



CE-4

## APPENDIX F: WATER RESOURCES

# Waters of the U.S. Report

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FLOYD COUNTY

DES. No.  
1900162

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**List of Attachments**

- Attachment A – Figures and Site Photographs*
- Attachment B – Data Sheets and Soil Photographs*
- Attachment C – Year Seven Monitoring Report*
- Attachment D – Preliminary Jurisdictional Form*

Attachments have been removed to reduce the file size. Wetlands and streams are shown on maps in Appendix B.

# 1 PROJECT INFORMATION

## 1.1 Field Reconnaissance

Table 1: Dates of Field Reconnaissance

Month	Day	Year
June	16 <sup>th</sup> and 17 <sup>th</sup>	2021
July	21 <sup>st</sup> -23 <sup>rd</sup> and 28 <sup>th</sup> – 30 <sup>th</sup>	2021
October	5 <sup>th</sup> – 7 <sup>th</sup> and 24 <sup>th</sup>	2021
April	4 <sup>th</sup> and 5 <sup>th</sup>	2022
August	13 <sup>th</sup>	2022
November	3 <sup>rd</sup>	2022

## 1.2 Location

The project is located along Interstate 64 (I-64), from US 150 to Main Street and I-265, from I-64 to Green Valley Road in New Albany, Indiana (Attachment A, Page 1).

Table 2: Project Location

<b>Townships</b>	New Albany, Lafayette, Georgetown	
<b>County</b>	Floyd	
<b>Latitude/Longitude</b>	38.301944, -85.858277	
<b>USGS 7.5 Minute Quadrangles</b>	New Albany, Georgetown	
<b>Sections</b>	<b>Township</b>	<b>Range</b>
22, 27, 28, 29, 30, 31, 32, 33, 34	2 South	6 East
2, 3	3 South	6 East

### 1.3 Project Description

The Federal Highway Administration (FHWA) and Indiana Department of Transportation (INDOT), Seymour District are planning to proceed with the Improve 64 project in Floyd County, Indiana.

Project activities are anticipated to include:

- Addition of a travel lane in each direction on I-64 from US 150 to 2,000 feet north of Cherry Street. In most areas, the additional lanes will be added to the median where rock excavation will be necessary.
- Addition of an auxiliary lane on eastbound I-265 from I-64 to State Street and a travel lane on eastbound I-265 from I-64 to 4,000 feet east of State Street. The auxiliary lane will be added on the outside and the travel lane added within the median.
- Addition of one lane to all I-64/I-265 interchange ramps and one lane on the I-64 westbound exit ramp to US 150.
- Replacement and/or rehabilitation of pavement on I-64, I-265 and US 150.
- Relocation of the eastbound I-64 to eastbound I-265 ramp within the I-64/I-265 interchange. Construction of a new bridge on eastbound I-64 is required to accommodate the ramp relocation.
- Replacement, widening, and deck rehabilitation of bridges throughout the project area.
- Replacement of culverts and storm sewers, and construction of detention basins.
- Installation of guardrail and concrete barrier wall as needed along I-64.
- Replacement and addition of signage, lighting, ITS conduit, and pavement markings.
- Construction of retaining walls at multiple locations to minimize right-of-way acquisition and to accommodate new traffic lanes added within the narrowed median along I-64 between US 150 and I-265.
- Possible construction of noise barriers.

## 2 DESKTOP RECONNAISSANCE

### 2.1 Soil Associations and Series Types

According to the Soil Survey Geographic (SSURGO) Database for Floyd County, Indiana, the following 18 mapped soils series are within the project area (Attachment A, Pages 13-21).

Table 3: Map Soil Series

Map Unit Symbol	Map Unit Name	SSURGO Hydric Rating by Map Unit
BcrAW	Beanblossom silt loam	2
GgbG	Gilwood-Brownstown silt loams	0
GgfE2	Gilwood-Wrays silt loams	0
GmaG	Gnawbone-Kurtz silt loams	0
KxkC2	Knobcreek-Navilleton silt loams	0
PcrA	Pekin silt loam	2
SceB2	Scottsburg silt loam	0
SoaB	Spickert silt loam, 2-6 percent slopes	0
SodB	Spickert silt loam, terrace, 1 to 4 percent slopes	0
SolC2	Spickert-Wrays silt loams	0
Uaa	Udorthents	0
UaoAk	Udifluents, cut and filed urban land complex	0
UedA	Urban lands - aquents,	8
UndAY	Urban land-Udifluents complex	0
UnIC	Urban land-Udarents, hard bedrock	0
UnpA	Urban land-Udarents, loamy substratum	0
UnrD	Urban land-Udarents, soft bedrock	0
WhdD2	Wellrock-Gnawbone-Spickert	0

## 2.2 National Wetlands Inventory

Based on the U.S. Fish and Wildlife National Wetlands Inventory (NWI) data ([www.fws.gov/wetlands/Data/State-Downloads.html](http://www.fws.gov/wetlands/Data/State-Downloads.html)), eleven polygons that represent riverine features are mapped within the investigated area (Attachment A, Pages 22-27). NWI features that are located within the investigated area are summarized in Table 4.

Table 4: NWI Summary

Feature Name	Lat/Long	Classification
Falling Run Creek	38.285851, -85.831878	Riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH)
Valley View Creek	38.29336395, -85.83929467	Riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH)
Hill Brook Creek	38.30137461, -85.85389945	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
UNT 1 to Little Indian Creek	38.30378694, -85.8788426	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
UNT 6 to Little Indian Creek	38.30213283, -85.89350884	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
UNT 7 to Little Indian Creek	38.30498544, -85.89156121	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
Little Indian Creek	38.311208, -85.89653702	Riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH)
Trinity Run Creek	38.30997027, -85.84581081	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
Holy Run Creek	38.31473617, -85.84357345	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
Green Run Creek	38.31897218, -85.84130434	Riverine, intermittent, streambed, seasonally flooded (R4SBC)
Lost Knob Creek	38.32328676, -85.83819367	Riverine, intermittent, streambed, seasonally flooded (R4SBC)

### 2.3 Hydrology

Throughout the investigated area, the general landscape is characterized by road surface, steep roadway side slopes, V-shaped canyons, gullies, and waterways. The project area is within the Charlestown Hills physiographic region. Hydrologically speaking, this region is characterized by numerous V-shaped drainageways, draining the numerous tributaries to Falling Run Creek, Green Run Creek, Hill Brook Creek, Holy Run Creek, Little Indian Creek, Logan Hollow Creek, Trinity Run Creek, and Valley View Creek.

The investigated area is within two 12-digit watersheds including the Little Indian Creek (HUC12-051401040304) and the Fall Run-Ohio River (HUC12-051401010906).

According to the Indiana Floodplain Information Portal, portions of the investigated area are within 100-year floodplains or regulatory floodways of the following streams:

**Table 5: 100 Year Floodplain / Regulated Floodway Summary**

100-year Floodplain / Regulated Floodway	Base Flood Elevation (NAVD88)
Little Indian Creek	748.9 feet
Falling Run Creek	440.5 feet
Valley View Creek	439.9 feet
Holy Run Creek	453.6 feet

Source: (<http://dnrmmaps.dnr.in.gov/appsphp/fdms/>)



### 3 FIELD RECONNAISSANCE

HNTB Indiana and VS Engineering staff performed field reviews during spring, summer, and fall 2021 and spring, summer, and fall 2022 to determine the presence of Waters of the U.S. within the investigated area. Data was collected to determine the presence or absence of water resources. The investigated area encompassed the area required for construction access and completion of the construction activities. Photo location maps and corresponding photographs of select features and areas of interest throughout the investigated area are included as Attachment A, Pages 68-183.

The investigated area was analyzed using the methods outlined in the Routine Determination, On-site Inspection Necessary procedure in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Eastern Mountains and Piedmont Region* (U.S. Army Corps of Engineers, 2010). Though a portion of the eastern leg of the project area is mapped with the Midwest USACE regional supplement area, the general topography landscape setting was most indicative of the Eastern Mountain and Piedmont Region; therefore, data points were taken with these regional indicators in mind. Identification of indicator status of plant species utilized the 2019 National Wetland Plant List, using the Eastern Mountain and Piedmont indicator status. Field GIS data was collected using a Trimble R1 GNSS GPS with sub-meter accuracy.

## 4 WATERS

The 2021 and 2022 field reconnaissance for the Improve 64 project identified 12 wetlands and 36 streams.

### 4.1 Wetlands

Due to the relatively low relief and compacted soils of roadside ditches, wetland conditions often resulted from ponding at the base of roadside slopes and median drain outfalls or cross drains, despite few hydric soils being mapped within the investigated area. Wetland conditions were also observed within the floodplains of larger streams.

Due to the large number of wetlands delineated within the investigated area, wetlands are summarized in Table 6. This table contains characteristic data that can be found on the wetland determination forms (Attachment B, Pages 1-104). Two data points (13 Up and 14 Up) were taken to confirm the absence of wetlands. These data points are not discussed in detail in the report text; however, the data sheets are summarized in Table 7 and are included in the attachments (Attachment B, Pages 97-104). Any preliminary jurisdictional determination of “yes” in the “Likely Water of the U.S.?” column was made based a water resources field review conducted by HNTB Indiana as well as review of reference materials such as aerial photography, LiDAR mapping, USGS Topographic maps, and National Hydrography dataset (NHD) lines. The features that have been given a preliminary jurisdictional determination of “yes” are wetlands with demonstrative connection to a Traditionally Navigable Waterway (TNW). There are four features without a demonstrative connection to a TNW (Wetland 6, 9, 11, and 12); however, INDOT is requesting the USACE take jurisdiction of these features. The rationale for these preliminary determinations is summarized below in Table 6. Final Jurisdictional Determinations are the purview of the U.S. Army Corps of Engineers (USACE).

Table 6: Wetland Summary Table

Wetland	Lat/Long	Photo ID	Photo Location Map/Photo Attachment Page	Acreage	Type	Quality	Data Point ID (DP)	Dominant Vegetation within wetland point	Hydric Soil Indicator(s)	Hydrology Indicator(s)	Local Relief	Notes	Likely Water of the U.S.?
Wetland 1	38.28555667, -85.82759142	18	Map 2, Attachment A Page 70	0.033	PEM	Poor	1 Wet, 1 Up	<i>Carex frankii</i>	F3	D2, D5	Concave	Wetland 1 is fully contained within the investigated area and is part of the roadside drainage system for I-64. Wetland 1 has hydrologic connectivity to UNT 1 to Falling Run Creek. UNT 1 to Falling Run Creek flows into UNT 2 to Falling Run Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes*
Wetland 2	38.28542071, -85.83024597	23	Map 3, Attachment A Page 71	0.034	PFO	Average	2 Wet, 2 Up	<i>Platanus occidentalis, Fraxinus pennsylvanica, Salix interior, Carex lupulina, Sagittaria latifolia, Typha latifolia</i>	F2	B9, D2, D5	Concave	Wetland 2 is fully contained within the investigated area. The wetland is located in the Spring Street/I-64 interchange at the base of the I-64 eastbound side slope. Wetland 2 has hydrologic connectivity to UNT 3 to Falling Run Creek. UNT 3 to Falling Run Creek flows into Falling Run Creek, which flows into the Ohio River, a TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 3	38.28764692, -85.83091175	31-34	Map 5, Attachment A Page 73	0.013	PEM	Poor	3 Wet, 3 Up	<i>Fraxinus pennsylvanica, Lysimachia nummularia</i>	F3, F6	B1, B3, B8, B9, D5	Concave	Wetland 3 is fully contained within the investigated area and is part of the roadside drainage system for I-64. Wetland 3 drains into Falling Run Creek, which flows into the Ohio River, TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 4	38.30039515, -85.84797744	84-86	Maps 12 & 13, Attachment A Pages 80-81	0.383	PFO/EM	Poor	4 Wet, 4 Up	<i>Platanus occidentalis, Typha angustifolia</i>	F3	B4, D5	Concave	Wetland 4 is fully contained within the investigated area. The wetland is located within the median, just southeast of the I-64 and I-265 interchange. The wetland formed in a low-lying area between the I-64 eastbound and westbound side slopes. Wetland 4 drains into UNT 5 to Valley View Creek, which drains into UNT 4 of Valley View Creek, which drains into Valley View Creek, which drains into Falling Run Creek, which drains into the Ohio River, a TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 5	38.30107962, -85.85016112	96	Map 13, Attachment A Page 81	0.031	PEM	Poor	5 Wet, 5 Up	<i>Platanus occidentalis, Salix nigra, Typha angustifolia, Impatiens capensis, Lonicera japonica</i>	F3	A2, A3, D5	Concave	Wetland 5 is fully contained within the investigated area. The wetland formed in a low-lying area within the I-64 and I-265 interchange. Wetland 5 drains into UNT 7 to Valley View Creek, which drains into Valley View Creek, which drains into Falling Run Creek, which drains into the Ohio River, a TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 6	38.30126581, -85.85744377	160	Map 18, Attachment A Page 86	0.052	PEM	Poor	6 Wet, 6 Up	<i>Platanus occidentalis, Typha angustifolia, Schedonorus arundinaceus, Conoclinium coelestinum</i>	F3	A1, A2, A3, D5	Concave	Wetland 6 is fully contained within the investigated area. The wetland formed at the base of the I-64 eastbound side slopes. Wetland 6 does not have demonstrative connection to a jurisdictional feature.	Yes

Wetland	Lat/Long	Photo ID	Photo Location Map/Photo Attachment Page	Acreage	Type	Quality	Data Point ID (DP)	Dominant Vegetation within wetland point	Hydric Soil Indicator(s)	Hydrology Indicators(s)	Local Relief	Notes	Likely Water of the U.S.?
Wetland 7	38.30211018, -85.86281528	170-171	Map 19, Attachment A Page 87	0.102	PEM	Average	7 Wet, 7 Up	<i>Microstegium vimineum</i>	F7	A1, B10, D2	Concave	Wetland 7 is fully contained within the investigated area. The wetland formed at the base of the I-64 west bound side slope, in a low-lying area near the confluence of concrete ditches and UNT 10 to Valley View Creek. Wetland 7 drains into UNT 10 to Valley View Creek, which drains into Valley View Creek, which drains into Falling Run Creek, which drains into the Ohio River, a TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 8	38.30171167, -85.88890962	264	Map 27, Attachment A Page 95	0.056	PEM	Poor	8 Wet, 8 Up	<i>Leersia virginica, Microstegium vimineum, Carex hystericina</i>	F3	A1, A2, D5	Concave	Wetland 8 is fully contained within the investigated area. The wetland formed at the base of the US 150 ramp to I-64 east side slope. Wetland 8 drains into UNT 4 to Little Indian Creek, which drains into Little Indian Creek, which drains into Indian Creek, which drains into the Ohio River, a TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 9	38.3085582, -85.84803592	317-318	Map 33, Attachment A Page 101	0.013	PEM	Poor	9 Wet, 9 Up	<i>Echinochloa crus-galli, Schoenoplectus tabernaemontani, Juncus tenuis</i>	F3	A1, A3, B4, B5, D5	Concave	Wetland 9 is fully contained within the investigated area and is part of the roadside drainage system for I-64. Wetland 9 does not have demonstrative connection to a jurisdictional feature.	Yes*
Wetland 10	38.3100768, -85.84542913	349	Maps 36 & 37, Attachment A Pages 104-105	0.074	PEM	Poor	10 Wet, 10 Up	<i>Typha angustifolia, Schoenoplectus tabernaemontani</i>	F3	C9, D5	Concave	Wetland 10 is fully contained within the investigated area and is part of the roadside drainage system for I-265 and State Street. Wetland 10 drains into Trinity Run Creek, which drains into Falling Run Creek, which drains into the Ohio River, a TNW. This wetland is likely jurisdictional due to hydrologic connectivity to a TNW.	Yes
Wetland 11	38.31674816, -85.84249211	373-374	Map 41, Attachment A Page 109	0.026	PEM	Poor	11 Wet, 11 Up	<i>Juncus tenuis, Scirpus georgianus, Agrostis stolonifera</i>	F2	B6, D5	Concave	Wetland 11 is fully contained within the investigated area and is part of the roadside drainage system for I-265. Wetland 11 does not have demonstrative connection to a jurisdictional feature.	Yes*
Wetland 12	38.32396964, -85.8368607	400-401	Map 44, Attachment A Page 112	0.014	PEM	Poor	12 Wet, 12 Up	<i>Carex frankii, Carex vulpinoidea</i>	F3	B4, B6, D5	Concave	Wetland 12 is fully contained within the investigated area and is part of the roadside drainage system for I-265. Wetland 12 does not have demonstrative connection to a jurisdictional feature.	Yes*

\*INDOT acknowledges that the wetland would likely not meet the definition of a Waters of the US. However, INDOT is requesting that the USACE take jurisdiction of the wetland.

Table 7: Wetland Data Point Summary Table

Data Point ID	Vegetation	Soils	Hydrology	Within a Wetland?
1 Up	No	No	Yes	No
1 Wet	Yes	Yes	Yes	Yes, Wetland 1
2 Up	No	No	No	No
2 Wet	Yes	Yes	Yes	Yes, Wetland 2
3 Up	Yes	No	No	No
3 Wet	Yes	Yes	Yes	Yes, Wetland 3
4 Up	No	Yes	No	No
4 Wet	Yes	Yes	Yes	Yes, Wetland 4
5 Up	Yes	Yes	No	No
5 Wet	Yes	Yes	Yes	Yes, Wetland 5
6 Up	No	Yes	No	No
6 Wet	Yes	Yes	Yes	Yes, Wetland 6
7 Up	Yes	No	No	No
7 Wet	Yes	Yes	Yes	Yes, Wetland 7
8 Up	No	No	No	No
8 Wet	Yes	Yes	Yes	Yes, Wetland 8
9 Up	No	Yes	No	No
9 Wet	Yes	Yes	Yes	Yes, Wetland 9
10 Up	No	Yes	No	No
10 Wet	Yes	Yes	Yes	Yes, Wetland 10
11 Up	No	No	No	No
11 Wet	Yes	Yes	Yes	Yes, Wetland 11
12 Up	No	Yes	No	No
12 Wet	Yes	Yes	Yes	Yes, Wetland 12
13 Up	Yes	Yes	No	No
14 Up	No	No	Yes	No

## 4.2 Streams

The field investigation for the Improve 64 project resulted in the evaluation of 36 streams, including one existing mitigation site, all of which are likely jurisdictional streams. Due to the large number of stream features delineated within the project area, stream characteristics are summarized in Table 8 below. For stream reaches whose drainages areas were not able to be delineated via USGS StreamStats, an area of 0.01 square mile was assumed. Any preliminary jurisdictional determination of “yes” in the “Likely Water of the U.S.” column was made based a water resources field review conducted by HNTB Indiana as well as review of reference materials such as aerial photography, LiDAR mapping, USGS Topographic maps, and National Hydrography dataset (NHD) lines. The rationale for these preliminary determinations is summarized below in Table 8. Final Jurisdictional Determinations are the purview of the USACE.

## 4.3 Roadside Drainage Features

Roadside ditches were inspected throughout the project area for ordinary high watermark (OHWM) characteristics, bed and bank incision, and/or wetland hydrophytes. Unless otherwise stated, no roadside ditches containing these characteristics were observed.

Table 8: Stream Summary Table

Stream Name	Lat/Long	Photo ID	Photo Location Map/Photo Attachment Page	Linear Feet within Investigated Area	Blueline	Quality	OHWL	Substrate	Riffles/Pool s present?	Upstream Drainage Area	Notes	Waters of the U.S.
Falling Run Creek	38.28585209, -85.83188144	409-410, 413, & 415-416	Map 5, Attachment A Page 73	624	Yes	Average	33.5 feet wide by 4.17 feet deep	Silt and gravel	No	9.802 square miles	Flows into the Ohio River, a TNW.	Yes, Perennial
UNT 1 to Falling Run Creek	38.285748, -85.828347	14, 16, 27, & 28	Maps 2 & 4, Attachment A Pages 70 & 72	528	No	Poor	2.75 feet wide by 0.42 feet deep	Silt	No	0.01 square mile	Flows into UNT 2 to Falling Run Creek which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 2 to Falling Run Creek	38.28654799, -85.82926226	29-30	Maps 4 & 5, Attachment A Pages 72-73	862	No	Average	6.5 feet wide by 0.6 feet deep	Cobble and silt	No	0.01 square mile	Flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 3 to Falling Run Creek	38.28537913, -85.83032241	22-24	Map 3, Attachment A Page 71	558	No	Poor	1.5 feet wide by 0.3 feet deep	Silt	No	0.01 square mile	Flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
Green Run Creek	38.31897218, -85.84130434	390	Map 42, Attachment A Page 110	584	Yes	Poor	4 feet wide by 0.3 feet deep	Riprap	No	0.215 square mile	Flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
UNT 1 to Green Run Creek	38.3201035, -85.84019114	380-381, & 384	Map 42, Attachment A Page 110	411	No	Poor	2.5 feet wide by 0.2 feet deep	Riprap and silt	No	0.01 square mile	Flows into Green Run Creek via culvert and an open channel, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 2 to Green Run Creek	38.32155481, -85.83924592	391, & 393-396	Map 42, Attachment A Page 111	470	No	Poor	1 foot wide by 0.1 feet deep	Silt	No	0.068 square mile	Flows into Green Run Creek via an enclosed drainage system, which outlets into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
Hill Brook Creek	38.30137461, -85.85389945	138-140, & 148-151	Maps 16 & 17, Attachment A Pages 84-85	1652	Yes	Poor	8 feet wide by 0.3 feet deep	Cobble, concrete, riprap, and silt	No	0.264 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
Holy Run Creek	38.31473617, -85.84357345	369-370, & 377-378	Maps 40 & 41, Attachment A Pages 108-109	800	Yes	Average	4.6 feet wide by 0.4 feet deep	Cobble, gravel, and silt	No	0.269 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
UNT 1 to Holy Run Creek	38.31437789, -85.84390951	371	Maps 39, 40, & 41, Attachment A Pages 107-109	282	No	Poor	1 foot wide by 0.1 feet deep	Concrete	No	0.01 square mile	Flows into Holy Run Creek, which flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
Little Indian Creek	38.311208, -85.89653702	295, 297, & 299-300	Map 31, Attachment A Page 99	316	Yes	Average	31.7 feet wide by 1.8 feet deep	Bedrock, cobble, and gravel	Yes	11.817 square miles	Flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Perennial
UNT 1 to Little Indian Creek	38.30378694, -85.8788426	187-188, 192 & 193	Map 23, Attachment A Page 91	475	Yes	Poor	4.3 feet wide by 0.3 feet deep	Cobble and gravel	No	0.102 square mile	Flows into Little Indian Creek, which flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
UNT 2 to Little Indian Creek	38.30411245, -85.88228185	201-202, & 206-207	Map 24, Attachment A Page 92	398	No	Poor	1.5 feet wide by 0.2 feet deep	Gravel, cobble, and concrete	No	0.01 square mile	Flows into Little Indian Creek, which flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 3 to Little Indian Creek	38.30397208, -85.88522294	214, & 225-226	Map 25, Attachment A Page 93	585	No	Poor	8 feet wide by 0.2 feet deep	Bedrock and silt	No	0.01 square mile	Flows into Little Indian Creek, which flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 4 to Little Indian Creek	38.30165143, -85.88895428	265-266	Map 27, Attachment A Page 95	33	No	Poor	0.8 feet wide by 0.2 feet deep	Concrete	No	0.01 square mile	UNT 4 to Little Indian Creek flows into UNT 6 to Little Indian Creek, which flows into Little Indian Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral

Stream Name	Lat/Long	Photo ID	Photo Location Map/Photo Attachment Page	Linear Feet within Investigated Area	Blueline	Quality	OHW	Substrate	Riffles/Pool s present?	Upstream Drainage Area	Notes	Waters of the U.S.
UNT 5 to Little Indian Creek	38.30237376, -85.8919195	254, & 269-272	Maps 26 & 28, Attachment A Pages 94 & 96	973	No	Poor	4.1 feet wide by 0.33 feet deep	Concrete and riprap	No	0.01 square mile	Flows into UNT 6 to Little Indian Creek, which flows into Little Indian Creek, which flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 6 to Little Indian Creek	38.30213283, -85.89350884	273-279	Map 28, Attachment A Page 96	644	Yes	Average	15.4 feet wide by 0.67 feet deep	Bedrock, cobble, and gravel	Yes	0.63 square mile	Flows into Little Indian Creek, which flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
UNT 7 to Little Indian Creek	38.30498544, -85.89156121	289-290, & 292	Map 29, Attachment A Page 97	739	Yes	Average	11 feet wide by 0.5 feet deep	Gravel	Yes	0.01 square mile	Flows into Little Indian Creek, which flows into Indian Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
Logan Hollow Creek	38.30211767, -85.87300616	179	Map 21, Attachment A Page 89	329	Yes	Poor	3 feet wide by 0.3 feet deep	Riprap	No	0.01 square mile	The majority of Logan Hollow Creek is encapsulated within the investigated area. The structure that carries Logan Hollow Creek beneath I-64 outlets approximately 0.1 mile southwest of the investigated area. Flows into Middle Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
Lost Knob Brook Run Creek	38.32328676, -85.83819367	403, & 406-407	Map 44, Attachment A Page 112	396	Yes	Average	4.4 feet wide by 0.3 feet deep	Cobble and silt	Yes	0.372 square mile	Flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
Trinity Run Creek	38.30997027, -85.84581081	326, 348-350, & 353-355	Maps 34, 36, & 37, Attachment A Pages 102, 104, & 105	966	Yes	Average	7.8 feet wide by 0.25 feet deep	Cobble, gravel, and silt	No	0.72 square mile	Flows into Falling Run Creek via an enclosed drainage system, which flows into the Ohio River, a TNW.	Yes, Intermittent
UNT 1 to Trinity Run Creek	38.31025085, -85.84450628	336, 338, & 341-345	Maps 36, 37, & 38, Attachment A Pages 104-106	544	No	Poor	8.2 feet wide by 0.58 feet deep	Concrete and sand	No	0.01 square mile	Flows into Trinity Run Creek via an enclosed drainage system, which outlets into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Intermittent
UNT 2 to Trinity Run Creek	38.31159835, -85.84585115	329-330, & 332-333	Maps 35 & 39, Attachment A Pages 103 & 107	284	No	Poor	1 foot wide by 0.1 feet deep	Concrete	No	0.01 square mile	Flows into UNT 3 to Trinity Run Creek, which flows into Trinity Run Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 3 to Trinity Run Creek	38.31241935, -85.84486032	328, 360, & 363	Maps 35, 39, & 40, Attachment A Pages 103, & 107-108	836	No	Poor	1.5 feet wide by 0.1 feet deep	Concrete	No	0.01 square mile	Flows into Trinity Run Creek via an enclosed drainage system, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
Valley View Creek	38.29336395, -85.83929467	35-36, 40-44, 50, 53-54, 63-65, 69, & 71-73	Maps 6, 7, 8, 9, 10 & 11, Attachment A Pages 74-79	7438	Yes	Average	11.5 feet wide by 0.5 feet deep	Cobble and Gravel	Yes	1.684 square miles	Flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Perennial
UNT 1 to Valley View Creek	38.29512559, -85.83964457	56-57	Map 9, Attachment A Page 77	79	No	Poor	2.4 feet wide by 0.25 feet deep	Silt	No	0.01 square mile	Flows into UNT 2 to Valley View Creek, which flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 2 to Valley View Creek	38.29489318, -85.83959278	52, 55, & 60-62	Maps 8, 9, 10, Attachment A Pages 76-78	1632	No	Poor	6.6 feet wide by 1 foot deep	Silt	No	0.158 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 3 to Valley View Creek	38.29854848, -85.84412408	66-68, & 70	Maps 10 & 11, Attachment A Pages 78-79	480	No	Poor	2.7 feet wide by 2 feet deep	Silt, hardpan, and gravel	No	0.01 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 4 to Valley View Creek	38.30013199, -85.84741658	77, & 81-82	Map 12, Attachment A Page 80	700	No	Poor	3.5 feet wide by 0.25 feet deep	Silt and gravel	No	0.035 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 5 to Valley View Creek	38.300238, -85.84790182	77, 80, 83, & 88	Maps 12 & 13, Attachment A Pages 80-81	342	No	Poor	2.6 feet wide by 0.25 feet deep	Concrete	No	0.01 square mile	Flows into UNT 4 to Valley View Creek, which flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral



Stream Name	Lat/Long	Photo ID	Photo Location Map/Photo Attachment Page	Linear Feet within Investigated Area	Blueline	Quality	OHW	Substrate	Riffles/Pools present?	Upstream Drainage Area	Notes	Waters of the U.S.
UNT 6 to Valley View Creek	38.30022534, -85.84994471	100-101	Map 13, Attachment A Page 81	126	No	Poor	4.25 feet wide by 0.42 feet deep	Silt	No	0.01 square mile	Flows into UNT 7 to Valley View Creek, which flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 7 to Valley View Creek	38.3021649, -85.85078912	97, 102-103, 120-121, 125-126	Maps 13, 14, & 15, Attachment A Pages 81-83	1471	No	Poor	4.8 feet wide by 0.4 feet deep	Cobble, gravel, and silt	No	0.035 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 8 to Valley View Creek	38.30243137, -85.84993403	109, & 111-112	Map 14, Attachment A Pages 82	118	No	Poor	1 foot wide by 0.2 feet deep	Riprap and silt	No	0.01 square mile	Flows into UNT 7 to Valley View Creek via an enclosed drainage system, which outlets into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 9 to Valley View Creek	38.30293257, -85.85066995	118, 120, & 169	Maps 14 & 15, Attachment A Pages 82-83	249	No	Poor	4.2 feet wide by 0.1 feet deep	Cobble	No	0.01 square mile	Flows into UNT 7 to Valley View Creek, which flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 10 to Valley View Creek	38.30113549, -85.86241814	167-168, & 172	Map 19, Attachment A Page 87	872	No	Poor	6 feet wide by 0.2 feet deep	Gravel	No	0.076 square mile	Flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.	Yes, Ephemeral
UNT 11 to Valley View Creek (Existing Mitigation Site)	38.298915, -85.845385	420-424	Map 11, Attachment A Page 79	705	No	Poor	2 feet wide by 0.42 feet deep	Gravel and silt	No	0.01 square mile	<p><b>USACE Project No.: LRL-2009-528-djd</b></p> <p><b>IDEM Project No.: 2009-228-22-JPS-A</b></p> <p><b>INDOT Des. No.: 0500307</b></p> <p>This stream was previously relocated due to an INDOT project that involved widening of I-64. The Year Seven Monitoring Report is included as Attachment C. Flows into UNT 3 to Valley View Creek, which flows into Valley View Creek, which flows into Falling Run Creek, which flows into the Ohio River, a TNW.</p>	Yes, Ephemeral

## 5 CONCLUSION

The 2021 and 2022 field reviews for the Improve 64 project identified 48 likely jurisdictional features within the investigated area including:

- 36 streams
- 12 wetlands that are likely Waters of the U.S.

Every effort should be taken to avoid and minimize impacts to the water resources listed above. Disturbance of a wetland or stream could result in a mitigation requirement to secure the required permits for the Improve 64 project. If construction exceeds the limits of the survey review area illustrated in this document, further field investigation will be needed. This report is this office’s best judgment of water resources that are likely to be under federal jurisdiction, based on the guidelines set forth by the USACE. The final determination of jurisdictional waters is ultimately the responsibility of the USACE. The INDOT Office of Environmental Services should be contacted immediately if impacts occur.

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.

**Table 9: List of Preparers**

Responsible Staff	Position	Contributing Effort
Kate Williams, PWS HNTB Indiana	Science Project Manager	Project Management Field Data Collection
Dan Logsdon HNTB Indiana	Environmental Planner IV	Field Data Collection Report Preparation
Monica Schneider, HNTB Indiana	Environmental Planner I	Field Data Collection



## Attachment A – Figures and Site Photographs



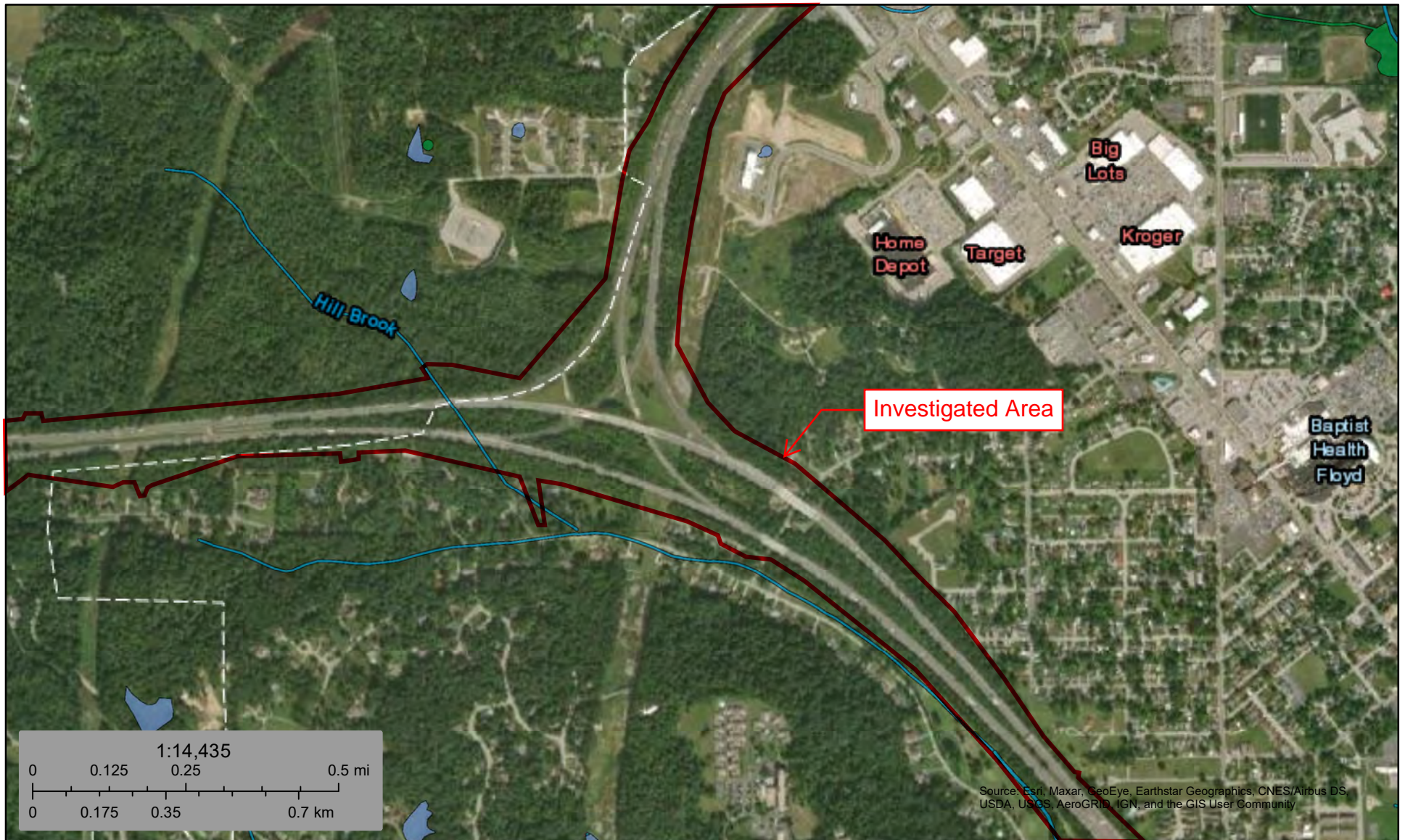


December 1, 2021

**Wetlands**

- |  |   |  |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland       |  Lake     |
|  Estuarine and Marine Wetland   |  Freshwater Forested/Shrub Wetland |  Other    |
|  |  Freshwater Pond                   |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



December 1, 2021

### Wetlands

- |                                |                                   |          |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland       | Lake     |
| Estuarine and Marine Wetland   | Freshwater Forested/Shrub Wetland | Other    |
|                                | Freshwater Pond                   | Riverine |

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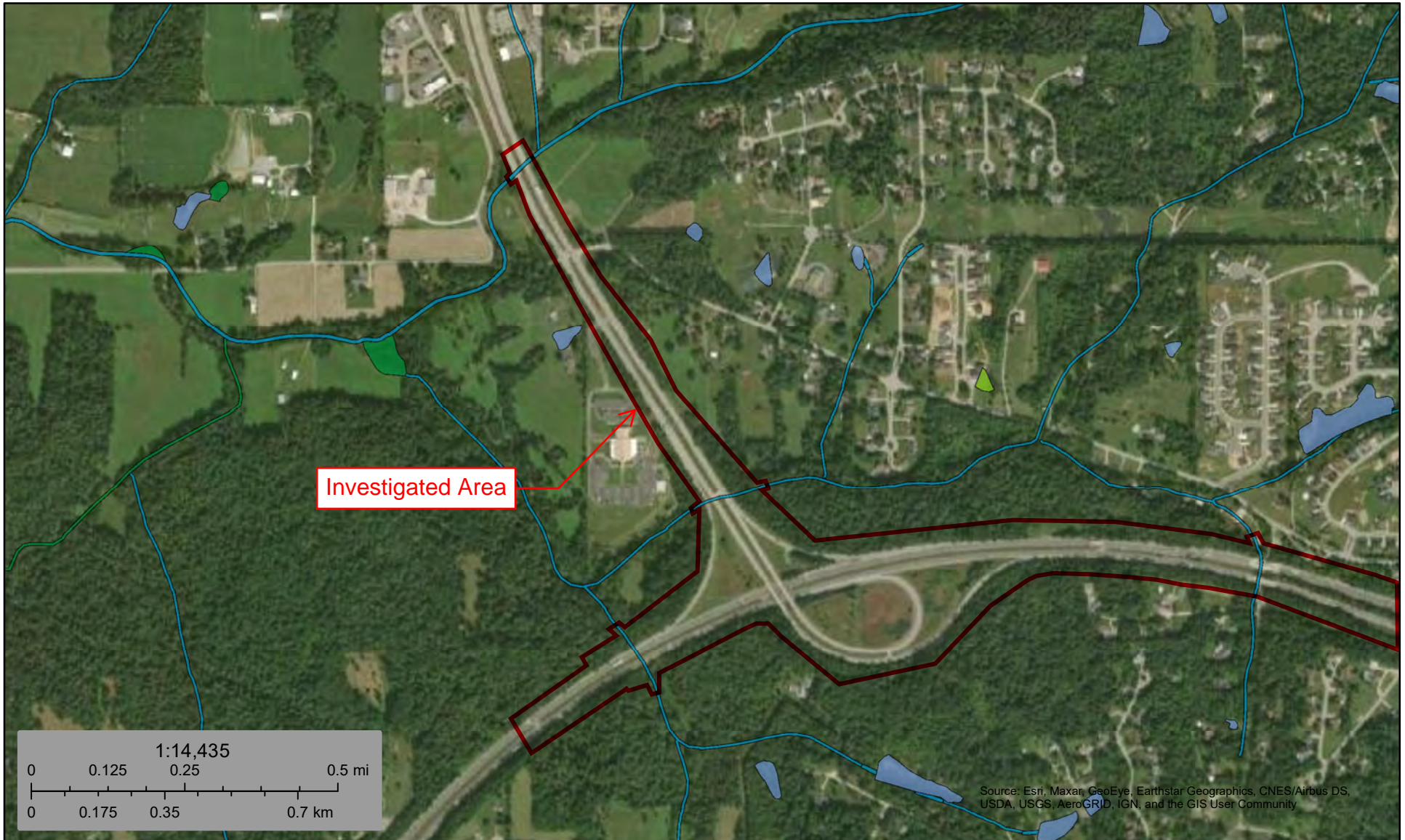


December 1, 2021

**Wetlands**



- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

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December 1, 2021

**Wetlands**

- |  |   |  |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland       |  Lake     |
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December 1, 2021

**Wetlands**

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Freshwater Forested/Shrub Wetland
- Other
- Estuarine and Marine Wetland
- Freshwater Pond
- Riverine


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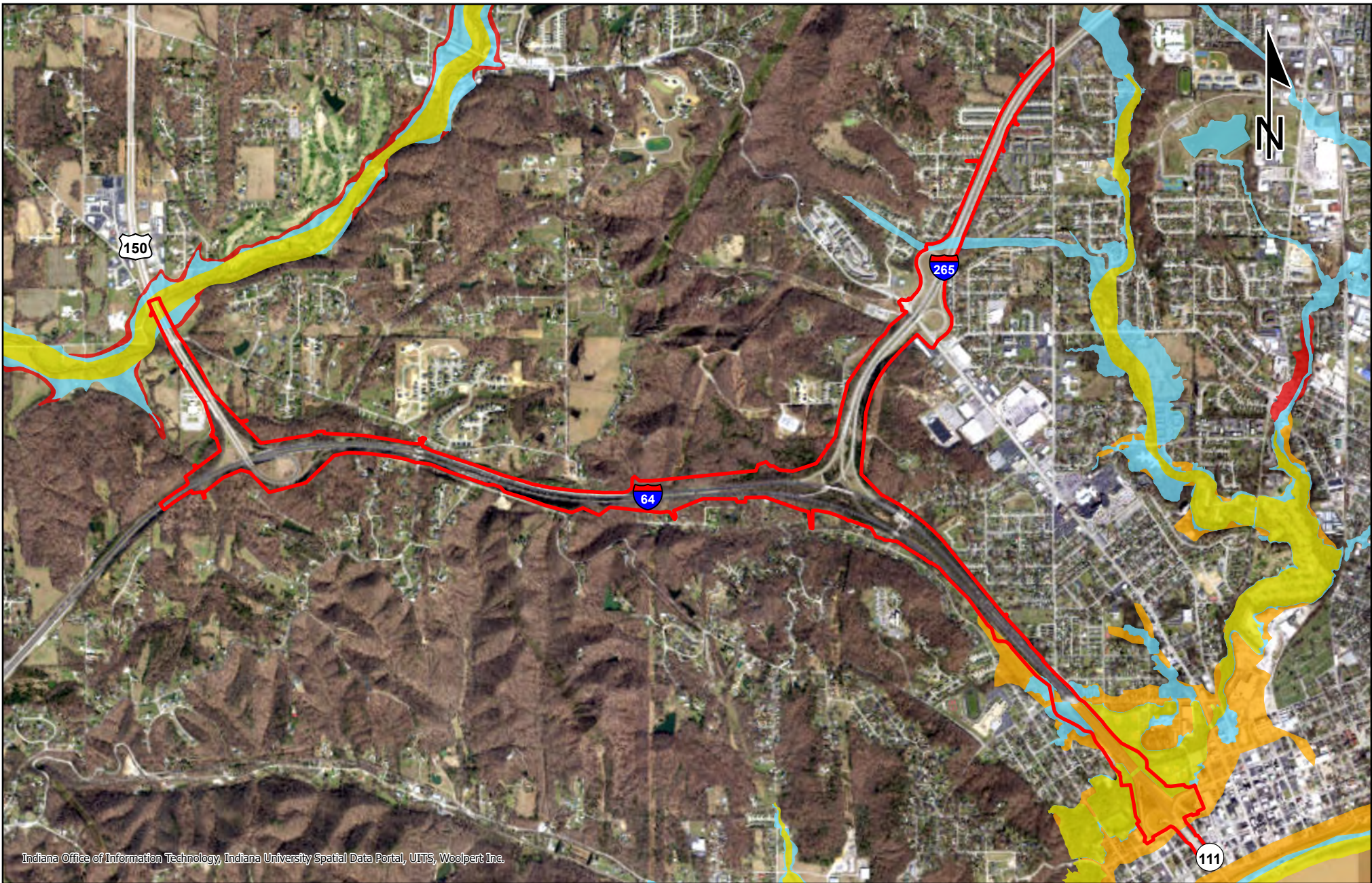


December 1, 2021






**Wetlands**

- |  |   |  |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland       |  Lake     |
|  Estuarine and Marine Wetland   |  Freshwater Forested/Shrub Wetland |  Other    |
|  |  Freshwater Pond                   |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

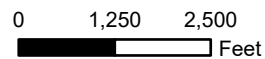


Indiana Office of Information Technology, Indiana University Spatial Data Portal, UIITS, Woolpert Inc.

	Investigated Area		0.2% Annual Chance, Protected by Levee
	Floodway		0.2% Annual Chance Flood Hazard
	1% Annual Chance Flood Hazard		

Des. No. 1900162

1 inch = 2,500 ft



### IDNR Floodplain Map

Improve 64

Floyd County, Indiana

