



GENERAL SERVICES COMMITTEE

420 N. Front St.

Suttons Bay, MI 49682

August 4, 2026, at 8:30 am

AGENDA

Call to Order

1. Reports (staff)
 - a. DPW Director Report
2. Public Comments
Please limit remarks to no more than three (3) minutes or less.
3. Committee Business
 - a. Presentation by Rich Bahle & Council Member Perkins on Leo Creek Culverts
4. Status Update – Other Committees
 - a.
5. Public Comments/Written Communication
6. Committee Member Comments
7. Announcements
8. Adjournment

Why we need to improve the Leo Creek culverts

Leo Creek crosses under roads through culverts at seven locations, six of which are within the Village of Suttons Bay (see map on next page). The majority of the culverts, including the one under Richter Rd, are a village responsibility. Most appear to be several decades old. The M22 culvert is the responsibility of MDOT. The two most upstream (southernmost) crossings are under Leelanau Road Commission control (located on Co Rd 633 south of the Village Limits and at Eckerle Rd). There is also a bridge where the TART trail crosses the creek. That organization is planning to reconstruct it.

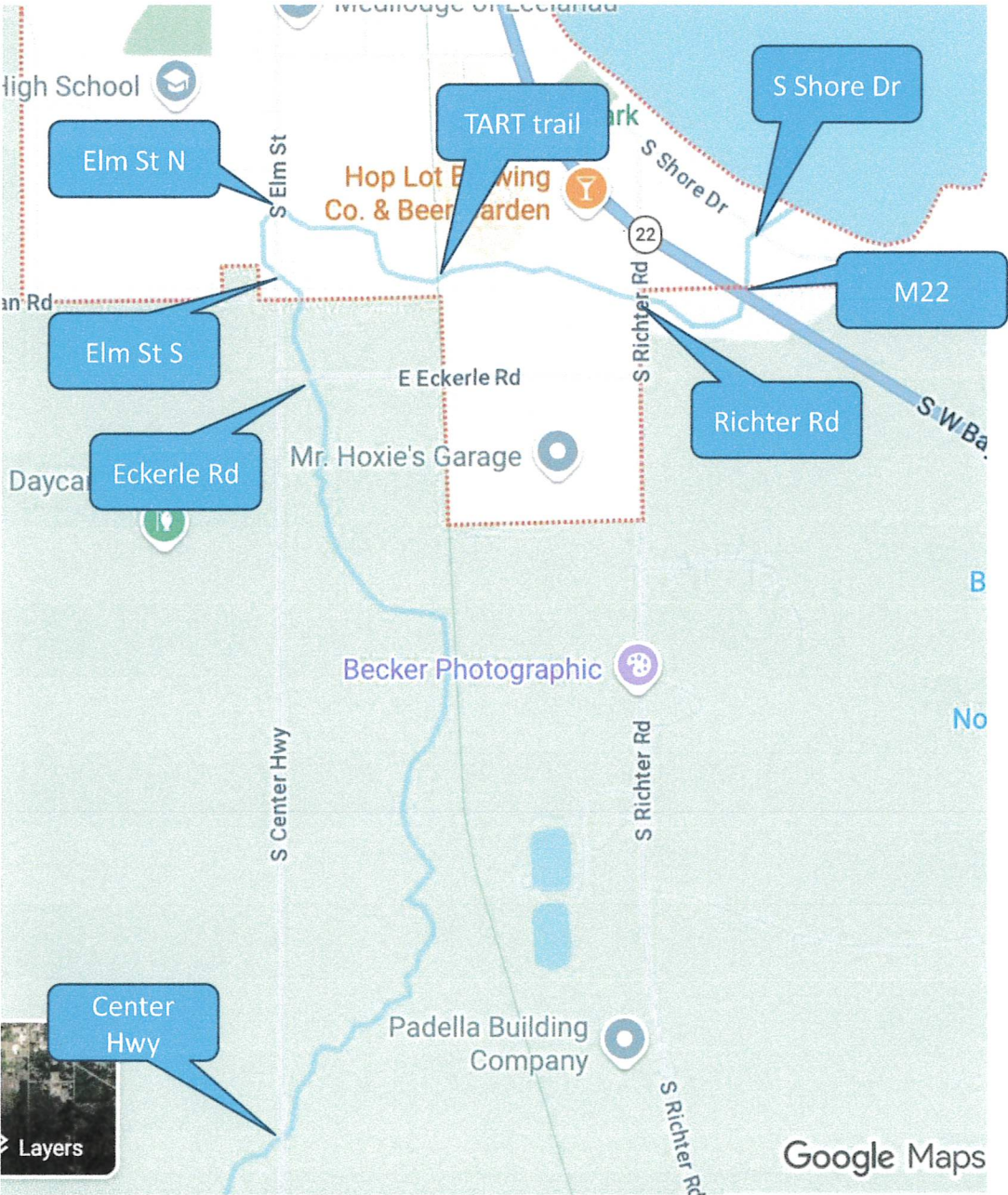
The Leo Creek culverts, like so many dating from the 1900s, appear undersized. This can cause accelerated flow rates which increase erosion of stream bottoms and can impede normal fish passage. Some have visible degradation of concrete or corrugated pipe. Periodic backup of water above undersized culverts causes overbank flooding and increased inputs of sediment and organic debris to creeks. During very high flow events roads and yards have become flooded. In the most recent high flow event of Spring 2026, flooding extended into the gardens of Leo Creek Park.

The two culverts under Elm Street are in particularly poor condition and probably in need of replacement. In addition to interfering with repaving, they probably do not meet current standards and are too narrow for today's traffic presenting a hazard to both vehicles and pedestrians. The corrugated pipe culverts at S Shore Dr and Eckerle Rd exhibit accelerated stream flow rates even during normal conditions. This may impede passage of some fish and accelerate stream bottom erosion. And again, due to a narrow roadbed, these culverts present a danger to pedestrians and bikers.

The issues with Leo Creek culverts are commonplace—culverts all over the state and country are being replaced to better convey high streamflows, as well as to facilitate fish passage. Replacements are generally made possible from state or federal grants, and locally we have organizations such as The Watershed Center of Grand Traverse Bay and the Conservation Resource Alliance that are experienced in helping to acquire funding and in managing such projects. Recent culvert replacements or improvements in our area include several on the Crystal River, and planning is underway to replace culverts at Cedar Run Creek at East Alpine Rd as well as Northport Creek. An early project was right here in Suttons Bay Township on McKeese Road. It was an early collaboration with the above organizations and the Grand Traverse Band. The Shalda Creek culvert under County Road 669 was another such early project.

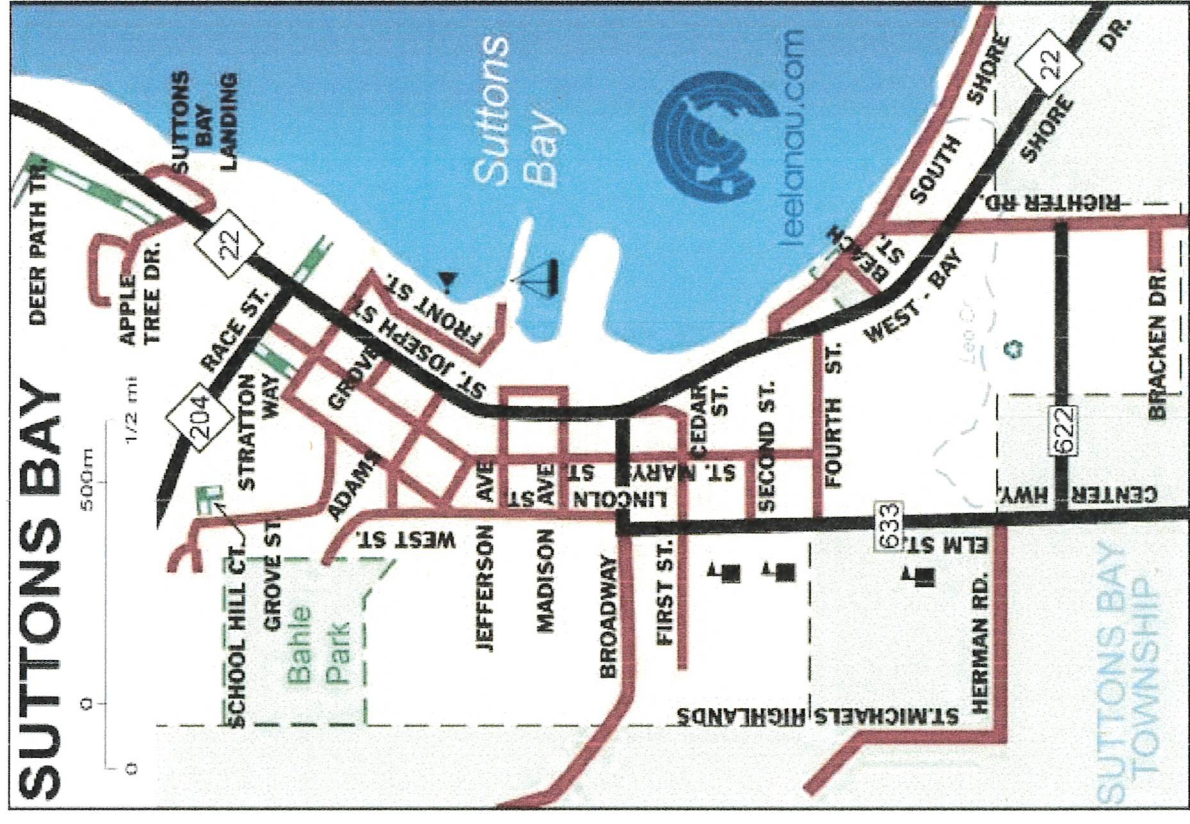
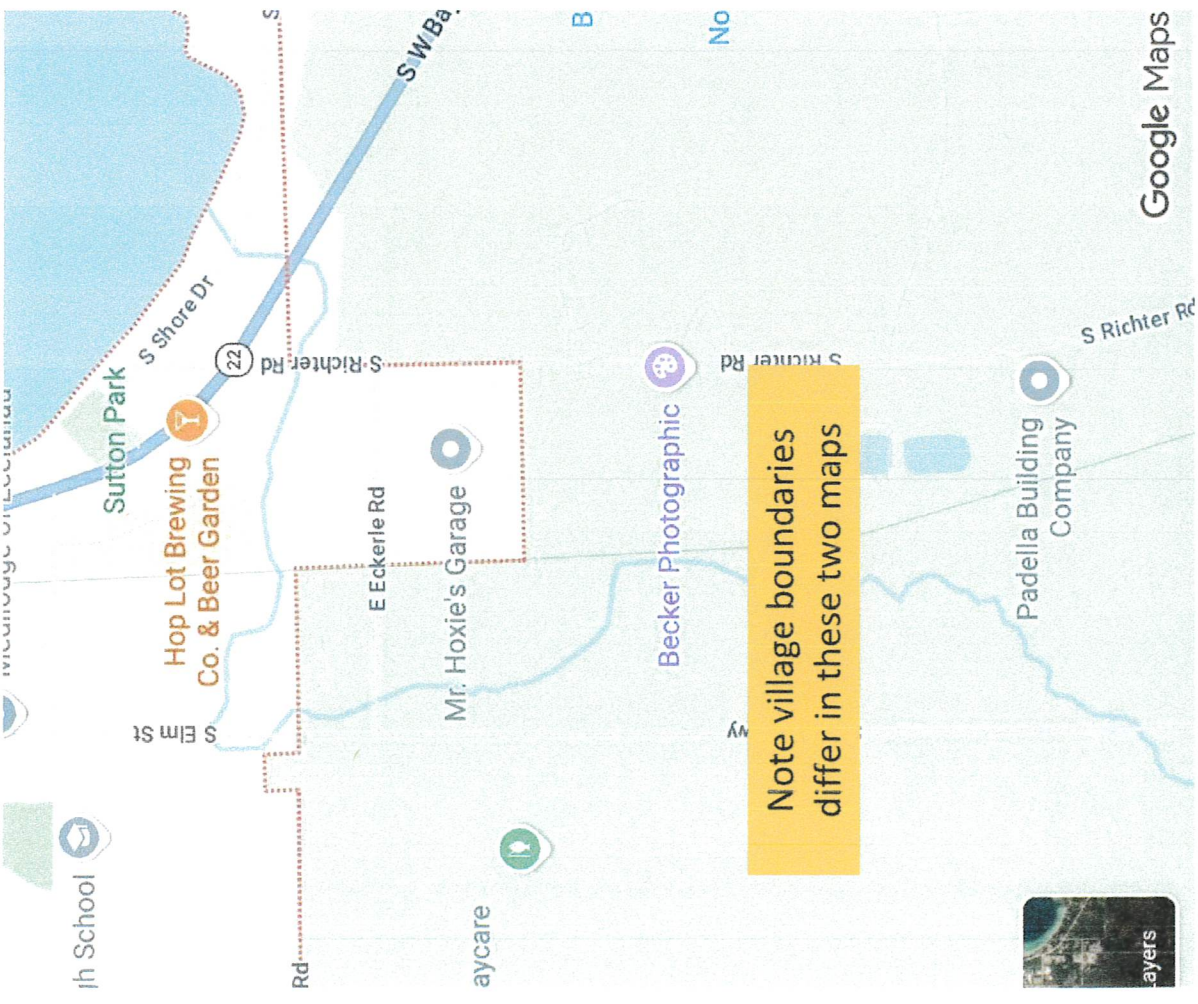
The first step in considering what to do with the Leo Creek culverts is to conduct a study to see which culverts are indeed undersized for probable maximum streamflows and/or show significant structural degradation. Significant information already exists on current culvert conditions, though it likely needs to be updated. About six years ago, The Watershed Center outlined such a study to be conducted by the environmental consulting firm ECT. The cost of such a study, if it is to include all of the culverts, is likely to be around \$14,000. This would be an

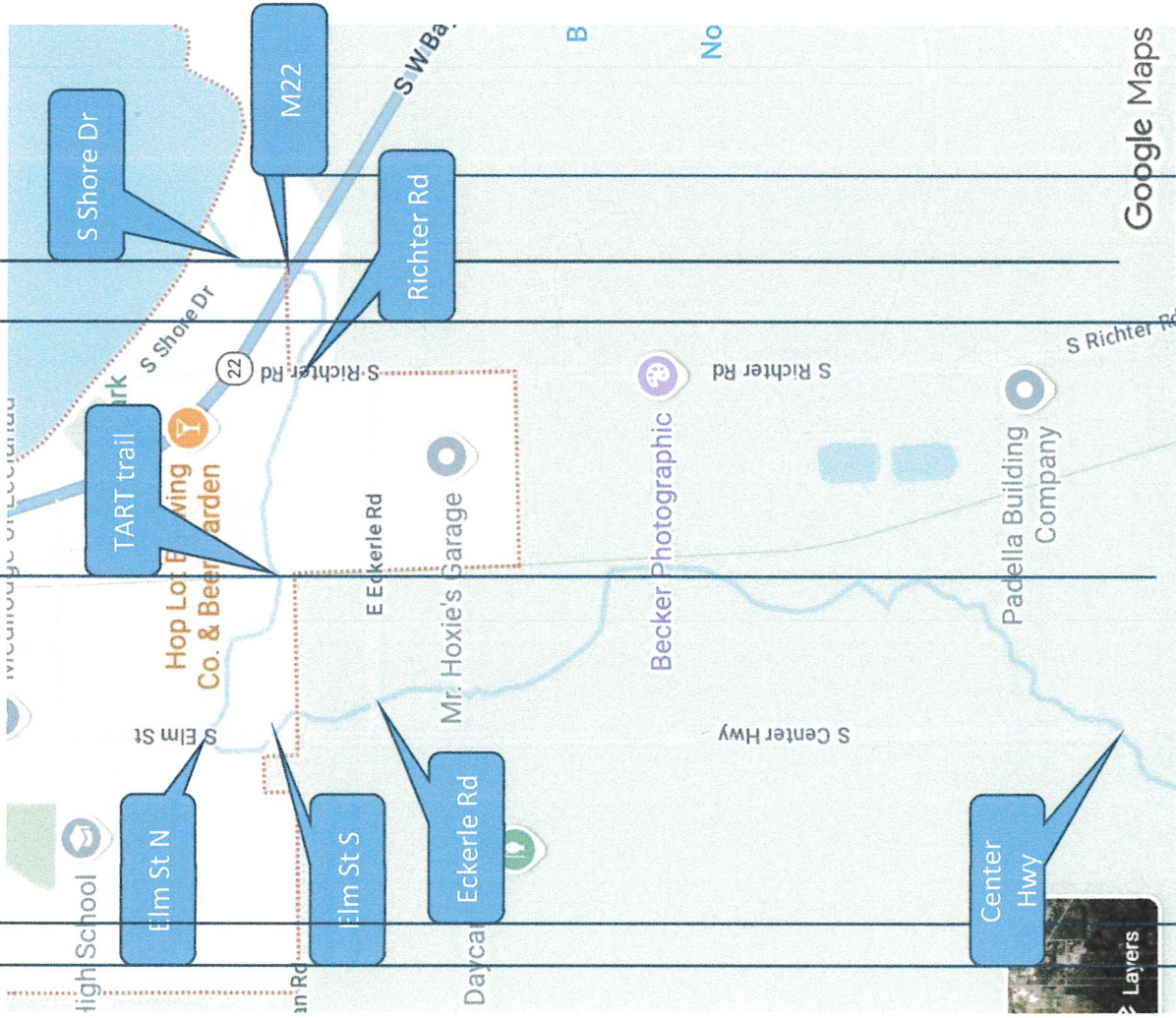
investment that would provide the basis for local government entities and their partners to seek funding for improvement or replacement of culverts deemed to be inadequate or unsafe.



Leo Creek culverts

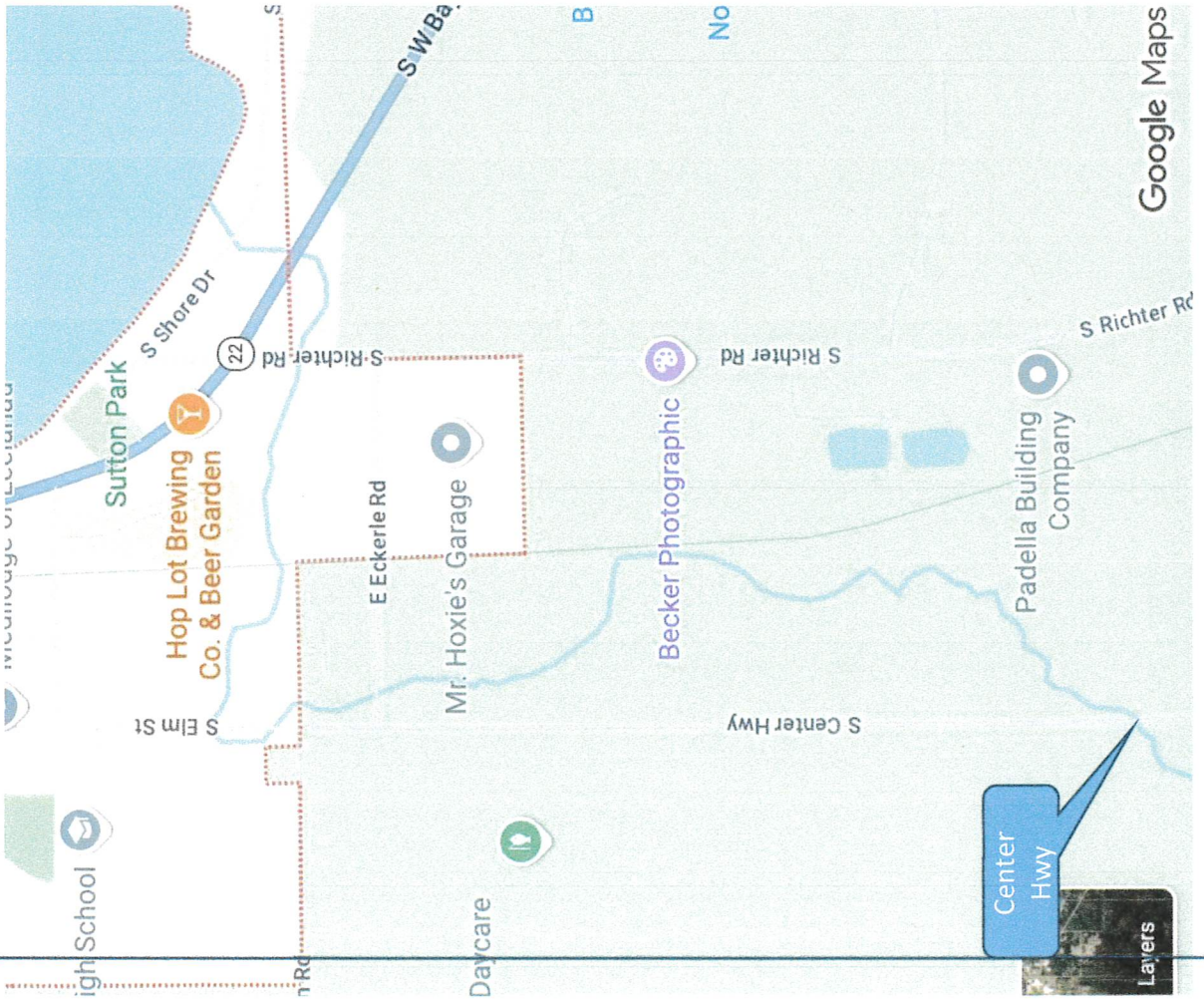
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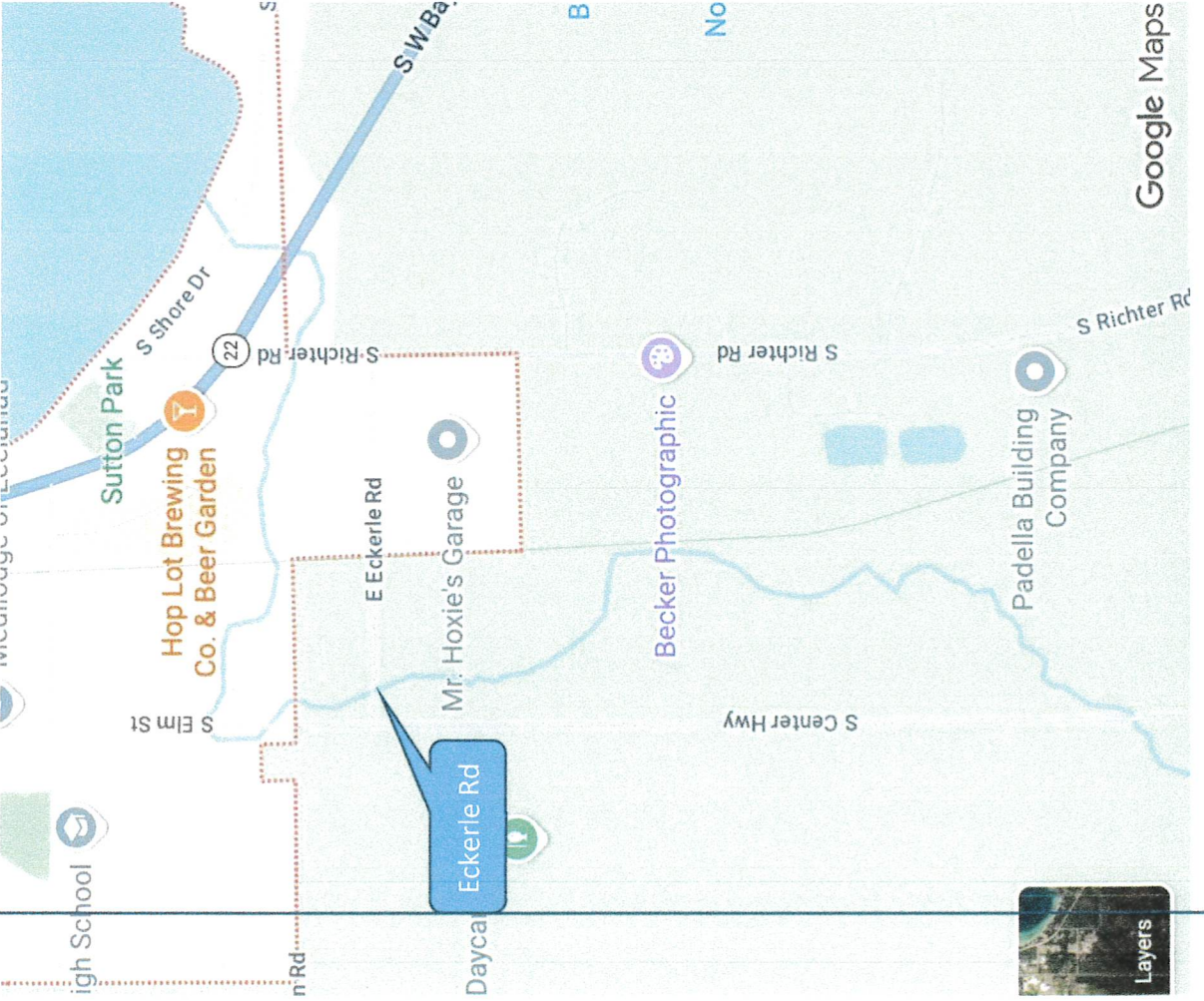


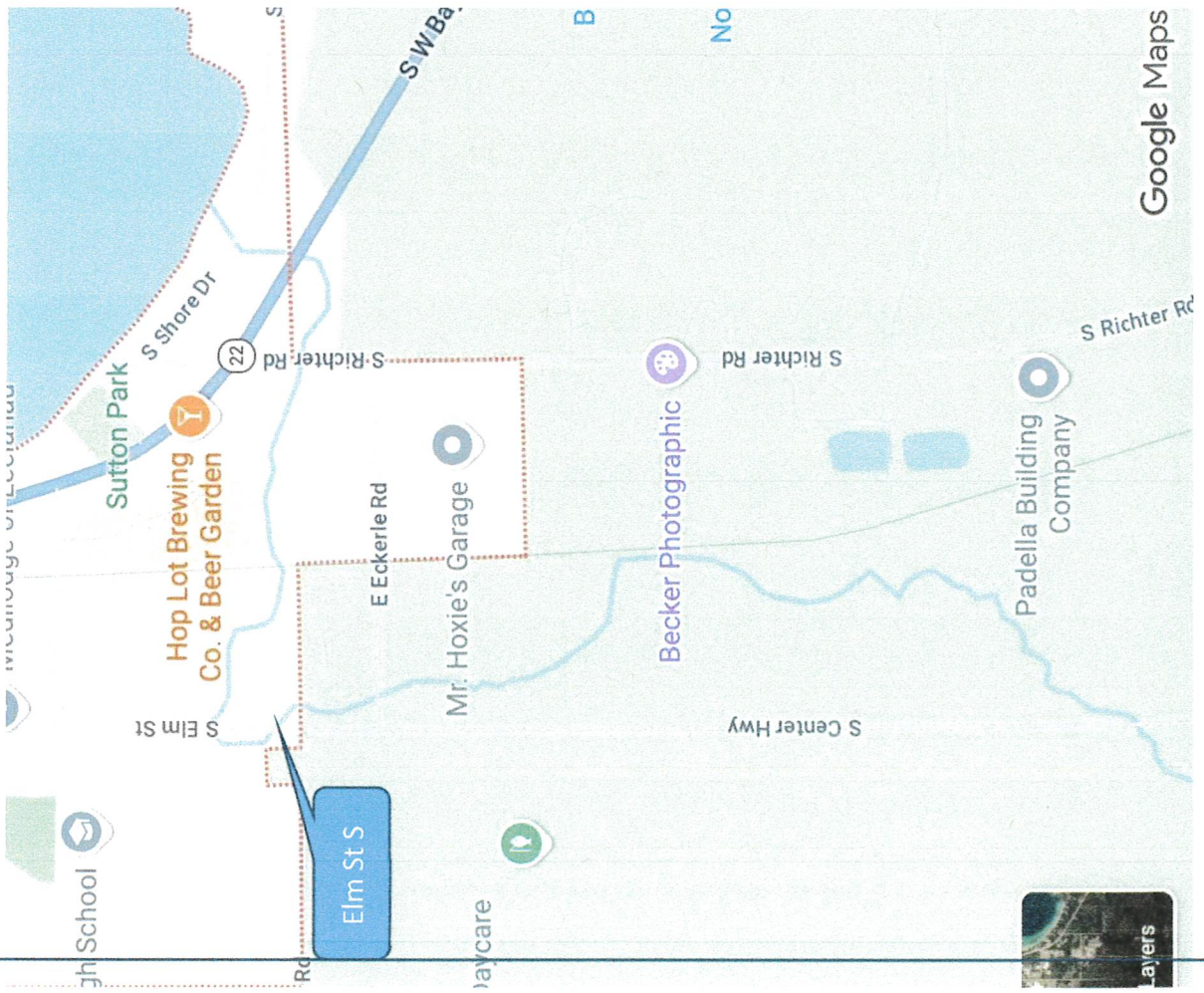


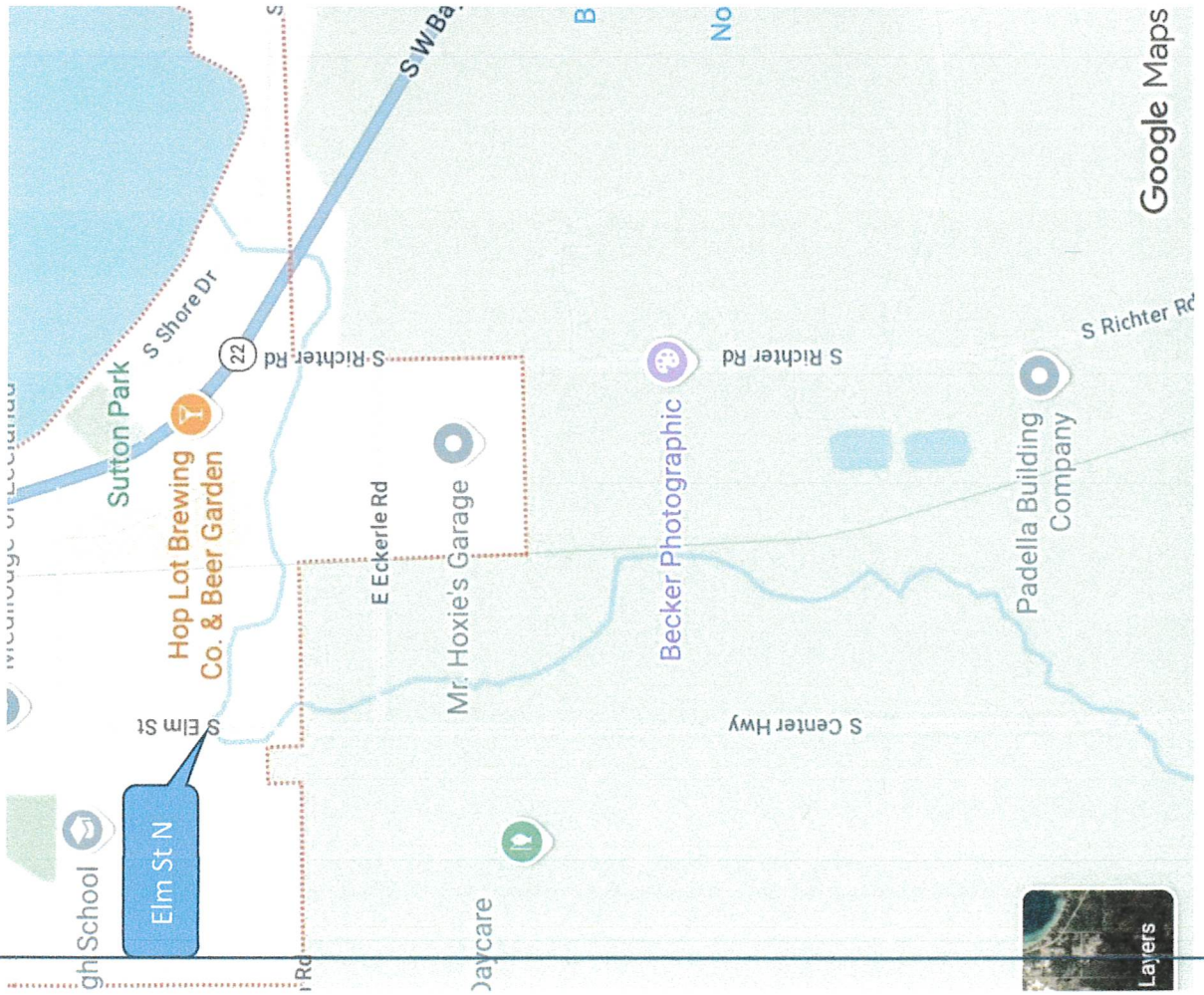
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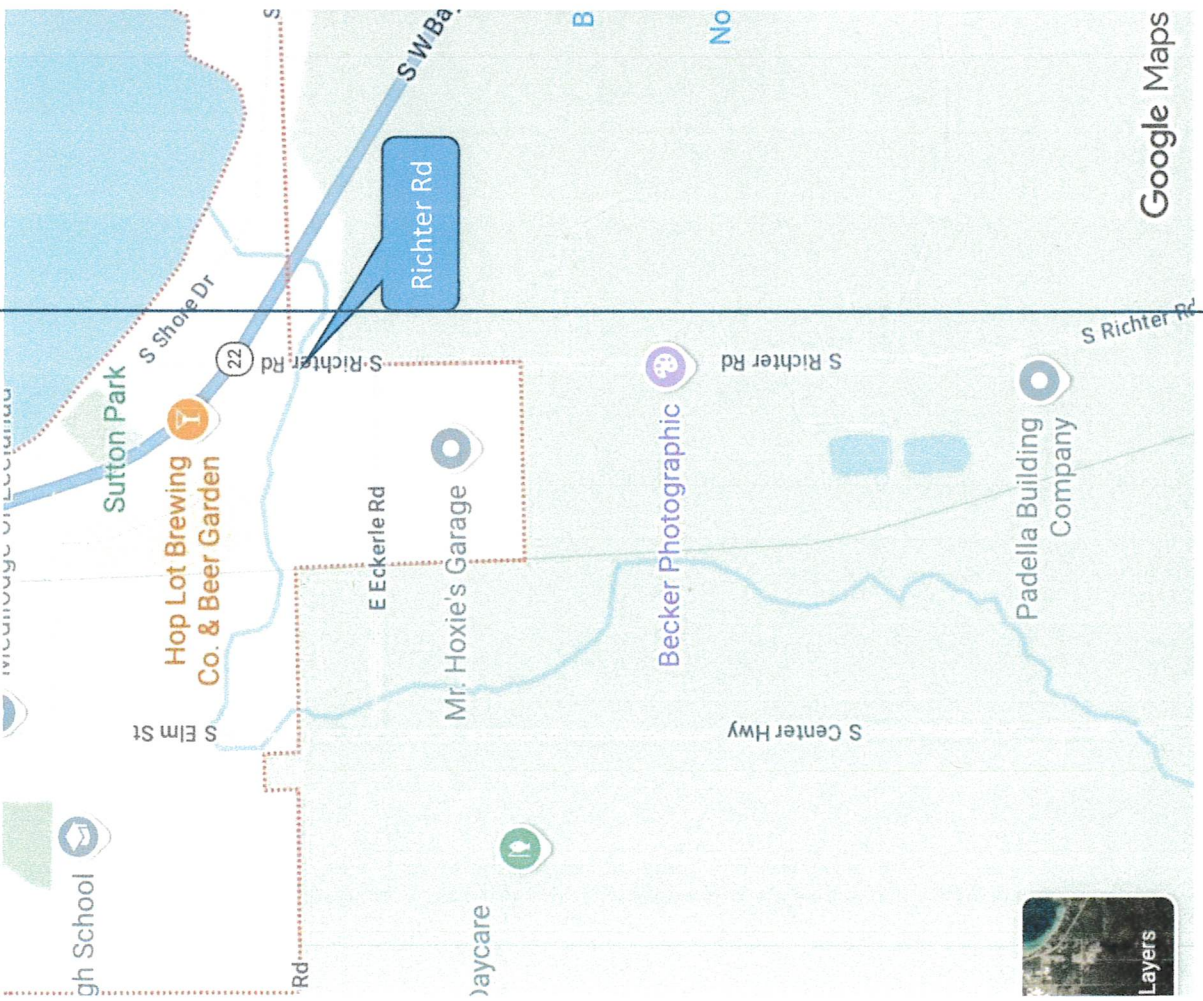


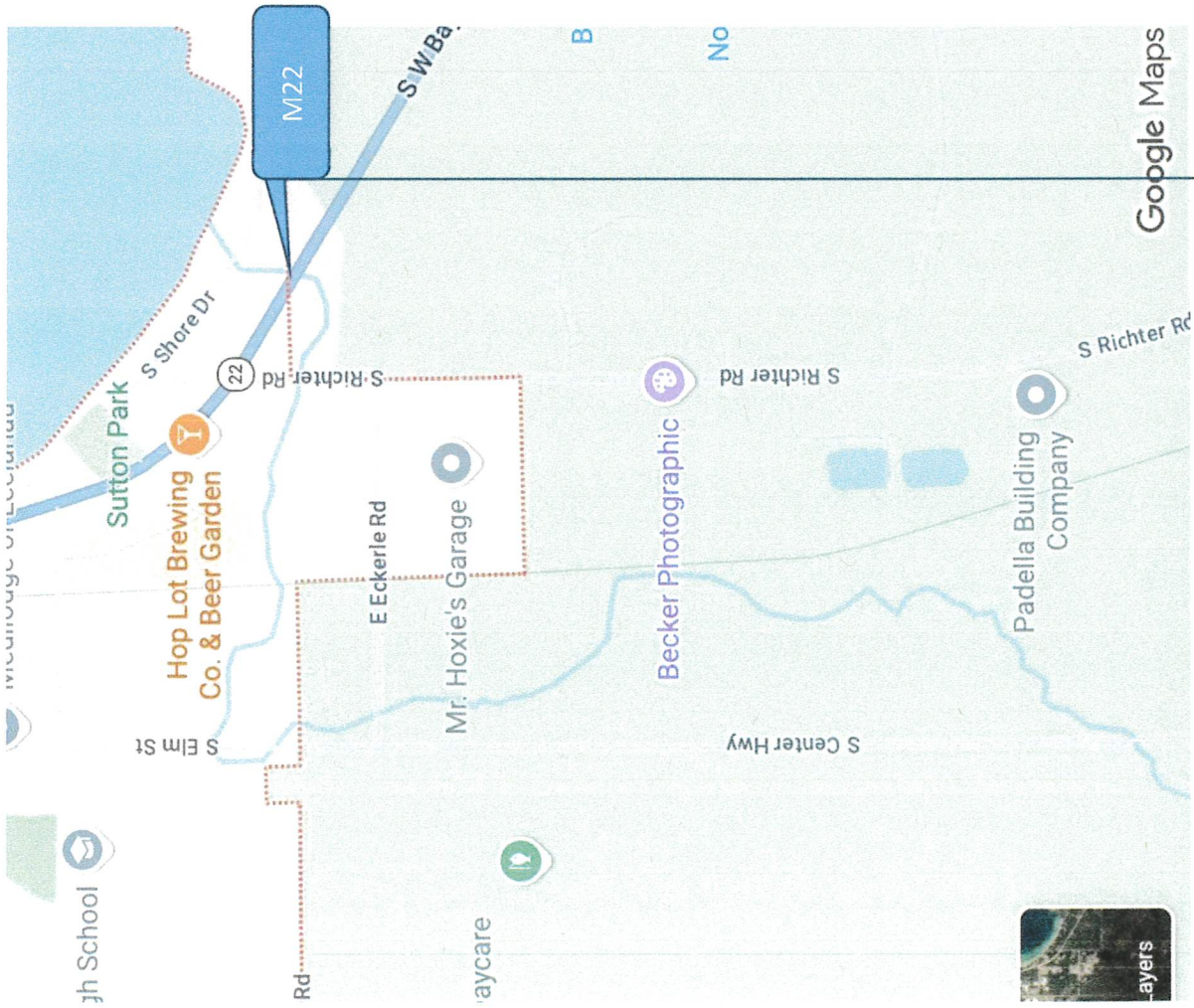


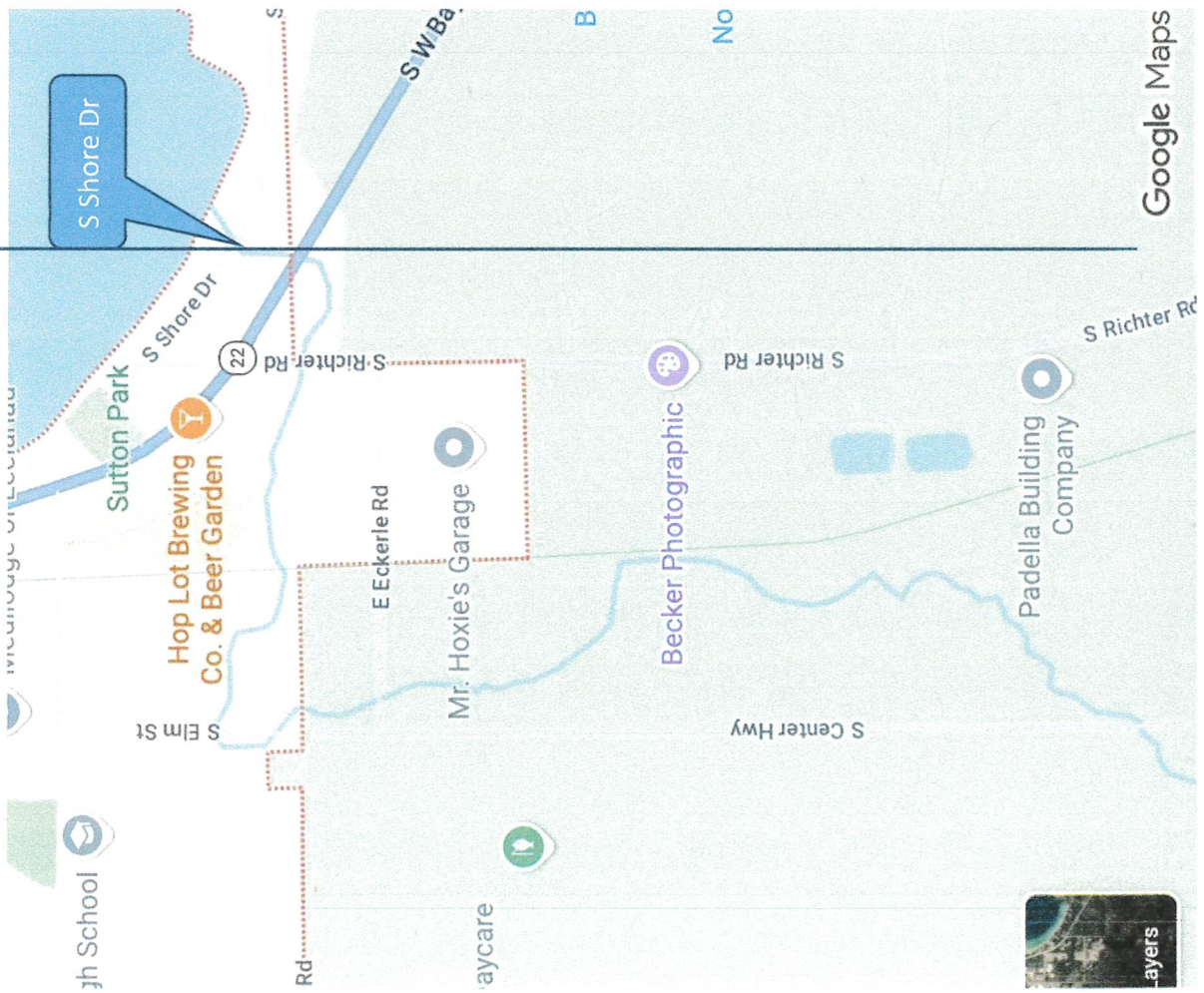
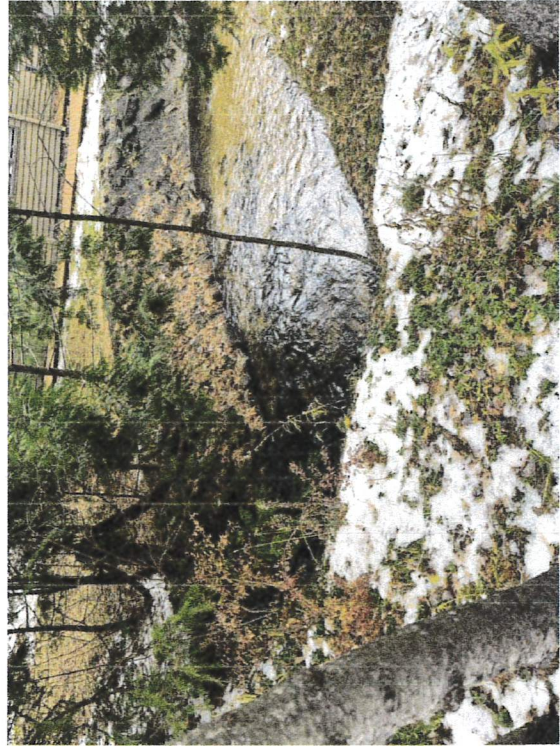
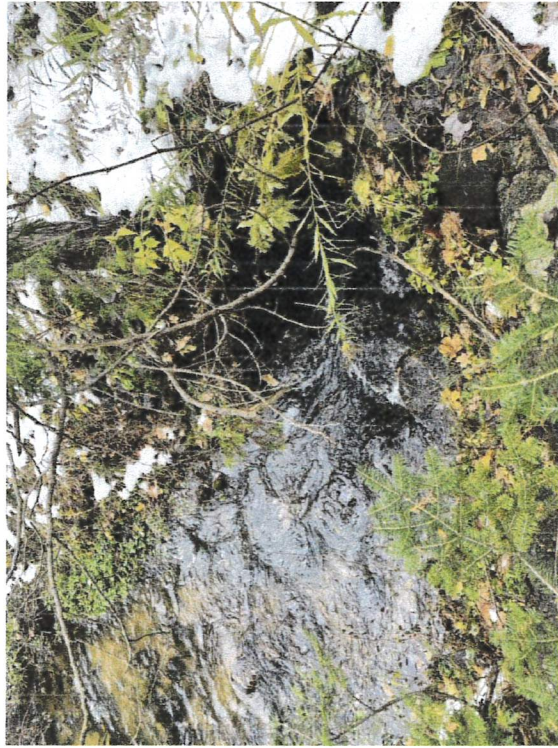


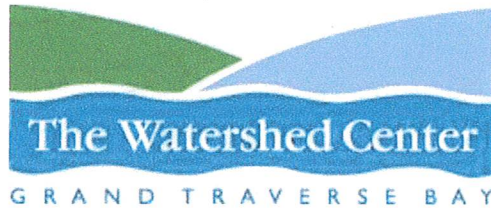
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MEMORANDUM

Date: October 9, 2020
To: Rich Bahle, Suttons Bay Township
From: Sarah U'Ren, Program Director
Subject: Hydrologic and Hydraulic Assessment - Leo Creek Watershed Road Crossings

Rich,

Please see the proposal on the following pages for a hydrologic assessment to be completed for the Leo Creek Watershed, including the seven road crossings we have previously discussed. I have contacted the engineering firm Environmental, Consulting, & Technology, Inc. (ECT) and obtained a scope of work and proposed budget to complete that assessment. In speaking with ECT, we both agree that this is the basic, minimal amount of work that you could do to help pinpoint flooding problems in this area so we can begin to explore how to fix the issue.

TWC would be happy to oversee the contract and work with ECT, with a nominal oversight fee. ECT's fee for the work would be provided on a Time and Materials basis with a not-to-exceed fee of \$9,680. To keep costs low, TWC would only charge an additional \$320 for project oversight to keep your costs at \$10,000 maximum. I will also assist ECT in fieldwork and data gathering wherever possible as well to keep costs low.

Total = \$10,000 (ECT - \$9,680; TWC - \$320)

ECT has also provided a value-added option to determine why the flooding is occurring (the base proposal looks where flooding is occurring and focuses on the road crossings). You can read more about this option below.

Looking forward to working with you!

Thanks,
Sarah U'Ren
Program Director

PROJECT UNDERSTANDING

We understand that the area around Leo Creek is experiencing flooding and an assessment is needed to understand if the flooding is caused by culvert size limitations at existing road crossings. The scope of this proposal is to estimate discharge/flow in the creek by performing hydrologic analyses and assess flooding at seven road-stream crossing culverts along Leo Creek (Leelanau County, Michigan) by evaluating their current size relative to estimated discharge and required size to pass the discharge size. It is our understanding that the need for this analysis is being driven by flooding that is occurring at and around the road-stream crossings. The purpose of this study is to determine if the culverts are under-sized or if hydrological alteration in the watershed is resulting in higher peak discharges. ECT will perform the following tasks:

1. Data Collection and Review:
 - a. Obtain available topographic data (LIDAR and/or DEM) for the watershed from USGS, soil property data from USDA-NRCS.
 - b. Obtain land use data from USDA-NASS/USGS-NLCD for the project area.
 - c. Obtain rainfall data for multiple frequencies (10-yr, 25-yr, 50-yr and 100yr) from readily available public sources.
 - d. Obtain existing culvert information (material type, shape, diameter, and slope) along the creek – to be provided by project partners such as The Watershed Center Grand Traverse Bay, the Village of Suttons Bay, Conservation Resource Alliance and possibly the Leelanau County Road Commission.
 - If above data is not available, this will need to be collected by ECT staff at an additional cost (see breakdown below).
2. Discharge Estimates:
 - a. Perform ArcGIS modeling to determine upstream contributing drainage area at each culvert.
 - b. Determine composite runoff coefficients and/or curve numbers using topography, land use and soil properties of the watershed.
 - c. Calculate runoff for each rainfall frequency at each of the seven culverted stream crossings location using SCS runoff curve number method.
3. Hydraulic Analysis:
 - a. Determine Manning's roughness for each culvert based on culvert type shape, size, and materials.
 - b. Use Manning's equation to determine the minimum culvert size required at each crossing location for the above estimated runoff values.
4. Culvert Assessment and Recommendation:
 - a. ECT staff will perform a visit to each of the road-stream crossings to better understand visual field indicators at each site, i.e. – clogging, incising, flooding, etc. Photo logs will be kept to document conditions.
 - b. Compare calculated culvert sizes above with the existing culvert sizes and decide whether each culvert is sufficient to accommodate flows at required rainfall frequencies or which rainfall frequency results in exceedance of the culverts' capacities.
 - c. For any culvert found to be undersized given current watershed conditions, determine recommendations on sizes and types of culvert so that flooding caused by the existing culvert could be reduced or eliminated.
5. Project Deliverables:
 - a. Compile assessment processes of where, and the extent of, flooding that is occurring and provide recommendations in a report deliverable to client.
6. Project Management
 - a. Project management tasks include project meetings, phone communications, and email communication.

PROJECT ASSUMPTIONS & SCHEDULE

The above scope of work above will be conducted on a time and materials basis, not to exceed the amount shown below. The cost estimate for services included in this proposal are based on the following assumptions:

Project Assumptions

- This proposal is valid for a period of 60 days from the date of this proposal.
- Data collection and review efforts will be limited to the Project Site as necessary for analysis described above.
- This proposal does not include data gathering on-site, it is anticipated all necessary data will be provided by Client, project partners and/or available through readily available public sources (as described above).
- Should additional data collection be required, as discussed in task 1.d.i. above, ECT can do so at an hourly rate of \$125/hour. Data collection needs will be determined upon review of existing information and a budget provided to client prior to initiation.
- For ease of communication for the Client, ECT will provide a dedicated project manager and consistent environmental team throughout performance of the work.
- In the event unforeseen circumstances are encountered, ECT will communicate with Client regarding any potential changes to the proposed work in this estimate and obtain prior approvals before initiating any additional work.

Project Schedule

ECT is prepared to commence work as soon as written authorization is provided. ECT will organize a kickoff call with the Client upon project authorization.

PROJECT COSTS

The ECT project team will provide the above services on a Time and Materials (T&M) basis for the Not-to-Exceed fee of **\$9,680**.

Optional Project Investigation:

A potential project value add would include an investigation as to why for the flooding is occurring at the site(s) determined in above steps. This would allow the Client to better understand not only where the flooding is, but potential design parameter/land use/etc. changes from the time in which the current culverts were installed to current watershed conditions. This additional analysis would tell the client if the culvert(s) have become undersized due to land development or other inefficiencies, and tell more of the story of the impact of land use change on flow, as well as potential changes to rainfall and/or design methodologies to help the Client project safety factors for the future. This investigation can be completed for an additional **\$2,750**.

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DRAFT:

**A JOINT RESOLUTION by SUTTONS BAY TOWNSHIP and the VILLAGE OF SUTTONS BAY to
CONSIDER SOLUTIONS to CERTAIN HISTORICAL ROAD, INFRASTRUCTURE, and STREAM
HEALTH ISSUES**

WHEREAS, Leo Creek is a small cold water stream located within the Township of Suttons Bay and Village of Suttons Bay in the County of Leelanau, State of Michigan that is threatened by degraded road crossings; and

WHEREAS, the inadequacies of those crossings contribute to an increased risk of flooding during high rainfall events such as occurred on the 6th and 7th of September 2023, and

WHEREAS, the body of water also known as Suttons Bay abutting both Governmental units is an extraordinarily valuable natural resource in Leelanau County and the preservation and the health of both Leo Creek and Suttons Bay are in the interests of all County, Township and Village residents and visitors; and

WHEREAS, the Bay's beauty and health are significantly influenced by the health of Leo Creek; and

WHEREAS, the Bay's beauty and health strongly influence local property values and the health of the local economy; and

WHEREAS, it has become necessary to take steps to protect and improve these natural resources for the enjoyment of the public and for future generations; and

WHEREAS, Leo Creek has certain road - stream intersections that are aged and in poor repair needing replacement and are dangerous to both motorized traffic and pedestrians and act as a barrier to fish and wildlife movement; and

WHEREAS, the state of those Road-Stream culverts also contributes to an increased risk of flooding and crossing failure due to the increased number/incidence of unusually large rainfall events; and

WHEREAS, the frequency of unusually intense rainfall events is projected to increase; and

WHEREAS, the actions necessary for the improvement and protection of Leo Creek can only be accomplished by the cooperative efforts of the governing bodies of Suttons Bay Township and the Village of Suttons Bay, aforementioned;

NOW, THEREFORE, IT IS RESOLVED:

That the Township of Suttons Bay and the Village of Suttons, both of the County of Leelanau, State of Michigan, do hereby agree to work cooperatively to consider how to best address these issues.