

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

Road No./County:	SR 237/ Crawford County
Designation Number(s):	1900291 & 2001057
Project Description/Termini:	Slide correction, Des. No. 1900291, extends from 0.38 mile to 0.45 mile south of the Interstate (I)-64 interchange along State Road (SR) 237. Small structure work, Des. No. 2001057, extends from 0.61 mile to 0.63 mile south of the I-64 interchange along SR 237.

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

Approval

_____	_____
INDOT DE Signature and Date	INDOT ESD Signature and Date

FHWA Signature and Date	

Release for Public Involvement

	RF	9/25/2023
_____	_____	_____
INDOT DE Initials and Date		INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date: _____

Name and Organization of CE/EA Preparer: Samantha Beaupre/ Lochmueller Group, Inc.

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

Part I - Public Involvement

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

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

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

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

Notice of Entry letters were mailed to potentially affected property owners near the project area on November 3, 2020 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, G1.

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

Public Controversy on Environmental Grounds

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

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

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

Sponsor of the Project: INDOT Vincennes District INDOT District: Vincennes

Local Name of the Facility: SR 237

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

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

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PURPOSE AND NEED:

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

Need

Des. No. 1900291 is located on SR 237, 0.38 mile to 0.45 mile south of the I-64 interchange. Des. No. 2001057 is located on SR 237 from 0.61 mile to 0.63 mile south of the I-64 interchange. The need for this project is due to a shallow downslope slide occurring along the east side of SR 237, causing the existing roadway pavement and roadside embankment to deteriorate and fail. According to the Engineering Assessment Report dated July 21, 2022, the pavement failure is occurring only in the northbound lane of the existing road, and visible scarps are present along the roadway. Additionally, the existing 15-inch concrete culvert at the southern end of the project area is in poor condition with deteriorating joints and a leaning outlet headwall. In the vicinity of the culvert, an additional slide is occurring downslope from the road with visible pavement distress in the northbound lane and is also affecting the drivable roadway.

Purpose

The purpose of the project is to repair the slides, to prevent further damage, and to prevent the roadway from failing along this section of SR 237 as well as improve the condition of the culvert.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Crawford

Municipality: N/A

Limits of Proposed Work: SR 237, 0.38 mile to 0.45 mile south of the I-64 interchange and 0.61 mile to 0.63 mile south of the I-64 interchange along SR 237.

Total Work Length: 0.087 Mile(s)

Total Work Area: 0.90 Acre(s)

Is an Interstate Access Document (IAD)¹ required?

If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?

Yes ¹	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date: <input style="width: 100%;" type="text"/>	

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

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

The Indiana Department of Transportation (INDOT) Vincennes District, with funding from the Federal Highway Administration (FHWA), intends to proceed with a slide correction (Des. No. 1900291) and small structure project (Des. No. 2001057) on SR 237 in Crawford County, Indiana.

Location:

The slide correction, Des. No. 1900291, extends from 0.38 mile to 0.45 mile south of the I-64 interchange along SR 237. The project is programmed as 0.35 mile south of the I-64 interchange, but the actual project location is further south. The small structure work, Des. No. 2001057, extends from 0.61 mile to 0.63 mile south of the I-64 interchange along SR 237. Specifically, the project is located in Sections 24 and 25, Township 3 South, Range 1 West in Union Township as depicted on the Beechwood U.S. Geological Survey 1:24,000 scale quadrangle (Appendix B, B2). Adjacent land use consists of mature forests and scattered residences (Appendix B, B3).

Existing Conditions:

Within the project area, SR 237 is functionally classified as a rural major collector. The typical cross section consists of

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two 11-foot travel lanes (one lane in each direction). No shoulder or median are present. Shallow downslope slides are occurring along the east side of SR 237, causing existing roadway pavement and roadside embankment to deteriorate and fail. The pavement failure is occurring only in the northbound lane of the existing road, and visible scarps are present along the roadway.

An existing 15-inch concrete culvert is present near the southern terminus of the project area. It is listed on INDOT's Bridge and Drainage Assets Viewer (<https://indot.maps.arcgis.com/apps/webappviewer/index.html?id=2566be6a717042e895e511a09e7>) where it is referred to as both CLV-237-013-5.75 and CLV-1074. The culvert has deteriorated joints and a leaning outlet headwall.

Preferred Alternative:

The proposed project includes the construction of a riprap buttress. A section of the riprap buttress will be steepened to a 2.8:1 slope to limit the extent of the riprap away from the roadway. The existing roadway along SR 237 for approximately 360 feet will be milled, patched, and resurfaced at a depth of 0 to 4 inches. A portion of the pavement will require full-depth replacement. A two- to four-foot shoulder will be constructed on the east side of SR 237. The 15-inch culvert at the southern terminus of the project area will be replaced in-kind using open cut installation and include a headwall at the upstream end and a concrete end section at the outlet of the culvert. The existing downslope area will be excavated and replaced on either side of the culvert. The pavement will be a full depth replacement in the northbound lane and a resurface in the southbound lane for a distance of 120 feet at the culvert location. Approximately 0.04 acre of riprap will be installed at the outlet of the structure. Design plans are included in Appendix B, B9 to B19.

The project is not anticipated to impact any waterways or wetlands. Approximately 0.65 acre of tree clearing is anticipated to be required. The construction limits have been minimized to the greatest extent possible in order to fulfill the purpose and need of the project. Every effort to avoid, minimize, and/or mitigate project impacts will be made.

The project requires approximately 0.76 acre of permanent right-of-way (ROW) and 0.21 acre of reacquisition.

The proposed maintenance of traffic (MOT) includes road closure with an official detour. The detour will utilize SR 62, SR 37, and I-64. Refer to the *Maintenance of Traffic (MOT) During Construction* section for more detail.

The preferred alternative will meet the purpose and need of the project by correcting the identified slide along SR 237, repairing the deteriorated pavement caused by the slide, and replacing the culvert at the south end of the project area.

Logical Termini/Independent Utility:

The termini of the project provide the logical beginning and end point necessary to complete the slide correction and structure replacement. The project is independent of any other action and able to be constructed without relying on the completion of any other project.

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.

No Build Alternative:

This alternative would involve no improvements to the existing side slope, roadway, or the existing structure. This alternative would result in continued deterioration of the roadway, pavement, and the existing structure. While this alternative eliminates immediate costs and environmental impacts, it would not meet the purpose and need of the project. Therefore, this alternative was dismissed from further consideration.

Retaining Wall Alternative:

This alternative would involve a traditional cast-in-place (CIP) cantilever retaining wall that would extend potential slip surfaces to deeper strata with higher shear resistance. This alternative would address the purpose and need; however, future downhill slope movement is still possible. Additionally, this alternative is estimated to be more expensive than the

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preferred alternative. Due to the possibility of future downhill slope movement and the greater expense, this alternative was dismissed from further consideration.

Soil-Nails Alternative:

This alternative would involve drilling holes at a slight downward inclination into the original ground or existing embankment. Reinforcing bars would then be placed and grouted into the drilled holes. The project area has issues with water flow through the face of the embankment. Therefore, soil nails could have issues with a buildup of water pressure. Additionally, the presence of possible shallow rock would result in differing soil conditions and problems with the insertion of soil nails. Therefore, this alternative was dismissed from further consideration.

No other alternatives were considered for this project.

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

It would not correct existing capacity deficiencies;

It would not correct existing safety hazards;

It would not correct the existing roadway geometric deficiencies;

It would not correct existing deteriorated conditions and maintenance problems; or

It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe):

X

ROADWAY CHARACTER:

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

Name of Roadway	<u>SR 237</u>			
Functional Classification:	<u>Major Collector</u>			
Current ADT:	<u>806</u>	VPD (2020)	Design Year ADT:	<u>883</u>
Design Hour Volume (DHV):	<u>78</u>	Truck Percentage (%)	<u>2.11</u>	
Designed Speed (mph):	<u>45</u>	Legal Speed (mph):	<u>45</u>	

	Existing	Proposed	
Number of Lanes:	2	2	
Type of Lanes:	through	through	
Pavement Width:	22 ft.	22 ft.	
Shoulder Width:	0 ft.	2-4 ft.	
Median Width:	N/A ft.	N/A ft.	
Sidewalk Width:	N/A ft.	N/A ft.	

Setting: <input type="checkbox"/> Urban	Setting: <input type="checkbox"/> Suburban	Setting: <input checked="" type="checkbox"/> Rural
Topography: <input type="checkbox"/> Level	Topography: <input checked="" type="checkbox"/> Rolling	Topography: <input type="checkbox"/> 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): CLV-237-013-5.75 Sufficiency Rating: N/A
(Rating, Source of Information)

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	Existing		Proposed	
Bridge/Structure Type:	15-inch concrete pipe		15-inch concrete pipe	
Number of Spans:	1		1	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	22	ft.	22	ft.
Outside to Outside Width:	39	ft.	59	ft.
Shoulder Width:	0	ft.	2-4	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.

An existing 15-inch wide, 39-foot long, concrete culvert (CLV-237-013-5.75) is located in the project area and will be replaced as a part of the project using open cut installation and include a headwall at the upstream end of the culvert and a concrete end section at the downstream end. The pavement will be replaced at the culvert location. Riprap will be installed at the outlet of the structure. The culvert is not historic and is not part of the National Bridge Inventory (NBI).

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

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

The MOT for the project will require the closure of SR 237 with an official detour. The detour will utilize SR 62, SR 37, and I-64. The detour is approximately 17 miles long and will take approximately 20 minutes. Signage will notify motorists of the closure and the detour. The MOT will be implemented per the *Manual of Uniform Traffic Control Devices (MUTCD)* guidelines. Construction is anticipated to begin in Spring 2024. Access to adjacent properties will be maintained throughout project construction.

The closure 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.

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ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 177,000 (2024) Right-of-Way: \$ 51,000 (2023) Construction: \$ 11,637,000 (2024)

Anticipated Start Date of Construction: Spring/Summer 2024

RIGHT OF WAY:

Land Use Impacts	Amount (acres)		
	Permanent	Temporary	Reacquisition
Residential	0	0	0
Commercial	0	0	0
Agricultural	0	0	0
Forest	0.76	0	0.21
Wetlands	0	0	0
Other:	0	0	0
Other:	0	0	0
TOTAL	0.76	0	0.21

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.

Within the project area, the typical existing ROW along SR 237 is assumed to be the edge of pavement. The maximum ROW width is 12 feet northwest and southeast of the roadway centerline. However, records in Crawford County do not clearly establish the existing ROW. Therefore, there is ROW reacquisition associated with this project. The land use of the existing ROW is roadway.

The project requires approximately 0.76 acre of permanent ROW from forested land. The project also requires approximately 0.21 acre of reacquisition of existing roadway. No temporary right-of-way will be required.

The new typical ROW width along SR 237 will extend from 12 to 27 feet northwest and 22 to 118 feet southeast of the roadway centerline.

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

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

SECTION A - 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 March 29, 2023 (Appendix C, C1 to C4).

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Agency	Date Sent	Date Response Received	Appendix
FHWA-Indiana Division	March 29, 2023	No response received	N/A
National Park Service	March 29, 2023	No response received	N/A
U.S. Housing and Urban Development	March 29, 2023	No response received	N/A
Hoosier National Forest, U.S. Forest Service	March 29, 2023	No response received	N/A
Natural Resources Conservation Service, Indianapolis Office	March 29, 2023	March 30, 2023	Appendix C, C5
U.S. Army Corps of Engineers, Louisville District	March 29, 2023	No response received	N/A
Indiana Geological and Water Survey	April 10, 2023	April 10, 2023	Appendix C, C6 to C7
IDNR, Division of Fish and Wildlife	March 29, 2023	April 28, 2023	Appendix C, C8 to C9
IDEM Groundwater	March 29, 2023	No response received	N/A
INDOT, Vincennes District	March 29, 2023	April 3, 2023	Appendix C, C10
Crawford County Board of Commissioners	March 29, 2023	No response received	N/A
Crawford County Surveyor's Office	March 29, 2023	No response received	N/A
Crawford County Highway Department	March 29, 2023	No response received	N/A
Crawford County Council	March 29, 2023	No response received	N/A
Crawford County Sheriff's Department	March 29, 2023	No response received	N/A
Crawford County Emergency Management Agency	March 29, 2023	No response received	N/A
Crawford County Community Schools	March 29, 2023	No response received	N/A
English Volunteer Fire Department	March 29, 2023	No response received	N/A
Leavenworth Fire Department	March 29, 2023	No response received	N/A

All applicable recommendations are included in the *Environmental Commitments* section of this Categorical Exclusion (CE) document.

SECTION B – ECOLOGICAL RESOURCES:

Streams, Rivers, Watercourses & Other Jurisdictional Features

- Federal Wild and Scenic Rivers
- State Natural, Scenic or Recreational Rivers
- Nationwide Rivers Inventory (NRI) listed

Presence

X

Impacts

Yes	No
	X

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Outstanding Rivers List for Indiana
Navigable Waterways

Total stream(s) in project area: 34 Linear feet Total impacted stream(s): 0 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)
UNT to Little Blue River	R4SBC	34	0	Likely WOTUS, flows from the south to the northeast, located east of SR 237 (38.234979°, -86.466915°)

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

Based on the desktop review, the aerial map of the project area (Appendix B, B3), and the Red Flag Investigation (RFI) report (Appendix E, E1 to E8), there are eight streams, rivers, watercourses or other jurisdictional features within the 0.5-mile search radius. There is one stream, river, watercourse, or other jurisdictional feature within or adjacent to the project area. That number was confirmed by the site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on April 21, 2023. Please refer to Appendix F, F1 to F18 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that one stream, an unnamed tributary (UNT) to Little Blue River, is a likely jurisdictional water and is located within the survey area. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

UNT to Little Blue River is an intermittent stream feature that enters the survey area from the south, flows within the survey area for 34 feet, and exits the survey area with flow to the northeast (Appendix F, F14). The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Map identifies this feature as a riverine, intermittent, streambed, seasonally flooded (R4SBC) system. The OHWM at the survey area boundary was measured at 15 feet wide and 1 foot deep. UNT to Little Blue River is considered to be a non relatively permanent waterway (non RPW) with a connection to a traditionally navigable waterway (TNW), the Little Blue River. Therefore, UNT to Little Blue River is likely subject to USACE jurisdiction under Section 404 of the Clean Water Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

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

The construction limits have been reduced to encompass the area of the slides and the existing culvert (Appendix B, B3). By reducing the construction limits, the project will avoid all impacts to UNT to Little Blue River. Therefore, no impacts are expected.

The Indiana Department of Natural Resources, Division of Fish and Wildlife (IDNR DFW) responded on April 28, 2023, with recommendations for minimizing impacts to the stream (Appendix C, C8 to C9). These recommendations included bank stabilization techniques, waterway time of year work restrictions, and minimizing disturbance in the channel and riparian corridor near the waterway. All applicable recommendations are included in the *Environmental Commitments* section of this CE document.

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Open Water Feature(s)

- Reservoirs
- Lakes
- Farm Ponds
- Retention/Detention Basin
- Storm Water Management Facilities
- Other: _____

Presence

Impacts

Yes **No**

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

Based on the desktop review, the aerial map of the project area (Appendix B, B3), and the RFI report (Appendix E, E1 to E8), there are eight open water features within the 0.5-mile search radius. There are no open water features within or adjacent to the project area, which was confirmed by the site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group. Therefore, no impacts are expected.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on April 21, 2023. Please refer to Appendix F, F1 to F18 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no open water features are located within the survey area.

Wetlands

Presence

Impacts

Yes **No**

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Total wetland area: 0 Acre(s) Total wetland area impacted: 0 Acre(s)

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments (i.e. location, likely Water of the US, appendix reference)
N/A	N/A	N/A	N/A	N/A

Wetlands (Mark all that apply)

Documentation

ESD Approval Dates

- Wetland Determination
- Wetland Delineation
- USACE Isolated Waters Determination

X

April 21, 2023

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

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

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

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Based on the desktop review, the aerial map of the project area (Appendix B, B3), and the RFI report (Appendix E, E1 to E8), there are 19 wetlands within the 0.5-mile search radius. There are no wetlands within or adjacent to the project area, which was confirmed by the site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group. Therefore, no impacts are expected.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on April 21, 2023. Please refer to Appendix F, F1 to F18 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no wetlands are located within the survey area.

	Presence	Impacts	
Terrestrial Habitat	<input checked="" type="checkbox"/>	Yes	NO
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total terrestrial habitat in project area: 0.67 Acre(s) Total tree clearing: 0.65 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, site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group, and the aerial map of the project area (Appendix B, B3), there is forested habitat and maintained roadside vegetation present within or adjacent to the project area. The dominant species within the forested habitat consisted of white oak (*Quercus alba*), sugar maple (*Acer saccharum*), and sycamore (*Platanus occidentalis*). The maintained roadside vegetation consisted of tall reedtop (*Tridens flavus*), Japanese bristle grass (*Setaria faberi*), and hairy crab grass (*Digitaria sanguinalis*). A total of 0.67 acre of terrestrial habitat will be disturbed. Of that total, approximately 0.65 acre of tree clearing is anticipated to occur. Construction limits were minimized to only include the area necessary to correct the slide and replace the structure. Avoidance alternatives would not be practical because they would not allow the project to meet its purpose and need. Impacts to terrestrial habitat have been minimized to the greatest extent possible, while still meeting the project purpose and need. Mitigation is not anticipated.

The IDNR DFW responded on April 28, 2023, with recommendations regarding minimizing impacts to the terrestrial environment, such as implementation of sediment and erosion control measures, reseeding disturbed areas, potential mitigation requirements, and tree clearing time of year restrictions (Appendix C, C8 to C9). 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section 7 informal consultation completed (IPaC cannot be completed)	<input type="checkbox"/>	<input type="checkbox"/>
Section 7 formal consultation Biological Assessment (BA) required	<input type="checkbox"/>	<input type="checkbox"/>

Determination Received for Listed Bats from USFWS: NE NLAA LAA

Other Species not included in IPaC

	Yes	No
Additional federal species found in project area (based on IPaC species list)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
State species (not bird) found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Migratory Birds

Known usage or presence of birds (i.e. nests)
State bird species based upon coordination with IDNR

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

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

Based on a desktop review and the RFI report (Appendix E, E1 to E8), completed by Lochmueller Group on February 17, 2022, the IDNR Crawford County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR DFW early coordination response letter dated April 28, 2023 (Appendix C, C8 to C9), the Natural Heritage Program’s Database has been checked and the State special concern Woodland Box Turtle (*Terrapene carolina carolina*) has been documented within 0.5 mile of the project area. To avoid and minimize impacts to the Box Turtle the IDNR DFW recommends conducting clearing between November 15 and April 1. This has been included as a firm commitment in the *Environmental Commitments* section of this CE document.

An INDOT 0.5-mile bat review occurred on August 2, 2021. The USFWS database review did not indicate the presence of endangered bat species in or within 0.5 mile of the project area; however the project is located within the 10-mile MYSO hibernacula buffer. Tree removal dates for projects located within the hibernacula buffer are from November 15 to March 31 (instead of the standard October 1 to March 31) to allow for the conclusion of fall swarming around the hibernacula. The USFWS database review also indicated that the project is located within the Indiana Bat Critical Habitat.

Indiana Bat and Northern Long-Eared Bat

Project information was submitted through the USFWS’s Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, C11 to C27). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally endangered northern long-eared bat (NLEB) (*Myotis septentrionalis*). Other species were generated in the IPaC species list along with the Indiana bat and northern long-eared bat. Refer to the paragraph below.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. A culvert inspection occurred on August 16, 2023, and no evidence of birds or bats using the structure was observed (Appendix C, C43). An effect determination key was completed on May 4, 2023, and based on the responses provided, the project was found to “Not Likely Adversely Affect” the Indiana bat and/or the NLEB (Appendix C, C28 to C41). INDOT reviewed and verified the effect finding on May 4, 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. Avoidance and Minimization Measures (AMMs) include using best practices and spill prevention measures, avoiding and limiting tree removal, and directing lighting away from suitable habitat. AMMs and/or commitments are included as firm commitments in the *Environmental Commitments* section of this document.

A culvert inspection occurred on August 16, 2023 and no evidence of birds or bats using the structure was observed (Appendix C, C43). USFWS Bridge/Structure Assessments are only valid for two years. If construction will begin after August 16, 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* section of this document.

Other Federally Listed Species

The official species list generated from IPaC indicated four other species present within the project area: Gray Bat (*Myotis grisescens*), Tricolored Bat (*Perimyotis subflavus*), the whooping crane (*Grus americana*), and the monarch butterfly (*Danaus plexippus*). Additionally, Indiana Bat (*Myotis sodalis*) Critical Habitat was identified within the project area. The project does not qualify for the most current INDOT/USFWS agreement due to the amount of tree clearing exceeding 0.5

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acre. The tricolored bat is listed as proposed endangered. The whooping crane is listed as endangered wherever found, except where listed as an experimental population according to the Environmental Conservation Online System (<https://ecos.fws.gov/ecp/species/758>). The whooping crane is listed as an experimental population in this location. Therefore, the species was not considered as part of this project. The monarch butterfly is identified as a candidate species, which is not yet listed or proposed for listing.

A standard coordination letter was prepared for the Gray Bat and the Indiana Bat Critical habitat and submitted for INDOT review on May 18, 2023. INDOT reviewed the standard coordination letter and submitted it to USFWS for review on May 19, 2023. On May 22, 2023, USFWS issued a concurrence letter with the "Not Likely to Adversely Affect" finding (Appendix C, C44 to C46). USFWS also stated that tree clearing should be limited to the time period of November 15 to March 30. This has been included as a firm commitment in the *Environmental Commitments* section of this CE 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

- Project located within the Indiana Karst Region
- Karst features identified within or adjacent to the project area
- Oil/gas or exploration/abandoned wells identified in the project area

Yes	No
X	
	X
	X

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): _____

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

Based on a desktop review and the Indiana Karst Region map, the project is located in the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction*. According to the topographic map of the project area (Appendix B, B2), the RFI report (Appendix E, E1 to E8), and site visits on September 29, 2021 and September 27, 2022, there are no karst features identified within or adjacent to the project area. In the early coordination response dated April 10, 2023, the Indiana Geological and Water Survey (IGWS) did indicate potential karst features present in the project area (Appendix C, C6 to C8). The response also indicated a moderate potential of bedrock resources. No sand, gravel, or mineral resource extraction sites were documented in the area. The response from IGWS was communicated to the designer on May 18, 2023. No impacts are expected.

SECTION C – OTHER RESOURCES

Drinking Water Resources

- Wellhead Protection Area(s)
- Source Water Protection Area(s)
- Water Well(s)
- Urbanized Area Boundary
- Public Water System(s)

	Impacts	
	Yes	No
Presence		
	X	
		X

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Is the project located in the St. Joseph Sole Source Aquifer (SSA):
 If Yes, is the FHWA/EPA SSA MOU Applicable?
 If Yes, is a Groundwater Assessment Required?

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

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.

Sole Source Aquifer

The project is located in Crawford 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.

Wellhead Protection Area and Source Water

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on April 6, 2023 by Lochmueller Group. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

Water Wells

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on May 17, 2023 by Lochmueller Group. No wells are located near this project. Therefore, no impacts are expected.

Urban Area Boundary

Based on a desktop review of the INDOT MS4 mapper (<https://entapps.indot.in.gov/MS4/>) by Lochmueller Group on May 17, 2023 this project is not located in an Urban Area Boundary. No impacts are expected.

Public Water System

Based on a desktop review, site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group, the aerial map of the project area (Appendix B, B3), and the design plans (Appendix B, B9 to B19), this project is located where there is a public water system. The public water system will not be affected because the water line is located outside of the proposed construction limits. Coordination will continue as design progresses. No impacts are expected.

Floodplains

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

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

If applicable, indicate the Floodplain Level?

Level 1 Level 2 Level 3 Level 4 Level 5

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

The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e/>) was accessed on April 14, 2023 by Lochmueller Group. This project is not located in a regulatory floodplain as determined from approved

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IDNR floodplain maps (Appendix F, F13). 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	
Farmland		Yes	No
Agricultural Lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Points (from Section VII of CPA-106/AD-1006*) _____ <i>*If 160 or greater, see CE Manual for guidance.</i>			

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, site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group, and the aerial map of the project area (Appendix B, B3), there is no land that meets the definition of farmland under the Farmland Protection Policy Act (FPPA) within or adjacent to the project area. The requirements of the FPPA do not apply to this project; therefore, no impacts are expected. An early coordination letter was sent on March 29, 2023, to Natural Resources Conservation Service (NRCS). The NRCS responded on March 30, 2023 and stated the project will not cause a conversion of prime farmland (Appendix C, C5).

SECTION D – CULTURAL RESOURCES

Minor Projects PA	Category(ies) and Type(s) Category B; Types 3, 9, & 10	INDOT Approval Date(s) July 25, 2023	N/A
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Full 106 Effect Finding

No Historic Properties Affected <input type="checkbox"/>	No Adverse Effect <input type="checkbox"/>	Adverse Effect <input type="checkbox"/>
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Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) <input type="checkbox"/>	Archaeology <input type="checkbox"/>	NRHP Bridge(s) <input type="checkbox"/>
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Documentation Prepared (mark all that apply)	ESD Approval Date(s)	SHPO Approval Date(s)
APE, Eligibility and Effect Determination	<input type="checkbox"/>	<input type="checkbox"/>
800.11 Documentation	<input type="checkbox"/>	<input type="checkbox"/>
Historic Properties Report or Short Report	<input type="checkbox"/>	<input type="checkbox"/>
Archaeological Records Check and Assessment	<input type="checkbox"/>	<input type="checkbox"/>
Archaeological Phase Ia Survey Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Archaeological Phase Ic Survey Report	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

Memorandum of Agreement (MOA) <input type="checkbox"/>	MOA Signature Dates (List all signatories)

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

On July 25, 2023 the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Type 3, 9, and 10 under the Minor Projects Programmatic Agreement, (Appendix D, D19 to D25). The MPPA Types include the following work:

B-3: Construction of added travel, turning, or auxiliary lanes and shoulder widening under certain conditions.

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

B-10: Slide corrections, slope repairs, and other erosion control measures, in undisturbed soils under certain conditions.

Because the project will occur within undisturbed soils an archaeological reconnaissance of the project area was required. Cultural Resource Analysts, Inc. completed a Phase 1a Archaeological Field Reconnaissance on April 27, 2023. No archaeological sites were identified within the project area. INDOT CRO approved the archaeology report on July 25, 2023. Therefore, there are no archaeological concerns. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

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

Evaluations Prepared

Programmatic Section 4(f)	<input type="checkbox"/>
"De minimis" Impact	<input type="checkbox"/>
Individual Section 4(f)	<input type="checkbox"/>
Any exception included in 23 CFR 774.13	<input type="checkbox"/>

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.

This is page 16 of 23 Project name: SR 237 Slide Correction and Small Structure Project Date: September 14, 2023

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Based on a desktop review, the aerial map of the project area (Appendix B, B3), and the RFI report (Appendix E, E1 to E8) there is one potential 4(f) resource, the Hoosier National Forest, located within the 0.5-mile search radius. According to the RFI and the site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group, there are no Section 4(f) resources within or adjacent to the project area. The Hoosier National Forest did not respond to the early coordination letter. The Hoosier National Forest is located 0.25 mile north of the project area. Therefore, no use is expected.

Section 6(f) Involvement

Presence

Use

Section 6(f) Property

Yes

No

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

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

A review of 6(f) properties on the INDOT ESD website revealed a total of four properties in Crawford County (Appendix I, I1). 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

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

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

Location in STIP: Page 187 (Appendix H, H1)

Name of MPO (if applicable): _____

Location in TIP (if applicable): _____

Level of MSAT Analysis required?

Level 1a 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.

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STIP/TIP

The FY 2024-2028 STIP is listed based on the lead DES number in the contract. The lead DES number for this contract is 1900300. The FY 2024-2028 STIP includes DES numbers 1900291 and 2001057 by reference with the contract number 42199 (Appendix H, H1).

Attainment Status

This project is located in Crawford County, which is currently in attainment for all criteria pollutants according to EPA's Green Book (https://www3.epa.gov/airquality/greenbook/anayo_in.html). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

MSAT

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?

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 current *Indiana Department of Transportation Traffic Noise Analysis Procedure*, this action does not require a formal noise analysis.

SECTION H – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

Yes No

Will the proposed action comply with the local/regional development patterns for the area?

Will the proposed action result in substantial impacts to community cohesion?

Will the proposed action result in substantial impacts to local tax base or property values?

Will construction activities impact community events (festivals, fairs, etc.)?

Does the community have an approved transition plan?

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)

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

The project will ultimately be beneficial to local businesses and properties due to addressing the deterioration of the road and small structure. Overall, the negative impacts to property owners within the project area will consist primarily of short-term construction impacts. No relocations are expected. Property owners will be provided access throughout the duration of the project to reduce impacts as much as possible. The project is not anticipated to result in substantial impacts to community cohesion, because it will not change access to properties in the area. The project is not expected to impact

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the surrounding community or cause economic impacts to the surrounding area. Therefore, this project will have minimal or no negative impacts to the community or local economy.

According to the Indiana Festivals website (www.indianafestivals.org) accessed on May 17, 2023 by Lochmueller Group, there are no fairs and festivals scheduled within 10 miles of the project.

The MOT may pose delays and temporary inconveniences to traveling motorists (including school buses and emergency services); however, all inconveniences will cease upon project completion. The MOT for the project is not anticipated to impact access to community events.

The project sponsor will be responsible for contacting school districts and emergency services at least two weeks prior to any construction activities that would limit access, this is included as a commitment in the *Environmental Commitments* section of this CE document.

The Americans with Disabilities Act (ADA) Transition Plan for Crawford County, Indiana was not identified on the Crawford County website. There are no pedestrian facilities within the project area and no pedestrian facilities will be constructed. The project will comply with the ADA and will not create additional barriers to access.

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, B3), and the RFI report (Appendix E, E1 to E9), there is one public facility, the Hoosier National Forest, within the 0.5-mile search radius. There are no public facilities within or adjacent to the project area, which was confirmed by site visits on September 29, 2021 and September 27, 2022 by Lochmueller Group. Therefore, no impacts are expected. Access to all properties will be maintained during construction.

An early coordination letter was sent to the Crawford County Highway Department, Crawford County Sheriff's Department, Crawford County Emergency Management Agency, Crawford County Community Schools, English Volunteer Fire Department, and the Leavenworth Fire Department on March 29, 2023 (Appendix C, C1 to C4). No response was received from these agencies.

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)

During the development of the project were EJ issues identified?

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

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

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

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

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis

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is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require 0.76 acre of new permanent ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Crawford County, Indiana. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 9521. 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 2017-2021 American Community Survey was obtained from the US Census Bureau Website <https://data.census.gov/> on May 4, 2023 by Lochmueller Group. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (2017-2021 American Community Survey)		
	COC – Crawford County	AC – Census Tract 9521
Percent Minority	4.6%	4.1%
125% of COC	5.7%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	19.2%	12.3%
125% of COC	24.0%	AC < 125% COC
EJ Population of Concern		No

The AC (Census Tract 9521) has a percent minority of 4.1% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

The AC (Census Tract 9521) has a percent low-income of 12.3% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain low-income populations of EJ concern.

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

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?
Is a BIS or CSRS required?

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

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

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.

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SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)

	<u>Documentation</u>
Red Flag Investigation (RFI)	<input checked="" type="checkbox"/>
Phase I Environmental Site Assessment (Phase I ESA)	<input type="checkbox"/>
Phase II Environmental Site Assessment (Phase II ESA)	<input type="checkbox"/>
Design/Specifications for Remediation required?	<input type="checkbox"/>

Date RFI concurrence by INDOT SAM (if applicable): February 17, 2022

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

Based on a review of GIS and available public records, the RFI was completed on February 17, 2022 by Lochmueller Group and INDOT Site Assessment & Management (SAM) provided their concurrence on February 17, 2022 (Appendix E, E1 to E8). One (1) leaking underground storage tank is located within 0.5 mile of the project area. The hazmat site identified will not impact the project. Further investigation for hazardous material concerns is not required at this time.

Part IV – Permits and Commitments

PERMITS CHECKLIST

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

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

Indiana Department of Transportation

County Crawford

Route SR 237

Des. No. 1900291 &
2001057

No permits are anticipated to be required.

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 right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT Vincennes 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 ESD)
- 4) USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after August 16, 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)
- 5) 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)
- 6) Hibernacula AMM 1: For projects located within karst areas, on-site personnel will use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula. Where practicable, a 300 foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography. (USFWS)
- 7) Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
- 8) Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
- 9) 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)
- 10) 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)
- 11) 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)
- 12) Tree removal dates for projects located within the 10-mile MYSO (i.e., Indiana Bat and Northern Long-Eared Bat) hibernacula buffer are from November 15 to March 30 (instead of the standard October 1 to March 31) to allow for the conclusion of fall swarming around the hibernacula. (USFWS)

For Further Consideration:

- 13) Impacts to non-wetland forest of one (1) acre or more in a rural or urban area should be mitigated at a minimum 2:1 ratio based on area of impact. Impacts to non-wetland forest under one (1) acre but at least 0.10 acre in a rural or urban area should be mitigated at a minimum 1:1 ratio based on area of impact. Impacts under 0.10 acre in a rural area typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions for high quality habitat sites. Impacts under 0.10 acre in an urban area should be mitigated by replacing trees that are 10" diameter-at-breast height (dbh) or greater by planting five trees, 1" to 2" in dbh, for each tree which is removed that is 10" dbh or

This is page 22 of 23 Project name: SR 237 Slide Correction and Small Structure Project Date: September 14, 2023

Indiana Department of Transportation

County Crawford

Route SR 237

Des. No. 1900291 &
2001057

greater. Seeding and stabilizing disturbed areas is required regardless of the impact amount and location. If floodway impacts to wetland and non-wetland habitat areas combine to be 0.10 acres or more, mitigation should be done and coordinated with the biologist, as needed. (IDNR DFW)

- 14) 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. (IDNR DFW)
- 15) Do not excavate in the low flow area except for the placement of foundations, riprap, or removal of the old structure. (IDNR DFW)
- 16) To avoid and minimize impacts to the Box Turtle, conduct clearing between November 15 and April 1. (IDNR DFW)

Appendix A: INDOT Supporting Documentation

Threshold Chart.....A1

Appendix B: Graphics

Location Map B1
USGS Topographic Map B2
Aerial Map (2021)..... B3
Photo Location Map B4
Site Photographs B5-B8
Stage 3 Plans B9-B21

Appendix C: Early Coordination

Sample Early Coordination Letter (March 29, 2023)..... C1-C4
Natural Resources Conservation Service
Response Letter (March 30, 2023)..... C5
Indiana Geological and Water Survey
Automated Response Letter (April 10, 2023) C6-C7
Indiana Department of Natural Resources, Division of Fish and Wildlife
Response Letter (April 28, 2023)..... C8-C9
Indiana Department of Transportation, Vincennes District
Response Letter (April 3, 2023)..... C10
U.S. Fish and Wildlife Service
Official Species List (May 2, 2023)..... C11-C27
NLAA Concurrence Verification Letter (May 4, 2023)..... C28-C41
Bridge/Structure Bat Assessment Form (September 29, 2021) C42
Bridge/Structure Bat Assessment Form (August 16, 2023)..... C43
Gray Bat and Indiana Bat Critical Habitat NLAA C44-C46

Appendix D: Section 106 of the National Historic Preservation Act (NHPA)

Indiana Archaeological Short ReportD1-D18
MPPA Determination FormD19-D25

Appendix E: Red Flag Investigation and Hazardous Materials

Red Flag Investigation (Approved February 17, 2022)..... E1-E8

Appendix F: Water Resources

Waters of the US Report (Approved April 21, 2023)..... F1-F8
Indiana Karst Region Map F9
USDA SSURGO Soils Map..... F10
USFWS NWI Map..... F11
StreamStats Watershed Map F12
Best Available Flood Hazard Map..... F13
Water Resources Map F14
Preliminary Jurisdictional Determination Form..... F15-F18

Appendix G: Public Involvement

Notice of Survey Letter (November 3, 2020).....G1

Appendix H: Air Quality

Relevant pages from the INDOT 2024-2028 STIPH1

Appendix I: Other Information

Land and Water Conservation Fund Grants: Crawford County I1
Environmental Justice AnalysisI2-I9

Categorical Exclusion

Appendix A

INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts³	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 Impacts³	No adverse impacts to wetlands	< 0.1 acre	-	< 1.0 acre	≥ 1.0 acre
Right-of-way⁵	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations⁶	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	Concurrence by DE or ESD	DE or ESD	DE or ESD	DE and/or ESD	DE and/or ESD; and FHWA
<ul style="list-style-type: none"> • District Env. (DE) • Env. Serv. Div. (ESD) • 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.

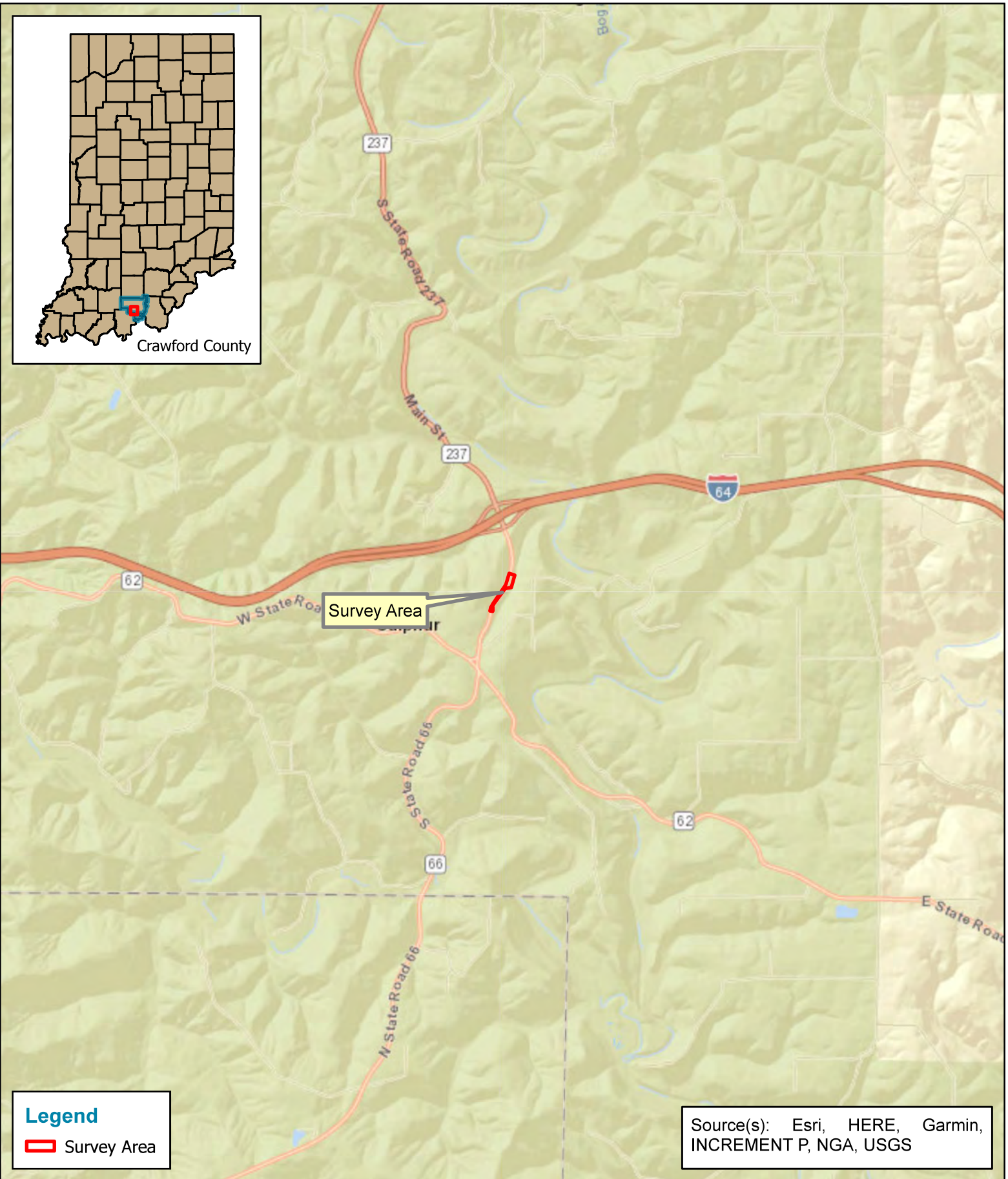
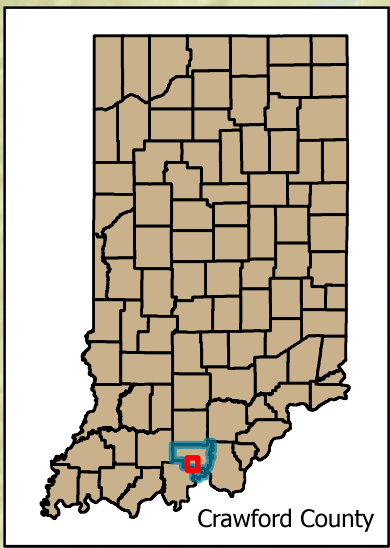
¹⁰ Section 4(f) use resulting in an Individual, Programmatic, or *de minimis* evaluation. The only exception is a *de minimis* evaluation for historic properties (Effective January 2, 2020). If a historic property *de minimis* and no other use, mark the *None* column.

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.

Categorical Exclusion
Appendix B
Graphics



Legend


 Survey Area


Source(s): Esri, HERE, Garmin, INCREMENT P, NGA, USGS



3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

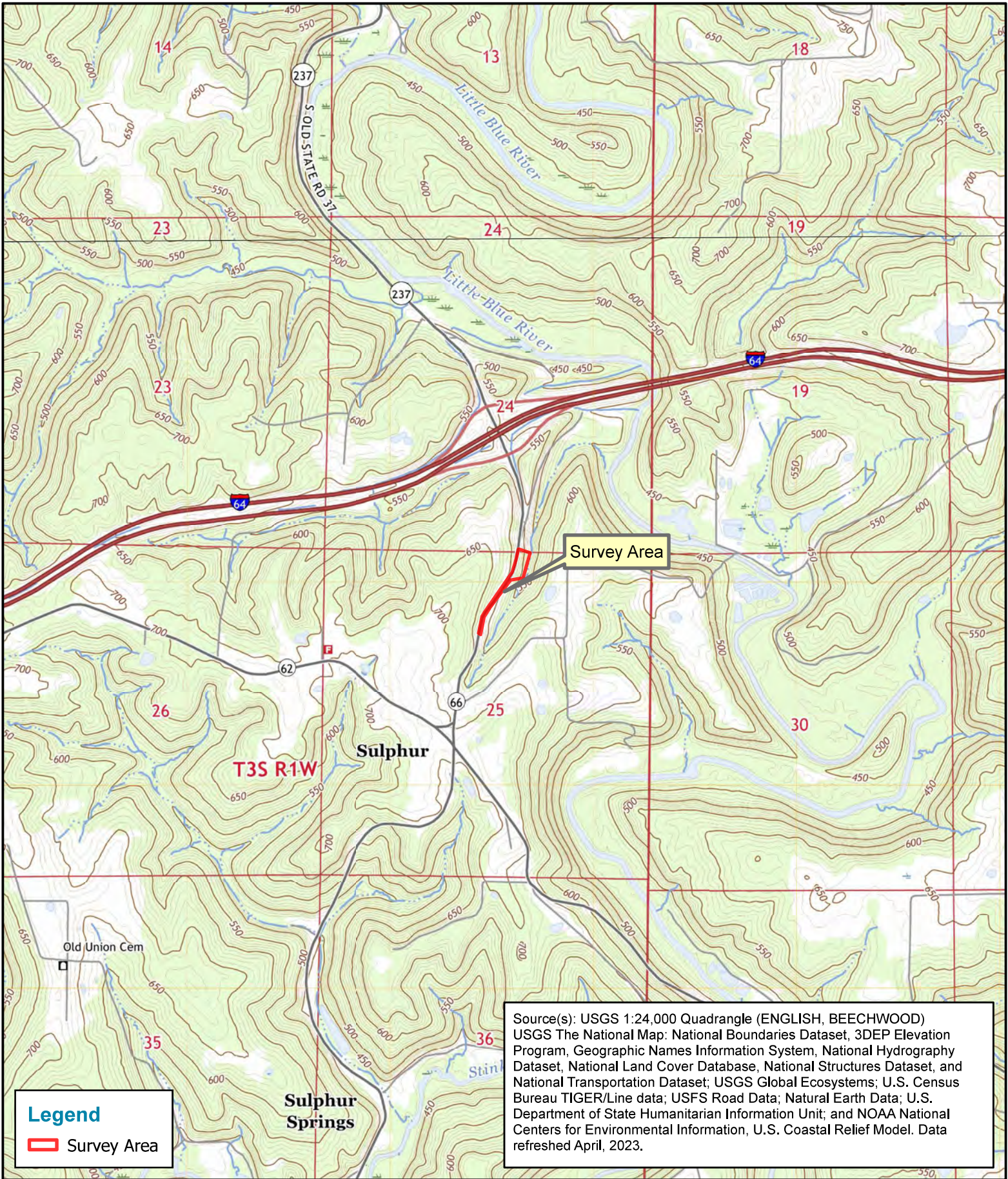
Location Map
 Des. Nos. 1900291 & 2001057

0 0.5 1
 Miles



County: Crawford
 Township: Union
 State: Indiana

SR 237, 0.38 mi to 0.45 mi S of I-64
 Slide Correction Project
 Created: 6/22/2023, SBeaupre



Legend
 Survey Area

Source(s): USGS 1:24,000 Quadrangle (ENGLISH, BEECHWOOD)
 USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed April, 2023.

3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

USGS Quad Map (1:24,000)
 Des. Nos. 1900291 & 2001057

0 0.25 0.5 Miles

County: Crawford
 Township: Union
 State: Indiana

SR 237, 0.38 mi to 0.45 mi S of I-64
 Slide Correction Project
 Created: 6/23/2023, SBeaupre



Legend

- Survey Area
- ▶ Stream
- Construction Limits
- Culvert
- ▶ RSD- In Survey Area
- - RSD- Out of Survey Area

Aerial Source: 2021 Aerial Imagery

LOCHMUELLER GROUP

3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

Aerial Map (2021)
 Des. Nos. 1900291 & 2001057

0 90 180
 Feet

County: Crawford
 Township: Union
 State: Indiana

SR 237, 0.38 mi to 0.45 mi S of I-64
 Slide Correction Project
 Created: 6/23/2023, SBeaupre



Legend

- Photo Locations
- Survey Area
- Stream
- Construction Limits
- Culvert
- RSD- In Survey Area
- RSD- Out of Survey Area

Aerial Source: 2021 Aerial Imagery

3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

Photo Location Map
 Des. Nos. 1900291 & 2001057

0 90 180
 Feet

County: Crawford
 Township: Union
 State: Indiana

SR 237, 0.38 mi to 0.45 mi S of I-64
 Slide Correction Project
 Created: 6/23/2023, SBeaupre



1 – View of RSD1 facing southwest showing roadside grasses, bedrock, and forest



2 – View of survey area facing north



3 – View of SR 237 road embankment facing northwest



4 – View upstream of UNT to Little Blue River facing south – Stream substrate is composed of 50% bedrock, 40% cobble, and 20% gravel



5 – View downstream of UNT to Little Blue River facing northeast – stream substrate is composed of 50% bedrock, 40% cobble, and 20% gravel



6 – View of survey area facing northeast



7 – View of survey area facing southwest



8 – View of RSD1 facing northeast



9 – View of RSD1 facing southwest



10 – View of RSD1 facing northeast



11 – View of RSD2 facing southwest - Dominant vegetation includes: Tall Redtop (FACU), Japanese Bristle Grass (UPL), Hairy Crab Grass (FACU)



12 – View of corrugated metal pipe inlet facing southeast - Pipe connected to RSD2 - No work being done on pipe



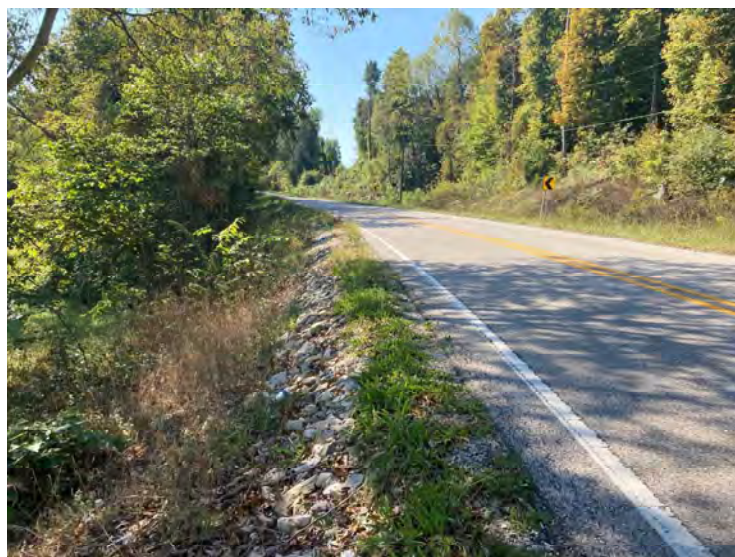
14 – View of corrugated metal pipe outlet facing northwest - Pipe connected to RSD2 - No work being done on pipe



14 – View of RSD2 facing northeast - Dominant vegetation includes: Tall Redtop (FACU), Japanese Bristle Grass (UPL), Hairy Crab Grass (FACU)



15 – View of survey area facing northeast



16 – View of survey area facing southwest



17 – View of 15 inch diameter concrete culvert (CLV-237-013-5.75) inlet facing east



18 – View of 15 inch diameter concrete culvert (CLV-237-013-5.75) outlet facing west



19 – View of survey area facing northeast



20 - View of survey area facing south showing bedrock and roadside grasses

PROJECT	DESIGNATION
1900291	1900291
CONTRACT	
R-42199	

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SKEW	UNDER	STATION
CLV-237-013-5.75	Pipe Replacement	Skew: 17°54'23" Lt.	SR 237	1515+33.48 Line "PR-A"

KIN PROJECT INFORMATION	
1900200	Slide Correction along SR 66 (Lead)
1900207	Slide Correction along SR 145
1900291	Slide Correction along SR 237
1900294	Slide Correction along SR 237
1900295	Slide Correction along SR 37
2001057	Culvert Replacement on SR 237

Stage 3
Plan Set
July 21, 2023

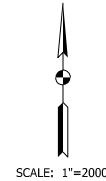
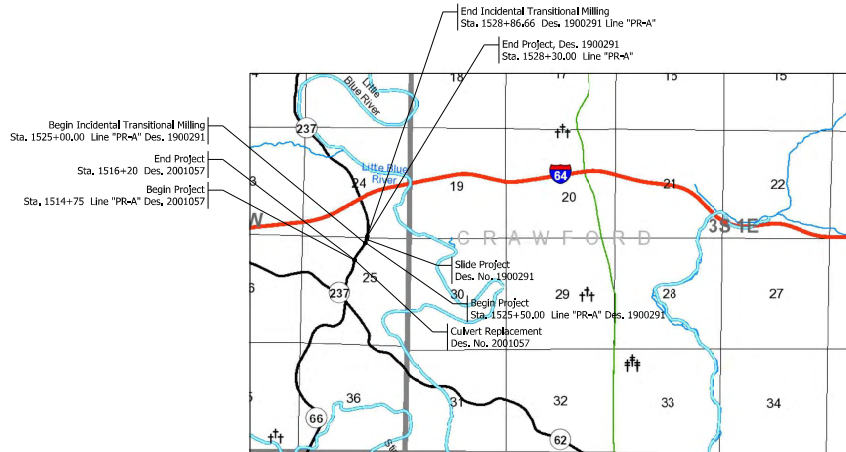
INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS FOR SLIDE REPAIR

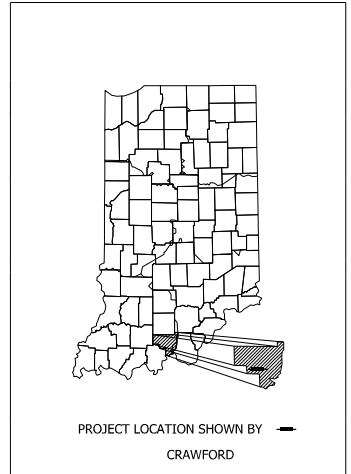
ROUTE: SR 237 AT: RP 30+-1
PROJECT NO. 1900291 & 2001057 P.E.
1900291 R/W
1900291 CONST.

Slide Repair SR 237
Located 0.42 Miles South of I-64
Section 25, T-3-S, R-1-W, Union Township, Crawford County, Indiana



TRAFFIC DATA	
A.A.D.T. (2030)	896 V.P.D.
A.A.D.T. (2044)	883 V.P.D.
D.V.V. (2044)	78 V.P.H.
DIRECTIONAL DISTRIBUTION	47/53 %
TRUCKS	2.11 % A.A.D.T. 2.82 % D.V.V.

DESIGN DATA	
DESIGN SPEED	45 M.P.H.
PROJECT DESIGN CRITERIA	3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION	Major Collector
RURAL/URBAN	Rural
TERRAIN	Rolling
ACCESS CONTROL	None



LATITUDE: 38°14'7.85"N LONGITUDE: 86°28'2.24"W

GROSS LENGTH:	0.073	MI.
NET LENGTH:	0.053	MI.
MAX. GRADE:	5.15%	%

HUC: 051401041105

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

wsp WSP USA Inc.
115 W. Washington Street
Suite 12705
Indianapolis, IN 46204
TEL: 317-972-1706

PLANS PREPARED BY: WSP USA Inc. 317-972-1706
PHONE NUMBER
CERTIFIED BY: _____ DATE
APPROVED FOR LETTING: _____ DATE
INDIANA DEPARTMENT OF TRANSPORTATION

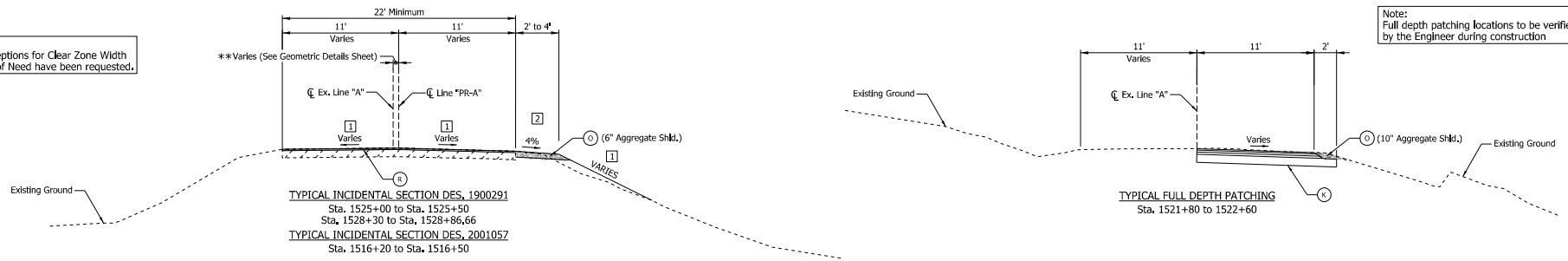
BRIDGE FILE	
DESIGNATION	
1900291 & 2001057	
SURVEY BOOK	SHEETS
CONTRACT	PROJECT
R-42199	1900291

DATE: 7/21/2023 8:36 PM

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Note to reviewer:
Level Two Design Exceptions for Clear Zone Width and Guardrail Length of Need have been requested.

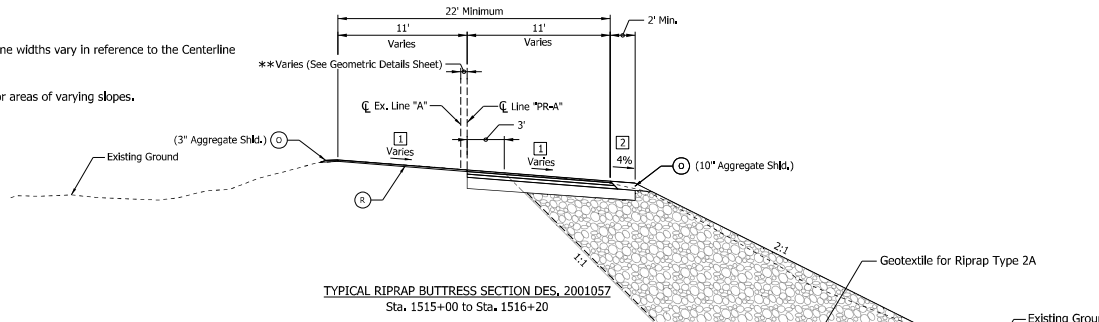
Note:
Full depth patching locations to be verified by the Engineer during construction



* Obstruction Free Zone

** Due to variations of the Line "A" Centerline, the lane widths vary in reference to the Centerline but stay consistent relative to the crown point.

[1] See Cross Sections and Superelevation Diagram for areas of varying slopes.



[2] AGGREGATE SHOULDER WIDTHS

Station Line "PR-A"	Width
1525+00 to 1525+50 Rt.	2' to 6'
1525+50 to 1528+30 Rt.	4' to 4'
1528+30 to 1528+60 Rt.	5' to 2'
1514+10 to 1515+10 Rt.	4' to 2'

[3] MILLING TRANSITION

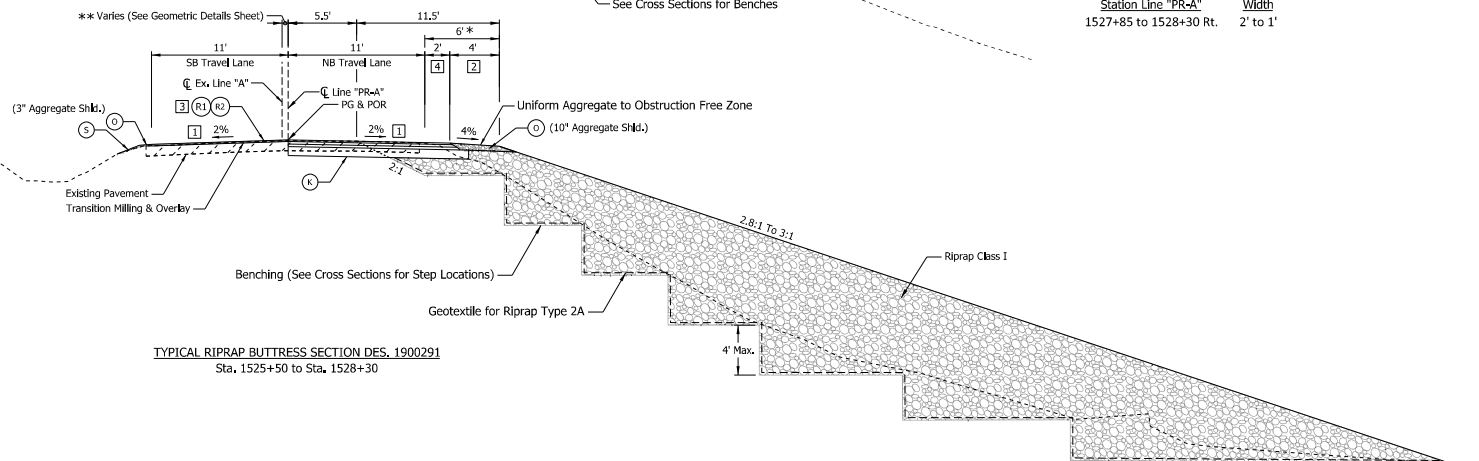
Station Line "PR-A"	Type
1525+50.00 to 1525+90.00	0"-1.5"
1527+80.00 to 1528+30.00	0"-1.5"
Station Line "PR-A"	Type
1525+90.00 to 1527+80.00	1.5"-2.5"

[4] PAVED SHOULDER WIDTHS

Station Line "PR-A"	Width
1527+85 to 1528+30 Rt.	2' to 1'

LEGEND

- (R) Incidental Transition Milling
Milling, Transition
1.5" of HMA Surface
165 lb/yd² QC/QA-HMA, 3, 64, Surface, 9.5 mm
- (R1) HMA Resurface - Profile Grade Change 0"-1.5"
Milling, Transition (up to 1.5") then
165 lb/yd² QC/QA-HMA, 3, 64, Surface, 9.5 mm on existing pavement
- (R2) HMA Resurface - Profile Grade Change 1.5"-4"
Milling, Transition (up to 2.5") then
165 lb/yd² QC/QA-HMA, 3, 64, Surface, 9.5 mm on
275 lb/yd² QC/QA-HMA, 2, 64, Intermediate, 19.0 mm on existing pavement
- (K) Full Depth Pavement & Shoulders
165 lb/yd² QC/QA-HMA, 3, 64, Surface, 9.5 mm
275 lb/yd² QC/QA-HMA, 3, 64, Intermediate, 19.0 mm
660 lb/yd² QC/QA-HMA, 3, 64, Base, 25.0 mm
Subgrade Treatment, Type IC
- (O) Compacted Aggregate, No. 53
- (S) Mulched Seeding, R



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AB	DRAWN: PFV	
CHECKED: AJD	CHECKED: AB	

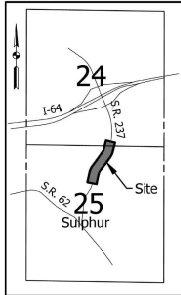
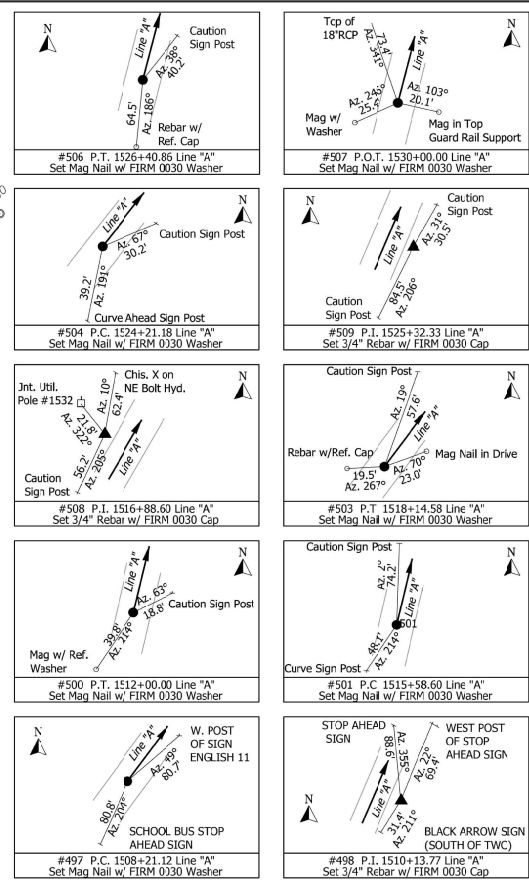
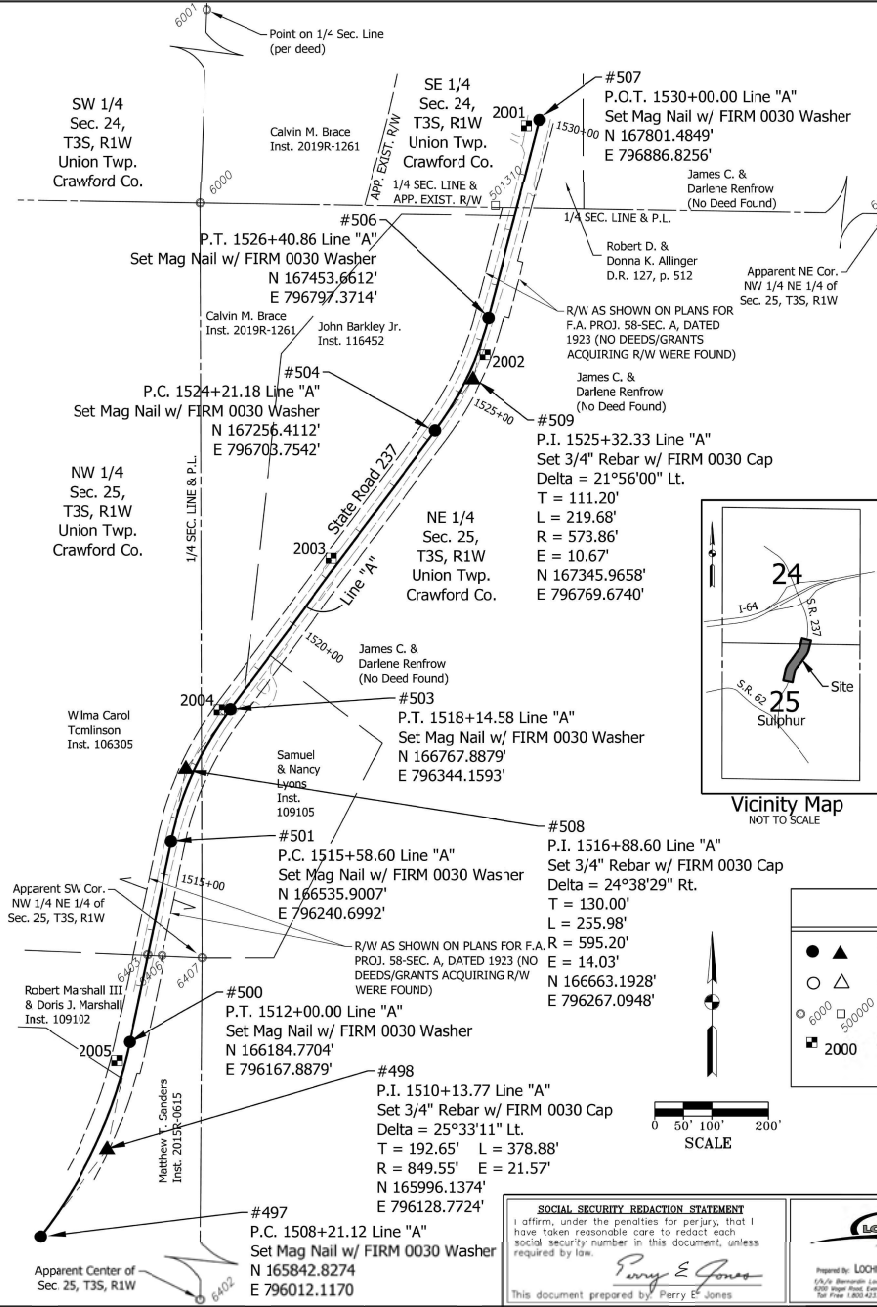
INDIANA
DEPARTMENT OF TRANSPORTATION

SR 237
LINE "PR-A"
TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	
VERTICAL SCALE	DESIGNATION
1" = 10'	1900291
SURVEY BOOK	SHEETS
	3 of 23
CONTRACT	PROJECT
R42199	1900291

DATE: 7/21/2023 8:36 PM

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LEGEND

- ▲ MONUMENTED BASELINE CONTROL POINTS
- △ CALCULATED BASELINE POINT (NO MONUMENT)
- 6000 PROPERTY / SECTION / EXISTING R/W EVIDENCE
- 2000 RANDOM CONTROL POINT



SURVEYOR'S REPORT

ROUTE SURVEY for slide correction on State Road 237, 0.35 miles south of the I-64 interchange (Des. 1900291), and for small structure replacement project on State Road 237, 0.57 miles south of the I-64 interchange (Des. 2001057).

OWNER/CLIENT: Indiana Department of Transportation
 NDOT DES. NOS.: 1900291 and 2001057
 LOCATED in Sections 24 and 25, Township 3 South, Range 1 West, Union Township, Crawford County, Indiana.

The purpose of this survey is to collect data for the design of a slide correction project and a small structure replacement project, and to provide a basis of describing any right-of-way needed for the projects. It is not a property retracement survey.

HORIZONTAL DATUM: Unless noted otherwise, all bearings, distances, areas, and coordinates shown hereon are based on the Indiana Geospatial Coordinate System's (InGCS) "Crawford" zone per NAD 83 (2011) epoch 2010.00 and are reported in U.S. Survey Feet and decimal parts thereof. The "Crawford" zone was developed to minimize the differences between ground measured horizontal distances and the corresponding grid coordinate (map) distances within the county bearing this zone's name.

InGCS "Crawford" Zones Parameters (also available at <http://www.in.gov/indot/InGCS.htm>)
 Geometric Datum: NAD 83(2011) epoch 2310.00
 Projection Type: Transverse Mercator
 Central Meridian: 86°30'00" west longitude
 Central Meridian scale factor: 1.000025
 Latitude of Grid Origin: 38°06'00" north latitude
 False Northing: 36,000,000 m (118,110,000 U.S.Ft)
 False Easting: 240,000,000 m (787,400,000 U.S.Ft)

ALIGNMENT: Line "A" is a re-run of the survey alignment (unedited) shown on plans for FA Project No. 58-SEC. A, dated 1923, above station 1512+00. The edited version of the alignment data shown on said plans did not conform as well to the existing roadway. Alignment was generally re-established by holding the existing roadway within tangent sections, and holding the curve semi-tangents. The stationing was re-established by holding the plan stationing at P.C. 1515+58.60 and running Line "A" throughout the project without equating or proportioning. The estimated uncertainty of Line "A" relative to the old survey alignment is plus or minus 5 feet longitudinally (stationing) and plus or minus 3 feet laterally (offsets) within the limits of the project. Below station 1512+00, the plan alignment did not fit the existing pavement and this portion of Line "A" should be considered an original alignment.

SECTION LINES AND CORNERS:
 Several recorded surveys by Reginal Timberlake were provided which were used in finding and verifying the section and aliquot corners shown on this survey.

EXISTING RIGHT-OF-WAY:
 Right-of-way along State Road 237 is shown as indicated on road plans for said FA Project No. 58-SEC. A. However, no R/W grants or deeds were found which actually conveyed the right-of-way. Unless grants or deeds are found, the existing R/W may follow the edge of the existing travelway.

At the north end of the project and on the west side of State Road 237, right-of-way was acquired for Project I-64-3(3)86, dated 1967 which is presumed to carry with it good title to the R/W.

COORDINATE LISTING: RANDOM CONTROL POINTS

PT.#	NORTHING	EASTING	DESCRIPTION
2001	167791.064	796863.637	SET MAG WITH CONTROL POINT WASHER RECESSED
2002	167389.492	796791.177	SET 3/4" RBR WITH REF CAP FLUSH
2003	167033.061	796521.819	FND. MAG/REF WASHER IN DRIVE APRON
2004	166766.876	796324.709	SET 3/4" RBR WITH REF CAP FLUSH
2005	166151.656	796145.756	SET MAG WITH CONTROL POINT WASHER RECESSED

COORDINATE LISTING: PROPERTY, SECTION, OR EXISTING R/W EVIDENCE FOUND

PT.#	NORTHING	EASTING	DESCRIPTION
6000	16765E.693	796291.882	FND. 10" X 16" STONE W/ CHIS. X 5" AG
6001	168883.769	796332.960	FND. REBAR W/ CAP 6" AG SQ451 RGT
6400	167634.558	797636.274	FNC. 3" X 12" STONE AT HIGH POINT
6402	165012.498	796286.558	FNC. REBAR WITH ALUMINUM COUNTY SURV. DISK 4" AG
6403	166337.877	796199.103	FND. MAGNAIL FLUSH
6404	165294.845	795837.767	FND. MAGNAIL FLUSH
6406	166336.331	796224.578	FND. REBAR NO CAP 5" AG
6407	166332.274	796295.270	FNC. 3" X 12" STONE W/NOTCH
501310	167651.200	796808.981	CONC. R/W MON.

SOCIAL SECURITY REDACTION STATEMENT
 I affirm, under the penalties for perjury, that I have taken reasonable care to redact each social security number in this document, unless required by law.

Perry E. Jones
 This document prepared by Perry E. Jones



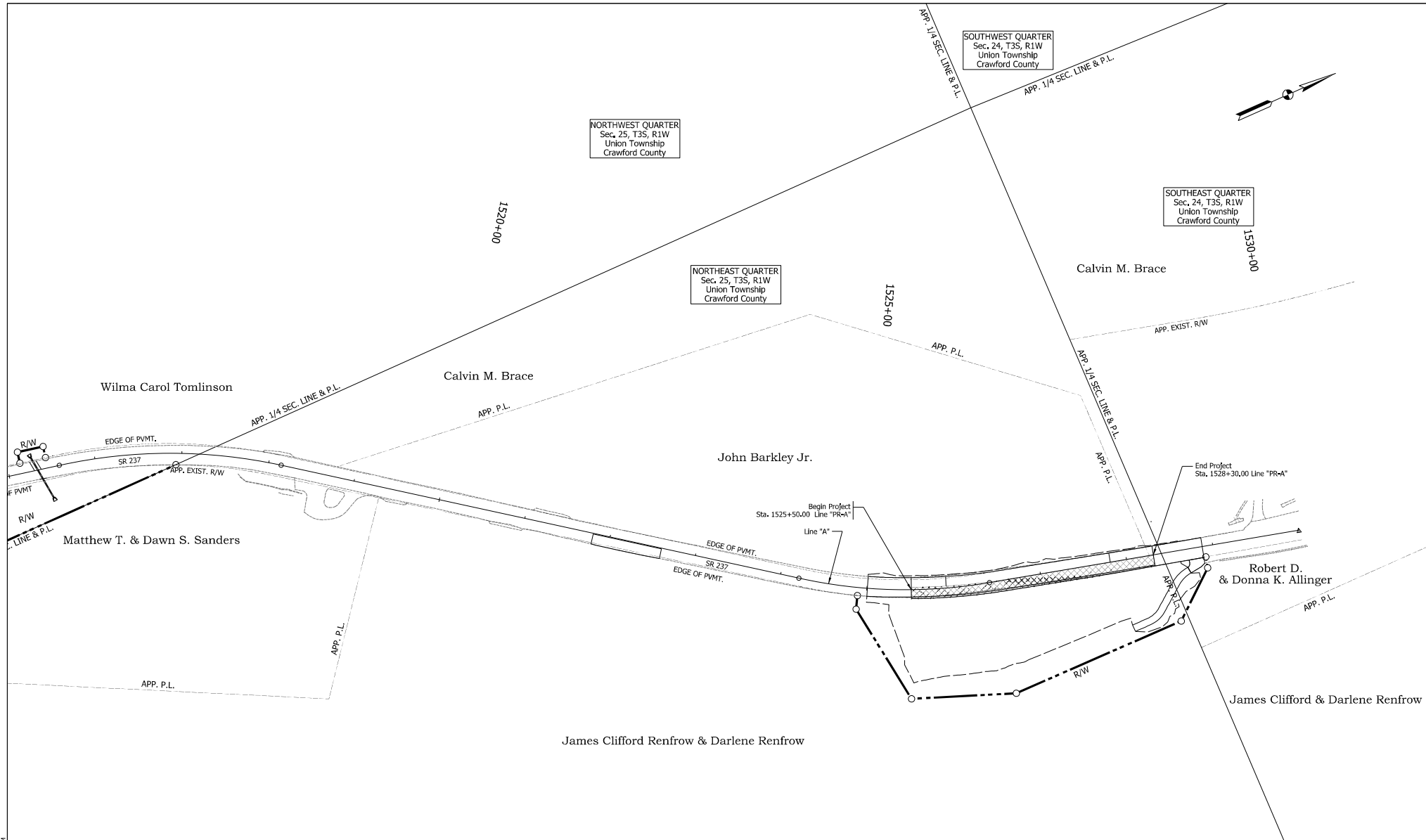
SURVEY STARTED	11/17/2020
SURVEY COMPLETED	5/1/2021
ROUTE PLAT SHEETS	1 of 1
SURVEYOR'S PROJECT NO.	120-0008-03H

FIELD SURVEYOR STATEMENT
 I declare, to the best of my knowledge and belief, as required by the provisions of Ind. Code, Title 36, Chapter 42, Article 1, Section 1-1.1-1, that I am a duly licensed and qualified surveyor and that I am duly sworn to the duties of my office and that I am duly sworn to the accuracy of the contents of this report and that I am duly sworn to the accuracy of the contents of this report and that I am duly sworn to the accuracy of the contents of this report.

8/31/2021
Perry E. Jones
 SURVEYOR

Prepared for the
INDIANA DEPARTMENT OF TRANSPORTATION
LOCATION CONTROL ROUTE SURVEY
S.R. 237 between the Town of Sulphur and Interstate 64

HORIZONTAL SCALE	1" = 100'
COUNTY	CRAWFORD
DESIGNATION	1900291 & 2001057
PLAN SHEETS	4 of 22
PROJECT	1900291 & 2001057



DATE: 7/21/2023 8:36 PM

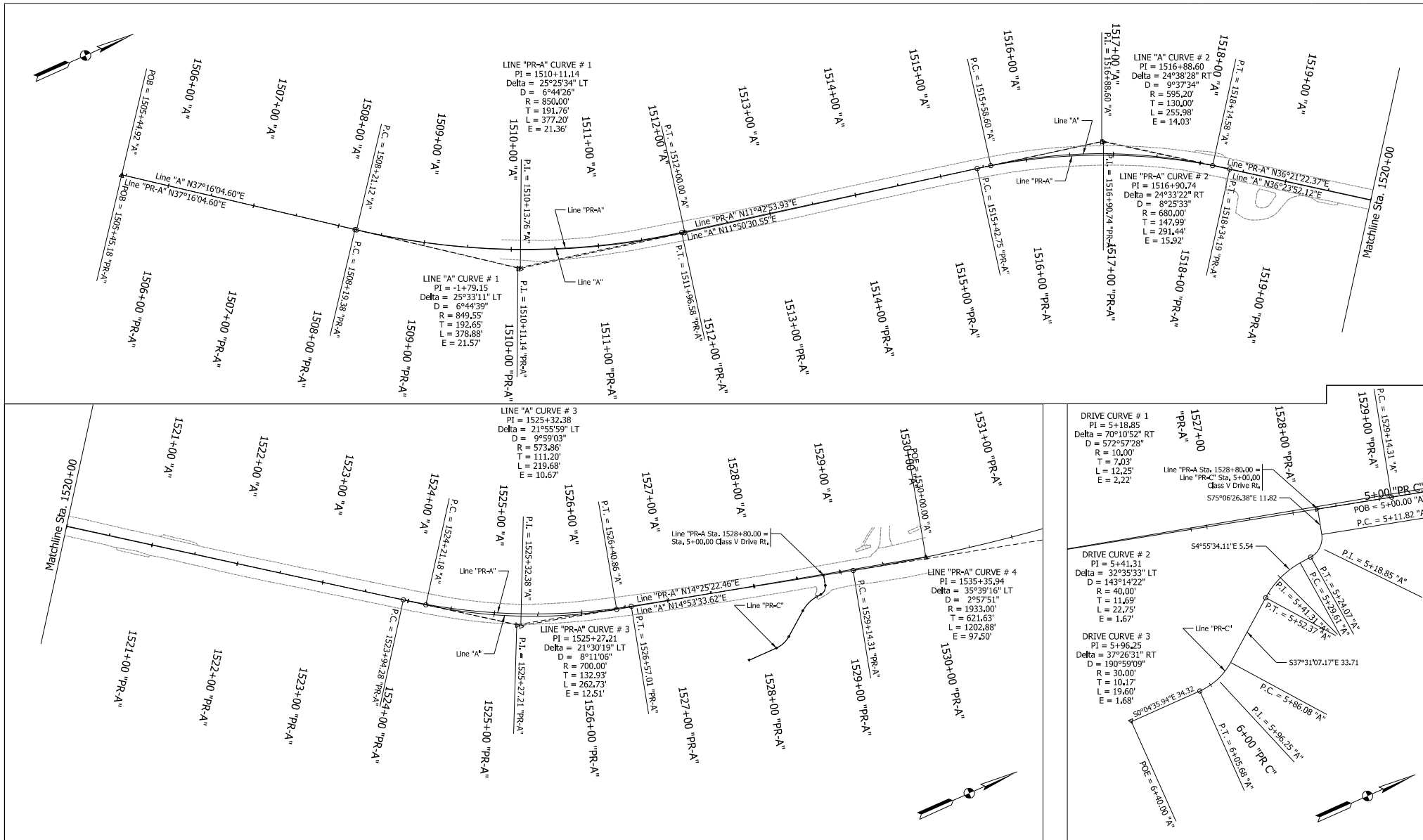
[workspace\46cs01\VCs_rfd_work\01\131591\422883_08\SHC_SR237_North\SHC_PLAT.dgn

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AB	DRAWN: PFV	
CHECKED: AJD	CHECKED: AB	

INDIANA
DEPARTMENT OF TRANSPORTATION

SR 237
PLAT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	
VERTICAL SCALE	DESIGNATION
N/A	1900291 & 2001057
SURVEY BOOK	SHEETS
	5 of 23
CONTRACT	PROJECT
R42199	1900291 & 2001057

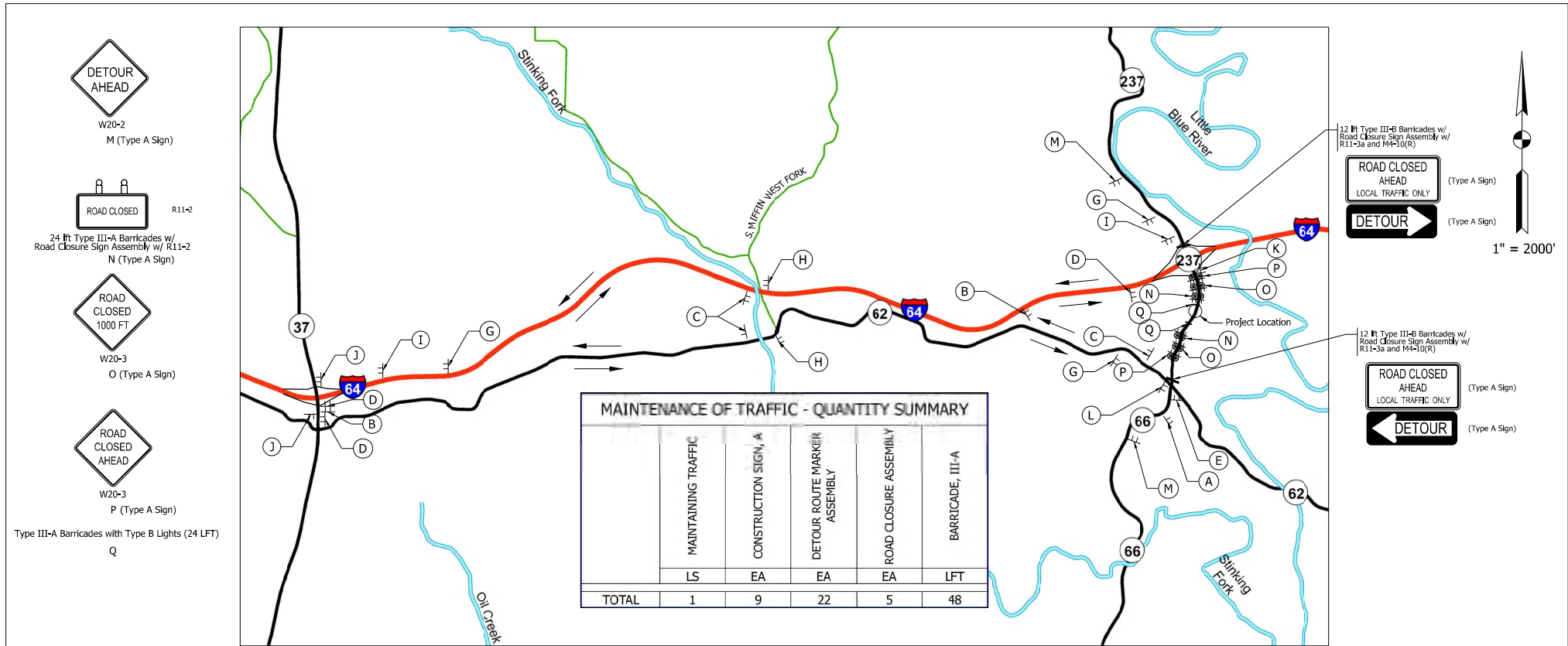


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AB	DRAWN: PFV	
CHECKED: AJD	CHECKED: AB	

INDIANA DEPARTMENT OF TRANSPORTATION

GEOMETRIC DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	
VERTICAL SCALE	DESIGNATION
N/A	1900291 & 2001057
SURVEY BOOK	SHEETS
	6 of 23
CONTRACT	PROJECT
R42199	1900291 & 2001057



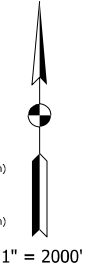
MAINTENANCE OF TRAFFIC - QUANTITY SUMMARY					
	MAINTAINING TRAFFIC	CONSTRUCTION SIGN, A	DETOUR ROUTE MARKER ASSEMBLY	ROAD CLOSURE ASSEMBLY	BARRICADE, III-A
	LS	EA	EA	EA	LFT
TOTAL	1	9	22	5	48

- W20-2
M (Type A Sign)
- R11-2
24 ft Type III-A Barricades w/
Road Closure Sign Assembly w/ R11-2
N (Type A Sign)
- W20-3
O (Type A Sign)
- W20-3
P (Type A Sign)
- Type III-A Barricades with Type B Lights (24 LFT)
Q

- 12 ft Type III-B Barricades w/
Road Closure Sign Assembly w/
R11-3a and M4-10(R)

(Type A Sign)
- (Type A Sign)
- 12 ft Type III-B Barricades w/
Road Closure Sign Assembly w/
R11-3a and M4-10(R)

(Type A Sign)
- (Type A Sign)



- A
(Type B Signs)
- B
(Type B Signs)
- C
(Type B Signs)
- D
(Type B Signs)
- E
(Type B Signs)
- F
(Type B Signs)
- G
(Type B Signs)
- H
(Type B Signs)
- I
(Type B Signs)
- J
(Type B Signs)
- K
(Type B Signs)
- L
(Type B Signs)

See INDOT Standard Drawings E 801-TCDT-01 and E 801-TCDT-04 for additional information and sign spacing.
All signage shall be in accordance with the Indiana Manual on Uniform Traffic Control Devices.

DATE: 7/22/2023 8:35 PM

\\msppw1463671\KCS_pdl_work_dir\131591\422883_26\SM_58237_North_Detour.dgn

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AB	DRAWN: JFY	
CHECKED: AJD	CHECKED: AB	

INDIANA
DEPARTMENT OF TRANSPORTATION

SR 237
DETOUR SHEET

HORIZONTAL SCALE	BRIDGE FILE
1" = 2000'	
VERTICAL SCALE	DESIGNATION
N/A	1900291 & 2001057
SURVEY BOOK	SHEETS
	7 of 23
CONTRACT	PROJECT
R-42199	1900291 & 2001057

BENCHMARK INFORMATION:

BM #3 BM #3
CHISELED SQUARE ON ROCK
OUTCROP
Sta. 1512+01.13 Line "PR-A", 23.94'
LT.

John Barkley Jr.

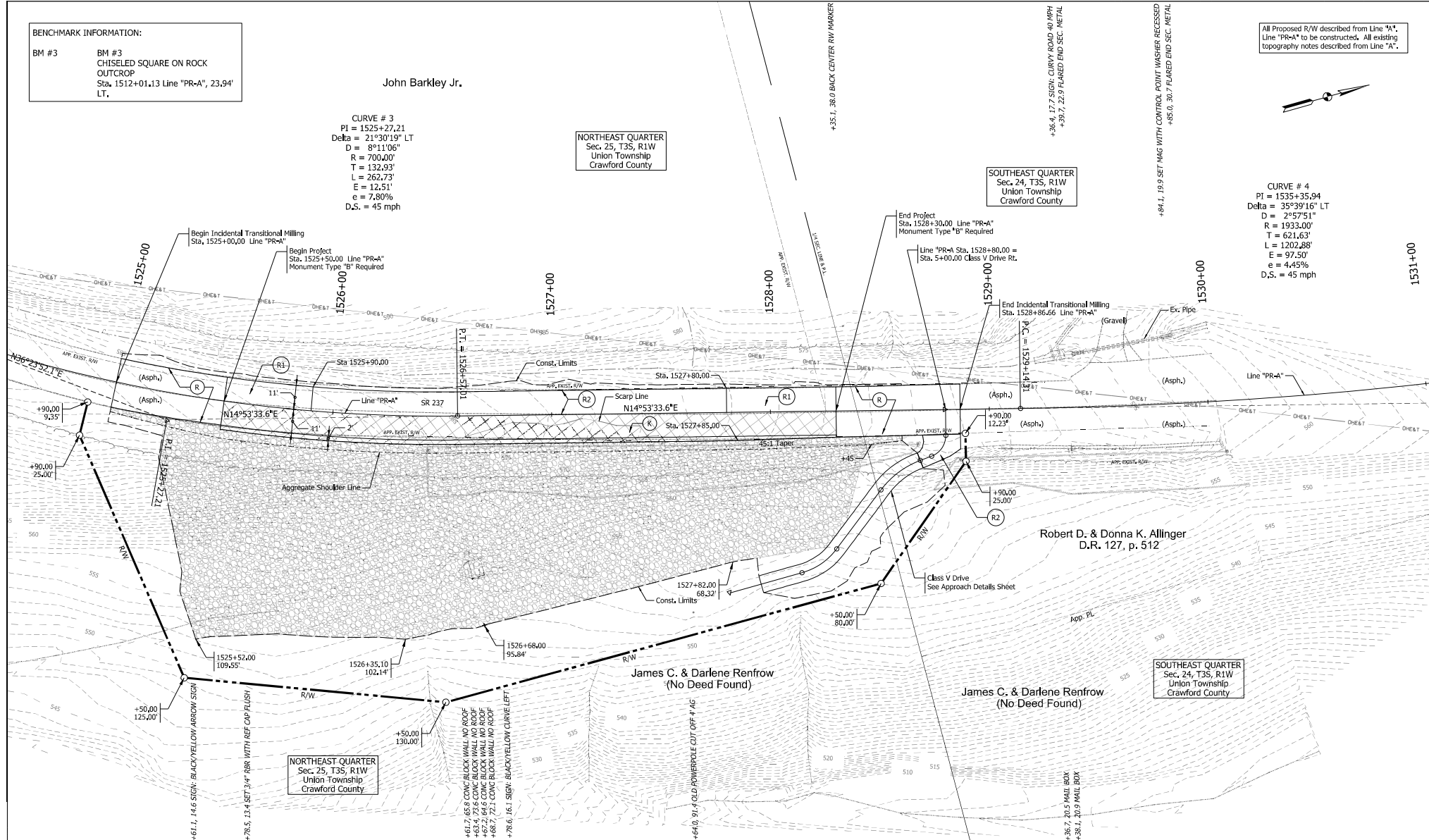
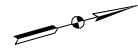
CURVE # 3
PI = 1525+27.21
Delta = 21°30'19" LT
D = 8°11'06"
R = 700.00'
T = 132.93'
L = 262.73'
E = 12.51'
e = 7.80%
D.S. = 45 mph

NORTHEAST QUARTER
Sec. 25, T35, R1W
Union Township
Crawford County

SOUTHEAST QUARTER
Sec. 24, T35, R1W
Union Township
Crawford County

CURVE # 4
PI = 1535+35.94
Delta = 35°39'16" LT
D = 2°57'51"
R = 1933.00'
T = 621.63'
L = 1202.88'
E = 97.50'
e = 4.45%
D.S. = 45 mph

All Proposed R/W described from Line "A".
Line "PR-A" to be constructed. All existing
topography notes described from Line "A".



Legend

- (R) Incidental Transition Milling, then 165 lb/yd² CC/QA-HMA, 3, 64, Surface, 9.5 mm
- (R1) Transition Milling 0"-1.5", then 165 lb/yd² CC/QA-HMA, 3, 64, Surface, 9.5 mm
- (R2) Transition Milling 1.5"-4", then 165 lb/yd² CC/QA-HMA, 3, 64, Surface, 9.5 mm
- (K) Full Depth Pavement & Shoulders 165 lb/yd² CC/QA-HMA, 3, 64, Surface, 9.5 mm 275 lb/yd² CC/QA-HMA, 3, 64, Intermediate, 19.0 mm 660 lb/yd² CC/QA-HMA, 3, 64, Base, 25.0 mm Subgrade Treatment, Type IC
- Riprap, Class I

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AB	DRAWN: PFV	
CHECKED: AJD	CHECKED: AB	

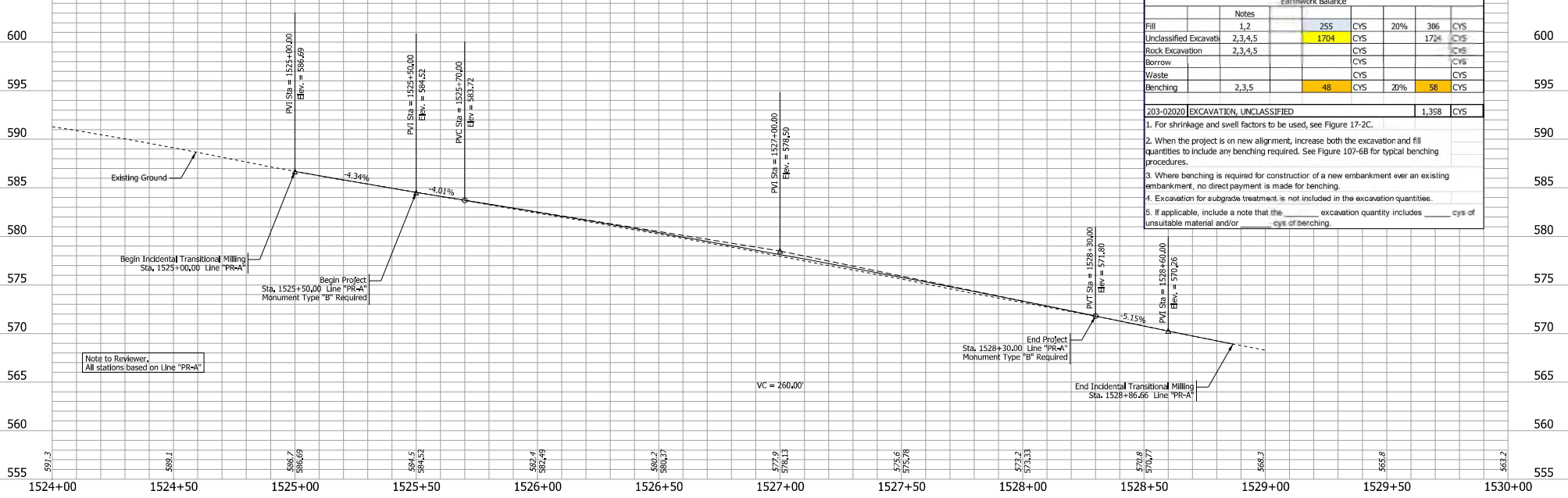
INDIANA
DEPARTMENT OF TRANSPORTATION

SR 237
LINE "PR-A"
PLAN SHEET

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	
VERTICAL SCALE	DESIGNATION
N/A	1900291
SURVEY BOOK	SHEETS
	8 of 23
CONTRACT	PROJECT
R-42199	1900291

605

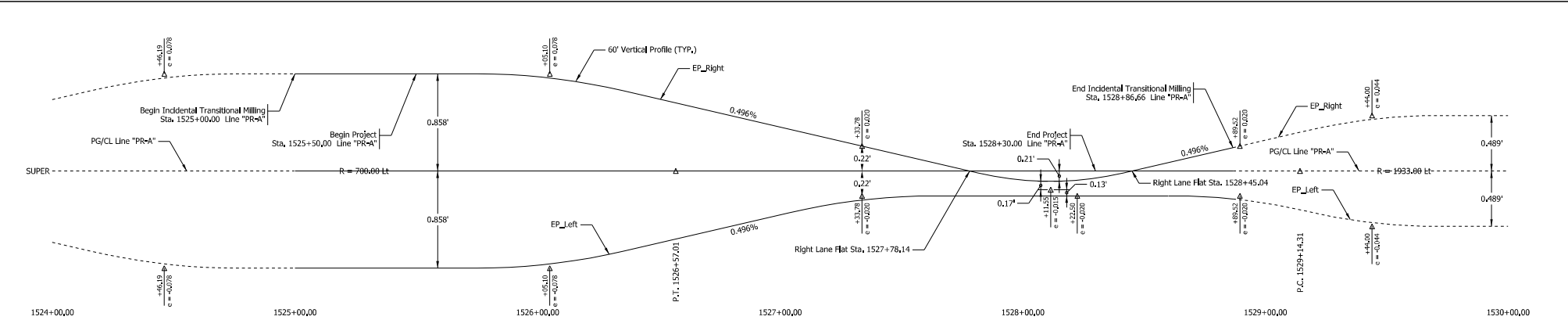
605



Earthwork Balance					
Fill	1,2	255	CYS	20%	306
Unclassified Excavati	2,3,4,5	1704	CYS	17%	1914
Rock Excavation	2,3,4,5		CYS		
Borrow			CYS		
Waste			CYS		
Benching	2,3,5	48	CYS	20%	58

203-02020 EXCAVATION, UNCLASSIFIED	1,358	CYS
------------------------------------	-------	-----

- For shrinkage and swell factors to be used, see Figure 17-2C.
- When the project is on new alignment, increase both the excavation and fill quantities to include any benching required. See Figure 107-6B for typical benching procedures.
- Where benching is required for construction of a new embankment over an existing embankment, no direct payment is made for benching.
- Excavation for subgrade treatment is not included in the excavation quantities.
- If applicable, include a note that the _____ excavation quantity includes _____ cys of unsuitable material and/or _____ cys of benching.



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AB	DRAWN: PIV	
CHECKED: AJD	CHECKED: AB	

INDIANA
DEPARTMENT OF TRANSPORTATION
SR 237 LINE "PR-A"
PROFILE AND SUPERELEVATION DIAGRAM

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	
VERTICAL SCALE	DESIGNATION
1" = 5'	1900291
SURVEY BOOK	SHEETS
	9 of 23
CONTRACT	PROJECT
R=42199	1900291

Robert Marshall III & Doris J. Marshall
Inst. 109102

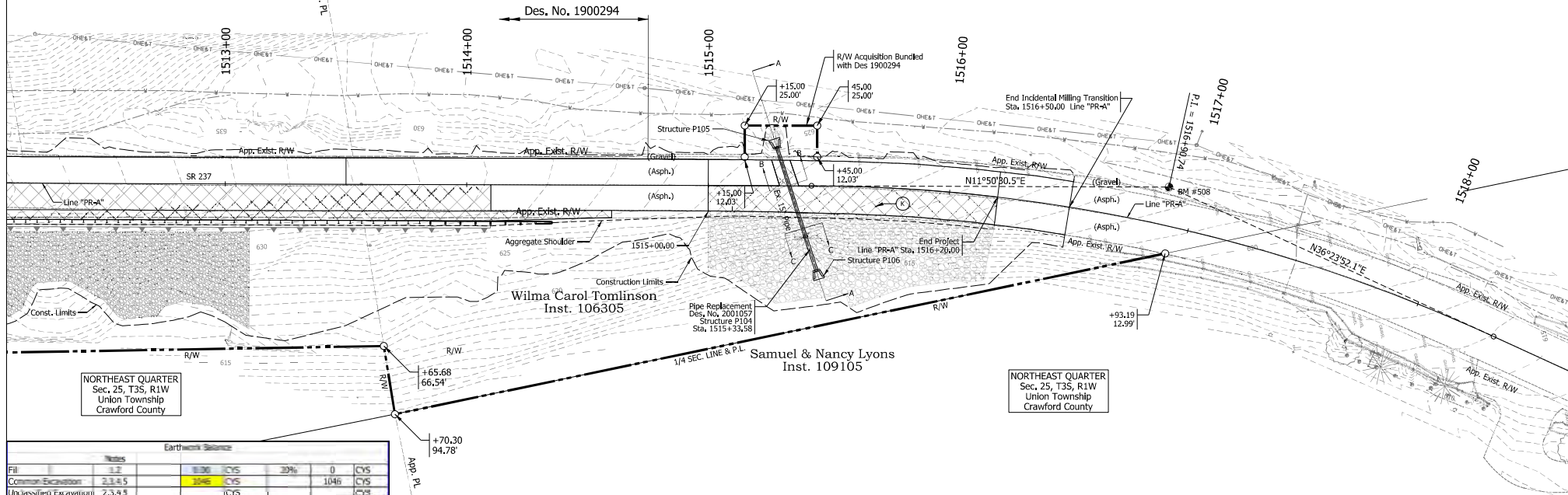
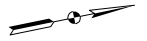
Robert Marshall III & Doris J. Marshall
Inst. 109102

All Proposed R/W described from Line "A"
Line "PR-A" to be constructed, All existing
topography notes described from Line "A"

Note to Reviewer: Des 1900294 is a slide
project bundled with 1900291. Design is provided
in separate plan set under Des Number 1900294.

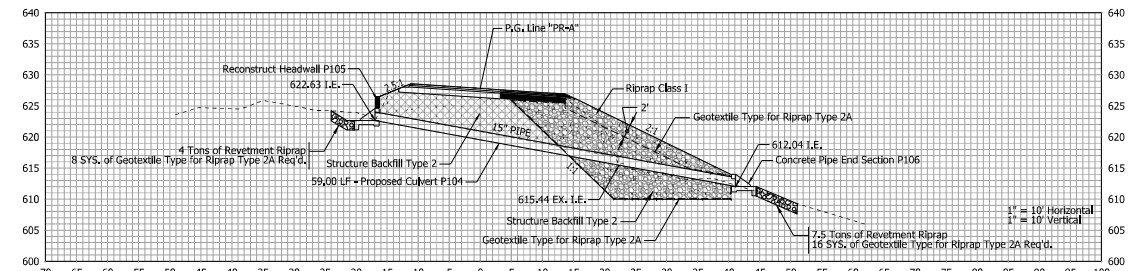
BENCHMARK INFORMATION:

BM #508
P.L. 1516+88.60 Line "A"
Set 3/4" Rebar w/ FIRM 0030 Cap



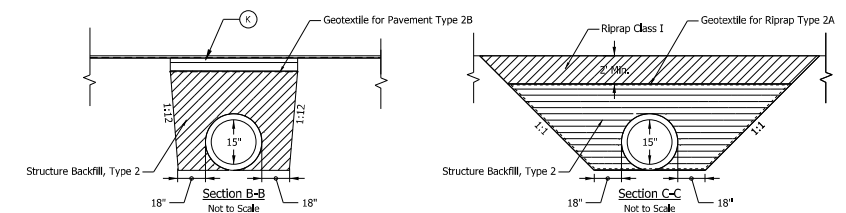
Earthwork Summary						
Notes	1,2	3,4,5	3,4,5	0	CYS	
Fill						
Common Excavation	2,3,4,5				1046	
Unfinished Excavation	2,3,4,5					
Rock Excavation	2,3,4,5					
Borrow						
Waste						
Benching	2,3,5	0		0	CYS	
203-02000 EXCAVATION					1,046	CYS

- For shrinkage and swell factors to be used, see Figure 17-2C.
- When the project is on new alignment, increase both the excavation and fill quantities to include any benching required. See Figure 107-6B for typical benching procedures.
- When benching is required for construction of a new embankment over an existing embankment, no direct payment is made for benching.
- Excavation for subgrade treatment is not included in the excavation quantities.
- If applicable, include a note that the _____ excavation quantity includes _____ cys of unsuitable material and/or _____ cys of benching.



1515+33
Section A-A

Sta. 1515+33 @ 17°57' Skew Lt.



Legend	
	Guardrail
	Full Depth Pavement
	Riprap
	Full Depth Pavement & Shoulder 165 #y#2 CC/QA#MA, 3, 64, Surface, 9.5 mm 275 #y#2 CC/QA#MA, 2, 64, Intermediate, 19.0 mm 660 #y#2 CC/QA#MA, 2, 64, Base, 19.0 mm Subgrade Treatment, Type IC Geotextile for Pavement, Type 2B

RECOMMENDED FOR APPROVAL		
DESIGNED BY	DESIGN ENGINEER	DATE
AB	PFV	
AJD	AB	

INDIANA
DEPARTMENT OF TRANSPORTATION

STRUCTURE DETAILS
STR. NO. P104

HORIZONTAL SCALE		BRIDGE FILE	
1" = 30'			
VERTICAL SCALE		DESIGNATION	
SEE SHEET		2001057	
SURVEY BOOK		SHEETS	
		11	of 23
CONTRACT		PROJECT	
R42199			2001057

PAVEMENT QUANTITIES AND APPROACH TABLE																						
LOCATION	STATION	DESCRIPTION (APPROACH TYPE OR CLASS)	AVERAGE WIDTH		LENGTH	CC/QA-MA, 3, 64, SURFACE, 9.5 mm	CC/QA-MA, 3, 64, INTERMEDIATE, 19.0 mm	CC/QA-MA, 3, 64, BASE, 25.0 mm	SUBGRADE TREATMENT, TYPE IC	COMPACTED AGGREGATE NO.53	GEOTEXTILE FOR PAVEMENT TYPE 2B	SEAL COAT, 5	CRACKS IN ASPHALT PAVEMENT, FILL	ASPHALT FOR TRUCK COAT	LIQUID ASPHALT SEALANT	JOINT ADHESIVE SURFACE	JOINT ADHESIVE INTERMEDIATE	MILLING, TRANSITION	MILLING TRANSITION, UP TO 1.5"	MILLING TRANSITION, UP TO 2.5"	REMARKS	
			Travel Lane*	Avg. Shoulder**																		L"
			(FT)	(FT)	(FT)	(TON)	(TON)	(TON)	(SYS)	(TON)	(SYS)	(SYS)	(TON)	(SYS)	(LFT)	(LFT)	(LFT)	(SYS)	(SYS)	(SYS)		
SR 237 - Line "PR-A"																						
Transition Milling, Incidental	1525+00.00 to 1528+30.00	Roadway	22.41		50.00	22							0.02	263	107	107		263				
	1528+30.00 to 1528+86.66	Roadway	22.00		50.00																	
Transition Milling, 0-1.5" Depth	1525+50.00 to 1527+80.00	Roadway	11.00		40.00	9							0.02	110	90	90			110			
	1527+80.00 to 1528+30.00	Roadway	11.00		50.00																	
Transition Milling, 1.5"-4" Depth	1525+90.00 to 1527+80.00	Roadway	11.00		190.00	20	32						0.04	464	190	190	190			232		
Full Depth Reconstruction	1525+50.00 to 1527+85.00	Roadway	11.00	2	275.00	34	188	133	534					804	280	280	280					
	1527+85.00 to 1528+30.00	Roadway	11.00	1.5	45.00																	
Full Depth Patching	1521+80.00 to 1522+60.00	Roadway	11.00		80.00	9	45	32	136					196	80	80	46					
Compacted Aggregate No. 53	1525+00.00 to 1528+86.66	Roadway		1.0	386.66																Left	
	1525+00.00 to 1525+50.00			2.0	50.00																	Right
	1525+50.00 to 1528+30.00			4.0	280.00					63		209										Right
	1528+30.00 to 1528+86.66			2.0	50.00																	Right
	1521+80.00 to 1522+60.00			2.0	80.00																	
Line "PR-C" Class V Drive	5+14.08 to 5+29.63	Class V Drive	8.00		15.55	2	3		61	85		0.003	46	16	16	16				23		
*Shoulders and Travel lane widths continued in some instances			TOTAL			96	269	165	670	344	85	209	0.08	1883	762	762	533	263	110	295		

SUMMARY OF QUANTITIES												
ITEM	CONSTRUCTION ENGINEERING	MOBILIZATION AND DEMOBILIZATION	CLEARING RIGHT OF WAY	EXCAVATION, UNCLASSIFIED	RIGHT-OF-WAY MARKER	MONUMENT, B	RIPRAP, CLASS 1	GEOTEXTILE FOR RIPRAP TYPE 2A	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	FERTILIZER	MULCHED SEEDING R	MULCHING MATERIAL
	LS	LS	LS	CYS	EACH	EACH	TON	SYS	EACH	TON	SYS	TON
TOTAL	1	1	1	1398	7	2	8043	3313	1	0.11	1358	1.12

PAVEMENT MARKINGS SUMMARY TABLE		
LOCATION	LINE, PAINT	
	SOLID WHITE 6 in LFT	SOLID YELLOW 6 in LFT
Sta. 1525+00.00 to Sta. 1528+86.66	773	773
Sta. 1521+80.00 to Sta. 1522+60.00	160	160
TOTALS	933	933

R/W MARKER TABLE	
STATION	OFFSET
1524+90	9.35' RT
1524+90	25.00' RT
1525+50	125.00' RT
1528+50	130.00' RT
1528+50	80.00' RT
1528+90	12.23' RT
1528+90	25.00' RT

MONUMENT TABLE		
STATION	OFFSET	MONUMENT
1525+50	0'	"B"
1528+30	0'	"B"

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER		DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
	DESIGNED: AB		DRAWN: PVV		VERTICAL SCALE	DESIGNATION
	CHECKED: AJD		CHECKED: AB		N/A	1900291
					SURVEY BOOK	SHEETS
				SR 237 DES, 1900291 SUMMARY OF QUANTITIES	12	of 23
				CONTRACT	PROJECT	
				R-42199	1900291	

