

FHWA-Indiana Environmental Document
CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM
General Project Information

Road No./County:	State Road (SR) 32/Montgomery County
Designation Number(s):	2100803 (lead) and 2100804
Project Description/Termini:	Small structure replacement project. Project termini extend approximately 275 feet west and 415 feet east of the center of the structure.

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

	<u>BNE</u> 10/21/2024	
	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:

Shelby Lutz, SJCA Inc.

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Route SR 32

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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*? Yes No
If No, then:
Opportunity for a Public Hearing Required?

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

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

Notice of Survey letters were mailed to potentially affected property owners near the project area on January 13, 2023 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Survey letter is included in Appendix G-1.

This project requires more than 0.5 acre of new permanent right-of-way. Therefore, 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: Indiana Department of Transportation (INDOT) INDOT District: Crawfordsville

Local Name of the Facility: SR 32 over McFarland Ditch

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

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

PURPOSE AND NEED:

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

Need

The need for this project is due to the deteriorating conditions of the existing structure carrying SR 32 over McFarland Ditch, which consists of two corrugated metal pipe arch (CMPA) culverts. CV 032-054-27.50 A (west) and CV 032-054-27.50 B (east) both exhibit rust-through holes along the waterline and edges of the pipes, rusting along the bolt lines, and erosion and debris at the inlets. The May 8, 2024 Culvert Inspection Reports (Appendix I-2 to I-5) by INDOT indicate that the west culvert has a condition rating of 3 (serious) out of 9 (excellent) and the east culvert has a condition rating of 4 (poor) out of 9 (excellent). The condition rating scale provides a numerical value to the overall condition of culverts, with 0 out of 9 being the worst scenario (failed structure) and 9 out of 9 being the best scenario (excellent structure). If not addressed, these conditions may worsen and lead to structure or roadway failure in the future. An additional need of the project involves the erosion and deteriorated condition of the McFarland Ditch channel at the structure. The May 8, 2024 Culvert Inspection Reports identified severe damage of severely undermined bank protection (rated 4 out of 9) at the western structure, and major damage of bank erosion (rated 5 out of 9) at the eastern structure (Appendix I-2 to I-5).

Purpose

The purpose of the project is to address the deficiencies of the existing structure and to provide a structure with an overall condition rating of at least 7 (good) out of 9 (excellent). An additional desired outcome of the project is to achieve channel protection ratings of at least 7 out of 9, indicating only minor damage.

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County Montgomery Route SR 32 Des. No. 2100803 & 2100804

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Montgomery Municipality: Ripley Civil Township

Limits of Proposed Work: From approximately 275 feet west to 415 feet east of the center of the structure along SR 32.

Total Work Length: 0.13 Mile(s) Total Work Area: 1.27 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.

INDOT and the Federal Highway Administration (FHWA) intend to proceed with a small structure replacement project involving SR 32 over McFarland Ditch.

Location

The project is located on SR 32 in Ripley Civil Township, Montgomery County, Indiana. The structure is approximately 0.27 miles west of SR 25 in Sections 2 and 11, Township 18 North, Range 6 West. The project location is shown on the 7.5-Minute U.S. Geological Survey (USGS) Waynetown Quadrangle topographic map (Appendix B-2). A project location map and aerial imagery map can be found in Appendix B-1 and B-3.

Existing Conditions

Within the vicinity of the project structure, SR 32 is an east-west rural major collector roadway with a posted speed limit of 55 miles per hour (mph). SR 32 provides two 11-foot-wide through-travel lanes and two 3-foot-wide usable shoulders. There are no existing guardrails, multi-use paths, or pedestrian facilities present along the existing roadway within the project area. Land use within and adjacent to the project area is primarily agricultural, with residential properties to the east and west. One agricultural field entrance drive is located on the south side of SR 32, approximately 160 feet east of the structure. Overhead electric and buried communication lines are present along the south side of SR 32. A privately-owned property fence is located along the north side of SR 32, adjacent to the agricultural fields in the northwest and northeast quadrants of the structure. Please refer to the aerial map in Appendix B-3 for the locations of the agricultural field entrance drive and the private property fence.

The existing structure carrying SR 32 over McFarland Ditch consists of twin CMPA culverts. Each pipe has a span of ten feet, a rise of seven feet, and a total length of 44 feet. This project involves both CMPA culverts, bundled under two Designation Numbers (Des. No.). The western structure is CV 032-054-27.50 A, included under Lead Des. No. 2100803, and the eastern structure is CV 032-054-27.50 B, included under Des. No. 2100804. According to the May 8, 2024 Culvert Inspection Reports (Appendix I-2 to I-5), both structures have holes from rusting along the edges and waterline, flaking rust along the bolt lines, and debris blocking channel flow at the inlets. CV 032-054-27.50 A was given an overall condition rating of 3 (serious) out of 9 (excellent), with the McFarland Ditch channel protection rated at 4 (channel protection severely undermined, severe damage). CV 032-054-27.50 B was given an overall condition rating of 4 (poor) out of 9 (excellent), with the McFarland Ditch channel protection rated at 5 (bank eroded, major damage). On the north side of SR 32, metal framing is also present at the existing structure inlets (refer to photo 6 in Appendix B-6). Although the construction date of this structure extension is unknown, it is presumed to be a temporary solution to mitigate erosion within McFarland Ditch until proper scour protection measures could be implemented. The private agricultural property fences on the north side of the road connect to this temporary metal frame extension.

Preferred Alternative

The preferred alternative involves replacing the existing twin CMPA culverts with one new small structure. The proposed structure is a 46-foot-long reinforced concrete box (RCB) culvert with a span of 18 feet, a rise of eight feet, and a 12-inch sump. New wingwalls will be constructed in all quadrants of the new structure. A new retaining wall will be constructed on the north side of SR 32, extending approximately 158 feet east of the wingwall in the northeast quadrant of the structure. The pavement section of SR 32 within the project area will be replaced at full depth over the structure and will be milled with a new Hot Mixed Asphalt (HMA) overlay on the approach roadway for approximately 290 feet east and 140 feet west of the structure to tie into the existing pavement. The shoulders along the roadway immediately adjacent to the structure will be widened and tapered into the existing roadway shoulders. Following pavement and shoulder rehabilitation, SR 32 will provide two 11-foot-wide through-travel lanes and 4-foot-wide paved shoulders. New guardrails will be installed along the north and south sides of SR 32. The total length of new guardrail will be approximately 475 linear feet on the north roadside and 325 linear feet on the south roadside. New riprap over geotextiles will be installed at both the inlet and outlet of the new structure for erosion prevention and to improve channel protection, with a total of

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approximately 45 tons of revetment riprap to be placed at the inlet and 233 tons of Class I riprap placed at the outlet. Please refer to the project plans included in Appendix B-7 to B-16 for additional details of the project scope.

This project will require a total of 0.917 acre of permanent right-of-way (ROW) and 0.268 acre of reacquired ROW from adjacent properties; no temporary ROW will be required. The existing property fence on the north side of SR 32 will be impacted by the project and will be replaced as a cost-to-cure by the property owner. Stream impacts to McFarland Ditch will be caused by the replacement of the existing structure, the installation of new riprap, and the use of a temporary dewatering system. Project construction activities at the structure will mostly occur from the existing roadway; however, incidental construction access may be required along the slopes for riprap installation. Therefore, terrestrial habitat will likely be disturbed within the construction limits of the project. Minimal tree removal will also be required due to riprap installation but will not extend beyond 100 feet from the edges of the existing roadway. No impacts to public utilities are currently expected to occur; however, coordination between the project designer and utility companies is ongoing throughout the design process. The stream, tree, and terrestrial habitat impacts will be minimized to the greatest extent possible and are further discussed in the Streams and Terrestrial Habitat sections of this document. Complete avoidance of the impacts would not allow the project to proceed or meet the purpose and need. An existing archaeological site was identified adjacent to the project area but will be avoided by project activities and marked in the project plans and in the field to prevent impacts; please refer to the Cultural Resources section of this document for additional information.

Traffic will be maintained by temporarily closing the section of SR 32 in the vicinity of the structure replacement. A posted detour will utilize SR 341, United States (US) 136, and SR 25. The detour will be approximately 15 miles long, will cause an additional 12 minutes or 9.6 miles of travel, and will be in place for approximately three months. Please refer to the project plans (Appendix B-11) and the Maintenance of Traffic (MOT) section of this Categorical Exclusion (CE) document for additional details of the MOT plan.

This alternative meets the purpose and need of the project by addressing the existing deterioration and providing a structure that is anticipated to have an overall condition rating of 9 out of 9 (excellent) after the project is complete. The proposed riprap installation at the inlet and outlet of the structure are anticipated to improve scour protection and erosion control in the stream channel of McFarland Ditch, with anticipated channel protection ratings following project completion of 8 (banks are protected). Project termini will allow for the structure replacement, adjacent roadway reconstruction, and all areas of incidental construction and access. The project does not rely on any other project for completion. Therefore, this project has logical termini and independent utility.

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.

In addition to the no build and preferred alternatives, four other alternatives were evaluated for the structure carrying SR 32 over McFarland Ditch, including two liner options and two other structure replacement options. Please refer to the Engineering Assessment (Appendix I-15 to I-24) and Hydraulic Review (Appendix I-25 to I-27) for additional details of the alternatives.

No Build/Do Nothing

The No Build/Do Nothing alternative requires no expenditure of funds or construction on the roadway or project structure, as no replacement or rehabilitation would occur. However, this alternative does not meet the purpose and need of the project, as it does not address the existing deficiencies, nor would it provide a structure that will provide continued safe passage with an overall condition rating of at least 7 out of 9 (good). Therefore, this alternative was discarded from further consideration.

High-Density Polyethylene Liner

This alternative proposes lining the existing structure with a deformed 84-inch high-density polyethylene (HDPE) liner. This liner would also require a 6-foot-diameter bored pipe. New riprap would be installed at the structure outlet for erosion prevention. This alternative would meet the purpose and need by improving the condition of the structure carrying SR 32 over McFarland Ditch, would accommodate the hydraulic needs of the site, and would improve structural integrity. This alternative would likely cause less environmental impact than the preferred structure replacement alternative. However, due to the deterioration and current condition of the existing pipes, this liner alternative was determined to not be a viable option. Therefore, this alternative was removed from further consideration.

Concrete Paved Invert Liner

This alternative involves lining the existing structure with a 5-inch concrete paved invert liner. The concrete liner would require a 3-foot-diameter bored pipe, and new riprap would be installed at the outlet for erosion prevention. Similar to the HDPE liner option, this alternative would meet the purpose and need by improving the structural integrity and condition of the existing structure, and hydraulic needs of the site would be met. This liner alternative would likely cause less environmental impact than the preferred structure replacement alternative. However, this liner alternative was removed from further consideration due to the condition of the existing structure.

Three-Sided Flat Top Structure Replacement

This alternative would involve replacing the existing structure with a new three-sided flat top concrete structure. The replacement structure would have an 18-foot span and an 8-foot rise. For erosion prevention, new riprap would be installed at the outlet of the

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structure. The alternative meets the purpose and need by improving the structural integrity of the stream crossing and eliminating concerns of the existing structure's deteriorated condition. This alternative would cause similar impacts to the stream, trees, and terrestrial habitat. However, this alternative is not as cost-effective as the preferred alternative; therefore, this alternative was removed from further consideration.

Three-Sided Arch Top Structure Replacement

In this alternative, the existing structure would be replaced with a new three-sided arch top concrete structure. The replacement structure would have a 20-foot span and an 8-foot rise. Riprap would be installed at the outlet of the structure for erosion prevention. This alternative would meet the purpose and need by providing an improved stream crossing with adequate hydraulic needs and structural integrity. Anticipated stream impacts to McFarland Ditch, tree clearing, and terrestrial habitat disturbance would be similar to that of the preferred alternative. However, this alternative is the most expensive and is not as cost-effective as the preferred alternative. Therefore, this alternative has been removed from further consideration.

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):

ROADWAY CHARACTER:

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

Name of Roadway: SR 32
 Functional Classification: Rural Major Collector
 Current ADT: 1,410 VPD (2026) Design Year ADT: 1,451 VPD (2046)
 Design Hour Volume (DHV): 1,451 Truck Percentage (%): 6.13%
 Designed Speed (mph): 55 Legal Speed (mph): 55

	Existing		Proposed
Number of Lanes:	2		2
Type of Lanes:	Asphalt Through		Asphalt Through
Pavement Width:	10.5-11.5	ft.	11
Shoulder Width:	3	ft.	4
Median Width:	N/A	ft.	N/A
Sidewalk Width:	N/A	ft.	N/A

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

BRIDGES AND/OR SMALL STRUCTURE(S):

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

Structure/NBI Number(s): CV 032-054-27.50 A and CV 032-054-27.50 B Sufficiency Rating: 3 and 4; INDOT Culvert Inspection Reports, dated May 8 and 12, 2024 (Appendix I-2 to I-5)
 (Rating, Source of Information)

	Existing		Proposed
Bridge/Structure Type:	Twin Corrugated Metal Pipe Arches		Reinforced Concrete Box
Number of Spans:	1		1
Weight Restrictions:	N/A	ton	N/A
Height Restrictions:	N/A	ft.	N/A
Curb to Curb Width:	N/A	ft.	N/A
Outside to Outside Width:	N/A	ft.	N/A
Shoulder Width:	N/A	ft.	N/A

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

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large. If the table exceeds a complete page, put it in the appendix and summarize the information below with a citation to the table.

The existing structure carrying SR 32 over McFarland Ditch consists of twin CMPA culverts, located approximately 0.27 miles west of SR 25. The western structure is CV 032-054-27.50 A (National Bridge Inventory (NBI) No. 93000336), and the eastern structure is CV 032-054-27.50 B (NBI No. 93000382). Both pipes are 44 feet long with a 10-foot span, 7-foot rise, and existing signs of deterioration. Please refer to the culvert inspection reports for the western pipe (Appendix I-2 to I-3) and eastern pipe (Appendix I-4 to I-5) for additional details on the existing conditions. Although the construction dates of both pipes are unknown, no historic aspects were observed on the twin CMPAs.

The proposed scope of work for the project includes replacing the twin CMPAs with a new RCB culvert. The new structure will have an 18-foot span, an 8-foot rise, and a length of 46 feet. New headwalls and wingwalls will be installed, riprap over geotextiles will be installed at the inlet and outlet, and the SR 32 roadway over the new structure will be reconstructed.

No other bridges or structures will be installed, rehabilitated, or replaced by the project. No other structures are present within the project area.

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 type="checkbox"/>	<input checked="" 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 checked="" 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 closing the section of SR 32 in the vicinity of the project structure over McFarland Ditch. During the road closure, a posted detour will utilize SR 341, US 136, and SR 25. The detour will be approximately 15 miles long, causing an additional 12 minutes or 9.6 miles of travel. The closure and detour are anticipated to be in place for approximately three months. Please refer to the project plans (Appendix B-11) for additional details of the MOT plan.

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

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 567,375.00 (2023) Right-of-Way: \$ 120,000.00 (2026) Construction: \$ 787,000.00 (2026)

Anticipated Start Date of Construction: Summer 2026

RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	-	-
Commercial	-	-
Agricultural	0.50	-
Forest	-	-
Wetlands	-	-
Other: Roadside	0.417	-
TOTAL	0.917	0.0

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

The existing ROW width in the vicinity of the project extends up to four feet north and south of the edges of the existing SR 32 roadway. The existing ROW use is primarily roadside with adjacent agricultural properties.

This project requires approximately 0.917 acre of permanent ROW from adjacent properties north and south of the existing structure carrying SR 32 over McFarland Ditch. An additional 0.268 acre of ROW will be reacquired; however, the reacquired ROW is not included in the total amount of new permanent ROW. Following ROW acquisition, the ROW widths within the project area will extend approximately 30 to 60 feet north and approximately 45 to 120 feet south of the centerline of SR 32. No temporary ROW will be required for this project.

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 to environmental review agencies, stakeholders, and local officials on August 21, 2023 (Appendix C-1 to C-2).

Agency	Date Sent	Response Date	Appendix
FHWA	August 21, 2023	No Response	N/A
National Park Service (NPS)	August 21, 2023	No Response	N/A
U.S. Department of Housing and Urban Development (HUD)	August 21, 2023	No Response	N/A
U.S. Army Corps of Engineers (USACE)	August 21, 2023	No Response	N/A
U.S. Coast Guard (USCG)	August 21, 2023	No Response	N/A
U.S. Fish and Wildlife Service (USFWS)	August 21, 2023	No Response	N/A
Natural Resources Conservation Service (NRCS)	August 21, 2023	August 25, 2023	C-3 to C-4
Indiana Geological & Water Survey (IGWS)	August 2, 2023	August 2, 2023 (Online Assessment)	C-5 to C-7
Indiana Department of Environmental Management (IDEM) Wellhead Proximity Determinator	August 2, 2023	(Online Assessment only, completed on August 2, 2023)	N/A
Indiana Department of Natural Resources, Division of Fish and Wildlife (IDNR-DFW)	August 21, 2023	September 20, 2023	C-8 to C-10
INDOT Project Manager	August 21, 2023	No Response	N/A
INDOT Crawfordsville District Environmental Section	August 21, 2023	No Response	N/A
Montgomery County Commissioners	August 21, 2023	No Response	N/A
Montgomery County Emergency Management	August 21, 2023	No Response	N/A
Montgomery County Floodplain Administrator	August 21, 2023	No Response	N/A
Montgomery County Highway Department	August 21, 2023	No Response	N/A
Montgomery County Surveyor	August 21, 2023	No Response	N/A
Montgomery County Sheriff	August 21, 2023	No Response	N/A
Montgomery County Soil and Water Conservation District (SWCD)	August 21, 2023	No Response	N/A
Montgomery County Schools, Crawfordsville District	August 21, 2023	No Response	N/A

Resource specific recommendations are included in the applicable sections of this CE document, and all applicable recommendations are included in the Environmental Commitments section of this CE document.

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SECTION B – ECOLOGICAL RESOURCES:

Streams, Rivers, Watercourses & Other Jurisdictional Features	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Federal Wild and Scenic Rivers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
State Natural, Scenic or Recreational Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nationwide Rivers Inventory (NRI) listed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outstanding Rivers List for Indiana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Navigable Waterways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total stream(s) in project area: <u>183</u> Linear feet		Total impacted stream(s): <u>144</u> 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)
McFarland Ditch	Perennial	183 linear feet	144 linear feet (permanent)	Located within the project area and flows south through the structure under SR 32. McFarland Ditch is likely a Waters of the U.S. (Appendix F-3)

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-3), and the Red Flag Investigation (RFI) report (Appendix E-2 and E-6), there is one stream, river, watercourse, or other jurisdictional feature within the 0.5-mile search radius. There is one stream, river, watercourse, or other jurisdictional feature within the project area. That number was confirmed by the site visit on June 6, 2023 by SJCA Inc.

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 within or adjacent to the project area.

A *Waters of the U.S. Determination/Wetland Delineation Report* was approved by the INDOT Ecology, Waterway Permitting, and Stormwater Office (EWPSO) on April 2, 2024. Please refer to Appendix F-1 to F-29 for the *Waters of the U.S. Determination/Wetland Delineation Report*. It was determined that one stream, McFarland Ditch, is present within the investigated area and is likely a Water of the U.S. The USACE makes all final determinations regarding jurisdiction.

McFarland Ditch is a mapped perennial stream that flows south through the project area at the project structure carrying SR 32. McFarland Ditch has a bankfull width of ten feet, an Ordinary High Water Mark (OHWM) width of six feet, an OHWM depth of six inches, and a silt substrate. A total of approximately 183 linear feet are present within the investigated area. At the time of the field investigation, McFarland Ditch was characterized by moderate to high erosion, moderate bank cover, moderate sinuosity, a lack of riffle/run complexes, and moderate in-stream cover. McFarland Ditch has eventual connectivity to the Wabash River; the Wabash River is a navigable waterway and is jurisdictional under the authority of the USACE. Therefore, McFarland Ditch was determined to likely be a Waters of the U.S. and a jurisdictional waterway.

McFarland Ditch will be permanently and temporarily impacted by the project. Approximately 144 linear feet of permanent stream impacts will be caused by the structure replacement and installation of riprap at the inlet and outlet. A total of approximately 13 linear feet will be temporarily impacted by the use of a temporary dewatering system involving a pumparound and impervious cofferdams. Estimates of the stream impact amounts will be finalized as design progresses and during the permitting process. Impacts will be minimized to the greatest extent practicable. Complete avoidance of the impacts would not allow the project to meet the purpose and need. Due to these stream impacts, the project will likely require a Section 401 permit from IDEM and a Section 404 permit from USACE. Mitigation is not anticipated to be necessary for these impacts but will be determined during the permitting process.

The IDNR-DFW responded to early coordination on September 20, 2023 and provided standard recommendations to minimize and contain in-channel disturbance to within the project limits; to avoid working in the waterway from April 1 to June 30; to not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds; to use the appropriate type of riprap; to minimize the movement of resuspended channel sediment; to not deposit or allow construction/demolition materials or debris to fall into the waterway; to use the proper erosion and sediment control measures to prevent sediment from entering the waterway or leaving the construction site; to use proper bank stabilization for the slope and vegetation of the area; and to install a stream crossing structure that does not create conditions that are less favorable than the existing conditions (Appendix C-8 to C-10). 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-3), and the RFI report (Appendix E-2 and E-6), there are no 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 visit on June 6, 2023 by SJCA Inc. Therefore, no impacts are expected.

A *Waters of the U.S. Determination/Wetland Delineation Report* was approved by INDOT EWPSO on April 2, 2024. Please refer to Appendix F-1 to F-29 for the *Waters of the U.S. Determination/Wetland Delineation Report*. It was determined that no open water bodies are within or adjacent to the investigated area. The USACE makes all final determinations regarding jurisdiction.

Wetlands

Presence

Impacts

Yes

No

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Total wetland area: 0.0 Acre(s)

Total wetland area impacted: 0.0 Acre(s)

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

Wetlands (Mark all that apply)

Documentation

ESD Approval Dates

- Wetland Determination

X

- Wetland Delineation
- USACE Isolated Waters Determination

April 2, 2024

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.

Based on the desktop review, the aerial map of the project area (Appendix B-3), and the RFI report (Appendix E-2 and E-6), there is one National Wetlands Inventory (NWI) wetland located within the 0.5-mile search radius. There are no wetlands within or adjacent to the project area, which was confirmed by the site visit on June 6, 2023 by SJCA Inc. Therefore, no impacts are expected.

A *Waters of the U.S. Determination/Wetland Delineation Report* was approved by INDOT EWPSO on April 2, 2024. Please refer to Appendix F-1 to F-29 for the *Waters of the U.S. Determination/Wetland Delineation Report*. One wetland determination data point was taken within the investigated area due to the presence of wetland hydrology and hydrophytic vegetation; however, no hydric soil was observed. Therefore, it was determined that there are no wetlands present within the investigated area. The USACE makes all final determinations regarding jurisdiction.

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Terrestrial Habitat

Presence

Impacts

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

Total terrestrial habitat in project area: 0.92 Acre(s) Total tree clearing: 0.05 Acre(s)

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

Based on a desktop review, a site visit on June 6, 2023 by SJCA Inc., and the aerial map of the project area (Appendix B-3), there is terrestrial habitat within the project area including common roadside vegetation, vegetated streambanks, a forested tract, and agricultural properties. Dominant herbaceous vegetation in the project area includes upland grasses and herbaceous vegetation common along roadsides, with the invasive species reed canary grass (*Phalaris arundinacea*) dominant along the banks of McFarland Ditch. Dominant trees to the southwest of the project area include silver maple (*Acer saccharinum*) and cottonwood (*Populus deltoides*).

Within the proposed new ROW boundaries there is a total of approximately 0.92 acre of terrestrial habitat present. Construction activities associated with the structure replacement will occur from the existing roadway; however, incidental construction access along the slopes will likely be required for riprap installation at the inlet and outlet. This incidental construction access will impact a total of up to approximately 0.43 acre of terrestrial habitat disturbances, located on the adjacent SR 32 roadsides and streambanks of McFarland Ditch within the construction limits shown on the project plans (Appendix B-7 to B-16). The remaining 0.49 acre of terrestrial habitat present within the project area will be located outside of construction limits but within the proposed ROW and will not be impacted. A small group of trees located approximately 50 linear feet from the edge of the existing pavement will also need to be cleared to allow for riprap installation (Appendix B-8); this tree clearing will total approximately 0.05 acre of removal. No terrestrial habitat or tree clearing disturbances will occur outside the limits of project construction or will extend beyond 100 linear feet from the edges of the existing pavement. These impacts will be unavoidable, and avoidance would not allow the project to proceed. Impacts to terrestrial habitat and tree clearing will be minimized to the greatest extent possible. Mitigation may be required for these impacts and will be determined during the permitting process. Once construction is complete, any areas of disturbance will be reseeded with an INDOT-approved native herbaceous seed mix.

The IDNR-DFW responded to early coordination on September 20, 2023 with recommendations to revegetate all bare and disturbed areas with species native to the area; minimize and contain tree and brush clearing to within the project limits; to avoid cutting any trees suitable for endangered bat roosting; to mitigate any tree clearing with the appropriate ratio based on area; and to seed and protect all disturbed streambanks and slopes (Appendix C-8 to C-10). All applicable recommendations are included in the Environmental Commitments section of this CE document.

Protected Species

Federally Listed Bats

Information for Planning and Consultation (IPaC) determination key completed
 Section 7 informal consultation completed (IPaC cannot be completed)
 Section 7 formal consultation Biological Assessment (BA) required

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

Determination Received for Listed Bats from USFWS: NE NLAA LAA

Other Species not included in IPaC

Additional federal species found in project area (based on IPaC species list)
 State species (not bird) found in project area (based upon consultation with IDNR)

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

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-3 to E-4), completed by SJCA Inc. on June 14, 2023, the IDNR Montgomery County Endangered, Threatened, and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated September 20, 2023 (Appendix C-8 to C-10), the Natural Heritage Program's Database has been checked and no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. An INDOT 0.5-mile bat review occurred on February 10, 2023, and no documented sites of endangered bat species were identified.

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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-11 to C-21). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally endangered northern long-eared bat (*Myotis septentrionalis*). Three 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 official species list generated from IPaC indicated three other species present within the vicinity of the project area, including the salamander mussel (*Simpsonaias ambigua*), the whooping crane (*Grus americana*), and the monarch butterfly (*Danaus plexippus*). As proposed endangered, experimental, and candidate species, the salamander mussel, whooping crane, and monarch butterfly are not given any statutory protection under the Endangered Species Act. Therefore, no further coordination is required at this time. The project qualifies for the most current INDOT/USFWS agreement.

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 small structure inspection occurred on June 6, 2023, and no bats or evidence of bats were found using the structures (Appendix C-37). An effect determination key was completed on January 17, 2024, and based on the responses provided, the project was found to "May Affect – Not Likely to Adversely Affect" the Indiana bat and/or NLEB (Appendix C-22 to C-36). INDOT reviewed and verified the effect finding on January 22, 2024, 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) were generated for the project including general worker knowledge of endangered species, temporary lighting, and tree removal. AMMs and/or commitments are included as firm commitments in the Environmental Commitments section of this document.

A small structure inspection occurred on June 6, 2023, and no bats or signs of bats were found using the structures (Appendix C-37). USFWS Bridge/Structure Assessments are only valid for two years. If construction will begin after June 6, 2025, an inspection of the structure by a qualified individual must be performed. Inspection of the structures should check for presence of bats/bat indicators. The results of the inspection must indicate no signs of bats. If signs of bats are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. This firm commitment is included in the Environmental Commitments of this document.

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

Geological and Mineral Resources

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

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): N/A

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 outside the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction*. According to the USGS topographic map of the project area (Appendix B-2) and the RFI report (Appendix E-2 and E-6), there are no karst features identified within or adjacent to the project area. In the early coordination response letter dated August 2, 2023, the IGWS did not indicate that karst features exist in the project area (Appendix C-5 to C-7). The IGWS response did indicate a moderate liquefaction potential, a 1% annual chance flood hazard, a moderate potential for bedrock resources, and a high potential for sand and gravel resources. These features will not be affected because there are no mining and mineral extraction sites in or near the project area. The response from IGWS has been communicated with the designer on August 6, 2024. No impacts are expected.

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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)

Presence

Impacts

Yes	No

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
	X

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 Montgomery 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/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

IDEM's Wellhead Proximity Determinator website (<https://www.in.gov/idem/cleanwater/information-about/groundwater-monitoring-and-source-water-protection/wellhead-protection-program/source-water-proximity-determination-tool/>) was accessed on July 5, 2024 by SJCA Inc. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

Water Wells

The IDNR Water Well Record Database website (<https://indnr.maps.arcgis.com/apps/webappviewer/>) was accessed on July 5, 2024 by SJCA Inc. No wells are located near this project. Therefore, no impacts are expected.

Urban Area Boundary

Based on a desktop review of the INDOT Municipal Separate Storm Sewer Systems (MS4) Boundaries map (<https://www.in.gov/idem/cleanwater/ms4s-boundaries-map-for-indiana/>) by SJCA Inc. on July 5, 2024, this project is not located in an Urban Area Boundary. No impacts are expected.

Public Water System

Based on a desktop review, a site visit on June 6, 2023 by SJCA Inc., the aerial map of the project area (Appendix B-3), and a review of the project plans (Appendix B-7 to B-16), no public water systems were identified. Therefore, 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

X
X

Impacts

Yes	No
X	
X	

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.

Based on a desktop review of the IDNR Indiana Floodway Information Portal website (<https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e>) by SJCA Inc. on June 30, 2023, and the RFI report (Appendix E-2 and E-6), this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F-5). An early coordination letter was sent on August 21, 2023 to the Local Floodplain Administrator. The floodplain administrator did not respond within the 30-day time frame. The USGS StreamStats application (<https://streamstats.usgs.gov/ss/>) reports the upstream drainage area of McFarland Ditch as 2.852 square miles. Since the upstream drainage area within the project area is greater than

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1.0 square mile, the project is considered to be within a regulatory floodplain. The IDNR-DFW responded on September 20, 2023, stating that the project will require the formal approval of the IDNR for a construction in a floodway (CIF) permit unless it qualifies for a bridge exemption (Appendix C-8 to C-10). This project is located in a rural area and has an upstream drainage area of less than 50 square miles; therefore, the project is expected to qualify for the Rural Bridge Exemption and will not require a CIF permit. Please refer to the Permits section of this document for additional information.

This project qualifies as a Category 4 per the current INDOT CE Manual. No homes are located within the base floodplain within 1,000 feet upstream and no homes are located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans.

Farmland	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Points (from Section VII of CPA-106/AD-1006*)	<u>72</u>		
<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, a site visit on June 6, 2023 by SJCA Inc., and the aerial map of the project area (Appendix B-3), the project will convert approximately 0.5 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on August 21, 2023 to the NRCS. Coordination with NRCS resulted in a score of 72 on the AD-1006 Form (Appendix C-4). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION D – CULTURAL RESOURCES

Minor Projects PA	<u>Category(ies) and Type(s)</u> <u>B.4, B.9, and B.10</u>	<u>INDOT Approval Date(s)</u> <u>May 2, 2024</u>	<u>N/A</u>
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Full 106 Effect Finding
 No Historic Properties Affected No Adverse Effect Adverse Effect

Eligible and/or Listed Resources Present
 NRHP Building/Site/District(s) Archaeology NRHP Bridge(s)

Documentation Prepared (mark all that apply)	<u>ESD Approval Date(s)</u>	<u>SHPO Approval Date(s)</u>
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) **MOA Signature Dates** (List all signatories)

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.

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On May 2, 2024, the INDOT Cultural Resources Office (CRO) determined that this project falls within the guidelines of Category B, Types 4, 9, and 10 under the Minor Projects Programmatic Agreement (MPPA) (Appendix D-1 to D-7). MPPA Category B, Type 4 includes the installation of new safety appurtenances such as guardrails, barriers, glare screens, and crash attenuators. MPPA Category B, Type 9 includes the installation, replacement, repair, lining, or extension of culverts and other drainage structures. MPPA Category B, Type 10 includes slide corrections, slope repairs, and other erosion control measures. An Archaeological Phase Ia Survey was completed on January 25, 2024 and was approved by INDOT CRO with the MPPA determination on May 2, 2024 (Appendix D-6 to D-7). The Archaeological Phase Ia Survey identified two new archaeological resources; one resource was recommended as not eligible for listing in the National Register of Historic Places (NRHP) with no further work necessary. However, the second resource was determined to potentially be eligible for listing in the NRHP and has been marked for avoidance on the project plans and should be marked on the ground for avoidance during construction; should the project area be expanded to include the archaeological site, Phase II archaeological testing is suggested. This has been included as a firm commitment in the Environmental Commitments section of this document. 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>	
		Yes	No
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"/>
<u>Evaluations Prepared</u>			
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.

Based on a desktop review, the aerial map of the project area (Appendix B-3), and the RFI report (Appendix E-2), there are no potential 4(f) resources located within the 0.5-mile search radius. According to additional research and by the site visit on June 6, 2023 by SJCA Inc., there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement

Section 6(f) Property

Presence

Use

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 12 properties in Montgomery County (Appendix I-1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) properties.

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SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project

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

Location in STIP: FY 2024-2028 STIP (Appendix H-1)

Name of MPO (if applicable): N/A

Location in TIP (if applicable): N/A

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.

STIP/TIP

The Fiscal Year (FY) 2024-2028 Statewide Transportation Improvement Program (STIP) is listed based on the lead Des. number in the contract. The lead Des. number for this contract is Des. No. 2100803. The FY 2024-2028 STIP includes Des. Number 2100804 by reference with the contract number R-43683 (Appendix H-1).

Attainment Status

This project is located in Montgomery County, which is currently in attainment for all criteria pollutants according to the U.S. Environmental Protection Agency (EPA) Nonattainment Areas for Criteria Pollutants Green Book (<https://www.epa.gov/green-book>). 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

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

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.

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SECTION H – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

- 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)

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

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.

Montgomery County has an approved Americans with Disabilities Act (ADA) Transition Plan, most recently updated in December 2022 (https://www.montgomerycounty.in.gov/egov/apps/document/center_egov?view=detail&id=2790). The ADA Transition Plan includes a self-evaluation of Montgomery County facilities, programs, services, and public ROW to identify potential access barriers, and also provides a guide for future planning and implementation of accessibility improvements. This project complies with the Montgomery County Transition Plan as no existing pedestrian facilities are within the vicinity of the project, no ADA-compliant facilities will be altered, and the project will improve the roadway and existing stream crossing for continued access.

This project will not substantially impact the tax base or property values. The project will require a total of 0.917 acre of permanent ROW from adjacent properties. An additional 0.268 acre of ROW will also be reacquired. The ROW acquisition will only impact existing roadsides and the edges of agricultural properties near the existing pipes carrying SR 32 over McFarland Ditch. The project will not cause any relocation of businesses or residences. No temporary ROW will be required for the project.

A search of local festivals, fairs, and events that could be potentially impacted by this project was conducted on May 22, 2024 by SJCA Inc. The following sources were evaluated: the Montgomery County website (<https://www.montgomerycounty.in.gov/>), the City of Crawfordsville website (<https://www.crawfordsville.in.gov/>), and the Montgomery County Visitors website (<https://www.visitmoco.com/>). Three recurring events were identified: the Montgomery County 4-H Fair, the Crawfordsville Strawberry Festival, and the Crawfordsville Oktoberfest. Although none of these events will be located adjacent to project construction, the road closure and official detour route of the project may cause impacts to travelers by adding travel time. However, these impacts will be minimal and will be limited to the time of construction, and access to local festivals and fairs will be maintained. It was concluded that the project will not substantially impact community cohesion or adversely impact local community events.

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-3), and the RFI report (Appendix E-2), there are no public facilities within the 0.5-mile search radius. There are no public facilities within or adjacent to the project area. That number was updated to two public facilities within the project area by the site visit on June 6, 2023 by SJCA Inc. and by a review of the project plans. Two public utilities, overhead electric and buried communication lines, are present along the south side of SR 32. No relocations or disruptions to the utilities are currently anticipated; however, coordination between the project designer and utility companies is ongoing throughout the design process. Access to all properties will be maintained during construction.

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

Environmental Justice (EJ) (Presidential EO 12898)

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

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populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require a total of approximately 0.917 acre of new permanent ROW, with an additional 0.268 acre of ROW reacquisition. 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 Montgomery County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Ripley Township. 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 2022 American Community Survey (ACS) 5-Year Estimate was obtained from the U.S. Census Bureau website (<https://data.census.gov/>) on February 9, 2024 by SJCA Inc. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (U.S. Census Bureau for 2022)		
	COC – Montgomery County, Indiana	AC – Ripley Township, Montgomery County, Indiana
Percent Minority	9.8%	5.4%
125% of COC	12.2%	AC < 125% of COC
EJ Population of Concern		No
Percent Low-Income	12.7%	16.4%
125% of COC	15.9%	AC > 125% of COC
EJ Population of Concern		Yes

The AC, Ripley Township, has a percent minority of 5.4%, which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain a minority population of EJ concern.

The AC, Ripley Township, has a percent low-income of 16.4%, which is below 50% and is above the 125% COC threshold. Therefore, the AC has a low-income population of EJ concern.

This project will require a total of 0.917 acre of new permanent ROW and an additional 0.268 acre of reacquired ROW. All new permanent ROW acquisition will be immediately adjacent to the existing roadway. No relocations will occur, no changes in community cohesion will occur, and no permanent barriers will be created that would exclude low-income or minority populations. Temporary disruptions to access will occur during project construction; however, a detour route will be available and access to all properties will be maintained. The proposed detour route will use SR 25, US 136, and SR 341 and will add approximately 12 minutes or 9.6 miles of additional travel time. A local detour route will not be posted, but several alternate detour routes using local roads will be available. The shortest alternate local detour route would use County Road (CR) S 900 W, W Division Road, and SR 25, adding approximately 2.6 miles of additional travel time. All motorists using this portion of SR 32 will be required to use a detour route; therefore, no disproportionately high impacts will occur to low-income or minority populations.

The EJ analysis conducted for this project was forwarded to INDOT ESD on February 15, 2024. INDOT concurred with the EJ findings on March 22, 2024, stating that based on the information provided, INDOT ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a (Appendix I-14). The EJ analysis, including census data sheets, maps, and calculations, can be found in Appendix I-6 to I-13). No further EJ analysis is required at this time.

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)

Documentation

- Red Flag Investigation (RFI)
- Phase I Environmental Site Assessment (Phase I ESA)
- Phase II Environmental Site Assessment (Phase II ESA)
- Design/Specifications for Remediation required?

X

Date RFI concurrence by INDOT SAM (if applicable): June 14, 2023

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

Based on a review of Geographic Information Systems (GIS) and available public records, the RFI was completed on June 14, 2023 by SJCA Inc. and INDOT Site Assessment and Management (SAM) provided their concurrence on June 14, 2023 (Appendix E-3). No sites with hazardous material concerns (hazmat sites) or sites involved with regulated substances were identified in or within 0.5 mile of the project area. Further investigation for hazardous material concerns or regulated substances is not required at this time.

Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section 10 Permit)

- Nationwide Permit (NWP)

X

- Regional General Permit (RGP)

--
- Individual Permit (IP)

--
- Other

--

IN Department of Environmental Management (401/Rule 5)

- Nationwide Permit (NWP)

X

- Regional General Permit (RGP)

--
- Individual Permit (IP)

--
- Isolated Wetlands

--
- Rule 5

--
- Other

--

IN Department of Natural Resources

- Construction in a Floodway

--
- Navigable Waterway Permit

--
- Other

--

Mitigation Required

- US Coast Guard Section 9 Bridge Permit**

--
- Others (Please discuss in the discussion below)**

--

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

This project will require an IDEM Section 401 permit and a USACE Section 404 permit, due to the permanent and temporary stream impacts caused by the small structure replacement, riprap installation, and use of a temporary dewatering system. The project is located within the floodplain of McFarland Ditch. However, the upstream drainage area of the stream at the project structure is 2.852 square miles; therefore, with a drainage area of less than 50 square miles and location of the project in a rural area, this project meets the Rural Bridge Exemption and will not require a CIF permit.

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.

This is page 18 of 20 Project name: SR 32 over McFarland Ditch Small Structure Date: October 16, 2024

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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 ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT 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) USFWS Structure Assessments shall take place no earlier than two years prior to the start of construction. If construction will begin after June 6, 2025, an inspection of the structures by a qualified individual must be performed. Inspection of the structures should check for presence of bats/bat indicators. The results of the inspection must indicate no signs of bats. If signs of bats are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT ESD)
- 4) Tree clearing must only occur within the construction limits, and the limits of tree clearing must stay under 100 feet from the edge of pavement. If additional tree clearing is required, the INDOT Crawfordsville District Environmental Section Manager must be contacted. (INDOT District Environmental)
- 5) The portion of an archaeological site beyond the northern limit of proposed ROW along SR 32 and immediately east of McFarland Ditch must be avoided by all ground disturbing activities and other project-related activities. That area must be marked on plans as "Environmentally Sensitive Area – Avoid" and shall be marked similarly on the ground during construction, with construction fencing installed around the perimeter of the avoidance area with "Do Not Disturb" signage. Should the project area be expanded to include the archaeological site, Phase II archaeological testing is suggested. (INDOT CRO)
- 6) 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)
- 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 ten 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. (No tree clearing April 1 through September 30). (USFWS and IDNR-DFW)
- 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 mile of roosts, or documented foraging habitat any time of year. (USFWS)

For Further Consideration

- 12) Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds. (IDNR-DFW)
- 13) Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR-DFW)
- 14) If box or pipe culverts are used, the bottoms should be buried to a minimum of six inches (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of two feet) below the streambed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width/length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. (IDNR-DFW)
- 15) The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to current conditions. (IDNR-DFW)

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16) Impacts to non-wetland forest of one 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 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 an urban area should be mitigated by replacing trees that are ten inches dbh or greater by planting five trees, one to two inches in dbh, for every tree which is removed that is ten inches dbh or greater. Seeding and stabilizing disturbed areas is required regardless of the impact amount and location. If floodway impacts to forested wetland and non-wetland habitat areas combine to be 0.10 acre or more, mitigation should be done and coordinated with the biologist, as needed. (IDNR-DFW)

DES 2100803 & 2100804 CE-2 APPENDICES
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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	-	-
Relocations	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 ⁶)	“Not likely to Adversely Affect” (With any AMMs or commitments)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic ⁷
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 ⁸
Sole Source Aquifer	No Detailed Groundwater Assessment	-	-	-	Detailed Groundwater Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Section 4(f) Impacts	None	-	-	-	Any ⁹
Section 6(f) Impacts	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ¹⁰
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 Avoidance and Mitigation Measures (AMMs) determined by the IPAC determination key to be required that are not tree AMMs, bridge AMMs, or structure AMMs.

⁷ 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.

⁸ Potential for causing a disproportionately high and adverse impact.

⁹ 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.

¹⁰ 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.

Des 2100803 & 2100804

Appendix B

Graphics



Project Location Map (1:230,935)
 Small Structure Project
 SR 32 over McFarland Ditch, 0.27 Mile West of SR 25
 Des. No. 2100803 & 2100804
 Montgomery County, Indiana
 Source: ESRI World Streetmap



null, Esri, HERE, Garmin, NGA, USGS, NPS

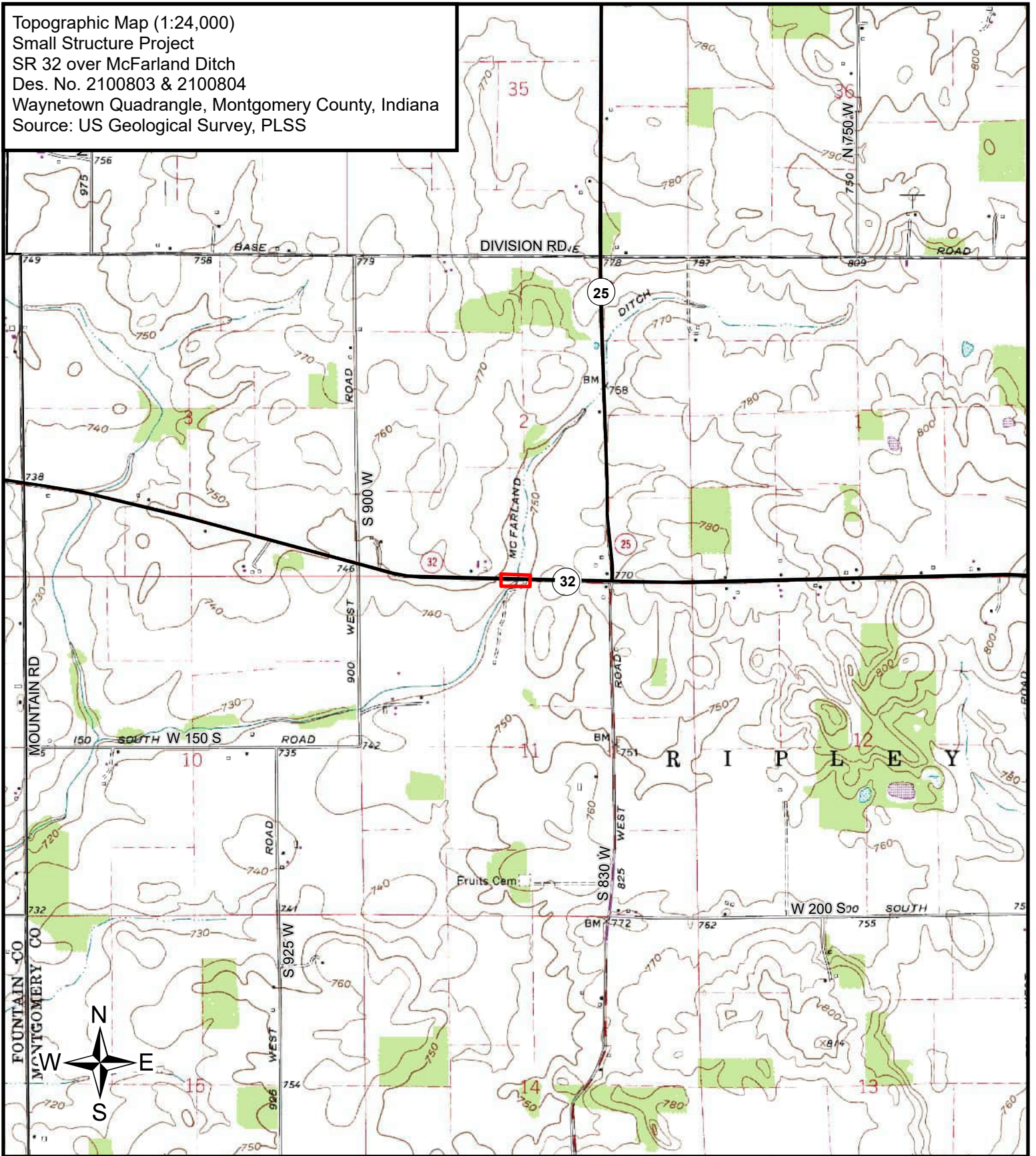
0 2.75 5.5
 Miles

- Project Location
- County Boundary
- Project County



8/14/2023

Topographic Map (1:24,000)
Small Structure Project
SR 32 over McFarland Ditch
Des. No. 2100803 & 2100804
Waynetown Quadrangle, Montgomery County, Indiana
Source: US Geological Survey, PLSS



0 0.28 0.55
Miles

Investigated Area



6/30/2023

Aerial Map (1:1,000)
Small Structure Project
State Road (SR) 32 over McFarland Ditch
Des. No. 2100803 & 2100804
Montgomery County, Indiana
Source: NAIP 2018 Imagery

Existing private
property fence

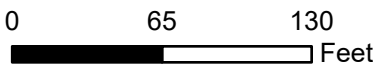


32

Existing agricultural
field entrance drive



State of Indiana

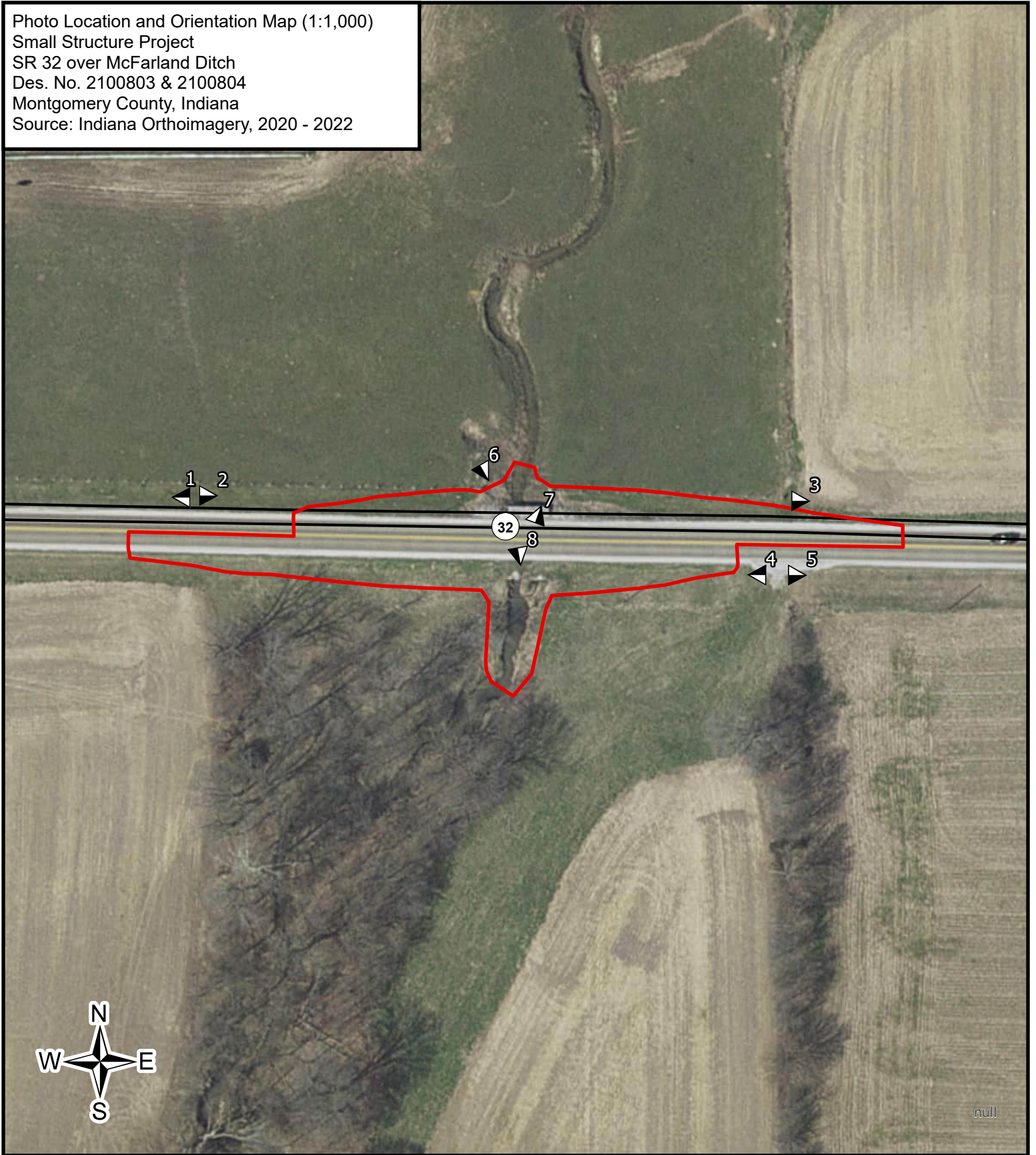


 Project Location



7/29/2023

Photo Location and Orientation Map (1:1,000)
Small Structure Project
SR 32 over McFarland Ditch
Des. No. 2100803 & 2100804
Montgomery County, Indiana
Source: Indiana Orthoimagery, 2020 - 2022



0 0.01 0.02
Miles

▲ Photo Location
▭ Project Location



7/31/2023



Photo 1. Facing west along north side of SR 32 from western terminus of the investigated area.



Photo 3. Facing east along north side of SR 32 from eastern terminus of the investigated area.



Photo 2. Facing east toward the project structure along north side of SR 32 from western terminus of the investigated area.



Photo 4. Facing west toward the project structure along south side of SR 32 from eastern terminus of the investigated area.



Photo 5. Facing east along south side of SR 32 from eastern terminus of the investigated area.



Photo 7. Facing north toward McFarland Ditch from the project structure (inlet), northside of SR 32.



Photo 6. Facing southeast toward the project structure, along McFarland Ditch from northwest quadrant of the investigated area.

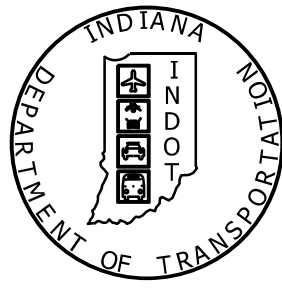


Photo 8. Facing south toward McFarland Ditch from the project structure (outlet), southside of SR 32.

PROJECT	DESIGNATION
2100803 & 2100804	2100803 & 2100804
CONTRACT	CULVERT ASSET ID
R-43683	CV 032-054-27.50 B

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
CV 032-054-27.50 A CV 032-054-27.50 B	PRECAST REINFORCED CONCRETE BOX CULVERT	SPAN: 18' RISE: 8' NO SKEW	MC FARLAND DITCH	99+95.00 LINE "A"

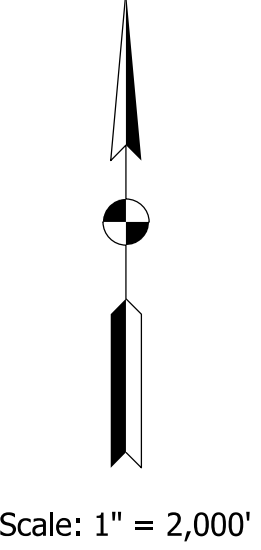
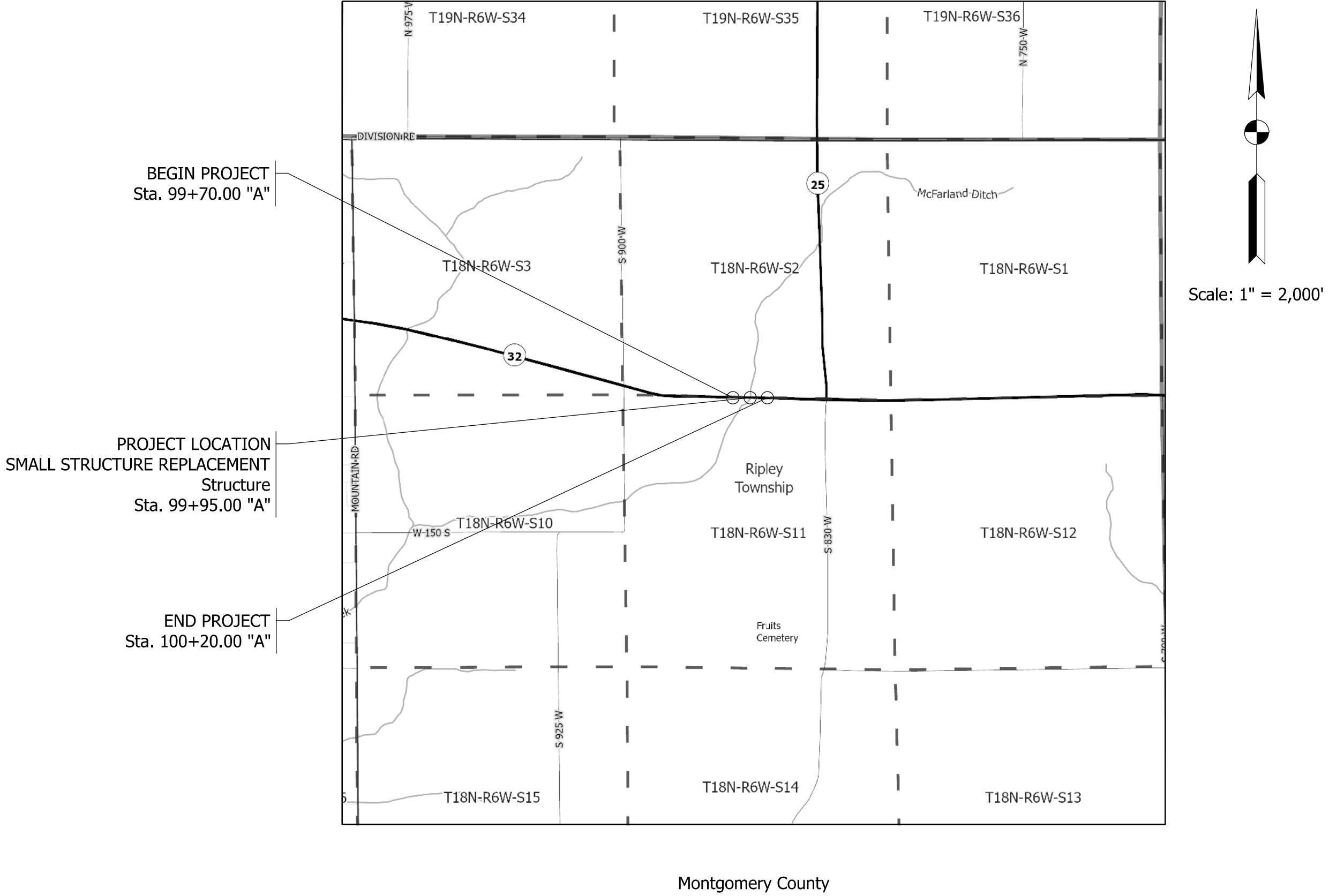
INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS

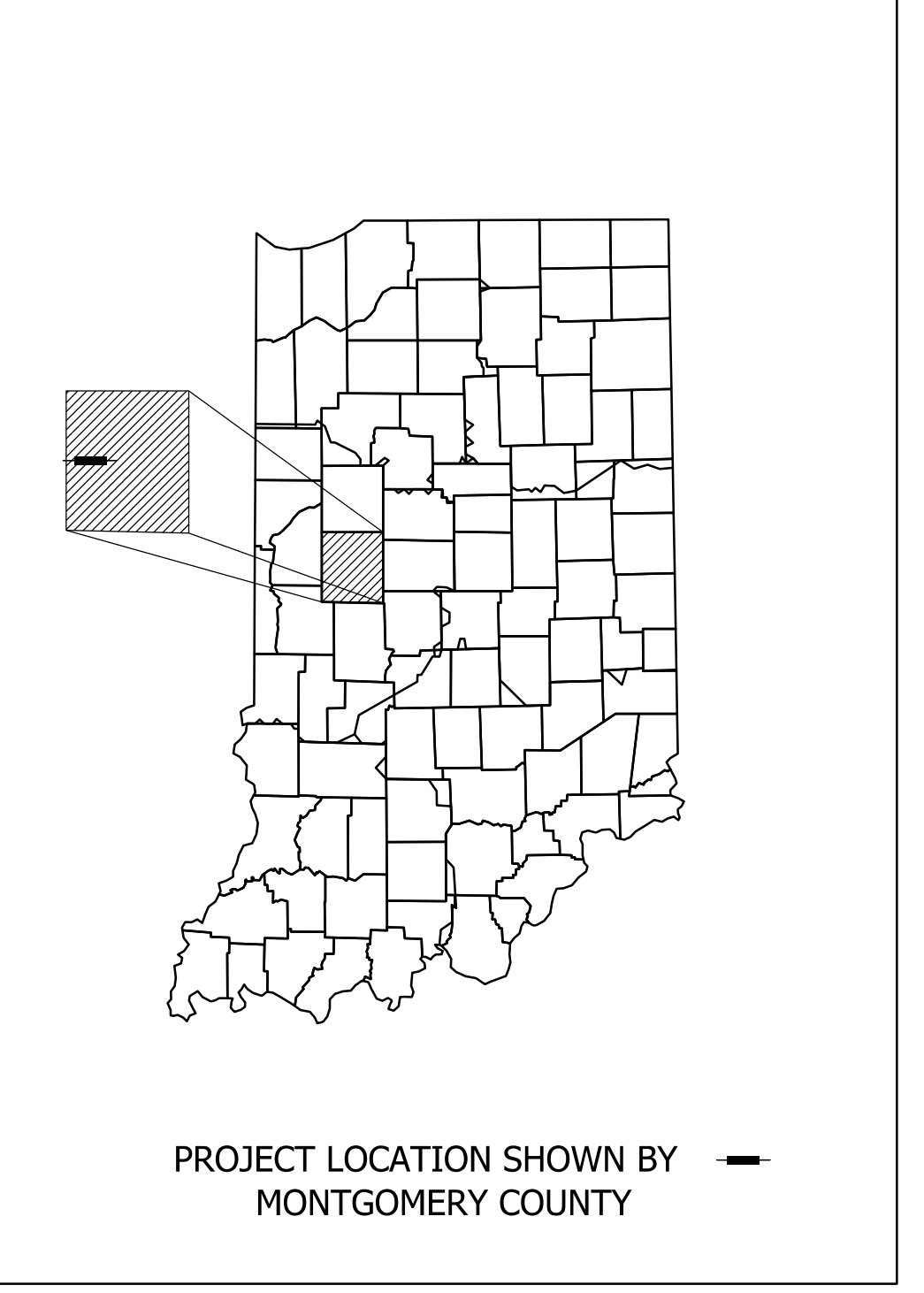
ROUTE: S.R. 32 AT: RP 27+50
PROJECT NO. 2100803 & 2100804 P.E.
2100803 & 2100804 R/W
2100803 & 2100804 CONST.

Small Structure Replacement on S.R. 32 over McFarland Ditch,
Located 0.27 Miles West of S.R. 25 in Sections 2 & 11,
T-18-N & R-6-W, Ripley Township, Crawfordsville District, Montgomery County, Indiana



TRAFFIC DATA		
A.A.D.T.	2026	1,410 V.P.D.
A.A.D.T.	2046	1,451 V.P.D.
D.H.V	2046	1,451 V.P.H.
DIRECTIONAL DISTRIBUTION		9.84 %
TRUCKS		6.13 % A.A.D.T. 6.52 % D.H.V.

DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



LATITUDE: 40° 1' 31" N LONGITUDE: 87° 3' 50" W

ROADWAY LENGTH:	0.009	MI.
TOTAL LENGTH:	0.009	MI.
MAX. GRADE:	1.620	%

HUC: 051201100501



9102 North Meridian Street, Suite 200, Indianapolis, IN 46260
Phone: (317) 566-0629

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

STAGE 2
SUBMITTAL

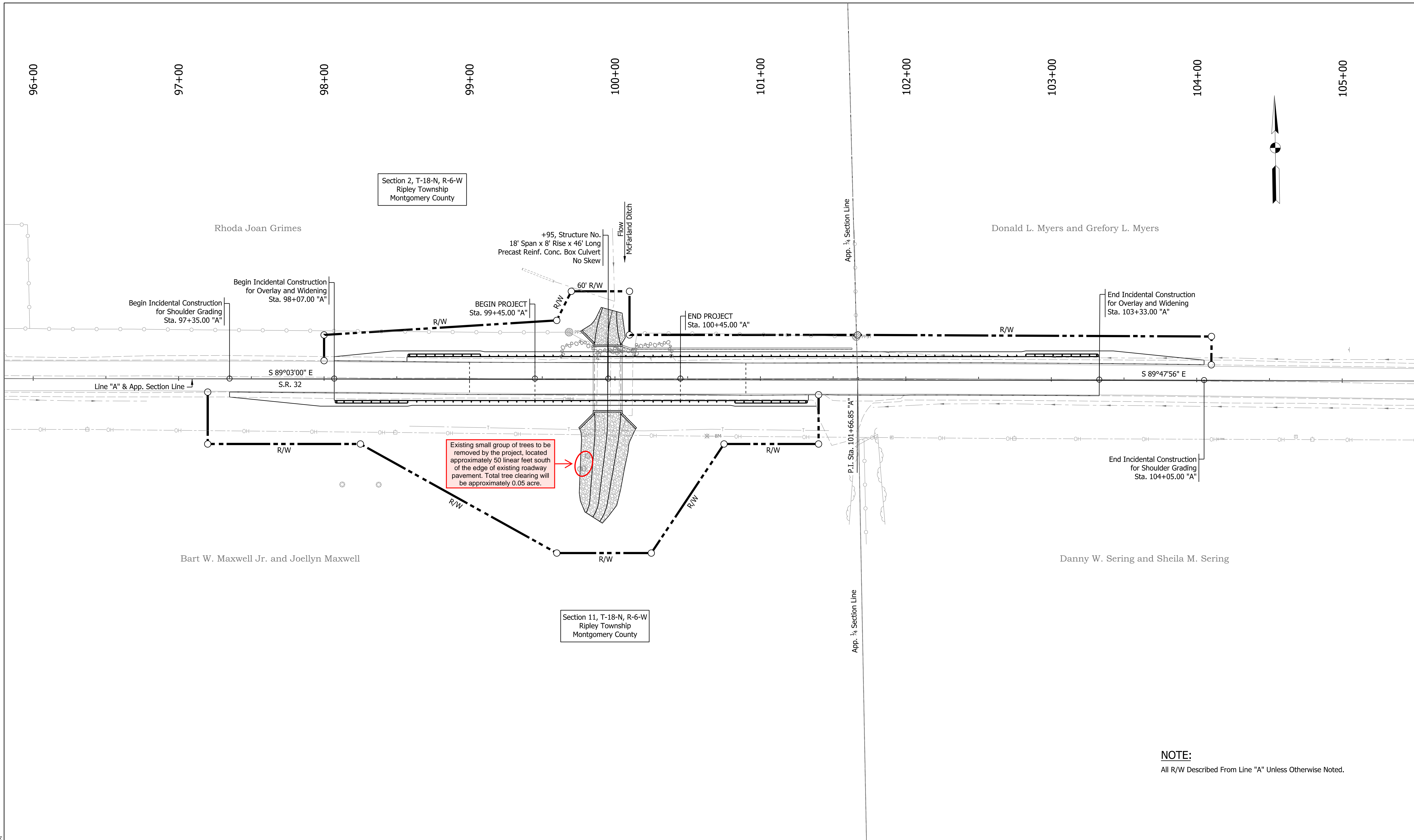
PLANS PREPARED BY: SJCA, INC. (317) 566-0629
PHONE NUMBER

CERTIFIED BY: _____ DATE _____

RECOMMENDED FOR LETTING: _____ DATE _____

INDIANA DEPARTMENT OF TRANSPORTATION

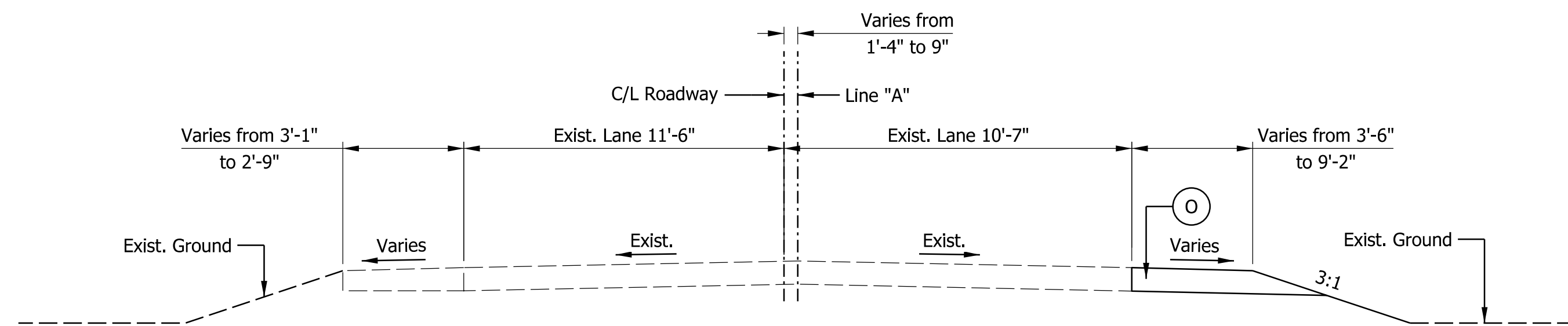
BRIDGE FILE	N/A
DESIGNATION	2100803 & 2100804
SURVEY BOOK	SHEETS
ELECTRONIC	1 of 21
CONTRACT	PROJECT
R-43683	2100803 & 2100804



NOTE:
All R/W Described From Line "A" Unless Otherwise Noted.

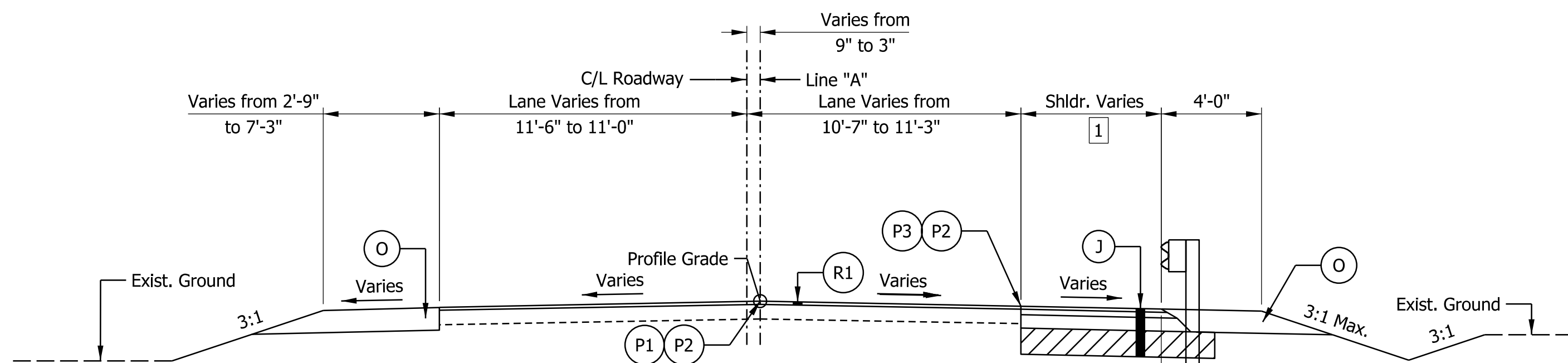
Plot: 12/16/2023 6:21:37 PM

STAGE 2 SUBMITTAL	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
	DESIGNED: _____ PFC _____	DRAWN: _____ PFC _____		PLAT NO. 1		VERTICAL SCALE 1" = 30'	DESIGNATION 2100803 & 2100804
	CHECKED: _____ MDP _____	CHECKED: _____ MDP _____				SURVEY BOOK	SHEETS
						ELECTRONIC	3 of 21
					CONTRACT	PROJECT	
					R-43683		2100803 & 2100804



TYPICAL INCIDENTAL SECTION WITH AGGREGATE

Scale: 1/4" = 1'-0"
Sta. 97+35.00 "A" to Sta. 98+07.00 "A"



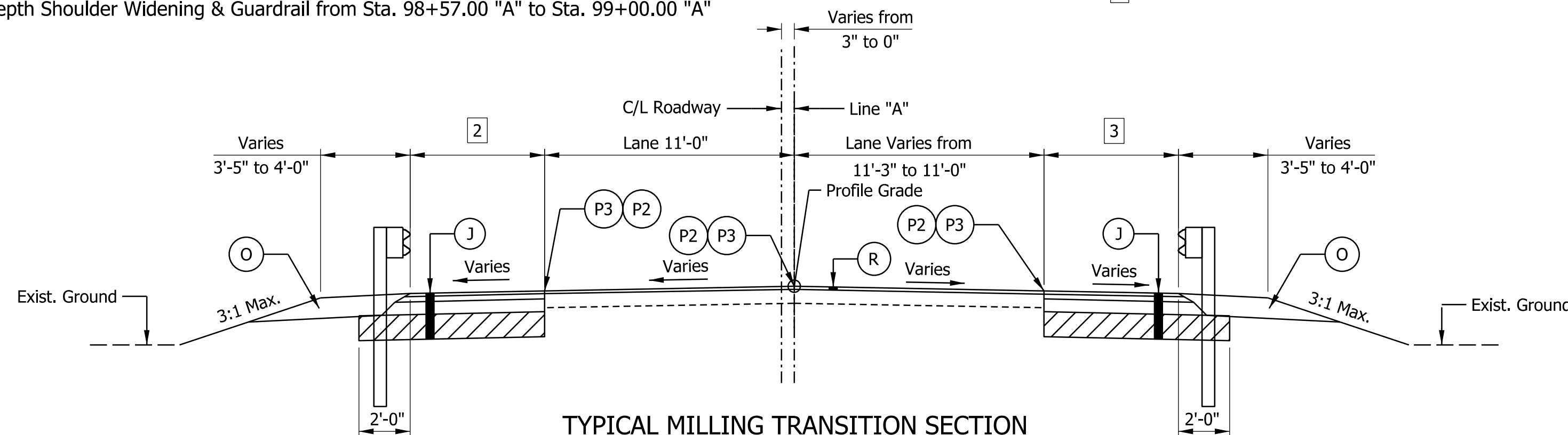
INCIDENTAL CONSTRUCTION, TYPICAL OVERLAY AND WIDENING

Scale: 1/4" = 1'-0"
Sta. 98+07.00 "A" to Sta. 99+00.00 "A"

LEFT SIDE

Aggregate Shoulder from Sta. 98+07.00 "A" to Sta. 98+57.00 "A"
Full Depth Shoulder Widening & Guardrail from Sta. 98+57.00 "A" to Sta. 99+00.00 "A"

1 Full Depth HMA Shoulder Varies from 5'-2" to 4'-1"

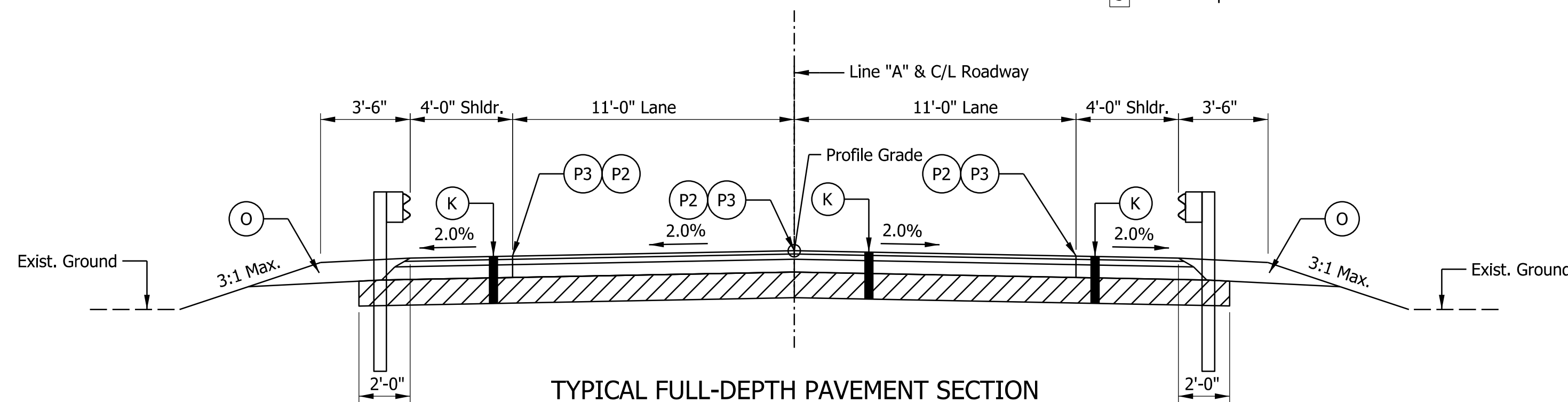


TYPICAL MILLING TRANSITION SECTION

Scale: 1/4" = 1'-0"
Sta. 99+00.00 "A" to Sta. 99+45.00 "A"

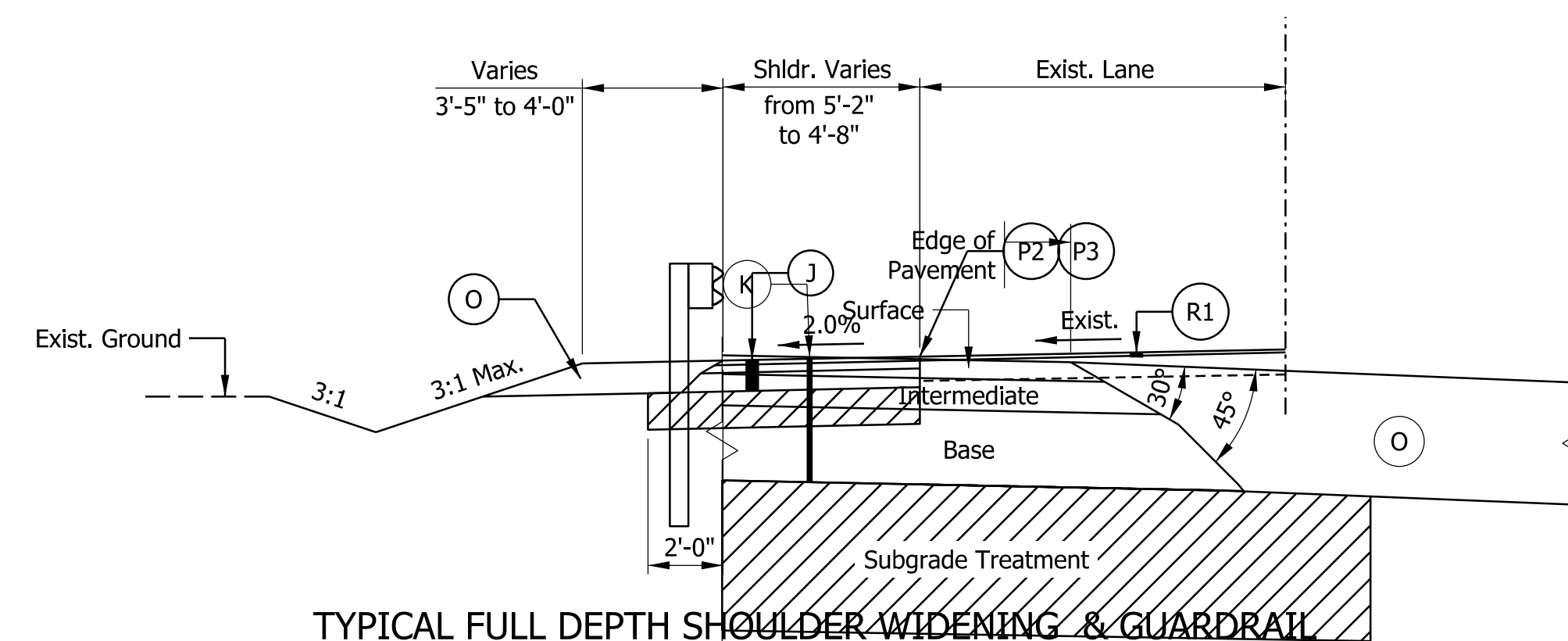
2 Full Depth HMA Shoulder Varies from 3'-9" to 4'-0"

3 Full Depth HMA Shoulder Varies from 4'-1" to 4'-0"



TYPICAL FULL-DEPTH PAVEMENT SECTION

Scale: 1/4" = 1'-0"
Sta. 99+45.00 "A" to Sta. 100+05.00 "A"



TYPICAL FULL DEPTH SHOULDER WIDENING & GUARDRAIL

Scale: 1/4" = 1'-0"
Sta. 98+57.00 "A" to Sta. 99+00.00 "A"

SAFETY EDGE DETAIL

Not to Scale

LEGEND

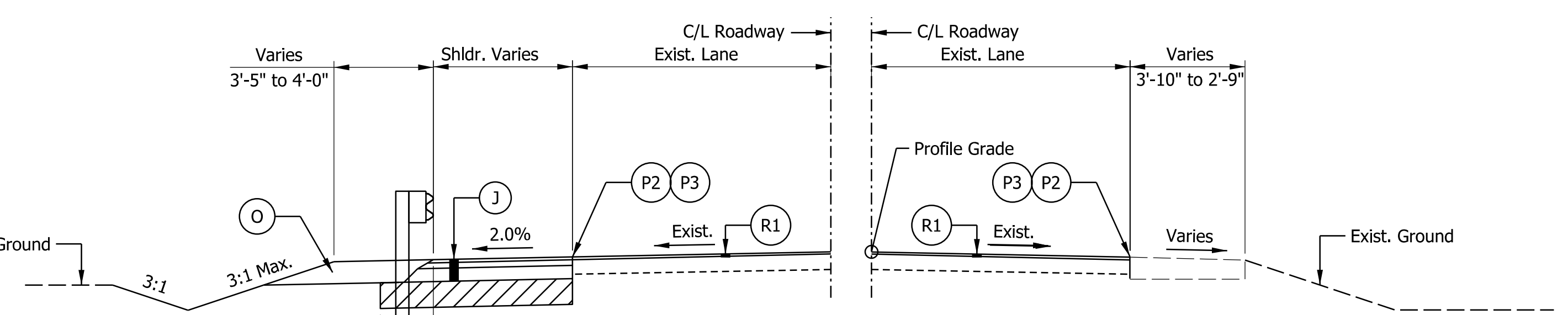
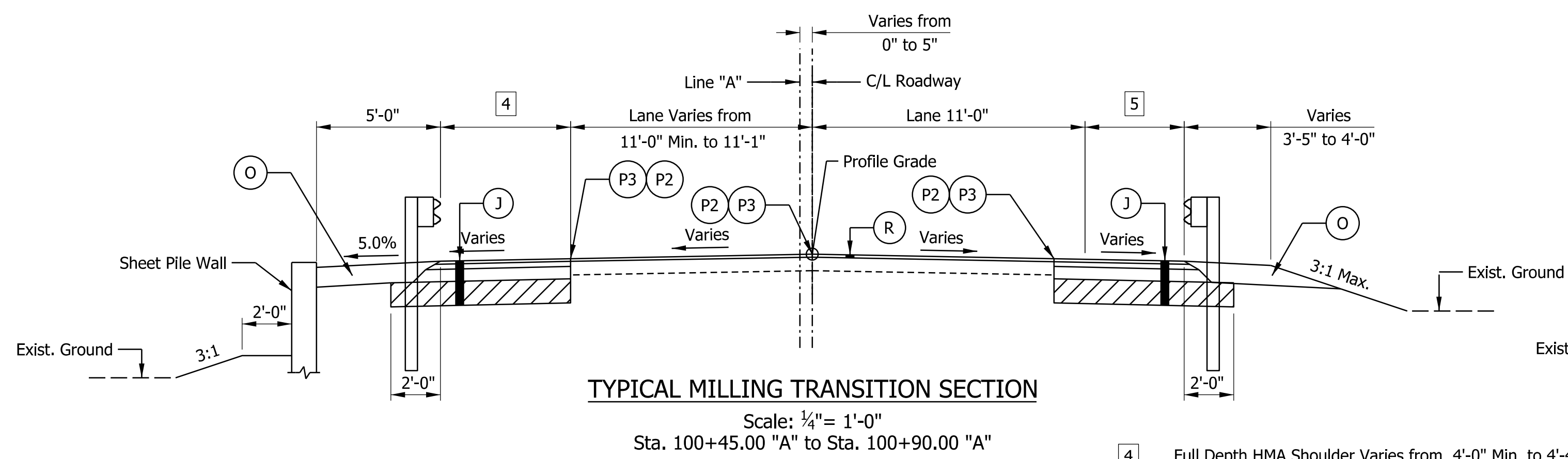
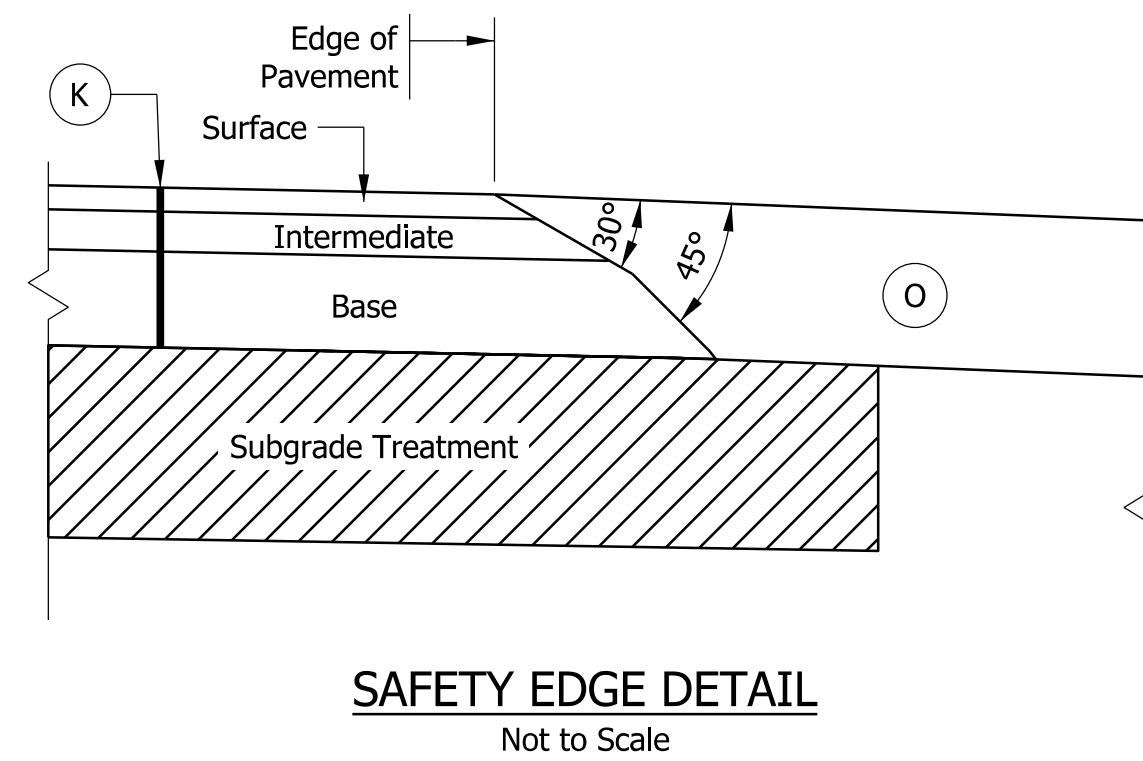
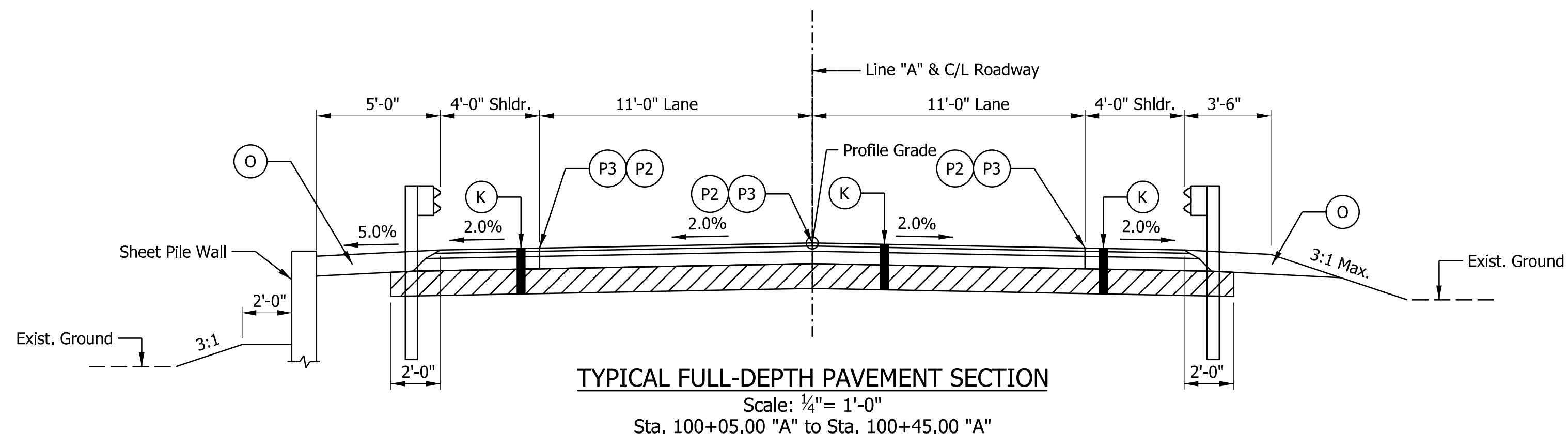
- (K) Full-depth HMA Pavement consisting of:
165 lbs/syd QC/QA-HMA, 3, 64, Surface, 9.5 mm on
275 lbs/syd QC/QA-HMA, 3, 64, Intermediate, 19.0 mm on
660 lbs/syd QC/QA-HMA, 3, 64, Base, 25.0 mm on
Subgrade Treatment, Type IC on Geotextile for Pavement Type 2B
- (J) Widening with HMA, Type B, consisting of:
165 lbs/syd HMA Surface, Type B on
275 lbs/syd HMA Intermediate, Type B on
660 lbs/syd HMA Base, Type B on
Subgrade Treatment, Type IC
- (R) HMA Milling Transition consisting of:
QC/QA-HMA, 3, 64, Surface, 9.5mm on
Milling, Transition
- (R1) HMA Milling consisting of:
1 1/2" QC/QA-HMA, 3, 64, Surface, 9.5mm on
Milling, Asphalt, 1 1/2"
- (O) Variable depth Compacted Aggregate, No. 53 (10" max.)
- (P1) Joint Adhesive required for Surface layer at longitudinal joints
- (P2) Liquid Asphalt Sealant required on Surface Layer over longitudinal joint, 24" width
- (P3) Joint Adhesive required for Surface and Intermediate layers at longitudinal joints
- (Hatched) Subgrade Treatment, Type IC

NOTES

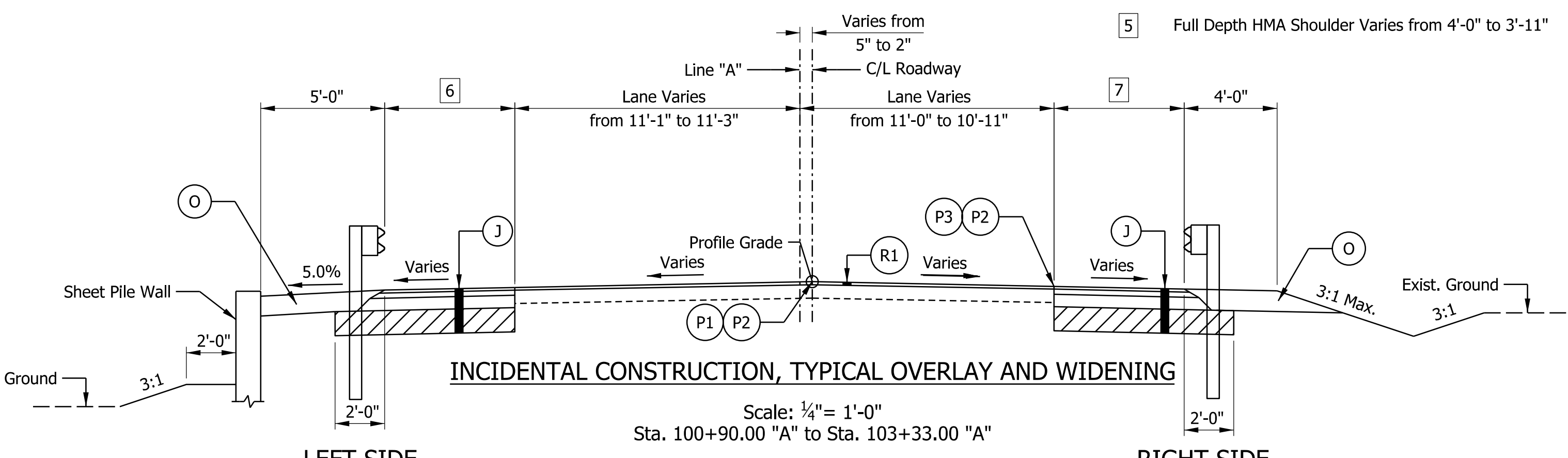
1. All slope 3:1 or steeper shall utilize Erosion Control Blanket.

Plot: 12/16/2023 6:21:38 PM

STAGE 2 SUBMITTAL	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE AS NOTED	BRIDGE FILE N/A
	DESIGNED: _____ ASI _____	DRAWN: _____ ASI _____	TYPICAL SECTIONS		VERTICAL SCALE AS NOTED	DESIGNATION 2100803 & 2100804
	CHECKED: _____ MDP _____	CHECKED: _____ MDP _____			SURVEY BOOK	SHEETS
					ELECTRONIC	4 of 21
				CONTRACT	PROJECT	
				R-43683	2100803 & 2100804	

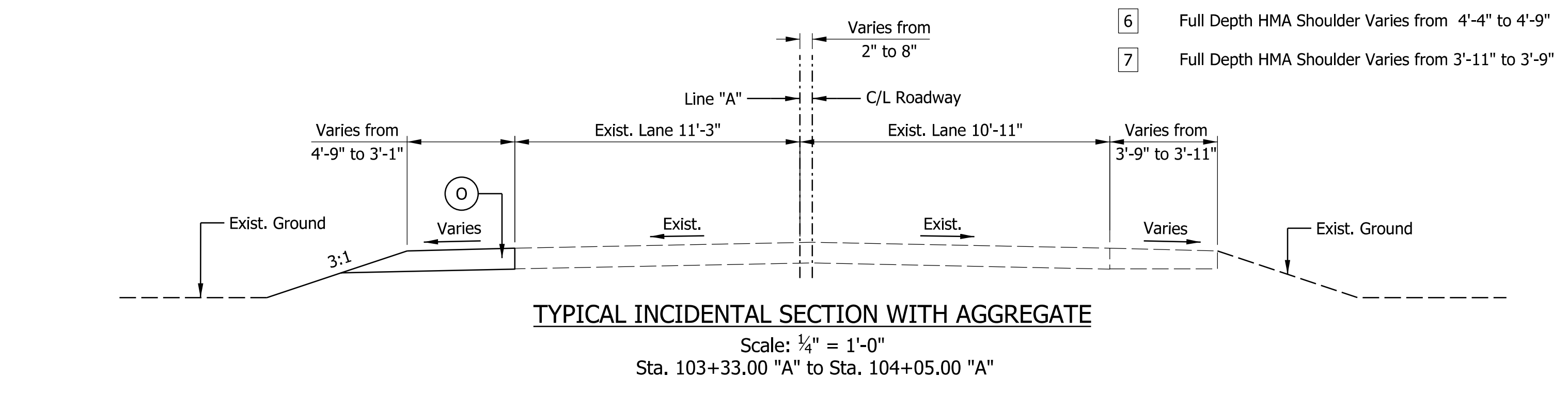


NO WORK REQUIRED, RIGHT SIDE
Scale: 1/4" = 1'-0"
Sta. 101+33.00 "A" to Sta. 103+33.00 "A"



Sheet Pile Wall from Sta. 100+90.00 "A" to Sta. 101+63.00 "A"
Full Depth Shoulder Widening & Guardrail from Sta. 101+63.00 "A" to Sta. 103+33.00 "A"
Full Depth Shoulder Widening & Guardrail from Sta. 100+90.00 "A" to Sta. 101+33.00 "A"
No Work Req'd. from Sta. 101+33.00 "A" to Sta. 103+33.00 "A"

- 4 Full Depth HMA Shoulder Varies from 4'-0" Min. to 4'-4"
- 5 Full Depth HMA Shoulder Varies from 4'-0" to 3'-11"
- 6 Full Depth HMA Shoulder Varies from 4'-4" to 4'-9"
- 7 Full Depth HMA Shoulder Varies from 3'-11" to 3'-9"



- LEGEND**
- (K) Full-depth HMA Pavement consisting of:
165 lbs/syd QC/QA-HMA, 3, 64, Surface, 9.5 mm on
275 lbs/syd QC/QA-HMA, 3, 64, Intermediate, 19.0 mm on
660 lbs/syd QC/QA-HMA, 3, 64, Base, 25.0 mm on
Subgrade Treatment, Type IC on Geotextile for Pavement Type 2B
 - (J) Widening with HMA, Type B, consisting of:
165 lbs/syd HMA Surface, Type B on
275 lbs/syd HMA Intermediate, Type B on
660 lbs/syd HMA Base, Type B on
Subgrade Treatment, Type IC
 - (R) HMA Milling Transition consisting of:
QC/QA-HMA, 3, 64, Surface, 9.5mm on
Milling, Transition
 - (R1) HMA Milling consisting of:
1 1/2" QC/QA-HMA, 3, 64, Surface, 9.5mm on
Milling, Asphalt, 1 1/2"
 - (O) Variable depth Compacted Aggregate, No. 53 (10" max.)
 - (P1) Joint Adhesive required for Surface layer at longitudinal joints
 - (P2) Liquid Asphalt Sealant required on Surface Layer over longitudinal joint, 24" width
 - (P3) Joint Adhesive required for Surface and Intermediate layers at longitudinal joints
 - Subgrade Treatment, Type IC

NOTES
1. All slope 3:1 or steeper shall utilize Erosion Control Blanket.

Plot: 12/16/2023 6:21:39 PM

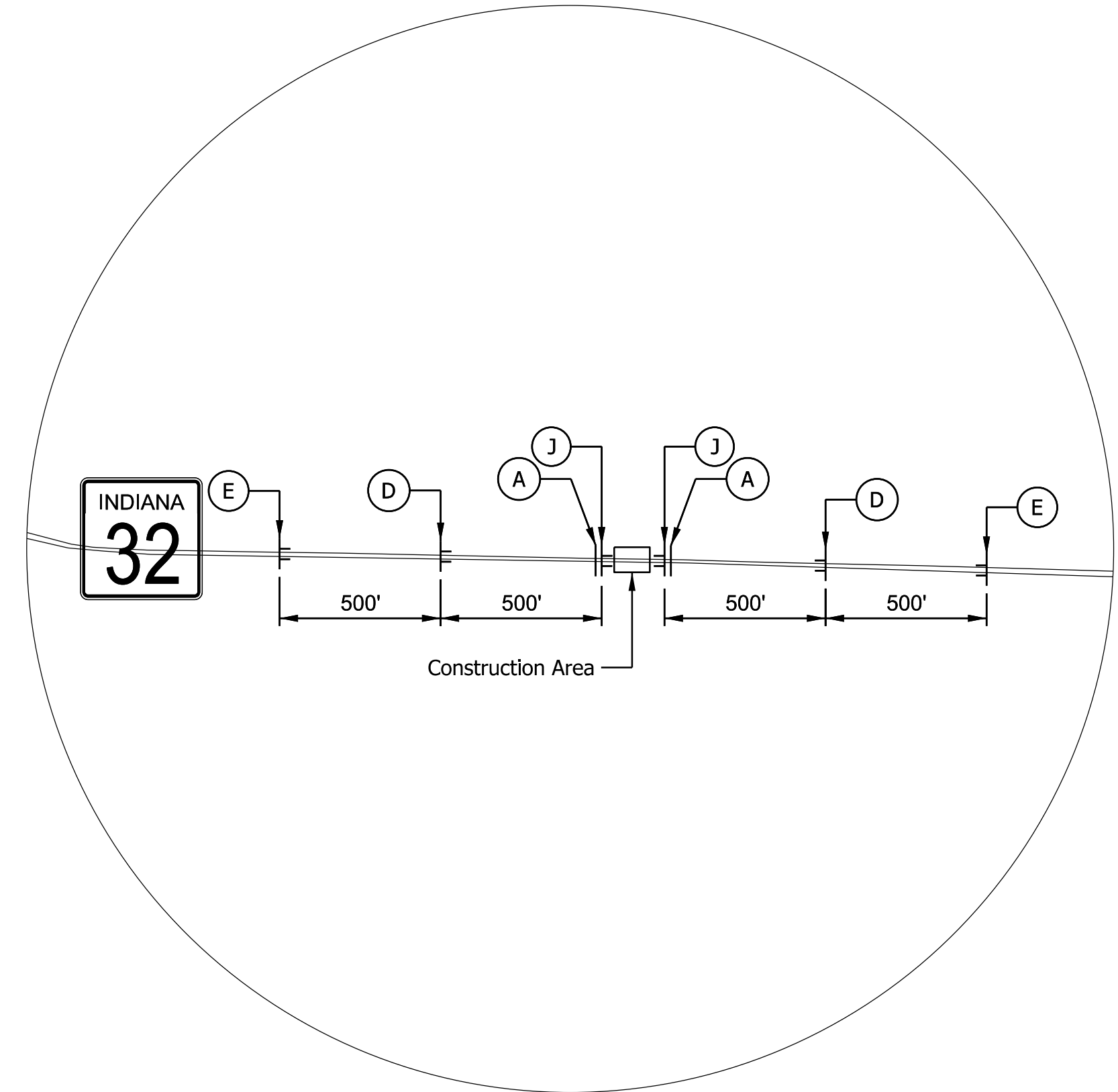
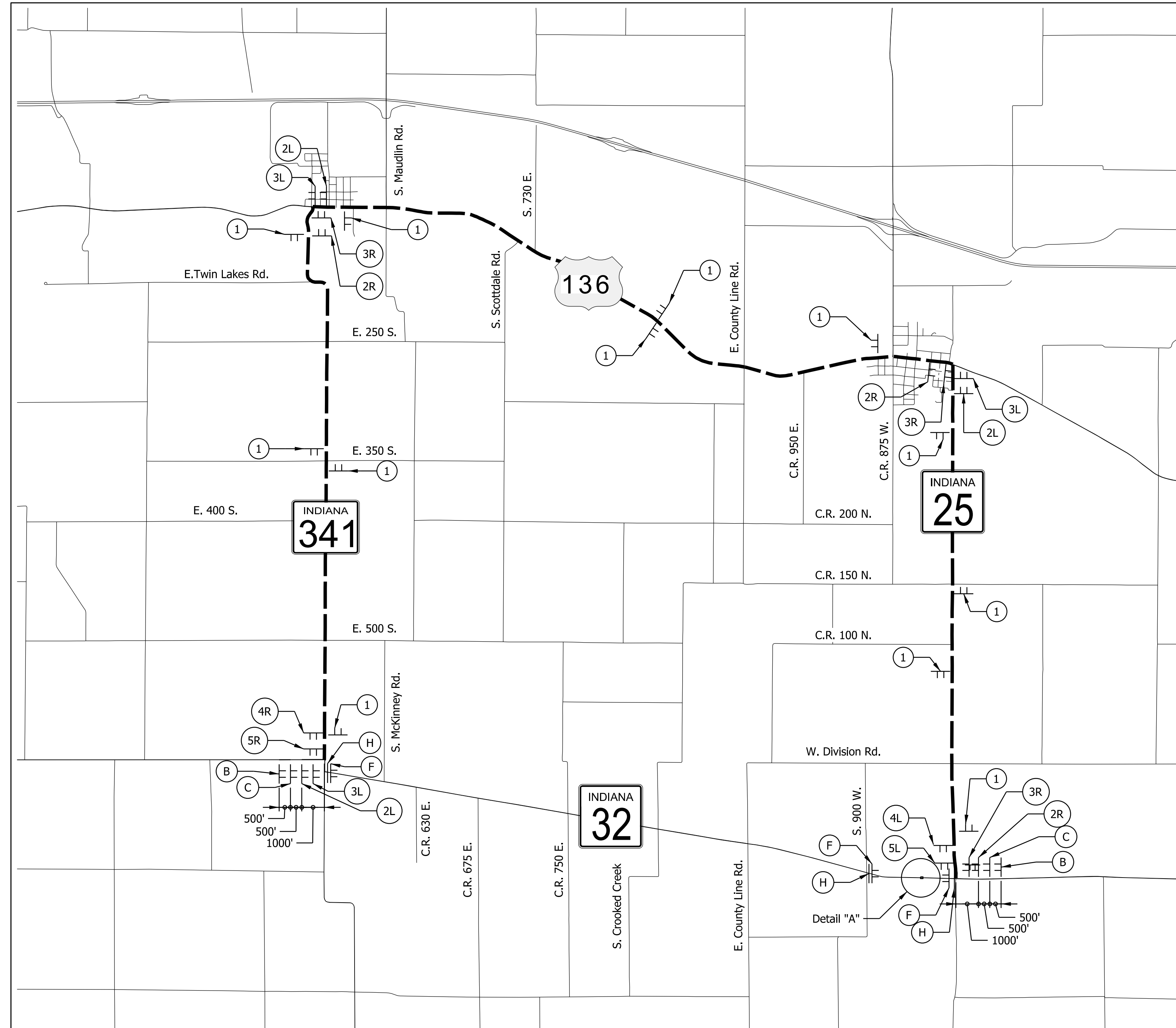
STAGE 2 SUBMITTAL

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ ASI _____	DRAWN: _____ ASI _____	
CHECKED: _____ MDP _____	CHECKED: _____ MDP _____	

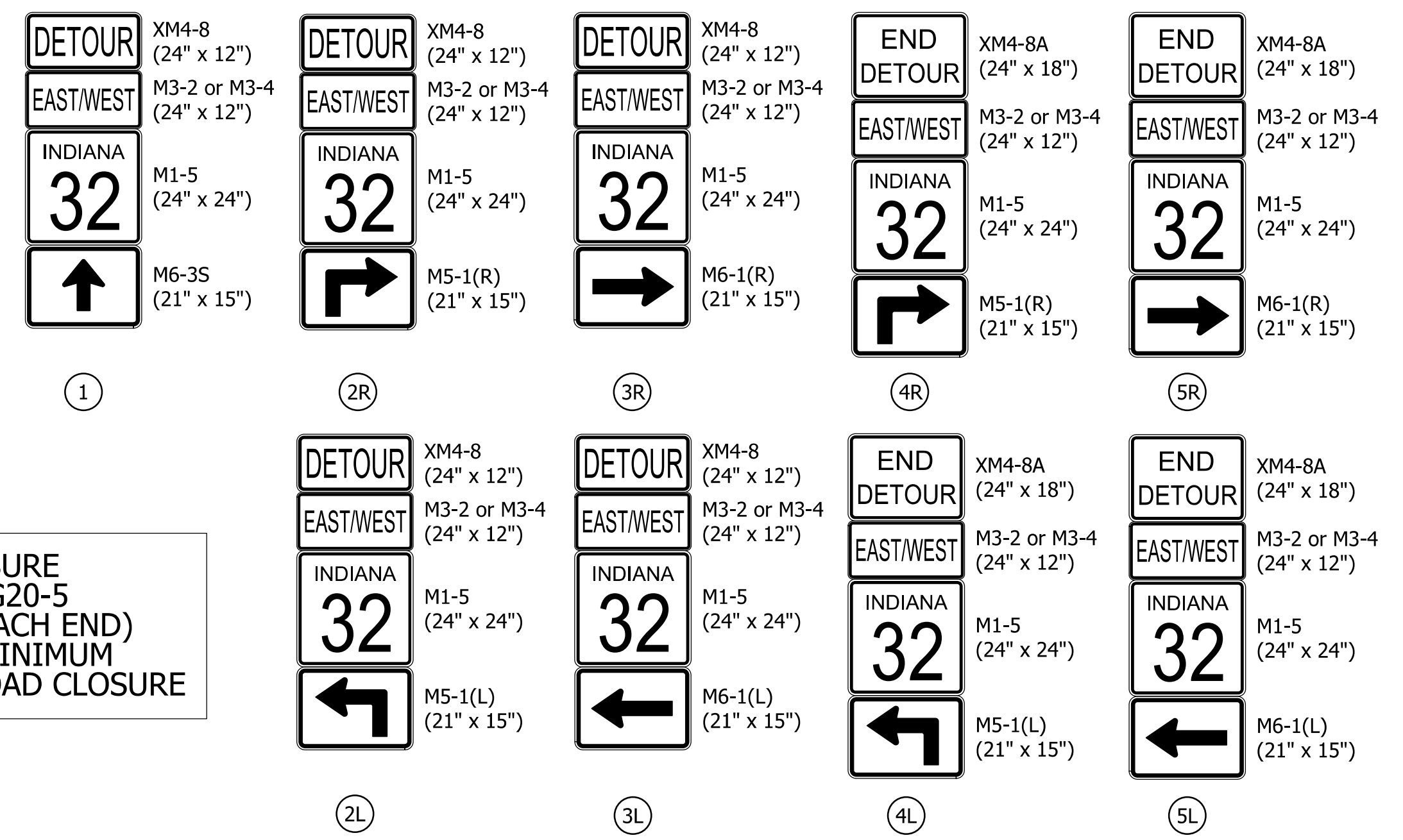
INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	2100803 & 2100804
SURVEY BOOK	SHEETS
ELECTRONIC	5 of 21
CONTRACT	PROJECT
R-43683	2100803 & 2100804



DETAIL "A"
Scale: 1" = 400'



TWO ROAD CLOSURE NOTICE SIGNS XG20-5 REQUIRED (ONE AT EACH END) PLACED AT SITE A MINIMUM OF 14 DAYS PRIOR TO ROAD CLOSURE

MAINTENANCE OF TRAFFIC QUANTITIES				
ITEM	DESCRIPTION	SIZE	QTY	UNIT
Construction Sign, A			10	EACH
XG20-5	Road Closure Notice Sign	60" X 36"	2	
XW20-3	Road Closed Ahead	48" X 48"	2	
XW20-3	Road Closed 500 Ft.	48" X 48"	2	
XW20-3	Road Closed 1,000 Ft.	48" X 48"	2	
XW20-2	Detour Ahead	48" X 48"	2	
Road Closure Sign Assembly			5	EACH
R11-2	Road Closed	48" X 30"	2	
R11-3	Road Closed X Miles Ahead Local Traffic Only	60" X 30"	3	
Barricades, III-A	24 Lft. per Location		48	LFT
Barricades, III-B	24 Lft. per Location		72	LFT
Detour Route Marker Assembly			28	EACH

LEGEND

- (A) Type III-A Barricades - 24 Lft Required
- (B) "ROAD CLOSED AHEAD" - XW20-3
- (C) "DETOUR AHEAD" - XW20-2
- (D) "ROAD CLOSED 500 FT." - XW20-3
- (E) "ROAD CLOSED 1000 FT." - XW20-3
- (F) Road Closed Sign Assembly with "ROAD CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY" - R11-3
- (H) Type III-B Barricades Staggered - 24 Lft Required
- (J) Road Closure Sign Assembly with "ROAD CLOSED" - R11-2
- TT Construction Sign
- Detour Route

DETOUR ROUTE MARKER ASSEMBLY LEGEND

NOTES

1. Detour Route Marker Assemblies shall be in accordance with Standard Drawing 801-TCDD-04.
2. Type B Construction Warning Lights shall be used with all signs located on barricades.
3. Type A Construction Warning Lights shall be used on all other construction signs.
4. Access to property owners shall be provided during construction.

Plot: 12/16/2023 6:21:40 PM

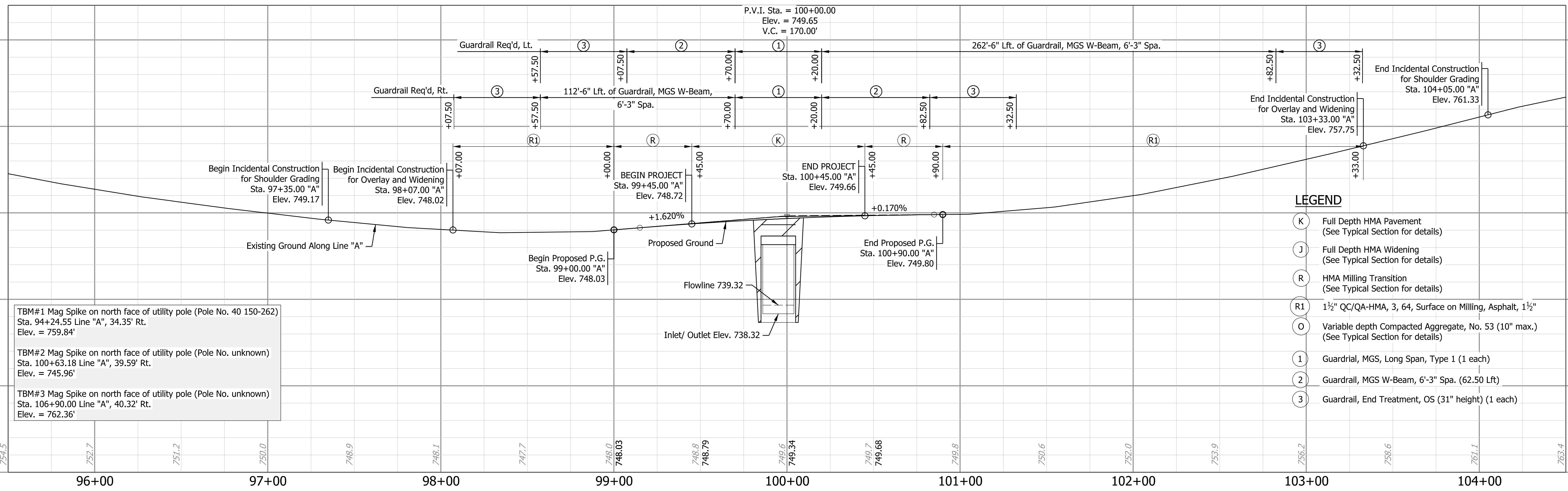
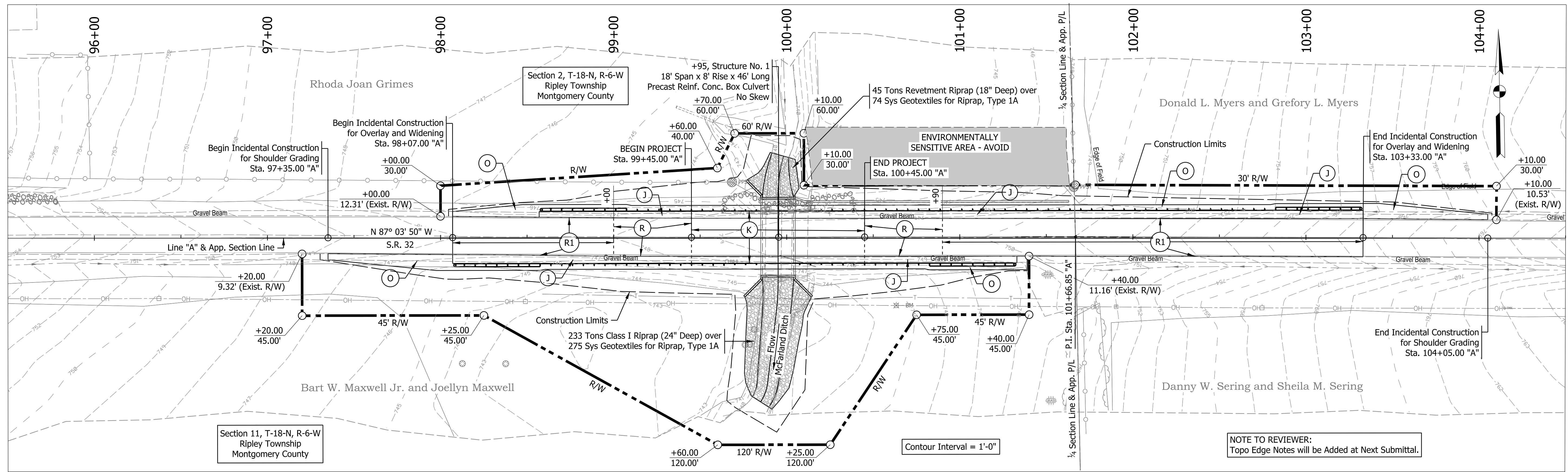
STAGE 2 SUBMITTAL

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ GSH	DRAWN: _____ GSH	
CHECKED: _____ MDP	CHECKED: _____ MDP	

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC DETOUR ROUTE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
N/A	2100803 & 2100804
SURVEY BOOK	SHEETS
ELECTRONIC	6 of 21
CONTRACT	PROJECT
R-43683	2100803 & 2100804

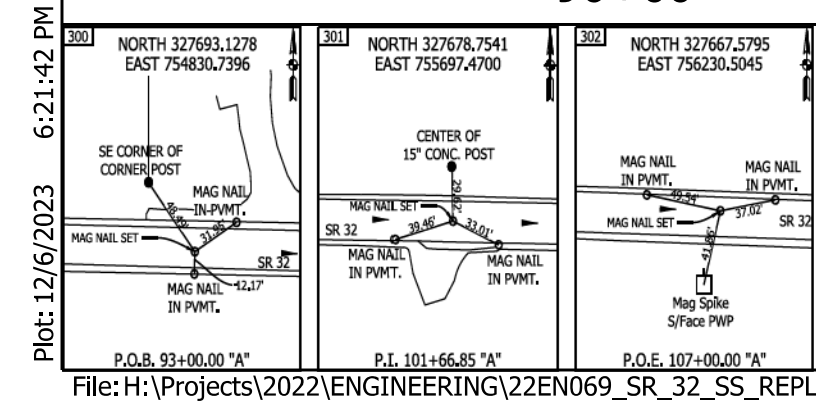


TBM#1 Mag Spike on north face of utility pole (Pole No. 40 150-262)
Sta. 94+24.55 Line "A", 34.35' Rt.
Elev. = 759.84'

TBM#2 Mag Spike on north face of utility pole (Pole No. unknown)
Sta. 100+63.18 Line "A", 39.59' Rt.
Elev. = 745.96'

TBM#3 Mag Spike on north face of utility pole (Pole No. unknown)
Sta. 106+90.00 Line "A", 40.32' Rt.
Elev. = 762.36'

- LEGEND**
- (K) Full Depth HMA Pavement (See Typical Section for details)
 - (J) Full Depth HMA Widening (See Typical Section for details)
 - (R) HMA Milling Transition (See Typical Section for details)
 - (R1) 1 1/2" QC/QA-HMA, 3, 64, Surface on Milling, Asphalt, 1 1/2"
 - (O) Variable depth Compacted Aggregate, No. 53 (10" max.) (See Typical Section for details)
 - (1) Guardrail, MGS, Long Span, Type 1 (1 each)
 - (2) Guardrail, MGS W-Beam, 6'-3" Spa. (62.50 Lft)
 - (3) Guardrail, End Treatment, OS (31" height) (1 each)



STAGE 2
SUBMITTAL

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____

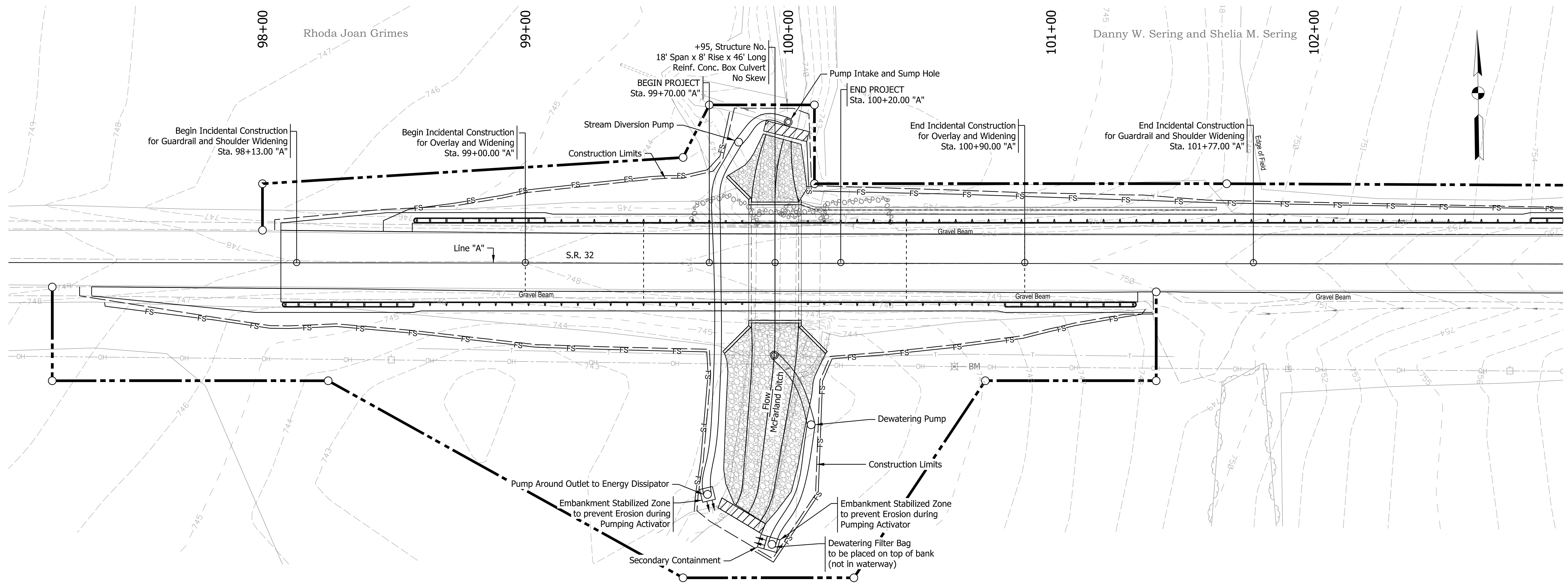
DESIGNED: _____ GSH _____ DRAWN: _____ GSH _____

CHECKED: _____ MDP _____ CHECKED: _____ MDP _____

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

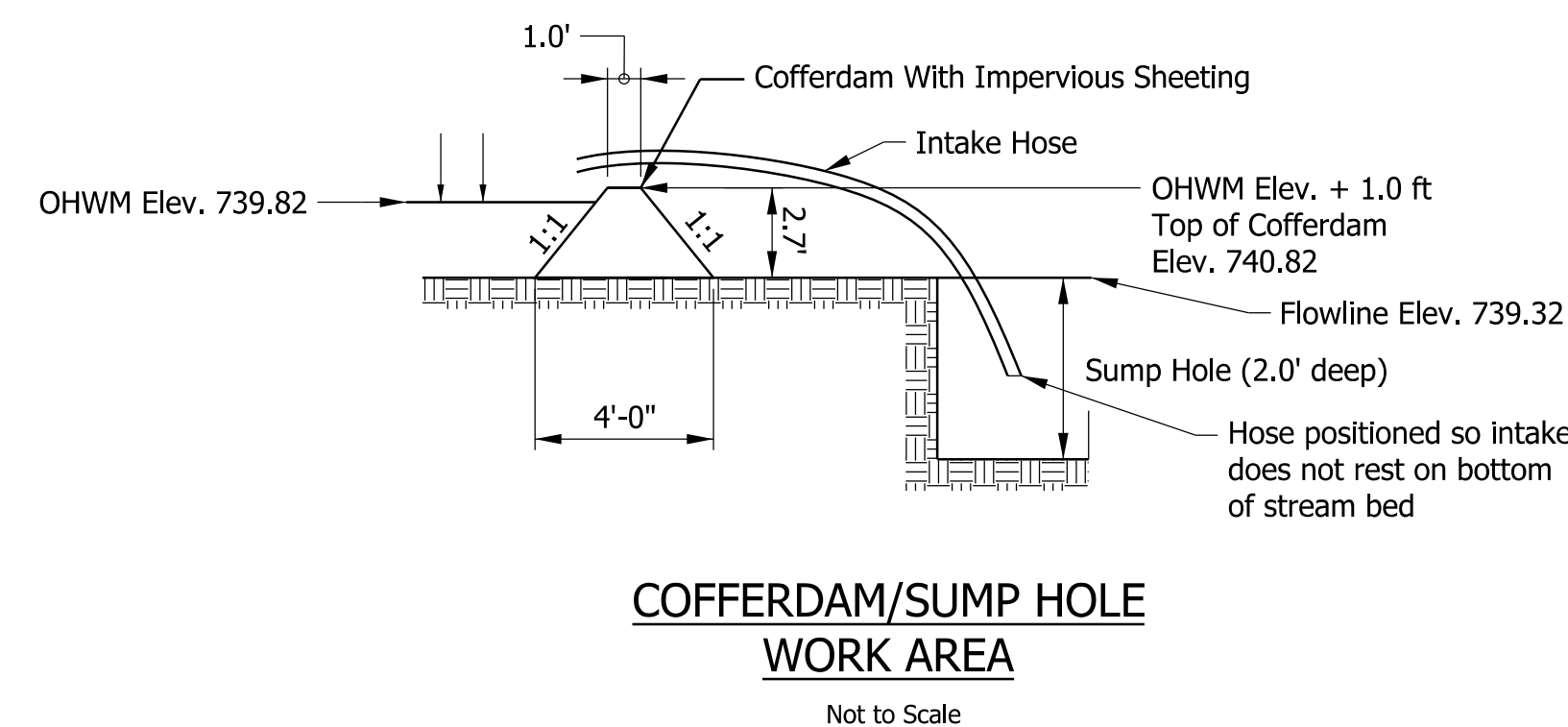
HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'	DESIGNATION 2100803 & 2100804
SURVEY BOOK ELECTRONIC	SHEETS 7 of 21
CONTRACT R-43683	PROJECT 2100803 & 2100804



Bart W. Maxwell Jr. and Joellyn Maxwell

Danny W. Sering and Shelia M. Sering

TEMPORARY EROSION CONTROL TABLE												
STATION	LOCATION		TEMPORARY FILTER SOCK	SEDIMENT REMOVE	SEDIMENT BASIN	SLOPE DRAIN	RIPRAP SPLASHPAD	TEMPORARY CHECK DAM, TRAVERSABLE	MOB/DEMOB STABILIZATION	NO. 2 STONE	FISH POOL	REMARKS
	LEFT	RIGHT										
	LFT	CYS	LFT	CYS	EACH	LFT	CYS	LFT	EACH	TON	EACH	
LINE "A"												
97+40 - 99+64		X	292	14.6								
98+46 - 99+78	X		154	7.7								
99+77 - 101+36		X	213	10.7								
100+07 - 104+06	X		421	21.1								
Undistributed									1	100		
			1080	54.0					1.0	100.0		



NOTES:

- Any areas in addition to those called out, left undisturbed for a period exceeding 7 days shall be required to have temporary seeding.
- All disturbed areas shall be permanently seeded in accordance with indot standard specifications as soon as possible upon completion of work in that area.
- Upon completion of ditch grading, permanent erosion control measures specified on road plans shall be implemented.
- Erosion control blankets will be used on all slopes steeper than 3:1.
- Pump around operation shall remain in place until all work in the channel is complete including channel stabilization and wingwall installation.
- Refer to INDOT Standard Drawings 205-TECD, 205-TECI, 205-TECP for Erosion Control Measures.

LEGEND

- FS Filter Sock
- Temporary Cofferdam

Plot: 12/16/2023 6:21:44 PM

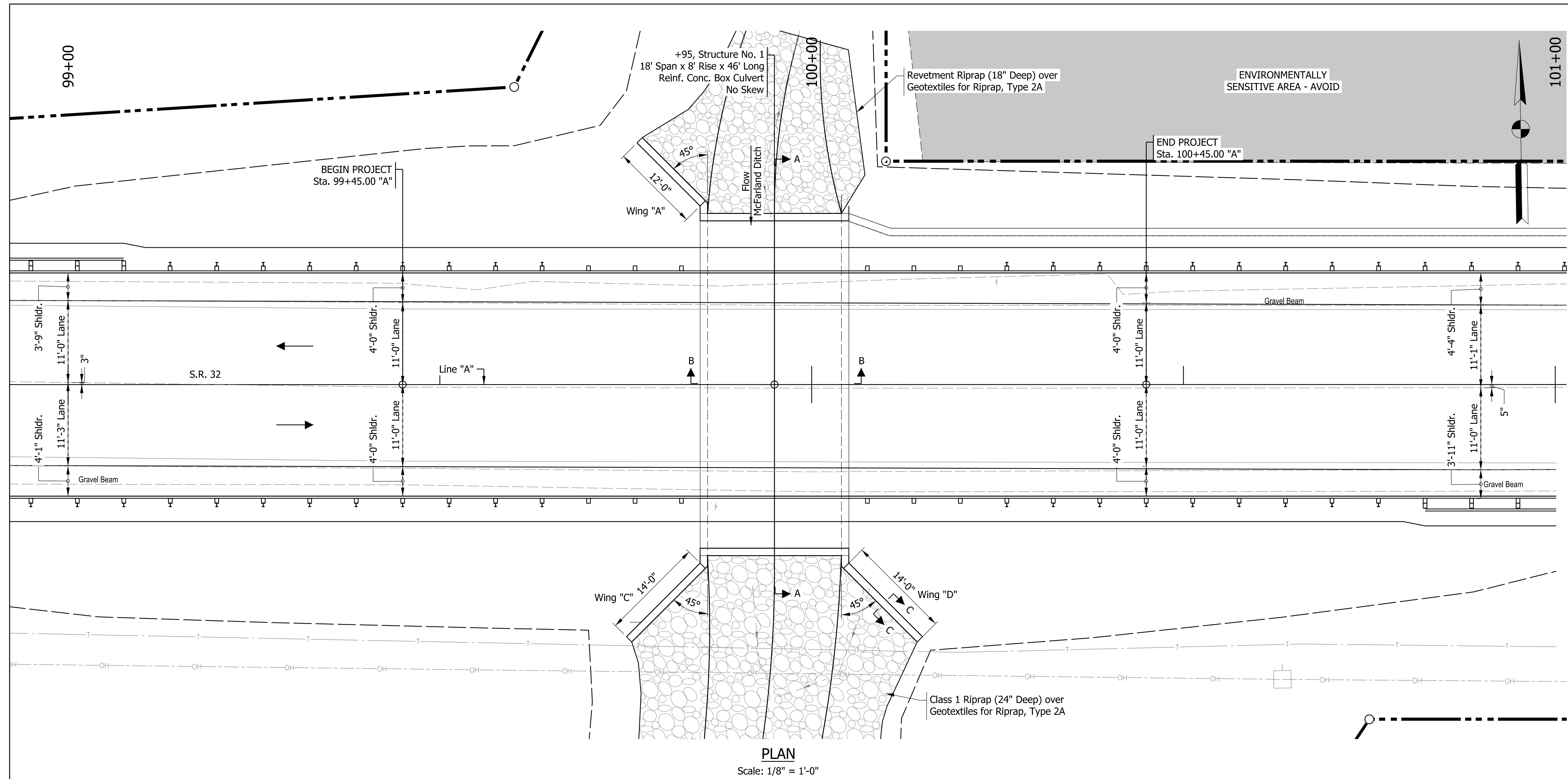
STAGE 2
SUBMITTAL

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ GSH	DRAWN: _____ GSH	
CHECKED: _____ MDP	CHECKED: _____ MDP	

INDIANA
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
N/A	2100803 & 2100804
SURVEY BOOK	SHEETS
ELECTRONIC	8 of 21
CONTRACT	PROJECT
R-43683	2100803 & 2100804



PLAN
Scale: 1/8" = 1'-0"

EXISTING STRUCTURE
Twin 10' Span x 7' Rise, Corrugated Metal Pipe Arches to be replaced

DESIGN DATA
LIVE LOAD:
Designed for HL-93 Loading With Impact and Distribution in Accordance With the 2020 AASHTO LRFD Specifications, 9th Edition and Subsequent Interims.

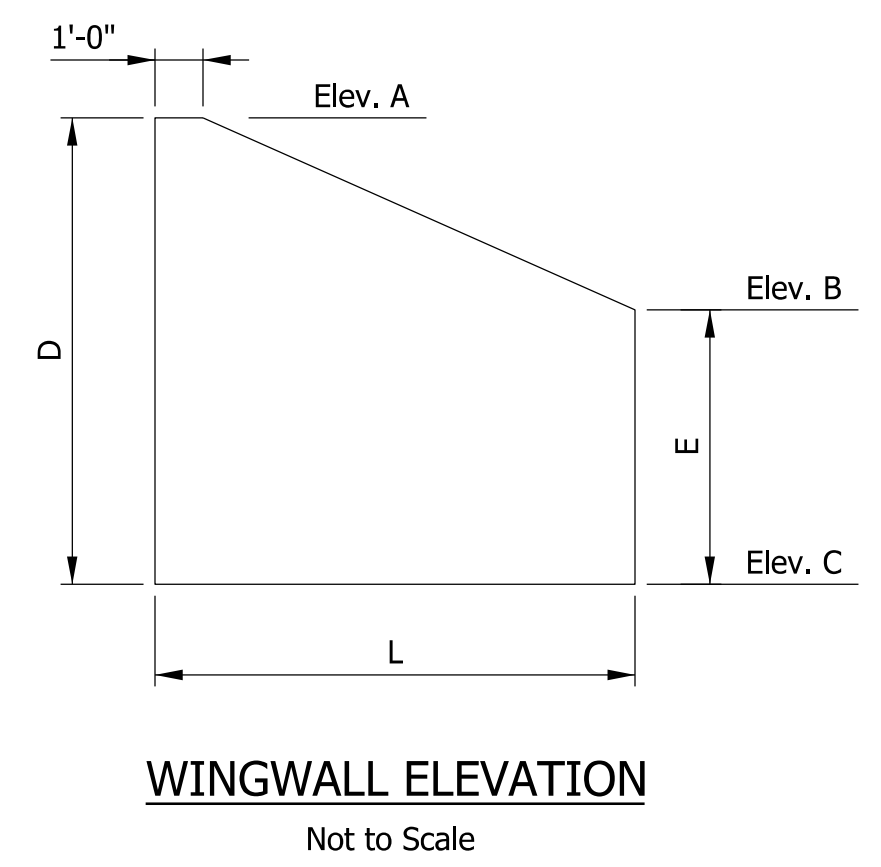
Actual Weight Plus 35 Psf (Composite) for Future Wearing Surface.

SUMMARY OF QUANTITIES
Structure Backfill, Type 5 = 208 CY5

GENERAL NOTES
All dimensions are in feet (ft.) except as noted
Contractor shall verify the existing flowline elevation to set the appropriate sump depth.
Waterproof Membrane shall be applied to the sides and top of the Precast Box Units prior to backfilling

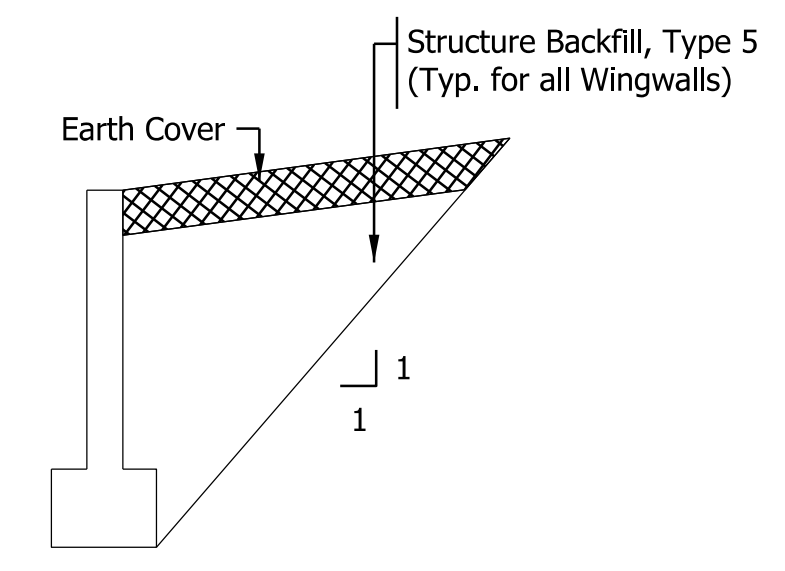
HYDRAULIC PARAMETERS				
PARAMETER	EXISTING		REPLACEMENT	
Structure	Twin 10' x 7' CMPA		18' x 8' Reinforced Concrete Box Sumped 12"	
Road Overflow Area Below Q100 Elevation	No		No	
Waterway Area Below Q100 Elevation	52	sq. ft.	95.22	sq. ft.
Q100 Headwater Elevation	747.44	ft.	747.14	ft.
Backwater	2.35	ft.	2.05	ft.
Outlet Velocity Q25	6.62	ft./s	6.51	ft./s
Scour Protection	N/A		Class 1 Riprap	

NOTES
See Next Sheet for End Elevation, Section A-A, and Section B-B



	WINGWALL				TOTAL
	A	B	C	D	
Elev. A	0.00	0.00	0.00	0.00	0.00
Elev. B	0.00	0.00	0.00	0.00	0.00
Elev. C	0.00	0.00	0.00	0.00	0.00
D	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00
L	0.00	0.00	0.00	0.00	0.00
Area (Sft.)	0	0	0	0	0

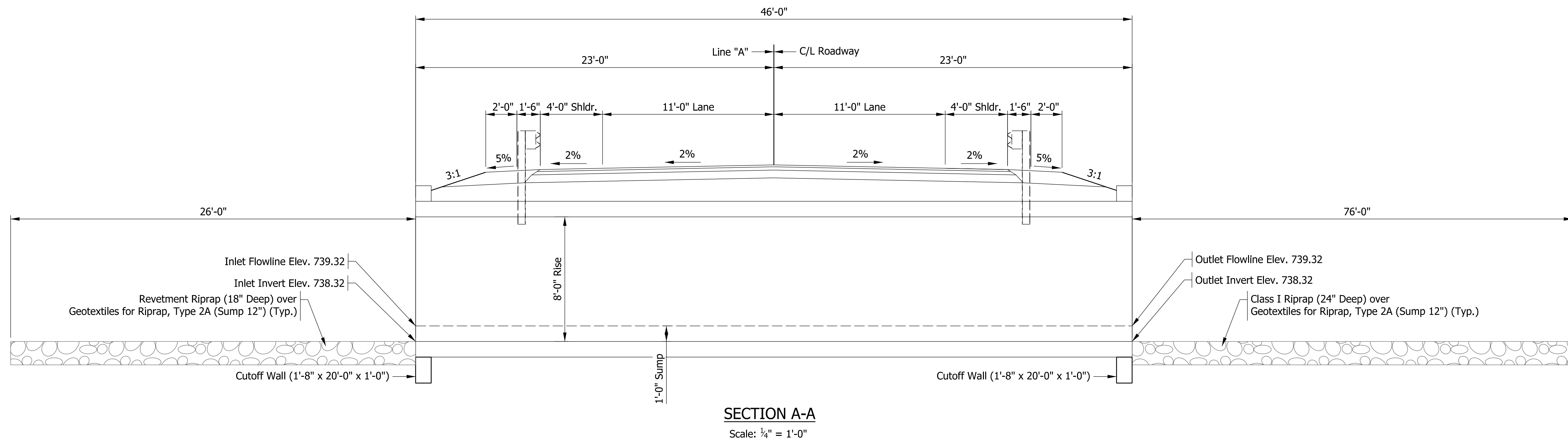
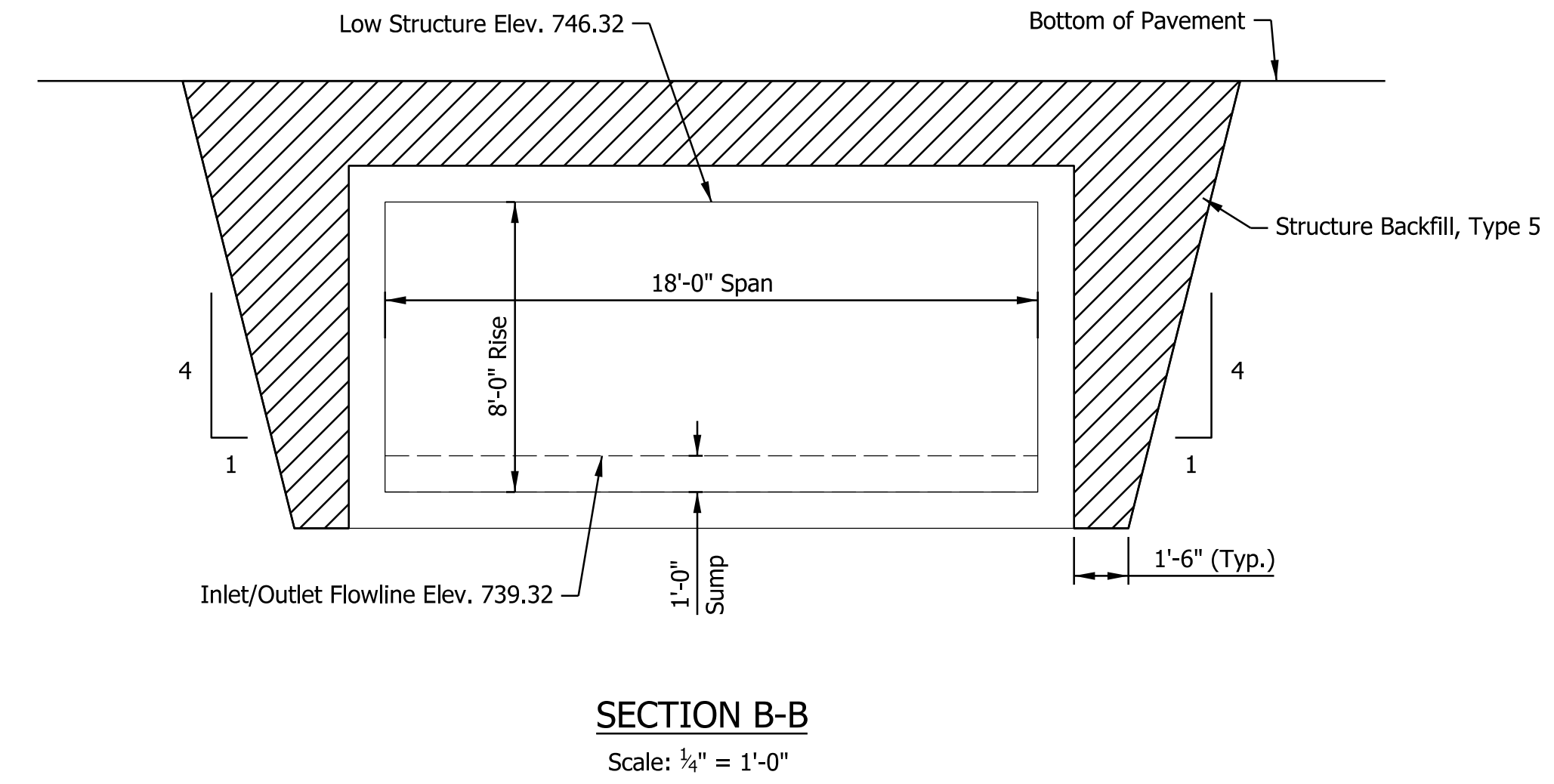
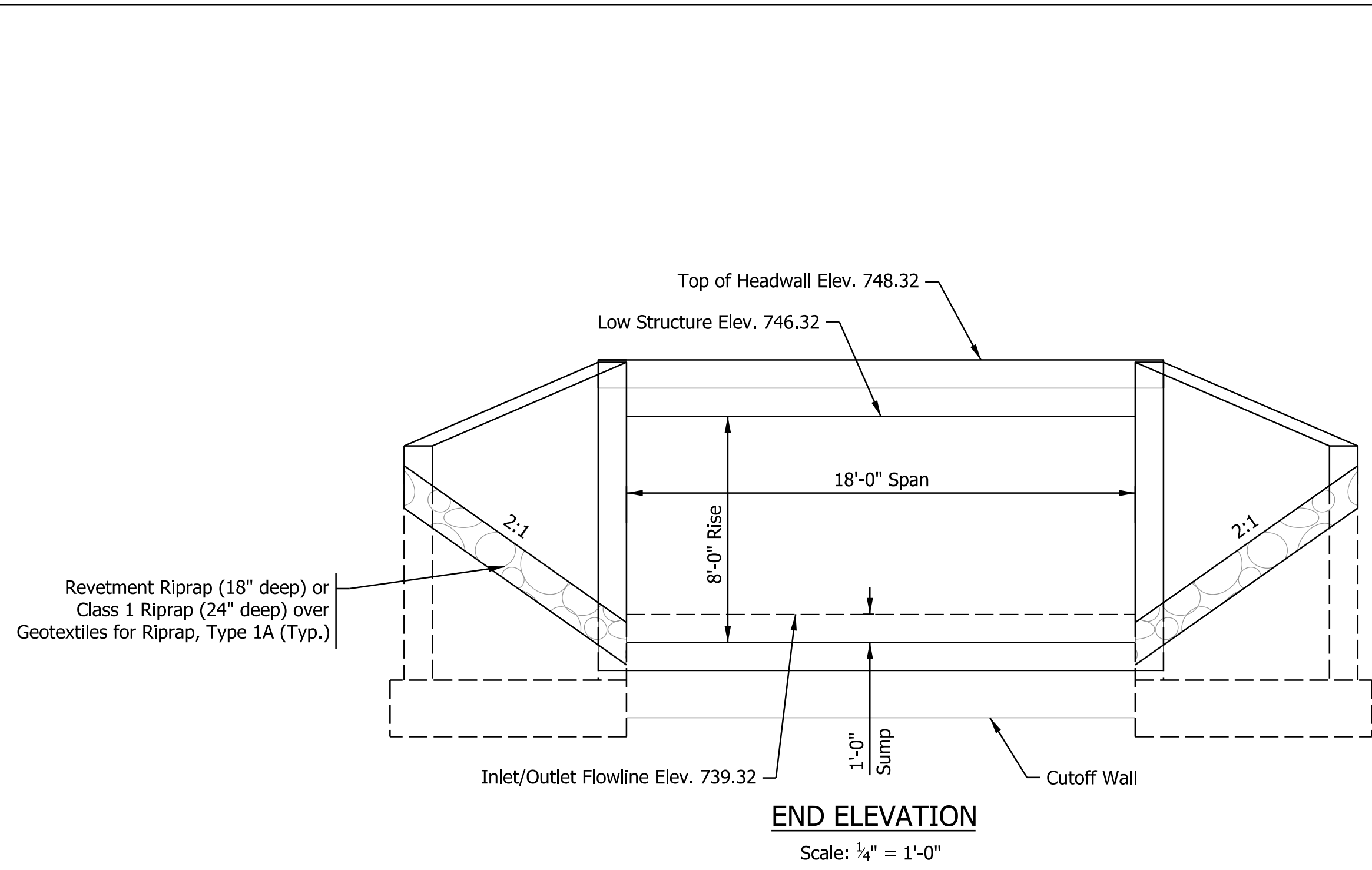
NOTE: Wingwall table to be completed at next submittal.



PRECAST REINFORCED CONCRETE BOX CULVERT
18' SPAN X 8' RISE X 46' LONG
0° SKEW
S.R. 32 OVER MCFARLAND DITCH
MONTGOMERY COUNTY

Plot: 12/16/2023 6:21:46 PM

STAGE 2 SUBMITTAL	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
	DESIGNED: _____ GSH	DRAWN: _____ GSH		AS NOTED	N/A
	CHECKED: _____ MDP	CHECKED: _____ MDP	GENERAL PLAN	VERTICAL SCALE	DESIGNATION
				AS NOTED	2100803 & 2100804
				SURVEY BOOK	SHEETS
				ELECTRONIC	9 of 21
				CONTRACT	PROJECT
				R-43683	2100803 & 2100804



PRECAST REINFORCED CONCRETE BOX CULVERT
18' SPAN X 8' RISE X 46' LONG
0° SKEW
S.R. 32 OVER MCFARLAND DITCH
MONTGOMERY COUNTY

Plot: 12/16/2023 6:21:47 PM

File: H:\Projects\2022\Engineering\22EN069_SR_32_SS_REPLACEMENT_DES_2100803_2100804_SJCA\CAD\Sheets\22EN069_Gen Plan.dgn
Model: Gen Plan Sht_2

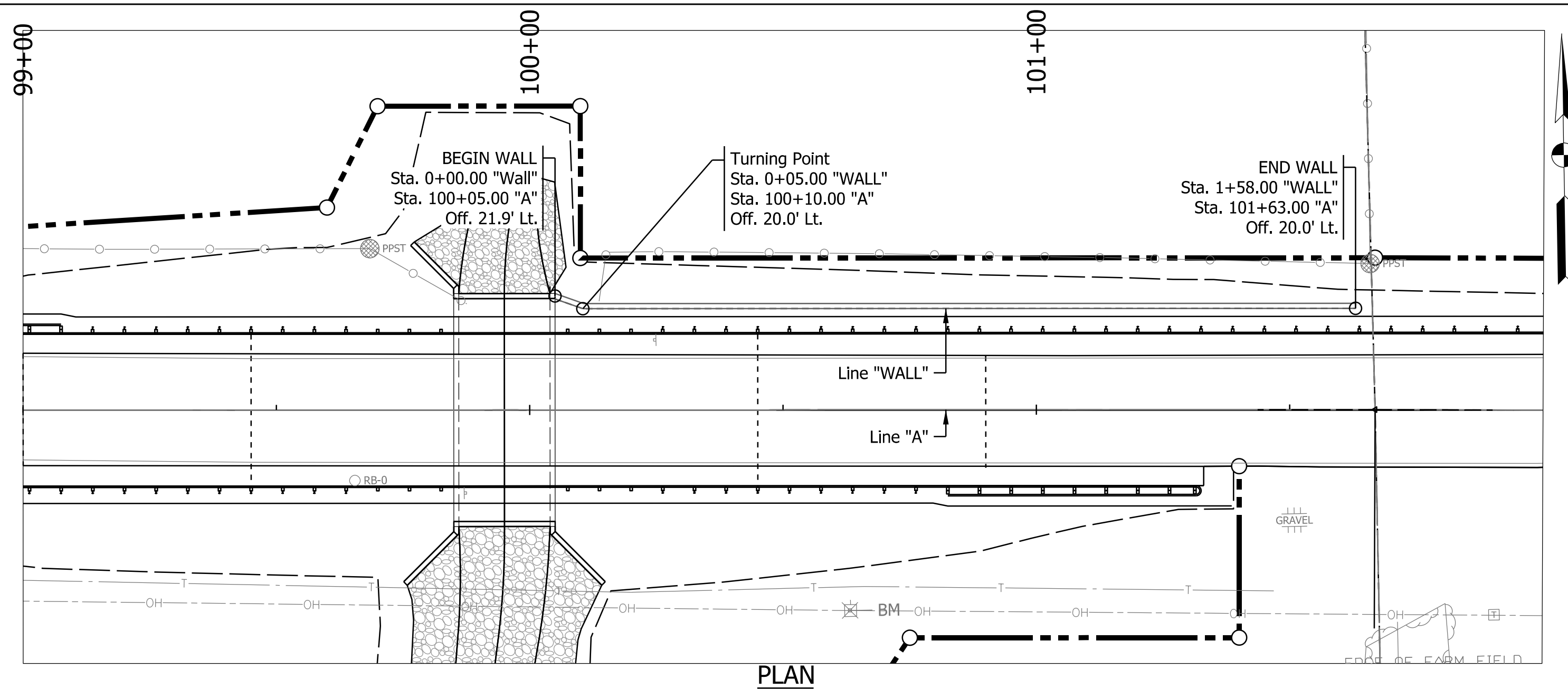
**STAGE 2
SUBMITTAL**

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ GSH _____	DRAWN: _____ GSH _____	
CHECKED: _____ MDP _____	CHECKED: _____ MDP _____	

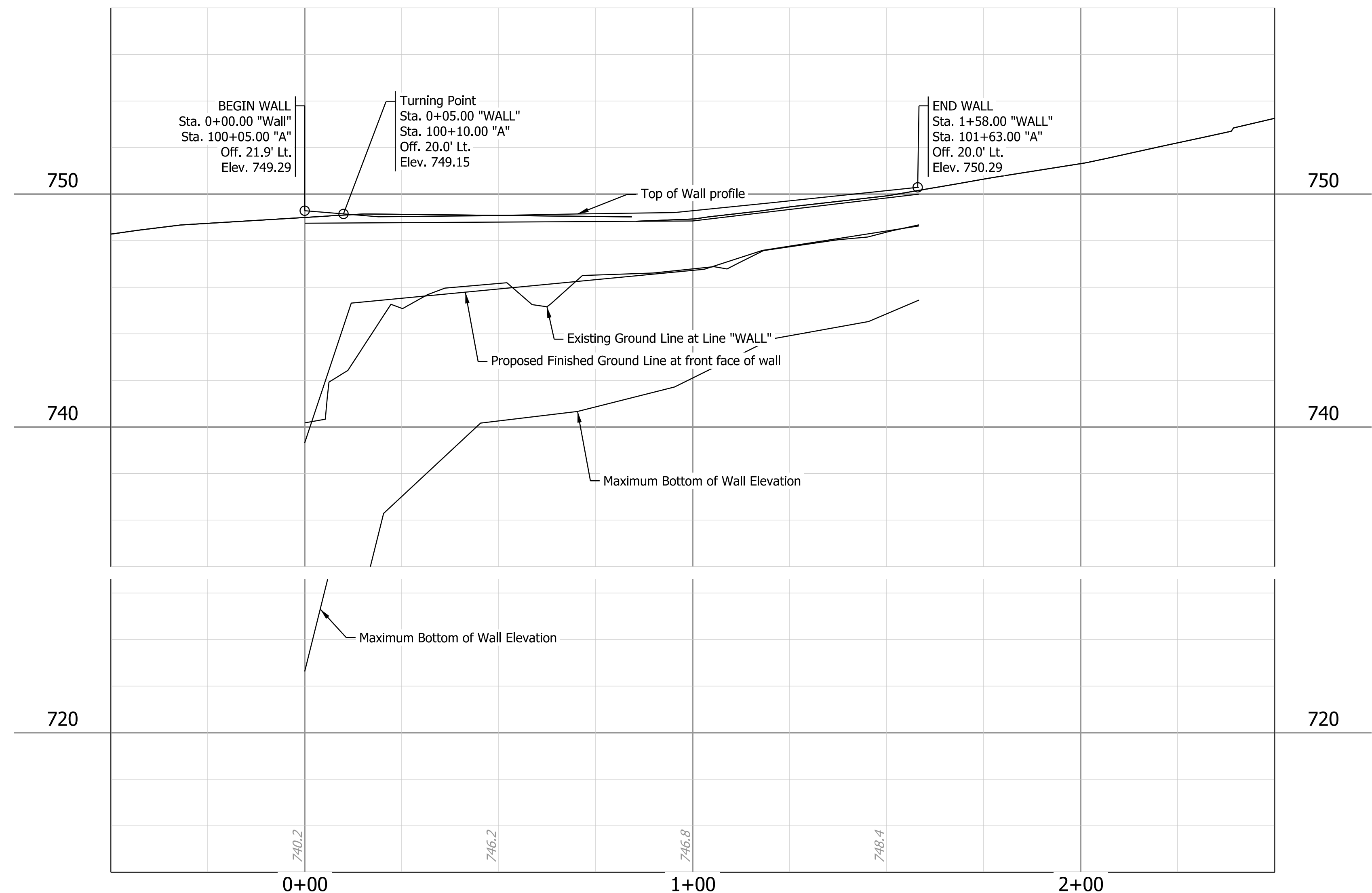
**INDIANA
DEPARTMENT OF TRANSPORTATION**

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	2100803 & 2100804
SURVEY BOOK	SHEETS
ELECTRONIC	10 of 21
CONTRACT	PROJECT
R-43683	2100803 & 2100804



PLAN



PROFILE

Plot: 12/16/2023 6:22:02 PM

STAGE 2 SUBMITTAL	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1" = 20'	BRIDGE FILE N/A
	DESIGNED: _____ MDP	DRAWN: _____ MDP	RETAINING WALL DETAILS		VERTICAL SCALE 1" = 5'	DESIGNATION 2100803 & 2100804
	CHECKED: _____ KCH	CHECKED: _____ KCH			SURVEY BOOK	SHEETS
					ELECTRONIC	11 of 21
					CONTRACT	PROJECT
					R-43683	2100803 & 2100804

Des 2100803 & 2100804

Appendix C

Early Coordination





INDIANA DEPARTMENT OF TRANSPORTATION

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

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

Eric Holcomb, Governor
Michael Smith, Commissioner

August 21, 2023

RE: Des. No. 2100803 & 2100804, State Road (SR) 32 over McFarland Ditch, 0.27 Miles West of SR 25, Small Structure Replacement Project, Montgomery County, Indiana

Environmental Reviewer,

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a small structure replacement project involving the existing culverts that carry SR 32 over McFarland Ditch in Montgomery County, Indiana. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible effects associated with this project. **Please use the above designation number and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

The project is located in Sections 2 & 11, Township 18 North, Range 6 West, Ripley Township, Montgomery County, Indiana. SR 32 is two-lane Rural Major Collector. The existing roadway consists of two 11-foot-wide lanes in each direction with four-foot-wide shoulders. The existing structures (CV 032-054-27.50 A & B) carrying SR 32 over McFarland Ditch are twin corrugated metal pipes (CMPs) that are both approximately 10 feet (ft) in diameter and 44 ft in length.

The proposed scope of work involves replacing the existing structures with a Reinforced Concrete Box, which will be approximately 18 ft wide and eight ft in height, with a 12-inch sump. The length of the new structure will be 46 ft. New guardrail will be installed. Maximum excavation depth will reach approximately 15 ft below ground surface (bgs) for the installation of the new structure. Work below the Ordinary High Water Mark (OHWM) of McFarland Ditch will be required for the installation of the new structure and placement of riprap. The Maintenance of Traffic (MOT) will include a full road closure at the project area, and utilize SR 25, United States Highway (US) 136 and SR 341, adding approximately fifteen (15) miles of travel distance. Approximately 0.6 acres of permanent Right of Way (ROW) is anticipated for this project. No lighting or signal work is anticipated for this project. Some tree removal is anticipated. Construction is anticipated to begin Summer 2026.

Land use in the vicinity is primarily agricultural, with residential properties to the east and west of the project area. The project qualifies for the application of the USFWS range-wide programmatic informal consultation for the Indiana Bat and Northern Long-Eared Bat and project information will be provided to the USFWS for review separately. SJCA Inc. will investigate the site for archaeological and historic resources for compliance with Section 106 and send findings to INDOT Cultural Resources staff and the State Historic Preservation Officer for review and concurrence. A Waters of the U.S./Wetland Delineation report will be completed.

Information specific to your agency's area of expertise concerning the effects of the project should be forwarded to **Taylor Gabrysiak, SJCA Inc., via email at tgabrysiak@sjcainc.com**. If you have any questions or comments regarding this request, please contact me at the above email. The INDOT Project Manager, Karen Arnold, may also be contacted at karnold2@indot.in.gov. Your response is requested within 30 days, and we will incorporate any of your comments into a study of the project's environmental impacts. **Should we not receive a response within 30 calendar days from the date of this letter**, it will be assumed that your agency feels that there will be no adverse effects incurred as a result of the proposed project. Thank you for your assistance.

Sincerely,

Taylor Gabrysiak
GIS Specialist
SJCA Inc.

Attachments:
Early Coordination Recipient List
Project Maps
Photo Location Map and Site Photographs



INDIANA DEPARTMENT OF TRANSPORTATION

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

Eric Holcomb, Governor
Michael Smith, Commissioner

The following agencies received Early Coordination Letters:

Federal Highway Administration
Crawfordsville District, Kari Carmany-George
k.carmanygeorge@dot.gov

Indiana Geological and Water Survey
Online Submission
<https://igws.indiana.edu/eAssessment>

IDNR Environmental Coordinator
environmentalreview@dnr.in.gov

National Park Service
Midwest Regional Office
Regional Environmental Coordinator
Mwro_Compliance@nps.gov

IDEM Groundwater Section
Wellhead Proximity Determinator Website
<https://www.in.gov/idem/cleanwater/pages/wellhead/>

U.S. Department of Housing & Urban Development
Chicago Regional Office
Field Environmental Officer, Erik Sandstedt
Erik.R.Sandstedt@hud.gov

INDOT Crawfordsville District
Environmental Section Manager, Zane Kurtz
Rkurtz@indot.in.gov

INDOT Project Manager, Karen Arnold
Karnold2@indot.in.gov

US Fish and Wildlife Service
Bloomington Indiana Field Office
robin_mcwilliams@fws.gov

Natural Resources Conservation Service
State Conservationist
John.allen@usda.gov

US Coast Guard
Commander, Eighth Coast Guard District
eric.washburn@uscg.mil

U.S. Army Corps of Engineers
Louisville District, Indianapolis Regulatory Office
RegulatoryApplicationsLRL@usace.army.mil

Montgomery County Commissioners
John Frey, President
john.frey@montgomerycounty.in.gov

Montgomery County Emergency Management
Jessica Burget, Director
jessica.burget@montgomerycounty.in.gov

Montgomery County Highway Department
highway@montgomerycounty.in.gov

Montgomery County Surveyor Department
Tom Cummins, Surveyor
tom.cummins@montgomerycounty.in.gov

Montgomery County Floodplain Administration
Marc Bonwell, Building Administrator
marc.bonwell@montgomerycounty.in.gov

Montgomery County Sheriff
Ryan Needham, Sheriff
Ryan.Needham@montgomerycounty.in.gov

Montgomery County Schools
Crawfordsville District
Dr. Rex Ryker, Superintendent
Betsy Hamm, Transportation Director
rryker@cville.k12.in.us
bhamm@cville.k12.in.us

Montgomery County Soil Water Conservation District
montcountyswed@gmail.com

August 24, 2023

Taylor Gabrysiak
1028 Virginia Ave, Suite 201
Indianapolis, Indiana 46203

Dear Ms. Gabrysiak:

The proposed Small Structure Replacement Project over SR32 in Montgomery County, Indiana (Des. No. 2100803 & 2100804), as referred to in your letter received on August 21, 2023, will cause a conversion of prime farmland.

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

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

Sincerely,

JOHN ALLEN

JOHN ALLEN
State Soil Scientist

 Digitally signed by JOHN ALLEN
Date: 2023.08.25 10:49:11 -04'00'

Encloser

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request			
Name of Project DES2100803_2100804_SR32 McFarland		Federal Agency Involved			
Proposed Land Use Right of Way		County and State Montgomery County, IN			
PART II (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form: JRA	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size 445 ac
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 307930 % 95	Amount of Farmland As Defined in FPPA Acres: 281375 % 87			
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS 8/25/23			
PART III (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		0.5			
B. Total Acres To Be Converted Indirectly		0.0			
C. Total Acres In Site		0.5			
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		0.55			
B. Total Acres Statewide Important or Local Important Farmland		0.00			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		<0.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		83			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		72			
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)	15		
2. Perimeter In Non-urban Use		(10)	4		
3. Percent Of Site Being Farmed		(20)	0		
4. Protection Provided By State and Local Government		(20)	20		
5. Distance From Urban Built-up Area		(15)	0		
6. Distance To Urban Support Services		(15)	10		
7. Size Of Present Farm Unit Compared To Average		(10)	0		
8. Creation Of Non-farmable Farmland		(10)	0		
9. Availability Of Farm Support Services		(5)	5		
10. On-Farm Investments		(20)	5		
11. Effects Of Conversion On Farm Support Services		(10)	0		
12. Compatibility With Existing Agricultural Use		(10)	0		
TOTAL SITE ASSESSMENT POINTS		160	59	0	0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	72	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	72	0	0
Site Selected: A	Date Of Selection 09/20/2023	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
Reason For Selection: The existing bridge needs to be replaced to prevent further deterioration and possible adverse impacts to transportation in the area.					
Name of Federal agency representative completing this form: Taylor Gabrysiak					Date: 09/20/2023

(See Instructions on reverse side)

Organization and Project Information

Project ID:
Des. ID: Des 2100803 & 2100804
Project Title: State Road 32 Over McFarland Ditch Small Structure Project, Montgomery, Indiana
Name of Organization: SJCA Engineering INC
Requested by: Taylor Gabrysiak

Environmental Assessment Report

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

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

DISCLAIMER:

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

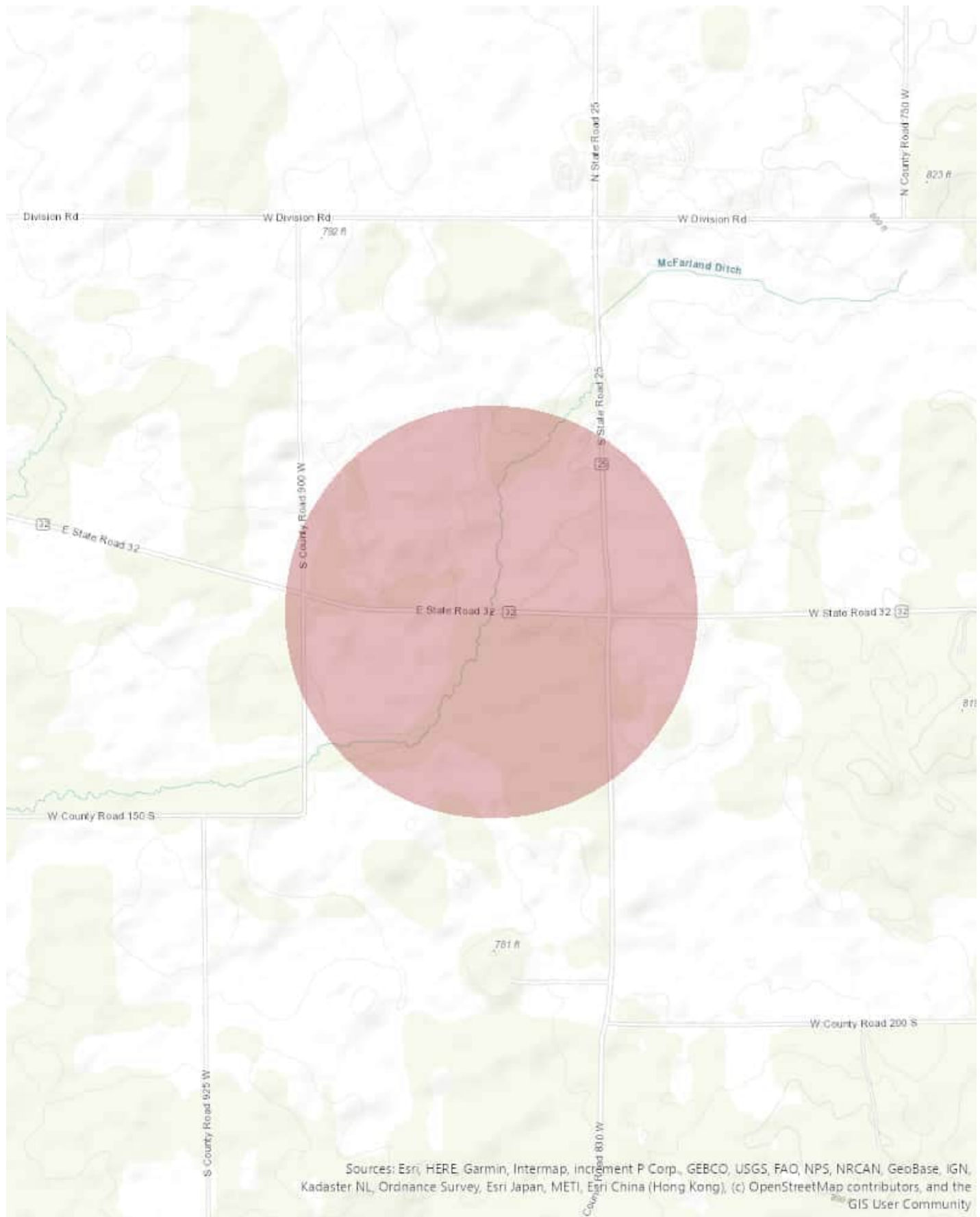
This information was furnished by Indiana Geological Survey

Address: 1001 E. 10th St., Bloomington, IN 47405

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: August 02, 2023



Metadata:

- https://portal.igs.indiana.edu/arcgis/rest/services/Seismic_Earthquake_Liquefaction_Potential/MapServer/info/metadata/metadata.xml?format=default&output=html
- https://portal.igs.indiana.edu/arcgis/rest/services/Industrial_Minerals_SandAndGravel_Resources/MapServer/info/metadata/metadata.xml?format=default&output=html
- https://gisdata.in.gov/server/rest/services/Hosted/FIRM_Flood_Hazard_Zones_2023/FeatureServer/info/metadata
- https://portal.igs.indiana.edu/arcgis/rest/services/Bedrock_Geology/MapServer/info/metadata/metadata.xml?format=default&output=html

THIS IS NOT A PERMIT

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

DNR#: ER-25878

Request Received: August 21, 2023

Requestor:

Taylor Gabrysiak
SJCA Inc
9102 North Meridian Street, Suite 200
Indianapolis, IN 46260

Project:

SR 32 2 small structure (CV 032-054-27.50 A & B) replacements with a single structure over McFarland Ditch, 0.27 miles west of SR 25; Des #2100803 & 2100804

County/Site Info: Montgomery County

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

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

Regulatory Assessment:

This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for a bridge exemption (see enclosure). Please include a copy of this letter with the permit application if the project does not meet the bridge exemption criteria.

Natural Heritage Database:

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

Fish and Wildlife Comments:

Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

A) Stream Crossing Design

Bridges are preferred over culverts, and three-sided culverts are preferred over box or pipe culverts. Multiple culverts or culverts with multiple openings are not recommended for approval. These types of structures are often problematic for fish and wildlife passage as they tend to accumulate debris and become blocked. If box and pipe culverts are used, the culvert bottoms should be sumped a minimum of 6" (or 20% of the culvert height or diameter, whichever is greater up to a maximum of 2') below the stream bed elevation. Sumping is not required for bridges or three-sided culverts. Crossings must span the entire channel width (a minimum of 1.2 times the ordinary high-water mark width). Crossings must maintain the natural stream substrate within the structure (natural stream substrate must be replaced in sumped box and pipe culverts up to the existing flowline). Scour protection at the inlet and outlet must not extend above the existing flowline elevation.

Stream depth, channel width and water velocities in the crossing structure during low-flow conditions must approximate those in the natural stream channel.

The new/replacement/rehabilitated crossing structure, and any bank stabilization under or around the structure, must not create conditions that are less favorable for wildlife passage when compared to existing conditions. Upgrading wildlife passage for replacement/rehabilitated structures is recommended whenever possible to improve wildlife/vehicle safety. White-tailed deer passage must be incorporated into all new structures where no structure previously existed. Minimum structure dimensions for white-tailed deer passage are 20 feet of width clearance (overall span of the structure) and 8 feet of height clearance measured from the ordinary high-water mark (OHWM). Bank lines must be maintained or restored within structures to allow for wildlife passage above the OHWM. All wildlife passage designs must include a smooth level pathway a minimum of 1-3 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream. The width and location of the wildlife pathway is dependent on the wildlife species using the area.

There are several techniques and materials for incorporating wildlife passage into the design of a crossing structure if maintaining or restoring banklines is not possible. Coordination with a Regional Environmental Biologist to address wildlife passage issues before submitting a permit application (if required) is encouraged to avoid delays in the permitting process. The following links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage:

<https://www.fs.usda.gov/ccrc/tool/fishxing-fish-passage-learning-systems>

<https://www.fs.usda.gov/wildlifecrossings/library/index.php>

https://www.fhwa.dot.gov/clas/ctip/wildlife_crossing_structures/

<https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>

B) Streambank Stabilization

Some form of bank stabilization is almost always needed with the construction, repair, replacement, or modification of a stream channel or crossing structure. For streambank stabilization and erosion control, regrading to a stable slope (2:1 or shallower) and establishing native vegetation along the banks are typically the most effective techniques and allow a vegetated stream bank to develop. A variety of methods to accomplish this include planting plugs, whips, container stock, seeding, and live stakes. In addition to vegetation establishment, some additional level of bioengineered bank stabilization may be needed under certain circumstances (inability to regrade to a stable slope, flow velocities that exceed the limits of vegetation alone, etc.). Combining vegetation with any of the following bank stabilization methods can provide additional bank protection while not compromising benefits to fish, wildlife, and botanical resources:

- Geotextiles (erosion control blankets and/or turf reinforcement mats that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles)
- Vegetated geogrids or soil lifts, fiber rolls, glacial stone, or riprap.

Riprap or other hard bank stabilization materials should be used only at the toe of the sideslopes up to the OHWM with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. Information about bioengineering techniques can be found at the following link to a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: https://efotg.sc.egov.usda.gov/references/public/IA/Chapter-16_Streambank_and_Shoreline_Protection.pdf.

C) Riparian Habitat

The Division of Fish and Wildlife recommends a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Habitat Mitigation Guidelines (and plant lists) can be found online at: <https://www.in.gov/nrc/files/IB-17.pdf>.

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 greater. Seeding and stabilizing disturbed areas is required regardless of the impact amount and location. If floodway impacts to forested 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.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

1. Revegetate all bare and disturbed areas that are not currently mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in currently mowed areas only. A native herbaceous seed mixture must include at least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits in-channel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana Bat or Northern Long-eared Bat roosting (3 inches or greater diameter-at-breast height, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
6. Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
7. Do not use broken concrete as riprap.
8. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
9. Minimize the movement of resuspended bottom sediment from the immediate project area.
10. Do not deposit or allow construction/demolition materials or debris to fall or otherwise enter the waterway. Any incidental fallen material or debris in the waterway must be removed within 24 hours using best management practices, particularly lifting material out of the waterway and not dragging it across the streambed whenever possible.
11. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
12. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

Contact Staff:

Our agency appreciates this opportunity to be of service. Please contact me at RVanVoorhis@dnr.IN.gov or (317) 232-8163 if we can be of further assistance.

Rachel Van Voorhis
Rachel Van Voorhis
Environmental Coordinator
Division of Fish and Wildlife

Date: September 20, 2023



United States Department of the Interior



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

In Reply Refer To:

07/05/2024 19:15:46 UTC

Project Code: 2024-0037041

Project Name: Des 2100803/2100804 SR 32 over McFarland Ditch Small Structure Replacement

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

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

OFFICIAL SPECIES LIST

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

This species list is provided by:

Indiana Ecological Services Field Office

620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

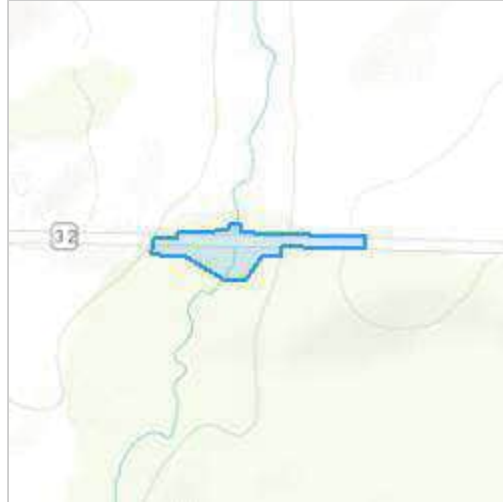
PROJECT SUMMARY

Project Code: 2024-0037041
Project Name: Des 2100803/2100804 SR 32 over McFarland Ditch Small Structure Replacement
Project Type: Culvert Repair/Replacement/Maintenance
Project Description: Des 2100803/2100804 involves the replacement of the small structures carrying SR 32 over McFarland Ditch in Montgomery County, Indiana. The existing structures (CV 032-054-27.50 A & B) carrying SR 32 over McFarland Ditch are twin corrugated metal pipes (CMPs) that are both approximately 10 (ft) in diameter and 44 ft in length. The proposed scope of work involves replacing the existing structures with a Reinforced Concrete Box, which will be approximately 18 ft wide and eight ft in height, with a 12-inch sump. The length of the new structure will be 46 ft. New guardrail will be installed. Construction is anticipated to begin Summer 2026.

Suitable summer habitat in the vicinity of the project area includes stands of trees along a fencerow near the eastern project terminus and individual trees along the banks of McFarland Ditch that are within 1,000 feet of the stand of trees. Tree removal will occur to allow for riprap placement. Tree removal will be approximately 0.05 acre, and the dominant species to be removed will be silver maple (*Acer saccharinum*) and cottonwood (*Populus deltoides*). A check into the USFWS bat database by INDOT Staff on February 10, 2023 indicated that no capture sites or roosts are within 0.5 mile of the project area. A bridge inspection by staff at SJCA Inc on June 6, 2023 did not identify bats or signs of bats roosting in the existing structures. Permanent lighting is not included in the scope of this project; however, temporary lighting may be used during construction.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.02515375,-87.06403765405265,14z>



Counties: Montgomery County, Indiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

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

BIRDS

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

CLAMS

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

INSECTS

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

CRITICAL HABITATS

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

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

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

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

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

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

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

NAME	BREEDING SEASON
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

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

Breeding Season (■)

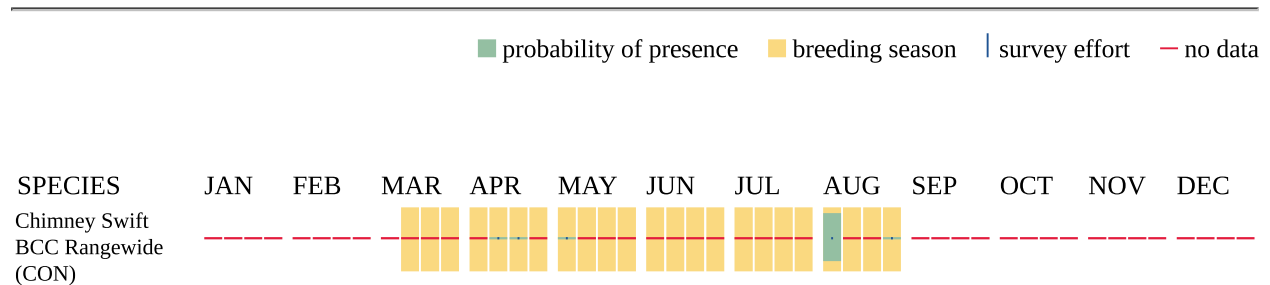
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

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

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

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

WETLANDS

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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

RIVERINE

- R5UBFx

IPAC USER CONTACT INFORMATION

Agency: SJCA Inc.
Name: Shelby Lutz
Address: 9102 N Meridian St.
Address Line 2: Suite #200
City: Indianapolis
State: IN
Zip: 46260
Email: shelby@sjcainc.com
Phone: 3175660629

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Indiana Department of Transportation



United States Department of the Interior



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

In Reply Refer To:

January 22, 2024

Project code: 2024-0037041

Project Name: Des 2100803/2100804 SR 32 over McFarland Ditch Small Structure Replacement

Subject: Concurrence verification letter for the 'Des 2100803/2100804 SR 32 over McFarland Ditch Small Structure Replacement' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated January 22, 2024 to verify that the **Des 2100803/2100804 SR 32 over McFarland Ditch Small Structure Replacement** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

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

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

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

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

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

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:

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

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

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

- Monarch Butterfly *Danaus plexippus* Candidate
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

PROJECT DESCRIPTION

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

NAME

Des 2100803/2100804 SR 32 over McFarland Ditch Small Structure Replacement

DESCRIPTION

Des 2100803/2100804 involves the replacement of the small structures carrying SR 32 over McFarland Ditch in Montgomery County, Indiana. The existing structures (CV 032-054-27.50 A & B) carrying SR 32 over McFarland Ditch are twin corrugated metal pipes (CMPs) that are both approximately 10 (ft) in diameter and 44 ft in length. The proposed scope of work involves replacing the existing structures with a Reinforced Concrete Box, which will be approximately 18 ft wide and eight ft in height, with a 12-inch sump. The length of the new structure will be 46 ft. New guardrail will be installed. Construction is anticipated to begin Summer 2026.

Suitable summer habitat in the vicinity of the project area includes stands of trees along a fencerow near the eastern project terminus and individual trees along the banks of McFarland Ditch that are within 1,000 feet of the stand of trees. Tree removal will occur to allow for riprap placement. Tree removal will be approximately 0.05 acre, and the dominant species to be removed will be silver maple (*Acer saccharinum*) and cottonwood (*Populus deltoides*). A check into the USFWS bat database by INDOT Staff on February 10, 2023 indicated that no capture sites or roosts are within 0.5 mile of the project area. A bridge inspection by staff at SJCA Inc on June 6, 2023 did not identify bats or signs of bats roosting in the existing structures. Permanent lighting is not included in the scope of this project; however, temporary lighting may be used during construction.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.02515375,-87.06403765405265,14z>



DETERMINATION KEY RESULT

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

QUALIFICATION INTERVIEW

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

[1] See [Indiana bat species profile](#)

Automatically answered

Yes

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

[1] See [northern long-eared bat species profile](#)

Automatically answered

Yes

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

A) *Federal Highway Administration (FHWA)*

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

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

No

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

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

No

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

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

No

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

No

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

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

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

Yes

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

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

Yes

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

No

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

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

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

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

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

No

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

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

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

No

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

Yes

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

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

B) During the inactive season

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

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

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

No

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

Yes

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

B) During the inactive season

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

Yes

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

No

20. Are *all* trees that are being removed clearly demarcated?
Yes
21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?
No
22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?
No
23. Does the project include slash pile burning?
No
24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?
Yes
25. Is there *any* suitable habitat^[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

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

Yes

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

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

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

Yes

SUBMITTED DOCUMENTS

- 2023-6-06 Culvert Inspection Printed.pdf <https://ipac.ecosphere.fws.gov/project/RKKQ3PPDRBCOPPJTLKGHKFKXMU/projectDocuments/137107660>

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

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

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

No

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

No

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

No

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

Yes

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

Yes

32. Will the project install new or replace existing **permanent** lighting?

No

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

No

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

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

Yes

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

No

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

Automatically answered

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

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

Automatically answered

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

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

Automatically answered

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

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

Automatically answered

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

40. **General AMM 1**

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

Yes

41. Tree Removal AMM 1

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

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

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

Yes

42. Tree Removal AMM 3

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

Yes

43. Tree Removal AMM 4

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

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

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

Yes

44. Lighting AMM 1

Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

Yes

PROJECT QUESTIONNAIRE

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

N/A

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

N/A

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

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

0.05

4. Please describe the proposed bridge work:

The existing structures (CV 032-054-27.50 A & B) carrying SR 32 over McFarland Ditch are twin corrugated metal pipes (CMPs) that are both approximately 10 (ft) in diameter and 44 ft in length. The proposed scope of work involves replacing the existing structures with a Reinforced Concrete Box, which will be approximately 18 ft wide and eight ft in height, with a 12-inch sump. The length of the new structure will be 46 ft. New guardrail will be installed.

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

Summer 2026

6. Please enter the date of the bridge assessment:

June 6, 2023

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

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

TREE REMOVAL AMM 1

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

LIGHTING AMM 1

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

TREE REMOVAL AMM 2

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

TREE REMOVAL AMM 3

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

TREE REMOVAL AMM 4

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

GENERAL AMM 1

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

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

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

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

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

IPAC USER CONTACT INFORMATION

Agency: Indiana Department of Transportation

Name: Benjamin Neild

Address: 41 W. 300 N.

City: Crawfordsville

State: IN

Zip: 47933

Email: bneild@indot.in.gov

Phone: 7653615259

INDOT Bridge/Small Structure Bat Inspection Data Sheet (Rev 4/29/2016)

General Information		
Date of Inspection: 6.06.2023	Initial Inspection <input checked="" type="checkbox"/>	Temp: 80 F
Time of Inspection: 10:30 am	Follow-up Inspection <input type="checkbox"/>	Wind: 6 mph
County: Montgomery	Construction <input type="checkbox"/>	Precip: 0 in
Inspected by: Christian Radcliff and Wanda Gaines		Sunrise: 6:19 am Sunset: 9:16 pm
GPS Northing: 4430560.93 m N Easting: 494555.05 m E UTM Zone: 16 T	Contract Number: R 43683	Anticipated Start Date for Construction: Summer 2026

Bridge or Culvert	Bridge or Culvert
Stream or Road Crossed: McFarland Ditch	Station:
Bridge/Culvert number: CV 032-054-27.50 A & B	Number of Spans: 1 (each)
Type of Structure: <input type="checkbox"/> Concrete box beam <input type="checkbox"/> Steel beam <input type="checkbox"/> Concrete I-beam <input type="checkbox"/> Steel girder <input type="checkbox"/> Concrete bulb tee beam <input type="checkbox"/> Steel pony truss <input type="checkbox"/> Concrete arch <input type="checkbox"/> Welded steel thru girder <input type="checkbox"/> Concrete girder <input type="checkbox"/> Concrete box culvert <input type="checkbox"/> Concrete slab <input type="checkbox"/> Concrete pipe <input type="checkbox"/> Multi-plate arch <input checked="" type="checkbox"/> Corrugated steel pipe <input type="checkbox"/> Other (list):	Material: <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Other (describe): Shape: <input type="checkbox"/> Box Culvert <input checked="" type="checkbox"/> Pipe <input type="checkbox"/> Arch <input type="checkbox"/> Slab <input type="checkbox"/> Other (describe)
Searched entire structure? If not, why not? Yes	Location of bats or signs of use (w/drawing and photos):
Bats Present? <input type="checkbox"/> Seen? <input type="checkbox"/> Heard?	
No	
In Clusters? Number of clusters: N/A	
Number of bats in largest cluster: N/A	
Approximate total number of bats found: N/A	
Signs of previous bat use? No <input type="checkbox"/> Guano <input type="checkbox"/> Staining	

If Bats Present
Date and Time Project Supervisor was notified:
Name of Project Supervisor notified:

Des 2100803 & 2100804
Appendix D
Section 106 of the NHPA



Minor Projects PA Project Submittal and Assessment Form

SECTION 1

Submittal of this form is only required for projects where Category B applies. Projects qualifying under Category A do not require submittal of this form. SECTION 2 (for Conditions of Category B.1 for curb/sidewalk) or SECTION 3 (for Conditions of Category B.9 for drainage structures) may be required as determined by INDOT-Cultural Resources Office (INDOT-CRO) review. INDOT-CRO will notify applicant if the Minor Projects PA does not apply.

Part I: Project Information-Completed by Applicant (Consultant/PM/Project Sponsor/INDOT District Staff)*

**A qualified professional historian (QP) is not required to complete Part I INDOT-Cultural Resources Office (INDOT-CRO) staff will be responsible for completion of Part II.*

Original Submission Date: February 8, 2024

Amended Submission Date*:

**Consult with INDOT-CRO to determine whether an amendment is required. For revisions/updates to original form, please detail in applicable sections below. Please use red font to distinguish the revisions/updates.*

Submitted By (Provide Name and Firm/Organization): Heather Dewey, hdewey@sjcainc.com, SJCA Inc., 9102 N. Meridian St. Suite 200, Indianapolis IN 46260

Project Designation Number: 2100803 & 2100804

Route Number: State Route (SR) 32

Feature crossed (if applicable): McFarland Ditch

City/Township: Ripley **County:** Montgomery

Project Description: INDOT and the Federal Highway Administration (FHWA) intend to proceed with a small structure project in Montgomery County, Indiana. The project is located on SR 32, approximately 0.27 miles west of SR 25. In the vicinity of the project, the existing roadway consists of two (2) 11-foot wide lanes in each direction with four (4)-foot wide shoulders. The current structures are twin Corrugated Metal Pipes (CMPs) that are forty (40) feet in length, have a span of ten (10) feet, and a rise of seven (7) feet.

The proposed project entails replacing the existing twin CMPs structures with a Reinforced Concrete Box, approximately 18 feet wide, 8 feet tall, and with a 12 inch sump (**Category B9**). Guardrail will be installed due to the increased size of the new structure (**Category B4**). Riprap will be placed at the inlet and outlet for erosion control (**Category B10**). Maximum excavation depth will reach approximately fifteen (15) feet below ground surface for the installation of the new structure. Approximately 0.94 acre of permanent right-of-way (ROW) will be acquired for this project, while 0.236 acre of ROW will be reacquired. This reacquired ROW is under the pavement, and all ROW that is not under the pavement is considered new and permanent.

The need for this project is due to the deteriorated condition of the existing structures. According to the May 22, 2022 inspection report for CV 032-054-27.50 A, the structure has a condition rating of 3 (serious) out of 9 (excellent) due to several minor rust holes along the waterline and flaking rust along the bolt lines. The channel received a condition rating of 4 (poor) out of 9 (excellent) due to erosion and undermining in the northwest quadrant. According to the May 22, 2022 inspection report for CV 032-054-27.50 B, the structure has a condition rating of 4 (poor) out of 9 (excellent) due to several minor rust holes along the waterline and flaking rust along the bolt lines. The channel received a condition rating of 5 (fair) out of 9 (excellent) due to sediment buildup at the south end of the structure. The

Minor Projects PA Project Submittal and Assessment Form

purpose of this project is to improve the condition rating of the crossing to at least 7 (good) out of 9 (excellent).

If the project includes any curb, curb ramp, or sidewalk work, please specify the location(s) of such work: N/A

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type: CV 032-054-27.50 A and CV 032-054-27.50 B over McFarland Ditch, corrugated metal pipes (CMPs)

For bridge projects, is the bridge included in INDOT's Historic Bridge Inventory (<https://www.in.gov/indot/2531.htm>)?

Yes No

If yes, did the inventory determine the bridge eligible for or listed in the National Register of Historic Places? Please provide page # of entry in Historic Bridge Inventory.

Yes No

Inventory Page # _____

Will there be right-of-way acquisition as part of this project?

Yes No

If yes was checked above, please check all that apply:

Permanent Temporary Reacquisition

If applicable, identify right-of-way acquisition locations in text below and in attached mapping. Please specify how much (both temporary and permanent) and indicate what activities are included in the proposed right-of-way: Approximately 0.94 acre of permanent ROW will be acquired for this project, while 0.236 acre of permanent ROW will be reacquired. Activities in the ROW include tree clearing and the installation of the RCB to replace the existing CMPs.

Is there any potential for additional temporary right-of-way to be needed later for purposes such as access, staging, etc.?

Yes No

Archaeology (check one):

All proposed activities are presumed to occur in previously disturbed soils*
**INDOT-CRO will notify you if project area includes undisturbed soils and requires an archaeological reconnaissance.*

Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming*

** If an archaeology report is required, the Minor Projects PA Form will not be finalized until the report is reviewed and approved by INDOT-CRO. For INDOT-sponsored projects, INDOT-CRO may be able to complete the archaeological investigation. If you would like to request that INDOT-CRO complete an archaeological investigation, please contact the INDOT-CRO archaeology team lead. See CRM Pt. 1 Ch. 3 for current contact information.*

Minor Projects PA Project Submittal and Assessment Form

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow):

B4. Installation of new safety appurtenances, including but not limited to, guardrails, barriers, glare screens, and crash attenuators, under the following conditions: **[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]**:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met (*EITHER Condition i or Condition ii must be satisfied*):

- i. Work occurs in previously disturbed soils; OR
- ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

B9. Installation, replacement, repair, lining, or extension of culverts and other drainage structures under the conditions listed below **[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]**:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met (*EITHER Condition i or Condition ii must be satisfied*):

- i. Work occurs in previously disturbed soils; OR
- ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

One of the conditions listed below must be met (*EITHER Condition i or Condition ii must be satisfied*):

- i. Work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone

Minor Projects PA Project Submittal and Assessment Form

sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under one of the following conditions (*Condition a, Condition b, or Condition c must be satisfied*):

- a. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
- b. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
- c. The structure exhibits non-modern wood, stone, or brick structures or parts therein and the following conditions are met (*BOTH Condition 1 AND Condition 2 must be met*):
 - i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
 - ii. The structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

ii. Work involves the installation of a new culvert and other drainage structures AND/OR there may be impacts to unusual features, including historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under the following conditions (*BOTH Condition a and Condition b must be satisfied*):

- a. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
- b. The subject structure exhibits one of the characteristics described below (*Condition 1, Condition 2 or Condition 3 must be satisfied*).
 - i. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
 - ii. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*

iii. The structure exhibits non-modern wood, stone, or brick structures or parts therein and the following conditions are met (*BOTH Condition 1 AND Condition 2 must be met*): Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND* the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

B10. Slide corrections, slope repairs, and other erosion control measures, in undisturbed soils under the conditions listed below [*BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied*]:

Condition A (Archaeological Resources)

An archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates

Minor Projects PA Project Submittal and Assessment Form

National Register listed or potentially National Register eligible archaeological resources, then full Section 106 review will be required. Copies of any reports will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

Check if SECTION 2: Minor Projects PA Category B-1, Condition B-ii Submission is included

Check if SECTION 3: Minor Projects PA Category B-9, Condition B-i-c-2 or B-ii-b-3 Submission is included

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

- General project location map USGS map Aerial photograph Soil survey data
General project area photos Archaeology Reports Historic Property Reports
Indiana Historic Buildings, Bridges, and Cemeteries Map/Interim Report
Bridge inspection information/BIAS Historic Bridge Inventory Database
SHAARD SHAARD GIS Streetview Imagery County GIS Data/Property Cards

Other (please specify):

Smith, Galen K.

2024 A Phase Ia Archaeological Reconnaissance for the Proposed State Road 32 Small Structure Replacement Project (INDOT Des. No. 2100803 & 2100804), 0.27 Miles West of State Road 25, Ripley Township, Montgomery County, Indiana. SJCA, Inc., Indianapolis. Document on file at INDOT-CRO.

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes no

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes no

Additional Comments:

The following firm commitment must be entered into INDOT's Project Commitment Database and included in the environmental documentation for the project:

Minor Projects PA Project Submittal and Assessment Form

The portion of archaeological site 12MY728 beyond the northern limit of proposed ROW along SR 32 and immediately east of McFarland Ditch must be avoided by all ground disturbing activities and other project-related activities. That area must be marked on plans as “Environmentally Sensitive Area–Avoid” and should be marked similarly on the ground for avoidance during construction. The avoidance area shall not be identified as an archaeological site.

Above-ground Resources

An INDOT-CRO historian who meets the Secretary of the Interior’s Professional Qualification Standards as per 36 CFR Part 61 performed a desktop review of the surrounding area. Based on a review of available online street-view imagery and aerial photography, the area immediately adjacent to the subject structure consists of agricultural fields. An altered early twentieth-century house is located outside of the project area to the west of the project on the north side of SR 32. Mature deciduous trees present on the east side of the house help to shield the resource from view of the project area. No unusual features are present that may be impacted by the project.

According to BIAS/ITAMS data, the subject structures (CV 032-054-27.50 A and CV 032-054-27.50 B) are two separate steel arch metal pipes constructed in close proximity to one another. Their dates of construction are not known. Examination of BIAS/ITAMS inspection photographs shows remnants of a potential stone headwall on the south side of both structures. (No similar remnants were observed on the north side.)

It should be noted that INDOT projects from the mid-to-late 1930s stipulated that construction of “...*Standard rubble headwalls will be used on all pipes over 15” in diameter or over...*”¹ In addition, the “Road Life History”—an internal archive of work done by INDOT and its predecessor on each state-owned road in the state—indicates that SR 32 in 1935 was a [Montgomery County] county road paved with a ‘mix bituminous’ material. By 1940, it was in the state highway system and the existing ‘mix bituminous’ pavement material was surfaced treated with gravel. It is likely that the culverts date to the mid-1930s-early 1940s. Since the construction of stone headwalls with CMP culverts was fairly common in Indiana, it is unlikely that these structures possess historical or engineering significance.

Based on the available information, as summarized above, no above-ground concerns exist as long as the project scope does not change.

Archaeological Resources

An INDOT-CRO archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards as per 36 CFR Part 61 reviewed the Phase Ia field reconnaissance report completed for the project by SJCA, Inc. (Smith 2024). There are no previously recorded archaeological sites within or adjacent to the project area. A 2.2-acre (0.9-hectare) survey area was investigated on three dates—July 14, 2023, December 12, 2023, and March 7, 2024—through a combination of visual walkover, pedestrian survey (ranging from one to ten meter intervals based on ground visibility conditions and needs to define archaeological site boundaries), systematic shovel probing (n=48), and auger probe extensions within two shovel probes to test for deeply buried archaeological resources and/or landforms with the potential to contain archaeological resources. This survey identified two new archaeological sites (12MY728 and 12MY730).

Site 12MY728 is a mid-to-late nineteenth century historic scatter linked to a demolished sawmill once owned by the Britton and Little families historically operational from no later than 1864 to 1898. At least two subsurface features were encountered, demonstrating other intact archaeological deposits may be present. Due to these features, the site’s potential for contributing information towards the early sawmill history of Montgomery County, and its connection to specific known persons (i.e., the Britton and Little families), Smith (2024)

¹ “Plan and Profile of Proposed State Highway Project No. 562 Sec. C (1936)-SR 119-,” (Indiana State Highway Commission (ISHC) project plans, 1936; internal document), Sheet 1.

Minor Projects PA Project Submittal and Assessment Form

recommends Site 12MY728 as potentially eligible for listing in the NRHP. This site has been marked for avoidance on Stage 2 plans submitted with the Phase Ia report during its review period. Should the project area be expanded to include Site 12MY728, Smith (2024) recommends Phase II testing.

Site 12MY730 represents a historic-era scatter associated with the former Ripley Township Number 3 Schoolhouse that is recommended as not eligible for listing in the NRHP (Smith 2024). No further work is recommended for the portion of the site within the survey area. If the project area changes and extends farther to the north and east, an additional Phase Ia survey will be needed to further define the site boundary.

Therefore, there are no archaeological concerns beyond the firm commitment to avoid Site 12MY728 provided that the project scope and footprint do not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and INDOT-CRO and the Indiana Department of Natural Resources-Division of Historic Preservation and Archaeology (IDNR-DHPA) will be notified immediately.

INDOT-CRO staff reviewer(s): Susan Branigin and David Walton

INDOT Approval Date: 5/2/2024

Amendment Approval Date (if applicable):

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

Please attach the following to this form:

- **General Location Map.** This map should allow the INDOT-CRO reviewer to quickly locate the project.
- **Aerial photography map(s) of project area.** This map must include project limits. It may also include SHAARD data, but SHAARD data is not required.
- **If bridge or small structure project, please attach photographs of bridge or small structure.** Photographs can be found in inspection reports located in INDOT's Bridge Inspection Application System (BIAS), as well as other project documents, such as engineering assessments or mini-scopes.

Map depicting potential temporary and/or permanent right-of-way acquisitions. In the email submission to INDOT-CRO, please also include:

- **A GIS polygon shapefile or KMZ file of the project area** (shapefiles are preferred). Shapefiles should use "NAD_1983_UTM" projected coordinate system. In addition, these files should contain the following *text* attribute field: DES_NO. The project designation number should be entered in this field.
- **If the project takes place in undisturbed soils, attach the results of the archaeological investigation, if completed.** *Note: The MPPA Submission Form may be submitted before the archaeology report. INDOT-CRO staff will process the above-ground portion of the form in advance of the archaeological portion of the form. However, a completed determination form will not be returned to the applicant until after the archaeology report has been reviewed and approved by INDOT-CRO.*

Des 2100803 & 2100804

Appendix E

Red Flag Investigation





INDIANA DEPARTMENT OF TRANSPORTATION

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

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

Eric Holcomb, Governor
Michael Smith, Commissioner

Date: June 14, 2023

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

From: Wanda Gaines, CFM
SJCA Inc.
1028 Virginia Ave, Suite 201
Indianapolis, IN 46203
wgaines@sjcainc.com

Re: RED FLAG INVESTIGATION
DES 2100803/2100804, State Project Small
Structure Replacement
State Road (SR) 32, 0.27 Mile West of SR 25
Montgomery County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: INDOT and the Federal Highway Administration (FHWA) intend to proceed with a small structure replacement project involving the existing culverts that carry SR 32 over McFarland Ditch in Montgomery County, Indiana. The existing structures are twin corrugated metal pipes (CMPs) that are both approximately ten (10) feet in diameter and forty-four (44) feet in length. The scope of work involves replacing these twin CMPs with a larger box style culvert, which will be approximately eighteen (18) feet wide and eight (8) feet in height. Guardrail will need to be installed due to the increased size of the new structure. Maximum excavation depth will reach approximately fifteen (15) feet below ground surface (bgs) for the installation of the new structure. Work below the Ordinary High Water Mark (OHWM) of McFarland Ditch will be required for the installation of the new structure and placement of riprap.

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

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

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

Culvert Work Included in Project: Yes No Structure #(s) 032-054-27.50 A and B

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

Type and proposed depth of excavation: Maximum excavation depth will reach approximately fifteen (15) feet bgs for the installation of the new structure.

Maintenance of traffic (MOT): A full road closure with a detour will be required.

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

State Project: **LPA:**

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

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

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

Explanation: No infrastructure resources were identified within the 0.5 mile search radius.

WATER RESOURCES TABLE AND SUMMARY

Water Resources			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	N/A	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	1
Canal Structures – Historic	N/A	Lakes	N/A
NPS NRI Listed	N/A	Floodplain - DFIRM	1
NWI-Lines	N/A	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A
Rivers and Streams	1	Sinking-Stream Basins	N/A

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

Explanation:

Rivers and Streams: One (1) river and stream segment is located within the 0.5 mile search radius. This stream segment, associated with McFarland Ditch, is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

NWI-Wetlands: One (1) NWI-wetland is located within the 0.5 mile search radius. This wetland is located approximately 0.49 mile east of the project area. No impact is expected.

Floodplain- DFIRM: One (1) floodplain polygon is located within the 0.5 mile search radius. The project area is located within this floodplain polygon. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	1	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Explanation:

Petroleum Wells: One (1) petroleum well is located within the 0.5 mile search radius. This petroleum well is located approximately 0.48 mile southwest of the project area. No impact is expected.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

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

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation: No hazardous material concerns were identified within the 0.5 mile search radius.

ECOLOGICAL INFORMATION SUMMARY

The Montgomery County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at https://www.in.gov/dnr/nature-preserves/files/np_montgomery.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in a rural area surrounded by agricultural fields. The May 12, 2022 inspection reports for Culverts 032-054-27.50 A and 032-054-27.50 B state that no evidence of bats was seen or heard in the culverts. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE: N/A

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

- One (1) stream segment, McFarland Ditch, flows through the project area.
- The project area is located within a floodplain (coordination only).

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

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

Peter
Washburn

Digitally signed by
Peter Washburn
Date: 2023.06.14

INDOT ESD concurrence: _____ 15:37:34 -04'00' (Signature)

Prepared by:
Wanda Gaines, CFM
Environmental Scientist/Permitting Specialist
SJCA Inc.

Graphics:

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

SITE LOCATION: YES

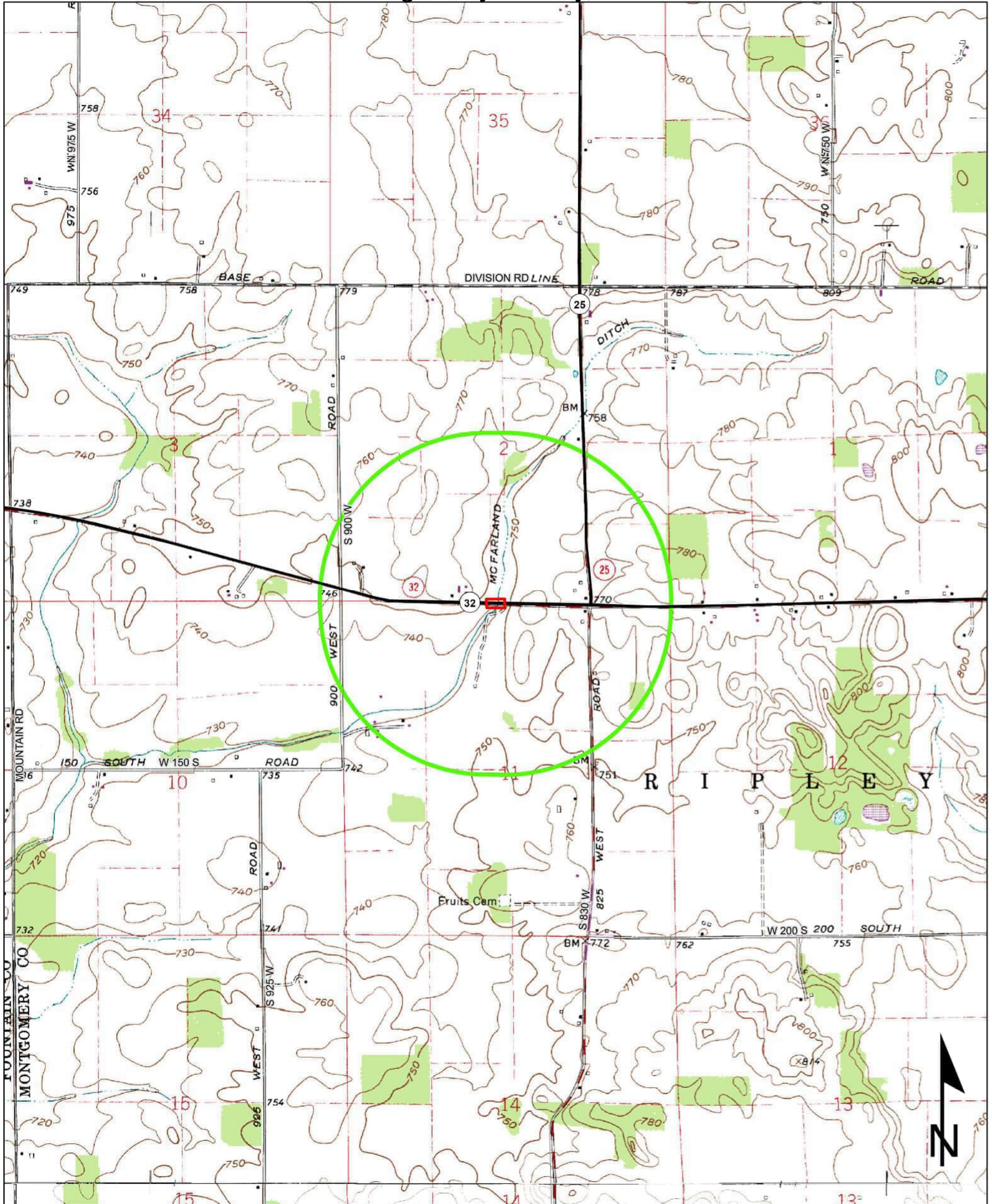
INFRASTRUCTURE: N/A

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: N/A

Red Flag Investigation - Site Location
 SR 32 over McFarland Ditch, 0.27 Mile West of SR 25 Des.
 No. 2100803/2100804, Small Structure Replacement
 Montgomery County, Indiana



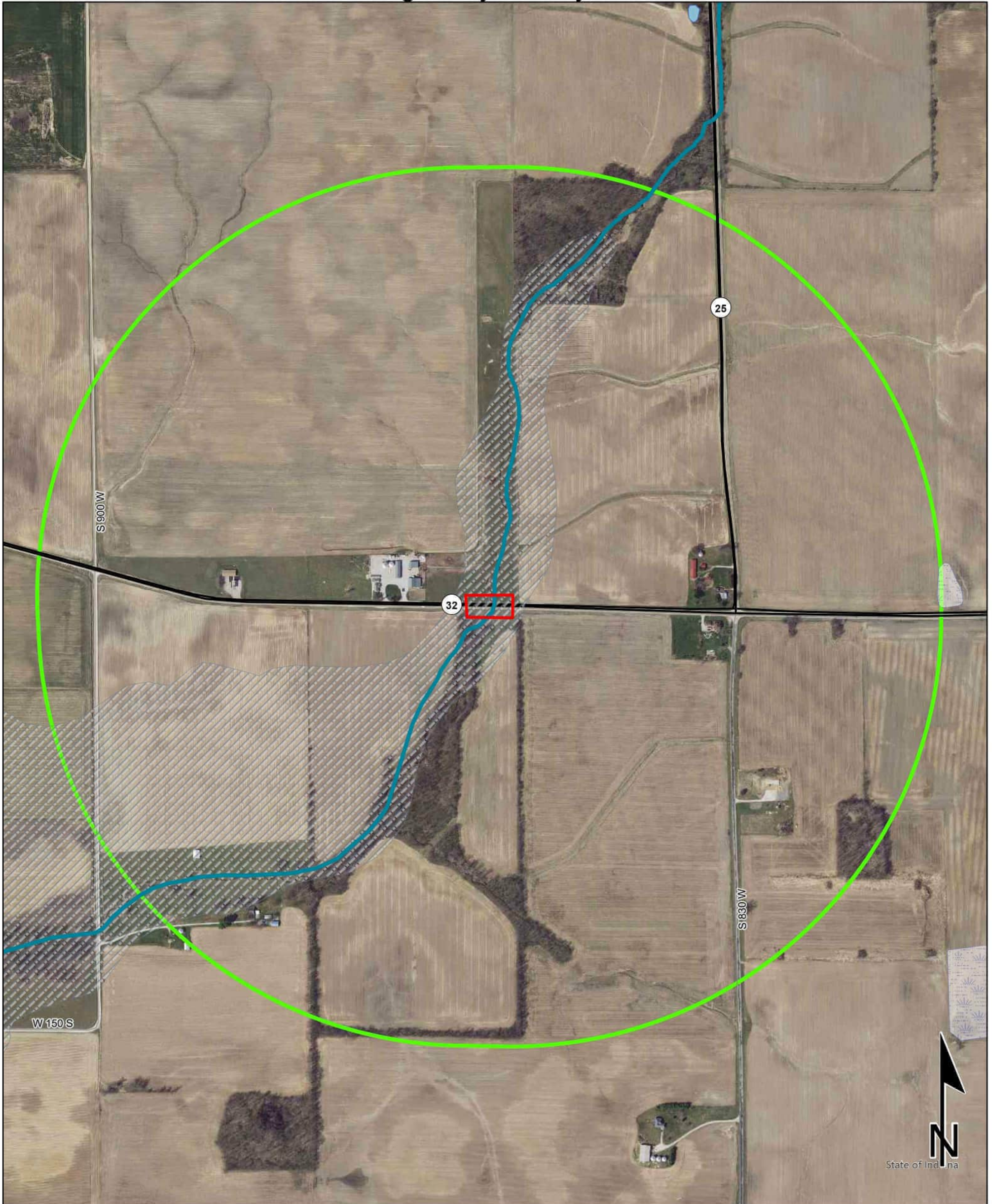
Sources: 0.3 0.15 0 0.3 Miles
Non Orthophotography
 Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**WAYNETOWN QUADRANGLE
 INDIANA
 7.5 MINUTE SERIES
 (TOPOGRAPHIC)**

Red Flag Investigation - Water Resources

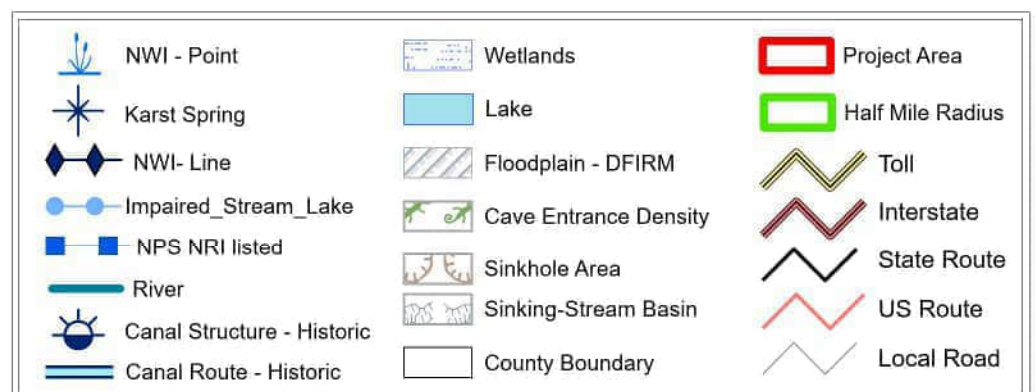
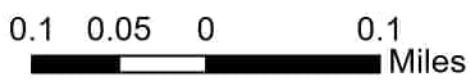
SR 32 over McFarland Ditch, 0.27 Mile West of SR 25 Des. No. 2100803/2100804, Small Structure Replacement

Montgomery County, Indiana

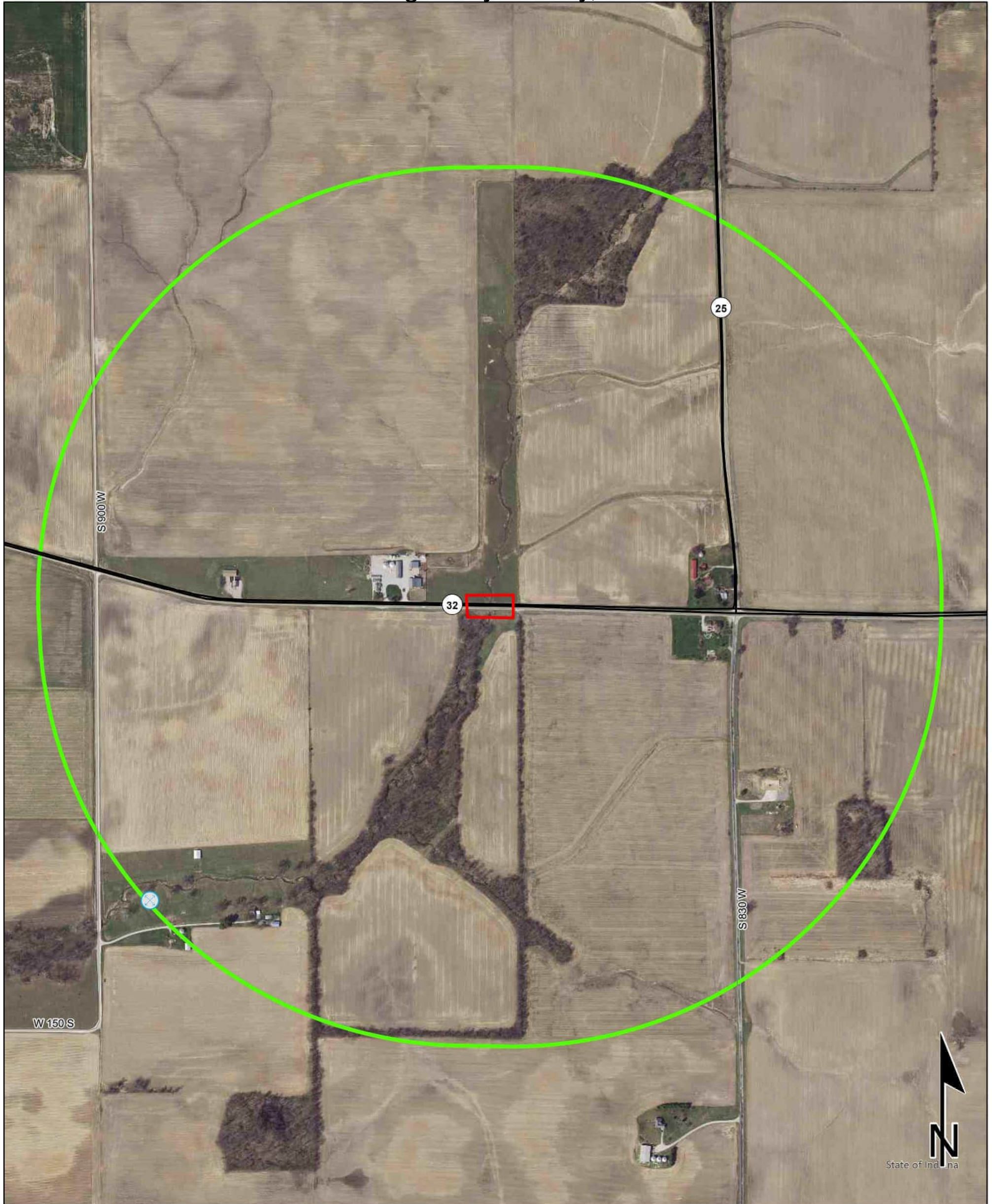


Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

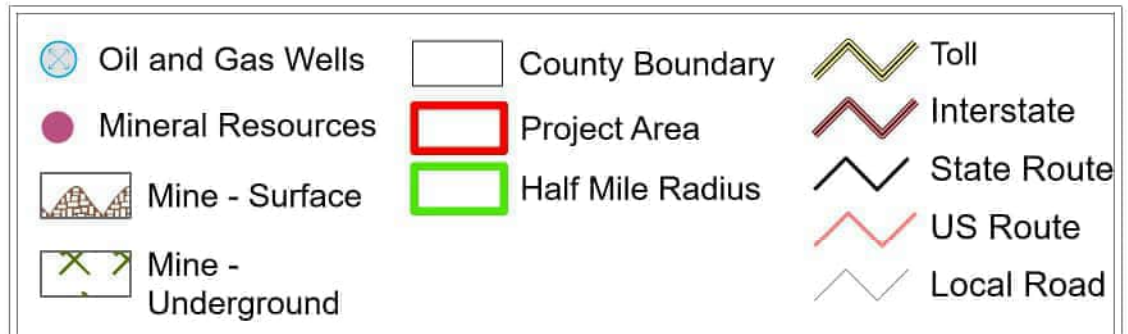
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



Red Flag Investigation - Mining and Mineral Exploration SR 32 over McFarland Ditch, 0.27 Mile West of SR 25 Des. No. 2100803/2100804, Small Structure Replacement Montgomery County, Indiana



Sources: 0.1 0.05 0 0.1 Miles
Non Orthophotography
 Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



Des 2100803 & 2100804

Appendix F

Water Resources



Waters Report
State Road (SR) 32 over McFarland Ditch in Montgomery County, Indiana
Small Structure Project

Des. No. 2100803 & 2100804

Structure # CV 032-054-27.50 A and B

Prepared by: Jeeagar Panchal, jpanchal@sjcainc.com
SJCA Inc., 317-566-0629

Report Completed on: April 1, 2024

Note: General site location maps have been removed from this appendix and can be found in Appendix B. However, a full Waters Report can be made available upon request.

Site Location:

Sections 2 & 11, Township 18 North, Range 6 West
Waynetown 24K Quadrangle
Montgomery County, Indiana
Latitude: 40.025244 Longitude: -87.063728

Date of Field Reconnaissance: June 6, 2023

Project Description

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a small structure project in Montgomery County, Indiana. The project is located on SR 32, approximately 0.27 miles west of SR 25. The current structures are twin Corrugated Metal Pipes (CMPs) that are 40 feet (ft) in length, have a 10 ft span, and a 7 ft rise. The proposed project entails replacing the existing twin CMPs structures with a Reinforced Concrete Box, approximately 18 ft wide, 8 ft in height with a 12-inch sump. Guardrail will be installed due to the increased size of the new structure. Riprap will be placed at the inlet and outlet for erosion control.

Desktop Reconnaissance

Topography: The topography within the investigated area is generally flat with slightly raised roadway of SR 32.

Existing Land Use: Land use adjacent to the investigated is primarily agricultural with residential properties to the east and west of the investigated area. The banks of McFarland Ditch are slightly sloped within the investigated area.

Soils: According to the Montgomery County Soil Survey, soils mapped within the project area include:

Table 1. Soil Types Within the Investigated Area

Soil Abbreviation	Soil Unit Name	NRCS Drainage Class	Hydric Soil Category (IN107)	Hydric Rating
CbB	<i>Camden silt loam, 2 to 6 percent slopes</i>	Well Drained	Nonhydric	0% Hydric
Ck	<i>Cohoctah loam, frequently flooded</i>	Very Poorly Drained	Hydric	100% Hydric

Hydrology: According to the Indiana Department of Natural Resources (IDNR) Floodplain Map (see attached Floodplain Map), the investigated area is located within the IDNR mapped floodplain. According to the U.S Geological Survey (USGS) StreamStats site, (streamstats.usgs.gov) McFarland Ditch has an upstream drainage area of 2.852 square miles, measured from the north side of the project structures. According to the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map, McFarland Ditch is classified as a perennial stream (Riverine, Unknown Perennial, Unconsolidated Bottom, semipermanently Flooded, Excavated; R5UBFx). Based on the U.S Geological Survey (USGS) National Hydrology Dataset (NHD) data layer (see attached NHD Flowline Map), one classified flowline segment is mapped within the investigated area. The classified flowline segment is mapped as a river/stream and corresponds with McFarland Ditch.

Hydrologic Unit Code (HUC): Headwaters Sugar Mill Creek Subwatershed, 12-Digit HUC: 051201100501.

National Wetland Inventory (NWI) Data: According to the NWI map, no wetlands are mapped within the investigated area. The nearest wetland feature is palustrine feature and classified as PEM1A (Palustrine, Emergent, Persistent, Temporarily Flooded; PEM1A). McFarland Ditch is mapped as R5UBFx within the investigated area.

Table 2. Nearest Mapped NWI Features

Wetland Feature Type	Location
PEM1A	0.53 miles east of the investigated area

Field Reconnaissance

Site Conditions: Site conditions were typical for early June, with no rain occurring within the five days prior to the field investigation (according to wunderground.com recordings from the Purdue University Airport Station, Indiana). Temperatures were slightly above average for the time of year during the site investigation with temperatures reaching the high eighties (° F).

Site Analysis

The investigated area included roadside right-of-way along SR 32 and the existing CMP structures that cross under SR 32. Hydrology within the project area is influenced by roadway runoff and the drainage from nearby agricultural fields. The investigated area is located within the Headwaters Sugar Mill Creek Subwatershed. There is one farm field drainage outlet located within the northwest quadrant of the investigated area and appeared that it drains into McFarland Ditch. The drainage path originates from a drainage tile and that is an erosional feature that does not have an ordinary high water mark (OHWM) or relatively permanent flow conditions (see photograph 8).

The vegetation along the roadside within the investigated area is dominated by a mixture of FACU and FACW vegetative communities. Vegetation along the banks of McFarland Ditch is dominated by mixture of FACU, FACW, and UPL herbaceous vegetation. A small stand of FAC and FACW trees is present along the banks of McFarland Ditch.

Stream Features

McFarland Ditch is mapped as a perennial stream (Riverine, Unknown Perennial, Unconsolidated Bottom, semipermanently Flooded, Excavated; R5UBFx) on the NWI map and is shown as a solid blue-line feature on the USGS topographic map. The stream flows south through the structures and approximately 183 linear ft of McFarland Ditch is within the investigated area. The bankfull width is approximately 10 ft and the substrate is silt. The banks of the stream were moderately eroded on the upstream side and highly eroded on downstream side and had a moderate amount of bank coverage. The stream has an OHWM width of 6 ft and a depth of 6 inches. The stream had low flow velocity and appeared to be a perennial stream based on field observation, the USGS topographic map, and aerial imagery. The stream has moderate sinuosity within the investigated area and does not contain riffles/run complexes. The quality of the stream is rated as poor due to the moderate in-stream coverage, highly eroded banks, absence of riffles/runs, and moderate sinuosity. The existing riprap was visible within northwest and northeast quadrant of the investigated area. McFarland flows into Sugar Mill Creek, approximately 2.5 miles southwest of the investigated area, which flows into Sugar Creek, which flows into the Wabash River approximately 30 miles southwest of the investigated area. According to the U.S. Army Corps of Engineers (USACE) Louisville District list of navigable waterways, Sugar Mill Creek is not listed as a navigable waterway, but the Wabash River is listed as a navigable waterway. Due to the perennial flow condition of McFarland Ditch, presence of an OHWM, and eventually connectivity to a navigable waterway, it is likely that McFarland is jurisdictional under the USACE and is therefore a Water of the U.S.

Table 3. Stream Summary Table

Stream Name	Photos	Lat/Long	OHWM Width (ft)	OHWM Depth (inch)	USGS Blue-line?	Riffles? Pools?	Substrate	Quality	Likely Water of U.S.?
McFarland Ditch	4, 6, 7, 9-11, 19-21,	40.025244 -87.063728	6	6	Yes, Perennial	No	Silt	Poor	Yes. Perennial

Soil Sample Points (SP) Discussion

Sample Point 1 (SP 1) was taken in the southwest quadrant of the structure, within the drainage depression. This sample point met the criteria for hydrophytic vegetation and wetland hydrology but lacks hydric soil; therefore, SP 1 is not within a wetland. It appears that water drains too quickly from this area to develop wetland characteristics. The vegetation was dominated by reed canary grass, which is invasive and common along streams, but it did not contain any evidence of other native FACW or OBL vegetation.

Table 4. Sample Point Summary Table

Sample Point	Photos	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Wetland	Date
SP 1	23-27	Yes	No	Yes	No	6/6/23

Other Water Features

The investigated area was reviewed for the presence of other water features such as open water, areas that do not have an OHWM but have concentrated flow, all roadside ditches (RSDs), historic drainage, and unusual circumstances. No RSDs or other water features were identified within the investigated area.

Wildlife observations

The investigated area was observed for the presence of bats, birds, and wild mammals during the site investigation. No bats or evidence of bats were found on the project structure. There were no signs or evidence of animals crossing under the structure within the investigated area.

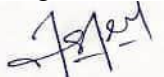
Conclusions

This site investigation identified one stream, McFarland Ditch, within the investigated area. The majority of the investigated area was typical of roadside right-of-way with upland vegetation and quick draining soil, and no hydrology indicators. McFarland Ditch is a likely jurisdictional resource and Water of the U.S. Every effort should be taken to avoid and minimize impacts to these resources. If impacts are necessary, then mitigation may be required. The USACE should be contacted immediately if impacts occur. The final determination of jurisdictional waters is ultimately made by the appropriate regulatory staff of the USACE. This report is our best judgment based on the guidelines set forth by the Corps.

Acknowledgement

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

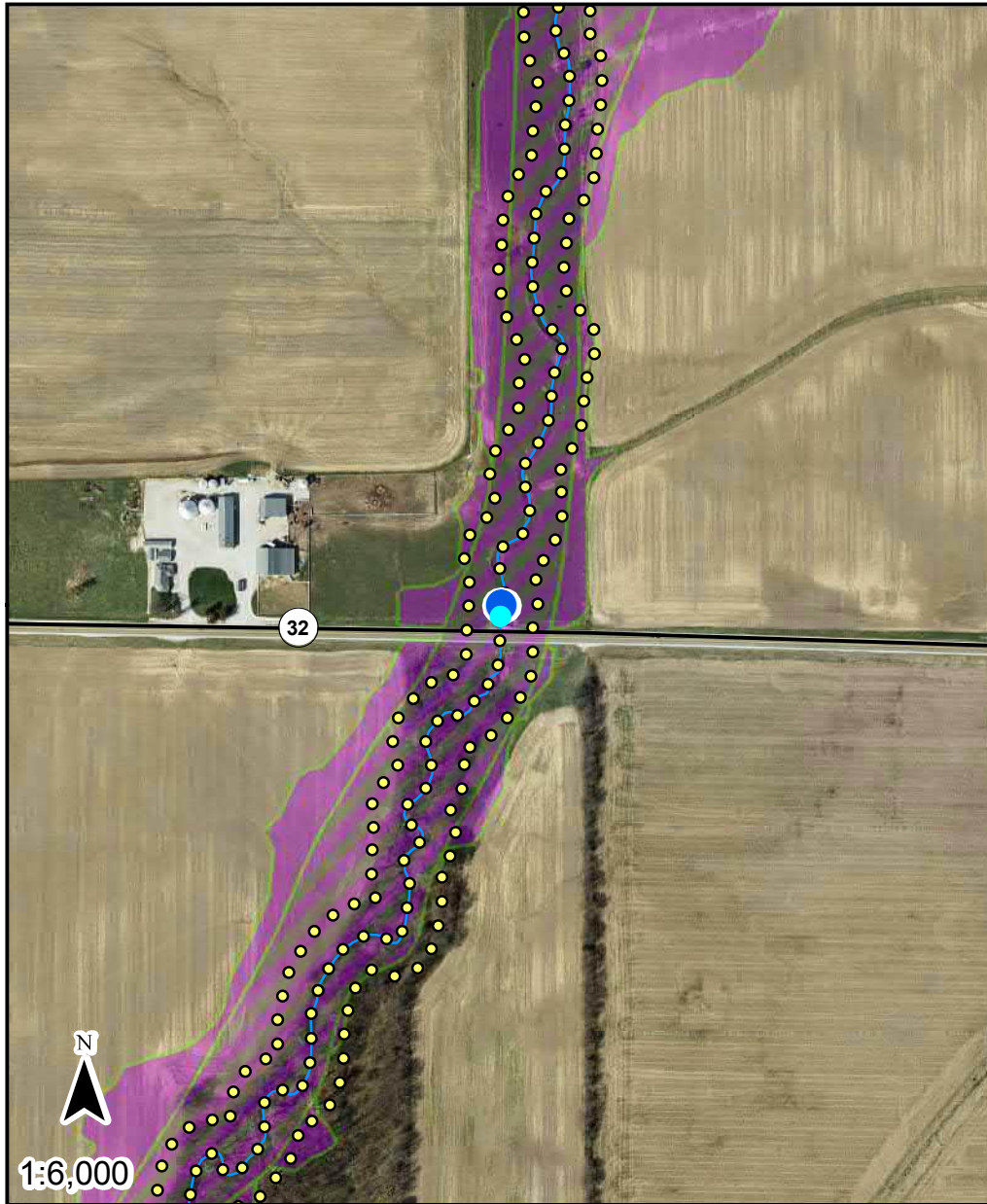
Jeegar Panchal



Ecologist

SJCA Inc.

Date: April 1, 2024



- Point of Interest
- Base Flood Elevation Point

Flood Elevation Points

- STUDIED STREAM

Rivers and Streams at least 1 square mile

Drainage Area (sq. miles)

- 1 - 10

DNR Approximate Floodway

DNR Approximate Fringe

Point of Interest Coordinates (WGS84)

Long: **-87.0638200617**

Lat: **40.0254185123**

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

County: **Montgomery**

Approximate Ground Elevation: **741.0 feet (NAVD88)**

Stream Name:
Mcfarland Ditch

Base Flood Elevation: **747.2 feet (NAVD88)**

Drainage Area: **1.92 SqMi**

Best Available Flood Hazard Zone: **DNR Approximate Floodway**

National Flood Hazard Zone: **FEMA Zone A**

Is a Flood Control Act permit from the DNR needed for this location? **yes**

Is a local floodplain permit needed for this location? **yes-**

Floodplain Administrator: **Marc Bonwell, Building Administrator**

Community Jurisdiction: **Montgomery County, County proper**

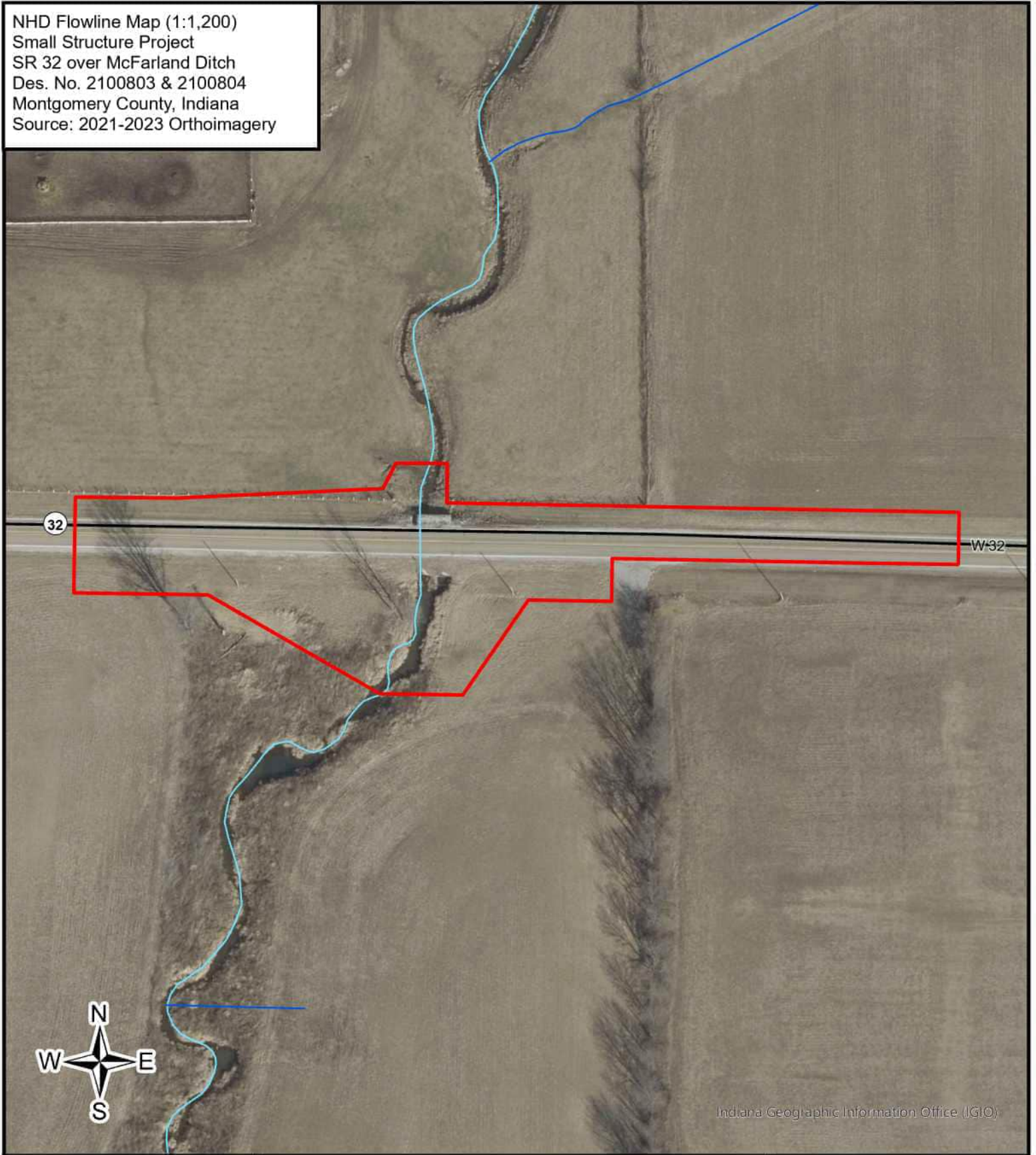
Phone: **(765) 364-6490**

Email: **marc.bonwell@montgomerycounty.in.gov**

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

Date Generated: 6/30/2023

NHD Flowline Map (1:1,200)
 Small Structure Project
 SR 32 over McFarland Ditch
 Des. No. 2100803 & 2100804
 Montgomery County, Indiana
 Source: 2021-2023 Orthoimagery



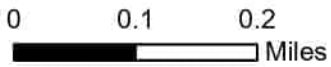
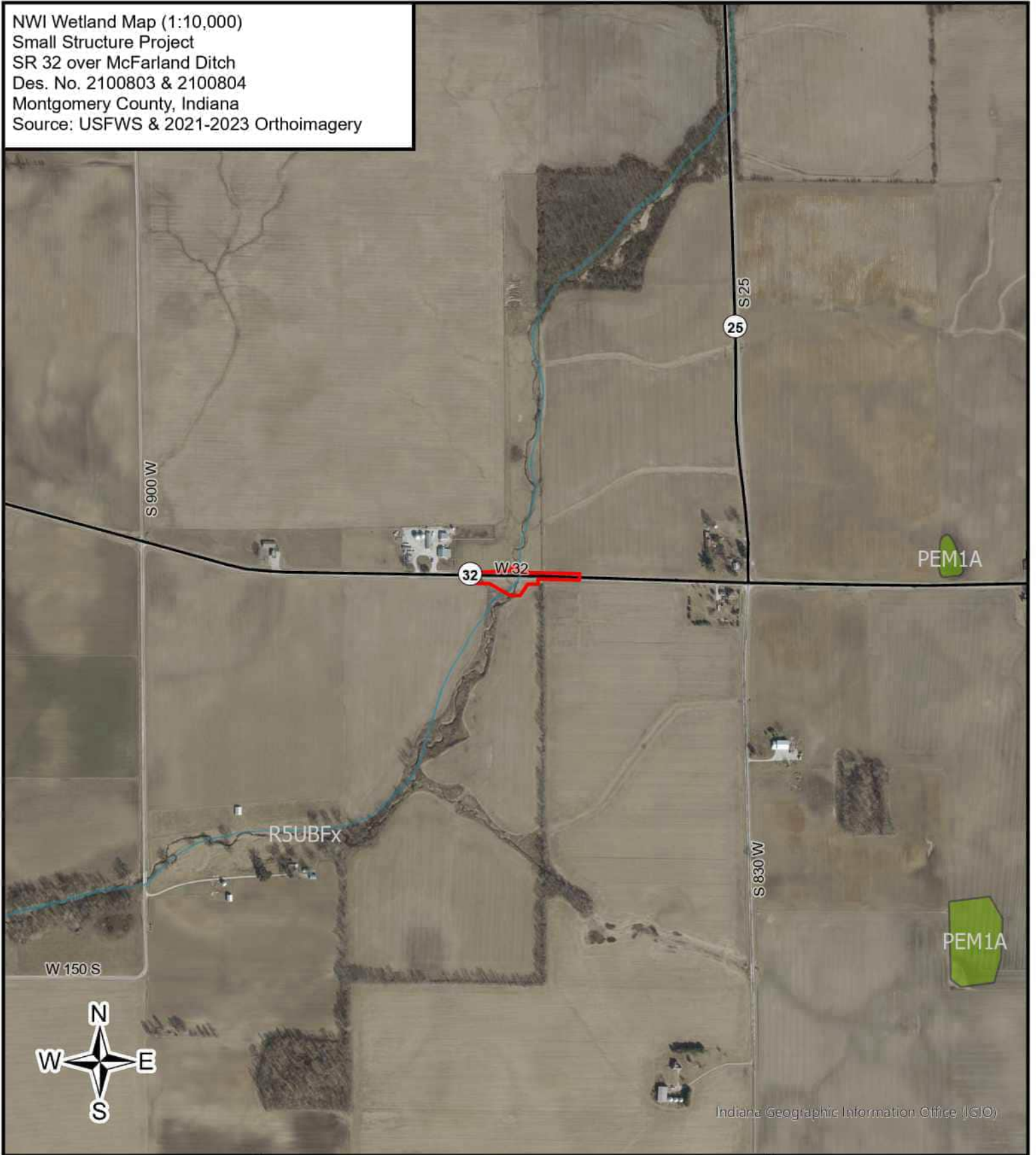
- | | |
|------------------------|--------------------|
| Investigated Area | Pipeline |
| Unclassified Flowlines | Stream/River |
| Flowline | Artificial Path |
| Connector | Coastline |
| Canal Ditch | <all other values> |
| Underground Conduit | |

0 0.01 0.03
 Miles

3/27/2024



NWI Wetland Map (1:10,000)
 Small Structure Project
 SR 32 over McFarland Ditch
 Des. No. 2100803 & 2100804
 Montgomery County, Indiana
 Source: USFWS & 2021-2023 Orthoimagery

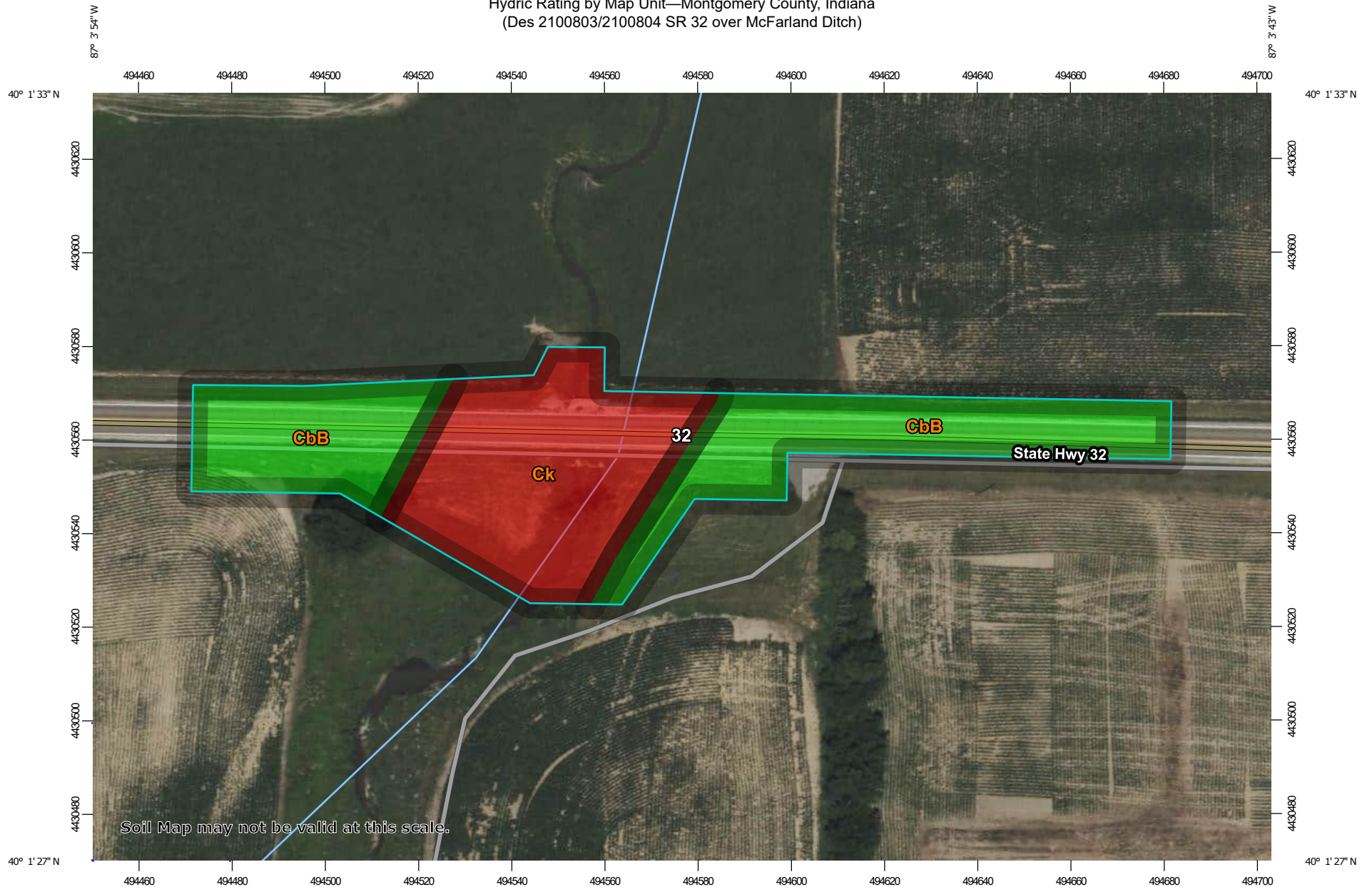


- | | |
|-----------------------------------|-----------------|
| Investigated Area | Freshwater Pond |
| NWI Wetlands | |
| Freshwater Emergent Wetland | Lake |
| Freshwater Forested/Shrub Wetland | Other |
| | Riverine |

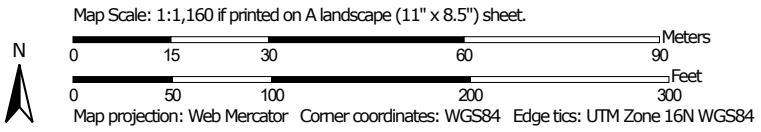


3/27/2024

Hydric Rating by Map Unit—Montgomery County, Indiana
(Des 2100803/2100804 SR 32 over McFarland Ditch)




Soil Map may not be valid at this scale.









MAP LEGEND

Area of Interest (AOI)







 Area of Interest (AOI)

Soils







Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available


Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available






Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Montgomery County, Indiana
Survey Area Data: Version 28, Sep 1, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 23, 2022

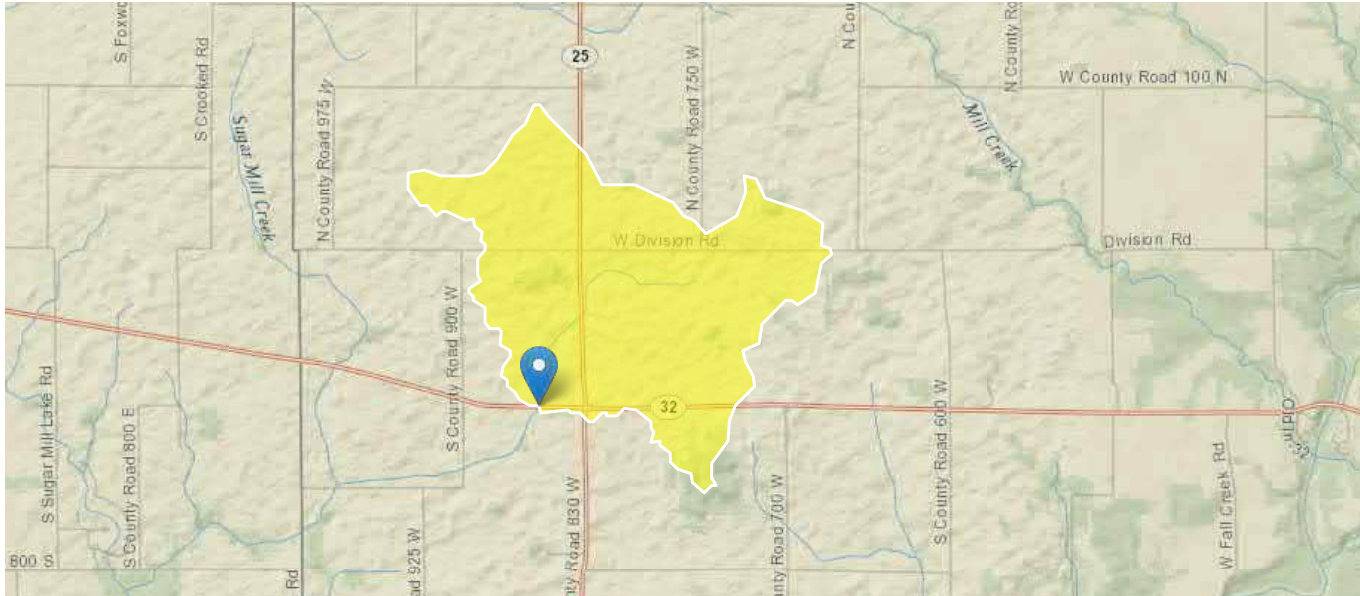
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CbB	Camden silt loam, 2 to 6 percent slopes	0	0.7	54.8%
Ck	Cohoctah loam, frequently flooded	100	0.6	45.2%
Totals for Area of Interest			1.3	100.0%

StreamStats Report, Des. 2100803 & 2100804, SR 32 over McFarland Ditch, Montgomery County, IN

Region ID: IN
 Workspace ID: IN20230630162958162000
 Clicked Point (Latitude, Longitude): 40.02523, -87.06371
 Time: 2023-06-30 12:30:18 -0400



+ Collapse All

➤ General Flow Statistics

General Flow Statistics Parameters [Harmonic Mean Central Region 2016 5102]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.852	square miles	2.99	828
K2INDNR	Avg_Hydraulic_Conductivity_Full_Depth	34	ft per day	6.36	45.9
QSSPERMTHK	Permeability_Index	3472.01	dimensionless	43.8	5400
LOWREG	Low Flow Region Number	1729	dimensionless		

General Flow Statistics Disclaimers [Harmonic Mean Central Region 2016 5102]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Harmonic Mean Central Region 2016 5102]

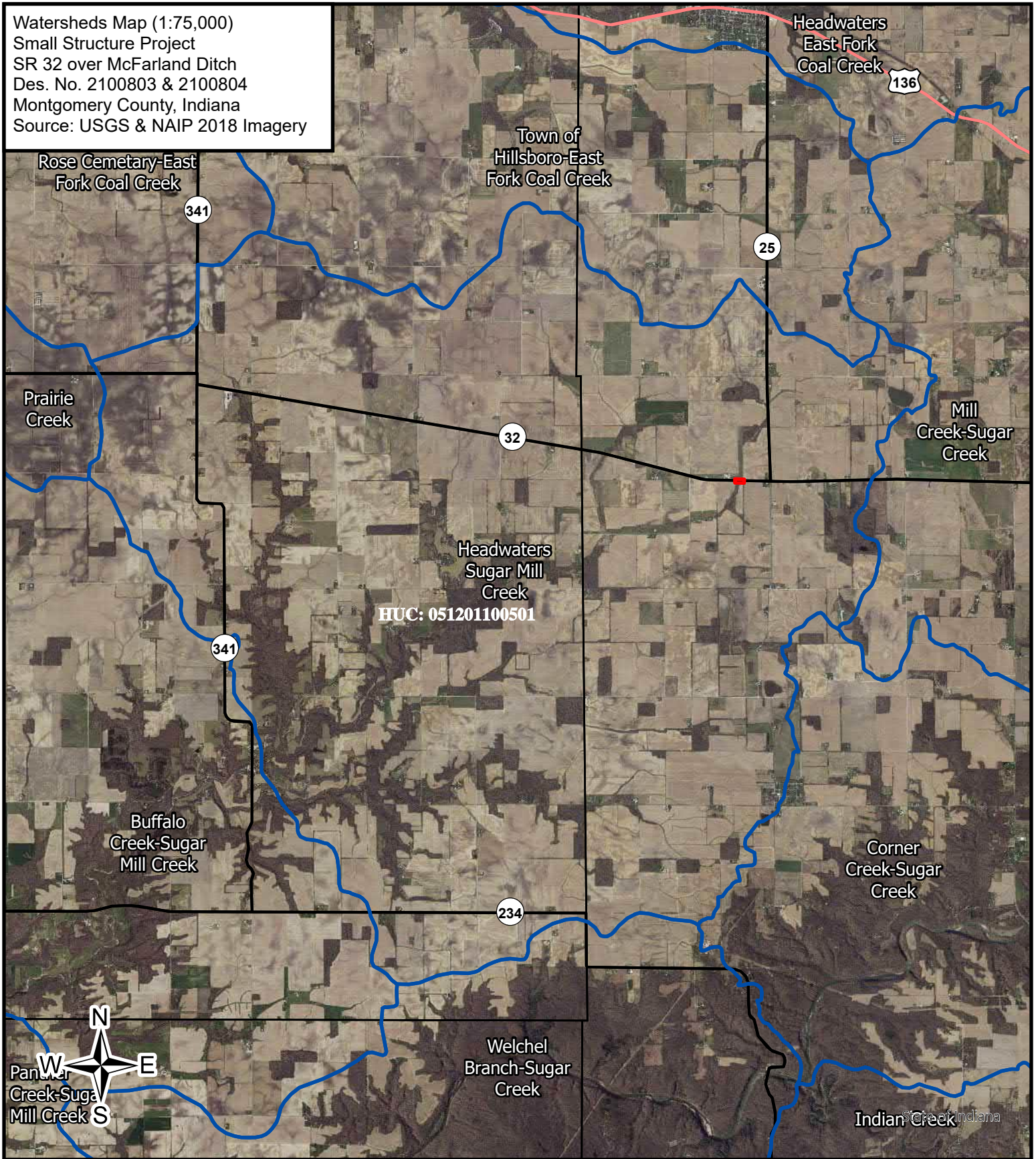
Statistic	Value	Unit
Harmonic Mean Streamflow	1.24	ft ³ /s

General Flow Statistics Citations

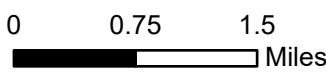
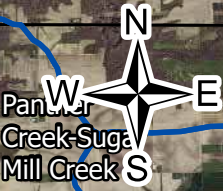
Martin, G.R., Fowler, K.K., and Arihood, L.D., 2016, Estimating selected low-flow frequency statistics and harmonic-mean flows for ungaged, unregulated streams in Indiana (ver 1.1, October 2016): U.S. Geological Survey Scientific Investigations Report 2016–5102, 45 p. (<http://dx.doi.org/10.3133/sir20165102>)



USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

Watersheds Map (1:75,000)
Small Structure Project
SR 32 over McFarland Ditch
Des. No. 2100803 & 2100804
Montgomery County, Indiana
Source: USGS & NAIP 2018 Imagery



HUC: 051201100501

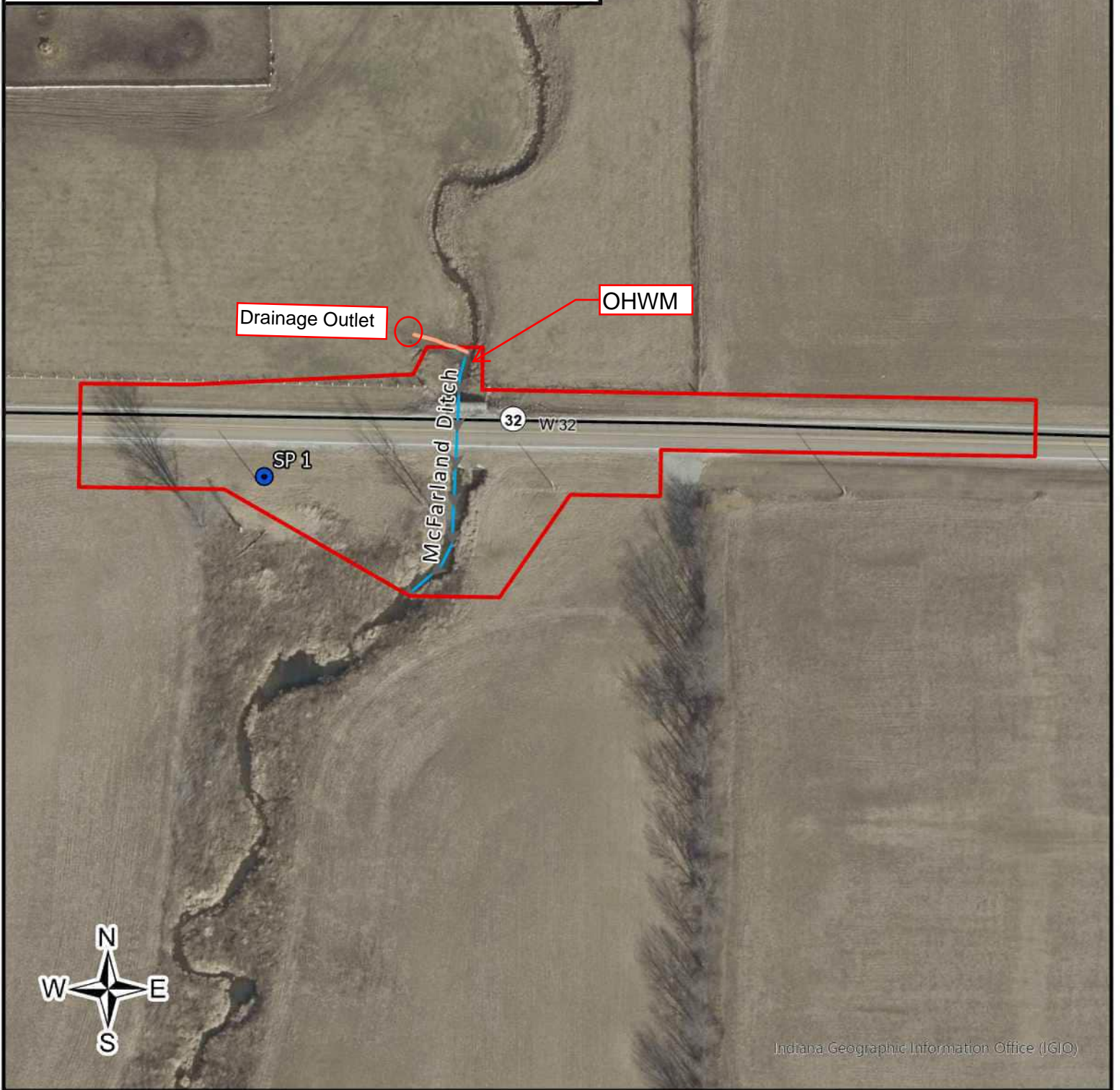


-  Investigated Area
-  HUC 12 Watersheds

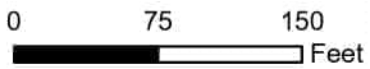






6/30/2023

Water Resources Map (1:1,200)
Small Structure Project
SR 32 over McFarland Ditch
Des. No. 2100803 and 2100804
Montgomery County, Indiana
Source: SJCA Inc. Field Survey & 2021-2023 Orthoimagery



Indiana Geographic Information Office (IGIO)

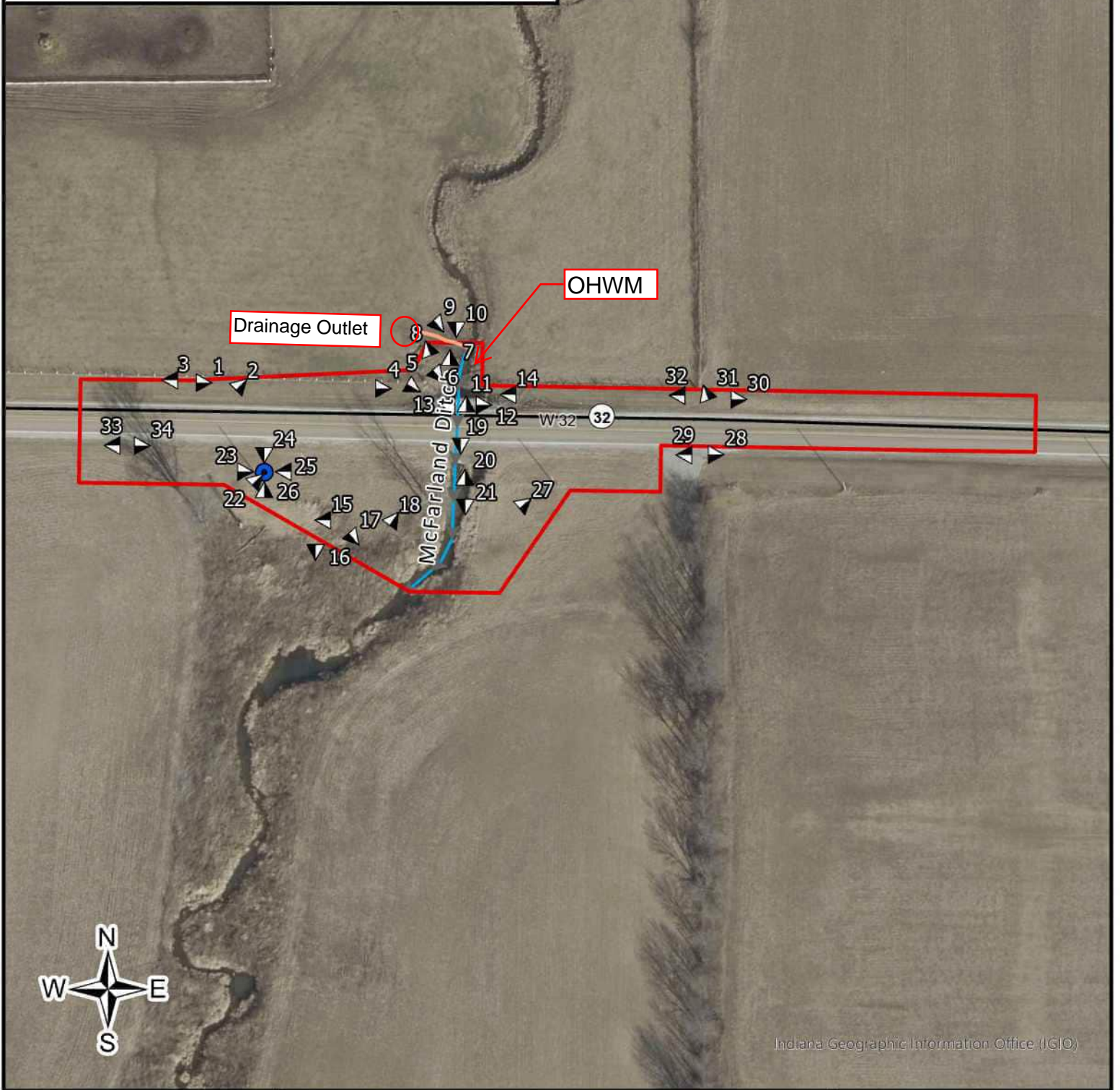


-  Investigated Area
-  Sample Points
-  Stream Line
-  Erosional Feature

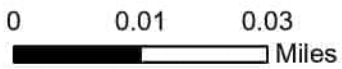


3/28/2024

Photo Location and Orientation Map (1:1,200)
 Small Structure Project
 SR 32 over McFarland Ditch
 Des. No. 2100803 and 2100804
 Montgomery County, Indiana
 Source: SJCA Inc Field Data and 2021-2023 Orthoimagery



Indiana Geographic Information Office (IGIO)



- Investigated Area
- Sample Points
- ▲ Photo Location
- Stream Line
- Erosional Feature



3/28/2024



Photo 1. Facing east toward the project structure along north side of SR 32 from western terminus of the investigated area.



Photo 3. Facing west along north side of SR 32 from western terminus of the investigated area.



Photo 2. Facing northeast toward farm field from north side of SR 32.



Photo 4. Facing east toward McFarland Ditch along with the project structure (inlet) from north side of SR 32.



Photo 5. Facing southeast toward the project structure from north side of SR 32.



Photo 6. Facing southeast toward the project structure, along McFarland Ditch from northwest quadrant of the investigated area.



Photo 7. Facing north toward McFarland Ditch from northwest quadrant of the investigated area.



Photo 8. Facing northwest along a drainage path from northwest quadrant of the investigated area, shows farm field drainage outlet.



Photo 9. Facing southeast toward the project structure along McFarland Ditch from northwest quadrant of the investigated area.



Photo 10. Facing south toward the project structure along McFarland Ditch from northwest quadrant of the investigated area.



Photo 11. Facing north toward McFarland Ditch from the project structure (inlet), northside of SR 32.



Photo 12. Facing east from the project structure along the north side of SR 32.



Photo 13. Facing east from the project structure along north side of SR 32.



Photo 14. Facing west toward the project structure along the north side of SR 32.



Photo 15. Facing west along south side of SR 32 from southwest quadrant of the investigated area, near the western terminus of the investigated area.



Photo 16. Facing south from southwest quadrant of the investigated area.



Photo 17. Facing southeast from southwest quadrant of the investigated area.



Photo 18. Facing northeast toward the project structure from southwest quadrant of the investigated area.



Photo 19. Facing south toward McFarland Ditch from the project structure (outlet), southside of SR 32.



Photo 20. Facing north toward the project structure (outlet) from southeast quadrant of the investigated area.



Photo 21. Facing south toward McFarland Ditch from southeast quadrant of the investigated area.



Photo 22. View of SP 1 soils (upland).



Photo 23. Facing east from SP 1.



Photo 24. Facing south from SP 1.



Photo 25. Facing west from SP 1.



Photo 27. Facing northeast toward SR 32 from southeast quadrant of the investigated area.



Photo 26. Facing north from SP 1.



Photo 28. Facing east along south side of SR 32 from eastern terminus of the investigated area.



Photo 29. Facing west toward the project structure along south side of SR 32 from eastern terminus of the investigated area.



Photo 31. Facing northwest toward farm field from northeast quadrant of the investigated area.



Photo 30. Facing east along north side of SR 32 from eastern terminus of the investigated area.



Photo 32. Facing west toward the project structure along the north side of SR 32 from eastern terminus of the investigated area.



Photo 33. Facing west along the south side of SR 32 from western terminus of the investigated area.



Photo 34. Facing east along the south side of SR 32 from the western terminus of the investigated area.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SR 32 over McFarland Ditch City/County: Montgomery Sampling Date: 6/6/2023
 Applicant/Owner: INDOT State: IN Sampling Point: 1
 Investigator(s): Christian Radcliff & Wanda Gaines Section, Township, Range: S-11, T-18 N, R-6 W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0-2 Lat: 40.025150 Long: 87.064308 Datum: WGS 84
 Soil Map Unit Name: CbB-Camden silt loam, 2 to 6 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: <u>5 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Phalaris arundinacea</u>	100	Y	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
	<u>0</u>	= Total Cover		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: Multiply by:
 OBL species _____ x 1 = 0
 FACW species 100 x 2 = 200
 FAC species _____ x 3 = 0
 FACU species _____ x 4 = 0
 UPL species _____ x 5 = 0
 Column Totals: 100 (A) 200 (B)
 Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 4/4	100					Loam	
14-16	10 YR 4/4	95	10 YR 3/6	5	C	M	SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): 4/1/2024

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Jeegar Panchal SJCA Inc.
9102 N Meridian St. Suite #200
Indianapolis, IN 46260 (317) 634-4110

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAP-OP-R-_____

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a small structure project (Des. No. 2100803 & 2100804) in Montgomery County, Indiana. The project is located on SR 32, approximately 0.27 miles west of SR 25. The current structures are twin Corrugated Metal Pipes (CMPs) that are 40 feet (ft) in length, have a 10 ft span, and a 7 ft rise. The proposed project entails replacing the existing twin CMPs structures with a Reinforced Concrete Box, approximately 18 ft wide, 8 ft in height with a 12-inch sump. Guardrail will be installed due to the increased size of the new structure. Riprap will be placed at the inlet and outlet for erosion control.

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: IN County: Montgomery City: N/A

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

Lat. 40.025244 , Long. -87.063728

Universal Transverse Mercator: Zone 16; 494527.00 m E, 4430559.42 m N

Name of nearest waterbody: McFarland Ditch

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 183 linear feet, 6 width (ft) and/or 0.025 acres.

Cowardin Class: R5UBFx

Stream Flow: Perennial

Wetlands: N/A

Cowardin Class: N/A

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: N/A

Non-Tidal: N/A

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: _____

Field Determination. Date(s): _____

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring “pre-construction notification” (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant’s acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there “*may be*” waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:


SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
Site Location Map
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: _____
- Corps navigable waters' study: _____
- U.S. Geological Survey Hydrologic Atlas: NHD Map and HUC-12 Watershed Map
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Waynetown 24K Quadrangle
- USDA Natural Resources Conservation Service Soil Survey. Citation: 2023 Web Soil Survey Data
- National wetlands inventory map(s). Cite name: 2023 NWI Data
- State/Local wetland inventory map(s): _____
- FEMA/FIRM maps: 2023 IDNR Floodplain Data
- 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): 2018 NAIP Imagery
 - Other (Name & Date): SJCA Field Inspection Photographs: 6/6/23
- Previous determination(s). File no. and date of response letter:
- Other information (please specify):

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

Signature and date of
Regulatory Project Manager
(REQUIRED)

 4/1/2024

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining the signature
is impracticable)

Site Number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
McFarland Ditch	40.025244	-87.063728	R5UBFx	183 linear feet, 0.025 acre	Section 404

Des 2100803 & 2100804

Appendix G

Public Involvement

(This appendix will be updated following the completion of public involvement activities)





Certified MBE, State of Indiana; City of Indianapolis

INDOT Certified DBE

Job #22EN069

NOTICE OF SURVEY

January 13, 2023

RE: PROJECT: State Road 32 (.17 Miles west from CR 830 W.)
Culvert Replacement Project
Waynetown, Indiana

Dear Property Owner:

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

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

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

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

Sincerely,

SJCA Inc.

Corey A. Chenault
Survey Crew Coordinator
CChenault@SJCAinc.com
317-566-0629 ext 441

Des 2100803 & 2100804

Appendix H

Air Quality



SPONSOR	CONTR ACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2024	2025	2026	2027	2028
Indiana Department of Transportation	43669 / 2100145	A 02	SR 25	Curve Correction	Crawfordsville	.1	STBG	\$97,789.27	District Other Construction	CN	-\$56,000.00	-\$14,000.00	(\$70,000.00)				
Performance Measure Impacted: Safety																	
Location: Approximately 250' south of the SR 55 Jct to approximately 175' north of the SR 55 Jct																	
Comments:Remove project. PE FY 24 and CN FY 24. No MPO involved. aqc n/a																	
Indiana Department of Transportation	43683 / 2100803	Init.	SR 32	Small Structure Replacement	Crawfordsville	.1	STBG	\$798,000.00	Bridge ROW	RW	\$96,000.00	\$24,000.00	\$60,000.00	\$60,000.00			
									Bridge Construction	CN	\$629,600.00	\$157,400.00		\$50,000.00	\$737,000.00		
Performance Measure Impacted: Bridge Condition																	
Location: 0.27 and 0.26 mi W of SR 25																	
Comments:Include DES 2100803, 2100804																	
Indiana Department of Transportation	43683 / 2100803	M 45	SR 32	Small Structure Replacement	Crawfordsville	.1	STBG	\$798,000.00	Bridge ROW	RW	\$0.00	\$0.00		(\$60,000.00)	\$60,000.00		
Performance Measure Impacted: Bridge Condition																	
Location: 0.27 mi W of SR 25, plus 2 other small structure replacement projects various locations.																	
Comments:Move RW from FY 25 to FY 26																	
Indiana Department of Transportation	43793 / 1800075	Init.	SR 32	Bridge Replacement	Crawfordsville	0	STBG	\$3,488,000.00	Bridge Construction	CN	\$2,499,200.00	\$624,800.00		\$3,124,000.00			
Performance Measure Impacted: Bridge Condition																	
Location: over Mill Creek; 3.70 mi W of SR 47																	
Comments:Include DES 1800075																	
Indiana Department of Transportation	43793 / 1800075	A 09	SR 32	Bridge Replacement	Crawfordsville	0	STBG	\$5,928,268.00	Bridge Construction	CN	\$3,484,800.00	\$871,200.00		\$4,356,000.00			
Performance Measure Impacted: Bridge Condition																	
Location: over Mill Creek; 3.70 mi W of SR 47																	
Comments:add FY25 CN \$4,356,348																	
Indiana Department of Transportation	44039 / 2101218	Init.	US 136	ADA Sidewalk Ramp Construction	Crawfordsville	.88	STBG	\$416,000.00	Safety Construction	CN	\$332,800.00	\$83,200.00			\$416,000.00		
Performance Measure Impacted: Safety																	
Location: From 0.4 mi W of SR 25 W Jct to 0.02 mi W of SR 25 E Jct (Waynetown)																	
Comments:Include DES 2101218																	
Montgomery County	44260 / 2101713	Init.	IR 8822	Bridge Deck Overlay	Crawfordsville	.048	STBG	\$3,646,875.00	Local Bridge Program	CN	\$2,337,000.00	\$0.00				\$2,337,000.00	
									Local Funds	CN	\$0.00	\$584,000.00				\$584,000.00	
									Local Bridge Program	RW	\$118,000.00	\$0.00		\$118,000.00			

Des 2100803 & 2100804
Appendix I
Additional Studies and Information



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

ProjectNumber	SubProjectCode	County	Property
1800133	1800133	Montgomery	Lincoln Activity Area (Lincoln Recreation Center)
1800161	1800161E	Montgomery	Shades State Park
1800171	1800171L	Montgomery	Shades State Park
1800211	1800211	Montgomery	Lake Waveland Park
1800308	1800308	Montgomery	Shades State Park
1800312	1800312N	Montgomery	Shades State Park
1800327	1800327I	Montgomery	Shades State Park
1800363	1800363BB	Montgomery	Shades State Park
1800405	1800405A	Montgomery	Calvert and Porter Woods
1800413	1800413R	Montgomery	Shades State Park
1800456	1800456	Montgomery	Shades State Park
1800480	1800480	Montgomery	Darlington Old School Park

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

Culvert Inspection Report



The replacement of Structure No. CV 032-054-27.50 A is included under Des. No. 2100803.

Note: Some pages have been removed from this inspection report for the Appendix; however, a full inspection report can be made available upon request.

Structure Information

Structure:	CV 032-054-27.50 A	Facility Carried:	SR 32
Structure Number:	93000336	Features Intersected:	

Inspection Information

Inspection Date:	05/08/2024	Lead Inspector:	William (Amos) Denny
Inspection Type:	Culvert	Additional Inspectors:	

Condition Ratings Summary

Culvert:	3	Substructure:	N
Deck:	N	Channel & Channel Protection:	4
Superstructure:	N		



Structure:	CV 032-054-27.50 A	Facility Carried:	SR 32	Inspector:	William (Amos) Denny
Str. Number:	93000336	Features Intersected:		Inspection Date:	05/08/2024

Culvert Condition Ratings

Culverts:	3 - Serious Condition
There are many moderate to large sized rust through holes along the waterline and edges. Moderate to severe flaking rust along the bolt lines. The pipe is holding its shape.	
Deck:	N - Not Applicable
Superstructure:	N - Not Applicable
Substructure:	N - Not Applicable
Channel / Channel Protection:	4 - Protect. severely undermined. sev. damage
The stream flows from north to south. The main flow of the stream flows through this pipe. There is fencing along north end of the pipe which catches debris. There is minor undermining of the pipe at the inlet. Moderate erosion at the northwest corner.	
Culvert Rails:	N - NA/Safety feature not required
Transitions:	N - NA/Safety feature not required
Approach Guardrail:	N - NA/Safety feature not required
Approach Guardrail Ends:	N - NA/Safety feature not required
Is Culvert Obstructed?	True
Farm field fence has collected debris and is partially blocking the channel flow at the north end.	
Overtopping Frequency:	2 - Slight - 11 to 100 Years
Minimal fill over structure, slight chance of overtopping.	

Headwall / Anchor Rating:	N	Channel Alignment Rating:	7
Wingwall Ratings:	N	Birds Present?:	No
Bank Erosion Ratings:	7	Bats Present?:	No
Drift / Sediment Rating:	6		

Culvert Inspection Report



The replacement of Structure No. CV 032-054-27.50 B is included under Des. No. 2100804.

Note: Some pages have been removed from this inspection report for the Appendix; however, a full inspection report can be made available upon request.

Structure Information

Structure:	CV 032-054-27.50 B	Facility Carried:	SR 32
Structure Number:	93000382	Features Intersected:	

Inspection Information

Inspection Date:	05/12/2024	Lead Inspector:	William (Amos) Denny
Inspection Type:	Culvert	Additional Inspectors:	

Condition Ratings Summary

Culvert:	4	Substructure:	N
Deck:	N	Channel & Channel Protection:	5
Superstructure:	N		



Structure:	CV 032-054-27.50 B	Facility Carried:	SR 32	Inspector:	William (Amos) Denny
Str. Number:	93000382	Features Intersected:		Inspection Date:	05/12/2024

Culvert Condition Ratings

Culverts:	4 - Poor Condition
There are several minor rust through holes along the waterline. There is also moderate flaking rust along the bolt lines.	
Deck:	N - Not Applicable
There is a sinkhole on the north side of the road, inbetween the East and West Structure.	
Superstructure:	N - Not Applicable
Substructure:	N - Not Applicable
Channel / Channel Protection:	5 - Bank eroded.. major damage
There is a fence with barbed wire at both ends of the structure installed by the farmer. There is some sediment build up at the south end of the structure.	
Culvert Rails:	N - NA/Safety feature not required
Transitions:	N - NA/Safety feature not required
Approach Guardrail:	N - NA/Safety feature not required
Approach Guardrail Ends:	N - NA/Safety feature not required
Is Culvert Obstructed?	True
Both ends of the culvert are obstructed by barbed wire fencing installed by a farmer. The fencing is catching debris.	
Overtopping Frequency:	2 - Slight - 11 to 100 Years
Due to the fencing across the opening and minimal fill over the culvert, there is a slight chance of overtopping.	

Headwall / Anchor Rating:	N	Channel Alignment Rating:	7
Wingwall Ratings:	N	Birds Present?:	No
Bank Erosion Ratings:	7	Bats Present?:	No
Drift / Sediment Rating:	5		

**State Road (SR) 32 over McFarland Ditch Small Structure Replacement Project, Montgomery County, Indiana
Des 2100803 & 2100804**

Environmental Justice (EJ) Analysis

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 Categorial Exclusion Manual, an EJ Analysis is required for any project that has two or more relocations or 0.5 acre of additional ROW. The project will require 0.917 acre of new, permanent ROW. An additional 0.268 acre of ROW will be reacquired. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority or low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionate 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 Montgomery County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Ripley Township. 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 2022 American Community Survey (ACS) 5-year Estimate was obtained from the US Census Bureau website (<http://data.census.gov>) on February 9, 2024, by SJCA Inc. The data collected for minority and low-income populations within the AC are summarized in the table below.

Minority and Low-Income Data (US Census Bureau, 2022 ACS 5-Year Estimate):		
	COC – Montgomery County, Indiana	AC-1 – Ripley Township, Montgomery County, Indiana
Percent Minority	9.8%	5.4%
125% of COC	12.2%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	12.7%	16.4%
125% of COC	15.9%	AC >125% COC
EJ Population of Concern		Yes

The AC, Ripley Township, has a percent minority that is 5.4%, which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain a minority population of EJ concern.

The AC, Ripley Township, has a percent low-income of 16.4%, which is below 50% and is above the 125% COC threshold. Therefore, the AC has a low-income population of EJ concern.

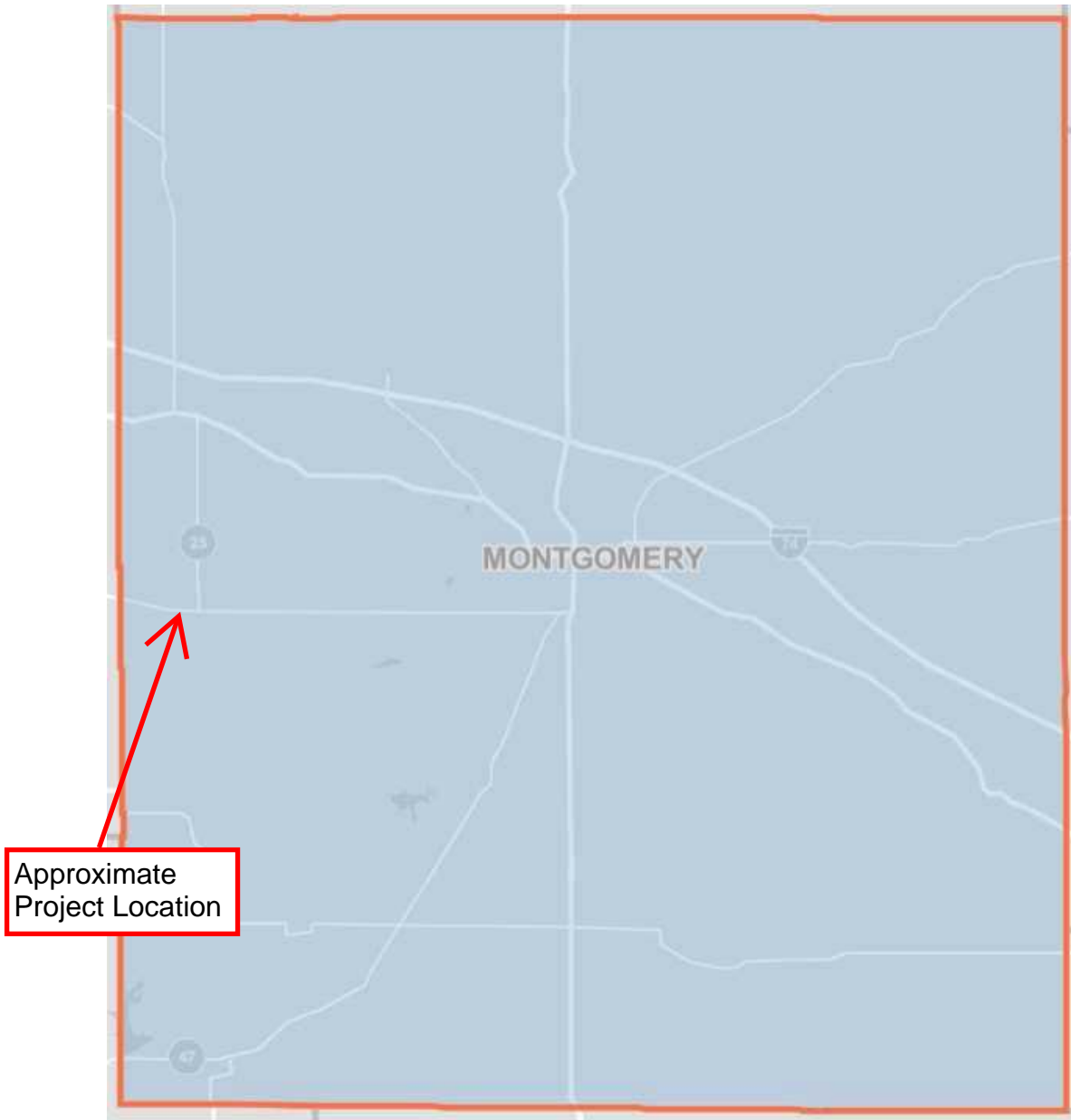
Conclusion

This project will require a total of 0.917 acre new, permanent ROW. An additional 0.268 acre of ROW will be reacquired. All new, permanent ROW acquisition will be immediately adjacent to the existing roadway. No relocations will occur, no changes in community cohesion will occur, and no permanent barriers will be created that would exclude low-income or minority populations. Temporary disruptions to access will occur during

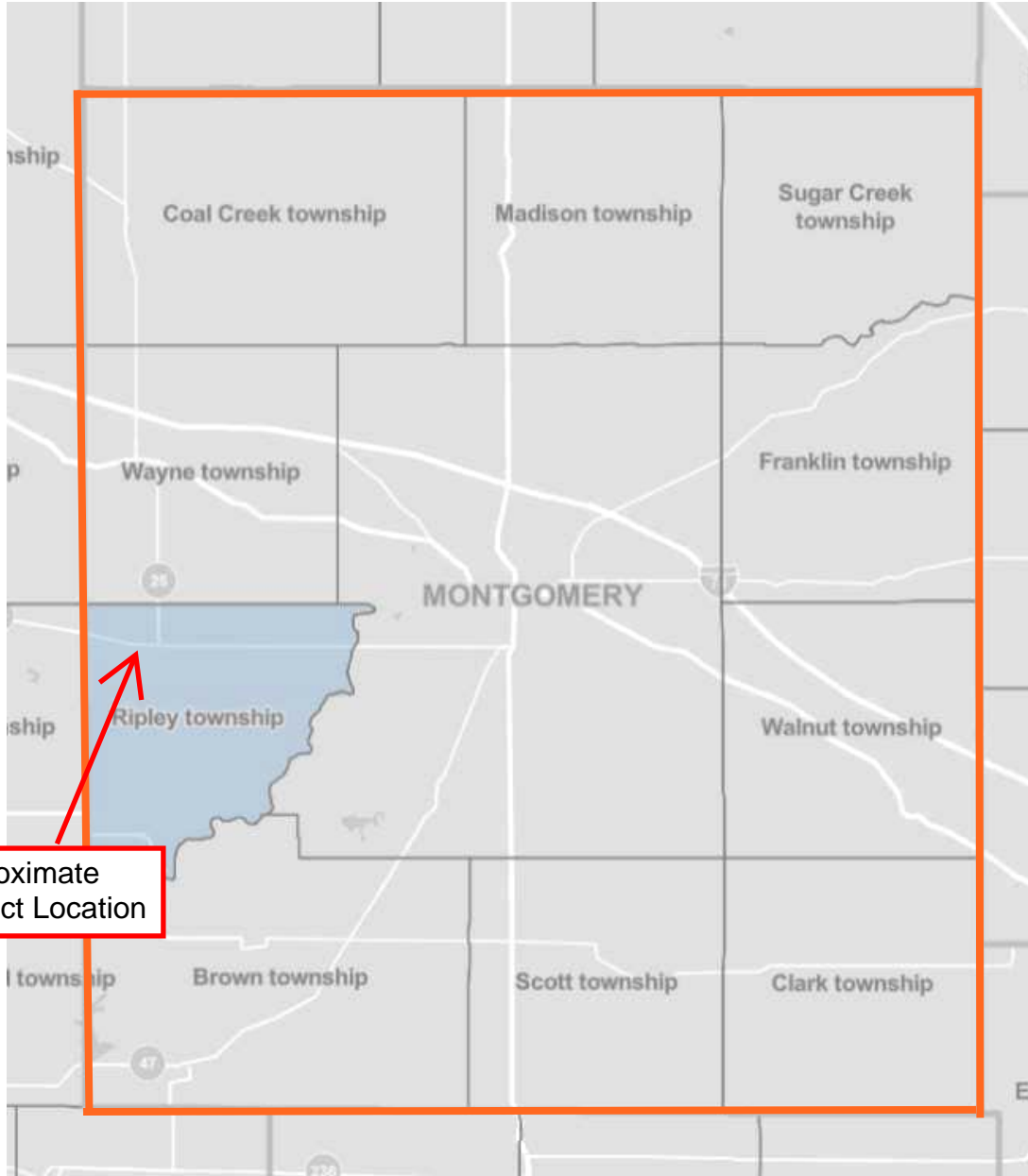
construction; however, a detour route will be available and access to all properties will be maintained. All motorists using this portion of SR 32 will be required to use a detour route; therefore, no disproportionately high impacts will occur to low-income or minority populations. The proposed detour route will use SR 25, US 136, and SR 341 and will add approximately 15 miles of additional travel time. A local detour route will not be posted, but several alternate detour routes using local roads will be available. The shortest alternate local detour route would use CR S 900 W, W Division Road, and SR 25 and will add approximately 2.6 miles of additional travel.

Environmental Justice Analysis for SR 32 over McFarland Ditch Small Structure Project (Des 2100803 & 2100804)			
		COC	AC-1
		Montgomery County, Indiana	Ripley Township, Montgomery County, Indiana
LOW-INCOME			
B17001001	Population for whom poverty status is determined: Total	36,479	432
B17001002	Population for whom poverty status is determined: Income in past 12 months below poverty level	4,640	71
Percent Low-Income		12.7%	16.4%
125 Percent of COC		15.9%	AC > 125% COC
Potential Low-Income EJ Impact?			Yes
MINORITY			
B03002001	Total population: Total	38,018	448
B03002002	Total population: Not Hispanic or Latino	36,056	448
B03002003	Total population: Not Hispanic or Latino; White alone	34,302	424
B03002004	Total population: Not Hispanic or Latino; Black or African American alone	281	9
B03002005	Total population: Not Hispanic or Latino; American Indian and Alaska Native alone	3	0
B03002006	Total population: Not Hispanic or Latino; Asian alone	162	0
B03002007	Total population: Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	19	0
B03002008	Total population: Not Hispanic or Latino; Some other race alone	324	55
B03002009	Total population: Not Hispanic or Latino; Two or more races	965	178
B03002010	Total population: Hispanic or Latino	1,962	0
B03002011	Total population: Hispanic or Latino; White alone	659	0
B03002012	Total population: Hispanic or Latino; Black or African American alone	32	0
B03002013	Total population: Hispanic or Latino; American Indian and Alaska Native alone	0	0
B03002014	Total population: Hispanic or Latino; Asian alone	0	0
B03002015	Total population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
B03002016	Total population: Hispanic or Latino; Some other race alone	529	0
B03002017	Total population: Hispanic or Latino; Two or more races	742	0
Number Non-white/minority		3,716	24
Percent Non-white/minority		9.8%	5.4%
125 Percent of COC		12.2%	AC < 125% COC
Potential Minority EJ Impact?			No

COC – Montgomery County, Indiana



AC – Ripley Township in Montgomery County, Indiana



Approximate
Project Location

— County Boundary

Table: ACSDT5Y2022.B17001

	Montgomery County, Indiana		Ripley township, Montgomery County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
Total:	36,479	±206	432	±128
Income in the past 12 months below poverty level:	4,640	±668	71	±60
Male:	1,914	±321	19	±19
Under 5 years	168	±68	0	±13
5 years	17	±19	0	±13
6 to 11 years	249	±99	2	±4
12 to 14 years	167	±62	11	±17
15 years	15	±18	0	±13
16 and 17 years	110	±80	5	±8
18 to 24 years	255	±108	0	±13
25 to 34 years	146	±81	0	±13
35 to 44 years	197	±87	0	±13
45 to 54 years	128	±70	1	±4
55 to 64 years	216	±93	0	±13
65 to 74 years	199	±115	0	±13
75 years and over	47	±40	0	±13
Female:	2,726	±460	52	±43
Under 5 years	176	±89	4	±8
5 years	64	±66	0	±13
6 to 11 years	172	±79	0	±13
12 to 14 years	156	±80	7	±7
15 years	29	±29	0	±13
16 and 17 years	111	±72	11	±19
18 to 24 years	364	±122	0	±13
25 to 34 years	331	±125	12	±13
35 to 44 years	328	±127	4	±7
45 to 54 years	195	±85	14	±19
55 to 64 years	367	±184	0	±13
65 to 74 years	149	±91	0	±13
75 years and over	284	±116	0	±13

Table: ACSDT5Y2022.B17001

	Montgomery County, Indiana		Ripley township, Montgomery County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
Income in the past 12 months at or above poverty level:	31,839	±703	361	±132
Male:	16,513	±357	195	±79
Under 5 years	1,001	±83	24	±24
5 years	172	±88	1	±2
6 to 11 years	1,302	±186	0	±13
12 to 14 years	489	±132	0	±13
15 years	225	±74	0	±13
16 and 17 years	494	±122	2	±3
18 to 24 years	1,138	±123	0	±13
25 to 34 years	2,109	±84	48	±32
35 to 44 years	1,935	±95	7	±16
45 to 54 years	2,312	±69	18	±19
55 to 64 years	2,542	±112	16	±18
65 to 74 years	1,657	±126	38	±26
75 years and over	1,137	±62	41	±45
Female:	15,326	±480	166	±65
Under 5 years	750	±105	1	±4
5 years	298	±106	0	±13
6 to 11 years	1,065	±174	9	±12
12 to 14 years	539	±163	0	±13
15 years	169	±79	0	±13
16 and 17 years	393	±92	0	±13
18 to 24 years	947	±131	0	±13
25 to 34 years	1,909	±140	25	±20
35 to 44 years	1,692	±118	0	±13
45 to 54 years	2,070	±100	16	±17
55 to 64 years	2,307	±172	18	±16
65 to 74 years	1,829	±99	68	±53
75 years and over	1,358	±124	29	±25

Table: ACSDT5Y2022.B03002

	Montgomery County, Indiana		Ripley township, Montgomery County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
Total:	38,018	*****	448	±132
Not Hispanic or Latino:	36,056	*****	448	±132
White alone	34,302	±239	424	±126
Black or African American alone	281	±115	9	±13
American Indian and Alaska Native alone	3	±4	0	±13
Asian alone	162	±80	0	±13
Native Hawaiian and Other Pacific Islander alone	19	±28	0	±13
Some other race alone	324	±212	0	±13
Two or more races:	965	±167	15	±17
Two races including Some other race	277	±124	0	±13
Two races excluding Some other race, and three or more races	688	±161	15	±17
Hispanic or Latino:	1,962	*****	0	±13
White alone	659	±219	0	±13
Black or African American alone	32	±60	0	±13
American Indian and Alaska Native alone	0	±27	0	±13
Asian alone	0	±27	0	±13
Native Hawaiian and Other Pacific Islander alone	0	±27	0	±13
Some other race alone	529	±228	0	±13
Two or more races:	742	±248	0	±13
Two races including Some other race	633	±227	0	±13
Two races excluding Some other race, and three or more races	109	±108	0	±13

Victoria Veach

From: Fair, Terri <TFair@indot.IN.gov>
Sent: Friday, March 22, 2024 4:37 PM
To: Victoria Veach
Subject: Des 2100803 & 2100804 SR 32 over McFarland Ditch EJ Analysis
Attachments: Des 2100803_2100804 SR 32 over McFarland Ditch EJ Analysis rev 3.6.2024.pdf

INDOT-Environmental Services Division (ESD) has reviewed the project information along with the Environmental Justice (EJ) Analysis for the above referenced project. With the information provided, the project may require right-of-way, requires no relocations, and would not disrupt community cohesion or create a physical barrier. With the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required.

ENGINEERING ASSESSMENT

Small Structure Replacement

SR 32 over McFarland Ditch in Montgomery County



DES. NO. 2100803 & 2100804

CV 032-054-27.50A – NBI 93000336 – RP 27+50

CV 032-054-27.50B – NBI 93000382 – RP 27+50

Prepared for:
Indiana Department of Transportation – Crawfordsville District

Prepared by:
SJCA Inc.
9102 North Meridian Street, Suite 200
Indianapolis, Indiana 46260



June 2023

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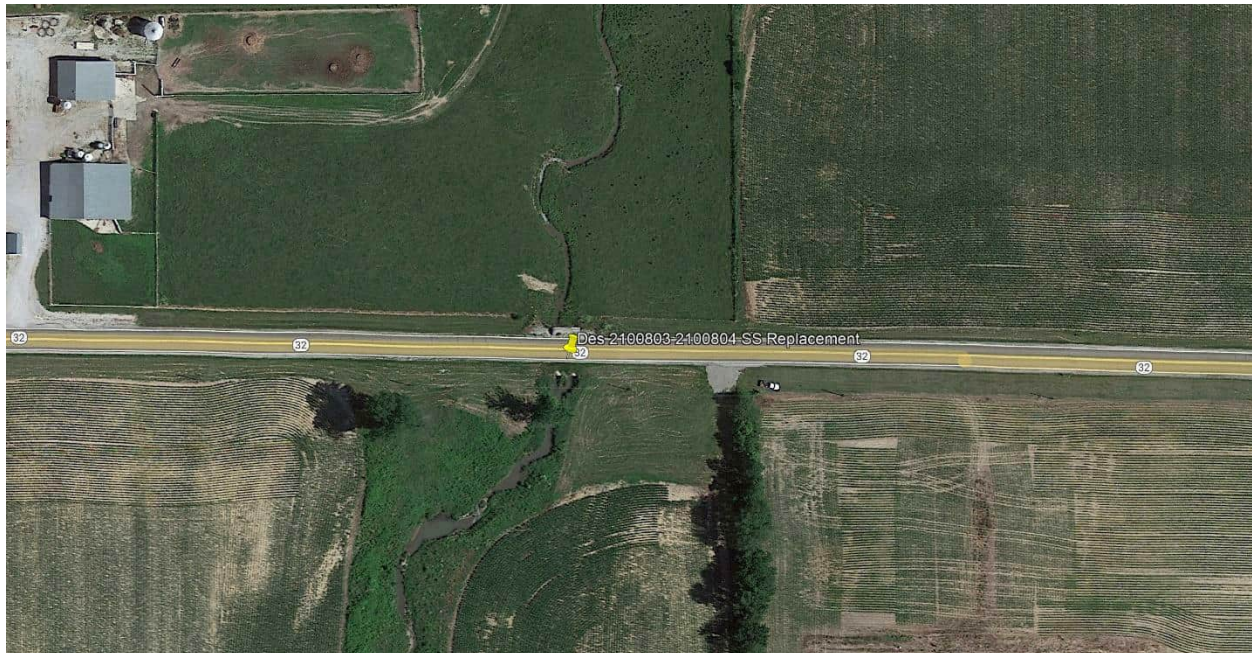
1 PURPOSE OF REPORT:

This report documents the engineering assessment to replace the existing twin corrugated metal pipe arch structures that carry SR 32. This report includes project location, purpose and need, existing conditions, alternatives, hydraulic analysis, details, and cost estimates of all alternatives for the project.

2 PROJECT LOCATION:

This project is located under SR 32, identified as Culvert # 032-054-27.50A and 032-054-27.50B, 0.27 miles west of SR 25 in Sections 2 and 11, Township T-18-N, Range R-6-W, Ripley Township, Montgomery County in Indiana Department of Transportation's Crawfordsville District, Crawfordsville subdistrict.

The longitude is 87° 03' 49.5" W and the latitude is 40° 01' 30.9" N.



3 PROJECT NEED AND PURPOSE:

The existing twin 10 ft x 7 ft corrugated metal pipe arch structures are located under SR 32 and convey McFarland Ditch from an area north of SR 32, south under the roadway. Many rust holes were noted along the waterline of Structure CV 032-054-27.50A (West pipe). Structure CV 032-054-27.50B (East pipe) exhibits severe rusting and minor rust holes throughout. The north end of both culverts has been repaired with recycled sheet piling and riprap. There is a barbed wire fence along the north side of both pipes and connected to the south side of the east pipe. The fence is presumably from the landowner on the north side of SR 32. Minor debris is caught in the fence on the north side. Both structures are in a poor condition. The latest Culvert Inspection Report indicates an overall culvert rating of 4 on a 0-9 rating scale for both structures. See appendix B for photos. The purpose of this project is to restore the crossing to good condition and make cost effective safety improvements.

The project Mini-Scopes were created on 06/08/2020 and the INDOT Hydraulic Report is dated 12/20/2017. The Mini-Scopes states that the purpose of the project is to replace both the structures with a much larger structure. The structures will continue to deteriorate resulting in an increased risk of structural failure if no action is taken.

4 EXISTING CONDITIONS

4.1 Culvert Structure

No existing road or culvert plans were found for this structure. The structures carry McFarland Ditch under SR 32 from an area north of the road to the south side of the road in Montgomery County. This structure is not part of a legal drain. The culverts are rusted with some section loss throughout. Table 4.1 shows the component details of the existing culvert.

Table 4.1 Existing Culvert Components

Structure Type:	Twin Corrugated Metal Pipe Arches
Structure Nos.:	032-054-27.50A & 032-054-27.50B
Pavement Type:	Asphalt
Skew:	0°
Culvert Length:	44 ft
Culvert Span:	10.0 ft
Culvert Rise:	7.0 ft
Cover:	2 ft

4.1.1 Hydraulic Analysis

Hydraulic analysis included with this report is provided by INDOT for replacing these culverts. See Appendix H for hydraulic analysis and recommendations.

4.2 Approach Roadway and Cross Section

4.2.1 Classification and Cross Section

This section of SR 32 is a 2 lane Rural Major Collector. This road is not included on the NTN or NHS. The existing cross section consists of approximately 22 ft of pavement, two lanes approximately 11 ft wide with 0ft paved and 1ft gravel shoulders. There is no guardrail present within the project limits.

4.2.2 Horizontal and Vertical Geometry

The existing horizontal alignment is tangent with no curves in the project limits. The terrain is relatively flat in this area.

4.2.3 Intersecting Roadways and Drives

SR 25 intersects SR 32 approximately 0.27 miles east of the culverts. County Road S 900 W intersect SR 32 approximately 0.47 miles west of the culverts. There are existing private drives approximately 0.1 miles west of the culverts. The project limits will likely not impact the private drives. These facilities will be considered in the design and construction of the replacement structure. A field entrance is located approximately 0.03 miles east of the culverts.

4.2.4 Storm Pipe Structures

No field tiles draining into the ditch were observed within the anticipated work limits for the project. No pipes drain directly into the existing culvert.

4.3 Right of Way

It appears INDOT does not have adequate recorded right-of-way on either side of SR 32. The fence on the north side will be removed and replaced. As design progresses, SJCA will coordinate with INDOT regarding the permanent right of way acquisitions that are required for this project.

4.4 Utilities

SJCA, Inc. submitted an 811 ticket, and the following utilities were listed: Duke Energy Electric and AT&T Distribution. There are overhead utilities that run along the south side of SR 32.

4.5 Land Use

This project is located east of County Road S 900 W and west of SR 25. The land near the project location is primarily cultivated and the land use is primarily agricultural with some residences.

5 SCOPING MEETING AND FIELD CHECK

A project scoping meeting between INDOT and SJCA Staff was held on November 14, 2022. The kickoff meeting minutes can be found in Appendix I of this report.

6 TRAFFIC DATA

See Table 6.1 below for traffic data along SR 32 at the culvert location. This traffic information was obtained through a traffic forecast request with INDOT.

Table 6.1 Traffic Data

2022 AADT	1,402
2026 AADT	1,410
2031 AADT	1,421
2041 AADT	1,441
2046 AADT	1,451
2046 DHV	9.84%
Comm. Veh	6.13% AADT
Comm. Veh	6.52% DHV

7 CRASH DATA

Crash data was examined from 1/1/18 to 12/31/20. Two crashes have been recorded in the last 3 years near the intersection of SR 25 and SR 32. The crashes were classified as animal/object in roadway and had no relation to roadway deficiencies. Substandard design criteria have been noted in the section below.

8 DESIGN GUIDELINES

The project design criteria will include 3R standards for a Rural Major Collector in accordance with INDOT guidelines and the Indiana Design Manual (IDM). Table 8.1 below indicates values for the appropriate roadway criteria found in IDM Figure 55-3B, which is also included in the appendices of this report.

Table 8.1 Minimum Design Guidelines for SR 32

Functional Classification	Major Collector
Posted Speed	55 mph
Design Speed	55 mph
Min. Travel Lane Width	11 ft
Min. Shoulder Width	3 ft usable, 2 ft paved
Min. Stopping Sight Distance	495 ft
Max. Grade (Level Terrain)	7.5%
Min. Cross Slope	2%

The existing pavement at the project location is approximately 22 ft wide. Per IDM Figure 49-3D(1), guardrail shall be placed because the structure has a span greater than 10 ft and has a rise greater than 66 inches. The minimum guideline requires two 11 ft lanes with 4 ft paved shoulders for this roadway with guardrail. The Clear-Zone width will be used to determine the guardrail length of need. During design, the cross-section elements will be confirmed to determine if the lane width, paved shoulder width, and/or usable shoulders are substandard. These deficiencies will be further analyzed during the design and consideration given to pursuing design exceptions where it is justified.

9 DISCUSSIONS OF ALTERNATIVES

9.1 Culvert Alternatives

The existing structures are twin 10 ft x 7 ft corrugated metal pipe arches. According to INDOT's hydraulic memo, the existing structures have a backwater of 2.35 ft and appear to be hydraulically adequate.

The INDOT Hydraulics Memo has presented two lining options that will accommodate the hydraulic needs and improve the structural integrity. The first option is to line the existing pipes with deformed 84" ID HDPE Liners and bore a 6' pipe. The second option is a 5" concrete paved invert with 3' bored pipe. Due to the condition of the existing pipes, the lining options are not viable.

The INDOT Hydraulic Memo has also presented three replacement options that have analyzed for replacement of the culvert. The options are an 18' x 8' reinforced concrete box (RCB), an 18' x 8'. 3-sided flattop structure and a 20' x 8'. 3-sided archtop structure. The RCB option requires class 1 riprap at the outlet for scour protection, requires a 12-inch sump, and reduces the backwater to 2.05 ft. The 3-sided flattop option requires class 1 riprap at the outlet for scour protection and

reduces the backwater to 2.06 ft. The 3-sided archtop option requires revetment riprap at the outlet for scour protection and reduces the backwater to 1.67 ft.

9.2 Survey Requirements and Project Limits

Preliminary topographic survey will extend along SR 32 for approximately 600 ft east and west of the structure and 100 ft on both sides of the centerline of roadway. Topographic and planimetric features captured by the preliminary survey will include the inlet and outlet pipe invert, benchmarks and pins, SR 32 edge of pavement, utilities, and the stream flow line. The topographic survey data was analyzed, and it was determined that a profile grade raise will not be needed for all proposed alternatives.

9.3 Right of Way Requirements

It is anticipated that minimal right-of-way acquisition will be required for this project, to accommodate the replacement structure and utility relocation, either temporary or permanent. If acquisition is required, the acquisition of two permanent parcels is anticipated. Coordination with the Montgomery County Surveyor's office will occur where necessary throughout the design process of this project.

9.4 Maintenance of Traffic

Through the scoping of this project, it has been determined that a full road closure will expedite construction and provide greater safety in the project area. A traffic detour using SR 25, US 136 and SR 341 will add approximately 9.5 miles to a through trip. Further coordination with District Traffic and Construction staff will be required to finalize the preferred detour route. Based on the worksheet in Appendix J, this project is considered to be non-significant. Therefore, an abbreviated Traffic Management Plan (TMP) will not be required for this project.

9.5 Geotechnical Considerations

A geotechnical investigation will be needed for the structure replacement.

10 ENVIRONMENTAL CONSIDERATIONS

A cursory Red Flag Investigation for the project site was prepared. The project is not within 0.5 mile of any infrastructure resources, an urbanized area boundary, or hazardous material concerns. There is one known oil and gas well within 0.5 mile of the project area that will require coordination with the IDNR Oil and Gas Division. One stream, McFarland Ditch, is mapped within the project area. This project is within the primary dispersal zone of the federally endangered Rusty Patched Bumble Bee. Coordination with the US Fish and Wildlife Service (USFWS) and Indiana Department of Natural Resources (IDNR) Division of Fish and Wildlife (DFW) will occur. The environmental document will either be a Categorical Exclusion (CE)-1 if right-of-way acquisition is under 0.5 acre or CE-2 if right-of-way acquisition is over 0.5 acre.

A Waters of the US Report will be required due to the presence or suspected presence of water resources within and adjacent to the project area. This project occurs within a mapped floodway as shown on the IDNR floodplain information portal but no IDNR CIF permit is anticipated. A Construction in a Floodway permit will be required if this project is not determined to meet the

rural bridge exemption requirements. This project will not likely disturb or expose more than 1.0 acre of soil. A Construction Stormwater General permit (CSGP) will be required for this project if greater than 1.0 acre of soil is exposed or disturbed. This project is expected to impact jurisdictional water features. A Section 401 Permit and Section 404 Permit is expected to apply for this project. Coordination will occur with the INDOT Ecology and Waterway Permitting Office to determine permit requirements. A preliminary desktop review of cultural resources does not indicate any concerns and the project may fall under the Minor Projects Programmatic Agreement (MPPA). If work occurs in undisturbed soils, then archaeological fieldwork will be required.

11 COMMUNITY IMPACTS

The project is in a rural area along SR 32 with no towns or schools nearby. Access to all properties and driveways will be maintained during construction. There are several county roads nearby that emergency services and local traffic can use to bypass the SR 32 closure. Local businesses will be minimally impacted by the road closure.

12 PROJECT COST ESTIMATES AND RECOMMENDATION

A cost estimate for five alternatives is shown below. A detailed cost estimate that further itemizes the costs involved in each alternative is included in the appendices. A 15% contingency has been added to the construction costs to account for the unforeseen construction costs. All the alternatives assume approximately 50' of full depth replacement and 50' of resurfacing on both sides of the culvert centerline. The estimated construction costs for each of the alternatives for this project are shown in Table 11.1.

Table 11.1 Estimated Costs

Pipe Replacement Alternative	Construction Cost for Alternative
84" ID HDPE Deformed w/ 6' Bored Pipe	\$315,448
5" Concrete Paved Invert w/ 3' Bored Pipe	\$242,690
18' x 8' Reinforced Concrete Box	\$657,410
18' x 8' 3-sided Flattop Concrete Structure	\$668,432
20' x 8' 3-sided Archtop Concrete Structure	\$876,105

All costs are in 2023 dollars.

If the deficiencies of the structure are not addressed promptly, it can cause major structural issues for the culvert and the road pavement soon. The scoping report states these structures will be replaced by one larger culvert and that replacement is preferred over lining the existing structures. Replacement of the structure will prevent further deterioration of the pipes. The preferred alternative is an **18' x 8' Reinforced Concrete Box**. This alternative is the most cost effective and it reduces scour concerns. The 18' x 8' Reinforced Concrete Box is the District's preferred alternative and it achieves the hydraulic needs of this project. A waterproof membrane is needed

to protect the proposed concrete structure. The structure will utilize headwalls and wingwalls to help reduce the length as much as possible. There is no existing guardrail present. The proposed structure and approaches will utilize MASH tested guardrail for roadside safety.

Note: These estimates are preliminary and are subject to change throughout the design process.

Change to Report Statement: The District Technical Services Section along with the Project Manager shall be consulted if deviation is determined to be necessary during a later phase of project development. The person initiating the change shall send a memo through the project manager for concurrence by Technical Services. The memo shall include justification for the change and the estimated cost difference.

SJCA Inc. Project Manager



Date 06/02/2023

Mitchell Pratt, PE

INDOT Concurrence:

INDOT Asset Engineer

Christopher Wheeler, P.E. Date 7/31/2023

Chris Wheeler, PE

INDOT Scoping Manager



Date 07/06/2023

Joe Malloy, PE

INDOT System Asset Engineer

Michael Eubank

Date 7/20/2023

Mike Eubank, PE



INDIANA DEPARTMENT OF TRANSPORTATION

Hydraulics Department
 100 North Senate Avenue
 Room N642
 Indianapolis, Indiana 46204

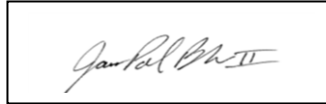
PHONE: (317) 232-6439
 FAX: (317) 233-4929

Eric Holcomb, Governor
Joe McGuinness, Commissioner

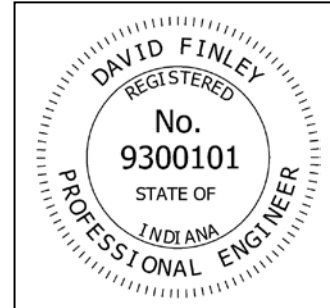
December 20, 2017

TO: Christopher Wheeler
 Bridge Asset Engineer
 Crawfordsville Dist.

FROM: James Boehm
 Hydraulics Engineer



THRU: David Finley, P.E.
 Sr. Hydraulics Engineer



SUBJECT: Hydraulic Review
 Status: Final Design
 Str. #: CV 032-054-27.50 A
 CV 032-054-27.50 B
 County: Montgomery
 Location: SR 32, 0.27 miles west of SR 25

The tables below summarize the hydrologic and hydraulic parameters.

Site Parameters		
Drainage Area	1.93	mi ²
Q ₁₀₀ Discharge	892.2	cfs
Q ₂₅ Discharge	577.1	cfs
Q ₁₀₀ Depth	5.29	ft.
Legal Drain?	No	
CIF Permit Needed?	No	

Culvert Properties						
Parameter	Existing		Option #1		Option #2	
Structure	Twin 10' x 7' CMPA		84" ID HDPE Deformed w/ 6' Bored Pipe		5" Concrete Paved Invert w/ 3' Bored Pipe	
Road Overflow Area Below Q ₁₀₀ Elevation	No		No		No	
Waterway Area Below Q ₁₀₀ Elevation	52.00	sq ft	N/A	sq ft	N/A	sq ft
Q ₁₀₀ Headwater Elevation	95.44	ft	95.33	ft	95.39	ft
Backwater	2.35	ft	2.24	ft	2.30	ft
Outlet Velocity (Q ₂₅)	6.62	ft/s	7.37	ft/s	6.80	ft/s
Scour Protection	N/A		Class 1 Riprap		Class 1 Riprap	



INDIANA DEPARTMENT OF TRANSPORTATION

Hydraulics Department
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Eric Holcomb, Governor
Joe McGuinness, Commissioner

Culvert Properties								
Parameter	Existing		Option #3		Option #4		Option #5	
Structure	Twin 10' x 7' CMPA		18' x 8' *RCB Sumped 12"		18' x 8' 3-Sided Flattop		20' x 8' 3-Sided Archtop	
Road Overflow Area Below Q ₁₀₀ Elevation	No		No		No		No	
Waterway Area Below Q ₁₀₀ Elevation	52.00	sq ft	95.22	sq ft	95.22	sq ft	114.00	sq ft
Q ₁₀₀ Headwater Elevation	95.44	ft	95.14	ft	95.15	ft	94.76	ft
Backwater	2.35	ft	2.05	ft	2.06	ft	1.67	ft
Outlet Velocity (Q ₂₅)	6.62	ft/s	6.51	ft/s	6.51	ft/s	5.67	ft/s
Scour Protection	N/A		Class 1 Riprap		Class 1 Riprap		Revetment Riprap	

*RCB – Reinforced Concrete Box

The existing culvert is twin 10'span by 7' rise CMPA's that are approximately 44' long. The structure is located in Montgomery Co. under SR 32, 0.27 miles west of SR 25. This structure is not part of a legal drain and flows from north to south. The culvert also has a non-standard metal structure constructed at the inlet. The inspection report differentiates between the east barrel and west barrel by designating them as structure A and B respectively. Both barrels of the culvert have some deterioration and section loss. The upstream channel is well defined and runs through a pasture, while the downstream channel is lined with some brush and trees.

The section of SR 32 at the structure has an AADT of greater than 1000 but less than 3000 vehicles. Therefore, the design discharge for roadway serviceability was based on a storm event with a 4% EP (exceedance probability), and a maximum discharge based on a storm event with a 1% EP. Maximum and design discharge was calculated using TR-20. All liner and replacement options were modeled using HY-8 7.2.

Liner options:

- Option #1: 84" ID HDPE Deformed with 6' Bored Pipe
- Option #2: 5" Concrete Paved Invert with 3' Bored Pipe

Liner options that require a bored pipe were modeled with the invert of the bored pipe 12" above the inverts of the existing structure. For scour protection, class 1 riprap must be placed at the outlet for all liner options in accordance with IDM 203-2.03(10).

Replacement options:

- Option #3: 18' x 8' RCB Sumped 12"
- Option #4: 18' x 8' 3-Sided Flattop
- Option #5: 20' x 8' 3-Sided Archtop

Option 3 must be sumped 12" per IDM 203-2.02(10). Options 4 and 5 must have a low structure elevation 7' above the flowline of the channel. For scour protection class 1 riprap must be placed at the outlet for replacement options 3 and 4 and revetment riprap for option 5 in accordance with IDM 203-2.03(10). Elevations are based on a relative datum of 100'



INDIANA DEPARTMENT OF TRANSPORTATION

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Eric Holcomb, Governor
Joe McGuinness, Commissioner

in conjunction with surveyed rod readings taken at the location. Existing downstream invert and proposed downstream invert flowline elevation for analysis was 87.32'. Contractor shall verify the existing flowline elevation to set the appropriate sump depth.

If you have any questions or comments, please contact me at (317) 232-6439.

JPB