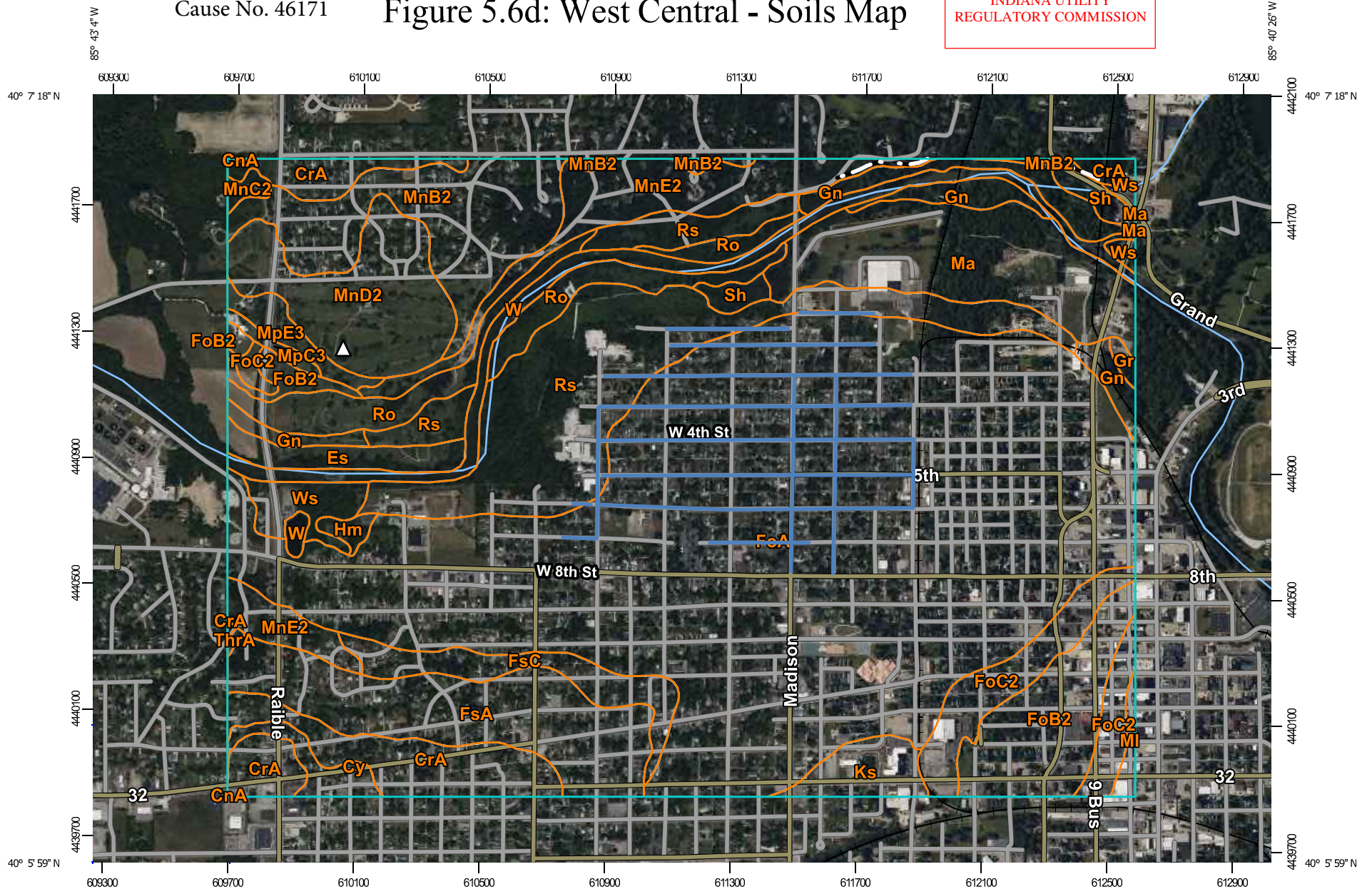
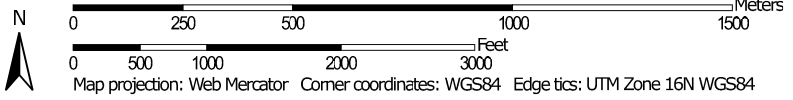


Figure 5.6d: West Central - Soils Map

FILED
December 5, 2024
INDIANA UTILITY
REGULATORY COMMISSION




Map Scale: 1:17,200 if printed on A landscape (11" x 8.5") sheet.



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.

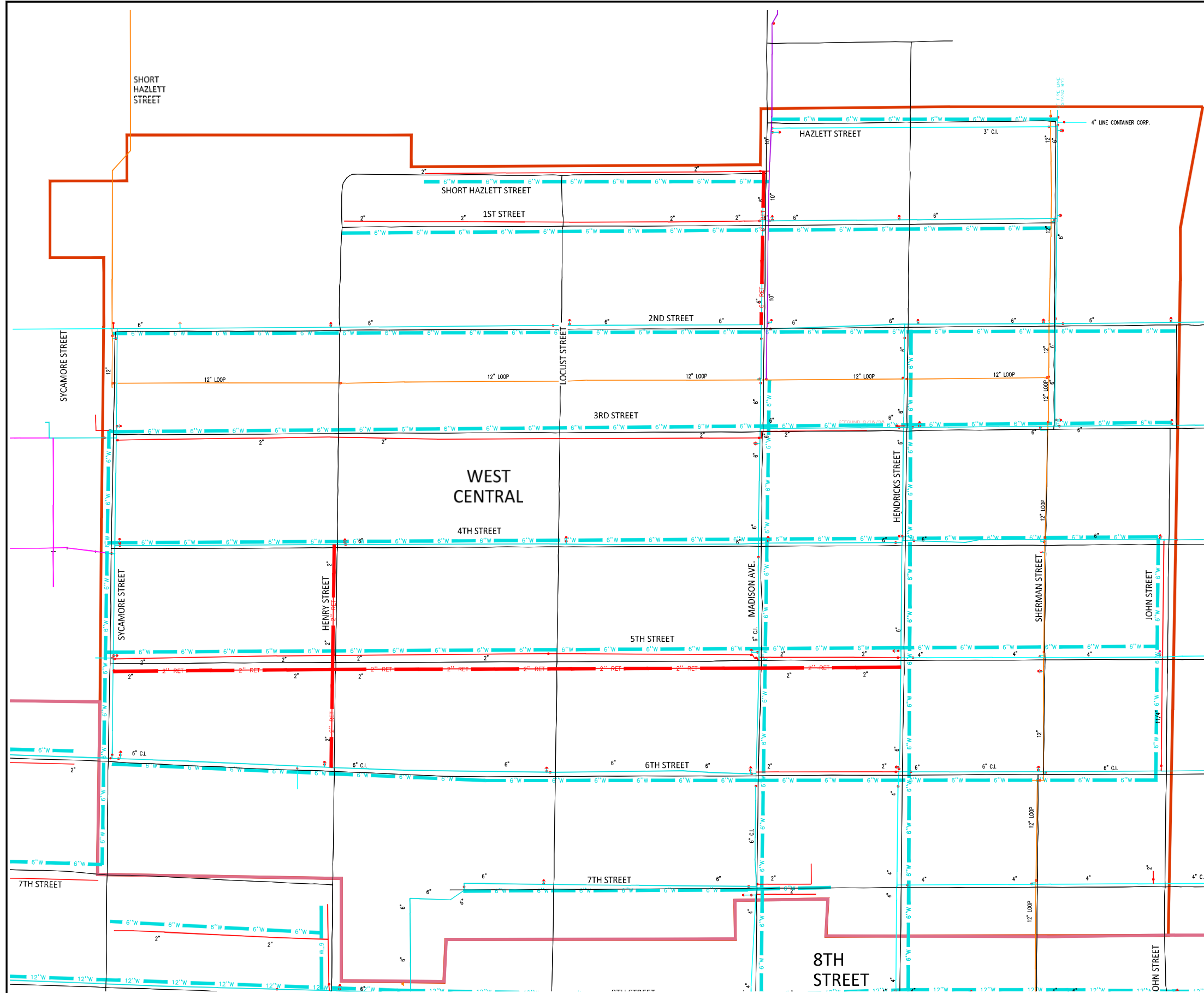
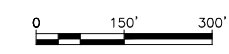
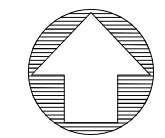
Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

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 |
|-----------------|--|--------------|----------------|
| CnA | Celina silt loam, 0 to 2 percent slopes | 0.1 | 0.0% |
| CrA | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 61.0 | 4.2% |
| Cy | Cyclone silt loam, 0 to 2 percent slopes | 9.5 | 0.7% |
| Es | Eel silt loam, 0 to 2 percent slopes, frequently flooded | 15.3 | 1.1% |
| FoA | Fox silt loam, 0 to 2 percent slopes | 593.5 | 40.8% |
| FoB2 | Fox silt loam, 2 to 6 percent slopes, moderately eroded | 52.4 | 3.6% |
| FoC2 | Fox silt loam, 6 to 12 percent slopes, moderately eroded | 40.1 | 2.8% |
| FsA | Fox silt loam, till substratum, 0 to 2 percent slopes | 76.5 | 5.3% |
| FsC | Fox silt loam, till substratum, 6 to 12 percent slopes | 25.2 | 1.7% |
| Gn | Genesee silt loam, 0 to 2 percent slopes, frequently flooded, brief duration | 33.2 | 2.3% |
| Gr | Gravel pits | 1.8 | 0.1% |
| Hm | Homer silt loam | 3.1 | 0.2% |
| Ks | Kokomo mucky silt loam, stratified substratum | 15.6 | 1.1% |
| Ma | Made land | 76.8 | 5.3% |
| MI | Mahalasville silty clay loam, 0 to 2 percent slopes | 3.6 | 0.2% |
| MnB2 | Miami silt loam, 2 to 6 percent slopes, eroded | 70.2 | 4.8% |
| MnC2 | Miami silt loam, 6 to 12 percent slopes, eroded | 2.6 | 0.2% |
| MnD2 | Miami silt loam, 12 to 18 percent slopes, moderately eroded | 56.8 | 3.9% |
| MnE2 | Miami silt loam, 18 to 25 percent slopes, eroded | 57.2 | 3.9% |
| MpC3 | Miami soils, 6 to 12 percent slopes, severely eroded | 3.2 | 0.2% |
| MpE3 | Miami soils, 18 to 25 percent slopes, severely eroded | 9.3 | 0.6% |
| Ro | Ross loam, 0 to 2 percent slopes, occasionally flooded | 47.4 | 3.3% |

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---|----------------|----------------|
| Rs | Ross silt loam, 0 to 2 percent slopes, occasionally flooded | 138.2 | 9.5% |
| Sh | Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration | 9.3 | 0.6% |
| ThrA | Treaty silty clay loam, 0 to 1 percent slopes | 0.6 | 0.0% |
| W | Water | 35.5 | 2.4% |
| Ws | Westland silty clay loam, moderately deep | 15.8 | 1.1% |
| Totals for Area of Interest | | 1,453.9 | 100.0% |



West Central Service Area

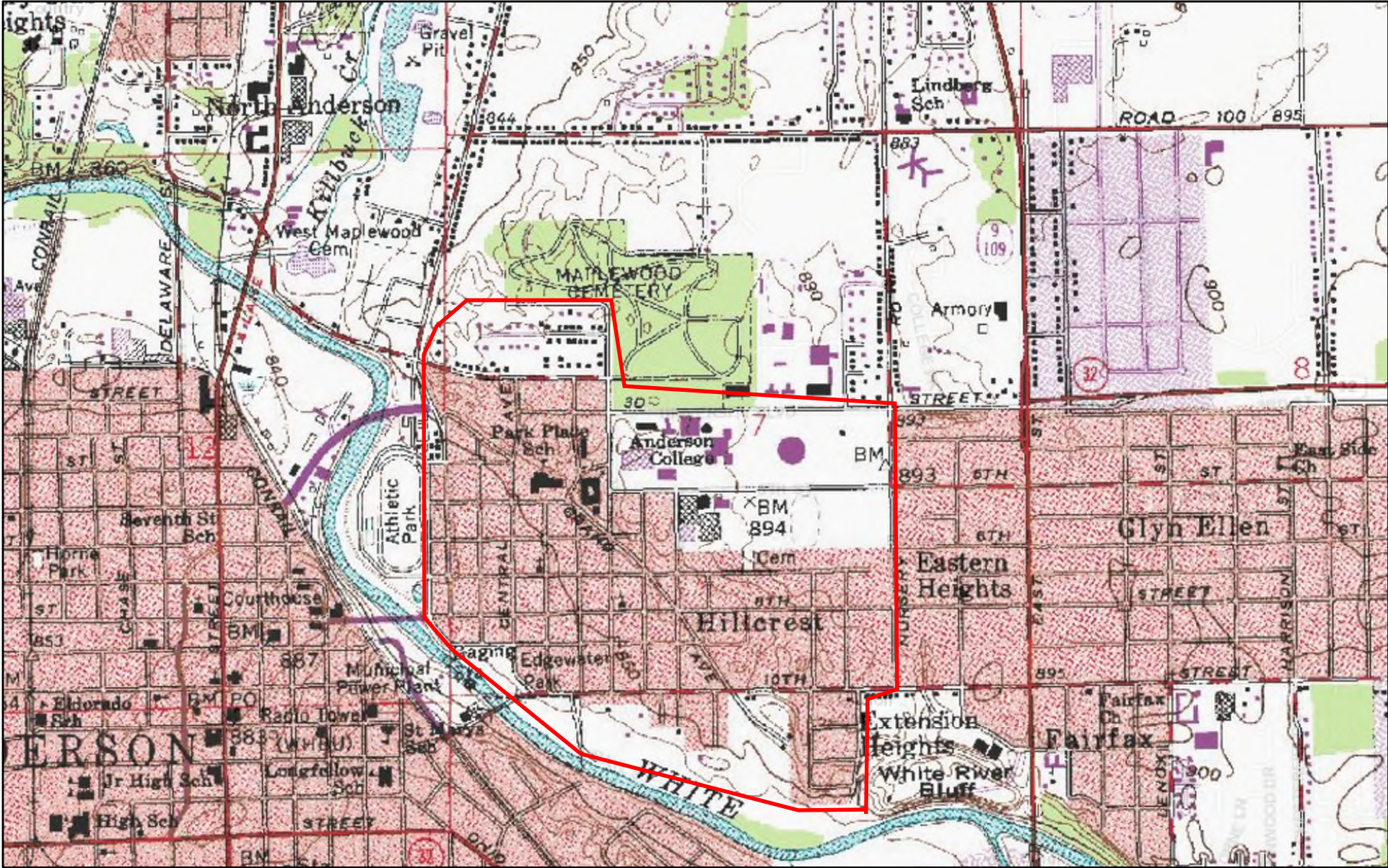
| | |
|---|---------------|
| Proposed 6" Water Main to Replace Existing 2" Water Main | 7,655 |
| Proposed 6" Water Main to Replace Existing 4" & 6" Water Main | 19,425 |
| Total Length Proposed Water Mains (Replacement) | 27,080 |
| 2" Retired with Service Reconnect to Parallel Existing Main | 3,430 |
| Total 2" Water Mains to be Eliminated | 11,085 |
| Service Lines to be Replaced | 643 |
| Service Line Leaks 2017-2022 | 74 |
| Percent of Service Line Leaks in 5 years | 11.5% |
| Water Main Leaks 2017-2022 | 11 |
| Total Length of Existing Water Main in Area | 31,150 |
| Percentage of Water Mains to Be Retired and/or Replaced | 98% |

LEGEND

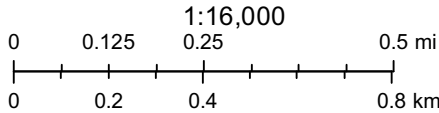
| | | |
|--|-----------|---|
| | 2" RET | WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN |
| | 4"W | PROPOSED 4" WATER MAIN |
| | 6"W | PROPOSED 6" WATER MAIN |
| | 12"W | PROPOSED 12" WATER MAIN |
| | 3/4" - 2" | EXISTING 2" & SMALLER WATER MAIN |
| | 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 5.7a: Park Place - USGS Map

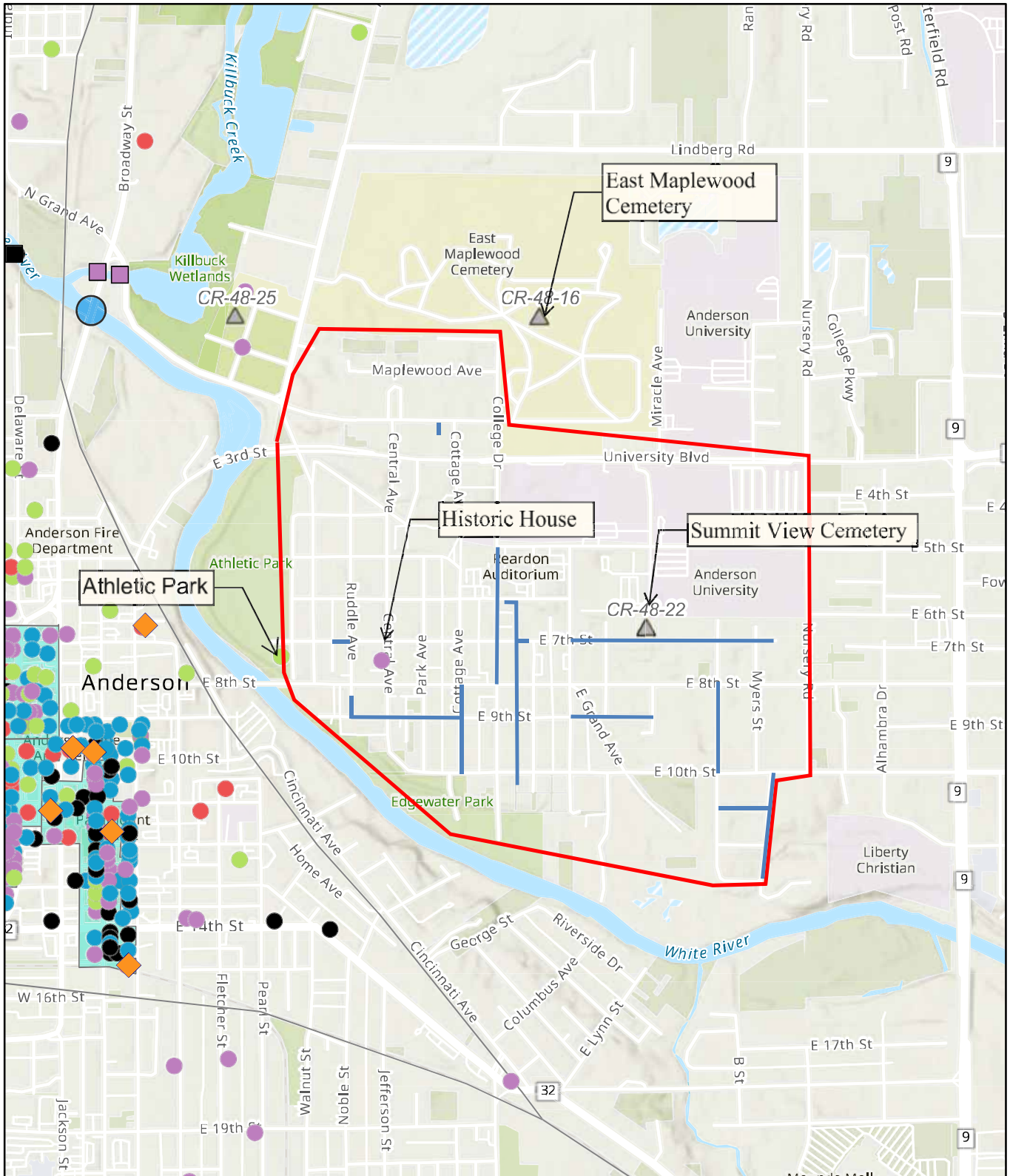


- State Boundary
- Proposed Water Main and Service Line Replacement

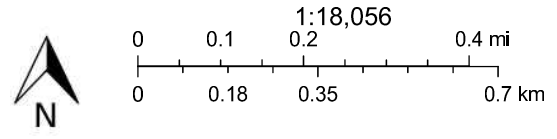


United States Geological Survey (USGS)
 Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

Figure 5.7b: Park Place - Historic Resources

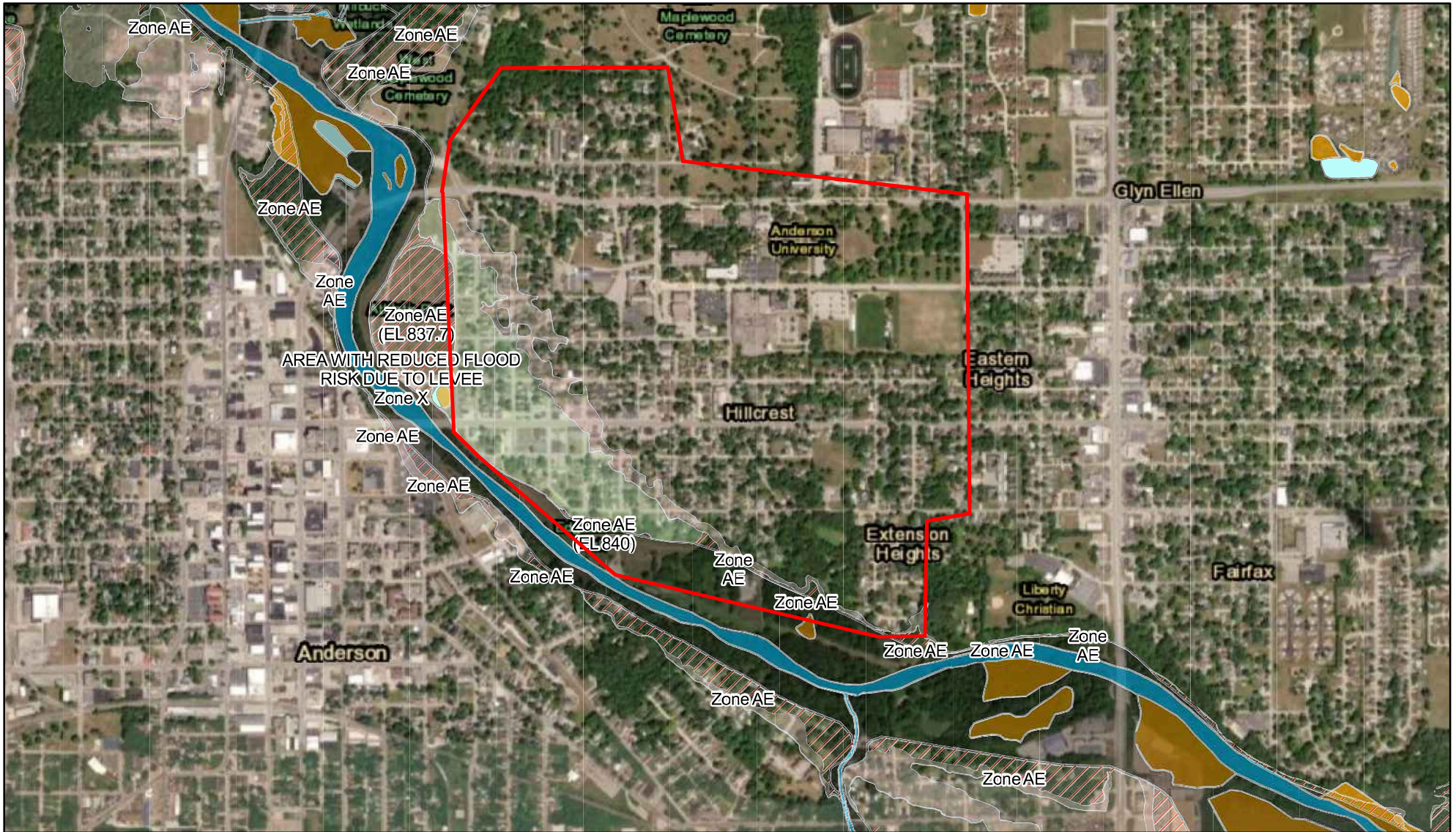


- Proposed Water Main
- Counties
- Notable
- Cemeteries
- Contributing
- National Register Sites
- Non-Contributing
- Listed
- Demolished
- Historic Bridges
- Select Bridges
- Contributing
- National Register Historic Districts
- Demolished
- County Survey Sites
- Outstanding
- Proposed Water Main and Service Line Replacement
- US Railroads 1870



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

Figure 5.7c: Park Place - Floodplains & Wetlands



FIRM Flood Hazard Zones 2023

AE, <Null>

AE, FLOODWAY

X, 0.2 PCT ANNUAL CHANGE FLOOD HAZARD

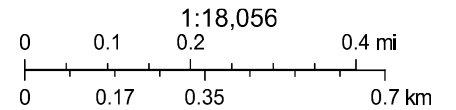
X, AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

National Wetlands Inventory - NWI Wetlands

Palustrine

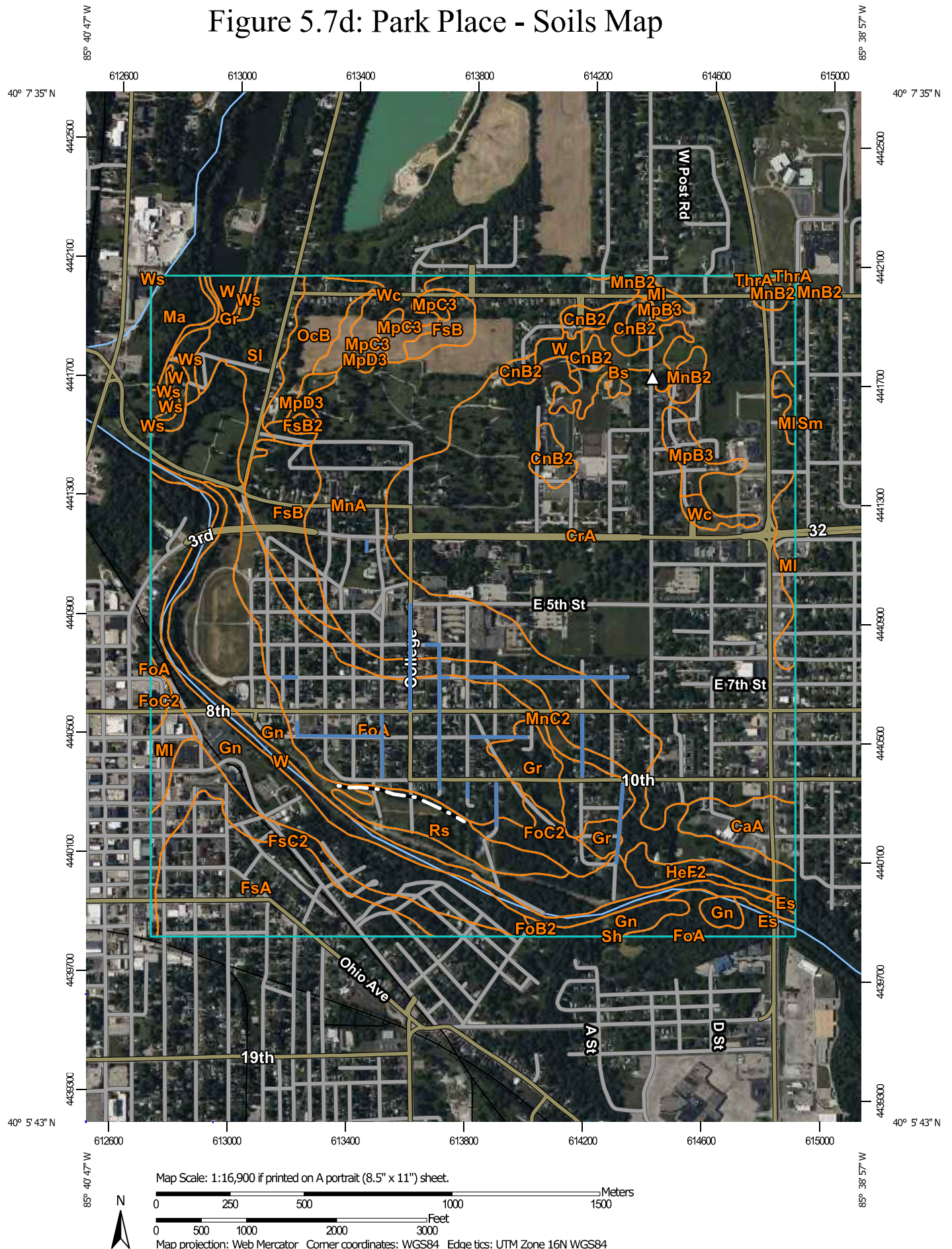
Riverine

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 5.7d: Park Place - Soils Map



Map Scale: 1:16,900 if printed on A portrait (8.5" x 11") sheet.



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.

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.

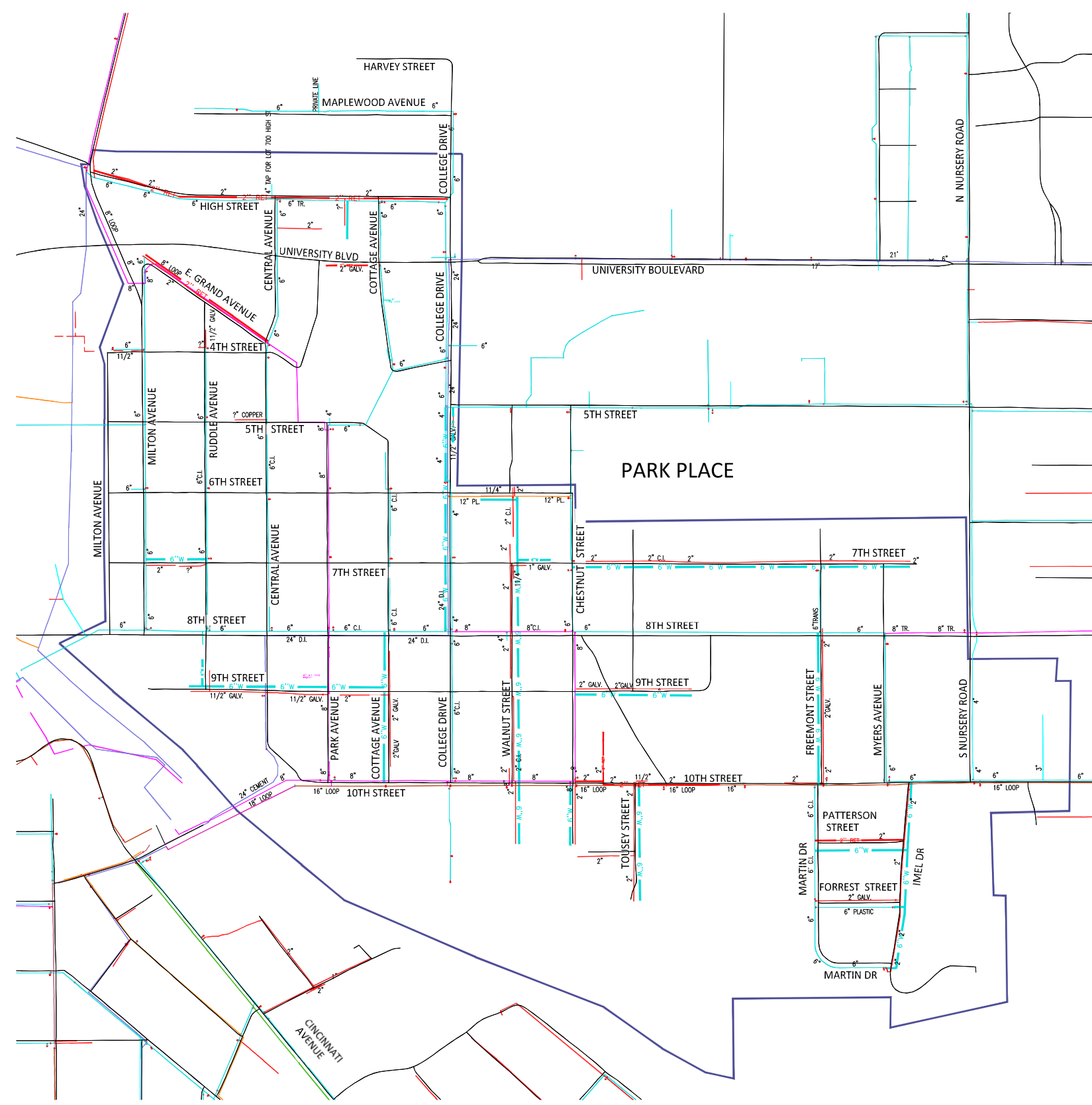
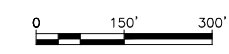
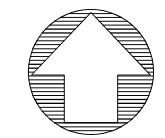
Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

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 | 13.7 | 1.1% |
| CaA | Camden silt loam, 0 to 2 percent slopes | 14.9 | 1.2% |
| CnB2 | Celina silt loam, 2 to 6 percent slopes, eroded | 15.1 | 1.3% |
| CrA | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 351.4 | 29.3% |
| Es | Eel silt loam, 0 to 2 percent slopes, frequently flooded | 10.5 | 0.9% |
| FoA | Fox silt loam, 0 to 2 percent slopes | 129.2 | 10.8% |
| FoB2 | Fox silt loam, 2 to 6 percent slopes, moderately eroded | 0.5 | 0.0% |
| FoC2 | Fox silt loam, 6 to 12 percent slopes, moderately eroded | 13.4 | 1.1% |
| FsA | Fox silt loam, till substratum, 0 to 2 percent slopes | 59.2 | 4.9% |
| FsB | Fox silt loam, till substratum, 2 to 6 percent slopes | 29.8 | 2.5% |
| FsB2 | Fox silt loam, till substratum, 2 to 6 percent slopes, moderately eroded | 1.3 | 0.1% |
| FsC2 | Fox silt loam, till substratum, 6 to 12 percent slopes, moderately eroded | 27.7 | 2.3% |
| Gn | Genesee silt loam, 0 to 2 percent slopes, frequently flooded, brief duration | 135.0 | 11.3% |
| Gr | Gravel pits | 15.7 | 1.3% |
| HeF2 | Hennepin soils, 18 to 35 percent slopes, eroded | 8.7 | 0.7% |
| Ma | Made land | 11.4 | 0.9% |
| MI | Mahalasville silty clay loam, 0 to 2 percent slopes | 19.5 | 1.6% |
| MnA | Miami silt loam, 0 to 2 percent slopes | 152.2 | 12.7% |
| MnB2 | Miami silt loam, 2 to 6 percent slopes, eroded | 7.1 | 0.6% |
| MnC2 | Miami silt loam, 6 to 12 percent slopes, eroded | 36.3 | 3.0% |
| MpB3 | Miami soils, 2 to 6 percent slopes, severely eroded | 8.4 | 0.7% |

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---|----------------|----------------|
| MpC3 | Miami soils, 6 to 12 percent slopes, severely eroded | 10.4 | 0.9% |
| MpD3 | Miami soils, 12 to 18 percent slopes, severely eroded | 6.1 | 0.5% |
| OcB | Ockley silt loam, 2 to 6 percent slopes | 16.5 | 1.4% |
| Rs | Ross silt loam, 0 to 2 percent slopes, occasionally flooded | 19.3 | 1.6% |
| Sh | Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration | 0.0 | 0.0% |
| Sl | Sleeth silt loam, 0 to 2 percent slopes | 25.1 | 2.1% |
| Sm | Sleeth silt loam, loamy substratum | 0.0 | 0.0% |
| ThrA | Treaty silty clay loam, 0 to 1 percent slopes | 1.0 | 0.1% |
| W | Water | 38.9 | 3.2% |
| Wc | Washtenaw complex | 13.9 | 1.2% |
| Ws | Westland silty clay loam, moderately deep | 6.0 | 0.5% |
| Totals for Area of Interest | | 1,198.1 | 100.0% |



Park Place Service Area

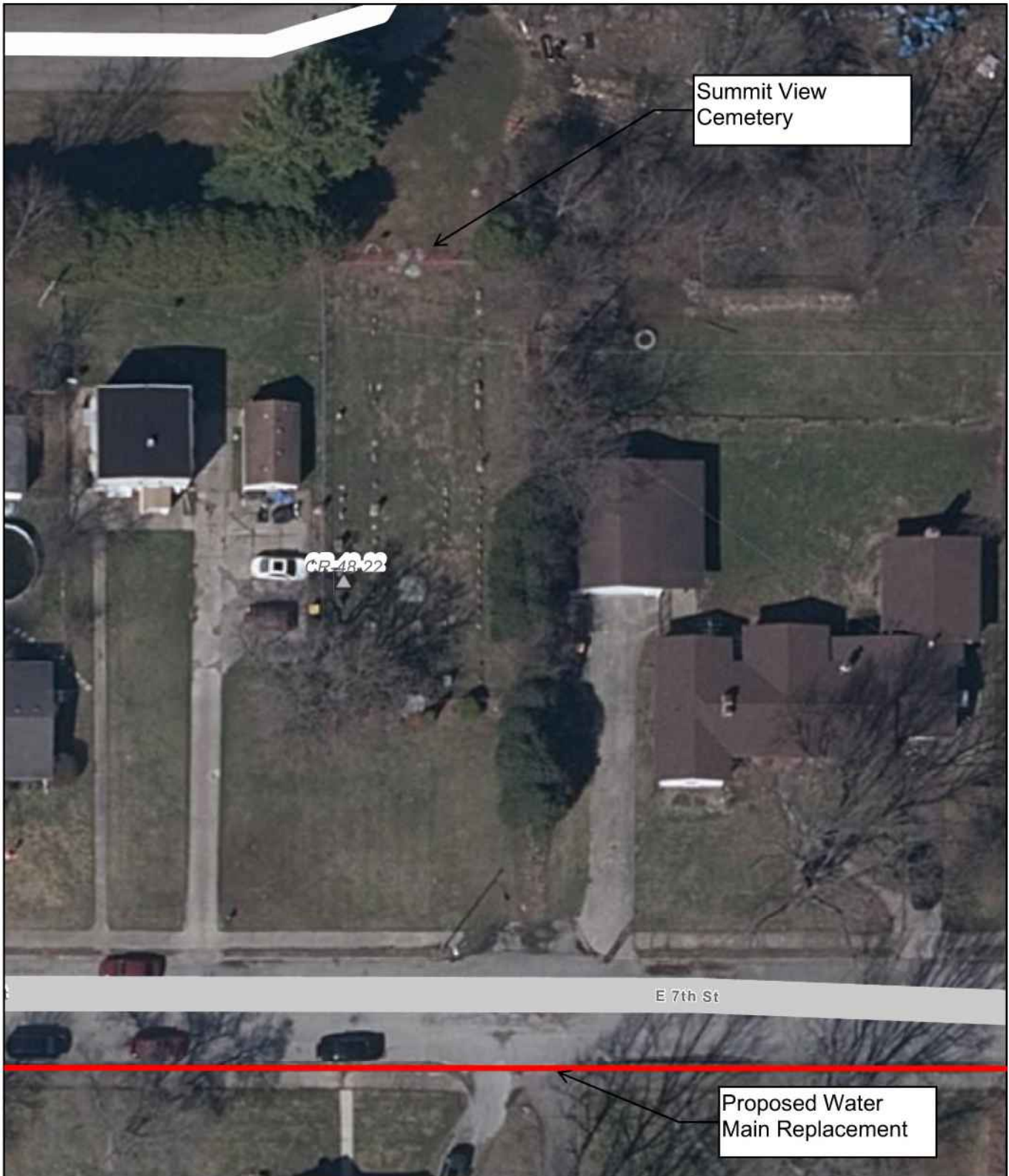
| | |
|---|---------------|
| Proposed 6" Water Main to Replace Existing 2" Water Main | 8,360 |
| Proposed 6" Water Main to Replace Existing 4" & 6" Water Main | 1,170 |
| Total Length Proposed Water Mains (Replacement) | 9,530 |
| 2" Retired with Service Reconnect to Parallel Existing Main | 4,635 |
| Total 2" Water Mains to be Eliminated | 12,995 |
| Service Lines to be Replaced | 667 |
| Service Line Leaks 2017-2022 | 44 |
| Percent of Service Line Leaks in 5 years | 6.6% |
| Water Main Leaks 2017-2022 | 10 |
| Total Length of Existing Water Main in Area | 54,975 |
| Percentage of Water Mains to Be Retired and/or Replaced | 26% |

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 |

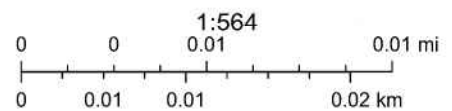


Figure 5.7f - Park Place Area IHBBC Map, Summit Cemetery



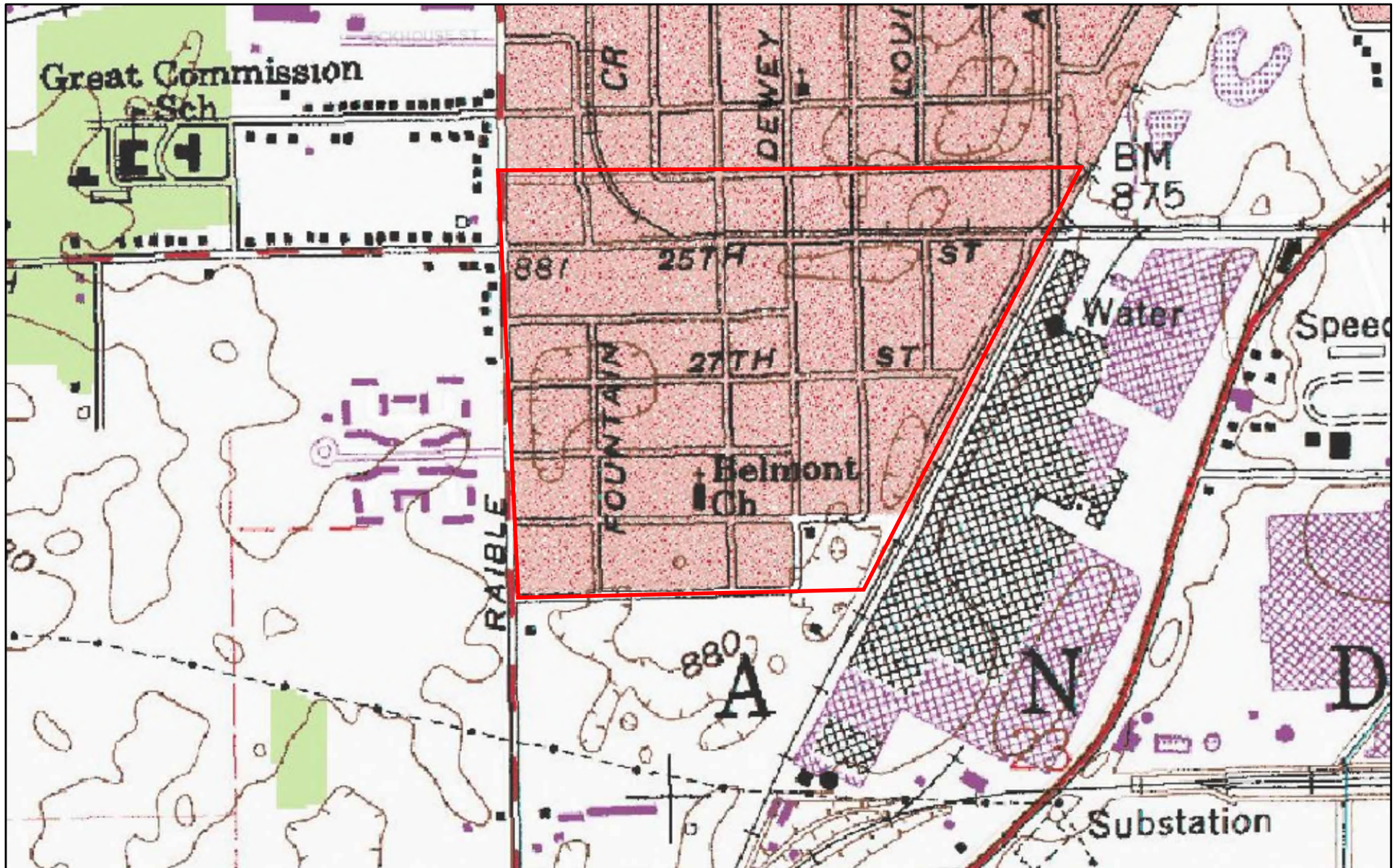
3/30/2024, 4:17:47 PM



-  Counties
-  Cemeteries
-  Civil Township Boundaries
-  USGS Topo Quads

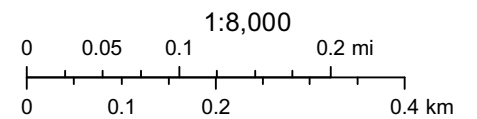


Maxar, Microsoft, null, Esri Community Maps Contributors, MCCOG, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Figure 5.8a: Belmont - USGS Map



-  State Boundary
-  Proposed Water Main and Service Line Replacement

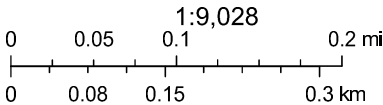


United States Geological Survey (USGS)
Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

Figure 5.8b: Belmont - Historic Resources



- Counties
- US Railroads 1870
- Proposed Water Main and Service Line Replacement
- Proposed Water Main



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

Figure 5.8c: Belmont - Floodplains & Wetlands



FIRM Flood Hazard Zones 2023

AE, <Null>

AE, FLOODWAY

National Wetlands Inventory - NWI Wetlands

Palustrine

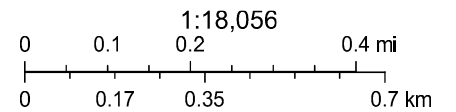
Riverine

National Wetlands Inventory - NWI Wetlands Project Metadata

National Wetlands Inventory - NWI Wetlands Historic Map Info

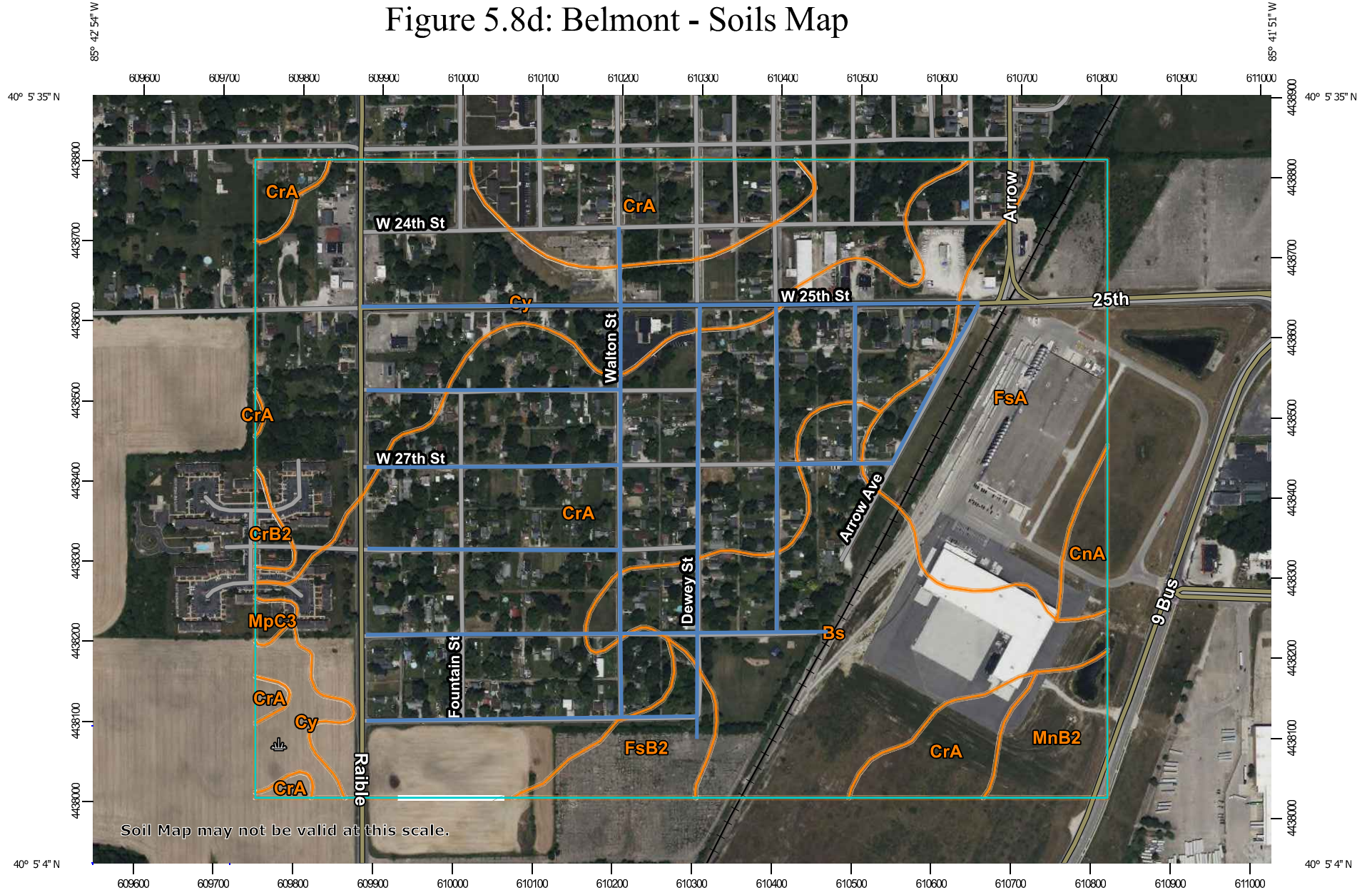
National Wetlands Inventory - NWI Historic Wetlands Project Metadata

Proposed Water Main and Service Line Replacement

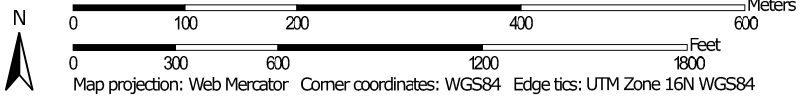


Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 5.8d: Belmont - Soils Map




Map Scale: 1:6,750 if printed on A landscape (11" x 8.5") sheet.



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.

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

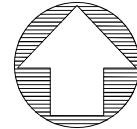
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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

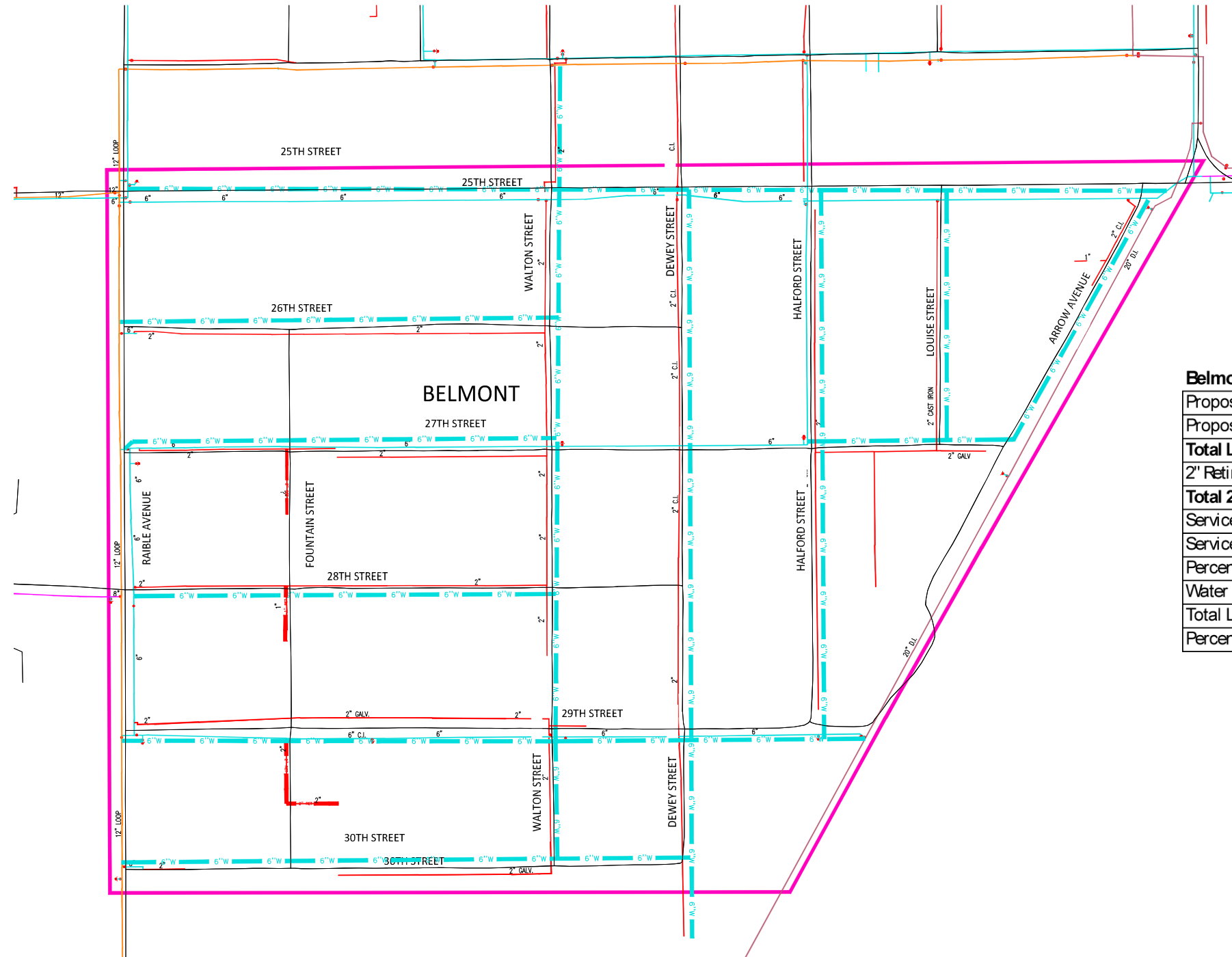
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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 | 33.4 | 15.8% |
| CnA | Celina silt loam, 0 to 2 percent slopes | 2.2 | 1.0% |
| CrA | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 91.7 | 43.4% |
| CrB2 | Crosby silt loam, 2 to 4 percent slopes, eroded | 0.9 | 0.4% |
| Cy | Cyclone silt loam, 0 to 2 percent slopes | 45.3 | 21.4% |
| FsA | Fox silt loam, till substratum, 0 to 2 percent slopes | 26.8 | 12.7% |
| FsB2 | Fox silt loam, till substratum, 2 to 6 percent slopes, moderately eroded | 5.2 | 2.5% |
| MnB2 | Miami silt loam, 2 to 6 percent slopes, eroded | 5.1 | 2.4% |
| MpC3 | Miami soils, 6 to 12 percent slopes, severely eroded | 0.5 | 0.3% |
| Totals for Area of Interest | | 211.2 | 100.0% |



0 150' 300'



Belmont Service Area Water Main & Service Line Replacement

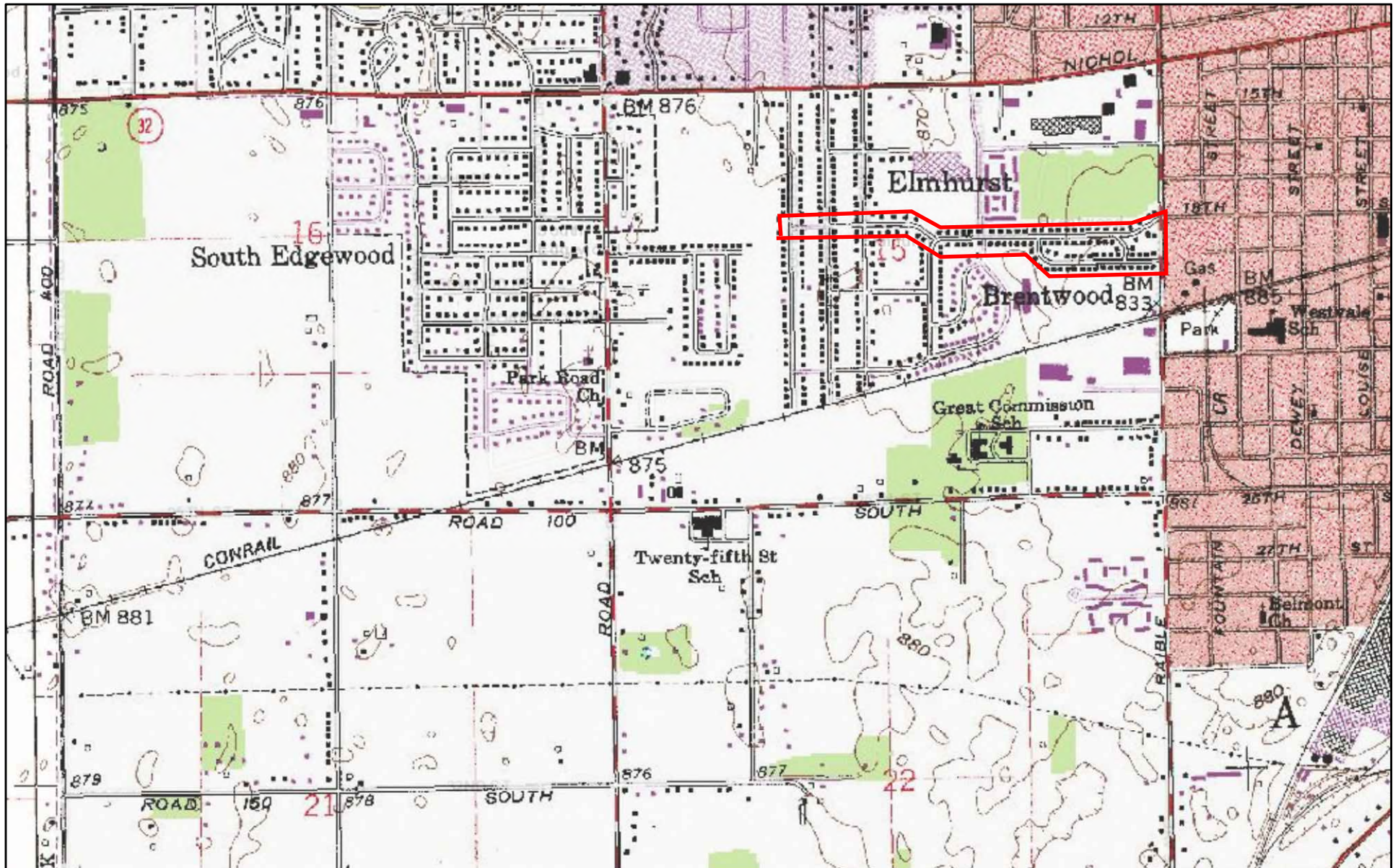
| | |
|---|---------------|
| Proposed 6" Water Main to Replace Existing 2" Water Main | 6,590 |
| Proposed 6" Water Main to Replace Existing 4" & 6" Water Main | 8,295 |
| Total Length Proposed Water Mains (Replacement) | 14,885 |
| 2" Retired with Service Reconnect to Parallel Existing Main | 4,390 |
| Total 2" Water Mains to be Eliminated | 10,980 |
| Service Lines to be Replaced | 234 |
| Service Line Leaks 2017-2022 | 17 |
| Percent of Service Line Leaks in 5 years | 7.3% |
| Water Main Leaks 2017-2022 | 3 |
| Total Length of Existing Water Main in Area | 20,915 |
| Percentage of Water Mains to Be Retired and/or Replaced | 92% |



LEGEND

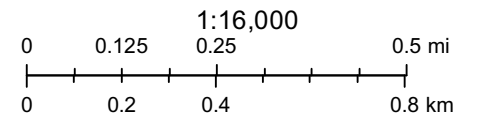
| | | |
|--|-------------------|---|
| | 2" RET | WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN |
| | 4"W | PROPOSED 4" WATER MAIN |
| | 6"W | PROPOSED 6" WATER MAIN |
| | 12"W | PROPOSED 12" WATER MAIN |
| | 3/4" 1" 2" 1 1/2" | EXISTING 2" & SMALLER 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 5.9a: Brentwood - USGS Map

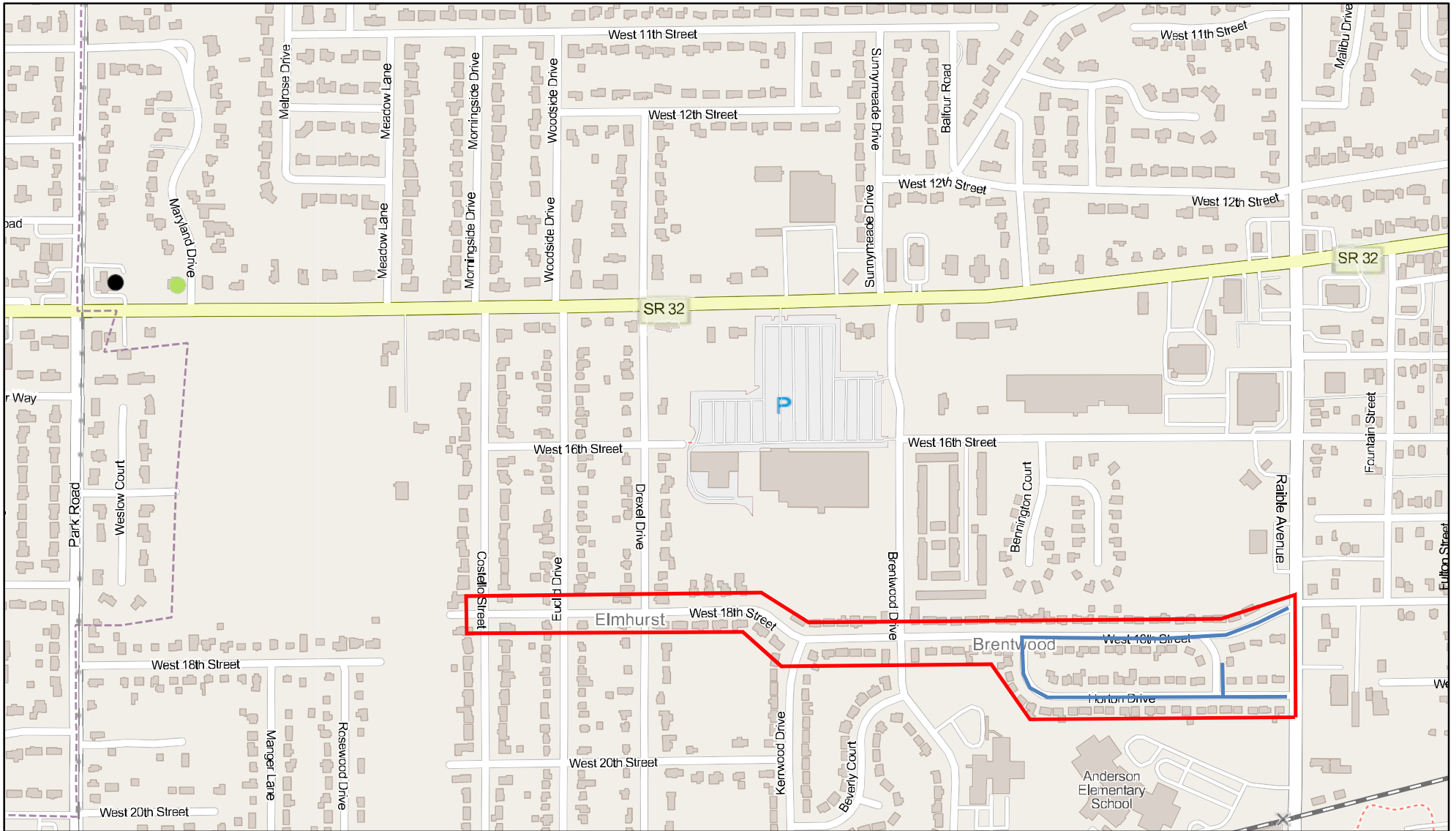


-  State Boundary
-  Proposed Water Main and Service Line Replacement



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

Figure 5.9b: Brentwood - Historic Resources



Counties
● County Survey Sites
● Notable

● Demolished

Proposed Water Main and Service Line Replacement

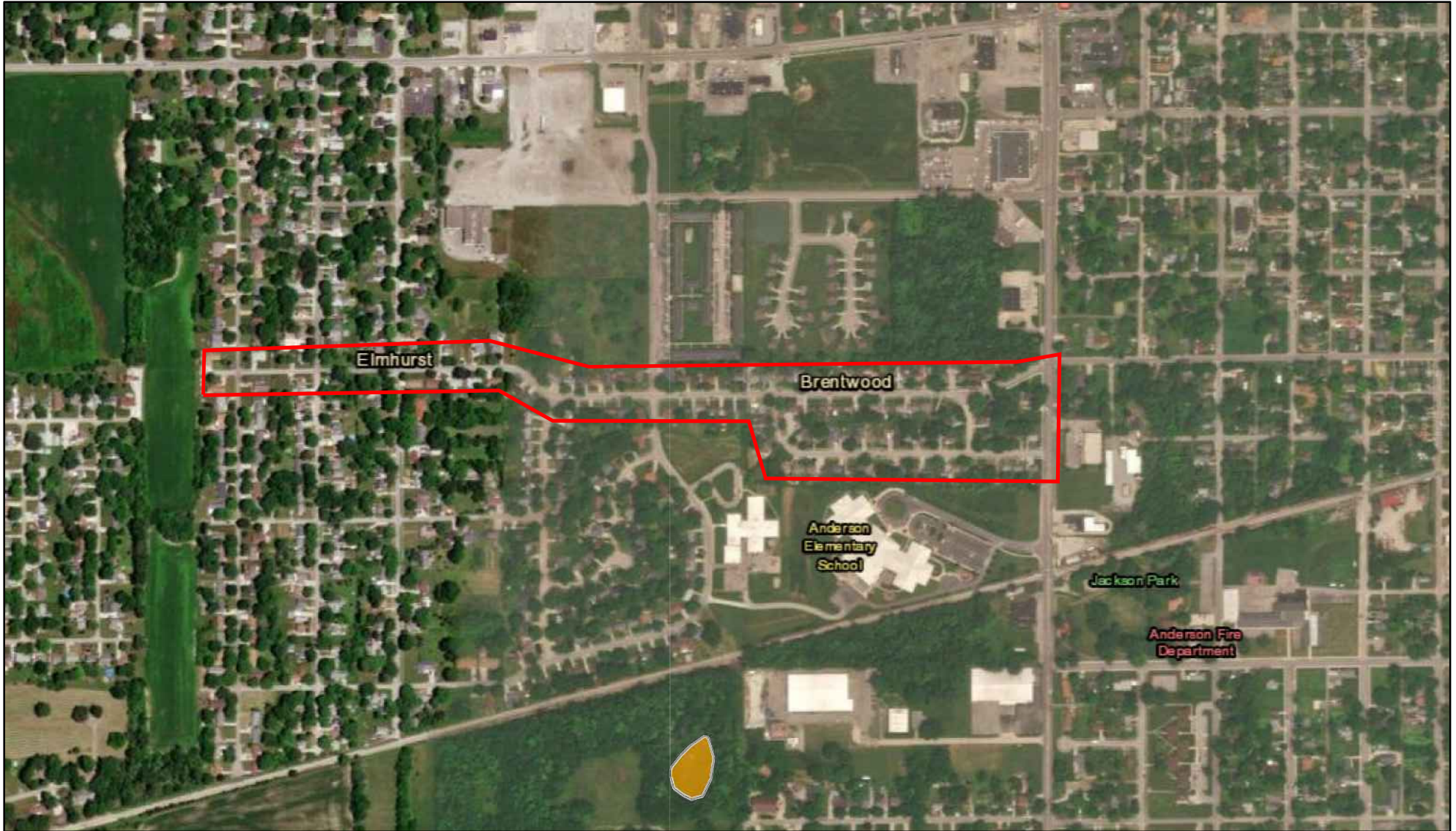
Proposed Water Main



1:9,028
 0 0.05 0.1 0.2 mi
 0 0.08 0.15 0.3 km

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

Figure 5.9c: Brentwood - Floodplains & Wetlands



National Wetlands Inventory - NWI Wetlands

Palustrine

National Wetlands Inventory - NWI Wetlands Project Metadata

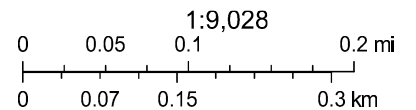
National Wetlands Inventory - NWI Wetlands Historic Map Info

National Wetlands Inventory - NWI Historic Wetlands Project Metadata

National Wetlands Inventory - NWI Indiana Area

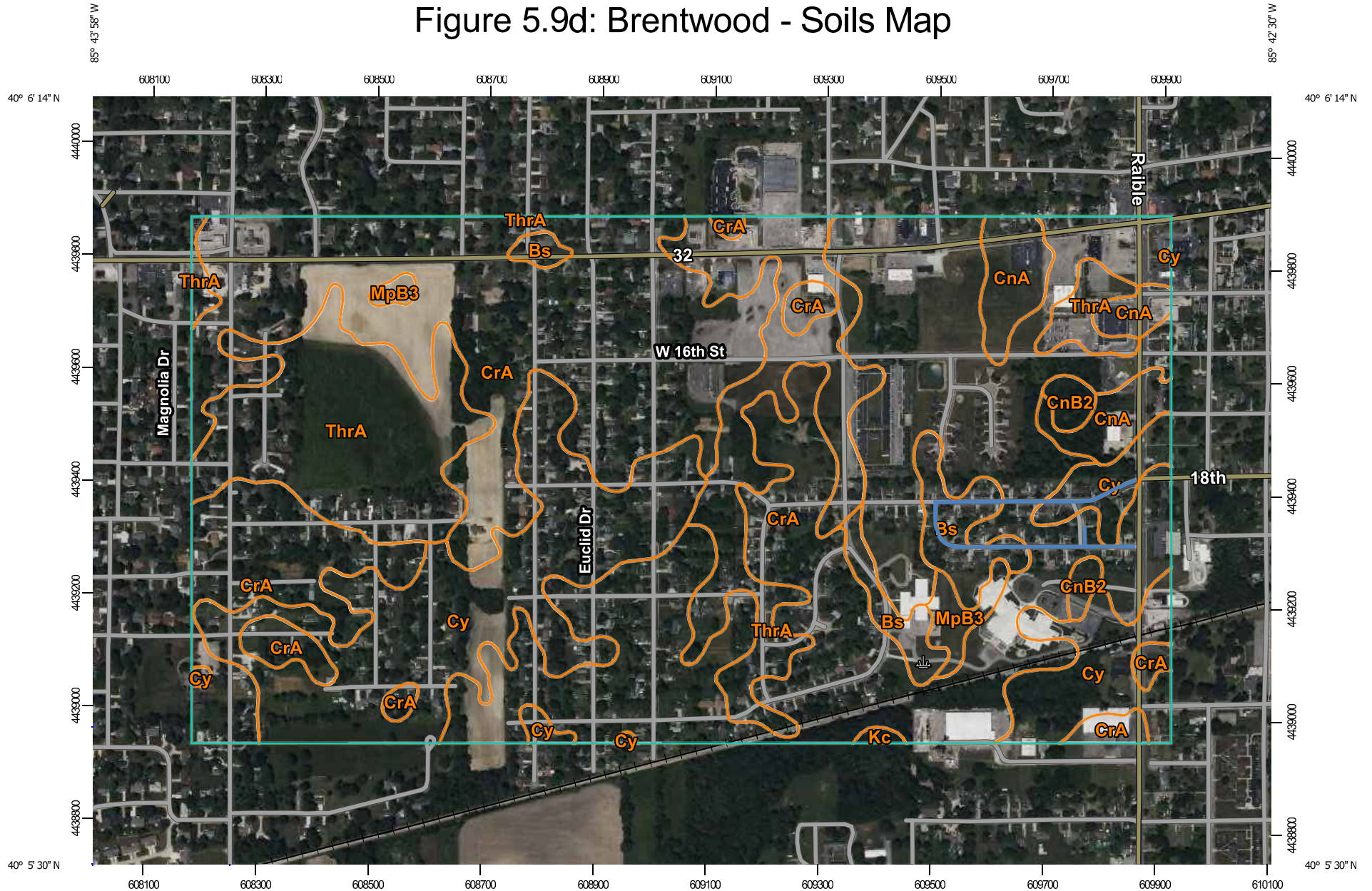
County Boundaries of Indiana Current

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 5.9d: Brentwood - Soils Map



Map Scale: 1:9,590 if printed on A landscape (11" x 8.5") sheet.

0 100 200 400 600 Meters


0 450 900 1800 2700 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

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

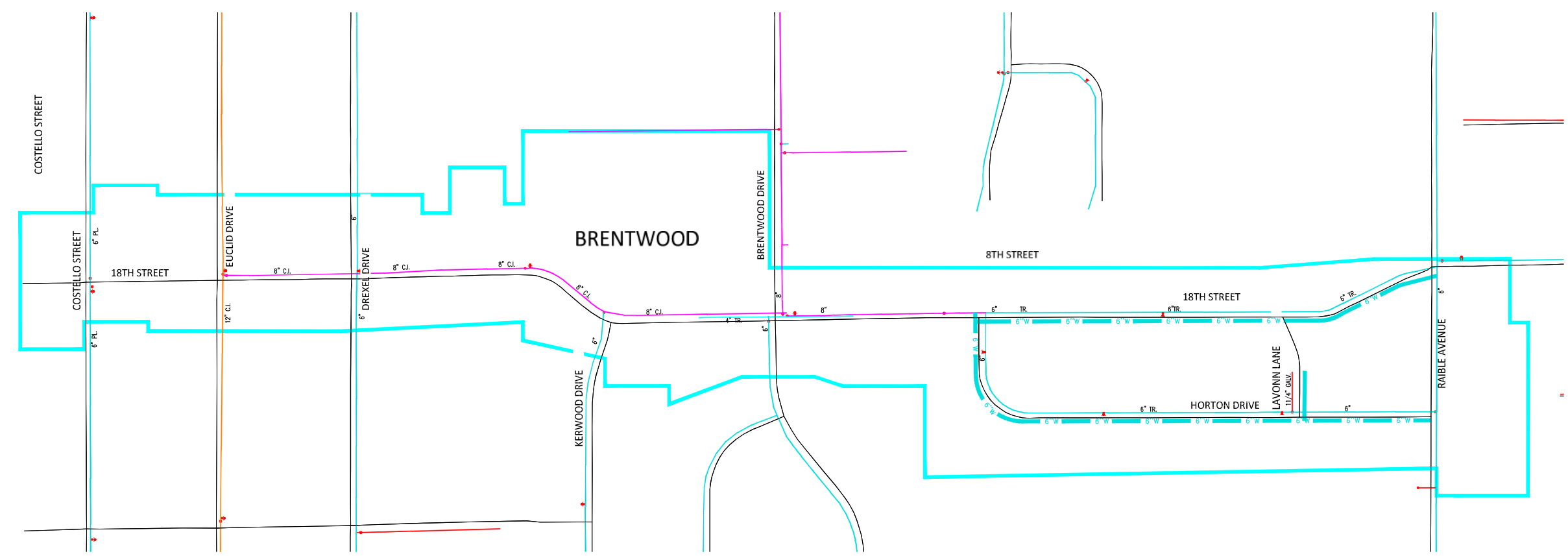
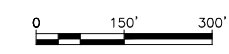
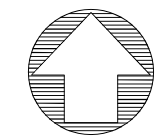
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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 | 11.9 | 3.0% |
| CnA | Celina silt loam, 0 to 2 percent slopes | 13.0 | 3.2% |
| CnB2 | Celina silt loam, 2 to 6 percent slopes, eroded | 2.8 | 0.7% |
| CrA | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 234.7 | 58.0% |
| Cy | Cyclone silt loam, 0 to 2 percent slopes | 68.3 | 16.9% |
| Kc | Kokomo silty clay loam, 0 to 2 percent slopes | 0.5 | 0.1% |
| MpB3 | Miami soils, 2 to 6 percent slopes, severely eroded | 3.9 | 1.0% |
| ThrA | Treaty silty clay loam, 0 to 1 percent slopes | 69.2 | 17.1% |
| Totals for Area of Interest | | 404.4 | 100.0% |



Brentwood Service Area Water Main & Service Line Replacement

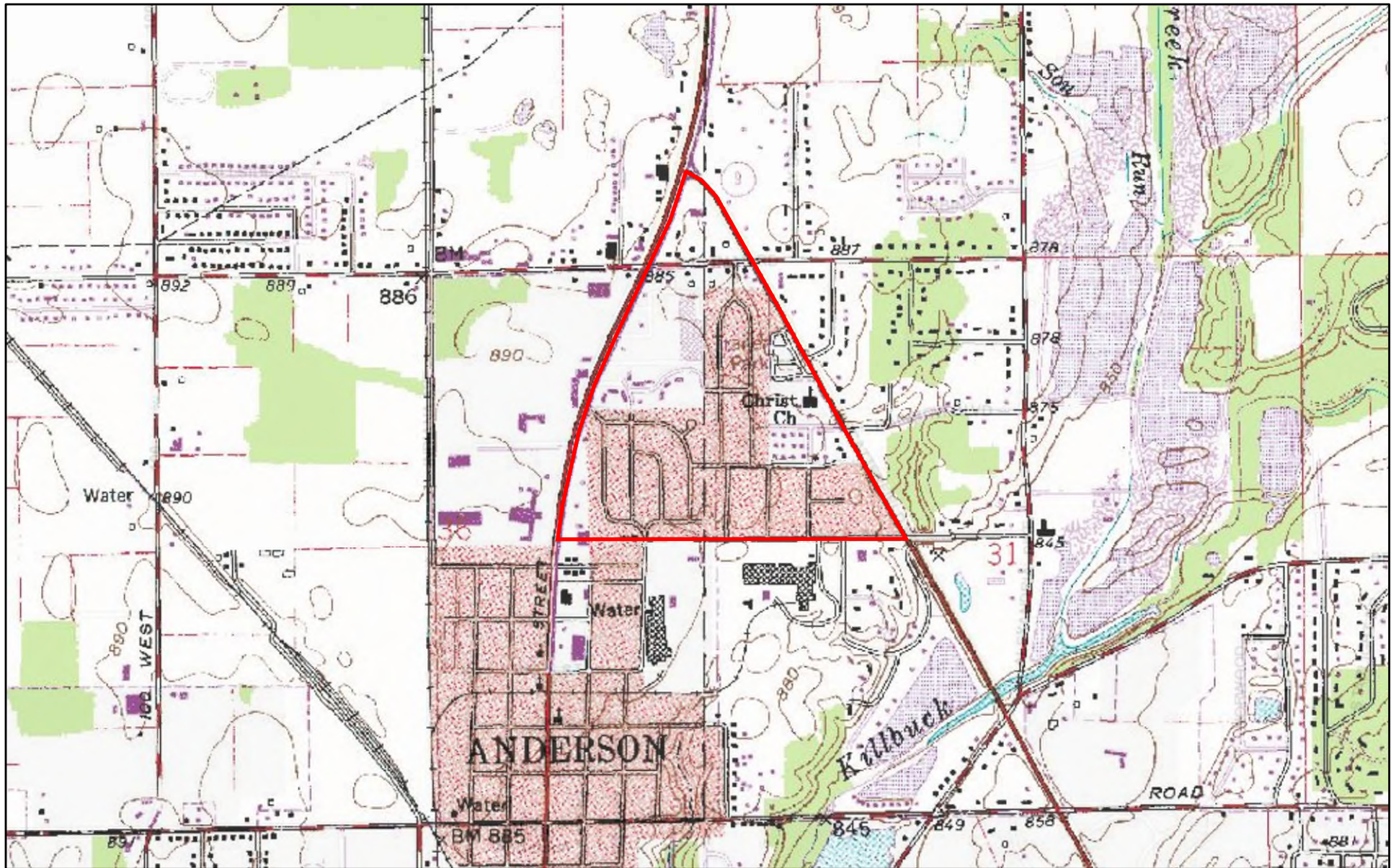
| | |
|---|--------------|
| Proposed 6" Water Main to Replace Existing 2" Water Main | - |
| Proposed 6" Water Main to Replace Existing 4" & 6" Water Main | 2,610 |
| Total Length Proposed Water Mains (Replacement) | 2,610 |
| 2" Retired with Service Reconnect to Parallel Existing Main | - |
| Total 2" Water Mains to be Eliminated | - |
| Service Lines to be Replaced | 118 |
| Service Line Leaks 2017-2022 | 17 |
| Percent of Service Line Leaks in 5 years | 14.4% |
| Water Main Leaks 2017-2022 | 3 |
| Total Length of Existing Water Main in Area | 5,555 |
| Percentage of Water Mains to Be Replaced | 47% |



LEGEND

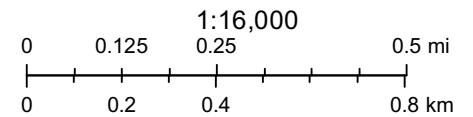
- 2" RET WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN
- 4"W PROPOSED 4" WATER MAIN
- 6"W PROPOSED 6" WATER MAIN
- 12"W PROPOSED 12" WATER MAIN
- 3/4" 1" 2" 1 1/2" EXISTING 2" & SMALLER WATER MAIN
- 3" EXISTING 3" WATER MAIN
- 4" EXISTING 4" WATER 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 5.10a: Indian Meadows - USGS Map

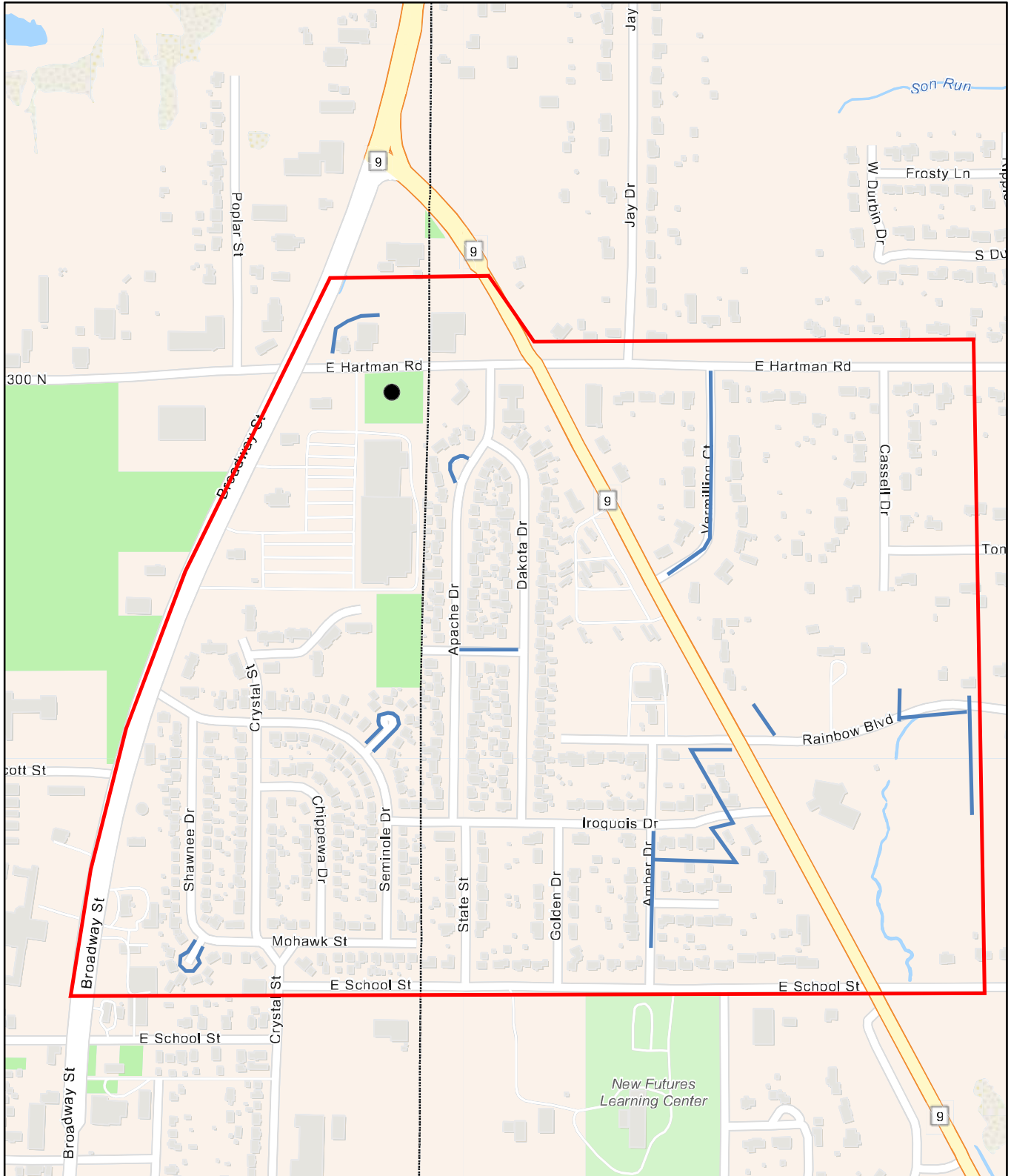


-  State Boundary
-  Proposed Water Main and Service Line Replacement

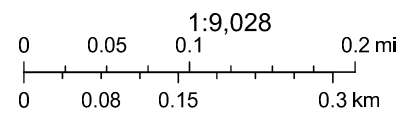


United States Geological Survey (USGS)
Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

Figure 5.10b: Indian Meadows - Historic Resources

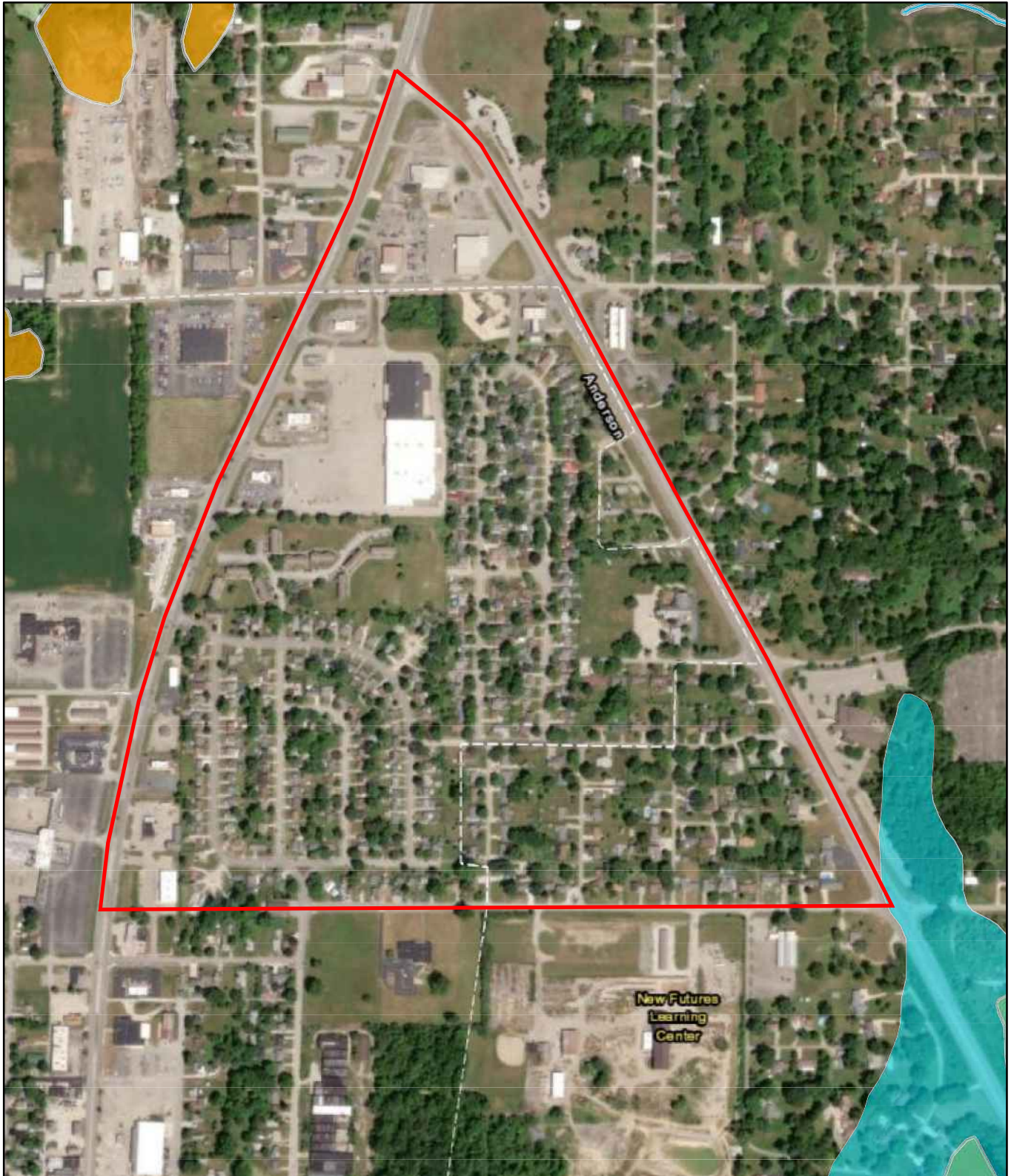



- Proposed Water Main and Service Line Replacement
- Counties
- County Survey Sites
- USGS Topo Quads
- Proposed Water Main
- Demolished
- Civil Township Boundaries




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Figure 5.10c: Indian Meadows - Floodplains & Wetlands




 Proposed Water Main and Service Line Replacement

FIRM Flood Hazard Zones 2023

 A, <Null>

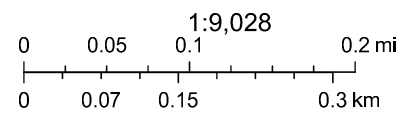
FIRM Flood Hazard Zones 2023

 A, <Null>

National Wetlands Inventory - NWI Wetlands

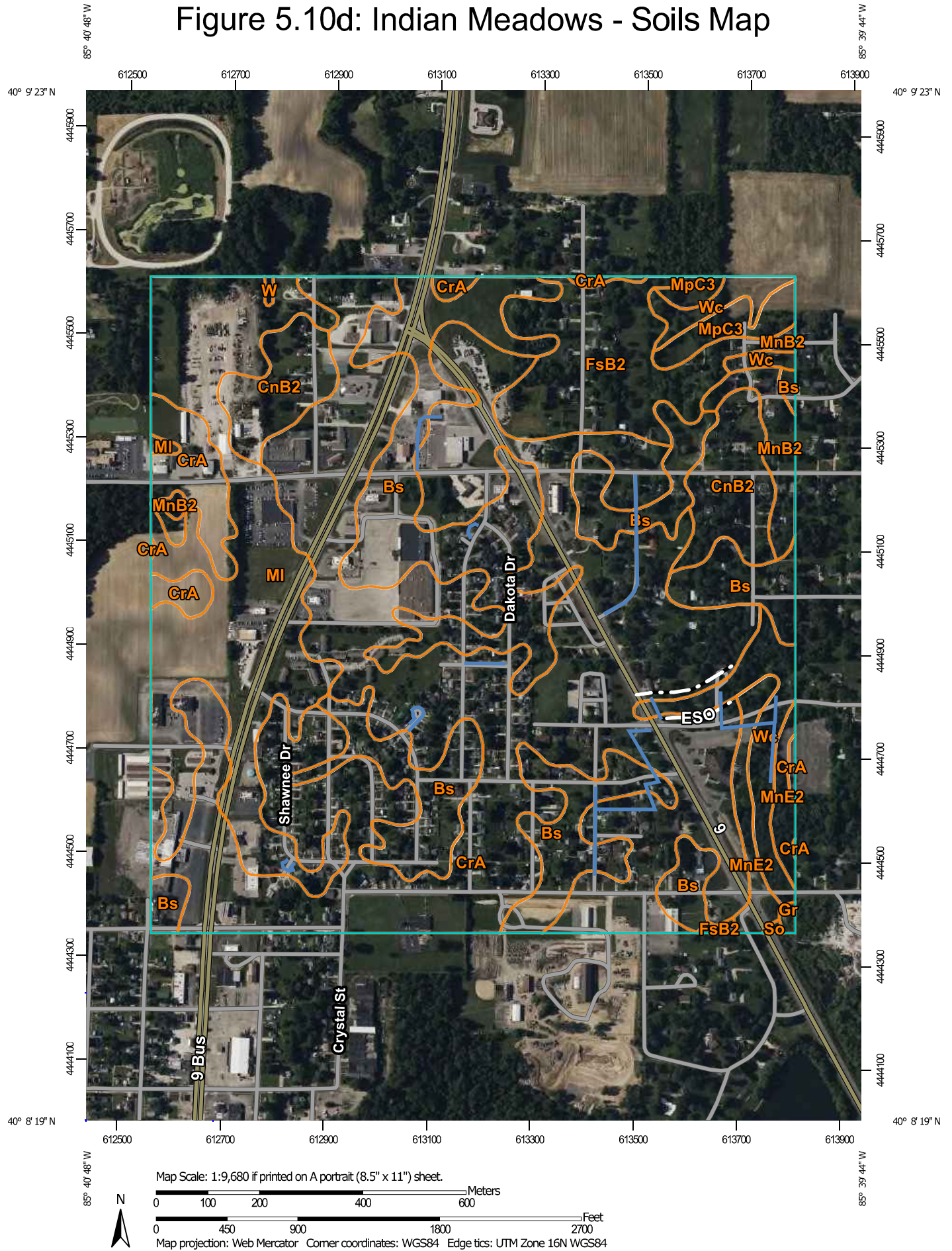
 Palustrine

 Riverine




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

Figure 5.10d: Indian Meadows - Soils Map



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

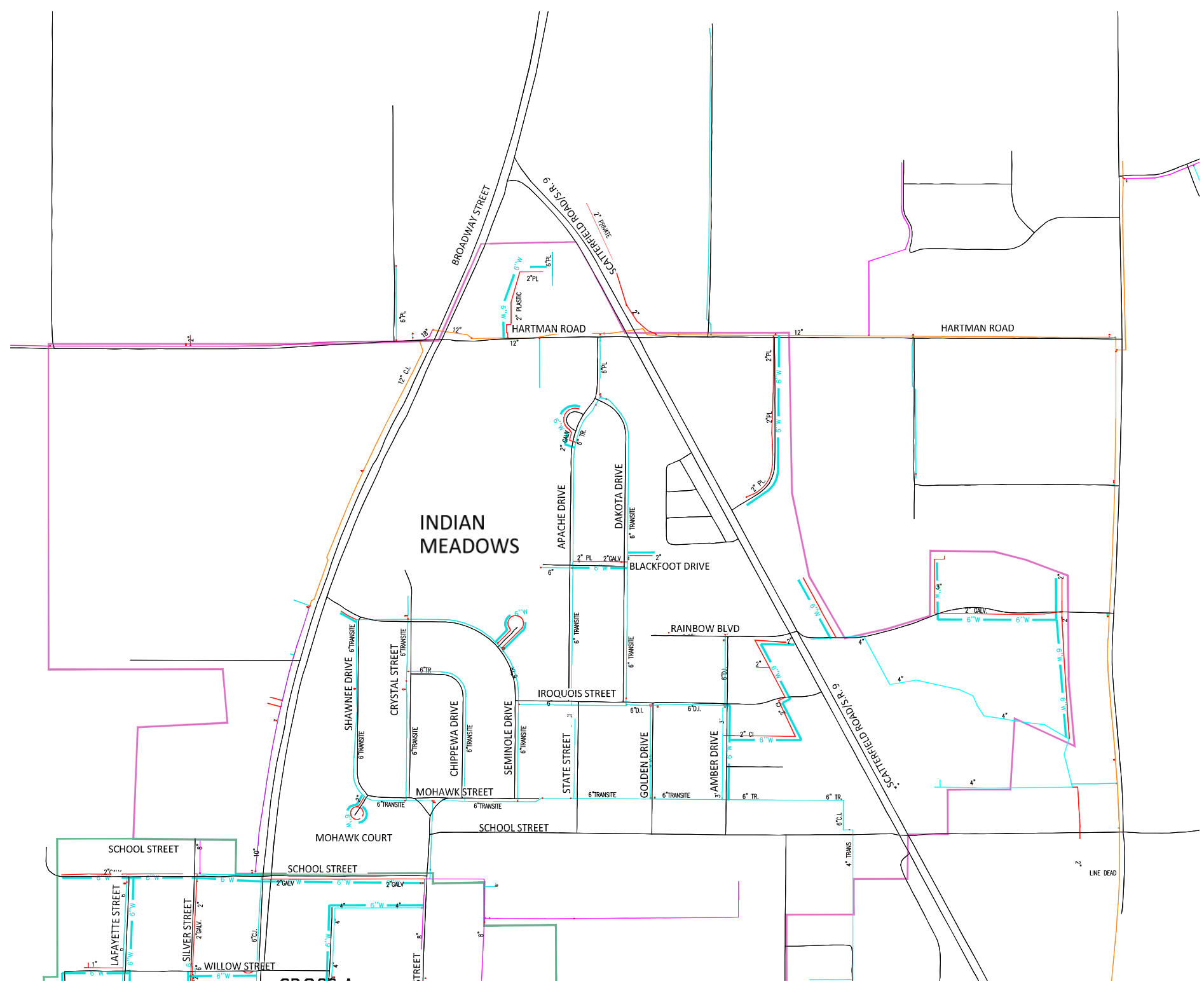
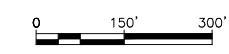
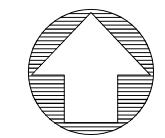
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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 | 78.0 | 19.9% |
| CnB2 | Celina silt loam, 2 to 6 percent slopes, eroded | 19.5 | 5.0% |
| CrA | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 182.7 | 46.6% |
| FsB2 | Fox silt loam, till substratum, 2 to 6 percent slopes, moderately eroded | 24.5 | 6.2% |
| Gr | Gravel pits | 0.4 | 0.1% |
| MI | Mahalasville silty clay loam, 0 to 2 percent slopes | 54.6 | 13.9% |
| MnB2 | Miami silt loam, 2 to 6 percent slopes, eroded | 6.5 | 1.7% |
| MnE2 | Miami silt loam, 18 to 25 percent slopes, eroded | 7.3 | 1.9% |
| MpC3 | Miami soils, 6 to 12 percent slopes, severely eroded | 5.4 | 1.4% |
| So | Sloan silt loam | 0.2 | 0.0% |
| W | Water | 0.2 | 0.1% |
| Wc | Washtenaw complex | 13.2 | 3.4% |
| Totals for Area of Interest | | 392.5 | 100.0% |



Indian Meadows Service Area Water Main & Service Line Replacement

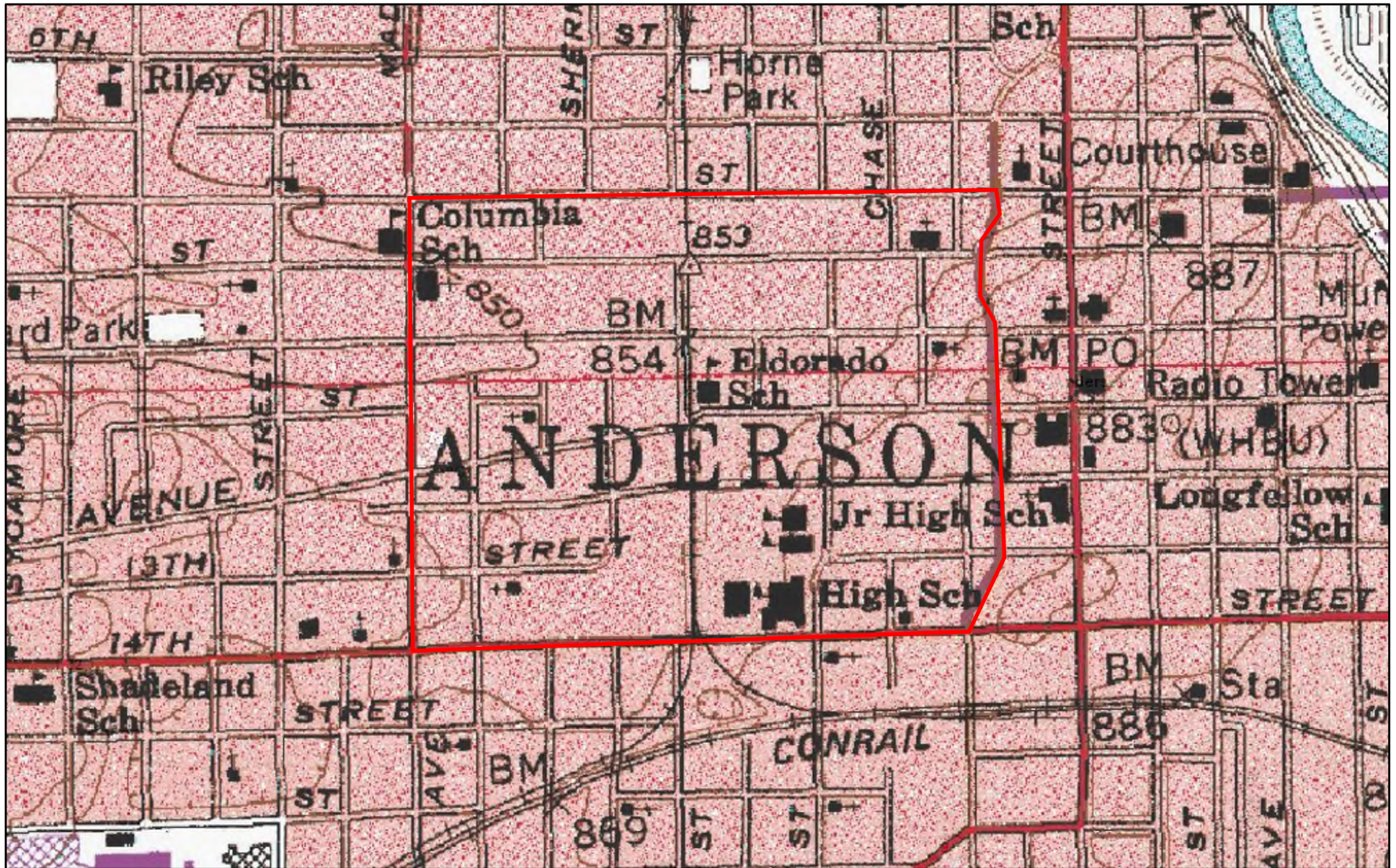
| | |
|---|--------------|
| Proposed 6" Water Main to Replace Existing 2" Water Main | 5,860 |
| Proposed 6" Water Main to Replace Existing 4" & 6" Water Main | - |
| Total Length Proposed Water Mains (Replacement) | 5,860 |
| 2" Retired with Service Reconnect to Parallel Existing Main | - |
| Total 2" Water Mains to be Eliminated | 5,860 |
| Service Lines to be Replaced | 370 |
| Service Line Leaks 2017-2022 | 27 |
| Percent of Service Line Leaks in 5 years | 7.3% |
| Water Main Leaks 2017-2022 | 4 |
| Total Length of Existing Water Main in Area | 27,135 |
| Percentage of Water Mains to Be Replaced | 22% |



LEGEND

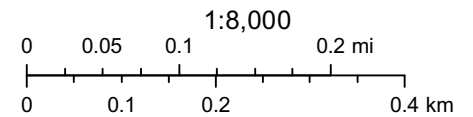
| | | |
|--|-------------------|---|
| | 2" RET | WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN |
| | 4"W | PROPOSED 4" WATER MAIN |
| | 6"W | PROPOSED 6" WATER MAIN |
| | 12"W | PROPOSED 12" WATER MAIN |
| | 3/4" 1" 2" 1 1/2" | EXISTING 2" & SMALLER 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 5.11a: Historic District - USGS Map

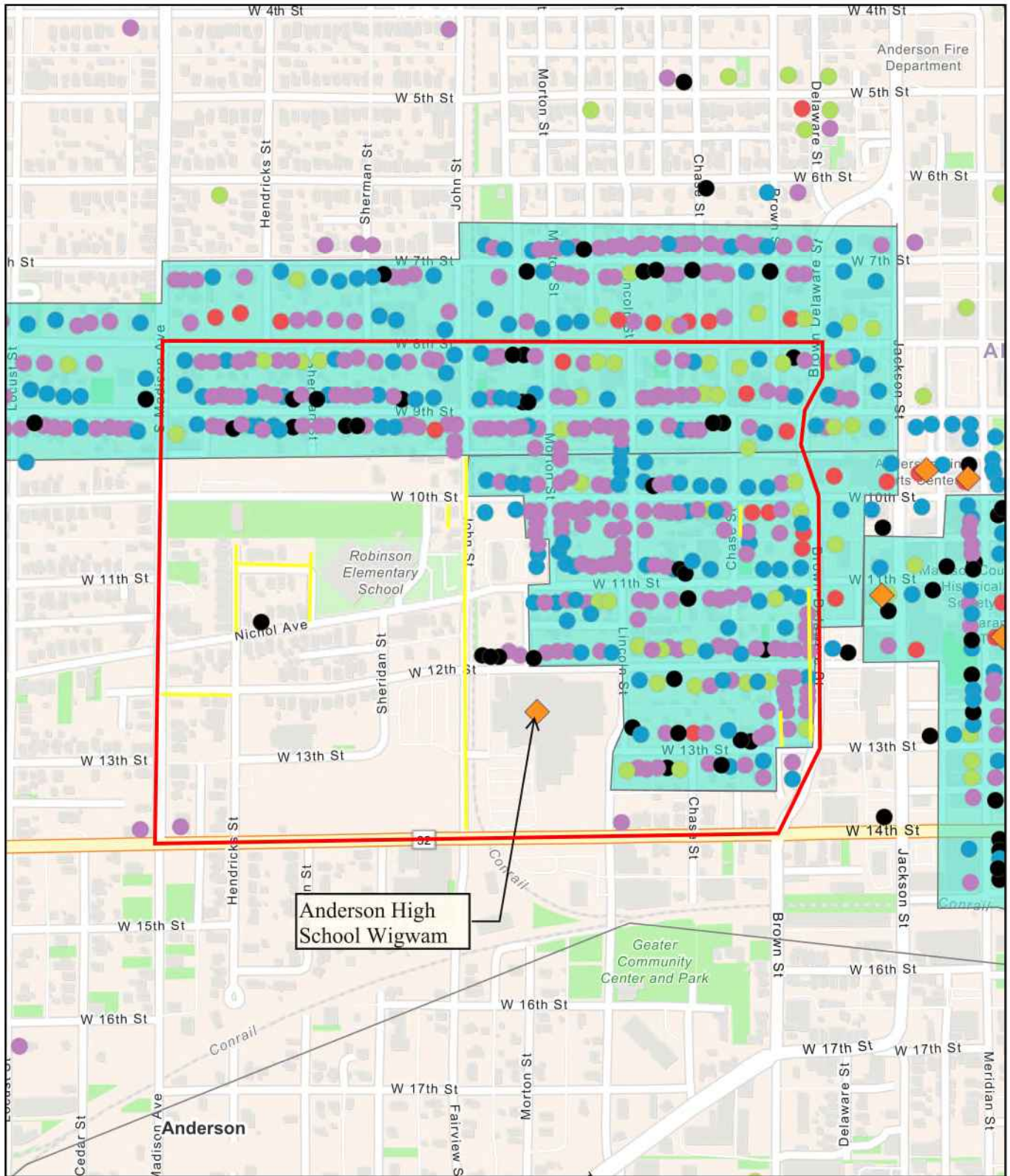


-  State Boundary
-  Proposed Water Main and Service Line Replacement

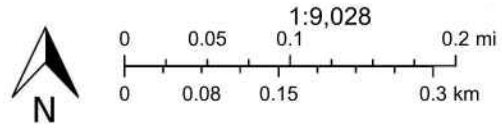


United States Geological Survey (USGS)
Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB)

Figure 5.11b: Historic District - Historic Resources



- Counties
- Non-Contributing
- Demolished
- National Register Historic Districts
- US Railroads 1870
- Civil Township Boundaries
- USGS Topo Quads
- Proposed Water Main and Service Line Replacement
- ◆ Listed
- National Register Historic Districts
- Outstanding
- Notable
- Contributing
- Proposed Water Main

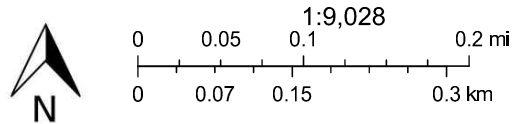


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Figure 5.11c: Historic District - Floodplains & Wetlands

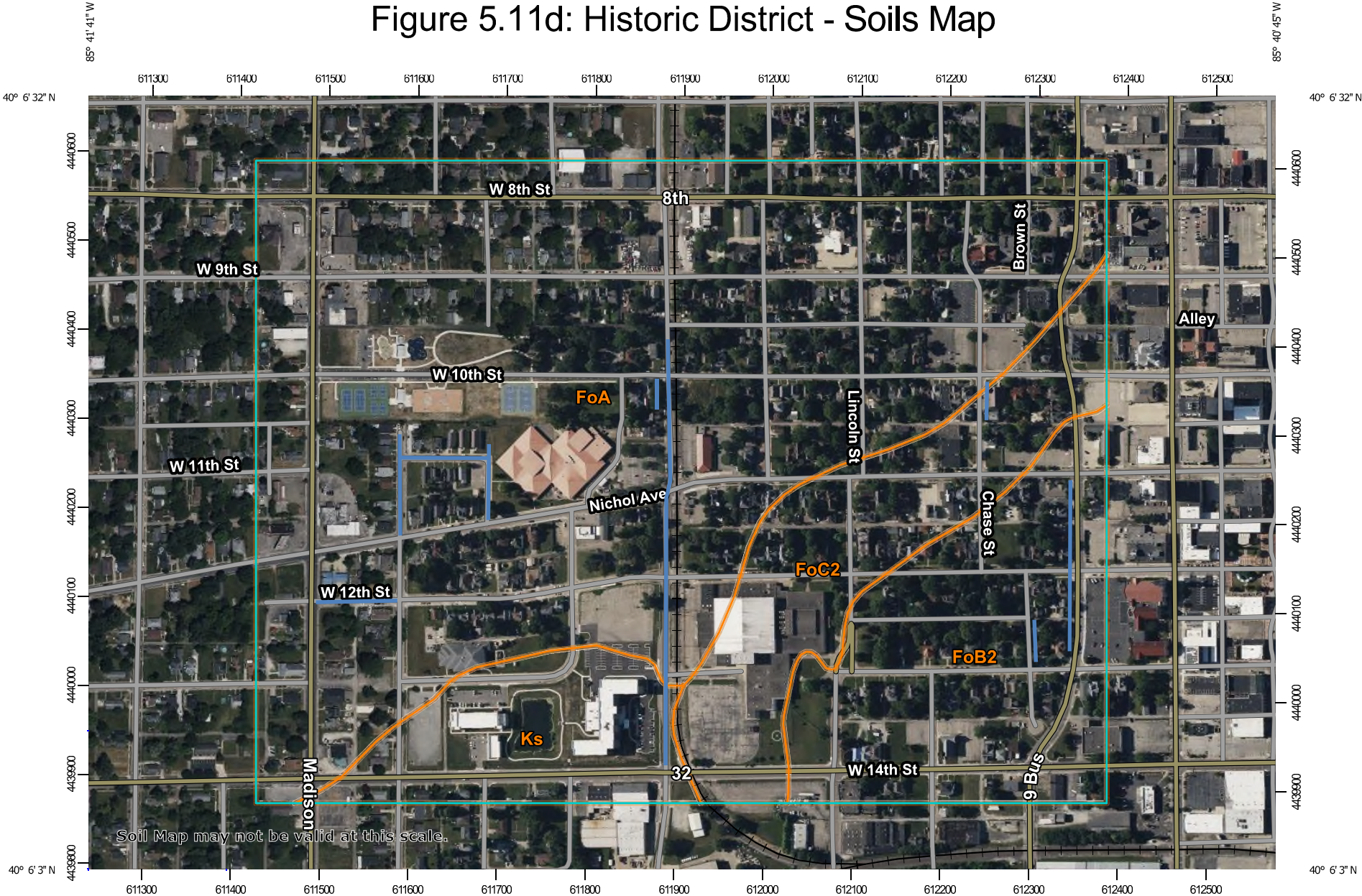


- Proposed Water Main and Service Line Replacement
- FIRM Flood Hazard Zones 2023
- /// AE,<Null>
- X,0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- FIRM Flood Hazard Zones 2023
- /// AE,<Null>
- X,0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- National Wetlands Inventory - NWI Wetlands Historic Map Info



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

Figure 5.11d: Historic District - Soils Map



Map Scale: 1:6,120 if printed on A landscape (11" x 8.5") sheet.


0 50 100 200 300 Meters

0 250 500 1000 1500 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

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

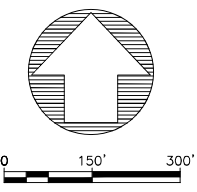
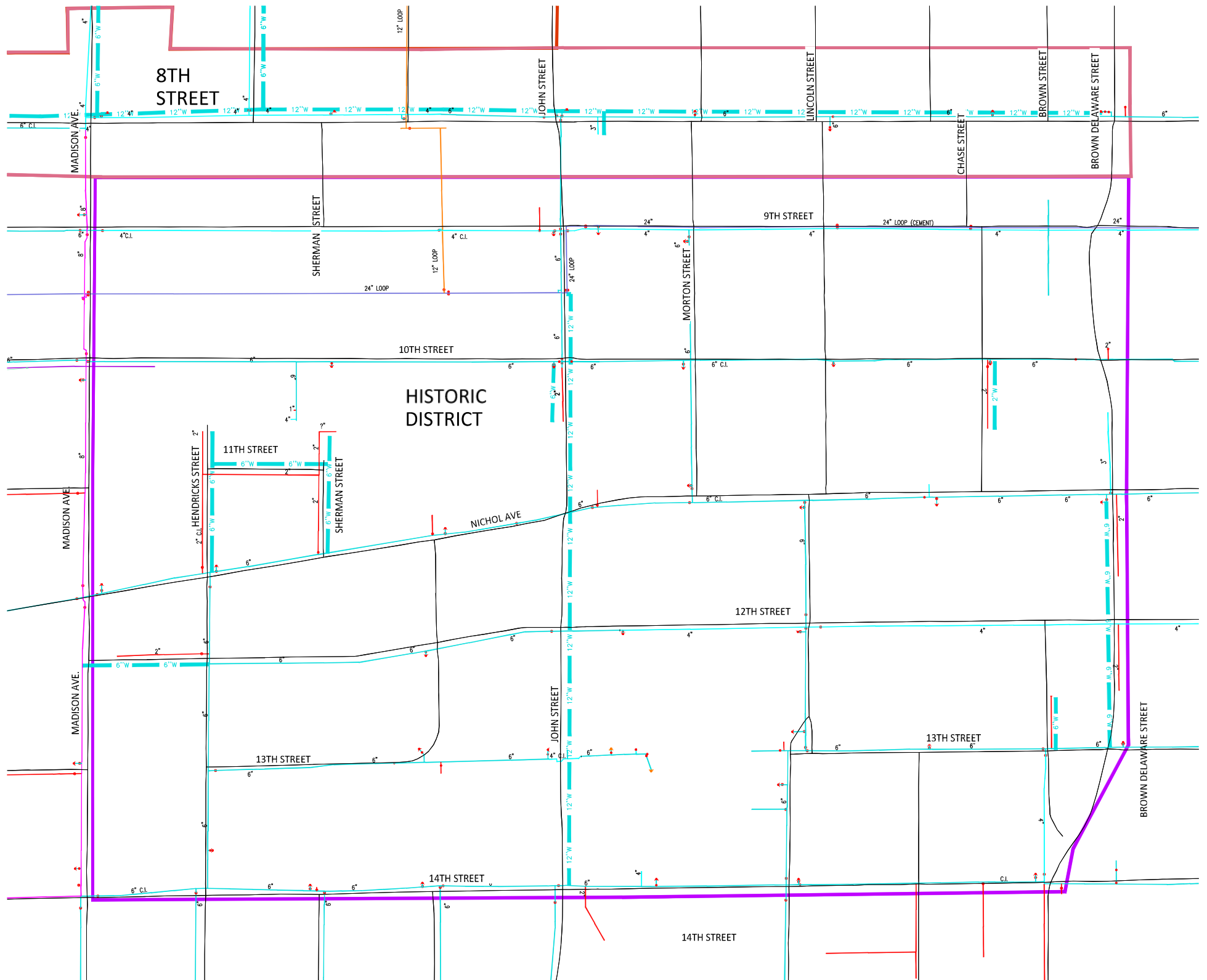
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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 |
|------------------------------------|--|--------------|----------------|
| FoA | Fox silt loam, 0 to 2 percent slopes | 111.1 | 64.7% |
| FoB2 | Fox silt loam, 2 to 6 percent slopes, moderately eroded | 27.0 | 15.7% |
| FoC2 | Fox silt loam, 6 to 12 percent slopes, moderately eroded | 20.5 | 11.9% |
| Ks | Kokomo mucky silt loam, stratified substratum | 13.2 | 7.7% |
| Totals for Area of Interest | | 171.8 | 100.0% |



Historic District Service Area Water Main & Service Line Replacement

| | |
|---|--------------|
| Proposed 12" Water Main on John St- improve fire protection | 1,900 |
| Proposed 6" Water Main to Replace Existing 2" Water Main | 2,120 |
| Proposed 6" Water Main to Replace Existing 4" & 6" Water Main | - |
| Total Length Proposed Water Mains (Replacement) | 4,020 |
| 2" Retired with Service Reconnect to Parallel Existing Main | - |
| Total 2" Water Mains to be Eliminated | 2,120 |
| Service Lines to be Replaced | 315 |
| Service Line Leaks 2017-2022 | 14 |
| Percent of Service Line Leaks in 5 years | 4.4% |
| Water Main Leaks 2017-2022 | - |
| Total Length of Existing Water Main in Area | 26,670 |
| Percentage of Water Mains to Be Replaced | 15% |

LEGEND

- 2" RET WATER MAIN TO BE RETIRED IN PLACE, EXISTING SERVICES TO BE RECONNECTED TO NEW OR EXISTING LARGER MAIN
- 4"W 4"W PROPOSED 4" WATER MAIN
- 6"W 6"W PROPOSED 6" WATER MAIN
- 12"W 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



**TABLE 3.1. ALTERNATE #1 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST
PROPOSED SOUTH SIDE 6 MGD WATER TREATMENT PLANT & WELL FIELD
CITY OF ANDERSON WATER DEPARTMENT**

February 2024

| ITEM NO. | DESCRIPTION | QTY | UNITS | UNIT COST | TOTAL COST |
|----------|---|-----|-------|-----------------|-------------------------|
| 1 | Site Work and Grading, Complete | 1 | L.S. | \$ 500,000.00 | \$ 500,000.00 |
| 2 | Site Improvemets, Drives & Concrete Walks, Complete | 1 | L.S. | \$ 300,000.00 | \$ 300,000.00 |
| 3 | Site Piping & Valves, Complete | 1 | L.S. | \$ 1,000,000.00 | \$ 1,000,000.00 |
| 4 | New Wells, estimated 1,400 gpm each | 4 | EACH | \$ 900,000.00 | \$ 3,600,000.00 |
| 5 | Well Field Electrical, Complete | 1 | L.S. | \$ 950,000.00 | \$ 950,000.00 |
| 6 | New Iron and Manganese Removal Unit, Complete | 2 | EACH | \$ 1,500,000.00 | \$ 3,000,000.00 |
| 7 | Backwash Recycle Tank | 1 | L.S. | \$ 800,000.00 | \$ 800,000.00 |
| 8 | Water Treatment Plant Piping and Valves, Complete | 1 | L.S. | \$ 600,000.00 | \$ 600,000.00 |
| 9 | HVAC, Exhaust and Dehumidification Systems, Complete | 1 | L.S. | \$ 80,000.00 | \$ 80,000.00 |
| 10 | Chemical Feed Systems, Complete | 1 | L.S. | \$ 250,000.00 | \$ 250,000.00 |
| 11 | Water Analyzers, Chlorine, pH, Temperature and Turbidity, Complete | 1 | L.S. | \$ 60,000.00 | \$ 60,000.00 |
| 12 | Water Treatment Plant Building Improvements, Complete | 1 | L.S. | \$ 600,000.00 | \$ 600,000.00 |
| 13 | High Service Pumps, Complete | 3 | EACH | \$ 50,000.00 | \$ 150,000.00 |
| 14 | Filter Backwash Water Supply System and Backwash Recycle Pumps and Metering, Complete | 1 | L.S. | \$ 100,000.00 | \$ 100,000.00 |
| 15 | Water Plant Flow Meters, Complete | 1 | L.S. | \$ 50,000.00 | \$ 50,000.00 |
| 16 | Water Treatment Plant Electrical, Complete | 1 | L.S. | \$ 700,000.00 | \$ 700,000.00 |
| 17 | SCADA System Connections & Coordination, Complete | 1 | L.S. | \$ 50,000.00 | \$ 50,000.00 |
| 18 | Emergency Standby Generator | 1 | L.S. | \$ 250,000.00 | \$ 250,000.00 |
| 19 | Mobilization and Demobilization, Complete | 1 | L.S. | \$ 250,000.00 | \$ 250,000.00 |
| 20 | Undercut and Removal of Unsuitable Soils & Granular Backfill (Based on 300 c.y.) | 1 | L.S. | \$ 30,000.00 | \$ 30,000.00 |
| 21 | SCADA Instrumentation and Controls Allowance | 1 | L.S. | \$ 500,000.00 | \$ 500,000.00 |
| 22 | Raw Water Mains | 1 | L.S. | \$ 2,000,000.00 | \$ 2,000,000.00 |
| 23 | Connection to Anderson Distribution System Water Mains | 1 | L.S. | \$ 3,000,000.00 | \$ 3,000,000.00 |
| | PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COST | | | | \$ 18,820,000.00 |
| | CONTINGENCY (RECOMMEND 30%) | | | | \$ 5,646,000.00 |
| | PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COST WITH CONTINGENCY | | | | \$ 24,466,000.00 |

TABLE 3.2. ALTERNATE #2 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Transmission Main & Service Line Replacement

Cross Street from Broadway to CR 200 West

| Description | Quantity | Units | Unit Cost | Total Cost | Service Line Only |
|--|----------|----------|---------------|-----------------|-------------------|
| 24" P.C. 350 D.I. Push-on Joint Water Main, Open Cut Installation | 7,700 | Lin. Ft. | \$ 310.00 | \$ 2,387,000.00 | |
| 24" P.C. 350 D.I. Restrained Joint Water Main, Open Cut Installation | 300 | Lin. Ft. | \$ 340.00 | \$ 102,000.00 | |
| 24" PC 200 DIRJ Water Main, HDD Installation (Madison, Broadway) | 1,500 | L.F. | \$ 660.00 | \$ 990,000.00 | |
| 6" PC 350 DI Water Main, Open Cut (Connections) | 200 | L.F. | \$ 200.00 | \$ 40,000.00 | |
| 30" x 24" DIRJ Tee | 1 | Each | \$ 18,500.00 | \$ 18,500.00 | |
| 24" DIRJ 90° Bend | 0 | Each | \$ 5,500.00 | \$ - | |
| 24" DIRJ 45° Bend | 8 | Each | \$ 5,500.00 | \$ 44,000.00 | |
| 24" DIRJ 22 1/2° Bend | 2 | Each | \$ 5,500.00 | \$ 11,000.00 | |
| 24" DIRJ 11 1/4° Bend | 2 | Each | \$ 5,500.00 | \$ 11,000.00 | |
| 24" x 6" DIRJ Tee | 24 | Each | \$ 5,500.00 | \$ 132,000.00 | |
| Jack & Bore, steel casing, CSX & Indian Creek RR | 260 | L.F. | \$ 700.00 | \$ 182,000.00 | |
| Open Cut Road Crossing (Silver St, Lafayette St., Madison Square, 150 W) | 120 | L.F. | \$ 500.00 | \$ 60,000.00 | |
| Compacted Granular Backfill, Undistributed | 600 | C.Y. | \$ 50.00 | \$ 30,000.00 | |
| Asphalt Pavement Repair, Undistributed | 250 | S.Y. | \$ 110.00 | \$ 27,500.00 | |
| Standard Fire Hydrant w/ 6" Aux. Gate Valve & C.I. Valve Box | 18 | Each | \$ 9,500.00 | \$ 174,800.00 | |
| 24" Gate Valve w/C.I. Valve Box | 2 | Each | \$ 45,000.00 | \$ 90,000.00 | |
| 24" Butterfly Valve w/CI Valve Box | 4 | Each | \$ 16,000.00 | \$ 64,000.00 | |
| 6" Gate Valve w/CI Valve Box | 6 | Each | \$ 1,700.00 | \$ 10,200.00 | |
| 24" DI Anchor Coupling | 6 | Each | \$ 6,500.00 | \$ 39,000.00 | |
| 6" DIRJ Fittings & Miscellaneous | 1 | Lump Sum | \$ 50,000.00 | \$ 50,000.00 | |
| Service Line - Main to Meter | 52 | Each | \$ 3,500.00 | \$ 182,000.00 | \$ 182,000.00 |
| Service Line - Meter to House Replacement | 30 | Each | \$ 4,000.00 | \$ 120,000.00 | \$ 120,000.00 |
| Meter Pit Replacement | 52 | Each | \$ 1,500.00 | \$ 78,000.00 | \$ 78,000.00 |
| Soil Erosion Control & Landscape Restoration | 7,700 | L.F. | \$ 2.00 | \$ 15,400.00 | \$ 2,310.00 |
| Mobilization & De-Mobilization | 1 | Lump Sum | \$ 160,000.00 | \$ 160,000.00 | \$ 24,000.00 |
| Field Tile Repair | 20 | Each | \$ 800.00 | \$ 16,000.00 | \$ 2,400.00 |
| GPS As Builts | 1 | Lump Sum | \$ 3,500.00 | \$ 3,500.00 | \$ 525.00 |
| Traffic Control | 1 | Lump Sum | \$ 40,000.00 | \$ 40,000.00 | \$ 6,000.00 |
| Estimate of Probable Construction Cost | | | | \$ 5,077,900.00 | \$ 415,235.00 |
| Contingency (±20%) | | | | \$ 1,015,580.00 | \$ 83,047.00 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | | \$ 6,093,480.00 | \$ 498,282.00 |

TABLE 3.3. ALTERNATE #3 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

8th Street from Raible to Delaware

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|---------------|------------------------|------------------------|
| 12" PC 350 DI Water Main, Open Cut, with Granular BF | L.F. | 7360 | \$ 230.00 | \$ 1,692,800.00 | |
| 12" PC 350 DI Water Main, HDD | L.F. | 800 | \$ 300.00 | \$ 240,000.00 | |
| 8" PC 350 DI RJ Water Main | L.F. | 80 | \$ 250.00 | \$ 20,000.00 | |
| 6" C900 PVC Water Main | L.F. | 7520 | \$ 85.00 | \$ 639,200.00 | |
| Special Crossing - Railroad | L.S. | 1 | \$ 50,000.00 | \$ 50,000.00 | |
| Special Crossing - Raible Avenue | L.S. | 1 | \$ 50,000.00 | \$ 50,000.00 | |
| Special Crossing - Brown Delaware Street | L.S. | 1 | \$ 50,000.00 | \$ 50,000.00 | |
| New Tap on New Water Main | Each | 272 | \$ 1,200.00 | \$ 326,400.00 | \$ 326,400.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 272 | \$ 2,300.00 | \$ 625,600.00 | \$ 625,600.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 218 | \$ 4,000.00 | \$ 872,000.00 | \$ 872,000.00 |
| Meter Pit Replacement | Each | 218 | \$ 1,500.00 | \$ 327,000.00 | \$ 327,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 17 | \$ 9,500.00 | \$ 161,500.00 | |
| Fittings | L.S. | 1 | \$ 169,280.00 | \$ 169,280.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 169,280.00 | \$ 169,280.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 84,640.00 | \$ 84,640.00 | |
| 12" Gate Valve w/ Valve Box | Each | 18 | \$ 4,600.00 | \$ 82,800.00 | |
| 8" Gate Valve w/Valve Box | Each | 2 | \$ 3,500.00 | \$ 7,000.00 | |
| 6" Gate Valve w/ Valve Box | Each | 10 | \$ 2,400.00 | \$ 24,000.00 | |
| Granular Backfill | L.F. | 7360 | \$ 30.00 | \$ 220,800.00 | |
| Asphalt Pavement Repair | L.F. | 14,960 | \$ 65.00 | \$ 972,400.00 | |
| Soil Erosion Control & Landscape Restoration | L.F. | 15,760 | \$ 2.00 | \$ 31,520.00 | \$ 9,456.00 |
| Traffic Control | L.S. | 1 | \$ 100,000.00 | \$ 100,000.00 | \$ 30,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | \$ 18,000.00 |
| Contaminated Soils | CY | 30 | \$ 275.00 | \$ 8,250.00 | |
| Demolition | L.S. | 1 | \$ 55,000.00 | \$ 55,000.00 | \$ 16,500.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 100,000.00 | \$ 100,000.00 | \$ 30,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 7,139,470.00 | \$ 2,254,956.00 |
| Contingency (±20%) | | | | \$ 1,427,894.00 | \$ 450,991.20 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | | \$ 8,567,364.00 | \$ 2,705,947.20 |

TABLE 3.4. ALTERNATE #4 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

North Cross A Neighborhood

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|---------------|------------------------|-------------------|
| 8" C900 PVC Water Main | L.F. | 40 | \$ 250.00 | \$ 10,000.00 | |
| 6" C900 PVC Water Main | L.F. | 14125 | \$ 80.00 | \$ 1,130,000.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 84 | \$ 3,600.00 | \$ 302,400.00 | \$ 302,400.00 |
| New Tap on New Water Main | Each | 252 | \$ 1,200.00 | \$ 302,400.00 | \$ 302,400.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 336 | \$ 2,300.00 | \$ 772,800.00 | \$ 772,800.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 270 | \$ 4,000.00 | \$ 1,080,000.00 | \$ 1,080,000.00 |
| Meter Pit Replacement | Each | 270 | \$ 1,500.00 | \$ 405,000.00 | \$ 405,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 19 | \$ 9,500.00 | \$ 180,500.00 | |
| Fittings | L.S. | 1 | \$ 100,000.00 | \$ 100,000.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 100,000.00 | \$ 100,000.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | |
| 8" Gate Valve w/Valve Box | Each | 1 | \$ 3,000.00 | \$ 3,000.00 | |
| 6" Gate Valve w/ Valve Box | Each | 30 | \$ 2,400.00 | \$ 72,000.00 | |
| Granular Backfill | L.F. | 14165 | \$ 30.00 | \$ 424,950.00 | |
| Asphalt Pavement Repair | L.F. | 14165 | \$ 42.00 | \$ 594,930.00 | |
| Soil Erosion Control & Landscape Restoration | L.F. | 14,165 | \$ 2.00 | \$ 28,330.00 | \$ 14,165.00 |
| Traffic Control | L.S. | 1 | \$ 40,000.00 | \$ 40,000.00 | \$ 20,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | \$ 30,000.00 |
| Contaminated Soils | CY | 30 | \$ 275.00 | \$ 8,250.00 | |
| Demolition | L.S. | 1 | \$ 35,000.00 | \$ 35,000.00 | \$ 17,500.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 80,000.00 | \$ 80,000.00 | \$ 40,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 5,789,560.00 | \$ 2,984,265.00 |
| Contingency (±20%) | | | | \$ 1,157,912.00 | \$ 596,853.00 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | | \$ 6,947,472.00 | \$ 3,581,118.00 |

TABLE 3.5. ALTERNATE #5 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

North Cross B Neighborhood

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|--------------|-----------------|-------------------|
| 6" C900 PVC Water Main | L.F. | 12,295 | \$ 80.00 | \$ 983,600.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 85 | \$ 3,600.00 | \$ 306,000.00 | \$ 306,000.00 |
| New Tap on New Water Main | Each | 293 | \$ 1,200.00 | \$ 351,600.00 | \$ 351,600.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 378 | \$ 3,500.00 | \$ 1,323,000.00 | \$ 1,323,000.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 300 | \$ 4,000.00 | \$ 1,200,000.00 | \$ 1,200,000.00 |
| Meter Pit Replacement | Each | 300 | \$ 1,500.00 | \$ 450,000.00 | \$ 450,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 24 | \$ 9,500.00 | \$ 228,000.00 | |
| Fittings | L.S. | 1 | \$ 98,360.00 | \$ 98,360.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 98,360.00 | \$ 98,360.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 49,180.00 | \$ 49,180.00 | |
| 12" Gate Valve w/ Valve Box | Each | 2 | \$ 4,600.00 | \$ 9,200.00 | |
| 8" Gate Valve w/Valve Box | Each | 2 | \$ 3,000.00 | \$ 6,000.00 | |
| 6" Gate Valve w/ Valve Box | Each | 28 | \$ 2,400.00 | \$ 67,200.00 | |
| Granular Backfill | L.F. | 9,836 | \$ 30.00 | \$ 295,080.00 | |
| Asphalt Pavement Repair | L.F. | 9,836 | \$ 42.00 | \$ 413,112.00 | |
| Soil Erosion Control & Landscape Restoration | L.F. | 12,295 | \$ 2.00 | \$ 24,590.00 | \$ 12,295.00 |
| Traffic Control | L.S. | 1 | \$ 40,000.00 | \$ 40,000.00 | \$ 20,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | \$ 30,000.00 |
| Contaminated Soils | CY | 30 | \$ 275.00 | \$ 8,250.00 | |
| Demolition | L.S. | 1 | \$ 35,000.00 | \$ 35,000.00 | \$ 17,500.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 80,000.00 | \$ 80,000.00 | \$ 40,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 6,126,532.00 | \$ 3,750,395.00 |
| Contingency (±20%) | | | | \$ 1,225,306.40 | \$ 750,079.00 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | Total | \$ 7,351,838.40 | \$ 4,500,474.00 |

TABLE 3.6. ALTERNATE #6 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST**Proposed Water Main & Service Line Replacement****West Central Neighborhood (North of 8th Street)**

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|--------------|-----------------|------------------|-------------------------|--------------------------|
| 6" C900 PVC Water Main | L.F. | 27080 | \$ 80.00 | \$ 2,166,400.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | - | \$ 3,600.00 | \$ - | |
| New Tap on New Water Main | Each | 643 | \$ 1,200.00 | \$ 771,600.00 | \$ 771,600.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 643 | \$ 2,300.00 | \$ 1,478,900.00 | \$ 1,478,900.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 510 | \$ 4,000.00 | \$ 2,040,000.00 | \$ 2,040,000.00 |
| Meter Pit Replacement | Each | 510 | \$ 1,500.00 | \$ 765,000.00 | \$ 765,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 34 | \$ 9,500.00 | \$ 323,000.00 | |
| Fittings | L.S. | 1 | \$ 216,640.00 | \$ 216,640.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 216,640.00 | \$ 216,640.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 108,320.00 | \$ 108,320.00 | |
| 12" Gate Valve w/ Valve Box | Each | 2 | \$ 4,600.00 | \$ 9,200.00 | |
| 8" Gate Valve w/Valve Box | Each | 2 | \$ 3,500.00 | \$ 7,000.00 | |
| 6" Gate Valve w/ Valve Box | Each | 52 | \$ 2,400.00 | \$ 124,800.00 | |
| Granular Backfill | L.F. | 21664 | \$ 30.00 | \$ 649,920.00 | |
| Asphalt Pavement Repair | L.F. | 21664 | \$ 42.00 | \$ 909,888.00 | |
| Soil Erosion Control & Landscape Restoration | L.F. | 27,080 | \$ 2.00 | \$ 54,160.00 | \$ 27,080.00 |
| Traffic Control | L.S. | 1 | \$ 80,000.00 | \$ 80,000.00 | \$ 40,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 80,000.00 | \$ 80,000.00 | \$ 40,000.00 |
| Contaminated Soils | CY | 30 | \$ 275.00 | \$ 8,250.00 | |
| Demolition | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | \$ 30,000.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 80,000.00 | \$ 80,000.00 | \$ 40,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 10,149,718.00 | \$ 5,232,580.00 |
| Contingency (±20%) | | | | \$ 2,029,943.60 | \$ 1,046,516.00 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | Total | \$ 12,179,661.60 | \$ 6,279,096.00 |

TABLE 3.7. ALTERNATE #7 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST**Proposed Water Main & Service Line Replacement****Park Place Neighborhood**

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|--------------|-------------------------|------------------------|
| 6" C900 PVC Water Main | L.F. | 9530 | \$ 80.00 | \$ 762,400.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 536 | \$ 3,600.00 | \$ 1,929,600.00 | \$ 1,929,600.00 |
| New Tap on New Water Main | Each | 131 | \$ 1,200.00 | \$ 157,200.00 | \$ 157,200.00 |
| 1.5" - 2" Service Line, Main to Meter | Each | 5 | \$ 4,000.00 | \$ 20,000.00 | \$ 20,000.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 662 | \$ 2,300.00 | \$ 1,522,600.00 | \$ 1,522,600.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 530 | \$ 4,000.00 | \$ 2,120,000.00 | \$ 2,120,000.00 |
| Meter Pit Replacement | Each | 530 | \$ 1,500.00 | \$ 795,000.00 | \$ 795,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 20 | \$ 9,500.00 | \$ 190,000.00 | |
| Fittings | L.S. | 1 | \$ 70,000.00 | \$ 70,000.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 80,000.00 | \$ 80,000.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | |
| 6" Gate Valve w/ Valve Box | Each | 30 | \$ 2,400.00 | \$ 72,000.00 | |
| Granular Backfill | L.F. | 10060 | \$ 30.00 | \$ 301,800.00 | |
| Asphalt Pavement Repair | L.F. | 10060 | \$ 42.00 | \$ 422,520.00 | |
| Landscape Restoration & Erosion | Each | 530 | \$ 150.00 | \$ 79,500.00 | \$ 39,750.00 |
| Traffic Control | L.S. | 1 | \$ 15,000.00 | \$ 15,000.00 | \$ 7,500.00 |
| Mobilization & Demob | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | \$ 30,000.00 |
| Demolition | L.S. | 1 | \$ 25,000.00 | \$ 25,000.00 | \$ 12,500.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 40,000.00 | \$ 40,000.00 | \$ 20,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 8,722,620.00 | \$ 4,527,350.00 |
| Contingency (±20%) | | | | \$ 1,744,524.00 | \$ 905,470.00 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | | \$ 10,467,144.00 | \$ 5,432,820.00 |

TABLE 3.8. ALTERNATE #8 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

Belmont Neighborhood

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|---------------|-----------------|-------------------|
| 6" C900 PVC Water Main | L.F. | 15,565 | \$ 80.00 | \$ 1,245,200.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 16 | \$ 3,600.00 | \$ 57,600.00 | \$ 57,600.00 |
| New Tap on New Water Main | Each | 218 | \$ 1,200.00 | \$ 261,600.00 | \$ 261,600.00 |
| 1.5" - 2" Service Line, Main to Meter | Each | 2 | \$ 4,000.00 | \$ 8,000.00 | \$ 8,000.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 234 | \$ 2,300.00 | \$ 538,200.00 | \$ 538,200.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 187 | \$ 4,000.00 | \$ 748,000.00 | \$ 748,000.00 |
| Meter Pit Replacement | Each | 187 | \$ 1,500.00 | \$ 280,500.00 | \$ 280,500.00 |
| Fire Hydrant w/ Aux Valve | Each | 31 | \$ 9,500.00 | \$ 294,500.00 | |
| Fittings | L.S. | 1 | \$ 124,520.00 | \$ 124,520.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 37,356.00 | \$ 37,356.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 62,260.00 | \$ 62,260.00 | |
| 6" Gate Valve w/ Valve Box | Each | 30 | \$ 2,400.00 | \$ 72,000.00 | |
| Granular Backfill | L.F. | 15,752 | \$ 30.00 | \$ 472,560.00 | |
| Asphalt Pavement Repair | L.F. | 15,752 | \$ 42.00 | \$ 661,584.00 | |
| Landscape Restoration & Erosion | L.F. | 15,752 | \$ 2.00 | \$ 31,504.00 | \$ 12,601.60 |
| Traffic Control | L.S. | 1 | \$ 25,000.00 | \$ 25,000.00 | \$ 10,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 60,000.00 | \$ 60,000.00 | \$ 24,000.00 |
| Demolition | L.S. | 1 | \$ 25,000.00 | \$ 25,000.00 | \$ 10,000.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 40,000.00 | \$ 40,000.00 | \$ 16,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 5,045,384.00 | \$ 1,623,301.60 |
| Contingency (±20%) | | | | \$ 1,009,076.80 | \$ 324,660.32 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | Total | \$ 6,054,460.80 | \$ 1,947,961.92 |

TABLE 3.9. ALTERNATE #9 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

Brentwood Neighborhood

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|--------------|-----------------|-------------------|
| 6" C900 PVC Water Main | L.F. | 2610 | \$ 80.00 | \$ 208,800.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 48 | \$ 3,600.00 | \$ 172,800.00 | \$ 172,800.00 |
| New Tap on New Water Main | Each | 70 | \$ 1,200.00 | \$ 84,000.00 | \$ 84,000.00 |
| 1.5" - 2" Service Line, Main to Meter | Each | 2 | \$ 4,000.00 | \$ 8,000.00 | \$ 8,000.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 118 | \$ 2,300.00 | \$ 271,400.00 | \$ 271,400.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 95 | \$ 4,000.00 | \$ 380,000.00 | \$ 380,000.00 |
| Meter Pit Replacement | Each | 95 | \$ 1,500.00 | \$ 142,500.00 | \$ 142,500.00 |
| Fire Hydrant w/ Aux Valve | Each | 6 | \$ 9,500.00 | \$ 57,000.00 | |
| Fittings | L.S. | 1 | \$ 20,880.00 | \$ 20,880.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 10,440.00 | \$ 10,440.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 10,440.00 | \$ 10,440.00 | |
| 6" Gate Valve w/ Valve Box | Each | 5 | \$ 2,400.00 | \$ 12,000.00 | |
| Granular Backfill | L.F. | 2705 | \$ 30.00 | \$ 81,150.00 | |
| Asphalt Pavement Repair | L.F. | 2705 | \$ 42.00 | \$ 113,610.00 | |
| Landscape Restoration & Erosion | L.F. | 2610 | \$ 2.00 | \$ 5,220.00 | \$ 2,088.00 |
| Traffic Control | L.S. | 1 | \$ 15,000.00 | \$ 15,000.00 | \$ 6,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 20,000.00 | \$ 20,000.00 | \$ 8,000.00 |
| Demolition | L.S. | 1 | \$ 10,000.00 | \$ 10,000.00 | \$ 4,000.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 10,000.00 | \$ 10,000.00 | \$ 4,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 1,633,240.00 | \$ 813,988.00 |
| Contingency (±20%) | | | | \$ 326,648.00 | \$ 162,797.60 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | Total | \$ 1,959,888.00 | \$ 976,785.60 |

TABLE 3.10. ALTERNATE #10 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

Indian Meadows Neighborhood

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|--------------|-----------------|-------------------|
| 6" C900 PVC Water Main | L.F. | 5860 | \$ 80.00 | \$ 468,800.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 311 | \$ 3,600.00 | \$ 1,119,600.00 | \$ 1,119,600.00 |
| New Tap on New Water Main | Each | 59 | \$ 1,200.00 | \$ 70,800.00 | \$ 70,800.00 |
| 1.5" - 2" Service Line, Main to Meter | Each | 2 | \$ 4,000.00 | \$ 8,000.00 | \$ 8,000.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 370 | \$ 2,300.00 | \$ 851,000.00 | \$ 851,000.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 296 | \$ 4,000.00 | \$ 1,184,000.00 | \$ 1,184,000.00 |
| Meter Pit Replacement | Each | 296 | \$ 1,500.00 | \$ 444,000.00 | \$ 444,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 10 | \$ 9,500.00 | \$ 95,000.00 | |
| Fittings | L.S. | 1 | \$ 46,880.00 | \$ 46,880.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 23,440.00 | \$ 23,440.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 23,440.00 | \$ 23,440.00 | |
| 6" Gate Valve w/ Valve Box | Each | 10 | \$ 2,400.00 | \$ 24,000.00 | |
| Granular Backfill | L.F. | 6156 | \$ 30.00 | \$ 184,680.00 | |
| Asphalt Pavement Repair | L.F. | 6156 | \$ 42.00 | \$ 258,552.00 | |
| Landscape Restoration & Erosion | L.F. | 5860 | \$ 2.00 | \$ 11,720.00 | \$ 4,688.00 |
| Traffic Control | L.S. | 1 | \$ 15,000.00 | \$ 15,000.00 | \$ 6,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 20,000.00 | \$ 20,000.00 | \$ 8,000.00 |
| Demolition | L.S. | 1 | \$ 10,000.00 | \$ 10,000.00 | \$ 4,000.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 15,000.00 | \$ 15,000.00 | \$ 6,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 4,873,912.00 | \$ 2,501,688.00 |
| Contingency (±20%) | | | | \$ 974,782.40 | \$ 500,337.60 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | Total | \$ 5,848,694.40 | \$ 3,002,025.60 |

TABLE 3.11. ALTERNATE #11 - PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Proposed Water Main & Service Line Replacement

Historic District Neighborhood

| Description | Units | Quantity | Unit Cost | Total Cost | Service Line Only |
|---|-------|----------|--------------|-----------------|-------------------|
| 12" PC 350 DI Water Main, Open Cut, with Granular BF | L.F. | 1900 | \$ 240.00 | \$ 456,000.00 | |
| 6" C900 PVC Water Main | L.F. | 2120 | \$ 80.00 | \$ 169,600.00 | |
| New Tap and Removal of Existing Tap/Gooseneck | Each | 286 | \$ 3,600.00 | \$ 1,029,600.00 | \$ 1,029,600.00 |
| New Tap on New Water Main | Each | 28 | \$ 1,200.00 | \$ 33,600.00 | \$ 33,600.00 |
| 1.5" - 2" Service Line, Main to Meter | Each | 2 | \$ 4,000.00 | \$ 8,000.00 | \$ 8,000.00 |
| 3/4"-1" Service Line , Main to Meter | Each | 314 | \$ 2,300.00 | \$ 722,200.00 | \$ 722,200.00 |
| 3/4" and 1" Service Line, Meter to building | Each | 250 | \$ 4,000.00 | \$ 1,000,000.00 | \$ 1,000,000.00 |
| Meter Pit Replacement | Each | 250 | \$ 1,500.00 | \$ 375,000.00 | \$ 375,000.00 |
| Fire Hydrant w/ Aux Valve | Each | 10 | \$ 9,500.00 | \$ 95,000.00 | |
| Fittings | L.S. | 1 | \$ 62,560.00 | \$ 62,560.00 | |
| Tapping Sleeves | L.S. | 1 | \$ 31,280.00 | \$ 31,280.00 | |
| Line Stops & MJ Plug/Cap | L.S. | 1 | \$ 31,280.00 | \$ 31,280.00 | |
| 12" Gate Valve w/Valve Box | Each | 4 | \$ 4,600.00 | \$ 18,400.00 | |
| 6" Gate Valve w/ Valve Box | Each | 10 | \$ 2,400.00 | \$ 24,000.00 | |
| Granular Backfill | L.F. | 4020 | \$ 30.00 | \$ 120,600.00 | |
| Asphalt Pavement Repair | L.F. | 4020 | \$ 42.00 | \$ 168,840.00 | |
| Landscape Restoration & Erosion | L.F. | 4020 | \$ 2.00 | \$ 8,040.00 | \$ 3,216.00 |
| Traffic Control | L.S. | 1 | \$ 20,000.00 | \$ 20,000.00 | \$ 8,000.00 |
| Mobilization & Demob | L.S. | 1 | \$ 25,000.00 | \$ 25,000.00 | \$ 10,000.00 |
| Demolition | L.S. | 1 | \$ 15,000.00 | \$ 15,000.00 | \$ 6,000.00 |
| Pothole and Sewer Televising Utility Verification | L.S. | 1 | \$ 15,000.00 | \$ 15,000.00 | \$ 6,000.00 |
| Preliminary Estimate of Probable Construction Cost | | | | \$ 4,429,000.00 | \$ 2,124,416.00 |
| Contingency (±20%) | | | | \$ 885,800.00 | \$ 424,883.20 |
| Total Opinion of Probable Construction Cost (With Contingency) | | | Total | \$ 5,314,800.00 | \$ 2,549,299.20 |



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

In Reply Refer To:

03/29/2024 15:11:33 UTC

Project code: 2024-0070126

Project Name: City of Anderson Drinking Water Improvements

Federal Nexus: yes

Federal Action Agency (if applicable): Environmental Protection Agency

Subject: Record of project representative's no effect determination for 'City of Anderson Drinking Water Improvements'

Dear Jill Curry:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 29, 2024, for 'City of Anderson Drinking Water Improvements' (here forward, Project). This project has been assigned Project Code 2024-0070126 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed

action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Indiana Bat *Myotis sodalis* Endangered
- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

Based upon your IPaC submission, your project has reached the determination of "No Effect" on the northern long-eared bat. If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the Indiana Ecological Services Field Office and reference Project Code 2024-0070126 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

City of Anderson Drinking Water Improvements

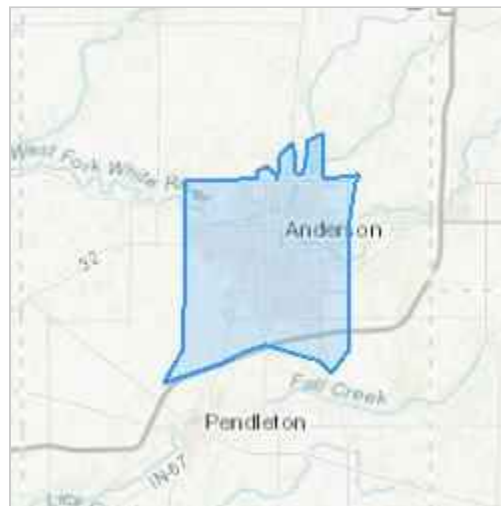
2. Description

The following description was provided for the project 'City of Anderson Drinking Water Improvements':

Phase I Proposed Projects

- Alternative 2: Cross Street Water Transmission Main & Service Line Replacement
- Alternative 3: 8th Street Water Main & Service Line Replacement
- Alternative 4: North Anderson Cross A Water Main & Service Line Replacement
- Alternative 5: North Anderson Cross B Water Main & Service Line Replacement
- Alternative 6: West Central Water Main & Service Line Replacement
- Alternative 7: Park Place Water Main & Service Line Replacement
- Alternative 8: Belmont Water Main & Service Line Replacement
- Alternative 9: Brentwood Water Main & Service Line Replacement
- Alternative 10: Indian Meadows Water Main & Service Line Replacement
- Alternative 11: Historic District Water Main & Service Line Replacement

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.093536,-85.69110196271873,14z>



DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the Endangered northern long-eared bat (*Myotis septentrionalis*). Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. The action area does not overlap with an area for which U.S. Fish and Wildlife Service currently has data to support the presumption that the northern long-eared bat is present. Are you aware of other data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed NLEB acoustic detections. Data on captures, roost tree use, and acoustic detections should post-date the year when white-nose syndrome was detected in the relevant state. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

3. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

5. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

No

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

Yes

8. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

Yes

PROJECT QUESTIONNAIRE

Will all project activities be completed by April 1, 2024?

No

IPAC USER CONTACT INFORMATION

Agency: Anderson city
Name: Jill Curry
Address: 110 Commerce Drive
City: Danville
State: IN
Zip: 46122
Email: jill@recurry.com
Phone: 3177456995

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Environmental Protection Agency

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

In Reply Refer To:

03/29/2024 15:10:18 UTC

Project Code: 2024-0070126

Project Name: City of Anderson Drinking Water Improvements

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process. For all **wind energy projects and projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of

Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Indiana Ecological Services Field Office

620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

PROJECT SUMMARY

- Project Code: 2024-0070126
- Project Name: City of Anderson Drinking Water Improvements
- Project Type: Water Supply Pipeline - Maintenance/Modification - Below Ground
- Project Description: Phase I Proposed Projects
- Alternative 2: Cross Street Water Transmission Main & Service Line Replacement
 - Alternative 3: 8th Street Water Main & Service Line Replacement
 - Alternative 4: North Anderson Cross A Water Main & Service Line Replacement
 - Alternative 5: North Anderson Cross B Water Main & Service Line Replacement
 - Alternative 6: West Central Water Main & Service Line Replacement
 - Alternative 7: Park Place Water Main & Service Line Replacement
 - Alternative 8: Belmont Water Main & Service Line Replacement
 - Alternative 9: Brentwood Water Main & Service Line Replacement
 - Alternative 10: Indian Meadows Water Main & Service Line Replacement
 - Alternative 11: Historic District Water Main & Service Line Replacement

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.093536,-85.69110196271873,14z>



Counties: Madison County, Indiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

| NAME | STATUS |
|--|------------------------|
| Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045 | Endangered |
| Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> This species only needs to be considered if the project includes wind turbine operations. Species profile: https://ecos.fws.gov/ecp/species/10515 | Proposed Endangered |

BIRDS

| NAME | STATUS |
|--|--|
| Whooping Crane <i>Grus americana</i> Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758 | Experimental Population, Non- Essential |

INSECTS

| NAME | STATUS |
|--|-----------|
| Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743 | Candidate |

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider

implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

1. The [Bald and Golden Eagle Protection Act](#) of 1940.
2. The [Migratory Birds Treaty Act](#) of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|--|-------------------------|
| Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626 | Breeds Oct 15 to Aug 31 |

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

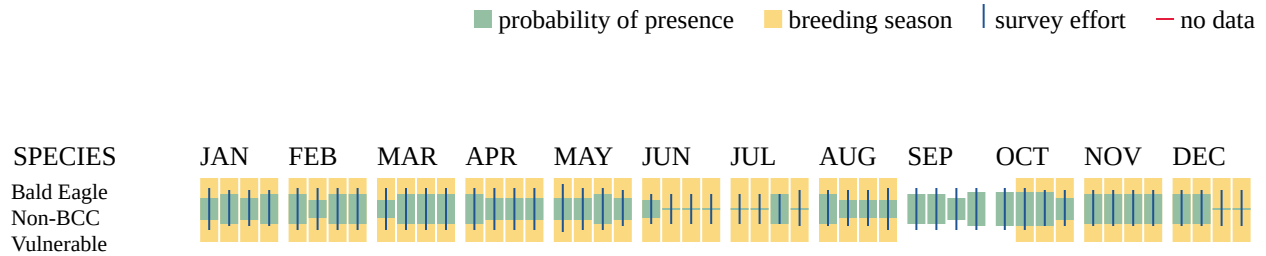
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|-------------------------|
| <p>American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561</p> | Breeds elsewhere |
| <p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p> | Breeds Oct 15 to Aug 31 |
| <p>Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399</p> | Breeds May 15 to Oct 10 |
| <p>Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454</p> | Breeds May 20 to Jul 31 |
| <p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406</p> | Breeds Mar 15 to Aug 25 |
| <p>Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678</p> | Breeds May 1 to Aug 20 |
| <p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p> | Breeds elsewhere |
| <p>Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561</p> | Breeds elsewhere |
| <p>Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439</p> | Breeds Apr 1 to Jul 31 |
| <p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398</p> | Breeds May 10 to Sep 10 |

| NAME | BREEDING SEASON |
|---|-------------------------|
| Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478 | Breeds elsewhere |
| Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480 | Breeds elsewhere |
| Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431 | Breeds May 10 to Aug 31 |

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort — no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER POND

- PUBF_x
- PUBK_r
- PUBG_h
- PUBG_x
- PUBF
- PUBG
- PABG
- PUBK

RIVERINE

- R2UBH
- R4SBC
- R2UBH_x
- R5UBH

FRESHWATER EMERGENT WETLAND

- PEM1C_d
- PEM1B
- PEM1A
- PEM1F_x
- PEM1F

- PEM1Cx
- PEM1C
- PEM1Ad

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1C
- PFO1Ax
- PFO1A
- PSS1/EM1A
- PSS1A
- PSS1F
- PFO1/EM1A
- PSS1C
- PFO1/EM1C
- PSS1/EM1C

LAKE

- L1UBHx

IPAC USER CONTACT INFORMATION

Agency: Anderson city
Name: Jill Curry
Address: 110 Commerce Drive
City: Danville
State: IN
Zip: 46122
Email: jill@recurry.com
Phone: 3177456995

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Environmental Protection Agency

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)

Appendix C



DRINKING WATER SRF PROJECT FINANCING INFORMATION

Proposed Project Costs

| | | |
|-----------|---|--|
| a. | Water Supply/Wells cost | \$ 4,550,000.00 (Phase II) |
| b. | Treatment System cost | \$ 14,270,000.00 (Phase II) |
| c. | Water Storage cost | \$ _____ |
| d. | Transmission/Distribution System cost | \$ 32,759,161.40 (Phase I) |
| e. | Lead Service Line Replacement cost | \$ 26,228,174.60 (Phase I) |
| f. | Subtotal Construction Cost | \$77,807,336.00 (both Phases) (Phase 1 = \$58,987,336, Phase 2 = \$18,820,000) |
| g. | Contingencies (should not exceed 10% of construction cost) | \$ 17,562,000.00 (both Phases) (Phase 1 = \$11,798,000, Phase 2 = \$5,764,000) |
| h. | Non-construction cost e.g., engineering, legal, and financial services related to the project, land costs, start-up costs, and construction inspection | \$ 13,600,000.00 (both Phases) (Phase 1 = \$10,010,000, Phase 2 = \$3,590,000) |
| i. | Total Project Cost (lines f+g+h) | \$108,969,336 (both Phases) (Phase 1 = \$80,795,336, Phase 2 = \$28,174,000) |

Ineligible costs (see below)

\$ _____

Proposed Funding Information

| | | |
|-----------|------------------------------|---------------------------------------|
| a. | Requested SRF Financing | \$ 108,969,336.00 (both Phases) |
| b. | Co-Source: _____ | \$ _____ |
| c. | Co-Source: _____ | \$ _____ |
| d. | Co-Source: _____ | \$ _____ |
| e. | Total Funding Sources | \$108,969,336.00 (both Phases) |

CALCULATIONS FOR INELIGIBLE COSTS

The following are not eligible for Drinking Water SRF reimbursements:

- | | | |
|-----------|---|-----------------|
| 1. | Materials & work done on private property | \$ _____ |
| 2. | Grant applications and income surveys completed for other agencies | \$ _____ |
| 3. | Project components with the primary intent of promoting economic development and growth | \$ _____ |
| 4. | Project components with the sole purpose of providing fire protection Expenses incurred as a part of forming RWDs, CDs, etc., or changing boundaries, or other non-SRF District activities | \$ _____ |
| 5. | Costs for preparing Wellhead Protection Plans and other tasks unrelated to the SRF project | \$ _____ |
| 6. | Cleaning of equipment or other routine operation and maintenance activities. | \$ _____ |
| 7. | Total Ineligible Costs | \$ _____ |

**State Revolving Fund Loan Program
Asset Management Program Certification Form
Inclusive of
Fiscal Sustainability Plan Certification**

(To be submitted either at the time of loan closing or no later than the final disbursement of a Participant's loan proceeds)

| | | | |
|--|--------------|--------------------|--|
| Participant Name City of Anderson, Water Utility | | | |
| Street Address 550 Dale Keith Jones Road | | P. O. Box Number | |
| City Anderson | State IN | Zip Code 46011 | |

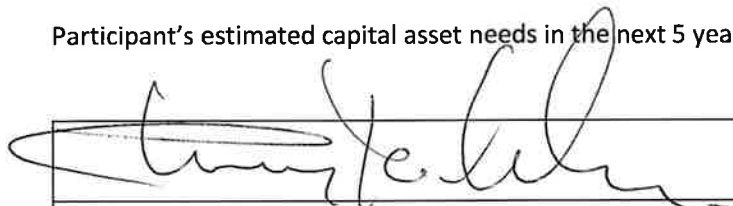
Indiana Code 5-1.2-10-16 requires a Participant that receives a loan or other financial assistance from the State Revolving Fund Loan Program (SRF) to certify that the Participant has documentation demonstrating it has the financial, managerial, technical and legal capability to operate and maintain its water or wastewater collection and treatment system. A Participant must demonstrate that it has developed an asset management program as defined in the Indiana Finance Authority's (Authority) Asset Management Program Guidelines.

Section 603(d)(1)(E) of the Federal Water Pollution Control Act (FWPCA) requires a recipient of a loan for a project that involves the repair, replacement, or expansion of a publicly owned treatment works to develop and implement a Fiscal Sustainability Plan (FSP). The requirement pertains to those portions of the treatment works paid for with Clean Water SRF Loan Funds.

The Asset Management Program (AMP) shall be inclusive of the requirements of the FSP for Wastewater and Drinking Water projects and shall include at a minimum the following: (1) A system map (2) An inventory and assessment of system assets (3) development of an infrastructure inspection, repair, and maintenance plan, including a plan for funding such activities (4) an evaluation and implementation of water and energy conservation efforts (5) An analysis of the customer rates necessary to support the AMP (6) Audit performed at least every two years (7) Demonstration of the technical, managerial, legal and financial capability to operate and maintain the system, per the guidelines established by the Authority.

I hereby certify that I am an authorized representative for the above listed Participant and pursuant to IC 5-1.2-10-16 and Section 603(d)(1)(E), the Participant has developed and is implementing an AMP (inclusive of the requirements of an FSP) that meets the requirements established by the Authority. Upon the request of the Environmental Protection Agency (EPA) or the Indiana SRF, the Participant agrees to make the AMP (which includes the FSP requirements) available for inspection and/or review.

Participant's estimated capital asset needs in the next 5 years: \$108,969,336.00

| | |
|--|---|
|  | 3-25-2024 |
| Signature of Authorized Representative | Date |
| THOMAS J. BRADENICK IV. | 765-648-6000 tbradenick@cityofanderson.com |
| Printed Name | Phone Number/Email Address |

March 27, 2024

RE: City of Anderson, DAC Memo

The City of Anderson is planning for drinking water system improvements including water treatment plant replacement, water main replacements, and lead service line replacements.

Census Place Impacted:

Census Place, Anderson city, Indiana, (MHI \$44,974).

Qualifying: All of the following Phase I projects will take place within and benefit this census place:

- **Alternative 3:** 8th Street Water Main & Service Line Replacement
- **Alternative 4:** North Anderson Cross A Water Main & Service Line Replacement
- **Alternative 5:** North Anderson Cross B Water Main & Service Line Replacement
- **Alternative 6:** West Central Water Main & Service Line Replacement
- **Alternative 7:** Park Place Water Main & Service Line Replacement
- **Alternative 8:** Belmont Water Main & Service Line Replacement
- **Alternative 9:** Brentwood Water Main & Service Line Replacement
- **Alternative 10:** Indian Meadows Water Main & Service Line Replacement
- **Alternative 11:** Historic District Water Main & Service Line Replacement

Exception: Transmission Main/Phase I

- **Alternative 2:** Cross Street Water Transmission Main & Service Line Replacement is on the City boundary and may benefit homes just on the edge of the City boundary who are connected to that main. However, this transmission mains primary purpose is to bring drinking water to the city from the Lafayette Water Plant to the north of the City.

Not Included: The proposed Phase II water treatment plant project is still pending final location and is planned for a future SRF Fiscal Year closing. All of the following Phase II projects will benefit people within this census place:

- **Alternative 1:** South Side Water Treatment Plant & Wells

Service Area Overlap: The entire drinking water system is not located within the city limits, however, all proposed Phase I projects are located within the city limits. The water and service line replacements will benefit all customers within city limits.

There are limited customers outside the city limits which includes approximately 3-4 subdivisions and scattered homes on the edge of the city. It is estimated these customers represent only 5% of customers whose income levels would not significantly change the overall MHI given the large number of users in city limits compared to outside city limits. Also, note the Census Tract information at the end of this memo.

Summary Table: Census Place

| Census Place | Project Components | Median Household Income |
|------------------------|--|-------------------------|
| Anderson city, Indiana | <p>Phase I Scope Qualifying:</p> <ul style="list-style-type: none"> • Alternative 3: 8th Street Water Main & Service Line Replacement Cost: \$7,139,470 • Alternative 4: North Anderson Cross A Water Main & Service Line Replacement Cost: \$5,789,560.00 • Alternative 5: North Anderson Cross B Water Main & Service Line Replacement Cost: \$6,126,532.00 • Alternative 6: West Central Water Main & Service Line Replacement Cost: \$10,149,718.00 • Alternative 7: Park Place Water Main & Service Line Replacement Cost: \$8,722,620.00 • Alternative 8: Belmont Water Main & Service Line Replacement Cost: \$5,045,384.00 • Alternative 9: Brentwood Water Main & Service Line Replacement Cost: \$1,633,240.00 • Alternative 10: Indian Meadows Water Main & Service Line Replacement Cost: \$4,873,912.00 • Alternative 11: Historic District Water Main & Service Line Replacement Cost: \$4,429,000.00 | \$44,974 |

Attached Figure: See attached figure identifying projects in relation to Census Place.

CENSUS TRACT INFORMATION (if needed):

Additional Attached Figure – Census Tracts qualifying as disadvantaged community compared to project areas. Nearly all Phase I projects are also within census tracts qualifying as disadvantaged. The exception is the Cross St. Water Transmission Main, the Brentwood area. As noted below, one street/water main on the north end of Park Place does not qualify. Please also see Figure 5.0 in Appendix B of the PER for shaded disadvantaged census tracts compared to project areas.



Summary Table: Census Tract

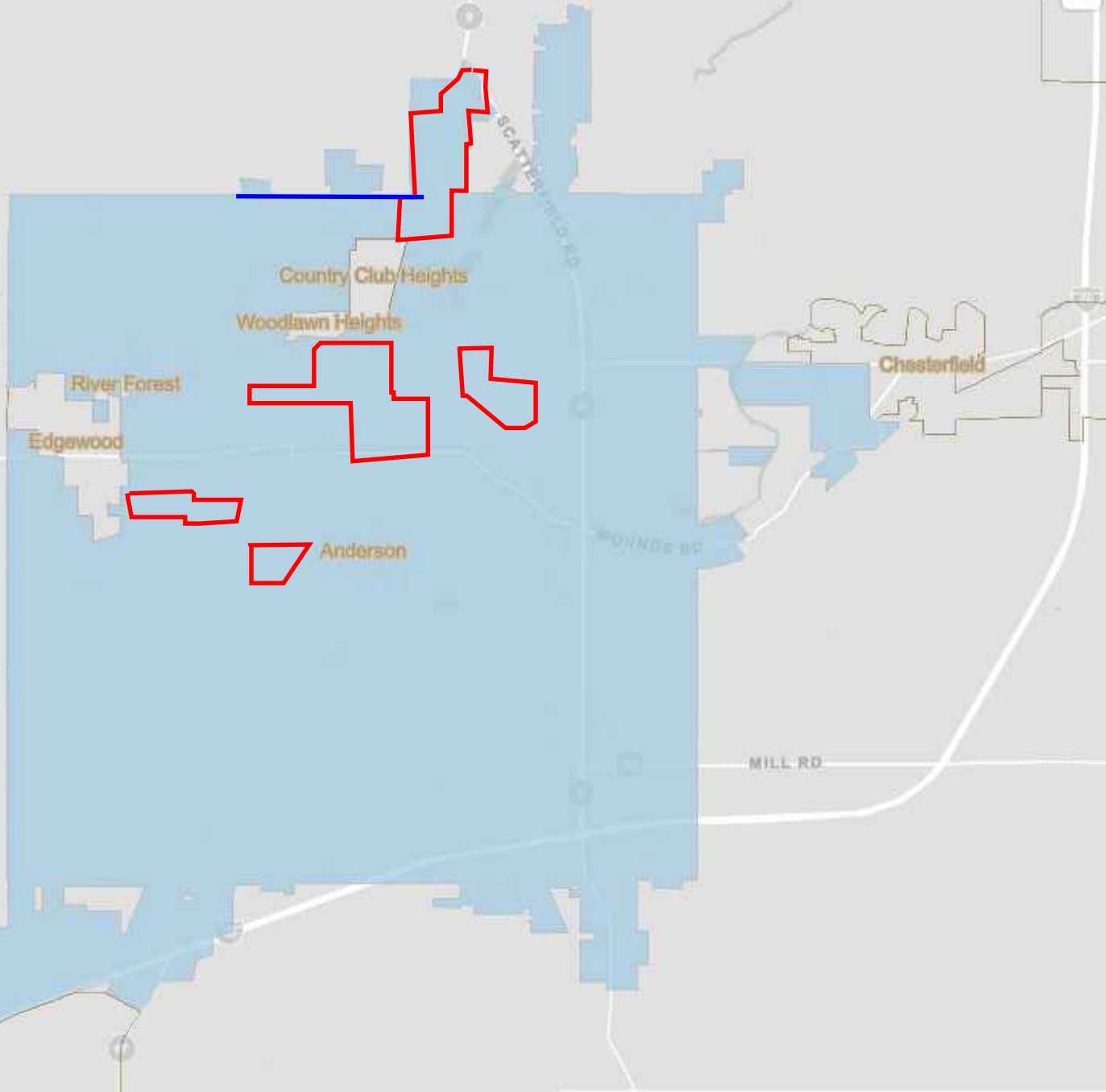
| Census Tracts | Project Components | Median Household Income |
|--|---|--|
| Census Tract 14, Madison County | <p>Phase I Scope Qualifying:</p> <ul style="list-style-type: none"> • Alternative 4: North Anderson Cross A Water Main & Service Line Replacement Cost: \$5,789,560.00 • Alternative 5: North Anderson Cross B Water Main & Service Line Replacement Cost: \$6,126,532.00 • Alternative 10: Indian Meadows Water Main & Service Line Replacement Cost: \$4,873,912.00 | \$41,351 |
| Census Tract 3, 4, & 119, Madison County | <ul style="list-style-type: none"> • Alternative 3: 8th Street Water Main & Service Line Replacement Cost: \$7,139,470 • Alternative 6: West Central Water Main & Service Line Replacement Cost: \$10,149,718.00 • Alternative 11: Historic District Water Main & Service Line Replacement Cost: \$4,429,000.00 | <p>Tract 3 = \$44,091 Tract 4 = \$33,889 Tract 119 = \$29,396</p> |
| Census Tract 11, Madison County | <ul style="list-style-type: none"> • Alternative 7: Park Place Water Main & Service Line Replacement Cost: \$8,722,620.00 <i>*one street does not qualify</i> | \$26,012 |
| Census Tract 5, Madison County | <ul style="list-style-type: none"> • Alternative 8: Belmont Water Main & Service Line Replacement Cost: \$5,045,384.00 | \$35,750 |

Attached Figure: See attached figure identifying projects in relation to Census Tracts.

Median household income in the past 12 months (in 2022 inflation-adjusted dollars)

Legend:

-  Phase I Project Water Main/Service Line Replacement project boundaries
-  Cross St. Water Transmission Main



Number by Place



44,974 to 44,974

2022

Geographies: 1

Median household income in the past 12 months (in 2022 inflation-adjusted dollars)

Legend:

-  Phase I Project Water Main/Service Line Replacement project boundaries
-  Cross Street Water Transmission Main

One street/water main in Park Place is outside the census tract qualifying as disadvantaged.

Brentwood Water Main and Service Line Replacement area outside of the Census Tract qualifying as disadvantaged.

Number by Census Tract

| | | |
|--|------------------|---|
|  | 44,092 to 53,383 | 7 |
|  | 35,751 to 44,091 | 3 |
|  | 29,632 to 35,750 | 4 |
|  | 26,013 to 29,631 | 4 |
|  | 26,012 to 26,012 | 7 |

2022 Geographies: 13