



# DANIELS DRAIN CONSTRUCTION PROJECT

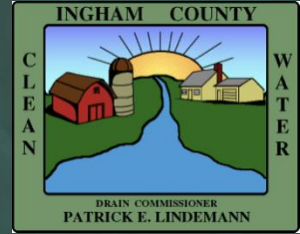
*PROJECT INFORMATION*  
*TUESDAY, APRIL 12<sup>TH</sup>, 2022 - 6:00 P.M.*

**MERIDIAN TOWNSHIP MUNICIPAL BUILDING**  
**5151 MARSH RD.**  
**OKEMOS, MI 48864**  
**TOWN HALL ROOM**



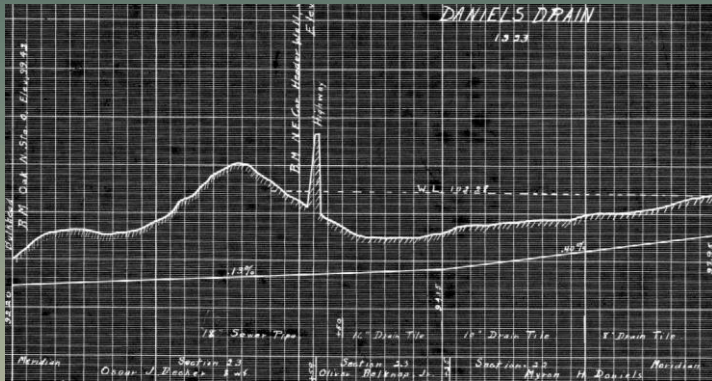
# DANIELS DRAIN CONSTRUCTION PROJECT

## INFORMATIONAL MTG



### HISTORY

- 1923 – DRAIN FIRST ESTABLISHED (8”–18” TILE, POND EXCAVATION)
- 1973 – DRAIN CONSTRUCTION IMPROVEMENT WORK ON EXTENSION DRAIN
- 2016 – MERIDIAN TWP. PETITION FOR DRAIN IMPROVEMENTS



### Survey of Daniels Drain 1923

Survey of the Daniels Drain, located on sections 22 and 23, town 4 north, range 1 west, Meridian of Michigan, Township of Meridian, County of Ingham and State of Michigan, the centerline thereof being described as follows:

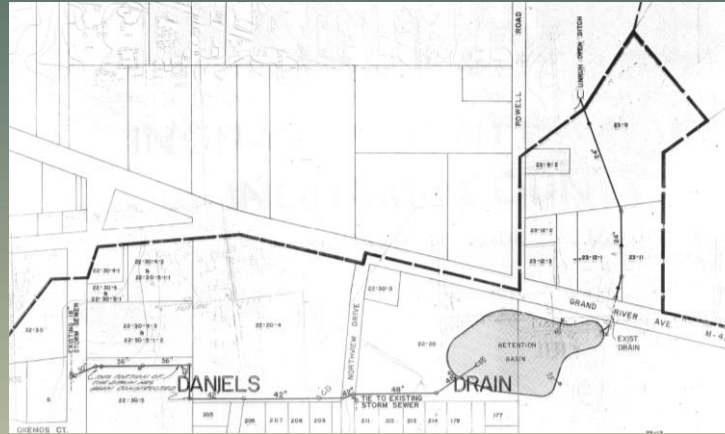
Commencing in the Uruh Drain, at a point 82 ft. S and 328 ft. E of the W 1/4 post of section 23, town and range aforesaid, thence over and across the following description: That part of the W 1/4 of the NW 1/4 of the SW 1/4 of said section 23 north of the gravel road, Oscar J. Becker and wife, Nellie Edith, owners, as follows: Commencing at station 0 plus 90 ft. of said drain, thence S 13° E 609 feet, thence S 4° E 247 feet; thence S 13 1/2° W, 212 feet; to station 10 plus 59 feet in the centerline

Said drain shall be constructed as a closed drain of the following diameters: Station 0 to station 11 plus 50 feet, 18-inch sewer pipe; station 11 plus 50 feet to station 15, 16-inch drain tile; station 15 to station 29, 10-inch drain tile; station 29 to station 24 plus 50 feet, 8-inch drain tile.

The grade of said drain shall be as follows: Commencing at station 0, grade elevation, 92.20, thence a grade of 0.13% to station 15, grade elevation, 94.15; thence a grade of 0.40% to station 24 plus 50 feet, grade elevation, 97.95.

The right of way for the construction of said drain shall include fifty (50) feet on each side of the centerline as above described.

All work of construction shall be according to plans and specifications



PETITION FOR CLEANING OUT, RELOCATING, WIDENING, DEEPENING, STRAIGHTENING, TILING, EXTENDING, ADJOINING BRANCHES, RELOCATING ALONG A HIGHWAY AND/OR INSTALLING DEVICES TO PERFORM THE DUTY OF THE PUBLIC ACTS OF 1954, AS AMENDED

TO THE INGHAM COUNTY DRAIN COMMISSIONER:

The undersigned public corporation in the State of Michigan, hereby petition for the construction, furnishing and repairing of maintenance and improvements to the Daniels Drain, consisting generally of cleaning out, widening, deepening, straightening, tiling, extending, or relocating along a highway, or required structures or mechanical devices that will properly qualify or improve the flow of the Daniels Drain or pumping equipment necessary to raise or reduce the flow of the Daniels Drain, together with all the necessary appurtenances to such improvement and structures, hereby located and constructed in the Charter Township of Meridian in the County of Ingham, State of Michigan.

The construction, furnishing and repairing of maintenance and improvements to the Daniels Drain, consisting generally of cleaning out, widening, deepening, straightening, tiling, extending, or relocating along a highway, or required structures or mechanical devices that will properly qualify or improve the flow of the Daniels Drain, together with all the necessary appurtenances and attachments thereto is necessary for the public health, and is required at this time due to pollution, siltation, and other impairment of the Daniels Drain resulting in pollution and impairment of the waters of the State and drainage and impairment to the natural resources in or near the Daniels Drain District.

This petition has been authorized by this petitioner's governing body, as evidenced by the attached resolution.

This petition is filed pursuant to the provisions of Chapter 20 of Act No. 40 of the Public Act of 1954, as amended.

It is understood that the cost of and present to be wholly assumed against within, construction, including this petition. The Charter Township of Meridian may have a special assessment, charge or fee for all or a portion of the cost of this petition against benefiting properties under MCL 200.400 and conducted a hearing on January 26, 2016, as reported by MCL 200.400, for this purpose.

A certified copy of the Resolution of the governing body of the Charter Township of Meridian authorizing the execution of this Petition is hereby attached.

CHARTER TOWNSHIP OF MERIDIAN

*Butt Deane* 2-3-16  
Butt Deane, CMCM, PE, PA  
Meridian Charter Township  
Date

PETITION FOR CLEANING OUT, RELOCATING, WIDENING, DEEPENING, STRAIGHTENING, TILING, EXTENDING, OR RELOCATING ALONG A HIGHWAY FOR A COUNTY DRAIN

To the County Drain Commissioner of the County of.....INGHAM.....

Your petitioners hereby Petition for.....enlarging, relocating and.....

of the drain known and designated as the.....Daniels & Uruh.....

.....drain.....located and established in the Township.....of

.....Meridian.....and State of Michigan.

in the County of.....Ingham.....and State of Michigan.

Your petitioners further show that they constitute.....freeholders.....

.....who are owners of land liable to assessment for benefits for such proposed work......

Your petitioners further show that the said drain needs.....enlarging and relocating to conform with development.....

of the area.

The old tile has been overloaded for years.

1974

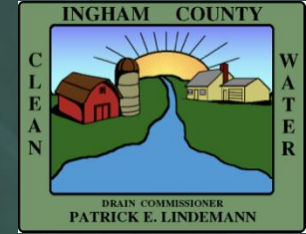
2016





# DANIELS DRAIN CONSTRUCTION PROJECT

## *INFORMATIONAL MTG*



## HISTORY:



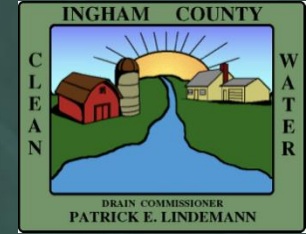
*1955*



*1967*

# DANIELS DRAIN CONSTRUCTION PROJECT

## *INFORMATIONAL MTG*



## HISTORY:



*1981*

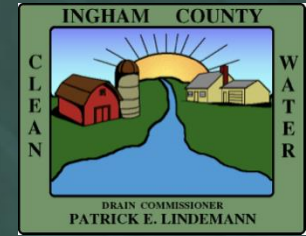


*1999*



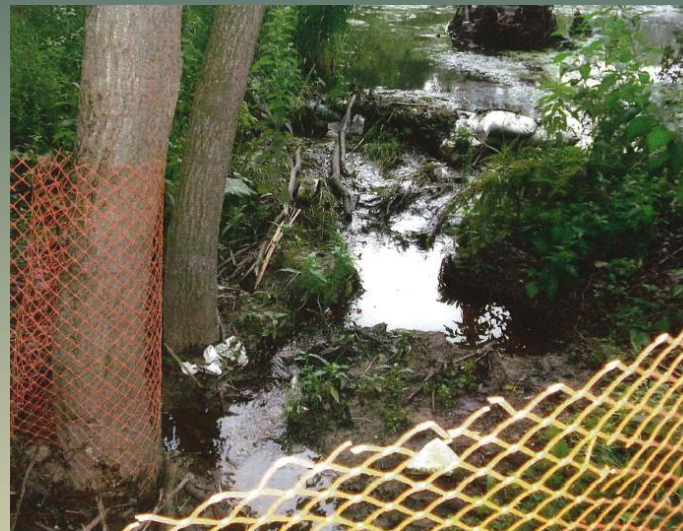
# DANIELS DRAIN CONSTRUCTION PROJECT

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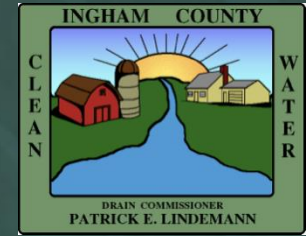
### DRAINAGE ISSUES:

- Drain has sink holes, collapsed & pipes w/ significant sediment buildup
- Flooding of nearby PCH property, damaged walkways and trees
- Walden Pond outlet issues & undersized crossing of Grand River Ave.



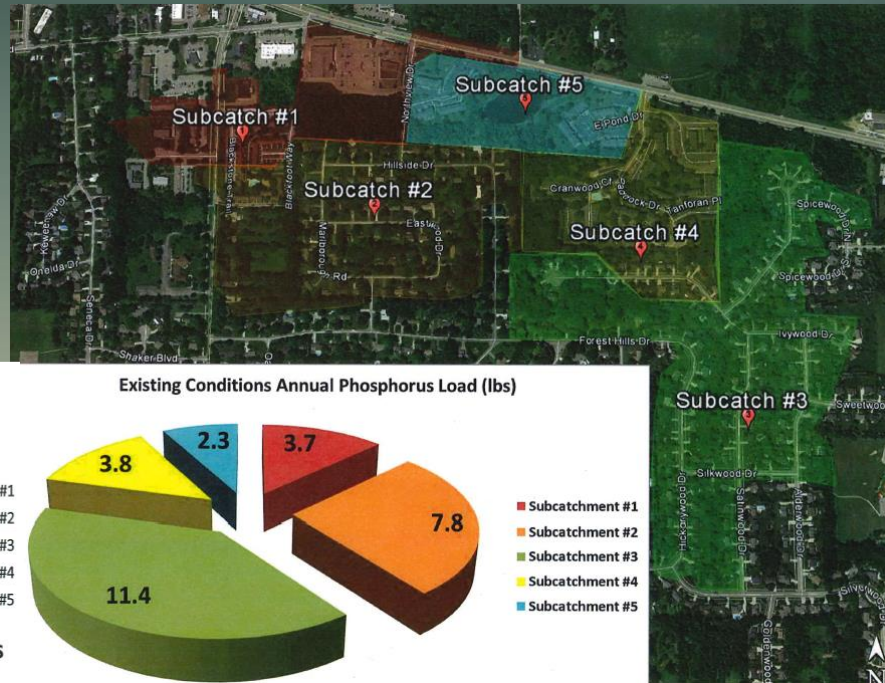
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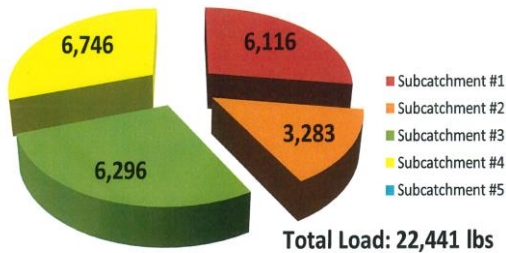


### DRAINAGE ISSUES:

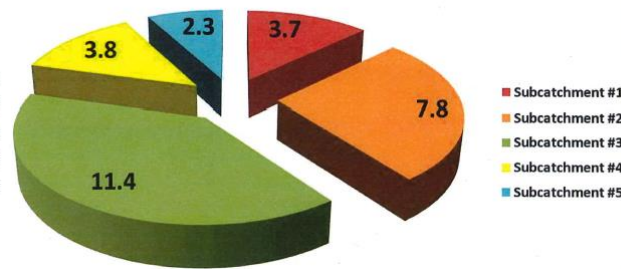
- Phosphorous and salt pollution from watershed area into Walden Pond



Estimated Annual lbs Chloride



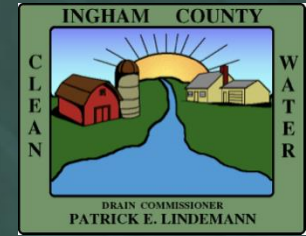
Existing Conditions Annual Phosphorus Load (lbs)





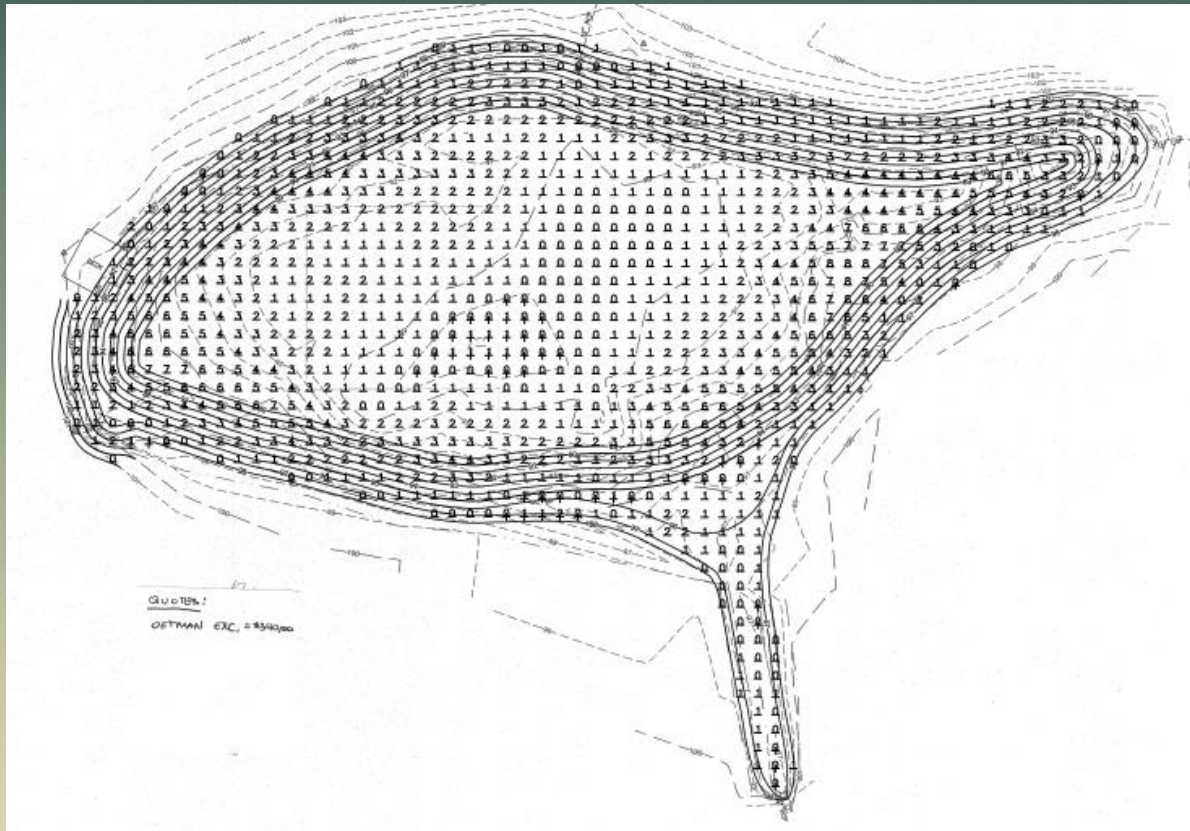
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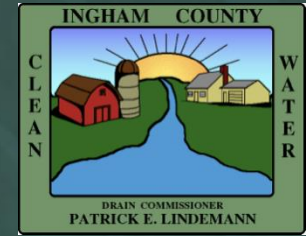
### SURVEY OF EXISTING POND (November, 2013):

- Walden Pond = +/- 2.6 acres
- Filled in 1 to 5 feet throughout



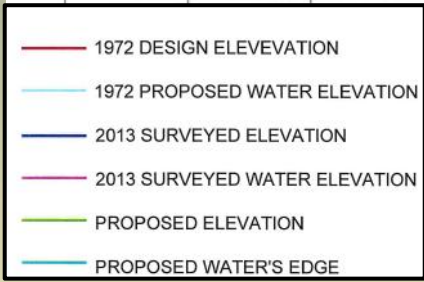
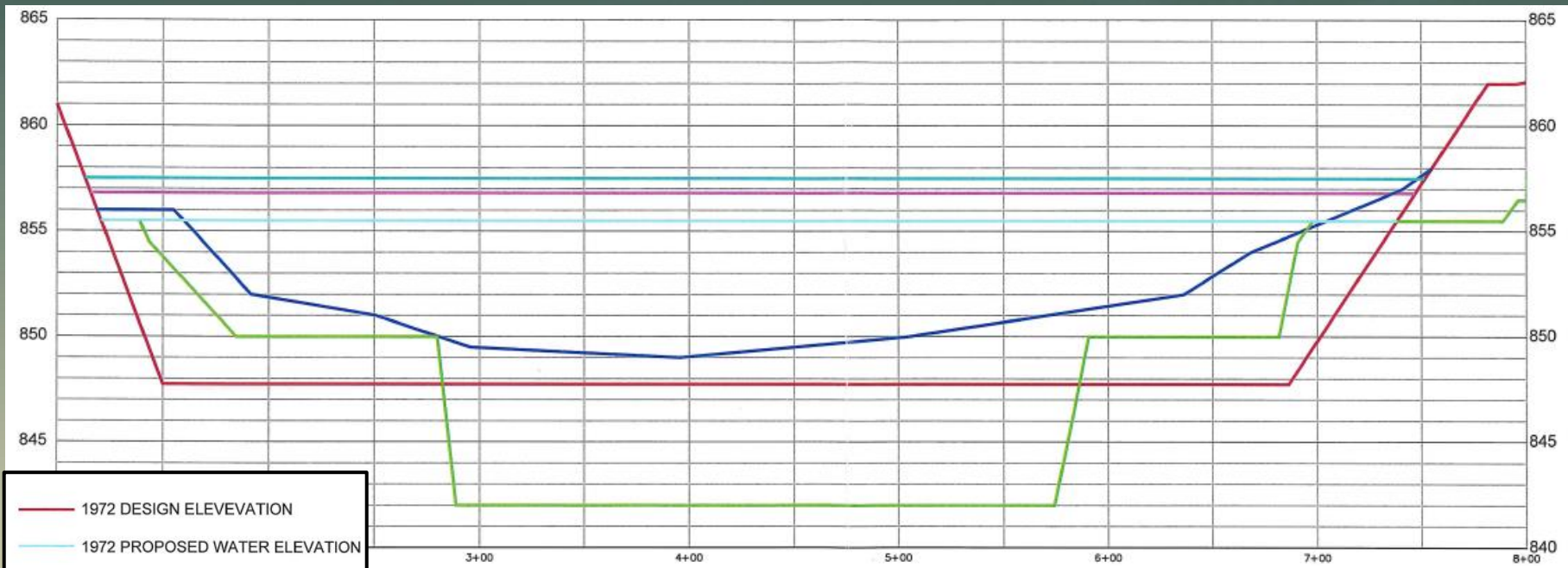
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### SURVEY OF EXISTING POND (November, 2013):

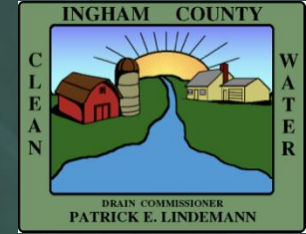
- 8,500 CYD material of excavation required to return to 1973 excavated depth



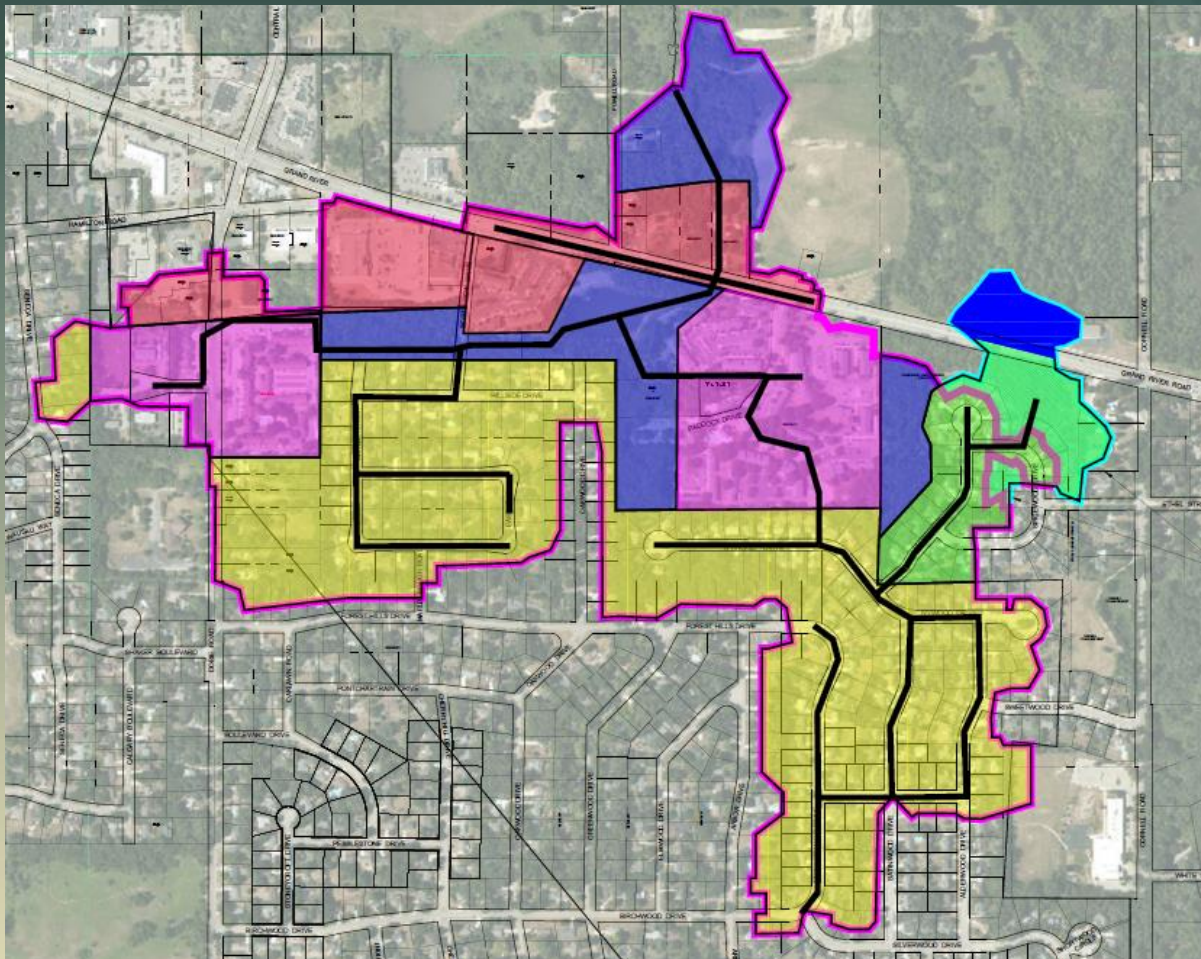


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### DANIELS DRAIN SERVICE AREA – APPORTIONMENT ANALYSIS



MERIDIAN TWP = 82.76%

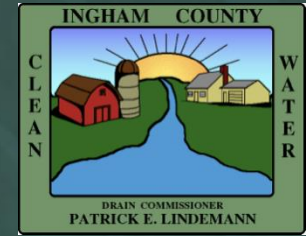
IC DEPT. OF ROADS = 13.85%

MDOT = 3.39%

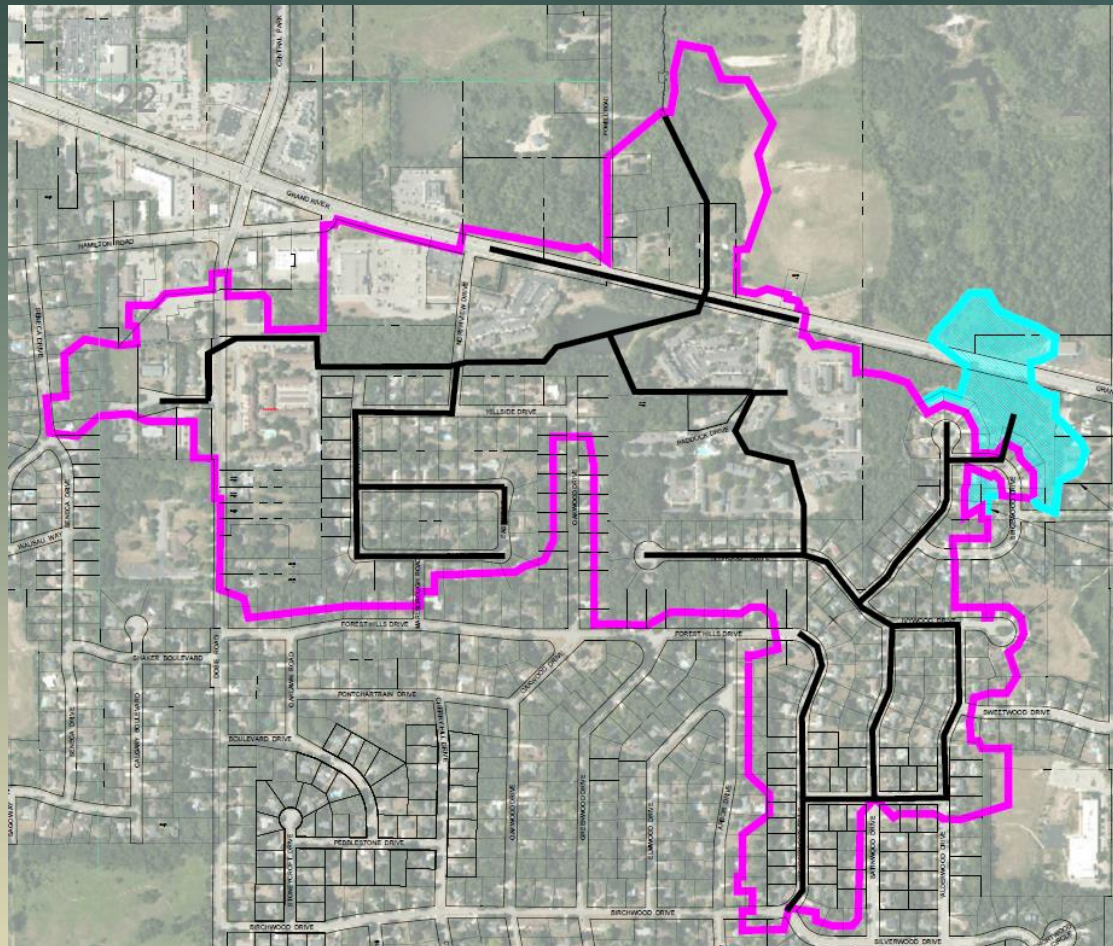
**TOTAL PROJECT COST:**  
**\$6,329,886.64**  
(construction costs are 77% of total project cost)

# DANIELS DRAIN CONSTRUCTION PROJECT

## *INFORMATIONAL MTG*



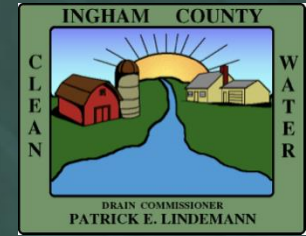
## DANIELS DRAIN SERVICE AREA & STORM SEWER SYSTEM



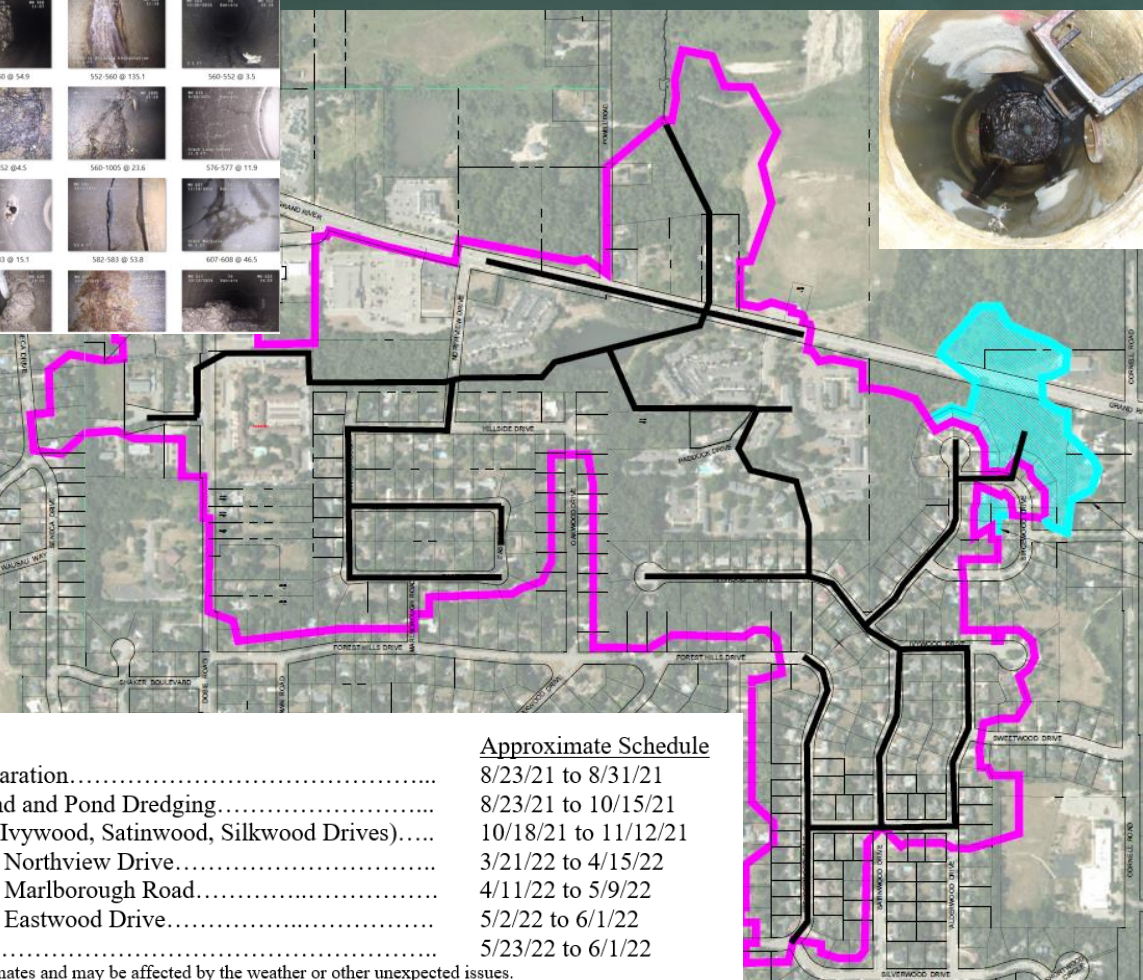
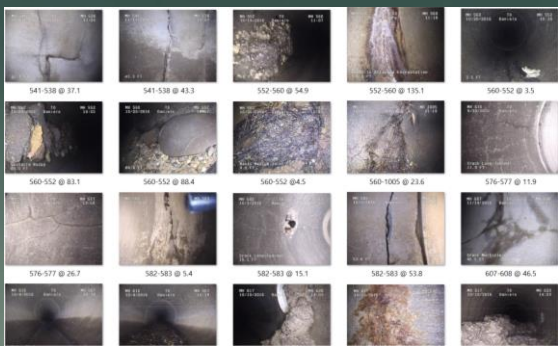
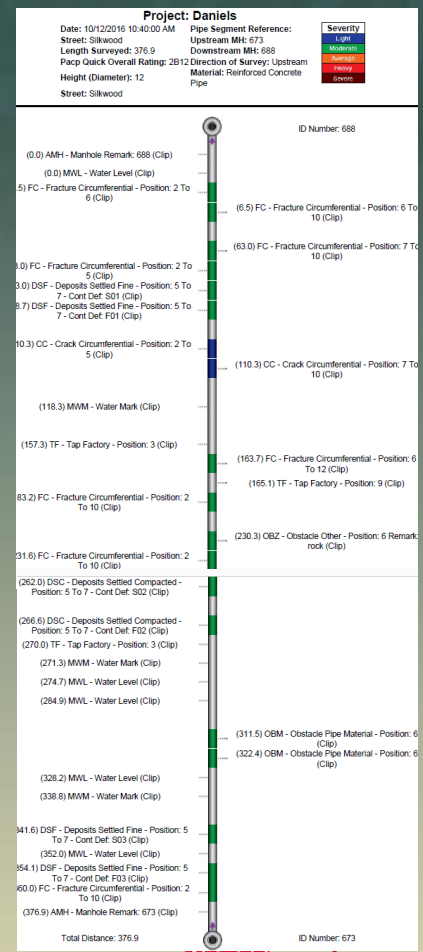


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### DANIELS DRAIN – OVERAL CONSTRUCTION WORK:



Item	Approximate Schedule
Mobilization and Site Preparation.....	8/23/21 to 8/31/21
Dewatering of Walden Pond and Pond Dredging.....	8/23/21 to 10/15/21
Storm Sewer Spot Repair (Ivywood, Satinwood, Silkwood Drives).....	10/18/21 to 11/12/21
Storm Sewer Installation – Northview Drive.....	3/21/22 to 4/15/22
Storm Sewer Installation – Marlborough Road.....	4/11/22 to 5/9/22
Storm Sewer Installation – Eastwood Drive.....	5/2/22 to 6/1/22
Roadway Paving.....	5/23/22 to 6/1/22

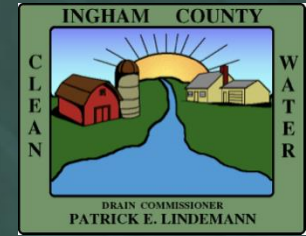
\*Note that these dates are only estimates and may be affected by the weather or other unexpected issues.



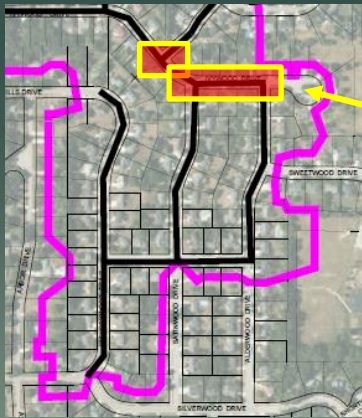


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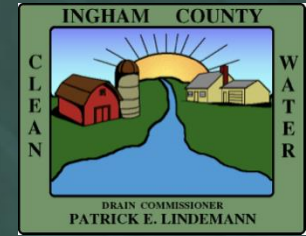
**DANIELS DRAIN CONST. PROJECT – PROPOSED WORK:**  
 Replace existing 15” RCP on Mistywood because outside ROW and pipe protrusion/spawl crack & replace existing 24” RCP on Ivywood due to significant pipe cracks, broken sections of pipe.





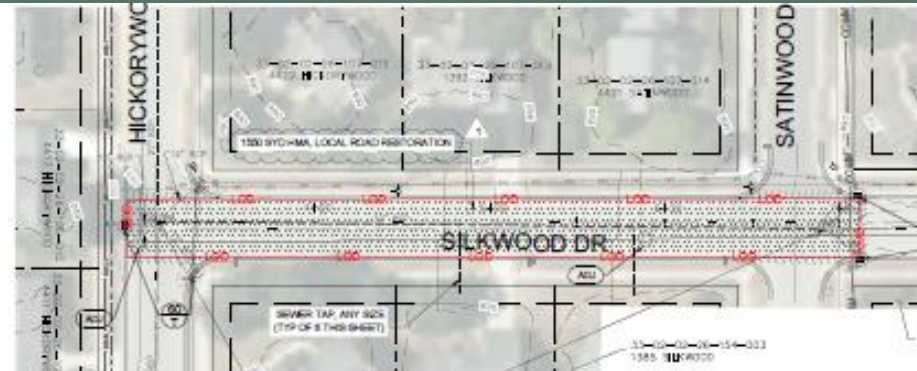
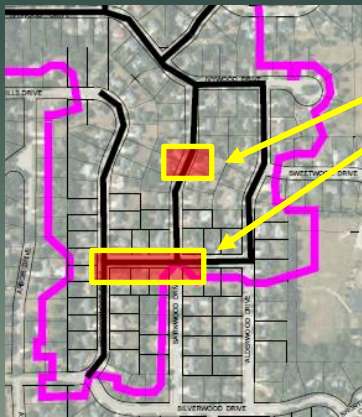
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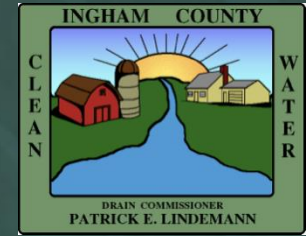
### DANIELS DRAIN CONSTRUCTION PROJECT – PROPOSED WORK:

Replace existing 12" on Satinwood Dr. due to significant pipe cracks & replace existing 15" on Silkwood Drive due to multiple cracked pipes, broken sections of pipe



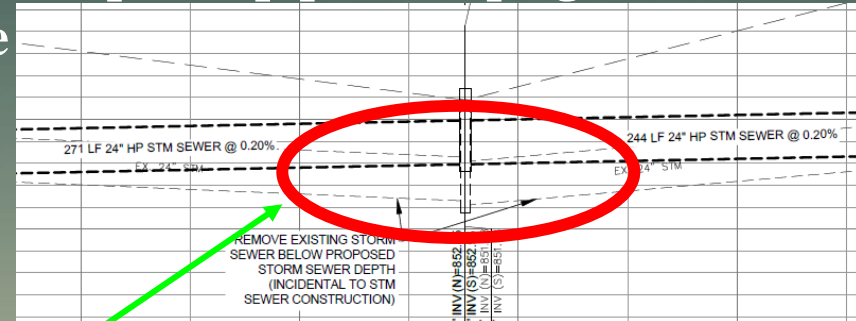
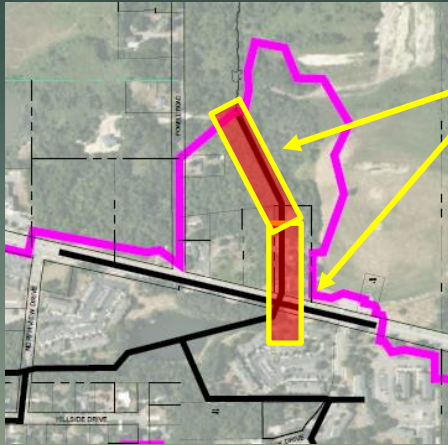
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### DANIELS DRAIN CONSTRUCTION PROJECT – PROPOSED WORK:

**Complete pipe replacement under Grand River Ave. to Unruh Drain.** Ex. 24” pipe being replace with a new 24” HP storm sewer due to depth of pipe & slope/grade issues with the existing pipe

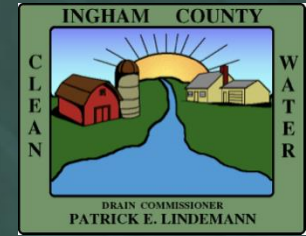


belly in pipe in several locations greatly diminishes capacity of the drain

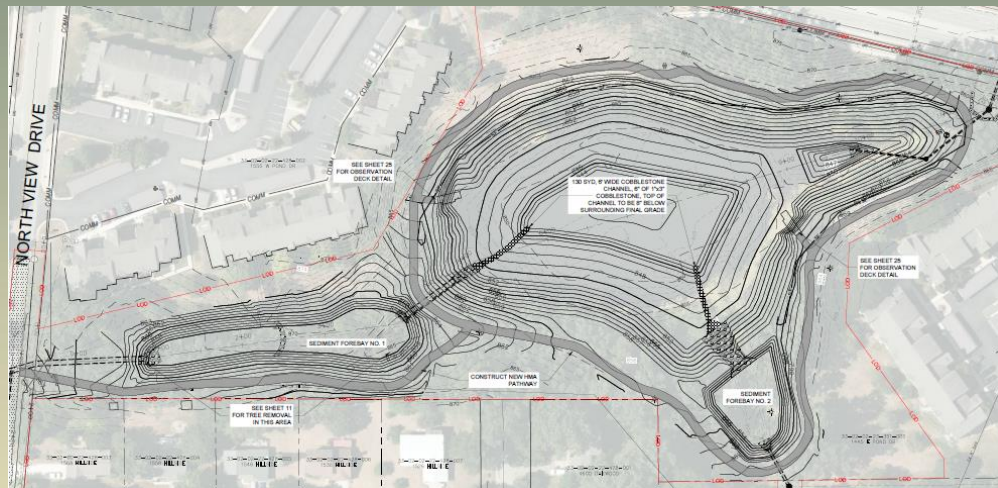
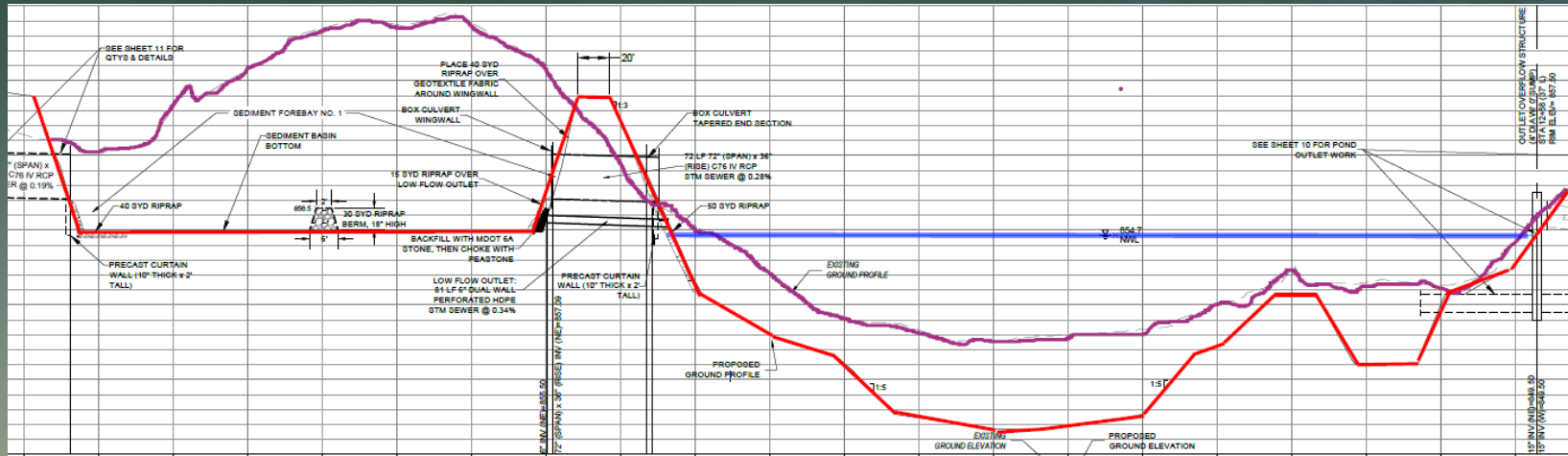


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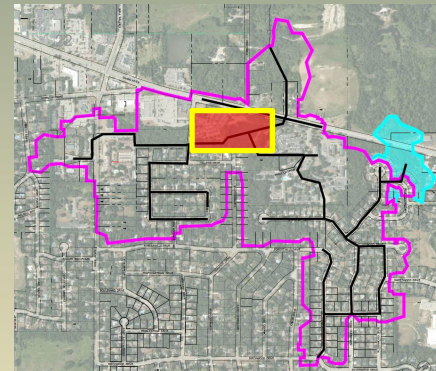
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### DANIELS DRAIN CONSTRUCTION PROJECT – PROPOSED WORK:

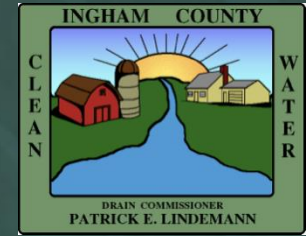


20,650 CYD of Pond excavation work

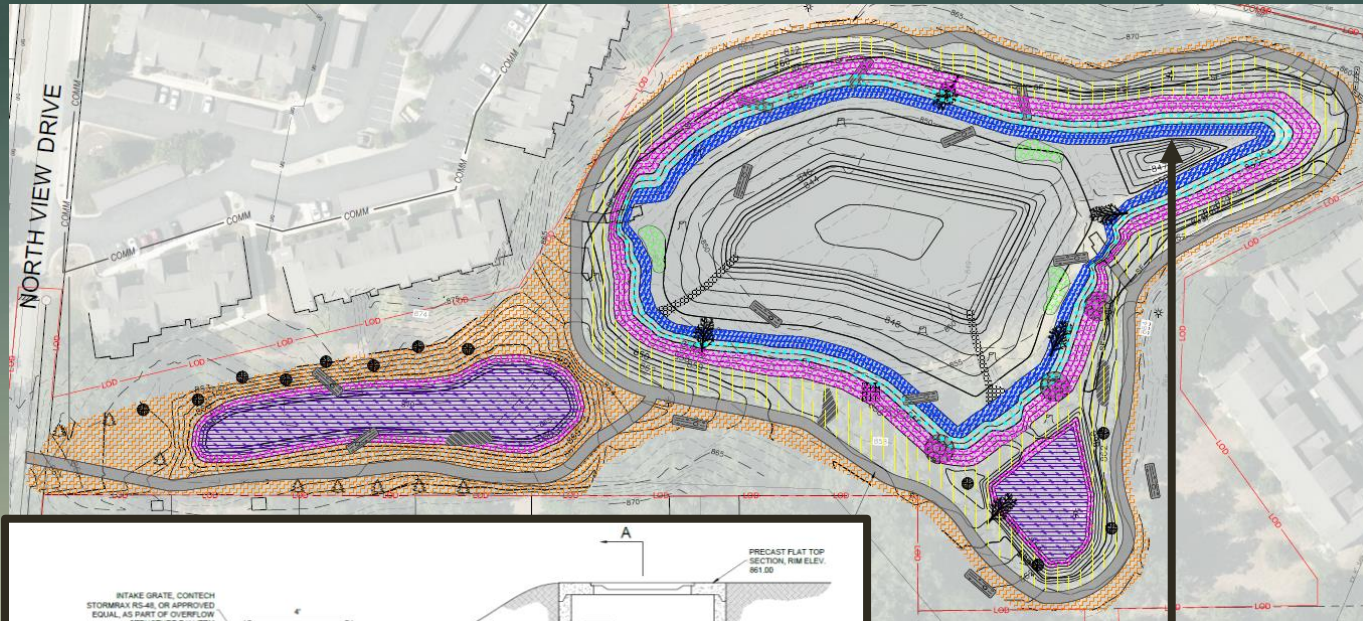


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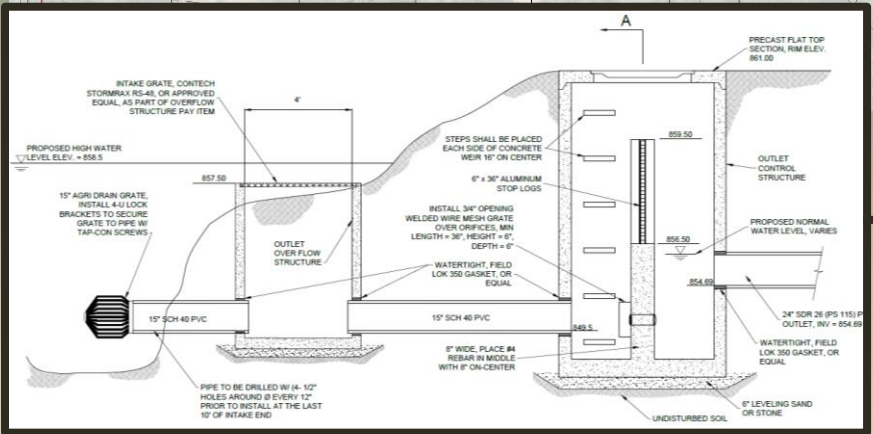
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### DANIELS DRAIN SERVICE AREA & STORM SEWER SYSTEM



- GRASS LAWN SEED MIX
- SLOPE STABILIZATION SEED MIX
- SEDIMENT FOREBAY SEED MIX
- WET-TO-MESIC TALLGRASS PRAIRIE SEED MIX
- 0-2' EMERGENT WETLAND SEED MIX
- 2-3' EMERGENT SEED MIX
- 3-6' LILY TUBER PLANTING
- TREE STUMP
- LOG
- WHOLE TREE
- BASKING ROCK PILE
- SAND MOUND
- HIBERNACULUM
- PROPOSED EVERGREEN TREE
- PROPOSED DECIDUOUS TREE

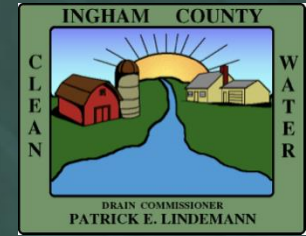


Pond restoration work,  
New outlet control structure &  
habitat mitigation structures

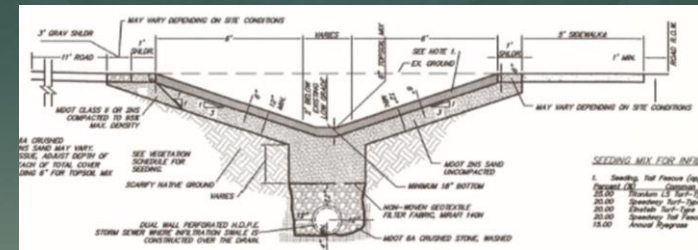
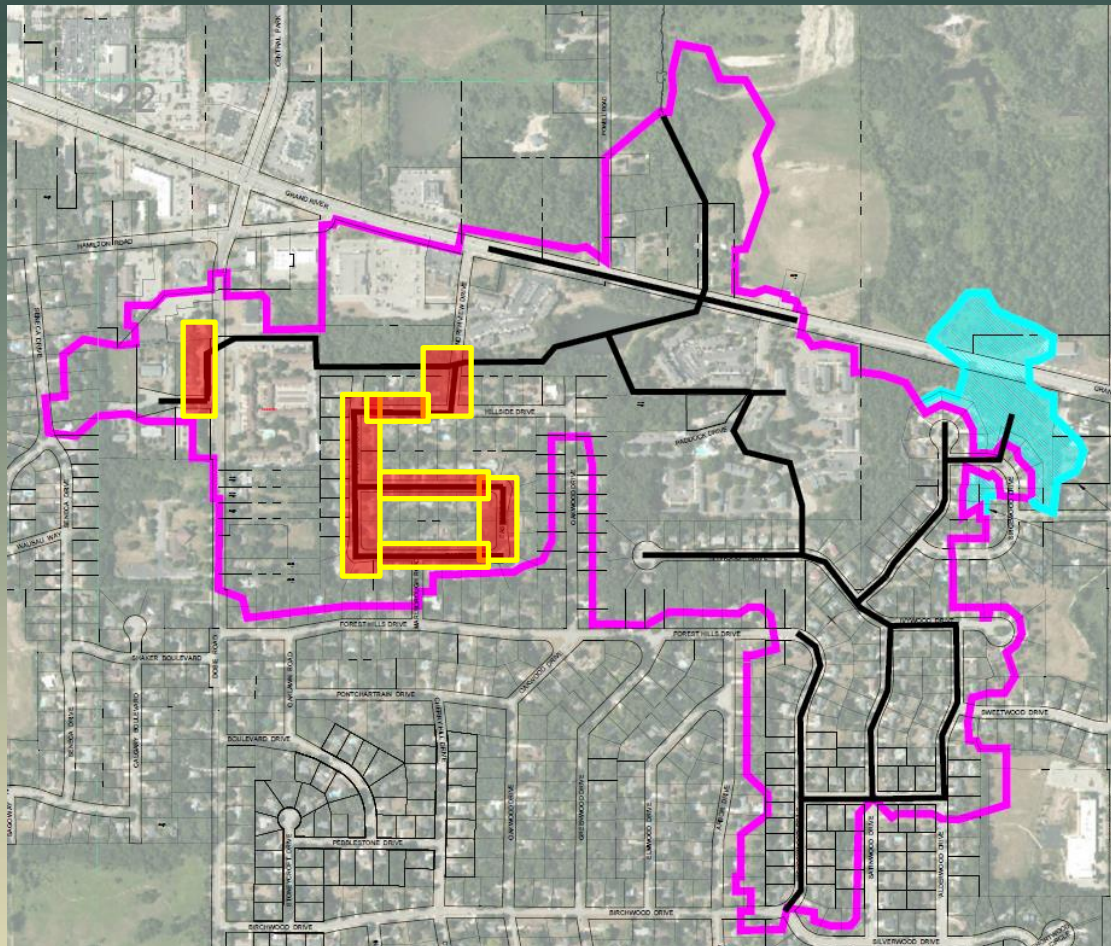


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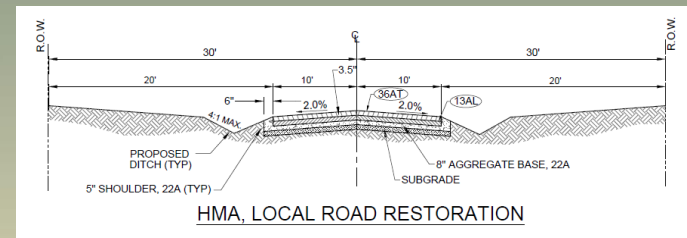
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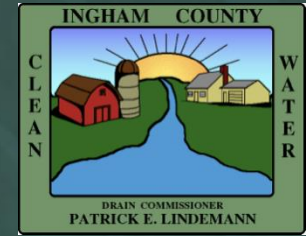


Existing storm sewer pipe replacement, new asphalt roads, re-establish road ditches/swales & install 'rain lawns'

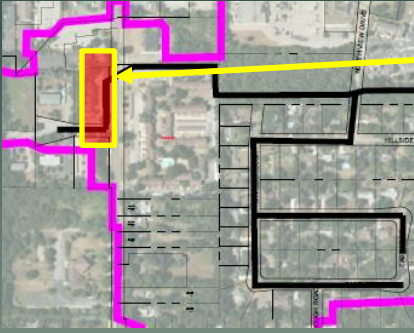


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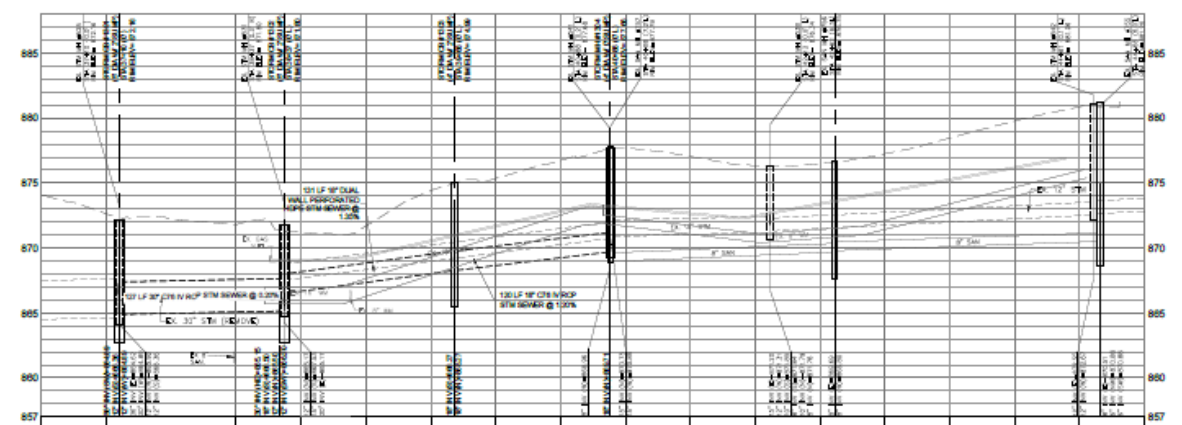
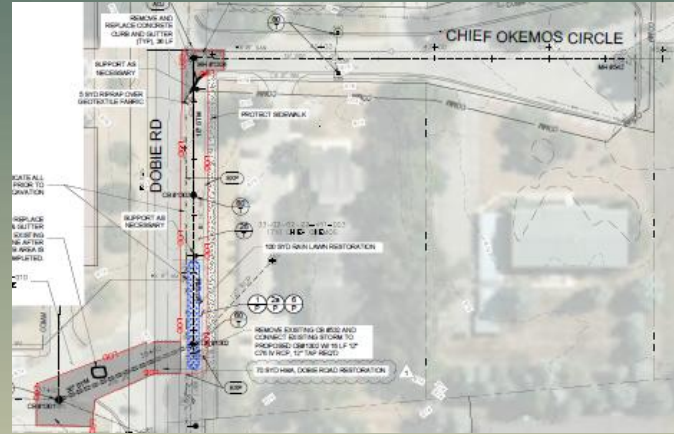
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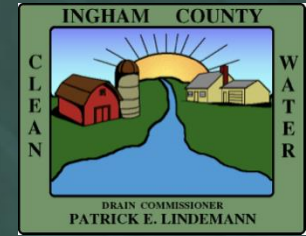
Replace undersized storm sewer crossing and along east side of Dobie Rd. to Chief Okemos Circle with new 30" & 18" storm sewer



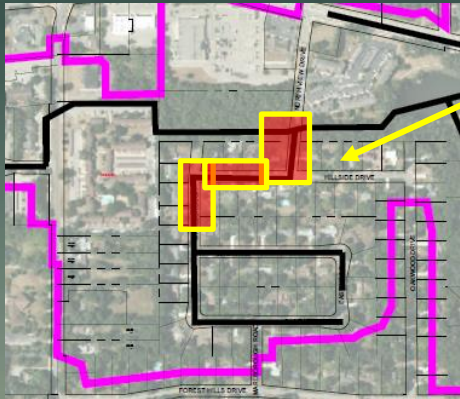


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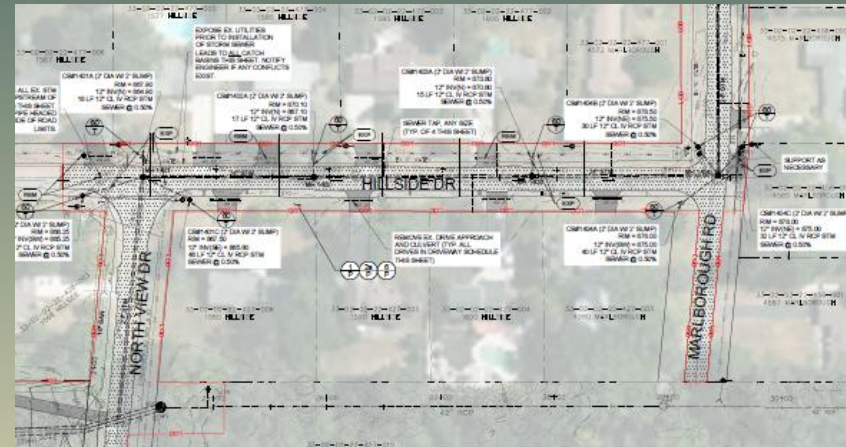
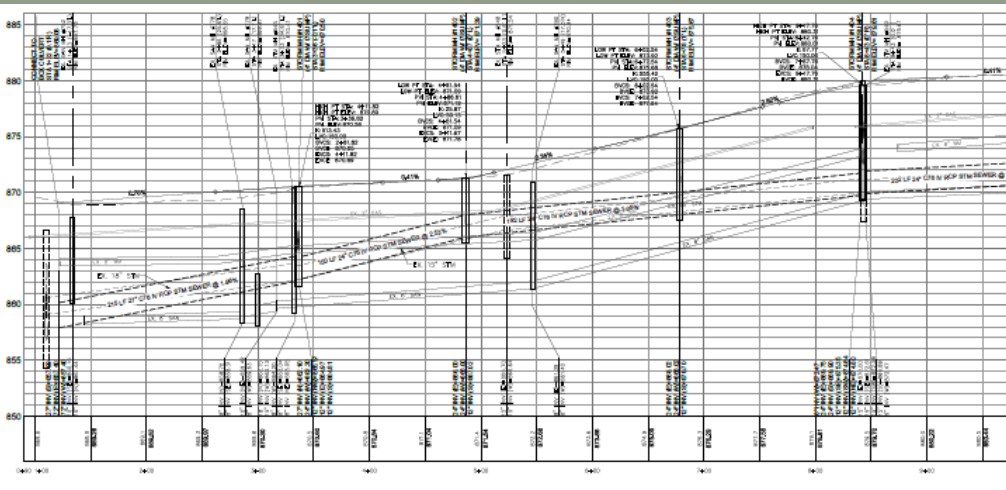
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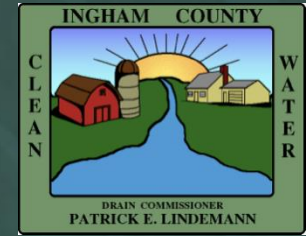


Replace Ex. 42" crossing under Northview Dr. w/ new 36"x72" box culvert. Replace undersized 18" storm sewer on Northview Dr. & undersized 15" pipe on Hillside Dr. & Marlborough Rd. w/ new 24" RCP storm sewer.



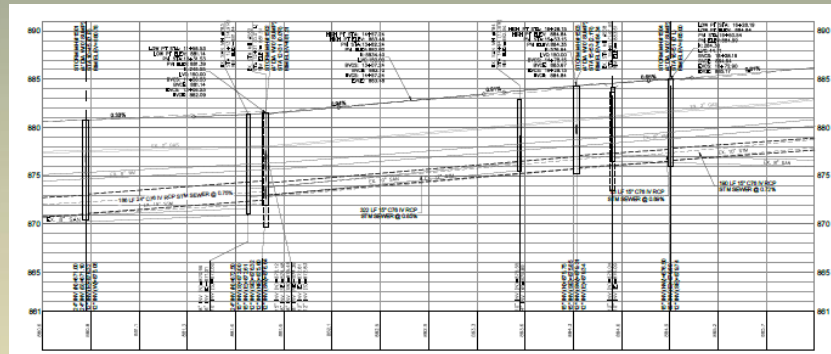
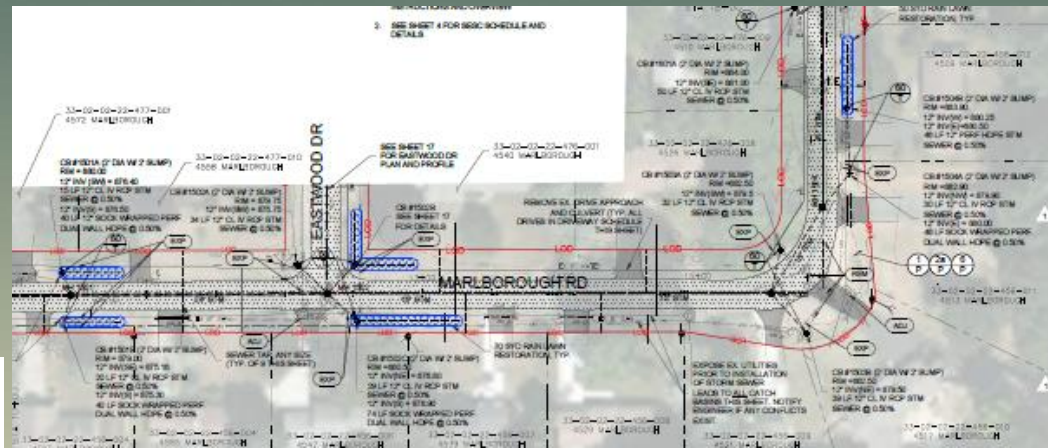
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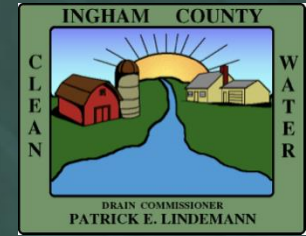
Replace undersized 12" & 15" existing storm sewer along Markborough Rd. w/ new 15" & 24" RCP storm sewer. Install complete drainage system along roadway with drainage swales, catch basins and infiltration basins along the road ditches.





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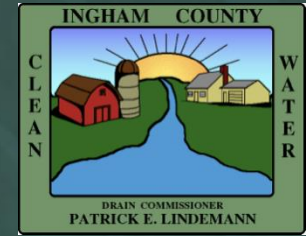
### DANIELS DRAIN SERVICE AREA & STORM SEWER SYSTEM

Replace existing 12" storm sewer along Eastwood Dr. w/ new 12" & 15" RCP storm sewer. Install complete drainage system along roadway with drainage swales, catch basins and infiltration basins along the road ditches



# DANIELS DRAIN CONSTRUCTION PROJECT

## *INFORMATIONAL MTG*



# QUESTIONS ???

## CONTACT INFORMATION DURING CONSTRUCTION



### **Daniels Drain Project**

Contact Information:

**Ingham County Drain Commissioner  
Patrick E. Lindemann**

517-676-8395

### **GEI Consultants**

Kyle Smith  
Project Engineer  
(734) 904-9356  
ksmith@geiconsultants.com



### **GEI Consultants**

Brian J. Cenci, PE  
Project Manager  
(517) 449-3478  
bcenci@geiconsultants.com

