

Des 1601984 & 2000041

Appendix F

Water Resources



Indiana Floodplain Information Portal Report

Point of Interest

Approximate Address:
2730 East NORTHPORT RD
ROME CITY, IN 46784

Effective Flood Zone:
X

Preliminary Flood Zone:
N/A



Best Available Flood Zone:

Approximate Flood Elevation:
918.8ft NAVD88













Source:
Zone AE Stillwater Elevation

Nearest Stream:
SYLVAN LAKE

Map Legend

-  Point of Interest
-  Nearest Point on Stream

Best Available Flood Zone

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

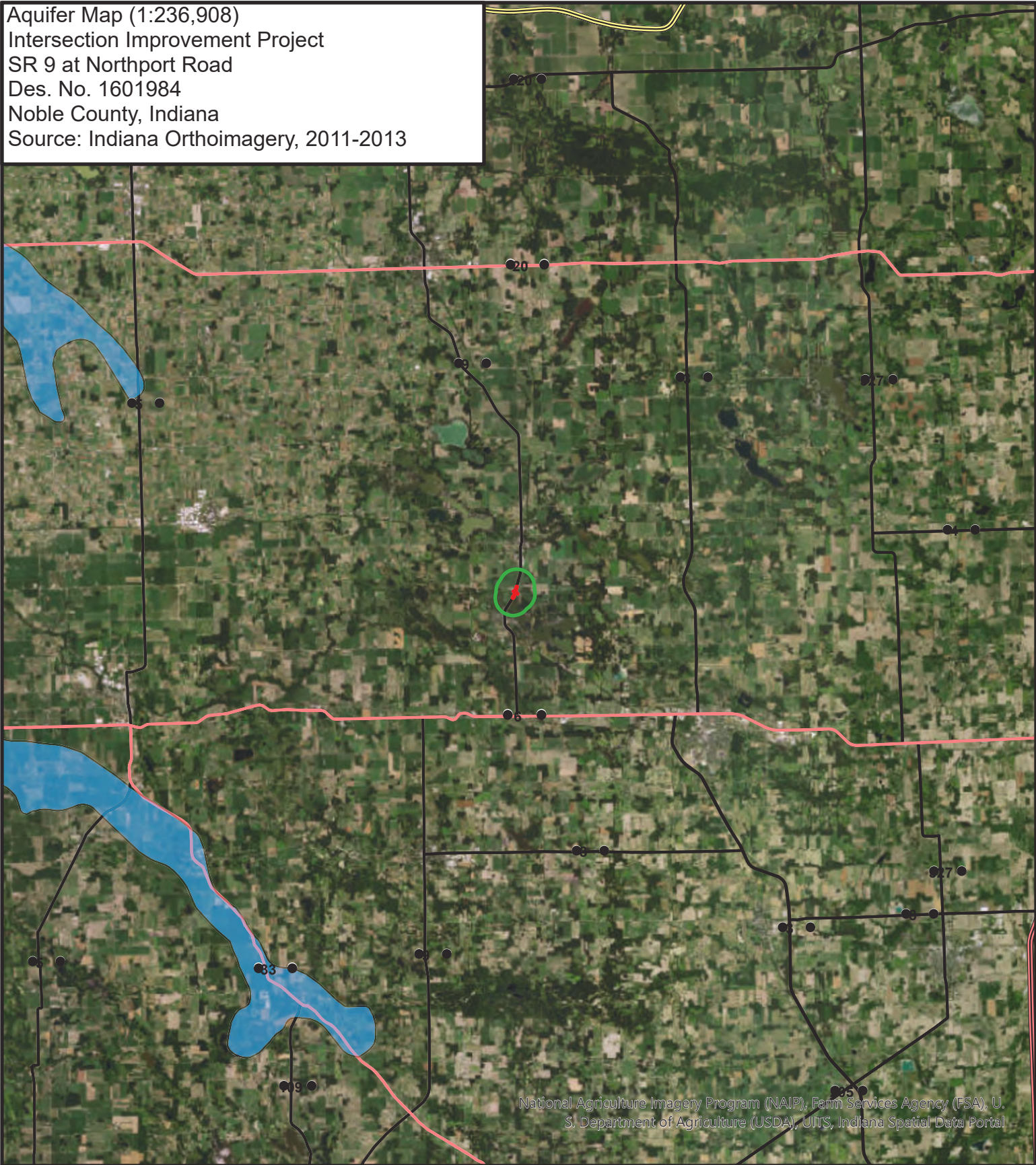
Site Map with Best Available Flood Zone



Approximate scale 1:12,000

Disclaimer

Aquifer Map (1:236,908)
Intersection Improvement Project
SR 9 at Northport Road
Des. No. 1601984
Noble County, Indiana
Source: Indiana Orthoimagery, 2011-2013



0 2.75 5.5
Miles

Project Location
Sole Source Aquifers
St. Joseph Sole Source Aquifer

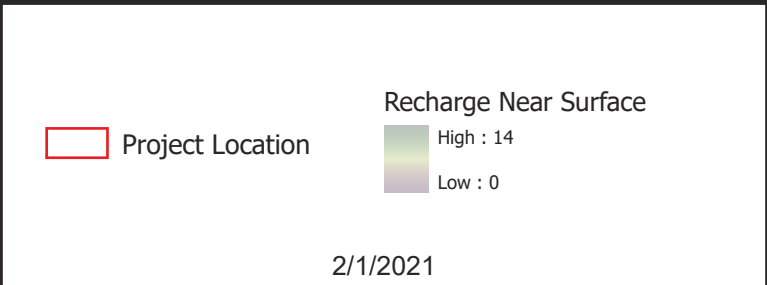
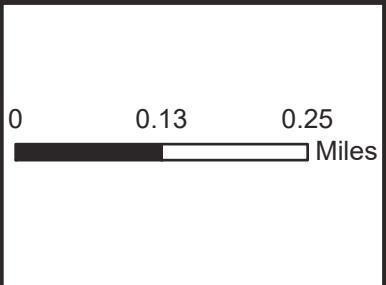


2/1/2021

Aquifer Map (1:10,419)
 Intersection Improvement Project
 SR 9 at Northport Road
 Des. No. 1601984
 Noble County, Indiana
 Source: Indiana Orthoimagery, 2011-2013



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

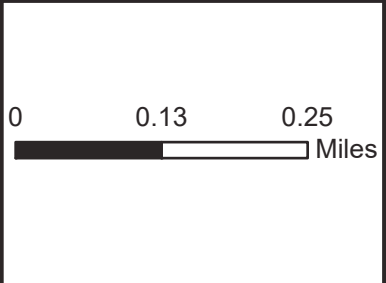


2/1/2021

Aquifer Map (1:10,419)
 Intersection Improvement Project
 SR 9 at Northport Road
 Des. No. 1601984
 Noble County, Indiana
 Source: Indiana Orthoimagery, 2011-2013



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



Sensitivity Near Surface

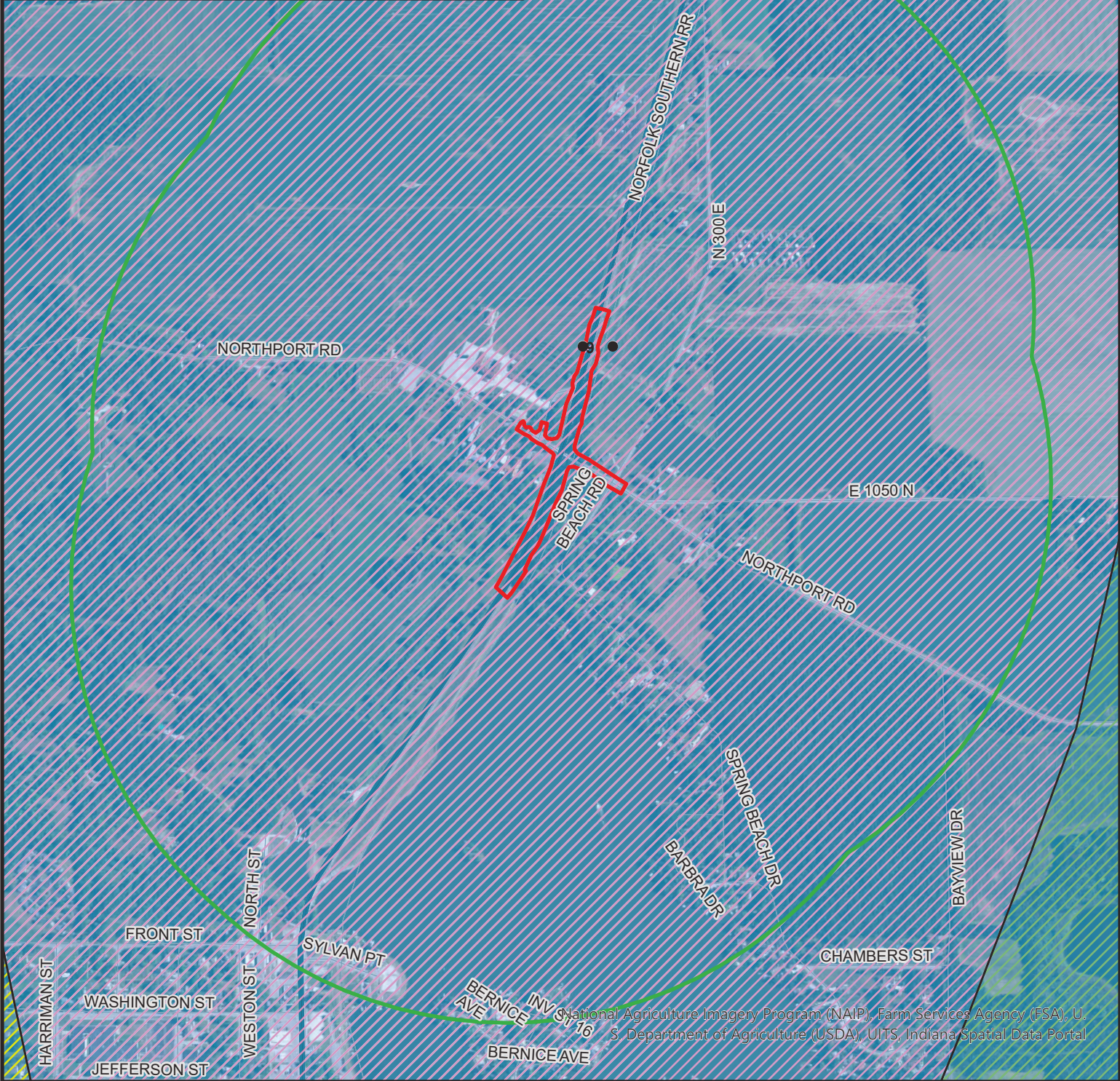
- 5: Very high
- 4: High
- 3: Moderate
- 2: Low
- 1: Very low

Project Location

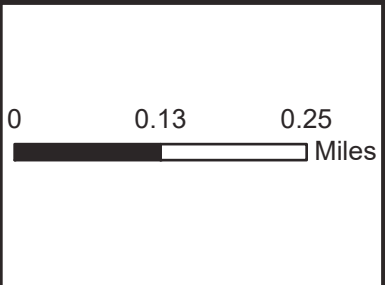
2/1/2021



Aquifer Map (1:10,419)
 Intersection Improvement Project
 SR 9 at Northport Road
 Des. No. 1601984
 Noble County, Indiana
 Source: Indiana Orthoimagery, 2011-2013



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



Unconsolidated Aquifer System

- Kendallville
- Natural Lakes and Moraines
- Topeka

Bedrock Aquifer System

- Coldwater, Ellsworth, & Antrim Shales

Project Location

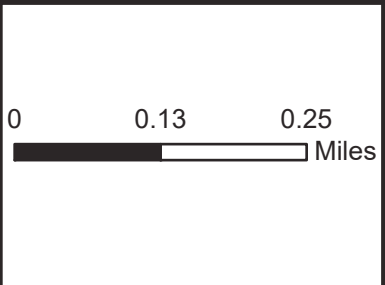
2/1/2021



Aquifer Map (1:10,419)
 Intersection Improvement Project
 SR 9 at Northport Road
 Des. No. 1601984
 Noble County, Indiana
 Source: Indiana Orthoimagery, 2011-2013



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



Project Location

Aquifer Type

- Surficial sand and gravel aquifer
- Discontinuous buried sand and gravel aquifer

2/1/2021

**WATERS REPORT
INDIANA DEPARTMENT OF TRANSPORTATION (INDOT)
STATE ROUTE 9 & NORTHPORT ROAD
IN NOBLE COUNTY, INDIANA
INTERCHANGE IMPROVEMENT
DES. NOS.: 1601984 & 2000041
ASSET ID #: 009-57-02086 C**

Prepared by:
Mathew Aldridge
Mathew.Aldridge@burgessniple.com
317-237-2760 ext. 1022
Burgess & Niple Inc.

Completed Date: 4/29/2021

Date of Field Reconnaissance: 4/26/2021

Location:

Section 9, Township 35N, Range 10E
Wolcottville, Indiana Quadrangle
Orange Township, Noble County, Indiana
HUC 12: 0405 0001 1505 (Oviate Ditch-Middle Branch Elkhart River)
41.50472, -85.37056

1.0 PROJECT DESCRIPTION

The proposed project for Des. Nos. 1601984 & 2000041 is located at the intersection of State Route (S.R.) 9 and Northport Road (3.74 mi. north of U.S. Route 6) in Orange Township, Noble County, Indiana. The proposed project includes the demolition of the existing bridge over SR 9 (#009-57-02086 C, NBI: 2850) and its subsequent replacement with an at grade intersection. The bridge was originally built to bridge an existing parallel railroad to SR 9, which is no longer in use. The bridge is now in need of major repair, and no longer serves its intended function.

2.0 DESKTOP RECONNAISSANCE

The literature review for this report included review of proposed project plans, U.S. Geological Survey (USGS) topographic maps, current aerial photography, National Hydrography Database (NHD), National Wetlands Inventory (NWI) maps, soils maps and soil survey information, Federal Emergency Management Agency (FEMA) flood hazard mapping, and Indiana Department of Environmental Management (IDEM) water quality and use designation information, as applicable. Findings of the literature review are summarized below.

2.1 USGS Topography, Aerial Photography, and NHD Mapping

The project location is depicted on the Wolcottville, Indiana 7.5-Minute Series USGS topographic quadrangle. Aerial photography was evaluated from imagery obtained from Indiana Map (<https://maps.indiana.edu>).

The study area is located in a rural setting along S.R. 9. Topographic mapping shows the study area is relatively flat at approximately 950 ft. above mean sea level (AMSL) with elevations decreasing to the south. Sylvan Lake is shown adjacent to the southeast of the study area and several small ponds are shown to the east and west of S.R. 9 and south of Northport Road. Aerial mapping shows a thin wooded strip to the east of S.R. 9 and agricultural fields adjacent to the northern end of the study area. Several structures identified as Our Lady, Mother of Mercy The Center at Historic Kneipp Springs, are located adjacent to the western end of the study area.

The National Hydrography Dataset (NHD) map shows a ditch running from the northern end of the study area, east of S.R. 9 to the south under Northport Road. It then crosses west beneath S.R. 9 and leaves the study area. Two streams are identified east of S.R. 9 at the northern end of the study area flowing into this ditch. A spring/seep is also identified to the west of S.R. 9 adjacent to the southern end of the study area. Another stream is shown as adjacent to the southern end of the study area and east of S.R. 9 that outlets into Sylvan Lake.

2.2 Soils

According to the Soil Survey Geographic (SSURGO) Database for Noble County, Indiana, the study area does contain soil areas with nationally listed hydric soils.

There are five (5) mapped soil units within the study area. Only one (1), Houghton muck, drained (Ho) is listed as a hydric soil.

Review results for soil mapping and unit descriptions obtained from the NRCS Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov>) are summarized in **Table 1** below.

Table 1
Soil Survey

Soil Name	Map Abbreviation	Hydric Range
Houghton muck, drained	Ho	100%
Miami loam, gravelly substratum, 0 to 2 percent slopes	MhA	0%
Miami loam, gravelly substratum, 2 to 6 percent slopes	MhB2	0%
Parr loam, 0 to 2 percent slopes	PdA	0%
Riddles sandy loam, 6 to 12 percent slopes, eroded	RsC2	0%

2.3 National Wetland Inventory (NWI) Information

No NWI-mapped features are located within the study area. One (1) lake (L1UBHh) is located adjacent to the southeast of the study area. NWI map review results obtained from the U.S. Fish & Wildlife Service’s Wetlands Mapper application (<https://www.fws.gov/wetlands/Data/Mapper.html>), are summarized in **Table 2** below.

Table 2
NWI Mapped Features

Map ID	Abbreviation	Classification	Description	Location
1	L1UBHh	Lacustrine/Limnetic/Unconsolidated Bottom/ Permanently Flooded/Diked/Impounded	Lake	0.02 mi. Southeast
2	PUBGx	Palustrine/Unconsolidated Bottom/ Intermittently Exposed/Excavated	Freshwater Pond	0.03 mi. East
3	PUBGx	Palustrine/Unconsolidated Bottom/ Intermittently Exposed/Excavated	Freshwater Pond	0.05 mi. West
4	PUBGx	Palustrine/Unconsolidated Bottom/ Intermittently Exposed/Excavated	Freshwater Pond	0.05 mi. West
5	R2UBH	Riverine/Lower Perennial/ Unconsolidated Bottom/Permanently Flooded	Stream	0.07 mi. West
6	PEM1Bd	Palustrine/Emergent/Persistent/Seasonally Saturated/Partially Drained/Ditched	Emergent Wetland	0.08 mi. West
7	PUBGx	Palustrine/Unconsolidated Bottom/ Intermittently Exposed/Excavated	Freshwater Pond	0.08 mi. East
8	PEM1Bd	Palustrine/Emergent/Persistent/Seasonally Saturated/Partially Drained/Ditched	Emergent Wetland	0.14 mi. West

2.4 Flood Hazard Mapping

The project location appears on Flood Insurance Rate Map (FIRM) panel 18113C0088D (effective 3/2/2015). It is shown located entirely within Zone X, indicating that it is in an Area of Minimal Flood Hazard.

3.0 FIELD RECONNAISSANCE

The study area was visited by Mathew Aldridge, Environmental Scientist of B&N, on April 26, 2021 to observe and document existing conditions, and to identify and evaluate potentially jurisdictional “waters of the U.S.” (WOTUS) and other aquatic resources. Weather conditions were a high of 75°F and the last recorded precipitation was 0.03 in. on April 25. Findings of the field investigation are summarized below.

3.1 Streams

One stream was identified within the study area. It displayed a bed, bank, and an ordinary high-water mark (OHWM); therefore meeting each of the criteria which define a potentially jurisdictional tributary. Stream characteristics are summarized below:

UNT to Middle Branch Elkhart River: The unnamed tributary (UNT) to the Middle Branch of the Elkhart River is a perennial stream that runs exposed approximately 17 ft. from northeast to southwest through the study area before entering a culvert and flowing off-site to its likely confluence with the Middle Branch of the Elkhart River via an excavated channel at the toe slope of the earthen dam of Sylvan Lake. This stream is sourced from a vertical pipe located just to the west of S.R. 9. This pipe is likely connected to Kneipp Spring as evidenced by the NHD map and topographic mapping showing a spring located in the vicinity of this pipe. As this stream appears to be stream-fed, it has no apparent drainage area. It has an OHWM width of approximately 2.5 ft. and OHWM depth of approximately 0.3 ft. It is dominated by sand and silt substrates. Instream cover was absent. This stream has been historically channelized in the study area, due to road construction. There is no channel sinuosity and there is no riffle development within the study area. The riparian corridor is absent. There was no bank erosion. Overall, it is rated “poor” in quality. As UNT to Middle Branch Elkhart River is a perennial tributary that is hydrologically connected to St. Joseph River via the Elkhart River, it is likely a jurisdictional Water of the U.S.

Stream characteristics are summarized in **Table 3** below:

Table 3
Stream Summary Table

Water Feature Name	Photos	Lat/Long	OHWL Width (ft.)	OHWL Depth (ft.)	USGS Blue-line? Type?	Riffles? Pools?	Quality	Substrate	Likely Water of the U.S.?
UNT to Middle Branch Elkhart River	29-30	41.503698, -85.371154	2.5	0.3	No	No	Poor	Sand/Silt	Yes

3.2 Wetlands

No soil data points were taken within the study area as vegetation throughout the area was dominated by upland species (*Lolium perenne*, *Festuca arundinacea*, *Acer saccharum*, and *Lonicera maackii*), no wetland-supporting hydrology was present, and the majority of mapped soils are non-hydric.

No wetlands were identified within the study area.

3.3 Open Waters

No ponds, lakes, or other open water features were observed in the study area; however, Sylvan Lake is located immediately outside of the southeast corner of the study area.

3.4 Other Features

No roadside ditches or other linear water features were observed in the study area.

4.0 CONCLUSION

Based on the findings of this investigation, B&N concludes that there is one potentially jurisdictional stream located within the study area. No wetlands, ponds, lakes, ditches or other water features were observed in the study area.

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

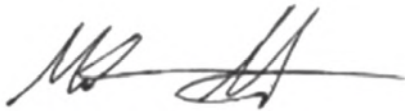
of Engineers. This report is our best judgement based on the guidelines set forth by the Corps.

5.0 ACKNOWLEDGEMENT

The 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

Respectfully,

Mathew Aldridge

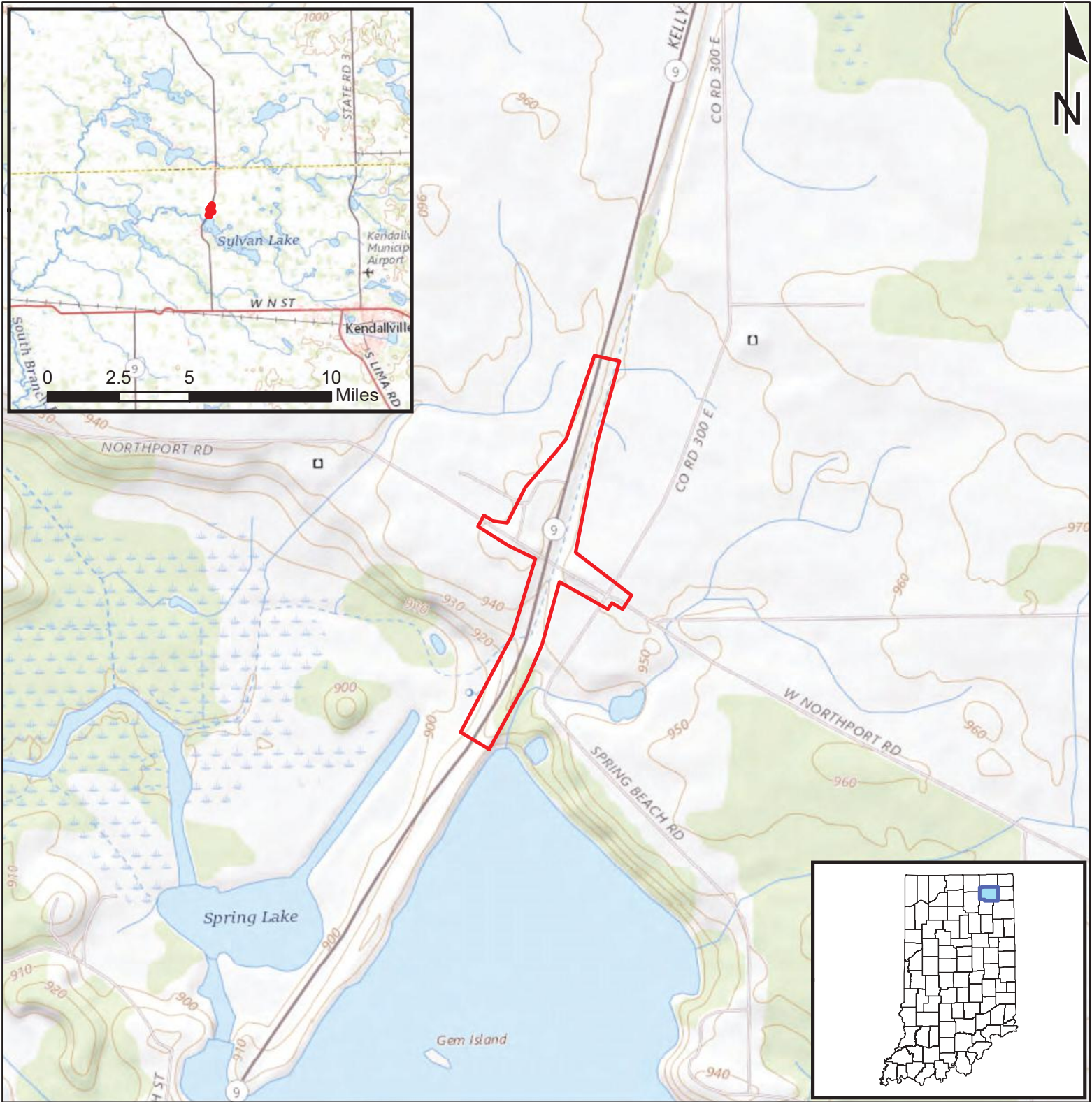


5/7/2021

Environmental Scientist
Burgess & Niple, Inc. / Fort Wayne District

ATTACHMENTS

Attachment 1	Project Location Map
Attachment 2	USGS Topographic Map
Attachment 3	Aerial Map
Attachment 4	National Hydrography Dataset (NHD) Map
Attachment 5	NRCS Hydric Soil Map
Attachment 6	NWI Features Map
Attachment 7	FEMA Flood Hazard Map
Attachment 8	Delineation Map
Attachment 9	Photo Orientation Map & Site Photographs
Attachment 10	Preliminary Jurisdictional Determination Form



0 0.075 0.15 0.3 Miles

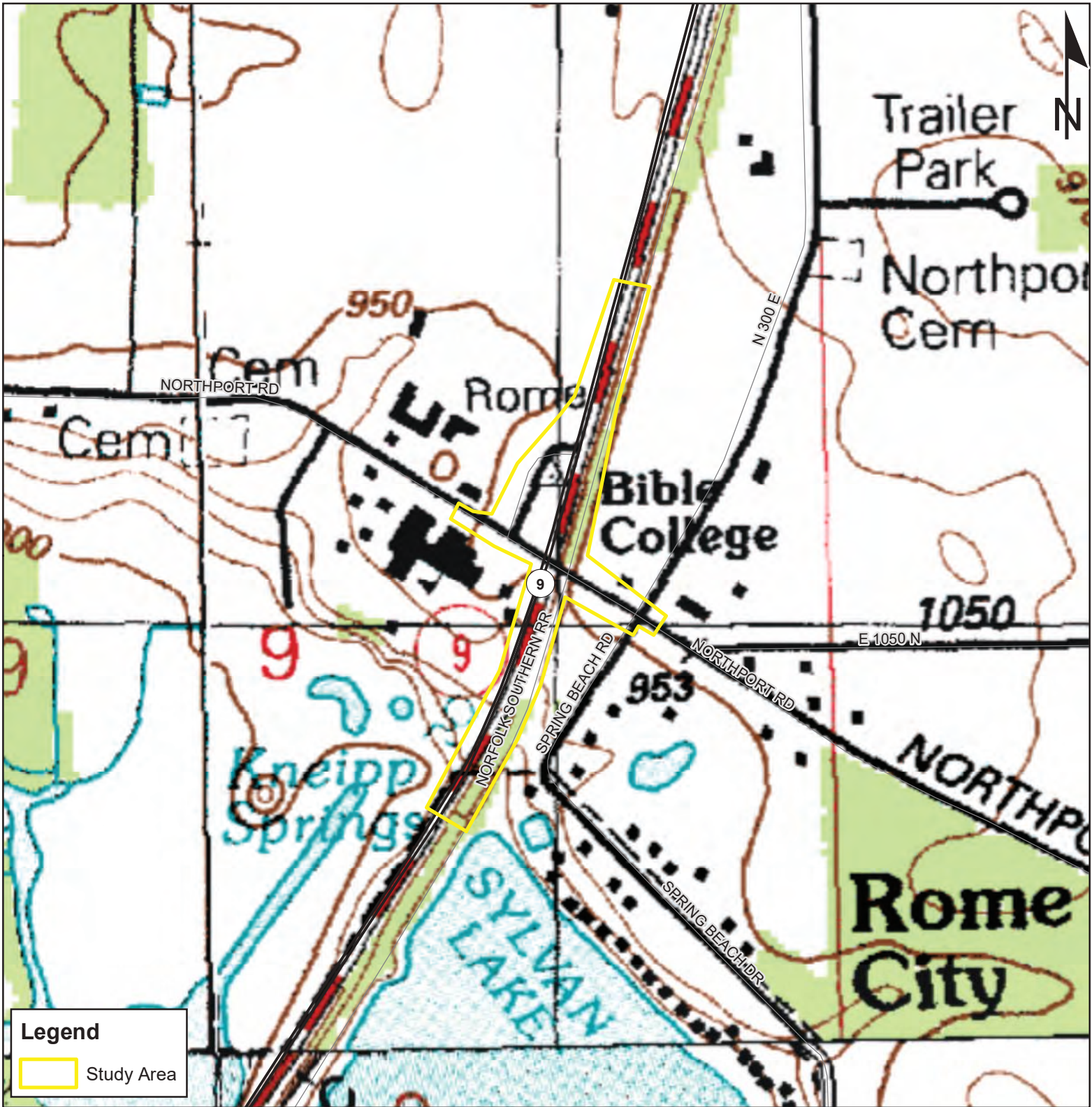
Attachment 1

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Sources:
Non Orthophotography
Data - Obtained from ESRI Online Services
Map Projection: UTM Zone 16 N **Map Datum:** NAD83
 Prepared By: Burgess & Niple

Project Location Map

April 2021



Legend
 Study Area

0 250 500 1,000
 Feet

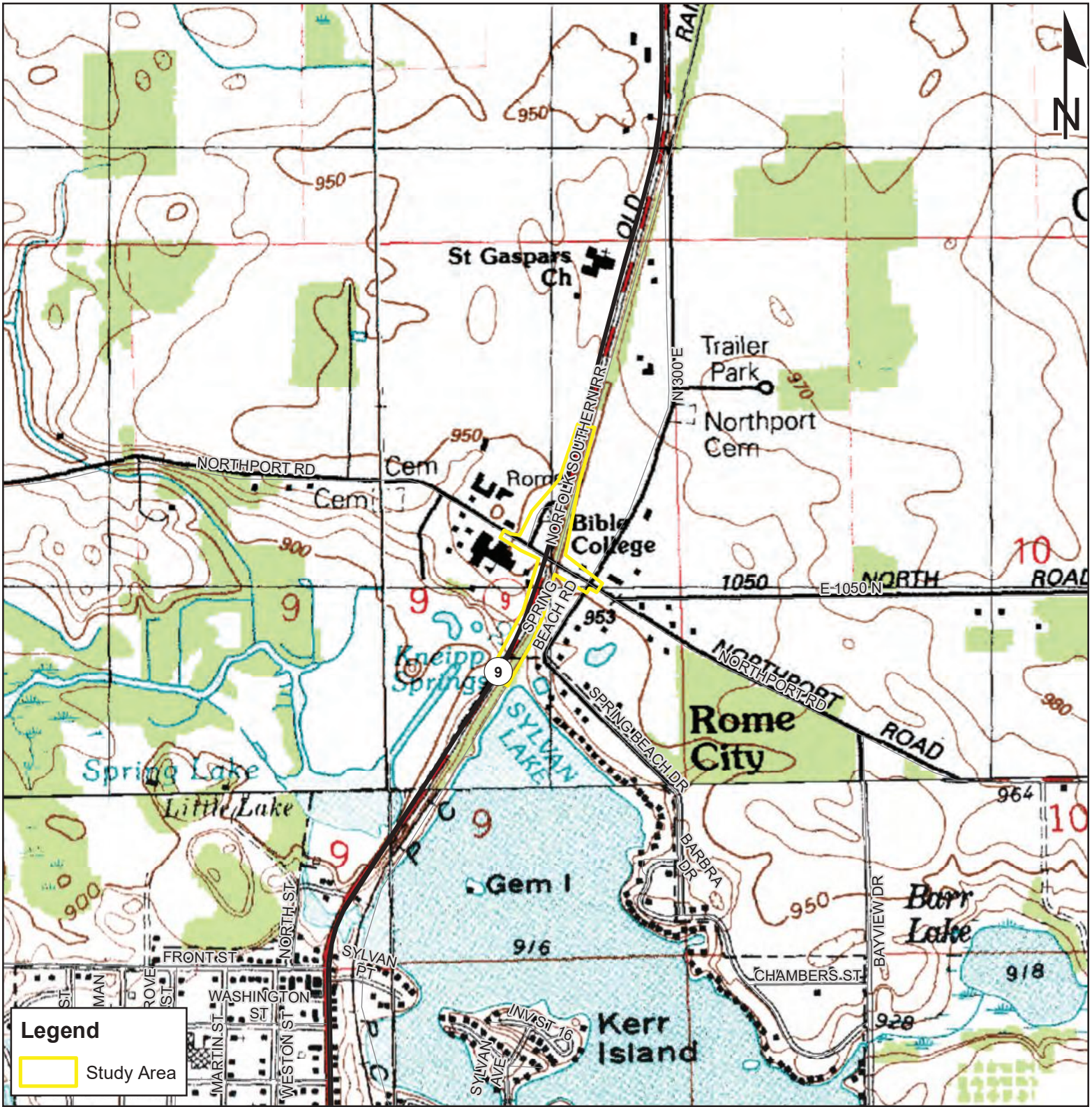
Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83
 Prepared By: Burgess & Niple


Attachment 2

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

USGS Topographic Map

April 2021



Legend
 Study Area

0 500 1,000 2,000
 Feet

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

Prepared By: Burgess & Niple


Attachment 2

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

USGS Topographic Map

April 2021



Legend
 Study Area

0 150 300 600
 Feet

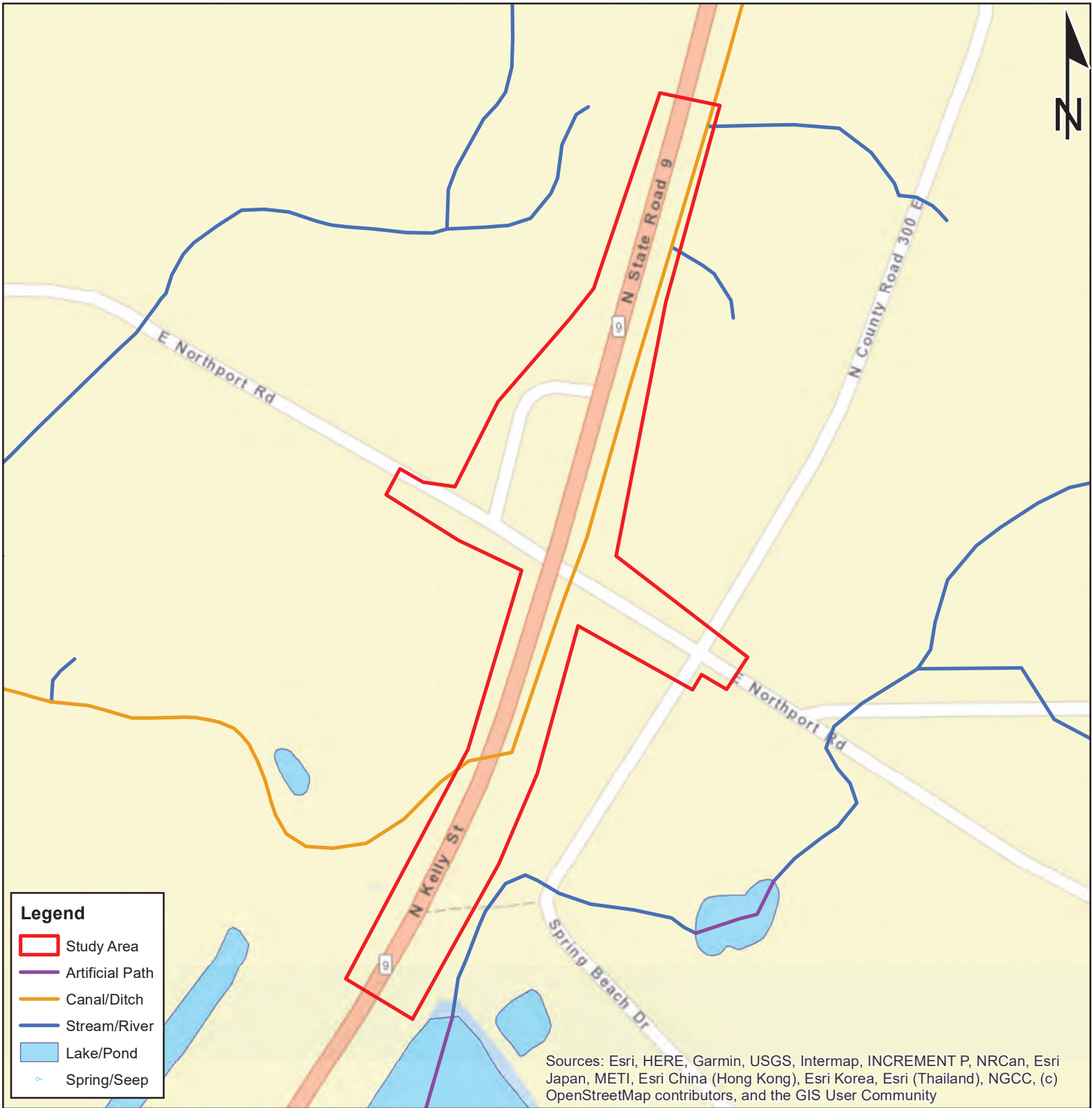
Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83
 Prepared By: Burgess & Niple

Attachment 3

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Aerial Map

April 2021



0 150 300 600
 Feet

Attachment 4

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

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

NHD Map

Prepared By: Burgess & Niple

April 2021



0 150 300 600 Feet

Attachment 5

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

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

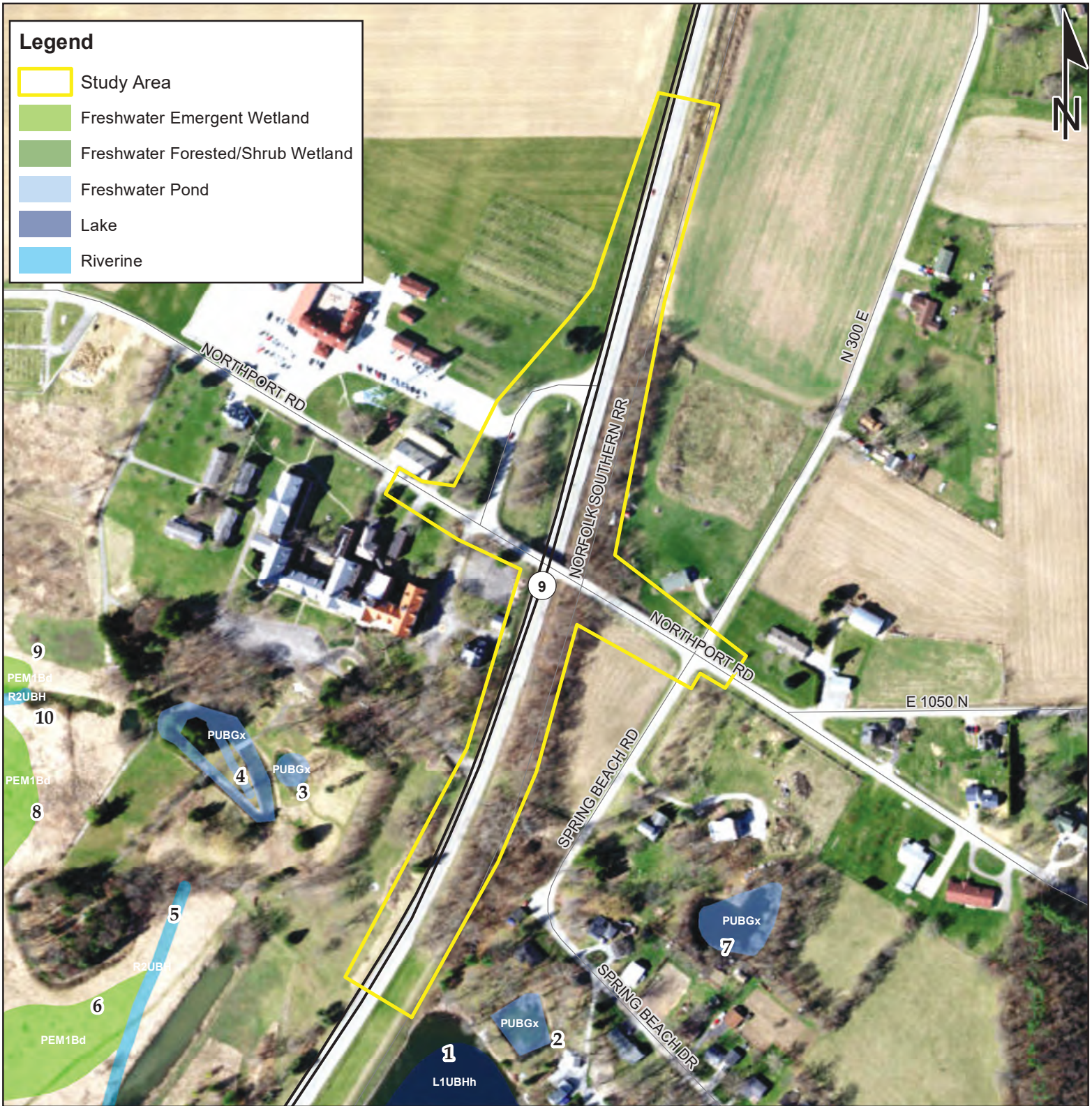
NRCS Hydric Soil Map

Prepared By: Burgess & Niple

April 2021

Legend

- Study Area
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine



0 150 300 600
 Feet

Attachment 6

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Sources:

Non Orthophotography

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

Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

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

Prepared By: Burgess & Niple

NWI Map

April 2021



Legend

- Study Area
- <all other values>
- FEMA Zone AE Floodway; FEMA Administrative Floodway
- DNR Detailed Floodway
- DNR Approximate Floodway
- FEMA Zone A
- FEMA Zone AE
- DNR Detailed Fringe
- DNR Approximate Fringe
- Additional Floodplain Area; DNR .2 Percent Flood Hazard
- FEMA Protected by Levee
- FEMA Floodplain - Ponding (Depth)
- FEMA Floodplain - Sheet Flow (Depth)
- Not Mapped

Service Layer Credits: Indiana Department of Natural



Attachment 7

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

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

FEMA/IDNR Flood Map

Prepared By: Burgess & Niple

April 2021



Legend

- Study Area
- ▶ Perennial Stream
- ⊕ Spring
- Culvert



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
 Prepared By: Burgess & Niple

Attachment 8

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Delineation Map

April 2021



Legend

- Study Area
- ▶ Perennial Stream
- ∞ Spring
- Culvert



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
 Prepared By: Burgess & Niple

Attachment 8

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Delineation Map

April 2021



Legend

- Study Area
- ↑ Photo
- ▶ Perennial Stream
- ~ Spring
- Culvert



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
 Prepared By: Burgess & Niple

Attachment 9

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Photo Orientation Map

April 2021



Legend

- Study Area
- ↑ Photo
- ▶ Perennial Stream
- ∞ Spring
- Culvert



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

Prepared By: Burgess & Niple

Attachment 9

Indiana Dept. of Transportation (INDOT)
 S.R. 9 - Intersection Improvement
 Des. No.: 2000041
 Orange Township, Noble County, Indiana

Photo Orientation Map

April 2021



Photo 1: Maintained right-of-way (ROW) west of S.R. 9, facing southwest.



Photo 2: Maintained ROW and swale east of S.R. 9, facing southwest.



Photo 3: Maintained lawn west of S.R. 9, facing southwest.



Photo 4: Maintained lawn between S.R. 9 and Kelly Street, facing southwest.



Photo 5: Maintained lawn between S.R. 9 and Kelly Street, facing southwest.



Photo 6: Maintained lawn west of Kelly Street, facing northeast.



Photo 7: Maintained lawn between S.R. 9 and Kelly Street, facing northeast.



Photo 8: Maintained lawn north of Northport Road, facing northwest.



Photo 9: Maintained lawn north of Northport Road, facing southeast.



Photo 10: Maintained lawn south of Northport Road, facing southeast.

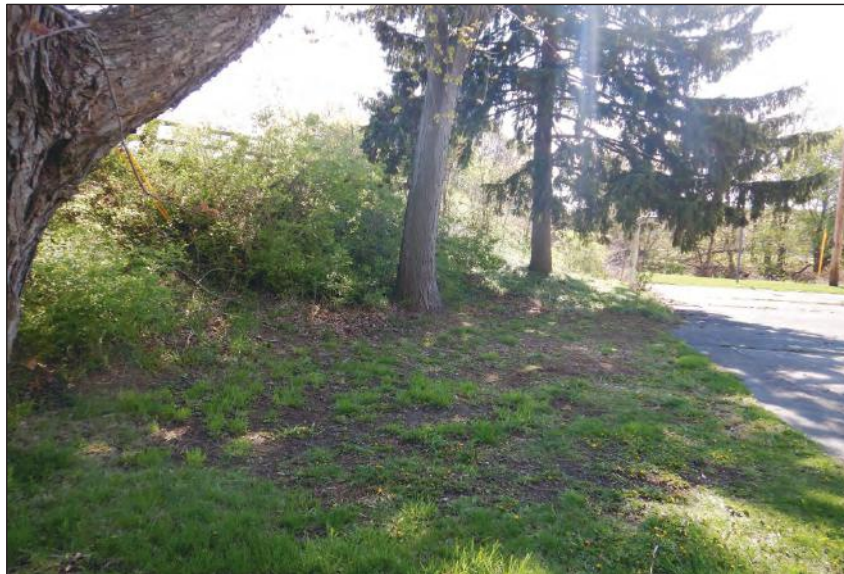


Photo 11: Embankment to the south of the west approach of the Northport Road bridge over S.R. 9, facing southeast.



Photo 12: Maintained lawn and ROW west of S.R. 9, facing southwest.



Photo 13: Agricultural field to the south of Northport Road and east of S.R. 9, facing northwest.



Photo 14: Maintained lawn to the north of Northport Road and east of S.R. 9, facing northwest.



Photo 15: Former railroad bed to the east of S.R. 9, facing southwest. Leaf litter is underlain by track ballast.



Photo 16: Former railroad bed to the east of S.R. 9, facing northeast. Leaf litter is underlain by track ballast.



Photo 17: Embankment to the north of the east approach of the Northport Road bridge over S.R. 9, facing southeast.



Photo 18: Former railroad bed to the east of S.R. 9, facing southwest. Leaf litter is underlain by track ballast.



Photo 19: Roadside swale to the east of S.R. 9, facing northeast.



Photo 20: Culvert inlet to the east of S.R. 9, facing east.



Photo 21: Former railroad bed to the east of S.R. 9, facing northeast.



Photo 22: Access road from Spring Beach Road for the earthen dam of Sylvan Lake, facing southeast.



Photo 23: Roadside embankment to the east of S.R. 9, facing southwest.



Photo 24: Roadside embankment at the toe slope of the earthen dam for Sylvan Lake, facing northeast.