

AREA PLAN COMMISSION

OF TIPPECANOE COUNTY

20 NORTH 3RD STREET
LAFAYETTE, INDIANA 47901-1209

(765) 423-9242
(765) 423-9154 [FAX]
www.tippecanoe.in.gov/apc

SALLIE DELL FAHEY
EXECUTIVE DIRECTOR

Date: January 23, 2014

Re: RED FLAG INVESTIGATION
DES #TBD
Twyckenham Boulevard
Road Reconstruction
Lafayette, Tippecanoe County, Indiana

NARRATIVE

The project is 4-lane full pavement reconstruction of failing concrete pavement and drainage structures. The project includes widening existing lanes and the extension of Twyckenham Trail. It also includes street lights, street trees, sidewalks, accessible ramps and signal modifications at S 9th St. The project is expected to remain within the existing 80' wide right of way. However, up to five potential right of way parcels have only 30' of right of way. They are required to have 40 feet.

SUMMARY

| INFRASTRUCTURE | | | |
|--|-----|-------------------------|-----|
| As identified below the following items of concern were found within ½ mile: | | | |
| Religious Facilities | N/A | Recreational Facilities | N/A |
| Airports | N/A | Pipelines | 5 |
| Cemeteries | N/A | Railroads | 1 |
| Hospitals | N/A | Trails | 2 |
| Schools | N/A | Managed Lands | 2 |

Data provided by INDOT indicates five natural gas pipelines within ½ mile of the project area. One north-south pipeline runs approximately 120 feet east of the project's eastern terminus. None of the other lines come within 500 feet and are unlikely to be affected by construction.

The Norfolk-Southern Railroad runs within ½ mile of the project and comes within 700 feet of the project's eastern terminus. It is not likely to be affected by construction given the line's NW-SE orientation and distance from the project.

The Armstrong Park trail and the rail trail between Beck and S 18th both pass within the ½ mile project buffer. Neither is in the immediate project area or likely to be affected by construction.

Armstrong Park and Bishop Woods are the only managed land areas within ½ mile of the project. Both are more than 1,000 feet from the project line and unlikely to be affected.

| WATER RESOURCES | | | |
|--|------------|------------------------|------------|
| As identified below the following items of concern were found within ½ mile: | | | |
| NWI - Points | N/A | NWI - Wetlands | 5 |
| Karst Springs | N/A | IDEM 303d Listed Lakes | N/A |
| Canal Structures – Historic | N/A | Lakes | 5 |
| NWI - Lines | N/A | Floodplain - DFIRM | N/A |
| IDEM 303d Listed Rivers and Streams (Impaired) | N/A | Cave Entrance Density | N/A |
| Rivers and Streams | 1 | Sinkhole Areas | N/A |
| Canal Routes - Historic | N/A | Sinking-Stream Basins | N/A |

An unnamed Wabash tributary is the only stream within ½ mile of the project. Its location at the very edge of the project buffer area indicates it is unlikely to be affected by construction.

Five lakes are indicated in data provided by INDOT. One is the lake at Armstrong Park. Three are drainage areas for housing developments. The last is a small pond on a single parcel. The five wetland areas coincide with lakes. Two of the housing development drainage ponds are roughly 150 feet south of the project. They will likely be affected by construction if right of way needs increase. No other lake or wetland is likely to be affected by construction.

| MINING/MINERAL EXPLORATION | | | |
|--|------------|---------------------|------------|
| As identified below the following items of concern were found within ½ mile: | | | |
| Petroleum Wells | N/A | Petroleum Fields | N/A |
| Mines – Surface | N/A | Mines – Underground | N/A |

No mining or mineral exploration occurs within ½ mile of the project area.

| HAZMAT CONCERNS | | | |
|--|------------|--|------------|
| As identified below the following items of concern were found within ½ mile: | | | |
| Brownfield Sites | N/A | Restricted Waste Sites | N/A |
| Corrective Action Sites (RCRA) | N/A | Septage Waste Sites | N/A |
| Confined Feeding Operations | N/A | Solid Waste Landfills | N/A |
| Construction Demolition Waste | N/A | State Cleanup Sites | N/A |
| Industrial Waste Sites (RCRA Generators) | N/A | Tire Waste Sites | N/A |
| Infectious/Medical Waste Sites | N/A | Waste Transfer Stations | N/A |
| Lagoon/Surface Impoundments | N/A | RCRA Waste Treatment, Storage, and Disposal Sites (TSDs) | N/A |
| Leaking Underground Storage Tanks (LUSTs) | N/A | Underground Storage Tanks | 1 |
| Manufactured Gas Plant Sites | N/A | Voluntary Remediation Program | 2 |
| NPDES Facilities | N/A | Superfund | N/A |
| NPDES Pipe Locations | 1 | Institutional Control Sites | N/A |
| Open Dump Sites | N/A | Other (see notes) | 3 |

Data provided by INDOT identifies one NPDES pipe location within ½ mile of the project, at Speedway #1311 on South 4th Street.

One underground storage tank is identified at CM Kerlin Elevator, Inc. 900 feet tom west of the project area.

Two voluntary remediation sites are indicated, both at locations owned by Lafayette Bottled Gas Company, Inc.

Three otherwise unidentified spills are within ½ mile of the project area.

All hazmat concerns are more than 1,000 feet from the project and not likely to be affected by construction.

Ecological Information

The Tippecanoe County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached. The ETR species on the state or federal registers are highlighted.

Cultural Resources

No state- or federally-registered historic structures or districts fall within ½ mile of the project.

RECOMMENDATIONS

INFRASTRUCTURE: Prior coordination with Vectren is necessary to verify the location of the north-south pipeline near the project's eastern terminus.

WATER RESOURCES: Prior coordination with homeowner associations of housing developments immediately south of project to minimize effects of construction on ponds on south side of project.

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION: N/A

CULTURAL RESOURCES: N/A

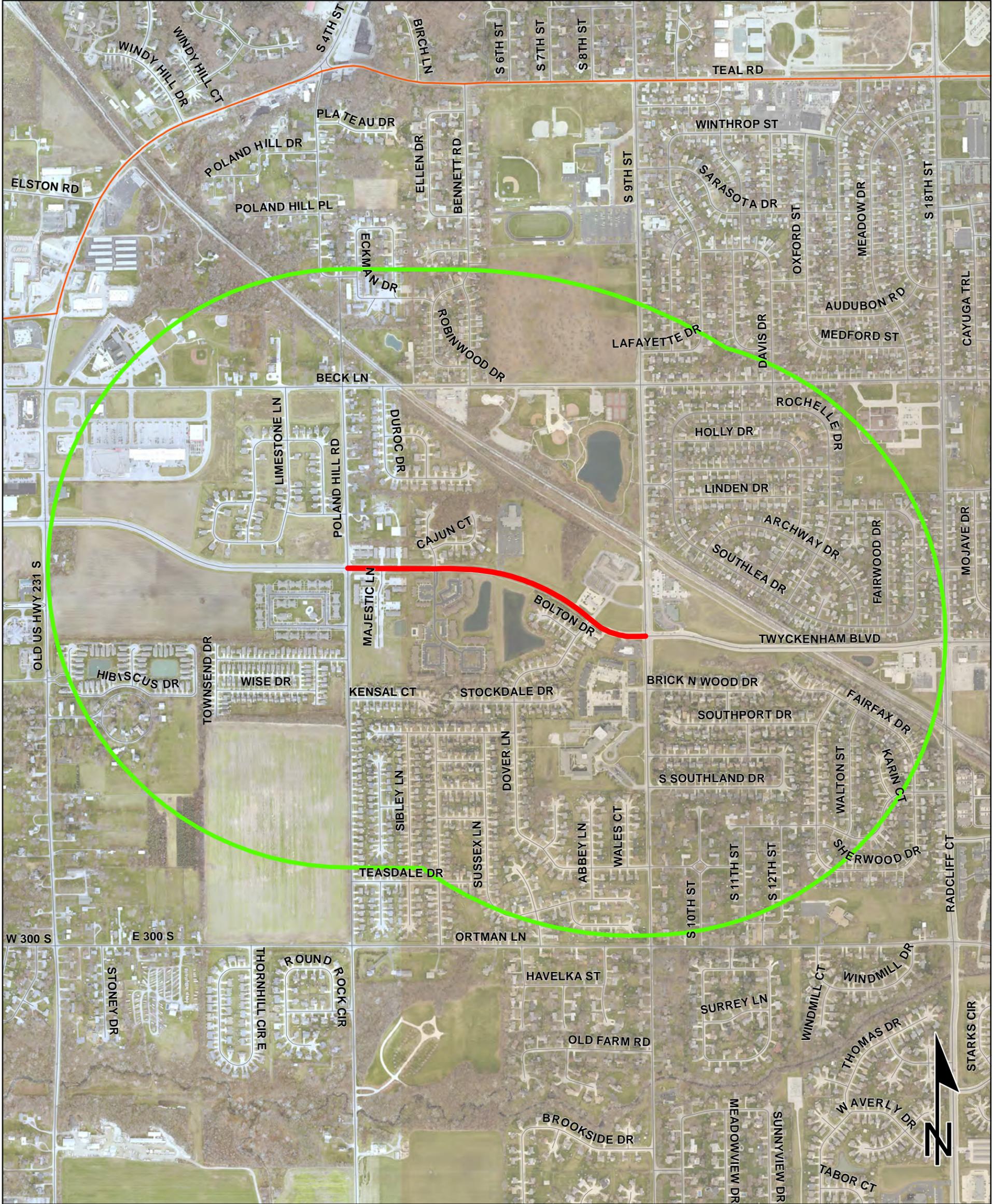
Prepared by:
Anna Burman
Transportation GIS Specialist
Area Plan Commission of Tippecanoe County

PROJECT AREA

Twyckenham Boulevard

Des. No. TBD, Road Reconstruction

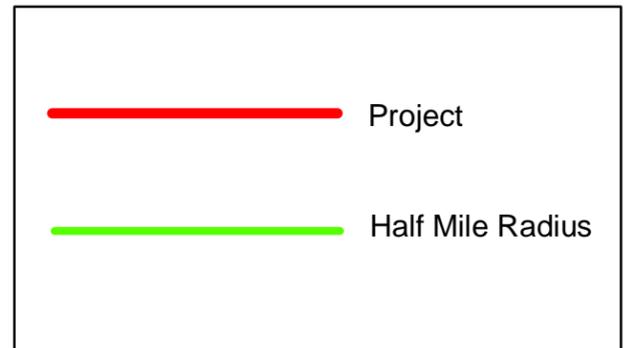
Tippecanoe County, Indiana



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



Project Area Map



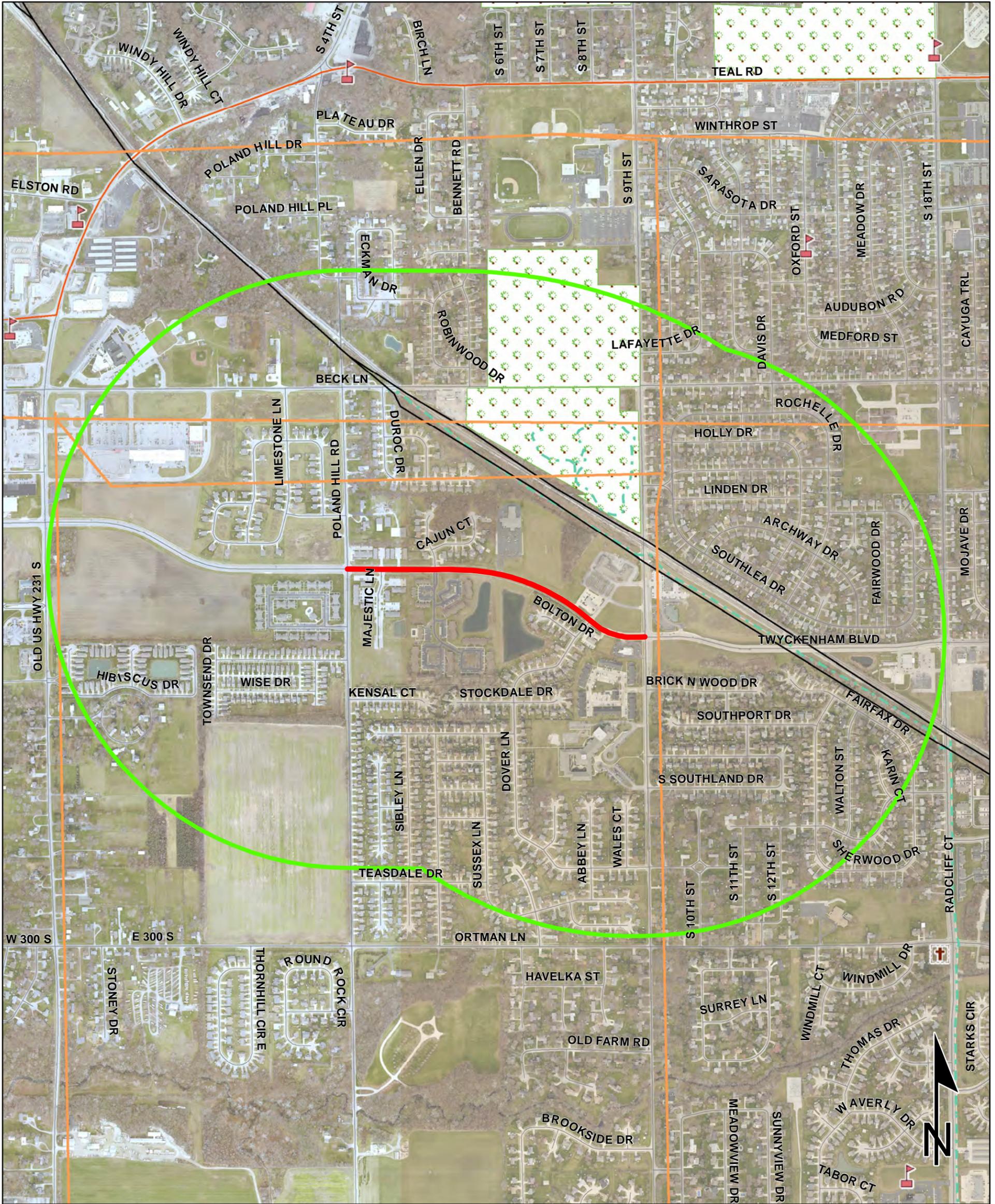
This map is intended to serve as an aid in graphic representation only and was provided by INDOT. This information is not warranted for accuracy or other purposes.

INFRASTRUCTURE

Twyckenham Boulevard

Des. No. TBD, Road Reconstruction

Tippecanoe County, Indiana



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Infrastructure Legend

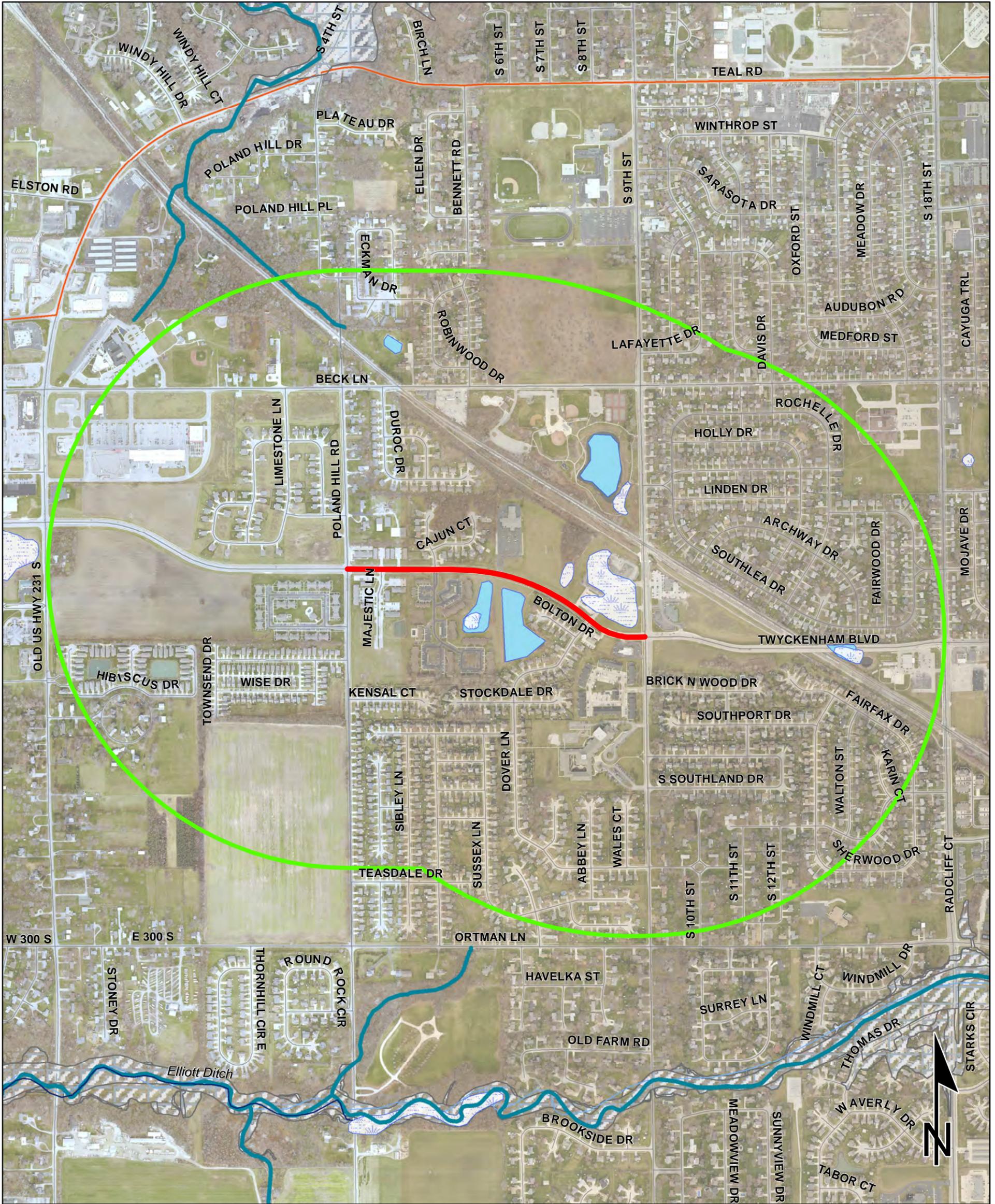
| | | |
|----------------|-----------------|------------------|
| Religious Bldg | Recreation | Project Area |
| Religious Bldg | Pipeline | Half Mile Radius |
| Airport | Railroad | Interstate |
| Cemeteries | Trails | State Route |
| Hospital | Managed Lands | US Route |
| School | County Boundary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

WATER RESOURCES

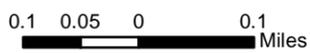
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Water Resources Legend

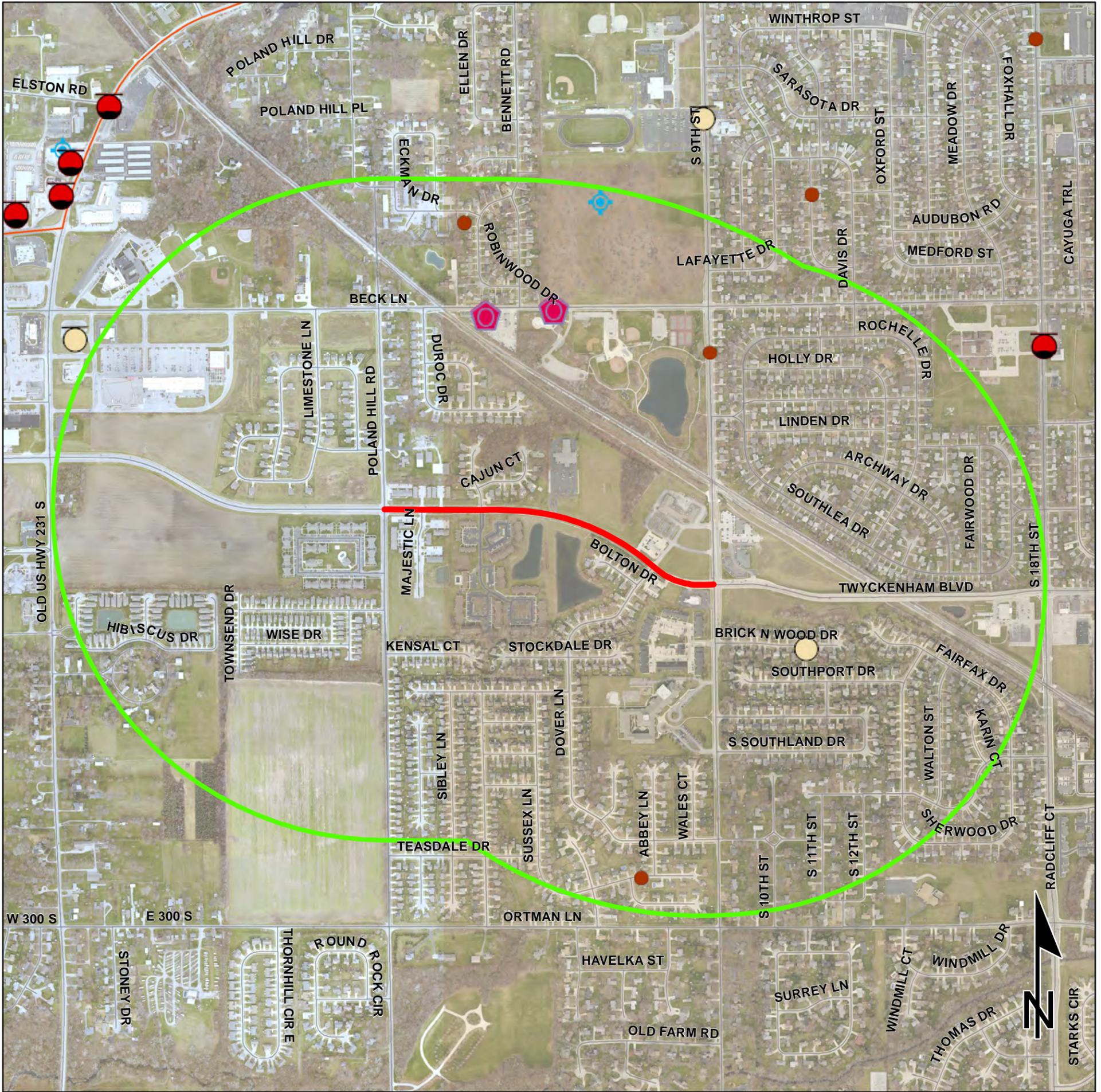
| | | |
|----------------------------|--------------------|------------------|
| NWI - Point | Wetlands | Project Area |
| Canal Structure - Historic | Lake - Impaired | Half Mile Radius |
| NWI- Line | Lake | Interstate |
| Stream - Impaired | Floodplain - DFIRM | State Route |
| NPS NRI listed | County Boundary | US Route |
| River | | Local Road |
| Canal Route - Historic | | |

HAZMAT CONCERNS

Twyckenham Boulevard

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Tippecanoe County, Indiana



HazMat Concerns Legend

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

Sources:

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Indiana County Endangered, Threatened and Rare Species List

County: Tippecanoe

| Species Name | Common Name | FED | STATE | GRANK | SRANK |
|--|-------------------------------|-----|-------|--------|-------|
| Mollusk: Bivalvia (Mussels) | | | | | |
| Cyprogenia stegaria | Eastern Fanshell Pearlymussel | LE | SE | G1Q | S1 |
| Epioblasma torulosa rangiana | Northern Riffleshell | LE | SE | G2T2 | SX |
| Epioblasma torulosa torulosa | Tubercled Blossom | LE | SE | G2TX | SX |
| Epioblasma triquetra | Snuffbox | LE | SE | G3 | S1 |
| Fusconaia subrotunda | Longsolid | | SE | G3 | SX |
| Lampsilis fasciola | Wavyrayed Lampmussel | | SSC | G5 | S3 |
| Lampsilis ovata | Pocketbook | | | G5 | S2 |
| Leptodea leptodon | Scaleshell | LE | SX | G1G2 | SX |
| Ligumia recta | Black Sandshell | | | G5 | S2 |
| Obovaria retusa | Ring Pink | LE | SX | G1 | SX |
| Obovaria subrotunda | Round Hickorynut | | SSC | G4 | S1 |
| Plethobasus cicatricosus | White Wartyback | LE | SE | G1 | SX |
| Plethobasus cyphus | Sheepnose | LE | SE | G3 | S1 |
| Pleurobema clava | Clubshell | LE | SE | G2 | S1 |
| Pleurobema cordatum | Ohio Pigtoe | | SSC | G4 | S2 |
| Pleurobema plenum | Rough Pigtoe | LE | SE | G1 | S1 |
| Pleurobema rubrum | Pyramid Pigtoe | | SE | G2G3 | SX |
| Potamilus capax | Fat Pocketbook | LE | SE | G1G2 | S1 |
| Ptychobranhus fasciolaris | Kidneyshell | | SSC | G4G5 | S2 |
| Quadrula cylindrica cylindrica | Rabbitsfoot | C | SE | G3G4T3 | S1 |
| Simpsonaias ambigua | Salamander Mussel | | SSC | G3 | S2 |
| Toxolasma lividus | Purple Lilliput | | SSC | G3 | S2 |
| Villosa fabalis | Rayed Bean | LE | SSC | G2 | S1 |
| Insect: Coleoptera (Beetles) | | | | | |
| Lissobiops serpentinus | A Rove Beetle | | SE | GNR | S1 |
| Insect: Ephemeroptera (Mayflies) | | | | | |
| Paracloeodes minutus | A Small Minnow Mayfly | | SR | G5 | S2 |
| Insect: Lepidoptera (Butterflies & Moths) | | | | | |
| Speyeria idalia | Regal Fritillary | | SE | G3 | S1 |
| Insect: Mecoptera | | | | | |
| Merope tuber | Earwig Scorpionfly | | SE | G3G5 | S1 |
| Insect: Odonata (Dragonflies & Damselflies) | | | | | |
| Erpetogomphus designatus | Eastern Ringtail | | ST | G5 | S2 |
| Somatochlora tenebrosa | Clamp-tipped Emerald | | SR | G5 | S2S3 |
| Fish | | | | | |
| Etheostoma tippecanoe | Tippecanoe Darter | | SSC | G3G4 | S3 |
| Amphibian | | | | | |
| Hemidactylium scutatum | Four-toed Salamander | | SSC | G5 | S2 |

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
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County: Tippecanoe

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|---------------------------------|-------------------------------------|-----------|------------|-------|---------|
| Reptile | | | | | |
| Clemmys guttata | Spotted Turtle | | SE | G5 | S2 |
| Emydoidea blandingii | Blanding's Turtle | | SE | G4 | S2 |
| Liochlorophis vernalis | Smooth Green Snake | | SE | G5 | S2 |
| Terrapene carolina carolina | Eastern Box Turtle | | SSC | G5T5 | S3 |
| Terrapene ornata ornata | Ornate Box Turtle | | SE | G5T5 | S1 |
| Bird | | | | | |
| Aimophila aestivalis | Bachman's Sparrow | | | G3 | SXB |
| Ammodramus henslowii | Henslow's Sparrow | | SE | G4 | S3B |
| Ardea herodias | Great Blue Heron | | | G5 | S4B |
| Asio flammeus | Short-eared Owl | | SE | G5 | S2 |
| Asio otus | Long-eared Owl | | | G5 | S2 |
| Aythya collaris | Ring-necked Duck | | | G5 | SHB |
| Bartramia longicauda | Upland Sandpiper | | SE | G5 | S3B |
| Botaurus lentiginosus | American Bittern | | SE | G4 | S2B |
| Buteo platypterus | Broad-winged Hawk | No Status | SSC | G5 | S3B |
| Carduelis pinus | Pine Siskin | | | G5 | S3N |
| Cistothorus platensis | Sedge Wren | | SE | G5 | S3B |
| Dendroica cerulea | Cerulean Warbler | | SE | G4 | S3B |
| Falco peregrinus | Peregrine Falcon | No Status | SE | G4 | S2B |
| Grus canadensis | Sandhill Crane | No Status | SSC | G5 | S2B,S1N |
| Haliaeetus leucocephalus | Bald Eagle | LT,PDL | SSC | G5 | S2 |
| Ixobrychus exilis | Least Bittern | | SE | G5 | S3B |
| Lanius ludovicianus | Loggerhead Shrike | No Status | SE | G4 | S3B |
| Nycticorax nycticorax | Black-crowned Night-heron | | SE | G5 | S1B |
| Rallus elegans | King Rail | | SE | G4 | S1B |
| Sturnella neglecta | Western Meadowlark | | SSC | G5 | S2B |
| Tyto alba | Barn Owl | | SE | G5 | S2 |
| Mammal | | | | | |
| Corynorhinus rafinesquii | Rafinesque's Big-eared Bat | | SSC | G3G4 | SH |
| Geomys bursarius | Plains Pocket Gopher | | SSC | G5 | S2 |
| Lasiurus borealis | Eastern Red Bat | | SSC | G5 | S4 |
| Mustela nivalis | Least Weasel | | SSC | G5 | S2? |
| Myotis septentrionalis | Northern Myotis | | SSC | G4 | S3 |
| Myotis sodalis | Indiana Bat or Social Myotis | LE | SE | G2 | S1 |
| Nycticeius humeralis | Evening Bat | | SE | G5 | S1 |
| Reithrodontomys megalotis | Western Harvest Mouse | | | G5 | S2 |
| Spermophilus franklinii | Franklin's Ground Squirrel | | SE | G5 | S2 |
| Taxidea taxus | American Badger | | SSC | G5 | S2 |

Vascular Plant

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Indiana County Endangered, Threatened and Rare Species List

County: Tippecanoe

| Species Name | Common Name | FED | STATE | GRANK | SRANK |
|------------------------------------|--------------------------------|-----|-------|-------|-------|
| Androsace occidentalis | Western Rockjasmine | | ST | G5 | S2 |
| Arenaria patula | Pitcher's Stitchwort | | SE | G4 | S1 |
| Aster oblongifolius | Aromatic Aster | | SR | G5 | S2 |
| Astragalus tennesseensis | Tennessee Milk-vetch | | SRE | G3 | SX |
| Bacopa rotundifolia | Roundleaf Water-hyssop | | ST | G5 | S1 |
| Besseyia bullii | Kitten Tails | | SE | G3 | S1 |
| Botrychium matricariifolium | Chamomile Grape-fern | | SR | G5 | S2 |
| Botrychium simplex | Least Grape-fern | | SE | G5 | S1 |
| Camassia angusta | Wild Hyacinth | | SE | G5?Q | S1 |
| Carex flava | Yellow Sedge | | ST | G5 | S2 |
| Carex gravida | Heavy Sedge | | SE | G5 | S1 |
| Chelone obliqua var. speciosa | Rose Turtlehead | | WL | G4T3 | S3 |
| Chrysopsis villosa | Hairy Golden-aster | | ST | G5 | S2 |
| Circaea alpina | Small Enchanter's Nightshade | | SX | G5 | SX |
| Cirsium hillii | Hill's Thistle | | SE | G3 | S1 |
| Coeloglossum viride var. virescens | Long-bract Green Orchis | | ST | G5T5 | S2 |
| Crataegus pedicellata | Scarlet Hawthorn | | ST | G5 | S2 |
| Cypripedium candidum | Small White Lady's-slipper | | WL | G4 | S2 |
| Eriophorum angustifolium | Narrow-leaved Cotton-grass | | SR | G5 | S2 |
| Erysimum capitatum | Prairie-rocket Wallflower | | ST | G5 | S2 |
| Euphorbia obtusata | Bluntleaf Spurge | | SE | G5 | S1 |
| Gentiana alba | Yellow Gentian | | SR | G4 | S2 |
| Houstonia nigricans | Narrowleaf Summer Bluets | | SR | G5 | S2 |
| Linum sulcatum | Grooved Yellow Flax | | SR | G5 | S2 |
| Lithospermum incisum | Narrow-leaved Puccoon | | SE | G5 | S1 |
| Melampyrum lineare | American Cow-wheat | | SR | G5 | S2 |
| Muhlenbergia cuspidata | Plains Muhlenbergia | | SE | G4 | S1 |
| Napaea dioica | Glade Mallow | | SR | G4 | S2 |
| Onosmodium hispidissimum | Shaggy False-gromwell | | SE | G4 | S1 |
| Orobanche riparia | Bottomland Broomrape | | SE | G5 | S2 |
| Oryzopsis racemosa | Black-fruit Mountain-ricegrass | | SR | G5 | S2 |
| Panicum rigidulum var. pubescens | Long-leaved Panic-grass | | SX | G5T5? | SX |
| Plantago cordata | Heart-leaved Plantain | | SE | G4 | S1 |
| Poa paludigena | Bog Bluegrass | | WL | G3 | S3 |
| Psoralea tenuiflora | Few-flowered Scurf-pea | | SX | G5 | SX |
| Sanguisorba canadensis | Canada Burnet | | SE | G5 | S1 |
| Selaginella apoda | Meadow Spike-moss | | WL | G5 | S1 |
| Silene regia | Royal Catchfly | | ST | G3 | S2 |
| Trichostema dichotomum | Forked Bluecurl | | SR | G5 | S2 |
| Viola pedatifida | Prairie Violet | | ST | G5 | S2 |

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County: Tippecanoe

| Species Name | Common Name | FED | STATE | GRANK | SRANK |
|--|-------------------------|-----|-------|-------|-------|
| High Quality Natural Community | | | | | |
| Barrens - gravel | Gravel Slope Barrens | | SG | G3 | S1 |
| Barrens - sand | Sand Barrens | | SG | G3 | S2 |
| Forest - upland dry-mesic | Dry-mesic Upland Forest | | SG | G4 | S4 |
| Forest - upland mesic | Mesic Upland Forest | | SG | G3? | S3 |
| Lake - lake | Lake | | SG | GNR | S2 |
| Prairie - dry-mesic | Dry-mesic Prairie | | SG | G3 | S2 |
| Wetland - fen | Fen | | SG | G3 | S3 |
| Wetland - marsh | Marsh | | SG | GU | S4 |
| Wetland - seep circumneutral | Circumneutral Seep | | SG | GU | S1 |
| Other Significant Feature | | | | | |
| Geomorphic - Nonglacial Erosional Feature - Water Fall and Cascade | Water Fall and Cascade | | | GNR | SNR |

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