

South Bar Lake Drain  
Board of Determination Meeting



**South Bar Lake Drain  
Board of Determination**

*Engineering Presentation*  
Brian J. Cenci, P.E. – Sr. Project Mngr.  
Director of MI County Drain Services  
GEI Consultants of Michigan, P.C.

**October 22, 2020  
6:00 p.m.**

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

**Leelanau County Drain Commissioner  
Steve Christensen**



# South Bar Lake Drain Board of Determination Meeting



## PURPOSE OF ENGINEERING REVIEW:

- A Municipality (Village of Empire) filed an Application and then a Petition to the Leelanau County Drain Commissioner for purposes of locating, establishing and constructing a new County Drain District (Ch. 3) and a new County Drain (Ch. 4) to locate, establish and construct a County Drain.
- 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 South Bar Lake Drain; Note: Drain Commissioner not held to this route
- 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

PETITION FOR LOCATING, ESTABLISHING AND CONSTRUCTING  
A DRAIN OR DRAINS OR ANY PORTION THEREOF FOR A MUNICIPALITY  
SOUTH BAR LAKE DRAIN

To the County Drain Commissioner of the County of Leelanau:

Pursuant to Chapter 4 of the Michigan Drain Code of 1956, as amended, the undersigned Petitioner, the Village of Empire, is a municipality in the Drainage District as Laid Out and Designated in the Order dated June 11, 2020 in the County of Leelanau, State of Michigan, in which Drainage District for the South Bar Lake Drain is being applied for, is to be located, established and constructed.

The petitioner is a city, village or township and this petition has been authorized by its governing body on June 11, 2020 and as further evidenced by the attached resolution. The petitioner is a municipality, which will be liable to assessments at large for at least a percentage of the total amount to be assessed for the cost of the proposed drain.

The locating, establishing and constructing of said drain or drains, or any part thereof, is also necessary and conducive to the public health, convenience or welfare of the Village of Empire.

The undersigned petitioner therefore makes petition, and asks you to locate, establish and construct a drain or drains, or any portion thereof, which will properly drain the lands in the district, under the provision of Act No. 40 of the Public Acts of 1956, as amended. The location of the drain or drains, or any portion thereof, are as given in your Order for Laying Out and Designating the South Bar Lake Drain Drainage District, to be substantially as follows:

**PROPOSED SOUTH BAR LAKE DRAIN - ROUTE & COURSE DESCRIPTION**

BEGINNING AT A POINT ON SOUTH BAR LAKE. SAID POINT LYING APPROXIMATELY 2.064 FEET WEST AND 2.047 FEET NORTH OF THE SOUTHEAST CORNER OF SECTION 24, TOWN 28 NORTH, RANGE 13 WEST, EMPIRE TOWNSHIP AND THE VILLAGE OF EMPIRE, LEELANAU COUNTY, MICHIGAN; THENCE NORTH 72°23'34" WEST 180 FEET TO THE POINT OF ENDING.

THE BASIS OF BEARINGS USED FOR THIS DESCRIPTION WAS ESTABLISHED FROM THE LEELANAU COUNTY GIS MAPPING SYSTEM.

SAID DRAIN ROUTE & COURSE BEING 180 FEET IN LENGTH (0.03 MILES <sup>+</sup>/<sub>-</sub>), MORE OR LESS.

For the County of Leelanau, State of Michigan

VILLAGE OF EMPIRE

Petitioner

By: [Signature]

Its: President

As Authorized by its governing body with the attached Resolution on:

June 11 2020



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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.)
- Delineate the proposed South Bar 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
- Meet and review on-site the issue with the South Bar Lake outlet channel and culvert under necessitating the petition with the petitioner
- 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

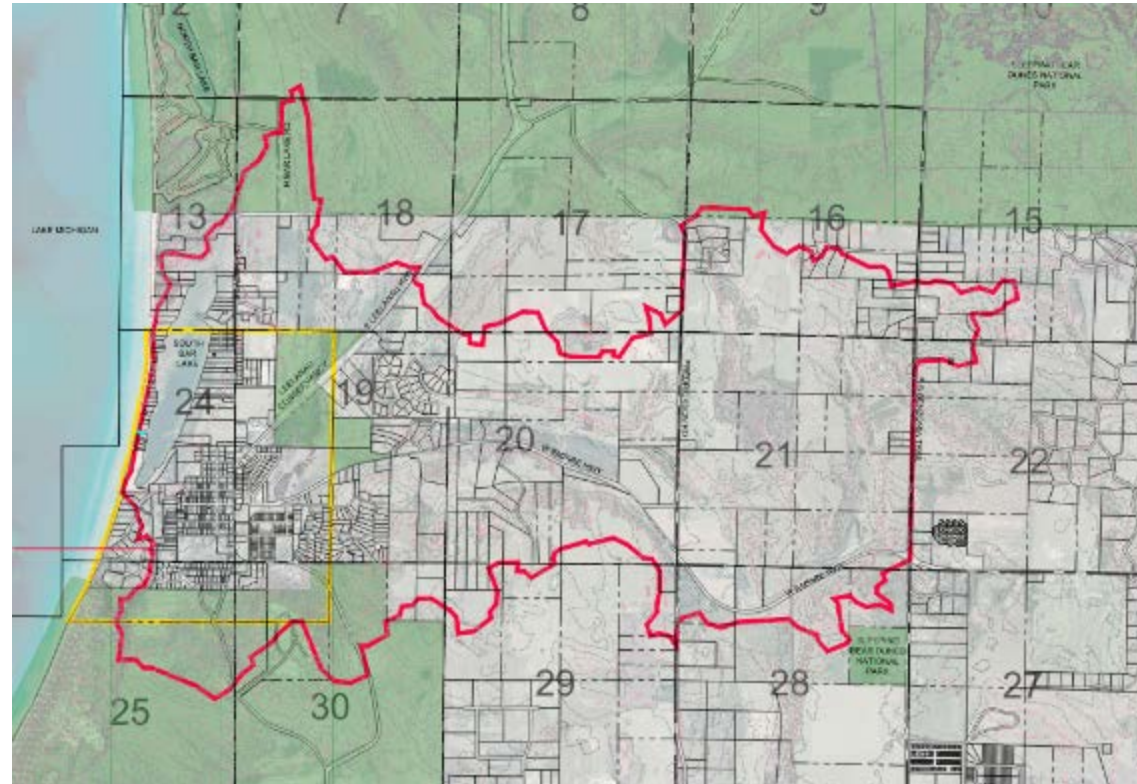


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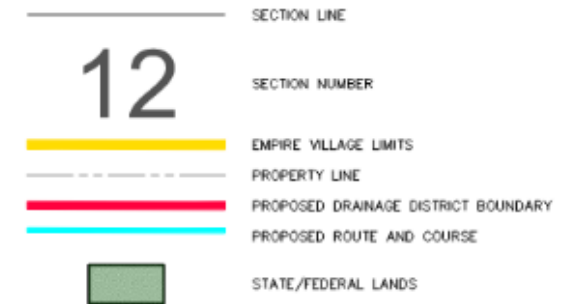


## PROPOSED DRAINAGE DISTRICT BOUNDARY:

- Proposed Drainage District Boundary is determined based on topographic contour information and field observations
- Total Size = 3,333 acres
- # properties = +/- 820
- Acres in Village = 689 acres
- Acres in Twp. = 2,644 acres
- At-Large Entities (4):  
Village of Empire, Empire Twp.,  
County for County Roads, MDOT



### LEGEND



AREA BREAKDOWN		
PROPOSED DRAINAGE DISTRICT	3333 ACRES	
VILLAGE OF EMPIRE	689 ACRES	20%
STATE/FEDERAL LANDS	453 ACRES	14%



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## PROPOSED DRAIN ROUTE & COURSE:

- Proposed Drain route in petition is existing South Bar Lake ditch outlet and culvert under S. Lake Michigan Drive
- 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 = 180 feet +/-



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## EXISTING INFRASTRUCTURE:

- The outlet from South Bar Lake is currently a small creek/ditch from South Bar Lake running between 11399 & 11443 S. Lake Michigan Drive westerly to a 58" x 36" Elliptical Corrugated Metal Pipe (CMP) culvert under S. Lake Michigan Drive. Small creek/ditch extending from west side of the culvert to Lake Michigan.



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## DRAINAGE ISSUE, PURPOSE OF PETITION:

- Outlet ditch and culvert experiences frequent sedimentation due to increased lake levels on Lake Michigan and associated wave action results in a blockage of the outlet (filling in of ditch and filling of culvert) and causes subsequent flooding of properties along South Bar Lake.



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## DRAINAGE ISSUE, PURPOSE OF PETITION:

- To date, cleaning out and maintenance of this outlet from the significant amounts of sediment has been done by and paid for solely by the Village of Empire. The jurisdictional requirement for the Village to have to perform this work is unknown.



Sep 7, 2020

Sep 7, 2020





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**QUESTIONS ??????**

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