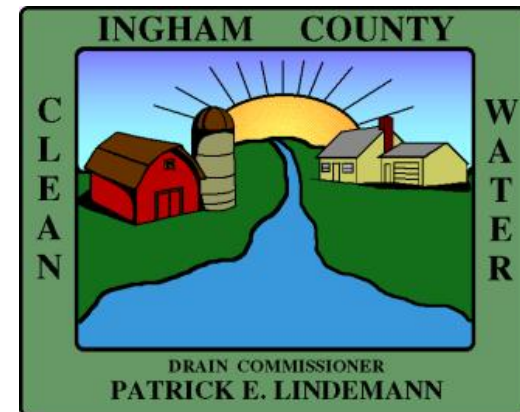


Smith Consolidated Drain Scope Meeting May 2, 2016

Ingham County Drain Commissioner
Patrick E. Lindemann



Scope Meeting Outline

- Introduction
- History
- Study and Design Process
- Proposed Project
- Projected Schedule
- Questions



SMITH CONSOLIDATED DRAIN AND DRAINAGE DISTRICT

DRAINAGE DISTRICT:

- 2044 Acres
- 1100+ Parcels

MUNICIPALITIES:

- Meridian Charter Township (44%)
- Alaiedon Township (38%)
- City of Lansing (18%)

HIGHWAY DEPARTMENTS:

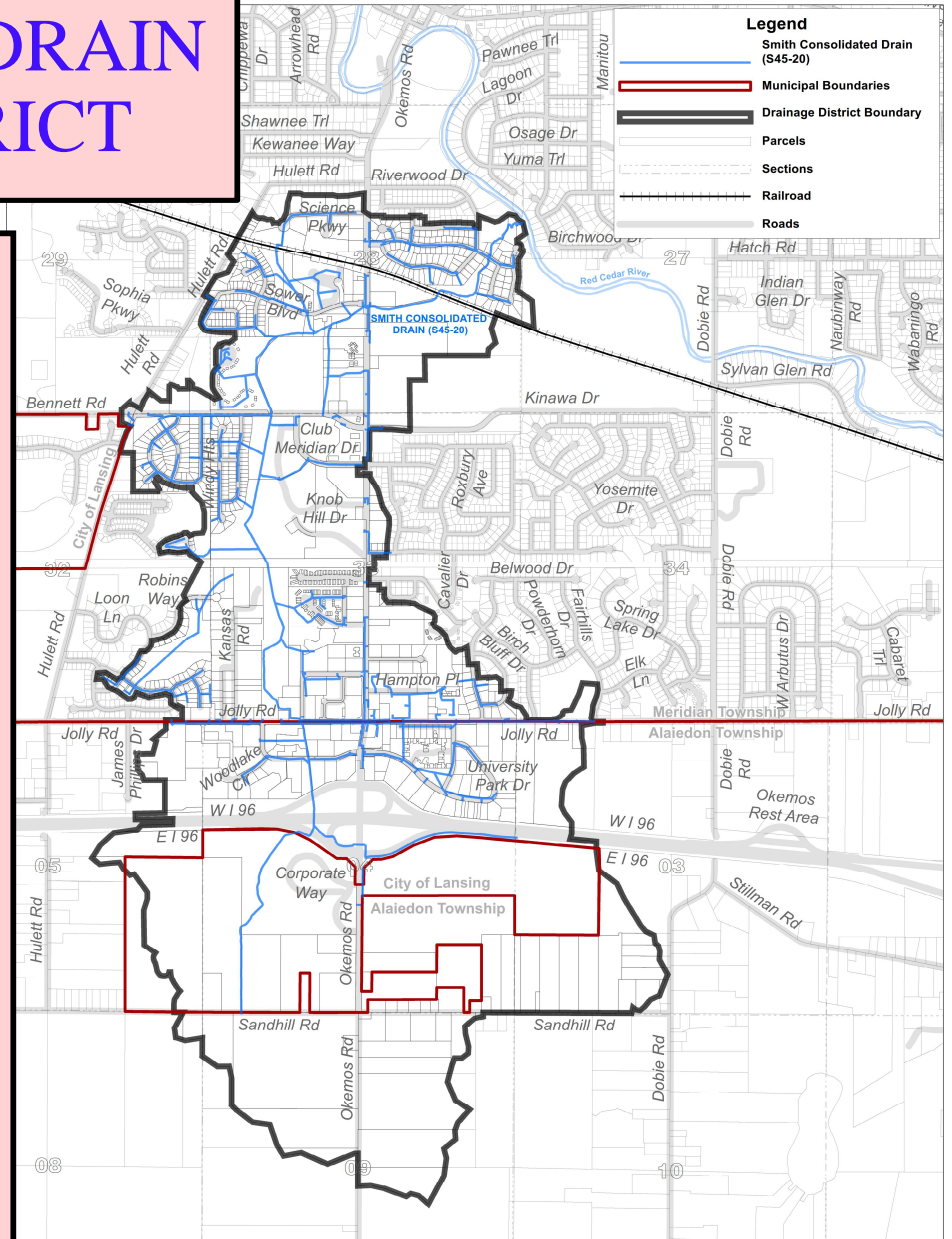
- MDOT
- Ingham County Road Department

LAND USE:

- Commercial (44%)
- Residential (34%)
- Agricultural (10%)
- Roads (12%)

DRAIN:

- 17.9 Miles Long
- Combination of Open Channel and Closed Storm Sewer



SHEET 1 OF 1

S45-20

SMITH CONSOLIDATED DRAIN DRAINAGE DISTRICT
DRAINAGE DISTRICT BOUNDARY
ALAIEDON TOWNSHIP, CITY OF LANSING & MERIDIAN TOWNSHIP
INGHAM COUNTY, MICHIGAN



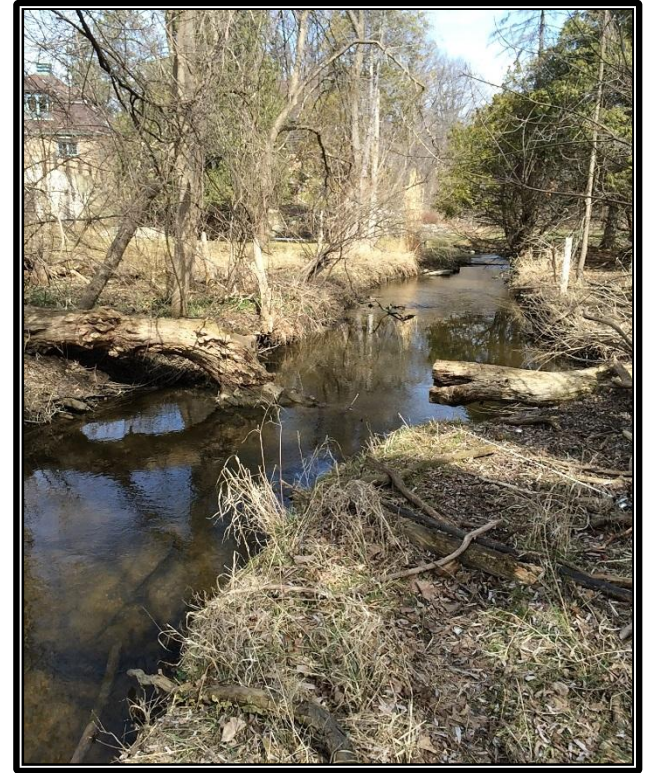
707 BUHL AVENUE
P.O. BOX 220
MASON, MI 48854
PHONE: (517) 676-8395
FAX: (517) 676-8364

Point of Beginning at Red Cedar River





**Open Channel in
Riverwood
Subdivision
(Woodfield Rd
Crossing)**



**In-line Detention
Basin at Delta Dental**



**Knob Hill
Apartments**



Additional In-Line Detention Basin

Jolly Rd Commercial Corridor Enclosed Pipe



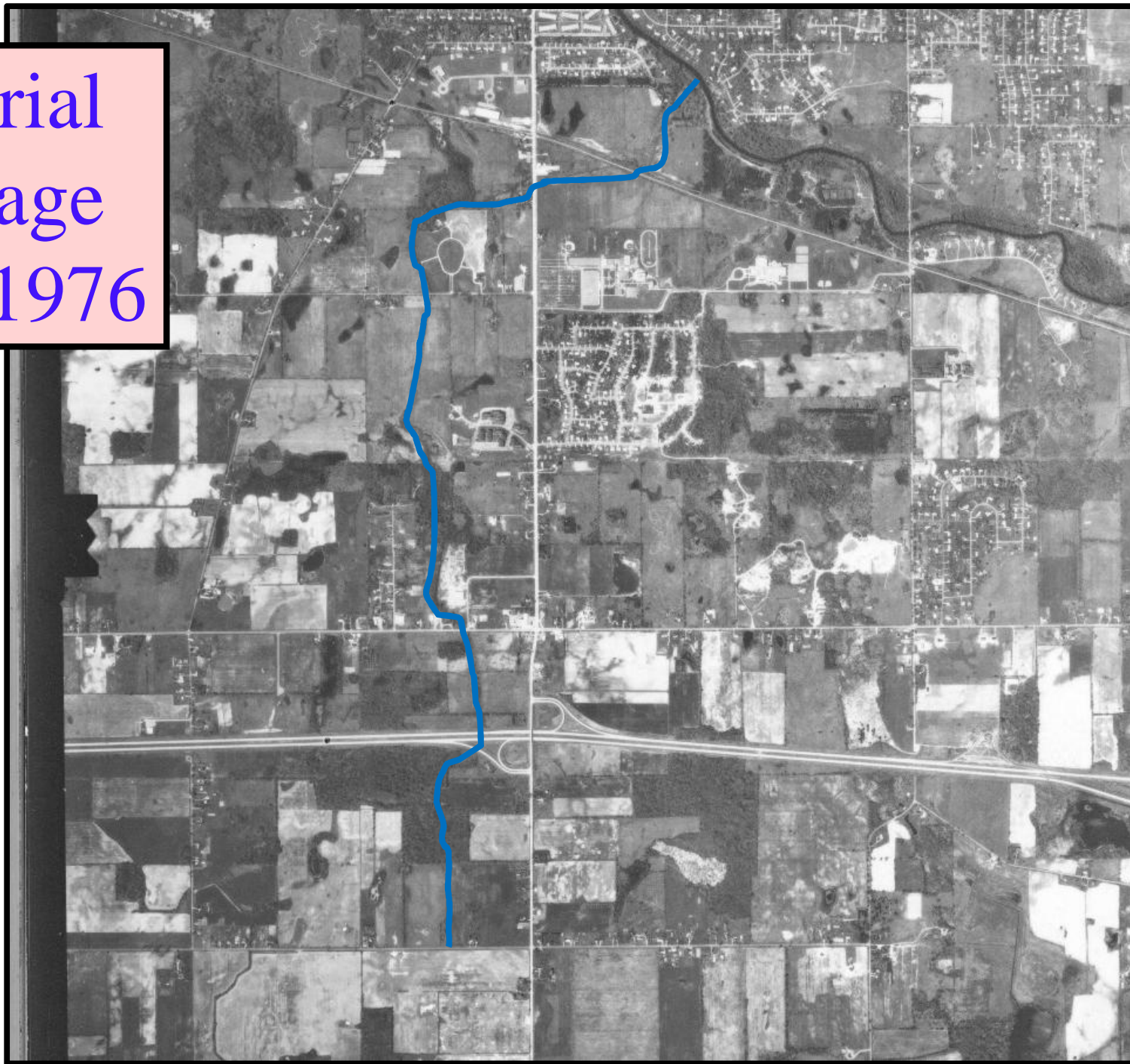
**Open Channel
Agricultural
Drain**



Petitioned Project History

- Drain Office Approached Alaiedon and Meridian Township Boards Early 2015 About a Petition to Address:
 - Flooding of Commercial Properties and Primary Roads
 - Failing Pipe at Jolly Road
 - Obstructions and Eroding Banks Along Main Drain
- Meridian Township Petitioned 11/17/15
- Alaiedon Township Petitioned 11/23/15
- Maintenance, Improvements and Consolidation as Petitioned Found Necessary by Board of Determination 12/15/15

Aerial
Image
5/9/1976



Aerial
Image
7/14/2015



Flooding Okemos/Jolly Rd Corridor 8/10/15



Flooding University Park Drive 8/10/15



Jolly Road Pipe (540 ft)

- CMP: 5 ft and 6 ft
- Installed 1963 to 1992
- Pipe Failures:
 - Sinkhole 2011 (Band-Aid Repair 2012)
 - Sinkhole 2013
 - Pipe Section Collapse 2015



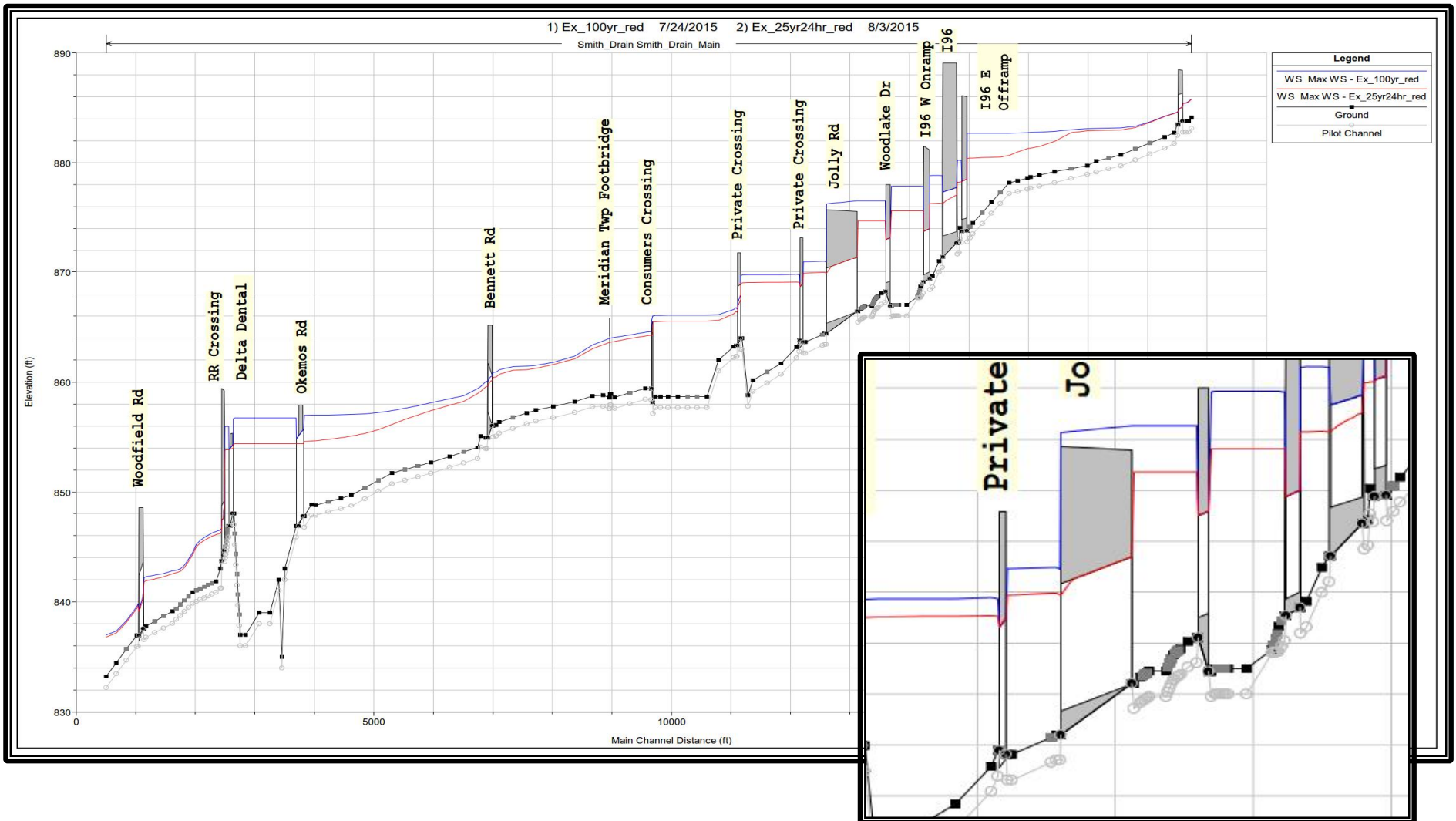
Open Channel Obstructions and Bank Erosion



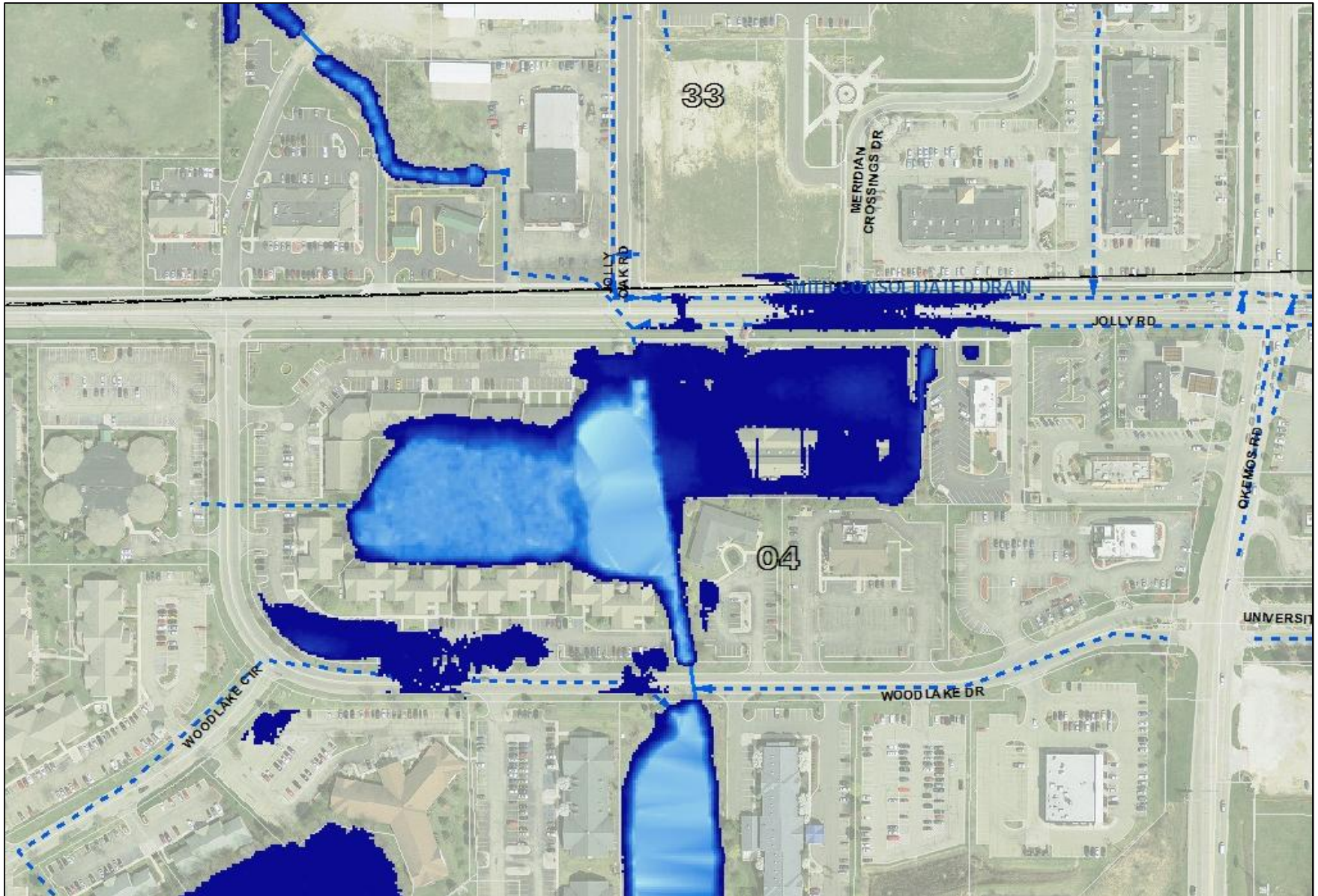
Study and Design Process

- Smith Drain hydrology and hydraulics study
- Topographic survey of drainage district
- Develop a basis of design
- Development of project alternatives
- Regulatory permitting
- Meet with project stakeholders including municipalities, other agencies, and landowners
- Coordination with other agencies to reduce costs and minimize disruption

Hydrology and Hydraulics Modeling



Hydrology and Hydraulics Modeling

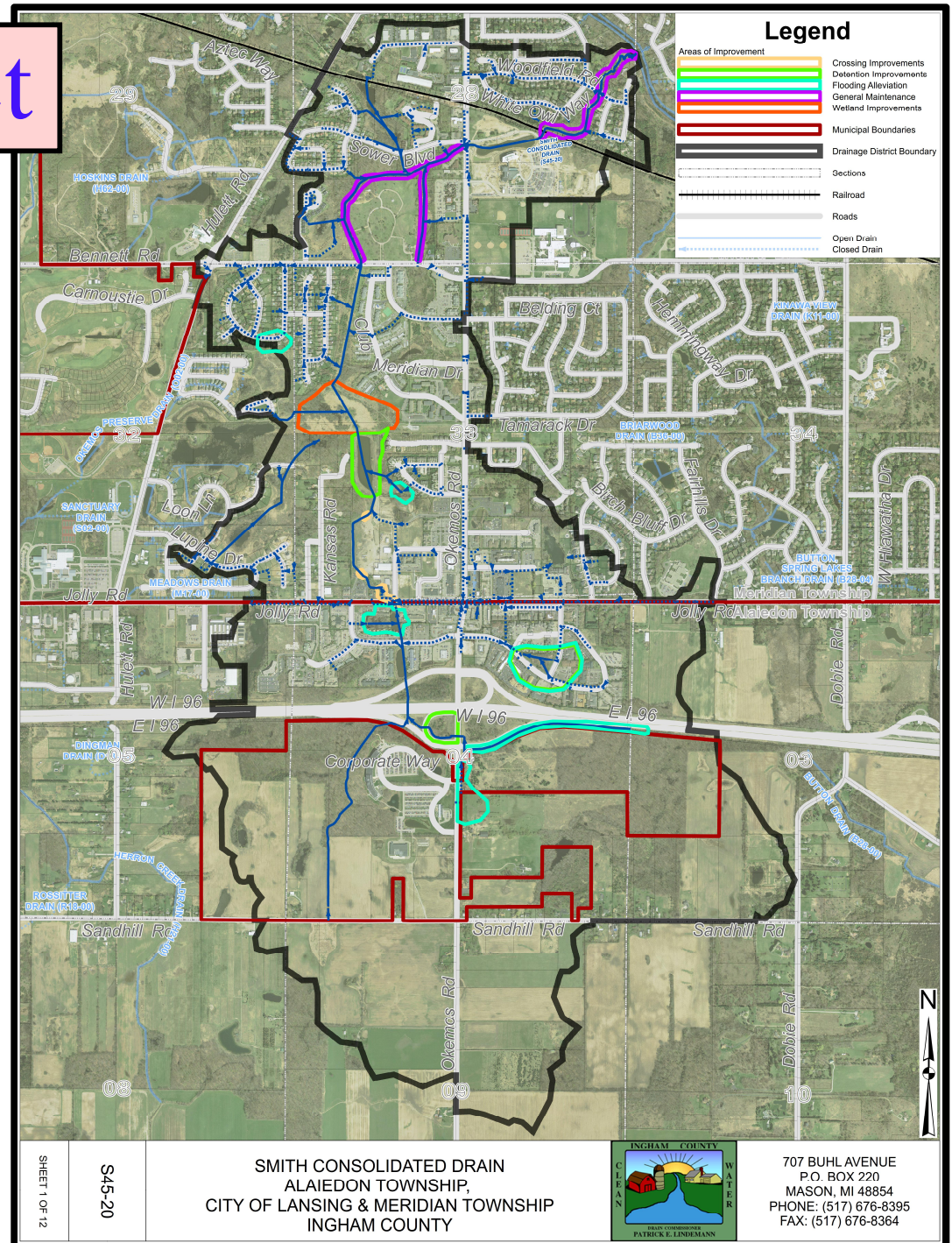


Proposed Project Basis of Design

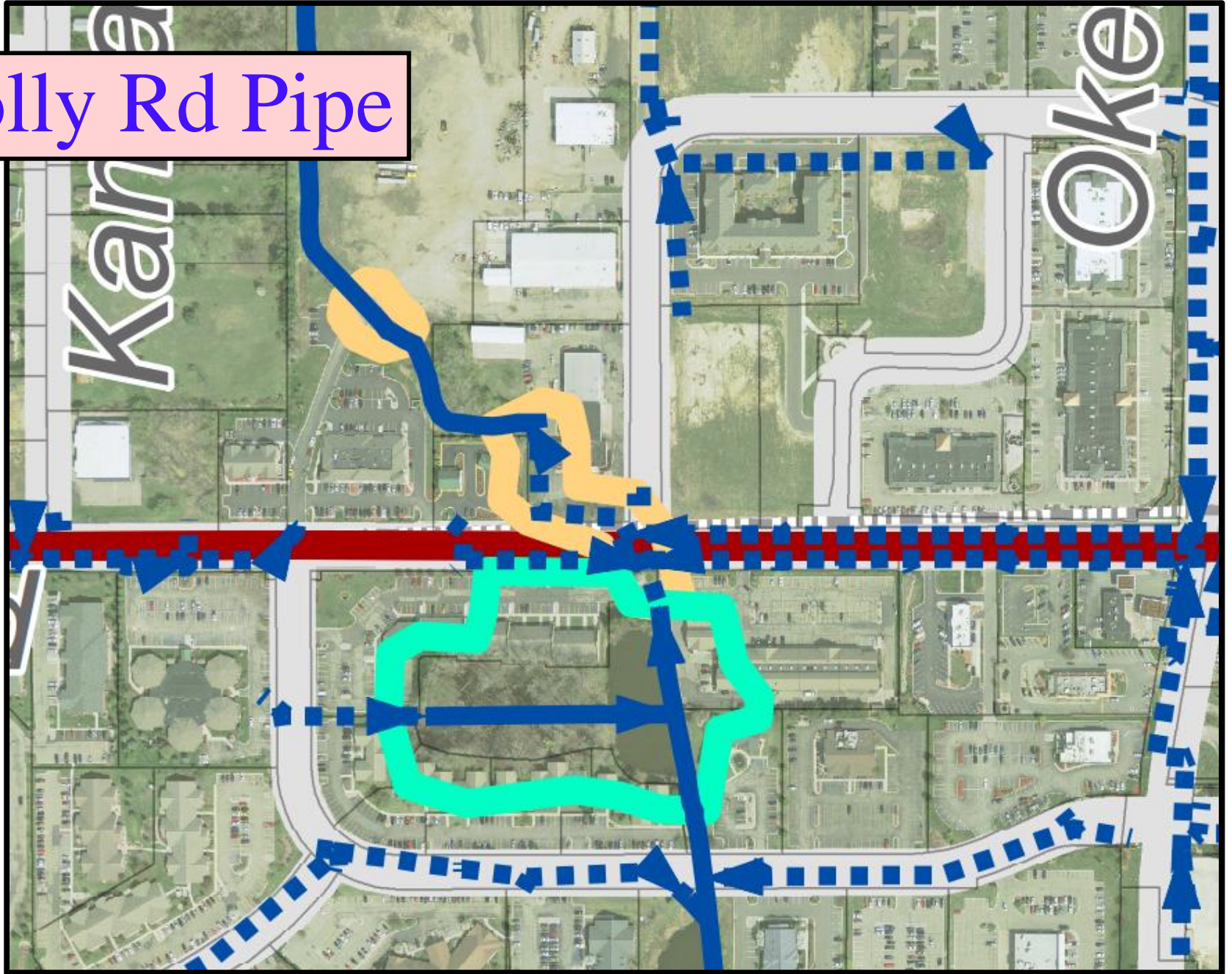
- Replace failing infrastructure at Jolly Road
- Reduce frequency, duration, and depth of flooding
- Provide cost effective solution
- Minimize future operation and maintenance costs
- Minimize disruption at major roads
- Compliance with statutes, including phase II
- Minimize and mitigate downstream impacts
- Protect and enhance natural resources within the drain corridor

Proposed Project

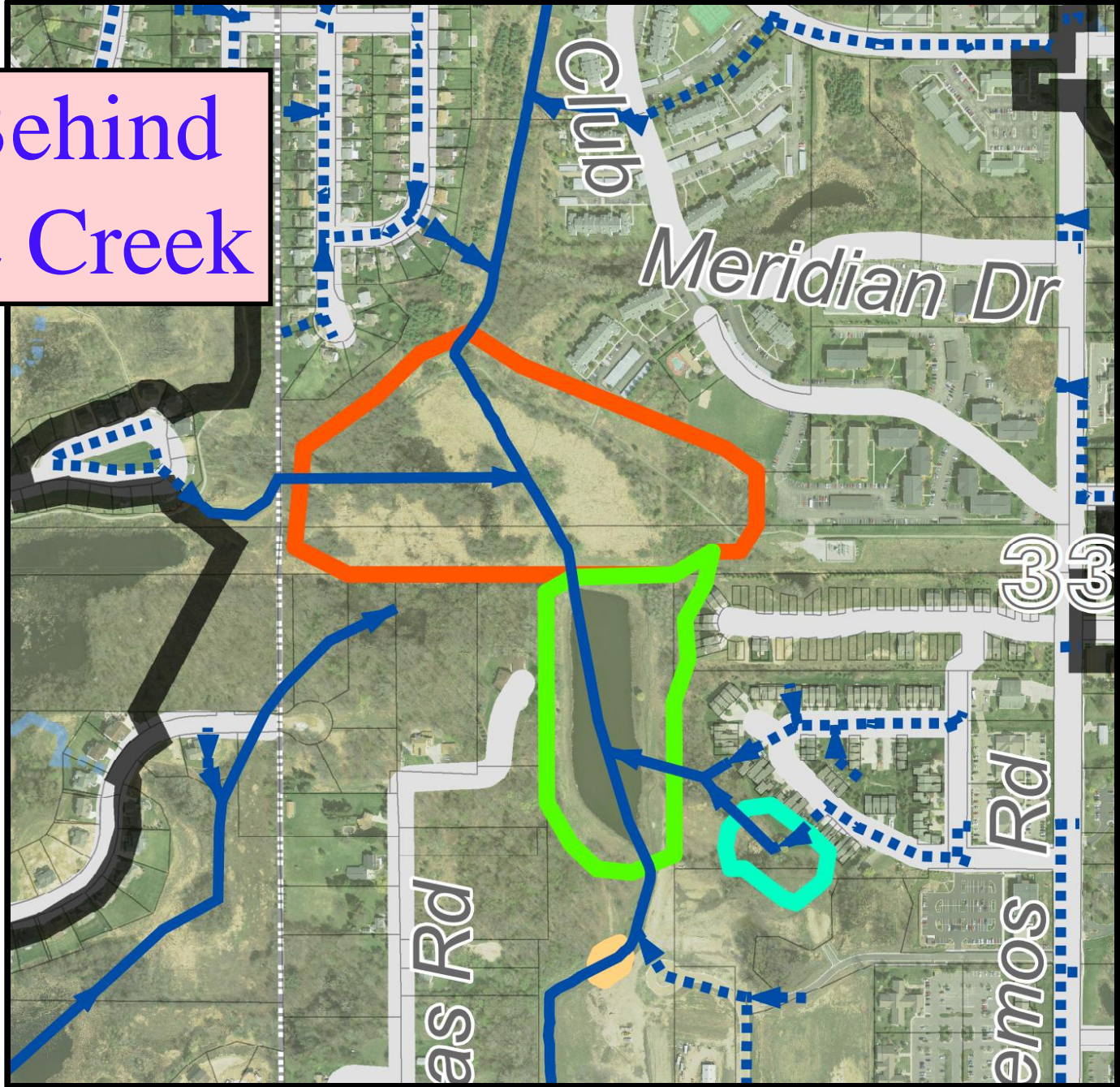
- Jolly Rd Pipe
- Pond Behind Coyote Creek
- Wetland Enhancements
- University Park Dr
- MDOT Diversion
- Okemos Rd
- Sunwind Estates
- Main Channel



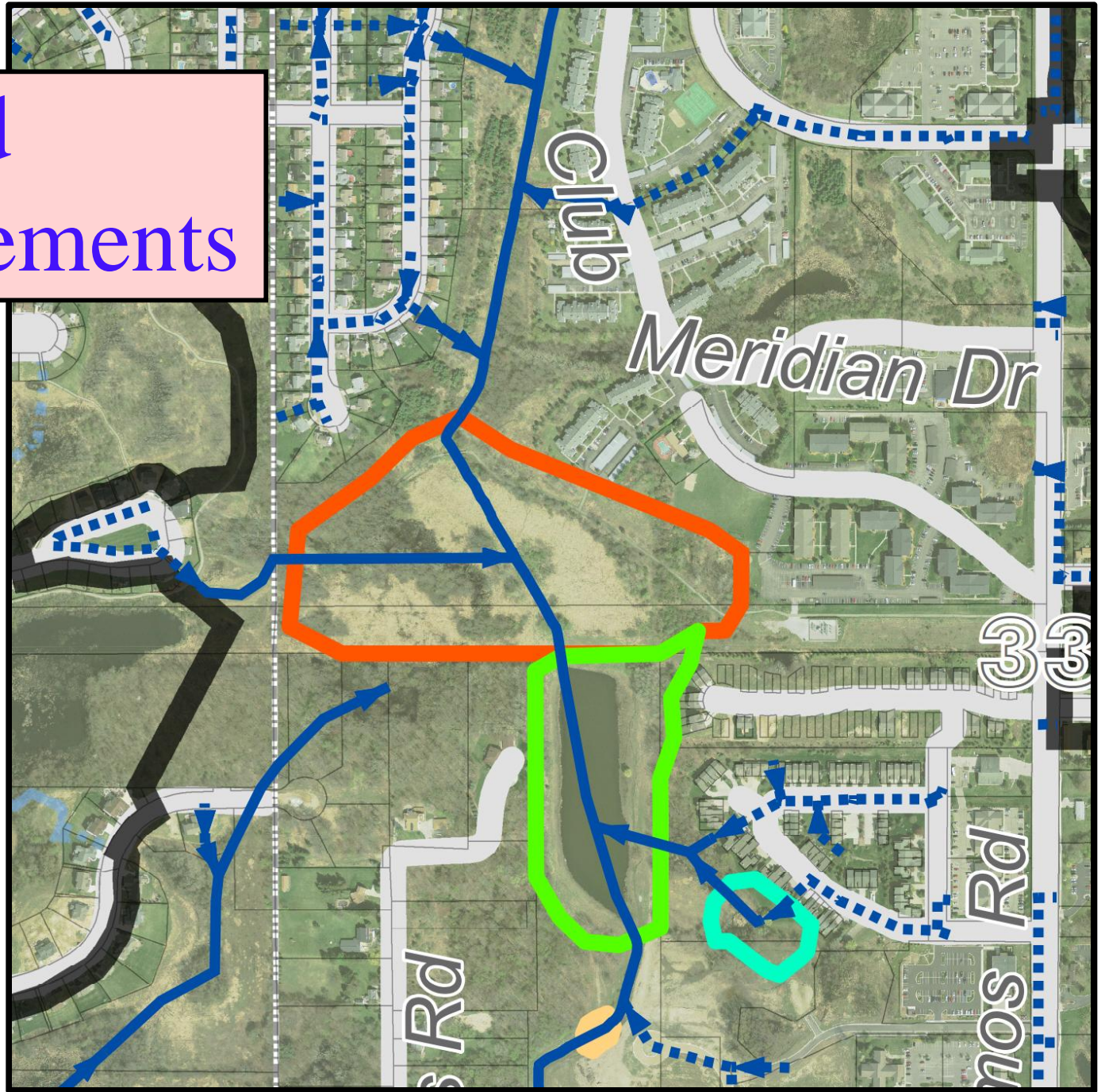
Jolly Rd Pipe



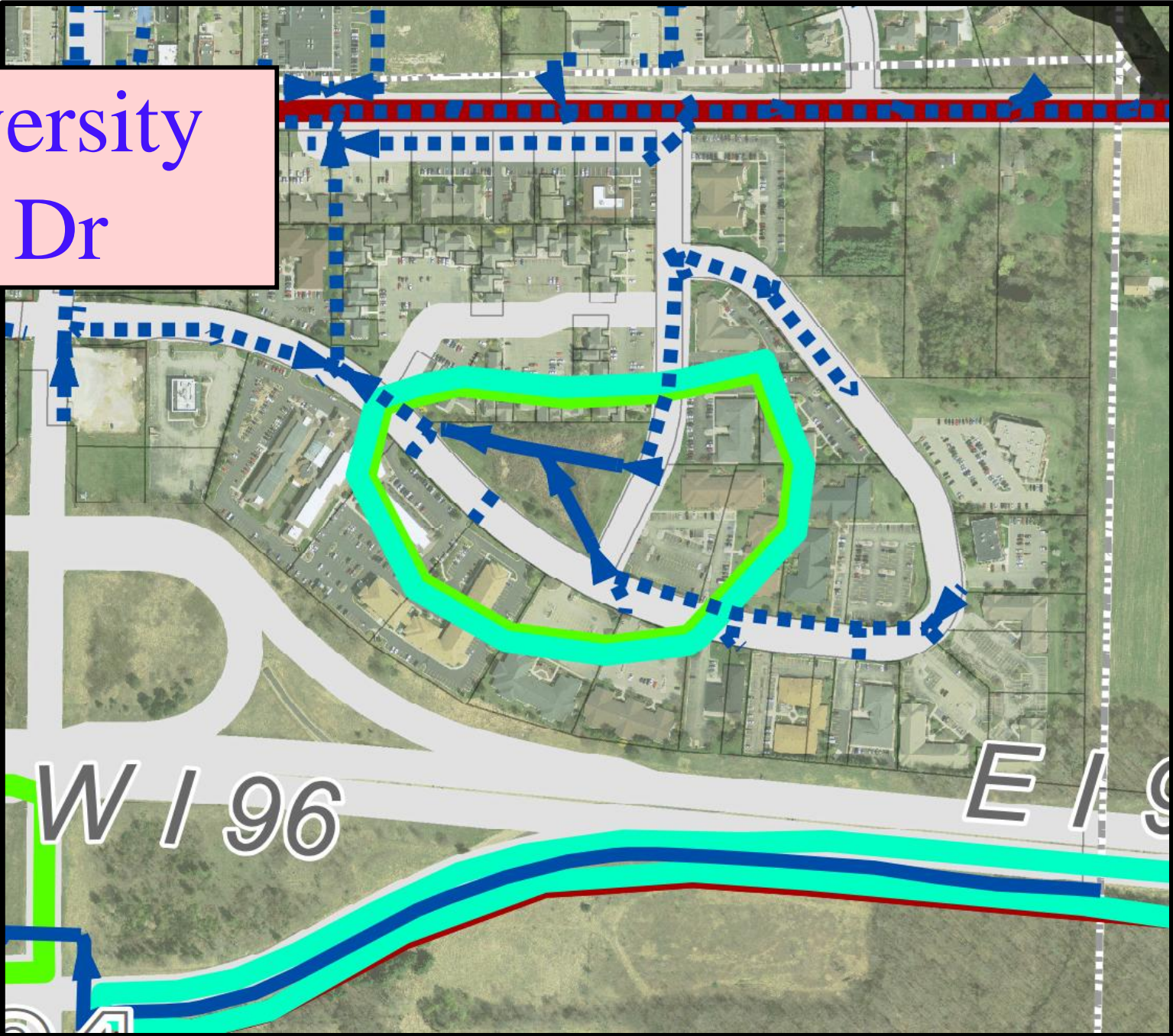
Pond Behind
Coyote Creek



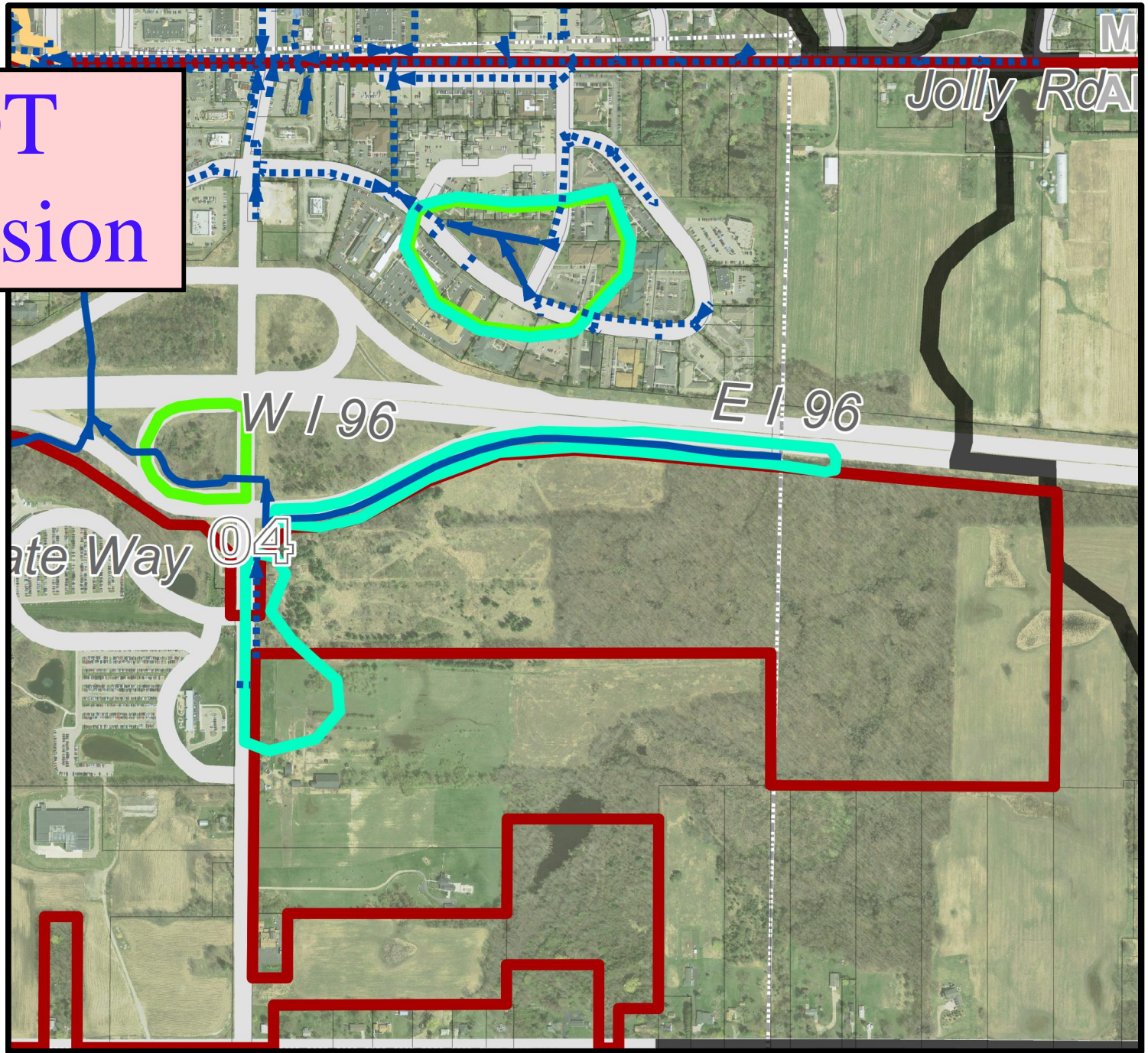
Wetland Enhancements



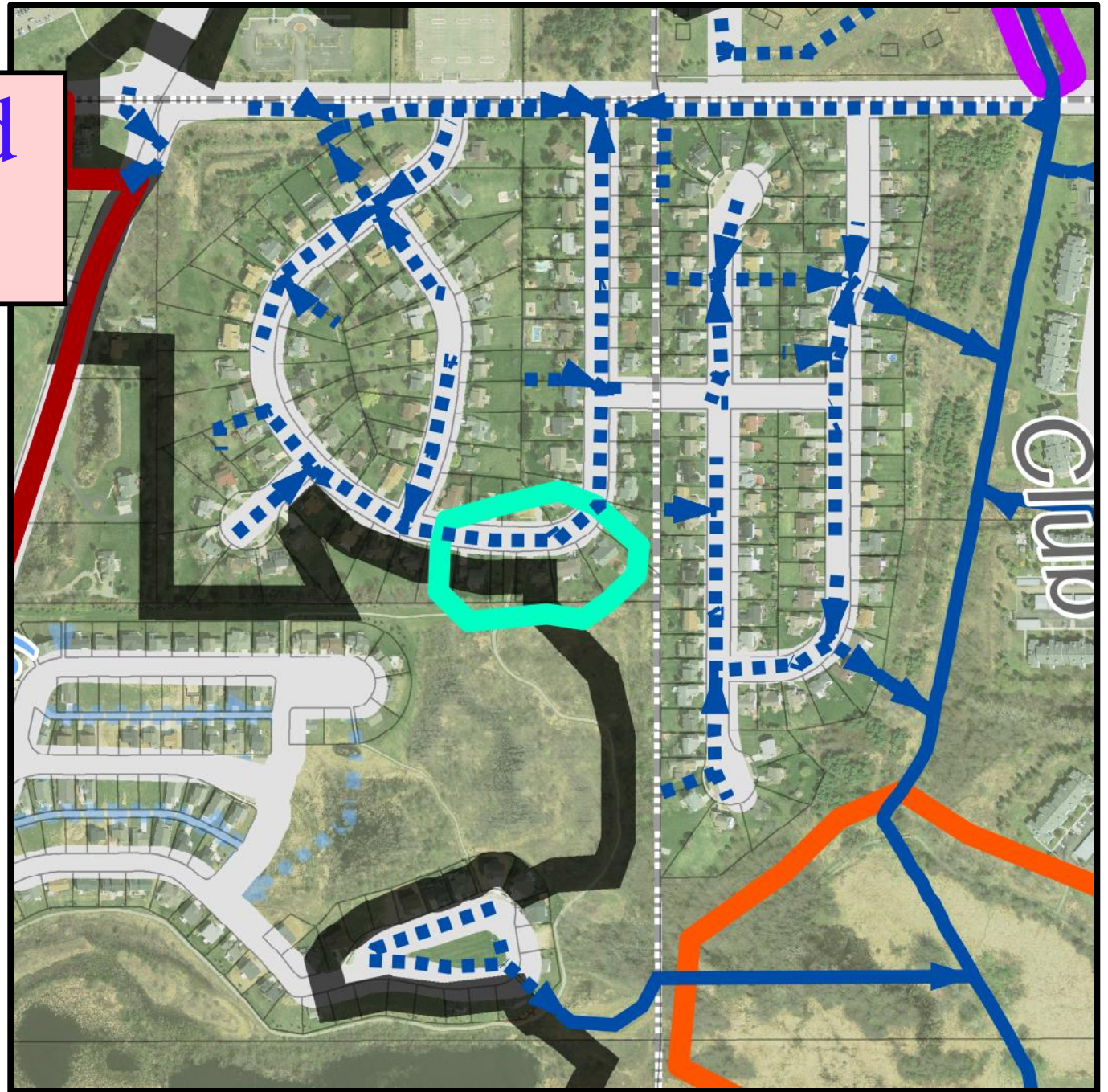
University
Park Dr



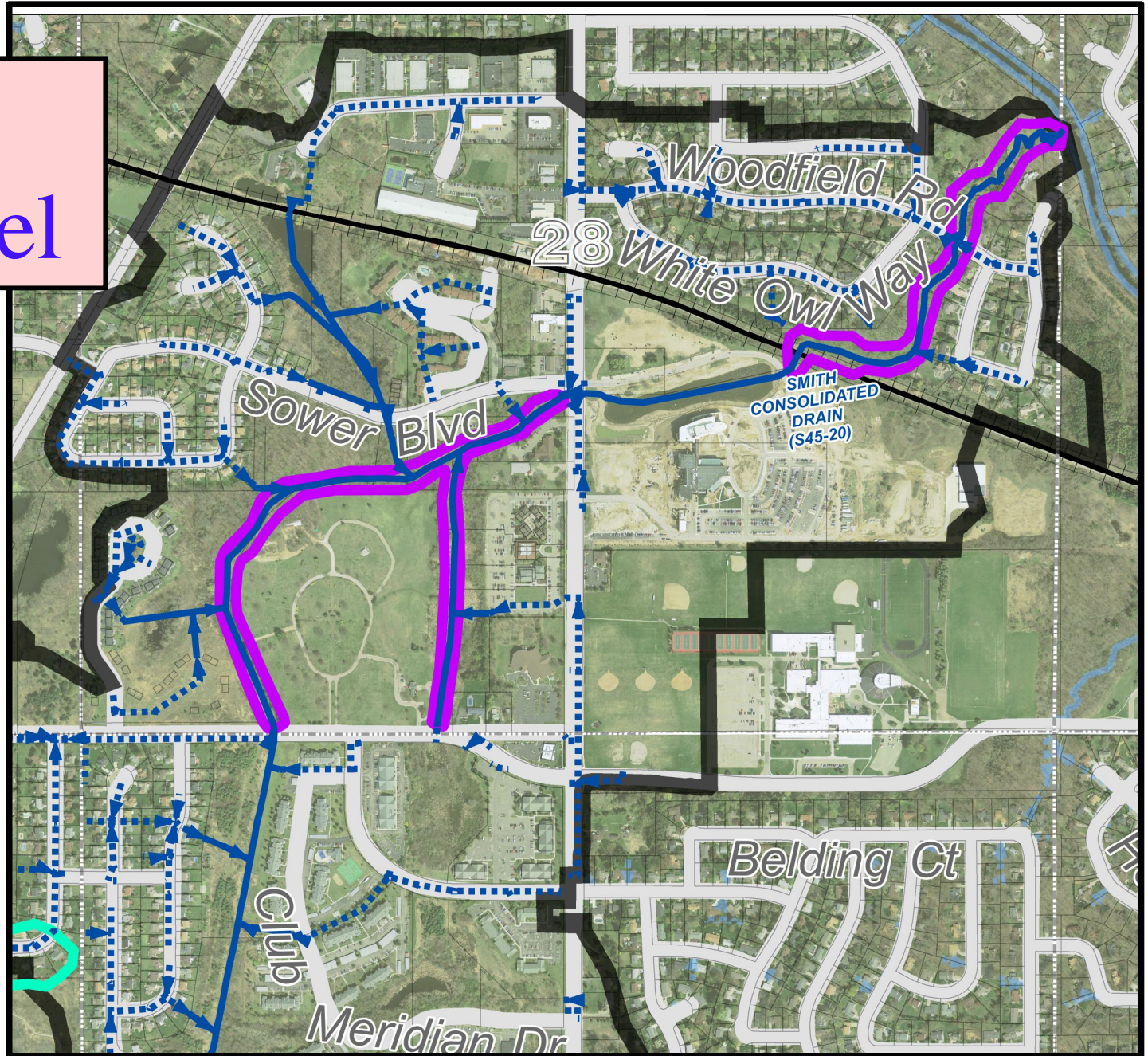
MDOT
Diversion



Sunwind
Estates



Main Channel



Projected Project Schedule

- Maintenance Items Ongoing
- Tentative Bid Letting June 7th
- Tentative Day of Review of Apportionments June 17th
- Pipe Replacement at Jolly Road
 - Start Construction After 4th of July
 - Complete by August 27, Prior to Okemos Schools in Session and MSU Football
- Substantial Completion in October 2016
- Final Completion in Spring 2017

Questions?

Ingham County Drain Commissioner
Patrick E. Lindemann

