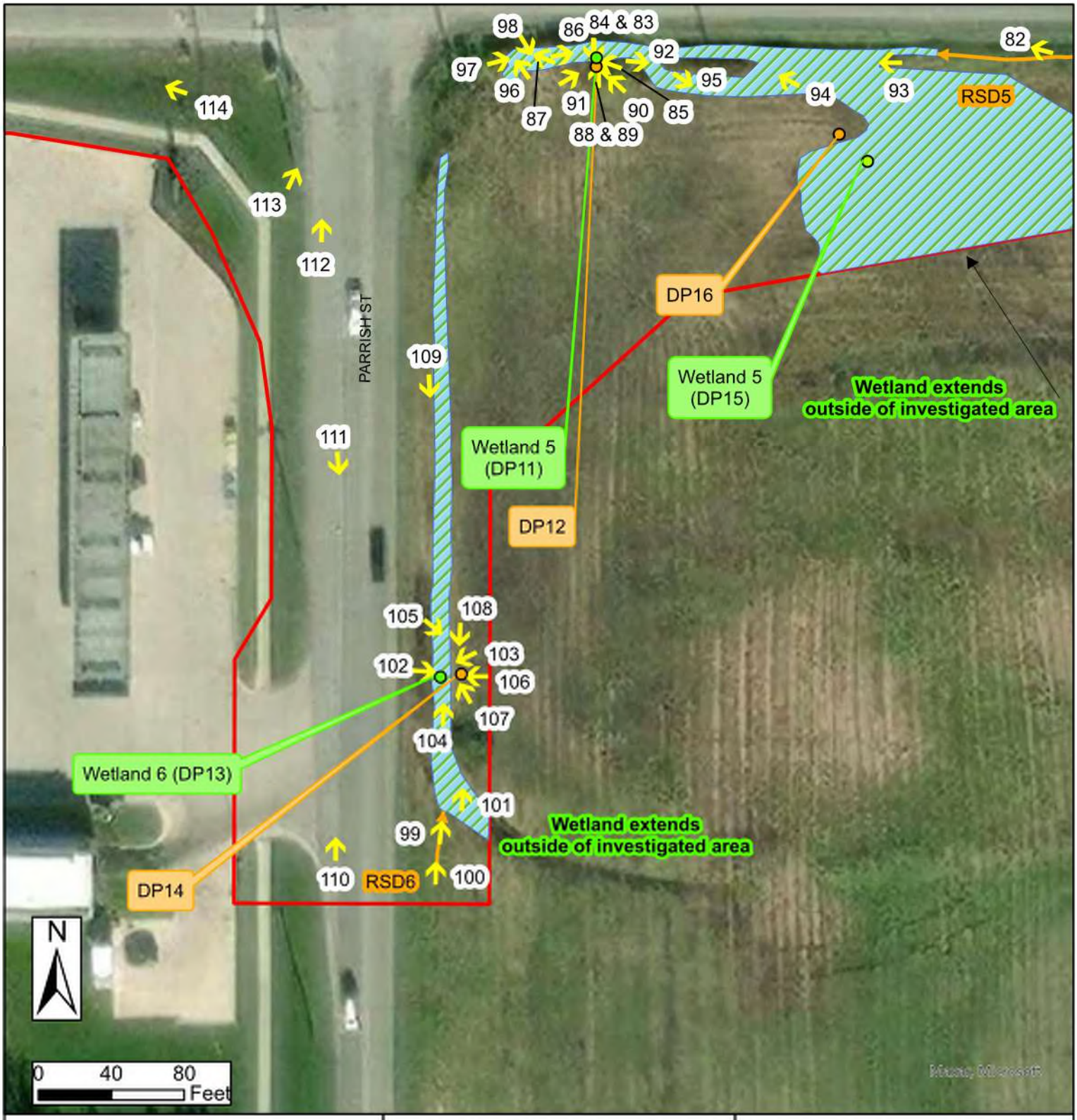

Photo Direction Map
US 231 and Parrish Ave
Intersection Improvement
Lake County, Indiana
Des. No. 1702994

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Kaskaskia Engineering Group, LLC

Created 4/29/2024

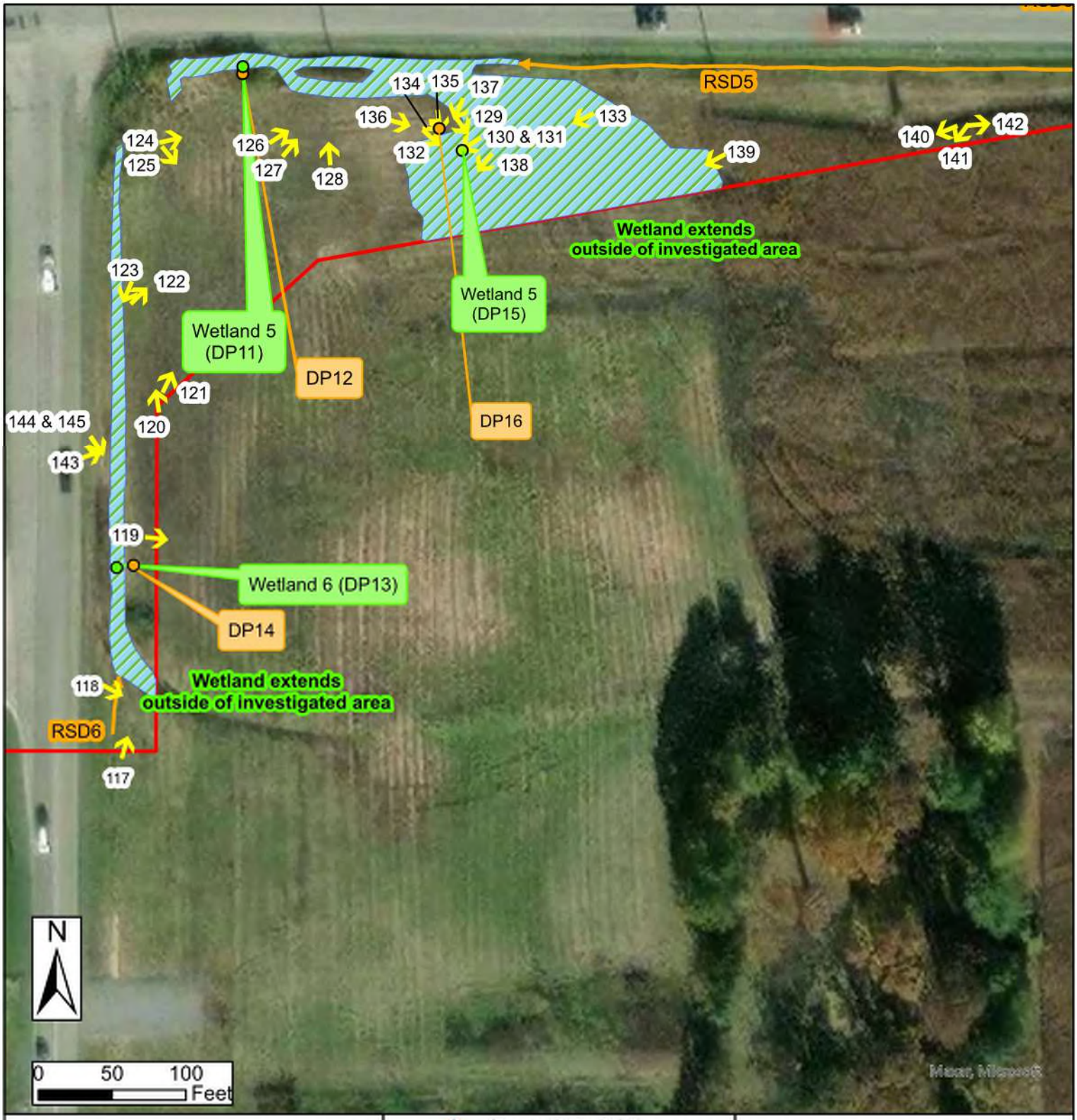


Photo Direction Map
Additional Map 5
Photos 4/10/2024
US 231 and Parrish Ave
Intersection Improvement
Lake County, Indiana
Des. No. 1702994

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

Kaskaskia Engineering Group, LLC

Additional Map 5 Created 4/30/2024

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

1. Facing southwest at roadside ditch (RSD) 1.

2. Facing east along US 231 from RSD1.

3. Facing southeast along RSD1.

4. Facing east along RSD2.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

5. Facing southeast toward the southern side of US 231.

6. Facing southwest along RSD2.

7. DP1 (Wetland 1) soil profile. (4/27/2023)

8. DP1 (Wetland 1) soil pit. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

9. Facing northeast at DP1 (Wetland 1). (4/27/2023)

10. Facing southwest at DP1 (Wetland 1). (4/27/2023)

11. DP2 soil profile. (4/27/2023)

12. DP2 soil pit. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

13. Facing northeast at DP2 and Wetland 1. (4/27/2023)

14. Facing southwest at DP2 and Wetland 1. (4/27/2023)

15. Facing east along RSD3.

16. DP3 (Wetland 2) soil profile. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

17. DP3 (Wetland 2) soil pit. (4/27/2023)

18. Facing southeast at DP3 (Wetland 2). (4/27/2023)

19. Facing west at DP3 and Wetland 2. (4/27/2023)

20. Facing southeast at DP3 (Wetland 2). (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

21. DP4 soil profile. (4/27/2023)

22. DP4 soil pit. (4/27/2023)

23. Facing southwest at DP4 and Wetland 2. (4/27/2023)

24. Facing east at DP4 and Wetland 2. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

25. Facing southeast at RSD3.

26. Facing southwest at Wetland 2.

27. Facing northeast at Wetland 2.

28. Facing northeast along Wetland 2 towards RSD3.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

29. Facing southwest at Wetland 2.

30. Facing southeast at RSD3.

31. Facing northeast at RSD3.

32. Facing southeast towards the outlet of UNT to West Creek, at an upland stand of Chinese silver grass (*Miscanthus sinensis*, UPL).

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

33. Facing southwest at the OHWM of UNT to West Creek (downstream). Red line indicates OHWM.

34. Facing southwest towards UNT to West Creek (downstream).

35. Facing southwest at UNT to West Creek structure outlet.

36. Facing northwest at UNT to West Creek (downstream) structure outlet.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

37. Facing northwest at UNT to West Creek downstream.

38. Facing south at the northern edge of the investigated area, on the west side of Parrish Avenue and north of US 231.

39. Facing southeast towards RSD4 and Wetland 3, on the east side of Parrish Avenue and north of US 231.

40. Facing northwest at a culvert outlet and Wetland 3.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

41. Facing northeast at crayfish burrows in Wetland 3.

42. DP5 (Wetland 3) soil profile.

43. Facing northwest at Wetland 3 and DP5. Soil probe indicates location of DP5.

44. Facing southwest at Wetland 3 and DP5. Soil probe indicates location of DP5. RSD4 is in the background.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

45. Facing northwest at RSD4 and Wetland 3.

46. DP6 soil profile.

47. Facing southwest at DP6. Soil probe indicates location of DP6.

48. Facing northeast at DP6. Soil probe indicates location of DP6.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

49. Facing north along RSD4.

50. Facing south at UNT to West Creek structure inlet.

51. Facing northwest at UNT to West Creek structure inlet.

52. Facing southwest at Wetland 4.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

53. Facing southwest at Wetland 4.

54. DP7 (Wetland 4) soil profile.

55. Facing northeast at DP7 and Wetland 4. Soil probe indicates location of DP7.

56. Facing northeast at DP7 and Wetland 4. Soil probe indicates location of DP7.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

57. DP8 soil profile.

58. Facing east at Wetland 4 and DP8. Soil probe indicates location of DP8.

59. Facing southeast at Wetland 4 and DP8. Soil probe indicates location of DP8.

60. Facing southeast at culvert outlet into Wetland 4 from underneath US 231.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

61. Facing northwest along Wetland 4.

62. Facing southeast at a culvert inlet to Wetland 4.

63. Facing southeast along Wetland 4.

64. Facing northwest at crayfish burrows within Wetland 4.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

65. DP9 (Wetland 4) soil profile.

66. Facing southeast at DP9 and Wetland 4. Soil probe indicates location of DP9.

67. Facing west at DP9 and Wetland 4. Soil probe indicates location of DP9.

68. DP10 soil profile. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

69. DP10 soil pit. (4/27/2023)

70. Facing southeast at DP10 and Wetland 4. (4/27/2023)

71. Facing southwest at DP10 and Wetland 4. (4/27/2023)

72. Facing northeast towards common reed (*Phragmites australis*, FACW) outside of the investigated area.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

73. Facing northwest at Wetland 4 and US 231.

74. Facing northwest along the north side of US 231 at common reed outside of the investigated area.

75. Facing northwest at common reed outside of the investigated area.

76. Facing northeast along RSD5 at the eastern limits of the investigated area along US 231.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

77. Facing southwest along RSD5 and US 231 at the eastern limits of the investigated area.

78. Facing northwest along US 231 and RSD5.

79. Facing west along the southern side of US 231 at RSD6.

80. Facing southeast at the eastern limits of the investigated area.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

81. Facing northeast at northern side of US 231.

82. Facing northwest along RSD6 and the southern side of US 231.

83. DP11 (Wetland 5) soil profile. (4/27/2023)

84. DP11 (Wetland 5) soil pit. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

85. Facing northwest at DP11 (Wetland 5). (4/27/2023)

86. Facing northeast at DP11 (Wetland 5). (4/27/2023)

87. Facing northwest at Wetland 5. (4/27/2023)

88. DP12 soil profile. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

89. DP12 soil pit. (4/27/2023)

90. Facing northwest at DP 12 and Wetland 5. (4/27/2023)

91. Facing northeast at DP12 and Wetland 5. (4/27/2023)

92. Facing east at Wetland 5. (4/27/2023)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

93. Facing west at Wetland 5. (4/27/2023)

94. Facing northwest at Wetland 5. (4/27/2023)

95. Crayfish burrow in Wetland 5. (4/27/2023)

96. Facing northwest at culvert inlet under US 231 and Wetland 5.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

97. Facing northeast at Wetland 5.

98. Facing southeast at Wetland 5.

99. Facing northeast along RSD7 towards Wetland 6.

100. Facing north along RSD7 on the southern edge of the investigated area, east of Parrish Avenue.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

101. Facing north at Wetland 6.

102. DP13 (Wetland 6) soil profile.

103. Facing southwest at DP13 and Wetland 6. Soil probe indicates location of DP13.

104. Facing north at DP13 and Wetland 6. Soil probe indicates location of DP13.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

105. Facing southeast at crayfish burrows in Wetland 6.

106. DP14 soil profile.

107. Facing northwest at DP14 and Wetland 6. Soil probe indicates location of DP14.

108. Facing southwest at DP14 and Wetland 6. Soil probe indicates location of DP14.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

109. Facing south at Wetland 6.

110. Facing north on the southern edge of the investigated area, on the west side of Parrish Avenue.

111. Facing southeast towards the southern edge of the investigated area, on the west side of Parrish Avenue.

112. Facing north at the intersection of Parrish Avenue and US 231.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

113. Facing northeast at a drain inlet at the intersection of Parrish Avenue and US 231.

114. Facing northwest towards US 231.

115. Facing east along US 231.

116. Facing northwest along US 231.

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

117. Facing northeast at the edge of the investigated area along Parrish Avenue and at Wetland 6. (4/10/2024)

118. Facing southeast at Wetland 6 extending outside of the investigated area. (4/10/2024)

119. Facing southeast at fallow agricultural land outside of the investigated area. (4/10/2024)

120. Facing northwest towards the intersection of US 231 and Parrish Avenue. (4/10/2024)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

121. Facing northeast at fallow agricultural land within the investigated area. (4/10/2024)

122. Facing northeast towards Wetland 5 and fallow agricultural land within the investigated area. (4/10/2024)

123. Facing southwest at Parrish Avenue and Wetland 6. (4/10/2024)

124. Facing northeast towards Wetland 5 and fallow agricultural land within the investigated area. (4/10/2024)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

125. Facing southeast at fallow agricultural land within and outside of the investigated area. (4/10/2024)

126. Facing northeast at Wetland 5. (4/10/2024)

127. Facing northeast at Wetland 5. (4/10/2024)

128. Facing northwest at Wetland 5. (4/10/2024)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

129. Facing southeast at Wetland 5. (4/10/2024)

130. DP15 (Wetland 5) soil profile. (4/10/2024)

131. DP15 (Wetland 5) soil pit. (4/10/2024)

132. Facing southeast at DP15 (Wetland 5). Shovel indicates location of data point. (4/10/2024)

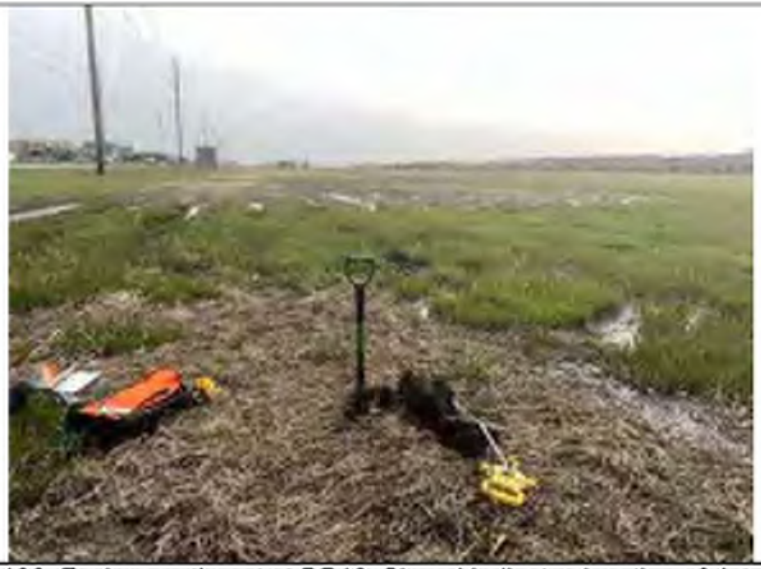
Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

133. Facing southeast at DP15 (Wetland 5). Shovel indicates location of data point. (4/10/2024)

134. DP16 soil profile. (4/10/2024)

135. DP16 soil pit. (4/10/2024)



136. Facing southeast at DP16. Shovel indicates location of data point. (4/10/2024)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

137. Facing southwest at DP16. Shovel indicates location of data point. (4/10/2024)

138. Facing southwest at Wetland 5. (4/10/2024).

139. Facing southwest at the edge of Wetland 5. (4/10/2024)

140. Facing southwest towards Wetland 5 and fallow agricultural land within the investigated area. (4/10/2024)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

141. Facing southwest at fallow agricultural land outside of the investigated area. (4/10/2024).

142. Facing east towards the edge of the investigated area. (4/10/2024)

143. Facing northeast at fallow agricultural land within the investigated area. (4/10/2024)

144. Facing southeast at Wetland 6. (4/10/2024)

Photo Log
Photos Taken: 10/6/2022, 4/27/2023, and 4/10/2024
Photos were taken on 10/6/2022, unless indicated in the caption.

US 231 and Parrish Avenue, Intersection Improvement Project
DES. No. 1702994

145. Facing southeast at fallow agricultural land within and outside of the investigated area. (4/10/2024)

INDIANA DEPARTMENT OF TRANSPORTATION

ROAD PLANS

TRAFFIC DATA	U.S. 231	PARRISH AVE. NORTH	PARRISH AVE. SOUTH
A.A.D.T. [illegible]	[illegible] V.P.D.	[illegible] V.P.D.	[illegible] V.P.D.
A.A.D.T. [illegible]	[illegible] V.P.D.	[illegible] V.P.D.	[illegible] V.P.D.
D.H.V. [illegible]	[illegible] V.P.H.	[illegible] V.P.H.	[illegible] V.P.H.
DIRECTIONAL DISTRIBUTION	[illegible] %	[illegible] %	[illegible] %
TRUCKS	[illegible] % A.A.D.T.	[illegible] % A.A.D.T.	[illegible] % A.A.D.T.
	[illegible] % D.H.V.	[illegible] % D.H.V.	[illegible] % D.H.V.
DESIGN DATA			
DESIGN SPEED	[illegible] M.P.H.	[illegible] M.P.H.	[illegible] M.P.H.
PROJECT DESIGN CRITERIA	RECONSTRUCTION (NON-FREEWAY)	RECONSTRUCTION (NON-FREEWAY)	RECONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL	LOCAL ROAD	MINOR ARTERIAL
RURAL/URBAN	URBAN (SUBURBAN)	URBAN (SUBURBAN)	URBAN (SUBURBAN)
TERRAIN	LEVEL	LEVEL	LEVEL
ACCESS CONTROL	NONE	NONE	NONE

LOCATION: US 231 and PARRISH AVE INTERSECTION IMPROVEMENT

PROJECT NO. 1702994 P.E.
1702994 R/W
1702994 CONST.

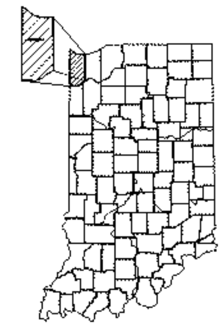
Intersection Improvement to Roundabout at US 231 and Parrish Avenue
Located 1.0 Mile East of US 41 In Sections
3, 4, 9, 10, T-34-N, R-9-W,
In St. John and Cedar Lake of
Hanover Township, Lake County, Indiana

STAGE 2 PLANS
DECEMBER 2023

St. John, IN

Cedar Lake, IN

SCALE: 1" = 5000'



PROJECT LOCATION SHOWN BY
Lake County

LATITUDE: 41° 25' 16" N LONGITUDE: 87° 27' 02" W

GROSS LENGTH: .273 MI.
NET LENGTH: .273 MI.
MAX. GRADE: 3.62 %

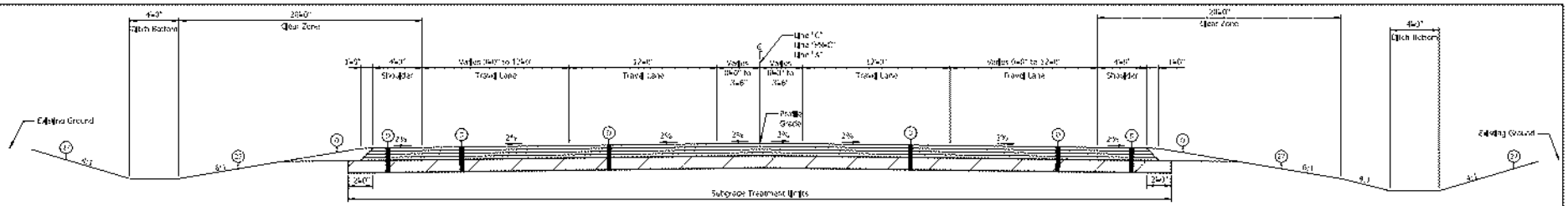
HUC: 071200011400010

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

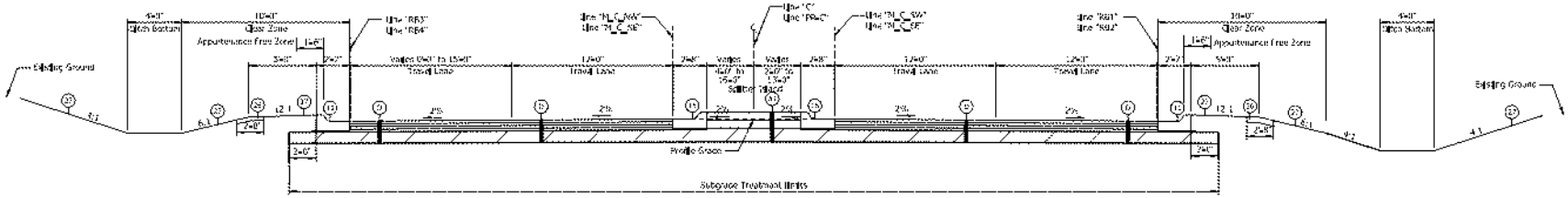
Plans Prepared By:
fishbeck

PLANS PREPARED BY: FISHBECK (317) 577-0950 PHONE NUMBER
CERTIFIED BY: DATE
APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

DESIGNATION 1702994
SHEETS 1 of [illegible]
CONTRACT [illegible] PROJECT 1702994



US 231
Sta. 209+50 to 213+98.88 Line "C"
Sta. 221+94.68 to 223+93.60 Line "PR=C"
Sta. 223+95.18 to 224+06.80 Line "A"



US 231
Sta. 211+96.00 to 212+21.28 Line "C"
Sta. 212+21.75 to 216+11.79 Line "PR=C"
Sta. 217+91.06 to 221+94.58 Line "PR=C"

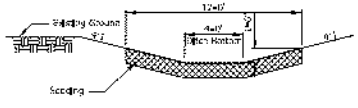
LEGEND

(A) __ in. PCCP (Colored), on
__ in. Compacted Aggregate No. __
Subgrade Treatment, Type __

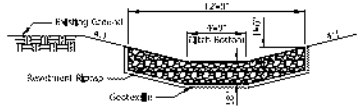
(24) __ in. PCCP (Colored), on
__ in. Compacted Aggregate No. __, on
Subgrade Treatment, Type __

(D) __ lb/syd QC/QA HMA __ __ Surface, __ inch, on
__ lb/syd QC/QA HMA __ __ Intermediate, __ inch, on
__ lb/syd QC/QA HMA __ __ Base, __ inch, on
Subgrade Treatment, Type __

(D) Variable Depth Compacted Aggregate, No 53
(11) Curb and Gutter, Concrete
(12) Curb and Gutter, B, Concrete
(13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
(15) Curb, Integral, Concrete
(19) Curb and Gutter, B, Concrete, Modified (Inverted)
(25) Sodding on 4" of Topsoil
(27) Mulched Seeding II



Typical Sodding 4' Flat Bottom Ditch Detail (4:1 Slopes)
Not to Scale



Typical Riprap 4' Flat Bottom Ditch Detail (4:1 Slopes)
Not to Scale

NOTE TO REVIEWERS:
Pavement design to be determined after Stage 2 plan approval.

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER — DATE

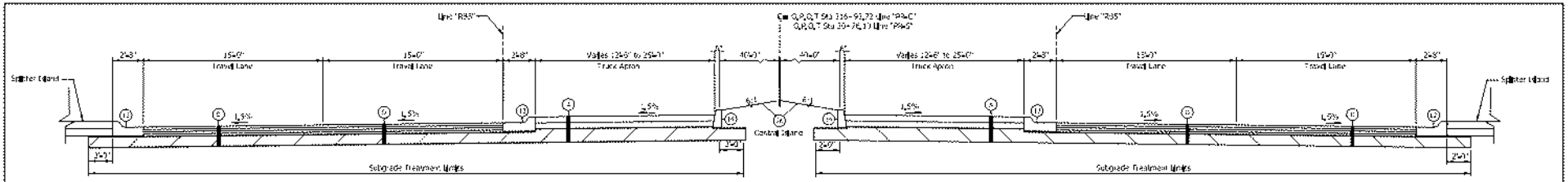
DESIGNED ASK — DRAWN ASK

CHECKED JJ — ENGINEER —

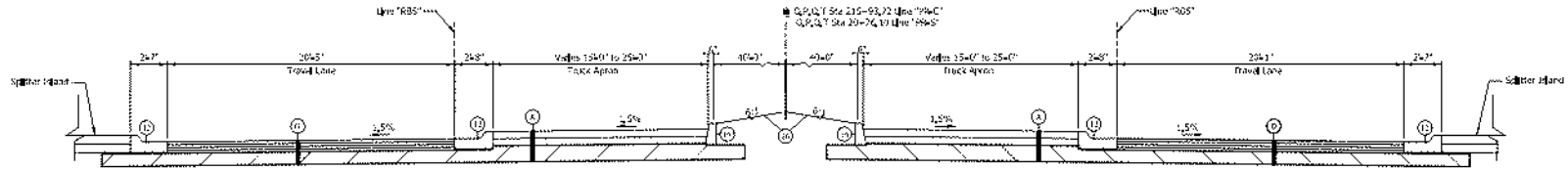
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

SCALE	BRIDGE FILE
1/4" = 1'-0"	
	DESIGNATION
	17C094
	SHEETS
	5 of 5 Sht
CONTRACT	PROJECT
R-41368	17C094



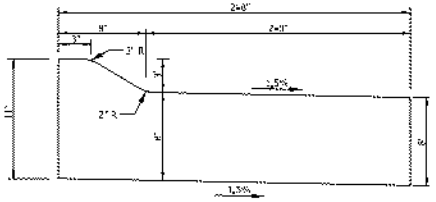
US 231 Roundabout Circulatory Roadway at Splitter Island



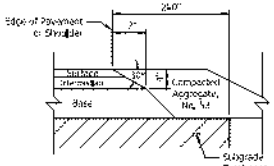
Parish Roundabout Circulatory Roadway at Splitter Island

LEGEND

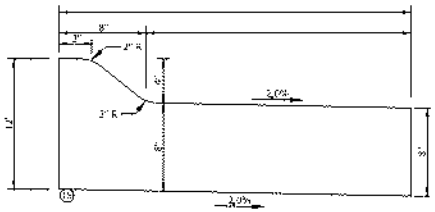
- (A) _ in. PCCP (Colored), on _ in. Compacted Aggregate No. _ Subgrade Treatment, Type _
- (A2) _ in. PCCP (Colored), on _ in. Compacted Aggregate No. _ on Subgrade Treatment, Type _
- (B) _ in. Type QC/QA HMA, _ _ _ Surface, _ mm, on _ in. Type QC/QA HMA, _ _ _ Intermediate, _ mm, on _ in. Type QC/QA HMA, _ _ _ Base, _ mm, on Subgrade Treatment, Type _
- (C) Variable Depth Compacted Aggregate, No 53
- (11) Curb and Gutter, Concrete
- (12) Curb and Gutter, B, Concrete
- (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
- (14) Curb, Integral, Concrete
- (15) Curb and Gutter, B, Concrete, Modified (Inverted)
- (28) Seeding on 4" of Topsoil
- (29) Modified Seeding 3
- Subgrade Treatment Type X



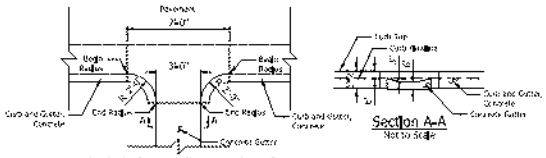
Curb & Gutter, B, Concrete, Modified (Inverted) (3" Reveal)
Scale: 1"=1'



Safety Edge Detail
Not to Scale



Curb & Gutter, B, Concrete, Modified (Inverted)
Scale: 1"=1'



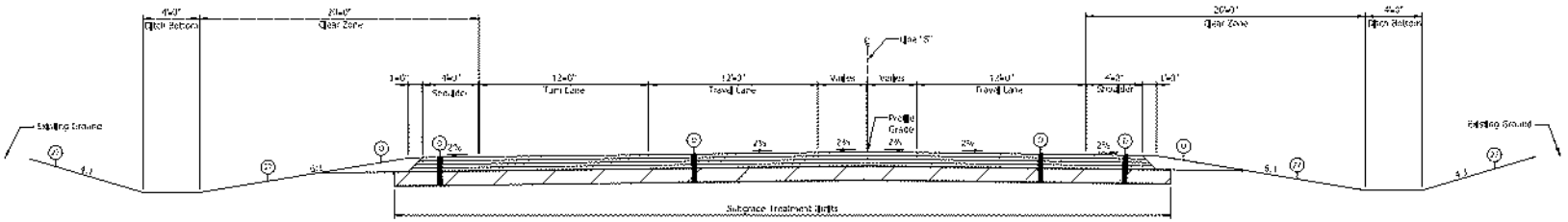
Curb & Gutter, Turnout Detail
Not to Scale

Section A-A
Not to Scale

NOTE TO REVIEWERS:

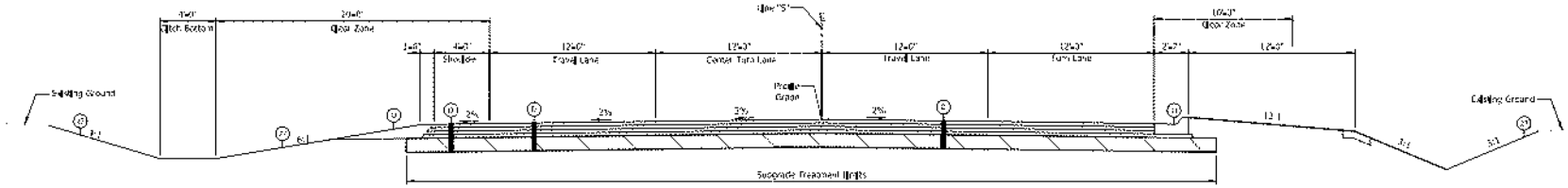
Pavement design to be determined after Stage 2 plan approval.

RECOMMENDED FOR APPROVAL: DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION	SCALE: 1"=1'-0" / BRIDGE FILE
DESIGNED: ASC	DRAWN: ASC	TYPICAL CROSS SECTIONS	DESIGNATION: 17C994
CHECKED: JJ	CHECKED: JF		SHEETS: 5 of 5 Sht
			CONTRACT: 17C994
			PROJECT: 17C994



PARRISH AVE

Sta. 17+60.00 to 18+80.00 Line 'S'

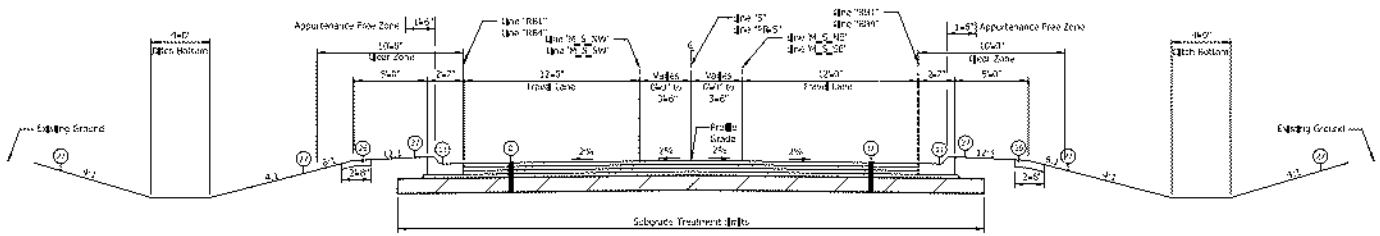


PARRISH AVE

Sta. 24+00.00 to 25+00.00 Line 'S'

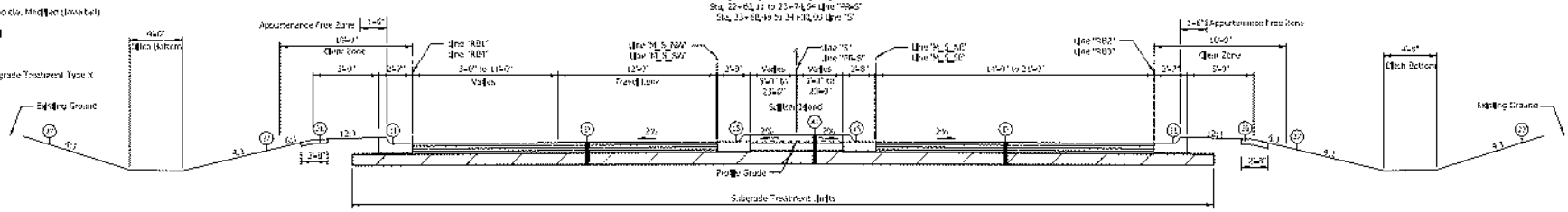
LEGEND

- (A) _in. PCCP (Colored), on _in. Compacted Aggregate No._ Subgrade Treatment, Type_
- (A1) _in. PCCP (Colored), on _in. Compacted Aggregate No._ on Subgrade Treatment, Type_
- (C) _ Delayed QC/QA HMA, _:_ Surface, _ mix, on _ Delayed QC/QA HMA, _:_ Intermediate, _ mix, on _ Delayed QC/QA HMA, _:_ Base, _ mix, on Subgrade Treatment, Type_
- (D) Variable Depth Compacted Aggregate, No 53
- (E) Curb and Gutter, Concrete
- (E2) Curb and Gutter, B, Concrete
- (E3) Curb and Gutter, B, Concrete, Modified (Inverted) (A*)
- (E4) Curb, Integral, Concrete
- (E5) Curb and Gutter, B, Concrete, Modified (Inverted)
- (S6) Sodding on 4" of Topsoil
- (Z) Mulched Seeding U
- Subgrade Treatment Type X



PARRISH AVE

Sta. 18+30.00 to 19+41.50 Line 'S'
Sta. 22+63.11 to 23+74.56 Line 'RB5'
Sta. 23+68.49 to 24+80.00 Line 'S'

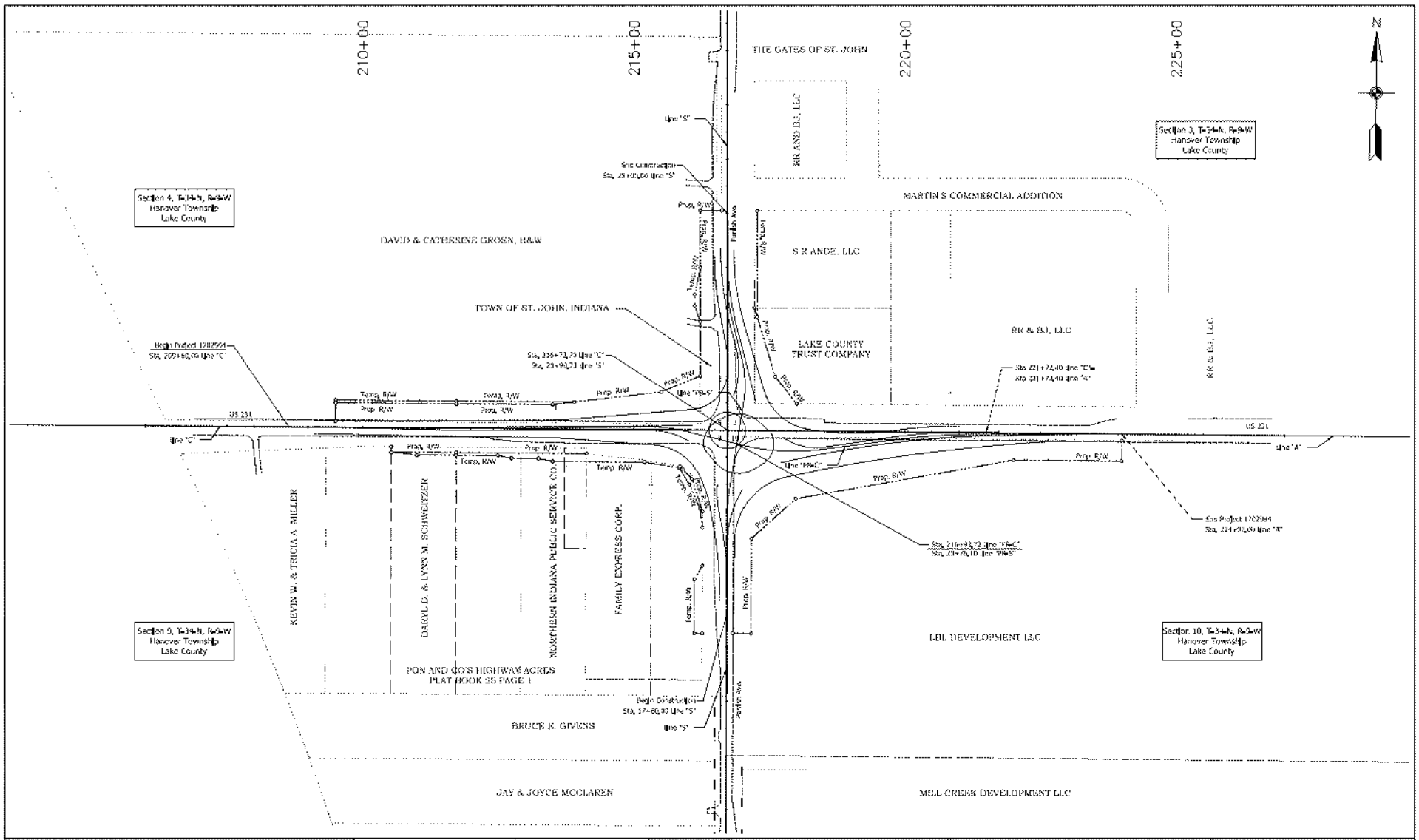


PARRISH AVE

Sta. 19+35.94 to 19+41.86 Line 'S'
Sta. 19+41.53 to 19+62.27 Line 'RB4'
Sta. 22+62.17 to 22+62.11 Line 'RB4'

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION
DESIGNED ASC	DRAWN ASC		TYPICAL CROSS SECTIONS
CHECKED JJ	CHECKED JF		

SCALE	BRIDGE FILE
1"=5'-0"	
	DESIGNATION
	1705994
	SHEETS
	5 of 5 Sht
CONTRACT	PROJECT
R-43368	1705994

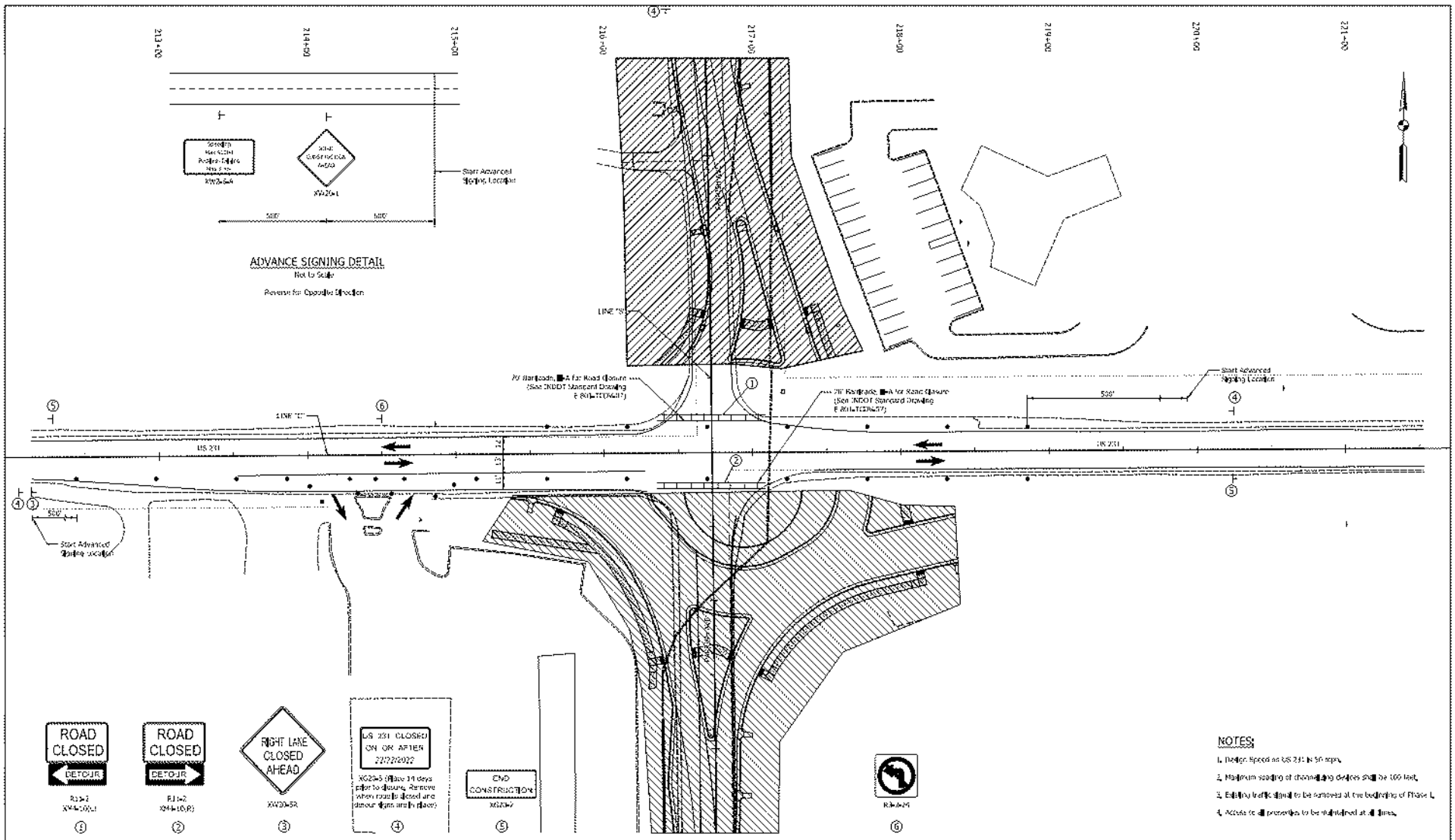


RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

INDIANA
DEPARTMENT OF TRANSPORTATION

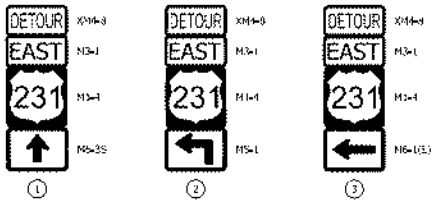
PLAT NO. 1

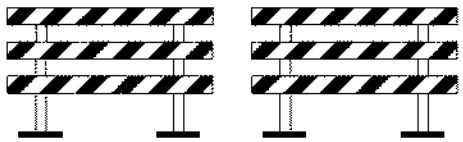
HORIZONTAL SCALE	BRIDGE FILE
1"=50'	NA
	DESIGNATION
	1702994
VERTICAL SCALE	SHEETS
	5 of 5 Sht
CONTRACT	PROJECT
	1702994

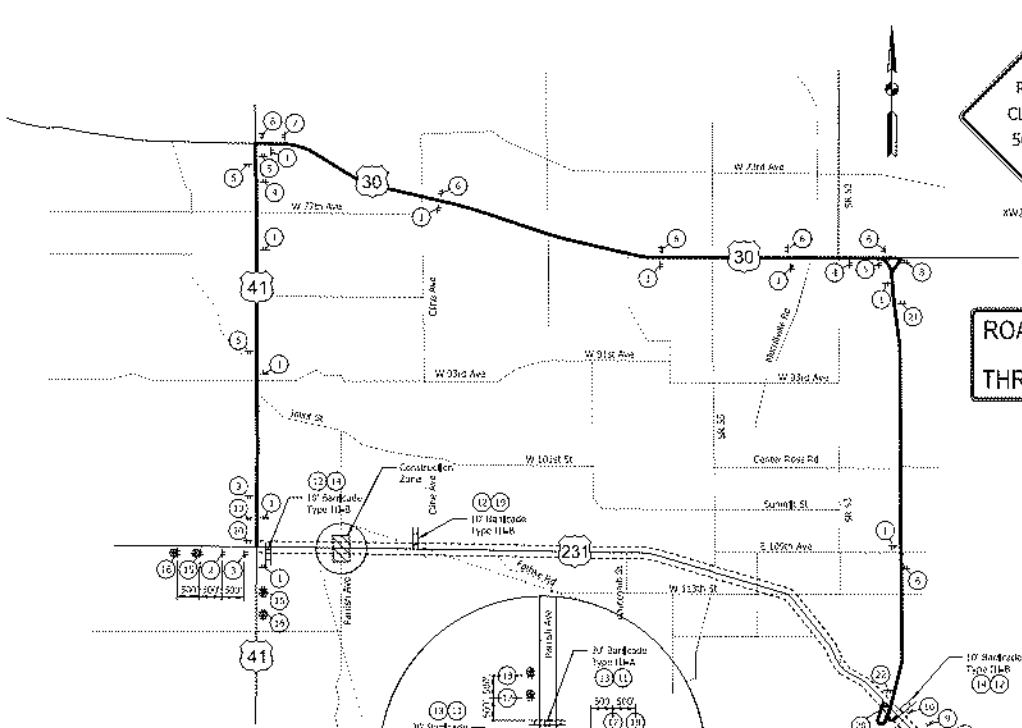


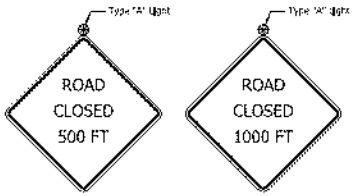
RECOMMENDED FOR APPROVAL	INDIANA DEPARTMENT OF TRANSPORTATION
DESIGN ENGINEER — DATE	
CHECKED BY — DRAWN BY	MAINTENANCE OF TRAFFIC US 231 - PHASE 1
CHECKED BY — CHECKED BY	

SCALE	DESIGNATIONS
PLANS	DESIGNATION
	1/5/2024
	SHEETS
	2 of 3
CONTRACT	PROJECT
R-43265	1/5/2024



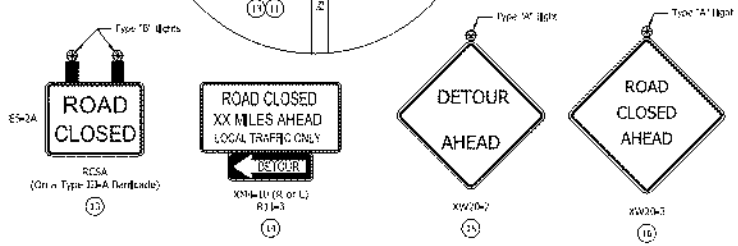






MOT SUMMARY TABLE		
DESCRIPTION	UNIT	QUANTITY
DETOUR ROUTE MARKER ASSEMBLY	EACH	54
CONSTRUCTION SIGN, A	EACH	12
CONSTRUCTION SIGN, B	EACH	14
ROAD CLOSURE SIGN ASSEMBLY	EACH	7
BARRICADE, III-A	LFT	120
BARRICADE, III-B	LFT	30

THE ABOVE QUANTITIES ARE FOR THIS SHEET ONLY



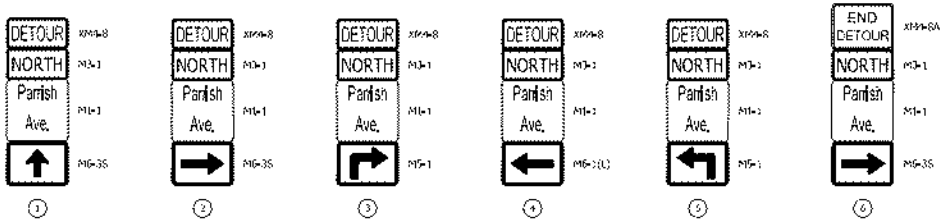
LEGEND

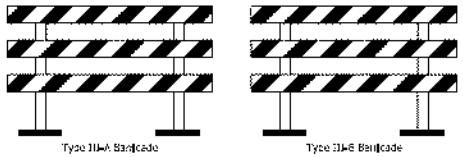
- Detoured Route
- Construction Sign
- Sign Mtd on Warning Light
- Construction Area
- Detour Route
- Barricade Type III-A or III-B
- Traffic Flow
- Channelizing Device

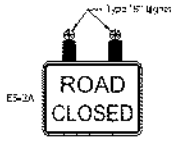
INDIANA DEPARTMENT OF TRANSPORTATION

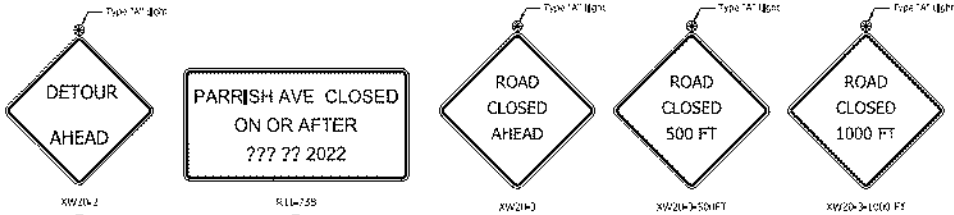
MAINTENANCE OF TRAFFIC
US 231 DETOUR - PHASE 2

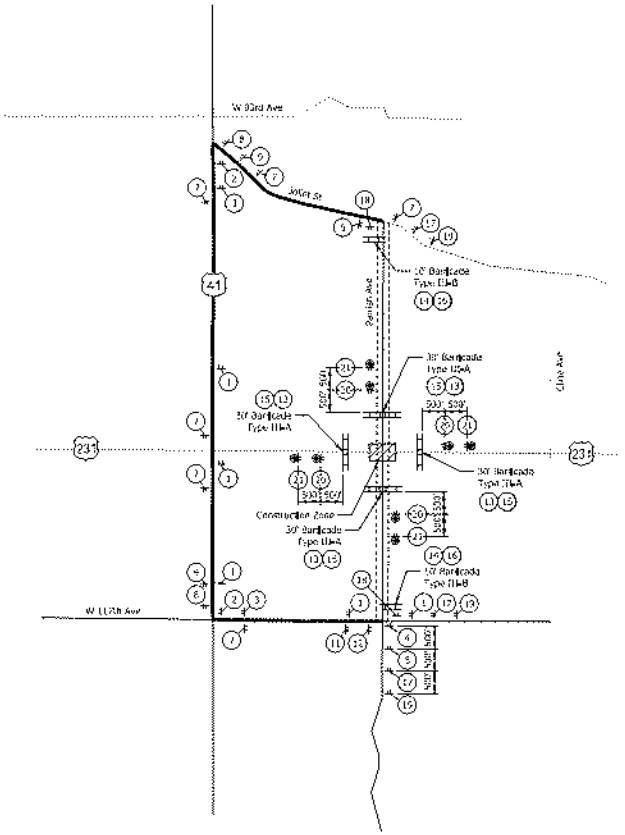
SCALE	INDEX FILE
STATE	DESIGNATION
	1700095
	SHEETS
	0 51 51
CONTRACT	PROJECT
DESIGNED	1/2024











MOT SUMMARY TABLE		
DESCRIPTION	UNIT	QUANTITY
DETOUR ROUTE MARKER ASSEMBLY	EACH	24
CONSTRUCTION SIGN, A	EACH	2
CONSTRUCTION SIGN, B	EACH	14
ROAD CLOSURE SIGN ASSEMBLY	EACH	6
BARRICADE, III-A	LFT	120
BARRICADE, III-B	LFT	30

THE ABOVE QUANTITIES ARE FOR THIS SHEET ONLY

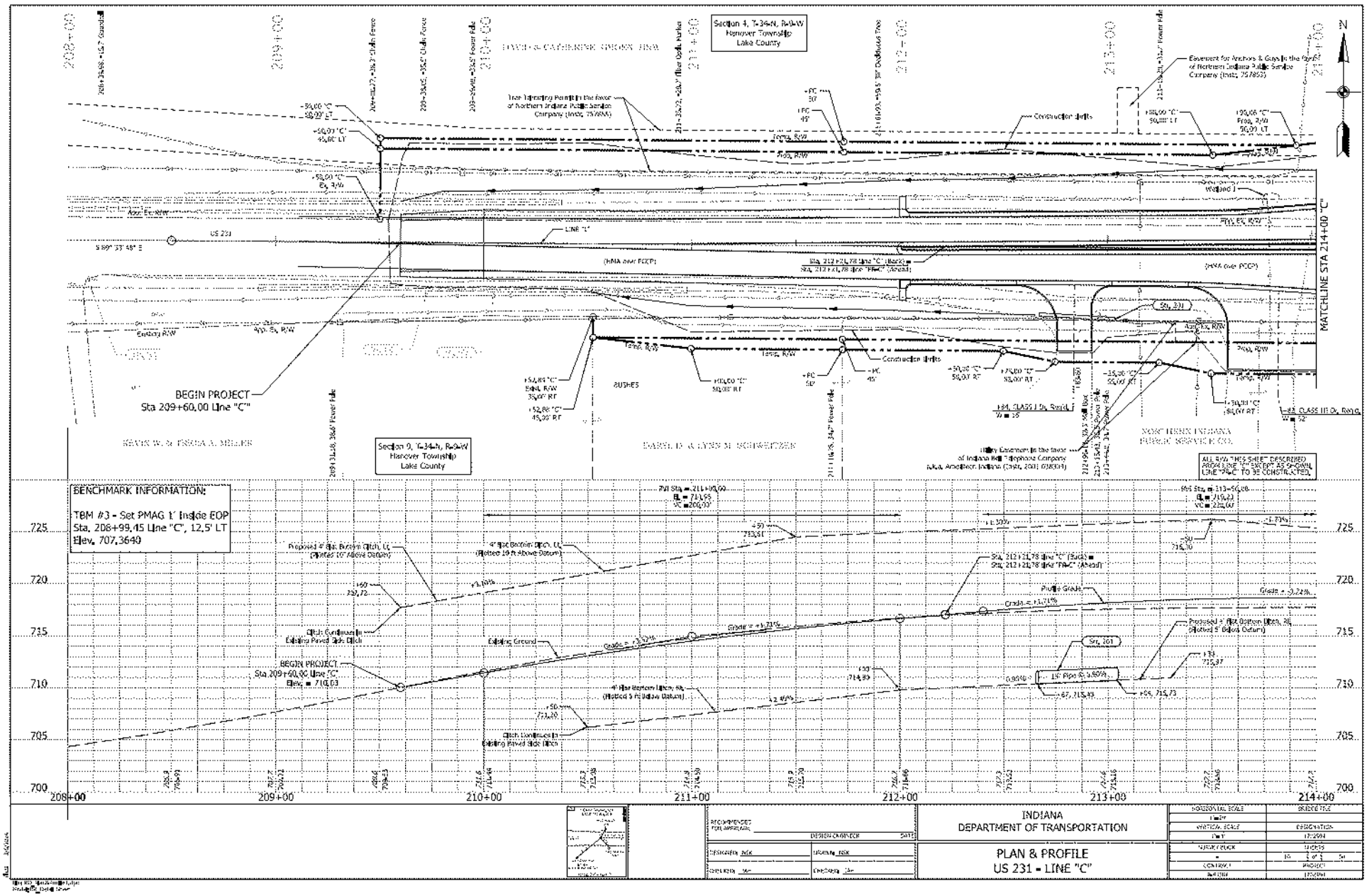
LEGEND

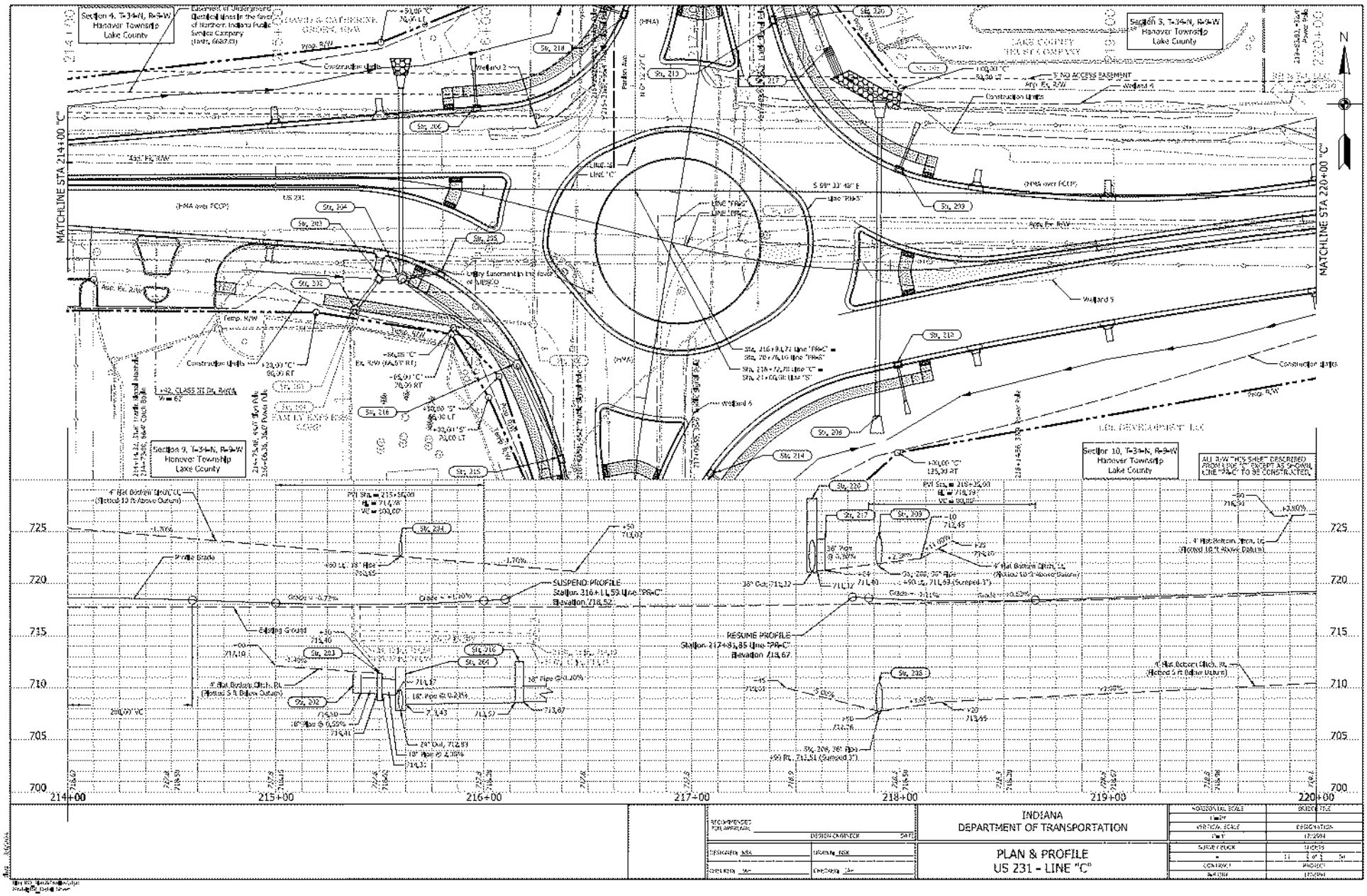
- Detoured Route
- Sign
- Sign after Warning Light
- Construction Area
- Detour Route
- Barricade Type III-A or III-B

INDIANA
DEPARTMENT OF TRANSPORTATION

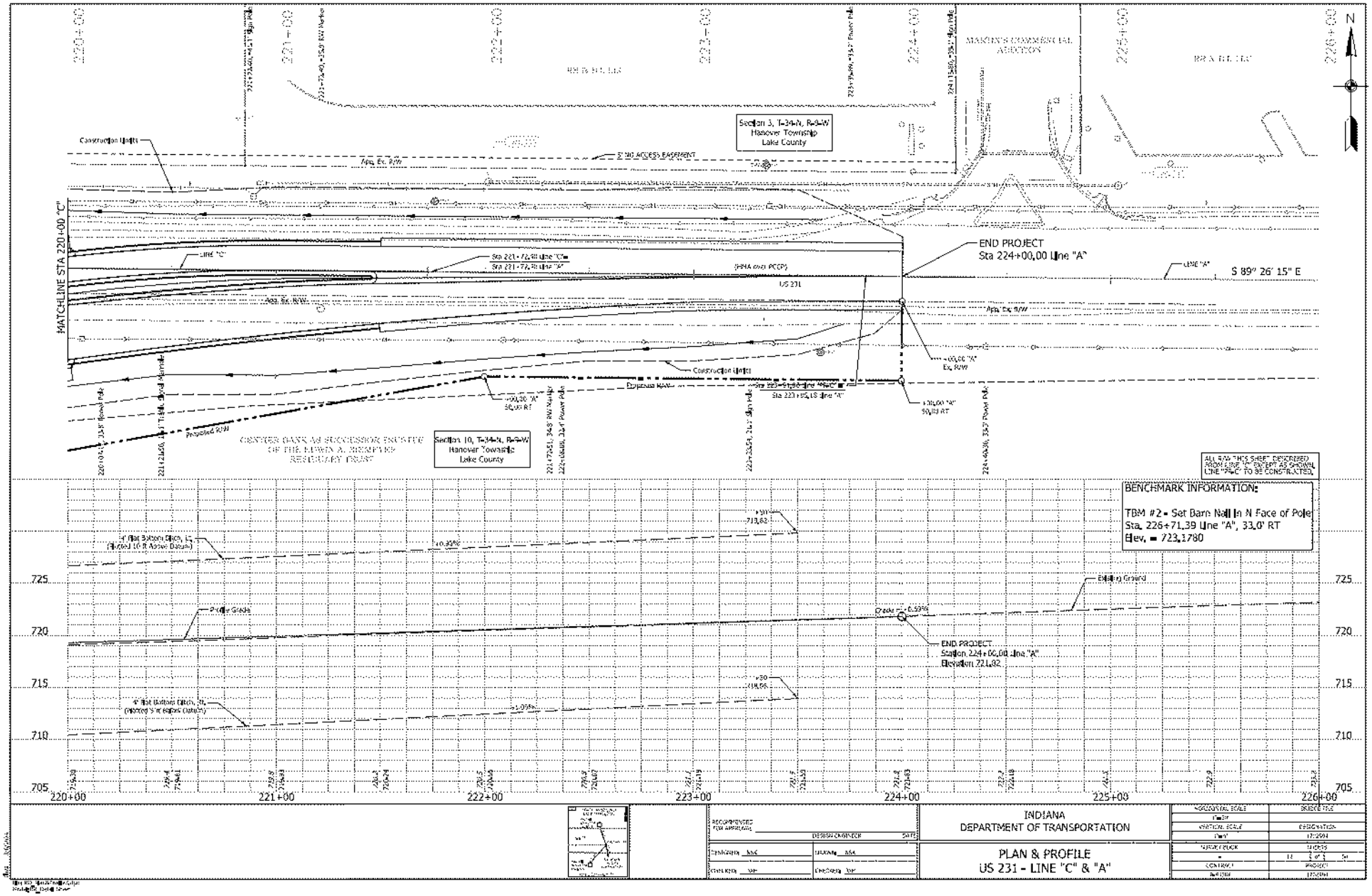
MAINTENANCE OF TRAFFIC
PARRISH AVE DETOUR PHASE 1 & 2

DESIGNED
DRAWN
CHECKED


BEGIN PROJECT
Sta 209+60.00 Line "C"
Section 4, T-34-N, R-9-W
Hanover Township
Lake County
Section 9, T-34-N, R-9-W
Hanover Township
Lake County
MATCHLINE STA 214+00 "C"
BENCHMARK INFORMATION:
TBM #3 - Set PMAG 1' Inside EOP
Sta. 208+99.15 Line "C", 12.5' LT
Elev. 707.3640
BEGIN PROJECT
Sta 209+60.00 Line "C"
Elev. = 710.03
Existing Ground
Ditch Continues to Existing Paved Side Ditch
208+00
209+00
210+00
211+00
212+00
213+00
214+00
INDIANA
DEPARTMENT OF TRANSPORTATION
PLAN & PROFILE
US 231 - LINE "C"

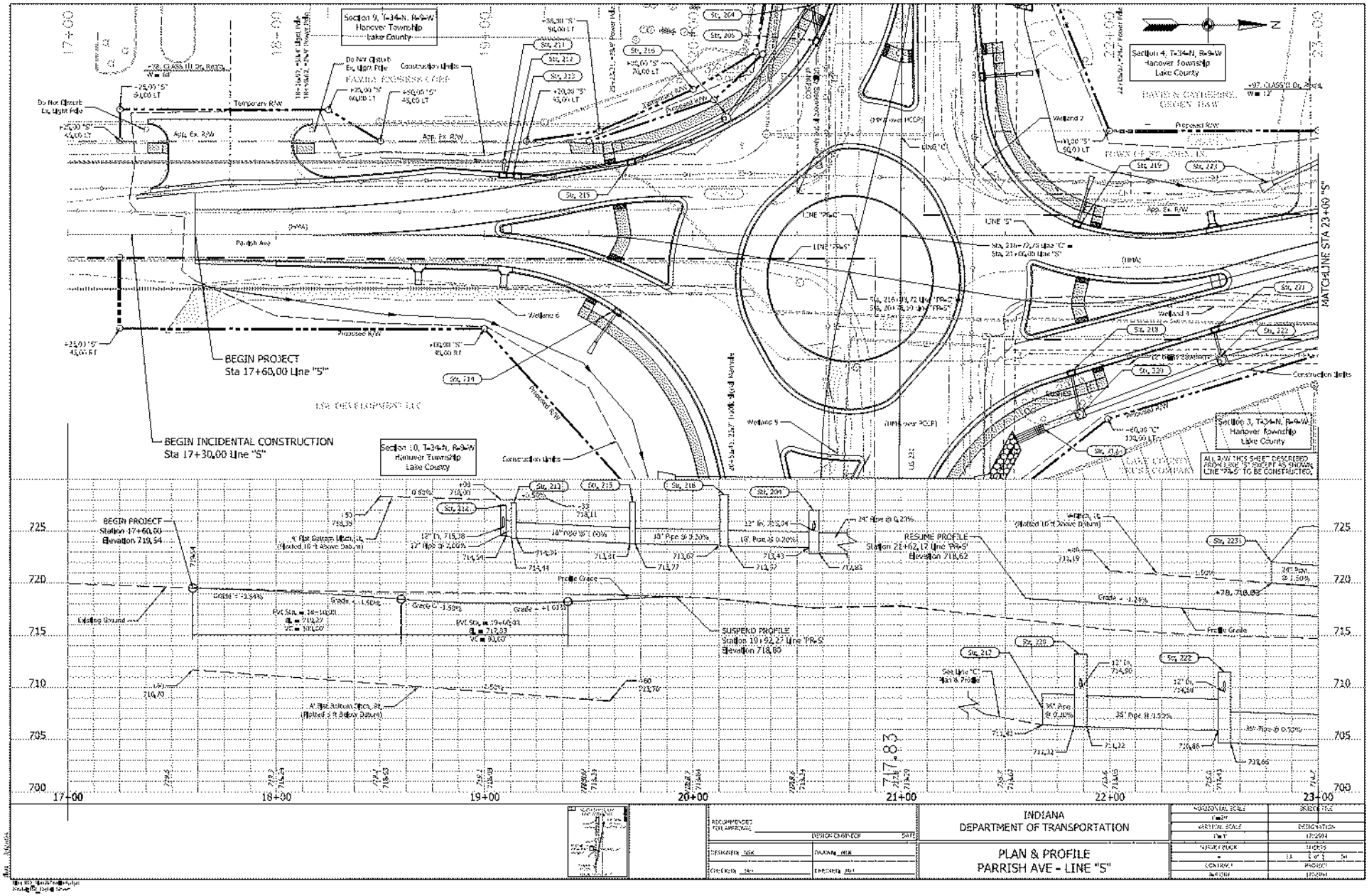


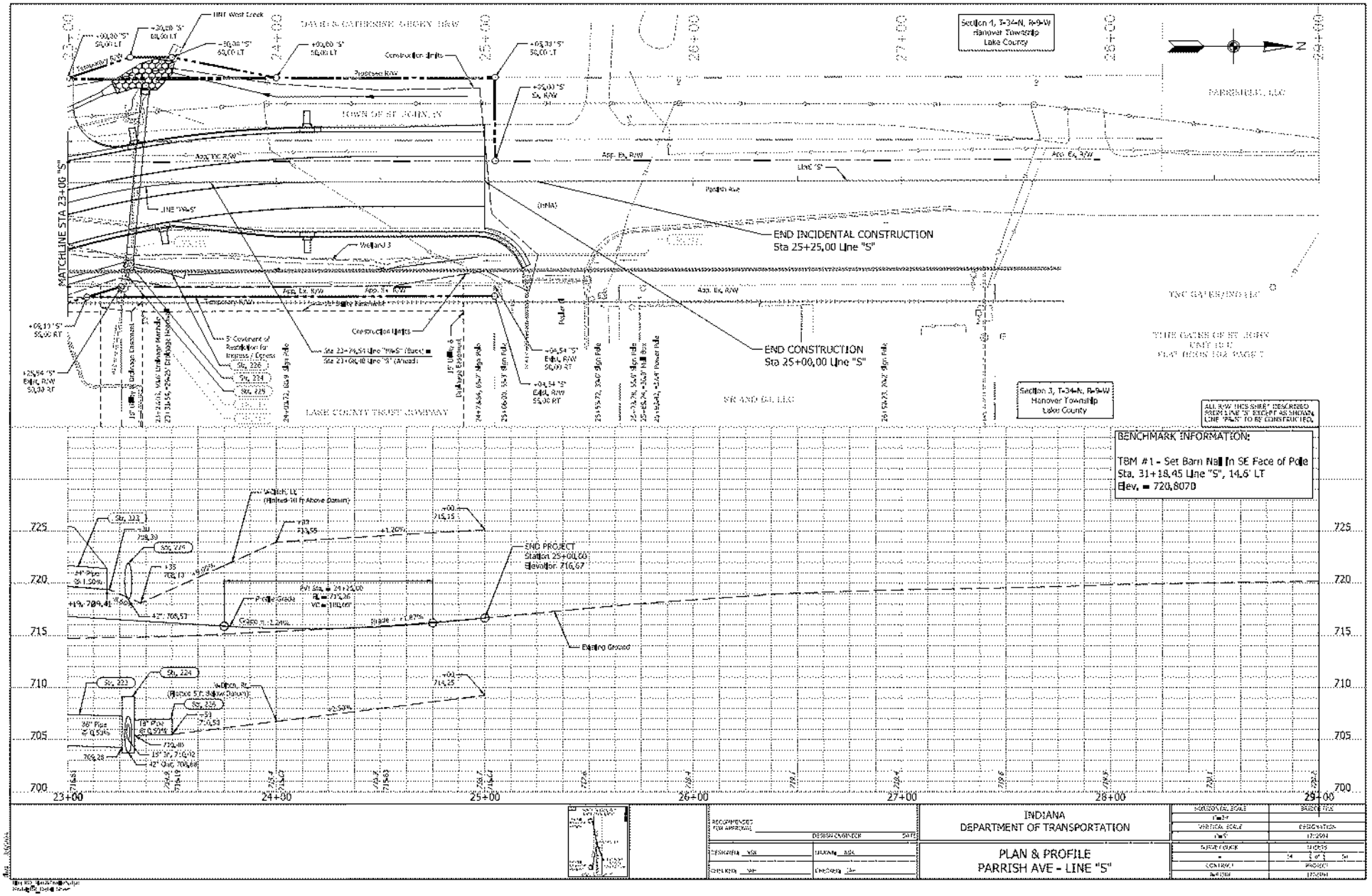
RECOMMENDED FOR APPROVAL: DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1 inch=	BRIDGE FILE
DESIGNED: ASK DRAWN: ASK	PLAN & PROFILE US 231 - LINE "C"	VERTICAL SCALE 1 inch=	DESIGNATION 17-2594
CHECKED: MH CHECKED: JH		SURVEY BOOK	SHEETS
		#	11 of 11 Sht
		CONTRACT #	PROJECT 17-2594



INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
US 231 - LINE "C" & "A"


Section 9, T-34-N, R-9-W
Hanover Township
Lake County
Section 4, T-34-N, R-9-W
Hanover Township
Lake County
Section 10, T-34-N, R-9-W
Hanover Township
Lake County
Section 3, T-34-N, R-9-W
Hanover Township
Lake County
BEGIN PROJECT
Sta 17+60.00 Line "S"
BEGIN INCIDENTAL CONSTRUCTION
Sta 17+30.00 Line "S"
MATCHLINE STA 23+00 "S"
Parrish Ave
Temporary R/W
Proposed R/W
Existing R/W
Construction Limits
Wetland 5
Wetland 6
Wetland 7
Wetland 8
LINE "PR-S"
LINE "S"
LINE "C"
BEGIN PROJECT
Station 17+60.00
Elevation 719.54
SUSPEND PROFILE
Station 19+92.27 Line "PR-S"
Elevation 718.80
RESUME PROFILE
Station 21+62.17 Line "PR-S"
Elevation 718.62
Existing Ground
Profile Grade
Grade = -1.60%
Grade = -1.50%
Grade = +1.61%
Grade = -1.24%
Sta 17+00
Sta 18+00
Sta 19+00
Sta 20+00
Sta 21+00
Sta 22+00
Sta 23+00
725
720
715
710
705
700
INDIANA
DEPARTMENT OF TRANSPORTATION
PLAN & PROFILE
PARRISH AVE - LINE "S"
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER
DATE
DESIGNED
DRAWN
CHECKED
CHECKED
HORIZONTAL SCALE
1 inch =
VERTICAL SCALE
1 inch =
DATE
17-2594
STRUCTURE
PROJECT
17-2594

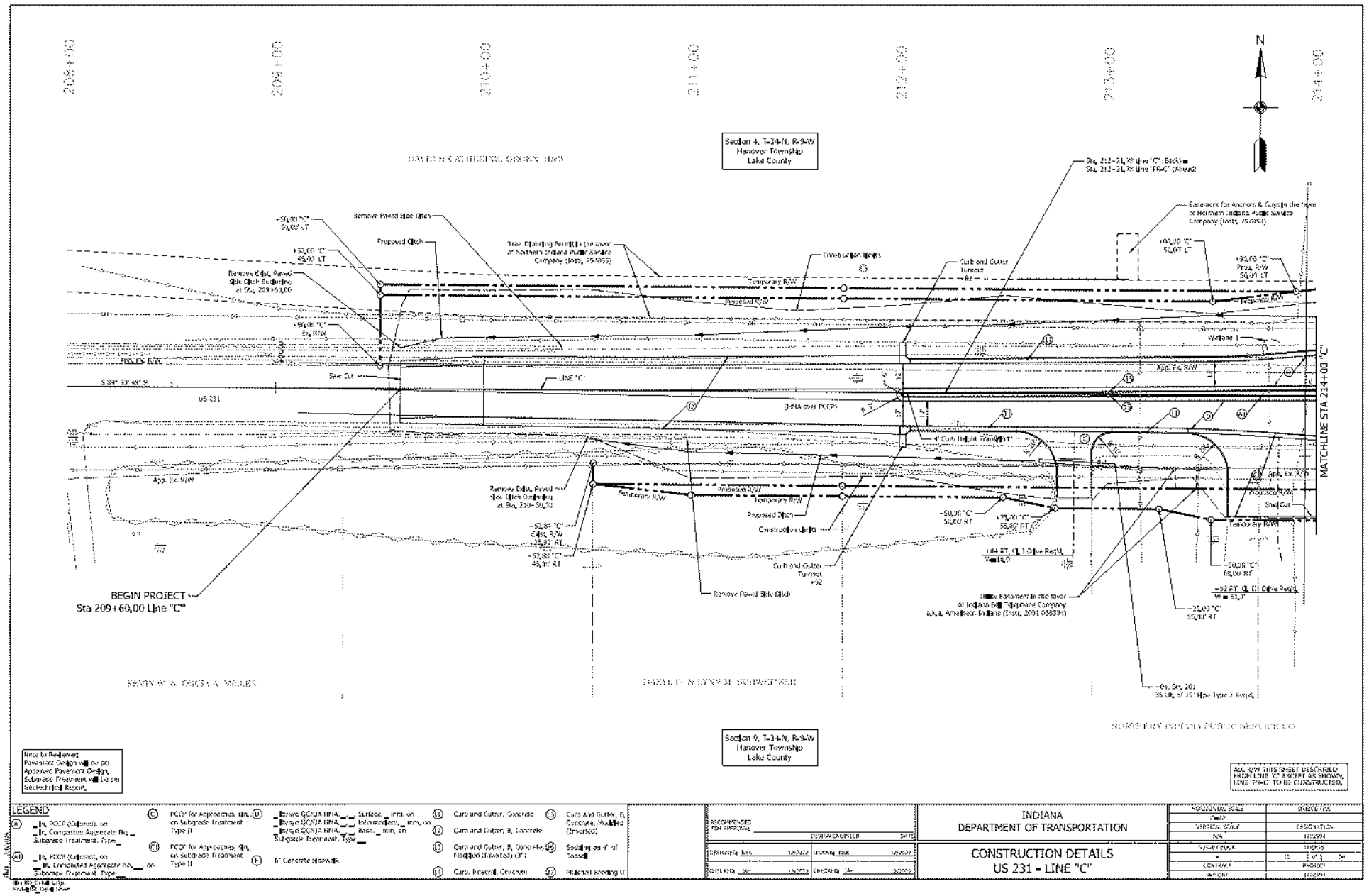


INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
PARRISH AVE - LINE "S"

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER — DATE

HORIZONTAL SCALE	BRIDGE NO.
1in=5ft	
VERTICAL SCALE	DESIGNATION
1in=5	LT-2004
SURVEY CHIEF	SHEETS
	14 of 14 Sht
CONTRACT	PROJECT
	LT-2004



Note to Reviewer
Pavement Design will be per Approved Pavement Design, Subgrade Treatment will be per Geotechnical Report.

All R/W THIS SHEET DESCRIBED FROM LINE "C" EXCEPT AS SHOWN, LINE "PAC" TO BE CONSTRUCTED.

LEGEND

(A) _ in. PCCP (Calibrated), on _ in. Compacted Aggregate No. _, Subgrade Treatment, Type _

(A1) _ in. PCCP (Calibrated), on _ in. Compacted Aggregate No. _, on Subgrade Treatment, Type _

(C) PCCP for Approaches, Bit., on Subgrade Treatment Type II

(C1) PCCP for Approaches, Bit., on Subgrade Treatment Type II

(D) _ in. Type QC/QA HMA, _ Surface, _ in. on _ in. Type QC/QA HMA, _ Intermediate, _ in. on _ in. Type QC/QA HMA, _ Base, _ in. on Subgrade Treatment, Type _

(E) 6" Concrete Sidewalk

(11) Curb and Gutter, Concrete

(12) Curb and Gutter, B, Concrete

(13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")

(14) Curb, Integral, Concrete

(15) Curb and Gutter, B, Concrete, Modified (Inverted)

(29) Sodding on 4" of Topsoil

(27) Mulched Seeding (

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

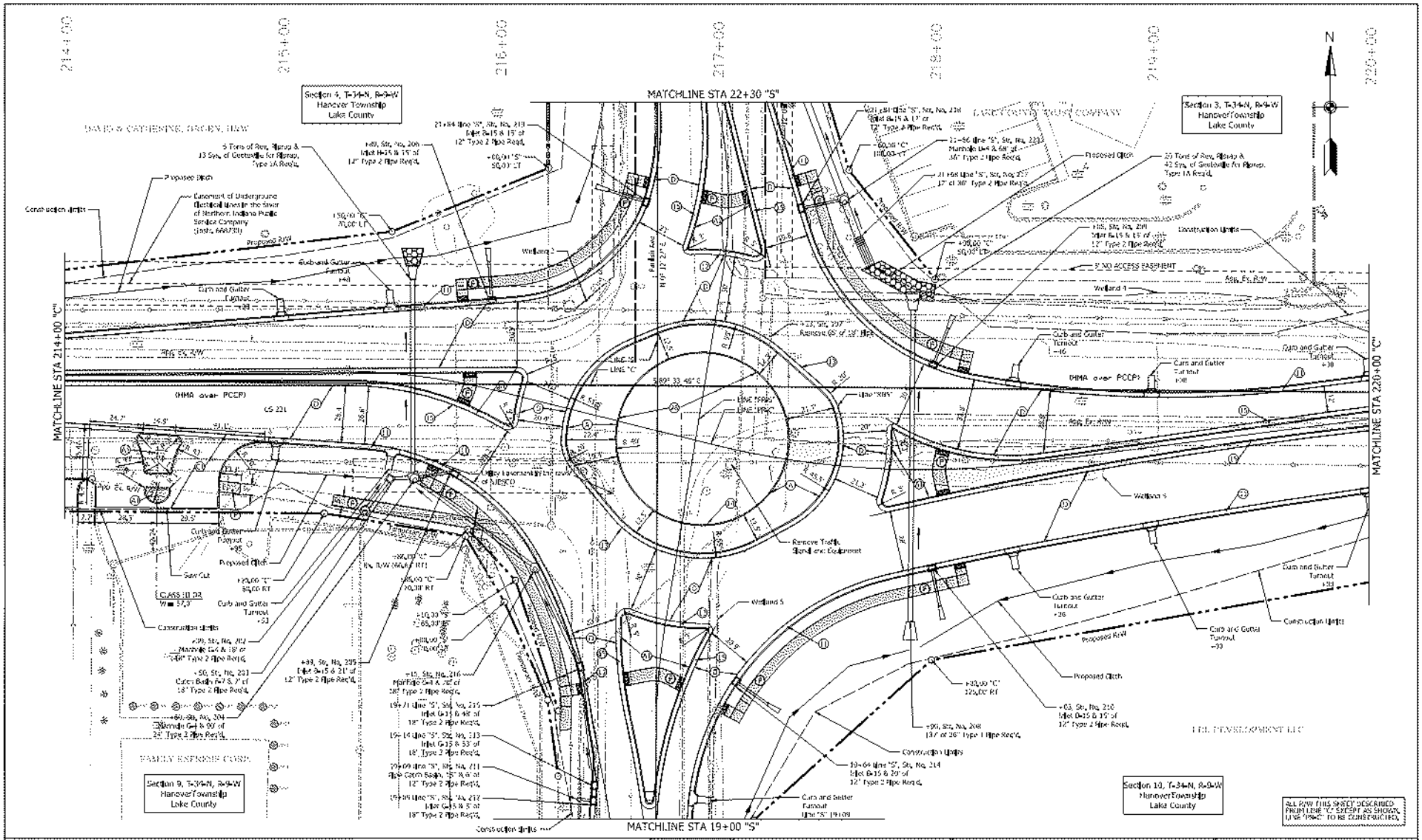
DESIGNED _____ DRAWN _____

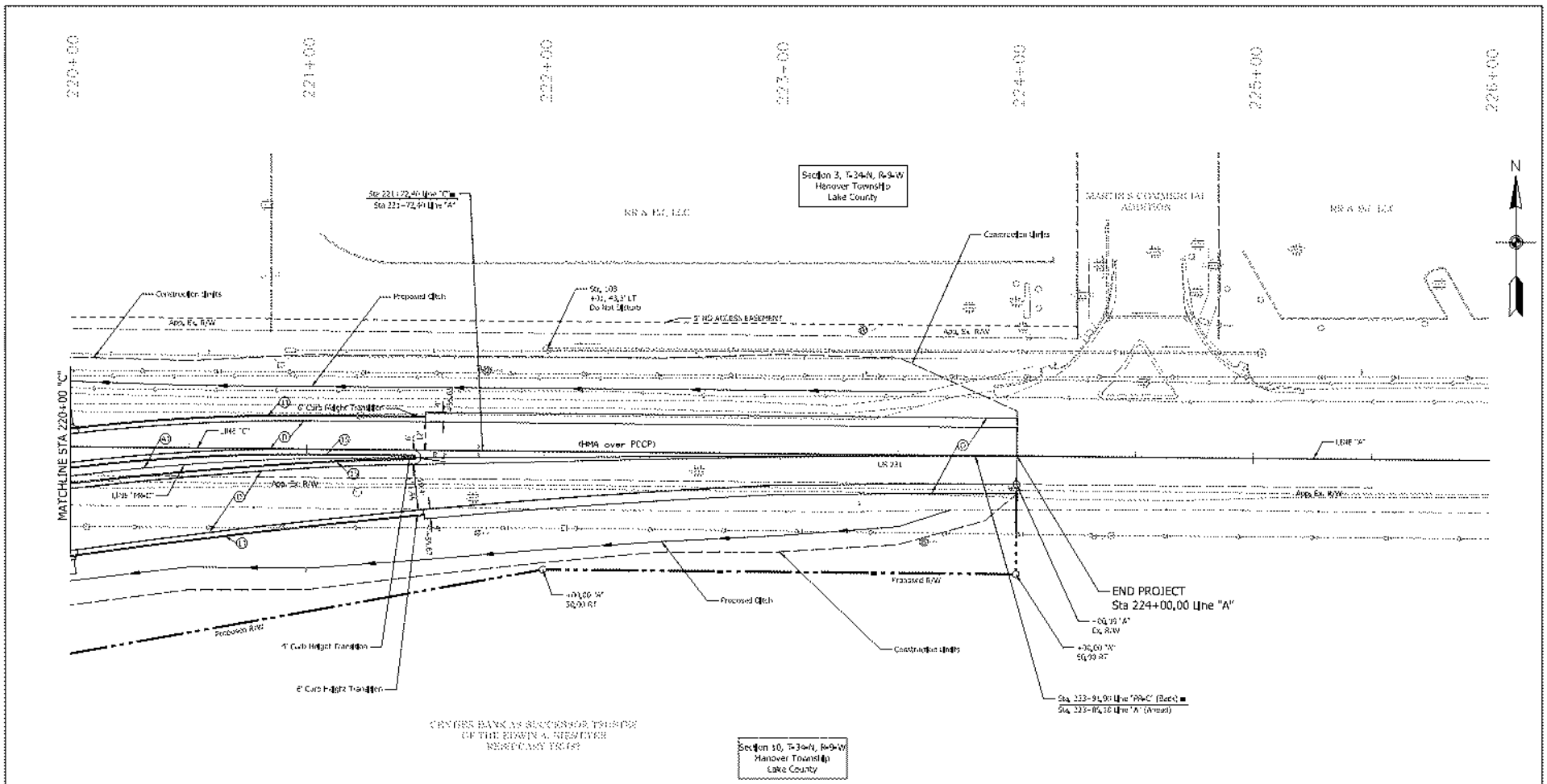
CHECKED _____ ENGINEER _____

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
US 231 - LINE "C"

HORIZONTAL SCALE	BRIDGE NO.
1"=50'	
VERTICAL SCALE	DESIGNATION
N/A	I-65-(59)4
PROJECT NO.	SHEETS
	15 3 of 15 54
CONTRACT	PROJECT
R-41098	I-65-(59)4


MATCHLINE STA 22+30 "S"
MATCHLINE STA 214+00 "C"
MATCHLINE STA 220+00 "C"
MATCHLINE STA 19+00 "S"
Section 4, T-34-N, R-9-W
Hanover Township
Lake County
Section 3, T-34-N, R-9-W
Hanover Township
Lake County
Section 9, T-34-N, R-9-W
Hanover Township
Lake County
Section 10, T-34-N, R-9-W
Hanover Township
Lake County
N
(HMA over PCCP)
CS 231
Proposed Ditch
Construction Limits
Proposed R/W
Existing R/W
Wetland 4
Wetland 5
Wetland 6
Curb and Gutter Turnout
Curb and Gutter Flareout
Removable Traffic Signal and Equipment
Remove 65 of 18" RCP
Easement of Underground Electrical Lines in the favor of Northern Indiana Public Service Company (Deed, 668780)
Subdrain and Gutter Fanfold
Sawcut
CLASS III DR
W = 57.0'
Conservation Limits
NO ACCESS EASEMENT
Asbl. Ex. R/W
Line "C"
Line "RRR"
Line "SSS"
Line "TTT"
S89° 33' 49" E
N 89° 12' 27" E
S 89° 12' 27" W
INDIANA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION DETAILS
US 231 - LINE "C"
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER
DATE
HORIZONTAL SCALE
1 inch =
VERTICAL SCALE
N/A
BRIDGE NO.
DESIGNATION
17-2994
CONTRACT NO.
SHEETS
16
2 of 3
CONTRACT
PROJECT
17-2994
LEGEND
(A) In PCCP (Optional), on In Composite Aggregate No. Subgrade Treatment, Type
(A1) In PCCP (Optional), on In Elongated Aggregate No. on Subgrade Treatment, Type
(C) PCCP for Approaches, No. on Subgrade Treatment Type II
(D) PCCP for Approaches, No. on Subgrade Treatment Type II
(F) 6" Concrete Sidewalk
Remove QC/QA HMA, Surface, mm, on Intermediate, mm, on Base, mm, on Subgrade Treatment, Type
(L) Curb and Gutter, Concrete
(M) Curb and Gutter, B, Concrete
(N) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
(P) Curb, Pedestal, Concrete
(S) Curb and Gutter, B, Concrete, Modified (Inverted)
(Q) Sodding on 4" of Topsoil
(R) Mulched Seeding (
ALL R/W THIS SHEET DESCRIBED FROM LINE "C" EXCEPT AS SHOWN. LINE "PPPP" TO BE CONSTRUCTED.



ALL R/W THIS SHEET DESCRIBED FROM LINE "C" EXCEPT AS SHOWN. LINE "PR-C" TO BE CONSTRUCTED.

LEGEND

(A) ___ in. PCCP (Colored), on ___ in. Compacted Aggregate No. ___ Subgrade Treatment, Type ___

(A) ___ in. PCCP (Colored), on ___ in. Compacted Aggregate No. ___ on Subgrade Treatment, Type ___

(C) PCCP for Approaches, Qty., on Subgrade Treatment Type II

(C) PCCP for Approaches, Qty., on Subgrade Treatment Type II

(D) ___ Polyol QC/QA HMA, ___ Surface, ___ min. SS
___ Polyol QC/QA HMA, ___ Intermediate, ___ min. SS
___ Polyol QC/QA HMA, ___ Base, ___ min. SS
Subgrade Treatment, Type ___

(F) 6" Concrete Sidewalk

(11) Curb and Gutter, Concrete

(12) Curb and Gutter, B, Concrete

(13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")

(14) Curb, Integral, Concrete

(15) Curb and Gutter, S, Concrete, Modified (Inverted)

(26) Sodding or 4" of Topsoil

(27) Mulched Seeding II

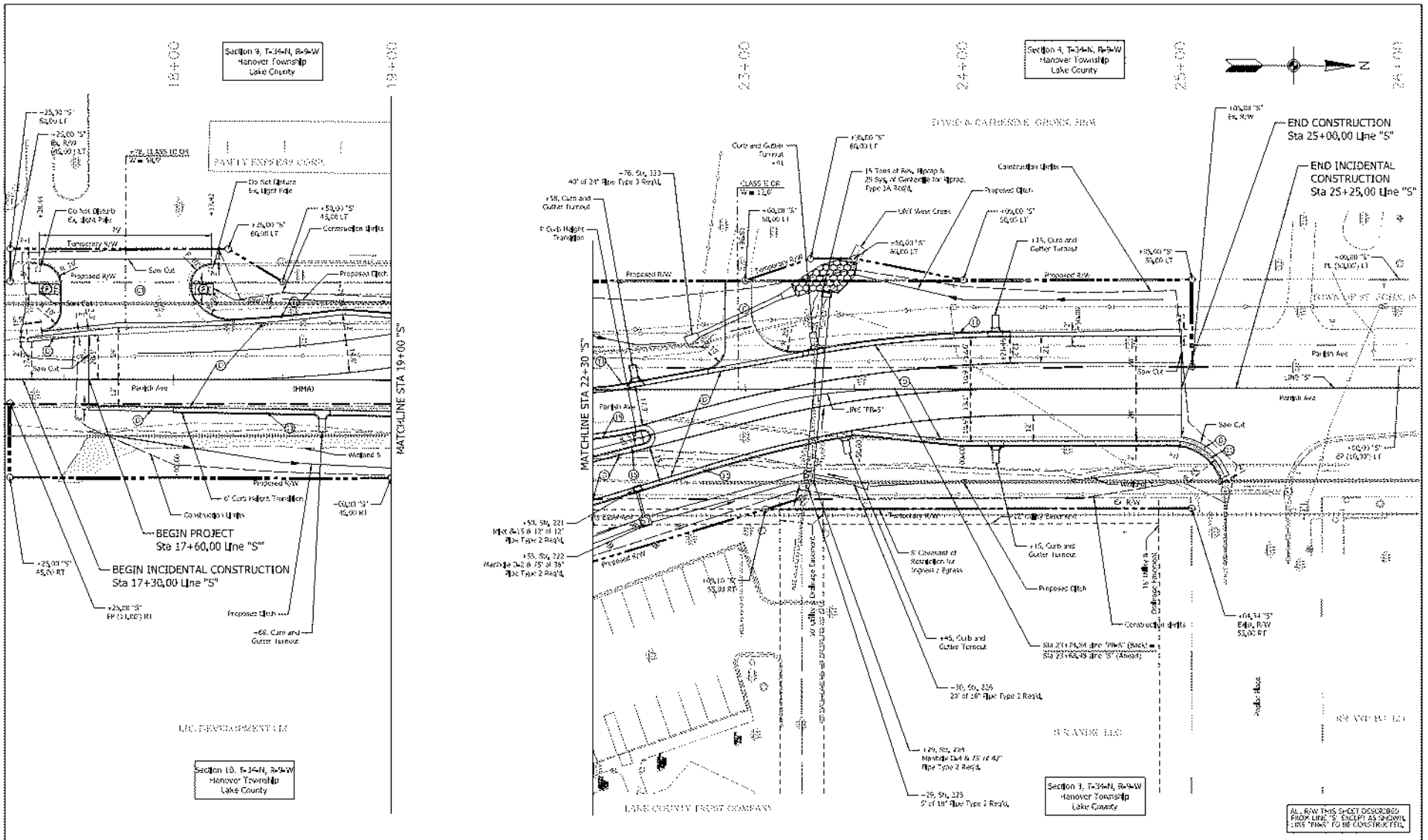
RECOMMENDED FOR APPROVAL

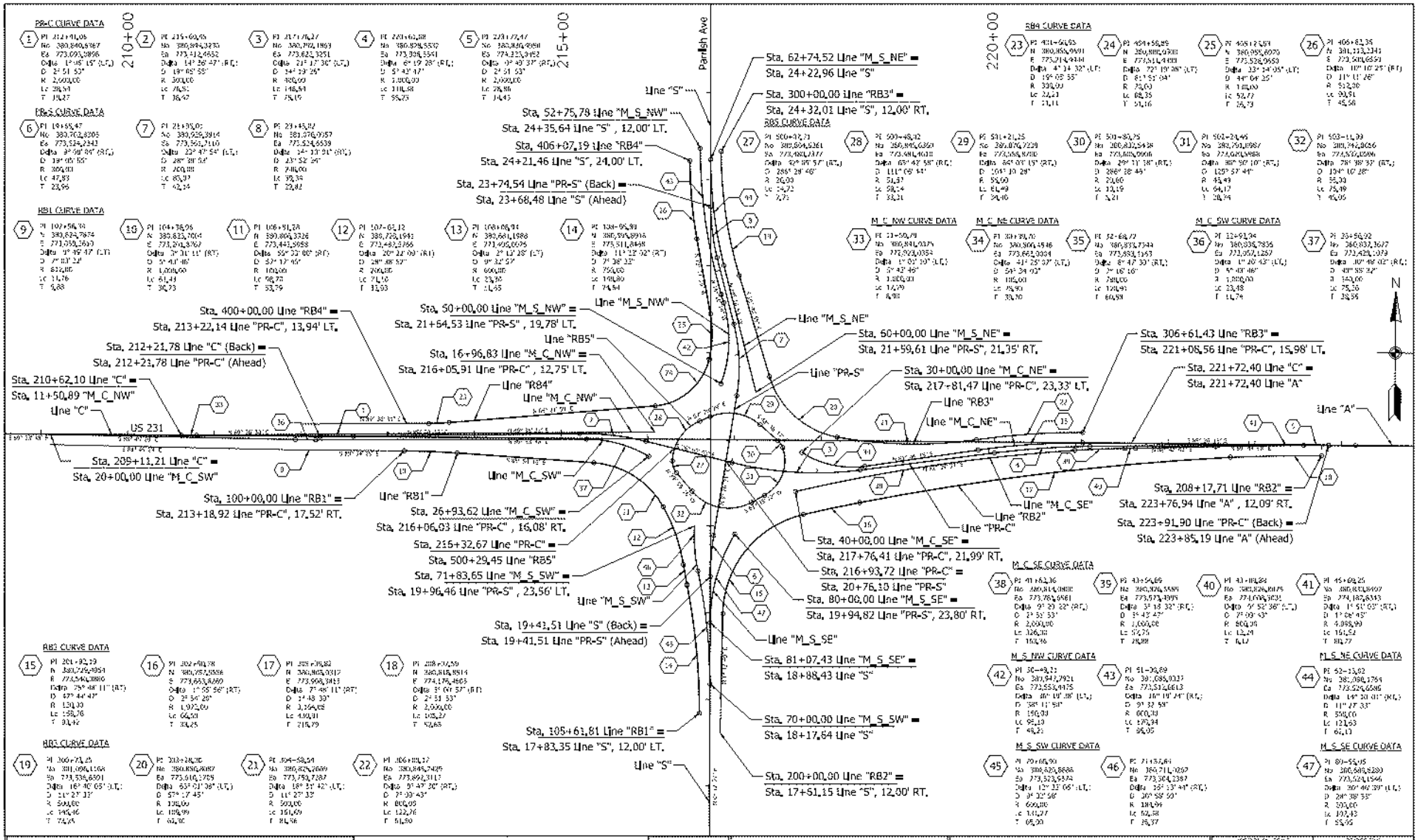
DESIGN ENGINEER	DATE
DESIGNED NSK	12/2021
DRAWN NSK	12/2021
CHECKED JBF	12/2021
ENGINEER JBF	12/2021

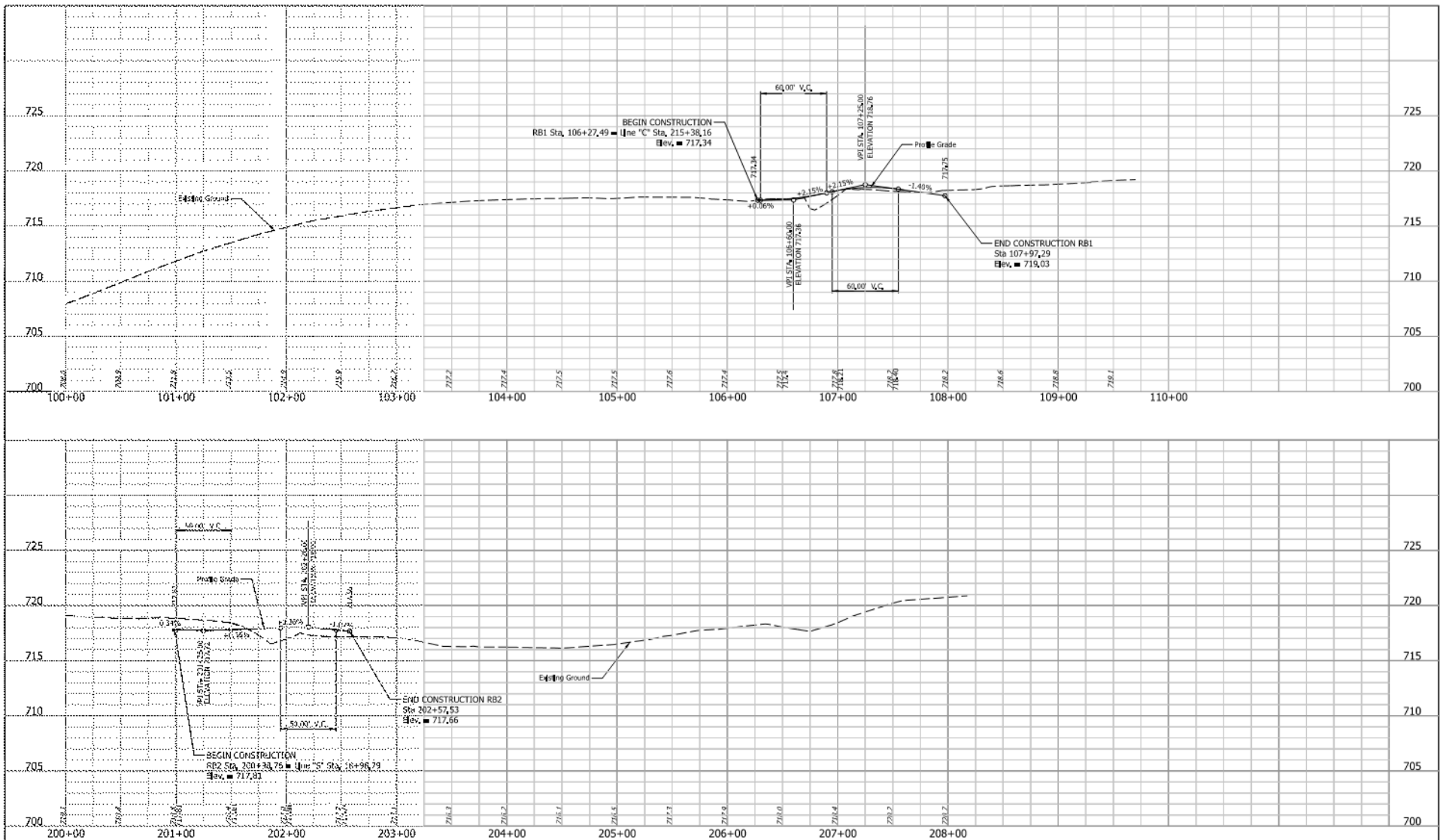
INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
US 231 - LINE "C" & LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	
VERTICAL SCALE	DESIGNATION
N/A	17-2004
SURVEY BOOK	SHEETS
n	5 of 5
CONTRACT	PROJECT
R-41068	17-2004


Section 9, T-34-N, R-9-W
Hanover Township
Lake County
Section 4, T-34-N, R-9-W
Hanover Township
Lake County
Section 10, T-34-N, R-9-W
Hanover Township
Lake County
Section 3, T-34-N, R-9-W
Hanover Township
Lake County
MATCHLINE STA 19+00 "S"
MATCHLINE STA 22+30 "S"
BEGIN PROJECT
Sta 17+60,00 Line "S"
BEGIN INCIDENTAL CONSTRUCTION
Sta 17+30,00 Line "S"
END CONSTRUCTION
Sta 25+00,00 Line "S"
END INCIDENTAL
CONSTRUCTION
Sta 25+25,00 Line "S"
Parrish Ave
Proposed R/W
Temporary R/W
Saw Cut
Proposed Ditch
Construction Limits
Wetland 5
6" Curb Reject Transition
Curb and Gutter Turnout
Temporary Easement
Proposed Slope Easement
LINE "PR-3"
LINE "S"
LAKE COUNTY TRUST COMPANY
DAVID & CATHERINE GROSS TRW
TOWN OF ST. JOHN, IN
LEGEND
CONSTRUCTION DETAILS
PARRISH AVE - LINE "S"
INDIANA
DEPARTMENT OF TRANSPORTATION


PR-C CURVE DATA
PR-S CURVE DATA
RB1 CURVE DATA
RB2 CURVE DATA
RB3 CURVE DATA
RB4 CURVE DATA
RB5 CURVE DATA
M_C_NW CURVE DATA
M_C_NE CURVE DATA
M_C_SW CURVE DATA
M_C_SE CURVE DATA
M_S_NW CURVE DATA
M_S_NE CURVE DATA
M_S_SW CURVE DATA
M_S_SE CURVE DATA
210+00
215+00
220+00
Parrish Ave
US 231
Sta, 210+62,10 Line "C" =
Sta, 11+50,89 "M_C_NW"
Line "C"
Sta, 212+21,78 Line "C" (Back) =
Sta, 212+21,78 Line "PR-C" (Ahead)
Sta, 400+00,00 Line "RB4" =
Sta, 213+22,14 Line "PR-C", 13,94' LT.
Sta, 209+11,21 Line "C" =
Sta, 20+00,00 Line "M_C_SW"
Sta, 100+00,00 Line "RB1" =
Sta, 213+18,92 Line "PR-C", 17,52' RT.
Sta, 50+00,00 Line "M_S_NW" =
Sta, 21+64,53 Line "PR-S", 19,78' LT.
Sta, 16+96,83 Line "M_C_NW" =
Sta, 216+05,91 Line "PR-C", 12,75' LT.
Line "M_S_NW"
Line "RB5"
Line "R84"
Line "M_C_NW"
Line "M_C_SW"
Line "RB1"
Sta, 26+93,62 Line "M_C_SW" =
Sta, 216+06,93 Line "PR-C", 16,08' RT.
Sta, 216+32,67 Line "PR-C" =
Sta, 500+29,45 Line "RB5"
Sta, 71+83,65 Line "M_S_SW" =
Sta, 19+96,46 Line "PR-S", 23,56' LT.
Line "M_S_SW"
Sta, 19+41,51 Line "S" (Back) =
Sta, 19+41,51 Line "PR-S" (Ahead)
Sta, 105+61,81 Line "RB1" =
Sta, 17+83,35 Line "S", 12,00' LT.
Line "S"
Line "S"
Sta, 52+75,78 Line "M_S_NW" =
Sta, 24+35,64 Line "S", 12,00' LT.
Sta, 406+07,19 Line "RB4" =
Sta, 24+21,46 Line "S", 24,00' LT.
Sta, 23+74,54 Line "PR-S" (Back) =
Sta, 23+68,48 Line "S" (Ahead)
Sta, 62+74,52 Line "M_S_NE" =
Sta, 24+22,96 Line "S"
Sta, 300+00,00 Line "RB3" =
Sta, 24+32,01 Line "S", 12,00' RT.
Line "PR-S"
Line "M_S_NE"
Line "M_C_NE"
Line "R83"
Line "RB2"
Line "PR-C"
Line "M_C_SE"
Sta, 60+00,00 Line "M_S_NE" =
Sta, 21+59,61 Line "PR-S", 21,35' RT.
Sta, 30+00,00 Line "M_C_NE" =
Sta, 217+81,47 Line "PR-C", 23,33' LT.
Sta, 40+00,00 Line "M_C_SE" =
Sta, 217+76,41 Line "PR-C", 21,99' RT.
Sta, 216+93,72 Line "PR-C" =
Sta, 20+76,10 Line "PR-S"
Sta, 80+00,00 Line "M_S_SE" =
Sta, 19+94,82 Line "PR-S", 23,80' RT.
Line "M_S_SE"
Sta, 81+07,43 Line "M_S_SE" =
Sta, 18+88,43 Line "S"
Sta, 70+00,00 Line "M_S_SW" =
Sta, 18+17,64 Line "S"
Sta, 200+00,00 Line "RB2" =
Sta, 17+51,15 Line "S", 12,00' RT.
Sta, 306+61,43 Line "RB3" =
Sta, 221+08,56 Line "PR-C", 15,98' LT.
Sta, 221+72,40 Line "C" =
Sta, 221+72,40 Line "A"
Line "A"
Sta, 208+17,71 Line "RB2" =
Sta, 223+76,94 Line "A", 12,09' RT.
Sta, 223+91,90 Line "PR-C" (Back) =
Sta, 223+85,19 Line "A" (Ahead)
N
INDIANA
DEPARTMENT OF TRANSPORTATION
GEOMETRIC LAYOUT
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER
DATE
DESIGNED
DRAWN
CHECKED
CHECKED
HORIZONTAL SCALE
1"=50'
BRIDGE NO.
NA
DESIGNATION
I-69 SEC
DISTRICT
VINCENNES
COUNTY
GREENE
PROJECT
I-69 SEC
SHEET
19
OF
34
Sta



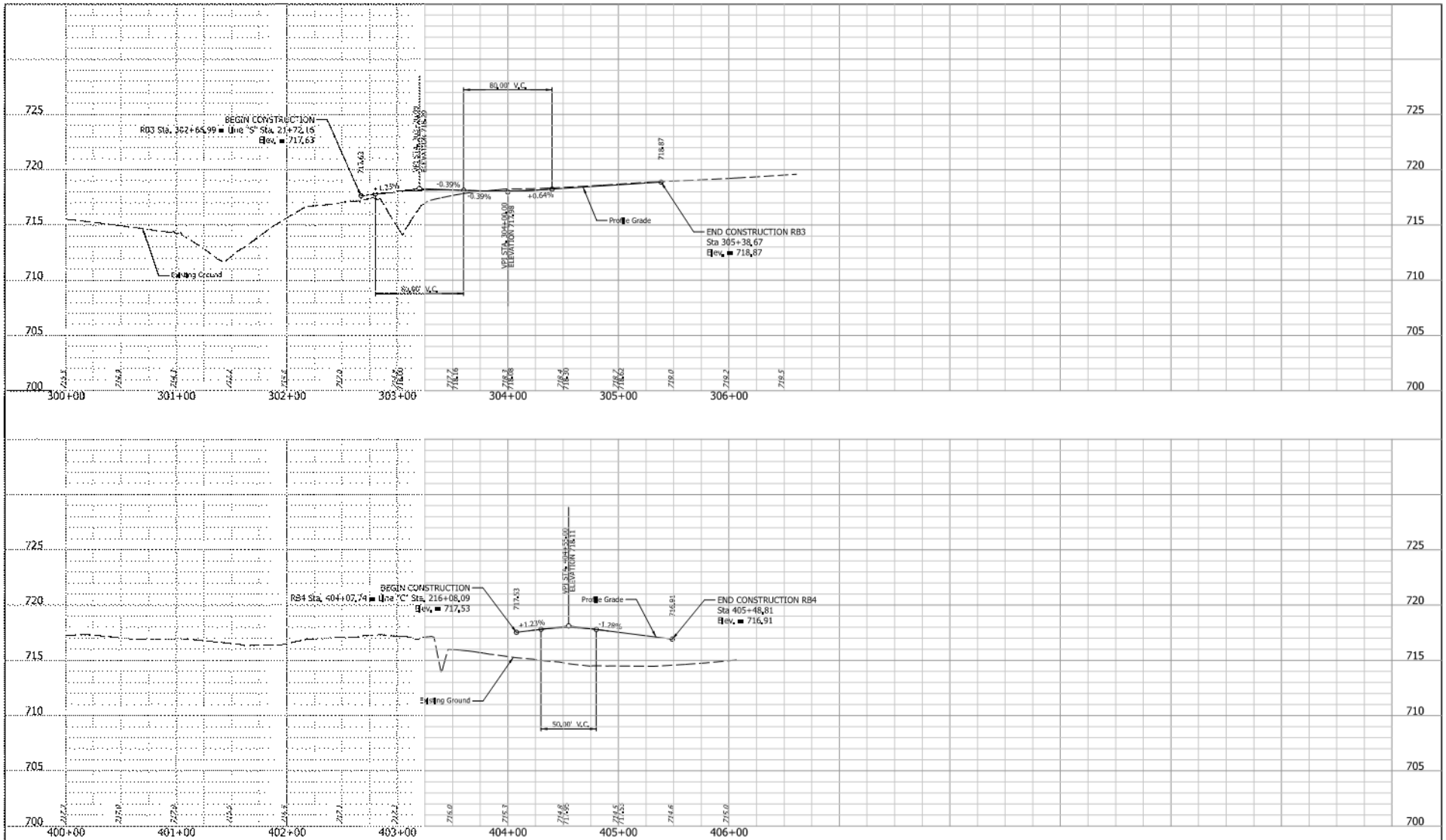
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: NSK
DRAWN: NSK
CHECKED: JAH
CHECKED: JAH

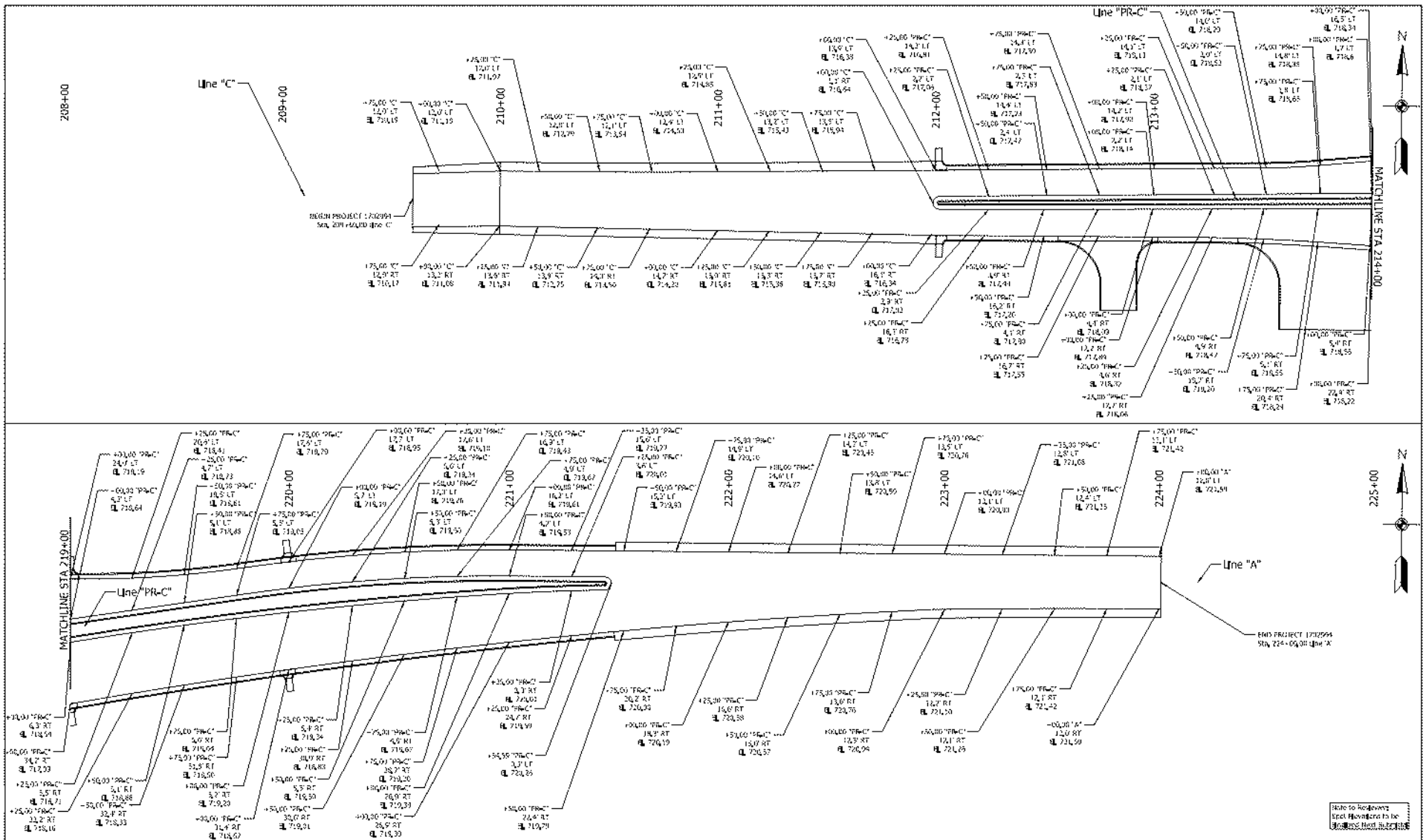
INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILES
RB1 AND RB2

HORIZONTAL SCALE	BRIDGE FILE
1"=40'	
VERTICAL SCALE	DESIGNATION
1"=5	1702994
SURVEY BOOK	SHEETS
-	20 of 50
CONTRACT	PROJECT
R-43388	1702994



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1"=40'	BRIDGE FILE
		VERTICAL SCALE 1"=5'	DESIGNATION 1702994
DESIGNED NSK DRAWN NSK	PROFILES RB3 AND RB4	SURVEY BOOK -	SHEETS 21 of 50
CHECKED JAH CHECKED JAH		CONTRACT R-43388	PROJECT 1702994



Note to Reviewers
Spot Elevations to be
finalized post submittal

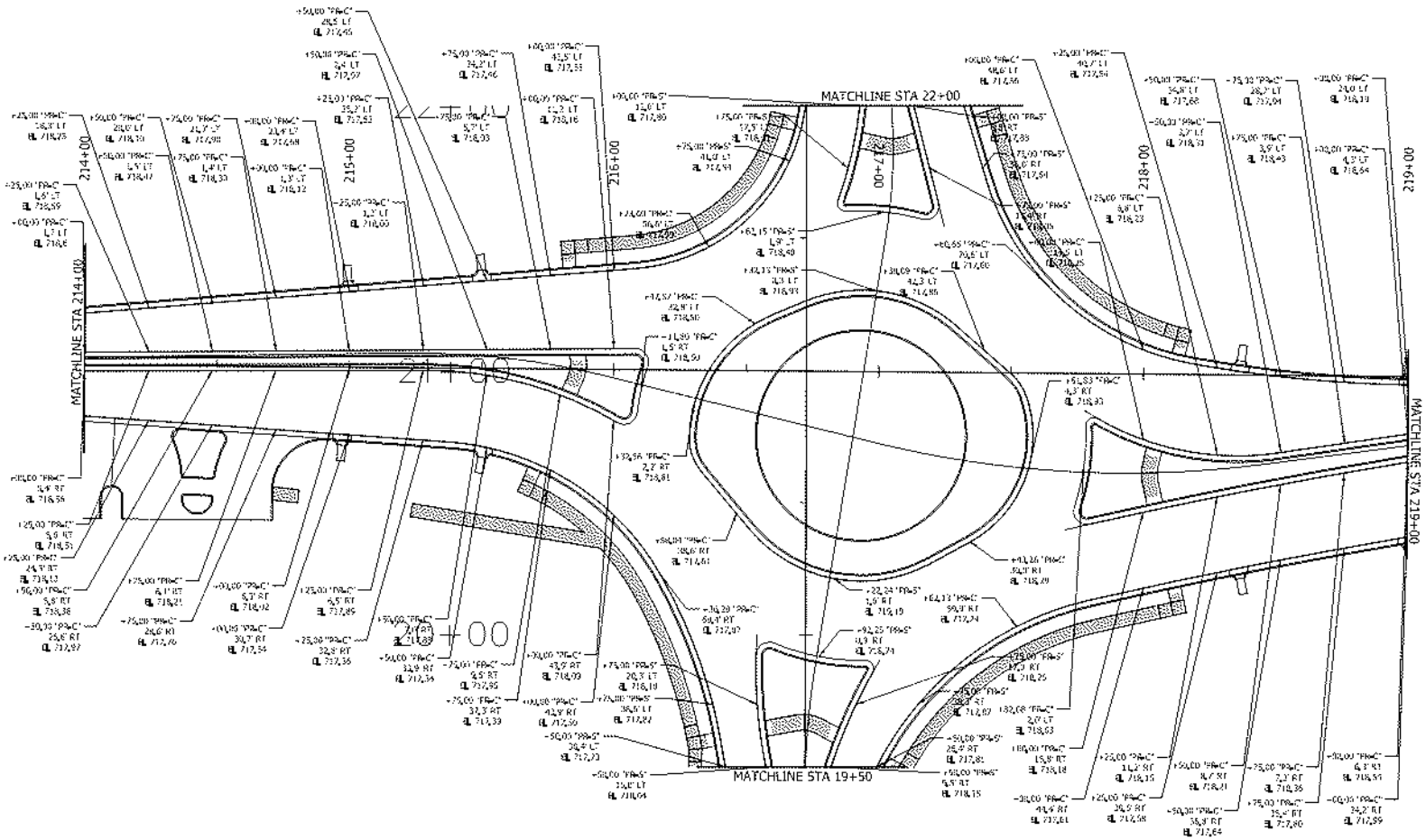
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER — DATE

DESIGNED — DRAWN — CHECKED

INDIANA
DEPARTMENT OF TRANSPORTATION

SPOT ELEVATIONS

HORIZONTAL SCALE	BRIDGE FILE
1 inch =	N/A
	DESIGNATION
	1702994
SURFACE FILE(S)	SHEETS
N/A	1 of 1 Sht
CONTRACT	PROJECT
N/A	1702994

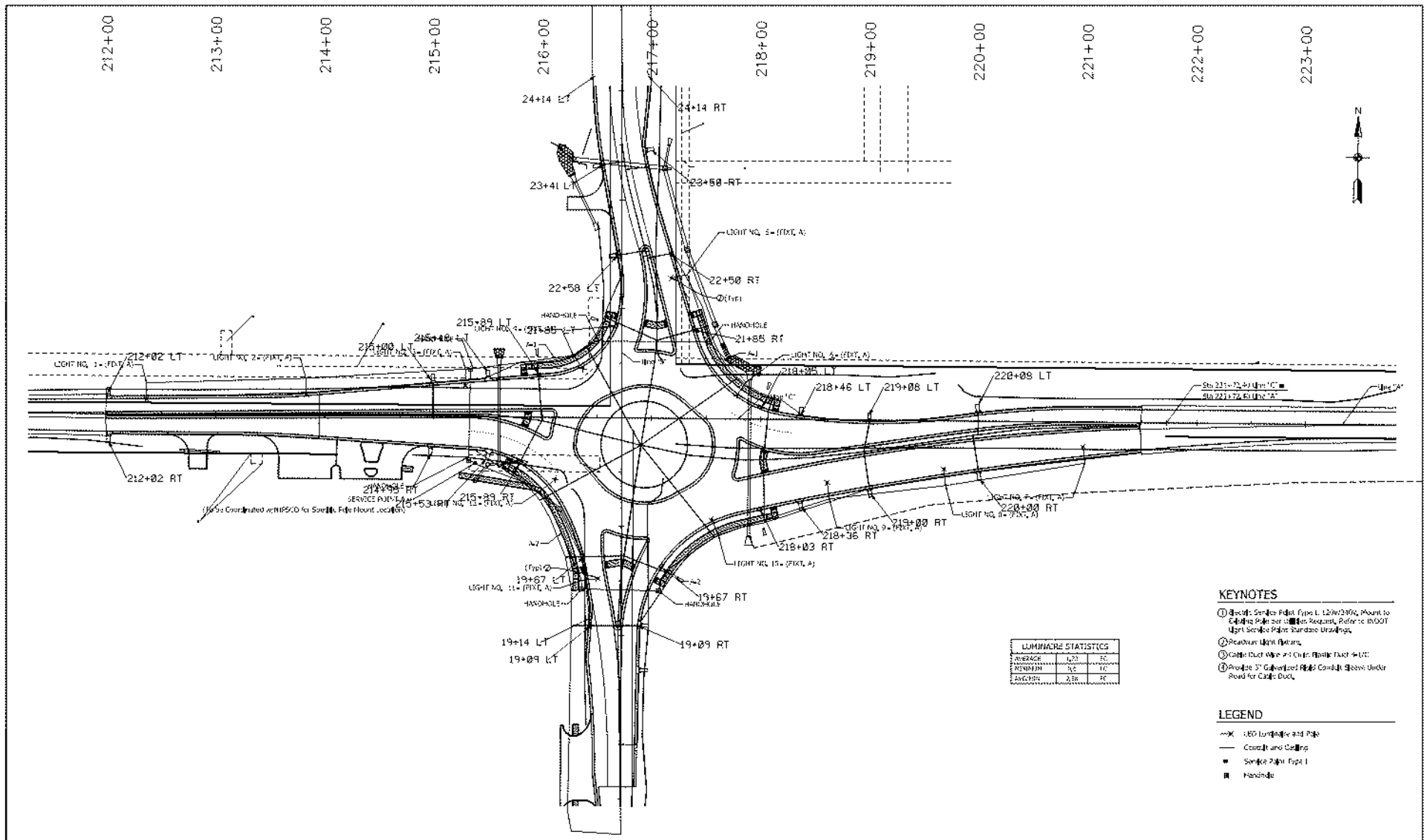


Note to Reviewers
Limit Elevations to Pe
Reviewed Not Subject

RECOMMENDED FOR APPROVAL		INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE: BRIDGE FILE
DESIGN ENGINEER	DATE		DESIGNATION:
DESIGNED NSK	DRAWN NSK	SPOT ELEVATIONS	SHEET NO. 5 OF 5 SH
CHECKED JDP	ENGINEER JDP		CONTRACT: PROJECT:

INDIANA
DEPARTMENT OF TRANSPORTATION

SPOT ELEVATIONS



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED RSK	DRAWN RSK	
CHECKED JEP	CHECKED JEP	

INDIANA
DEPARTMENT OF TRANSPORTATION

US 231 - PARRISH AVENUE INTERSECTION
LIGHTING PLAN

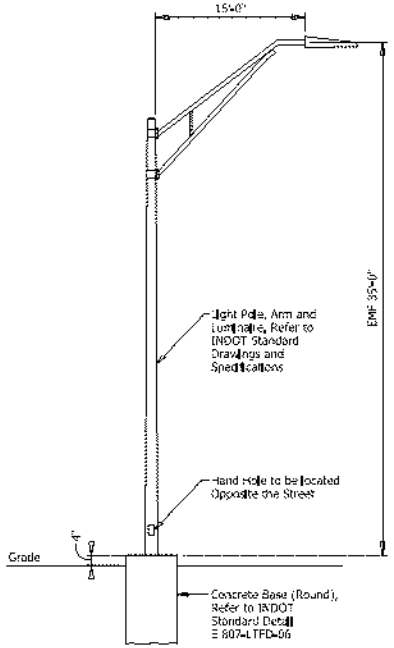
HORIZONTAL SCALE	BRIDGE FILE
Plan 50	NO.
	DESIGNATION
	1750006
SHEET DESIGN	SHEETS
0	5 of 5
CONTRACT	PROJECT
SECTION	1750006

LUMINAIRE AND POLE INFORMATION SCHEDULE												
LUMINAIRE NO.	1	2	3	4	5	6	7	8	9	10	11	12
CIRCUIT NO.	A-1	A-1	A-1	A-1	A-1	A-1	A-2	A-2	A-2	A-2	A-2	A-2
CIRCUIT CONNECTION (R=RED, B=BLACK)	B	R	B	R	B	R	B	R	B	R	B	R
STATION	212+36 29' LT	213+83 34' LT	215+29 44' LT	216+28 27' LT	22+32 60' RT	217+87 34' LT	220+98 38' RT	219+79 59' RT	218+63 73' RT	19+92 89' RT	19+51 36' LT	20+31 77' LT

LIGHTING FIXTURE SCHEDULE						
SERVICE POINT	SERVICE TYPE	VOLTAGE	MAIN BREAKER	BRANCH CIRCUIT COLOR	BRANCH CIRCUIT DESIGN LOAD	BRANCH CIRCUIT BREAKER
A	–	120/240V	–	BLACK	–	–
				RED	–	–

LIGHTING FIXTURE SCHEDULE								
TYPE	SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMP	VOLTAGE	MOUNTING	REMARKS
A		INDOT STANDARD LED	AMERICAN ELECTRIC LIGHTING	ATB-P453-HVOLT-R3-4K	LED	120	ARM	–
A		INDOT STANDARD 15' ARM E-807-LTST	–	–	–	–	–	–
A		INDOT STANDARD 30' POLE E-807-LTST	–	–	–	–	–	–

LUMINAIRE DESIGN DATA TABLE	
LUMINAIRE STYLE	INDOT STANDARD
LAMP TYPE	159 W, LED, 1300 mA
DESIGN SAMPLE PHOTOMETRIC CURVE	ATBO SERIES 129W LED 1300mA TYPE 3 4000K CCT
NORMAL MOUNTING HEIGHT (MH)	35
LUMINAIRE CLASSIFICATION (IES)	ATBO SERIES 159W LED 1300mA TYPE 3 4000K CCT
VOLTAGE	120/240V
LUMINAIRE LOAD OPERATING AMPS (VARIES DEPENDING ON MANUFACTURER)	1.1A
INITIAL LAMP LUMENS (LL)	4000K
DESIGN SOFTWARE	AGI32
AVERAGE MAINTAINED ILLUMINATION (Em)	1.68fc

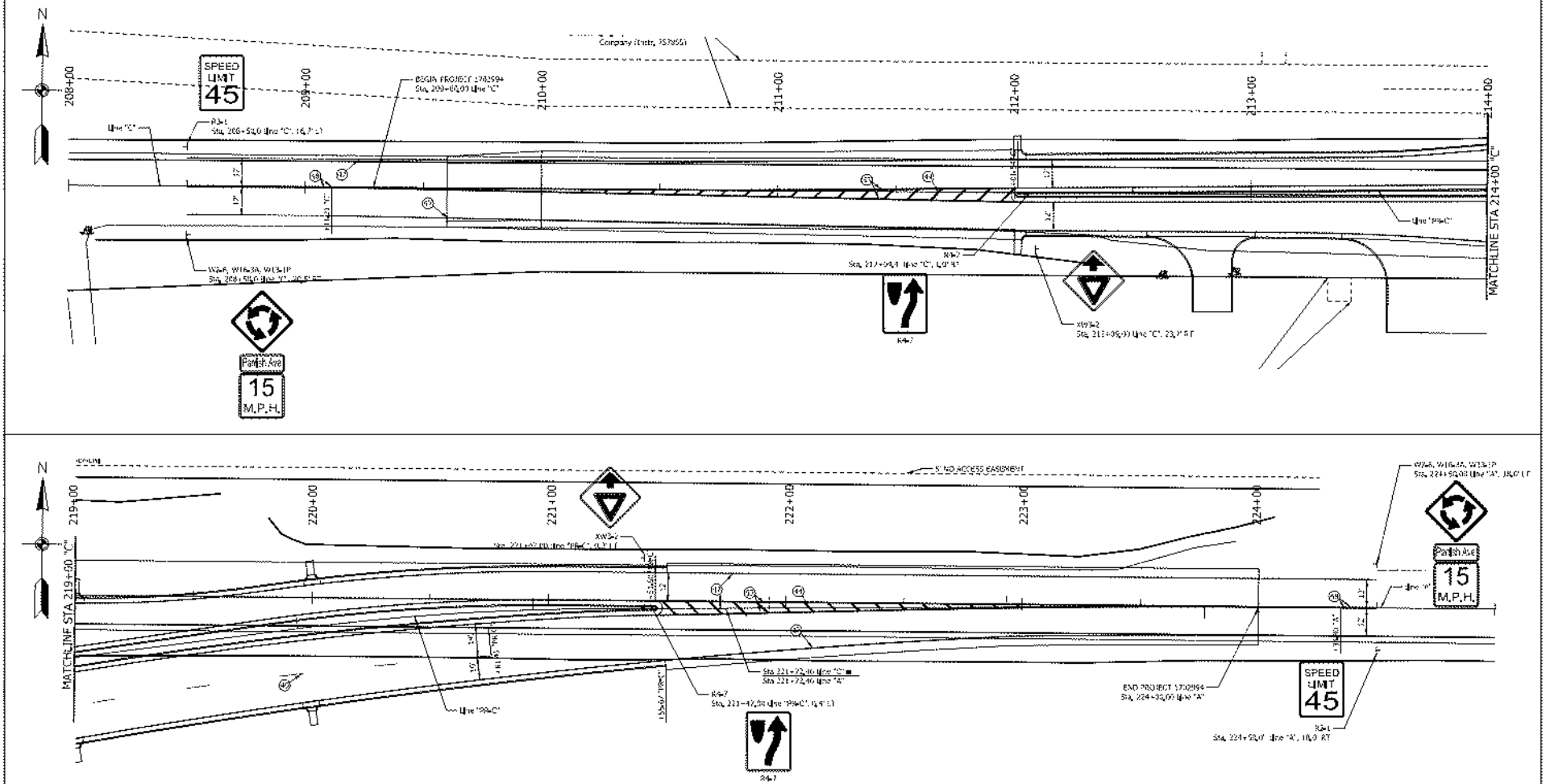


LIGHT POLE DETAIL

SCALE: Not to Scale

NOTE TO REVIEWER:
Lighting Details to be Finalized for Stage 3 Plans Submittal

RECOMMENDED FOR APPROVAL: DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION	SCALE: NTS; DESIGNATION:
DESIGNED: JSK	DRAWN: JSK	LIGHTING DETAILS AND SCHEDULES	SHEETS: 25
CHECKED: JH	CHECKED: JH		CONTRACT: PROJECT:



LEGEND

- (92) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (91) Transverse Markings, Thermoplastic, Crosshatch, Yellow, 12" (45° @ 10' Spa.)
- (90) Transverse Markings, Thermoplastic, Solid Triangle, White
- (57) Line, Thermoplastic, Solid, White, 8"
- (58) Line, Thermoplastic, Solid, Yellow, 6"
- (59) Line, Thermoplastic, Broken, White, 6" (10' Line, 30' Gap)
- (53) Line, Thermoplastic, Solid, Yellow, 8"
- (54) Line, Thermoplastic, Dotted, White, 6" (5' Line, 3' Gap)
- (55) Line, Thermoplastic, Dotted, White, 12" (3' Line, 4' Gap)

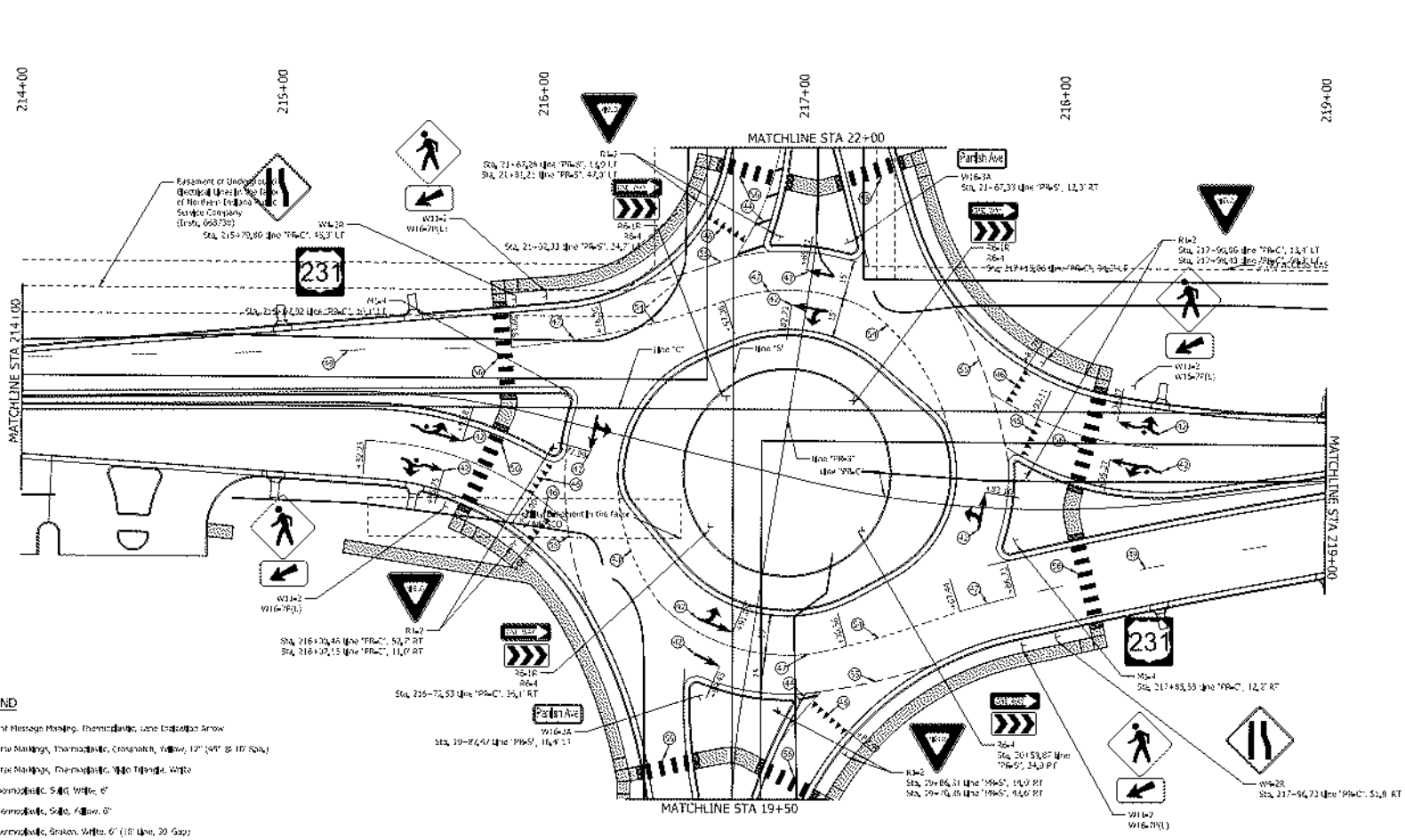
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER — DATE

DESIGNED — DRAWN — CHECKED — QUANTITIES

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND SIGNING

HORIZONTAL SCALE	BRIDGE FILE
1 inch = 50'	N/A
	DESIGNATION
	1702094
VERTICAL SCALE	SHEETS
N/A	27 of 31
CONTRACT	PROJECT
N/A	1702094



LEGEND

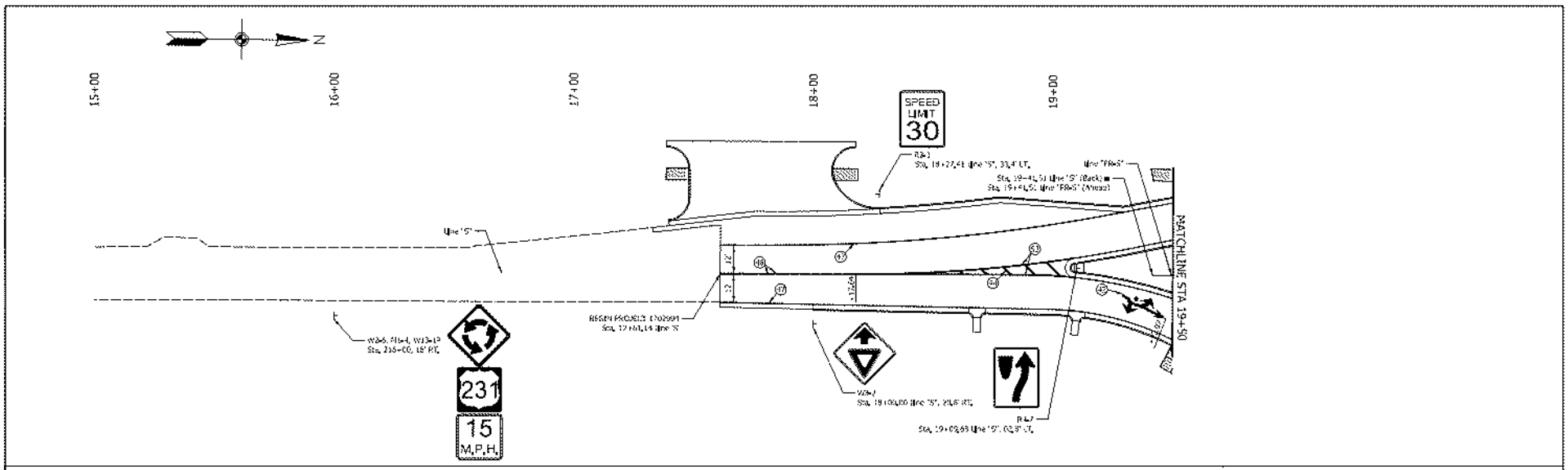
- (42) Pavement Message Marking, Thermoplastic, Lane Destination Arrow
- (44) Transverse Markings, Thermoplastic, Crosshatch, Yellow, 12" (24" @ 18" Spa.)
- (45) Transverse Markings, Thermoplastic, Wide Triangle, White
- (47) Line, Thermoplastic, Solid, White, 8"
- (48) Line, Thermoplastic, Solid, Yellow, 8"
- (49) Line, Thermoplastic, Broken, White, 6" (18' Line, 20' Gap)
- (52) Line, Thermoplastic, Solid, White, 8"
- (53) Line, Thermoplastic, Solid, Yellow, 8"
- (54) Line, Thermoplastic, Dotted, White, 6" (5' Line, 3' Gap)
- (55) Line, Thermoplastic, Dotted, White, 12" (3' Line, 2' Gap)
- (56) Transverse Marking, Thermoplastic, Crosswalk Line, White, 24" (6' Line, 3' Gap)

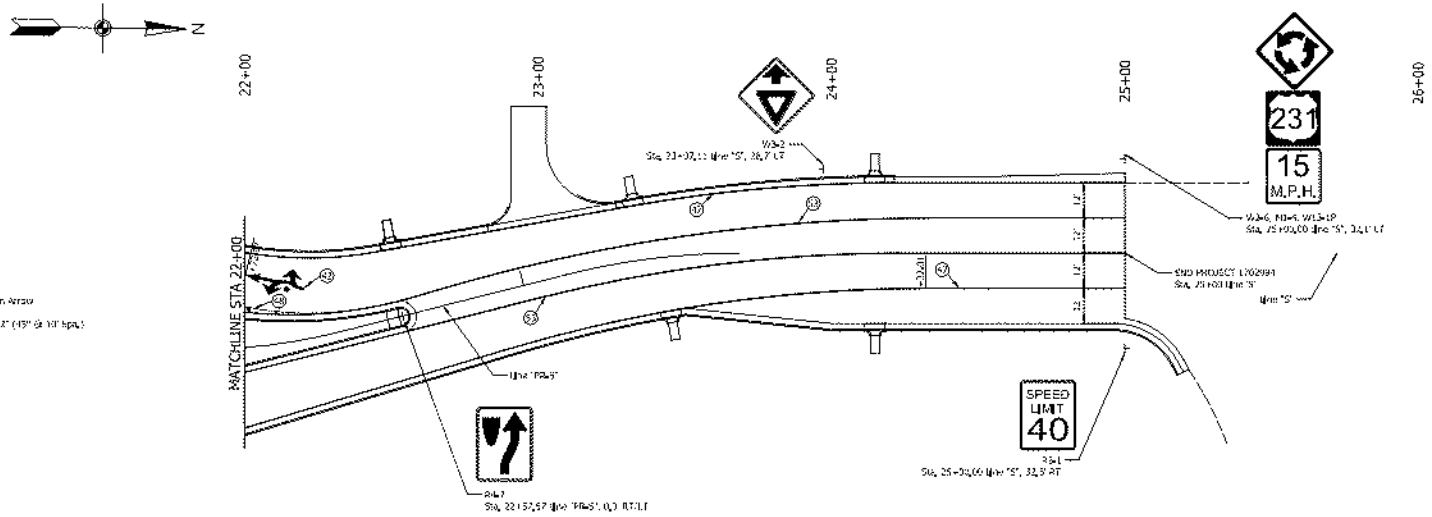
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

INDIANA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING
AND SIGNING

HORIZONTAL SCALE	BRIDGE FILE
1 inch =	N/A
	DESIGNATION
	17-2594
VERTICAL SCALE	SHEETS
N/A	45 5 of 5 54
CONTRACT	PROJECT
R-41068	1702594





LEGEND

(14) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
(16) Transverse Markings, Thermoplastic, Crosshatch, Yellow, 12" (45° @ 10' bpa.)
(40) Transverse Markings, Thermoplastic, Solid Triangle, White
(17) Line, Thermoplastic, Solid, White, 6"
(18) Line, Thermoplastic, Solid, Yellow, 6"
(19) Line, Thermoplastic, Broken, White, 6" (30' Line, 20' Gap)
(52) Line, Thermoplastic, Solid, White, 8"
(53) Line, Thermoplastic, Solid, Yellow, 8"
(54) Line, Thermoplastic, Dotted, White, 6" (3' Line, 3' Gap)
(55) Line, Thermoplastic, Dotted, White, 12" (3' Line, 2' Gap)

RECOMMENDED FOR APPROVAL: DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE: 1 inch = 50' / BRIDGE NO.: N/A / DESIGNATION: 17-2691
DESIGNED: MSK	DRAWN: MSK	PAVEMENT MARKING AND SIGNING	PROJECT NO.: 17-2691 / SHEET: 29 of 31 / CONTRACT: PROJECT / DES. NO.: 1702691
CHECKED: MSK	ENGINEER: MSK		

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	RADII	DISTANCE BEYOND R/W LINE	SURFACE BEYOND R/W LINE: COMPACTED AGGREGATE BASE	SURFACE BEYOND R/W LINE: HMA	SURFACE BEYOND R/W LINE: PCCP	GRADE: ↑	GRADE: ↓	EXCAVATION: CUT	EXCAVATION: FILL	CLEAR ZONE AT GRADE	HMA FOR APPROACHES: SUBMIX TYPE	HMA FOR APPROACHES: SHIPPING TYPE	HMA FOR APPROACHES: MIX TYPE	HMA FOR ROADS: SURFACE TYPE	HMA FOR ROADS: INTERMD TYPE	HMA FOR ROADS: BASE TYPE	SEAL COAT TYPE	BITUMINOUS MATERIAL FOR: PRIME COAT	BITUMINOUS MATERIAL FOR: TACK COAT	COMPACTED AGGREGATE FOR BASE, NO. 53: DEPTH	COMPACTED AGGREGATE FOR SURFACE, NO.73: DEPTH	REMARKS
														LBS PER SYD			LBS PER SYD								
		FT	FT	FT	FT	SYS	SYS	SYS	%	%	CYS	CYS	FT	TONS	TONS	TONS	TONS	TONS	TONS		SYS	SYS	TONS	TONS	TONS	TONS	
212+84 Line "PR-C"	Class 3	18	31.7°	200'18"																							
213+02 Line "PR-C"	Class 1D	32	47.9°	90																							
214+45 Line "PR-C"	Class 1D	32	33.9°	90																							
17+77 Line "S"	Class 1D	39	31.3°	200'18"																							
32+37 Line "PR-S"	Class D	12	30.9°	200'18"																							

CURB TURNOUTS

LOCATION STATION	L or R	FT
Line "S"		
22+58	R	
23+32	R	
24+14	R	
28+56		R
30+75		R
33+30		R
23+50		R
24+14		R
Line "C"		
212+87	R	
213+20	R	
213+98	R	
213+46	R	
214+68	R	
220+96	R	
212+02		R
214+85		R
215+13		R
216+26		R
219+00		R
220+50		R

PAVEMENT MARKINGS SUMMARY OF QUANTITIES

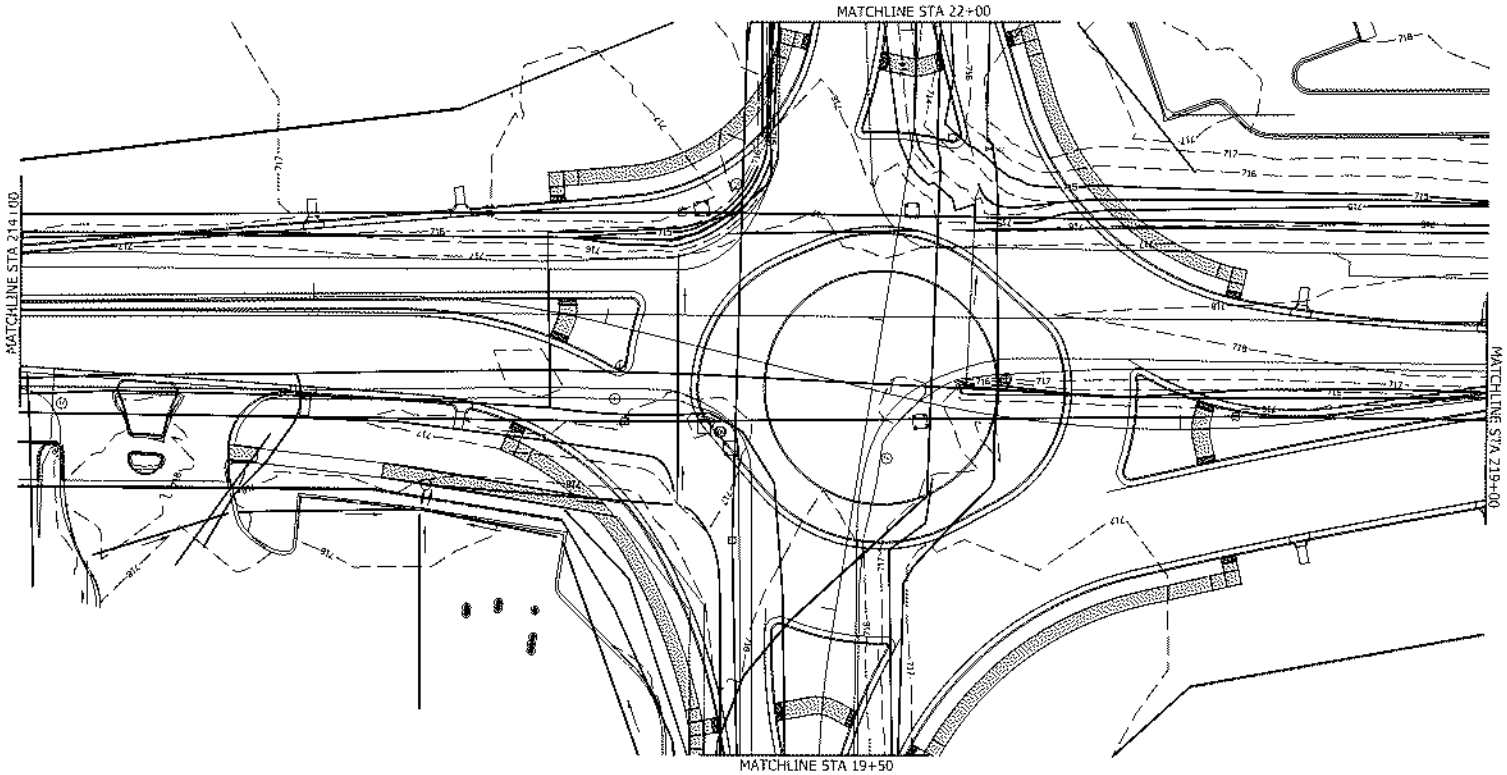
LOCATION	LINE PAINT: SOLID WHITE 6"	LINE PAINT: SOLID YELLOW 6"	LINE EPOXY: SOLID WHITE 6"	LINE EPOXY: SOLID YELLOW 6"	LINE EPOXY: SOLID WHITE 8"	LINE EPOXY: SOLID YELLOW 8"	LINE EPOXY: BROKEN WHITE 6"	LINE EPOXY: BROKEN YELLOW 6"	LINE EPOXY: BROKEN WHITE 8"	LINE EPOXY: BROKEN YELLOW 8"	TRANSVERSE MARKINGS THERMOPLASTIC STOP LINE: SOLID WHITE 12"	TRANSVERSE MARKINGS CROSSHATCH LINE: SOLID WHITE 24"	TRANSVERSE MARKINGS CROSSHATCH LINE: SOLID YELLOW 24"	TRANSVERSE MARKINGS CROSSWALK LINE: SOLID WHITE 6"	TRANSVERSE MARKINGS CROSSWALK LINE: SOLID WHITE 8"	PAVEMENT MESSAGE THERMOPLASTIC LANE INDICATION ARROW	PAVEMENT MESSAGE THERMOPLASTIC WORD "ONLY"	SNOWPLOWABLE RAISED PAVEMENT MARKERS
	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH

Note to Reviewer:
Tables to be finalized
Next Submittal

RECOMMENDED FOR APPROVAL: DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	DESIGNATION:
DESIGNED: NSK DRAWN: NSK	MISCELLANEOUS TABLES	PROJECT: 1709944
CHECKED: JJ CHECKED: JF		SHEET NO. 5 OF 5 SHTS
		CONTRACT NO. PROJECT NO. 1709944

INDIANA
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL

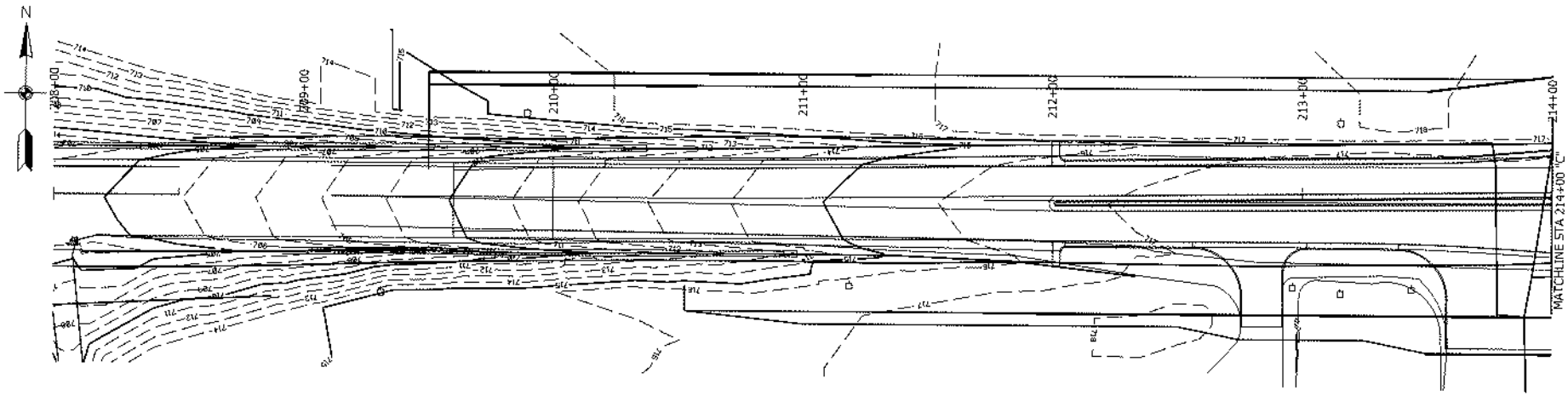


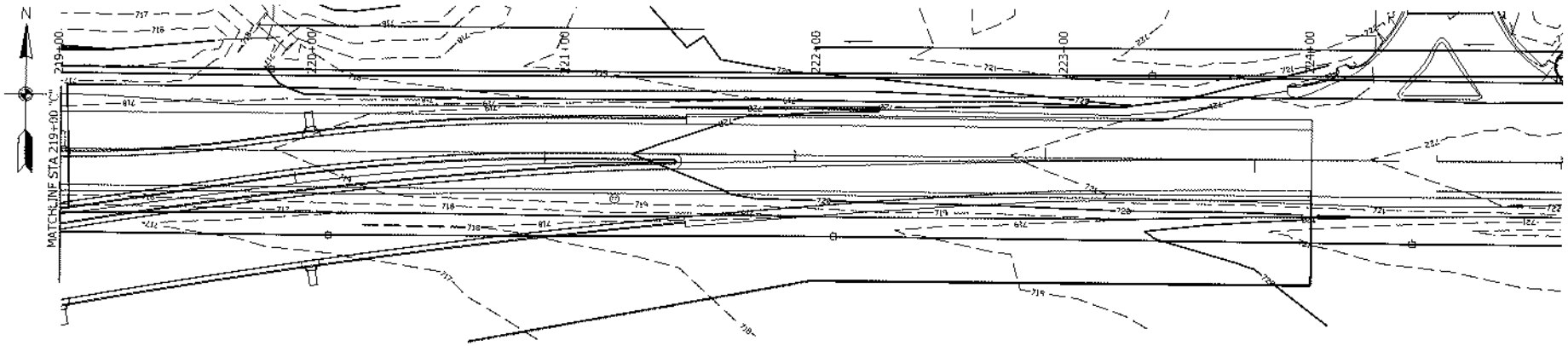
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

INDIANA
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL

HORIZONTAL SCALE	BRIDGE FILE
1"=50'	NA
	DESIGNATION
	17-2594
SURVEY DATE	SHEETS
	51
CONTRACT	PROJECT
	17-2594





RECOMMENDED FOR APPROVAL: DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE: 1 inch = N/A; BRIDGE FILE: DESIGNATION 17-2594
DESIGNED: MDK; DRAWN: MDK; CHECKED: JRH; ENGINEER: JRH		EROSION CONTROL	VERTICAL SCALE: N/A; SHEETS: 73 of 73; CONTRACT: PROJECT: 17-2594

STRUCTURE DATA

STRUCTURE NUMBER	LOCATION: STATION	LOCATION: LEFT	LOCATION: RIGHT	LOCATION: CENTER	LOCATION: OFFSET FT	LOCATION: OFFSET IN	SIZE	PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE	LENGTH	SKEW	COVER	FLOWLINE: UP STREAM	FLOWLINE: DOWN STREAM	SERVICE LIFE	SITE DESIGNATION	pH	BACKFILL METHOD	STRUCTURE BACKFILL	TYPE	REVETMENT RIPRAP CLASS 2 RIPRAP	CASTING ASSY. TYPE 15	CONSTRUCTION FOR EXIST.	PIPE END SECTION CONCRETE	PIPE ANCHOR	GRATED BOX END SECTION, TYPE 2	SAFETY METAL END SECTION	CONNECT TO SITE NO.	REMARKS
					FT	IN				LFT		FT	ELEV.	ELEV.	YR				CYS		TON	SYS	LFT	EACH	EACH	SLOPE	EACH	SLOPE	EACH		
Existing Structures																														
	Line "A"																													
101	208+11		X		72.5	12	1		Ex. Inlet - Do Not Disturb	20																				
102	209+73		X		74.8	8	4		Ex. Drain Tile - Do Not Disturb																					
103	210+35		X		74.8	8	4		Ex. Drain Tile - Do Not Disturb																					
104	215+37		X		66.4	12	2		Ex. Catch Basin - Do Not Disturb																					
105	215+70		X		58.5	18	2		Ex. Manhole - Remove	83																				
106	216+26		X		64.8	15	2		Ex. Catch Basin - Remove	89																				
107	217+47			X	23.6	18	1		Ex. CULVERT - Remove	66																				
108	217+91	X			102.8	12	2		Ex. Catch Basin - Do Not Disturb																					
109	218+87	X			33.9	12	1		Ex. Pipe - Do Not Disturb	26																				
	Line "B"																													
110	222+01	X			41.1	15	2		Ex. Catch Basin - Do Not Disturb																					
111	226+01	X			44.5	15	2		Ex. Catch Basin - Do Not Disturb																					
	Line "C"																													
112	31+84	X			72.5	15	1		Ex. Pipe - Remove	48																				
113	29+47		X		50.6	18	2	2	Ex. Manhole - Do Not Disturb	3																				
114	27+93		X		48.9	18	2	2	Ex. Pipe - Remove (partial)	5																				
115	23+51			X	31.2	18	1		Ex. CULVERT - Remove	62																				
116	25+77		X		35.2	15	1		Ex. Pipe - Do Not Disturb	34																				
Proposed Structures																														
	Line "A"																													
201	213+34		•		34.3	15	1		Pipe	12		n/a	715.73	715.40	50	NA	7.0	1		2				2						
202	215+33		X		58.5	18	2		Manhole, C4	18		6.8	714.50	714.01	50	NA	7.0	1		2				18						
203	215+90		X		41.8	18	2		Catch Basin, C1	7		0.6	714.31	714.17	50	NA	7.0	1		2				7	1					
204	215+33		X		41.4	24	3		Manhole, D4	50		2.2	713.85	713.65	50	NA	7.0	1		2	4		13	99						
205	216+80	X			50.2	12	2		Inlet, B15	13		1.4	715.34	715.14	50	NA	7.0	1		2										
206	216+36		X		50.2	12	2		Inlet, B15	21		1.2	715.26	715.14	50	NA	7.0	1		2				15						
207	Not Used																													
208	217+20			X	104.7	36	1		Main	127		n/a	712.51	711.89	50	NA	7.0	1		2	20		43		2					Sump 3 in.
209	218+84	X			60.0	12	2		Inlet, B15	15		1.2	715.54	715.24	50	NA	7.0	1		2										
210	218+03		X		50.0	12	2		Inlet, B15	15		1.2	715.44	715.14	50	NA	7.0	1		2										
	Line "B"																													
211	19+78	X			41.5	12	2		Pipe From Inside 147	6		1.5	715.50	715.38	50	NA	7.0	1		2				6						
212	19+08	X			50.0	18	2		Inlet, C13	5		1.2	714.94	714.84	50	NA	7.0	1		2				5						
213	19+74	X			50.0	18	2		Inlet, C15	51		1.9	714.34	714.01	50	NA	7.0	1		2				51						
214	19+64		X		50.0	12	2		Inlet, B15	20		1.2	715.65	715.45	50	NA	7.0	1		2				20						
215	19+21	X			50.0	18	2		Inlet, C15	48		2.5	715.27	714.87	50	NA	7.0	1		2				48						
216	20+13	X			55.1	18	2		Manhole, C4	20		3.4	713.57	713.17	50	NA	7.0	1		2				39						
217	21+68		X		32.1	36	3		Pipe	17		n/a	711.40	711.22	50	NA	7.0	1		3				17			4.5	1		
218	21+81		X		70.0	12	2		Inlet, B15	17		1.4	715.16	714.96	50	NA	7.0	1		2				17						
219	21+84	X			60.0	12	2		Inlet, B15	15		1.2	715.31	714.91	50	NA	7.0	1		2				15						
220	21+86		X		86.3	36	3		Manhole, D4	68		4.8	713.27	710.88	50	NA	7.0	1		3				68						
221	22+50		X		50.0	12	2		Inlet, B15	12		1.2	714.84	714.60	50	NA	7.0	1		2				12						
222	23+35		X		60.1	36	3		Manhole, D3	75		3.6	799.66	799.28	50	NA	7.0	1		3				75						
223	23+76	X			24.3	24	3		Pipe	31		n/a	713.63	713.51	50	NA	7.0	1		3					2						
224	23+49		X		76.5	42	3		Manhole, D4	75		9.8	798.68	798.53	50	NA	7.0	1		3	15		20	75		1					
225	24+10		X		45.5	18	2		Pipe	6		2.5	710.05	710.02	50	NA	7.0	1		3				6						Verify elevations in Field.
226	24+50		X		43.4	18	2		Pipe	20		n/a	710.00	710.00	50	NA	7.0	1		3				20	1					

RECOMMENDED FOR APPROVAL

DESIGN ENGINEER — DATE

DESIGNED NSK — DETAILED NSK

CHECKED TH — ENGINEER IN

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURE DATA TABLE

DESIGNATION

DOCUMENT

SHEETS

SHEET NO. 27 OF 30

CONTRACT NO.

PROJECT NO.

DATE

DOCUMENT NO.

APPENDIX C

Early Coordination

INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 694-8283

Eric Holcomb, Governor
Michael Smith, Commissioner

Sample Early Coordination Letter

February 9, 2023

Re: Early Coordination Letter, Des. No.: 1702994, Intersection Improvement of US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41
Lake County, Indiana
KEG No. 21-1054.00

Dear Interested Party,

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

This project is located on US 231 and Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41, in Lake County. This section of 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 11-foot lane in each direction with variable width paved shoulders. The draft need is due to the higher Index of Crash Frequency (ICF), Index of Crash Cost (ICC), and level of service (LOS) for the intersection. The draft 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 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.

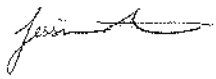
The proposed project is anticipated to convert the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Drainage improvements will include installation of curb turnouts, drainage structures, and ditch grading. Utility relocation will include relocation of approximately 8 poles for overhead utilities. Intersection improvements will also include new intersection street lighting and landscaping. 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.

Land use in the vicinity of the project is typical of the edge of an urbanized area with agricultural, large-lot residences, and a commercial use. Kaskaskia Engineering Group, LLC will perform waters and wetlands determinations to identify water resources that may be present, if applicable. The project is anticipated to qualify for the Rangewide Programmatic Agreement for the Indiana bat and northern long-eared bat by completing the Information for Planning and Consultation (IPaC). Coordination will occur with INDOT Cultural Resources Office (CRO) to evaluate the

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

Please provide your response within thirty (30) calendar days from the date of this letter. However, should you find that an extension to the response time is necessary; a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact me, at 618-233-5877 or jstern@kaskaskiaeng.com, or Michael Grylewicz, INDOT Project Manager at 219-851-0169 or mgrylewicz@indot.in.gov. Thank you in advance for your input.

Sincerely,



Jessica Stern
Environmental Scientist
Kaskaskia Engineering Group, LLC

Attachment -

- Early Coordination Letter Recipient List
- Maps (Location, Aerial, Topographic)
- Photo Log

Attachments omitted to avoid duplication

cc: Jerod Hiller, Fishbeck

INDIANA GEOLOGICAL & WATER SURVEY
INDIANA UNIVERSITY

Organization and Project Information

Project ID: 21-1054.00
Des. ID: 1702994
Project Title: Intersection Improvement of US 231 & Parrish Ave
Name of Organization: Kaskaskia Engineering Group, LLC
Requested by: Jessiac Stern

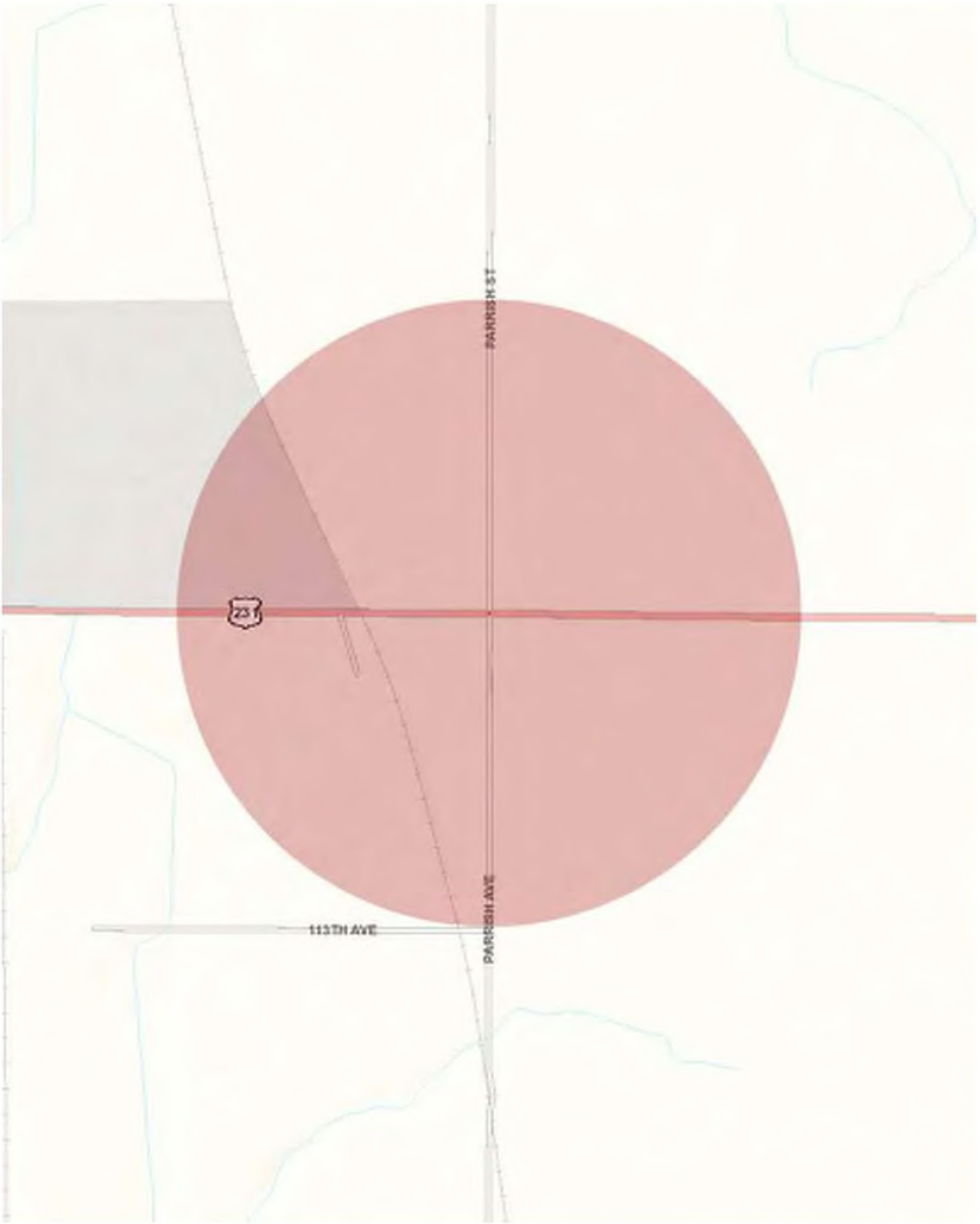
Environmental Assessment Report

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

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

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

Date: February 01, 2023


PARRISH ST
223
113TH AVE
PARRISH AVE

From: Michels, Stewart
To: Jessica Stern
Cc: Molly Barletta; Hiller, Jerod; Grylewicz, Michael J
Subject: RE: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]
Date: Thursday, February 2, 2023 10:30:49 AM
Attachments: image001.gif

Jessica,

Thank you for providing a copy of the early coordination letter for Des 1702994 in Lake County. We do not have any comment at this time. Thank you again.

Best,
Stew

From: Jessica Stern <JStern@kaskaskiaeng.com>
Sent: Wednesday, February 1, 2023 1:45 PM
To: Jessica Stern <JStern@kaskaskiaeng.com>
Cc: Molly Barletta <MBarletta@kaskaskiaeng.com>; Hiller, Jerod <jahiller@fishbeck.com>; Grylewicz, Michael J <MGrylewicz@indot.IN.gov>
Subject: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

Dear Interested Party:

Please find attached an early coordination letter and supporting exhibits for the above-referenced project.

Thank you,
Jessica Stern

Jessica Stern (she/her)
Environmental Scientist
Certified: WBE/DBE/WOSB/EDWOSB
217.213.3046 office
JStern@kaskaskiaeng.com

From: Larry Veracco
To: Jessica Stern
Subject: Re: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]
Date: Wednesday, February 1, 2023 2:49:53 PM
Attachments: image001.gif

Early Coordination Letter, Des. No.: 1702994, Intersection Improvement of US 231 & Parrish Avenue, 0.85 Mile S (East) of US 41 to 1.20 Miles S (East) of US 41
Lake County, Indiana
KEG No. 21-1054.00

Jessica
while the intersection that you have inquired about is not within our school district boundaries, (it is within Hanover Central School Corporation boundaries), intersections previously converted through the use of roundabouts have cut down on automobile accidents. I am confident local police departments can verify this as they maintain records and have been recommending additional roundabouts to cities and towns.
I am not sure what else to contribute other than the fact that I am a proponent of roundabouts and believe they make traffic flow better and reduce accidents.
Sincerely,
Larry Veracco
Superintendent
Lake Central School Corporation
St. John IN

On Wed, Feb 1, 2023 at 12:45 PM Jessica Stern <JStern@kaskaskiaeng.com> wrote:

> Dear Interested Party:
>
> Please find attached an early coordination letter and supporting exhibits for the above-referenced project.
>
> Thank you,
>
> Jessica Stern
>
> Jessica Stern (she/her)
>
> *Environmental Scientist*

Jessica Stern

From: Turnbow, Alisha <ATurnbow@idem.IN.gov>
Sent: Wednesday, February 8, 2023 2:36 PM
To: Jessica Stern
Cc: Molly Barletta
Subject: RE: Source Water Proximity Determination Request - Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]
Attachments: Proximity to WPA (1702994).pdf

Hi Jessica,

Find attached to this email a response to the proximity request for Des No 1702994.

Des No 1702994 is located within 1,000 feet of St. John Municipal Water Utility's Wellhead Protection Area. The contact for St. John Municipal Water Utility is Tammy Anderko and they can be reached at tanderko@stjohnin.com and 219-365-4655.

Let me know what questions you have.

Sincerely,

IDEM
Alisha Turnbow
Environmental Manager
Office of Water Quality
Drinking Water Branch, Groundwater Section
(317) 233-9158 • aturnbow@idem.IN.gov
Indiana Department of Environmental Management

IDEM values your feedback.
Please take two minutes and complete this brief survey.

From: Jessica Stern <JStern@kaskaskiaeng.com>
Sent: Wednesday, February 01, 2023 1:48 PM
To: Turnbow, Alisha <ATurnbow@idem.IN.gov>
Cc: Molly Barletta <MBarletta@kaskaskiaeng.com>
Subject: Source Water Proximity Determination Request - Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

Dear Ms. Turnbow,

Attached is an early coordination letter and a source water proximity determination request form for your review for the above-referenced project.

Thank you for your consideration,
Jessica Stern

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Eric J. Holcomb
Governor
Brian C. Rockensuess
Commissioner

February 8, 2023

Kaskaskia Engineering Group, LLC
Attention: Jessica Stern
301 North Neil Street
Suite 400
Champaign, IL 61820

Dear Jessica Stern:

Re: Wellhead Protection Area
Proximity Determination
Des No 1702994
Intersection Improvement of US 231 &
Parrish Avenue, 0.85 Mile S (East) of US 41 to
1.20 Miles S (East) of US 41
Lake County, Indiana

Upon review of the above referenced project site, it has been determined that the proposed project area **is not located within** a Wellhead Protection Area. However, the proposed project area **is located within 1,000 feet** of a Wellhead Protection Area. If the contact information is needed for the WHPA, please contact the reference located at the bottom of the letter for the appropriate information. The information is accurate to the best of our knowledge; however, there are in some cases a few factors that could impact the accuracy of this determination. Some Wellhead Protection Area Delineations have not been submitted, and many have not been approved by this office. In these cases, we use a 3,000-foot fixed radius buffer to make the proximity determination. To find the status of a Public Water Supply System's (PWSS's) Wellhead Protection Area Delineation please visit our tracking database at http://www.in.gov/idem/cleanwater/2456.htm and scroll to the bottom of the page.

The project area **is not located within** a Source Water Assessment Area for a PWSS's surface water intake. The Source Water Assessment Area relates to the surface water drainage area that water could potentially flow and influence water quality for a PWSS's source of drinking water.

In the future, **please consider using this self-service tool** if it suits your needs. The Drinking Water Branch has a self-service tool which allows one to determine wellhead proximity without submitting the application form. Go to https://www.in.gov/idem/cleanwater/pages/wellhead/ and use the instructions at the bottom of the page.

If you have any additional questions, please feel free to contact me at the address above or at 317-233-9158 and aturnbow@idem.in.gov.

Sincerely,

Alisha Turnbow

Alisha Turnbow,
Environmental Manager
Ground Water Section
Drinking Water Branch
Office of Water Quality

USDA United States Department of Agriculture
Farm Production and Conservation
Natural Resources Conservation Service
Indiana State Office
6013 Lakeside Boulevard
Indianapolis, Indiana 46278
317-295-5800

March 29, 2024

Brigitte Moneymaker
208 E Main Street #100
Belleville, Illinois 62220

Dear Mr. Kelly:

The proposed Intersection Improvement project of US 231 & Parrish Avenue in Lake County (Des. No. 1702994), as referred to in your letter received March 20, 2024, will cause a conversion of prime farmland.

The attached packet of information is for your use competing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact John Allen at 317-295-5859 or john.allen@usda.gov.

Sincerely,

JOHN ALLEN

Digitally signed by JOHN ALLEN
Date: 2024.03.29 10:30:35 -04'00'

JOHN ALLEN
State Soil Scientist

Enclosers

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request	
Name of Project DES1702994_Intersec Improv US231_Pa	Federal Agency Involved	
Proposed Land Use	County and State Lake County, IN	
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 3/20/24	Person Completing Form: JRA

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑	NO ☐	Acres Irrigated	Average Farm Size
				293 ac

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount of Farmland As Defined in FPPA
Corn	Acres: 266576 % 82	Acres: 23103 % 71

Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS
LESA		3/29/24

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	1.434			
B. Total Acres To Be Converted Indirectly	0			
C. Total Acres In Site	1.434			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.50			
B. Total Acres Statewide Important or Local Important Farmland	0.00			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	<0.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	58			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	76			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	7			
2. Perimeter In Non-urban Use	(10)	5			
3. Percent Of Site Being Farmed	(20)	0			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	0			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	1			
8. Creation Of Non-farmable Farmland	(10)	0			
9. Availability Of Farm Support Services	(5)	0			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	13	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	76	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	13	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	89	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:

Name of Federal agency representative completing this form: Brigitte Moneymaker | Date: 4/3/24

(See Instructions on reverse side)

Form AD-1006 (03-02)

Jessica Stern

From: James Hus <JHus@reltd.com>
Sent: Friday, February 10, 2023 8:18 AM
To: Jessica Stern
Cc: Joseph Wiszowaty; Tom Nagle; Russ Prekwas; Robert Davis
Subject: RE: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Jessica,

On behalf of the Town of St. John, we have no comments or items to add with regards to the environmental studies being undertaken for this project.

Thank you,

#6 TOP WORK PLACES 2022 Chicago Tribune

James Hus Jr., PE, PTOE
Project Engineer
Robinson ENGINEERING
(708) 210-5685 (Direct)
(219) 805-4008 (Cell)
www.reltd.com

From: Robert Davis <rdavis@stjohnin.com>
Sent: Friday, February 10, 2023 7:54 AM
To: James Hus <JHus@reltd.com>
Cc: Joseph Wiszowaty <jwiszowaty@stjohnin.gov>; Tom Nagle <tnagle@reltd.com>; Russ Prekwas <rprekwas@reltd.com>
Subject: FW: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

Morning James,

Just received this. Not sure if you responded back to the last one . Let me know if you need anything in regards to this matter.

Bob Davis
Director of Public Works
Town of St. John, Indiana
219-365-6465 x6

From: Tammy Anderko <tanderko@stjohnin.com>
Sent: Friday, February 10, 2023 7:45 AM
To: Robert Davis <rdavis@stjohnin.com>
Subject: FW: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

See email and attachment regarding US 231 and Parrish Avenue....

Tammy Anderko
Town of St. John
Public Works Department
9350 Hack Street
St. John, IN 46373
tanderko@stjohnin.com
Ph 219-365-4655 option 6
Fax 219-558-2158

From: Jessica Stern <JStern@kaskaskiaeng.com>
Sent: Thursday, February 9, 2023 12:21 PM
To: Tammy Anderko <tanderko@stjohnin.com>
Cc: Molly Barletta <MBarletta@kaskaskiaeng.com>; Hiller, Jerod <jahiller@fishbeck.com>; Grylewicz, Michael J <MGrylewicz@indot.IN.gov>
Subject: Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

Dear Ms. Anderko,

Please find attached an early coordination letter and supporting exhibits for the above-referenced project.

Thank you,
Jessica Stern

Kaskaskia Engineering Group, LLC
Jessica Stern (she/her)
Environmental Scientist
Certified: WBE/DBE/WOSB/EDWOSB
217.213.3046 office
JStern@kaskaskiaeng.com

THIS IS NOT A PERMIT

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

DNR #: ER-25333 **Request Received:** February 1, 2023

Requestor: Kaskaskia Engineering Group, LLC
Jessica Stern
301 North Neil Street, Suite 400
Champaign, IL 61820

Project: US 231 and Parrish Avenue roundabout construction and relocation of 8 overhead utility poles, from 0.85 to 1.20 miles east of US 41; KEG #21-1054.00, Des #1702994

County/Site info: Lake

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

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

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

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

Fish & Wildlife Comments: Due to the presence or potential presence of wetland habitat on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USACE) 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas within the project area using a mixture of grasses (excluding all varieties of tall fescue), sedges and wildflowers native to Northern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. A native herbaceous seed mixture must include a least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits all tree and brush clearing.
3. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
4. All excavated material must be properly spread or completely removed from the project site such that erosion and off-site sedimentation of the material is prevented.
5. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
6. Plant five trees, 1 inch to 2 inches in diameter-at-breast height, for each tree which is removed that is 10 inches or greater in diameter-at-breast height.
7. Do not excavate or place fill in any riparian wetland.

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife

Early Coordination/Environmental Assessment

Contact Staff: Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer **Date:** March 3, 2023

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife

From: Pompeii, Teralyn
To: mgrylewicz@indot.in.gov; Jessica Stern; Molly Barletta; jahiller@fishbeck.com
Cc: Brown, Anastasia F CIV USARMY CELRC (USA)
Subject: RE: LRC-2023-089 - Lake,IN - Pre-App - US 231 and Parrish Ave Intersection (1702994)
Date: Wednesday, February 8, 2023 10:57:55 AM

Hello,

The U.S. Army Corps of Engineers, Chicago District has received your request. The request has been assigned number LRC-2023-089, please reference this number in all future correspondence. The project manager assigned to your file is Ms. Stasi Brown. If additional information is requested during the review of your submittal, please email all documents directly to the project manager assigned to your project.

The Regulatory Program is charged with protecting the Nation's aquatic resources and navigation capacity, while supporting reasonable development through fair and balanced decisions. The Chicago District Regulatory staff are committed to providing the highest level of customer service while accomplishing this mission. Please contact me if you have any comments or concerns regarding the service you received. I appreciate your feedback.

For your convenience, detailed program information is available at http://www.lrc.usace.army.mil/Missions/Regulatory.aspx.

Very Respectfully,

Teralyn Pompeii, P.E.
Chief, Regulatory Branch
U.S. Army Corps of Engineers, Chicago District
312-846-5535 (Office)
773-360-4091 (Cell)

From: Jessica Stern <JStern@kaskaskiaeng.com>
Sent: Wednesday, February 1, 2023 12:45 PM
To: Jessica Stern <JStern@kaskaskiaeng.com>
Cc: Molly Barletta <MBarletta@kaskaskiaeng.com>; Hiller, Jerod <jahiller@fishbeck.com>; Grylewicz, Michael J <MGrylewicz@indot.IN.gov>
Subject: [Non-DoD Source] Early Coordination - INDOT Project, Des. No. 1702994, Intersection Improvement of US 231 and Parrish Avenue, Lake County, Indiana [21-1054.00]

Dear Interested Party:

Please find attached an early coordination letter and supporting exhibits for the above-referenced project.

United States Department of the Interior

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

In Reply Refer To:
Project Code: 2024-0016662
Project Name: US 231, Intersection Improvement, DES 1702994

December 21, 2023

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

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

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2024-0016662
Project Name: US 231, Intersection Improvement, DES 1702994
Project Type: Road/Hwy - Maintenance/Modification
Project Description: This project is located at the US 231 and Parrish Avenue intersection in Lake County, Indiana. The proposed project includes the conversion of the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additionally, drainage improvements will include the installation of curb turnouts, drainage structures, and ditch grading. Utility relocation will include the relocation of approximately eight poles for overhead utilities. Other intersection improvements will include the replacement of three drainage pipes, new lighting, and landscaping. There is suitable summer habitat within the project area. Approximately 0.54 acre of trees within 100 feet from the existing roadway are anticipated for removal near the southwest quadrant of the project area during the inactive season. The dominant species of trees to be removed include black elder (Sambucus nigra), American elm (Ulmus americana), and white oak (Quercus alba). An environmental inspection of the pipes by Kaskaskia Engineering Group, LLC on April 27, 2023, did not find evidence indicating bats were seen or heard in or near the pipes. INDOT personnel from the LaPorte District stated on July 8, 2022, that a review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. Construction is anticipated to begin Summer of 2025. Installation of permanent lighting is anticipated within the reconfiguration of the intersection. There is also potential for temporary lighting during construction.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.421126799999996,-87.45154763368157,14z

Counties: Lake County, Indiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

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

BIRDS

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

CLAMS

NAME	STATUS
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

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

FLOWERING PLANTS

NAME	STATUS
Mead's Milkweed *Asclepias meadii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8204	Threatened

CRITICAL HABITATS

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

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

BALD & GOLDEN EAGLES

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

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

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

There are bald and/or golden eagles in your project area.

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

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

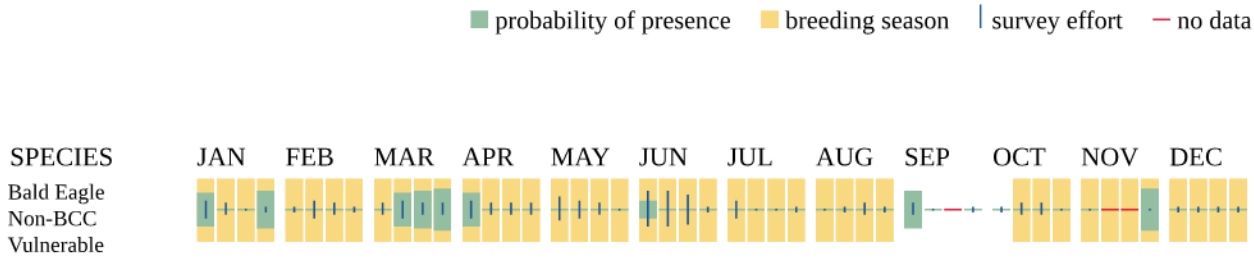
Probability of Presence (■)

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

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

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

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



Additional information can be found using the following links:

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

MIGRATORY BIRDS

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

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

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

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

NAME	BREEDING SEASON
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

NAME	BREEDING SEASON
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9482	Breeds elsewhere
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (■)

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

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

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

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

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

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

WETLANDS

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

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

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

RIVERINE

- R2UBFx

IPAC USER CONTACT INFORMATION

Agency: Kaskaskia Engineering Group, LLC
Name: Chad Kelly
Address: 477 South Third Street
Address Line 2: Suite 280
City: Geneva
State: IL
Zip: 60134
Email ckelly@kaskaskiaeng.com
Phone: 6303329157

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
April 27, 2023; 11 am	DES 1702994	US 231 and Parrish Avenue	Lake
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
N/A	Southeast Quadrant 41.420968, -87.450468	15"	84'

Structure Type (check one)

Bridge Construction Style

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

Culvert Type

- ○ Box
- ○ Pipe/Round
- ○ Other:

Other Structure

- ◉ Drainage pipe

Structure Material (check all that apply)

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

Creosote Evidence

- ○ Yes ○ No
- ◉ Unknown

Culvert Material

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

Notes:

Crossings Traversed (check all that apply)

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

Surrounding Habitat (check all that apply)

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

Areas Assessed (check all that apply)

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

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

Name: Chad Kelly

Signature: Chad Kelly

Bridge/Structure Bat Assessment Form

Date & Time of Assessment: April 27, 2023; 11:30 am	DOT Project Number: DES 1702994	Route/Facility Carried: US 231 and Parrish Avenue	County: Lake
Federal Structure ID: N/A	Structure Coordinates (latitude and longitude): Northeast Quadrant 41.421161, -87.450470	Structure Height (approximate): 18"	Structure Length: 65'

Structure Type (check one)

Bridge Construction Style

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

Culvert Type

- ○ Box
- ○ Pipe/Round
- ○ Other:

Other Structure

- ◉ Drainage pipe

Structure Material (check all that apply)

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

Creosote Evidence

- ○ Yes ○ No
- ◉ Unknown

Culvert Material

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

Notes:

Crossings Traversed (check all that apply)

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

Surrounding Habitat (check all that apply)

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

Areas Assessed (check all that apply)

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

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

Name: Chad Kelly

Signature: Chad Kelly

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
April 27, 2023; 12:00 pm	DES 1702994	US 231 and Parrish Avenue	Lake
Federal Structure ID N/A	**Structure Coordinates** (latitude and longitude) North Leg - Parrish Avenue 41.421691, -87.450510 to 41.421697, -87.450714	**Structure Height (approximate)** 18"	**Structure Length** 62'

Structure Type (check one)

Bridge Construction Style

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

Culvert Type

- ○ Box
- ○ Pipe/Round
- ○ Other:

Other Structure

- ◉ Drainage pipe

Structure Material (check all that apply)

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

Creosote Evidence

- ○ Yes ○ No
- ◉ Unknown

Culvert Material

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

Notes:

Crossings Traversed (check all that apply)

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

Surrounding Habitat (check all that apply)

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

Areas Assessed (check all that apply)

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

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

Name: Chad Kelly

Signature: Chad Kelly

United States Department of the Interior

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

In Reply Refer To:
Project code: 2024-0016662
Project Name: US 231, Intersection Improvement, DES 1702994

December 21, 2023

Subject: Concurrence verification letter for the 'US 231, Intersection Improvement, DES 1702994' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated December 21, 2023 to verify that the **US 231, Intersection Improvement, DES 1702994** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

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

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

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

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

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

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

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

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

- Mead's Milkweed *Asclepias meadii* Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

PROJECT DESCRIPTION

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

NAME

US 231, Intersection Improvement, DES 1702994

DESCRIPTION

This project is located at the US 231 and Parrish Avenue intersection in Lake County, Indiana. The proposed project includes the conversion of the existing intersection into a roundabout with two circulating lanes for US 231 and one circulating lane for Parrish Avenue. Additionally, drainage improvements will include the installation of curb turnouts, drainage structures, and ditch grading. Utility relocation will include the relocation of approximately eight poles for overhead utilities. Other intersection improvements will include the replacement of three drainage pipes, new lighting, and landscaping. There is suitable summer habitat within the project area. Approximately 0.54 acre of trees within 100 feet from the existing roadway are anticipated for removal near the southwest quadrant of the project area during the inactive season. The dominant species of trees to be removed include black elder (Sambucus nigra), American elm (Ulmus americana), and white oak (Quercus alba). An environmental inspection of the pipes by Kaskaskia Engineering Group, LLC on April 27, 2023, did not find evidence indicating bats were seen or heard in or near the pipes. INDOT personnel from the LaPorte District stated on July 8, 2022, that a review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. Construction is anticipated to begin Summer of 2025. Installation of permanent lighting is anticipated within the reconfiguration of the intersection. There is also potential for temporary lighting during construction.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.421126799999996,-87.45154763368157,14z

DETERMINATION KEY RESULT

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

QUALIFICATION INTERVIEW

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

   [1] See Indiana bat species profile

   Automatically answered
   Yes

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

   [1] See northern long-eared bat species profile

   Automatically answered
   Yes

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

   A) Federal Highway Administration (FHWA)

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

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

   No

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

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

   No

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

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

   No

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

   No

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

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

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

   Yes

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

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

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

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

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

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

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

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

    No

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

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

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

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors occur[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    B) During the inactive season

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

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

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

    No

16. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

17. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

18. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

19. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

20. Are *all* trees that are being removed clearly demarcated?

    Yes

21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    Yes

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

    No

23. Does the project include slash pile burning?

    No

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

    Yes

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

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

    Yes

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

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

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

    Yes

    SUBMITTED DOCUMENTS

    - *01 Bridge Culvert Bat Assessment Form_1702994.pdf https://ipac.ecosphere.fws.gov/project/LZYIA6X2JRA2BO57ZHB2UVYRCA/projectDocuments/136230691*
    - *02 Bridge Culvert Bat Assessment Form_1702994.pdf https://ipac.ecosphere.fws.gov/project/LZYIA6X2JRA2BO57ZHB2UVYRCA/projectDocuments/136230692*
    - *03 Bridge Culvert Bat Assessment Form_1702994.pdf https://ipac.ecosphere.fws.gov/project/LZYIA6X2JRA2BO57ZHB2UVYRCA/projectDocuments/136230693*

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

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

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

    No

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

    Yes

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

    No

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

    Yes

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

    Yes

32. Will the project install *any* new or replace any existing **permanent** lighting in addition to the lighting already indicated for habitat removal (including the removal or trimming of trees) or bridge/structure removal, replacement or maintenance activities?

    Yes

33. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting (other than the lighting already indicated for habitat removal (including the removal or trimming of trees) or bridge/structure removal, replacement or maintenance activities) will be installed or replaced?

    Yes

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

    No

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

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

    Yes

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

    No

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

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

38. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the Indiana bat's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

39. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

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

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

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

    Yes

42. **Tree Removal AMM 1**
Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word "trees" as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS' current summer survey guidance for our latest definitions of suitable habitat.

Yes

43. **Tree Removal AMM 3**
Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

44. **Tree Removal AMM 4**
Can the project avoid cutting down/removal of *all* (1) **documented**[1] Indiana bat or NLEB roosts[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

[1] The word documented means habitat where bats have actually been captured and/or tracked.

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

Yes

45. **Lighting AMM 2**
Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society[1] to rate the amount of light emitted in unwanted directions?

[1] Refer to The BUG System—A New Way To Control Stray Light

Yes

46. **Lighting AMM 2**
Will the **permanent** lighting used during removal of suitable habitat and/or the removal/ trimming of trees within suitable habitat be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

Yes

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

    Yes

48. **Lighting AMM 2**
    Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society[1] to rate the amount of light emitted in unwanted directions?

    [1] Refer to The BUG System—A New Way To Control Stray Light

    Yes

49. **Lighting AMM 2**
    Will the **permanent** lighting (other than any lighting already indicated for tree clearing or bridge/structure removal, replacement or maintenance activities) be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

    Yes

PROJECT QUESTIONNAIRE

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

   Yes

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

   No

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.54

4. Please describe the proposed bridge work:

   Three (3) drainage pipes will be replaced as part of the project.

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

   Summer 2025

6. Please enter the date of the bridge assessment:

   April 27, 2023

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

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

TREE REMOVAL AMM 1
Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

LIGHTING AMM 1
Direct temporary lighting away from suitable habitat during the active season.

TREE REMOVAL AMM 2
Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

LIGHTING AMM 2
When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

TREE REMOVAL AMM 3
Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

TREE REMOVAL AMM 4
Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or
documented foraging habitat any time of year.

GENERAL AMM 1
Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

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

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

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

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

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