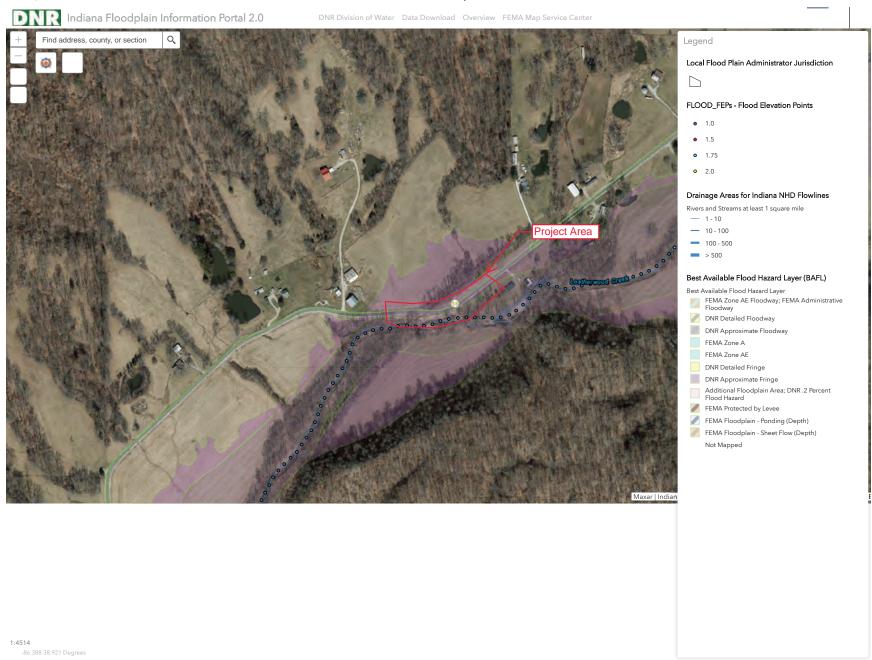


Des. No. 1701050



https://indnr.maps.arcgis.com/apps/webappviewer/index.html?id=05026dabc2e8461983e196d56a213c1e

1/1



November 30, 2021 Waters of the U.S. Report Prepared by: Peter Putzier

Des. No.: 1701050

Contract No.: R-42424

Approved 12.15.2021 by: Maryssa Engstrom



Lochmueller Group, Inc.
6200 Vogel Road

Evansville, Indiana 47715

Phone: 812.479.6200

# Waters of the U.S. Report SR 58 in Lawrence County Small Structure Replacement Project Des. No. 1701050

# Date(s) of Field Reconnaissance

July 27, 2020

# Location

The project is located on State Road (SR) 58 in Lawrence County, Indiana (Page A1).

- Pleasant Run Township, Lawrence County, Indiana
- Sections 27 and 34, Township 6 North, Range 1 East
- Bartlettsville 1:24,000 United States Geological Survey (USGS) Quadrangle (Pages A2 and A3)
- Latitude: 38.917747° N, Longitude: -86.393117° W

# **Project Description**

The project is located on SR 58, 9.23 miles east of SR 37 along SR 58 and approximately 1.2 miles west of Heltonville, Indiana. The project will replace the existing, deteriorated 52-foot-long culvert (CV 058-047-86.77) to meet or exceed all minimum standards.

The Waters of the U.S. (WOTUS) investigation survey area limits were defined as approximately 1,240 feet in length along SR 58 with 100 feet north and northwest of the center line of SR 58 and 100 feet south to southeast of the center line of SR 58. The survey area was selected to include areas of potential disturbance caused by the small structure replacement. The landscape surrounding the survey area is predominantly agricultural fields, wooded areas, and residential properties. The project is located within karst terrain and is within the central portion of the Mitchell Plateau physiographic region of Indiana, an area of low relief hills and stream incised karst plains. The karst inspection, which was conducted on January 20, 2021 and is documented in the karst report that was approved on May 24, 2021, did not identify any surface karst features that will be impacted by the project. The karst report can be found in the project file.

# **Desktop Reconnaissance**

# Soils

According to the Soil Survey Geographic (SSURGO) Database dated June 4, 2020 for Lawrence County, Indiana, the survey area does not contain soil with nationally listed hydric soils (Page A4).

Soil Name	Map Abbreviation Hydric Range					
Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded	BcrAW	Predominantly NonHydric (0%)				

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

There are three U.S. Fish and Wildlife Service (USFWS) mapped riverine NWI wetland features within the survey area. These riverine NWI features correlate with the three mapped stream features within the survey area; Leatherwood Creek, UNT 1 to Leatherwood Creek, and UNT 2 to Leatherwood Creek. The



Page 1

Note: A portion of the attachments have been removed to avoid

duplication and reduce file size.

nearest NWI wetland beyond the survey area limits is a forested wetland 12 feet south of the survey area (Page A5).

<b>Wetland Type</b>	Description	Location
PSS1A	Freshwater forested/shrub wetland	12 feet south
R4SBC	Riverine, intermittent, seasonally flooded	Southwest corner of survey area UNT2 to Leatherwood Creek
	Riverine, unknown perennial, unconsolidated bottom,	Center of survey area
R5UBH	permanently flooded	UNT1 to Leatherwood Creek
	Riverine, lower perennial, unconsolidated bottom,	Along south edge of survey area
R2UBH	permanently flooded	Leatherwood Creek

# 12-Digit HUC (Hydrologic Unit Code)

The SR 58 Small Structure Replacement is within the 051202081001 12-Digit HUC (Headwaters Leatherwood Creek) (Page A2). Leatherwood Creek and two unnamed tributaries (UNT) to Leatherwood Creek, UNT 1 to Leatherwood Creek and UNT 2 to Leatherwood Creek, flow through the survey area. The watershed area for UNT 1 to Leatherwood Creek was determined to be 0.36 square miles using USGS StreamStats (https://water.usgs.gov/osw/streamstats). The watershed area for UNT 2 to Leatherwood Creek was determined to be 0.34 square miles using USGS StreamStats. The watershed area for Leatherwood Creek was determined to be 8.46 square miles using USGS StreamStats. (Pages A7, A8, A9).

# FEMA Floodway/Floodplain

The Federal Emergency Management (FEMA) Flood Map Service Center (<a href="https://msc.fema.gov/portal/home">https://msc.fema.gov/portal/home</a>) and the Indiana Floodplain Information Portal (<a href="https://dnrmaps.dnr.in.gov/appsphp/fdms/">https://dnrmaps.dnr.in.gov/appsphp/fdms/</a>) Best Available Flood Zones data indicate that the survey area is within a mapped IDNR Flood Zone A and Approximate Floodway (Page A6).

# **Attached Documents**

- Location Map
- USGS Topographic Map (1:24,000)
- USGS Topographic Map (1:12,000)
- USDA SSURGO Soils Map
- USFWS NWI Features Map
- USGS StreamStats Watershed Map
- IDNR, Division of Water Best Available Flood Hazard Map
- Water Resources Map
- Photo Index Map and Project Photos
- USACE Pre-Jurisdictional Determination Form

# Field Reconnaissance

This field survey was conducted within the growing season. For those features that displayed bed and bank, the ordinary-high-water mark (OHWM) width and depth was measured and the maximum dimension observed beyond the influence of bridge and culvert structures. OHWM measurements were



Page 2

also documented for any stream features observed in the field that were not included as blue-line or NHD features.

# Stream Feature(s)

The USGS Bartlettsville 1:24,000 topographic quadrangle includes three blue-line stream features within the survey area for the SR 58 Small Structure Replacement Project (Pages A2 and A3). The NHD GIS dataset includes three flow line features within the survey area (Page A6). One of the features, Leatherwood Creek, flows from the southcentral portion of the survey area and beyond the southwest corner of the survey area. A second feature, UNT 1 to Leatherwood Creek, flows into the north central survey area and converges with Leatherwood Creek south of SR 58. The last feature, UNT 2 to Leatherwood Creek, flows from the southwest corner of the survey area and converges with Leatherwood creek beyond the southwest corner of the survey area. The field investigation identified that these features have bed and bank and an OHWM.

# **Leatherwood Creek**

Leatherwood Creek is a perennial stream feature located south of SR 58 that flows east to west through the survey area (Page A10). Leatherwood Creek is fed by groundwater and flows throughout the year in normal years. Approximately 620 feet of the stream runs through the survey area. The drainage area for Leatherwood Creek was determined to be 8.46 square miles using USGS StreamStats (<a href="https://water.usgs.gov/osw/streamstats/">https://water.usgs.gov/osw/streamstats/</a>) (Page A7). According to the Indiana Floodplain Information Portal (<a href="https://dnrmaps.dnr.in.gov/appsphp/fdms/">https://dnrmaps.dnr.in.gov/appsphp/fdms/</a>), a Zone A approximate floodway is defined and mapped for Leatherwood Creek (A6).

This stream has a wide bottom streambed with riffle/run/pool habitat. The substrate is dominated by cobble (60%) and gravel (20%), with lesser components of sand (5%), bedrock (10%), and silt (5%). The stream displays moderate sinuosity and a flat gradient. Riparian vegetation is comprised primarily of sycamore (*Platanus occidentalis*, FACW), box elder (*Acer negundo*, FAC), black walnut (*Juglans nigra*, FACU), Japanese honeysuckle (*Lonicera japonica*, FACU), false nettle (*Boehmeria cylindrica*, FAC), annual rye (*Lolium multiflorum*), reed canary grass (*Phalaris arundinacea*, FACW), and black cherry (*Prunus serotina*, FACU).

Leatherwood Creek is considered to exhibit excellent quality based on perennial flow, cobble and gravel substrate, and riffle/run/pool habitat. The OHWM at the survey area boundary was measured at 15 feet wide and 0.42 feet deep. Photos 26 and 27 (Page A16) indicate stream and bank conditions for this reach.

Leatherwood Creek is considered a relatively permanent waterway (RPW) with a connection to a traditionally navigable waterway (TNW), the White River, via the East Fork White River. Leatherwood Creek meets the definition of a Waters of the U.S. based on intermittent flow and connection to a TNW and therefore is under the jurisdiction of the USACE under Section 404 of the Clean Waters Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.



Page 3

# UNT 1 to Leatherwood Creek

UNT 1 to Leatherwood Creek is an ephemeral feature that flows into the north central part of the survey area and under SR 58 through a 144 inch by 84 inch diameter culvert (CV 058-047-85.10) to its confluence with Leatherwood Creek. UNT 1 to Leatherwood Creek is considered ephemeral because it is not fed by groundwater and flows only in response to rainfall. Approximately 405 feet of the stream runs through the survey area. The drainage area for UNT 1 to Leatherwood Creek was determined to be 0.36 square mile using USGS StreamStats (<a href="https://water.usgs.gov/osw/streamstats/">https://water.usgs.gov/osw/streamstats/</a>) (Page A8). According to the Indiana Floodplain Information Portal (<a href="https://dnrmaps.dnr.in.gov/appsphp/fdms/">https://dnrmaps.dnr.in.gov/appsphp/fdms/</a>), there are no mapped floodways or floodplains associated with UNT 1 to Leatherwood Creek (Page A6).

The stream has a moderate streambed with no defined riffle/run/pool habitat. The substrate is dominated by cobble (45%) and gravel (25%) with lesser components of sand (15%), silt (10%), and bedrock (5%). The stream displays moderate sinuosity and a flat gradient. Riparian vegetation is composed primarily of black walnut (*Juglans nigra*, FACU), amur honeysuckle (*Lonicera maackii*, FACU), box elder (*Acer negundo*, FAC), hackberry (*Celtis occidentalis*, FACU), Virginia creeper (*Parthenocissus quinquefolia*, FACU), and multiflora rose (*Rosa multiflora*, FACU).

UNT 1 to Leatherwood Creek is considered to exhibit average quality based on cobble and gravel dominated substrate and bank full width. The OHWM at the survey area boundary was measured at 6.25 feet wide and 0.5 feet deep. Photos 35 and 36 (Page A17) indicate stream and bank conditions for this reach.

UNT 1 to Leatherwood Creek is considered to be a non-relatively permanent waterway (non-RPW) with a connection to a traditionally navigable waterway (TNW), the White River via Leatherwood Creek and the East Fork White River. UNT 1 to leatherwood Creek meets the definition of a Waters of the U.S. based on ephemeral flow and connection to a TNW and therefore is under the jurisdiction of the USACE under Section 404 of the Clean Waters Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

# UNT 2 to Leatherwood Creek

UNT 2 to Leatherwood Creek is an intermittent stream feature that flows across the southwest corner of the survey area and converges with Leatherwood Creek just south of the survey area. UNT 2 to Leatherwood Creek is seasonally fed by groundwater and displayed some flow near the confluence with Leatherwood Creek at the time of field inspection. Therefore, UNT 2 to Leatherwood Creek is considered intermittent. Approximately 100 feet of stream runs through the survey area. The drainage area for UNT 2 to Leatherwood Creek was determined to be 0.34 square mile using USGS *StreamStats* (<a href="https://water.usgs.gov/osw/streamstats/">https://water.usgs.gov/osw/streamstats/</a>) (Page A9). According to the Indiana Floodplain Information Portal (<a href="https://dnrmaps.dnr.in.gov/appsphp/fdms/">https://dnrmaps.dnr.in.gov/appsphp/fdms/</a>), there are no mapped floodways or floodplains associated with UNT 2 to Leatherwood Creek (Page A6). Riprap is present above the UNT 2 to Leatherwood Creek culvert outlet and on the sides of the stream adjacent to the culvert outlet (Photo 1, Page A12). Minor scattered riprap was observed in the channel of UNT 2 to leatherwood Creek below the culvert outlet.



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The stream has a substrate dominated by bedrock (90%) with lesser components of cobble (5%) and gravel (5%). The stream displays low sinuosity and a flat to moderate gradient. Riparian vegetation is composed primarily of sycamore (*Platanus occidentalis*, FACW), black walnut (*Juglans nigra*, FACU), clearweed (*Pilea pumila*, FACW), multiflora rose (*Rosa multiflora*, FACU), amur honeysuckle (*Lonicera maackii*, FACU), aster (*Symphyotrichum spp.*), and deer tongue grass (*Dichanthelium clandestinum*, FAC).

UNT 2 to Leatherwood Creek is considered to exhibit average quality based on the bedrock and cobble substrate and bank full width. The OHWM at the survey area boundary was measured at 4.6 feet wide and 0.25 feet deep. Photos 3 and 4 (Page A12) indicate stream and bank conditions for this reach.

UNT 2 to Leatherwood Creek is considered to be a non-relatively permanent waterway with a connection to a traditionally navigable waterway (TNW), the White River, via the East Fork White River and Leatherwood Creek. UNT 2 to Leatherwood Creek meets the definition of a Waters of the U.S. based on intermittent flow and connection to a TNW and therefore is under the jurisdiction of the USACE under Section 404 of the Clean Waters Act. This stream is not subject to USACE jurisdiction under Section 10 of the River and Harbors Act.

Stream	Summary	Tab	le
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Water Feature Name	Photo	Lat/Long	OHW Width (ft)	OHW Depth (ft)	USGS Blue-line? Type?	Riffles? Pools?	Substrate	Quality	Likely Waters of U.S.?
Leatherwood Creek	26,27	38.917346/ -86.393936	15	0.42	Yes Perennial	Yes	Cobble, gravel, bedrock	Excellent	Yes
UNT 1 to Leatherwood Creek	35,36	38.917791/ -86.392881	6.25	0.5	Yes Ephemeral	No	Cobble, gravel, sand	Average	Yes
UNT 2 to Leatherwood Creek	3,4	38.917284/ -86.395094	4.6	0.25	Yes Intermittent	No	Bedrock	Average	Yes

# Wetlands

No wetland features were identified within the SR 58 Small Structure Replacement Project survey area. The dominant herbaceous vegetation within the survey area is mowed maintained road right-of-way consisting of reed canary grass (*Phalaris arundinacea*, FACW), Deer tongue grass (*Dichanthelium clandestinum*, FAC), japanese stilt grass (*Microstegium vinemeum*, FAC), tall false rye fescue (*Schedonorus arundinaceus*, FACU), red clover (*Trifolium pratense L.*, FACU), and purpletop tridens (*Tridens flavus*, FACU). The dominant tree species within the survey area consisted of black walnut (*Juglans nigra*, FACU), sycamore (*Platanus occidentalis*, FACW), box elder (*Acer negundo*, FAC), black cherry (*Prunus* serotina, FACU) and American elm (*Ulmus americana*, FACW). Based on the presence of upland species, lack of suitable hydrology, and no mapped hydric soils there were no potential wetlands within the survey area. Wetlands are unlikely to form in the survey area under the existing hydrologic conditions.



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# **Open Water**

There are no open water areas for consideration as WOTUS or non-WOTUS features within the survey area.

# **Roadside Ditch**

There are no roadside ditch (RSD) features within the survey area limits.

# **Conclusions**

The Waters of the U.S. investigation conducted for the SR 58 Small Structure Replacement Project concludes that there are no wetland features and three stream features (Leatherwood Creek, UNT 1 to Leatherwood Creek, and UNT 2 to Leatherwood Creek) within the survey area. No WOTUS or non-WOTUS open water features were identified within the survey area. No roadside ditches were identified in the survey area. Portions of the site are within an IDNR Zone A floodway and Approximate Floodway.

These waterways are likely Waters of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway and wetlands. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers. This report is our best judgment based on the guidelines set forth by the Corps.

The following drainage structures within the survey area were examined on July 27, 2020 for the presence of bats and were found to show no direct or indirect signs of occupation.

- 144-inch x 84-inch diameter, 52 foot long culvert (CV 058-047-85.10) under SR 58
- 20-inch diameter, 52 foot long culvert under SR 58

# Acknowledgement

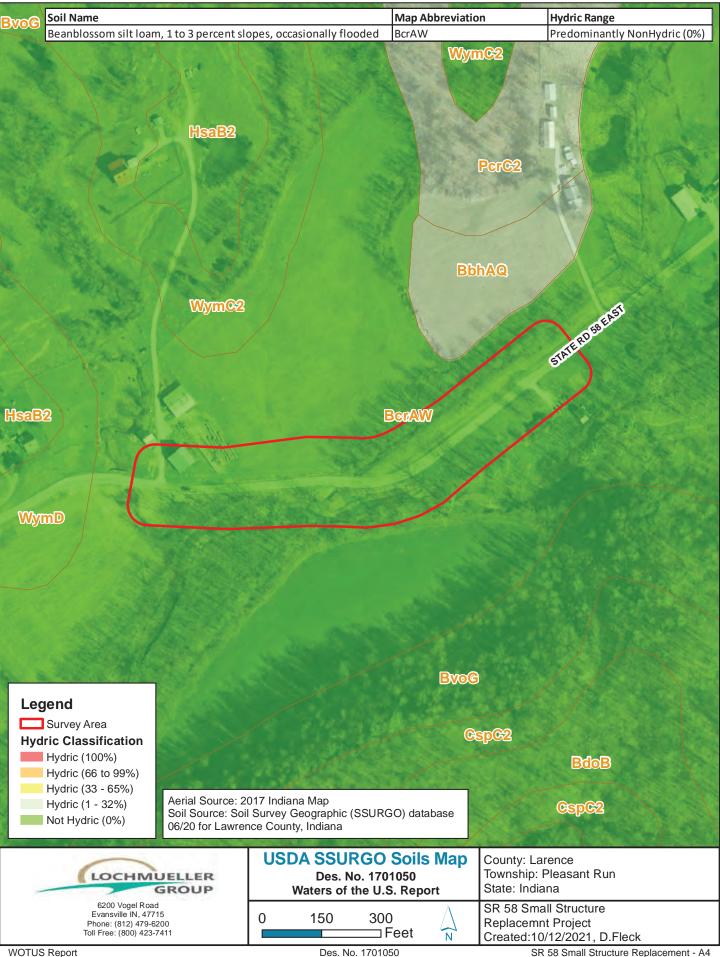
This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement, the USACE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

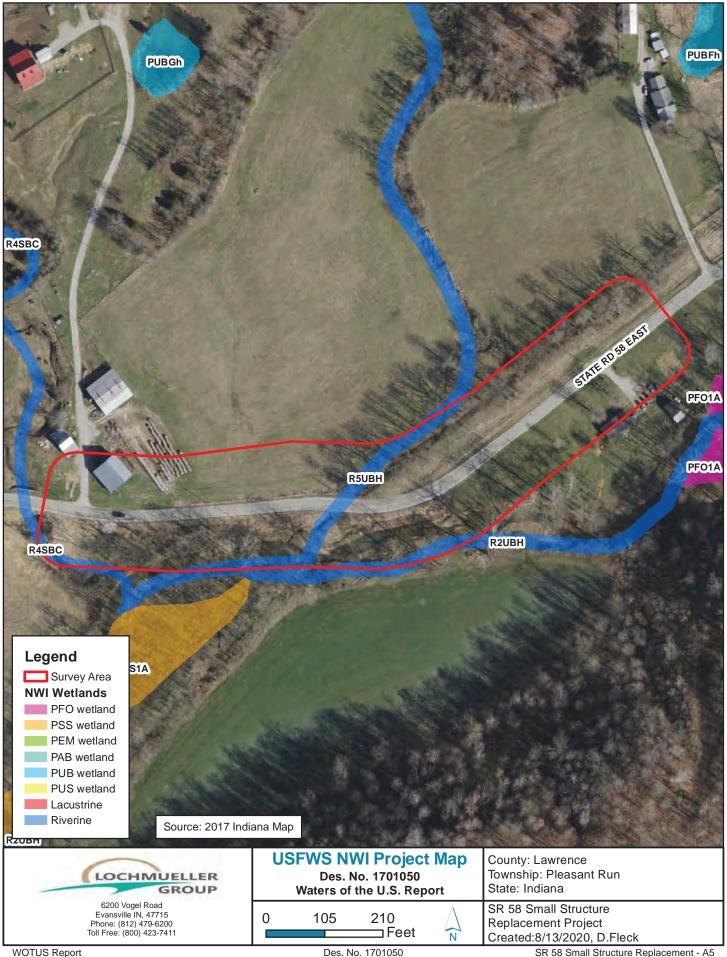
Peter Putzier

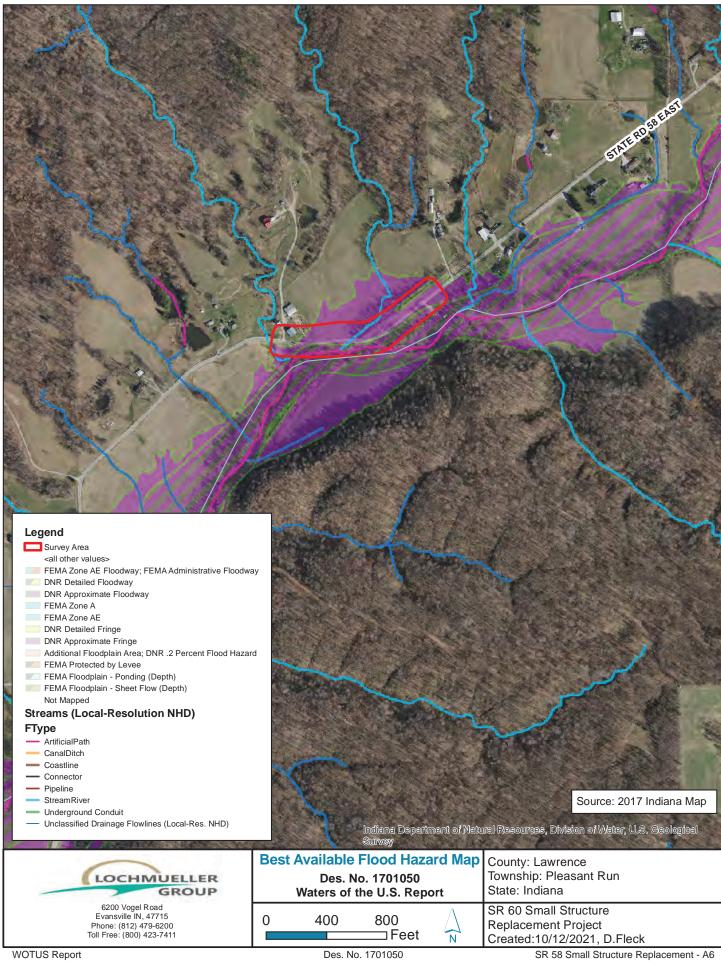
Environmental Specialist Lochmueller Group, Inc.

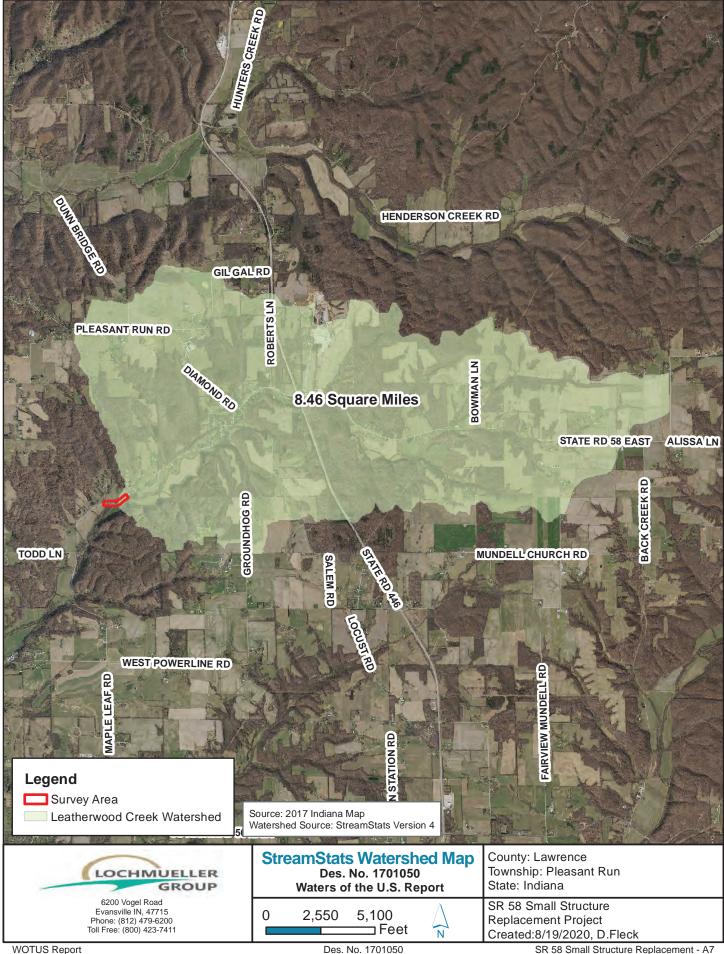
November 30, 2021

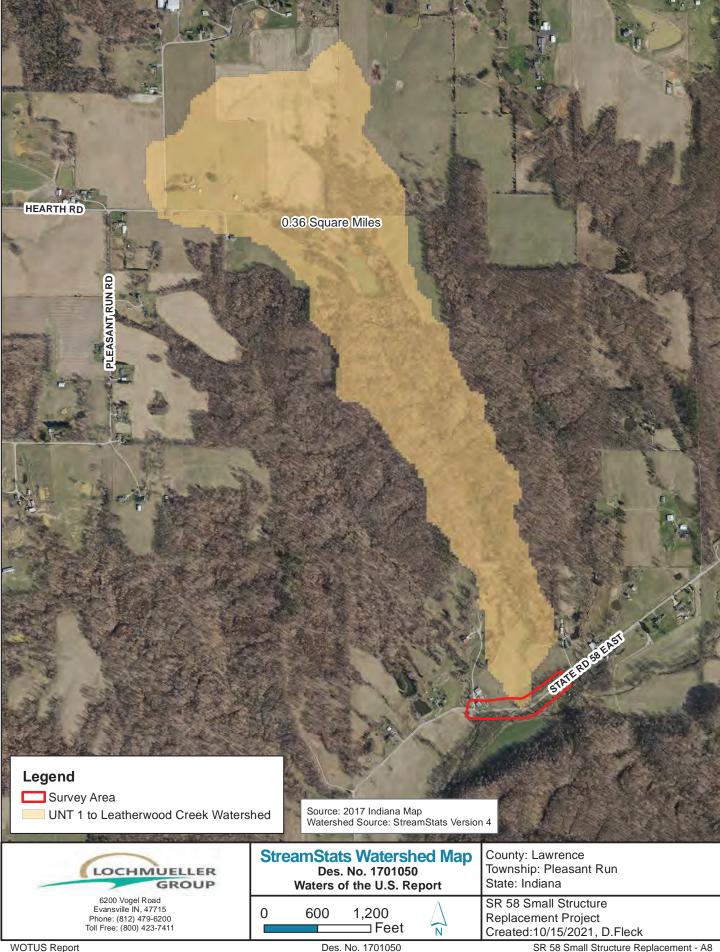


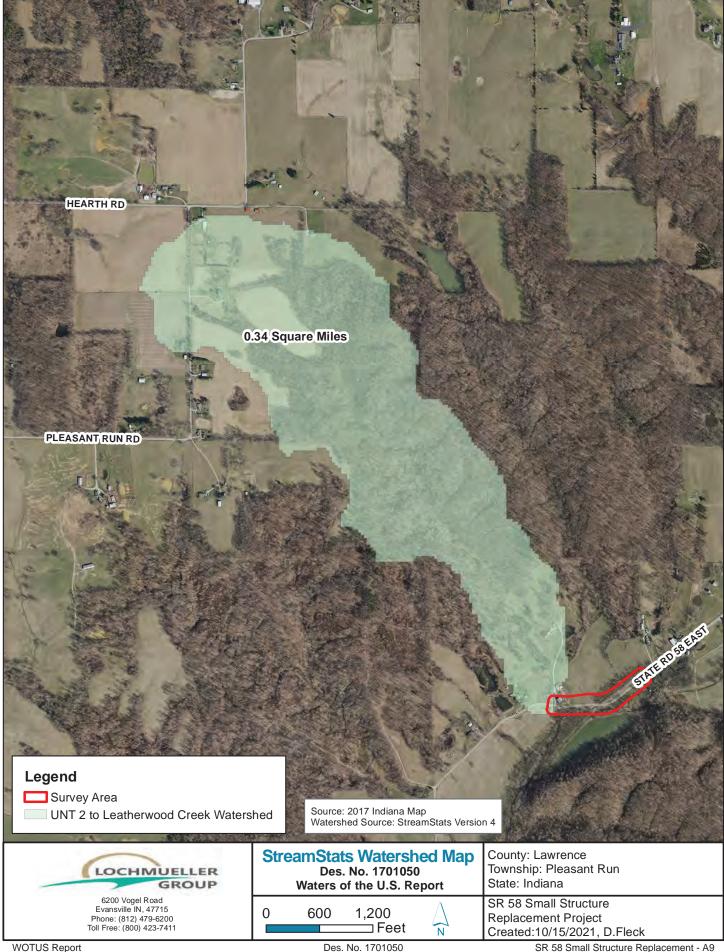










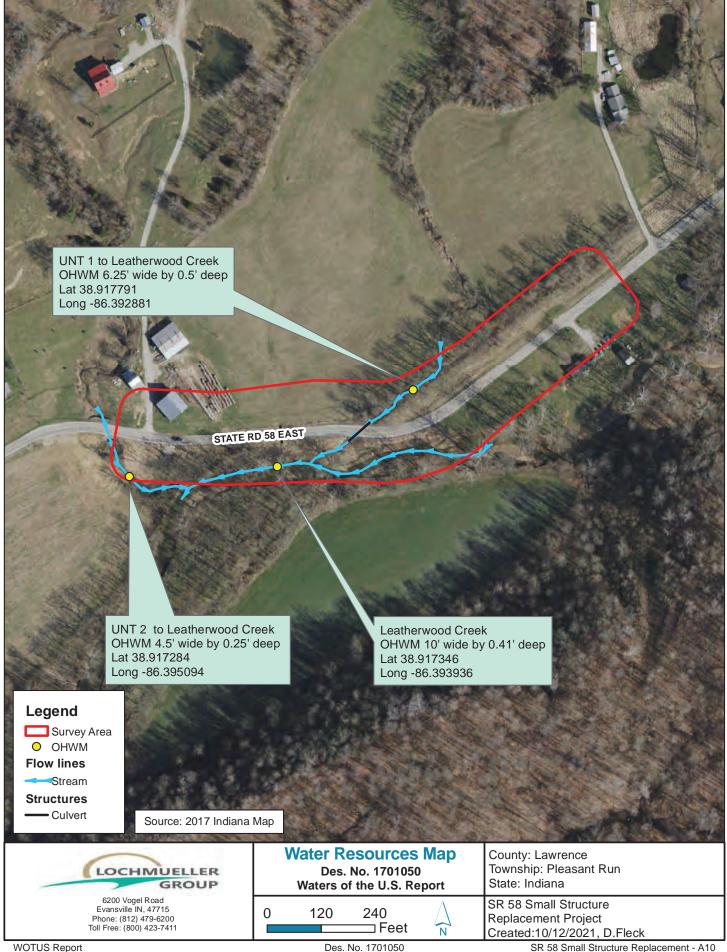


OTUS Report

Des. No. 1701050

App

Des. No. 1701050 SR 58 Small Structure F Appendix F: Water Resources



Des. No. 1701050

Appendix F: Water Resources

SR 58 Small Structure Replacement - A10

# Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

# **BACKGROUND INFORMATION**

- A. REPORT COMPLETION DATE FOR PJD: November 30, 2021
- B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Peter Putzier, Lochmueller Group, 6200 Vogel Road, Evansville, IN 47715
- C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

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

The project (Des. No. 1701050) is located on SR 58, 9.23 miles east of SR 37 and approximately 1.2 miles west of Heltonville, Indiana. The project will replace the existing, deteriorated culvert (CV 058-047-86.77) to meet or exceed all minimum standards. The Waters of the U.S. investigation concludes that there are no wetland features and no WOTUS or non-WOTUS open water features identified in the survey area. One perennial stream (Leatherwood Creek) and one intermittent stream (UNT2 to Leatherwood Creek) and one ephemeral stream (UNT1 to Leatherwood Creek) were identified within the survey area.

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

State: Indiana County/parish/borough: Lawrence City: near Heltonville

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

Lat.: 38.917747

Long.: -86.393117

Universal Transverse Mercator: 16S 552612 E 4307823 N

Name of nearest waterbody: Leatherwood 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.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Leatherwood Creek	38.917346	-86.393936	620 linear feet	non-wetland	Section 404
UNT1 to Leatherwood Cr	38.917791	-86.392881	405 linear feet	non-wetland	Section 404
UNT2 to Leatherwood Cr	38.917284	-86.395094	100 linear feet	non-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 "preconstruction 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:

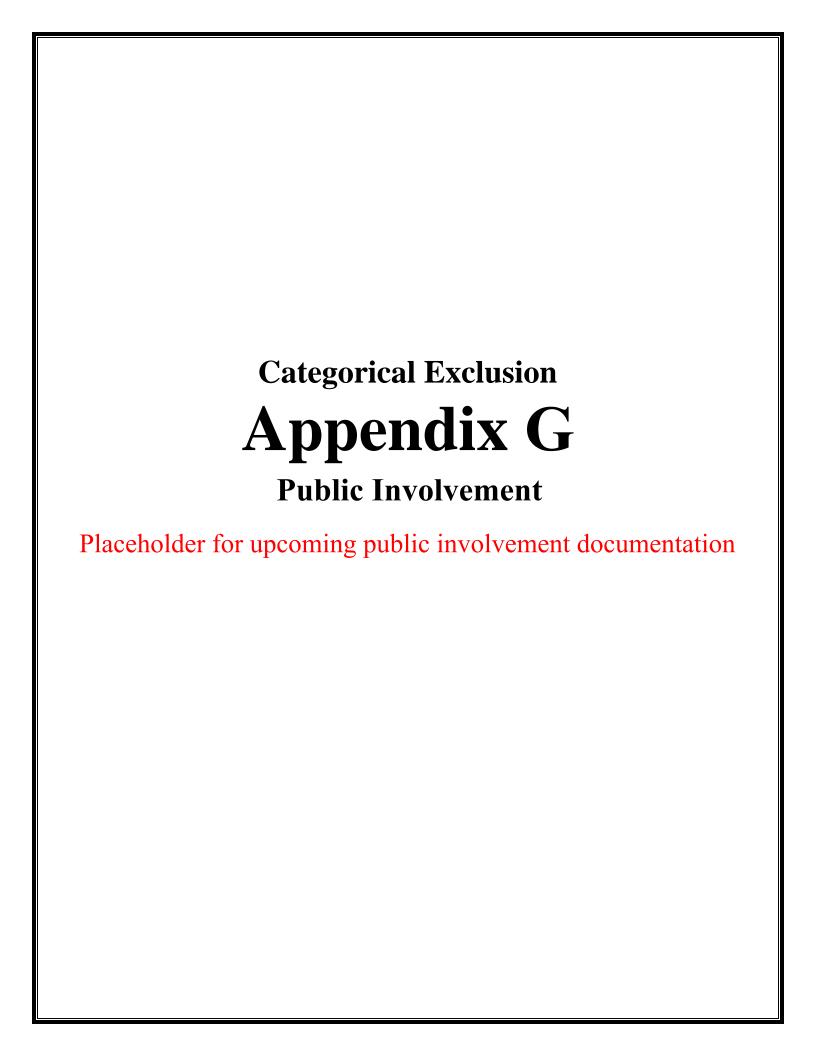
# SUPPORTING DATA. Data reviewed for PJD (check all that apply)

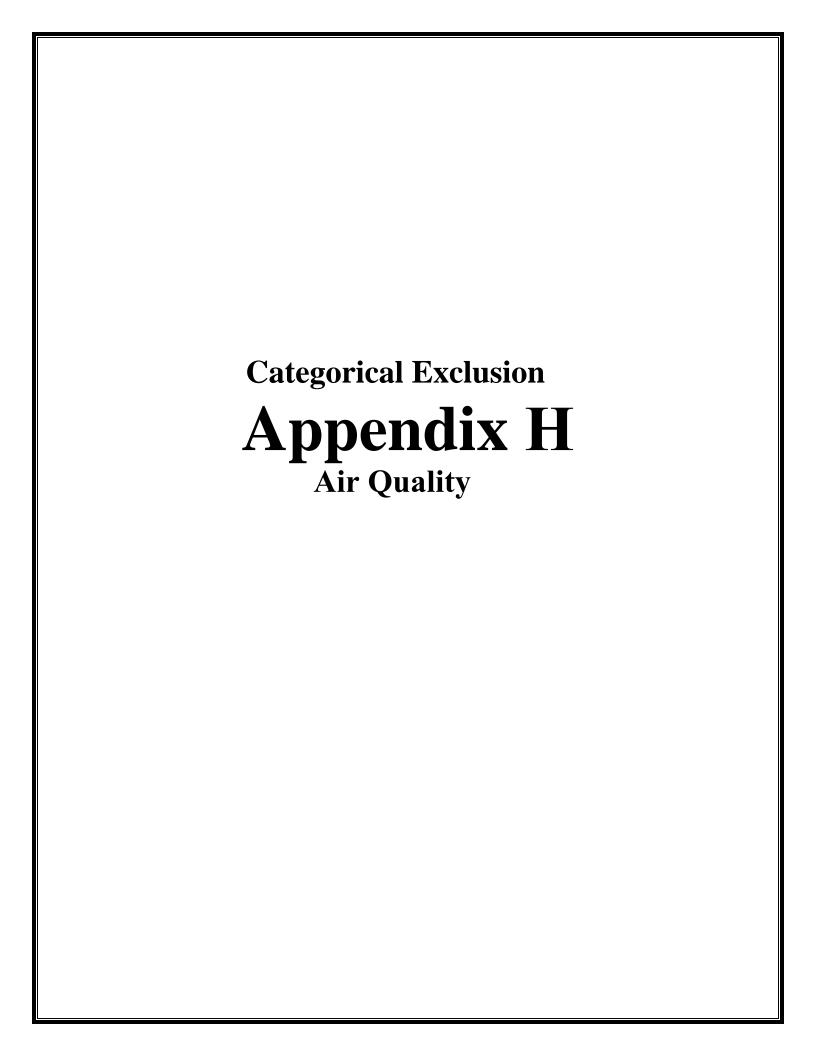
below where indicated for all checked items:

Checked items should be included in subject file. Appropriately reference sources

Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Map:Location map, topographic, soils, NWI, floodplain, aerial Data sheets prepared/submitted by or on behalf of the PJD requestor. Office concurs with data sheets/delineation report. Office does not concur with data sheets/delineation report. Rationale: \_\_\_\_\_\_\_\_. Data sheets prepared by the Corps: \_\_\_\_\_ Corps navigable waters' study: \_\_\_\_\_ U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_\_ USGS NHD data. USGS 8 and 12 digit HUC maps. U.S. Geological Survey map(s). Cite scale & quad name: \_Bartlettsville & Norman 1:24,000 Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_\_https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm National wetlands inventory map(s). Cite name: https://www.fws.gov/wetlands/Data/Mapper.html ☐ State/local wetland inventory map(s): FEMA/FIRM maps: FIRM Map Number 18093C0070C 100-year Floodplain Elevation is: \_\_\_\_\_ .(National Geodetic Vertical Datum of 1929) Photographs: Aerial (Name & Date): Orthophotograpy of Indiana 2017 Other (Name & Date): \_Ground photos July 27, 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. Peter Putzier Digitally signed by Peter Putzier Date: 2021.11.30 13:42:02 -06'00' Signature and date of Signature and date of Regulatory staff member person requesting PJD (REQUIRED, unless obtaining completing PJD the signature is impracticable)1

<sup>&</sup>lt;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.





# NOTE: This project is bundled with three other projects. The projects were bundled and incorporated into the STIP under the Lead Des. No. 1593092.

Indiana Department of Transportation (INDOT)

	and Loc	al Initiat	ed Projec	ts FY 2022 - 2026													
SPONSOR	CONTR ACT#/ LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2022	2023	2024	2025	2026
ndiana Department of Transportation	41413 / 1800124	Init.	SR 60	Small Structure Replacement	Vincennes	0	STBG	\$743,630.00	Bridge Construction	CN	\$463,200.00	\$115,800.00		\$579,000.00			
erformance Measure	Impacted:	Bridge Co	ndition		ı							ļ	ļ				
ocation: 3.65 mi W S	R-37																1
Comments:Include DE	S 1800124																Ī
ndiana Department f Transportation	41446 / 1801057	Init.	SR 446	Small Structure Replacement	Seymour	0	STBG	\$2,793,611.00	Bridge ROW	RW	\$27,200.00	\$6,800.00	\$34,000.00				
									Bridge Consulting	PE	\$4,960.00	\$1,240.00		\$6,200.00			
									Bridge Construction	CN	\$1,641,152.80	\$410,288.20		\$2,051,441.00			
erformance Measure	Impacted:	Bridge Co	ndition														
ocation: 0.98 mile N	of US 50 ca	rrying roa	dside ditch.														i
Comments:Include DE	S 1801006	, 1801007	, 1801027,	1801057													ĺ
ndiana Department of Transportation	41450 / 1800169	Init.	SR 60	Slide Correction	Vincennes	0	STBG	\$683,363.59	Road Construction	CN	\$413,600.00	\$103,400.00		\$517,000.00			
								l	Road Consulting	PE	\$29,559.20	\$7,389.80	\$36,949.00				
									Road ROW	RW	\$10,400.00	\$2,600.00	\$13,000.00				
erformance Measure	Impacted:	Safety															
ocation: 3.49 mi E US	S-50 Jct.																i
Comments:Include DE	S 1800169																Ī
ndiana Department f Transportation	41469 / 1593092	Init.	SR 58	Small Structure Replacement	Vincennes	0	STBG	\$1,667,615.00	Bridge Construction	CN	\$1,165,776.00	\$291,444.00			\$1,457,220.00		
	·		1		I			1	Bridge ROW	RW	\$7,040.00	\$1,760.00	\$8,800.00				
erformance Measure	Impacted:	Bridge Co	ndition														
ocation: 8.87 miles E	of S Jct SF	R-37															Ī
comments:Include DE	S 1701044	, 1701050	, 1593092														ĺ
ndiana Department f Transportation	41469 / 1593092	M 08	SR 58	Small Structure Replacement	Vincennes	0	STBG		Road Construction	CN	\$921,881.60	\$230,470.40			\$1,152,352.00		
		ı	I		I		ı	1	Bridge Construction	CN	\$1,325,776.00	\$331,444.00		\$200,000.00	\$1,457,220.00		
									Bridge Consulting	PE	\$7,200.00	\$1,800.00		\$9,000.00			
									1			I					1

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Des. No. 1701050 Appenidx H: Air Quality

<sup>\*</sup>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.

### Indiana Department of Transportation (INDOT)

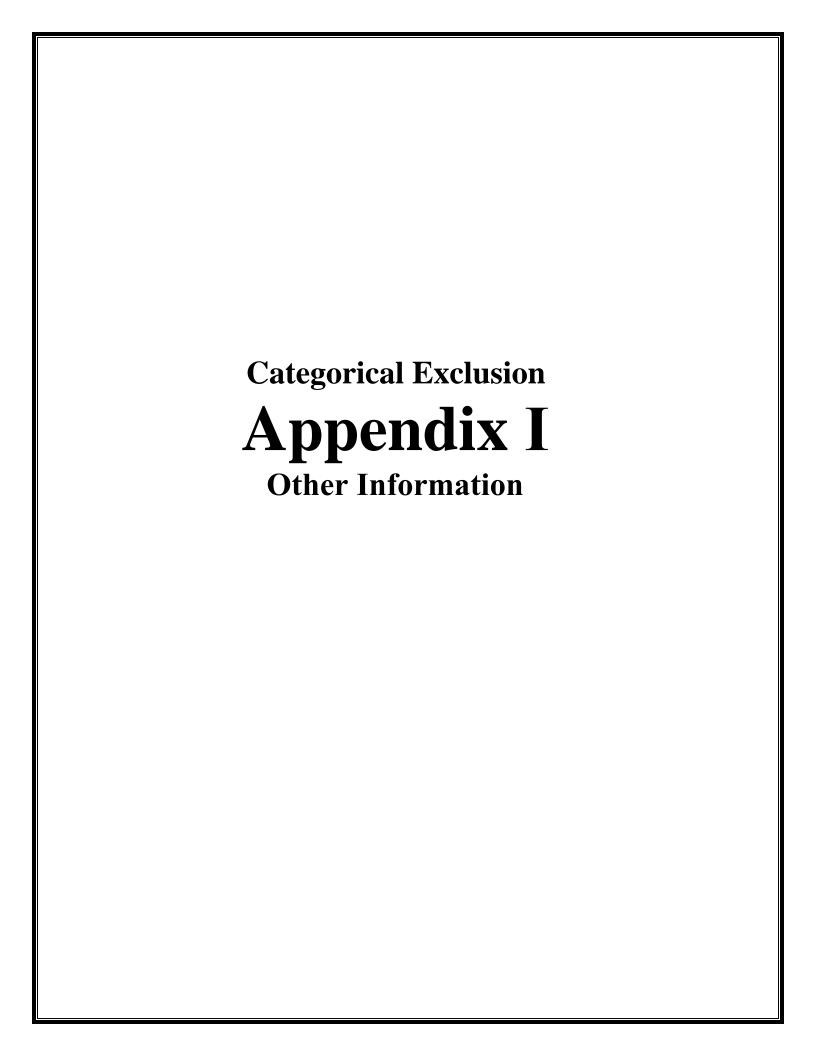
State Preservation and Local Initiated Projects FY 2022 - 2026

State Preservation	n and Loc	al Initiat	ed Proje	ets FY 2022 - 2026													
SPONSOR	CONTR ACT#/ LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2022	2023	2024	2025	2026
diana Department Transportation	41469 / 1593092	M 08	SR 58	Small Structure Replacement	Vincennes	0	STBG		Bridge ROW	RW	\$30,976.00	\$7,744.00	\$18,000.00	\$20,720.00			
erformance Measure	e Impacted:	Bridge Co	ndition														
ocation: 8.87 miles E	E of S Jct SF	R-37															i
omments:Move RW	/ phase from	FY 22 to	FY 23. Inc	udes des 1701050, 1701044, 1900296. No MPO.													ĺ
idiana Depariment	415637	Init.	OR 97	Added Travel Lanes, Construct Turn Lanes	Vincennes	.171	NHIPP	\$2,720,000.00	iviobility	ON	\$1,740,400.00	\$430,000.00	\$20,000.00	\$2,163,000.00			
f Transportation	1500061								Construction								
									Mobility ROW	RW	\$16,000.00	\$4,000.00	\$20,000.00				
erformance Measure	e Impacted:	Pavement	t Condition														]
ocation: At John Willi	lliams Blvd.																j
comments:Include DE	ES 1500060	, 1500061	1														ĺ
awrence County	42010 / 1802904	Init.	IR 1139	Signing	Vincennes	0	STBG	\$1,095,780.00	Local Funds	CN	\$0.00	\$90,388.00		\$90,388.00			
					<u> </u>			<u> </u>	Local Safety	CN	\$813,492.00	\$0.00		\$813,492.00			
									Program								
erformance Measure	e Impacted:	Safety										l					
ocation: Lawrence C	County - Dist	rict 2 (see	attached F	roject Location Map for details)													j
Comments:Include DE	ES 1902791	, 1802904	1														Ī
ndiana Department of Transportation	42174 / 1800133	Init.	SR 158	Bridge Replacement	Vincennes	0	STBG	\$2,960,962.00	Bridge ROW	RW	\$23,200.00	\$5,800.00		\$29,000.00			
							ı		Bridge Construction	CN	\$2,345,569.60	\$586,392.40			\$2,931,962.00		
Performance Measure	e Impacted:	Bridge Co	ondition														
ocation: Over Silvery	ville Creek, (	07.94 mi V	V SR-458														j
comments:Include DE	ES 1800135	, 2000651	1, 1800133														ĺ
ndiana Department of Transportation	42194 / 1900249	Init.	SR 37	Intersection Improvement, Median U-Turn	Vincennes	0	NHPP	\$3,965,393.00	Safety ROW	RW	\$71,680.00	\$17,920.00		\$89,600.00			
	1			ı	ı			ı	Safety Construction	CN	\$2,946,954.40	\$736,738.60			\$3,683,693.00		
erformance Measure	e Impacted:	Safety															1
ocation: At 1.68 mi S	S of S Jct of	US-50 (W	esley Chap	el Rd/CR500S)													Í
Comments:Include DE	ES 1900255	, 1900249	)														ĺ
ndiana Department f Transportation	42698 / 2000420	Init.	SR 158	Bridge Painting	Vincennes	0	STBG	\$396,000.00	Bridge Consulting	PE	\$52,800.00	\$13,200.00	\$66,000.00				
			<u> </u>				<u> </u>	1	Bridge Construction	CN	\$264,000.00	\$66,000.00	\$330,000.00				

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Des. No. 1701050 Appenidx H: Air Quality 2

<sup>\*</sup>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.





# KARST REPORT SR 58 SMALL STRUCTURE REPLACEMENT LAWRENCE COUNTY, IN

April 28, 2021 Karst Report Prepared by: Garre Conner

Des. No.: 1701050

Contract No.: R-41469



Lochmueller Group, Inc.

6200 Vogel Road

**Evansville, Indiana 47715** 

Phone: 812.479.6200

# Karst Report SR 58 Small Structure Replacement Project Lawrence County, Indiana Des. No. 17010150

# **Table of Contents**

Date of Karst Investigation	
Location	
Project Description	1
Karst Survey and Literature Review	
Soils	2
Field Reconnaissance	2
Proposed Activities and Direct Impacts	2
Recommendation	2
Preparers	3
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Des. No. 1701050 Appendix I: Other Information 2

# Karst Report SR 58 Small Structure Replacement Project Lawrence County, Indiana Des. No. 1701050

# **Date of Karst Investigation**

January 20, 2021

### Location

The SR 58 Small Structure Replacement Project is in Lawrence County, Indiana (Attachment A1).

- Pleasant Run Township, Lawrence County, Indiana
- Sections 27 & 34 Township 6 North, Range 1 East
- Bartlettsville 1:24,000 United States Geological Survey (USGS) Quadrangle
- Latitude: 38.917747° N; Longitude: -86.393117° W

# **Project Description**

The project is located 9.23 miles northeast of SR 37 along SR 58 and approximately 1.2 miles west of Heltonville, Indiana. The project, which encompasses approximately 1.5 acres, will replace the existing, deteriorated 52-foot-long culvert (CV 058-047-86.77) to meet or exceed all minimum standards. The excavation is expected to reach an approximate depth of 3 feet underneath the current structure. The Karst Report survey area limits were defined as approximately 1,390 feet in length along SR 58 with 150 feet on either side of the SR 58 centerline.

# **Karst Survey and Literature Review**

The SR 58 small structure replacement project is within the "Potential Karst Features Region" for the Karst Memorandum of Understanding (MOU) dated October 13, 1993 (Attachment A2). A Red Flag Investigation was completed for the project and Geographic Information System (GIS) data shows no sinkholes within the karst survey area or project area. The closest mapped sinkhole area is approximately 1.2 miles to the east. The closest karst spring is mapped 1.7 miles to the south of the project area. Cave entrance density areas are mapped near, but outside the project area. The closest cave to the project is 1.6 miles to the south. Drainage in the project area is generally south towards Leatherwood Creek and west in Leatherwood Creek. The project area is on the eastern edge of the Mitchel Plain as it transitions into the Norman Uplands. The Mitchell Plain is a carbonate plateau characterized by sinkholes, sinking streams, and subterranean karst drainage. The Norman Uplands is a hilly upland topography underlain by siltstones, shales and relatively erosion resistant sandstones. In the west to east transition from Mitchell Plain to Norman Upland, valleys erode through the thinning Harrodsburg Limestone of the Sanders Group and into the underlying Borden siltstone and shale. The project area is within one of these valleys in the Borden Group which does not typically develop karst drainage pathways. The Harrodsburg Limestone outcropping along the valley crest is generally thin in this area and may develop small cave streams in relict portions of the Mitchell Plain which are embayed into the area of the upland. This thin limestone once developed karst subterranean drainage to springs in the region, but locally these no longer have perennial drainage and are filled with karstic clays and covered by glacial loess deposits.



1

A literature search for the project area was conducted by a Lochmueller Group licensed geologist with karst terrain experience. Mapping from the Indiana Geological Survey determined there are no known caves in the project area. GIS data for caves, sinkholes, and springs were examined for the project area. The LiDAR Hillshade Map shows that the two nearest groupings of sinkholes are located 1.2 miles to the east and 1.3 miles to the west (Attachment A8). The Indiana GIS bedrock topography indicates sandstones and siltstones of Borden Mississippian Age in the project area. A karst survey by a professional geologist was recommended because the project is within the Karst MOU Potential Karst Features Region and karst features are mapped within the region of the project area.

### Soils

The Soil Survey Geographic (SSURGO) database for Lawrence County includes the following mapped soil series within the SR 58 karst survey area (Attachment A7). The soils, deposited on top of the Borden siltstone and shale, vary in thickness within the valley of Leatherwood Creek but are generally 5 to 10 feet thick and include the types listed below.

- Beanblossom silt loam (BcrAW), 1 to 3 percent slopes, occasionally flooded, very brief duration
- Wrays silt loam (WymD), 6 to 12 percent slopes, eroded.
- Bartle silt loam (BbhAQ), 0 to 2 percent slopes, rarely flooded.
- Brownstown-Gilwood silt loams (BvoG), 25 to 75 percent slopes, complex.

# **Field Reconnaissance**

An onsite karst inspection was completed on January 20, 2021 by a Lochmueller Group licensed professional geologist. The weather was cool, clear, and dry. The focus of the field inspection was to identify any karst features potentially impacted by the project and characterize the karst drainage related to the project. The karst field review of the project area found no individual karst features or soil piping within the project area. There was no limestone bedrock exposed in the project area. Photo locations are shown in Attachment A10. The photographs include culvert inlets/outlets and siltstone bedrock exposures in Leatherwood Creek (Attachment A11).

# **Proposed Activities and Direct Impacts**

There are no expected direct impacts to karst related to the proposed construction activities. There are no known cave or spring entrances in the project area that may be utilized by troglobitic species.

# Recommendation

Based on the completed surface karst inspection there are no known or identifiable karst features that will be impacted. The potential for discovery of buried karst features during construction exists but is minimal. The following recommendation is proposed to address this potential. In the event that a bedrock void, karst flow path or troglobitic species is encountered during construction, a karst qualified geologist should be contacted immediately to determine if additional karst investigations and/or coordination are needed relative to the Kast MOU.



Des. No. 1701050 Appendix I: Other Information 4

Small Structure Replacement Project Des. No. 1701050 Lawrence County, Indiana Karst Report

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# **Preparers**

Lochmueller Group, Inc. Staff	Position	Contributing Effort		
Garre Conner	Licensed Professional Geologist	Field Data Collection		
		Report Preparation		
Peter Putzier	Licensed Professional Geologist	Field Data Collection		
		Report Preparation		

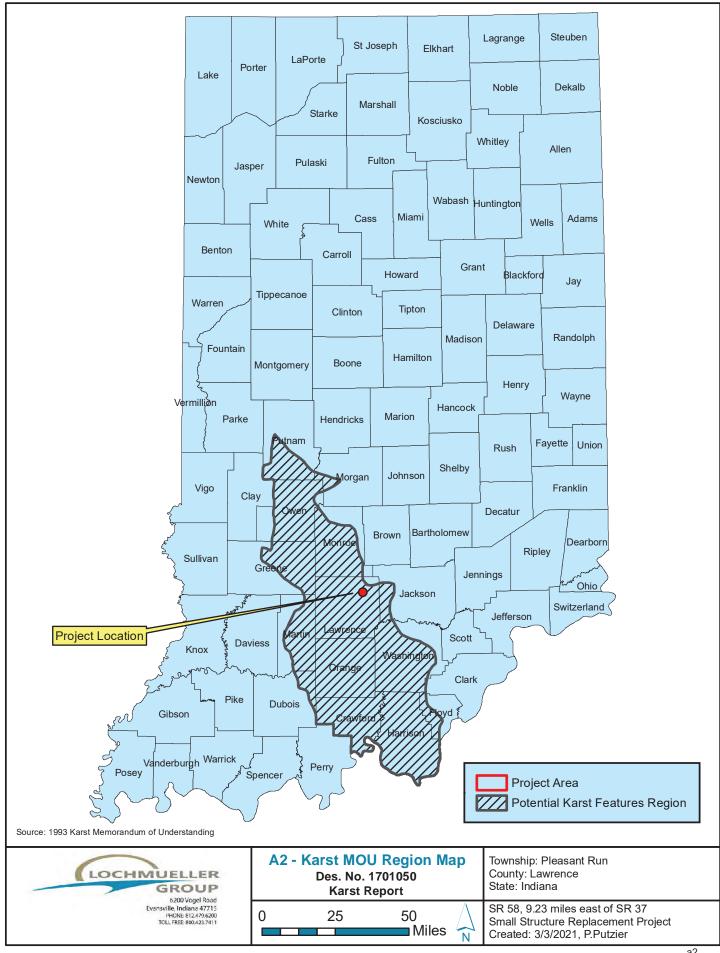


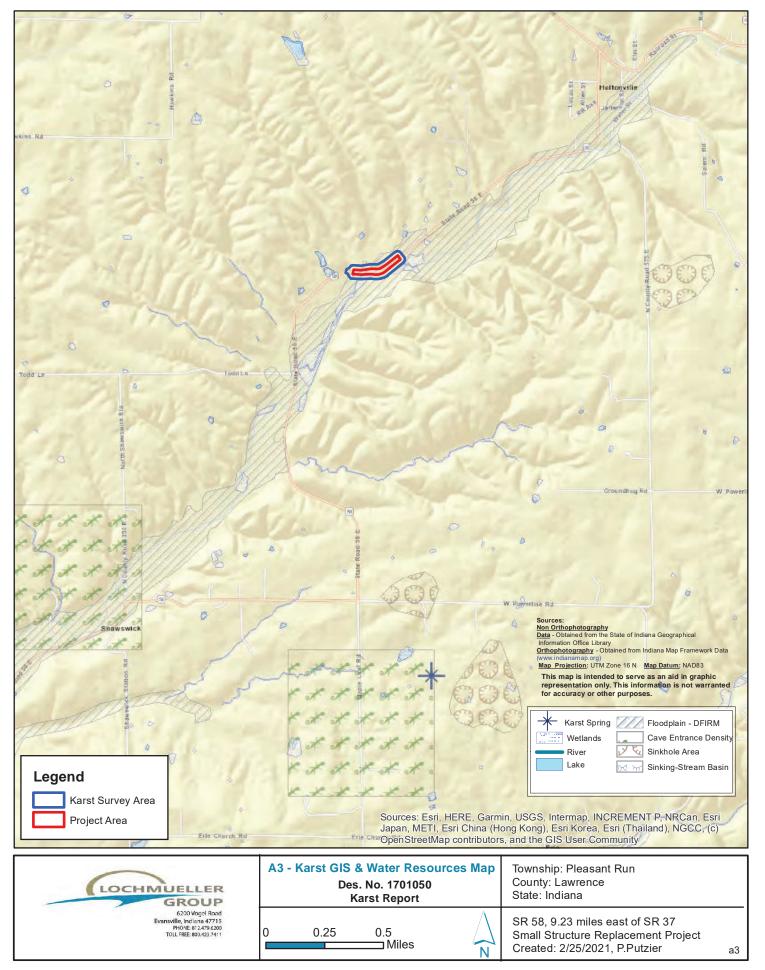
Small Structure Replacement Project
Des. No. 1701050
Lawrence County, Indiana
Karst Report

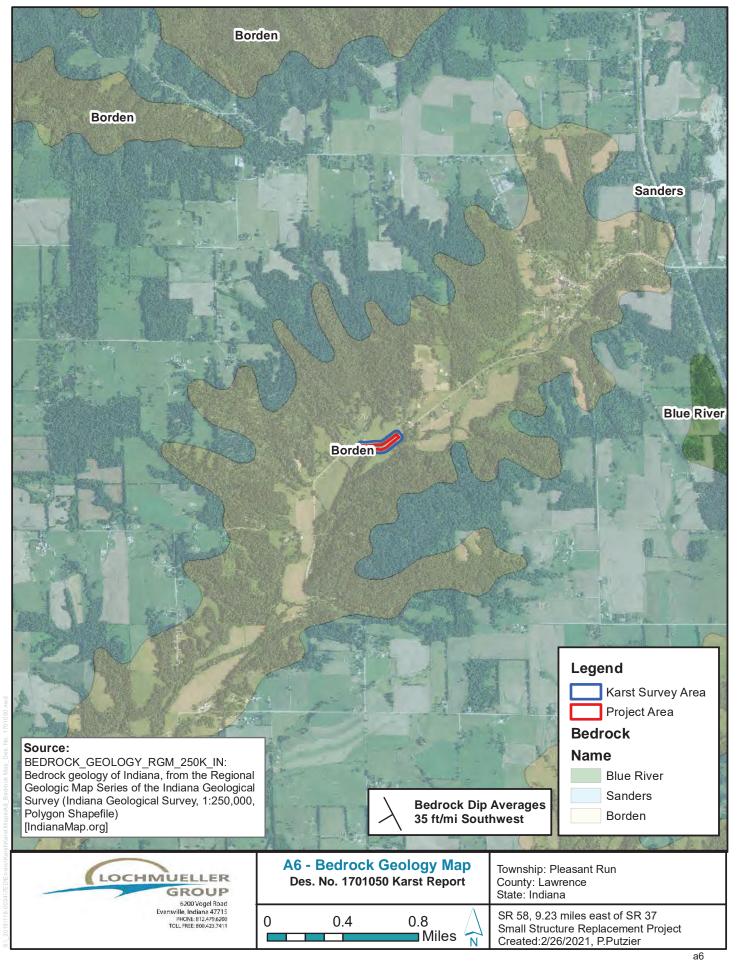
# **ATTACHMENTS**

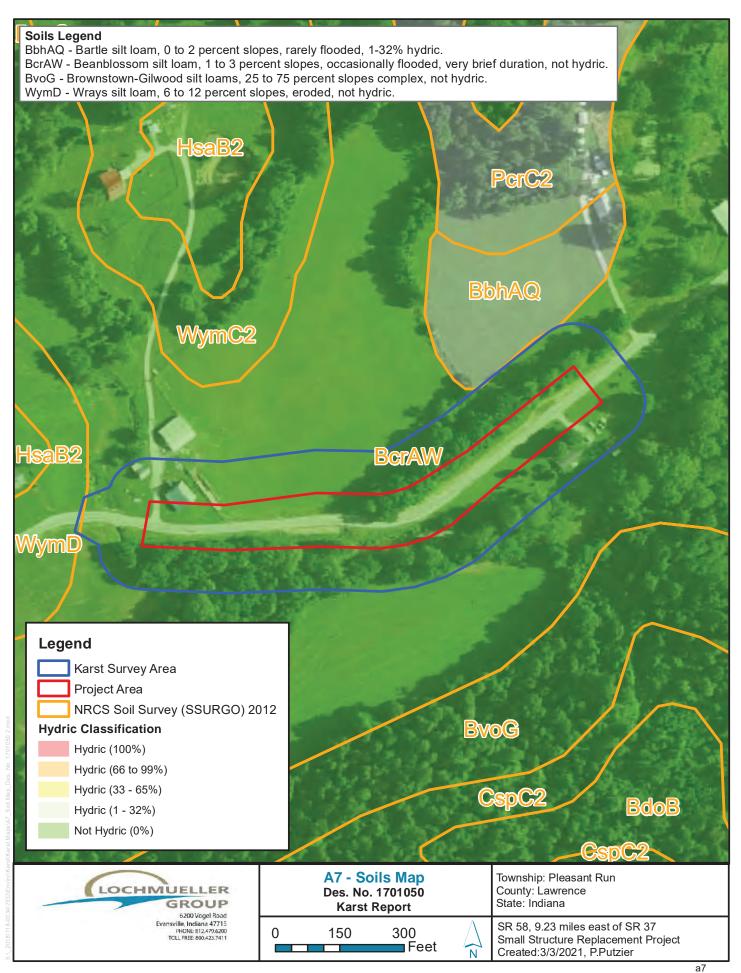


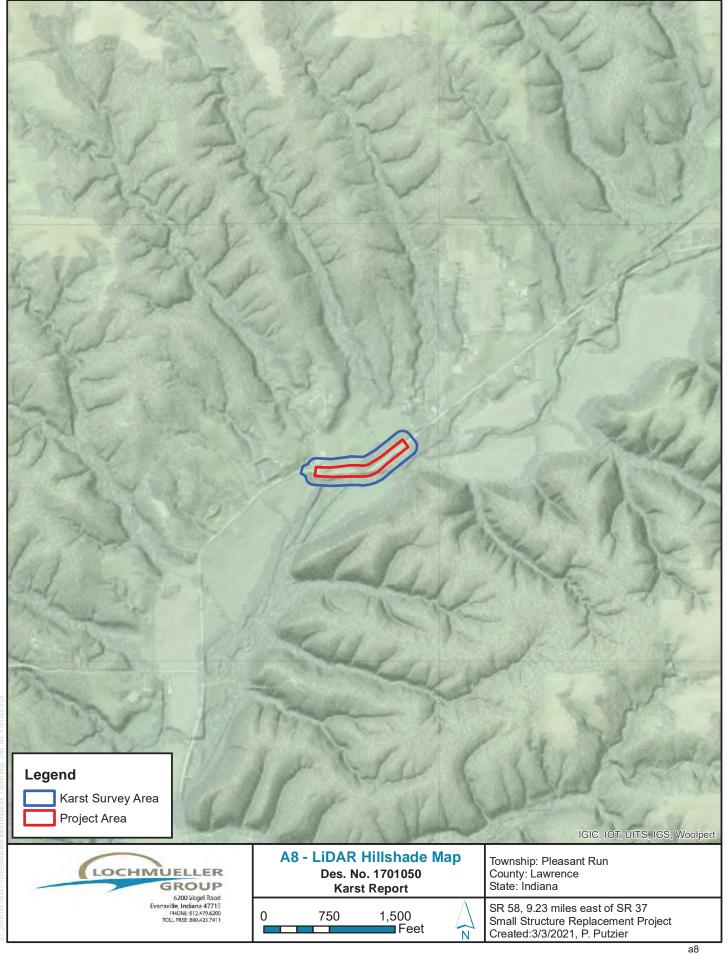
Des. No. 1701050 Appendix I: Other Information 6



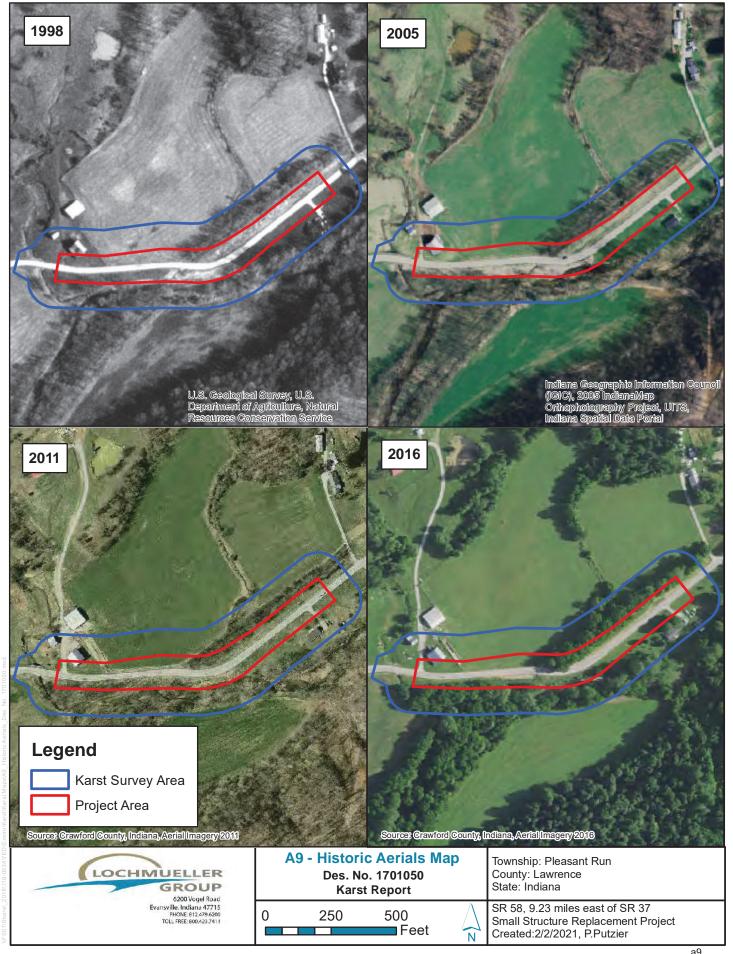








11



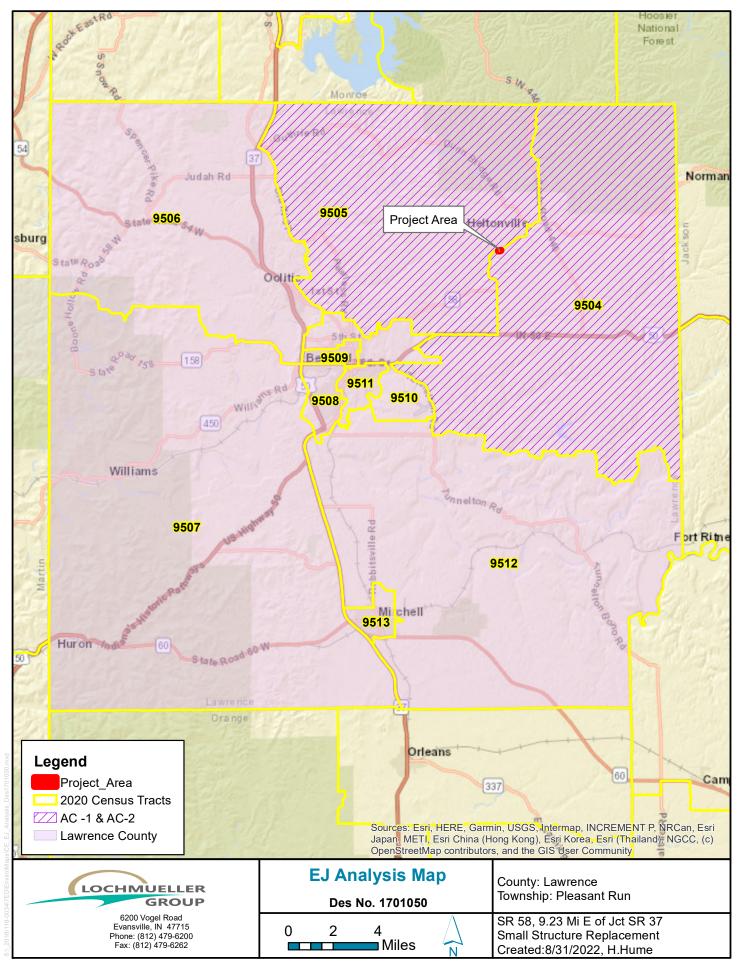
# Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated March 2022)

ProjectNumber	SubProjectCode	County	Property
1800010	1800010	Lawrence	Spring Mill State Park & Donaldson's Cave Nature Preserve
1800132	1800132	Lawrence	Mitchell Park and Pool
1800161	1800161C	Lawrence	Spring Mill State Park
1800162	1800162	Lawrence	Spring Mill State Park & Donaldson's Cave Nature Preserve
1800171	1800171N	Lawrence	Spring Mill State Park
1800177	' 1800177C	Lawrence	Spring Mill State Park
1800180	1800180	Lawrence	Spring Mill State Park & Donaldson's Cave Nature Preserve
1800309	1800309B	Lawrence	Spring Mill State Park
1800312	2 1800312P	Lawrence	Spring Mill State Park
1800363	1800363DD	Lawrence	Spring Mill State Park
1800413	3 1800413T	Lawrence	Spring Mill State Park
1800433	1800433	Lawrence	Spring Mill State Park & Donaldson's Cave Nature Preserve
1800612	1800612	Lawrence	Spring Mill State Park

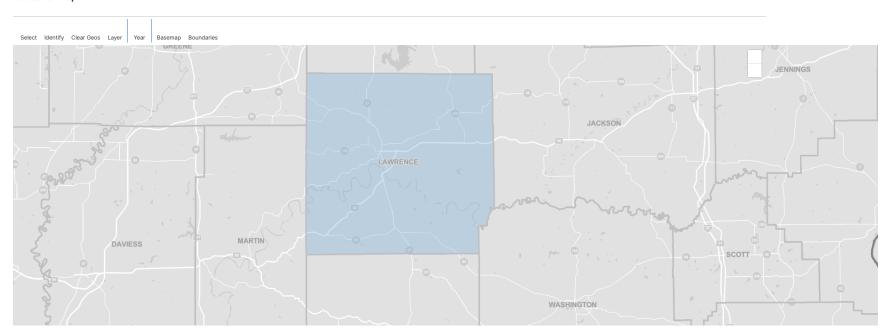
<sup>\*</sup>Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

# 2016-2020 American Community Survey 5-Year Estimates

		<u>coc</u>	<u>AC</u>	<u>AC</u>	
		Lawrence County, Indiana	Census Tract 9504, Lawrence County, Indiana	Census Tract 9505, Lawrence County, Indiana	
B17001	Low-Income Company Com				
001	Population for whom poverty status is determined: Total	44,758	3,936	4,692	
002	Population for whom poverty status is determined: Income in past 12 months below poverty level	4,950	237	349	
	Percent Low-income (002/001 x 100)	11.06%	6.02%	7.44%	
	125 Percent of COC	13.82%	AC < 125% COC	AC < 125% COC	
	Potential Low-income EJ Impact?		No	No	
B03002	Minority				
001	Total Population: Total	45,552	3,953	4,692	
002	Total Population: Not Hispanic or Latino	44,786	3,922	4,532	
003	Total Population: Not Hispanic or Latino; White alone	43,292	3,767	4,529	
004	Total Population: Not Hispanic or Latino; Black or African American alone	197	34	0	
005	Total Population: Not Hispanic or Latino; American Indian and Alaska Native alone	77	0	3	
006	Total Population: Not Hispanic or Latino; Asian alone	242	0	0	
007	Total Population: Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	7	0	0	
008	Total Population: Not Hispanic or Latino; Some other race alone	203	0	0	
009	Total Population: Not Hispanic or Latino; Two or more races	768	121	0	
010	Total Population: Hispanic or Latino	766	31	160	
011	Total Population: Hispanic or Latino; White alone	424	31	146	
012	Total Population: Hispanic or Latino; Black or African American alone	0	0	0	
013	Total Population: Hispanic or Latino; American Indian and Alaska Native alone	11	0	0	
014	Total Population: Hispanic or Latino; Asian alone	0	0	0	
015	Total Population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0	0	
016	Total Population: Hispanic or Latino; Some other race alone	214	0	14	
017	Total Population: Hispanic or Latino; Two or more races	117	0	0	
	Number Non-white/minority (001-003)	2,260	186	163	
	Percent Non-white/Minority (001-003/001 x 100)	4.96%	4.71%	3.47%	
_	125 Percent of COC	6.20%	AC < 125% COC	AC < 125% COC	
	Potential Minority EJ Impact?		No	No	



#### Selection Map



LEGEND YEAR: 2020				
Selected Geographies	1			
Styles				
State County				

i 1

American Community Survey

#### Total:—Estimate in 2 Geos in 2020

2020 : ACS 5-Year Estimates Detailed Tables





mi

### HISPANIC OR LATINO ORIGIN BY RACE



Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

	Lawrence County, Indiana		Census Tract 9504, Lawrence C	ounty, Indiana	Census Tract 9505, Lawrence County, Indiana		
abel	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of	
✔ Total:	45,552	****	3,953	±537	4,692		
➤ Not Hispanic or Latino:	44,786	****	3,922	±542	4,532		
White alone	43,292	±244	3,767	±513	4,529		
Black or African American alone	197	±69	34	±45	0		
American Indian and Alaska Native alone	77	±66	0	±12	3		
Asian alone	242	±75	0	±12	0		
Native Hawaiian and Other Pacific Islander alone	7	±11	0	±12	0		
Some other race alone	203	±222	0	±12	0		
➤ Two or more races:	768	±140	121	±109	0		
Two races including Some other race	113	±113	52	±71	0		
Two races excluding Some other race, and three or more races	655	±87	69	±77	0		
➤ Hispanic or Latino:	766	****	31	±36	160		
White alone	424	±210	31	±36	146		
Black or African American alone	0	±26	0	±12	0		
American Indian and Alaska Native alone	11	±22	0	±12	0		
Asian alone	0	±26	0	±12	0		
Native Hawaiian and Other Pacific Islander alone	0	±26	0	±12	0		
Some other race alone	214	±171	0	±12	14		
➤ Two or more races:	117	±127	0	±12	0		
Two races including Some other race	117	±127	0	±12	0		
Two races excluding Some other race, and three or more races	0	±26	0	±12	0		

# **Table Notes**

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#### HISPANIC OR LATINO ORIGIN BY RACE

Survey/Program: American Community Survey Universe: Total population

Year: 2020 Estimates: 5-Year **Table ID:** B03002

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2020, the 2020 Census provides the official counts of the population and housing units for the nation, states, counties, cities, and towns. For 2016 to 2019, the Population Estimates Program provides estimates of the population for the nation, states, counties, cities, and towns and intercensal housing unit estimates for the nation, states, and counties.

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates

The Hispanic origin and race codes were updated in 2020. For more information on the Hispanic origin and race code changes, please visit the American Community Survey Technical Documentation website.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in

The 2016-2020 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of

Explanation of Symbols:

The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended

The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area.

(X)

The estimate or margin of error is not applicable or not available.

median-

The median falls in the lowest interval of an open-ended distribution (for example "2,500-")

The median falls in the highest interval of an open-ended distribution (for example "250,000+").

The margin of error could not be computed because there were an insufficient number of sample observations.

The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.

A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

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



Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

	Lawrence County, Indiana Census Tract 9504, Lawrence County, Indiana Census Tract 9505, Lawrence County, Indiana						
abel	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	
· Total:	44,758	±224	3,936	±533	4,692	±532	
➤ Income in the past 12 months below poverty level:	4,950	±699	237	±148	349	±216	
➤ Male:	2,067	±379	87	±74	109	±106	
Under 5 years	211	±100	0	±12	0	±12	
5 years	99	±75	0	±12	0	±12	
6 to 11 years	218	±91	0	±12	15	±24	
12 to 14 years	92	±52	0	±12	23	±37	
15 years	17	±24	0	±12	0	±12	
16 and 17 years	31	±31	0	±12	0	±12	
18 to 24 years	157	±64	0	±12	0	±12	
25 to 34 years	414	±217	0	±12	13	±22	
35 to 44 years	129	±77	34	±54	0	±12	
45 to 54 years	199	±113	6	±10	42	±51	
55 to 64 years	232	±94	9	±18	0	±12	
65 to 74 years	164	±84	29	±36	0	±12	
75 years and over	104	±62	9	±18	16	±26	
➤ Female:	2,883	±483	150	±106	240	±153	
Under 5 years	239	±118	13	±25	35	±51	
5 years	47	±55	0	±12	0	±12	
6 to 11 years	304	±148	0	±12	0	±12	
12 to 14 years	73	±41	17	±22	0	±12	
15 years	38	±49	0	±12	0	±12	
16 and 17 years	59	±43	0	±12	0	±12	
18 to 24 years	283	±130	25	±38	0	±12	
25 to 34 years	408	±140	26	±27	86	±93	
35 to 44 years	268	±117	3	±10	0	±12	
45 to 54 years	304	±136	4	±10	88	±97	
55 to 64 years	356	±138	31	±30	0	±12	

# **Table Notes**

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

Survey/Program: American Community Survey Universe: Population for whom poverty status is determined Year: 2020 Estimates: 5-Year Table ID: B17001

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2020, the 2020 Census provides the official counts of the population and housing units for the nation, states, counties, cities, and towns. For 2016 to 2019, the Population Estimates Program provides estimates of the population for the nation, states, counties, cities, and towns and intercensal housing unit estimates for the nation, states, and counties.

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in

The 2016-2020 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

#### Explanation of Symbols:

The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended distribution.

A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.

The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area.

The estimate or margin of error is not applicable or not available.

median-

The median falls in the lowest interval of an open-ended distribution (for example "2,500-")

The median falls in the highest interval of an open-ended distribution (for example "250,000+").

The margin of error could not be computed because there were an insufficient number of sample observations.

The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

# **Culvert Inspection Report**

CV 058-047-86.77 SR 58 over UNT Leatherwood Cr.



Inspection Date: 03/09/2021

Inspected By: James Hefferman

Inspection Type(s): Culvert

**<u>Paint:</u>** \* Indicate if paint present , year painted & condition rating.

N - No Paint Not Rated

Comments:

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

Bats: seen or heard under structure? \* Ν

Birds/swallows/nests seen? Empty nests present? \* Ν

**BRIDGE Culvert Geometry:** 

Barrel Length: 70.0

Height: 7

Width: 12

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