

# Appendix E

Red Flag and Hazardous Material

Des. No. 1900330



# INDIANA DEPARTMENT OF TRANSPORTATION

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

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

**Eric Holcomb, Governor**  
**Joe McGuinness,**  
**Commissioner**

Date: February 10, 2022

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: Rachel Pluckebaum  
Corradino, LLC  
200 S. Meridian St. Suite 330  
Indianapolis, IN 46225  
rpluckebaum@corradino.com

Re: RED FLAG INVESTIGATION  
DES #1900330, State Project  
Small Structure Replacement  
SR 246, 7.39 Miles West of SR 46  
Owen County, Indiana

## PROJECT DESCRIPTION

Brief Description of Project: SR 246 crosses an unnamed tributary (UNT) to Lick Creek in the project area. The existing twin corrugated metal pipes are each 43 foot long with a 7 foot span by 5 foot rise. The project area is surrounded by agricultural terrain. The project will replace the existing structures with a single reinforced concrete box culvert. Incidental work will include approximately 60 feet of asphalt replacement and milling and resurfacing to tie the new pavement into the existing. Scour protection (riprap on geotextiles) will be placed at the inlet and outlet of the structure in accordance with INDOT standard drawings. Up to 0.75 acre of right-of-way may be required for this project.

Bridge and/or Culvert Project: Yes  No  Structure # CV 246-060-30.50

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).

Proposed right of way: Temporary  # Acres 0 acre Permanent  # Acres 0.75 acre, Not Applicable

Type and proposed depth of excavation: Excavation will occur at approximately 10 feet in depth. This excavation will occur to remove and replace the existing structure and place scour protection

Maintenance of traffic: SR 246 will be closed during construction and a detour will be used.

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

State Project:  LPA:

Any other factors influencing recommendations: N/A

**INFRASTRUCTURE TABLE AND SUMMARY**

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

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

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

**WATER RESOURCES TABLE AND SUMMARY**

<b>Water Resources</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	N/A	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	8
Canal Structures – Historic	N/A	Lakes	N/A
NPS NRI Listed	N/A	Floodplain - DFIRM	1
NWI-Lines	7	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	5	Sinkhole Areas	N/A
Rivers and Streams	9	Sinking-Stream Basins	N/A

Explanation:

**NWI – Lines:** Seven (7) NWI – Lines are located within the 0.5 mile search radius. The nearest NWI – Line is within the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**IDEM 303d Listed Streams and Lakes (Impaired):** Five (5) impaired stream segments are located within the 0.5 mile search radius. The nearest impaired stream segment is within the project area. Lick Creek is listed as impaired for *E. coli*. Lick Creek is listed for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

**Rivers and Streams:** Nine (9) river/stream segments are located within the 0.5 mile search radius. The nearest river/stream segment, Lick Creek, is within the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**NWI – Wetlands:** Eight (8) NWI – Wetlands are located within the 0.5 mile search radius. The nearest wetland is located 0.41 mile southeast of the project area. No impact is expected.

**Floodplain – DFIRM:** One (1) floodplain polygon is located within the 0.5 mile search radius. The floodplain polygon is located 0.07 mile southwest of the project area. No impact is expected.

## MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

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

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

## HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

<b>Hazardous Material Concerns</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	N/A	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	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	1
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:

**NPDES Facilities:** One (1) NPDES Facility is located within the 0.5 mile search radius. The NPDES Facility, INDOT Des 1400247 SR 246 STRUCTURE 246-60-10018 REPLACEMENT OVER LICK CREEK, is located 0.14 mile southwest of the project area. No impact is expected.



**ECOLOGICAL INFORMATION SUMMARY**

The Owen 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 [np\\_owen.pdf \(in.gov\)](#). 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 rural area surrounded by farm fields. The June 29, 2021, inspection report for Culvert 246-060-30.50 states that no evidence of bats was seen or heard under in the culvert. 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: The presence of the following water resources will require the preparation of a Waters of the US Report and coordination with INDOT ESD Ecology and Waterway Permitting:

- A NWI – Line is located within the project area.
- A stream segment, Lick Creek, flows through the project area.

Impaired Rivers and Streams: Lick Creek is listed for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing and limit personal exposure.

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".

Nicole Fohey  
Breting

Digitally signed by  
Nicole Fohey-Breting  
Date: 2022.02.10  
13:52:53 -05'00'

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

Prepared by:  
Rachel Pluckebaum  
Environmental Specialist  
Corradino, LLC

**Graphics:**

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

SITE LOCATION: YES

INFRASTRUCTURE: N/A

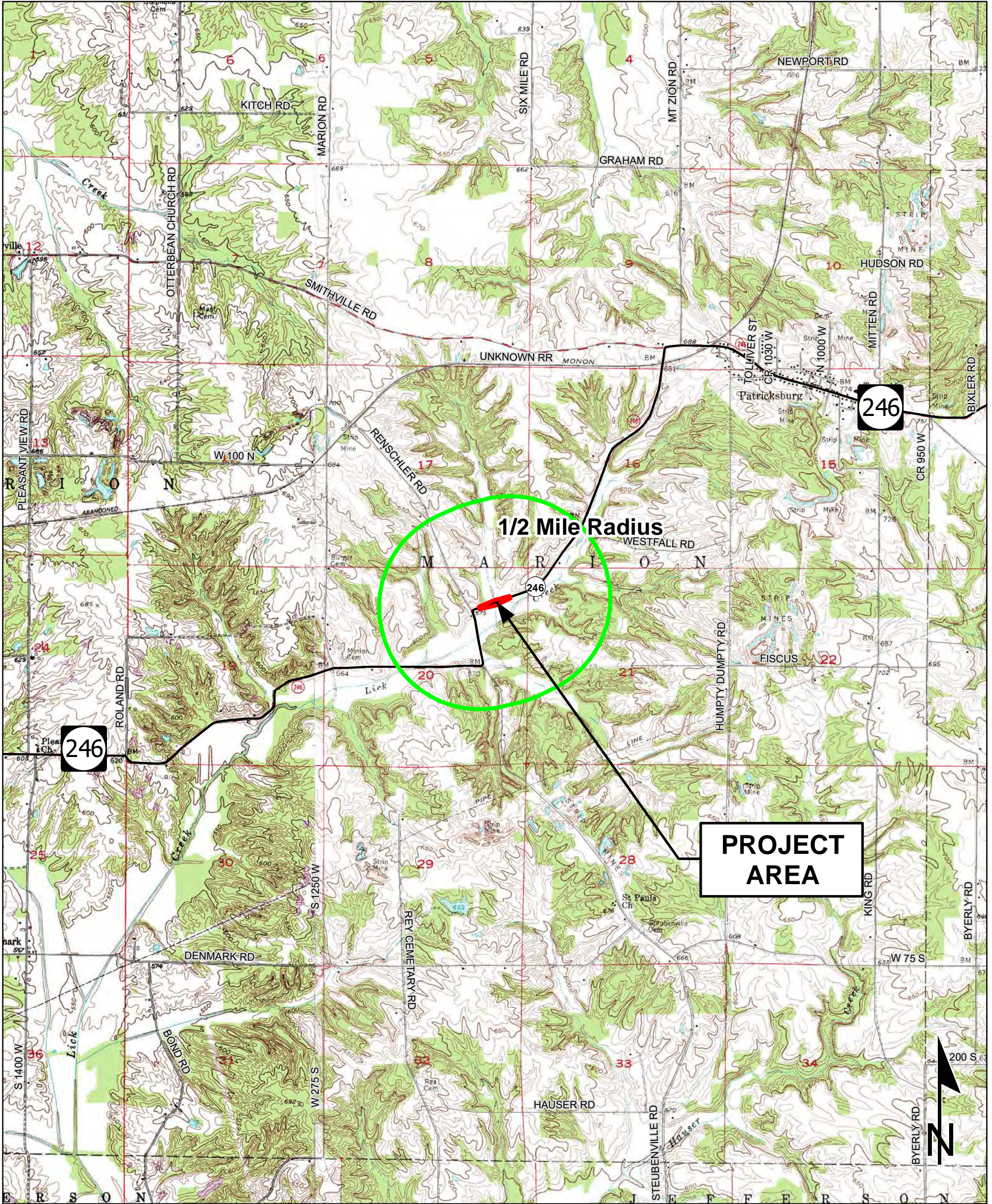
WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: YES



Red Flag Investigation - Site Location  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana

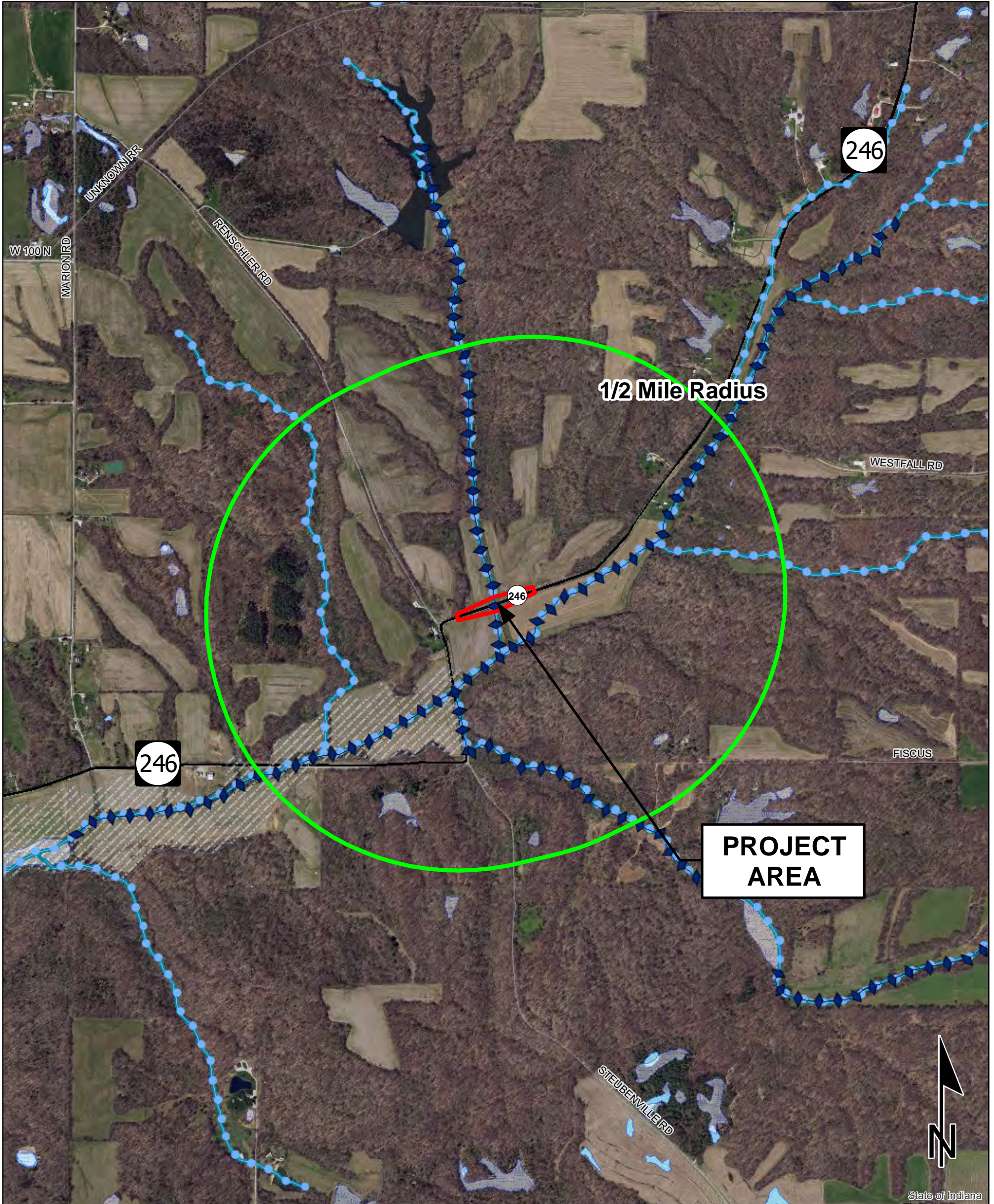


Sources: 0.75 0.375 0 0.75 Miles  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
 Map Projection: UTM Zone 16 N Map Datum: NAD83  
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

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

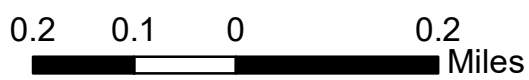


Red Flag Investigation - Water Resources  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



**Sources:**  
**Non Orthophotography**  
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**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

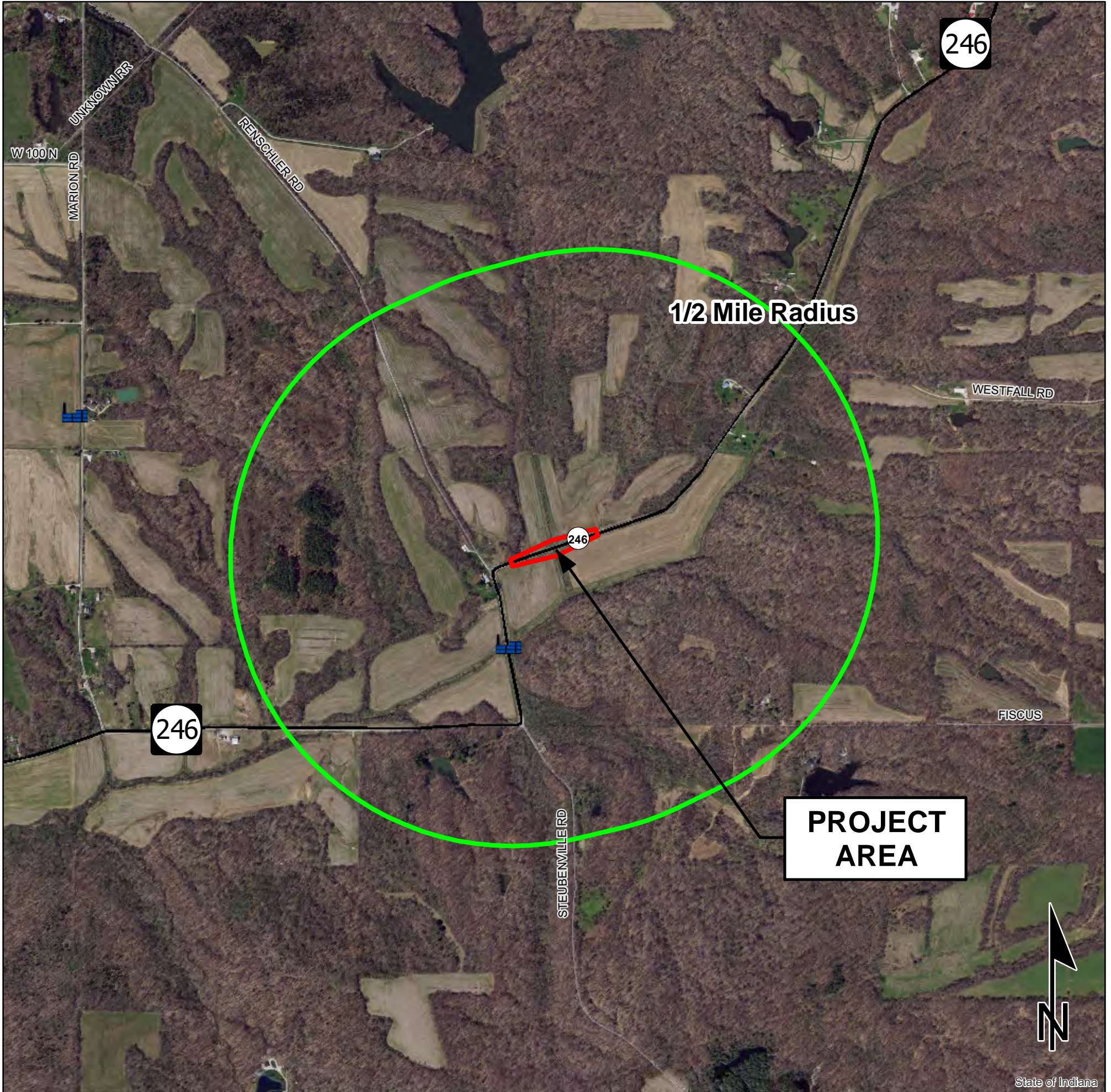
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



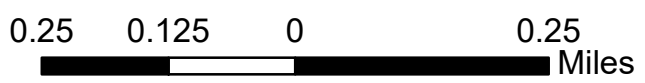
NWI - Point	Wetlands	Project Area
Karst Spring	Lake	Half Mile Radius
NWI- Line	Floodplain - DFIRM	Toll
Impaired_Stream_Lake	Cave Entrance Density	Interstate
NPS NRI listed	Sinkhole Area	State Route
River	Sinking-Stream Basin	US Route
Canal Structure - Historic	County Boundary	Local Road
Canal Route - Historic		



Red Flag Investigation - Hazardous Material Concerns  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



	Brownfield		RCRA Generator/TSD		Institutional Controls
	RCRA Corrective Action Sites		Restricted Waste Site		County Boundary
	Confined Feeding Operation Notice_of_Contamination		Septage Waste Site		Project Area
	Construction/Demolition Site		Solid Waste Landfill		Half Mile Radius
	Infectious/Medical Waste Site		State Cleanup Site		Toll
	Leaking Underground Storage Tank		Superfund		Interstate
	Manufactured Gas Plant		Tire Waste Site		State Route
	NPDES Facilities		Underground Storage Tank		US Route
	NPDES Pipe Locations		Voluntary Remediation Program		Local Road
	Open Dump Waste Site		Waste Transfer Station		



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

**Sources:**  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data  
 Map Projection: UTM Zone 16 N Map Datum: NAD  
[www.indianamap.org](http://www.indianamap.org) Appendix E-9



# Appendix F

Water Resources

Des. No. 1900330

APPROVED

*Justus McDill*  
5/9/22

## Waters of the U.S. Determination

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SR 246 in Owen County, Indiana  
Small Structure Project, 7.39 Miles West of SR 46  
Designation Number 1900330  
Asset Name: CV 246-060-30.50

Prepared by:

*Kirk Roth*

[kroth@corradino.com](mailto:kroth@corradino.com)

*317-488-2363*

*Corradino, LLC*

April 28, 2022

## 1. Project Information

### Dates of Field Reconnaissance:

Field work for this report was conducted on September 9, 2021 by Corradino, LLC.

### Project Location:

Patricksburg Quadrangle  
 Section 20, Township 10 North, Range 5 West  
 Owen County, Indiana  
 Coordinates: 39.295135, -86.983153

### Project Description:

This project is located on SR 246, 7.39 miles west of SR 46, at structure CV 246-060-30.50. SR 246 crosses an unnamed tributary (UNT) to Lick Creek in the project area. The existing twin corrugated metal pipes are each 43 foot long with a 7 foot span by 5 foot rise. The project area is surrounded by agricultural terrain. The project will replace the existing structures with a single reinforced concrete box culvert. Incidental work will include approximately 60 feet of asphalt replacement and milling and resurfacing to tie the new pavement into the existing. Scour protection (riprap on geotextiles) will be placed at the inlet and outlet of the structure in accordance with INDOT standard drawings. Up to 0.75 acre of right-of-way may be required for this project. SR 246 will be closed for construction. The proposed detour will utilize SR 46 and SR 59.

The water that passes through the structure will be maintained during the construction, with appropriate erosion and sediment control techniques, to ensure that sediment does not enter the waterway and flow into waters outside the project limits.

## 2. Desktop Reconnaissance

### Soils

According to the Soil Survey Geographic (SSURGO) Database for Owen County, Indiana, the project area does contain soil areas with nationally listed hydric soils. The soil within most of the project area is Steff Silt Loam (StAV), with Belknap Silt Loam (BdxAV) at the northwestern end.

Soil Unit Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Steff Silt Loam	STaAV	Frequent	Moderately Well Drained	Nonhydric	0% Hydric
Belknap Silt Loam	BdxAV	Frequent	Somewhat Poorly Drained	Predominantly Nonhydric	5% Hydric



## National Wetland Inventory Information

UNT to Lick Creek is a National Wetland Inventory (NWI) Line that is mapped within the project area. No other NWI features are mapped within or adjacent to the project area.

## National Hydrography Dataset Information

12-digit Hydrologic Unit – 051202030806

Reach Code	Flowline Type	Location
05120203044192	Stream	Immediately west of project, extending east
05120203044194	Stream	(Identified as RSD1) Immediately east of project structure, extending east
05120203003362	Stream	Project structure, extending west and east
05120203058373	Unclassified	Immediately south of project structure, extending east

## Floodplain Information

According to the Flood Insurance Rate Map (FIRM) Database for Owen County, Indiana, the nearest floodplain is 0.07 mile southwest of the project area. However, the Indiana Department of Natural Resources Floodplain Analysis and Regulatory Assessment tool identifies the Approximate Floodway of Lick Creek approximately 75 feet south of the project structure with the Approximate Fringe adjacent to the structure.

### Attached Documents:

- Project Location Map
- Topographic Map
- Aerial Map
- Water Resources Map
- NWI Features Map
- FEMA/FIRM Map
- Soils Map
- Photo Key and Photo Log
- Wetland Determination Data Forms
- StreamStats Report
- IDNR Floodplain Analysis and Regulatory Assessment
- Preliminary Jurisdictional Determination

### 3. Field Reconnaissance

Site reconnaissance was conducted on September 9, 2021 by Corradino, LLC.

#### Stream Analysis

##### UNT to Lick Creek

The project structure is associated with the intermittent UNT to Lick Creek. Lick Creek encounters the Eel River and eventually the navigable White River. Within the project area, UNT to Lick Creek flows south and drains the surrounding agricultural area. During the site inspection, no water was present south of the structure and stagnant water was present north of the structure. An Ordinary High Water Mark (OHWM) was noted. Stream quality is considered poor due to the highly modified nature of the ditch and lack of run/riffle complexes or other significant structure. The OHWM was approximately 7.0 feet wide and 0.75 foot deep at a location approximately 100 feet southeast of the project structure. The StreamStats website (<https://streamstats.usgs.gov/ss/>) shows the area of UNT to Lick Creek to be 0.802 square mile at the project location. There are 193 linear feet of UNT to Lick Creek within the investigative area. UNT to Lick Creek is believed to be intermittent due to its status on USGS topographic maps, due to its OHWM size, and its ponded but not flowing water observed during the site visit.

UNT to Lick Creek exhibited a well-defined bed and bank. All banks of UNT to Lick Creek were steep. Drift deposits are found throughout the north end of the project area including above the project structure and along the roadside, consisting of corn stalks from flooding prior in the year. No other signs of wetland hydrology were noted outside the OHWM. SR 246 and the deficient drainage of the project structures appear to act as a dam during rapid precipitation events, however water does not appear to be retained for long enough to support hydrophytic vegetation in most areas. Creekside vegetation was dominated by facultative upland plants such as *Solidago canadensis*, *Schedonorus arundinaceus*, *Asclepias syriaca*, *Celastrus orbiculatus*, *Rubus allegheniensis*, and *Rhus glabra*. Soil in the area of UNT to Lick Creek is Steff Silt Loam which is designated as nonhydric. A combination of wetland hydrology and dominant hydrophytic vegetation did not occur beyond the OHWM of UNT to Lick Creek and therefore these wetland characteristics are considered a feature of UNT to Lick Creek and not a separate feature. UNT to Lick Creek is listed as a stream/river in the USGS National Hydrography Dataset. It is likely that UNT to Lick Creek is a Water of the U.S. due to its apparent connectivity with the White River.

**Table 1 – Stream Summary, SR 246, Owen County, Indiana, Designation Number 1900330**

Stream Name	Photos	Lat/Long	OHW Width (feet)	OHW Depth (feet)	USGS Blue-line?	Riffles? Pools?	Substrate	Quality	Likely Water of U.S.?
UNT to Lick Creek	1-15	39.295135, -86.983153	7.0	0.75	Yes (Intermittent)	No	Silt, Sand, Pebbles, Cobbles	Poor	Yes

## Wetland Analysis

### Wetland 1

The area within the site boundaries was investigated for potential wetland characteristics. A ditch-like depression in the southwest quadrant of the project area extends from the west end of the project along the south side of SR 246. The east end of this depression ends at an elevated area approximately 25 feet from UNT to Lick Creek. The depression did not exhibit an OHWM and exhibited dominant facultative wetland plants, especially *Phalaris arundinacea* and *Echinochloa crus-galli*, growing throughout the depression. Soils exhibited hydric soil indicator S5 – Sandy Redox. Wetland hydrology indicators were present including drift deposits and water-stained leaves, as well as the secondary indicators, geomorphic position and FAC-Neutral Test. These data are documented in wetland delineation Sample Point 1A. The adjacent slope and level areas were dominated primarily with the facultative upland *Schedonorus arundinaceus* and *Setaria faberi*. No hydric soil or wetland hydrology indicators were found in this area. These data are documented in wetland delineation Sample Point 1B. For the purposes of this report, this wetland is referred to as Wetland 1. Wetland 1 is considered to be a poor quality wetland due to location next to a roadway, water derivation from sheet flow from the roadway, small size and exotic vegetation. Wetland 1 is approximately 0.034 acre within the investigative area and is a palustrine emergent wetland. The wetland area is best defined by the depression in topography and clear dominance of *Phalaris arundinacea* in the herb stratum. Due to its significant nexus with UNT to Lick Creek and therefore connectivity with the navigable White River, Wetland 1 is believed to be a Water of the U.S.

### Wetland 2

A ditchlike depression occurs in the northwest quadrant of the project area. The east end of the depression has a pipe which extends under an overgrown farm entrance and empties into UNT to Lick Creek. The depression did not exhibit an OHWM. Vegetation in the depression was entirely facultative wetland *Phalaris arundinacea* and wetland obligate *Schoenoplectus tabermontani*. Soils exhibited hydric soil indicator S5 – Sandy Redox. Wetland hydrology indicators were present including drift deposits and oxidized rhizospheres on living roots, as well as the secondary indicators, geomorphic position and FAC-Neutral Test. These data are documented in wetland delineation Sample Point 2A. The adjacent slope and level areas were dominated primarily with the facultative upland *Rosa multiflora*, *Solidago canadensis* and *Setaria faberi*. Drift deposits were present in this area (corn stalks from flooded conditions earlier in the year). No hydric soil indicators were found in this area. These data are documented in wetland delineation Sample Point 2B. For the purposes of this report, this wetland is referred to as Wetland 2. Wetland 2 is considered a poor quality wetland due to location next to a roadway, water derivation from the sheet flow from the roadway, small size and exotic vegetation. Wetland 2 is approximately 0.021 acre within the investigative area and is a palustrine emergent wetland. The wetland area is best defined by the depression in topography and clear dominance of *Phalaris arundinacea* in the herb stratum. Due to its significant nexus with UNT to Lick Creek and therefore connectivity with the navigable White River, Wetland 2 is believed to be a Water of the U.S.

Table 2 – Wetland Point Summary, SR 246, Owen County, Indiana, Designation Number 1900330

Data Point	Vegetation	Soils	Hydrology	Wetland
1A	Yes	Yes	Yes	Yes
1B	No	No	No	No
2A	Yes	Yes	Yes	Yes
2B	No	No	Yes	No

Table 3 – Wetland Summary, Wetland Point Summary, SR 246, Owen County, Indiana, Designation Number 1900330

Wetland Name	Photo Number	Coordinates	Cowardin Type	Quality	Total Acreage	Likely Water of U.S.?
Wetland 1	21-25	39.295183 -86.983437	PEM	Poor	0.034	Yes
Wetland 2	28-34	39.295294 -86.983428	PEM	Poor	0.021	Yes

Roadside Ditch Analysis

RSD1 (Pictures 11, 14-20)

A ditch encounters UNT to Lick Creek approximately 5 feet north of the project structure. This ditch is referred to as RSD1 in this report. Within the project area, RSD1 drains the surrounding roadside and agricultural area. During the site inspection, stagnant water was present for approximately 5 feet east of UNT to Lick Creek, then was replaced with a bed with increasing vegetation as the ditch goes farther from the tributary. Vegetation within the ditch was dominated by facultative upland plants such as *Schedonorus arundinaceus*, with smaller but dominant amounts of *Solidago canadensis* and *Melilotus* sp. There were small clusters of the wetland obligates *Typha* sp. and *Juncus* sp. in places, but not in dominant coverage. The area which held water appeared to be an erosion feature which holds backwater. Notably, during site inspection, UNT to Lick Creek was holding standing water which was not draining through the project structure and this standing water was continuous with the first 5 feet of RSD1. Vegetation above the bank was dominated almost exclusively by the facultative upland *Schedonorus arundinaceus*. No OHWM was noted, because upland vegetation was dominant above and below the bank. Vegetation does not support wetland status. Therefore, RSD1 is believed to be a nonjurisdictional feature within the investigative area.

Despite the appearance of a darkened area on aerial photos in the southeast quadrant of the project area, field reconnaissance revealed that there were no wetlands or features with bed and bank structure in this area (see Photos 40-44). Dominant vegetation in this area was primarily facultative upland *Schedonorus arundinaceus* and *Asclepias syriaca* as well as the upland *Polygonum sachalinensis*.

## 4. Summary and Conclusions

As a running waterway directly traceable to the White River, UNT to Lick Creek is an apparent jurisdictional Waters of the U.S. The jurisdictional area in the project area would extend to the limits of the OHWM of the channel on all the banks of all tributaries. As wetlands with significant nexus to UNT to Lick Creek, Wetland 1 and Wetland 2 are also apparent jurisdictional Waters of the U.S. Each of these wetland areas extend throughout the depression areas clearly dominated by *Phalaris arundinacea* within the investigative area.

RSD1 is a nonjurisdictional feature within the investigative area.

No bat or bird use of the bridge was detected during the September 9, 2021 survey.

This waterway is a likely Water of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers. 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.

Kirk Roth



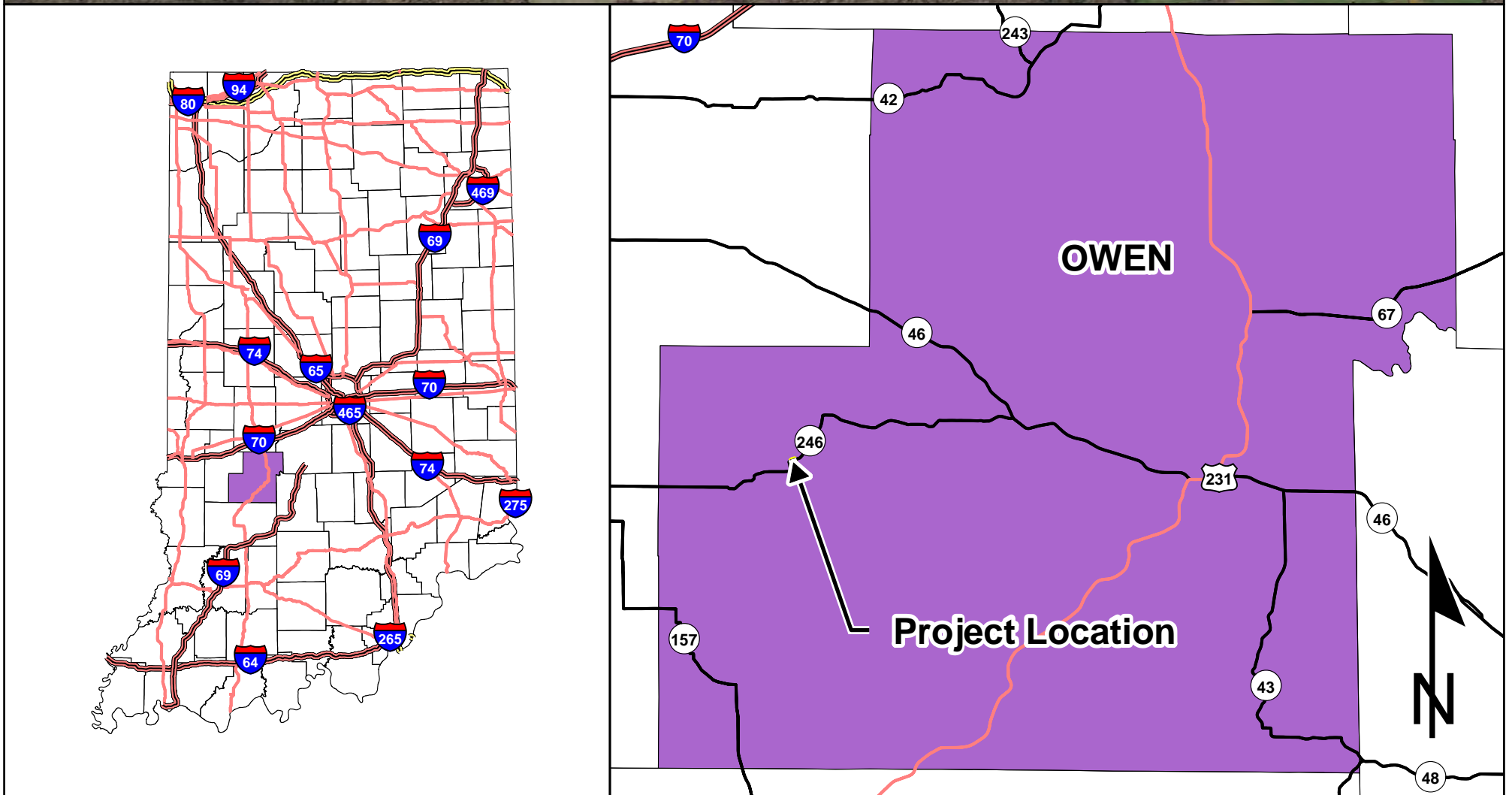
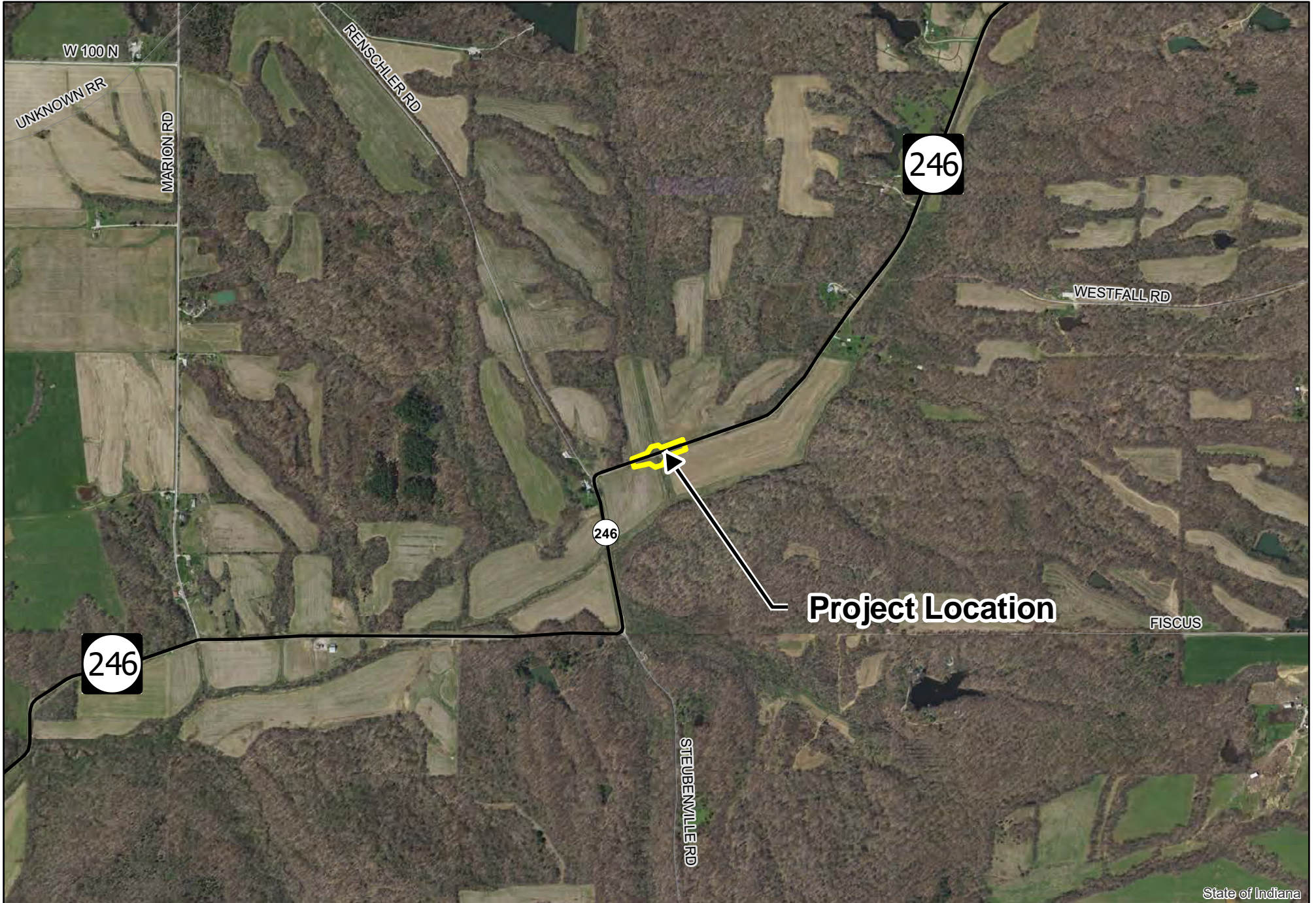
Environmental Scientist

Corradino, LLC

April 28, 2022



Project Location Map  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana

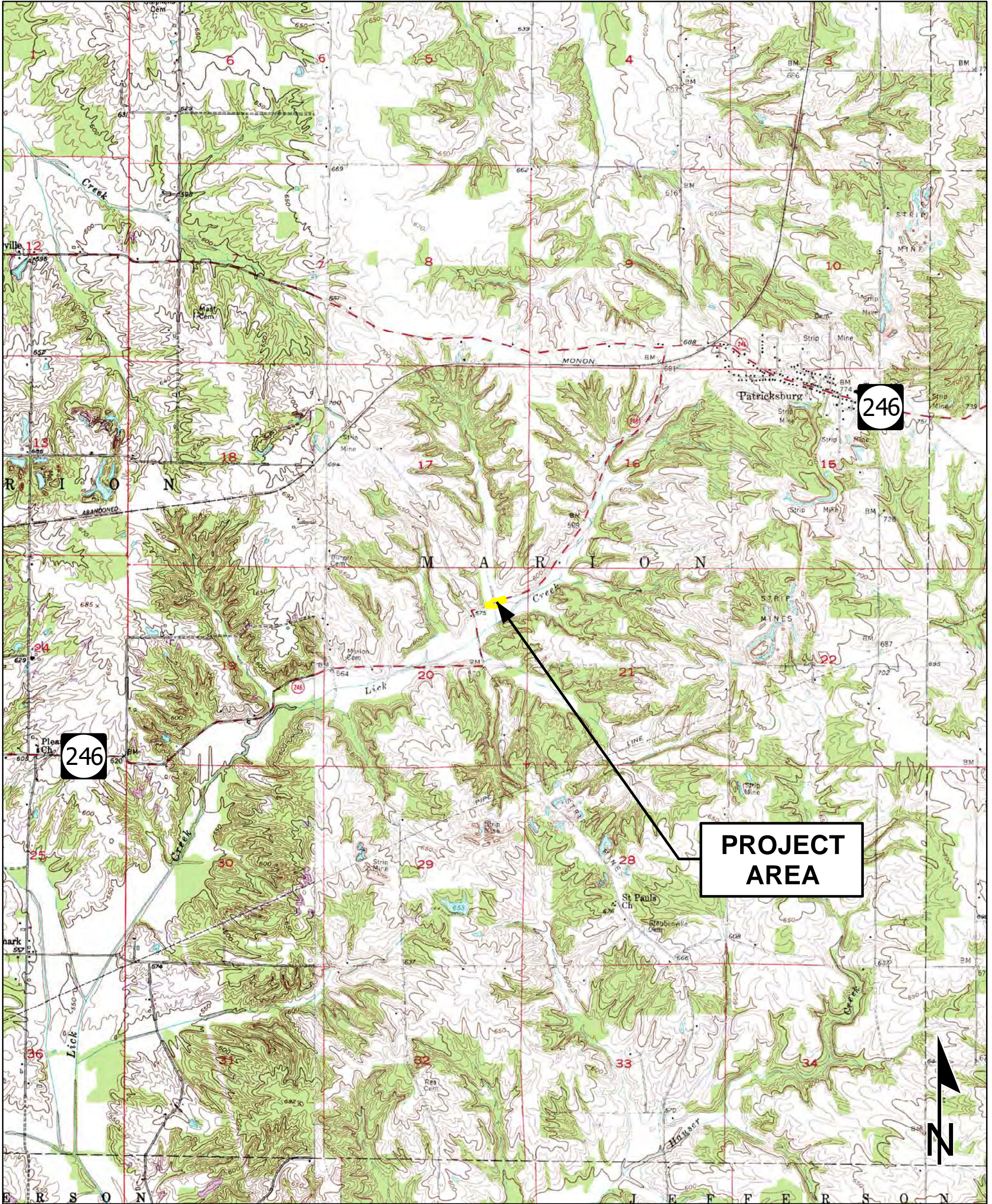


Sources: 0.25 0.125 0 0.25 Miles  
**Non Orthophotography**  
**Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83  
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

INDIANA  
 STATEWIDE  
 GIS DATA



USGS Topographic Map  
SR 246, 7.39 Miles West of SR 46  
Des. No. 1900330, Small Structure Replacement  
Owen County, Indiana



Sources: 0.75 0.375 0 0.75 Miles  
**Non Orthophotography**  
**Data** - Obtained from the State of Indiana Geographical Information Office Library  
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**PATRICKSBURG  
QUADRANGLE INDIANA  
7.5 MINUTE SERIES  
(TOPOGRAPHIC)**



USGS Topographic Map  
SR 246, 7.39 Miles West of SR 46  
Des. No. 1900330, Small Structure Replacement  
Owen County, Indiana



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

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

PATRICKSBURG  
QUADRANGLE INDIANA  
7.5 MINUTE SERIES  
(TOPOGRAPHIC)

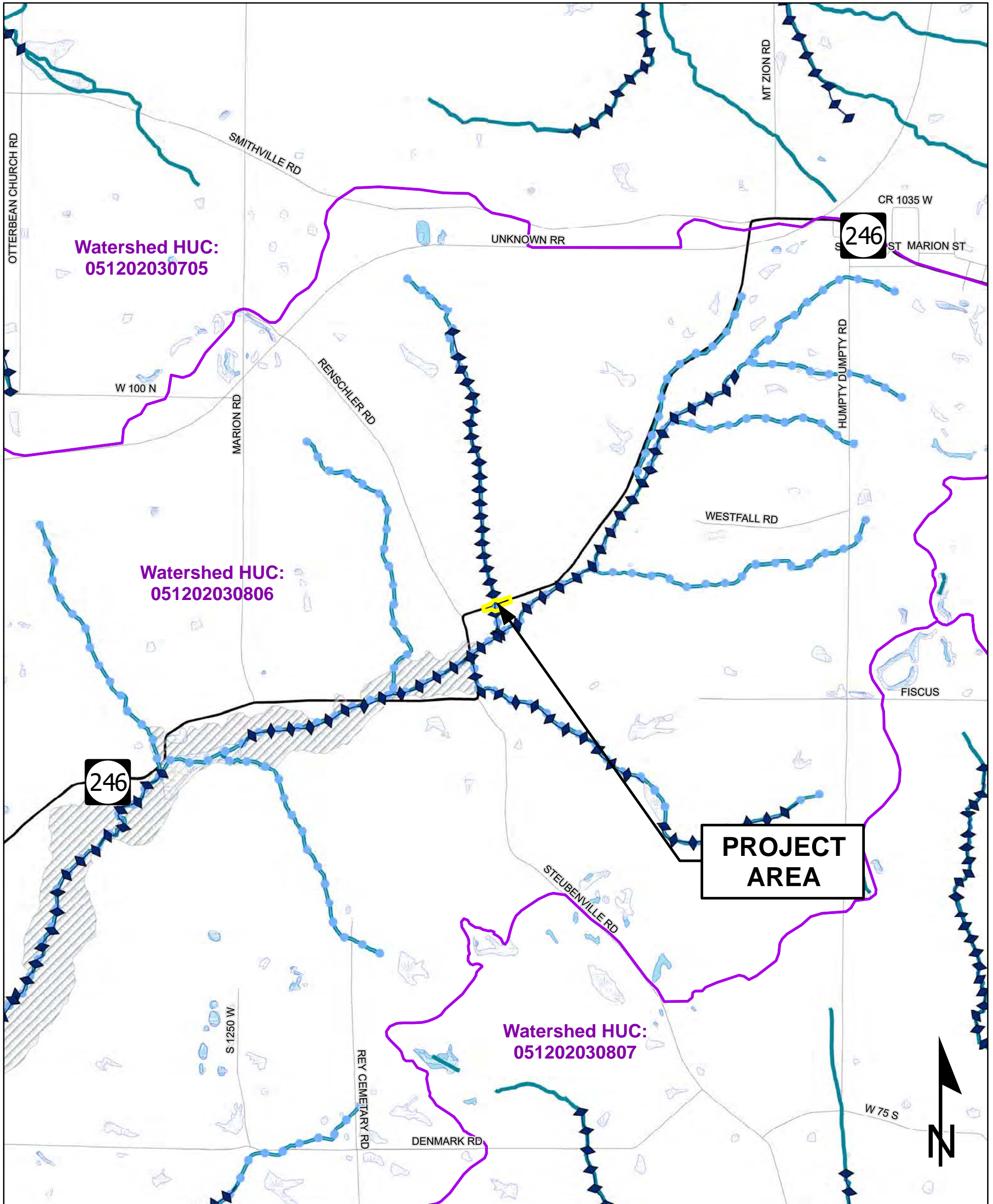


# Water Resources Map

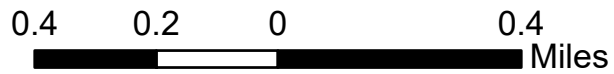
## SR 246, 7.39 Miles West of SR 46

### Des. No. 1900330, Small Structure Replacement

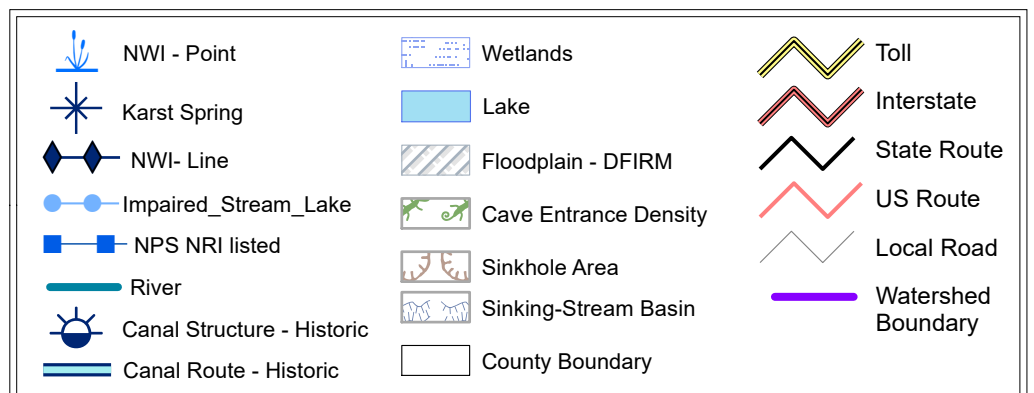
#### Owen County, Indiana



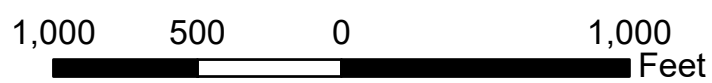
**Sources:**  
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**Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone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



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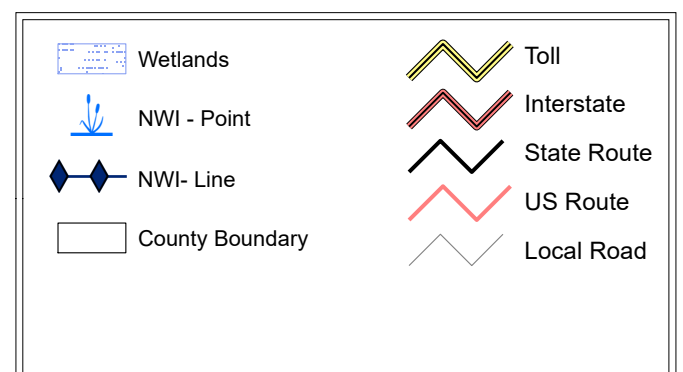


NWI Features Map  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



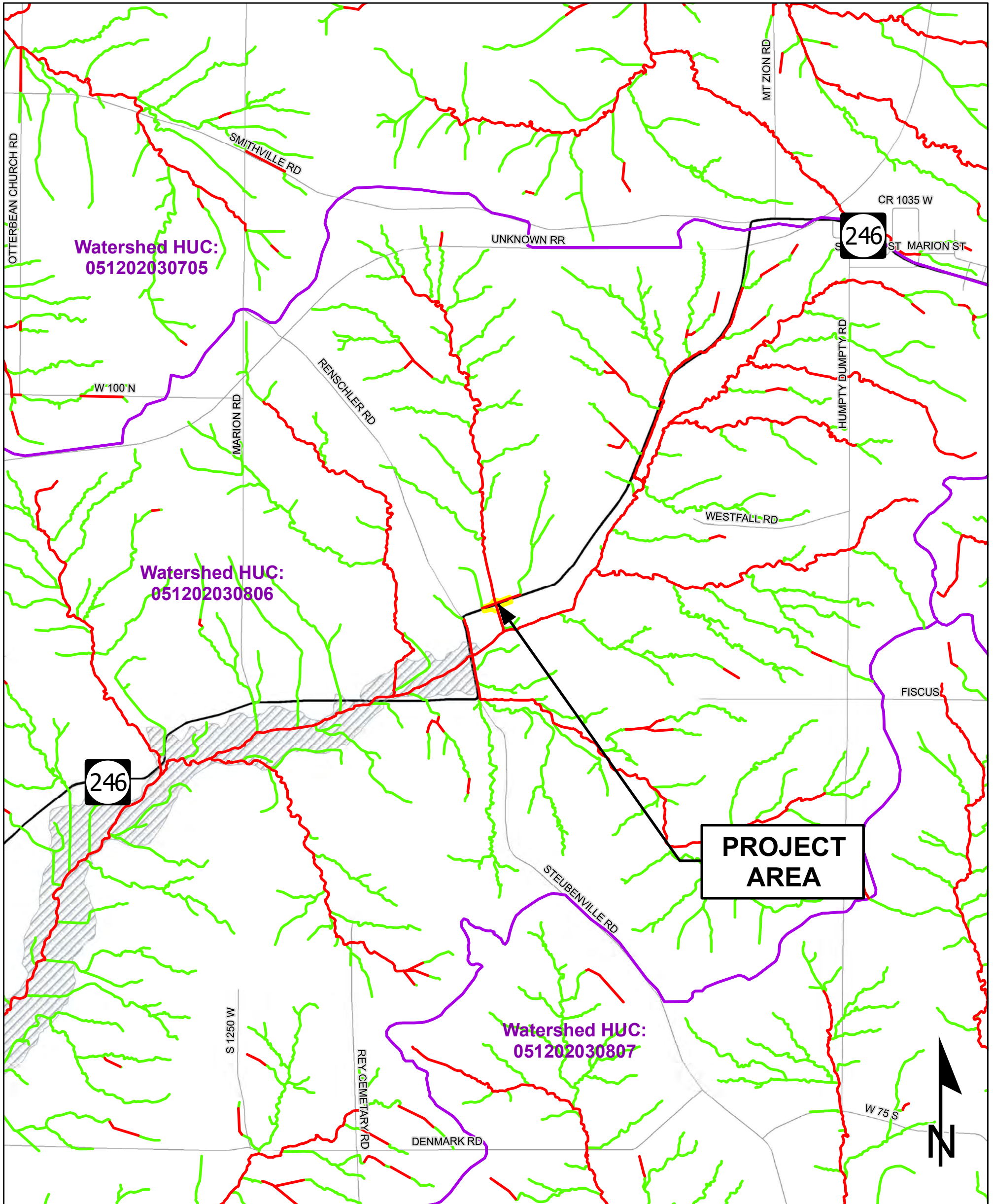
**Sources:**  
**Non Orthophotography**  
**Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
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FEMA / FIRM/ NHD Map  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



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**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

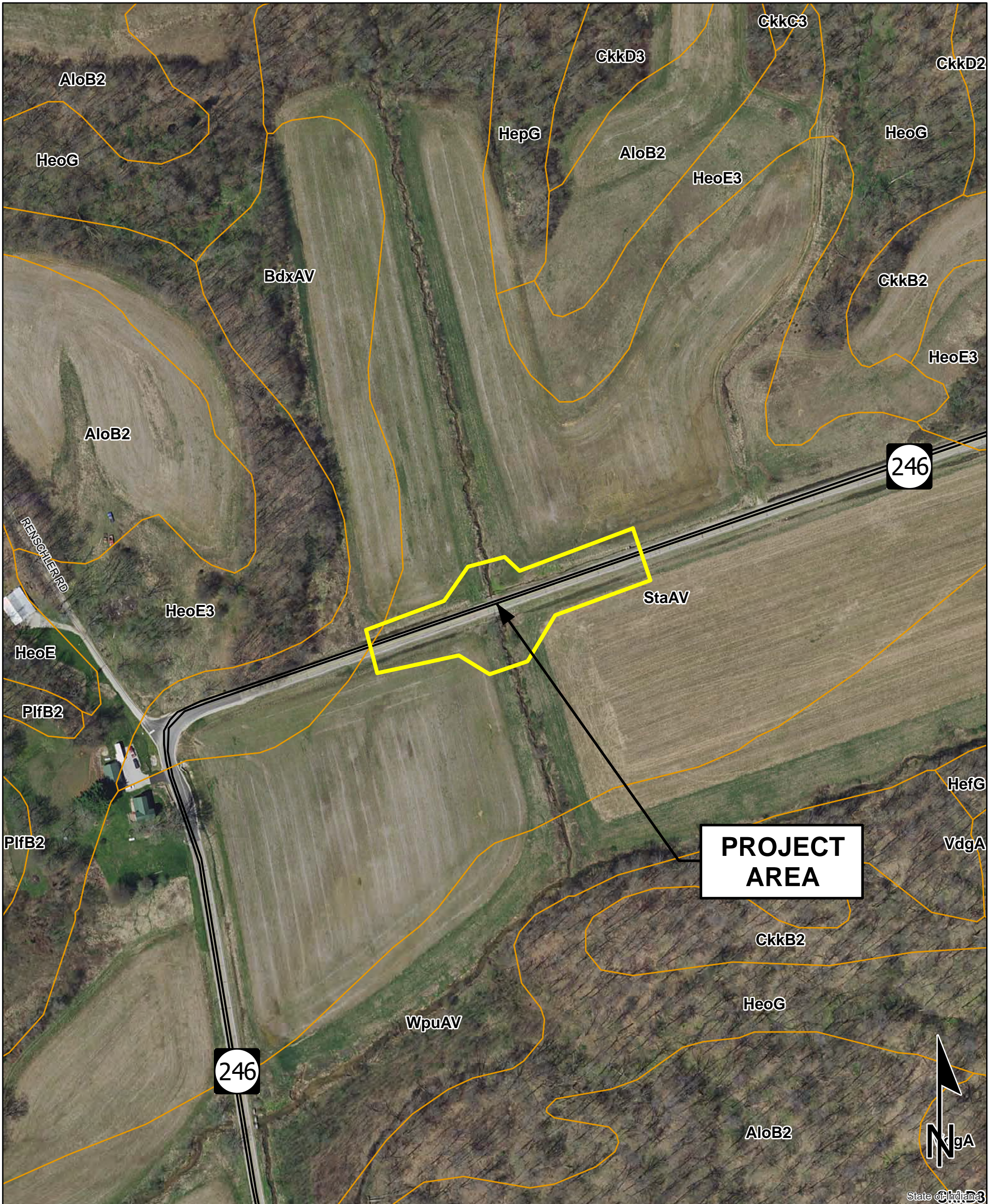
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**Legend**

Toll	Floodplain - DFIRM
Interstate	Watershed Boundary
State Route	NHD Flowline Classified
US Route	NHD Flowline Unclassified
Local Road	



Soils Map  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



Sources: 250 125 0 250 Feet  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
 Map Projection: UTM Zone 16 N Map Datum: NAD83  
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**NRCS  
SOILS DATA**

**Legend**  
 BdxAV = Belknap Silt Loam, 5% hydric  
 StaAV = Steff Silt Loam, 0% hydric



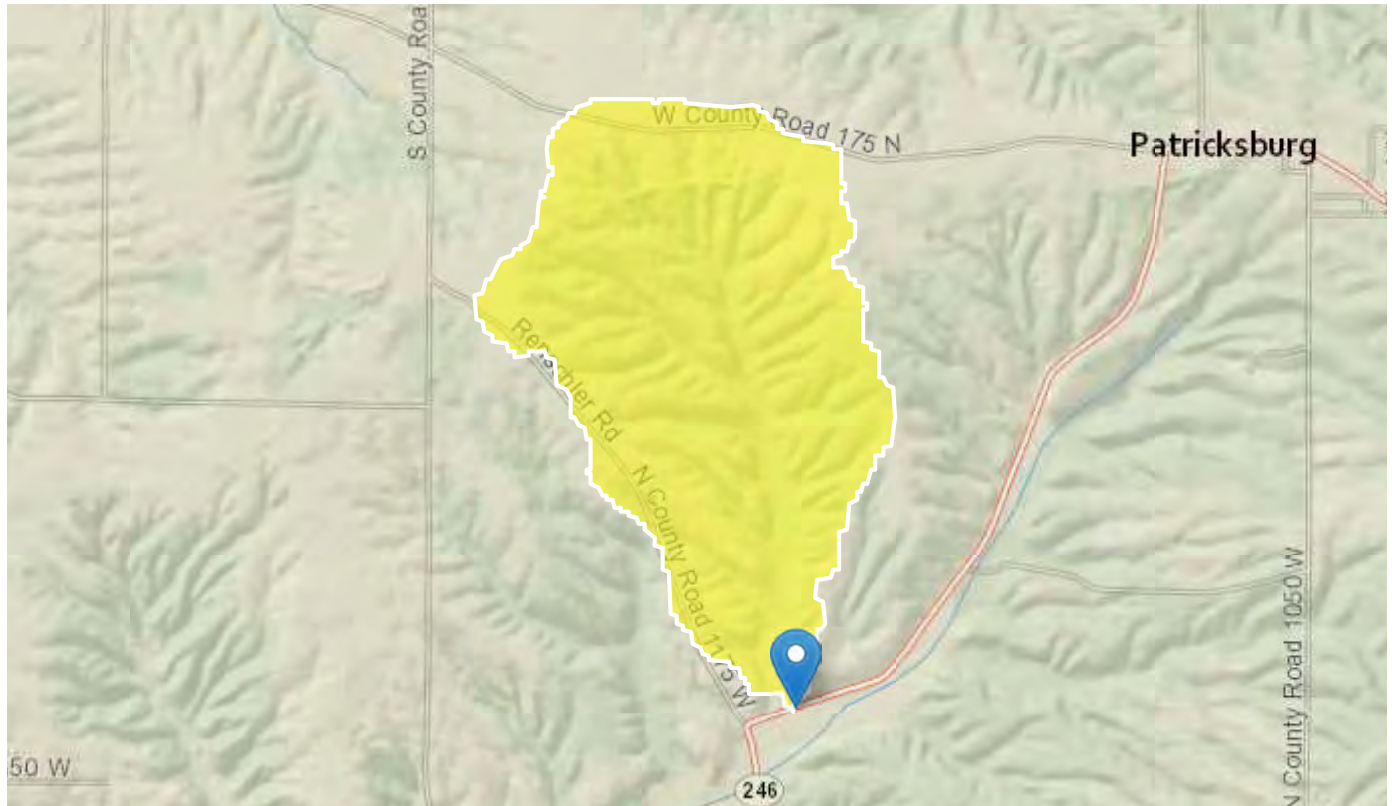
# StreamStats Report

Region ID: IN

Workspace ID: IN20211111163929897000

Clicked Point (Latitude, Longitude): 39.29520, -86.98322

Time: 2021-11-11 11:39:50 -0500



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.802	square miles
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	15	ft per day
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	25	dimensionless
LOWREG	Low Flow Region Number	1730	dimensionless
T2INDNR	Average transmissivity (ft <sup>2</sup> /d) for the full depth of unconsolidated deposits from InDNR well database.	2181	square feet per day

**Parameter**

Parameter Code	Parameter Description	Value	Unit
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	69.5	percent

## General Flow Statistics Parameters [Harmonic Mean Southern Region 2016 5102]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.802	square miles	6.95	533
LC01FOREST	Percent_Forest_from_NLCD2001	69.5	percent	7.3	91.3
LOWREG	Low Flow Region Number	1730	dimensionless		

## General Flow Statistics Disclaimers [Harmonic Mean Southern 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 Southern Region 2016 5102]

Statistic	Value	Unit
Harmonic Mean Streamflow	0.00838	ft <sup>3</sup> /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.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the

functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

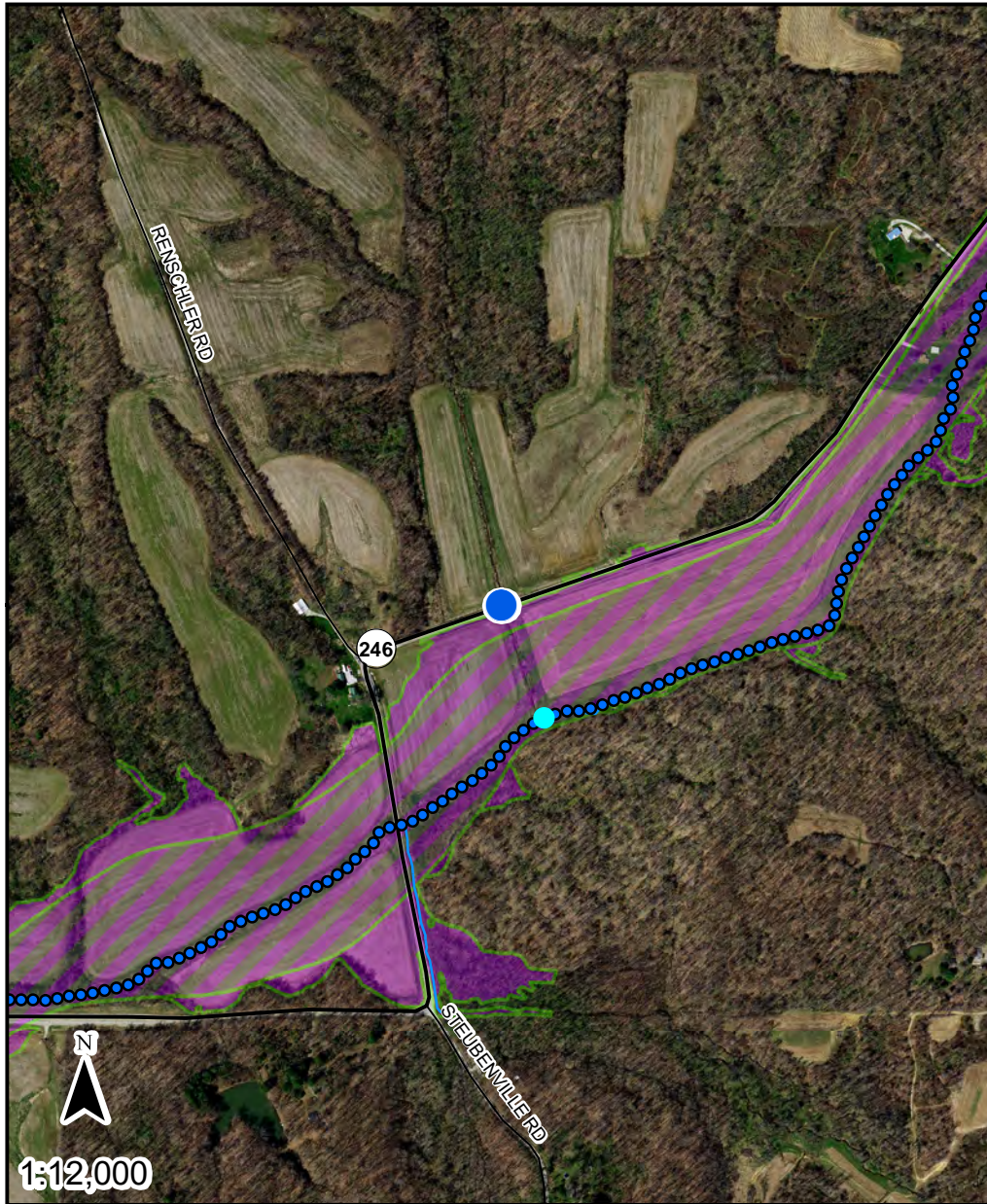
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.6.2

StreamStats Services Version: 1.2.22

NSS Services Version: 2.1.2





- 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: **-86.9832480491**  
 Lat: **39.2952997619**

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

County: **Owen**  
 Stream Name:  
**Lick Creek**

Approximate Ground Elevation: **571.7 feet (NAVD88)**  
 Base Flood Elevation: **570.3 feet (NAVD88)**  
 Drainage Area: **Not available**

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

Is a Flood Control Act permit from the DNR needed for this location? **no, see following pages**

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

Floodplain Administrator: **Suzanne Simmerman, Administrator, Building Department**

Community Jurisdiction: **Owen County, County proper**

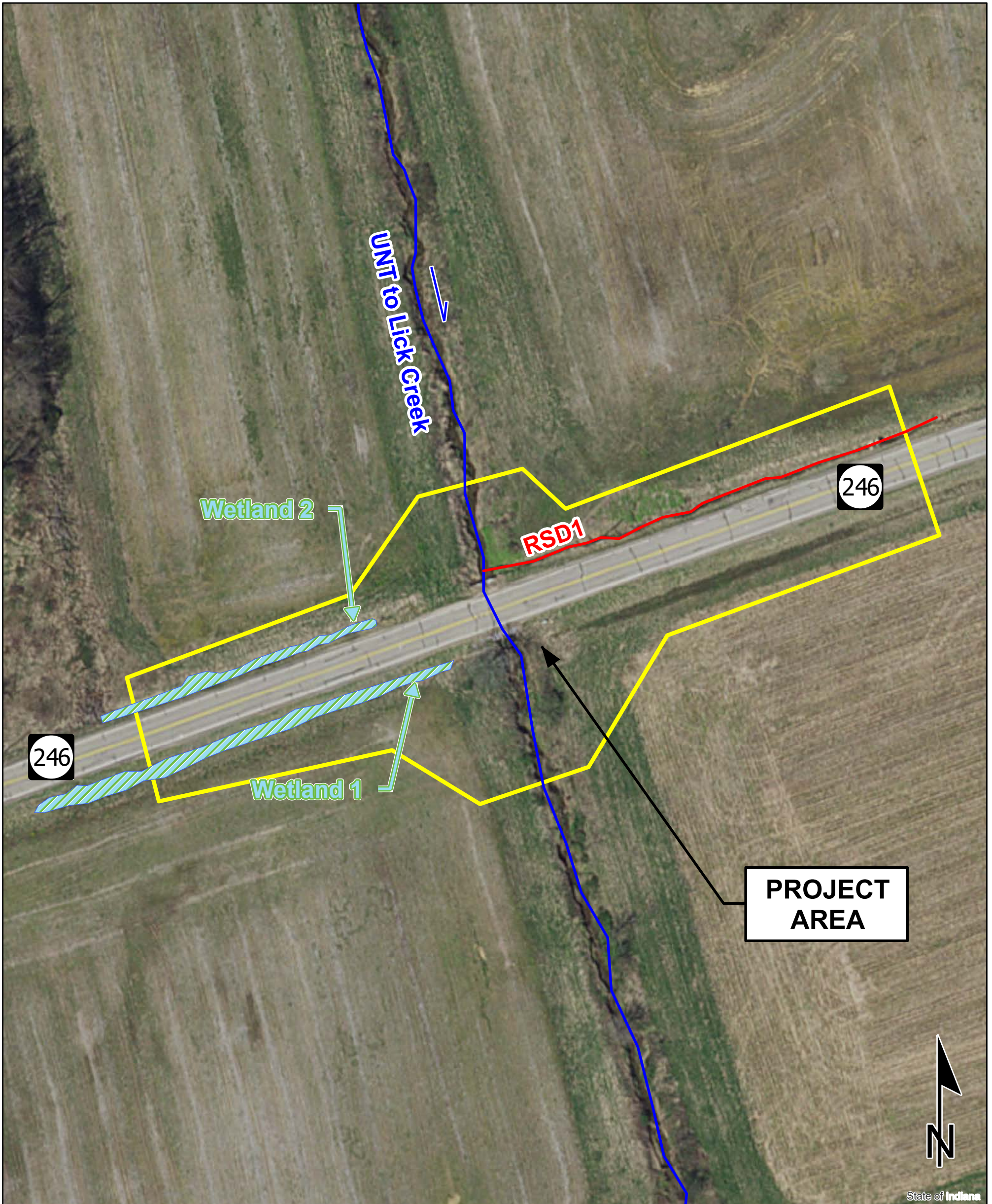
Phone: **(812) 829-5017**

Email: **Suzanne.Simmerman@owencounty.in.gov**

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



Aerial Map  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



Sources: **Non Orthophotography** - Obtained from the State of Indiana Geographical Information Office Library  
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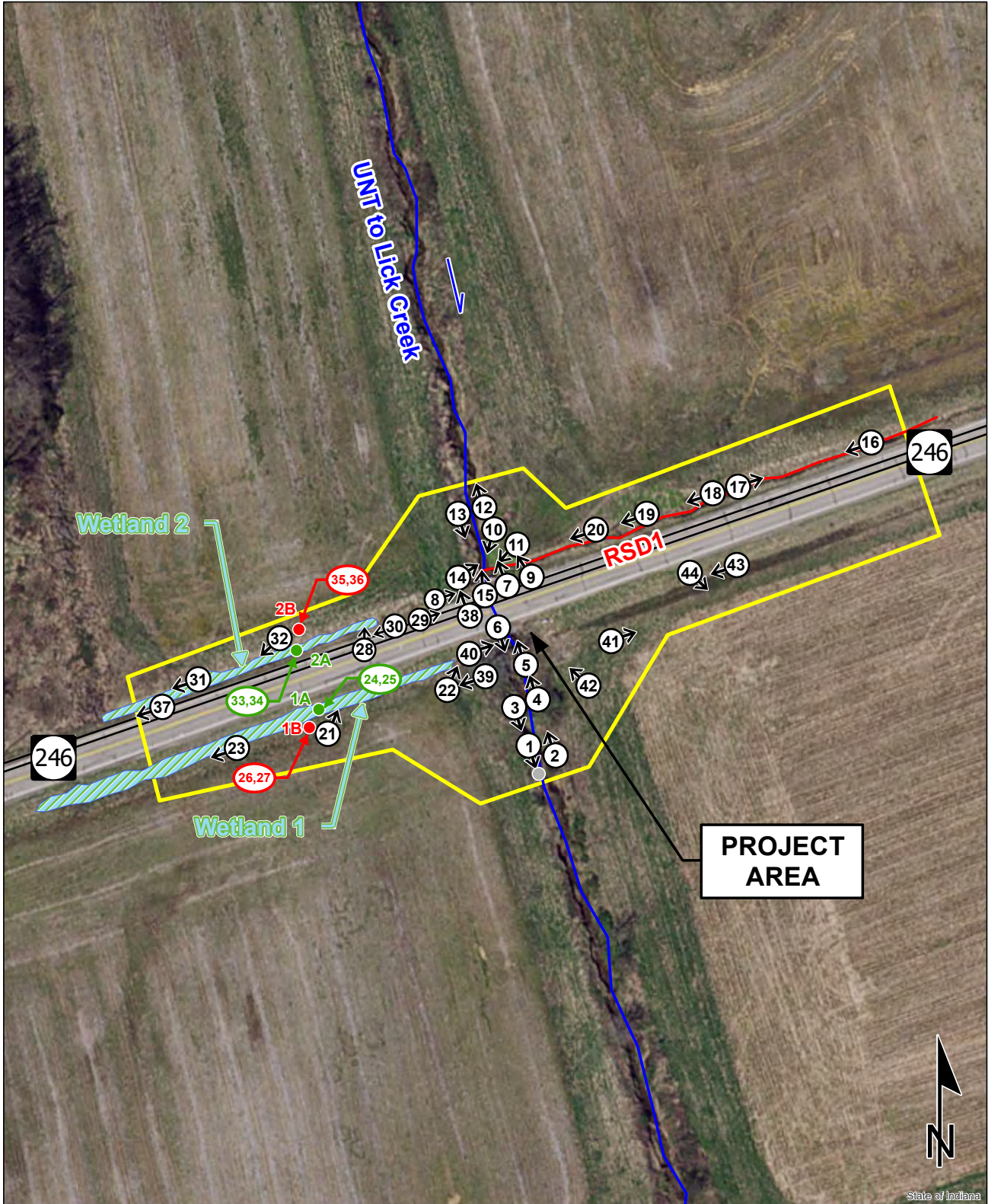
**INDIANA STATEWIDE  
 AERIAL IMAGERY  
 FLOWN 2016**

**Legend**

	Flow Direction		Roadside Ditch
	Tributary		Investigative Area
	Wetland		



Photo Key Map  
 SR 246, 7.39 Miles West of SR 46  
 Des. No. 1900330, Small Structure Replacement  
 Owen County, Indiana



Sources: 80 40 0 80 Feet  
**Non Orthophotography**  
 Data - Obtained from the State of Indiana Geographical Information Office Library  
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**INDIANA STATEWIDE  
 AERIAL IMAGERY  
 FLOWN 2016**

**Legend**

Flow Direction	Investigative Area
Tributary	Wetland Data Point
Wetland	Upland Data Point
	Ordinary High Water Mark



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 1—UNT to Lick Creek downstream and OHWM measurement, southeast view; 9 SEP 2021.

OHWM: 41.179412; -86.890904



Picture 2— UNT to Lick Creek upstream; northwest view; 9 SEP 2021.



Picture 3—UNT to Lick Creek downstream; southeast view; 9 SEP 2021.



Picture 4—UNT to Lick Creek upstream and west structure; northwest view; 9 SEP 2021.



**DES 1900330 Waters of the U.S. Determination Report—Photo Log**



**Picture 5—UNT to Lick Creek east project structure; northwest view; 9 SEP 2021.**



**Picture 6—UNT to Lick Creek downstream view from structure; southeast view; 9 SEP 2021.**



**Picture 7—UNT to Lick Creek upstream view from west structure; northwest view; 9 SEP 2021.**



**Picture 8—UNT to Lick Creek project structure northeast view; 9 SEP 2021. Note extensive drift deposits (corn stalks) from flooding.**



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 9—UNT to Lick Creek, upstream view from east structure; northwest view; 9 SEP 2021.



Picture 10—UNT to Lick Creek project structure; southwest view; 9 SEP 2021.



Picture 11—UNT to Lick Creek at RSD1; southwest view; 9 SEP 2021.



Picture 12—UNT to Lick Creek upstream; northwest view; 9 SEP 2021.



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 13—UNT to Lick Creek and project structure; southeast view; 9 SEP 2021.



Picture 14—RSD<sub>1</sub> backwater feature at UNT to Lick Creek; northeast view; 9 SEP 2021.



Picture 15—RSD<sub>1</sub> at UNT to Lick Creek; north view; 9 SEP 2021.



Picture 16—RSD<sub>1</sub> at east end of investigative area; northeast view; 9 SEP 2021.



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 17—RSD1 ; northeast view; 9 SEP 2021.



Picture 18—Northeast quadrant and RSD1—  
surrounding vegetation somewhat obscures the  
ditch ; southwest view; 9 SEP 2021.



Picture 19—RSD1 and northeast quadrant;  
southwest view; 9 SEP 2021.



Picture 20—RSD1; southwest view; 9 SEP 2021.



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 21—Wetland 1—note abrupt change from *Phalaris* to *Schedonorus*; northeast view; 9 SEP 2021.



Picture 22—Wetland 1 edge; northeast view; 9 SEP 2021.



Picture 23—Southwest quadrant and Wetland 1; southwest view; 9 SEP 2021.



Picture 24—Wetland 1 data point 1A; north view; 9 SEP 2021.



**DES 1900330 Waters of the U.S. Determination Report—Photo Log**



**Picture 25—Wetland 1 data point 1A soil sample; 9 SEP 2021.**



**Picture 26—Upland data point 1B location; northeast view; 9 SEP 2021.**



**Picture 27—Upland data point 1B soil sample; 9 SEP 2021.**



**Picture 28—Northwest quadrant edge of Wetland 2 and pipe under overgrown farm entrance; north view; 9 SEP 2021.**



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 29 —Northwest quadrant overgrown farm entrance; northeast view; 9 SEP 2021.



Picture 30—Wetland 2 ; southwest view; 9 SEP 2021.



Picture 31—Wetland 2 west end; southwest view; 9 SEP 2021. Note that *Typha* in background is outside the investigative area.



Picture 32—Wetland 2; southwest view; 9 SEP 2021.



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 33—Wetland 2A data point location; west view; 9 SEP 2021.



Picture 34—Wetland 2 data point 2A soil sample; 9 SEP 2021.



Picture 35—Upland data point 2B location; west view; 9 SEP 2021.



Picture 36—Upland data point 2B soil sample; 9 SEP 2021.



DES 1900330 Waters of the U.S. Determination Report—Photo Log



Picture 37—Northwest quadrant; southwest view; 9 SEP 2021.



Picture 38—Northwest quadrant overgrown farm entrance; northwest view; 9 SEP 2021.



Picture 39—Southwest quadrant ; southwest view; 9 SEP 2021.



Picture 40—Southwest quadrant; northeast view; 9 SEP 2021.



**DES 1900330 Waters of the U.S. Determination Report—Photo Log**



**Picture 41—Southeast quadrant; northwest view; 9 SEP 2021.**



**Picture 42—Southeast quadrant and project structures; northwest view; 9 SEP 2021.**



**Picture 43—Southeast quadrant ; southwest view; 9 SEP 2021.**



**Picture 44—Southeast quadrant; southeast view; 9 SEP 2021.**



**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: DES 1900330 City/County: Owen Sampling Date: 09SEP21  
 Applicant/Owner: INDOT State: IN Sampling Point: 1A  
 Investigator(s): Kirk Roth Section, Township, Range: Sec 20, T10N, R5W  
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 3% Lat: 39.295183 Long: -86.983437 Datum: NAD 83  
 Soil Map Unit Name: Steff Silt Loam (StaAV) - 0% Hydric NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Vegetation, soil, and hydrology data support wetland status.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>    </u> )	Absolute % Cover	Dominant Species?	Indicator Status																																	
1.					<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>    2    </u> (A) Total Number of Dominant Species Across All Strata: <u>    2    </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2.																																					
3.																																					
4.																																					
5.																																					
		=Total Cover																																			
Sapling/Shrub Stratum	(Plot size: <u>    </u> )																																				
1.					<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="right" colspan="2">Total % Cover of:</td> <td align="right" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td><td align="right"><u>    0    </u></td> <td>x 1 =</td><td align="right"><u>    0    </u></td> </tr> <tr> <td>FACW species</td><td align="right"><u>    90   </u></td> <td>x 2 =</td><td align="right"><u>   180   </u></td> </tr> <tr> <td>FAC species</td><td align="right"><u>    0    </u></td> <td>x 3 =</td><td align="right"><u>    0    </u></td> </tr> <tr> <td>FACU species</td><td align="right"><u>    10   </u></td> <td>x 4 =</td><td align="right"><u>    40   </u></td> </tr> <tr> <td>UPL species</td><td align="right"><u>    0    </u></td> <td>x 5 =</td><td align="right"><u>    0    </u></td> </tr> <tr> <td>Column Totals:</td><td align="right"><u>   100   </u> (A)</td> <td></td><td align="right"><u>   220   </u> (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>    2.20    </u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>    0    </u>	x 1 =	<u>    0    </u>	FACW species	<u>    90   </u>	x 2 =	<u>   180   </u>	FAC species	<u>    0    </u>	x 3 =	<u>    0    </u>	FACU species	<u>    10   </u>	x 4 =	<u>    40   </u>	UPL species	<u>    0    </u>	x 5 =	<u>    0    </u>	Column Totals:	<u>   100   </u> (A)		<u>   220   </u> (B)	Prevalence Index = B/A = <u>    2.20    </u>			
Total % Cover of:		Multiply by:																																			
OBL species	<u>    0    </u>	x 1 =	<u>    0    </u>																																		
FACW species	<u>    90   </u>	x 2 =	<u>   180   </u>																																		
FAC species	<u>    0    </u>	x 3 =	<u>    0    </u>																																		
FACU species	<u>    10   </u>	x 4 =	<u>    40   </u>																																		
UPL species	<u>    0    </u>	x 5 =	<u>    0    </u>																																		
Column Totals:	<u>   100   </u> (A)		<u>   220   </u> (B)																																		
Prevalence Index = B/A = <u>    2.20    </u>																																					
2.																																					
3.																																					
4.																																					
5.																																					
		=Total Cover																																			
Herb Stratum	(Plot size: <u>    </u> )																																				
1.	<u>Phalaris arundinacea</u>	60	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  X  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2.	<u>Echinochloa crus-galli</u>	20	Yes	FACW																																	
3.	<u>Cyperus esculentus</u>	10	No	FACW																																	
4.	<u>Schedonorus arundinaceus</u>	10	No	FACU																																	
5.																																					
6.																																					
7.																																					
8.																																					
9.																																					
10.																																					
		100 =Total Cover																																			
Woody Vine Stratum	(Plot size: <u>    </u> )																																				
1.					<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																																
2.																																					
		=Total Cover																																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 Dominance Test and Prevalence Index support hydrophytic vegetation status.



**SOIL**

Sampling Point: 1A

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-9	10YR 4/2	87	10YR 5/1	10	D	M	Sandy	
			5YR 4/6	3	C	M		Prominent redox concentrations
9-20	10YR 4/2	70	10YR 5/1	20	D	M	Sandy	
			5YR 4/6	10	C	M		Prominent redox concentrations

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)    |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input checked="" 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"/> Dark Surface (S7)           |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Mucky Mineral (F1)    |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)        |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      | <input type="checkbox"/> Redox Depressions (F8)      |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

<sup>3</sup>Indicators 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:**

Indicator S5 supports hydric soil status.

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input checked="" type="checkbox"/> Water-Stained Leaves (B9)       |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> True Aquatic Plants (B14)                  |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input checked="" type="checkbox"/> Drift Deposits (B3)            | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     |
| <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)                 |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

(includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

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

**Remarks:**

Indicators B3, B9, and the combination of D2, and D5 support wetland hydrology status.



**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: DES 1900330 City/County: Owen Sampling Date: 09SEP21  
 Applicant/Owner: INDOT State: IN Sampling Point: 1B  
 Investigator(s): Kirk Roth Section, Township, Range: Sec 20, T10N, R5W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex  
 Slope (%): 3% Lat: 39.295176 Long: -86.983413 Datum: NAD 83  
 Soil Map Unit Name: Steff Silt Loam (StaAV) - 0% Hydric NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Vegetation, soil, and hydrology data do not support wetland status.	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>    </u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>																																
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>    2    </u> (A) Total Number of Dominant Species Across All Strata: <u>    4    </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>    50.0%    </u> (A/B)																																
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																																	
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																																	
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																																	
5. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																																	
<u>    </u> =Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>    0    </u></td> <td>x 1 =</td> <td align="center"><u>    0    </u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>    35    </u></td> <td>x 2 =</td> <td align="center"><u>    70    </u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>    0    </u></td> <td>x 3 =</td> <td align="center"><u>    0    </u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>    65    </u></td> <td>x 4 =</td> <td align="center"><u>    260    </u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>    0    </u></td> <td>x 5 =</td> <td align="center"><u>    0    </u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>    100    </u> (A)</td> <td></td> <td align="center"><u>    330    </u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>    3.30    </u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>    0    </u>	x 1 =	<u>    0    </u>	FACW species	<u>    35    </u>	x 2 =	<u>    70    </u>	FAC species	<u>    0    </u>	x 3 =	<u>    0    </u>	FACU species	<u>    65    </u>	x 4 =	<u>    260    </u>	UPL species	<u>    0    </u>	x 5 =	<u>    0    </u>	Column Totals:	<u>    100    </u> (A)		<u>    330    </u> (B)	Prevalence Index = B/A = <u>    3.30    </u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>    0    </u>	x 1 =	<u>    0    </u>																																	
FACW species	<u>    35    </u>	x 2 =	<u>    70    </u>																																	
FAC species	<u>    0    </u>	x 3 =	<u>    0    </u>																																	
FACU species	<u>    65    </u>	x 4 =	<u>    260    </u>																																	
UPL species	<u>    0    </u>	x 5 =	<u>    0    </u>																																	
Column Totals:	<u>    100    </u> (A)		<u>    330    </u> (B)																																	
Prevalence Index = B/A = <u>    3.30    </u>																																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>    </u> )																																				
1. <u>    </u>																																				
2. <u>    </u>																																				
3. <u>    </u>																																				
4. <u>    </u>																																				
5. <u>    </u>																																				
<u>    </u> =Total Cover																																				
<u>Herb Stratum</u> (Plot size: <u>    </u> )																																				
1. <u>Setaria faberi</u>	50	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. <u>Schedonorus arundinaceus</u>	15	Yes	FACU																																	
3. <u>Echinochloa crus-galli</u>	15	Yes	FACW																																	
4. <u>Panicum dichotomiflorum</u>	15	Yes	FACW																																	
5. <u>Cyperus esculentus</u>	5	No	FACW																																	
6. <u>    </u>																																				
7. <u>    </u>																																				
8. <u>    </u>																																				
9. <u>    </u>																																				
10. <u>    </u>																																				
<u>    100    </u> =Total Cover																																				
<u>Woody Vine Stratum</u> (Plot size: <u>    </u> )																																				
1. <u>    </u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																																
2. <u>    </u>																																				
<u>    </u> =Total Cover																																				

Remarks: (Include photo numbers here or on a separate sheet.)  
 Vegetation does not support hydrophytic vegetation status.



**SOIL**

Sampling Point: 1B

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 4/4	100					Sandy	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

<sup>3</sup>Indicators 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 X

**Remarks:**

Indicators A10 and S5 support hydric soil status.

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No X

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

**Remarks:**

No indicators of wetland hydrology were found.



**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: DES 1900330 City/County: Owen Sampling Date: 09SEP21  
 Applicant/Owner: INDOT State: IN Sampling Point: 2A  
 Investigator(s): Kirk Roth Section, Township, Range: Sec 20, T10N, R5W  
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 3% Lat: 39.295294 Long: -86.983428 Datum: NAD 83  
 Soil Map Unit Name: Steff Silt Loam (StaAV) - 0% Hydric NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Vegetation, soil, and hydrology data support wetland status.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>    </u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1.					<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>    2    </u> (A) Total Number of Dominant Species Across All Strata: <u>    2    </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2.					
3.					
4.					
5.					
				=Total Cover	
Sapling/Shrub Stratum	(Plot size: <u>    </u> )				<b>Prevalence Index worksheet:</b> Total % Cover of:                      Multiply by: OBL species <u>    20    </u> x 1 = <u>    20    </u> FACW species <u>    80    </u> x 2 = <u>   160   </u> FAC species <u>    0    </u> x 3 = <u>    0    </u> FACU species <u>    0    </u> x 4 = <u>    0    </u> UPL species <u>    0    </u> x 5 = <u>    0    </u> Column Totals: <u>   100   </u> (A) <u>   180   </u> (B) Prevalence Index = B/A = <u>    1.80    </u>
1.					
2.					
3.					
4.					
5.					
				=Total Cover	
Herb Stratum	(Plot size: <u>    </u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  X  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u>Phalaris arundinacea</u>	80	Yes	FACW	
2.	<u>Schoenoplectus tabernaemontani</u>	20	Yes	OBL	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
				100 =Total Cover	
Woody Vine Stratum	(Plot size: <u>    </u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>
1.					
2.					
				=Total Cover	

Remarks: (Include photo numbers here or on a separate sheet.)  
 Dominance Test and Prevalence Index support hydrophytic vegetation status.



**SOIL**

Sampling Point: 2A

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 <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 4/2	87	10YR 5/1	10	D	M	Sandy	
			5YR 4/6	3	C	M		Prominent redox concentrations
8-22	10YR 4/2	70	10YR 5/1	20	D	M	Sandy	
			5YR 4/6	10	C	M		Prominent redox concentrations

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

<sup>3</sup>Indicators 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:**

Indicator S5 supports hydric soil status.

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

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

**Remarks:**

Indicators B3, C3, and the combination of D2, and D5 support wetland hydrology status.



**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: DES 1900330 City/County: Owen Sampling Date: 09SEP21  
 Applicant/Owner: INDOT State: IN Sampling Point: 1B  
 Investigator(s): Kirk Roth Section, Township, Range: Sec 20, T10N, R5W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex  
 Slope (%): 3% Lat: 39.295311 Long: -86.983443 Datum: NAD 83  
 Soil Map Unit Name: Steff Silt Loam (StaAV) - 0% Hydric NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Vegetation and soil data do not support wetland status.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>    </u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
5. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
=Total Cover				
Sapling/Shrub Stratum (Plot size: <u>    </u> )				
1. <u>Rosa multiflora</u>	<u>7</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
5. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
=Total Cover				
Herb Stratum (Plot size: <u>    </u> )				
1. <u>Solidago canadensis</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Setaria faberi</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Tridens flavus</u>	<u>15</u>	<u>No</u>	<u>UPL</u>	
4. <u>Asclepias syriaca</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	
5. <u>Cyperus esculentus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
6. <u>Oxalis stricta</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
7. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
9. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
10. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
=Total Cover				
Woody Vine Stratum (Plot size: <u>    </u> )				
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
=Total Cover				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>5</u>	x 2 =	<u>10</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>87</u>	x 4 =	<u>348</u>
UPL species	<u>15</u>	x 5 =	<u>75</u>
Column Totals:	<u>107</u> (A)		<u>433</u> (B)
Prevalence Index = B/A =			<u>4.05</u>

**Hydrophytic Vegetation Indicators:**

     1 - Rapid Test for Hydrophytic Vegetation

     2 - Dominance Test is >50%

     3 - Prevalence Index is ≤3.0<sup>1</sup>

     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Hydrophytic Vegetation Present?** Yes      No X

Remarks: (Include photo numbers here or on a separate sheet.)  
 Vegetation does not support hydrophytic vegetation status.



**SOIL**

Sampling Point: 1B

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 <sup>1</sup>	Loc <sup>2</sup>		
0-21	10YR 4/4	100					Sandy	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

<sup>3</sup>Indicators 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 X

**Remarks:**

Indicators A10 and S5 support hydric soil status.

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes X No \_\_\_\_\_

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

**Remarks:**

Indicator B3 was found near this area. Corn stalks throughout the investigative area are likely due to flooding.



**Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM**

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PJD:** 4/28/22

**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Kirk Roth, 200 S. Meridian St, Ste 330, Indianapolis, IN 46225

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

The project (DES 1900330) is on SR 246, 7.39 miles west of SR 46, at structure (CV 246-060-30.50 and is a culvert replacement with a single reinforced concrete box culvert. Incidental work will include approximately 60 feet of asphalt replacement and milling and resurfacing. Riprap will be placed at the inlet and outlet for scour protection. Up to 0.75 acre of right of way is anticipated for this project. Construction is expected to begin in 2023 and last approximately 3 months. Water that passes through the structure will be maintained during construction with appropriate erosion and sediment control techniques.

**(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: Indiana      County/parish/borough: Owen      City: Patricksburg

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

Lat.: 39.295135      Long.: -86.983153

Universal Transverse Mercator: 16S 501452 m E 4349528 m N

Name of nearest waterbody: UNT to Lick Creek

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

Office (Desk) Determination. Date:

Field Determination. Date(s):



**TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH “MAY BE” SUBJECT TO REGULATORY JURISDICTION.**

<b>Site number</b>	<b>Latitude (decimal degrees)</b>	<b>Longitude (decimal degrees)</b>	<b>Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)</b>	<b>Type of aquatic resource (i.e., wetland vs. non-wetland waters)</b>	<b>Geographic authority to which the aquatic resource “may be” subject (i.e., Section 404 or Section 10/404)</b>
UNT to Lick Creek	39.295135	-86.983153	193 l.f.	non-wetland waters	Section 404, non-wetland
Wetland 1	39.295183	-86.983437	0.034	wetland	Section 404, wetland
Wetland 2	39.295294	-86.983428	0.021	wetland	Section 404, wetland



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



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

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

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:  
Map: Corradino, LLC
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report. Rationale: \_\_\_\_\_
- Data sheets prepared by the Corps: \_\_\_\_\_
- Corps navigable waters' study: \_\_\_\_\_
- U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:20,000 Patricksburg
- Natural Resources Conservation Service Soil Survey. Citation: NRCS Soil Survey - Owen County
- National wetlands inventory map(s). Cite name: USFWS-NWI V2 Wetland Mapping for SR 246, 7.39 miles west of SR 46
- State/local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: Owen County, Indiana
- 100-year Floodplain Elevation is: \_\_\_\_\_.(National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Indiana Statewide Aerial Imagery, 2016  
or  Other (Name & Date): Corradino, LLC - September 9, 2021
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

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

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

**Kirk Roth**

Digitally signed by Kirk Roth  
Date: 2022.04.28 13:19:09 -04'00'

\_\_\_\_\_  
Signature and date of  
person requesting PJD  
(REQUIRED, unless obtaining  
the signature is impracticable)<sup>1</sup>

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



# Appendix G

Public Involvement

Des. No. 1900330



June 29, 2020



Re: Owen County 

### NOTICE OF SURVEY

Dear Property Owner:

HNTB, on behalf of The Indiana Department of Transportation (INDOT), will perform a survey for the proposed installation of a pipe liner on SR 246 culvert crossing 7.39 miles west of SR 46, located in Owen County, Indiana, Des No. 1900330. A portion of this survey work may be performed on your property in order to provide design engineers information for project design. The survey work will include mapping the location of features such as trees, buildings, fences, drives, ground elevations, etc. The survey is needed for the proper planning and design of this highway project.

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

Indiana Code 8-23-7-26 allows HNTB, as the authorized employees of INDOT, *Right of Entry* to the project site (including private property) upon proper notification. A copy of a Notice of Survey discussion sheet, as found on INDOT's website (<http://www.in.gov/indot/2888.htm>), is attached to this letter. Pursuant to Indiana Code 8-23-7-27, this letter serves as written notification that we will be performing the above noted survey in the vicinity of your property on or after July 6, 2020.

HNTB employees will show you their identification, if you are available, before coming onto your property.

If you own but are not the tenant of this property (i.e. rental, sharecrop), please inform us so that we may also contact the actual tenant of the property prior to commencement of our work. If you have any questions or concerns regarding our proposed survey work or schedule, please contact the HNTB Project Manager. This contact information is as follows:

Chris Buergelin, PS  
111 Monument Circle, Suite 1200  
Indianapolis, IN 46204  
(317) 903-4852



Under Indiana Code 8-23-7-28, you have a right to compensation for any damage that occurs to your land or water as a result of the entry or work performed during the entry. To obtain such compensation, you should contact the Crawfordsville District Real Estate Manager; contact information is below. The District Real Estate Manager can provide you with a form to request compensation for damages. Once you fill out this form, you can return it to the District Real Estate Manager for consideration. If you are not satisfied with the compensation that INDOT determines is owed to you, Indiana Code 8-23-7-28 provides the following:

The amount of damages shall be assessed by the county agricultural extension educator of the county in which the land or water is located and two (2) disinterested residents of the county, one (1) appointed by the aggrieved party and one (1) appointed by the department. A written report of the assessment of damages shall be mailed to the aggrieved party and the department by first class United States mail. If either the department or the aggrieved party is not satisfied with the assessment of damages, either or both may file a petition, not later than fifteen (15) days after receiving the report, in the circuit or superior court of the county in which the land or water is located.

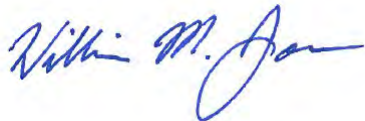
If you have questions regarding the rights and procedures outlined in this letter, please contact the Indiana Department of Transportation Central Office. This contact information is as follows:

1-855-INDOT4U (463-6848)  
www.INDOT4U.com

Thank you in advance for your cooperation in this matter.

Sincerely,

HNTB Corporation

A handwritten signature in blue ink that reads "William M. Jones". The signature is written in a cursive style with a large, looping 'J' at the end.

William M. Jones  
Supervisory Survey Technician

# Appendix H

Air Quality

Des. No. 1900330



Indiana Department of Transportation (INDOT)  
 State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTR ACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Comments: PE phase for \$65,000 FY20, No MPO																		
Indiana Department of Transportation	41400 / 1801305	Init.	SR 59	Debris Removal From Channel	over Eel River; 0.465 mi S of SR 246	Crawfordsville		0 STBG		Bridge Construction	CN	\$242,624.00	\$60,656.00	\$303,280.00				
										Bridge Consulting	PE	\$38,400.00	\$9,600.00	\$48,000.00				
Performance Measure Impacted: Safety																		
Indiana Department of Transportation	42238 / 1900315	A 54	SR 59	Small Structure Replacement with Bridge	2.08 mi N of SR 48	Crawfordsville		0 STBG	\$1,693,990.00	Bridge ROW	RW	\$64,000.00	\$16,000.00			\$80,000.00		
Performance Measure Impacted: Bridge Condition																		
Comments: Add FY22 ROW phase \$80,000. No MPO, AQC NA																		
Indiana Department of Transportation	42240 / 2000877	A 31	US 40	Small Structure Maint and Repair	0.63 mi W of SR 340 E jct	Crawfordsville		0 STBG	\$83,584.00	Bridge ROW	RW	\$8,000.00	\$2,000.00			\$10,000.00		
Performance Measure Impacted: Safety																		
Comments: Add ROW for \$10,000 FY22, THEDC Resolution 7/21/2020, AQC NA																		
Indiana Department of Transportation	42648 / 1902742	A 13	VA VARI	ADA Sidewalk Ramp Construction	Various Locations in Clay City	Crawfordsville		0 Safety	\$998,000.00	Safety Consulting	PE	\$132,800.00	\$33,200.00	\$166,000.00				
										Safety Construction	CN	\$665,600.00	\$166,400.00			\$832,000.00		
Performance Measure Impacted: Safety																		
Comments: PE phase \$166,000 FY20 and CN phase \$832,000 FY22, No MPO																		
Indiana Department of Transportation	42915 / 2001077	A 31	SR 59	Bridge Maintenance And Repair	0.92 mi S of SR 42, over Prairie Creek	Crawfordsville		0 STBG	\$86,170.00	Bridge Construction	CN	\$62,536.00	\$15,634.00			\$78,170.00		
										Bridge Consulting	PE	\$6,400.00	\$1,600.00		\$8,000.00			
Performance Measure Impacted: Bridge Condition																		
Comments: Add New Project; Add PE for \$8,000 FY21, CN for \$78,170 FY22, THEDC Resolution 7/21/2020, AQC NA																		
Indiana Department of Transportation	42924 / 2000123	A 31	SR 59	Bridge Thin Deck Overlay	5.06 mi N of US 40, over CSX RR	Crawfordsville		0 STBG	\$192,211.00	Bridge Construction	CN	\$137,768.80	\$34,442.20					\$172,211.00
										Bridge Consulting	PE	\$16,000.00	\$4,000.00		\$20,000.00			
Performance Measure Impacted: Bridge Condition																		
Comments: Add New Project; Add PE for \$20,000 FY21, CN for \$172,211 FY23, THEDC Resolution 3/27/2020, AQC NA																		
Indiana Department of Transportation	42924 / 2000375	M 23	SR 59	Bridge Thin Deck Overlay	4.65 mi S of SR 246, over Eel River	Crawfordsville		0 STBG	\$1,281,655.00	Bridge Construction	CN	\$0.00	\$0.00		\$30,000.00			(\$30,000.00)
Performance Measure Impacted: Bridge Condition																		
Comments: move CN \$30,000 to FY21																		
Indiana Department of Transportation	42924 / 2000375	A 54	SR 59	Bridge Thin Deck Overlay	4.65 mi S of SR 246, over Eel River	Crawfordsville		0 STBG	\$1,161,655.00	Bridge ROW	RW	\$28,000.00	\$7,000.00			\$35,000.00		
Performance Measure Impacted: Bridge Condition																		

\*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

# Appendix I

Additional Information

Des. No. 1900330



# Culvert Inspection Report

CV 246-060-30.50

SR 246

over



Inspection Date: 02/02/2022

Inspected By: Matthew Ference

Inspection Type(s): Culvert

## TABLE OF CONTENTS

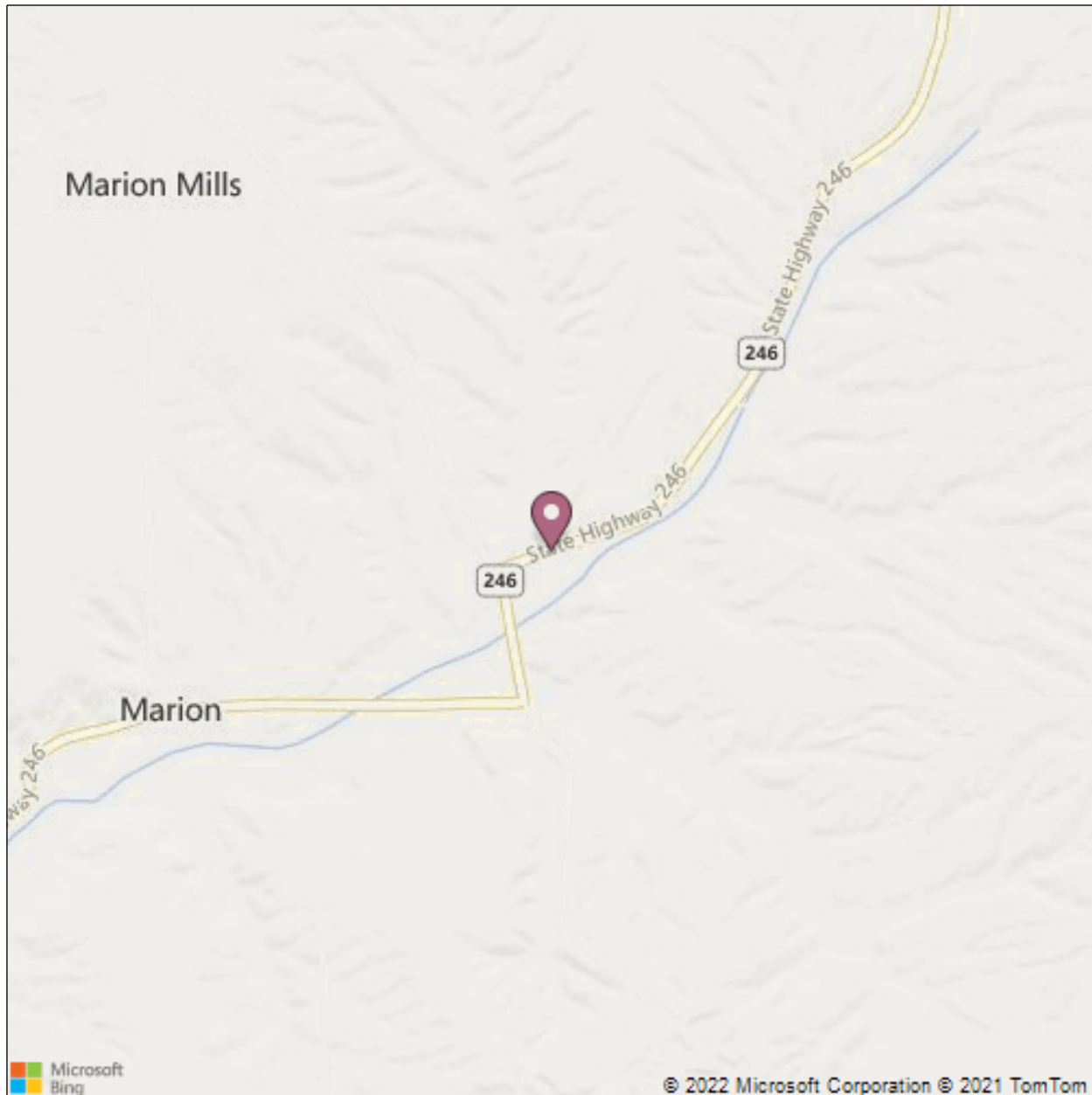
	PAGE NUMBER
REPORT COVER	3
LOCATION MAP	4
EXECUTIVE SUMMARY	5
CULVERT INSPECTION OUTPUT REPORT	6
PICTURES	8



Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Asset Name: CV 246-060-30.50  
Facility Carried: SR 246

### Culvert Inspection Report



Latitude: 39.29528  
Longitude: -86.98323

Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Structure Number: 93001264  
Facility Carried: SR 246

### Culvert Inspection Report

## Executive Summary

### **Routine**

This twin barrel culvert is in overall poor conditions. Both barrels have advanced corrosion, section loss, and scale throughout the length at flowline. No maintenance requests were written. The nearest Indot Maintenance Unit regularly checks for sink holes in the roadway and patches them.

### **History**

- Programmed for Replacement, November 2023, Contract R-42238, Des 1900330



**Large Culvert Inspection Report**

(8) Asset Code:	93001264	(27) Year Built:	0000
Asset Name:	CV 246-060-30.50	(90) Inspection Date:	02/02/2022
OLD Culvert ID:	246-60-30.50	(91) Inspection Frequency:	6
Team Assignment:	01	<input type="checkbox"/> Additional Treatment Exists	

**Identification**

(2) Highway Agency District:	01	(3) County Code:	060
Sub District:	1100	Ramp ID:	
(42B) Type of Service (Under):	5	<input type="checkbox"/> Adjacent to Roadway	
(7) Facility Carried:	SR 246	(6) Features Intersected:	
(9) Location:	7.39 W SR 46	(9.01) Location Additional Description:	
(11) Milepoint:	30.50	(16) Latitude:	39.29528
		(17) Longitude:	-86.98323
Classification:			
(104) Highway System of the Inventory Route:	0	(26) Functional Classification of Inventory Route:	02

**Geometric Data**

Culvert: Kind of Material:	3. Steel	Culvert: Type of Structure:	3. Pipe	Min Est Fill Cover (ft):	2.00
Culvert: Max. Horizontal Opening (ft.):	17.0	Culvert: Max. Vertical Opening (ft.):	5.60	(34) Skew:	00
Barrel Length (ft.):	38.0	Original Culvert Shape:	Squash		

Measurement Remarks: *From Culvert Chart*

Structure Additional Description: *Corrugated Metal Pipe 7' x 5' (Twin Pipes)*

**Openings:**

Direction	Opening Latitude	Opening Longitude	Direction	Opening Latitude	Opening Longitude
1.			3.		
2.			4.		

Openings Comments:

**Follow Up Required:**

\*\*If checked, please describe for follow up:

**Endangered Species**

Bats: seen or heard under structure? \* *N*

Birds/swallows/nests seen? Empty nests present? *N*

\* If yes, add one photo to the dropdown field

---

### General Condition Ratings

---

(36A) Bridge Railings:	N	(36C) Approach Guardrail:	N
(36B) Transitions:	N	(36D) Approach Guardrail Ends:	N

**Culvert:**

(62) Culvert - Rating: 4

(62) Culvert Rating Comments: *The pavement over the culvert is failing along north shoulder, indicating seepage out of the culvert holes and washing out fill material around the culvert. This culvert has advanced corrosion, section loss, and scale throughout its length.*

**Deck:**

(58) Deck: N

(58a) Deck Comments:

**Superstructure:**

(59) Superstructure: N

(59.01) Superstructure Comments:

**Substructure:**

(60) Substructure: N

(60.01) Substructure Comments:

CV-Headwall/Anchor Rating N

CV-Wingwalls Rating N

**Channel:**

(61) Channel and Channel Protection: 6

(61.01) Channel and Channel Protection Comments: *There is moderate sediment throughout and at the south end of the structure. The channel flows from north to south.*

Bank Erosion Rating: 6

Drift/Sediment Rating: 6

Channel Alignment Rating: 8

**Check this box if culvert has OBSTRUCTED flow**

Describe Obstruction: *Sediment build up at ends and inside of pipes.*

Overtopping Frequency: 2

Overtopping Frequency Comments:



Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Structure Number: 93001264  
Facility Carried: SR 246

### Culvert Inspection Report

#### Pictures



PHOTO 1

Description South Profile



PHOTO 2

Description North Profile

Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Structure Number: 93001264  
Facility Carried: SR 246

### Culvert Inspection Report

#### Pictures



PHOTO 3

Description Eastbound Alignment



PHOTO 4

Description Pavement over the structure



Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Structure Number: 93001264  
Facility Carried: SR 246

### Culvert Inspection Report

#### Pictures



PHOTO 5

Description Westbound Alignment



PHOTO 6

Description View through the west pipe from the south end

Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Structure Number: 93001264  
Facility Carried: SR 246

### Culvert Inspection Report

#### Pictures



PHOTO 7

Description View through the east pipe from the south end



PHOTO 8

Description Upstream Channel Alignment



Inspector: Matthew Ference  
Inspection Date: 02/02/2022

Structure Number: 93001264  
Facility Carried: SR 246

Culvert Inspection Report

Pictures



PHOTO 9

Description Downstream Channel Alignment

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

ProjectNumber	SubProjectCode	County	Property
1800007	1800007	Owen	McCormick's Creek State Park
1800022	1800022	Owen	McCormick's Creek State Park
1800049	1800049	Owen	McCormick's Creek State Park
1800161	1800161I	Owen	McCormick's Creek State Park
1800171	1800171G	Owen	McCormick's Creek State Park
1800312	1800312H	Owen	McCormick's Creek State Park
1800363	1800363R	Owen	McCormick's Creek State Park
1800378	1800378C	Owen	McCormick's Creek State Park
1800413	1800413N	Owen	McCormick's Creek State Park
1800431	1800431	Owen	McCormick's Creek State Park
1800584	1800584	Owen	McCormick's Creek State Park
1800626	1800626B	Owen	Cataract Falls SRA

\*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.

Source: <https://www.in.gov/indot/2523.htm>



**From:** [Laymon, Makinna](#)  
**To:** [Rachel Pluckebaum](#)  
**Cc:** [Khan, Asfahan](#); [Kurtz, Randy](#)  
**Subject:** FW: Des. No. 1900330 - Bat Heritage Database Check  
**Date:** Friday, May 21, 2021 9:47:16 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)  
[image003.png](#)  
[image012.png](#)  
[03 - Project Location Map.pdf](#)  
[03 - Project Location Map.mxd](#)  
[01 - USGS Topo Map \(Zoom Out\).pdf](#)  
[01 - USGS Topo Map \(Zoom Out\).mxd](#)

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Good Morning,

A review of the USFWS GIS database for Indiana bat and Northern long-eared bat roosting, hibernacula and capture sites was conducted for Des No. 1900330 on 5/21/2021. There are no documented sites within a half mile the project area. The USFWS Information for Planning and Conservation (IPaC) website must be consulted and a new project created to obtain an official species list and complete the questionnaire for the project to determine the applicability of the programmatic consultation. If needed, the IPaC generated documents must be forwarded to the USFWS for verification.

Thank you,

**Makinna Laymon**

*Environmental Manager 2, Capital Program Management Division*

41 West 300 North  
Crawfordsville, IN 47933

Phone: (765) 361-5621

Email: [MLaymon2@indot.in.gov](mailto:MLaymon2@indot.in.gov)



**From:** Kurtz, Randy <[RKurtz@indot.IN.gov](mailto:RKurtz@indot.IN.gov)>  
**Sent:** Tuesday, May 18, 2021 12:47 PM  
**To:** Laymon, Makinna <[MLaymon2@indot.IN.gov](mailto:MLaymon2@indot.IN.gov)>  
**Cc:** Khan, Asfahan <[akhan@indot.IN.gov](mailto:akhan@indot.IN.gov)>  
**Subject:** FW: Des. No. 1900330 - Bat Heritage Database Check

Please see below. Thank you

**Randy "Zane" Kurtz**

*Environmental Section Manager  
Capital Program Management Division*

41 West 300 North  
Crawfordsville, IN 47933

## Bridge/Structure Bat Assessment Form

Date & Time of Assessment: 1:30 pm; 9-09-21	DOT Project Number: 1900330	Route/Facility Carried: SR 246	County: Owen
Federal Structure ID: CV 246-060-30.50	Structure Coordinates (latitude and longitude): 39.295135, -86.983153	Structure Height (approximate): 5 feet	Structure Length: 43 feet
<b>Structure Type (check one)</b>		<b>Structure Material (check all that apply)</b>	
<i>Bridge Construction Style</i>		<i>Deck Material</i>	<i>Beam Material</i>
<input type="radio"/> Cast-in-place	<input type="radio"/> Pre-stressed Girder	<input type="checkbox"/> Metal	<input type="checkbox"/> None
<input type="radio"/> Flat Slab/Box	<input type="radio"/> Steel I-beam	<input type="checkbox"/> Concrete	<input type="checkbox"/> Concrete
<input type="radio"/> Truss	<input type="radio"/> Covered	<input type="checkbox"/> Timber	<input type="checkbox"/> Steel
<input type="radio"/> Parallel Box Beam	<input type="radio"/> Other:	<input type="checkbox"/> Open grid	<input type="checkbox"/> Timber
		<input type="checkbox"/> Other:	<input type="checkbox"/> Other:
<i>Culvert Type</i>		<i>Culvert Material</i>	<i>End/Back Wall Material</i>
<input type="radio"/> Box	<input type="radio"/> Other Structure	<input checked="" type="checkbox"/> Metal	<input type="checkbox"/> Concrete
<input checked="" type="radio"/> Pipe/Round		<input type="checkbox"/> Concrete	<input type="checkbox"/> Timber
<input type="radio"/> Other:		<input type="checkbox"/> Plastic	<input type="checkbox"/> Stone/Masonry
		<input type="checkbox"/> Stone/Masonry	<input type="checkbox"/> Other:
		<input type="checkbox"/> Other:	<i>Creosote Evidence</i>
<b>Crossings Traversed (check all that apply)</b>		<b>Surrounding Habitat (check all that apply)</b>	
<input checked="" type="checkbox"/> Bare ground	<input type="checkbox"/> Open vegetation	<input checked="" type="checkbox"/> Agricultural	<input type="checkbox"/> Grassland
<input type="checkbox"/> Rip-rap	<input type="checkbox"/> Closed vegetation	<input type="checkbox"/> Commercial	<input type="checkbox"/> Ranching
<input type="checkbox"/> Flowing water	<input type="checkbox"/> Railroad	<input type="checkbox"/> Residential-urban	<input type="checkbox"/> Riparian/wetland
<input checked="" type="checkbox"/> Standing water	<input type="checkbox"/> Road/trail - Type:	<input type="checkbox"/> Residential-rural	<input type="checkbox"/> Mixed use
<input type="checkbox"/> Seasonal water	<input type="checkbox"/> Other:	<input type="checkbox"/> Woodland/forested	<input type="checkbox"/> Other:
<b>Areas Assessed (check all that apply)</b>			
Check all areas that apply. If an area is not present in the structure, check the "not present" box. Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.			
<b>Area (check if assessed)</b>	<b>Assessment Notes</b>	<b>Evidence of Bats (include photos if present)</b>	
<input type="checkbox"/> All crevices and cracks: Bridges/culverts: rough surfaces or imperfections in concrete Other structures: soffits, rafters, attic areas	<input checked="" type="checkbox"/> Not present Surface almost entirely corrugated metal.	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> Concrete surfaces (open roosting on concrete)	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> Vertical surfaces on concrete I-beams	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> Spaces between walls, ceiling joists	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> All guiderails	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
<input type="checkbox"/> All expansion joints	<input checked="" type="checkbox"/> Not present	<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #
		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining
		<input type="checkbox"/> Audible	<input type="checkbox"/> Odor
		<input type="checkbox"/> Photos	<input type="checkbox"/> Species
Name: Kirk Roth		Signature:	



## DES 1900330 Environmental Justice Memo

Fair, Terri <TFair@indot.IN.gov>

Tue 7/19/2022 1:15 PM

To: Kirk Roth <kroth@CORRADINO.com>

Cc: Ross, Anthony <ARoss3@indot.IN.gov>

 1 attachments (1 MB)

14JUL22 EJ Memo DES 1900330.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 minimal right-of-way, require 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.

Environmental Justice Memorandum  
 SR 246 Small Structure Replacement (DES #1900330)  
 July 14, 2022

SR 246, 7.39 miles west of SR 46 over UNT to Lick Creek  
 Owen County, Indiana  
 Designation Number 1900330

**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 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 no relocations and up to 0.98 acre of additional permanent ROW and no temporary ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city, township, or town and is called the community of comparison (COC). In this project, the COC is Owen County, Indiana. The community that overlaps the project area is called the affected community (AC). In this project, the AC is comprised of Census Tract 9557.02. 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. The data collected for minority and low-income populations within the COC and the AC are summarized in the below table.

**Table 1 – Census Data Summary**

	COC – Owen County, Indiana	AC – Census Tract 9557.02
Percent Minority	3.97%	<b>5.05%</b>
125% of COC	4.96%	AC > 125% COC
EJ Population of Concern		Yes
Percent Low-Income	14.53%	15.44%
125% of COC	18.16%	AC < 125% COC
EJ Population of Concern		No



The AC Census Tract 9557.02 has a percent minority of 5.05% which is below 50% but above the 125% COC threshold. Therefore, AC Census Tract 9557.02 has a minority population of EJ concern.

The AC Census Tract 9557.02 has a percent low-income of 15.44% which is below 50% and is below the 125% COC threshold. Therefore, AC Census Tract 9557.02 does not contain a low-income population of EJ concern.

### **Effect on EJ Population**

The project requires 0.98 acre of ROW from two parcels (one north and one south of the project structure), both owned by John R. Miller. No other parcels are affected. The affected area is a strip along SR 246 comprised of 0.783 acre of grassy roadside area and 0.142 acre of cropland. It is unknown whether the property owner is categorized within minority populations in the U.S. Census data. Access to all properties will be maintained during construction.

No residential property is affected, and no relocations will occur. No relocations of people, businesses, or farms will take place as a result of this project.

The maintenance of traffic (MOT) for this project will include a 30-to-45-day road closure during construction. SR 246 will be closed at the project area during construction and traffic will be detoured via SR 59 and SR 46. The detour is 20.45 miles long. However, there is a local route to the northwest which is 5.17 miles long and another to the southeast which is 5.76 miles long. The road closure does not divide clusters of residences from one another or from any services and there are multiple routes to bypass the closure, so a division in the community is not expected. The road closure will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences and delays will cease upon project completion.

The need for this project is based on the deteriorated condition of the existing corrugated metal pipe structure, including rusting along the pipes, section loss, and eroded masonry along the head walls. The structural evaluation rating from a culvert inspection report dated February 2, 2022 rates the structure in poor condition (4 on a scale from 0 to 9). The purpose of the project is to provide a structure with a condition rating of good or better (rated 7 or above), which should provide a positive safety impact for the affected property owner and the local community when traveling SR 246. The drive to the northwest of the project area will be reconstructed as part of this project. During a site visit on September 9, 2021, this drive appeared overgrown with vegetation, so the project should produce access as good or better than the existing condition. The site visit also revealed evidence of significant flooding at the project structure including drift deposits (especially corn stubble) up to the level of the road at the twin corrugated pipes. This indicates that flooding of the agricultural property and the roadway occur in the existing condition. The existing divided structure with 160 inches of span will be replaced with a single structure with 192 inches of span, so improved drainage and less flooding of the agricultural fields and the roadway is expected because of this project.

## Conclusion

This project does not contain a low-income population of EJ concern but does contain a minority population of concern. The project is not expected to have a high impact on minority populations because there are no relocations, ROW acquisition restricted to a roadside strip which is mostly unused for agriculture or other property owner activities, a single affected property owner, a short-term detour, multiple relatively short routes to bypass the project, and no major communities bisected by the road closure. The project is not expected to have an adverse effect on minority populations because, although there will be a temporary inconvenience to traveling motorists, the project will provide a long-term benefit for motorist safety on SR 246, improve access for the affected property owner, and improve property drainage for the affected property owner and motorists on SR 246. Therefore, this project is not expected to have a disproportionately high and adverse effect on minority or low-income populations.

AC Census Tract 9557.02 has a population of EJ Concern for minority populations. It is believed that impact to this population will be low or negligible because there are no relocations, ROW acquisition restricted to a roadside strip which is mostly unused for agriculture or other property owner activities, a single affected property owner, and relatively low impact from maintenance of traffic. It is believed that impact to this population will not be adverse because the project will provide a long-term benefit for motorist safety on SR 246, improve access for the affected property owner, and improve property drainage for the affected property owner and motorists on SR 246. The only negative impact identified would be traffic delays during construction, which will cease upon project completion, and which are alleviated by the multiple short-distance local route alternatives, and no communities or service access bisected by the road closure. Therefore, there will not be a disproportionately high and adverse effect on minority populations in AC Census Tract 9557.02.



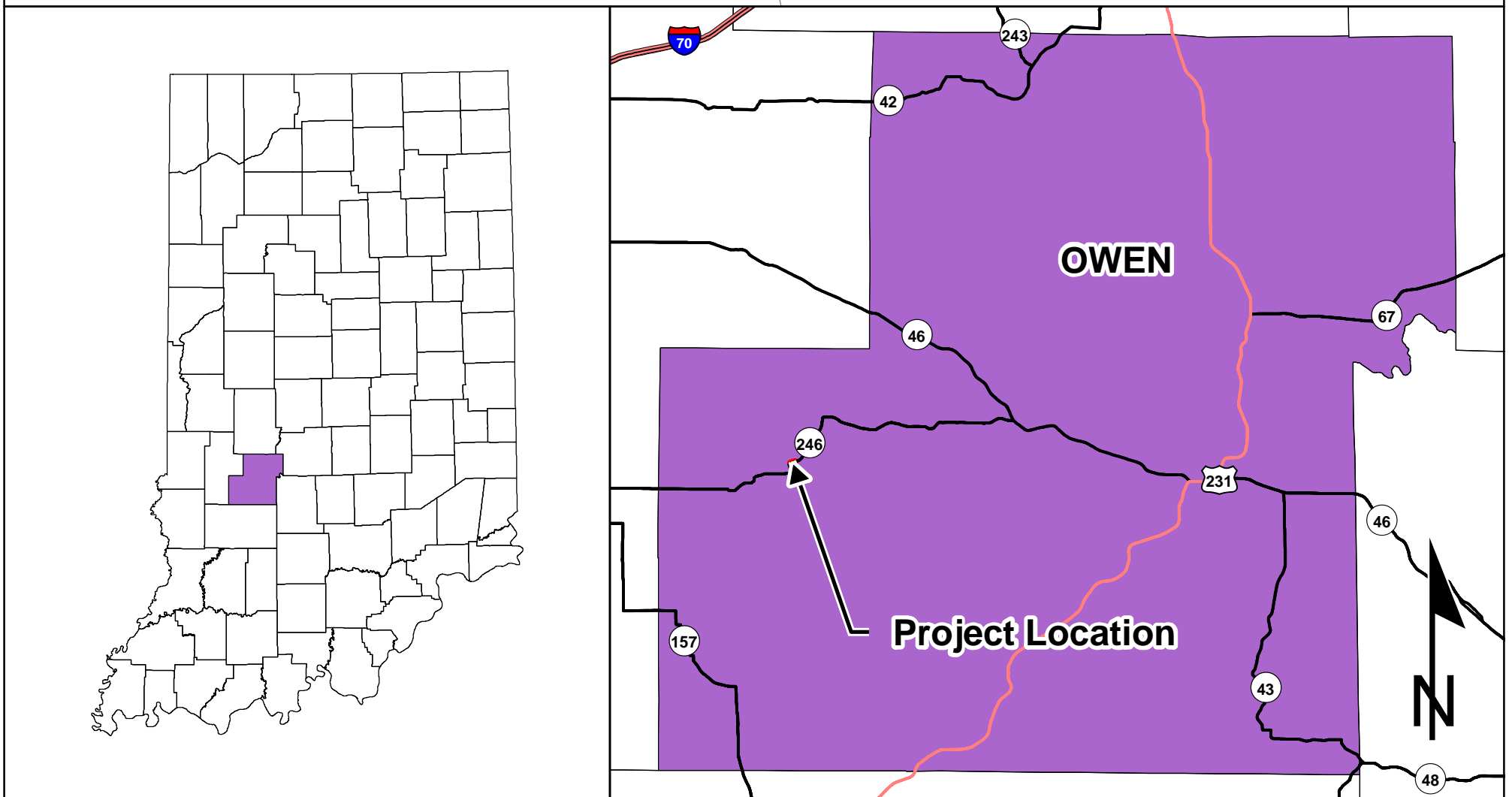
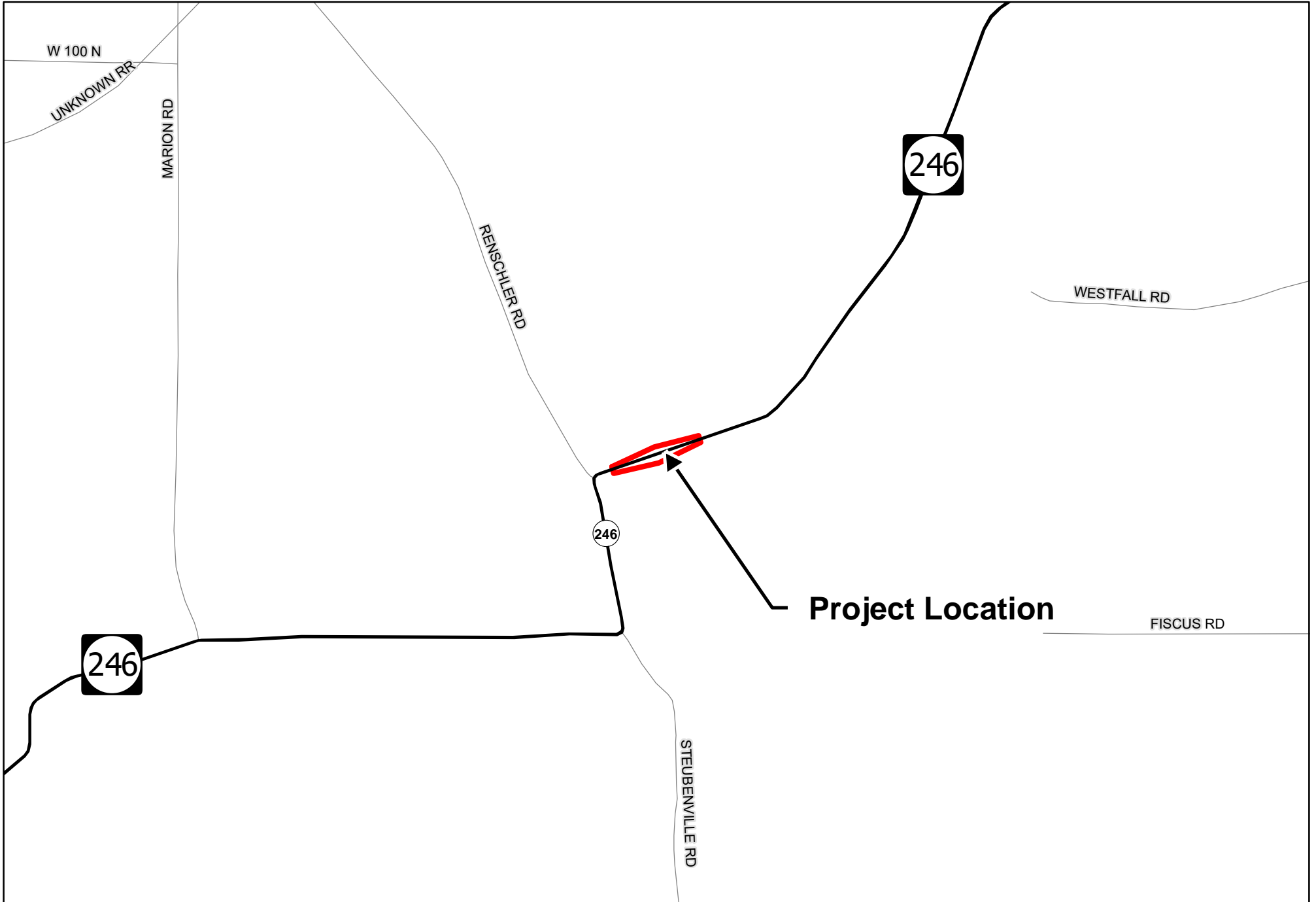
Kirk Roth  
Environmental Scientist  
Corradino, LLC  
200 S. Meridian Street, Suite 330  
Indianapolis, IN 46225

### **Attachments:**

Attachment A – Project Location Map  
Attachment B – Census Tract Map  
Attachment C – Income Data  
Attachment D – Minority Data



**Project Location Map**  
**SR 246, 7.39 Miles West of SR 46**  
**Des. No. 1900330, Small Structure Replacement**  
**Owen County, Indiana**

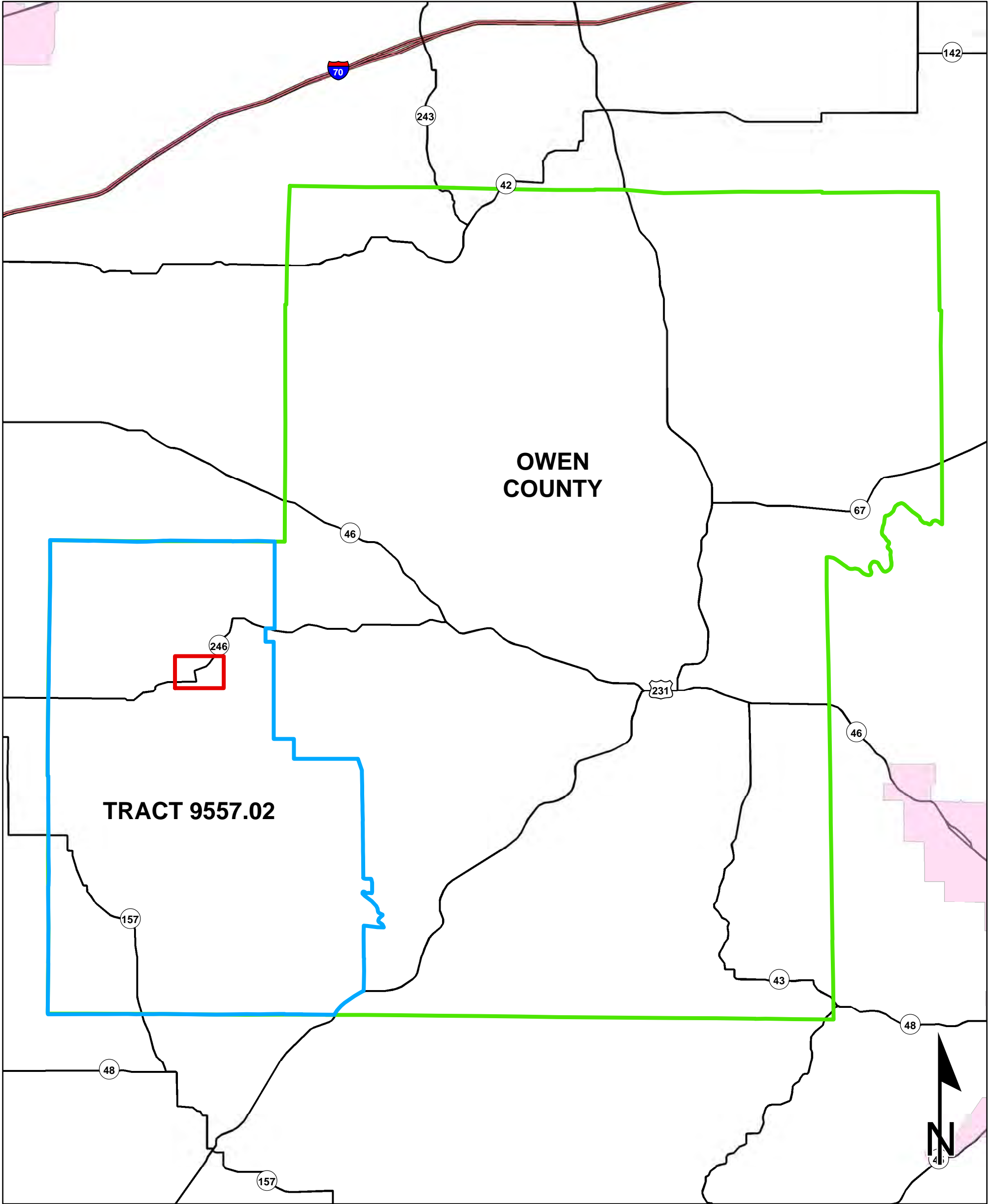


**Sources:**  
**Non Orthophotography**  
**Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

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

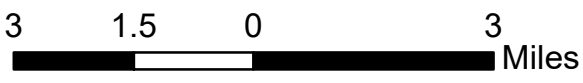
**INDIANA**  
**STATEWIDE**  
**GIS DATA**

Census Tract Map  
 Des. No. 1900330, SR 246, 7.39 Miles West of SR 46  
 Small Structure Replacement  
 Owen County, Indiana



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

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



**Census Tract 9557.02  
 In Owen County**

- Project Area
- Affected Community (AC)
- Community of Comparison (COC)



Filters  
(2)

Results  
(10)

American Community Survey

**B17001 | POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE**

2020: ACS 5-Year Estimates Detailed Tables ▼ Universe: Population for whom poverty status is determined

Notes 2 Geos Years Topics Surveys Codes 123 Hide Transpose Margin of Error Restore Excel CSV ZIP Print Map

	Owen County, Indiana		Census Tract 9557.02, Owen County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	20,547	±170	1,632	±266
▼ Income in the past 12 months below poverty level:	2,985	±618	252	±146
▼ Male:	1,343	±294	142	±91
Under 5 years	175	±95	59	±38
5 years	11	±14	0	±12
6 to 11 years	178	±83	40	±30
12 to 14 years	121	±76	19	±22
15 years	32	±38	0	±12
16 and 17 years	18	±23	0	±12
18 to 24 years	40	±33	0	±12
25 to 34 years	189	±85	0	±12
35 to 44 years	121	±62	24	±15
45 to 54 years	146	±100	0	±12
55 to 64 years	268	±84	0	±12
65 to 74 years	37	±32	0	±12
75 years and over	7	±11	0	±12
▼ Female:	1,642	±371	110	±63
Under 5 years	88	±75	0	±12
5 years	82	±79	0	±12
6 to 11 years	213	±121	24	±25
12 to 14 years	54	±43	0	±12
15 years	25	±25	20	±22
16 and 17 years	112	±56	19	±23
18 to 24 years	97	±48	0	±12

Filters  
(2)

American Community Survey

### B03002 | HISPANIC OR LATINO ORIGIN BY RACE

2020: ACS 5-Year Estimates Detailed Tables ▼ Universe: Total population

Results  
(1)

Notes | 
 2 Geos | 
 Years | 
 Topics | 
 Surveys | 
 Codes | 
 123 | 
 Hide | 
 Transpose | 
 Margin of Error | 
 Restore | 
 Excel | 
 CSV | 
 ZIP | 
 Print | 
 Map

	Owen County, Indiana		Census Tract 9557.02, Owen County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	20,854	*****	1,683	±317
▼ Not Hispanic or Latino:	20,583	*****	1,641	±320
White alone	20,027	±12	1,598	±313
Black or African American alone	6	±11	0	±12
American Indian and Alaska Native alone	108	±93	0	±12
Asian alone	101	±39	0	±12
Native Hawaiian and Other Pacific Islander alone	0	±23	0	±12
Some other race alone	0	±23	0	±12
▼ Two or more races:	341	±97	43	±55
Two races including Some other race	7	±12	0	±12
Two races excluding Some other race, and three or more races	334	±95	43	±55
▼ Hispanic or Latino:	271	*****	42	±58
White alone	60	±63	0	±12
Black or African American alone	58	±69	0	±12
American Indian and Alaska Native alone	0	±23	0	±12
Asian alone	0	±23	0	±12
Native Hawaiian and Other Pacific Islander alone	0	±23	0	±12
Some other race alone	1	±3	0	±12
▼ Two or more races:	152	±86	42	±58
Two races including Some other race	152	±86	42	±58
Two races excluding Some other race, and three or more races	0	±23	0	±12