

**Des 1801013**  
**Appendix E**  
**Red Flag Investigation**



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N642  
Indianapolis, Indiana 46204

PHONE: (317) 232-5113  
FAX: (317) 233-4929

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

Date: February 12, 2021

To: Site Assessment & Management  
Environmental Policy Office - Environmental Services Division (ESD)  
Indiana Department of Transportation  
100 N Senate Avenue, Room N642  
Indianapolis, IN 46204

From: Christian Radcliff  
SJCA Inc  
1104 Prospect Street  
Indianapolis, IN  
[cradcliff@sjcainc.com](mailto:cradcliff@sjcainc.com)

Re: RED FLAG INVESTIGATION  
DES 1801013, State Project  
Small Structure Project  
SR 250 over UNT to South Fork Laughery Creek, 9.11 Miles East of SR 129  
Switzerland County, Indiana

## PROJECT DESCRIPTION

**Brief Description of Project:** The Federal Highway Administration (FHWA) and Indiana Department of Transportation (INDOT) intend to proceed with a replacement of a small structure that carries SR 250 over an Unnamed Tributary (UNT) to South Fork Laughery Creek. The current structure (CV #250-078-55.80) is a 45-foot long corrugated metal pipe (CMP) with a 51-inch diameter. The preferred alternative is to install a new 6-foot by 5-foot reinforced concrete box culvert to replace the existing structure. Approaches east and west of the existing guardrails culvert will be milled and overlaid, and the roadway between the existing guardrails will be reconstructed. The reconstructed roadway will maintain the two-lane cross section with two 11-foot travel lanes and 4-foot shoulders. This slightly widened pavement will taper to tie into the narrower pavement sections east and west of the project area. Drives within the construction area and drainage culverts under the drives will be reconstructed and replaced, respectively. Riprap will be placed within the UNT to South Fork Laughery Creek on the north side for erosion control.

Bridge and/or Culvert Project: Yes  No  Structure # CV #250-078-55.80

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 \_\_\_\_\_ Permanent  # Acres 1, Not Applicable

Type and proposed depth of excavation: Excavation will be a maximum of 5 feet below the existing grade at the existing culvert inlet and outlet for new culvert and wingwall installation.

Maintenance of traffic: Maintenance of Traffic will consist of a full closure with a detour using SR 129 and SR 56 and will be approximately 14.3 miles in length.

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

State Project:  LPA:

Any other factors influencing recommendations: Right of way amounts are an estimate and will be defined during the project development process.

### 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	2	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:

**Cemeteries:** Two (2) cemeteries are located within the 0.5 mile search radius, however it appears to be only one cemetery that is mapped twice. The nearest cemetery, Allensville Cemetery, is located approximately 0.43 mile northeast of the project area. No impact is expected.

### 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	1	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	18
Canal Structures – Historic	N/A	Lakes	6
NPS NRI Listed	N/A	Floodplain - DFIRM	N/A
NWI-Lines	5	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A
Rivers and Streams	15	Sinking-Stream Basins	N/A

Explanation:

**NWI - Points:** One (1) NWI - Point are located within the 0.5 mile search radius. The closest NWI - Point is located approximately 0.10 mile north of the project area. No impact is expected.

**NWI - Lines:** Five (5) NWI-Lines are located within the 0.5 mile search radius. The closest NWI - Line is located approximately 0.15 mile southeast of the project area. No impact is expected.

**Rivers and Streams:** Fifteen (15) Rivers and Streams are located within the 0.5 mile search radius. One stream segment, UNT to South Fork Laughery Creek, is located 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:** Eighteen (18) Wetlands are located within the 0.5 mile search radius. One (1) wetland is located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**Lakes:** Six (6) lakes are located within the 0.5 mile search radius. The closest lake is located adjacent to the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

**URBANIZED AREA BOUNDARY SUMMARY**

Explanation: This project area is not mapped within a UAB.

**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: N/A

**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	N/A
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A
Leaking Underground Storage (LUST) Sites	N/A	Notice of Contamination Sites	N/A

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

Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation: N/A

### **ECOLOGICAL INFORMATION SUMMARY**

The Switzerland County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached with ETR species highlighted. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in a rural area surrounded by farm fields. The February 3, 2021, inspection report for Culvert #250-078-55.80 states that no evidence of bats was seen or heard 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**

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:

- One (1) wetland is located in the project area.
- One (1) stream segment, UNT to South Fork Laughery Creek, flows through the project area.
- One (1) lake is located adjacent to the project area.

URBANIZED AREA BOUNDARY: N/A

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".

INDOT ESD concurrence: Marlene Mathas Digitally signed by Marlene Mathas  
Date: 2021.02.12 14:48:27 -05'00' (Signature)

Prepared by:  
Christian Radcliff  
Ecologist  
SJCA Inc

**Graphics:**

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached.

SITE LOCATION: YES

INFRASTRUCTURE: YES

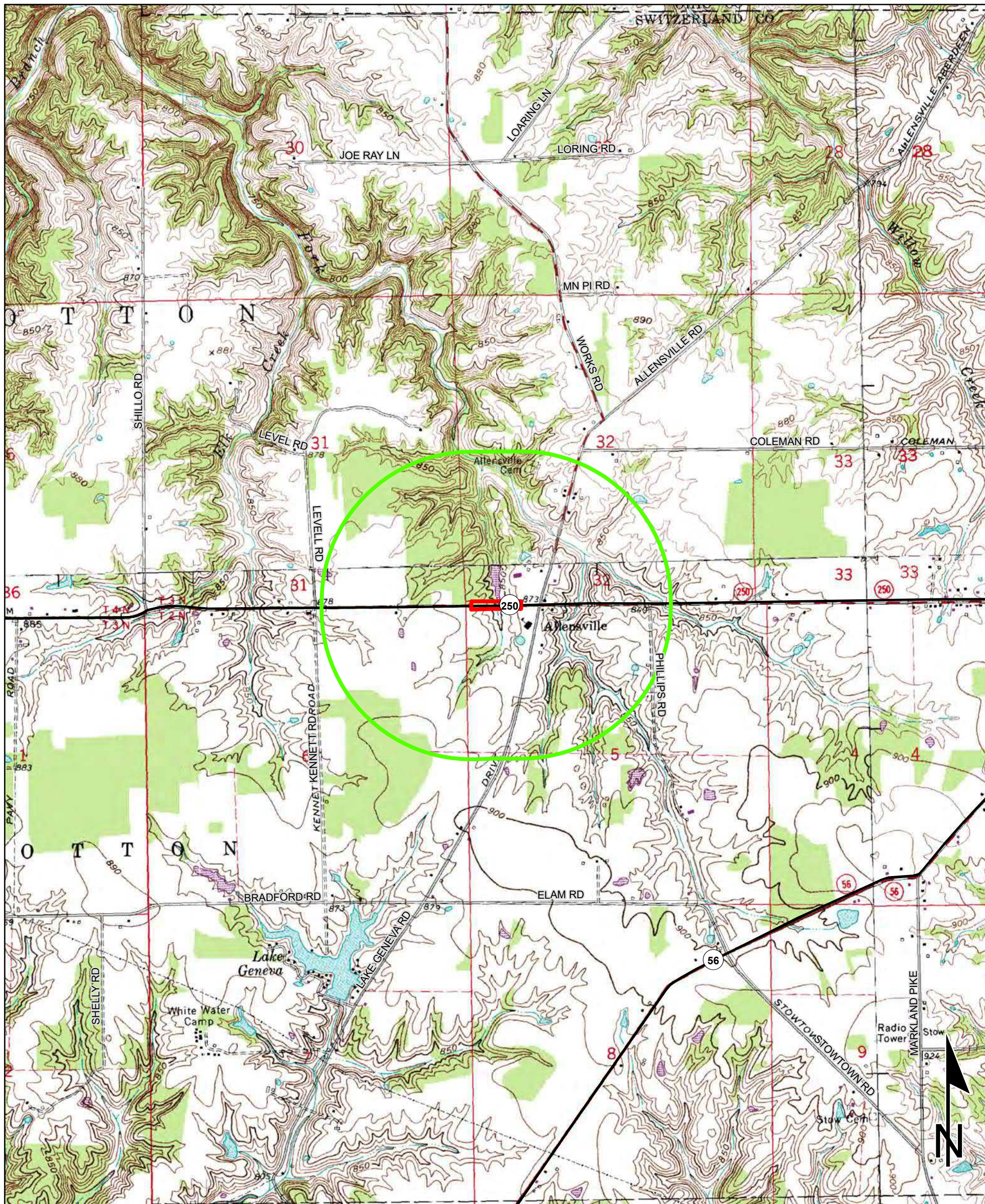
WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

Red Flag Investigation - Site Location  
 SR 250 over UNT to South Fork Laughery Creek, 9.11 Miles East of SR 129  
 Des. No.1801013 , Small Structure Project  
 Switzerland County, Indiana



Sources: 0.4 0.2 0 0.4 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.

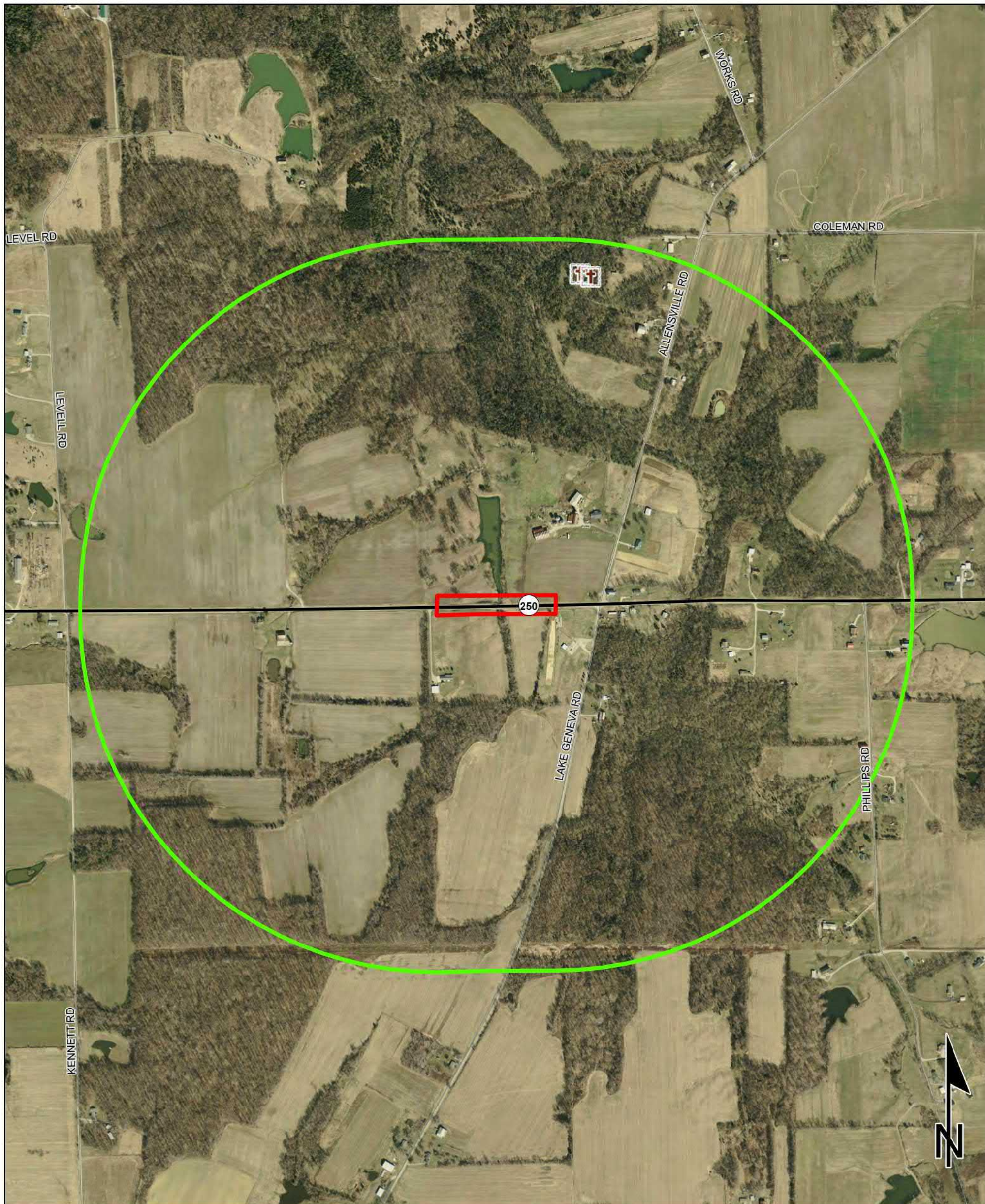
**VEVAY NORTH QUADRANGLE  
 INDIANA  
 7.5 MINUTE SERIES  
 (TOPOGRAPHIC)**

# Red Flag Investigation - Infrastructure

## SR 250 over UNT to South Fork Laughery Creek, 9.11 Miles East of SR 129

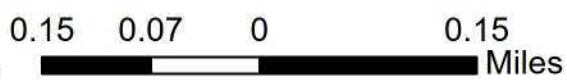
### Des. No.1801013 , Small Structure Project

#### Switzerland 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.**



	Religious Facility		Recreation Facility		Project Area
	Airport		Pipeline		Half Mile Radius
	Cemeteries		Railroad		Toll
	Hospital		Trails		Interstate
	School		Managed Lands		State Route
			County Boundary		US Route
					Local Road

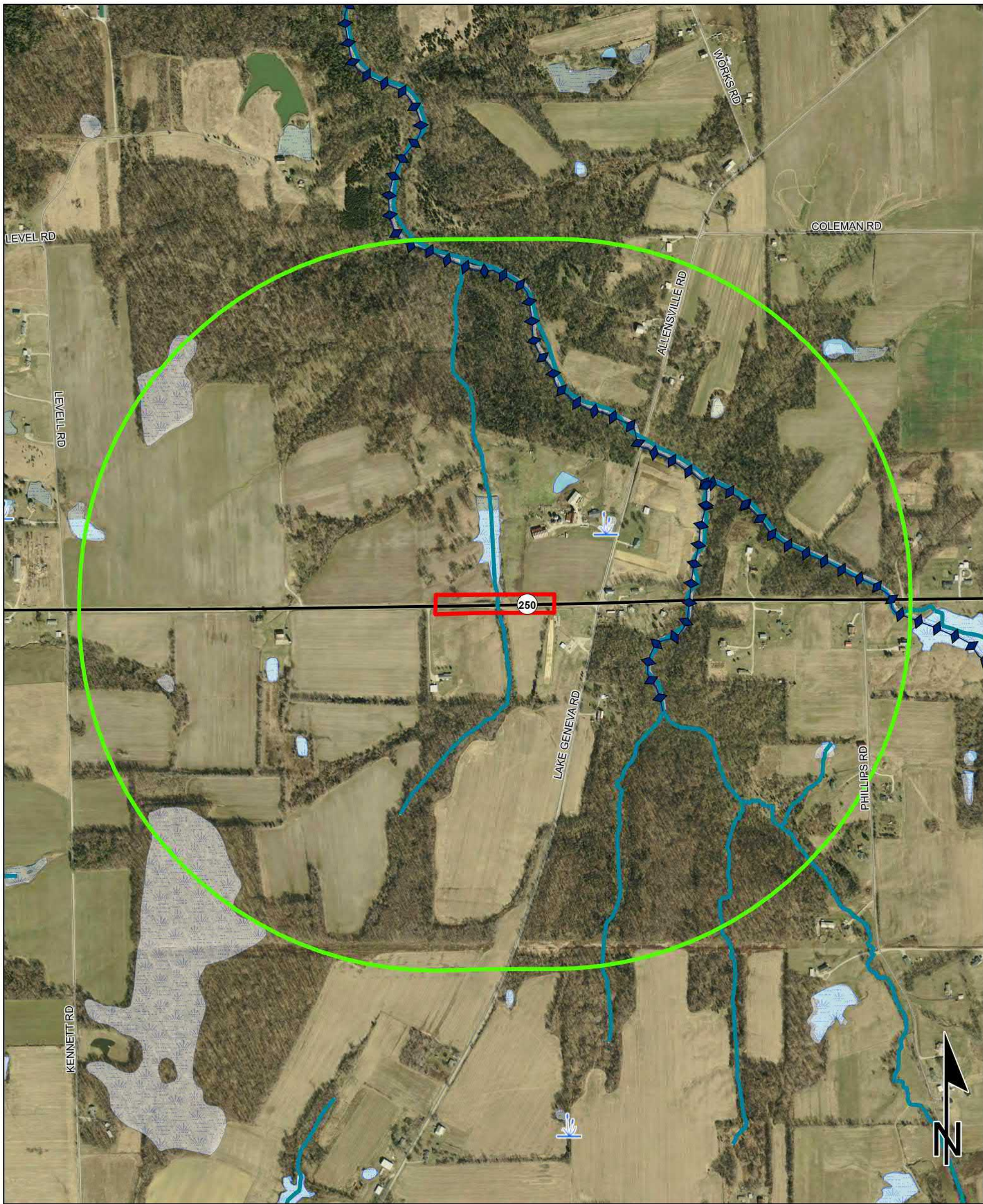


# Red Flag Investigation - Water Resources

## SR 250 over UNT to South Fork Laughery Creek, 9.11 Miles East of SR 129

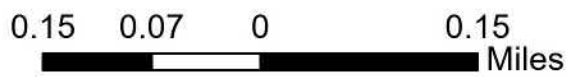
### Des. No.1801013 , Small Structure Project

#### Switzerland 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.**



	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				

# Indiana County Endangered, Threatened and Rare Species List

## County: Switzerland



Species Name	Common Name	FED	STATE	GRANK	SRANK
<b>Mollusk: Bivalvia (Mussels)</b>					
<i>Ligumia recta</i>	Black Sandshell		SSC	G4G5	S2
<i>Plethobasus cyphus</i>	Sheepnose	LE	SE	G3	S1
<i>Pleurobema cordatum</i>	Ohio Pigtoe		SSC	G4	S2
<b>Insect: Odonata (Dragonflies &amp; Damselflies)</b>					
<i>Stylurus notatus</i>	Elusive Clubtail		SE	G3	S1
<b>Amphibian</b>					
<i>Cryptobranchus alleganiensis alleganiensis</i>	Eastern Hellbender	C	SE	G3T2	S1
<b>Bird</b>					
<i>Ammodramus henslowii</i>	Henslow's Sparrow		SE	G4	S3B
<i>Buteo platypterus</i>	Broad-winged Hawk		SSC	G5	S3B
<i>Circus hudsonius</i>	Northern Harrier		SE	G5	S2
<i>Falco peregrinus</i>	Peregrine Falcon		SSC	G4	S2B
<i>Haliaeetus leucocephalus</i>	Bald Eagle		SSC	G5	S2
<i>Helmitheros vermivorus</i>	Worm-eating Warbler		SSC	G5	S3B
<i>Tyto alba</i>	Barn Owl		SE	G5	S2
<b>Vascular Plant</b>					
<i>Azolla caroliniana</i>	Carolina mosquito-fern		ST	G5	S3
<i>Baptisia australis</i>	wild false indigo		ST	G5	S3
<i>Chaerophyllum shortii</i>	wild chervil		ST	G5T3T4Q	S2
<i>Linum striatum</i>	ridged yellow flax		WL	G5	S3
<i>Ludwigia decurrens</i>	primrose willow		WL	G5	S3
<i>Penstemon canescens</i>	gray beardtongue		SE	G4	S1
<i>Sida hermaphrodita</i>	Virginia mallow		SE	G3	S1
<i>Valerianella chenopodiifolia</i>	goose-foot corn-salad		WL	G4	S3
<b>Other Significant Feature</b>					
<i>Freshwater Mussel Concentration Area</i>	Mussel Bed		SG	G3	SNR

Indiana Natural Heritage Data Center  
Division of Nature Preserves  
Indiana Department of Natural Resources  
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting  
 State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list  
 GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long-term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank  
 SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long-term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

**Des 1801013**  
**Appendix F**  
**Water Resources**



*LiKang* 02/24/2021

**Waters Report  
SR 250 over UNT to South Fork Laughery Creek  
Small Structure Project  
CV 250-078-55.80  
Switzerland County, Indiana  
Des. No. 1801013**

Note: Repeated project maps were removed from this report. The full Waters Report can be made available upon request.

Report Completed on: February 8, 2021

Prepared for:  
Strand Associates

Prepared By:  
Christian Radcliff  
SJCA Inc.  
9102 N Meridian Street, Suite 200  
Indianapolis, IN 46260

p. 317.566.0629

e. [cradcliff@sjcainc.com](mailto:cradcliff@sjcainc.com)



**Field Investigation Date:** September 3, 2020

**Site Location:**

Section 32, Township 3 North, Range 2 West  
Vevay North 1:24,000 Quadrangle  
Switzerland County, Indiana  
Latitude 38.873045, Longitude -85.022813

**Project Description:**

Des 1801013 involves the replacement of the culvert carrying an Unnamed Tributary (UNT) to South Fork Laughery Creek under SR 250 (CV 250-078-55.80) in Switzerland County. The proposed scope of work involves improving the structural and hydraulic standards of the existing structure by replacing the existing structure with a 6-foot by 5-foot reinforced concrete box culvert that will be 51 feet in length. The size and shape of this structure will provide the adequate flow requirements, which will lower predicted future maintenance and greater ease of construction than other alternatives, such as a circular culvert or an arch culvert. Approaches east and west of the existing culvert guardrails will be milled and overlaid, the roadway between the existing guardrails will be reconstructed, and the guardrail on the north side of the road will be replaced and extended to provide adequate protection for westbound vehicles. Drives within the construction area will be reconstructed, and new drainage culverts will be installed under the drives. Riprap will be placed within the UNT to South Fork Laughery Creek on the north side for erosion control.

The investigated area is in central Switzerland County. Land use in the vicinity of the project area is agricultural beyond the immediate project area, with interspersed residences beyond the investigated area. The major features in the investigated area are SR 250 and the UNT to South Fork Laughery Creek. The investigated area is generally rural and level, with some slopes along the roadside ditches along SR 250. The investigated area was chosen because it encompasses the proposed right of way limits, which will contain within them the construction area. The investigated area occurs entirely within the US Army Corps of Engineers (USACE) Midwest region.

Vegetation in the project area is primarily herbaceous vegetation that is common within roadside ditches and within waste places. A small portion of wooded vegetation forms a riparian area along the UNT to South Fork Laughery Creek on the inlet side of the project culvert. Hydrology in the project area is influenced primarily by runoff from SR 250 and the surrounding agricultural fields. There is one National Hydrography Dataset (NHD) classified flowline within the investigated area that flows through the project culvert. No additional classified or unclassified flowlines are within or immediately adjacent to the investigated area. The nearest major hydrological feature is South Fork Laughery Creek, which is north of the project area. The attached floodplains map indicates that there is not a mapped floodplain within the investigated area.

**Soils:**

According to the Soil Survey Geographic (SSURGO) Database for Switzerland County, Indiana, the investigated area does not contain soil areas with nationally listed hydric soils. Soils within and near the investigated area are characterized by well drained non-hydric soils.

**Table 1.** Soil Types Within the Investigated Area

Soil Name	Map Abbreviation	Hydric Range
Cincinnati silt loam, 2 to 6 percent slopes, eroded	CnB2	0 (Non-hydric)
Cincinnati silt loam, 6 to 12 percent slopes, eroded	CnC2	0 (Non-hydric)

**National Wetlands Inventory (NWI) Information:**

There are seven mapped wetlands and linear water features within 0.25 mile of the investigated area. These include one labeled PSS1A (Freshwater scrub/shrub wetland), one labeled as PUBGh (Freshwater pond, impounded), one labeled as R3UBH (Riverine, perennial, permanently flooded), three labeled R4SBC (Riverine, intermittent), and one labeled R5UBH (Riverine, perennial, permanently flooded).

**Table 2.** Mapped NWI Features Near the Investigated Area

<b>Wetland/Water Feature Type</b>	<b>Location</b>
PSS1A	Northeast of investigated area
PUBGh	Within and north of investigated area
R3UBH	East of project area
R4SBC	Within, north, and southeast of investigated area
R5UBH	Southeast of investigated area

**HUC 12:**

South Fork Laughery (050902030701)

**Attached Documents:**

- Maps (Project Location, Topographic, Aerial Imagery, NWI, Floodplains, Soil Series, Watershed, Water Resources)
- Photographs and Photograph Location and Orientation Map
- Wetland Data Sheets
- Preliminary Jurisdictional Determination Form

**Field Reconnaissance:**

Prior to the field investigation, the US Geological Survey (USGS) topographic map, aerial imagery, the USGS National Hydrography Dataset (NHD), U.S. Fish and Wildlife Service (USFWS) NWI map, the Natural Resources Conservation Service (NRCS) Web Soil Survey for Switzerland County, and the Indiana Geological Survey (IGS) LiDAR data were reviewed to identify potential water resources on the site.

The entire investigated area, as shown on the attached project graphics, was visually surveyed during the site visit for potential water features. Areas that were identified during the preliminary desktop review and in the field visit were investigated to determine the potential jurisdictional status of these features. Delineation of wetlands and water features was completed using the *Corps of Engineers Wetland Delineation Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (2010)*. Soils in the project area were evaluated using the *2017 Pocket Guide to Hydric Soil Field Indicators* and a Munsell soil chart. Vegetation in the investigated area was evaluated using various plant identification guides and the *USACE State of Indiana 2018 Wetland Plant List*. Sample points were collected at potential wetland features and associated upland areas to verify the presence or absence of wetland indicators. Jurisdictional recommendations were made according to the *US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook*. Water features that were identified within the investigated area were documented using GPS location.

**Streams:**

**UNT 1 to South Fork Laughery Creek:**

UNT 1 to South Fork Laughery Creek (UNT 1) is classified as an intermittent stream that conveys drainage from south to north through the project culvert, where it drains into an open water feature in the northern portion of the investigated area. UNT 1 is mapped correctly on the attached NWI map as R4SBC, on the topographic map as a dotted blue-line stream, and the USGS *Streamstats* application. This feature is also mapped as a classified NHD flowline within the investigated area. According to the *Streamstats* application, UNT 1 has an upstream drainage area of 0.165 square miles. UNT 1 exhibited an Ordinary High Water Mark (OHWM) width of 4 feet and depth of 8 inches. This stream is considered poor quality because it has a substrate of silt, provides low in-stream cover, exhibits low sinuosity and low erosion, and does not provide riffle/run complexes. The adjacent floodplain of UNT 1 is narrow and low quality. This feature is likely jurisdictional under the authority of the USACE because it exhibits an OHWM, exhibits semi-permanent flow conditions, and eventual connectivity to The Ohio River approximately 8.40 miles northeast of the investigated area. The Ohio River is a jurisdictional waterway because it is considered navigable. Approximately 85 linear feet of UNT 1 is within the investigated area. UNT 1 is shown in photos 7 through 9 and 12 in the attached photo log.

**Table 3. Stream Summary Table**

Stream Name	Photos	Lat/Long	OHWM Width (ft)	OHWM Depth (in)	USGS Blue-line?	Riffles? Pools?	Substrate	Quality	Likely Water of US?
UNT 1	7-9, 12	Lat: 38.873045 Long: -85.022813	4	8	Yes	No	Silt	Poor	Yes

**Wetlands:**

No suspected wetlands were identified in the investigated area during the desktop review of the site. No wetlands were identified during the September 3, 2020 site visit.

**Sample Point 1**

Sample Point 1 (SP1) was along the roadside on the south side of SR 250 and east of the project culvert. Vegetation at this sample point was dominated by Tall Fescue (*Schedonorus arundinaceus*, FACU). This vegetation community did not pass the rapid test, dominance test, or prevalence index for hydrophytic vegetation. Wetland hydrology indicators were not observed at SP1. Soils at SP1 were 10 YR 4/3 (100%) from 0-3 inches and had a texture of silt loam and were 10 YR 5/6 (100%) with a texture of silty clay loam from 3-16 inches. This does not meet any criteria for hydric soils. This sample point did not meet the criteria for hydrophytic vegetation, wetland hydrology, or hydric soils; therefore, it is not a wetland.

**Table 4. Sample Point Summary Table**

Data Point	Photos	Vegetation	Soils	Hydrology	Wetland
SP1	13-14	No	No	No	No

**Open Water:**

One open water body was identified within and immediately adjacent to the investigated area in the desktop review. The field visit confirmed that one open water feature is within the investigated area.

**Open Water Feature 1**

Open Water Feature 1 is a pond located immediately north of SR 250. UNT 1 conveys drainage under SR 250 to this feature, where flow appears to eventually continue north towards South Fork Laughery Creek, based on the topographic maps of the surrounding area. Open Water Feature 1 is mapped correctly on the

attached NWI map as PUBGh. Based on aerial imagery during various times of year, it appears that this feature holds water permanently and is influenced by runoff from SR 250 and inflow from UNT 1. Approximately 0.007 acre of this feature is within the investigated area, but it extends north beyond the investigated area. This feature is considered average quality because it provides moderate habitat for aquatic flora and fauna, but it is subject to human disturbance in the form of runoff and the project culvert. Open Water Feature 1 is likely considered jurisdictional under the authority of the USACE due to its permanent inundation and connectivity with the Ohio River approximately 8.40 miles northeast of the project area. Open Water Feature 1 is shown in photos 10-12 in the attached photo log.

**Table 5. Open Water Features Table**

<b>Open Water Name</b>	<b>Photos</b>	<b>Lat/Long</b>	<b>Total Acres</b>	<b>Likely Water of the US?</b>
Open Water Feature 1	10-12	Lat: 38.873305 Long: -85.022805	0.007	Yes

**Other Features and Roadside Ditches:**

The investigated area was assessed for the presence of other water features. Other water features include roadside ditches, areas of concentrated flow, or other unusual drainage features. These features may be considered jurisdictional if they exhibit a Significant Nexus to a Traditionally Navigable Waterway. Three roadside ditches were observed throughout the project area and were investigated for the presence of wetland features or characteristics of a stream. No roadside ditches exhibited jurisdictional wetland characteristics, an OHWM, or Significant Nexus to a Traditionally Navigable Waterway. These features appear to be ephemeral features that only carry water during rain storms and are not relatively permanent water features.

**Conclusions:**

The site investigation identified one jurisdictional stream, UNT 1 to South Fork Laughery Creek, and one jurisdictional open water feature, Open Water Feature 1. Every effort should be taken to avoid and minimize impacts to these waterways. If impacts are necessary, then mitigation may be required. The USACE should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the appropriate regulatory staff of the US 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.

Christian Radcliff

A handwritten signature in black ink that reads "Christian Radcliff".

Ecologist

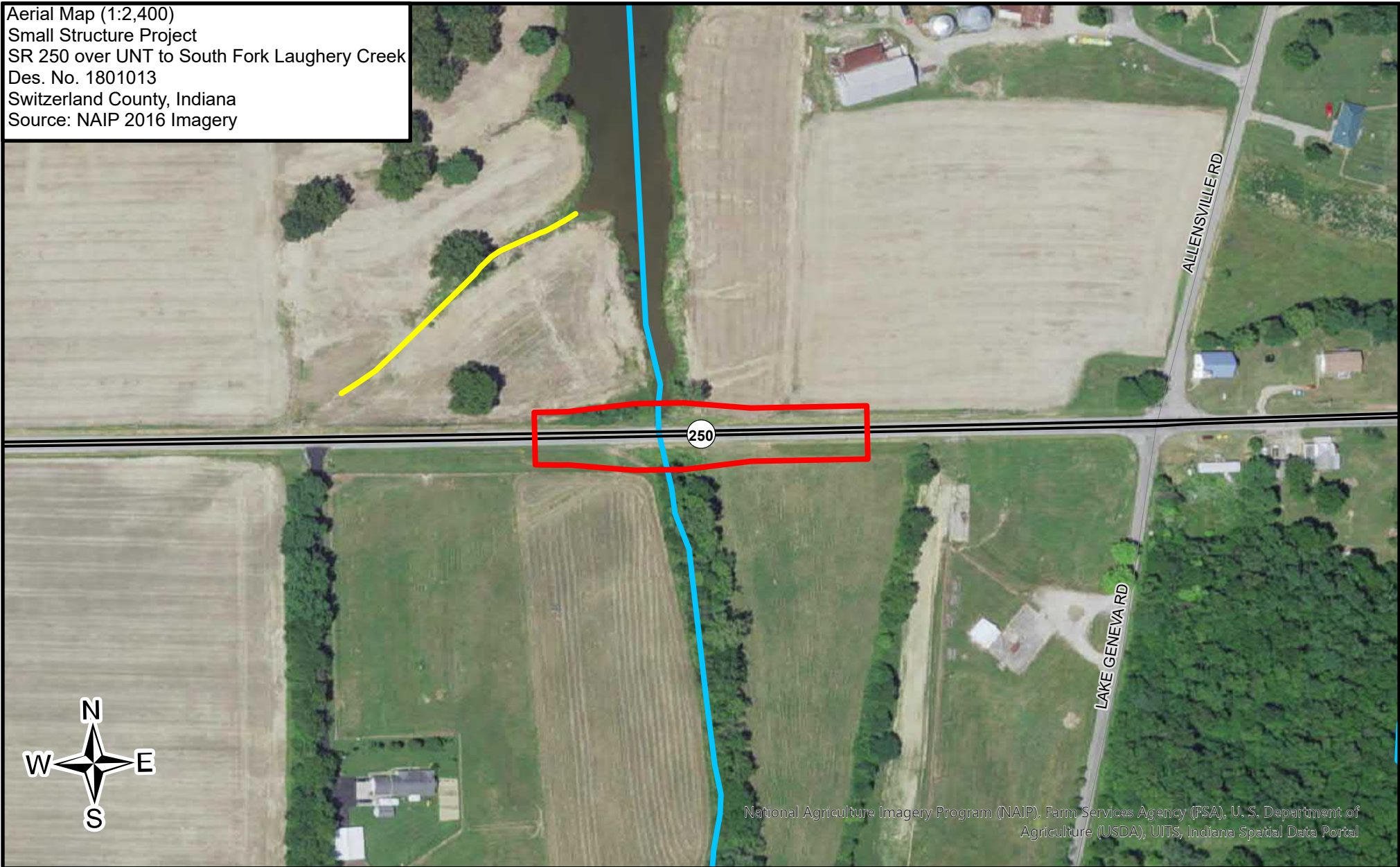
SJCA Inc.

Date: February 8, 2021

**Supporting Documentation:**




- Maps
- Photos
- Wetland Delineation Data Sheets
- Preliminary Jurisdictional Determination Form

Aerial Map (1:2,400)  
Small Structure Project  
SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Switzerland County, Indiana  
Source: NAIP 2016 Imagery



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

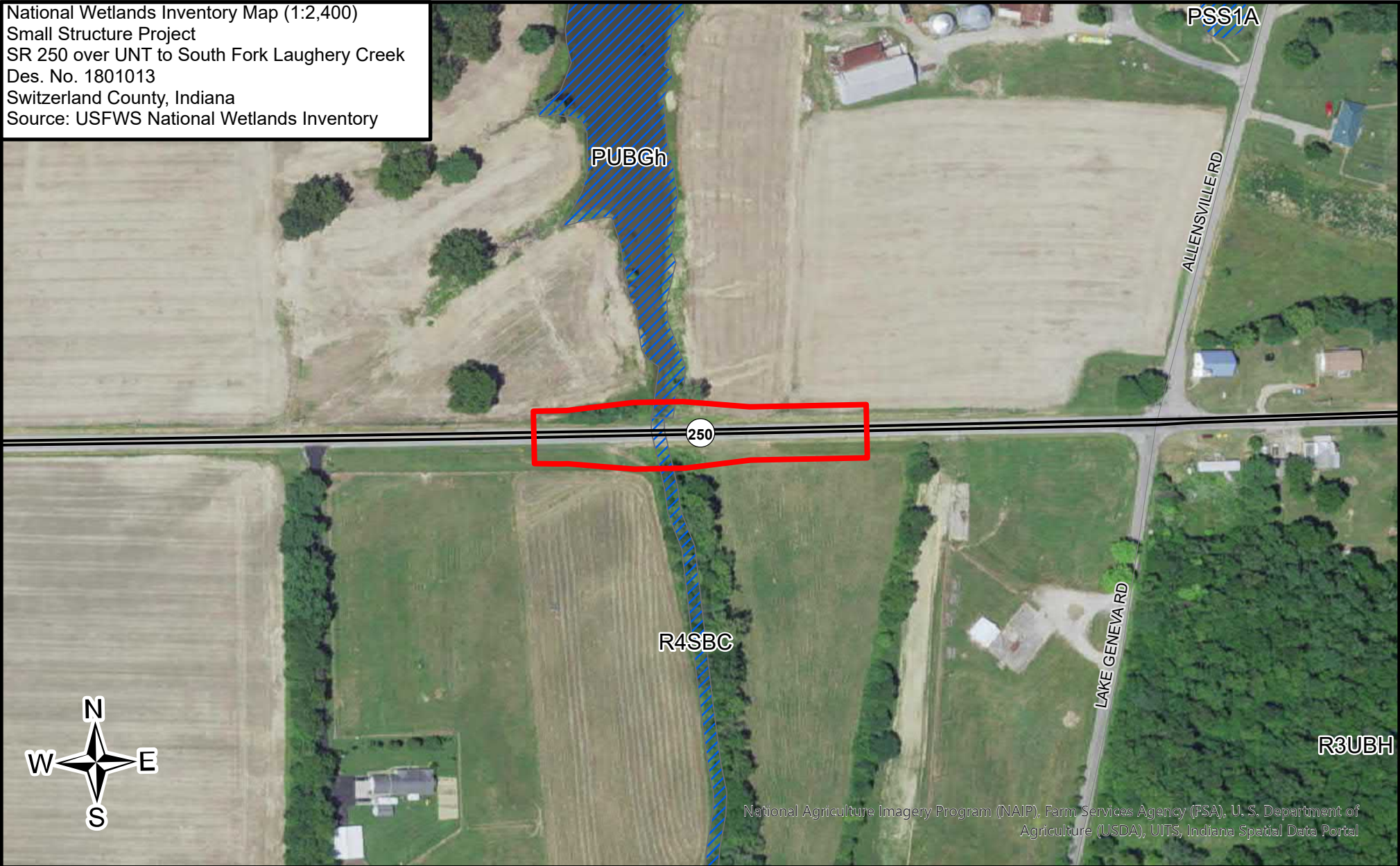
0 137.5 275  
Feet

-  Investigated Area
-  NHD Flowline - Classified
-  NHD Flowline - Unclassified





2/5/2021

National Wetlands Inventory Map (1:2,400)  
Small Structure Project  
SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Switzerland County, Indiana  
Source: USFWS National Wetlands Inventory



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

0 137.5 275  
Feet

 Investigated Area  
 NWI Wetlands



2/5/2021

Floodplains Map (1:2,400)  
Small Structure Project  
SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Switzerland County, Indiana  
Source: FEMA FIRM



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

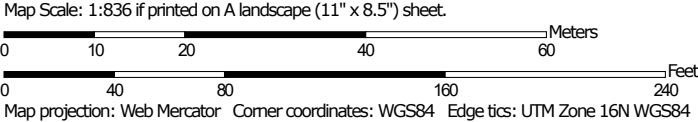
0 137.5 275  
Feet

 Investigated Area




2/5/2021

Hydric Rating by Map Unit—Switzerland County, Indiana  
(Des 1801013 Soils Map)









## MAP LEGEND

### Area of Interest (AOI)







 Area of Interest (AOI)

### Soils







#### Soil Rating Polygons

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


#### Soil Rating Lines

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






#### Soil Rating Points

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


### Water Features

 Streams and Canals

### Transportation

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

### Background

 Aerial Photography

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Switzerland County, Indiana  
Survey Area Data: Version 24, Jun 11, 2020

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

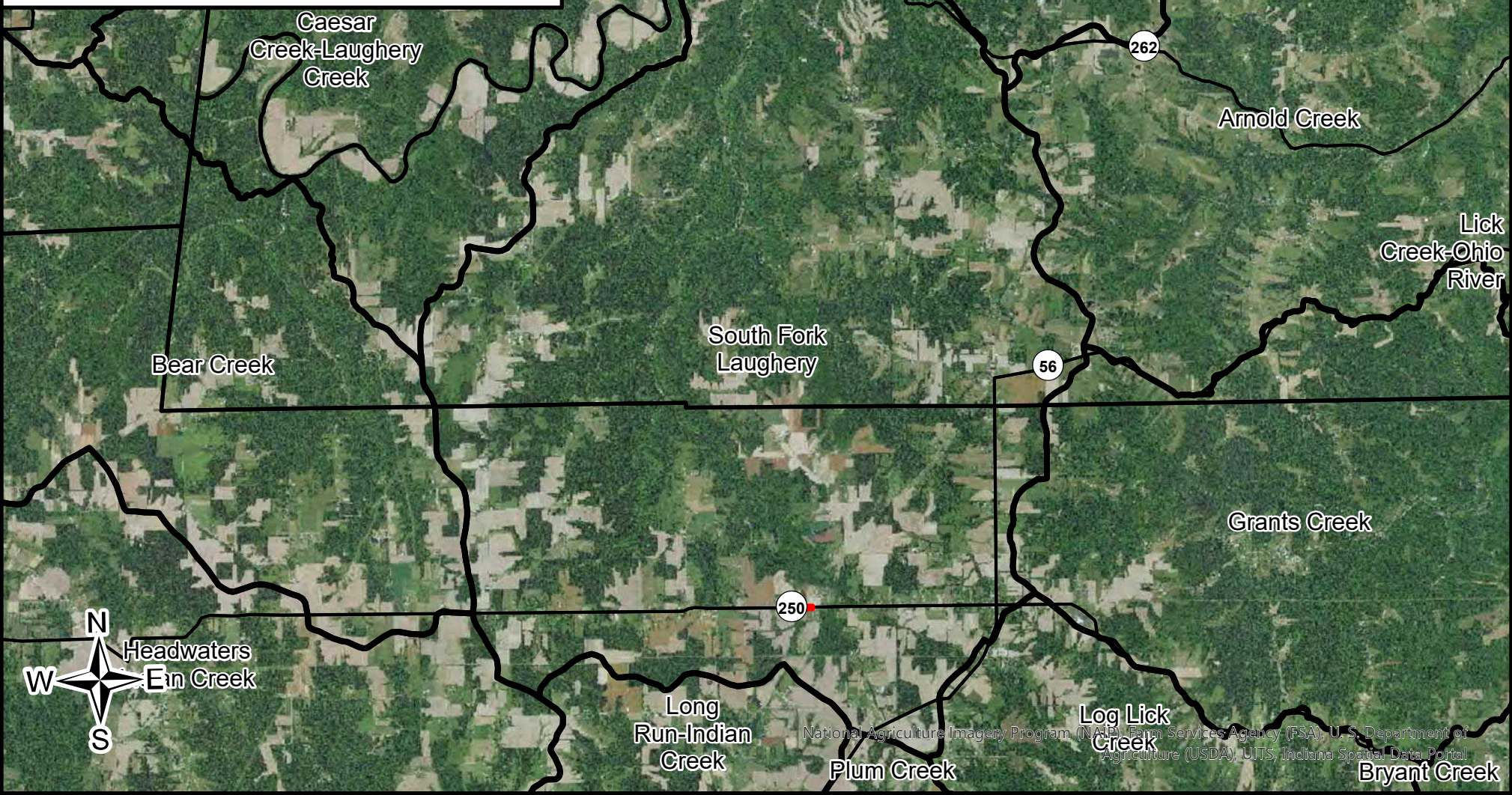
Date(s) aerial images were photographed: Apr 17, 2019—Jun 28, 2019

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

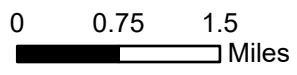
## Hydric Rating by Map Unit



Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CnB2	Cincinnati silt loam, 2 to 6 percent slopes, eroded	0	0.2	16.9%
CnC2	Cincinnati silt loam, 6 to 12 percent slopes, eroded	0	0.8	83.1%
<b>Totals for Area of Interest</b>			<b>1.0</b>	<b>100.0%</b>

Watershed Map (1:90,000)  
Small Structure Project  
SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Switzerland County, Indiana  
Source: Indiana Department of Environmental Management



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

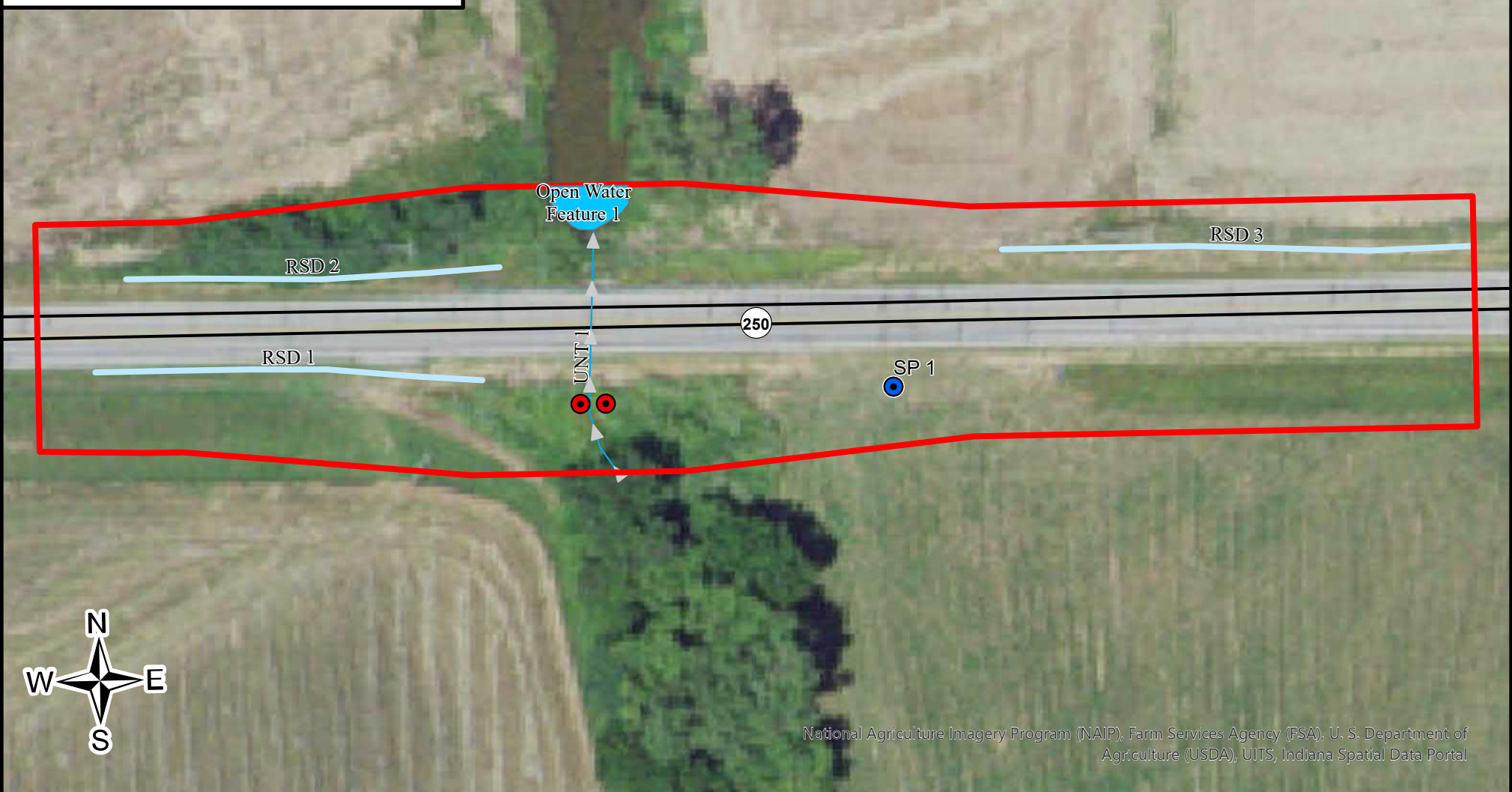


 Investigated Area  
 HUC - 12

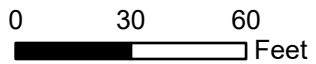




Water Resources Map (1:600)  
Small Structure Project  
SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Switzerland County, Indiana  
Source: SJCA Inc Field Survey



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UIITS, Indiana Spatial Data Portal

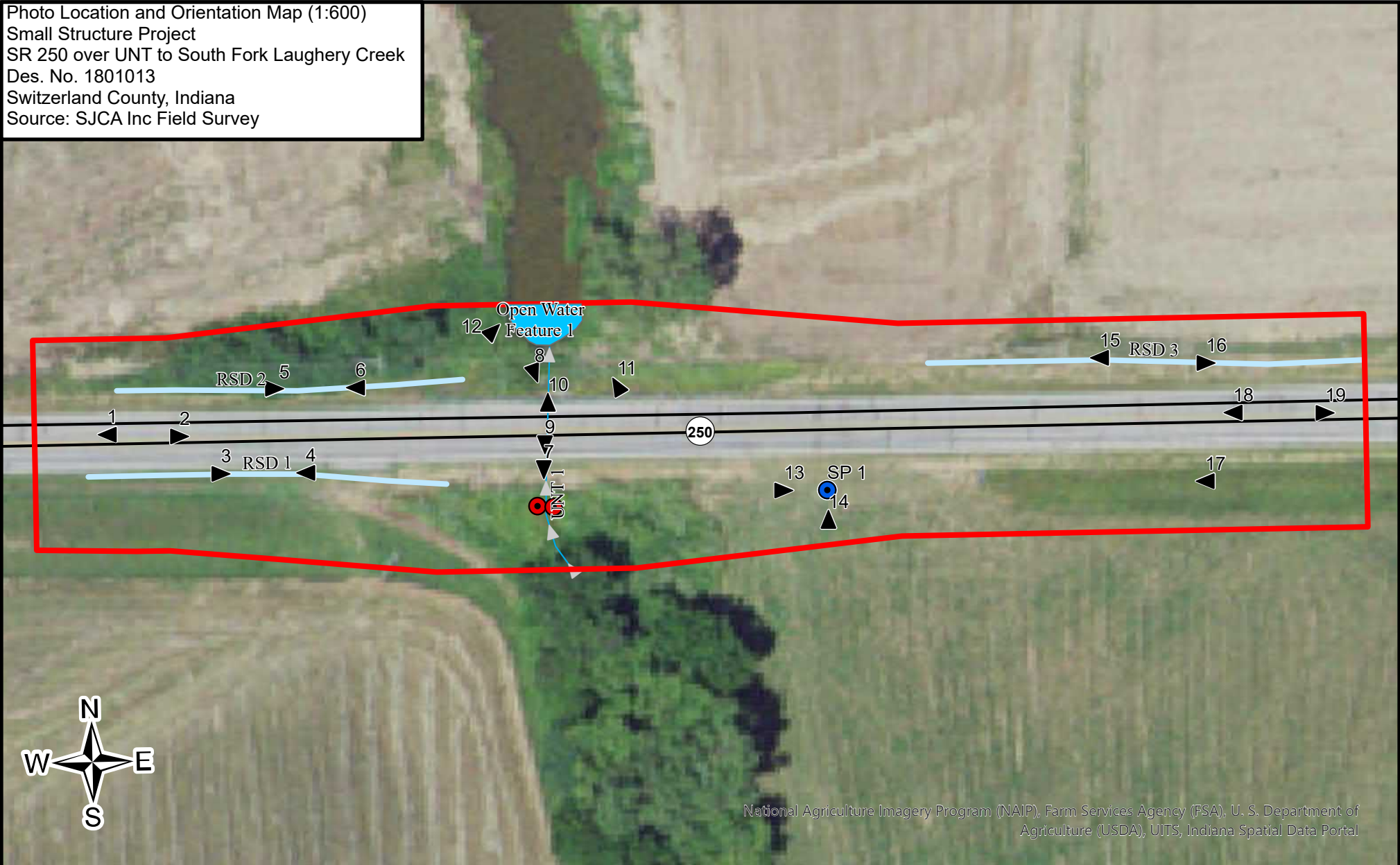


- Investigated Area
- Open Water
- Stream
- RSD

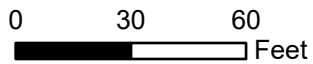


2/5/2021

Photo Location and Orientation Map (1:600)  
 Small Structure Project  
 SR 250 over UNT to South Fork Laughery Creek  
 Des. No. 1801013  
 Switzerland County, Indiana  
 Source: SJCA Inc Field Survey



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal



- Investigated Area
- Open Water
- ▶ Stream
- RSD
- Sample Point
- OHWM
- ▲ Photo Location

2/5/2021



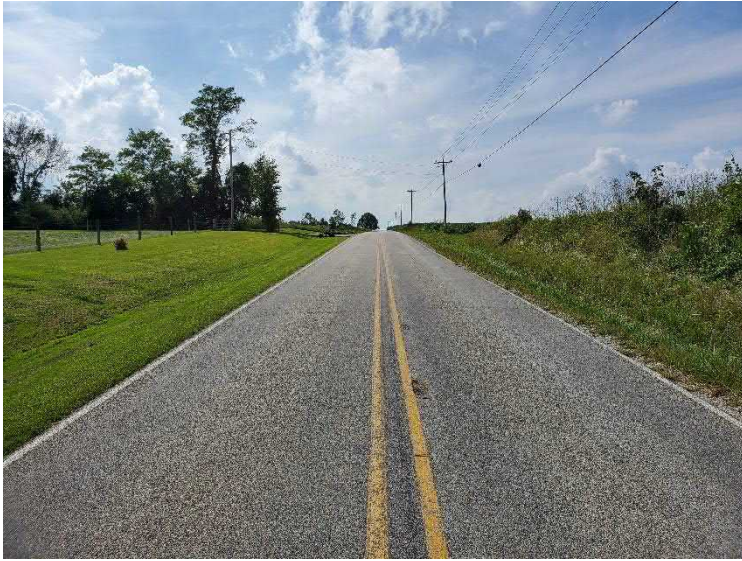


Photo 1: West project terminus facing west

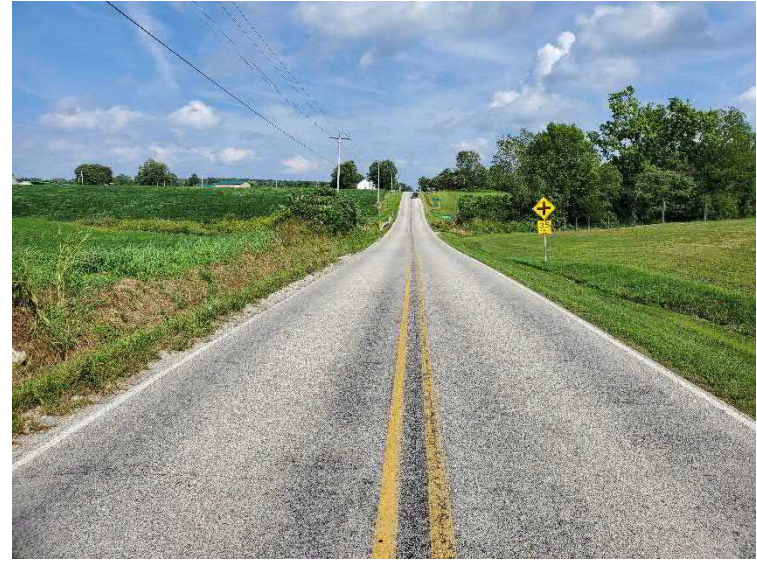


Photo 2: West project terminus facing east



Photo 3: RSD 1 facing east



Photo 4: RSD 1 facing west



Photo 5: RSD 2 facing east



Photo 6: RSD 2 facing west

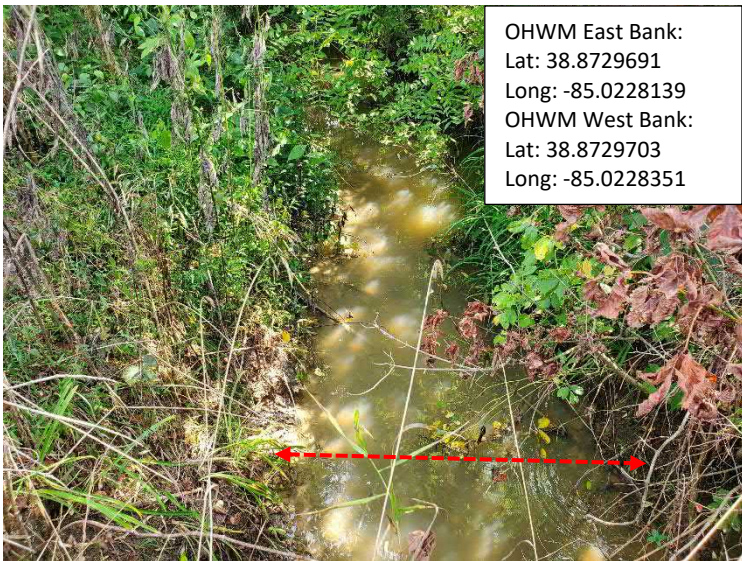


Photo 7: UNT 1 south of SR 250 facing south



Photo 8: Culvert carrying UNT 1 north of SR 250 facing southeast



Photo 9: UNT 1 from roadway facing south (OHWM is under brush)



Photo 10: Open Water Feature 1 from SR 250 facing north



Photo 11: Open water feature from northeast quadrant facing northwest



Photo 12: Confluence of UNT 1 and Open Water Feature 1 facing northeast



Photo 13: Sample Point 1 facing east



Photo 14: Sample Point 1 soil



Photo 15: RSD 3 facing west



Photo 16: RSD 3 facing east



Photo 17: Southeast quadrant right of way facing west



Photo 18: East project terminus facing west

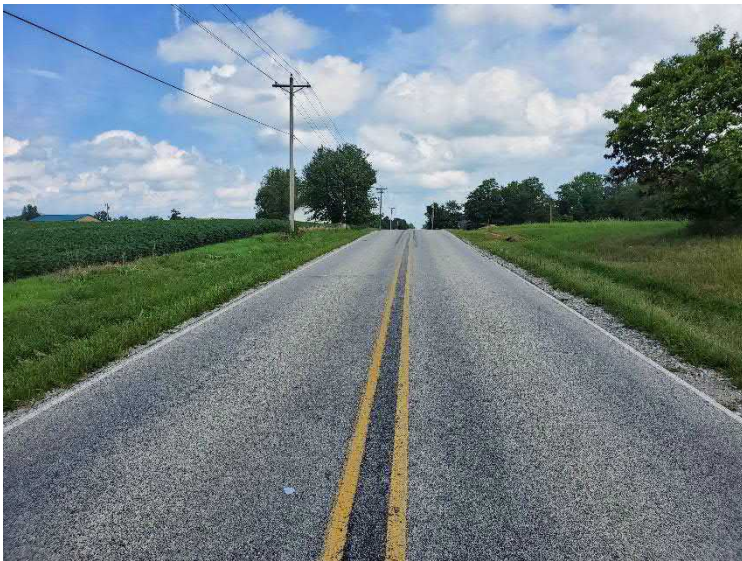


Photo 19: East project terminus facing east

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Des 1801013 SR 250 Small Structure Project City/County: Switzerland County Sampling Date: 9/3/2020  
 Applicant/Owner: INDOT State: IN Sampling Point: 1  
 Investigator(s): Christian Radcliff, Victoria Veach Section, Township, Range: S 32, T 3 N, R 2 W  
 Landform (hillslope, terrace, etc.): Roadside Local relief (concave, convex, none): Convex  
 Slope (%): 2-5% Lat: 38.872981 Long: -85.022452 Datum: WGS 84  
 Soil Map Unit Name: Cincinnati silt loam, 6 to 12 percent slopes, eroded NWI classification: N/A

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

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

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

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

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: <u>5 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Schedonorus arundinaceus</u>	<u>60</u>	<u>X</u>	<u>FACU</u>	
2. <u>Setaria pumila</u>	<u>15</u>		<u>FAC</u>	
3. <u>Rumex crispus</u>	<u>10</u>		<u>FAC</u>	
4. <u>Sorghum halepense</u>	<u>5</u>		<u>FACU</u>	
5. <u>Brassica nigra</u>	<u>5</u>		<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>95</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of:                      Multiply by:  
 OBL species 0 x 1 = 0  
 FACW species 0 x 2 = 0  
 FAC species 25 x 3 = 75  
 FACU species 65 x 4 = 260  
 UPL species 5 x 5 = 25  
 Column Totals: 95 (A)      360 (B)  
 Prevalence Index = B/A = 3.79

**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

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



**SOIL**

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10 YR 4/3	100					SiL	
3-16	10 YR 5/6	100					SiCL	

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 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:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PJD:** 2/08/2021

**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Christian Radcliff, 1104 Prospect Street, Indianapolis, Indiana 46203

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

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

Des 1801013 involves the replacement of the culvert carrying a UNT to South Fork Laughery Creek under SR 250 in Switzerland County. The proposed scope of work involves improving the structural and hydraulic standards of the existing structure by replacing the existing structure with a 6-foot by 5-foot reinforced concrete box culvert that will be 56 feet in length. Approaches east and west of the existing culvert guardrails will be milled and overlaid, the roadway between the existing guardrails. Riprap will be placed within the UNT to South Fork Laughery Creek on the north side for erosion control.

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

State: Indiana      County/parish/borough: Switzerland      City: Allensville

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

Lat.: 38.873045      Long.: -85.022813

Universal Transverse Mercator: 16T

Name of nearest waterbody: South Fork Laughery 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 1	38.873045	-85.022813	85 lft/0.007 ac	Non-wetland waters	Section 404
OWF 1	38.873305	-85.022805	0.007 ac	Wetland	Section 404

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

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

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

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:  
Map: Project location map
- 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: NHD map and HUC 12 watershed map.
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 - North Vevay Quadrangle.
- Natural Resources Conservation Service Soil Survey. Citation: 2021 Web Soil Survey data
- National wetlands inventory map(s). Cite name: 2020 NWI Data
- State/local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: 2019 Floodplain Data
- 100-year Floodplain Elevation is: \_\_\_\_\_.(National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): 2016 NAIP Aerial Imagery  
or  Other (Name & Date): Site photos: September 3, 2020
- 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

*Christian Rodcliff*  
\_\_\_\_\_  
Signature and date of  
person requesting PJD  
(REQUIRED, unless obtaining  
the signature is impracticable)<sup>1</sup> 2/08/2021

<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.



# Indiana Floodplain Information Portal Report

## Point of Interest

### Approximate Address:

9882 State Rd 250  
VEVAY, IN 47043

### Effective Flood Zone:

X

### Preliminary Flood Zone:

N/A

### Best Available Flood Zone:

X

### Approximate Flood Elevation:

836.7ft NAVD88



### Source:

Zone A Model Delineation













### Nearest Stream:

SOUTH FORK LAUGHERY CREEK

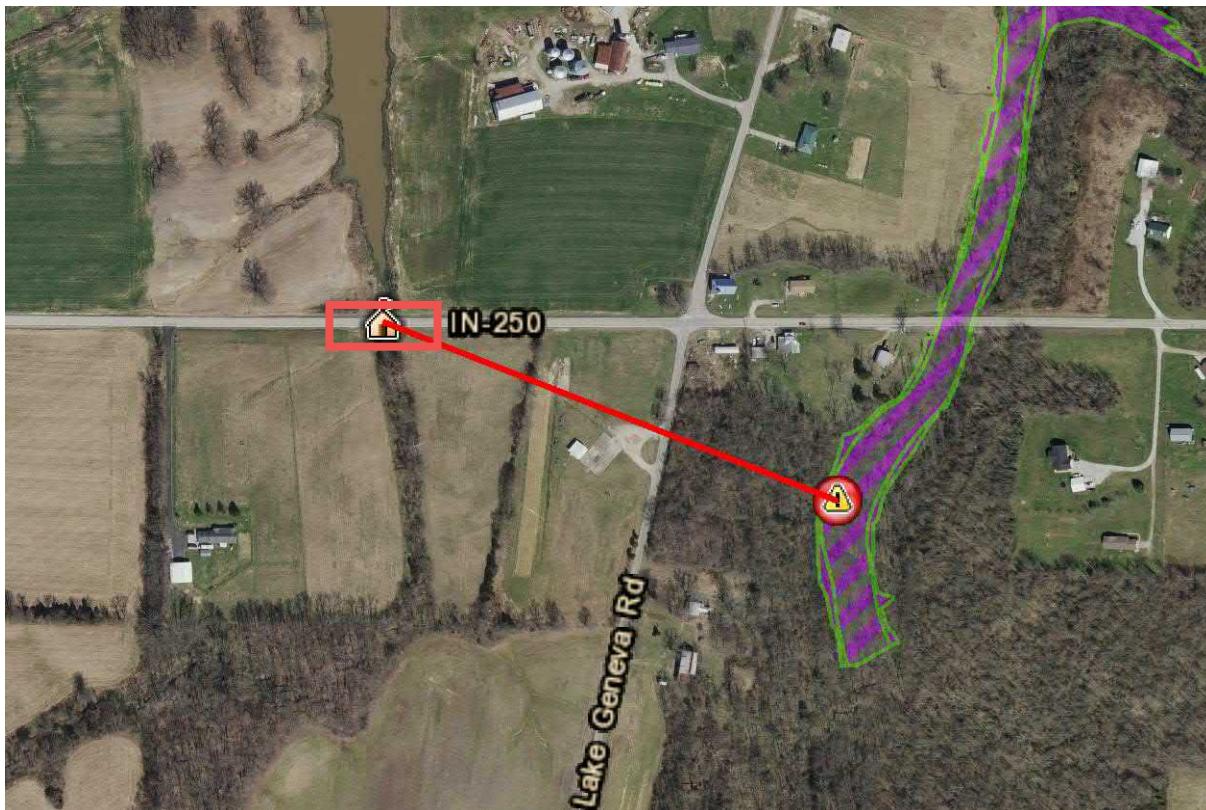
## Map Legend

-  Point of Interest
-  Nearest Point on Stream

## Best Available Flood Zone

-  FEMA Zone AE Floodway
-  DNR Detailed Floodway
-  DNR Approximate Floodway
-  FEMA Zone A
-  FEMA Zone AE
-  DNR Detailed Fringe
-  DNR Approximate Fringe
-  Additional Floodplain Area
-  FEMA Protected by Levee
-  FEMA Floodplain - Ponding (Depth)
-  FEMA Floodplain - Sheet Flow (Depth)
-  Project Location

## Site Map with Best Available Flood Zone



Approximate scale 1:7,200

## Disclaimer

Generated on Wednesday February 10th 2021 at 03:28:52pm

The data shown on this map represents FEMA floodplain data enhanced with additional studies that have been reviewed and approved by the Division of Water. While this data has not yet been submitted to FEMA for inclusion in the Flood Insurance Rate

**Des 1801013**

**Appendix G**

**Public Involvement**

(Note: this appendix will be updated upon completion of the public involvement process)



Strand Associates, Inc.<sup>®</sup>  
629 Washington Street  
Columbus, IN 47201  
(P) 812-372-9911

**NOTICE OF SURVEY**

October 25, 2019

[REDACTED]  
[REDACTED]  
[REDACTED]

Re: Location Control Route Survey for the Indiana Department of Transportation  
S.R. 250 over UNT South Fork Creek Small Structure Replacement  
Switzerland County, Indiana  
Des. No. 1801013

Dear Property Owner:

Strand Associates, Inc.<sup>®</sup> (Strand) information indicates that property is occupied or owned by you near this proposed small structure replacement project. Strand employees will conduct a survey of the project area in the near future. It may be necessary for Strand to come onto your property to complete this work. This is allowed by law as stated in Indiana Code IC 8-23-7-26. They will show you their identification, if you are available, before coming onto your property. If you have sold this property, or it is occupied by someone else, please provide any known name and address changes of the new owner or current occupant so that Strand may contact them about the survey.

The survey work will include mapping the location of features such as trees, buildings, fences, driveways, sidewalks, and utilities within Strand's project limits. The survey is needed for proper planning and design of this small structure replacement project. Please be assured of Strand's sincere desire to cause you as little inconvenience as possible during this survey.

At this stage, Strand generally does not know what affect, if any, this project may eventually have on your property. If it is determined at a later time that your property will be affected, you will be contacted with additional information. If any problems occur, please contact Strand's field crew or me at (812) 372-9911 or write to the address provided above. Thank you for your cooperation.

Sincerely,

STRAND ASSOCIATES, INC.<sup>®</sup>

  
Jacob E. Fitzsimmons, P.L.S.



**Des 1801013**

**Appendix H**

**Air Quality**

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	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024	
Indiana Department of Transportation	41448 / 1800289	Init.	SR 250	Replace Superstructure	2.94 mi E of SR 129, at Indian Creek	Seymour	0	STBG		Bridge Construction	CN	\$1,180,069.60	\$295,017.40				\$1,475,087.00		
										Bridge Consulting	PE	\$441,920.00	\$110,480.00	\$548,000.00		\$4,400.00			
										Bridge ROW	RW	\$44,000.00	\$11,000.00		\$55,000.00				
Performance Measure Impacted: Bridge Condition																			
Indiana Department of Transportation	42228 / 1900334	A 04	SR 56	Pavement Replacement	0.19 miles W of W Jct of SR 129 to 0.38 miles E of W Jct of SR 156 (Walnut St)	Seymour	2.04	STBG	\$9,008,645.00	Bridge Construction	CN	\$52,000.00	\$13,000.00						\$65,000.00
										Road Construction	CN	\$5,596,036.00	\$1,399,009.00				\$6,995,045.00		
										Road Consulting	PE	\$628,000.00	\$157,000.00	\$750,000.00			\$35,000.00		
										Road ROW	RW	\$930,880.00	\$232,720.00		\$1,163,600.00				
Performance Measure Impacted: Pavement Condition																			
Comments:Amend PE in FY 2020, RW in 2022 and CN in FY 2024. No MPO																			
Indiana Department of Transportation	42288 / 1900351	A 01	SR 156	Slide Correction	4.7 miles west of the junction with SR 56	Seymour	.05	STBG	\$3,954,281.00	Road Consulting	PE	\$160,000.00	\$40,000.00	\$200,000.00					
										Performance Measure Impacted: Safety									
Comments:Amend PE to current STIP. No MPO.																			
Indiana Department of Transportation	42288 / 1900351	A 04	SR 156	Slide Correction	4.7 miles west of the junction with SR 56	Seymour	.05	STBG	\$3,664,281.00	Road Construction	CN	\$2,923,424.80	\$730,856.20					\$3,654,281.00	
										Road ROW	RW	\$80,000.00	\$20,000.00		\$100,000.00				
Performance Measure Impacted: Safety																			
Comments:Amend RW in FY 2022 and CN in FY 2024 current STIP. No MPO.																			
Indiana Department of Transportation	42290 / 1900349	A 01	SR 156	Slide Correction	2.0 miles west of the junction with SR 101	Seymour	.14	STBG	\$8,543,535.00	Road Consulting	PE	\$400,000.00	\$100,000.00	\$500,000.00					
										Performance Measure Impacted: Safety									
Comments:Amend PE phase to current STIP. NO MPO.																			
Indiana Department of Transportation	42290 / 1900349	A 04	SR 156	Slide Correction	2.0 miles west of the junction with SR 101	Seymour	.14	STBG	\$8,543,535.00	Road Construction	CN	\$6,354,828.00	\$1,588,707.00					\$7,943,535.00	
										Road ROW	RW	\$80,000.00	\$20,000.00		\$100,000.00				
Performance Measure Impacted: Safety																			
Comments:Amend RW phase in FY 2022 and CN phase in FY 2024 to current STIP. No MPO.																			
Indiana Department of Transportation	42888 / 2000367	A 19	SR 156	Bridge Deck Overlay	bridge over Bryant Creek, 0.51 mile E SR 101	Seymour	0	STBG	\$802,652.00	Bridge Construction	CN	\$546,121.60	\$136,530.40					\$682,652.00	

\*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.

**Des 1801013**

**Appendix I**

**Additional Studies and Information**

**Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated July 2020)**

ProjectNumber	SubProjectCode	County	Property
1800451	1800451	Switzerland	Markland Dam Park
1800479	1800479	Switzerland	Paul Ogle Riverfront Park & Vevay Public Access Site

\*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.

Des. 1801013

SR 250 over UNT to South Fork Laughery Creek Small Structure Replacement  
Switzerland County

### Project Description

The proposed project includes a culvert on SR 250 over Unnamed Tributary (UNT) to South Fork Laughery Creek in Switzerland County, Indiana. It is within Cotton Township, Vevay North USGS Topographic Quadrangle, in Section 32, Township 3 N, Range 2 W, and Section 5, Township 2 N, Range 2 W. The existing structure (CV 250-078-55.80), a 47-foot-long corrugated metal pipe, shows signs of deterioration and structural deficiencies. The proposed scope of work for Des. 1801013 includes removing and replacing the existing structure with a 6-foot by 5-foot reinforced concrete box culvert or arch culvert. This replacement will improve the existing deficiencies, will lower predicted future maintenance, and provide adequate flow requirements. Full road closure of this section of SR 250 will be required during construction, with traffic anticipated to be maintained by a detour utilizing SR 129 and SR 56.

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 Exclusions 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 approximately 1.0 acre of permanent right-of-way. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city, or town and is called the community of comparison (COC). In this project, the COC is Switzerland County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 9657 in Switzerland County. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2017 ACS 5-Year Estimates was obtained from the US Census Bureau Website (<https://data.census.gov/>) on February 11, 2021 by SJCA Inc. The data collected for minority and low-income populations within the AC are summarized in the table below.

	COC – Switzerland County	AC – Census Tract 9657, Switzerland County
Percent Minority	4.3%	5.8%
125% of COC	5.4%	AC > 125% of COC
EJ Population of Concern	--	Yes
Percent Low-Income	19.7%	25.1%
125% of COC	24.6%	AC > 125% of COC
EJ Population of Concern	--	Yes

AC Census Tract 9657 has a percent minority of 5.8%, which is below 50% but is above the 125% COC threshold. Therefore, the AC has a minority population of EJ concern.

AC Census Tract 9657 has a low-income of 25.1%, which is below 50% but is above the 125% COC threshold. Therefore, the AC has a low-income population of EJ concern.

The project will provide community-wide positive impacts in the form of extending the service life of the roadway and culvert, maintaining roadway safety, and improving hydraulic standards. Right-of-way acquisition will occur in the areas immediately surrounding all sides of the project area on SR 250, with no relocation of residences or businesses. Current estimates include 1.0 acre of permanent right-of-way, with all acquisition coming from privately-owned parcels adjacent to the project area. No temporary right-of-way will be required. No tree clearing will occur as a result of this project. Vegetation will be replaced in accordance with IDNR recommendations and mitigation requirements as applicable, therefore minimizing impacts to the area. In addition, the detour route will impact all travelers regardless of income or ethnicity and will not impact EJ populations more than any other population. The EJ analysis conducted for this project was forwarded to INDOT ESD on March 9, 2021, and was resubmitted after minor revisions on April 2, 2021.

**Figure 1: Analysis of Census Tract in Switzerland County, Indiana**

	<b>COC</b>	<b>AC</b>
	<b>Switzerland County, Indiana</b>	<b>Census Tract 9657, Switzerland County, Indiana</b>

**LOW-INCOME**

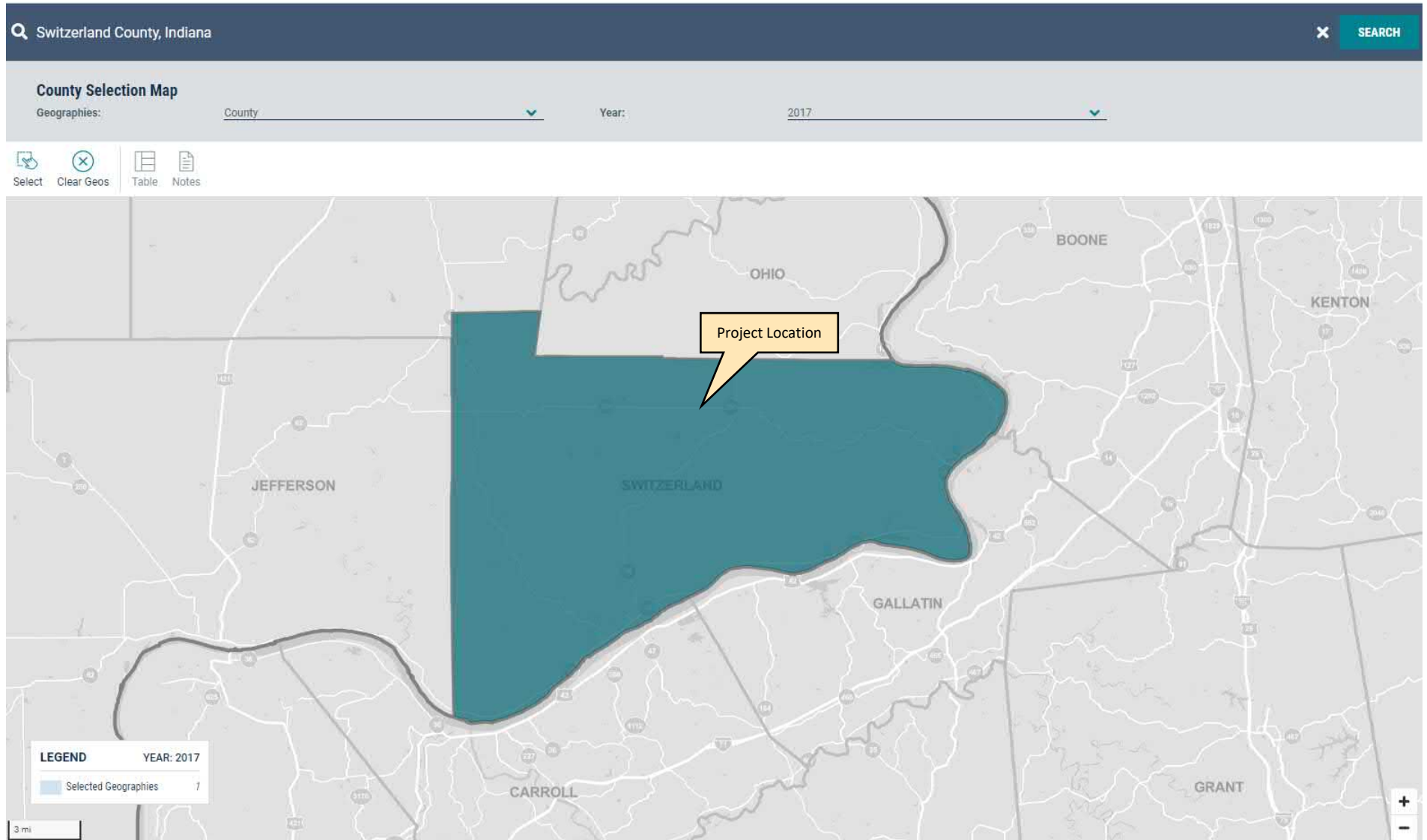
B17001001	Population for whom poverty status is determined: Total	10,470	4,534
B17001002	Population for whom poverty status is determined: Income in past 12 months below poverty level	2,065	1,138
<b>Percent Low-Income</b>		<b>19.7%</b>	<b>25.1%</b>
<b>125 Percent of COC</b>		<b>24.6%</b>	<b>AC &gt; 125% COC</b>
<b>Potential Low-Income EJ Impact?</b>			<b>Yes</b>

**MINORITY**

B03002001	Total population: Total	10,617	4,545
B03002002	Total population: Not Hispanic or Latino	10,469	4,458
B03002003	Total population: Not Hispanic or Latino; White alone	10,157	4,280
B03002004	Total population: Not Hispanic or Latino; Black or African American alone	87	67
B03002005	Total population: Not Hispanic or Latino; American Indian and Alaska Native alone	0	0
B03002006	Total population: Not Hispanic or Latino; Asian alone	50	0
B03002007	Total population: Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
B03002008	Total population: Not Hispanic or Latino; Some other race alone	0	0
B03002009	Total population: Not Hispanic or Latino; Two or more races	175	111
B03002010	Total population: Hispanic or Latino	148	87
B03002011	Total population: Hispanic or Latino; White alone	100	54
B03002012	Total population: Hispanic or Latino; Black or African American alone	0	0
B03002013	Total population: Hispanic or Latino; American Indian and Alaska Native alone	0	0
B03002014	Total population: Hispanic or Latino; Asian alone	0	0
B03002015	Total population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
B03002016	Total population: Hispanic or Latino; Some other race alone	48	33
B03002017	Total population: Hispanic or Latino; Two or more races	0	0

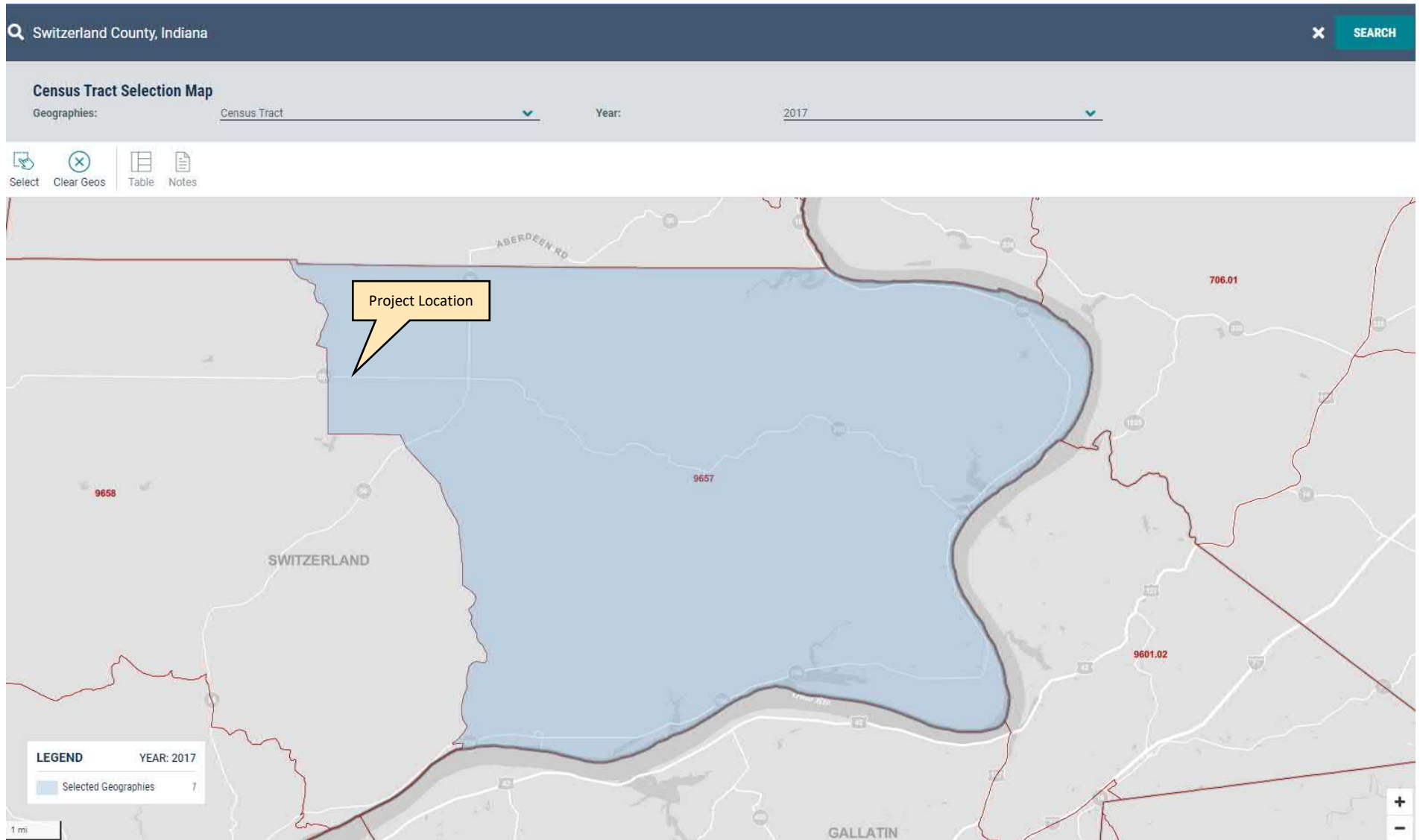
<b>Number Non-white/minority</b>		<b>460</b>	<b>265</b>
<b>Percent Non-white/minority</b>		<b>4.3%</b>	<b>5.8%</b>
<b>125 Percent of COC</b>		<b>5.4%</b>	<b>AC &gt; 125% COC</b>
<b>Potential Minority EJ Impact?</b>			<b>Yes</b>

SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Community of Comparison (COC): Switzerland County





SR 250 over UNT to South Fork Laughery Creek  
Des. No. 1801013  
Affected Community (AC): Census Tract 9657



**HISPANIC OR LATINO ORIGIN BY RACE**

Survey/Program: American Community Survey  
TableID: B03002

Product: 2017: ACS 5-Year Estimates Detailed Tables  
Universe: Total population

CUSTOMIZE TABLE

1 Results **CLOSE DOWNLOAD**

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**HISPANIC OR LATINO ORIGIN BY RACE**  
Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B03002

Label	Switzerland County, Indiana		Census Tract 9657, Switzerland County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	10,617	*****	4,545	±375
▼ Not Hispanic or Latino:	10,469	±83	4,458	±386
White alone	10,157	±18	4,280	±374
Black or African American alone	87	±70	67	±66
American Indian and Alaska Native alone	0	±18	0	±11
Asian alone	50	±46	0	±11
Native Hawaiian and Other Pacific Islander alone	0	±18	0	±11
Some other race alone	0	±18	0	±11
▼ Two or more races:	175	±78	111	±59
Two races including Some other race	0	±18	0	±11
Two races excluding Some other race, and three or more races	175	±78	111	±59
▼ Hispanic or Latino:	148	±83	87	±75
White alone	100	±79	54	±61
Black or African American alone	0	±18	0	±11
American Indian and Alaska Native alone	0	±18	0	±11
Asian alone	0	±18	0	±11
Native Hawaiian and Other Pacific Islander alone	0	±18	0	±11
Some other race alone	48	±58	33	±51
▼ Two or more races:	0	±18	0	±11
Two races including Some other race	0	±18	0	±11
Two races excluding Some other race, and three or more races	0	±18	0	±11

Accessibility

Information Quality

FOIA

Data Protection and Privacy Policy

U.S. Department of Commerce

Release Notes

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People, Places and Economy

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

Survey/Program: American Community Survey  
TableID: B17001

Product: 2017: ACS 5-Year Estimates Detailed Tables  
Universe: Population for whom poverty status is determined

CUSTOMIZE TABLE

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

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (WHITE ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001A

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001B

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001C

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (ASIAN ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001D

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (NATIVE HAWAIIAN AND OTHER ALONE)**

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Label	Switzerland County, Indiana		Census Tract 9657, Switzerland County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	10,470	±59	4,534	±375
▼ Income in the past 12 months below poverty level:	2,065	±461	1,138	±417
▼ Male:	1,012	±273	573	±268
Under 5 years	141	±88	95	±85
5 years	31	±34	31	±34
6 to 11 years	140	±88	69	±83
12 to 14 years	33	±42	31	±42
15 years	13	±14	0	±11
16 and 17 years	46	±45	33	±45
18 to 24 years	114	±70	61	±65
25 to 34 years	44	±32	30	±30
35 to 44 years	114	±71	75	±66
45 to 54 years	110	±71	74	±64
55 to 64 years	87	±52	44	±45
65 to 74 years	94	±51	21	±24
75 years and over	45	±36	9	±14
▼ Female:	1,053	±234	565	±194
Under 5 years	50	±38	18	±24
5 years	6	±8	0	±11
6 to 11 years	139	±78	83	±61
12 to 14 years	60	±44	50	±40
15 years	39	±36	24	±32
16 and 17 years	12	±20	12	±20
18 to 24 years	117	±63	62	±61
25 to 34 years	169	±67	105	±52
35 to 44 years	64	±40	8	±11

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

Survey/Program: American Community Survey  
TableID: B17001

Product: 2017: ACS 5-Year Estimates Detailed Tables  
Universe: Population for whom poverty status is determined

CUSTOMIZE TABLE

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

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (WHITE ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001A

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001B

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001C

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (ASIAN ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001D

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (NATIVE HAWAIIAN AND OTHER ALONE)**

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	Switzerland County, Indiana		Census Tract 9657, Switzerland County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
18 to 24 years	117	±63	62	±61
25 to 34 years	169	±67	105	±52
35 to 44 years	64	±40	8	±11
45 to 54 years	167	±81	127	±77
55 to 64 years	66	±38	19	±21
65 to 74 years	69	±37	46	±36
75 years and over	95	±41	11	±17
Income in the past 12 months at or above poverty level:	8,405	±474	3,396	±449
Male:	4,426	±297	1,923	±287
Under 5 years	268	±66	143	±67
5 years	61	±47	14	±14
6 to 11 years	328	±94	150	±74
12 to 14 years	193	±67	69	±37
15 years	82	±46	51	±41
16 and 17 years	118	±53	63	±49
18 to 24 years	285	±70	77	±52
25 to 34 years	502	±35	217	±52
35 to 44 years	546	±94	213	±84
45 to 54 years	669	±79	336	±93
55 to 64 years	623	±51	314	±85
65 to 74 years	447	±70	183	±60
75 years and over	304	±73	93	±35
Female:	3,979	±235	1,473	±212
Under 5 years	247	±43	64	±56
5 years	69	±53	21	±24
6 to 11 years	322	±86	97	±48

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

Survey/Program: American Community Survey  
TableID: B17001

Product: 2017: ACS 5-Year Estimates Detailed Tables  
Universe: Population for whom poverty status is determined

CUSTOMIZE TABLE

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

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (WHITE ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001A

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001B

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001C

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (ASIAN ALONE)**

Survey/Program: American Community Survey  
Years: 2019,2018,2017,2016,2015,2014,2013,2012,2011,2010  
Table: B17001D

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (NATIVE HAWAIIAN AND OTHER ALONE)**

Send Feedback  
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Label	Switzerland County, Indiana		Census Tract 9657, Switzerland County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
5 years	61	±47	14	±14
6 to 11 years	328	±94	150	±74
12 to 14 years	193	±67	69	±37
15 years	82	±46	51	±41
16 and 17 years	118	±53	63	±49
18 to 24 years	285	±70	77	±52
25 to 34 years	502	±35	217	±52
35 to 44 years	546	±94	213	±84
45 to 54 years	669	±79	336	±93
55 to 64 years	623	±51	314	±85
65 to 74 years	447	±70	183	±60
75 years and over	304	±73	93	±35
Female:	3,979	±235	1,473	±212
Under 5 years	247	±43	64	±56
5 years	69	±53	21	±24
6 to 11 years	322	±86	97	±48
12 to 14 years	77	±45	39	±32
15 years	33	±31	22	±28
16 and 17 years	127	±38	63	±44
18 to 24 years	259	±74	116	±54
25 to 34 years	400	±67	156	±54
35 to 44 years	548	±55	210	±74
45 to 54 years	588	±77	260	±80
55 to 64 years	594	±38	222	±59
65 to 74 years	460	±45	128	±53
75 years and over	255	±60	75	±41

## Shelby Lutz

---

**From:** Fair, Terri <TFair@indot.IN.gov>  
**Sent:** Monday, April 5, 2021 1:54 PM  
**To:** Shelby Lutz  
**Cc:** Miller, Brandon; Bales, Ronald  
**Subject:** RE: Des 1801013 SR 250 Small Structure Project EJ Analysis

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

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.

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**From:** Shelby Lutz <[Shelby@sjcainc.com](mailto:Shelby@sjcainc.com)>  
**Sent:** Tuesday, March 09, 2021 12:42 PM  
**To:** Bales, Ronald <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Cc:** Christian Radcliff <[cradcliff@sjcainc.com](mailto:cradcliff@sjcainc.com)>  
**Subject:** Des 1801013 SR 250 Small Structure Project EJ Analysis

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

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Good afternoon,

I am helping with a small structure project on SR 250 over an UNT to South Fork Laughery Creek (Des. No. 1801013) in Switzerland County, IN. The project requires a CE-2, and 1.0 acre of permanent right-of-way is anticipated. Therefore, an Environmental Justice Analysis has been completed.

Please find the EJ analysis for the abovementioned project attached for review. I have also attached an aerial map of the project area for reference. Both AC populations show potential EJ populations of concern, as the AC values are greater than 125% of the COC.

Let me know if you have any questions or need additional information.

Thank you,

Shelby Lutz  
Ecologist

SJCA Inc.  
1104 Prospect Street  
Indianapolis, Indiana 46203

Note: Appendices to this report have been removed. The full report can be made available upon request.

## **ABBREVIATED ENGINEER'S REPORT**

Structure No. CV 250-078-55.80  
SR 250 Small Structure Replacement over UNT South Fork Laughery Creek  
Switzerland County, Indiana  
Contract B-41448, Des. No. 1801013

### **I. PURPOSE OF REPORT**

The purpose of this Engineer's Report is to provide recommendations for the Small Structure Replacement project on State Road (SR) 250 over Unnamed Tributary (UNT) South Fork Laughery Creek in Switzerland County, Indiana. This Engineer's Report outlines the proposal and is intended to serve as a guide for subsequent survey, design, environmental, right-of-way (R/W), and other project activities leading to construction.

### **II. PROJECT LOCATION**

The project is located on SR 250 over UNT South Fork Laughery Creek, 9.11 miles east of SR 129 (0.14 miles west of Allensville Road and Lake Geneva Road) at Reference Post (RP) 55+80 in Switzerland County. The project area is in Section 5, Range 2 West, Township 2 North; and Section 32, Township 2 North, Range 3 West, all in Cotton Township. Project location maps are provided in Appendices A-1 and A-2.

### **III. PROJECT PURPOSE AND NEED**

The need for this project is because of the structural deficiencies of the existing structure, as its most recent inspection gave the culvert a rating of 4 (poor condition). The corrugated metal pipe had perforations throughout the length of the pipe. The Culvert Mini Scope indicated that if no action was taken, the structure would deteriorate and will require increasingly greater maintenance effort to keep in service. The purpose of the project is to address the deficiencies of the existing corrugated metal pipe (CMP) by improving the culvert rating and therefore improving the structural and hydraulic standards to extend the life of the roadway.

### **IV. EXISTING FACILITY**

#### **A. ROADWAY HISTORY AND CONDITION**

This rural section of SR 250 has a functional classification of Major Collector with a 55-miles per hour (mph) posted speed limit. The typical cross section of the roadway includes one lane in each direction, approximately 9.5 feet in width with minimal shoulders. Guardrail is located along the north side of the roadway. Proposed conditions are discussed in Section VIII.

The adjacent land use is primarily agricultural.

#### **B. STRUCTURE HISTORY**

The existing structure is a 51-inch CMP approximately 45 feet in length. The original construction year is unknown. The structure has not been repaired since installation. The structure is a legal drain and flows through the open fields to the south to a pond to the north.

**V. FIELD INVESTIGATION**

An initial site visit meeting was held on-site on October 21, 2019, to review the project scope and discuss the various alternatives to be analyzed in this report. The meeting minutes are included in Appendix B, and site photos can be found in Appendix C.

**VI. TRAFFIC DATA AND ANALYSIS**

The Indiana Department of Transportation (INDOT) Traffic Statistics Unit provided the following current and projected traffic for SR 250 (as shown in Table VI).

	<b>SR 250</b>
Annual Average Daily Traffic (AADT) (2023)	1,036 vehicles per day (VPD).
AADT (2043)	1,108 VPD.
DHV (2043)	10.84 percent
Directional Distribution	49.75 percent
Trucks	7.88 percent AADT
	10.91 DHV.

**Table VI Traffic Data for SR 250**

The annual growth rate used for SR 252 was 0.35 percent. The Project Traffic Forecast Report is included in Appendix D.

**VII. CRASH DATA AND ANALYSIS**

The INDOT Crash Location Report shows that, from August 2015 through July 2018, three crashes occurred on this section of SR 250. One crash was attributed to failure to yield right-of-way and two crashes were attributed to an animal or object in the road. These crashes for the 3-year time period analyzed for SR 250 are summarized in Table VII.

Year	Total	Type				Severity		
		Right Angle	Rear End	Ran off Road	Animal/Object	Fatal/Incap.	Non-Incap.	PDO
August 2015 to July 2016	1	0	0	0	1	0	0	1
August 2016 to July 2017	2	1	0	0	1	0	0	2
August 2017 to July 2018	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3</b>

Property Damage Only=PDO

**Table VII SR 250 Crash Data**



The roadway in the vicinity of the culvert was analyzed using RoadHAT 3.0. The analysis indicates an Index of Crash Frequency of 1.08 and an Index of Crash Cost of -0.08. These crash types are not attributable to issues with the structure. However, both the animal and object in roadway crashes occurred at night, so the substandard sag curve could be a contributing factor. Sight distance at this vertical curve will be improved from the existing condition.

Crash data is included in Appendix E.

## **VIII. DISCUSSION OF ALTERNATIVES AND IDENTIFICATION OF PROPOSAL**

Multiple alternatives were evaluated as part of this report and include a No-Build alternative and three Replacement Build alternatives consisting of various pipe alternatives, pipe arches, and a single-span precast concrete structure. An opinion of probable cost was developed for each alternative and are summarized in Table VIII. Estimates for each alternative are included in Appendix F.

### **A. ALTERNATIVE 1: NO BUILD ALTERNATIVE**

As this does nothing to address the structural conditions, this alternative was discarded for not meeting the stated purpose and need.

### **B. ALTERNATIVE 2: 72-INCH CIRCULAR CULVERT**

This alternative consists of replacing the existing structure as well as full-depth hot mix asphalt (HMA) pavement with transition milling and overlay on either side of the structure. According to the hydraulic memo, the smooth and semi-smooth alternatives require Class 2 Riprap for the increased flow velocity through the structure, while the corrugated alternative would require Class 1 Riprap. The opinion of probable cost is provided in Appendix F-1. This alternative was not the preference of the District because of higher future maintenance costs.

### **C. ALTERNATIVE 3: 95- x 67-INCH PIPE ARCH OR 83- x 53-INCH ELLIPSE ARCH**

Two arch alternatives were also analyzed in the hydraulic memorandum. These alternatives involve the improvements described in Alternative 2. The opinion of probable cost is provided in Appendix F-2. Similar to Alternative 2, this alternative was also not the preference of the District because of higher future maintenance costs.

### **D. ALTERNATIVE 4: 72- x 60-INCH REINFORCED CONCRETE BOX (RECOMMENDED)**

The recommended alternative is Alternative 4, 6-foot by 5-foot reinforced concrete box. Though it is the most expensive alternative, the structure will provide the adequate flow requirements while requiring less predicted future maintenance and improved ease of construction. This alternative is preferred by the District. A comparison of costs associated with each alternative is shown in Table VIII-1. A full opinion of probable cost is provided in Appendix F-3.

<b>Comparison of Alternatives' Costs</b>			
	<b>Structure Costs</b>	<b>Additional Costs</b>	<b>Total Cost</b>
<b>Alternative 2</b> (Circular Culvert)	\$ 17,200	\$ 404,700	\$ 421,900.00
<b>Alternative 3</b> (Pipe or Ellipse Arch)	\$ 11,500	\$ 409,500	\$ 421,000.00
<b>Alternative 4</b> (72- x 60-inch Reinforce Concrete Box)	\$ 58,500	\$ 457,600	\$ 516,100.00

**Table VIII-I Alternative Costs**

The proposed typical section will be 30 feet in width to accommodate 11-foot lanes and 4-foot paved shoulders (minimum 3 feet usable and 1-foot guardrail offset). Because the existing lanes are approximately 9.5 feet in width, any widening would result in a pavement joint very close to the wheel path. For this reason, it is recommended to fully reconstruct pavement within the guardrail limits to improve the longevity of the pavement. Approximately 100 feet of incidental construction is also assumed past the guardrail limits, which includes approximately 85 feet of reconstruction for the lane taper according to IDM Fig. 46-4M and 15 feet of resurfacing.

Preliminary guardrail calculations show an estimated 237.5 feet of guardrail, which means that the existing guardrail on the north side of the road does not have sufficient length. Guardrail will be evaluated during project development on the south side of the road and weighed against the environmental impacts that would be required by regrading the side slopes, such as relocating ditch lines and wetland impacts.

There is a Class V Drive field entrance located approximately 75 feet west of the structure that should be replaced. If the District wishes to construct narrower lanes or shoulders, a Level 1 Design Exception will be required. Regrading of side ditches will also be required. Additionally, according to discussion at the kickoff meeting and Indiana Design Manual (IDM) 17-4.11, centerline markings should be extended to the end of a no-passing zone.

The drainage area for the site is 0.17 square miles and has a Q100 discharge of 128.7 cfs and Q100 depth of 3.38 feet. The recommended alternative lowers the headwater approximately 2 foot 6 inches from the existing condition, the most of any alternative in the hydraulic memo. Class 1 riprap will be placed at the culvert outlet for erosion protection. Ditches may need to be relocated around wingwalls. The Hydraulic Memo for UNT South Fork Laughery Creek is provided in Appendix G.

SR 250 will follow design guidelines of IDM Chapter 55, Geometric Design Criteria for Rural Collector, State Route, 3R Project (Figure 55-3B) for a design year AADT between 1,000 and 3,000 vehicles. These criteria are shown in Table VIII-2.

Project Design Criteria	3R (Non-freeway)
Functional Classification	Rural Collector
Design Speed	55 mph
Access Control	None
Lane Width	11 ft
Shoulder Width	2 ft paved 3 ft usable
Obstruction-Free Width	8 ft
Clear Zone Width	18 - 24 ft
Horizontal Alignment	Maintain Existing Alignment
Vertical Alignment	Maintain Existing Alignment

**Table VIII-2 Design Criteria for SR 250**

## IX. ENVIRONMENTAL ISSUES

During completion of the environmental document, the project area will need to be investigated for wetlands. All environmental issues will be addressed in greater detail in the Environmental Phase and listed in the Environmental Document.

Improvements at the project area will likely require a Categorical Exclusion, Level 1 or Level 2 and the INDOT Permit Determination process shall be followed. Likely permits required for the project will include the Section 401/404 RGP as well as possibly a Department of Natural Resources Lake permit. The existing head walls are layered stone, which will likely require archeological impact investigation.

The initial field check identified the following items within viewing area of the project:

- One river or stream (UNT South Fork Laughery Creek) that runs through the area.
- One potential lake just north of the structure.
- One area of potential wetlands located north of the structure.

## X. RIGHT-OF-WAY IMPACT

The existing apparent right-of-way (R/W), from the survey, appears to be the edge-of-pavement on both sides of the roadway, so permanent R/W acquisition is expected. The existing R/W will be verified and documented as part of the design phase. Temporary R/W for dewatering is also anticipated.

## XI. RAILROAD & UTILITY IMPACTS

There is no existing railroad near the project location. Railroad impacts are not anticipated for this project.

A design ticket was completed for the utilities within the project limits. There are three utilities listed on the ticket, which is included in Appendix H. Existing underground communication lines, underground water lines, and overhead utilities are located near the project area. It is possible that all of these utilities will need to be relocated; at a minimum, the utilities may need to be

considered during construction. The INDOT Utility Coordination Procedure will be followed during the design phase.

## **XII. TRAFFIC MAINTENANCE DURING CONSTRUCTION**

Maintenance of Traffic will consist of a full closure with a detour using SR 129 and SR 56. The contractor will be responsible for following road closure standards as detailed in the INDOT Standard Drawings and the Indiana Manual on Uniform Traffic Control Devices (IMUTCD). Coordination with the INDOT District Traffic will take place during design. The final maintenance of traffic plan will be determined during the design phase in coordination with the District's traffic and construction divisions.

## **XIII. RELATED PROJECTS**

Work in the vicinity of this project for the near future is as follows:

<b>Designation Number</b>	<b>Location</b>	<b>Description</b>	<b>Letting</b>
1800269	SR 250 over UNT Bear Creek	Small Structure Replacement	December 7, 2022
1800289	SR 250 over Indian Creek	Superstructure Replacement	December 7, 2022

**Table XIII-1 Related Projects**

## **XIV. CHANGES TO PROPOSAL**

The Project Manager shall be consulted if deviation from the proposal is determined to be necessary during a later phase of project development. The person initiating the change shall send a memorandum to the project manager and route it through the System Asset Manager for concurrence. The memorandum shall include justification for the change and the estimated cost difference.

Prepared by: Andrea Bland 2/11/2020  
Andrea Bland, P.E. Date  
Strand Associates, Inc.®

Concur: Robert F. Tally Jr. 3/9/2020  
Robert Tally Date  
Systems Asset Manager

Terry M. Summers 3/17/2020  
Terry Summers Date  
Project Manager

**APPENDIX:**

- A-PROJECT LOCATION MAPS
- B-KICK-OFF MEETING MINUTES
- C-PROJECT SITE PHOTOS
- D-PROJECT TRAFFIC FORECAST REPORT
- E-CRASH ANALYSIS
- F-ALTERNATIVES ESTIMATES
- G-HYDRAULICS MEMO
- H-UTILITIES DESIGN TICKET
- I-MINI SCOPE
- J-INSPECTION REPORT

# Culvert Inspection Report

CV 250-078-55.80

SR 250

over



Inspection Date: 02/03/2021

Inspected By: Melanie Miller

Inspection Type(s): Culvert

**Large Culvert Inspection Report**

(8) Asset Code:	93006333	(27) Year Built:	0000
Asset Name:	CV 250-078-55.80	(90) Inspection Date:	02/03/2021
OLD Culvert ID:	250-78-55.80	(91) Inspection Frequency:	12
Team Assignment:	05	<input checked="" type="checkbox"/> Additional Treatment Exists	

**Identification**

(2) Highway Agency District:	05	(3) County Code:	078
Sub District:	5100	Ramp ID:	
(42B) Type of Service (Under):	5	<input checked="" type="checkbox"/> Adjacent to Roadway	
(7) Facility Carried:	SR 250	(6) Features Intersected:	
(9) Location:	SR 250 9.11 E SR 129	(9.01) Location Additional Description:	
(11) Milepoint:	10.12	(16) Latitude:	38.87306
		(17) Longitude:	-85.02282
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):	1.00
Culvert: Max. Horizontal Opening (ft.):	4.00	Culvert: Max. Vertical Opening (ft.):	4.50	(34) Skew:	
Barrel Length (ft.):	45.0	Original Culvert Shape:	Elliptical		

Measurement Remarks:

Structure Additional Description: *Corrugated Metal Pipe*

**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: *Weeds.*

**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:	1	(36C) Approach Guardrail:	N
(36B) Transitions:	N	(36D) Approach Guardrail Ends:	N

**Culvert:**

(62) Culvert - Rating: 4

(62) Culvert Rating Comments: *The bottom has perforations and section loss at the 4 & 6 o'clock position for almost the entire length of the pipe. Complete section loss in the flow line on the north side. North side has 3 x 3 x 2 foot deep hole above the header wall.*

**Deck:**

(58) Deck: N

(58a) Deck Comments:

**Superstructure:**

(59) Superstructure: N

(59.01) Superstructure Comments:

**Substructure:**

(60) Substructure: N

(60.01) Substructure Comments: *Masonry Headwall, Loose and missing stones. No grout present.*

CV-Headwall/Anchor Rating 4

CV-Wingwalls Rating N

**Channel:**

(61) Channel and Channel Protection: 7

(61.01) Channel and Channel Protection Comments: *Large pond on the east side and minor scour.*

Bank Erosion Rating: 7

Drift/Sediment Rating: 6

Channel Alignment Rating: 7

Check this box if culvert has OBSTRUCTED flow

Describe Obstruction:

Overtopping Frequency:

Overtopping Frequency Comments: