

Little Glen Lake Drain  
Board of Determination Meeting



*Engineering Presentation*

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Director of MI County Drain Services  
GEI Consultants of Michigan, P.C.

**Little Glen Lake Drain  
Board of Determination**

**November 21, 2024**

**5:30 p.m.**

*Leelanau County Board Mtg. Room  
8527 E. Government Center Drive  
Suttons Bay, MI 49682*

**Leelanau County Drain Commissioner  
Steve Christiansen**



# Little Glen Lake Drain Board of Determination Meeting



## **PURPOSE OF ENGINEERING REVIEW:**

- A Landowner Application and Petition submitted to the Leelanau County Drain Commissioner for establishing a new County Drain District (Ch. 3) and a new County Drain (Ch. 4) to provide flooding and drainage relief
- Drain Commissioner required to hire a Licensed Professional Engineer to Determine the District Boundary (i.e. the drainage area / watershed) contributing to the proposed Drain Route
- Field Review of potential routes for the proposed Little Glen Lake Drain; potential Drainage District options
- Identify any potential drainage problems or issues that may necessitate construction of a new County owned & operated drain and/or including branch drain
- Determine the most feasible and prudent route for the Drain that would service the Drainage District Boundary.
- Present a Preliminary Engineering Summary of findings at a Board of Determination
- **WHAT IS NOT REVIEWED TO THIS POINT:** No preliminary design, no scope, no proposed “solutions” or “options, no estimated costs, etc....WHY? There is no ‘project’ until petition is necessary as determined by the BOD



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## **WORK PERFORMED:**

- Obtain & analyze existing record information (County maps, building records, aerials, topographic contour information, LiDar data, County Road Commission records, MDOT records, existing land use information, soils info, wetland data, etc.)
- Determine the Little Glen Lake Drainage District boundary through 1-foot interval data for County topographic contour information, site inspections and survey work to understand stormwater inputs into the drain system and analyze direction of flow for stormwater runoff
- Reviewed the on-site flooding and drainage issues on south side of M-22.
- Determine the most feasible route for the Drain to address the petition and for servicing the Drainage District
- Present preliminary findings at a Board of Determination



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## PROPOSED DRAINAGE DISTRICT BOUNDARY:

- Proposed Drainage District Boundary is determined based on topographic contour information and field observations
- Total Size = 16 Acres
- # properties = +/- 16
- At-Large Entities (3):

Empire Township, Leelanau County,  
Michigan Department of Transportation  
(MDOT)

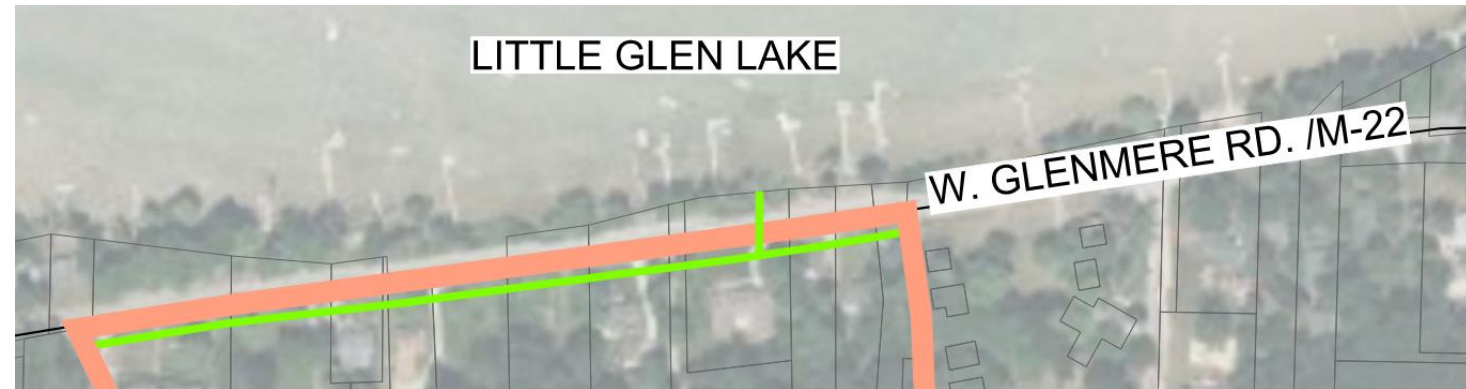


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## EXISTING DRAIN ROUTE & COURSE:

- Drain route in petition is along the south side of M-22 with one outlet to Little Glen Lake.
- Drain route can change and will be determined through engineering analysis and scope of work determined by the Drain Commissioner (if Drain project proceeds)
- Initial Drain Route = 1,090 feet +/-



### LEGEND

-  DRAINAGE DISTRICT BOUNDARY
-  ROADS
-  PARCEL BOUNDARIES
-  DRAIN ROUTE & COURSE



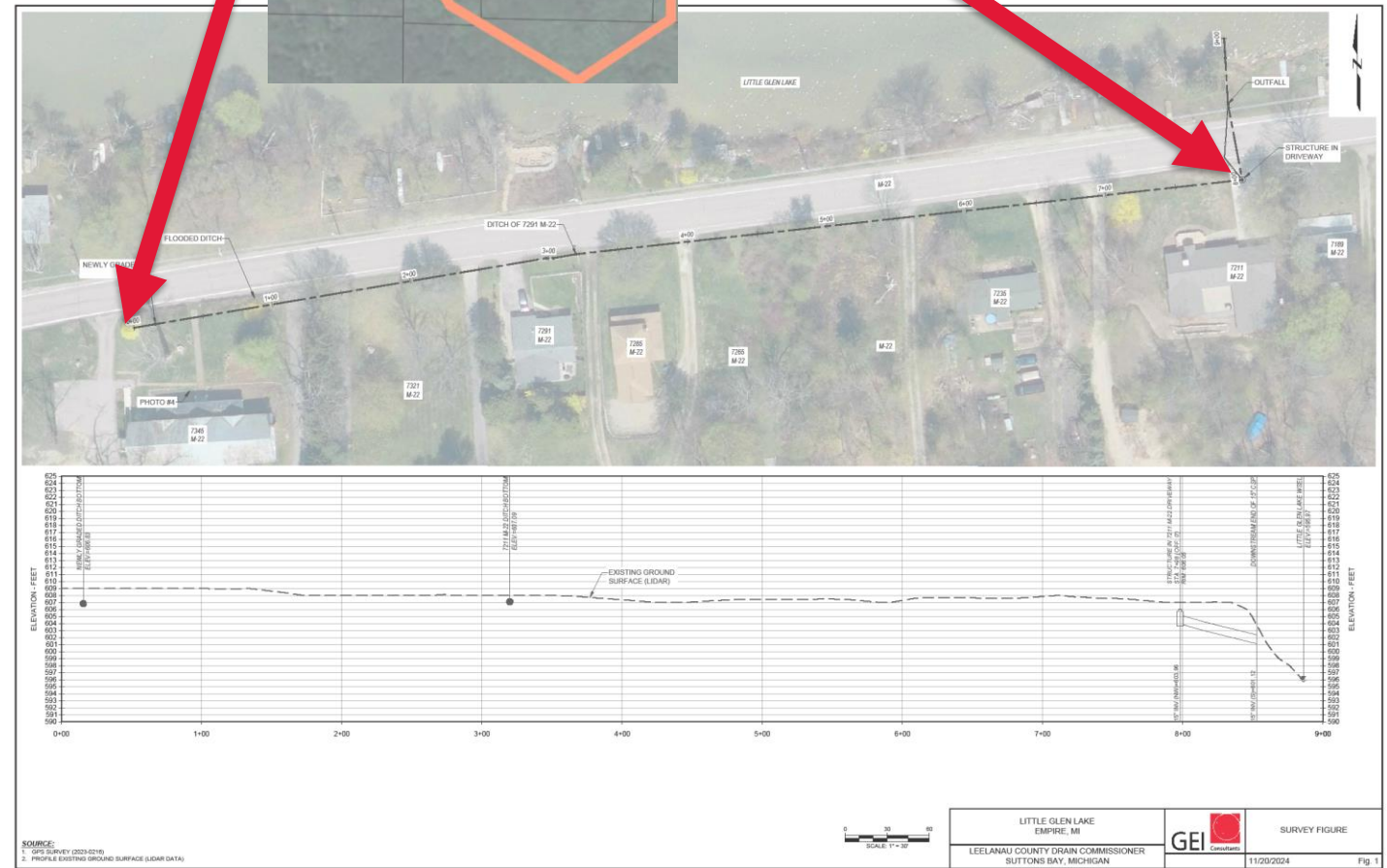


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## EXISTING INFRASTRUCTURE:

- 15" Storm sewer at north-east end of drainage district boundary. One basin on south side of M- 22 with a single road crossing and outlet into Little Glen Lake. Limited to no roadside ditches along M-22



SOURCE:  
1. GFI SURVEY (2023-0218)  
2. PROFILE EXISTING GROUND SURFACE (LIDAR DATA)

SCALE 1" = 30'

LITTLE GLEN LAKE  
EMPIRE, MI  
LEELANAU COUNTY DRAIN COMMISSIONER  
SUTTONS BAY, MICHIGAN  
GEI CONSULTANTS  
SURVEY FIGURE  
11/20/2024  
Fig 1



# DRAINAGE ISSUE, PURPOSE OF PETITION:

## Little Glen Lake Drain Board of Determination Meeting

- Flooding along the south side of M-22 in landowner's front lawns and in M-22 roadway. Photos are from after rain events and spring snow melt.









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## DRAINAGE ISSUE, PURPOSE OF PETITION CON'T:





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## DRAINAGE ISSUE, PURPOSE OF PETITION CON'T:



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**QUESTIONS ?????**

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