Categorical Exclusion Appendix E Red Flag Investigation & Hazardous Materials



Date: August 6, 2019

- To: Site Assessment & Management Environmental Policy Office- Environmental Services Division Indiana Department of Transportation 100 N Senate Avenue, Room N642 Indianapolis, IN 46204
- From: Ruth Hook 3502 Woodview Trace, Suite 150 Indianapolis, IN <u>rhook@lochgroup.com</u>
- Re: RED FLAG INVESTIGATION Des. No. 1702837, Local Project Bridge Rehabilitation Project East LaPorte Street Foot Bridge over Yellow River Marshall County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The proposed project will involve the rehabilitation of the East LaPorte Street Foot (Bridge No. 5). The East LaPorte Street Foot Bridge carries the LaPorte Street Pedestrian Path over the Yellow River in Plymouth, Marshall County, Indiana. The proposed project will include a new timber deck. Anchored tie members will be repaired and straightened. The stringer, cross beams and diaphragms will be replaced, and the bearings will be repaired or replaced. The railing will be repaired where required and modified for pedestrian safety. Scour countermeasures are anticipated to be required and will be installed on both spill slopes and surrounding the caissons. Approximately 50 feet of roadway on the east approach and 10 feet of roadway on the west approach will be replaced with concrete pavement to ensure a smooth transition.

Bridge and/or Culvert Project: Yes ⊠ No □ Structure # <u>Street Pedestrian Bridge No. 5</u> If this is a bridge project, is the bridge Historical? Yes ⊠ No □, Select □ Non-Select □ (Note: If the project involves a <u>historical</u> bridge, please include the bridge information in the Recommendations Section of the report). This is a pedestrian bridge; therefore, it is not included in the *Indiana Historic Bridge Inventory Volume 2: Listing of Historic and Non-Historic Bridges* (February 2009) by Mead & Hunt.

Proposed right of way: Temporary
Acres <u>N/A</u> Permanent # Acres <u>0.1</u>, Not Applicable

Type of excavation: Excavation will be required for removing the existing piers. The maximum depth of excavation is expected to be 10 feet below the surface. Excavation will be required for the placement of riprap to provide scour protection on the banks. Depth of riprap is expected 1.5 feet below the surface.

Maintenance of traffic: The MOT for this project may require full closure of East LaPorte Street. A detour route will be required. The full details of the MOT have yet to be determined.

Work in waterway: Yes \boxtimes No \square Below ordinary high water mark: Yes \boxtimes No \square

State Project: □ LPA: ⊠

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:

Religious Facilities	6*	Recreational Facilities	6
Airports ¹	1	Pipelines	N/A
Cemeteries	N/A	Railroads	11
Hospitals	N/A	Trails	2
Schools	3	Managed Lands	N/A

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

Explanation:

*Religious Facilities**: Although not mapped in the GIS layers, a review of the topographic map and publicly available online resources identified six (6) religious facilities within the 0.5 mile search radius. The nearest religious facility, Trinity United Methodist Church, is located 0.29 mile southwest of the project area. No impact is expected.

Airports: Although not located within the 0.5 mile search radius, one (1) public airport, Plymouth Municipal Airport, is located within 3.8 miles (20,000 feet) of the project area. The public airport is located 1.7 miles north of the project area; therefore, early coordination with INDOT Aviation will occur.

Schools: Three (3) schools are located within the 0.5 mile search radius. The nearest school, Lincoln Junior High School, is located 0.1 mile northeast of the project area. Coordination with Plymouth Community School Corporation will occur.

Recreational Facilities: Six (6) recreational facilities are located within the 0.5 mile search radius. One (1) recreational facility, River Park Square, is located within the project area. Coordination with Plymouth Parks and Recreation Department will occur.

Railroads: Eleven (11) railroads are located within the 0.5 mile search radius. The nearest railroad, owned by Chicago, Ft. Wayne & Eastern RR, is located 0.15 mile south of the project area. No impact is expected.

Trails: Two (2) trails are located within the 0.5 mile search radius. One (1) future trail, Plymouth Greenway, is located within the project area. Coordination with Plymouth Parks and Recreation Department will occur.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:						
NWI - Points	N/A	Canal Routes - Historic	N/A			
Karst Springs	N/A	NWI - Wetlands	5			
Canal Structures – Historic	N/A	Lakes	3			
NPS NRI Listed	N/A	Floodplain - DFIRM	7			
NWI-Lines	2	Cave Entrance Density	N/A			
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A			
Rivers and Streams	1	Sinking-Stream Basins	N/A			

Explanation:

NWI-Lines: Two (2) NWI-line segments are located within the 0.5 mile search radius. One (1) NWI-line segment, representing the Yellow River, is located within the project area. A Waters of the U.S. Report will be prepared and coordination with the appropriate agency, if applicable, will occur.

Rivers and Streams: One (1) stream segment is located within the 0.5 mile search radius. One (1) stream segment, the Yellow River, is located within the project area. A Waters of the U.S. Report will be prepared and coordination with the appropriate agency, if applicable, will occur.

NWI-Wetlands: Five (5) NWI-wetland polygons are located within the 0.5 mile search radius. One (1) NWI-wetland polygon is located 0.44 mile north of the project area. No impact is expected.

Lakes: Three (3) lakes are located within the 0.5 mile search radius. One (1) lake is located 0.07 mile southeast of the project area. No impact is expected.

Floodplain: Seven (7) floodplain polygons are located within the 0.5 mile search radius. The project area is located within a floodplain polygon. Coordination with the appropriate agency will occur.

URBANIZED AREA BOUNDARY SUMMARY

Explanation: This project lies within the Plymouth UAB. Post construction Storm Water Quality Best Management Practices (BMPs) may need to be considered. An early coordination letter with topographic and aerial maps showing the project area should be sent to the MS4 Coordinator at 900 Oak Hill Avenue, Plymouth, IN 46563.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration

Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:

Petroleum Wells	N/A	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Explanation: No Mining or Mineral concerns were identified within the 0.5 mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:					
Superfund	N/A	Manufactured Gas Plant Sites	N/A		
RCRA Generator/ TSD	4	Open Dump Waste Sites	N/A		
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A		
State Cleanup Sites	1	Waste Transfer Stations	N/A		
Septage Waste Sites	N/A	Tire Waste Sites	N/A		
Underground Storage Tank (UST) Sites	12	Confined Feeding Operations (CFO)	N/A		
Voluntary Remediation Program	1	Brownfields	1		
Construction Demolition Waste	N/A	Institutional Controls	10		
Solid Waste Landfill	N/A	NPDES Facilities	N/A		
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A		
Leaking Underground Storage (LUST) Sites	13	Notice of Contamination Sites	N/A		

Explanation:

RCRA Generator/TSD: Four (4) RCRA Generator/TSD sites are located within the 0.5 mile search radius. The nearest RCRA Generator, Xaver Cleaners (AID No. 48315) is located 0.2 mile northwest of the project area. A review of the Indiana Department of Environmental Management (IDEM)'s Virtual File Cabinet (VFC) identified the site is in compliance and no violations were observed according to an inspection document dated November 3, 2000. No impact is expected.

State Cleanup Sites: One (1) State Cleanup Site is located within the 0.5 mile search radius. Plymouth Water Department (AID No. 45437) is located 0.19 mile southwest of the project area. A review of the IDEM's VFC identified the site was issued a No Further Action on September 16, 2016. As the impacted remaining groundwater is contained within the site, no impact is expected.

Underground Storage Tank (UST) Sites: Twelve (12) UST sites are located within the 0.5 mile search radius. The nearest UST site, Homemade To Go (AID No. 43522), is located 0.17 mile west of the project area. A review of the IDEM's VFC identified that the USTs were removed around 1986. No impact is expected.

Voluntary Remediation Program: One (1) Voluntary Remediation Program is located within the 0.5 mile search radius. Bowen Center (AID No. 44134) is located 0.45 mile northwest of the project area and was previously operated as a gas station. A review of the IDEM's VFC identified the site was issued a Certificate of Completion in recognition of the completion of the work required under Voluntary Remediation Work Plan dated June 25, 2003. No impact is expected.

Leaking Underground Storage (LUST) Sites: Thirteen (13) Leaking Underground Storage Tanks are located within the 0.5 mile search radius. Mid City Svc (AID No. 43223) is located 0.18 mile southwest of the project area. The site was previously operated as a gas station where remediation activities have occurred. A review of the IDEM's VFC found that a No Further Action was granted to the site on November 28, 2006. No impact is expected.

Brownfields: One (1) brownfield site is located within the 0.5 mile search radius. River Gate South 4170309 (AID No. 117376) is located 0.16 mile southwest of the project area. A review of the IDEM's VFC found that an Environmental Restrictive Covenant (ERC) was placed on the property in November of 2017. The ERC states that the extraction of groundwater is prohibited. No impact is expected as the project is upstream of the site.

Institutional Controls: Ten (10) Institutional Control Sites are located within the 0.5 mile search radius. The nearest site is River Gate South (AID No. 117376) and is located 0.1 mile southwest of the project area. This site is detailed above in the *Brownfields* section. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

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

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in an urban area surrounded by residential, industrial, recreational, and commercial business. The February 27, 2019, inspection report for Bridge No.5 contains no information about whether bats are present or absent on the bridge. Additional investigation to confirm the presence or absence of bats on the bridge will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

An inquiry using the USFWS Information for Planning and Consultation (IPaC) website did not indicate the presence of the federally endangered species, the Rusty Patched Bumble bee, in or within 0.5 mile of the project area. No impact is expected.

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE:

- Airports: Although not located within the 0.5 mile search radius, one (1) public airport, Plymouth Municipal Airport, is located within 3.8 miles (20,000 feet) of the project area. Early coordination with INDOT Aviation will occur.
- *Recreational Facilities:* One (1) recreational facility, River Park Square, is located within the project area. Coordination with Plymouth Parks and Recreation Department will occur
- *Trails*: One (1) future trail, Plymouth Greenway, is located within the project area. Coordination with Plymouth Parks and Recreation Department will occur.

WATER RESOURCES: The presence of following water resources will require the preparation of a Waters of the U.S. Report and coordination with the appropriate agencies:

- One (1) NWI-lines, representing the Yellow River, is located within the project area.
- One (1) stream, the Yellow River, is located within the project area.
- The project area is located within a floodplain polygon (coordination only).

URBANIZED AREA BOUNDARY: This project lies within the Plymouth UAB. Post construction Storm Water Quality Best Management Practices (BMPs) may need to be considered. An early coordination letter with topographic and aerial maps showing the project area will be sent to the Marshall County MS4 Coordinator at 900 Oak Hill Avenue, Plymouth IN, 46563.

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION: Coordination with IDNR and USFWS will occur. Additional investigation to confirm the presence or absence of bats on the bridge will be necessary. The range-wide programmatic consultation for the Indiana bat and Northern Long-eared bat will be completed according to "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

INDOT Environmental Services concurrence:

Nicole Fohey-Breting (Signature) August 6, 2019

Prepared by:

furth Hook

Ruth Hook, CPESC, CESSWI Environmental Biologist Lochmueller Group, Inc.

Graphics:

SITE LOCATION: YES

INFRASTRUCTURE: YES

WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: YES

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: YES

Supplemental Graphics:

MARSHALL COUNTY LISTING OF ETR SPECIES

Red Flag Investigation - Site Location East LaPorte Street Foot Bridge over Yellow River Des. No. 1702837, Bridge Rehabilitation Marshall County, Indiana



Sources: 0.5 0.25 0 0.5 Non Orthophotography Miles

Data - Obtained from the State of Indiana Geographical

Information Office Library

<u>Orthophotography</u> - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N Map Datum: NAD83

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

PLYMOUTH QUADRANGLE INDIANA 7.5 MINUTE SERIES (TOPOGRAPHIC)

Red Flag Investigation - Infrastructure East LaPorte Street Foot Bridge over Yellow River Des. No. 1702837, Bridge Rehabilitation Marshall County, Indiana







Red Flag Investigation - Water Resources East LaPorte Street Foot Bridge over Yellow River Des. No. 1702837, Bridge Rehabilitation Marshall County, Indiana





Sources: 0.15 0.075 0 0.15 Non Orthophotography Miles

Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data

(www.indianamap.org)

Map Projection: UTM Zone 16 N Map Datum: NAD83

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



Red Flag Investigation - Urbanized Area Boundary East LaPorte Street Foot Bridge over Yellow River Des. No. 1702837, Bridge Rehabilitation Marshall County, Indiana







representation only. This information is not warranted for accuracy or other purposes.



Red Flag Investigation - Hazardous Material Concerns East LaPorte Street Foot Bridge over Yellow River Des. No. 1702837, Bridge Rehabilitation Marshall County, Indiana





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- **RCRA** Corrective Action Sites ╘╼═
- ******-**Confined Feeding Operation**
- Notice_Of_Contamination
- \diamondsuit **Construction/Demolition Site**
- Infectious/Medical Waste Site
 - Leaking Underground Storage Tank
- Manufactured Gas Plant
- ╘╍╤ **NPDES** Facilites
- **NPDES** Pipe Locations
 - **Open Dump Waste Site**

0.15 0.075 0 0.15 Miles

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes. Des. No. 1702837

- **Restricted Waste Site** Septage Waste Site Solid Waste Landfill State Cleanup Site Superfund **Tire Waste Site** Underground Storage Tank Voluntary Remediation Program Waste Transfer Station



Sources:

Non Orthophotography

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

Appendix E: Red Flag Investigation and Hazardous Materials

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Indiana County Endangered, Threatened and Rare Species List

County: Marshall

Northern Riffleshell	IE			
Northern Riffleshell	IE			
W 1 I	LE	SE	G2T2	S1
wavyrayed Lampmussel		SSC	G5	S3
Black Sandshell			G4G5	S2
Round Hickorynut	С	SE	G4	S1
Sheepnose	LE	SE	G3	<u>S1</u>
Clubshell	LE	SE	G1G2	S1
Kidneyshell		SSC	G4G5	S2
Rabbitsfoot	LT	SE	G3G4T3	S1
Purple Lilliput	С	SSC	G3Q	S2
Rayed Bean	LE	SE	G2	S1
			~ -	
Pointed Campeloma		SSC	G5	S2
Swamp Lymnaea		SSC	G5	S2
Beer's Blazing Star Borer Moth		ST	G2G3	S1S3
Cisco		SSC	G5	S2
Ohio Lamprey			G3G4	S2
Northern Brook Lamprey		SE	G4	S1
		~~~	05	
Four-toed Salamander		SSC	65	82
Northern Leopard Frog		SSC	GS	<b>S</b> 2
	C	<b>CE</b>	C5	52
Spotted Turtle	C	SE	C	S2
Kirtland's Snake	C	SE		S2
Blanding's Turtle	C	SE	G4	S2
Eastern Massasauga	LI	SE	C5T5	S2
Butler's Garter Snake		SE	G313 G4	S1
Sharp-shinned Hawk		SSC	G5	S2B
American Bittern		SE	G5	S2B
Brown Creeper			G5	S2B
Marsh Wren		SE	G5	S3B
Bald Eagle		SSC	G5	S2
Least Bittern		SE	G5	S3B
Osprey		SE	G5	S1B
King Rail		SE	G4	S1B
	Round HickorynutSheepnoseClubshellKidneyshellRabbitsfootPurple LilliputRayed BeanPointed Campeloma Swamp LymnaeaBeer's Blazing Star Borer MothCiscoOhio LampreyNorthern Brook LampreyNorthern Leopard FrogSpotted TurtleKirtland's SnakeBlanding's TurtleEastern MassasaugaOrnate Box TurtleButler's Garter SnakeSharp-shinned HawkAmerican BitternBrown CreeperMarsh WrenBald EagleLeast BitternOspreyKing Rail	Round HickorynutCSheepnoseLESheepnoseLEClubshellLEKidneyshellTTPurple LilliputCRayed BeanLEPointed Campeloma Swamp LymnaeaLEBeer's Blazing Star Borer MothCCisco Ohio Lamprey Northern Brook LampreyCSpotted TurtleCKirtland's SnakeCBlanding's TurtleCEastern MassasaugaLTOrnate Box TurtleCButler's Garter SnakeLTSharp-shinned HawkAmerican BitternBrown CreeperMarsh WrenBald Eagle Least BitternCasternOsprey King RailC	Round HickorynutCSESheepnoseLESEClubshellLESEKidneyshellSSCRabbitsfootLTSEPurple LilliputCSSCRayed BeanLESEPointed Campeloma Swamp LymnaeaSSCBeer's Blazing Star Borer MothSTCiscoSSCOhio Lamprey Northern Brook LampreySEFour-toed Salamander Northern Leopard FrogSESpotted Turtle Eastern MassasaugaCSEBalading's Turtle Butler's Garter SnakeSESharp-shinned Hawk American Bittern Brown CreeperSEMarsh Wren Bald EagleSESharp-shinned Hawk Copprey SESSCSharg-shinned Hawk SESESharp-shinned Hawk SESE<	Round HickorynutCSE64SheepnoseI.ESEG3ClubshellI.ESEG1G2KidneyshellSSCG3G4T3Purple LilliputCSSCG3QRayed BeanI.ESEG2Pointed CampelomaSSCG5Swamp LymnaeaSSCG5Beer's Blazing Star Borer MothSSCG5CiscoSSCG5Ohio LampreySSCG5Northern Brook LampreySEG2Northern Leopard FrogSSCG5Spotted TurtleCSEG2Kirtland's SnakeCSEG3Blanding's TurtleCSEG3Butler's Garter SnakeLTSEG3Sharp-shinned HawkSSCG5G5Biald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5Bald EagleSSCG5G5CospreySEG5G5CospreySEG5G5Sting RailSEG5G5Sting RailSEG5G5Sting RailSEG5G5

Indiana Natural Heritage Data Center	Fed:	LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
Division of Nature Preserves	State:	SE = state endangered; $ST =$ state threatened; $SR =$ state rare; $SSC =$ state species of special concern;
Indiana Department of Natural Resources		SX = state extirpated; SG = state significant; WL = watch list
This data is not the result of comprehensive county	GRANK:	Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon
surveys.		globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant
		globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
	SRANK:	State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state;
		G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in
		state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status
		unranked

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#### Indiana County Endangered, Threatened and Rare Species List

County: Marshall

Species Name	Common Name	FED	STATE	GRANK	SRANK
Rallus limicola	Virginia Rail		SE	G5	S3B
Setophaga cerulea	Cerulean Warbler		SE	G4	S3B
Wilsonia citrina	Hooded Warbler		SSC	G5	S3B
Xanthocephalus xanthocephalus	Yellow-headed Blackbird		SE	G5	S1B
Mammal					
Spermophilus franklinii	Franklin's Ground Squirrel		SE	G5	S2
Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Armoracia aquatica	Lake Cress		SE	G4?	S1
Carex atlantica ssp. atlantica	Atlantic Sedge		ST	G5T5	S2
Carex cephaloidea	Thinleaf Sedge		SE	G5	S1
Coeloglossum viride var. virescens	Long-bract Green Orchis		ST	G5T5	S2
Cypripedium candidum	Small White Lady's-slipper		WL	G4	S2
Eleocharis equisetoides	Horse-tail Spikerush		SE	G4	<b>S1</b>
<mark>Geranium bicknellii</mark>	Bicknell Northern Crane's-bill		SE	G5	<b>S1</b>
Glyceria grandis	American Manna-grass		SE	G5	<b>S1</b>
Hypericum pyramidatum	Great St. John's-wort		ST	G4	S1
Lycopodium clavatum	Running Pine		WL	G5	S3
Lycopodium tristachyum	Deep-root Clubmoss		SR	G5	S2
Platanthera leucophaea	Prairie White-fringed Orchid	LT	SE	G2G3	<b>S1</b>
Platanthera orbiculata	Large Roundleaf Orchid		SX	G5	SX
Poa alsodes	Grove Meadow Grass		SR	G4G5	S2
Potamogeton friesii	Fries' Pondweed		ST	G5	<b>S1</b>
Potamogeton pusillus	Slender Pondweed		WL	G5	S2
Potamogeton strictifolius	Straight-leaf Pondweed		ST	G5	<b>S1</b>
Symphyotrichum boreale	Rushlike Aster		SR	G5	S2
Tofieldia glutinosa	False Asphodel		SR	G5	S2
Valeriana edulis	Hairy Valerian		SE	G5	S1
Viburnum opulus var. americanum	Highbush-cranberry		SE	G5T5	S1
Zannichellia palustris	Horned Pondweed		SR	G5	S2
Zigadenus elegans var. glaucus	White Camas		SR	G5T4T5	S2
High Quality Natural Community					
Prairie - mesic	Mesic Prairie		SG	G2	S2
Wetland - beach marl	Marl Beach		SG	G3	S2
Wetland - bog acid	Acid Bog		SG	G3	S2
Wetland - fen	Fen		SG	G3	S3
Wetland - flat muck	Muck Flat		SG	G2	S2

Indiana Natural Heritage Data Center	Fed:	LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
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surveys.		globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant
		globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
	SRANK:	State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state;
		G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in
		state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status
		unranked

# Categorical Exclusion Appendix F Water Resources

Waters of the U.S. Determination Report Bridge Rehabilitation Project East LaPorte Street Foot Bridge over Yellow River Marshall County, Indiana Des. No. 1702837



December 19, 2019

#### **Prepared By:**



3502 Woodview Trace, Suite 150 Indianapolis, IN, 46268 Ph: 317-222-3880

#### **Prepared For:**

City of Plymouth 900 Oakhill Avenue Plymouth, IN 46563

#### Waters of the U.S. Determination Report Bridge Rehabilitation Project East LaPorte Street Foot Bridge over Yellow River Marshall County, Indiana Des. No. 1702837

Date of Waters Investigation

July 17, 2019

#### Location

The project is located in central Marshall County, 0.2 mile east of State Road (SR) 17 (Attachment A1).

- Marshall County, Center Township, Indiana
- Sections 13, Township 33 North, Range 2 East
- Plymouth 1:24,000 United States Geological Survey (USGS) Quadrangle (Attachments A2 and A3)
- Latitude: 41.3402350°, Longitude: -86.3045210°

#### **Project Description**

The City of Plymouth proposes to proceed with a federal aid project (Des. No. 1702837) which involves the rehabilitation of the existing pedestrian bridge (City of Plymouth Parks & Recreation Bridge No. 5.) carrying East LaPorte Street over the Yellow River. The existing bridge is a single-span modified cantilevered kingpost steel truss with five approach arms pedestrian bridge. The project will rehabilitate the existing pedestrian bridge and provide scour protection along the Yellow River. The Maintenance of Traffic has not been finalized but will likely require the closure of East LaPorte Street within the project area. Signs and Barrels will be placed along East LaPorte Street on the east and west ends of the pedestrian bridge notifying pedestrians of the bridge closure.

#### National Wetlands Inventory (NWI)

Based on the U.S. Fish and Wildlife National Wetlands Inventory (NWI) data (www.fws.gov/wetlands/Data/State-Downloads.html) there is one wetland mapped within the survey area (Attachment A5). Yellow River is mapped as a riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH) resource according to the classifications defined by Cowardin et al. (1979). There are 6 additional NWI polygons within a 0.5 mile radius of the project area. These are as follows:

- One palustrine, scrub-shrub, broad-leaved deciduous, emergent, persistent, seasonally flooded (PSS1/EM1C) wetland.
- One palustrine, emergent, persistent, temporary flooded (PEM1A) wetland.
- One palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland.
- One palustrine, unconsolidated bottom, intermittently exposed, excavated (PUBGx) wetland.
- Two palustrine, forested, broad-leaved deciduous, temporary flooded (PFO1A) wetlands.

#### Soils

The Soil Survey Geographic (SSURGO) database for Marshall County includes the following mapped soil series within the East LaPorte Street Foot Bridge project area (Attachments A8-A12).

• Urban land-Riddles-Metea complex, 1 to 5 percent slopes (UmfB): the Riddles series consists of very deep, well drained soils formed in loamy and sandy till on till plains and moraines. The Metea



F2

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series consists of very deep, well drained soils formed in wind or water laid sandy material and the underlying till on moraines and till plains. Urban land-Riddles-Metea Complex is not considered hydric with a hydric rating of 0.

 Waterford-Cohoctah loams, 0 to 2 percent slopes, frequently flooded, brief duration (WciAH): the Waterford series consists of very deep, somewhat poorly drained soils formed in loamy alluvium underlain by gravelly or sandy alluvium on flood plains. The Cohoctah series consists of very deep, poorly drained or very poorly drained soils formed in loamy alluvial deposits on flood plains. Waterford-Cohoctah loams are considered hydric and have a hydric rating of 90.

#### Hydrology

According to the Indiana Floodplain Information Portal, the project crosses a regulated floodway (http://dnrmaps.dnr.in.gov/appsphp/fdms/). The Base Flood Elevation (BFE) within the survey area is 780.4 feet as determined from the Indiana Department of Natural Resources (IDNR) Indiana Floodplain Information Portal. According to the USGS StreamStats Website (https://water.usgs.gov/osw/streamstats/indiana.html), Yellow River has a watershed with a drainage area of 293.85 square miles (Attachment A7). The survey area is located within the Dixon Lake-Yellow River watershed with the 12-digit hydrologic unit code 071200010502. The FEMA FIRMETTE can be found in the Attachments on page A6.

#### **Field Reconnaissance**

Lochmueller Group conducted a field review for streams and wetlands within the survey area for the East LaPorte Street Foot Bridge Project on July 17, 2019. One stream, Yellow River, was identified and no wetland features were identified within the survey area. Identified features from the field reconnaissance can be seen in Attachments A14 to A27.

#### Streams

HYDROGRAPHY_HIGHRES_FLOWLINE_NHD_USGS: Streams, Rivers, Canals, Ditches, Artificial Paths, Coastlines, Connectors, and Pipelines in Watersheds of Indiana (U. S. Geological Survey, 1:24,000, Line Shapefile) and the Plymouth 1:24,000 scale USGS topographic map indicate that there is one solid blueline stream feature, Yellow River, within the investigation area (Attachments A2 and A3).

#### Yellow River

Yellow River is a stream feature that flows from north to south within the survey area. Approximately 100 linear feet of this feature was evaluated as part of this field investigation. The surrounding riparian habitat is narrow and consists of very steep, vegetated slopes with sandy soils. The surrounding land use consists of residential and recreational areas. The Yellow River is characterized by a deep and very wide channel. This feature has sand, silt, and gravel substrate with pools, but no riffles present. The OHWM of Yellow River is 53 feet wide and 3.5 feet deep. This stream reach is considered to exhibit average quality based on the lack of instream cover and lack of sinuosity within the survey area. Yellow River is considered to be a Traditionally Navigable Water (TNW). Therefore, Yellow River is subject to USACE jurisdiction under section 404 of the Clean Water Act. This stream is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.



F3

2

Stream	Photos	Lat/Long	онум	USGS Blueline?	Substrate	Quality	Water of the U.S.?
Yellow River	11-21, 23	41.3402350° -86.3045210°	53' wide x 3.5' deep	Yes	Sand, silt, and gravel	Average	Yes

**Table 1: Stream Summary Table** 

#### Conclusions

The July 17, 2019 field review for the East LaPorte Street Foot Bridge Project identified one stream feature, Yellow River, within the investigation area. No wetland features were identified within the survey area. Yellow River would be considered under USACE jurisdiction per Section 404 of CWA due the feature being a TNW.

Every effort should be taken to avoid and minimize the 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 East LaPorte Street Foot Bridge 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.

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.

#### Preparers

Lochmueller Group, Inc. Staff	Position	Contributing Effort
Brenten Reust	Environmental Biologist	Field Data Collection
Samantha Beaupre	Environmental Biologist	Field Data Collection
		Report Preparation

#### Signature of Preparer:

monthe Beaupre

Samantha Beaupre Environmental Biologist Lochmueller Group



3

## ATTACHMENTS

Pages removed from Attachments to avoid duplication.





Appendix F: Water Resources



### U.S. Fish and Wildlife Service National Wetlands Inventory

## East LaPorte Street Foot Bridge

Des. No. 1702837



#### August 8, 2019

#### Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

rine Wetland

Freshwater Pond

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Lake Other 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.





Des. No. 1702837

Appendix F: Water Resources



National Cooperative Soil Survey Appendix F: Water Resources

Page 1 of 3

	MAP L	EGEND		MAP INFORMATION
Area of Int Soils Area of Int Soils Soils Area of Int Soils Area of Int Area of Int Soils Area of Int Area of Int Soils Area of Int Soils Area of Int Soils Area of Int Area of Int Area of Int Soils Area of Area o	MAP L erest (AOI) Area of Interest (AOI) Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Point Features Blowout Borrow Pit Clay Spot	EGEND	Spoil Area Stony Spot Very Stony Spot Wet Spot Other Special Line Features tures Streams and Canals	MAP INFORMATION         The soil surveys that comprise your AOI were mapped at 1:15,800.         Warning: Soil Map may not be valid at this scale.         Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.         Please rely on the bar scale on each map sheet for map measurements.         Source of Map:       Natural Resources Conservation Service
* ◇ ½ ÷ ◎ < ▲ ∻ ◎ ○ > + ∵ = ◇ ♪ ø	Closed Depression Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot	H 2 2 2 2 2 2 2 2 2 2 2 2 2	Rails Interstate Highways US Routes Major Roads Local Roads <b>nd</b> Aerial Photography	<ul> <li>Source of Map: Natural Resources Conservation Service Web Soil Survey URL:</li> <li>Coordinate System: Web Mercator (EPSG:3857)</li> <li>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</li> <li>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</li> <li>Soil Survey Area: Marshall County, Indiana Survey Area Data: Version 21, Sep 7, 2018</li> <li>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</li> <li>Date(s) aerial images were photographed: Jun 29, 2012—Feb 16, 2017</li> <li>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</li> </ul>



8/8/2019 Page 2 of 3

### Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UmfB	Urban land-Riddles-Metea complex, 1 to 5 percent slopes	0.4	40.8%
W	Water	0.1	11.6%
WciAH	Waterford-Cohoctah loams, 0 to 2 percent slopes, frequently flooded, brief duration	0.4	47.6%
Totals for Area of Interest		0.9	100.0%



### Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
UmfB	Urban land-Riddles- Metea complex, 1 to 5 percent slopes	0	0.4	40.8%
w	Water	0	0.1	11.6%
WciAH	Waterford-Cohoctah loams, 0 to 2 percent slopes, frequently flooded, brief duration	90	0.4	47.6%
Totals for Area of Interest			0.9	100.0%



### **Report—Hydric Soil List - All Components**

Hydric Soil List - All Components–IN099-Marshall County, Indiana					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
UmfB: Urban land-Riddles-Metea complex, 1 to 5 percent slopes	Urban land	50	—	Unranked	—
	Riddles	25	Till plains	No	—
	Metea	15	Till plains	No	—
	Williamstown	4	Till plains,moraines	No	—
	Ormas	3	Outwash plains	No	—
	Oshtemo	3	Outwash plains,moraines	No	—
W: Water	Water	100-100	—	No	—
WciAH: Waterford-Cohoctah loams, 0 to 2 percent slopes, frequently flooded, brief duration	Waterford	50	Flood plains	Yes	4
	Cohoctah	30	Flood plains	Yes	2
	Suman	10	Flood plains	Yes	2
	Ceresco	10	Flood plains	No	—

### **Data Source Information**

Soil Survey Area: Marshall County, Indiana Survey Area Data: Version 21, Sep 7, 2018



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

#### **BACKGROUND INFORMATION**

A. REPORT COMPLETION DATE FOR PJD: 8/8/19

- B. NAME AND ADDRESS OF PERSON REQUESTING PJD: S. Beaupre, 3502 Woodview Trace, Indianapolis, IN 46268
- C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

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

The City of Plymouth proposes to proceed with a federal-aid project (Des. No. 1702837) which involves the rehabilitation of the existing pedestrian bridge (City of Plymouth Parks & Recreation Bridge No. 5) carrying East LaPorte Street over the Yellow River. The existing bridge is a single-span modified cantilevered kingpost steel truss with five approach arms pedestrian bridge. The project will rehabilitate the existing pedestrian bridge and provide scour protection along the Yellow River. The Maintenance of Traffic has not been finalized but will likely require the closure of East LaPorte Street within the project area. Signs and Barrels will be placed along East LaPorte Street on the east and west ends of the pedestrian bridge notifying pedestrians of the bridge closure.

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

State:INCounty/parish/borough:MarshallCity:PlymouthCenter coordinates of site (lat/long in degree decimal format):Long.: -86.3045210Long.: -86.3045210

Universal Transverse Mercator: 558189.22 E 4576760.77 N 16T

Name of nearest waterbody: Yellow River

#### 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)
Yellow River	41.3402350	-86.3045210	100 linear feet ( acre)	non-wetland	Section 404

- 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)

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

Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Map:Aerial, water resources, NWI, topographic, StreamStats,soils
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: <u>Hydrography_HighRes_FlowLine_NHD_USGS.shp</u>
USGS NHD data. USGS 8 and 12 digit HUC maps.
U.S. Geological Survey map(s). Cite scale & quad name: <u>I symbolic in 2 1,000 Quad angle</u> .
Natural Resources Conservation Service Soil Survey. Citation:
National wetlands inventory map(s). Cite name: USFWS NWI wetland mapper
State/local wetland inventory map(s):
FEMA/FIRM maps: 18111C0205D
100-year Floodplain Elevation is: <u>683.2 feet</u> (National Geodetic Vertical Datum of 1929)
Photographs: Aerial (Name & Date): <u>Marshall County 2011</u> .
or Other (Name & Date): Field photos from July 17, 2019
Previous determination(s). File no. and date of response letter:
Other information (please specify):

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

Signature and date of Regulatory staff member completing PJD Samantha Beaupre Digitally signed by Samantha Beaupre Date: 2019.12.19 15:19:41 -05'00'

Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)¹

¹ 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.

# Categorical Exclusion Appendix G Public Involvement



#### NOTICE OF SURVEY

January 30, 2019

RE: LaPorte Street Footbridge Marshall County, Indiana

Dear Property Owner:

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

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

The survey work will include mapping the location of features such as trees, buildings, fences and drives, and obtaining ground elevations. The survey work may also include the identification and mapping of wetlands, archaeological investigations (which may include excavation of small shovel test probes), and various other environmental studies. The survey is needed for the proper planning and design of this highway project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If any problems do occur, please contact our field crew or contact me at the phone number or address shown herein.

Sincerely,

VS Engineering, Inc. Matthew R. Healy, P.S. Project Surveyor 317-293-3542, x-140

4275 North High School Road Indianapolis, Indiana 46254 (317) 293-3542 Tel (317) 293-4737 Fax www.vsengineering.com

# Categorical Exclusion Appendix H Air Quality
Locally Sponsored Projects									
DES	Location	Work Type	Fund Type	Phase	Federal	Match	Total	Estimated to Complete	Fiscal Year
1702838	Marshall County Bridge #120: South Upas Road over Yellow River	Bridge Replacement, Other Construction	Bridge	RW	\$48,000	\$12,000	\$60,000	\$2,697,201	2020
1702838	Marshall County Bridge #120: South Upas Road over Yellow River	Bridge Replacement, Other Construction	Bridge	CN	\$1,884,080	\$471,020	\$2,355,100	\$2,697,201	2023
1702839	Marshall County Bridge #87: 11th Road over Yellow River	Bridge Replacement, Other Construction	Bridge	PE	\$125,961	\$31,490	\$157,451	\$2,387,851	2020
1702839	Marshall County Bridge #87: 11th Road over Yellow River	Bridge Replacement, Other Construction	Bridge	RW	\$48,000	\$12,000	\$60,000	\$2,387,851	2020
1702839	Marshall County Bridge #87: 11th Road over Yellow River	Bridge Replacement, Other Construction	Bridge	CN	\$1,632,320	\$408,080	\$2,040,400	\$2,387,851	2023
			City o	f Plymou	uth				
1600926	Hoham Drive starting at North Michigan St to 400' west of Western Ave	Road Reconstruction (3R/4R Standards)	STBG	RW	\$424,000	\$106,000	\$530,000	\$3,545,766	2020
1600926	Hoham Drive starting at North Michigan St to 400' west of Western Ave	Road Reconstruction (3R/4R Standards)	STBG	CN	\$2,147,410	\$536,852	\$2,684,262	\$3,545,766	2022
1702837	East LaPorte Street Footbridge over the Yellow River	Bridge Rehabilitation or Repair	TAP	RW	\$4,000	\$1,000	\$5,000	\$1,927,950	2020
1702837	East LaPorte Street Footbridge over the Yellow River	Bridge Rehabilitation or Repair	ТАР	CN	\$1,310,400	\$327,600	\$1,638,000	\$1,927,950	2022

#### Indiana Department of Transportation (INDOT)

State	Preservation	and Loca	I Initiated	Projects	s FY 20	)18 -	20

	n and Loc	al Initiat	ed Projec	cts FY 2018 - 2021		DIOTEVOT	Nº 50			DD005 ····	DUACE.	FERENCE	MATON	
SPONSOR	ACT #/	NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MAICH	2018
Comments:NOT MPC	) D Nov 18. ad	dmin mod	moving fisc:	al vear RW funds from 19	to 20									
Iarshall County	40720 /	A 06	IR 1036	Bridge Replacement,	Bridge No. 73 carrying King Rd	LaPorte	.25	STP	\$2,455,000.00	Local Bridge	PE	\$240,000.00	\$0.00	\$240.0
	1600931			Other Construction	over the Yellow River					Program				¢2.0,0
										Local Funds	PE	\$0.00	-\$240,000.00	(\$240,00
										Local Funds	RW	\$0.00	-\$49,600.00	
										Local Bridge Program	RW	\$49,600.00	\$0.00	
Comments:No MPO -	- Add federa	l funds to	PE and RW	and decrease local share	9									
Plymouth	40735 / 1600926	M 17	ST 1035	Road Reconstruction (3R/4R Standards)	Hoham Drive starting at N Michigan Street to 400' W of	LaPorte	.283	STPBG	\$3,214,262.00	) Group III Program	RW	\$93,720.00	\$0.00	
					vvestern Avenue					Local Funds	RW	\$0.00	-\$306,850.00	
Comments:NOT MPC	O Nov 18, ad	dmin mod	moving RW	funds from FY 19 to FY 2	20									
ndiana Department of Transportation	41032 / 1800872	A 18	SR 106	Small Structure Pipe Lining	Over Middle Fork Yellow River, 4.25mi E JCT of SR 6	LaPorte	0	STP	\$11,460.00	) Bridge Construction	PE	\$8,000.00	\$2,000.00	
	1		I	I	1	1			1	Bridge Consulting	PE	\$8,985.60	\$2,246.40	
										Bridge Construction	CN	\$79,064.00	\$19,766.00	
Comments:Amend F	Y19 PE pha	se and FY	20 CN and	PE phases into the currer	nt STIP. MACOG Resolution, LaPorte	e Grouped Projects app	proved 3/12/1	8, #03-18.						
Plymouth	<mark>41181 /</mark>	<mark>A 27</mark>	ST 1026	Bridge Rehabilitation	East LaPorte Street Footbridge	LaPorte	.06	STP	\$1,966,000.00	Local Funds	PE	<mark>\$0.00</mark>	<mark>\$39,600.00</mark>	
	1702837			Or Repair	over the Yellow River									
										Local Funds	RW	<mark>\$0.00</mark>	<mark>\$1,000.00</mark>	
										Local Transportation Alternatives	PE	<mark>\$108,400.00</mark>	<mark>(\$0.00</mark> )	
										Local Trans Enhancement Program	PE	<mark>(\$50,000.00</mark> )	<mark>(\$0.00</mark> )	
										Local Trans Enhancement Program	RW	\$4,000.00	<mark>(\$0.00</mark> )	
Comments:MACOG A	Amendment	Resolution	<mark>ו 20-18 adc</mark>	I phase PE and RW Loca	TAP funds									
Plymouth	41181 / 1702837	<mark>A 33</mark>	<mark>(ST 1026</mark> )	Bridge Rehabilitation Or Repair	East LaPorte Street Footbridge over the Yellow River	LaPorte	<mark>.06</mark>	STPBG	<mark>\$1,927,950.00</mark>	Local Funds	PE	<mark>\$0.00</mark>	\$29,890.00	
					1									

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*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.

	2019	2020	2021
0.00			
0.00)			
	(\$49,600.00)		
	\$49,600.00		
	(\$330,280.00)	\$424,000.00	
	(\$412,850.00)	\$106,000.00	
		\$10,000.00	
	\$11,232.00		
		\$98,830.00	
	\$14,600.00	\$12,500.00	\$12,500.00
		\$1,000.00	
	\$58,400.00		\$50,000.00
		\$50,000.00	
		\$4,000.00	
	\$2,900.00	\$26,990.00	
	<mark>\$11,600.00</mark>	<mark>\$107,960.00</mark>	

#### Indiana Department of Transportation (INDOT)

State	Preservation	and Local	Initiated	Proiects	FY	2020 -	- 2024

State Fleselvallu	n anu Lou	ai iiiiila	ieu riojei	JIS FT 2020 - 2024										
SPONSOR	CONTR ACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	МАТСН	2020
Plymouth	40735 / 1600926	M 02	ST 1035	Road Reconstruction (3R/4R Standards)	Hoham Drive starting at N Michigan Street to 400' W of Western Avenue	LaPorte	.283	STBG	\$3,214,262.00	Local Funds	PE	\$0.00	\$7,960.00	\$7,960.0
			•			•	•		•	Group III Program	RW	-\$31,840.00	\$0.00	(\$31,840.0
										Group III Program	PE	\$31,840.00	\$0.00	\$31,840.0
Comments:Per MAC	OG July Mod	difications	RW funds r	educed from \$424,000 to	o \$392,160 federal and \$106,000 to \$	98,040.00 local and m	noved to PE			1	1		I	
Indiana Department of Transportation	41032 / 1400118	Init.	US 6	HMA Overlay, Preventive Maintenance	US 31 to W. Jct. of SR 106	LaPorte	5.349	STPBG		Road Construction	CN	\$1,630,397.60	\$407,599.40	\$2,037,997.0
						1	<b>I</b>	I		Bridge Construction	CN	\$1,245,694.40	\$311,423.60	\$1,557,118.0
Plymouth	41181 / 1702837	Init.	ST 1026	Bridge Rehabilitation Or Repair	East LaPorte Street Footbridge over the Yellow River	LaPorte	.06	STPBG)		Local Transportation Alternatives	CN	<mark>\$1,310,400.00</mark>	<mark>(\$0.00</mark> )	
			•						•	Local Transportation Alternatives	RW	<mark>\$4,000.00</mark>	<mark>\$0.00</mark>	\$4,000.0
										Local Funds	CN	<mark>(\$0.00</mark> )	\$327,600.00	
										Local Funds	RW	<mark>(\$0.00</mark> )	<mark>(\$1,000.00</mark> )	\$1,000.0
Marshall County	41182 / 1702838	Init.	IR 1006	Bridge Replacement, Other Construction	Marshall County Bridge #120: South Upas Road over Yellow River	LaPorte	.07	STPBG		Local Bridge Program	CN	\$1,884,080.00	\$0.00	
		·					<u> </u>			Local Bridge Program	RW	\$48,000.00	\$0.00	\$48,000.0
										Local Funds	CN	\$0.00	\$471,020.00	
										Local Funds	RW	\$0.00	\$12,000.00	\$12,000.0
Marshall County	41182 / 1702838	M 04	IR 1006	Bridge Replacement, Other Construction	Marshall County Bridge #120: South Upas Road over Yellow	LaPorte	.07	STBG	\$4,515,500.00	D Local Bridge Program	RW	\$0.00	\$0.00	(\$96,000.0
		<u> </u>		I						Local Funds	RW	\$0.00	\$0.00	(\$24,000.0
Comments:Moving R	W funds fror	n FY20 to	FY21 MAC	OG Modification M29-19	and M28-19									
Marshall County	41182 / 1702839	Init.	IR 1037	Bridge Replacement, Other Construction	Marshall County Bridge #87: 11t h Road over Yellow River	LaPorte	.07	STPBG		Local Bridge Program	CN	\$1,632,320.00	\$0.00	
		<u> </u>	<u> </u>	1		1		<u> </u>		Local Bridge Program	RW	\$48,000.00	\$0.00	\$48,000.0
										Local Funds	CN	\$0.00	\$408,080.00	

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*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.

	2021	2022	2023	2024
.00				
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		\$408,080.00	

# Categorical Exclusion **Appendix I** Other Information

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated December 2019)

ProjectNumber	SubProjectCode	County	Property
1800104	1800104	Marshall	Centennial Park & Plymouth Municipal Pool
1800259	1800259	Marshall	Centennial Park & Plymouth Municipal Pool
1800341	1800341	Marshall	Sunnyside Park
1800357	1800357	Marshall	Centennial Park & Plymouth Municipal Pool
1800359	1800359	Marshall	Packard Woods Park
1800388	1800388	Marshall	Argos Town Park
1800405	1800405P	Marshall	Menominee Wetlands Conservation Area
1800418	1800418	Marshall	Lake Maxinkuckee BeachCulver Park Beach
1800565	1800565	Marshall	Argos Community Park
1800630	1800630	Marshall	Pond Park

Please note, some of the property names are cut off on the ends due to character limits

Also, park names may have changed and is not reflected on the list.

*Various - this may include multiple sites in multiple counties and should always be included in your searches by county.

HISTORIC BRIDGE ALTERNATIVES ANALYSIS

DESIGNATION NUMBER: 1702837 CONTRACT NUMBER: R-41181

ROUTE IDENTIFICATION AND FEATURE CROSSED: LaPorte Street Pedestrian Bridge over Yellow River



PROJECT LOCATION: (0.09 miles west of S Liberty Street, in Section 13, T-33-N, R-2-E, Center Township, Marshall County, Indiana)

> PREPARED BY: Ryan Haines, P.E. Daniel Kurdziel, P.E. VS Engineering, Inc. VS Engineering, Inc.

> > DATE: August 20, 2019

OWNER REPRESENTATIVE: Rick Gaul, Plymouth Department of Engineering

Submitted By: _____

Daniel Kurdziel, P.E.



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APPENDIX G: L.A.R.E Report (Relevant Pages)

#### III. FIELD INSPECTION DATA

Date of Inspection: Time of Inspection: Attendance: May 6th, 2019 10:00 AM CST

Rick Gaul, City of Plymouth, publicworks@plymouthin.com Donnie Davidson, City of Plymouth, parks@plymouthin.com Chris Marshall, City of Plymouth, gis@plymouthin.com Jami Erdmann, INDOT LaPorte District, jerdmann@indot.in.gov Ryan Deline, Michiana Area Council of Governments, redeline@macog.com Daniel Kurdziel, VS Engineering, Inc., dkurdziel@vsengineering.com Jim Barker, VS Engineering, Inc., jbarker@vsengineering.com Ryan Haines, VS Engineering, Inc., rhaines@vsengineering.com

#### IV. EXISTING STRUCTURE DATA

Note that this bridge has always carried only pedestrian traffic, and it has not been tracked as a typical vehicular bridge. Therefore, this bridge does not have values for the following parameters:

Bridge File Number: NA NBI Number: NA Reference Point: NA

A. Identification / History

Bridge Number:	Pedestrian Bridge #5
INDOT Des. Number:	1702837
Project Location:	LaPorte Street Footbridge over the Yellow River
City:	Plymouth
County:	Marshall
INDOT District:	LaPorte
State:	Indiana
Year Built:	1898
Detour Length:	0.128 miles
Load Rating:	Load rating has not been performed.
Sufficiency Rating:	Sufficiency rating has not been performed.

National Register of Historic Places Status:	Listed on Register
Historic Bridge Prioritization Status:	Not Designated by INDOT
	Due to Pedestrian Status

Historic Character-Defining Features: The truss design of the superstructure is the most character-defining feature because it combines the kingpost truss design and the cantilever truss design. This unique combination was rare at the time of construction, and this style of bridge has not been used for many years.

Most Recent Field Inspection Date: May 6th, 2019 A previous inspection report dated April, 2013 is also attached as Appendix F.

A bank stabilization project was recently constructed south of the bridge. Relevant pages from the Lakes and Rivers Enhancement (L.A.R.E.) report are attached as Appendix G.

Years Repaired: The bridge shows evidence of various repairs and modifications. Details and dates of these repairs are unknown.

#### B. <u>Structure/Dimensions</u>

Surface Type: Timber Planks
Out to Out of Copings: 6'–5"
Out to Out of Bridge Floor: 6'-5"
Clear Roadway Width: 5'-7"
Number of Lanes on Structure: None, Pedestrian use only
Skew: 0°
Type of Superstructure: Structural Steel Combination Truss
Spans: 3-Spans; 54'-0", 100'-0", 29'-6"
Type of Substructure/Foundation: Abutment material is concrete. The main piers are concrete-filled steel pipes. Secondary piers, which may have been added later, are steel I-beams with a concrete foundation.

#### C. <u>Geometrics</u>

The geometrics which apply to the bridge rehabilitation project are based on the following:

- 1. Urban or Rural Location: Urban
- 2. Functional Classification: Pedestrian Bridge
- 3. Project Scope of Work: 3R Non-Freeway, Bridge Rehabilitation

Design Criteria:

- IDM 412-2.02(01) Bridge Rehabilitation
- IDM 51-1.03(02) Sidewalk Design Criteria
- AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges
- Figure 54-2A as applicable

#### D. <u>Appurtenances</u>

Bridge Railing: Steel angles with lattice between, 3'-6" high

Curbs: None

Sidewalks: Bridge is for pedestrian use only

Utilities: Electric and communications facilities run adjacent to the bridge. Water lines are present at either end of the bridge, but the water line does not cross the river.

Railroad: None

E. <u>Approaches</u>

Roadway Width: 6'-0" Surface Type: Concrete and Asphalt Guardrail: None Guardrail Transition: None

F. <u>Traffic</u>

Current AADT:Unknown (Pedestrian Bridge)Future AADT:Unknown (Pedestrian Bridge)Percentage Commercial vehicles: 0%Low Volume Road?Yes

Historic Bridge Alternatives Analysis

#### V. ENVIRONMENTAL COMPLIANCE

- 1. Impact on wetlands: The project is not near any known wetlands, and no impacts to wetlands are expected. The National Wetlands Inventory map from the U.S. Fish and Wildlife Service is attached as Appendix E.
- 2. Due to construction activities in the waterway, the following permits are anticipated.
  - IDNR Construction in a Floodway
  - ACOE 404
  - IDEM 401

An IDEM Rule 5 permit is not anticipated because less than 0.5 acres of land are expected to be disturbed by construction.

- 3. The bridge was added to the National Register of Historic Places on July 23, 1981 (NPS NRIS# 81000001). As a pedestrian bridge, the bridge is not listed in the INDOT Historic Bridges Inventory.
- VI. EXISTING CONDITIONS
  - A. <u>Bridge Deck</u>
    - 1. <u>General</u>. The existing timber decking is in fair condition.
    - 2. <u>Overlay</u>. Not Applicable
    - 3. <u>Surface Condition</u>. The existing timber decking shows wear and some planks have been recently replaced. (Photo 2)
    - 4. <u>Underside Condition</u>. The underside of the timber decking is wet and molding in some locations. The moisture absorbed by the deck is accelerating the corrosion in the stringers and floorbeams supporting it. (Photo 3)
    - 5. <u>Joints</u>. The bridge deck is comprised of timber, so typical expansion joints do not exist; however, there are structural joints at each end of the cantilever span that joins to the suspended span over the river.

- 6. <u>Drainage</u>. Water drains through the gaps between the timber planks, and is not channeled or routed.
- 7. <u>Bridge Railing</u>. The existing bridge railing is steel, and it is in fair condition. The height of the railing from the top of the bridge deck is 42 inches, which meets the AASHTO requirements in Section 13.7.3.2. The railing does not meet the maximum gap spacing requirements described in AASHTO Section 13.7.3.2. Wire mesh has been added to the bottom of the railing to add some level of additional protection for children and small pets. (Photo 4)
- 8. <u>Curbs or Sidewalks</u>. This bridge is for pedestrian use only. No curbs are present.
- 9. <u>Other</u>. None
- B. <u>Superstructure</u>
  - 1. <u>General</u>. The superstructure above the bridge deck is generally in fair condition. The superstructure below the bridge deck is in poor condition.
  - 2. <u>Repair/Maintenance Work</u>. The bridge shows evidence of many repairs and modifications throughout the bridge. The dates of these repairs and modifications are unknown. Some of the more significant modifications include:
    - Lateral bracing has been added to the superstructure. (Photo 7)
    - Portions of the main towers have been replaced. (Photo 5)
    - The floorbeams and stringers underneath the bridge deck have likely been previously replaced.
    - Various rivets have been replaced with bolts. Some of these bolts are square, and some are hexagonal. This suggests that the bolts were placed at multiple different times in the bridge's history.

- 3. <u>Specific Deficiencies</u>.
  - The bridge experiences large lateral deflections when it is used by multiple pedestrians.
  - Many of the stringers and floorbeams show severe rust and section loss. Connections of these members are also severely rusted. (Photos 9 & 10)
  - Some rivets and bolts are missing in the superstructure connections. (Photo 6)
- 4. <u>Fracture-Critical Member or Low-Fatigue-Life Details</u>. The main cables and truss elements of the bridge are fracture critical. Connections of these members are gusset plates for the angle members, and pin connections for the cables. The gusset plates are originally connected with rivets, though some of the rivets have been replaced with bolts in previous repairs. These fracture critical members are in fair condition, and they show minor rusting. No cracks were observed in any of these members.
- 5. <u>Damage</u>. No damage from impacts is visible.
- 6. <u>Bearings, Pedestals</u>. The bearing pedestal and pins show significant rust, especially at the connection of the bearing pedestal to the top of the piers, and around the pin location. (Photos 11 & 12)
- 7. <u>Other</u>. The cables which support the bridge are relatively loose. The anchorage of these cables at the ends of the bridge extend underneath the pavement, and the condition of that anchorage is unknown. (Photo 24)
- C. <u>Substructures and Foundations</u>
  - 1. <u>General</u>. The overall condition of the substructures, foundations, and slope protection is fair. The abutments are concrete, but the shape and design of the abutments is unknown. The foundation of the main piers is concrete-filled steel pipes. Secondary piers are located between the abutments and the main piers. These are steel I-beams with a concrete foundation.

- 2. <u>Repair/Maintenance</u>. The secondary piers appear to be relatively new, and they were likely replaced. For the main piers and abutments, no repairs or maintenance are visible. (Photos 13 & 14)
- 3. <u>Specific Deficiencies</u>. Rust is visible above grade on the steel pipes of the main piers. (Photo 15)
- 4. <u>Seismic</u>. This structure is in Seismic Zone 1.
- 5. <u>Drainage</u>. Concrete has been placed on the east bank of the river, underneath the bridge, in an attempt to stop erosion. This concrete is failing and falling down the slope. Stone riprap has been placed along the east bank south of the bridge. (Photo 16)
- 6. <u>Scour</u>. The main piers on the east side of the bridge are in the water, and scour appears to be likely. The main piers on the west side of the bridge are not in the waterway. (Photo 17)
- 7. <u>Other</u>. The bottom portions of some of the steel elements are buried below grade, possibly leading to corrosion. The west abutment is exposed; however, the east abutment is completely buried under asphalt. (Photo 14)
- D. <u>Approaches</u>
  - 1. <u>General</u>. The pavement on the west side of the bridge is concrete. The pavement on the east side of the bridge is asphalt. The condition of both is poor. (Photos 18 & 19)
  - 2. <u>Wedge</u>. The asphalt on the east side of the bridge may be placed over concrete, but details are unknown.
  - 3. <u>Approach Pavement</u>. The concrete sidewalk on the west side of the bridge is relatively flat, but it is un-even. Sidewalk leads from the bridge entrance to the two sidewalks on either side of the street. The approach on the east side is asphalt, and the slope is not ADA (Americans with Disabilities Act) compliant. There is not currently a sidewalk leading from the bridge entrance to the existing sidewalk on the south side of the street.

- 4. <u>Guardrail</u>. The bridge railing stops at the ends of the bridge, and there is no approach guardrail or fencing.
- 5. <u>Drive or Public Road</u>. This bridge is for pedestrian use only, but there is a roadway on either side of the bridge. An abandoned residential driveway is located approximately 20-30 feet southeast from the east end of the bridge. Another residential driveway is located approximately 50 feet from the east end of the bridge on the north side of LaPorte Street. No driveways are located on the west side of the bridge, but there is a roadway leading up to the bridge ending approximately 30 feet before the bridge.
- 6. <u>Traffic-Control Devices</u>. Bollards at both ends of the bridge block vehicles from accessing the bridge. There are no other traffic-control devices.
- 7. <u>Roadway Drainage and Pipes</u>. One corrugated metal pipe (approx. 18") outfalls in the Yellow River at the northeast quadrant of the bridge. This pipe does not have an end section at the outfall. This does not meet current standards, however, it is not anticipated to be impacted by this project.
- 8. <u>Trees</u>. Trees are located on the banks immediately next to the bridge, and some of these could fall on the bridge and damage it. The shade from the trees also prevents proper drying of the bridge after a rain event, accelerating the deterioration of the structure. (Photos 21-23)
- 9. <u>Miscellaneous.</u> The approach from the road to the bridge on the east end of the bridge is not ADA compliant.
- E. <u>Slopewalls</u>. The condition of the slopewalls is fair. Concrete has been placed on the east bank of the river, underneath the bridge in an attempt to stop erosion. This concrete is failing and falling down the slope. Stone riprap has been placed along the east bank south of the bridge. Otherwise, the slopewalls are natural and do not show significant erosion. (Photo 17 & 21)

LaPorte Street Footbridge over Yellow River Des. No. 1702837 NPS NRIS# 81000001

F. <u>Utilities.</u> Electric and communications wires run adjacent to the north side of the bridge. Fire hydrants are located near the end of each bridge approach, but the water line does not cross the river. (Photo 20)

#### VII. PURPOSE AND NEED

#### A. Background

The East LaPorte Street Footbridge over the Yellow River was constructed in December of 1898 by W.B. Bassett of the Rochester Bridge Company. The company started in March 1896 and was in existence until the Great Depression in the 1930s. The East LaPorte Street Footbridge is one of the company's first bridge projects and combines two of the oldest bridge construction styles used in the development of infrastructure in the United States. Coupling the kingpost truss design with the cantilever truss design, this is an extremely unusual design creating a one-of-a-kind bridge in Indiana.

The bridge connects residential areas east of the river to a public park and downtown Plymouth west of the river. It was added to the National Register of Historic Places on July 23, 1981 (NPS NRIS# 81000001).

B. Purpose

There are two purposes of this project. The first purpose is to extend the useful life of the structure to 30 years. This will be done by improving the condition of all bridge elements to at least a "good" condition. The second purpose is to decrease the lateral deflections that can occur on the bridge. Lateral deflections due to wind loading will be reduced to 3.3 inches per AASHTO's 2009 LRFD Guide Specifications for the Design of Pedestrian Bridges. Lateral deflections due to pedestrian loading will be limited to an extent which is financially prudent and within the budget. There is no standard requirement for lateral deflections due to pedestrian loading, but this will increase pedestrian comfort and confidence when using the bridge.

C. Need

The project is needed for two reasons. First, several parts of the bridge are significantly corroded. The floorbeams, stringers, and their connections are in very poor condition. Some of the connections between the floorbeams and stringers are no longer effective because they are so corroded. These members, located just under the deck, are frequently in poor condition on similar-aged bridges. This is the result of the wood deck absorbing water and slowly releasing it onto the steel members resulting in a longer contact time and more destructive corrosion. Some of the steel bearings are also experiencing significant corrosion, and are in poor condition. Other steel portions of the bridge are in fair condition, but still show some surface rust. The deck and substructures are in fair condition. The approaches are in poor condition because they are uneven and do not meet ADA criteria.

Secondly, the bridge experiences significant lateral deflection (approximately 6 inches at midspan) when it is used. Though the lateral deflection may not affect the structural capacity of the bridge, the deflections may cause pedestrians to feel uncomfortable crossing the bridge. The lateral deflections are amplified if multiple people are crossing the bridge at the same time. This is likely a flaw in the original design of the bridge, as the bridge does not have enough weight or lateral stiffness to limit deflections to modern standards. Many of the retrofits and repairs that have been added to the bridge have attempted to solve this issue of lateral deflections. These additions include lateral bracing on the superstructure, and additional piers between the abutments and main piers. Some photographs even show that additional piers were once placed in the middle span, but these additional piers have since been removed.

## VIII. ALTERNATIVES

## A. No Build / Do Nothing

This alternative means that no federal funds will be expended, and no action would occur. If no action is taken, the bridge may lose the structural capacity that it needs to carry groups of pedestrians, and the bridge would likely need to be closed to pedestrians within 5 years. The bridge serves to connect a new public park west of the river to residential areas east of the river. Closing the bridge would cause pedestrians to travel further and cross the river using a vehicular bridge.

Although no costs would be involved in this option, doing nothing is not prudent because it would ultimately result in the destruction of this unique historic landmark, which would be a detriment to the city and historic posterity.

# **B.** Rehabilitation for Continued Pedestrian Use Meeting Secretary of Interior's Standards for Rehabilitation

This alternative rehabilitates the bridge by correcting the deterioration of the structure as noted above, extending the structure life, decreasing lateral deflections, and improving its overall condition. All components of the bridge will be improved to "good" condition or better. The rehabilitation will maintain portions of the bridge which are original or hold historic value. Many components of the bridge have been previously replaced, and they are not historic. These newer components can be replaced if they are significantly corroded. Additional members will be added underneath the bridge deck to add lateral stiffness so that the lateral deflections are reduced.

<u>Bridge Railings and Transitions:</u> The existing bridge railings are historic, but they do not satisfy AASHTO design criteria for the spacing between members (AASHTO 13.7.3.2). There is a 14" gap from the top of the deck to the bottom of the railing where there is no protection for pedestrians. This gap exceeds the AASHTO requirements. This gap may be solved by adding two longitudinal bars spanning between the existing bridge railing posts. The top portion of the bridge railing consists of diagonal members with gaps of 17" between members, and this also does not meet current AASHTO standards. This can be solved by placing an additional set of crossing diagonal members with the existing members. In this alternative, the railings are left in place, and the additional bars are added to the top and bottom portions of the railing to improve pedestrian safety. Any missing rivets or bolts will be replaced with round-headed bolts. The round-headed bolts will more closely resemble the original round rivets.

<u>Bridge Deck:</u> The existing timber deck will be replaced with new timber decking or composite decking. The existing timber decking has likely been replaced several times throughout the lifespan of the structure and it is not historic. Benefits of using a composite decking is that it does not fade over time, does not deteriorate like timber decks, and does not absorb water, which has been the cause of stringer and floorbeam deterioration.

<u>Superstructure</u>: The superstructure above the deck consists of kingpost towers, anchor cables, and truss members. These are the most historically significant elements of the bridge. Because these elements of the superstructure are historically significant and are generally in good condition, little work will be done to them. Any areas of pack rust will be removed, and then these components will be cleaned and painted with the current INDOT paint system. VS will coordinate with the City of Plymouth, SHPO, and INDOT to receive input about the preferred paint color. Any missing rivets or bolts will be

replaced with round-headed bolts. The round-headed bolts will more closely resemble the original round rivets. In some cases where the area around the existing bolt hole is badly corroded, a new bolt hole in a different location may be needed.

The portion of the superstructure underneath the bridge deck consists of the floorbeams, stringers, and cross-bracing. These elements appear to have been replaced before, so they are likely not historic. They are also in very poor condition, so all of the floorbeams, stringers, and cross-bracing will be replaced. The existing arrangement of the floorbeams, stringers, and cross-bracing is not very effective in providing lateral stiffness. Additional members will be added underneath the bridge deck to add lateral stiffness to the bridge. These additional members will differ from the original design of the bridge, but they will be located underneath the bridge deck and out-of-sight for most pedestrians using the bridge. After installation, all members will be cleaned and painted with the current INDOT painting system.

The additional lateral bracing which has been added above the bridge deck to the sides of the structure will be removed. These are not original, and removing them will better restore the bridge to its original design. Any lateral stability that was provided by these supports will be replaced by the additional lateral support members underneath the bridge deck. Some water gauge equipment has previously been attached to the north side of the bridge. VS will coordinate with the United States Geological Survey to determine if the equipment is still in use.

<u>Substructure and Foundation:</u> The existing abutments and piers will remain in place unless underground deterioration is found during construction. The cable anchorages will be excavated during construction to determine the integrity of the anchorage. If the anchorage appears to be unstable or deteriorating, it will be replaced with a new concrete anchorage. For all of the underground substructure elements, different repair methods will be considered before construction for some of the likely problems that the contractor may find. Also, all steel portions of the substructure will be cleaned and painted in the current INDOT painting system.

The bottom of some of the steel elements are buried slightly below grade, which can lead to corrosion. Soil will be excavated from around these elements to expose those portions of steel.

Riprap will be placed around the east piers to prevent scour and erosion. The existing concrete underneath the bridge on the east bank will be removed and replaced with class-2 riprap.

<u>Approaches:</u> The approaches will be updated to allow for better pedestrian access to the bridge. At the west approach, approximately 300 square feet of concrete sidewalk and 400 square feet of asphalt roadway will be removed. This will be replaced with approximately 700 square feet of concrete sidewalk which connects to the existing sidewalk. This approach will be ADA compliant.

At the east approach, approximately 700 square feet of asphalt pavement will be removed. This will be replaced with approximately 700 square feet of concrete sidewalk which connects to the existing sidewalk. The residential drive at the southeast quadrant may need to be replaced. Ramps may be required to make this approach meet ADA requirements.

The existing bollards on either side of the bridge will be removed to allow for wheelchair access. Bollards will be placed on the streets at both ends of the bridge to prevent vehicles from impacting the bridge. These bollards shall still allow for wheelchair access to the bridge. Also, up to 5 trees (less than 20 inches) will be removed which could potentially fall on the bridge and damage it. (Photos 21-23)

<u>Utilities:</u> The overhead utility lines adjacent to the bridge will likely need to be deenergized during construction.

<u>Maintenance and Protection of Traffic:</u> The bridge will be closed to pedestrian traffic during construction. The pedestrian detour route will use S Liberty Street, E Garro Street, and River Street. This detour would temporarily add about 0.128 miles of walking distance for pedestrians to access the public park.

Additional Condition Surveys and Tests: The design team will remove a sample of the bridge to test the structural properties of the steel. This will allow the structural analysis to utilize higher strength values than what is allowed to be assumed in the code. Ultimately, this allows for more cost effective designs and higher load limits.

<u>Summary</u>: This alternative is feasible because it will prolong the life of the bridge and maintain a historic landmark for continued use by the public. This alternative is prudent because it can be accomplished within the budget set by the City and State, with a proposed budget of \$1,220,000 (Appendix C1). The estimated cost for completely replacing the bridge is \$1,367,000 (Appendix C2), so rehabilitation is the cheaper option. This rehabilitation will be safe for pedestrians, follow ADA requirements, and follow the standards for the secretary of interior and extend the life of the structure for 30 years. A

summary of design standards and exceptions are provided below in Table 1. No design exceptions are expected for this alternative.

Design Element	Design Manual	Minimum	Existing	Proposed	Design
	Section	Design	Condition	Condition	Exception
		Criteria			Required?
Structural	AASHTO Ped	90 psf	Unknown	90 psf	No
Capacity ¹	Bridges 3.1				
Clear Roadway	IDM 51-	5′-0″	5′-7″	5′-7″	No
Width	1.03(02)				
Pedestrian	AASHTO LRFD	6″	17″	6″	No
Bridge Railing	13.8.1	Maximum	Maximum	Maximum	
		Opening	Opening	Opening	
Maximum Grade	IDM 51-	8.33%	9.2%	<8.33%	No
at Approaches	1.03(02)				

#### Table 1. Existing Conditions and Applicable Design Criteria

^{1.} Bollards will be placed to prevent all vehicular access to the bridge. Note: This is a footbridge intended for walking traffic only. Current shared path standards do not apply.

## C. Replacement – Demolition of Historic Bridge and New Bridge Construction

This alternative calls for the demolition of the historic bridge and the construction of a new bridge in its place. The steel members and concrete foundations would be completely removed to allow for a new bridge to be built in its place. Demolition of the foundations would include increased excavation and environmental impacts.

In its place, a two-span, pre-engineered steel truss bridge would be built. The width of the bridge would likely be expanded to 10'-14' to allow for two-way, shared-use traffic. A pier would need to be constructed to support the two spans between the abutments. The new pier would likely be placed on the west bank of the river so that the main waterway is not blocked. New abutments would be constructed on either side of the river, approximately in the same locations of the existing abutments. New piles would be driven to support both the abutments and the pier. Much of the work at the approaches described in Alternative B would apply to this alternative as well. A benefit of a new bridge is that it would be able to carry more pedestrian traffic, and small vehicles.

This alternative is feasible, but it is not prudent because it removes an irreplaceable piece of history that is valuable to the community. The existing bridge is set to be an Historic Bridge Alternatives Analysis 16 | P a g e

important part of the public park and downtown access. The preliminary cost estimate for this alternative is \$1,367,000, which is also more expensive than Alternative B. Because this alternative destroys a historically significant bridge, and because it is more expensive than other feasible alternatives, the Replacement alternative is not recommended.

#### IX. MINIMIZATION AND MITIGATION

- A. Minimization: Measures which will minimize the unavoidable impacts of the repairs are listed below.
  - a. Added members for lateral stiffness will be located underneath the bridge deck. These will not be visible to pedestrians crossing the bridge.
  - b. Rivets that need to be replaced will be replaced with round-headed bolts, rather than polygonal-headed bolts. This will better imitate the original construction techniques.
  - c. Members added to the pedestrian railings will be of a similar design to the existing railing members.
  - d. Previously added components will be removed when possible to most closely restore the bridge to its original design.
  - e. If the SHPO desires, the City will provide rehabilitation plans to the Indiana SHPO when the design is approximately 30% complete, 90% complete, and when final design plans are complete. The purpose of these reviews is to ensure compliance with the Secretary of Interior's Standards for Rehabilitation, and to incorporate context sensitive design features, where practicable. The City will consult with the Indiana SHPO to determine if photo documentation of the bridge is needed.
- B. Bridge Marketing: Because rehabilitation of the existing bridge is being recommended, no bridge marketing is needed.
- C. Mitigation: The proposed work elements for the bridge meet the Secretary of the Interior's Standards for Rehabilitation and, therefore, it is not anticipated that any mitigation will be necessary.

#### X. PRELIMINARY PREFERRED ALTERNATIVE

Alternative B, Rehabilitation for Continued Pedestrian Use Meeting Secretary of Interior's Standards for Rehabilitation is the Preliminary Preferred Alternative. This alternative has the least impact on the historic properties of the bridge, while still addressing the purpose and need of the project.

Alternative	Meets	Const. Cost	ROW	Total Cost	Other	Feasible &
	Purpose		Cost		Factors	Prudent?
	& Need?					
A – No Build	No	\$0	\$0	\$0	NA	No. Does not
						meet purpose
						and need
B – Rehabilitation	Yes	\$1,220,000	\$0	\$1,220,000	NA	Yes
for Continued Use						
C – Demolition	Yes	\$1,367,000	\$0	\$1,367,000	NA	No. Removes
and Replacement						historic bridge
						& costs more
						than rehab.

Table 2:	Alternative	Comparison
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#### XI. PHOTOGRAPHS



Photo 1: Bridge Overview (Looking north from south end of bridge)



Photo 2: Bridge Deck and Superstructure (Looking east from the midspan of the bridge)

Historic Bridge Alternatives Analysis



Photo 3: Underside of Bridge Deck (Looking east from the west bank)



Photo 4: Bridge Pedestrian Railing (Looking south from the northwest corner of the bridge)

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Photo 5: The bottom portion of the main tower has been replaced *(Looking north from the bridge deck at the west pier)* 



Photo 6: Gusset plate with missing bolt (Looking northwest from the bridge deck)

Historic Bridge Alternatives Analysis



Photo 7: Lateral bracing on the south side of the bridge *(Looking west from the midspan of the bridge)* 



Photo 8: Underside of bridge deck (Looking east from the west bank)



Photo 9: Severely rusted floorbeam-stringer connection (Looking east from under the bridge on the west bank)



Photo 10: Severely rusted stringer and floorbeams (Looking east from under the bridge on the west bank)

LaPorte Street Footbridge over Yellow River Des. No. 1702837 NPS NRIS# 81000001



Photo 11: Bearing assembly at main north pier (Looking northwest from under the bridge on the west bank)



Photo 12: Bearing assembly at the main north pier *(Looking south from the west bank)* 

Historic Bridge Alternatives Analysis



Photo 13: Secondary piers at the east end of the bridge *(Looking east from under the bridge on the east bank)* 



Photo 14: Secondary piers at the west end of the bridge (Looking north from south of the bridge on the west bank)



Photo 15: Main piers at the west end of the bridge (Looking east from under the bridge on the west bank)



Photo 16: Concrete slope protection on the east bank *(Looking south from the east bank)* 

LaPorte Street Footbridge over Yellow River Des. No. 1702837 NPS NRIS# 81000001



Photo 17: Substructure at the east end of the bridge *(Looking southeast from the west bank)* 



Photo 18: Roadway and sidewalk at the west end of the bridge *(Looking northeast from southwest of the bridge)* 

Historic Bridge Alternatives Analysis

LaPorte Street Footbridge over Yellow River Des. No. 1702837 NPS NRIS# 81000001



Photo 19: Roadway at the east end of the bridge (Looking west from East Laporte Street)



Photo 20: Utility line north of the bridge (Looking northwest from the midspan of the bridge)

Historic Bridge Alternatives Analysis



Photo 21: Trees to remove at the northwest end of the bridge. (Looking southwest from the west bank)



Photo 22: Tree to remove at southeast end of bridge *(Looking east from the midspan of the bridge)* 



Photo 23: Tree to remove at northeast end of bridge *(Looking east from the midspan of the bridge)* 



Photo 24: Cable anchorage at east end of bridge (Looking northeast from the east end of the bridge)



#### **Plymouth Park and Recreation Department**

1660 N. Michigan St., Plymouth, IN 46563 parks@plymouthin.com, 574.936.2876 Superintendent: Mike Hite

Park Board

Dave Morrow, Pres. Mike Kershner, V.Pres. Laura Mann, Sec. Cayla Sharp Alex Eads Adam Lukenbill

October 26, 2020

Ruth Hook, CPESC, CESSWI Lochmueller Group, Inc. 112 W. Jefferson Blvd Suite 500 South Bend, Indiana 46601

Re: Section 4(f) Coordination Des. No. 1601919 LaPorte Street Pedestrian Bridge – River Park Square Plymouth, Marshall County, Indiana

Dear Ms. Hook:

I understand the LaPorte Street Pedestrian Bridge project may affect access to River Park Square, a park owned and maintained by our department. The project will not require the acquisition any right-of-way from the property, but the closure of the structure will require pedestrians coming to the park facility to utilize a dedicated pedestrian detour. This detour will utilize River Street, Garro Street, and Liberty Street. It is my understanding that in order to improve pedestrian and bicycle access to the park and provide connectivity to the downtown Plymouth area, the existing LaPorte Street Pedestrian Bridge will be closed for a period of up to 12 months during which the structure will be rehabilitated. The park will remain open during construction and access to the park facilities will be maintained.

As the official with jurisdiction (OWJ) over Riverside Park, I agree that proposed project provides an enhancement to River Park Square, and therefore would qualify for a Section 4(f) exception, as defined in 23 CFR 774.13(g). This exception applies for transportation enhancement projects and mitigation actives where:

- 1. The use of the Section 4(f) property is solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for protection, and;
- 2. The OWJ agrees in writing to the previous condition.

Once rehabilitated, the LaPorte Street Pedestrian Bridge will provide an enhancement to River Park Square through improved pedestrian and bicycle access. Therefore, I agree the project will not adversely affect the recreational activities, features, and attributes that qualify River Park Square for protection under Section 4(f) of the U.S. Department of Transportation Act.

Respectfully,

Mr. Mike Hite Park Superintendent, Parks Department City of Plymouth