The following features and/or items were not detailed in the original RFI document (September 17, 2019) but have since been identified as having an impact on the project area and requiring additional coordination.

1. Infrastructure –
   Managed Lands: As indicated above, the project extents have expanded to include the intersection of 173rd St and Parrish Ave. As such, the Caldwell Baseball Complex managed land identified in the original RFI (September 17, 2019), is now adjacent to the project area. Coordination with Hammond Parks and Recreation Department will occur.
   Religious facilities: As indicated above, the project extents have expanded to include the intersection of 173rd St and Parrish Ave. As such, Terrace Park Church identified in the original RFI (September 17, 2019), is now adjacent to the project area. Coordination with Terrace Park Church will occur.

2. Hazardous Material Concerns –
   UST: As indicated above, the project extents have expanded to include the intersection of 173rd St and Parrish Ave. As such, there are now seven (7) USTs located within the 0.5 mile search radius. Corner Store Incorporated, 3151 Orchard Drive, Hammond IN 46323, AI ID 20449 is located 0.04 mile south of the project area. According to documents retrieved from the IDEM Virtual File Cabinet (VFC), IDEM conducted a UST Inspection on January 25, 2022, and the facility was found to have violations regarding equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. A return to compliance letter was issued by IDEM on March 8, 2022.

   On March 11, 2022, an Initial Site Characterization (ISC) identified soil and groundwater contamination and free product on the groundwater at Corner Store Incorporated and the adjacent Terrace Park Church property. As a result, IDEM assigned release incident number 202201506 and the Corner Store site is classified as a LUST. Based on a preliminary FSI Report dated June 3, 2022, free product and dissolved-phase contaminants have traveled northwest from the gas station onto the church property. Free product recovery was initiated in January 2022. The contaminant plume has not been fully delineated, but based on the soil and groundwater results and potentiometric surface map presented in the FSI report, the lack of petroleum vapors detected in the apartment building located east of the church between the gas station and the revised project, and the lack of project work west of the intersection of 173rd Street with Parrish Avenue, no impact is expected.

INDOT Environmental Services concurrence: Nicole Fohey-Breting Digitally signed by Nicole Fohey-Breting Date: 2022.08.22 10:53:41 -04'00' (Signature)

Prepared by:
Claudia McAllister-Peterson
Ecological Engineer
Crawford, Murphy & Tilly, Inc.

Red Flag Investigation - Infrastructure
Governor's Parkway
Des. No. 1801907, New Bridge Project
Lake County, Indiana

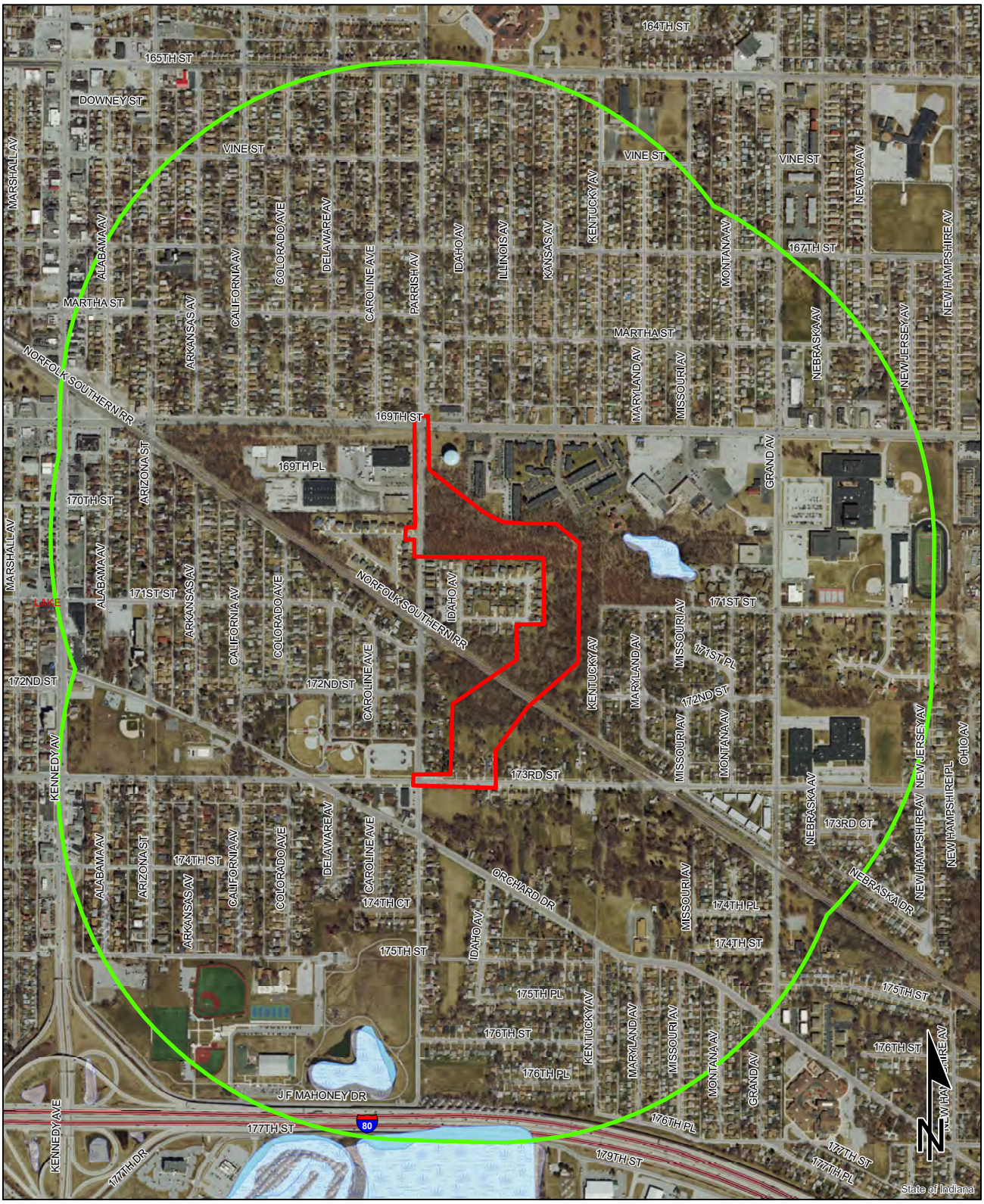
0.15 0.075 0 0.15 Miles

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

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

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

Red Flag Investigation - Water Resources
Governor's Parkway
Des. No. 1801907, New Bridge Project
Lake County, Indiana



0.15 0.075 0 0.15 Miles

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

Red Flag Investigation - Mining/Mineral Exploration
Governor's Parkway
Des. No. 1801907, New Bridge Project
Lake County, Indiana

0.15 0.075 0 0.15 Miles

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

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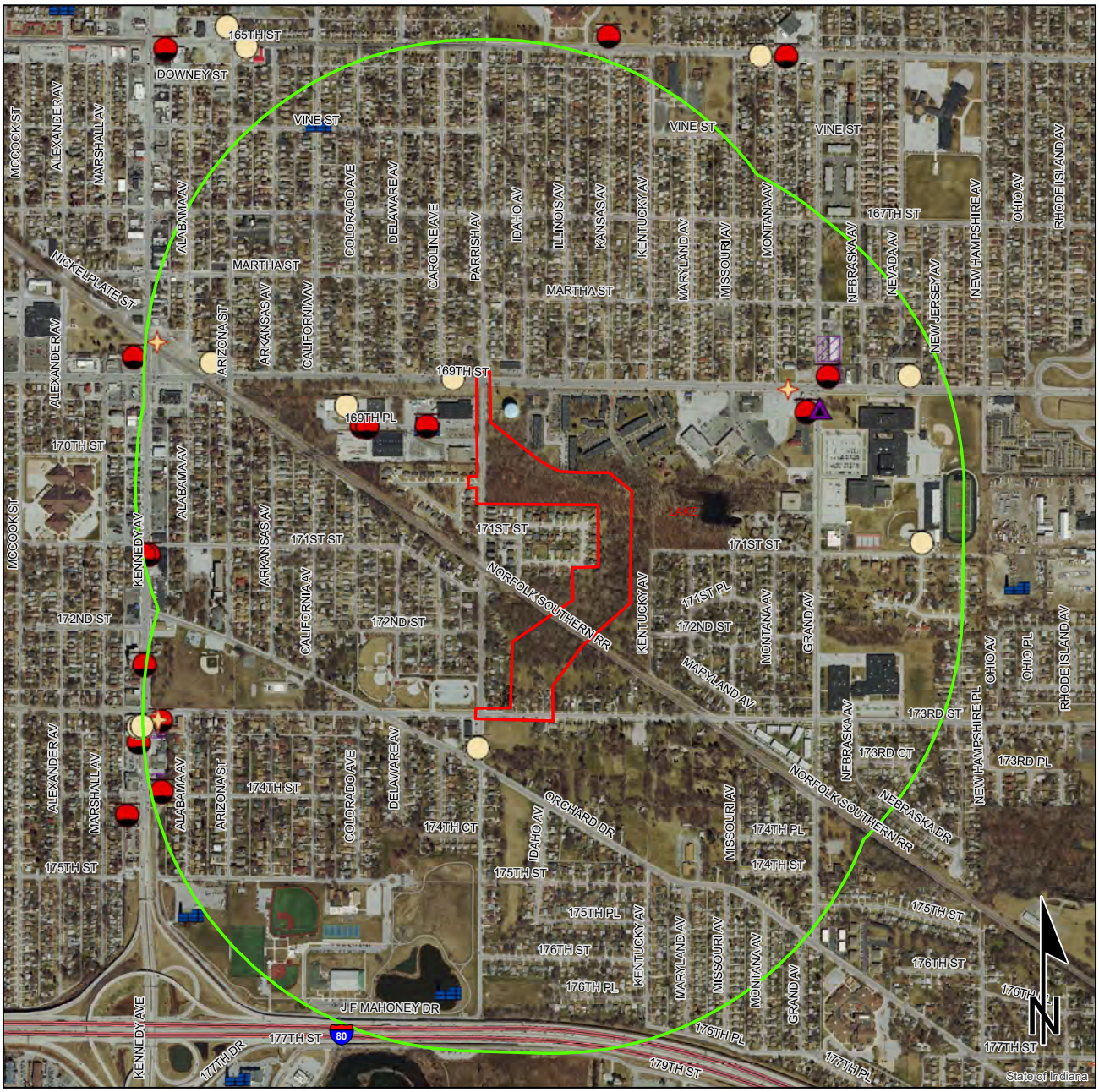
- Oil and Gas Wells
- Mineral Resources
- Mine - Surface
- Mine - Underground
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Hazardous Material Concerns
Governor's Parkway
Des. No. 1801907, New Bridge Project
Lake County, Indiana



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

0.2 0.1 0 0.2 Miles

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Map Projection: UTM Zone 16 N **Map Datum:** NAD83

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

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

Eric Holcomb, Governor
Joe McGuinness,
Commissioner

Date: July 2, 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: Ellen Hogrebe
Crawford, Murphy & Tilly, Inc.
8790 Purdue Road
Indianapolis, IN 46268
ehogrebe@cmtengr.com

Re: RED FLAG INVESTIGATION
DES No. 1801907, State Project
New Bridge Project
Parrish Avenue
Hammond, Lake County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The proposed project involves the realignment of Parrish Avenue between 169th Street and 173rd Street in Hammond, Lake County, Indiana. The project is located in Section 10, Township 36 North, Range 9 West of the U.S. Geological Survey (USGS) Highland, Indiana Quadrangle.

Within the project area, Parrish Avenue is a two-lane Urban Minor Collector. The proposed project would involve a grade separation and realignment of Parrish Avenue and include the construction of a new single span bridge that would accommodate two lanes of traffic, two bike lanes, and a pedestrian sidewalk over two tracks of the Norfolk Southern Railroad. A new intersection of Parrish Avenue and 173rd Street would shift east of the existing intersection and would require a minor stop control on the new Parrish Avenue and widening 173rd Street to add turn lanes to access the new Parrish Avenue.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # N/A

If this is a bridge project, is the bridge Historical? Yes ☐ No ☒ , Select ☐ Non-Select ☐
(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Proposed right of way: Temporary ☐ # Acres _____ Permanent ☒ # Acres 8.5 , Not Applicable ☐

Type of excavation: Proposed excavation for the project will be needed for new storm sewer pipes to a depth of approximately 5 feet, retaining wall foundations to a depth of approximately 4 feet, and unsuitable soil removal to a depth of approximately 4 feet.

Maintenance of traffic: The proposed maintenance of traffic plan will include temporary pavement markings and traffic control devices to direct traffic along 173rd Street during construction of the new Parrish Avenue and 173rd Street intersection. Access to all residences and businesses will be maintained at all times.

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

State Project: ☒ LPA: ☐

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

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	**11***	Recreational Facilities	**8**
Airports[1]	**1***	Pipelines	**2**
Cemeteries	**1**	Railroads	**2**
Hospitals	**N/A**	Trails	**N/A**
Schools	**6***	Managed Lands	**7**

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

Explanation:
Religious Facilities*: Eleven (11) religious facilities, including eight (8) mapped and three (3) unmapped, are located within the 0.5 mile search radius. The nearest facility, Terrace Park Church of God, is located 0.10 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, Gary/Chicago International Airport, is located within 3.8 miles (20,000 feet) of the project area. The public airport is located approximately 2.40 miles northeast of project area; therefore, early coordination with INDOT Aviation will occur.

Cemeteries: One (1) cemetery is located within the 0.5 mile search radius. Lake County Cemetery is located 0.27 mile west of the project area. No impact is expected.

Schools*: Six (6) schools, including three (3) mapped and three (3) unmapped, are located within the 0.5 mile search radius. The nearest school, The Excel Center, is located 0.09 mile east of the project area. No impact is expected.

Recreational Facilities: Eight (8) recreational facilities are located within the 0.5 mile search radius. The nearest facility, Lee L Caldwell Elementary School is mapped 0.10 mile west of project area but, based on review, the school is no longer at this site. Hessville Girls Softball League is located 0.17 mile east of the project area. No impact is expected.

Pipelines: Two (2) pipeline segments are located within the 0.5 mile search radius. The nearest segment, associated with Buckeye Pipe Line Company, is located approximately 0.41 mile west of project area. No impact is expected.

Railroads: Two (2) railroad segments are located within the 0.5 mile search radius. Two (2) segments, associated with the Norfolk Southern Railroad, cross the project area. Coordination with INDOT Utilities and Railroads will occur.

Managed Lands: Seven (7) managed lands are located within the 0.5 mile search radius. The nearest managed land, Caldwell Baseball Complex, is located 0.10 mile west of the project area. No impact is expected.

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	**3**
Canal Structures – Historic	**N/A**	Lakes	**3**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**4**
NWI-Lines	**N/A**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**N/A**	Sinkhole Areas	**N/A**
Rivers and Streams	**N/A**	Sinking-Stream Basins	**N/A**

Explanation:
NWI – Wetlands: Three (3) NWI-Wetlands are located within the 0.5 mile search radius. One wetland is located approximately 0.03 mile east of the project area. Due to the proximity of the wetland, it is likely that additional water resources, such as unnamed tributaries, regulated drains, wetlands, and roadside ditches are located in the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

Lakes: Three (3) lake are located within the 0.5 mile search radius. The nearest lake is located approximately 0.03 mile east of the project area. No impact is expected.

Floodplain – DFIRM: Four (4) 100-year floodplain polygons are located within the 0.5 mile search radius. The nearest floodplain polygon is located 0.14 mile southwest of project area. No impact is expected.

URBANIZED AREA BOUNDARY SUMMARY

Explanation: This project lies within the NW Lake/Porter County 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 City of Hammond MS4 Coordinator at 5143 Columbia Ave. Hammond, IN 46327.

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: N/A

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	**2**	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	**6**	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**N/A**	Brownfields	**N/A**
Construction Demolition Waste	**N/A**	Institutional Controls	**2**
Solid Waste Landfill	**N/A**	NPDES Facilities	**4**
Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**N/A**
Leaking Underground Storage (LUST) Sites	**5**	Notice of Contamination Sites	**N/A**

Explanation:

RCRA Generator/TSD: Two (2) RCRA Generator/TSD sites are located within the 0.5 mile search radius. The nearest site, Briar East Marathon #19752 (3550 169th St. Hammond, IN 46323, AI ID 17166), is located 0.25 mile northeast of the project area. The site is listed was a conditionally exempt small quantity generator in 2002. No impact is expected.

State Cleanup Sites: One (1) State Cleanup Site is located within the 0.5 mile search radius. The site, Hammond Morton High School (6915 Grand Ave. Hammond, IN 46323, AI ID 16910), is located 0.29 mile northeast of the project area. Based on a review of the Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC) IDEM issued a No Further Action (NFA) determination letter on February 22, 2000. No impact is expected.

Underground Storage Tank (UST) Sites: Six (6) UST sites are located within the 0.5 mile search radius. United Parcel Service (3147 W 169th St. Hammond, IN 46323, AI ID 12349) is located adjacent to the project area. IDEM conducted a UST Inspection on August 20, 2018, and the facility was found to be in compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. No impact is expected.

Leaking Underground Storage (LUST) Sites: Five (5) LUST sites are located within the 0.5 mile search radius. United Parcel Service (3147 W 169th St. Hammond, IN 46323, AI ID 12349) is located adjacent to the project area. This site is also discussed under UST sites. Based on a review of the IDEM VFC, IDEM issued a NFA letter on February 4, 2004; however, there is no closure report or documentation of closure activities on the VFC. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary.

Institutional Controls: Two (2) Institutional Control Sites are located within the 0.5 mile search radius. The nearest site, AT&T Hammond Garage (3102 169th Pl. Hammond, IN 46321, AI ID 13544), is located 0.17 mile west of the project area. Based on a review of the IDEM VFC, an Environmental Restrictive Covenant is in place for the property for land use, groundwater use, and subsurface soil excavation. The impacted area does not extend off the site. No impact is expected.

NPDES Facilities: One (1) NPDES facility is located within the 0.5 mile search radius. United Parcel Service (3147 W 169th St. Hammond, IN 46323, AI ID 12349) is located adjacent to the project area. This site is discussed under UST sites and LUST sites. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Lake 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 Environmental Services did indicate the presence of ETR species within the 0.5 mile search radius.

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 range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

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: One (1) public airport, Gary/Chicago International Airport, is located within 3.8 miles (20,000 feet) of the project area. The public airport is located approximately 2.40 miles northeast of project area; therefore, early coordination with INDOT Aviation will occur.

Railroads: One (1) railroad, the Norfolk Southern Railroad, crosses the project area. Coordination with INDOT Utilities and Railroads will occur.

WATER RESOURCES: One (1) wetland is located approximately 0.03 mile east of the project area. Due to the proximity of the wetland, it is likely that additional water resources, such as unnamed tributaries, regulated drains, wetlands, and roadside ditches are located in the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

URBANIZED AREA BOUNDARY: This project lies within the NW Lake/Porter County 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 City of Hammond MS4 Coordinator at 5143 Columbia Ave. Hammond, IN 46327.

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: Leaking Underground Storage (LUST) Sites: Five (5) LUST sites are located within the 0.5 mile search radius. United Parcel Service (3147 W 169th St. Hammond, IN 46323, AI ID 12349) is located adjacent to the project area. This site is also discussed under UST sites. Based on a review of the IDEM VFC, IDEM issued a NFA letter on February 4, 2004; however, there is no closure report or documentation of closure activities on the VFC. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary.

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

INDOT Environmental Services concurrence: Nicole Fohey-Breting Digitally signed by Nicole Fohey-Breting Date: 2019.09.17 21:06:40 -04'00' (Signature)

Prepared by:
Ellen Hogrebe
Environmental Scientist
Crawford, Murphy & Tilly, Inc.

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

SITE LOCATION: YES

INFRASTRUCTURE: YES

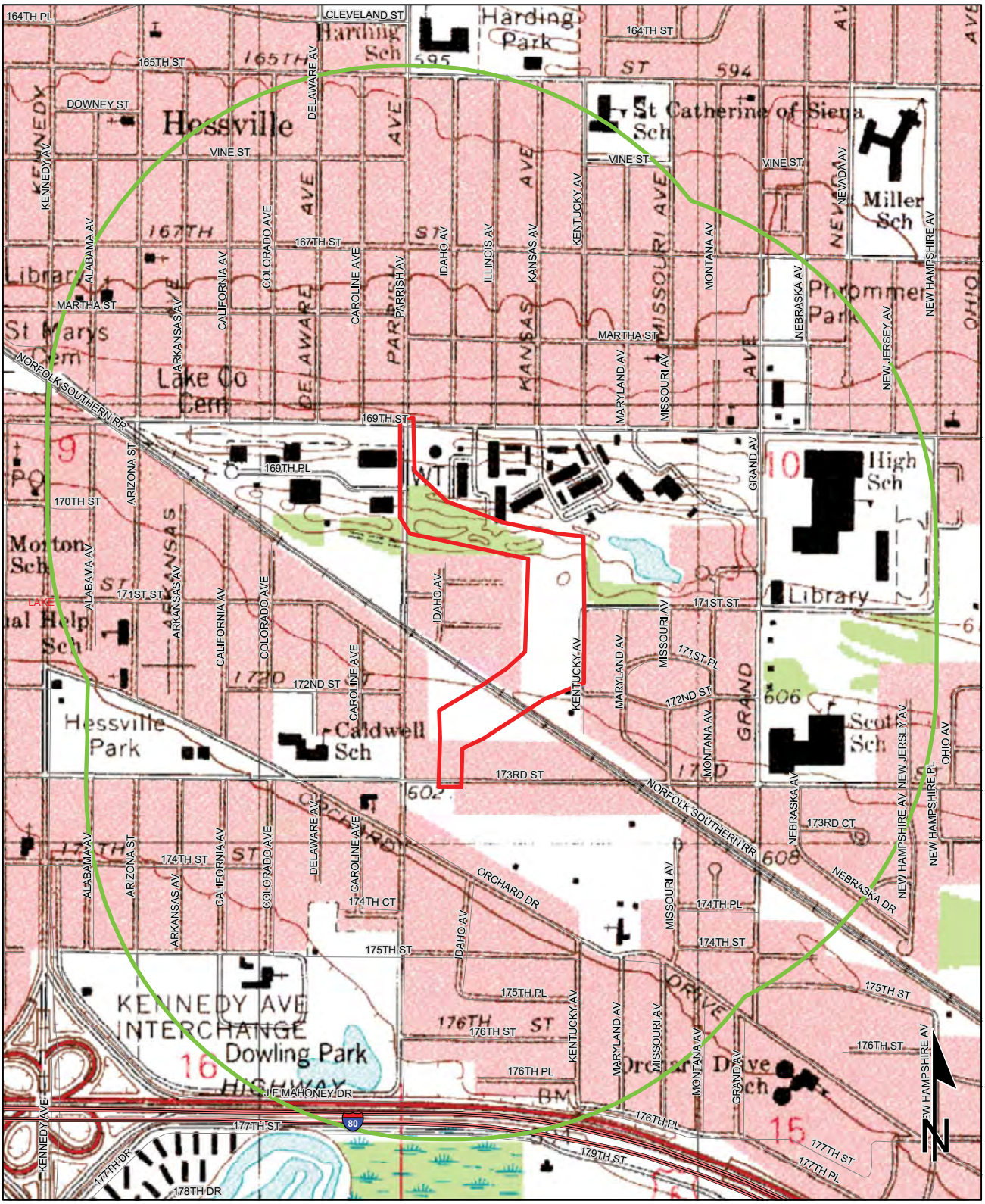
WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: YES

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: YES

Red Flag Investigation - Site Location
Parrish Avenue New Bridge Project
Des. No. 1801907
Hammond, Lake County, Indiana



0.15 0.075 0 0.15 Miles

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

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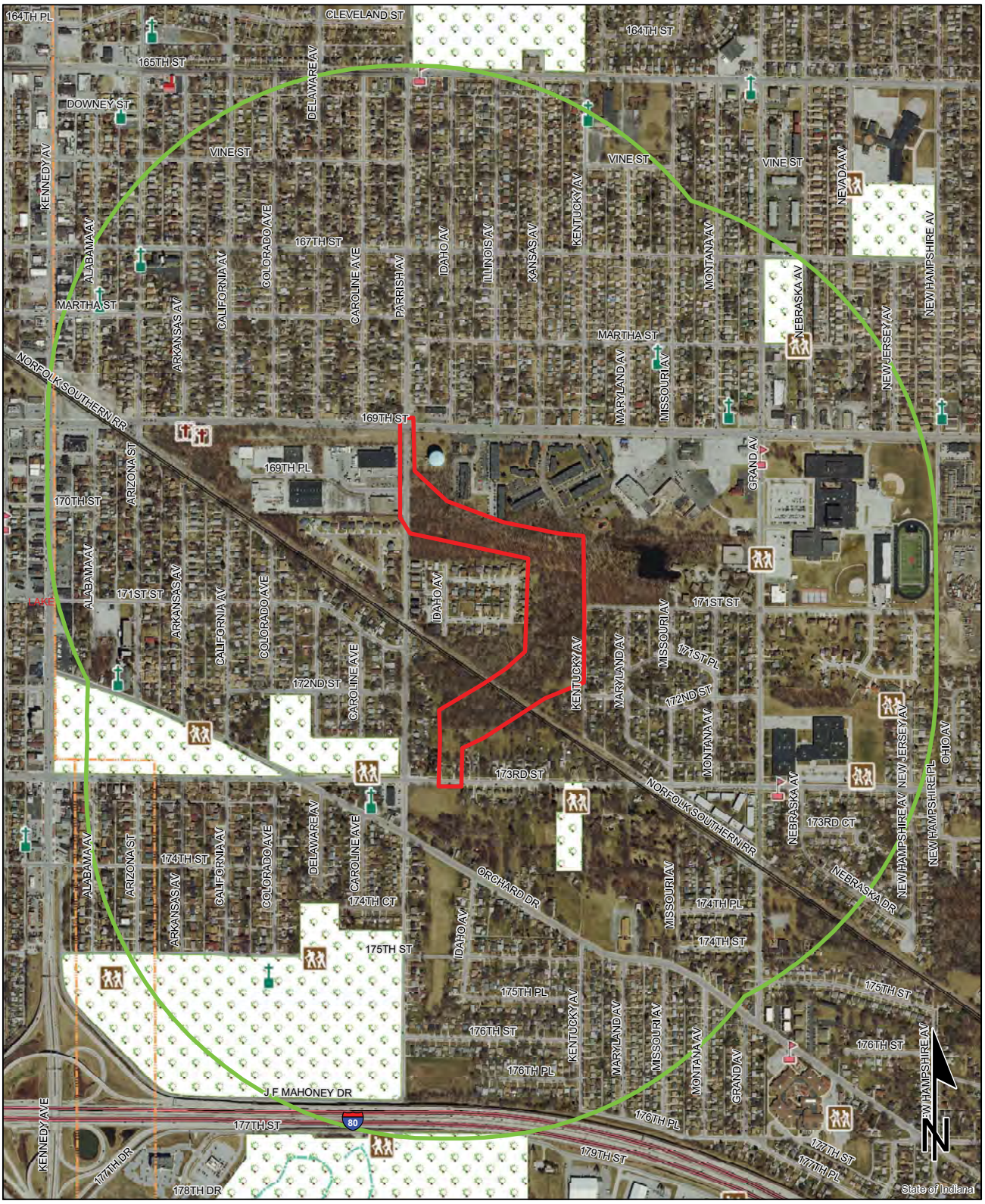
HIGHLAND QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
Parrish Avenue New Bridge Project
Des. No. 1801907
Hammond, Lake County, Indiana



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- Religious Facility
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- School
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- Trails
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- Project Area
- Half Mile Radius
- Toll
- Interstate
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Red Flag Investigation - Water Resources
Parrish Avenue New Bridge Project
Des. No. 1801907
Hammond, Lake County, Indiana

0.15 0.075 0 0.15 Miles

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- NWI - Point
- Karst Spring
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- Impaired_Stream_Lake
- NPS NRI listed
- River
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- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
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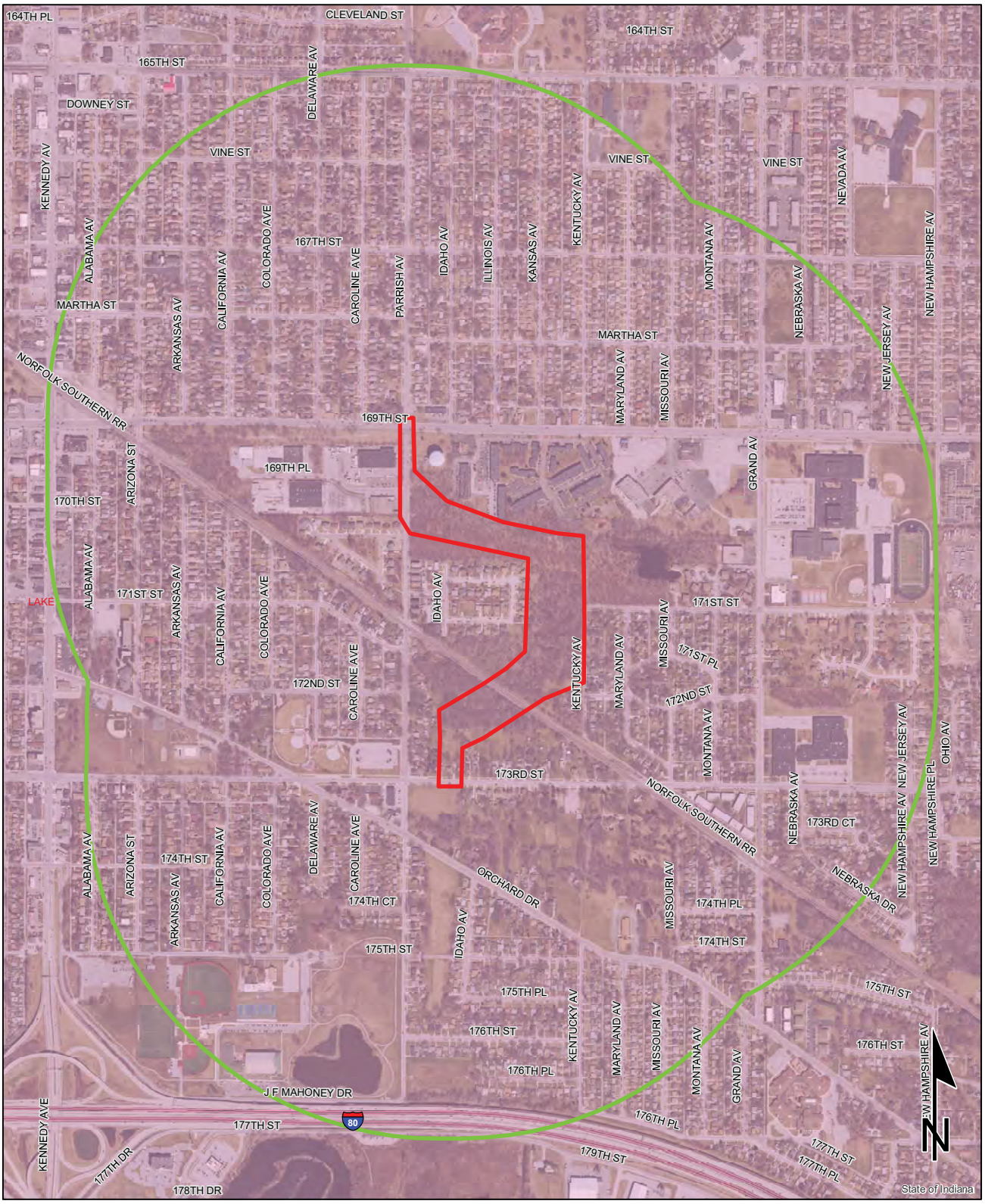
Red Flag Investigation - Urbanized Area Boundary
Parrish Avenue New Bridge Project
Des. No. 1801907
Hammond, Lake County, Indiana



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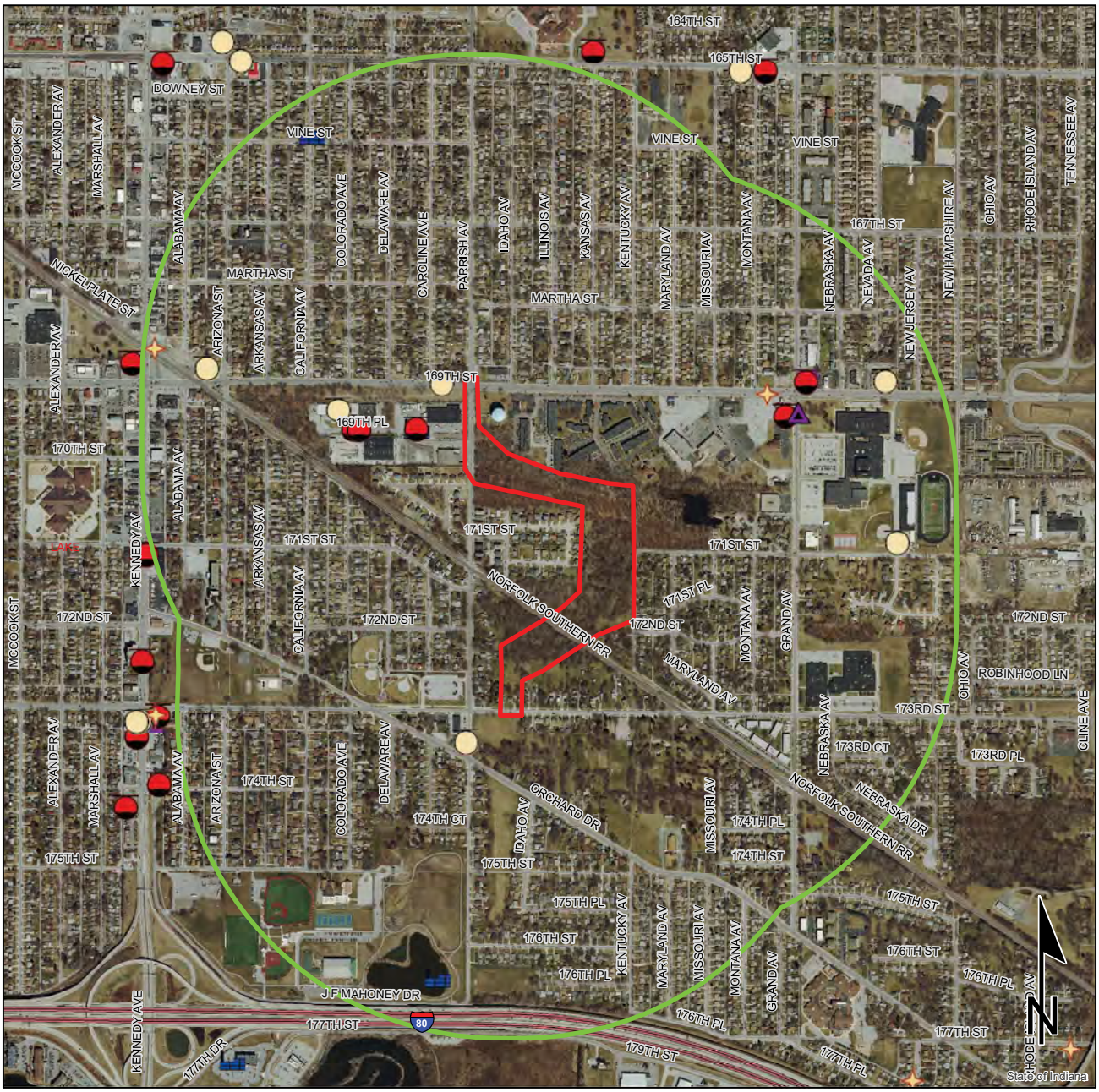
UAB
County Boundary
Project Area
Half Mile Radius
Toll
Interstate
State Route
US Route
Local Road

Red Flag Investigation - Hazardous Material Concerns
Parrish Avenue New Bridge Project
Des. No. 1801907
Hammond, Lake County, Indiana



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0.2 0.1 0 0.2 Miles

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Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Indiana County Endangered, Threatened and Rare Species List

County: Lake

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Plethobasus cyphyus	Sheepnose	LE	SE	G3	S1
Venustaconcha ellipsiformis	Ellipse		SSC	G4	S2
Insect: Coleoptera (Beetles)					
Nicrophorus americanus	American Burying Beetle	LE	SX	G2G3	SX
Insect: Homoptera					
Bruchomorpha dorsata			SR	GNR	S2
Bruchomorpha extensa	The Long-nosed Elephant Hopper		SR	GNR	S2S3
Bruchomorpha oculata			SR	GNR	SNR
Chlorotettix fallax	A Leafhopper		SR	GNR	S2
Cicadula straminea			ST	GNR	S2
Cosmotettix bilineatus	Two-lined cosmotettix		ST	GNR	S1S2
Dorydiella kansana			ST	GNR	S1
Flexamia pyrops	The Long-nose Three-awn Leafhopper		SR	GNR	S1S3
Flexamia reflexus	Indiangrass Flexamia		ST	GNR	S2S3
Graminella mohri			SR	GNR	SNR
Laevicephalus acus			SR	GNR	S2S3
Limotettix divaricatus			ST	GNR	SNR
Mesamia nigridorsum	A Leafhopper		SR	GNR	S2S3
Paraphilaenus parallelus	A Spittle Bug		ST	GNR	S1
Paraphlepsius lobatus			ST	GNR	S1S2
Paraphlepsius maculosus	Peppered Paraphlepsius Leafhopper		ST	GNR	S1
Philaenarcys killa	Great Lakes dune spittlebug		SR	GNR	S2S3
Polyamia caperata	Little Bluestem Polyamia		SR	GNR	SNR
Polyamia herbida	The Prairie Panic Grass Leafhopper		ST	GNR	S1S3
Prairiana kansana	The Kansas Prairie Leafhopper		SE	GNR	S1S2
Prosapia ignipectus	Red-legged Spittle Bug		SR	G4	S2
Insect: Hymenoptera					
Bombus affinis	Rusty-patched Bumble Bee	LE	SE	G1	S1
Dolichoderus plagiatus				G5	S2
Formica glacialis				G5	S2
Lasius flavus				G5	S2
Lasius minutus				GNR	S1
Lasius speculiventris				GNR	S1
Myrmica lobifrons				G5	S1
Solenopsis texana texana				GNRTNR	S1
Insect: Lepidoptera (Butterflies & Moths)					
Acronicta dactylina	Fingered Dagger Moth		SR	G5	SNR

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Indiana County Endangered, Threatened and Rare Species List

County: Lake

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Acronicta funeralis	Funerary Dagger Moth		SR	G5	SNR
Aethes patricia			SE	G3G4	S1
Agrotis stigmosa			ST	G4	S1S2
Agrotis vetusta	A Moth		SR	G5	S2
Ancylis semiovana			SR	GNR	S2S3
Anepia capsularis	The Starry Campion Capsule Moth		SR	G5	S1S2
Apamea burgessi	A Noctuid Moth		ST	G4	S1
Apamea indocilis	The spastic apamea			G5	S1S3
Apamea nigrior	Black-dashed Apamea		SR	G5	S2S3
Archanara laeta			ST	G4	S1S2
Atrytonopsis hianna	Dusted Skipper		ST	G4G5	S1S2
Boloria selene myrina	Silver-bordered Fritillary		ST	G5T5	S2
Capis curvata	A Noctuid Moth		ST	G5	S2S3
Catocala antinympha	The Sweet Fern Underwing		SE	G5	S1
Catocala gracilis	Graceful Underwing		SR	G5	S2S3
Catocala praeclara	Praeclara Underwing		SR	G5	S2S3
Chortodes enervata	The Many-lined Cordgrass Moth		ST	G4	S1
Chortodes inquinata	Tufted Sedge Moth		ST	GNR	S1S2
Coenochroa illibella	Dune Panic Grass Moth		SR	GNR	S2S3
Crambus bidens			SR	GNR	SNR
Crambus murellus	Prairie Sedge Moth		ST	GNR	S1
Croesia semipurpurana			SR	GNR	SNR
Cyclophora pendulinaria	Sweetfern Geometer		SR	G5	SNR
Cycnia inopinatus	The Unexpected Milkweed Moth		SR	G4	S2S3
Dichomeris aleatrix	Aleatrix dichomeris			GNR	S1S2
Erynnis lucilius	Columbine Duskywing		ST	G5	S1
Erynnis martialis	Mottled Duskywing		ST	G3	S2S3
Erynnis persius persius	Persius Duskywing		SE	G5T1T3	S1S2
Euchloe olympia	Olympia Marble		ST	G5	S2
Eucoptocnemis fimbriaris	A Noctuid Moth		ST	G4	S1
Eucosma albiguttana			SR	GNR	SNR
Eucosma bilineana			SR	GNR	S1S2
Eucosma bipunctella	A Moth		SR	GNR	S1S2
Eucosma fulminana			SR	GNR	S1S2
Eucosma giganteana			SR	GNR	S1S2
Eucosma umbrastriana			SR	GNR	SNR
Euphydryas phaeton	Baltimore		SR	G5	S2
Euphyes bimacula	Two-spotted Skipper		ST	G4	S2
Euphyes dion	Dion Skipper		SR	G4	S2S3

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Fagitana littera	The Marsh Fern Moth		ST	G4	S1S2
Faronta rubripennis	The Pine Streak		ST	G3G4	S1
Gabara subnivosella	A Noctuid Moth		SR	G4	S1S2
Glaucopsyche lygdamus couperi	Silvery Blue		SE	G5T5	S1
Grammia figurata	The Figured Grammia		SR	G5	S2S3
Grammia phyllira	The Sand Barrens Grammia		SR	G4	S2S3
Grammia virguncula			SR	G5	S1S2
Hadena ectypa	The Starry Campion Moth		ST	G3G4	S1S3
Hemaris gracilis	The Blueberry Clearwing Sphinx		SR	G3G4	S1S2
Hesperia leonardus	Leonard's Skipper		SR	G5	S2
Hesperia ottoe	Ottoe Skipper		SE	G3G4	S1
Hypenodes caducus	Large Hypenodes		SR	GNR	SNR
Hyperaeschra georgica	A Prominent Moth			G5	S2
Iodopepla u-album	A Noctuid Moth		SR	G5	S2
Lemmeria digitalis	A Noctuid Moth		SR	G4	S1S2
Lesmone detrahens	A Moth		SR	G5	S2
Leucania inermis	A Moth		SR	G5	S2S3
Leucania linita	Salt Marsh Wainscot		SR	GNR	S2
Leucania multilinea			SR	G5	S1S2
Loxagrotis acclivis	A Noctuid Moth		ST	G4G5	S2
Loxagrotis grotei	Grote's Black-tipped Quaker		ST	G4	S2
Lycaeides melissa samuelis	Karner Blue	LE	SE	G5T2	S1
Lycaena dione	Gray Copper			G5	S1
Lycaena helloides	Purplish Copper		SR	G5	S2S4
Lycaena xanthoides	Great Copper		SE	G4	S1
Macaria multilineata	Many-lined Angle		SR	G4	SNR
Macrochilo absorptalis	A Moth		SR	G4G5	S2S3
Macrochilo hypocritalis	A Noctuid Moth		SR	G4	S2
Macrochilo louisiana			ST	G4	S1S2
Melanomma auricinctaria	Huckleberry Eye-spot Moth		SR	G4	S2S3
Melipotis jucunda	A Noctuid Moth		SR	G5	S1S3
Meropleon ambifuscum	Newman's Brocade		ST	G3G4	S1S2
Meropleon diversicolor	A Noctuid Moth		SR	G5	S2S3
Metanema determinata	Dark Metanema		SR	GNR	SNR
Metanema inatomaria	Pale Metanema		SR	G5	SNR
Metarranthis apiciaria	Barrens Metarranthis Moth		SE	G1G3	SH
Nola cilicoides			SR	G5	SNR
Notodonta scitipennis	A Notodontid Moth			G5	S1S2
Odontosia elegans	Elegant Prominent		SR	G5	S1S2
Oligia obtusa	A Noctuid Moth		SE	G4	S1

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Oncocnemis riparia	The Dune Oncocnemis Moth		ST	G4	S1S2
Pangrapta decoralis	The Multicolored Huckleberry Moth		ST	G5	S2
Papaipema beeriana	Beer's Blazing Star Borer Moth		ST	G2G3	S1S3
Papaipema cerina	Golden Borer Moth		ST	G2G4	S1
Papaipema leucostigma	Columbine Borer		ST	G4G5	S1S2
Papaipema lysimachiae	The St. John'Swort Borer Moth		SR	G4G5	S1S3
Papaipema maritima	The Giant Sunflower Borer Moth		ST	G3	S2
Papaipema pterisii	Bracken Borer Moth		WL	G5	SNR
Papaipema rigida	A Borer Moth		SR	G4G5	S2S3
Papaipema sciata	The Culver's Root Borer		ST	G3	S1S2
Papaipema silphii	Silphium Borer Moth		ST	G3G4	S2
Papaipema speciosissima	The Royal Fern Borer Moth		ST	G4	S2S3
Parasa indetermina	A Moth		SR	G4	S1S2
Peoria gemmatella	Gemmed Cordgrass Borer		SR	GNR	S1
Peoria tetradella			SR	GNR	SNR
Phaneta ochroterminana			SR	GNR	SNR
Phaneta olivaceana			SR	GNR	S1S2
Phaneta striatana			SR	GNR	SNR
Phytometra ernestinana	Ernestine's Moth		SE	G4	S1
Platyperigea meralis	The Rare Sand Quaker		ST	G5	S2
Poanes massasoit	Mulberry Wing Skipper		SR	G4	S3
Poanes viator viator	Big Broad-winged Skipper		ST	G5T4	S2
Polites mystic	Long Dash Skipper		SR	G5	S4
Polygonia progne	Gray Comma		SR	G5	S2
Problema byssus	Bunchgrass Skipper		ST	G3G4	S2
Protorthodes incincta	Saturn quaker		SR	GNR	S2
Pygarctia spraguei	Sprague's Pygartic		SR	G5	S1S2
Pyrausta laticlavia	The Southern Purple Mint Moth		SR	GNR	S1S2
Pyrrhia aurantiago	False-foxglove Sun Moth		ST	G3G4	S1S2
Resapamea stipata	The Four-lined Cordgrass Borer		SE	G4	S1
Satyrodes eurydice	Eyed Brown		SR	G5	S2S3
Schinia indiana	Phlox Moth		SE	G2G4	S1
Schinia sanguinea	Bleeding Flower Moth			G4	S2S3
Schinia septentrionalis	A Noctuid Moth		SR	G3G4	S2S3
Scirpophaga perstrialis			SR	GNR	SNR
Semiothisa eremiata	The Goat's Rue Looper		SR	G4	S2S3
Semiothisa mellistrigata	A Geometrid Moth		SR	G5	SNR
Sitochroa dasconalis	Pearly Indigo Borer		ST	GNR	S1S2
Spartiniphaga includens	The Included Cordgrass Borer		ST	G4	S1

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Spartiniphaga inops	Spartina Borer Moth		SR	G3G4	S2S3
Spartiniphaga panatela	Northern Cordgrass Borer		ST	GNR	S1
Speyeria aphrodite	Aphrodite Fritillary		WL	G5	S3
Speyeria idalia	Regal Fritillary	C	SE	G3	S1
Sphinx luscitiosa	The Luscious Willow Sphinx		SR	G4G5	S1S2
Spilosoma latipennis	The Red-legged Tussock Moth		SR	G4	S2S3
Tarachidia binocula	Prairie tarachidia			GNR	S1S2
Thorybes pylades	Northern Cloudywing		SR	G5	S2S3
Tricholita notata	Marked Noctuid		ST	G5	S1S2
Trichosilia manifesta	The Record Keeper Moth		SR	G4	S3S4
Zomaria interruptolineana	Broken-lined Zomaria		SR	GNR	SNR
Insect: Odonata (Dragonflies & Damselflies)					
Somatochlora hineana	Hine's Emerald	LE	SX	G2G3	SX
Sympetrum semicinctum	Band-winged Meadowhawk		SR	G5	S2S3
Insect: Orthoptera					
Chloealtis conspersa	Sprinkled Locust		SR	G5	S2S3
Conocephalus saltans	Prairie Meadow Katydid		SR	G5	S1S2
Hesperotettix viridis pratensis	A Grasshopper		SR	G5T5	S1S2
Melanoplus fasciatus	Huckleberry Spur-throat Grasshopper		SR	G5	S2
Melanoplus keeleri luridus	Keeler's Spur-throated Grasshopper		SR	G5T5	S1S2
Neoconocephalus nebrascensis	Nebraska Conehead		SR	GNR	S1S2
Orphulella pelidna	Spotted-wing Grasshopper		SR	G5	S1S2
Pardalophora phoenicoptera	Orange-winged Grasshopper		SR	G5	S1S2
Paroxya atlantica	A Grasshopper		ST	GU	S1S2
Phoetaliotes nebrascensis	Large-headed Grasshopper		ST	G5	S1
Psinidia fenestralis	Sand Locust		SR	G5	S1S2
Trimerotropis maritima	Seaside Grasshopper		ST	G5	S2
Fish					
Acipenser fulvescens	Lake Sturgeon		SE	G3G4	S1
Amphibian					
Acris blanchardi	Northern Cricket Frog		SSC	G5	S4
Ambystoma laterale	Blue-spotted Salamander		SSC	G5	S2
Lithobates pipiens	Northern Leopard Frog		SSC	G5	S2
Necturus maculosus	Common mudpuppy		SSC	G5	S2
Reptile					
Clemmys guttata	Spotted Turtle	C	SE	G5	S2
Clonophis kirtlandii	Kirtland's Snake	C	SE	G2	S2
Emydoidea blandingii	Blanding's Turtle	C	SE	G4	S2

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Opheodrys vernalis	Smooth Green Snake		SE	G5	S2
Sistrurus catenatus catenatus	Eastern Massasauga	LT	SE	G3	S2
Terrapene ornata ornata	Ornate Box Turtle		SE	G5T5	S1
Thamnophis proximus proximus	Western Ribbon Snake		SSC	G5T5	S3
Bird					
Ammodramus henslowii	Henslow's Sparrow		SE	G4	S3B
Anas clypeata	Northern Shoveler			G5	SHB
Ardea alba	Great Egret		SSC	G5	S1B
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Botaurus lentiginosus	American Bittern		SE	G5	S2B
Buteo lineatus	Red-shouldered Hawk		SSC	G5	S3
Certhia americana	Brown Creeper			G5	S2B
Charadrius melodus	Piping Plover	LE	SE	G3	SXB
Chlidonias niger	Black Tern		SE	G4G5	S1B
Cistothorus palustris	Marsh Wren		SE	G5	S3B
Cistothorus platensis	Sedge Wren		SE	G5	S3B
Cygnus buccinator	Trumpeter Swan		SE	G4	S1B
Euphagus cyanocephalus	Brewer's Blackbird			G5	SHB,S1N
Falco peregrinus	Peregrine Falcon		SSC	G4	S2B
Gallinula galeata	Common gallinule		SE	G5	S3B
Grus canadensis	Sandhill Crane		SSC	G5	S2B,S1N
Haliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
Hydroprogne caspia	Caspian Tern			G5	S1B
Ixobrychus exilis	Least Bittern		SE	G5	S3B
Lanius ludovicianus	Loggerhead Shrike		SE	G4	S3B
Laterallus jamaicensis	Black Rail		SE	G3G4	SHB
Nyctanassa violacea	Yellow-crowned Night-heron		SE	G5	S2B
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
Pandion haliaetus	Osprey		SE	G5	S1B
Phalaropus tricolor	Wilson's Phalarope		SSC	G5	SHB
Rallus elegans	King Rail		SE	G4	S1B
Rallus limicola	Virginia Rail		SE	G5	S3B
Tyto alba	Barn Owl		SE	G5	S2
Xanthocephalus xanthocephalus	Yellow-headed Blackbird		SE	G5	S1B
Mammal					
Lasiurus borealis	Eastern Red Bat		SSC	G3G4	S4
Lasiurus cinereus	Hoary Bat		SSC	G3G4	S4
Myotis septentrionalis	Northern Long Eared Bat	LT	SSC	G1G2	S2S3
Reithrodontomys megalotis	Western Harvest Mouse			G5	S2
Spermophilus franklinii	Franklin's Ground Squirrel		SE	G5	S2

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Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Agalinis auriculata	Earleaf Foxglove		ST	G3	S1
Agalinis skinneriana	Pale False Foxglove		ST	G3G4	S1
Alnus incana ssp. rugosa	Speckled Alder		WL	G5T5	S3
Amelanchier humilis	Running Serviceberry		SE	G5	S1
Androsace occidentalis	Western Rockjasmine		ST	G5	S2
Aralia hispida	Bristly Sarsaparilla		SE	G5	S1
Arctostaphylos uva-ursi	Bearberry		SR	G5	S2
Arethusa bulbosa	Swamp-pink		SX	G5	SX
Aristida intermedia	Slim-spike Three-awn Grass		SR	GNR	S2
Aristida tuberculosa	Seabeach Needlegrass		SR	G5	S2
Armoracia aquatica	Lake Cress		SE	G4?	S1
Asclepias meadii	Mead's Milkweed	LT	SRE	G2	SX
Aureolaria grandiflora var. pulchra	Large-flower False-foxglove		SX	G4G5T4T5	SX
Baptisia tinctoria	Yellow Wild-indigo		WL	G5	S3
Betula papyrifera	Paper Birch		WL	G5	S3
Betula populifolia	Gray Birch		SE	G5	S1
Bidens beckii	Beck Water-marigold		ST	G5	S1
Botrychium matricariifolium	Chamomile Grape-fern		SR	G5	S2
Botrychium simplex	Least Grape-fern		SE	G5	S1
Buchnera americana	Bluehearts		SE	G5?	S1
Calopogon oklahomensis	Oklahoma grass-pink		SE	G3	SH
Carex aurea	Golden-fruited Sedge		SR	G5	S2
Carex bebbii	Bebb's Sedge		ST	G5	S2
Carex brunnescens	Brownish Sedge		SE	G5	S1
Carex conoidea	Prairie Gray Sedge		ST	G5	S1
Carex crawei	Crawe Sedge		ST	G5	S2
Carex cumulata	Clustered Sedge		SE	G4G5	S1
Carex eburnea	Ebony Sedge		SR	G5	S2
Carex echinata	Little Prickly Sedge		SE	G5	S1
Carex garberi	Elk Sedge		ST	G5	S2
Carex limosa	Mud Sedge		SE	G5	S1
Carex richardsonii	Richardson Sedge		ST	G5	S1
Carex seorsa	Weak Stellate Sedge		SR	G5	S2
Carex straminea	Straw Sedge		ST	G5	S2
Carex trichocarpa	Hairy-fruit Sedge		WL	G4	S3
Catalpa speciosa	Northern Catalpa		SR	G4?	S2
Ceanothus herbaceus	Prairie Redroot		SE	G5	S1
Cirsium hillii	Hill's Thistle		SE	G3	S1

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Indiana County Endangered, Threatened and Rare Species List

County: Lake

Species Name	Common Name	FED	STATE	GRANK	SRANK
Cirsium pitcheri	Dune Thistle	LT	ST	G2G3	S2
Clintonia borealis	Clinton Lily		SE	G5	S1
Coeloglossum viride var. virescens	Long-bract Green Orchis		ST	G5T5	S2
Cornus amomum ssp. amomum	Silky Dogwood		SE	G5T5	S1
Cornus canadensis	Bunchberry		SE	G5	S1
Cornus rugosa	Roundleaf Dogwood		SR	G5	S2
Corydalis sempervirens	Pale Corydalis		ST	G5	S1
Cyperus dentatus	Toothed Sedge		SE	G4	S1
Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	G5	S2
Cypripedium candidum	Small White Lady's-slipper		WL	G4	S2
Dichanthelium boreale	Northern Witchgrass		SR	G5	S2
Dichanthelium sabulorum var. thinium	Hemlock Panic-grass		SR	G5T5	S2
Diervilla lonicera	Northern Bush-honeysuckle		SR	G5	S2
Drosera intermedia	Spoon-leaved Sundew		SR	G5	S2
Eleocharis geniculata	Capitate Spike-rush		ST	G5	S2
Eleocharis melanocarpa	Black-fruited Spike-rush		ST	G4	S2
Eleocharis wolfii	Wolf Spikerush		SR	G3G5	S2
Epigaea repens	Trailing Arbutus		WL	G5	S3
Epilobium angustifolium	Fireweed		SE	G5	S1
Epilobium ciliatum	Hairy Willow-herb		SX	G5	SX
Equisetum variegatum	Variegated Horsetail		SE	G5	S1
Eriophorum angustifolium	Narrow-leaved Cotton-grass		SR	G5	S2
Eriophorum gracile	Slender Cotton-grass		ST	G5	S2
Eurybia furcata	Forked Aster		SR	G3	S2
Fimbristylis puberula	Carolina Fimbry		SE	G5	S1
Gentiana alba	Yellow Gentian		SR	G4	S2
Gentiana puberulenta	Downy Gentian		ST	G4G5	S2
Geranium bicknellii	Bicknell Northern Crane's-bill		SE	G5	S1
Glyceria borealis	Small Floating Manna-grass		SE	G5	S1
Hemicarpha drummondii	Drummond Hemicarpha		SE	G4G5	S1
Hudsonia tomentosa	Sand-heather		ST	G5	S2
Hydrastis canadensis	Golden Seal		WL	G3G4	S3
Hypericum adpressum	Creeping St. John's-wort		SE	G3	S1
Hypericum kalmianum	Kalm St. John's-wort		WL	G4	S3
Juglans cinerea	Butternut		WL	G4	S3
Juncus articulatus	Jointed Rush		SE	G5	S1
Juncus balticus var. littoralis	Baltic Rush		SR	G5T5	S2
Juncus pelocarpus	Brown-fruited Rush		SE	G5	S2
Juncus scirpoides	Scirpus-like Rush		ST	G5	S2
Juniperus communis	Ground Juniper		SR	G5	S2

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Indiana County Endangered, Threatened and Rare Species List

County: Lake

Species Name	Common Name	FED	STATE	GRANK	SRANK
Lathyrus maritimus var. glaber	Beach Peavine		SE	G5T4T5	S1
Lathyrus venosus	Smooth Veiny Pea		ST	G5	S2
Lechea stricta	Upright Pinweed		SX	G4?	SX
Liatris pycnostachya	Cattail Gay-feather		ST	G5	S2
Linnaea borealis	Twinflower		SX	G5	SX
Linum sulcatum	Grooved Yellow Flax		SR	G5	S2
Liparis loeselii	Loesel's Twayblade		WL	G5	S3
Ludwigia sphaerocarpa	Globe-fruited False-loosestrife		SE	G5	S1
Lycopodiella inundata	Northern Bog Clubmoss		SE	G5	S1
Malaxis unifolia	Green Adder's-mouth Orchid		SE	G5	S1
Matteuccia struthiopteris	Ostrich Fern		SR	G5	S2
Melampyrum lineare	American Cow-wheat		SR	G5	S2
Mikania scandens	Climbing Hempweed		SE	G5	S1
Minuartia michauxii var. michauxii	Michaux's Stitchwort		SR	G5T5	S2
Myosotis laxa	Smaller Forget-me-not		ST	G5	S1
Myriophyllum verticillatum	Whorled Water-milfoil		SR	G5	S2
Oenothera perennis	Small Sundrops		SR	G5	S2
Oligoneuron album	Prairie Goldenrod		SR	G5	S2
Orobanche fasciculata	Clustered Broomrape		SE	G4G5	S1
Orthilia secunda	One-sided Wintergreen		SX	G5	SX
Panax quinquefolius	American Ginseng		WL	G3G4	S3
Panicum leibergii	Leiberg's Witchgrass		ST	G4	S2
Perideridia americana	Eastern Eulophus		SE	G4	S1
Pinus banksiana	Jack Pine		SR	G5	S2
Pinus strobus	Eastern White Pine		SR	G5	S2
Plantago cordata	Heart-leaved Plantain		SE	G4	S1
Platanthera ciliaris	Yellow-fringe Orchis		SE	G5	S1
Platanthera flava var. herbiola	Pale Green Orchis		WL	G4?T4Q	S3
Platanthera hookeri	Hooker Orchis		SX	G4	SX
Platanthera hyperborea	Leafy Northern Green Orchis		ST	G5	S2
Platanthera lacera	Green-fringe Orchis		WL	G5	S3
Platanthera leucophaea	Prairie White-fringed Orchid	LT	SE	G2G3	S1
Platanthera psycodes	Small Purple-fringe Orchis		SR	G5	S2
Polygonella articulata	Eastern Jointweed		SR	G5	S2
Polygonum careyi	Carey's Smartweed		ST	G4	S2
Polytaenia nuttallii	Prairie Parsley		SE	G5	S1
Populus balsamifera	Balsam Poplar		SE	G5	S1
Potamogeton pulcher	Spotted Pondweed		SE	G5	S1
Potamogeton pusillus	Slender Pondweed		WL	G5	S2
Potamogeton richardsonii	Redheadgrass		SR	G5	S2

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Indiana County Endangered, Threatened and Rare Species List

County: Lake

Species Name	Common Name	FED	STATE	GRANK	SRANK
Potamogeton robbinsii	Flatleaf Pondweed		SR	G5	S2
Potamogeton strictifolius	Straight-leaf Pondweed		ST	G5	S1
Potentilla anserina	Silverweed		ST	G5	S2
Prenanthes aspera	Rough Rattlesnake-root		SR	G4?	S2
Prunus pensylvanica	Fire Cherry		SR	G5	S2
Pyrola americana	American Wintergreen		SR	G5	S2
Rhus aromatica var. arenaria	Beach Sumac		SR	G5T3Q	S2
Rhynchospora macrostachya	Tall Beaked-rush		SR	G4	S2
Rhynchospora recognita	Globe Beaked-rush		SE	G5?	S1
Rhynchospora scirpoides	Long-beaked Baldrush		ST	G4	S2
Rubus enslenii	Southern Dewberry		SE	G4G5Q	S1
Rubus setosus	Small Bristleberry		SE	G5	S1
Salix cordata	Heartleaf Willow		ST	G4	S2
Satureja glabella var. angustifolia	Calamint		SE	G5	S1
Schoenoplectus hallii	Hall's Bulrush	C	SE	G2G3	S1
Schoenoplectus smithii	Smith's Bulrush		SE	G5?	S1
Schoenoplectus torreyi	Torrey's Bulrush		SE	G5?	S1
Scirpus subterminalis	Water Bulrush		SR	G5	S2
Scleria reticularis	Reticulated Nutrush		ST	G4	S2
Selaginella apoda	Meadow Spike-moss		WL	G5	S1
Selaginella rupestris	Ledge Spike-moss		ST	G5	S2
Shepherdia canadensis	Canada Buffalo-berry		SX	G5	SX
Sisyrinchium montanum	Strict Blue-eyed-grass		SE	G5	S1
Solidago simplex var. gillmanii	Sticky Goldenrod		ST	G5T3?	S2
Spiranthes lucida	Shining Ladies'-tresses		SR	G4	S2
Spiranthes magnicamporum	Great Plains Ladies'-tresses		SE	G3G4	S1
Spiranthes ovalis	Lesser Ladies'-tresses		WL	G5?	S3
Strophostyles leiosperma	Slick-seed Wild-bean		ST	G5	S2
Styrax americanus	American Snowbell		WL	G5	S3
Symphyotrichum boreale	Rushlike Aster		SR	G5	S2
Symphyotrichum sericeum	Western Silvery Aster		SR	G5	S2
Talinum rugospermum	Prairie Fame-flower		ST	G3G4	S2
Thuja occidentalis	Northern White Cedar		SE	G5	S1
Tofieldia glutinosa	False Asphodel		SR	G5	S2
Trichostema dichotomum	Forked Bluecurl		SR	G5	S2
Triglochin palustris	Marsh Arrow-grass		SR	G5	S2
Utricularia cornuta	Horned Bladderwort		ST	G5	S2
Utricularia intermedia	Flatleaf Bladderwort		WL	G5	S3
Utricularia minor	Lesser Bladderwort		ST	G5	S1
Utricularia purpurea	Purple Bladderwort		SR	G5	S2

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Indiana County Endangered, Threatened and Rare Species List

County: Lake

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Utricularia resupinata	Northeastern Bladderwort		SE	G4	S1
Utricularia subulata	Zigzag Bladderwort		ST	G5	S2
Vaccinium myrtilloides	Velvetleaf Blueberry		SE	G5	S1
Valerianella chenopodiifolia	Goose-foot Corn-salad		SE	G4	S1
Viburnum opulus var. americanum	Highbush-cranberry		SE	G5T5	S1
Viola pedatifida	Prairie Violet		ST	G5	S2
Zannichellia palustris	Horned Pondweed		SR	G5	S2
High Quality Natural Community					
Forest - floodplain wet	Wet Floodplain Forest		SG	G3?	S3
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Forest - upland dry Northwestern Morainal	Northwestern Morainal Dry Upland Forest			GNR	S1
Forest - upland dry-mesic Northwestern Morainal	Northwestern Morainal Dry-mesic Upland Forest			GNR	S1
Forest - upland mesic Northwestern Morainal	Northwestern Morainal Mesic Upland Forest			GNR	S1
Lake - pond	Pond		SG	GNR	SNR
Prairie - dry-mesic	Dry-mesic Prairie		SG	G3	S2
Prairie - mesic	Mesic Prairie		SG	G2	S2
Prairie - sand dry	Dry Sand Prairie		SG	G3	S2
Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	G3	S3
Prairie - sand mesic	Mesic Sand Prairie		SG	GNR	SNR
Prairie - sand wet	Wet Sand Prairie		SG	G3	S3
Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	G1?	S2
Prairie - wet	Wet Prairie		SG	G3	S1
Primary - dune lake	Foredune		SG	G3	S1
Savanna - mesic	Mesic Savanna		SG	GNR	SNR
Savanna - sand dry	Dry Sand Savanna		SG	G2?	S2
Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	G2?	S2S3
Savanna - sand mesic	Mesic Sand Savanna		SG	GNR	SNR
Wetland - fen	Fen		SG	G3	S3
Wetland - marsh	Marsh		SG	GU	S4
Wetland - meadow sedge	Sedge Meadow		SG	G3?	S1
Wetland - panne	Panne		SG	G2	S1
Wetland - swamp shrub	Shrub Swamp		SG	GU	S2
Other Significant Feature					
Migratory Bird Concentration Area	Migratory Bird Concentration Site		SG	G3	SNR

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Hammond Local TRAX Project Governors Parkway CE Level 4

APPENDIX F: WATER RESOURCES

Note: Duplicate mapping and photographs were included in the Waters Report, but were intentionally removed. Please see Appendix B for maps and photographs.

Waters Report

Parrish Avenue
City of Hammond, Lake County, Indiana
New Bridge over Norfolk Southern Railroad
Local TRAX

DES No: 1801907

Completed Date: DECEMBER 3, 2019
INDOT EWPO Approval Date:

Approved: 12/6/2019

PREPARED BY:

CRAWFORD, MURPHY & TILLY, INC.
8790 PURDUE ROAD
INDIANAPOLIS, INDIANA 46268

PREPARED FOR:

INDIANA DEPARTMENT
OF TRANSPORTATION
LAPORTE DISTRICT OFFICE

Waters Report
Parrish Avenue in Hammond, Lake County, Indiana
New Bridge over Norfolk Southern Railroad
DES No: 1801907

Prepared by: Ellen Hogrebe
Contact Information: ehogrebe@cmtengr.com, 314-571-9103
Company: Crawford, Murphy & Tilly, Inc.
Completed Date: December 3, 2019

PROJECT INFORMATION

Date of Field Reconnaissance: October 2, 2019

Location:
Section 10, Township 36 North, Range 9 West
Highland Indiana, Quadrangle
Hammond, Lake County, Indiana
41.583468 Latitude, -87.449113 Longitude

PROJECT DESCRIPTION

The Parrish Avenue new bridge over Norfolk Southern Railroad (NSRR) project is located in the City of Hammond, Lake County, Indiana. Per the USGS Highland Quadrangle Map, the project area is situated within Section 10, Township 36 North, and Range 9 West.

The proposed project would involve a grade separation and realignment of Parrish Avenue between 169th Street and 173rd Street. This would include the construction of a new single span bridge over the NSRR tracks that would accommodate two lanes of traffic, two bike lanes, and a pedestrian sidewalk. A new intersection of Parrish Avenue and 173rd Street would shift east of the existing intersection and would require a minor stop control on the new Parrish Avenue and widening 173rd Street to add turn lanes to access the new Parrish Avenue alignment. After completion of the proposed Parrish Avenue bridge and roadway realignment, the existing NSRR at grade crossing would be closed and barriers would be erected to prevent vehicular and pedestrian traffic over the NSRR right-of-way.

Land use in the vicinity of the project is commercial and residential, while the project area is forested.

The project has been programmed by INDOT as New Bridge over Norfolk Southern Railroad DES No: 1801907 and is a Local TRAX project.

The project area was established using the anticipated project footprint to construct the proposed improvements. The location of the project within Lake County and the project area are shown on the attached mapping.

DESKTOP RECONNAISSANCE

SOILS

According to the Soil Survey Geographic (SSURGO) Database for Lake County, Indiana, the project area contains soil areas with nationally listed hydric soils.

Soil Name	Map Abbreviation	Hydric Range
Mm	Maumee loamy fine sand, 0 to 1 percent slopes	Hydric (66 to 99%)
OkB	Oakville-Adrian complex, 0 to 6 percent slopes	Hydric (33 to 65%)
PlB	Plainfield fine sand, 0 to 6 percent slopes	Hydric (1 to 32%)
Wk	Watseka loamy fine sand	Hydric (1 to 32%)

NATIONAL WETLAND INVENTORY (NWI) INFORMATION

There is one (1) freshwater pond identified near the project area.

Wetland Type	Location
Freshwater Pond (PUBGx)	A pond is mapped approximately 0.06 mile east of the project area.

12 DIGIT HUC

071200030406 – Headwaters Grand Calumet River
071200030305 – Town of Black Oak-Little Calumet River

USGS NATIONAL HYDROGRAPHY DATASET (NHD)

According to the USGS National Hydrography Dataset (NHD layer), three (3) stream flowlines and five (5) ditch flowlines are identified within the project area. However, based on an onsite investigation for the presence of Waters of the United States (WOTUS) on October 2, 2019, no streams or ditches were observed within or adjacent to the project area.

FEMA FLOOD INSURANCE RATE MAP (FIRM)

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project area is not located within or adjacent to a floodplain.

ATTACHED DOCUMENTS

- Project Mapping (Project Location, Aerial, Topographic, NRCS Soils, NWI, USGS NHD, 12 Digit HUC, and FEMA/FIRM)
- Photographs with Photo Location Map
- Wetland Data Sheets

FIELD RECONNAISSANCE

No aquatic resources, including wetlands, streams, roadside ditches, or drainage swales were identified within the project area during the onsite investigation for the presence of wetlands and other Waters of the United States (WOTUS) by Crawford, Murphy and Tilly, Inc (CMT).

The investigation for wetlands was conducted in accordance with the *1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the January 2012 Northcentral and Northeast Regional Supplement (Version 2.0) Manual*. Supporting materials used for identifying, delineating, and verifying wetlands included the soil survey report and hydric soil list for Lake County, the State of Indiana 2016 Wetland Plant List and indicator status for the Northcentral and Northeast Region, topography, USGS topo map, NWI map, and the Field Indicators for Hydric Soils of the United States V 8.1, 2017.

Streams were evaluated according to the definition of a Water of the United States in 33 CFR 328.3(a). The attached WOTUS Map depicts the location of identified upland data point locations, on an aerial photograph. Routine Wetland Determination data forms are attached. Representative photographs are provided.

STREAMS

No streams were observed within or adjacent to the project area.

WETLANDS

A summary of the data points is provided in the table below. Details on the soil, hydrology and dominant vegetation for the data points are provided on the attached Routine Wetland Determination data forms. Photographs of the assessed areas are attached within the WOTUS Photolog.

Data Point Summary Table				
Data Point	Vegetation	Soils	Hydrology	Wetland
A2	Yes	No	Yes	No
B2	Yes	No	No	No

NON-WETLAND DATA POINTS

Two (2) non-wetland data points were taken within the east-central portion of project area, north of the NSRR to determine the presence or absence of wetlands. See photos 67-70 of the WOTUS Photolog.

Upland point A2 was taken in the east-central portion of the project area, north of the NSRR, to determine the presence or absence of wetlands. The vegetation was dominated by silver maple (*Acer saccharinum*, 70%, FACW) in the tree layer, green ash (*Fraxinus pennsylvanica*, 20%, FACW) in the sapling/shrub layer, and white grass (*Leersia virginica*, 50%, FACW) and small-spike false nettle (*Boehmeria cylindrica*, 40%, OBL) in the herbaceous layer. The vegetative community had a dominance test of >50%; therefore, the vegetation is hydrophytic. The soil profile failed to meet any hydric soil indicators. The area exhibited two primary hydrology indicators, including high water table and saturation, and two secondary wetland hydrology indicators, including geomorphic position and a positive FAC-neutral test. One of the three wetland criteria were not met; therefore, data point A2 is not a wetland.

Upland point B2 was taken in the east-central portion of the project area, north of the NSRR, to determine the presence or absence of wetlands. The vegetation was dominated by eastern cottonwood (*Populus deltoides*, 30%, FAC) in the tree layer, green ash (*Fraxinus pennsylvanica*, 10%, FACW) in the sapling/shrub layer, white grass (*Leersia virginica*, 70%, FACW) in the herbaceous layer, and wild black currant (*Ribes americanum*, 5%, FACW) in the wood vine layer. The soil profile failed to meet any hydric soil indicators. No wetland hydrology indicators were observed. Two of the three wetland criteria were not met; therefore, data point B2 is not a wetland.

OPEN WATER

No open water areas were observed within or adjacent to the project area.

OTHER FEATURES

ROADSIDE DITCHES

No roadside ditches were observed within or adjacent to the project area.

DRAINAGE FEATURES WITHOUT OHWM

No drainage features without an OHWM were observed within or adjacent to the project area.

CONCLUSIONS

No Waters of the United States (WOTUS), including wetlands, streams, open water features, or roadside ditches, were identified within or adjacent to the project area.

ACKNOWLEDGEMENT

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

Ellen Hogrebe
Environmental Scientist
Crawford, Murphy & Tilly, Inc.

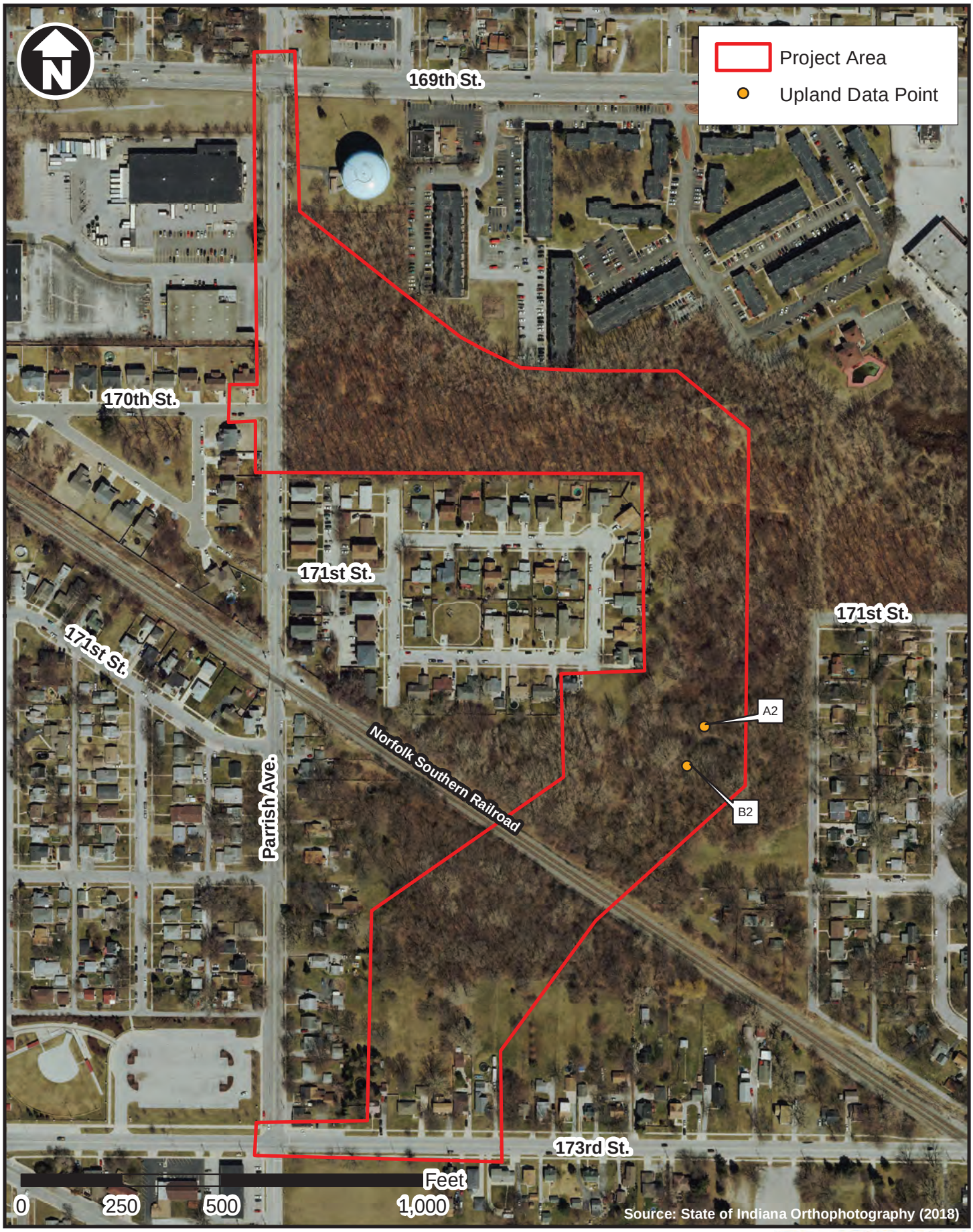
Date: 12/3/2019

Marion Wells - Reviewer
Environmental Scientist
Crawford, Murphy & Tilly, Inc.

Date: 12/3/2019

SUPPORTING DOCUMENTATION

- Maps
- Photos
- Wetland Delineation Data Sheets

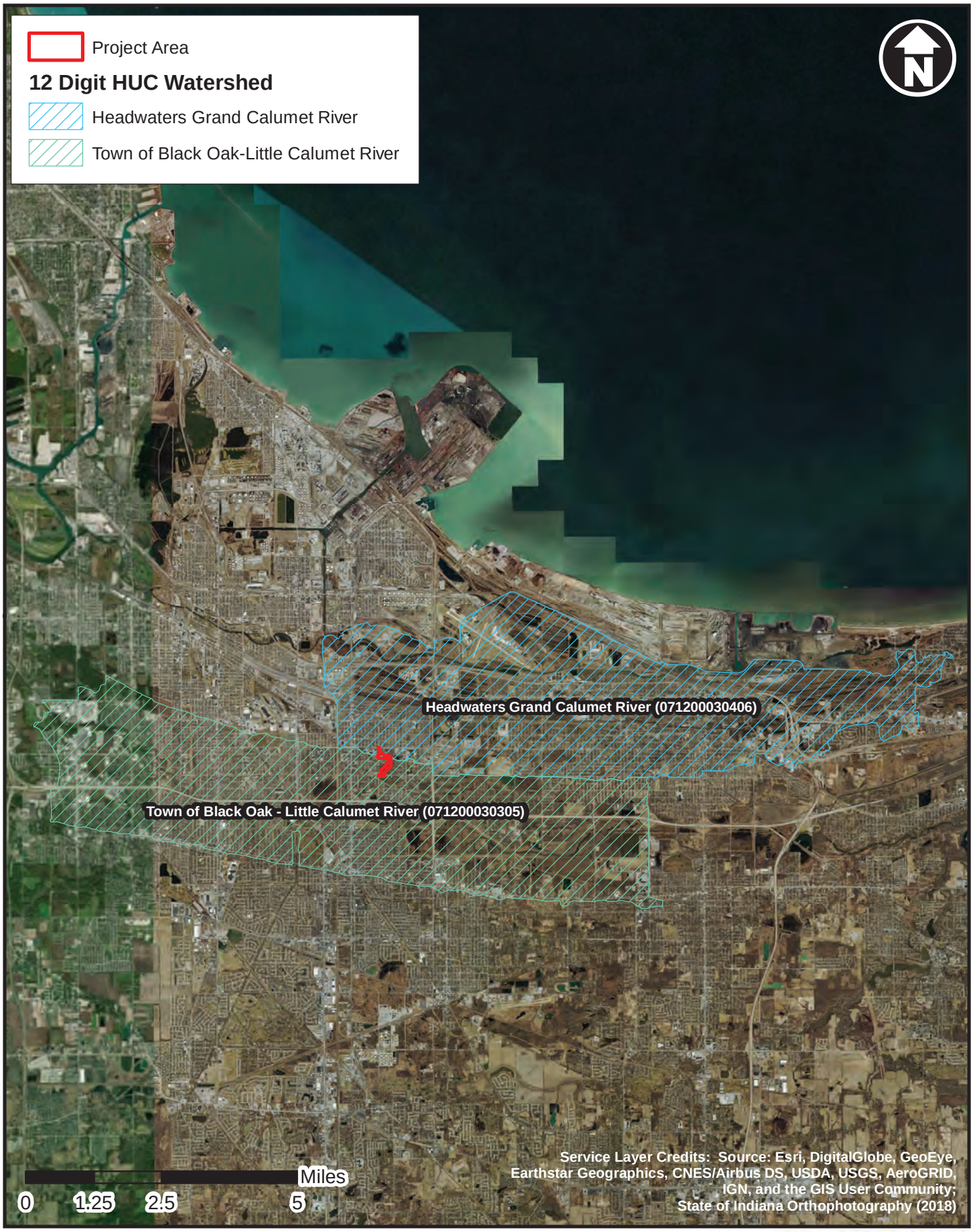


Parrish Ave. Bridge over Norfolk Southern Railroad (Des No 1801907) - Hammond, IN

Waters of the United States Map

Ellen Hogrebe;
10/8/2019

CMT
Crawford, Murphy & Tilly



Parrish Ave. Bridge over Norfolk Southern Railroad
(Des No 1801907) - Hammond, IN

Ellen Hogrebe;
10/4/2019

CMT
Crawford, Murphy & Tilly

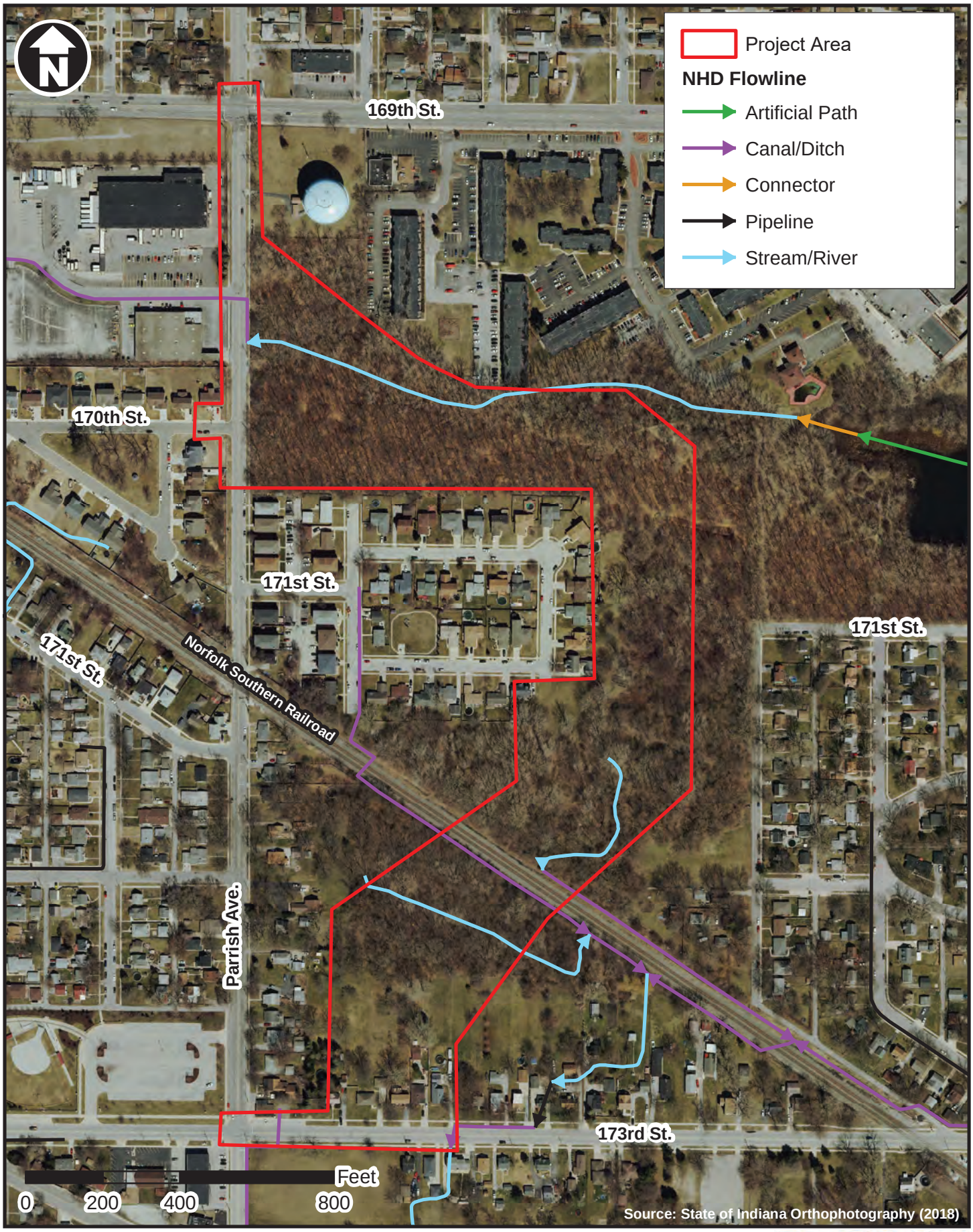
12 Digit Hydrologic Unit Code (HUC) Watershed Map

Parrish Ave. Bridge over Norfolk Southern Railroad
(Des No 1801907) - Hammond, IN

National Wetland Inventory Map

Ellen Hogrebe;
10/4/2019

CMT
Crawford, Murphy & Tilly



Parrish Ave. Bridge over Norfolk Southern Railroad
(Des No 1801907) - Hammond, IN

Ellen Hogrebe;
10/4/2019

CMT
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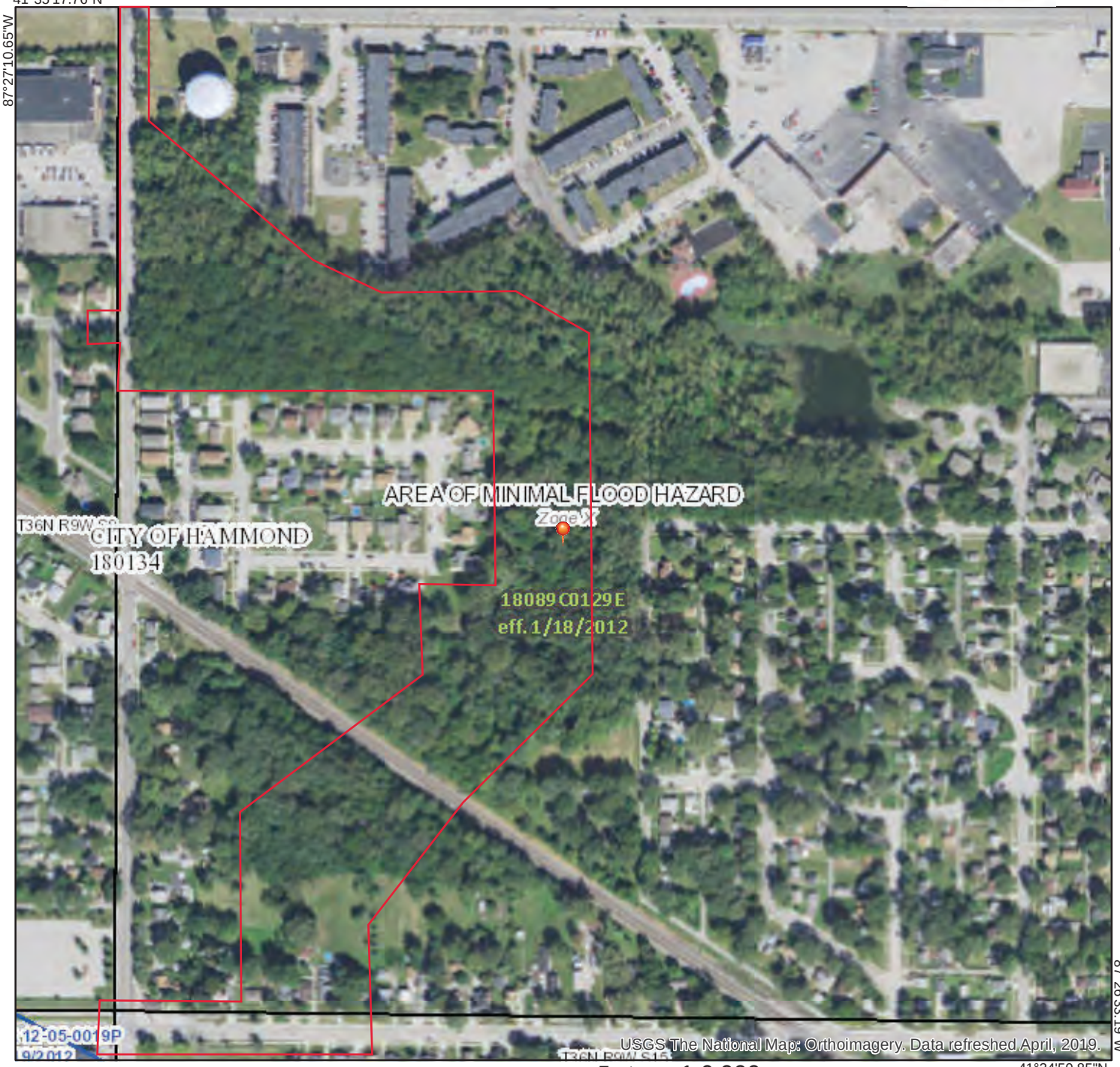
USGS National Hydrography Dataset Map

Parrish Ave. Bridge over Norfolk Southern Railroad (Des No 1801907) - Hammond, IN

National Flood Hazard Layer FIRMette

Ellen Hogrebe; 10/8/2019



Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

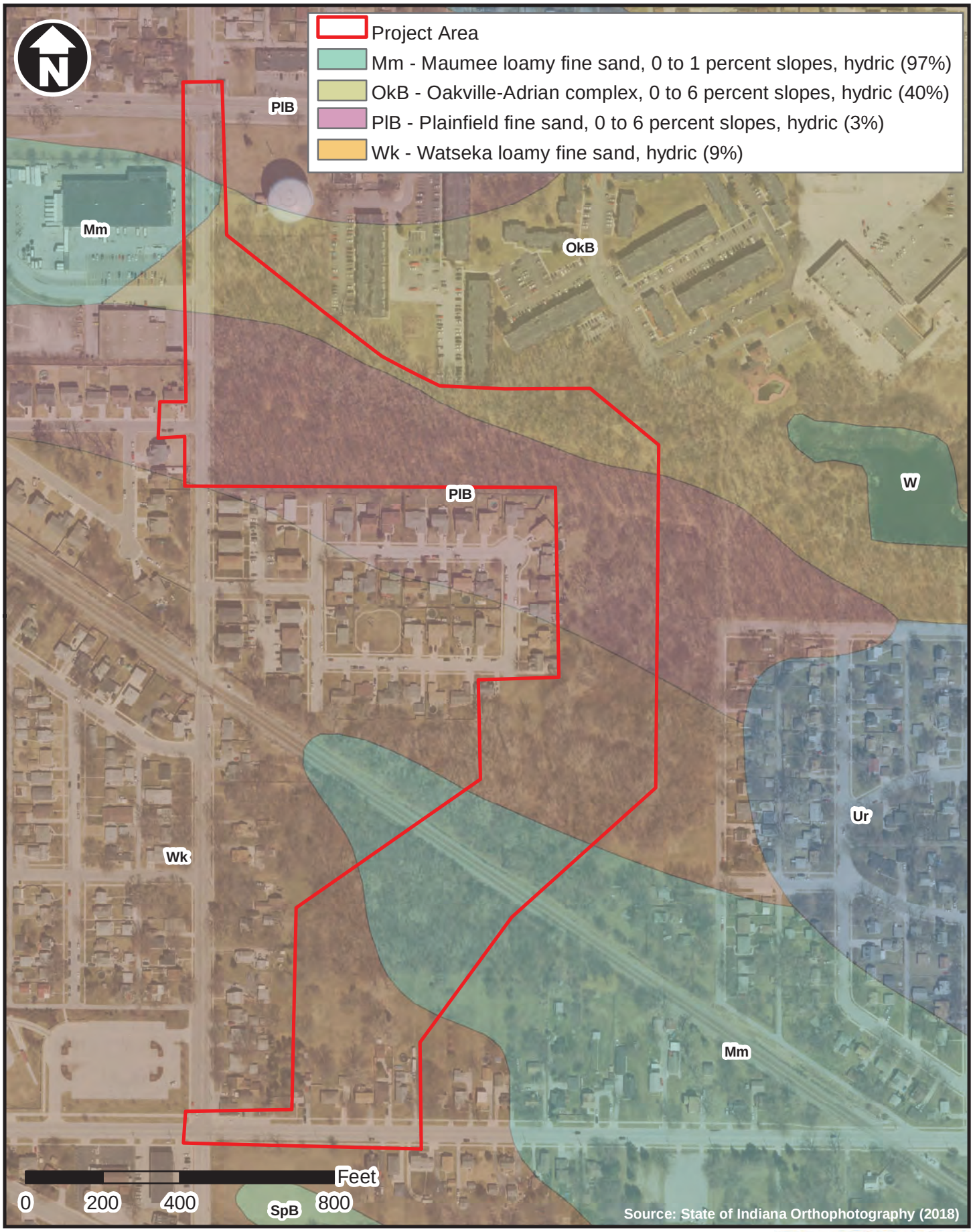
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

Project Area

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/14/2019 at 5:41:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Parrish Ave. Bridge over Norfolk Southern Railroad (Des No 1801907) - Hammond, IN

Ellen Hogrebe; 10/4/2019

Crawford, Murphy & Tilly

NRCS SSURGO Soil Survey Map

Map Unit Description (Brief, Generated)

Lake County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Mm - Maumee loamy fine sand, 0 to 1 percent slopes

Component: Maumee (90%)

The Maumee component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on outwash plains on outwash plains. The parent material consists of sandy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R098XB034IN Wet Kankakee Drift Flats, Wet Sandy Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Map unit: OkB - Oakville-Adrian complex, 0 to 6 percent slopes

Component: Oakville (60%)

The Oakville component makes up 60 percent of the map unit. Slopes are 0 to 6 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria.

Component: Adrian, drained (40%)

The Adrian, drained component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on lake plains. The parent material consists of herbaceous organic material over sandy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during April, May, June. Organic matter content in the surface horizon is about 75 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 20 percent.

Map unit: PlB - Plainfield fine sand, 0 to 6 percent slopes

Component: Plainfield (90%)

The Plainfield component makes up 90 percent of the map unit. Slopes are 0 to 6 percent. This component is on outwash plains. The parent material consists of sandy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Lake County, Indiana

Map unit: Wk - Watseka loamy fine sand

Component: Watseka (90%)

The Watseka component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of sandy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria.

Hydric Soils

Lake County, Indiana

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
Mm:					
Maumee loamy fine sand, 0 to 1 percent slopes	Maumee	90	Depressions, Outwash plains	Yes	2
	Gilford	3	Outwash plains	Yes	2
	Gumz	2	Depressions, Till plains	Yes	2
	Newton	2	Depressions, Outwash plains	Yes	2
OkB:					
Oakville-Adrian complex, 0 to 6 percent slopes	Adrian, drained	40	Depressions, Lake plains	Yes	1, 2, 3
PlB:					
Plainfield fine sand, 0 to 6 percent slopes	Maumee	3	---	Yes	2, 3
Wk:					
Watseka loamy fine sand	Gilford	3	---	Yes	2, 3
	Maumee	3	---	Yes	2, 3
	Wauseon	3	---	Yes	2, 3

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
Federal Register. September 18, 2002. Hydric soils of the United States.
Federal Register. July 13, 1994. Changes in hydric soils of the United States.
Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. Version 5.0, 2002. Field indicators of hydric soils in the United States.
National Research Council. 1995. Wetlands: Characteristics and boundaries.
Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
Soil Survey Staff. 2003. Keys to soil taxonomy. 9th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

Parrish Ave. Bridge over Norfolk Southern Railroad (Des No 1801907) - Hammond, IN

Ellen Hogrebe; 10/8/2019

CMT Crawford, Murphy & Tilly

Waters of the United States Photo Orientation Map B

67. Upland data point A2 soil profile. 10/2/2019

68. View of surrounding terrain near upland data point B2 looking northwest. 10/2/2019

69. Upland data point B2 soil profile. 10/2/2019

70. View of surrounding terrain near upland data point B2 looking south. 10/2/2019

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Parrish Ave. Bridge over Norfolk Southern Railroad (Des No 1801907) City/County: Hammond, Lake, Co. Sampling Date: 10/2/2019

Applicant/Owner: INDOT State: IN Sampling Point: A2

Investigator(s): ALZ, ARC Section, Township, Range: S10, T36N, R9W

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope %: 1

Subregion (LRR or MLRA): LRR L Lat: 41.583826 Long: -87.447926 Datum: NAD 83

Soil Map Unit Name: Wk – Watseka loamy fine sand (9% hydric) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
Drainage not apparent.

VEGETATION – Use scientific names of plants. Sampling Point: A2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	70	Yes	FACW
2. *Ulmus americana*	10	No	FACW
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2. *Alnus incana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. *Leersia virginica*	50	Yes	FACW
2. *Boehmeria cylindrica*	40	Yes	OBL
3. *Onoclea sensibilis*	5	No	FACW
4. *Osmunda claytoniana*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	160	x 2 =	320
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	205 (A)		375 (B)

Prevalence Index = B/A = 1.83

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point A2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	100					Sandy	loamy sand
9-18	10YR 4/2	70	10YR 5/6	10	C	PL/M	Sandy	sand with clay
	10YR 3/2	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Parrish Ave. Bridge over Norfolk Southern Railroad (Des No 1801907) City/County: Hammond, Lake Co. Sampling Date: 10/2/2019

Applicant/Owner: INDOT State: IN Sampling Point: B2

Investigator(s): ALZ, ARC Section, Township, Range: S10, T36N, R9W

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope %: 0

Subregion (LRR or MLRA): LRR L Lat: 41.583581 Long: -87.448127 Datum: NAD 83

Soil Map Unit Name: Wk – Watseka loamy fine sand (9% hydric) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: B2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *opulus deltoides*	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. *Leersia virginica*	70	Yes	FACW
2. *Boehmeria cylindrica*	15	No	OBL
3. *Acer saccharinum*	5	No	FACW
4. *arex lurida*	5	No	OBL
5. *ersicaria pensylvanica*	2	No	FACW
6. *Bidens rondosa*	2	No	FACW
7. *ymphyotrichum*	2	No	FAC
8.			
9.			
10.			
11.			
12.			
	101	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. *ibes americanum*	5	Yes	FACW
2.			
3.			
4.			
	5	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	94	x 2 =	188
FAC species	32	x 3 =	96
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	146 (A)		304 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point B2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					Loamy/Clayey	sandy loam
15-18	2.5Y 5/3	100					Loamy/Clayey	sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Ellen Hogrebe

From: Nick Batta
Sent: Friday, December 6, 2019 2:03 PM
To: Ellen Hogrebe
Subject: FW: Waters of the US Report - Des No. 1801907 - Hammond Local Trax Project
Attachments: Des. No. 1801907 Waters Report - Final_.pdf

Ellen,

Here you go.

NICK BATTA | **Crawford, Murphy & Tilly** | w 317.492.9162 | m 317.409.0665
Project Manager

From: Cooper, Nicholas <NCooper5@indot.IN.gov>
Sent: Friday, December 6, 2019 2:47 PM
To: Nick Batta <nbatta@cmtengr.com>
Cc: Ewbank, Patrick <PEwbank@indot.IN.gov>; Wortkoetter, Andrew J. <AWortkoetter@indot.IN.gov>
Subject: RE: Waters of the US Report - Des No. 1801907 - Hammond Local Trax Project

Nick,

Thank you for submitting the waters report for **Parrish Avenue Local TRAX project, Des. No. 1801907.** Your most recent submission has been reviewed and approved. For the INDOT PM, the approved report can be found on Projectwise through this link: **Des. No. 1801907 Waters Report - Final**. It is the responsibility of the Project Manager to forward a copy of this report to the Project Designer.

Beginning November 2019, we are signing and dating the front page of Waters Reports to assist in the NEPA review. I have attached this signature page which should be incorporated into the Waters Report going forward. The information in this report should be used by the Project Designer to determine if waters of the U.S. will be impacted by the project. Avoidance and minimization of impacts must occur before mitigation will be considered. If mitigation is required, the Project Manager or Project Designer must coordinate with the Ecology and Waterway Permitting Office to discuss how adequate compensatory mitigation will be provided.

The Project Manager should notify the Ecology and Waterway Permitting Office if there is any change to the project footprint presented in this report. Such changes may require additional fieldwork and submittal of an updated waters report covering areas not previously investigated. This report is only valid for a period of five years from the date of earliest fieldwork. If the report expires prior to waterway permit application submittal, additional fieldwork and a revised waters report will be required.

It will not be sent to the United States Army Corps of Engineers (USACE) or the Indiana Department of Environmental Management (IDEM) until the waterways permit applications are submitted to these agencies.

Nick Cooper
Ecology and Waterway Permitting Specialist
Indiana Department of Transportation
Ph. (317) 233-3698

Floodplain Analysis & Regulatory Assessment (FARA)

Indiana Department of Natural Resources

Point of Interest

Base Flood Elevation Point

FEMA Protected by Levee

FEMA Floodplain - Ponding (Depth)

Study Area

Point of Interest Coordinates (WGS84)

Long: **-87.4501941664**

Lat: **41.5827501086**

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

County: **Lake**

Stream Name: **Unnamed Tributary**

Approximate Ground Elevation: **602.9 feet (NAVD88)**

Base Flood Elevation:**Not Available**

Drainage Area: **Not available**

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

National Flood Hazard Zone: **Not Mapped**

Is a Flood Control Act permit from the DNR needed for this location? **See following pages**

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

Floodplain Administrator: **Don Novak, Zoning Administrator**

Community Jurisdiction: **City Of Hammond, City proper**

Phone: **(219) 853-6318**

Email: **novakd@gohammond.com**

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

Date Generated: 2/24/2022

Hammond Local TRAX Project Governors Parkway CE Level 4

APPENDIX G: PUBLIC INVOLVEMENT

Corporate Office
7172 N. Keystone Ave. Ste. G
Indianapolis, IN 46240
317.466.9520
www.eticagroup.com
Certified WBE | DBE

Notice of Survey

4/4/2019

SUBJECT: **Des 1801907 Parish Ave over Norfolk Southern RR-Lake Co**

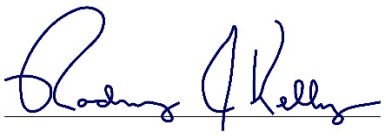
Dear Property Owner:

Our information indicates that you own or occupy property near the above referenced project. Etica Group employees will be performing a survey of the project area. It may be necessary for them the come onto your property to complete this work. This is permitted by law per 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, you will be contacted with additional information.

The survey work will include mapping the location of features such as trees, buildings, fences and possession lines. The survey is needed for the proper planning and design of this project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If any problems occur, please contact me at the number below; however, if you have any questions concerning this project, please contact **Jason Holder, LPA Manager of Special Programs, Office: (317)-233-3427**.

Sincerely,



Rodney J Kelly, PS
Survey Department Manager
Etica Group
317.268.1833

Cc: File: Etica 190023

November 24, 2021

[redacted]

Re: INDOT / Hammond Local TRAX Project
Hammond, Indiana
Terracon Project No.: CJ185701

Dear Property Owner:

As you may be aware, representatives of INDOT, in conjunction with the City of Hammond, are in the design phase for an improvement to the at-grade crossing of Parrish Ave. and NSRR. As part of the design phase, geotechnical engineering is required, and activities associated with this task include completing soil borings. Based on the needs of our engineering team, soil borings will be located on or near your property. The soil boring work is planned to begin in December of this year and continue for the following months.

The soil boring work initially involves physically staking or painting the boring locations followed by coordination with underground utility companies for marking of their utilities in the vicinity of the planned borings. Then we will complete vertical soil borings with the use of truck- or ATV-mounted equipment. The equipment is about the size of a tri-axle dump truck capable of street access (i.e., our truck-mounted equipment) or off-road access (our ATV-mounted equipment). The borehole(s) will be approximately 8 in. in diameter and backfilled when the work is completed, and this work may create shallow ruts/ground indentations. Mobilization of our ATV-mounted equipment will require brush clearing and removal of a limited number of trees and saplings. We strive to ensure considerate and quality work, and we will make every effort to do as little damage to your property as possible.

This letter serves as written notification of our intention to access your property to conduct our necessary work. As required by Indiana Codes 8-23-7-26 and 8-23-7-27, we are hereby giving you notice of our intent to perform this work. All portions of the code will be strictly adhered to. Please be assured of our sincere desire to cause you the least amount of inconvenience and disruption to your property.

If you own but are not the current occupant of this property (i.e., rental), please inform us of whom it is so that we may also contact the actual occupant of the property prior to commencement of our work. If you have any questions or concerns regarding our proposed work activities, schedule, or point of access, please feel free to call me at 317-273-1690. Questions related to the project scope beyond the geotechnical efforts may be directed to INDOT's design consultant, Nick Batta with Crawford, Murphy & Tilly, Inc., at 317-492-9162 or nbatta@cmtengr.com. Your cooperation is greatly appreciated as we advance the design of this project. Thank you for your time.

Sincerely,
Terracon Consultants, Inc.

Kyle Zak
Project Engineer

November 24, 2021

[redacted]

Re: INDOT / Hammond Local TRAX Project
Hammond, Indiana
Terracon Project No.: CJ185701

Dear Property Owner:

As you may be aware, representatives of INDOT, in conjunction with the City of Hammond, are in the design phase for an improvement to the at-grade crossing of Parrish Ave. and NSRR. As part of the design phase, geotechnical engineering is required, and activities associated with this task include completing soil borings. Based on the needs of our engineering team, soil borings will be located near your property. The soil boring work is planned to begin in December of this year and continue for the following months.

The soil boring work initially involves physically staking or painting the boring locations followed by coordination with underground utility companies for marking of their utilities in the vicinity of the planned borings. Then we will complete vertical soil borings with the use of truck- or ATV-mounted equipment. The equipment is about the size of a tri-axle dump truck capable of street access (i.e., our truck-mounted equipment) or off-road access (our ATV-mounted equipment). The borehole(s) will be approximately 8 in. in diameter and backfilled when the work is completed. Mobilization of our ATV-mounted equipment will require brush clearing and removal of a limited number of trees and saplings. We strive to ensure considerate and quality work, and we will make every effort to do as little damage as possible.

This letter serves as written notification of our intention to perform this work. Although the test borings are not planned on your property, we will be working near your property. Please be assured of our sincere desire to cause you the least amount of inconvenience and disruption.

If you have any questions or concerns regarding our proposed work activities, schedule, or point of access, please feel free to call me at 317-273-1690. Questions related to the project scope beyond the geotechnical efforts may be directed to INDOT's design consultant, Nick Batta with Crawford, Murphy & Tilly, Inc., at 317-492-9162 or nbatta@cmtengr.com. Your cooperation is greatly appreciated as we advance the design of this project. Thank you for your time.

Sincerely,
Terracon Consultants, Inc.

Kyle Zak
Project Engineer