



FILED
December 5, 2024
INDIANA UTILITY
REGULATORY COMMISSION

121 Commerce Drive
Suite 101
Danville, Indiana 46122
www.maximautomation.com

Site Cost Breakdown

Cause No. 46171

Ranney 5	\$ 20,190.31
Ranney 4	\$ 20,190.31
Ranney 1	\$ 20,190.31
Elder 1	\$ 20,190.31
Elder 2	\$ 20,190.31
Ranney 2	\$ 20,190.31
Cross St Tank	\$ 20,190.31
Tucker Well 1	\$ 20,190.31
Hall Well 2	\$ 20,190.31
Hanna Well 1	\$ 20,190.31
Wellborn Well 1	\$ 20,190.31
Scarangast Well	\$ 20,190.31
Rock Well	\$ 20,190.31
Jarrett Well	\$ 20,190.31
Tuxford Well	\$ 20,190.31
Gahimer Well	\$ 20,190.31
10th St Tower	\$ 20,190.31
Rangeline Tower	\$ 20,190.31
Columbus Ave Tower	\$ 20,190.31
Park Road Tower	\$ 20,190.31
8th St Tower	\$ 20,190.31
Fairview	\$ 36,348.31
Norton Well 1	\$ 20,190.31
Norton Well 2	\$ 20,190.31
Wheeler Plant	\$ 310,385.88
Lafayette Plant	\$ 143,902.88



Bill of Materials
 Typical Remote Site (Well or Tank)

Item	Quantity
CompactLogix L24ER	1
Patch Cables	3
Circuit Breakers	10
Shipping	1
Network Switch	1
Cell Modem	1
Analog Surge	4
UPS	1
Power Supply 10A	2
Power Supply Decoupler	1
Relays	8
Ground Bar	2
Heater	1
Panel	1
Terminal Blocks DI	16
Terminal Blocks AI	4
Terminal Blocks AO	2
Duplex Receptacle	1
TVSS	1
Wireway	3
LED Light	1
LED Light Cord	1
Door Switch	1
Legend Plates	1
Wire/TB Labels	5
Single Outlet	1
Single Level Terminal Blocks	30
Ground Terminal Blocks	12
Power Fail Relay	2
DIN Rail	2
End Blocks	15
Relay Base	2
Relay 3 Pole	2



Fairview Booster

Item	Quantity
CompactLogix L33	1
Power Supply	1
120VAC DI16	2
DO16	1
AI8	2
AO4	2
Patch Cables	3
Circuit Breakers	10
Shipping	1
Network Switch	1
Cell Modem	1
Analog Surge	4
UPS	1
Power Supply 10A	2
Power Supply Decoupler	1
Relays	8
Ground Bar	2
Heater	1
Panel	1
Terminal Blocks DI	32
Terminal Blocks AI	16
Terminal Blocks AO	8
Duplex Receptacle	1
TVSS	1
Wireway	3
LED Light	1
LED Light Cord	1
Door Switch	1
Legend Plates	1
Wire/TB Labels	5
Single Outlet	1
Single Level Terminal Blocks	30
Ground Terminal Blocks	12
Power Fail Relay	2
DIN Rail	2
End Blocks	15
Relay Base	2
Relay 3 Pole	2



Wheeler Treatment Plant
 Wheeler Main Panel

Item	Quantity
ControlLogix L71	2
Power Supply	2
Chassis	2
Redundancy Module	2
Ethernet Card	2
Flex IO Ethernet	2
DI16	3
DO16	2
AI8	2
AO4	2
Flex IO Base	9
Patch Cables	3
Circuit Breakers	10
Shipping	1
Network Switch	1
Cell Modem	1
Analog Surge	4
UPS	1
Power Supply 10A	3
Power Supply Decoupler	1
Relays	8
Ground Bar	2
Heater	1
Panel	1
Terminal Blocks DI	16
Terminal Blocks AI	4
Terminal Blocks AO	2
Duplex Receptacle	1
TVSS	1
Wireway	3
LED Light	1
LED Light Cord	1
Door Switch	1
Legend Plates	1
Wire/TB Labels	5
Single Outlet	1
Single Level Terminal Blocks	30
Ground Terminal Blocks	12



Power Fail Relay	2
DIN Rail	2
End Blocks	15

Wheeler Turbidity Panel

Item	Quantity
Flex IO Ethernet	1
DI16	1
AI8	1
Flex IO Base	2
Patch Cables	3
Circuit Breakers	10
Shipping	1
Network Switch	1
Power Supply 10A	3
Power Supply Decoupler	1
Relays	0
Ground Bar	2
Panel	1
Terminal Blocks DI	16
Terminal Blocks AI	4
Terminal Blocks AO	2
Duplex Receptacle	1
TVSS	1
Wireway	3
Door Switch	1
Legend Plates	1
Wire/TB Labels	5
Single Level Terminal Blocks	30
Ground Terminal Blocks	12
Power Fail Relay	2
DIN Rail	2
End Blocks	15
Relay Base	2
Relay 3 Pole	2



Wheeler Chemical Panel

Item	Quantity
Flex IO Ethernet	1
DI16	1
DO16	1
AI8	1
AO4	2
Flex IO Base	5
Patch Cables	3
Circuit Breakers	10
Shipping	1
Network Switch	1
Flex IO Extension Cable	1
Power Supply 10A	3
Power Supply Decoupler	1
Ground Bar	2
Panel	1
Terminal Blocks DI	16
Terminal Blocks AI	4
Terminal Blocks AO	2
Duplex Receptacle	1
TVSS	1
Wireway	3
Door Switch	1
Legend Plates	1
Wire/TB Labels	5
Single Level Terminal Blocks	30
Ground Terminal Blocks	12
Power Fail Relay	2
DIN Rail	2
End Blocks	15
Relay Base	2
Relay 3 Pole	2



Wheeler High Service

Item	Quantity
Flex IO Ethernet	1
DI16	2
DO16	1
AI8	3
AO4	1
Flex IO Base	7
Patch Cables	3
Circuit Breakers	10
Shipping	1
Network Switch	1
UPS	1
Power Supply 10A	3
Power Supply Decoupler	1
Relays	8
Ground Bar	2
Panel	1
Terminal Blocks DI	32
Terminal Blocks AI	24
Terminal Blocks AO	4
Duplex Receptacle	1
TVSS	1
Wireway	3
Legend Plates	1
Wire/TB Labels	5
Single Outlet	1
Single Level Terminal Blocks	30
Ground Terminal Blocks	12
Power Fail Relay	2
DIN Rail	2
End Blocks	15
Relay Base	2
Relay 3 Pole	2



Wheeler HMI

Item	Quantity
PC Server	2
Monitor 27"	4
iFix V2023	2
Historian	2
Win911	1
XL Reporter	1
Kepware OPC Server	2

Lafayette Treatment Plant

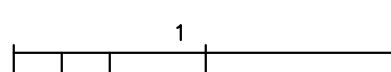
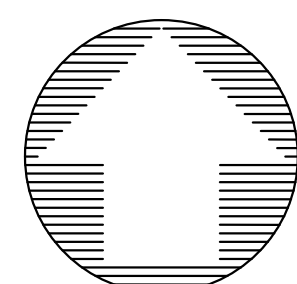
Lafayette Main Panel

Item	Quantity
CompactLogix L33ER	1
Patch Cables	3
Cell Modem	1

Lafayette HMI

Item	Quantity
PC Server	2
Monitor 27"	4
iFix V2023	2
Historian	2
Win911	1
XL Reporter	1
Kepware OPC Server	2

Appendix B



HARTMAN ROAD

HARTMAN ROAD

INDIAN MEADOWS

ALEXANDRIA PIKE

SCHOOL STREET

CROSS A

CROSS STREET

CROSS STREET

RAIBLE AVENUE

MADISON AVENUE

CROSS B

INDIANA AVENUE

BROADWAY STREET

LINDBERGH ROAD

SCATTERFIELD ROAD/S.R. 9

SHORT HAZLETT STREET

WEST CENTRAL

UNIVERSITY BOULEVARD

PARK PLACE

8TH STREET

8TH STREET

8TH STREET

8TH STREET

10TH STREET

HISTORIC DISTRICT

MADISON AVE.

14TH STREET

CINCINNATI AVENUE

BRENTWOOD

8TH STREET

COSTELLO STREET

NICHOL AVENUE/S.R. 32

ARROW AVENUE

BROWN DELAWARE STREET

SCATTERFIELD ROAD/S.R. 9

BELMONT

25TH STREET

RAIBLE AVENUE

ARROW AVENUE

30TH STREET

29TH STREET

27TH STREET

38TH STREET

LEGEND



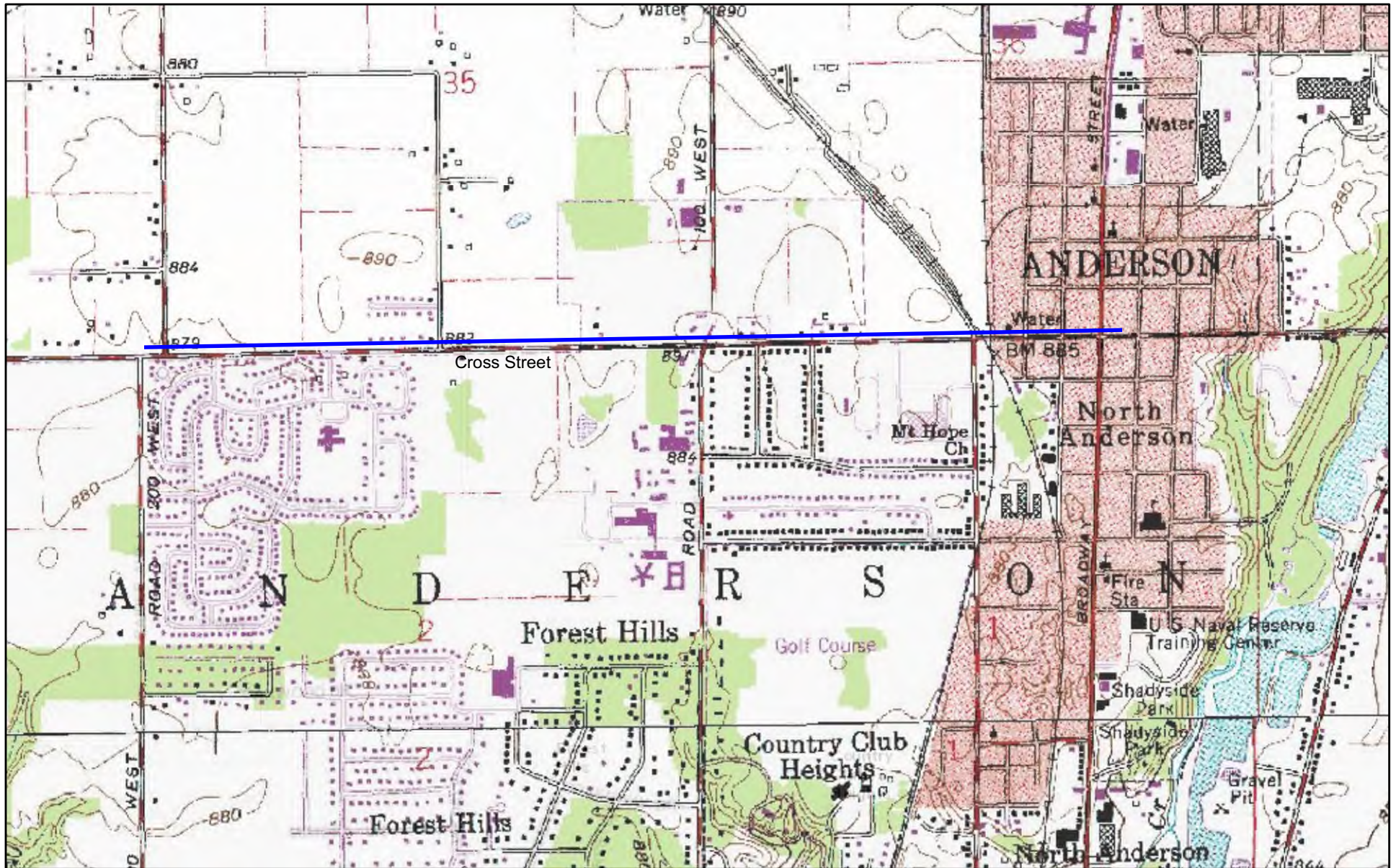
DISADVANTAGED COMMUNITY CENSUS TRACT

FIGURE 5.0
PROPOSED AREAS FOR WATER MAIN &
SERVICE LINE REPLACEMENT PROJECTS



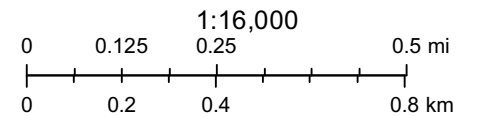
CURRY & ASSOCIATES, INC.
CONSULTING ENGINEERS & ARCHITECTS
110 COMMERCE DRIVE DANVILLE, IN 46122
317.745.6995 FAX: 317.745.6985

Figure 5.2a Cross Street Water Transmission Main USGS map



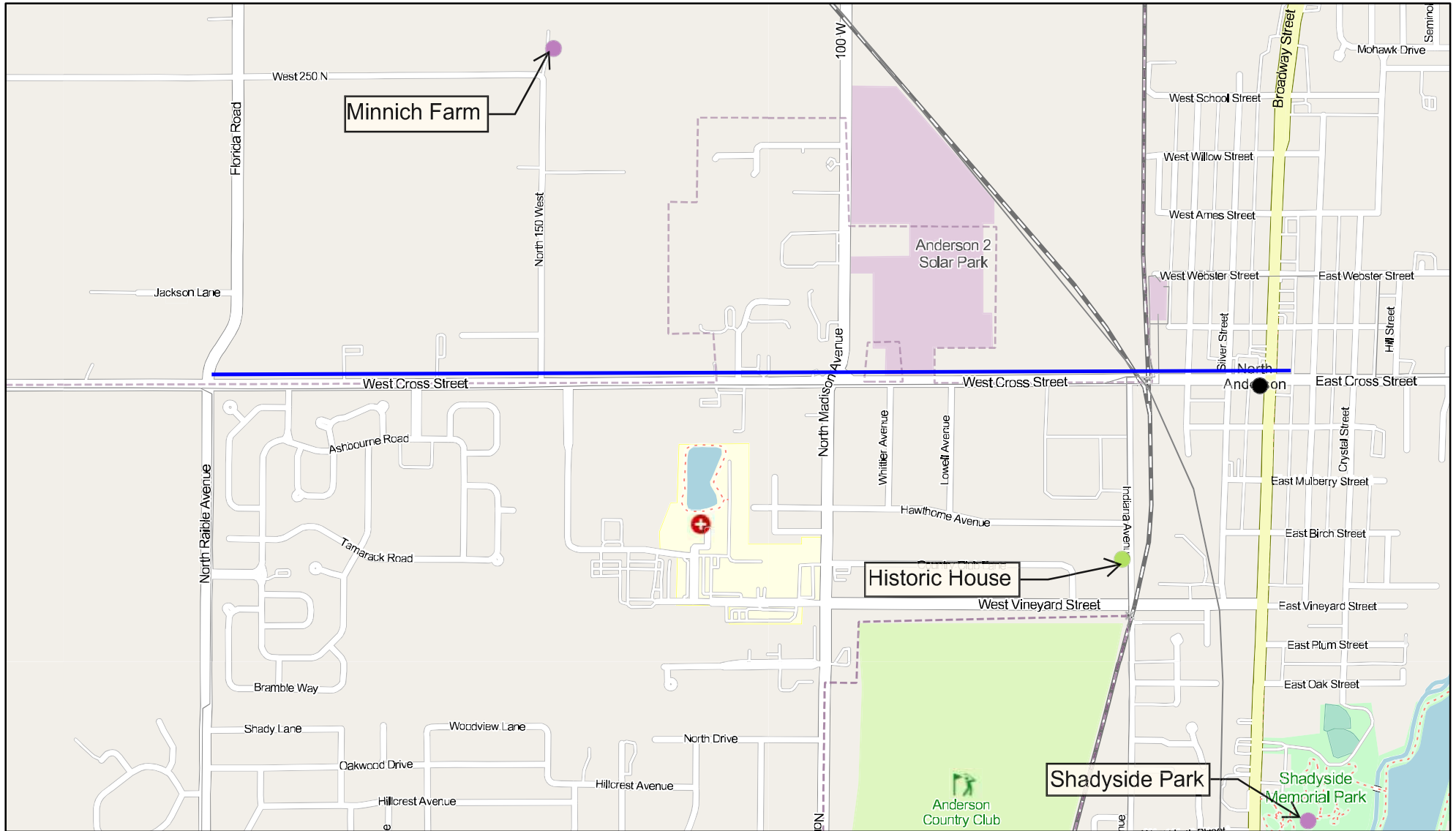
March 21, 2024

- State Boundary
- Proposed Water Main



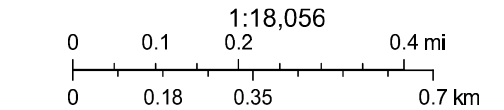
United States Geological Survey (USGS)
Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

Figure 5.2b Cross Street Transmission Main - Historic Resources



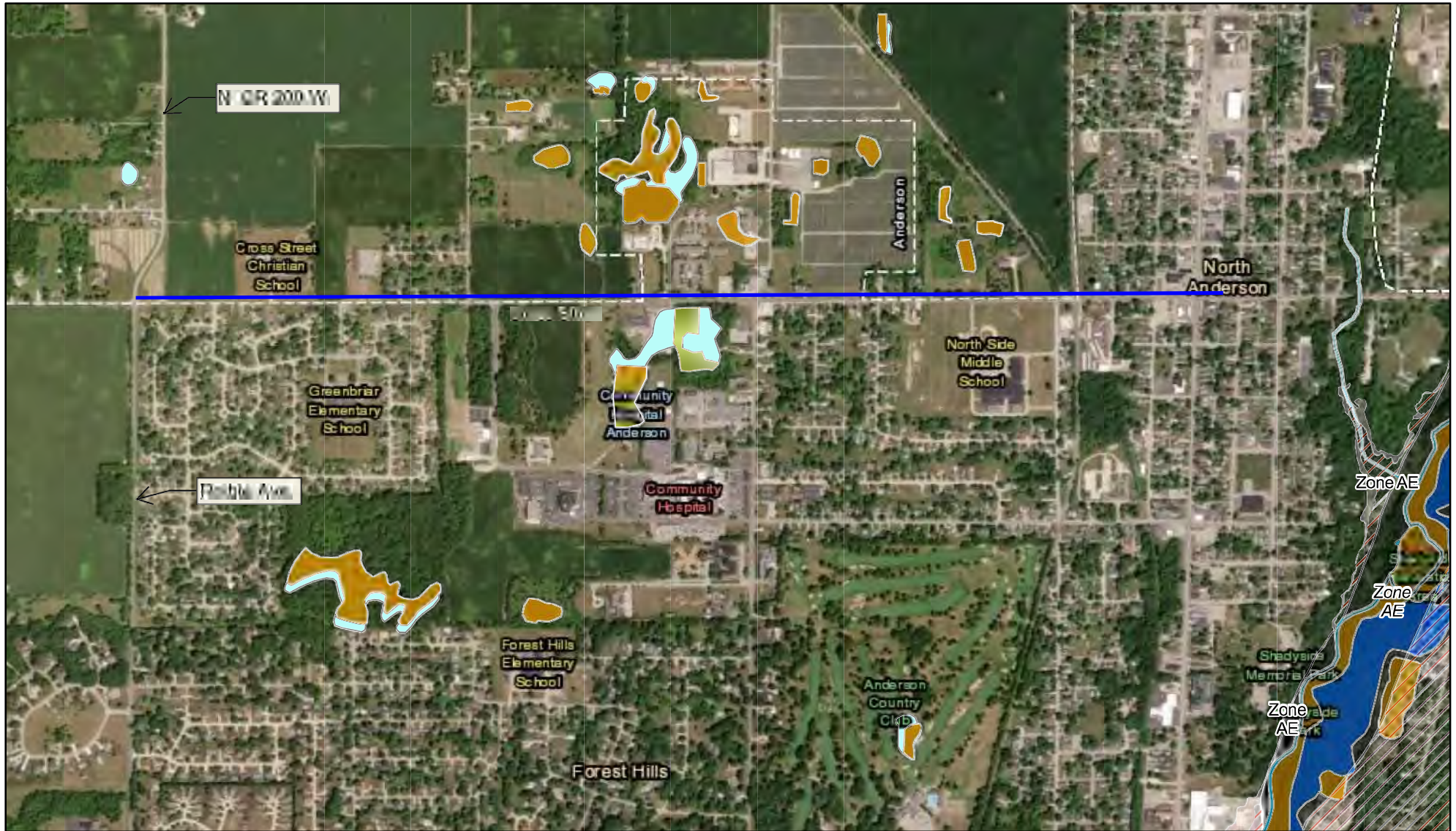
3/21/2024, 9:43:40 AM

- Counties
- Contributing
- US Railroads 1870
- Demolished
- Proposed Water Main
- Notable






Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Figure 5.2c Cross St. Water Transmission Main Floodplains & Wetlands




March 21, 2024

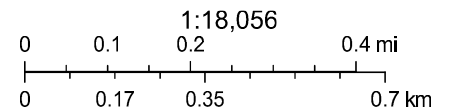
FIRM Flood Hazard Zones 2023

-  AE, <Null>
-  AE, FLOODWAY
-  X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

National Wetlands Inventory - NWI Wetlands

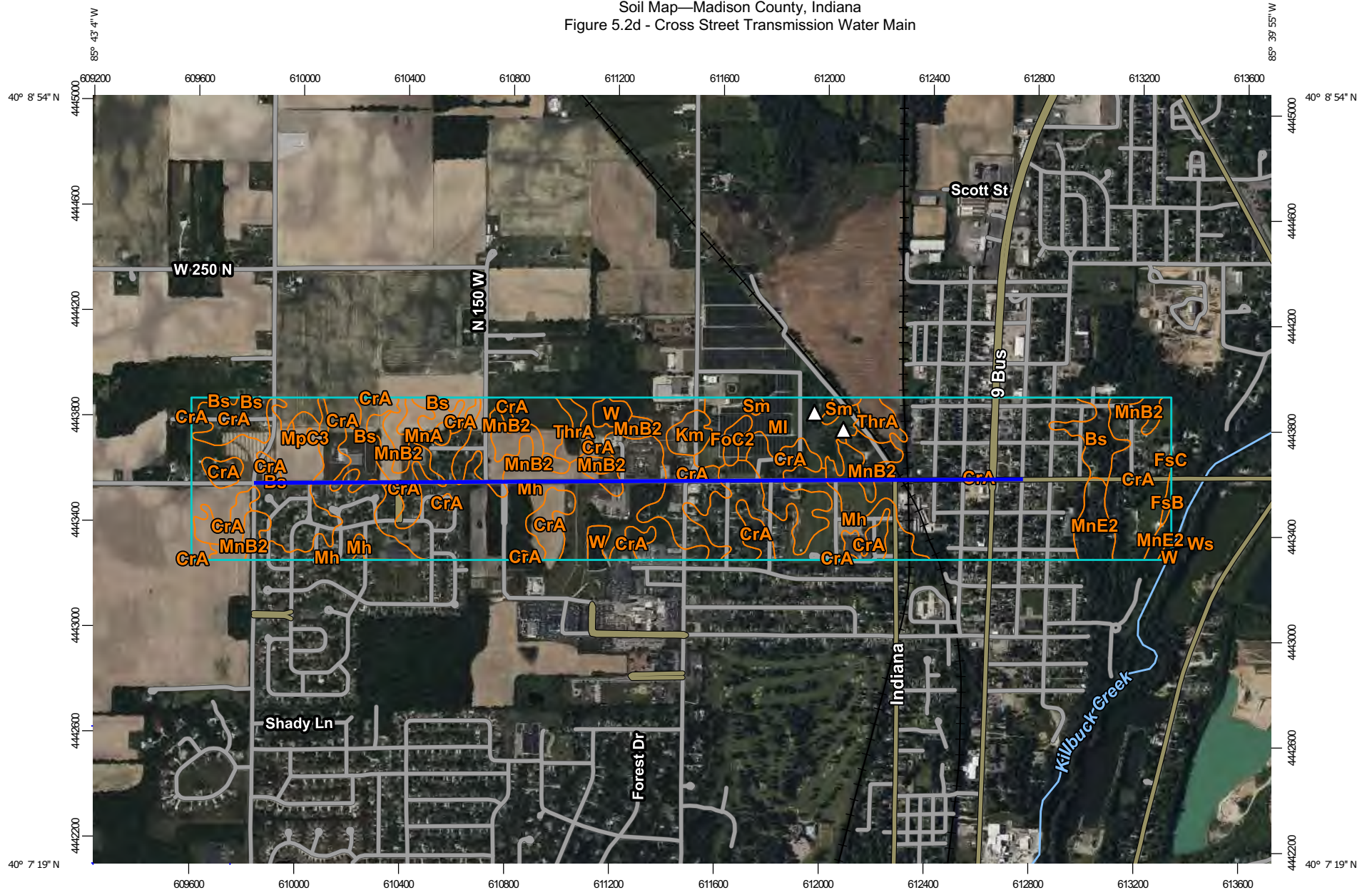
-  Palustrine
-  Riverine
-  Lacustrine

 Proposed Water Main

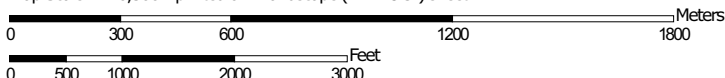


Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Soil Map—Madison County, Indiana
 Figure 5.2d - Cross Street Transmission Water Main



Map Scale: 1:20,500 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



Soil Map—Madison County, Indiana
(Cross Street Water Main)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features



Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography
-  Proposed Water Main

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County, Indiana
Survey Area Data: Version 26, Sep 1, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

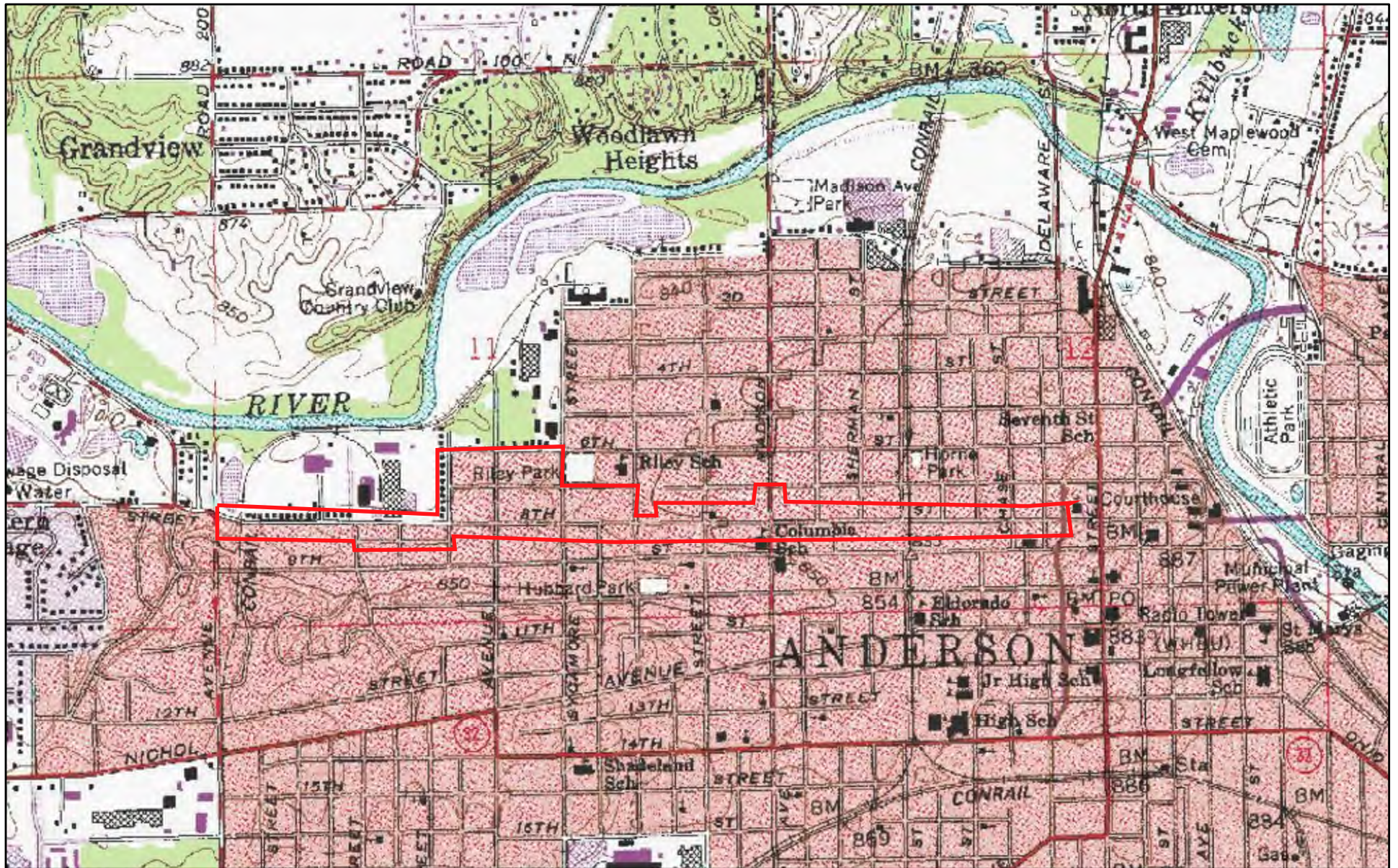
Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



Map Unit Legend

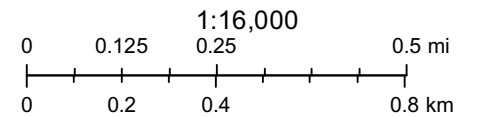
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bs	Brookston silty clay loam, 0 to 2 percent slopes	66.0	11.5%
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	291.1	50.9%
FoC2	Fox silt loam, 6 to 12 percent slopes, moderately eroded	2.7	0.5%
FsB	Fox silt loam, till substratum, 2 to 6 percent slopes	0.9	0.2%
FsC	Fox silt loam, till substratum, 6 to 12 percent slopes	0.1	0.0%
Km	Kokomo silty clay loam, stratified substratum	5.2	0.9%
Mh	Mahalasville silt loam	122.6	21.5%
MI	Mahalasville silty clay loam, 0 to 2 percent slopes	25.0	4.4%
MnA	Miami silt loam, 0 to 2 percent slopes	4.0	0.7%
MnB2	Miami silt loam, 2 to 6 percent slopes, eroded	22.6	4.0%
MnE2	Miami silt loam, 18 to 25 percent slopes, eroded	10.7	1.9%
MpC3	Miami soils, 6 to 12 percent slopes, severely eroded	1.8	0.3%
Sm	Sleeth silt loam, loamy substratum	2.6	0.5%
ThrA	Treaty silty clay loam, 0 to 1 percent slopes	9.9	1.7%
W	Water	5.6	1.0%
Ws	Westland silty clay loam, moderately deep	0.5	0.1%
Totals for Area of Interest		571.6	100.0%

Figure 5.3a 8th Street USGS map



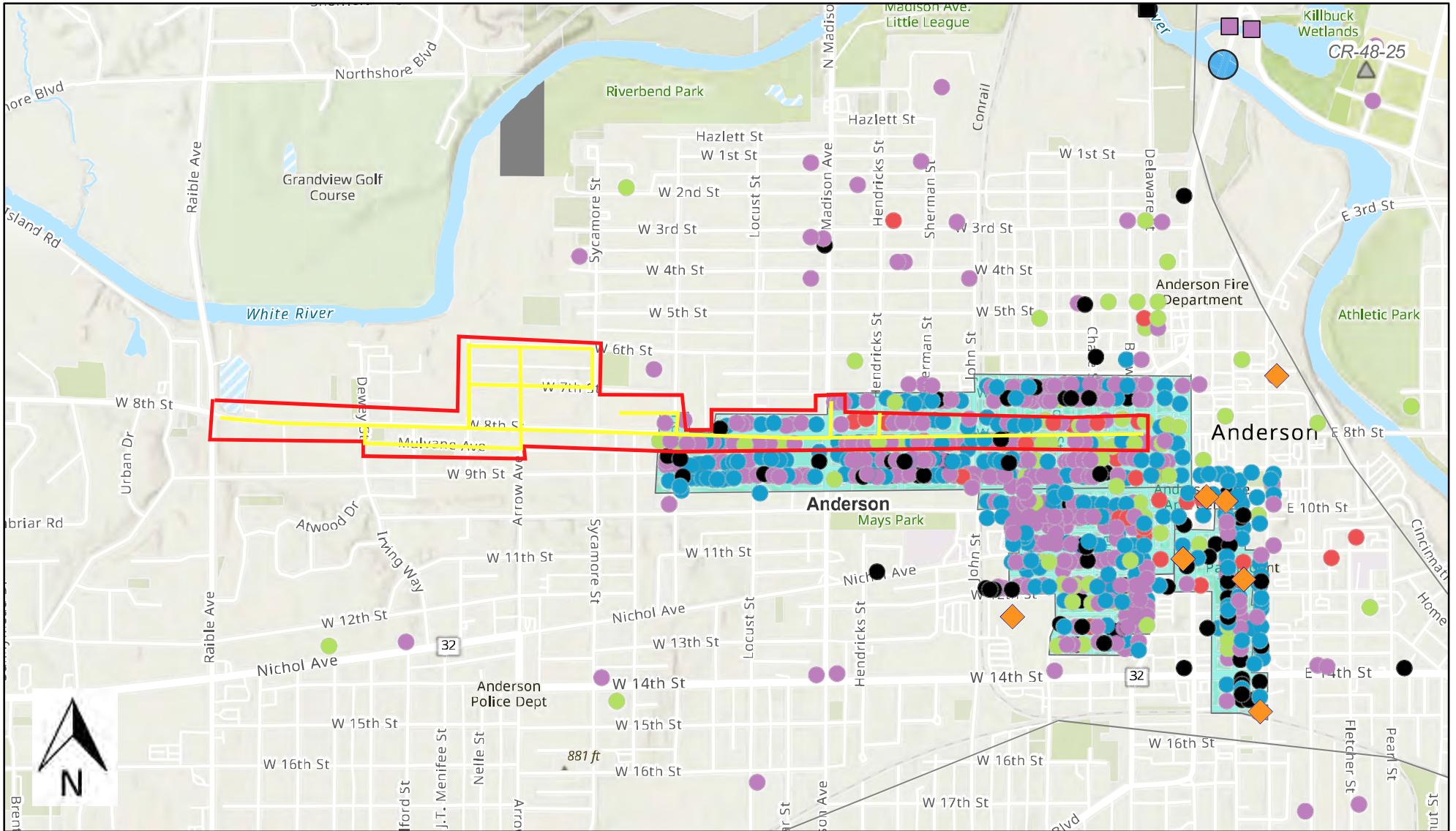
March 21, 2024

-  State Boundary
-  Proposed Water Main Replacement Area



United States Geological Survey (USGS)
Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

Figure 5.3b 8th Street Historic Resources



3/22/2024, 9:41:28 AM

- | | | | | |
|-------------------------|-------------------------|------------------|--------------------------------------|--------------------------------------|
| Counties | Historic Bridges | Notable | National Register Historic Districts | Proposed Water Main Replacement Area |
| Cemeteries | Contributing | Contributing | US Railroads 1870 | Proposed Water Main |
| National Register Sites | Demolished | Non-Contributing | Civil Township Boundaries | |
| Listed | Outstanding | Demolished | USGS Topo Quads | |
| | Select Bridges | | | |

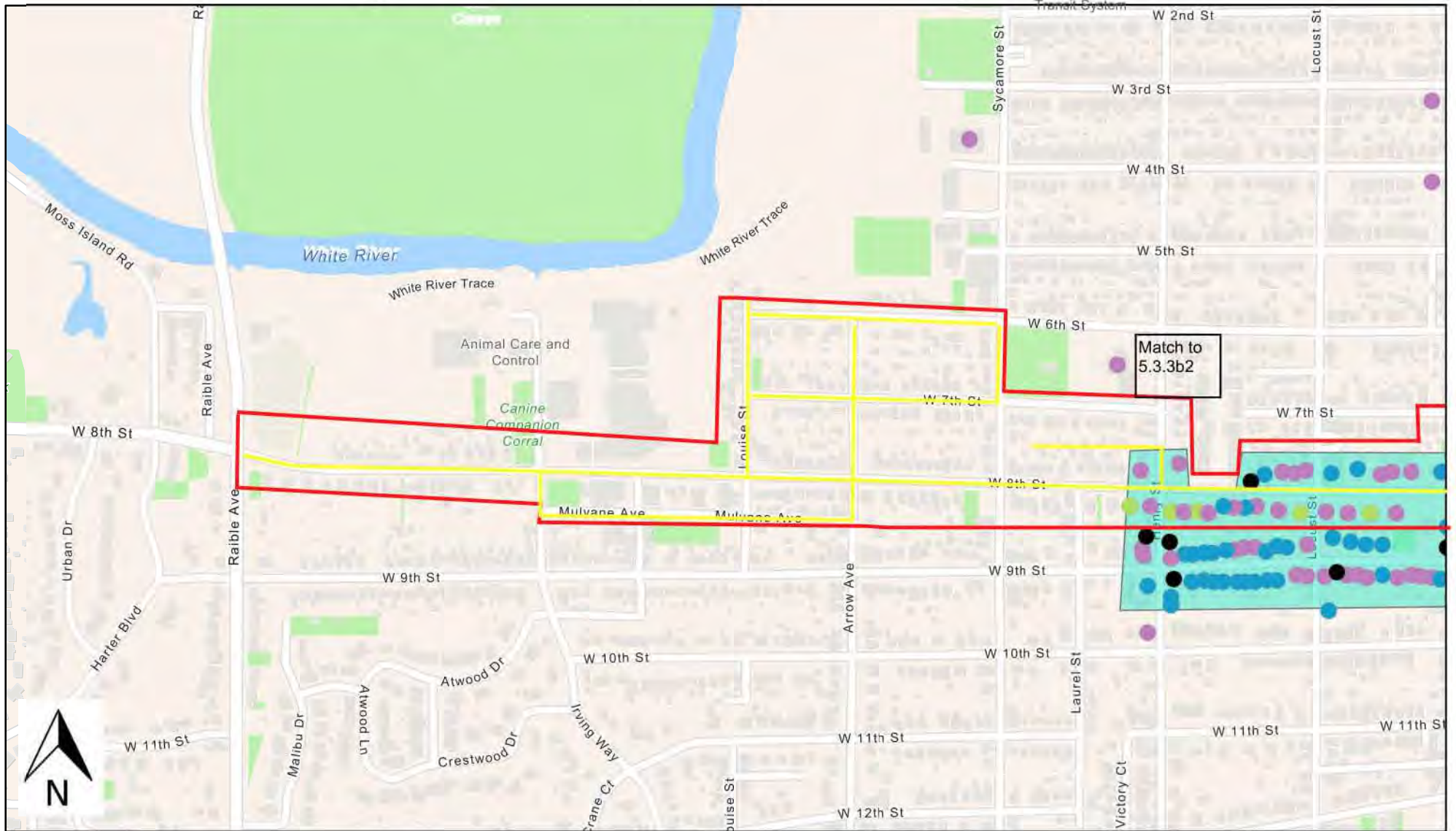
Scale: 1:18,056

0 0.1 0.2 0.4 mi

0 0.18 0.35 0.7 km

Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, MCOG, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Figure 5.3b1 8th St (Zoomed) Raible-Henry Historic Resources



3/22/2024, 10:24:50 AM

- Counties
- Contributing
- Non-Contributing
- Notable
- Civil Township Boundaries
- USGS Topo Quads
- Proposed Water Main
- Proposed Water Main & Service Line Replacement Area

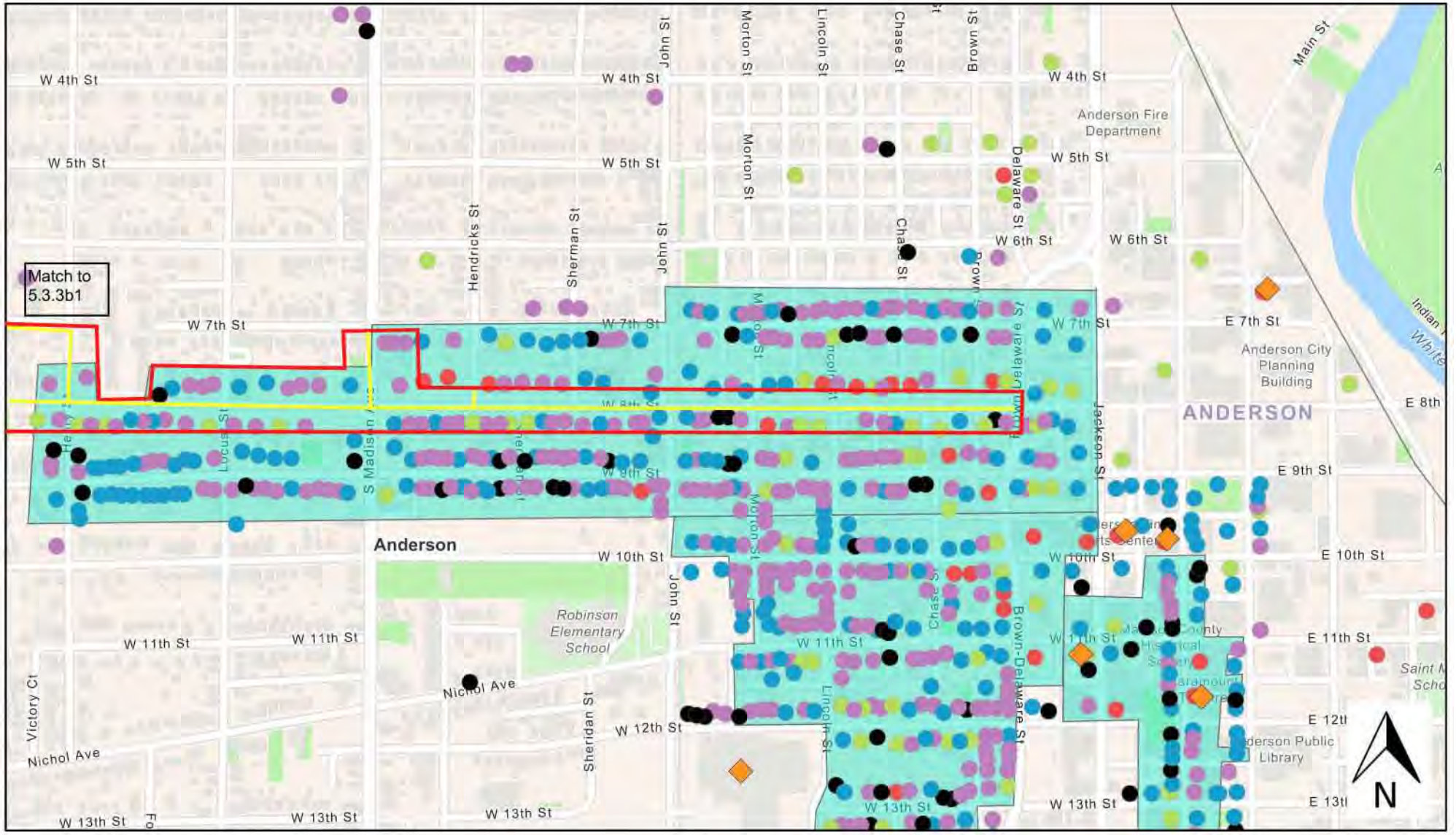
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0 0.05 0.1 0.2 mi

0 0.08 0.15 0.3 km

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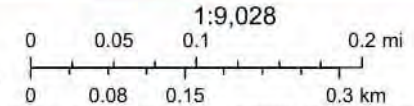
Figure 5.3b2 8th St (Zoomed) Henry-BrownDelaware Historic Resources



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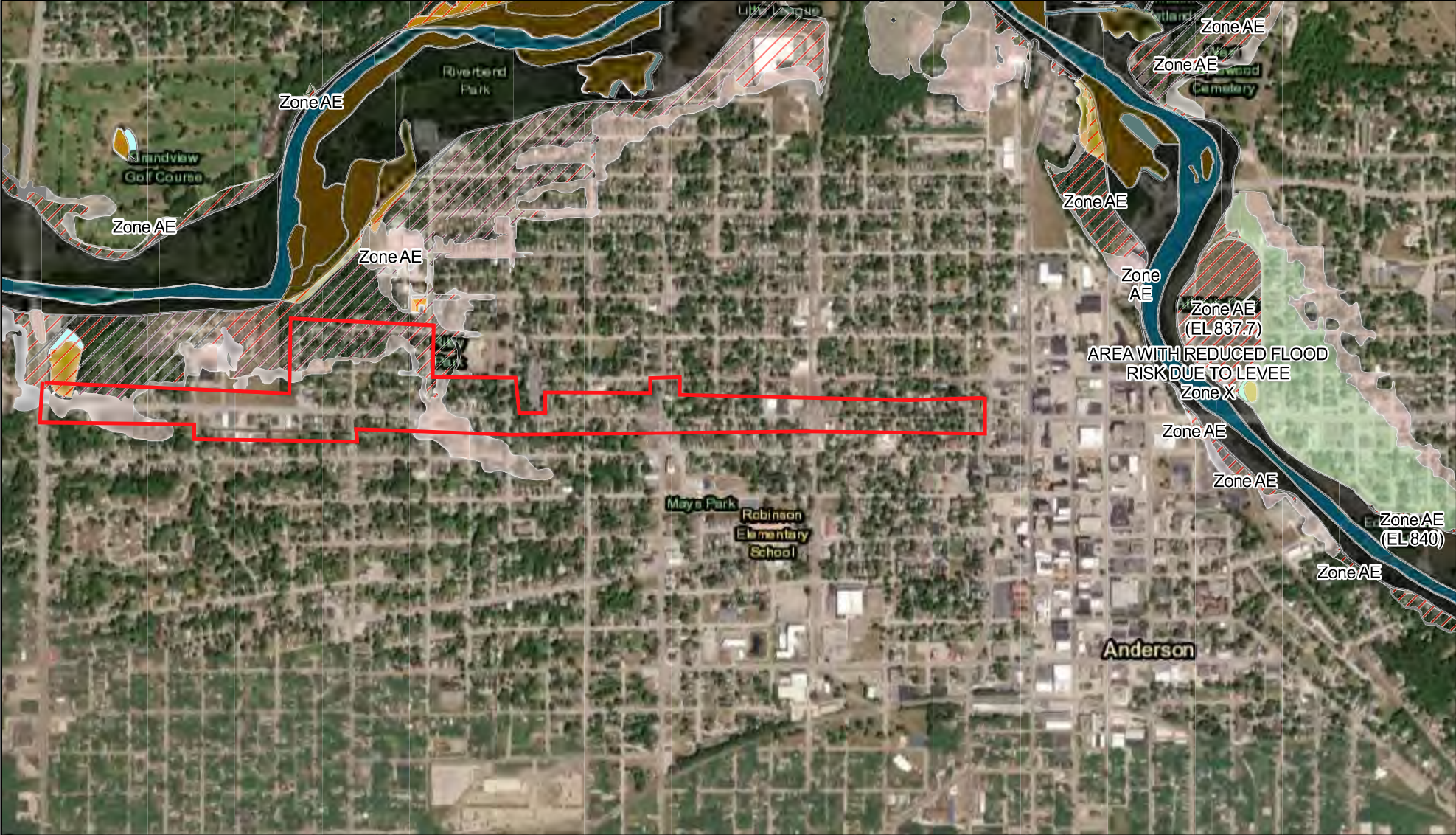
- Counties
- Notable
- National Register Historic Districts
- Contributing
- US Railroads 1870
- National Register Sites
- Non-Contributing
- Civil Township Boundaries
- ◆ Listed
- Demolished
- USGS Topo Quads
- County Survey Sites
- Outstanding

- Proposed Water Main & Service Line Replacement Area
- Proposed Water Main



Esri Community Maps Contributors, MCOGO, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Figure 5.3c 8th Street Wetlands/Floodplains



March 21, 2024

FIRM Flood Hazard Zones 2023

AE, <Null>

AE, FLOODWAY

X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

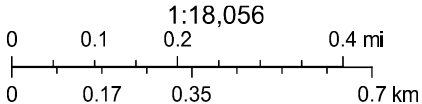
X, AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

FIRM Flood Hazard Zones 2023

AE, <Null>

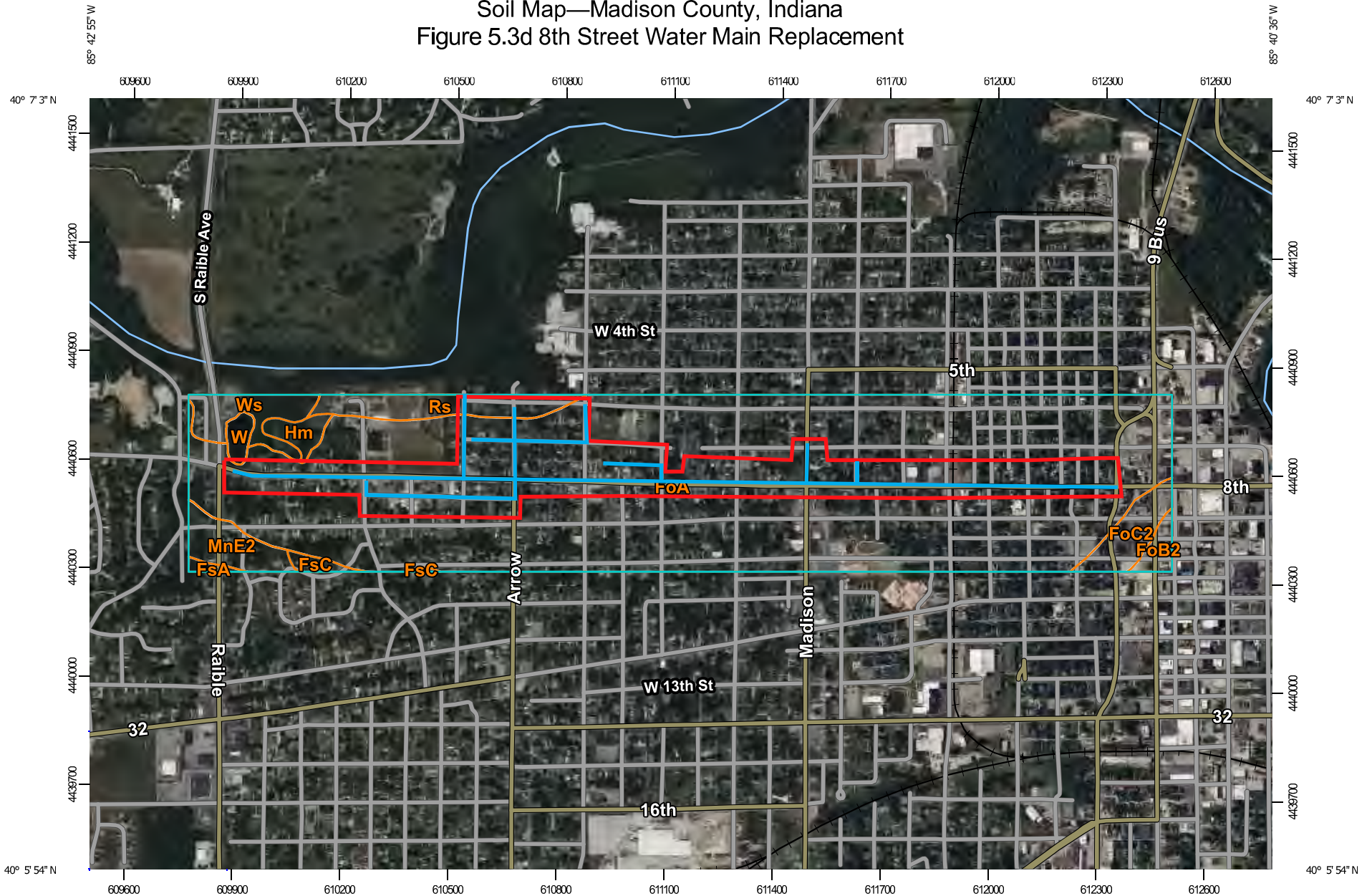
AE, FLOODWAY

Proposed Water Main & Service Line Replacement Area

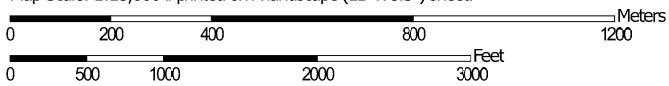


Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Soil Map—Madison County, Indiana
 Figure 5.3d 8th Street Water Main Replacement




Map Scale: 1:15,000 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography



Proposed Water Main &
Service Line Replacement Area



Proposed Water Main

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Madison County, Indiana

Survey Area Data: Version 26, Sep 1, 2023

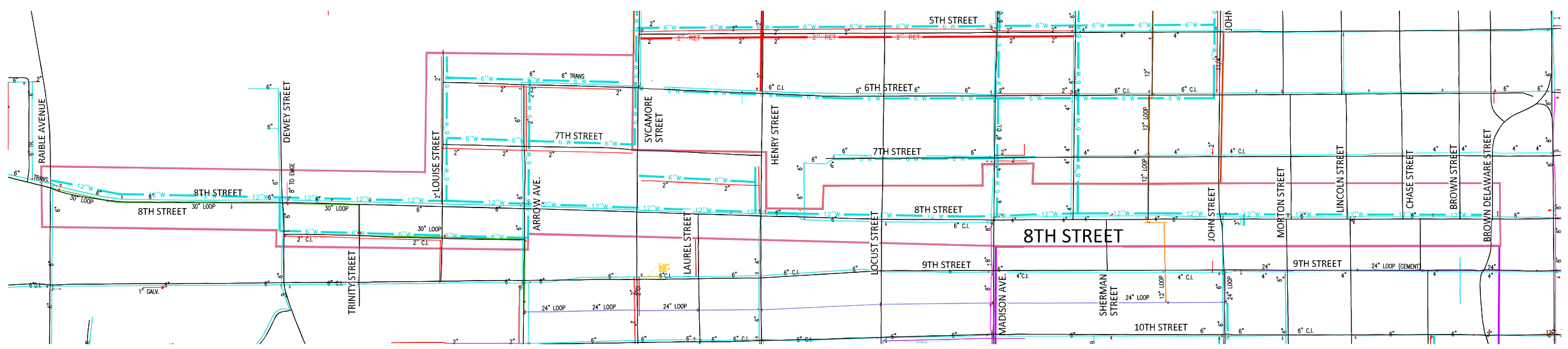
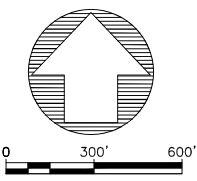
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FoA	Fox silt loam, 0 to 2 percent slopes	287.5	86.6%
FoB2	Fox silt loam, 2 to 6 percent slopes, moderately eroded	2.6	0.8%
FoC2	Fox silt loam, 6 to 12 percent slopes, moderately eroded	7.3	2.2%
FsA	Fox silt loam, till substratum, 0 to 2 percent slopes	0.8	0.2%
FsC	Fox silt loam, till substratum, 6 to 12 percent slopes	1.7	0.5%
Hm	Homer silt loam	3.1	0.9%
MnE2	Miami silt loam, 18 to 25 percent slopes, eroded	7.6	2.3%
Rs	Ross silt loam, 0 to 2 percent slopes, occasionally flooded	10.7	3.2%
W	Water	2.0	0.6%
Ws	Westland silty clay loam, moderately deep	8.5	2.6%
Totals for Area of Interest		331.9	100.0%



8th Street Water Main & Service Line Replacement

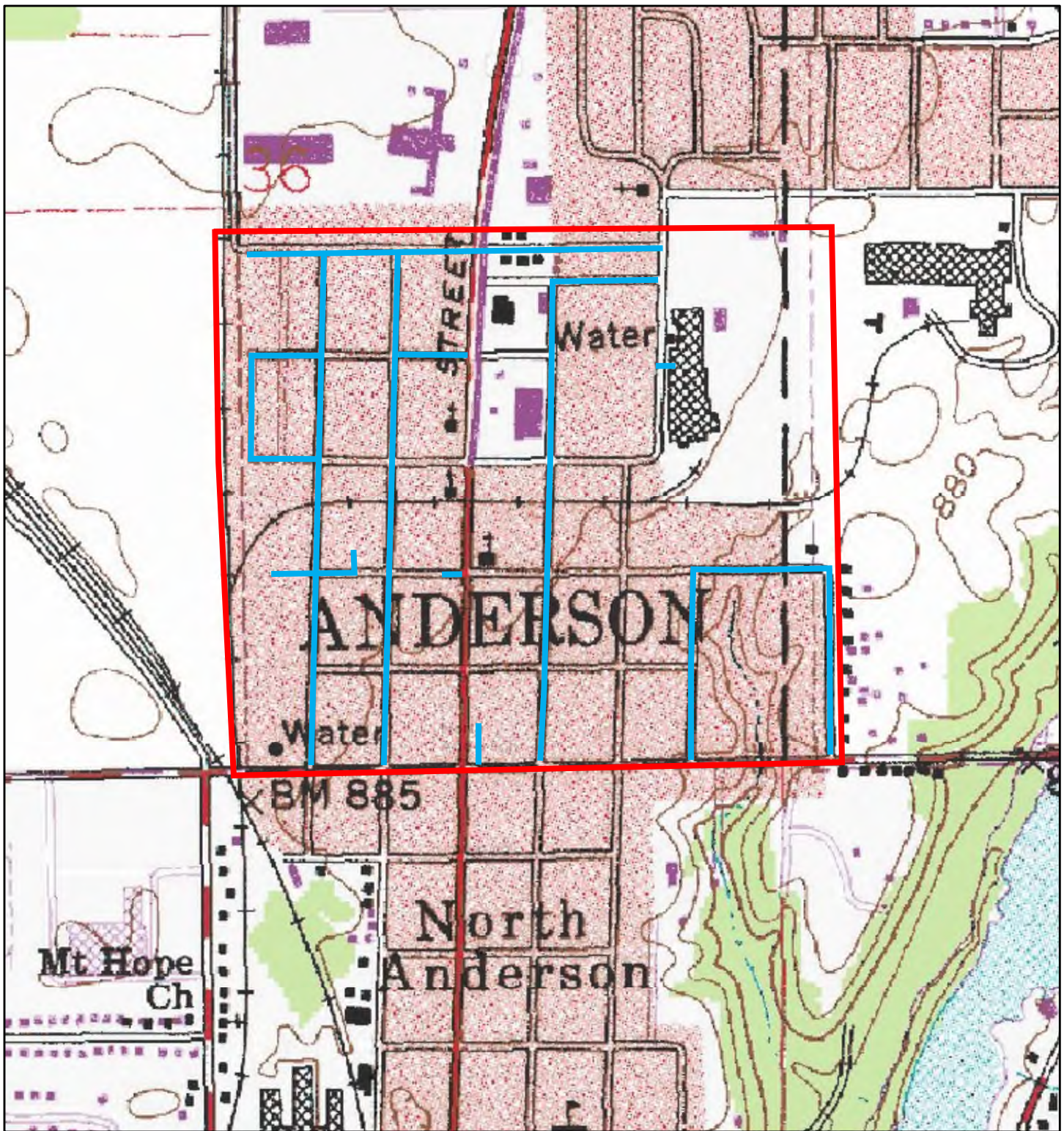
Proposed 12" Water Main to Replace Existing 6" Water Main	8,160
Proposed 6" Water Main to Replace Existing 2" Water Main	4,300
Proposed 6" Water Main to Replace Existing 4" & 6" Water Main	3,220
Total Length Proposed Water Mains (Replacement)	15,680
2" Retired with Service Reconnect to Parallel Existing Main	190
Total 2" Water Mains to be Eliminated	4,490
Service Lines to be Replaced	272
Service Line Leaks 2017-2022	35
Percent of Service Line Leaks in 5 years	12.9%
Water Main Leaks 2017-2022	1
Total Length of Existing Water Main in Area	17,620
Percentage of Water Mains to Be Retired and/or Replaced	90%

LEGEND




- 2" RET WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN
- 4"W PROPOSED 4" WATER MAIN
- 6"W PROPOSED 6" WATER MAIN
- 12"W PROPOSED 12" WATER MAIN
- 3/4" 1" 2" 1 1/2" EXISTING 2" & SMALLER WATER MAIN
- 3" EXISTING 3" WATER MAIN
- 4" EXISTING 4" WATER MAIN
- 6" EXISTING 6" WATER MAIN
- 8" EXISTING 8" WATER MAIN
- 10" EXISTING 10" WATER MAIN
- 12" EXISTING 12" WATER MAIN
- 14" EXISTING 14" WATER MAIN
- 16" EXISTING 16" WATER MAIN
- 18" EXISTING 18" WATER MAIN
- 20" EXISTING 20" WATER MAIN
- 24" EXISTING 24" WATER MAIN
- 30" EXISTING 30" WATER MAIN

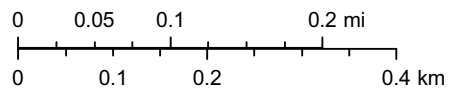


Figure 5.4a: N. Cross A Neighborhood - USGS Map



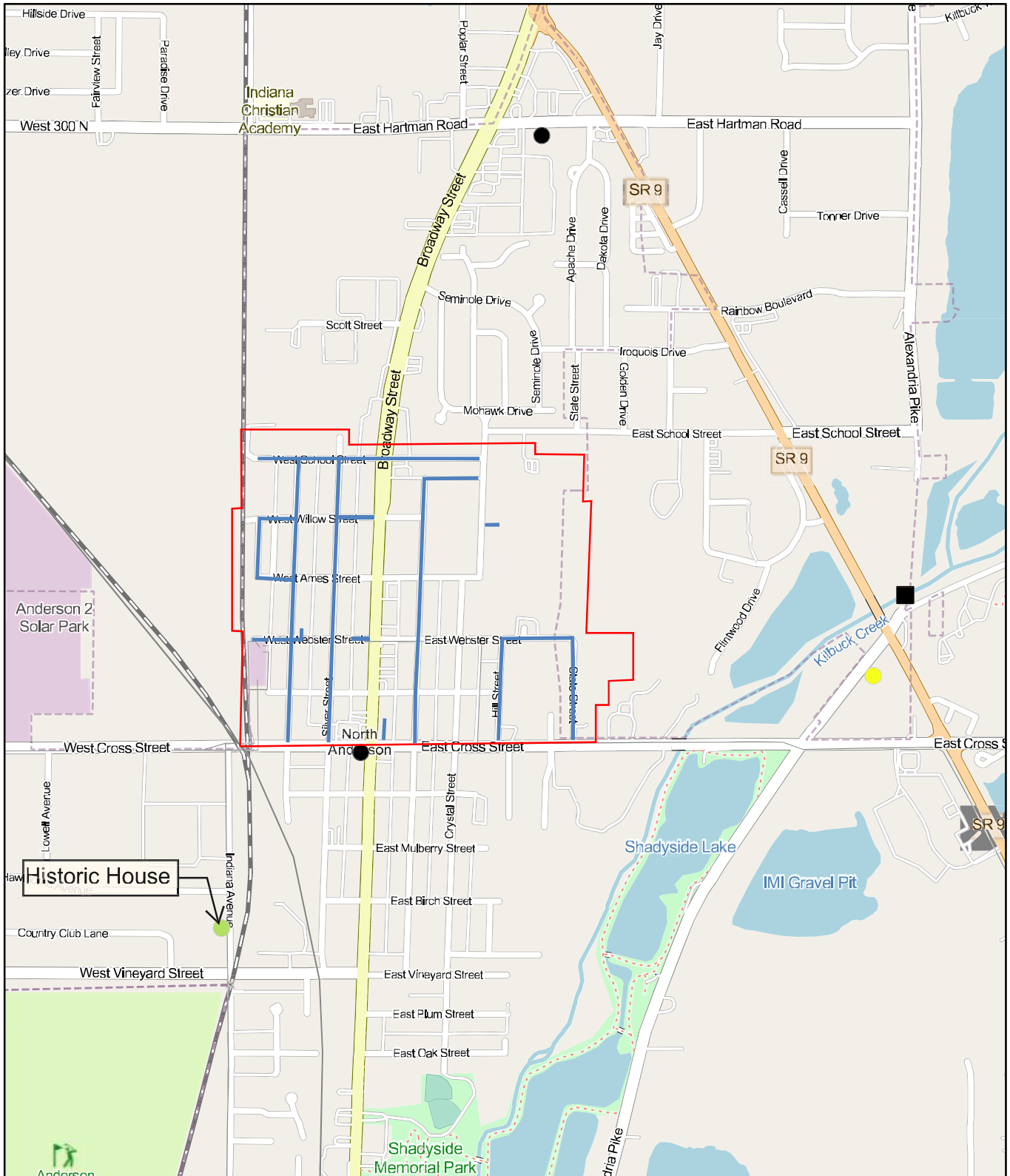
1:8,000

-  State Boundary
-  Proposed Water Main & Service Line Replacement Area
-  Proposed Water Main



United States Geological Survey (USGS)
Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB),
Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data
Portal

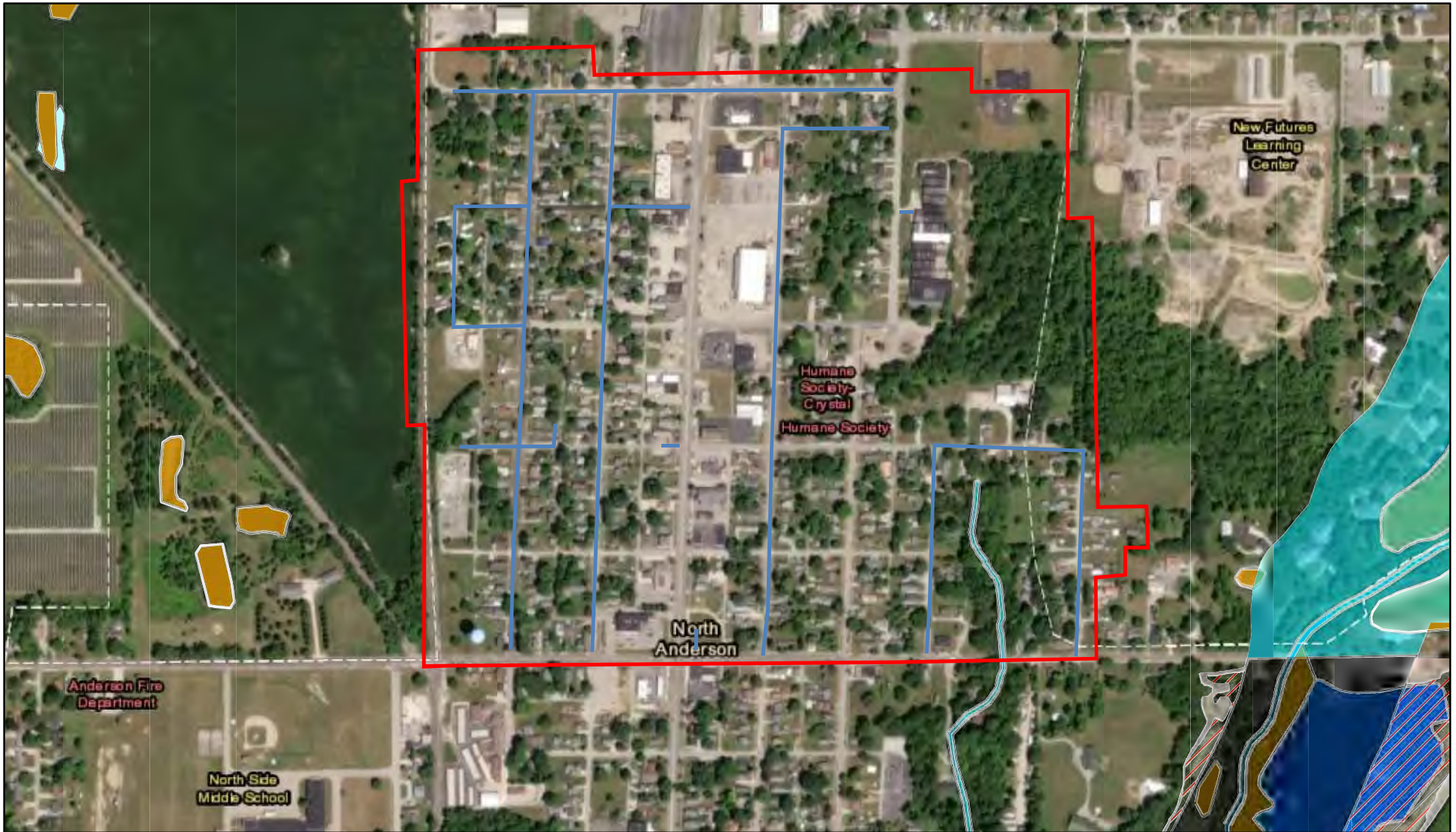
Figure 5.4b: N. Cross A Neighborhood - Historic Resources



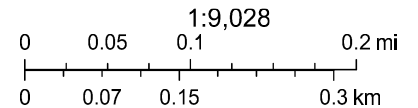
Counties	County Survey Sites	0 0.1 0.2 0.4 mi
Historic Bridges	Notable	0 0.18 0.35 0.7 km
Demolished	Demolished	Proposed Water Main and Service Line Replacement
US Railroads 1870	Proposed Water Main	

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Figure 5.4c: N. Cross A Neighborhood - Wetlands/Floodplains



- | | | |
|------------------------------|--|--|
| FIRM Flood Hazard Zones 2023 | X,0.2 PCT ANNUAL CHANCE FLOOD HAZARD | AE,FLOODWAY |
| A,<Null> | FIRM Flood Hazard Zones 2023 | X,0.2 PCT ANNUAL CHANCE FLOOD HAZARD |
| AE,<Null> | A,<Null> | National Wetlands Inventory - NWI Wetlands |
| AE,FLOODWAY | AE,<Null> | Palustrine |
| Proposed Water Main | Proposed Water Main and Service Line Replacement | |

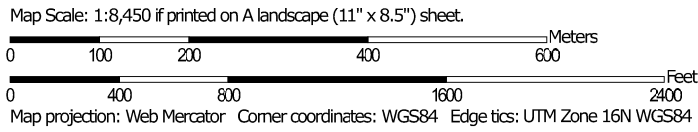


Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 5.4d: N. Cross A Neighborhood - Soils Map








































Soil Map may not be valid at this scale.



Soil Map—Madison County, Indiana
(Cross A Neighborhood)

MAP LEGEND

-  Proposed Water Main
- Area of Interest (AOI)**
-  Area of Interest (AOI)
- Soils**
-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points
- Special Point Features**
-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features
- Water Features**
-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County, Indiana
Survey Area Data: Version 26, Sep 1, 2023

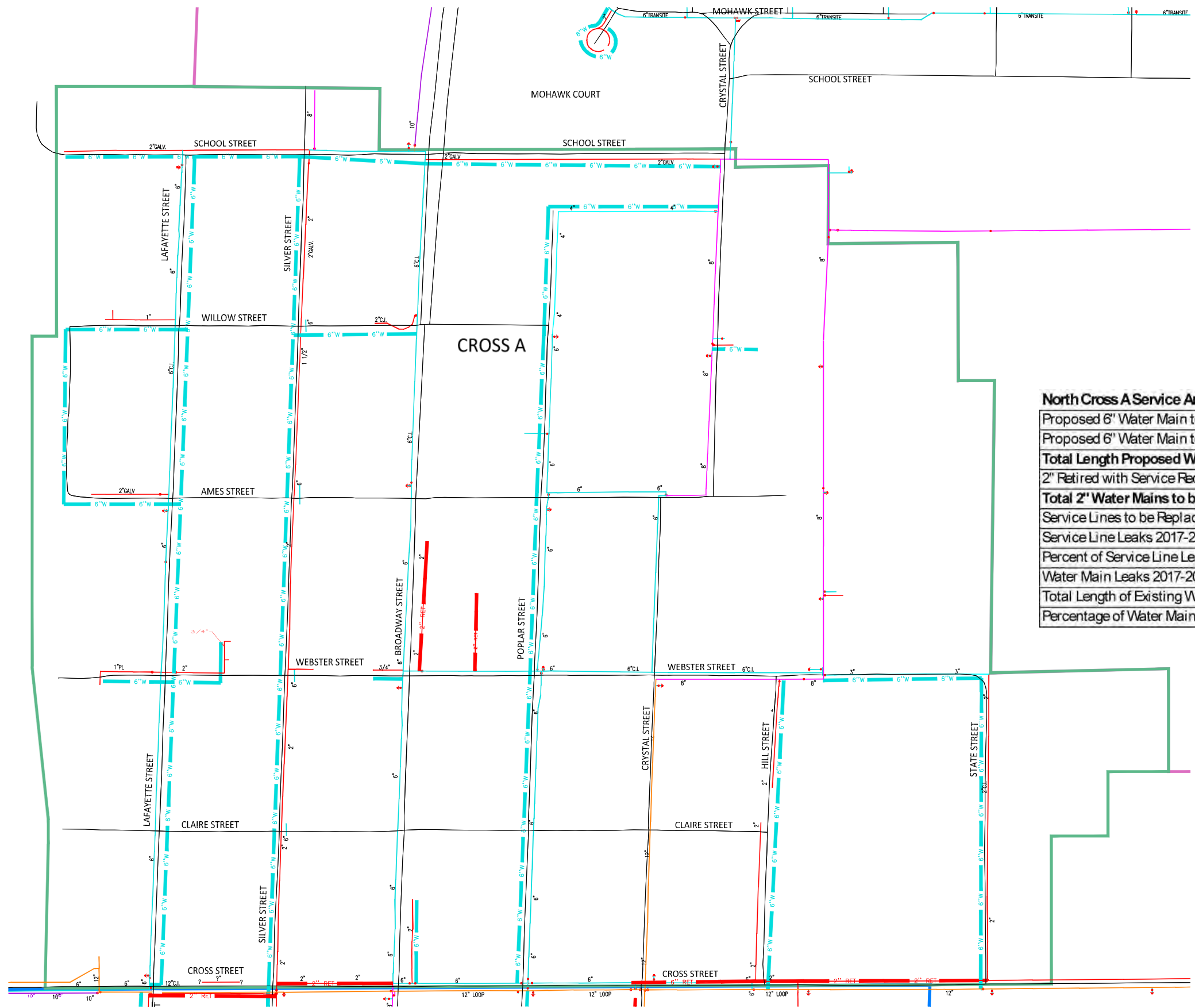
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bs	Brookston silty clay loam, 0 to 2 percent slopes	29.9	10.6%
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	223.6	78.8%
FsA	Fox silt loam, till substratum, 0 to 2 percent slopes	0.2	0.1%
FsB	Fox silt loam, till substratum, 2 to 6 percent slopes	0.6	0.2%
FsB2	Fox silt loam, till substratum, 2 to 6 percent slopes, moderately eroded	0.2	0.1%
FsC	Fox silt loam, till substratum, 6 to 12 percent slopes	0.1	0.0%
Mh	Mahalasville silt loam	0.1	0.0%
MI	Mahalasville silty clay loam, 0 to 2 percent slopes	3.2	1.1%
MnB2	Miami silt loam, 2 to 6 percent slopes, eroded	6.4	2.2%
MnE2	Miami silt loam, 18 to 25 percent slopes, eroded	1.6	0.6%
Sm	Sleeth silt loam, loamy substratum	0.9	0.3%
ThrA	Treaty silty clay loam, 0 to 1 percent slopes	16.8	5.9%
Totals for Area of Interest		283.7	100.0%



North Cross A Service Area

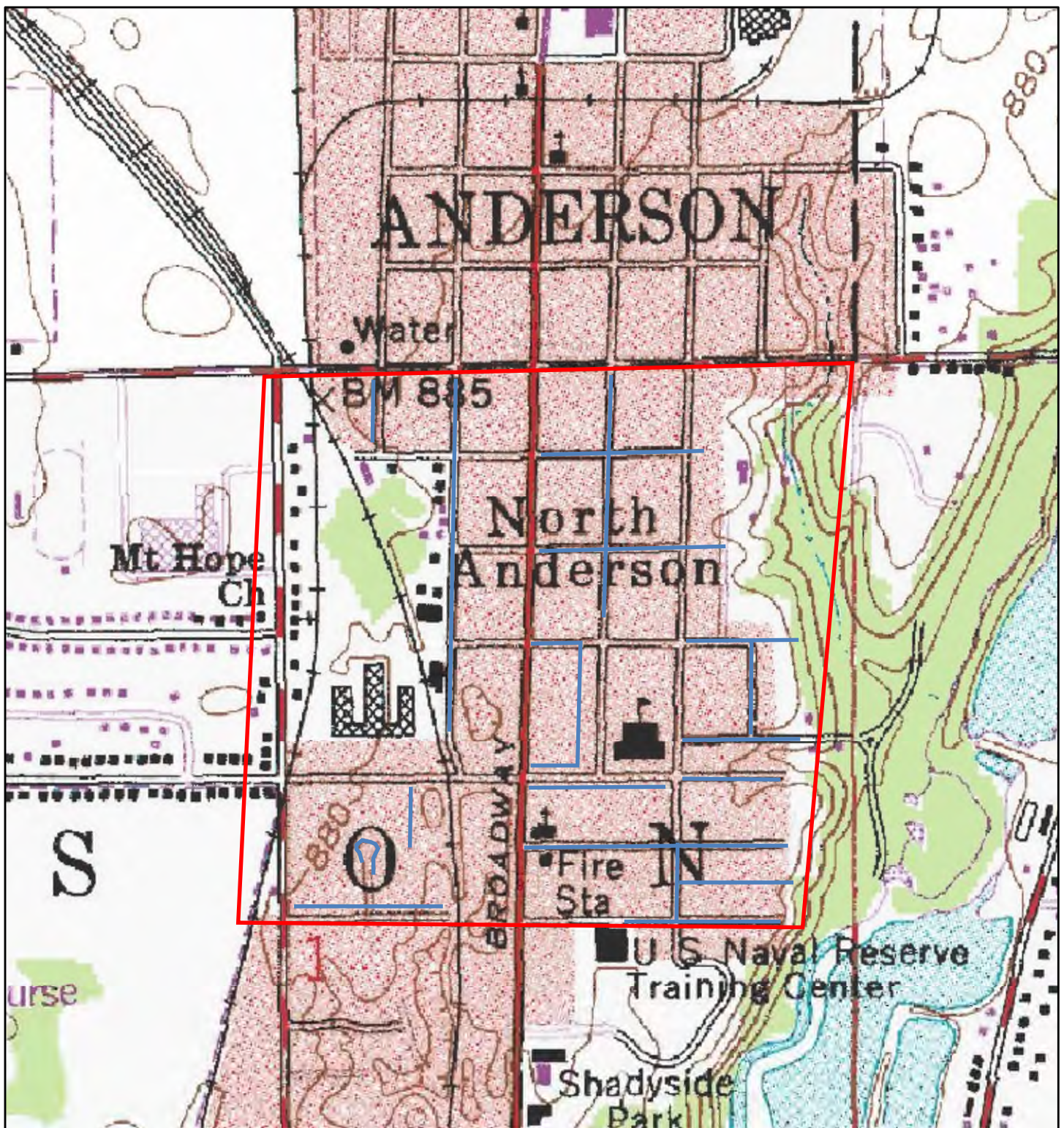
Proposed 6" Water Main to Replace Existing 2" Water Main	8,045
Proposed 6" Water Main to Replace Existing 4" & 6" Water Ma	6,080
Total Length Proposed Water Mains (Replacement)	14,125
2" Retired with Service Reconnect to Parallel Existing Main	2,082
Total 2" Water Mains to be Eliminated	10,127
Service Lines to be Replaced	336
Service Line Leaks 2017-2022	22
Percent of Service Line Leaks in 5 years	6.5%
Water Main Leaks 2017-2022	17
Total Length of Existing Water Main in Area	28,155
Percentage of Water Mains to Be Retired and/or Replaced	58%




LEGEND

	2" RET	WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN
	4"W	PROPOSED 4" WATER MAIN
	6"W	PROPOSED 6" WATER MAIN
	12"W	PROPOSED 12" WATER MAIN
	3/4" 1" 2" 1 1/2"	EXISTING 2" & SMALLER WATER MAIN
	3"	EXISTING 3" WATER MAIN
	4"	EXISTING 4" WATER MAIN
	6"	EXISTING 6" WATER MAIN
	8"	EXISTING 8" WATER MAIN
	10"	EXISTING 10" WATER MAIN
	12"	EXISTING 12" WATER MAIN
	14"	EXISTING 14" WATER MAIN
	16"	EXISTING 16" WATER MAIN
	18"	EXISTING 18" WATER MAIN
	20"	EXISTING 20" WATER MAIN
	24"	EXISTING 24" WATER MAIN
	30"	EXISTING 30" WATER MAIN



Figure 5.5a: N. Cross B Neighborhood - USGS Map



-  State Boundary
-  Proposed Water Main and Service Line Replacement
-  Proposed Water Main

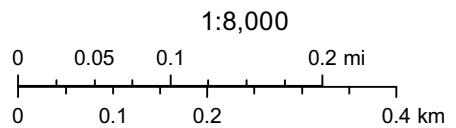
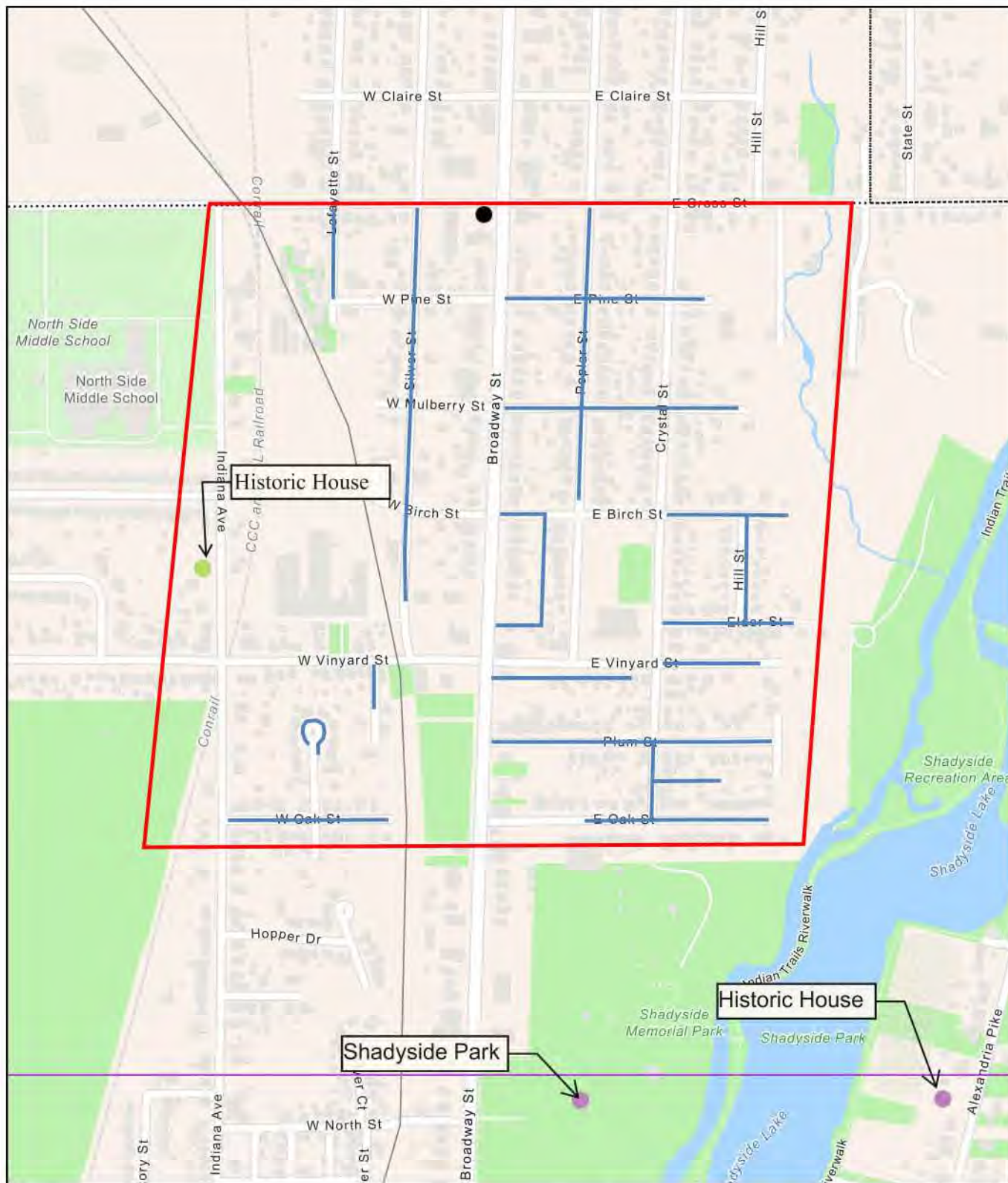
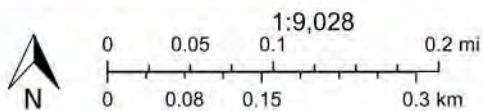


Figure 5.5b: N. Cross B Neighborhood - Historic Resources



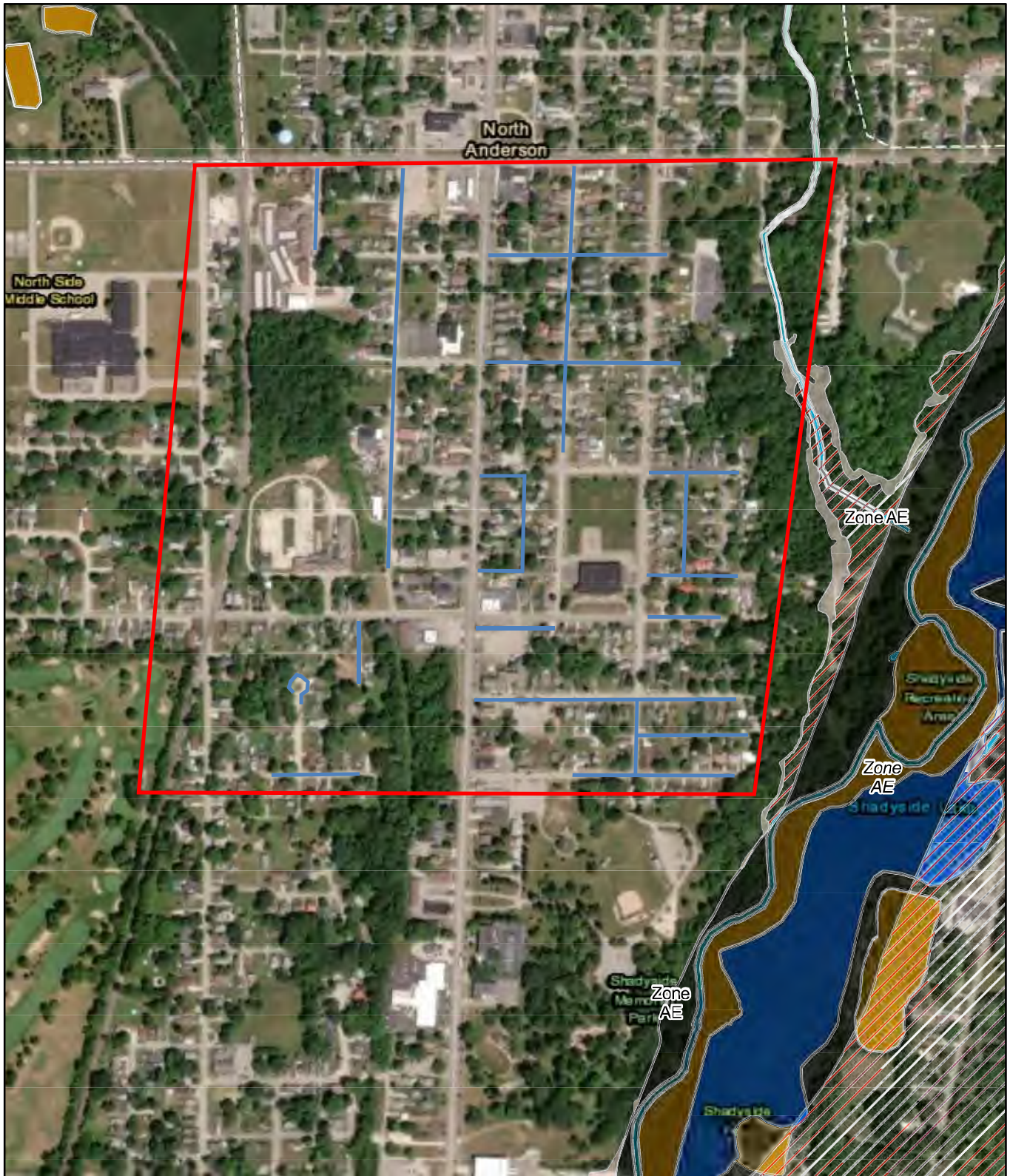
- Counties
- Demolished
- County Survey Sites
- US Railroads 1870
- Notable
- Civil Township Boundaries
- Contributing
- USGS Topo Quads






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- Proposed Water Main
- Proposed Water Main and Service Line Replacement





Figure 5.5c: N. Cross B Neighborhood - Wetlands/Floodplains Map

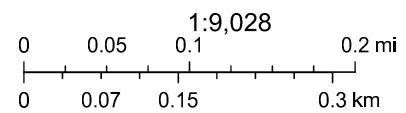


FIRM Flood Hazard Zones 2023

-  AE,<Null>
-  AE,FLOODWAY
-  X,0.2 PCT ANNUAL CHANCE FLOOD HAZARD

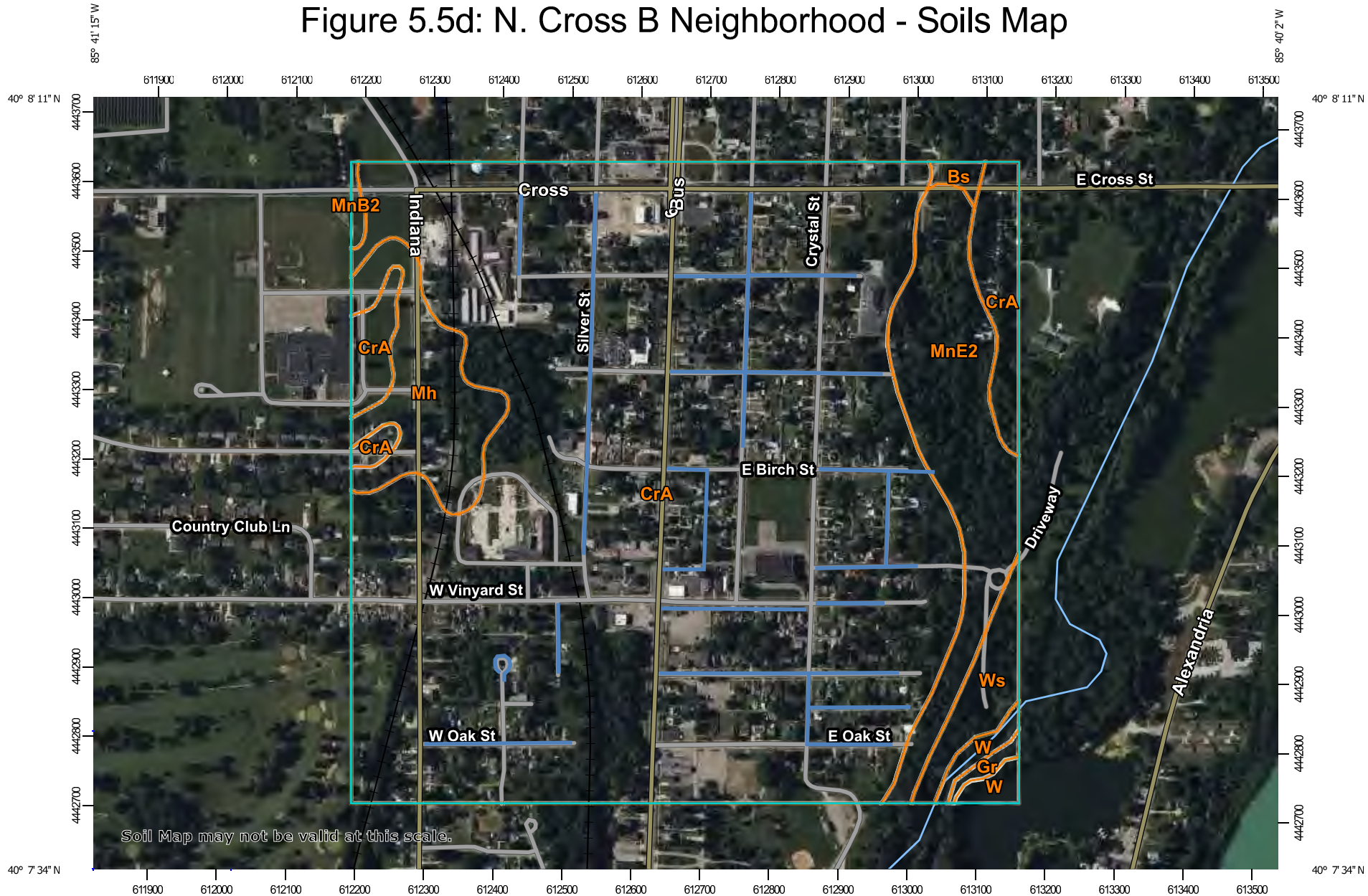
FIRM Flood Hazard Zones 2023

-  AE,<Null>
-  Proposed Water Main
-  AE,FLOODWAY
-  Proposed Water Main and Service Line Replacement



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 5.5d: N. Cross B Neighborhood - Soils Map



Map Scale: 1:7,840 if printed on A landscape (11" x 8.5") sheet.

0 100 200 400 600 Meters


0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography



Proposed Water Main and Service Line Replacement



Proposed Water Main

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County, Indiana
Survey Area Data: Version 26, Sep 1, 2023

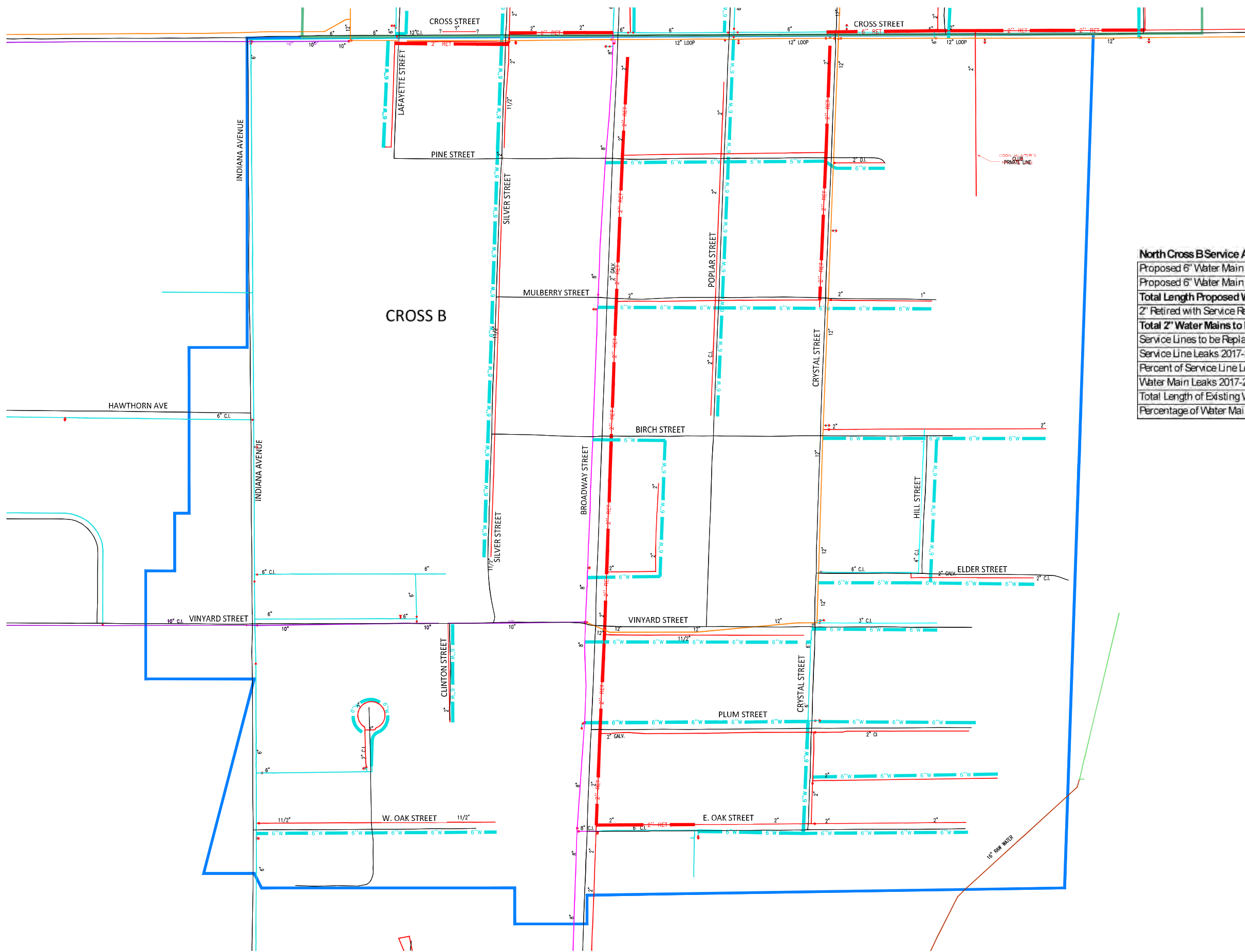
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bs	Brookston silty clay loam, 0 to 2 percent slopes	0.7	0.3%
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	184.1	82.9%
Gr	Gravel pits	0.6	0.3%
Mh	Mahalasville silt loam	10.9	4.9%
MnB2	Miami silt loam, 2 to 6 percent slopes, eroded	0.5	0.2%
MnE2	Miami silt loam, 18 to 25 percent slopes, eroded	18.9	8.5%
W	Water	2.0	0.9%
Ws	Westland silty clay loam, moderately deep	4.4	2.0%
Totals for Area of Interest		222.2	100.0%



North Cross B Service Area

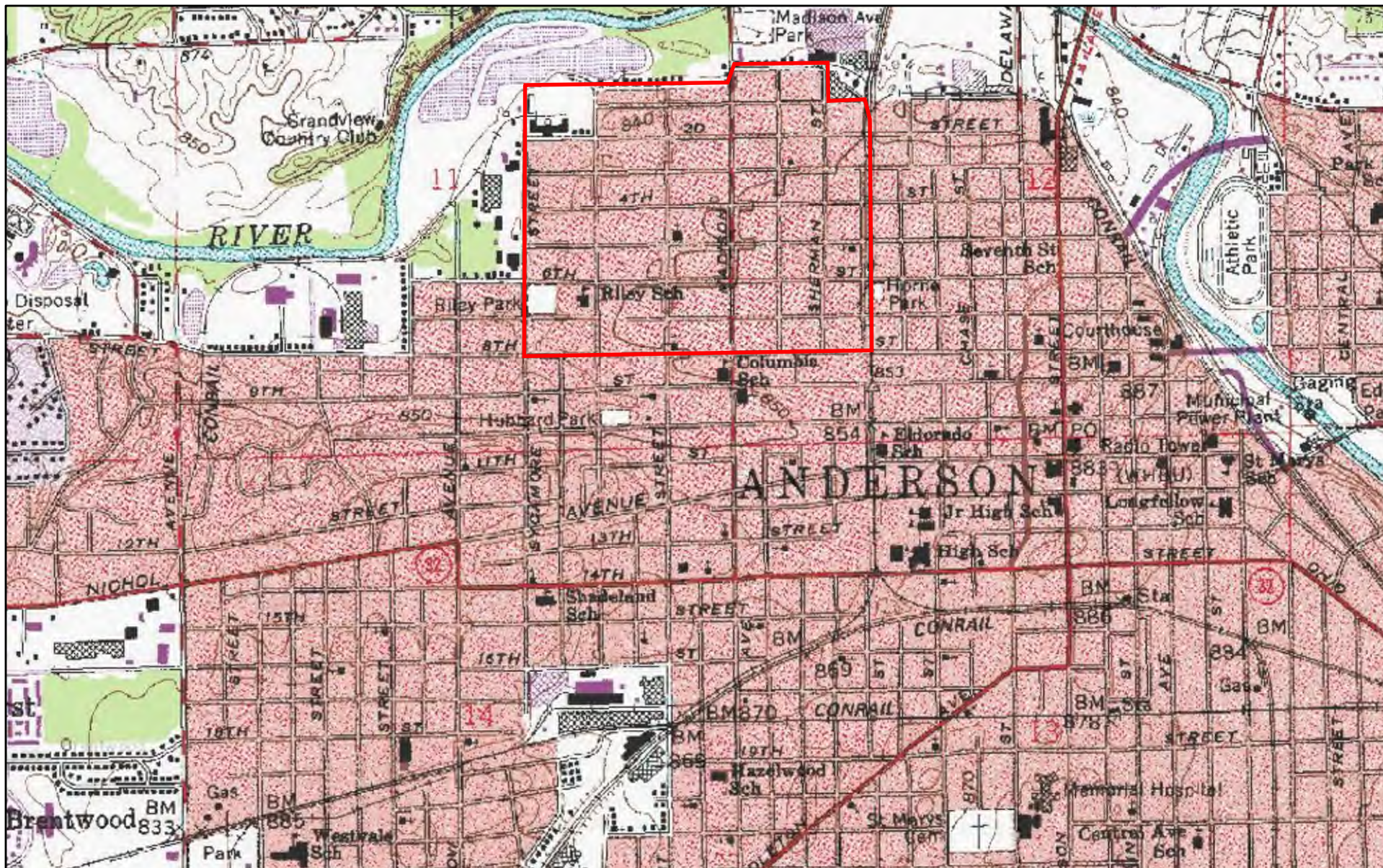
Proposed 6" Water Main to Replace Existing 2" Water Main	11,090
Proposed 6" Water Main to Replace Existing 4" & 6" Water Main	1,205
Total Length Proposed Water Mains (Replacement)	12,295
2" Retired with Service Reconnect to Parallel Existing Main	5,245
Total 2" Water Mains to be Eliminated	16,335
Service Lines to be Replaced	378
Service Line Leaks 2017-2022	17
Percent of Service Line Leaks in 5 years	4.5%
Water Main Leaks 2017-2022	32
Total Length of Existing Water Main in Area	28,825
Percentage of Water Mains to Be Retired and/or Replaced	61%



LEGEND

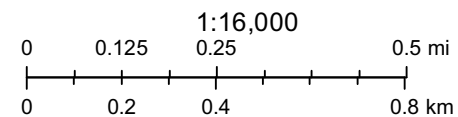
	WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN
	PROPOSED 4" WATER MAIN
	PROPOSED 6" WATER MAIN
	PROPOSED 12" WATER MAIN
	EXISTING 2" & SMALLER WATER MAIN
	EXISTING 3" WATER MAIN
	EXISTING 4" WATER MAIN
	EXISTING 6" WATER MAIN
	EXISTING 8" WATER MAIN
	EXISTING 10" WATER MAIN
	EXISTING 12" WATER MAIN
	EXISTING 14" WATER MAIN
	EXISTING 16" WATER MAIN
	EXISTING 18" WATER MAIN
	EXISTING 20" WATER MAIN
	EXISTING 24" WATER MAIN
	EXISTING 30" WATER MAIN



Figure 5.6a: West Central - USGS Map

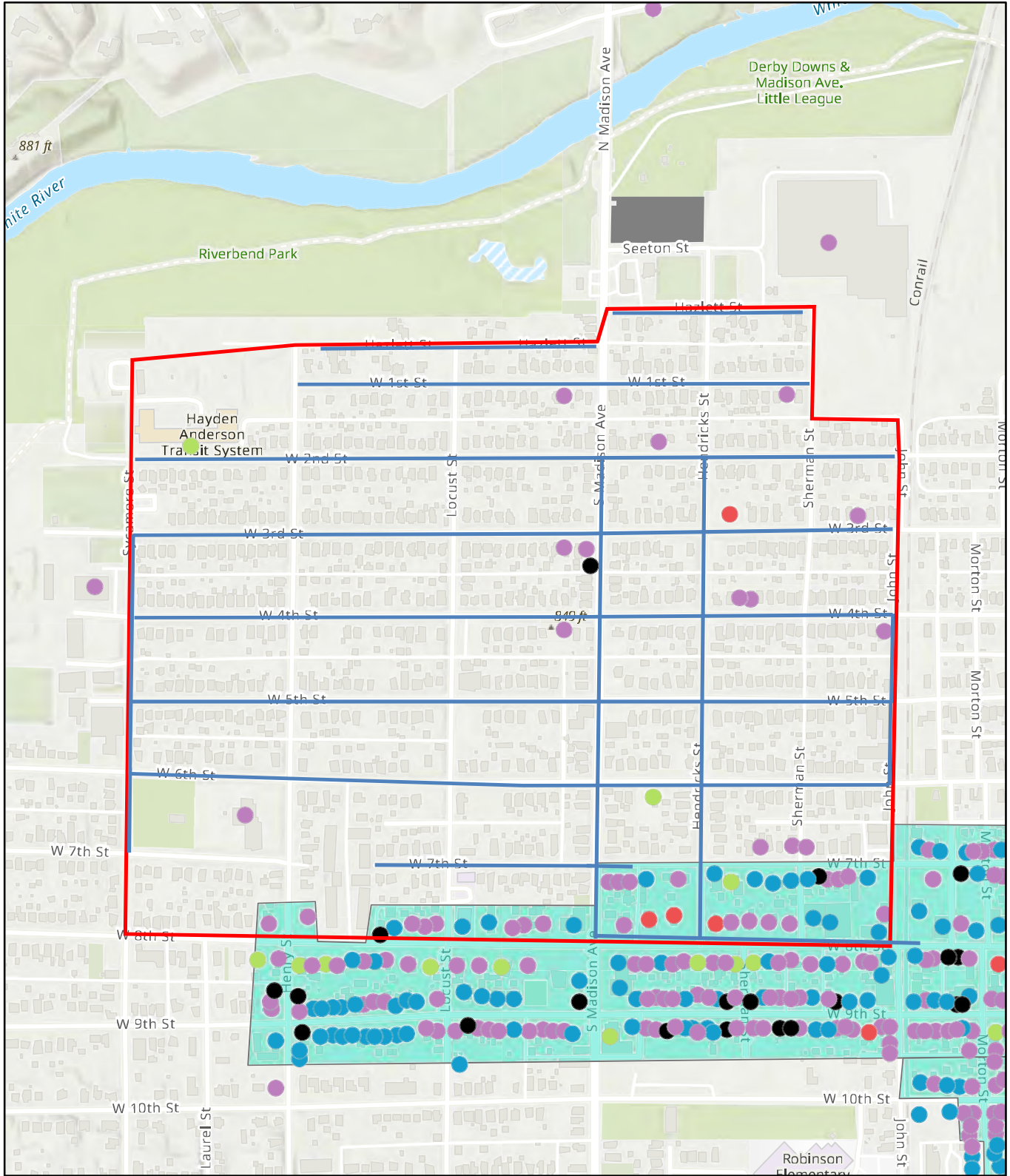


-  State Boundary
-  Proposed Water Main and Service Line Replacement



United States Geological Survey (USGS)
 Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

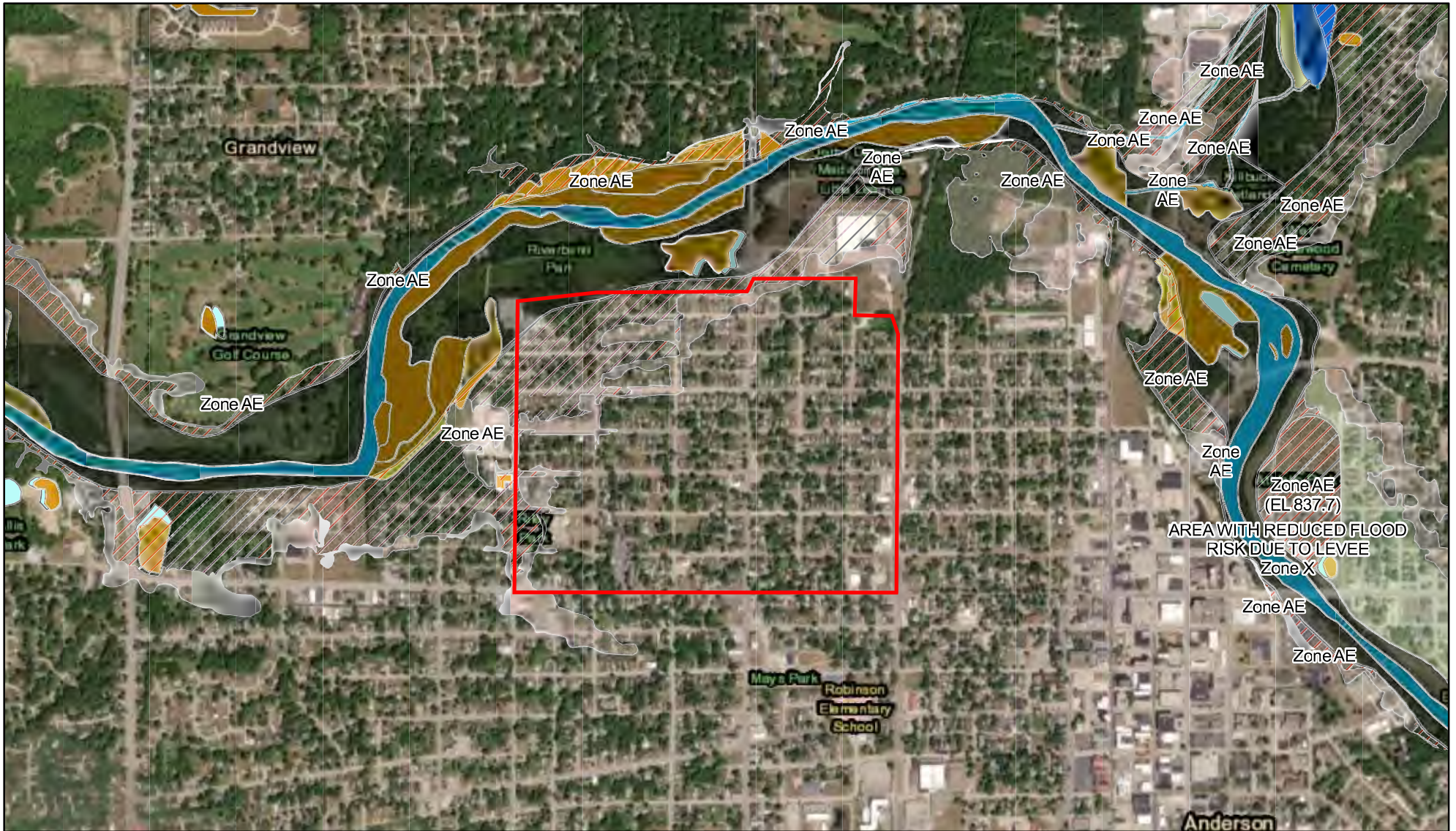
Figure 5.6b: West Central - Historic Resources



Counties	Contributing	1:9,028 0 0.05 0.1 0.2 mi 0 0.08 0.15 0.3 km
County Survey Sites	Non-Contributing	
Outstanding	Demolished	Proposed Water Main and Service Line Replacement
Notable	National Register Historic Districts	Proposed Water Main

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Figure 5.6c: West Central - Floodplains & Wetlands Map



FIRM Flood Hazard Zones 2023

AE, <Null>

AE, FLOODWAY

X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

X, AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

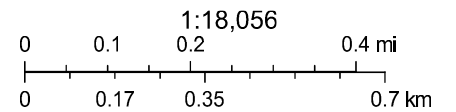
National Wetlands Inventory - NWI Wetlands

Palustrine

Riverine

Lacustrine

Proposed Water Main and Service Line Replacement



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