ANTRIM
CONSERVATION DISTRICT

Shoreline Stabilization Guidance Document

A permit is required from the Michigan Department of Environmental Quality for any shoreline stabilization work done below the ordinary high water mark on our inland lakes and streams (typically where the persistent vegetation stops at the shoreline – where the grass and trees stop growing) or in regulated wetland areas. Matt Kleitch is our MDEQ representative and can be reached using the following methods: phone; 989-705-3432, email; kleitchm@michigan.gov, or mailing address; MDEQ, 2100 W M32, Gaylord, MI 49735. A permit application can be downloaded for shoreline stabilization from the MDEQ's website: 1) www.michigan.gov/deq 2) Left index click on "water" 3) Right index click on "Joint Permit Application". There are appendixes also located here which explain the process: drawings, cost, and application requirements. The following is a summary of what should be included with the application submittal (save a copy of completed application before mailing):

- Completed application: pages 1 and 2 in their entirety, page 3 - 10A and 10C, page 4 - 10D.
- Pictures of site showing north and south boundaries and evidence of erosion.
- Location map (see MDEQ appendixes).
- Site plan (see MDEQ appendixes).
- Cross section (see MDEQ appendixes).
- Make sure you sign the application – bottom of page 2.
- Make sure you include payment. Payment is typically $100 to the State of Michigan if the following is true:
    - Rocks 24" and less in diameter
    - Rocks are sloped at the shoreline
        - No vertical seawalls
        - No sheet piling or wooden retaining walls

  (Larger rocks/vertical sea walls may be allowed but may cost $500 or more for the permit)
- Mail to MDEQ, Matt Kleitch; 2100 W M32, Gaylord, MI 49735
- Can take up to two months to process, so getting the application done before construction season commences is very important.

The Antrim Conservation District can review application before submittal or help you through the process; call Heidi Shaffer at 231-533-8363. There are also Environmental Consultants (Wetland consultants) listed at the following location on the Michigan Department of Environmental Quality's website: www.deq.state.mi.us/wcr/.

4820 Stover Road
Bellaire, MI 49615
231-533-8363 phone

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General Instructions For All Drawings.

Required drawings:

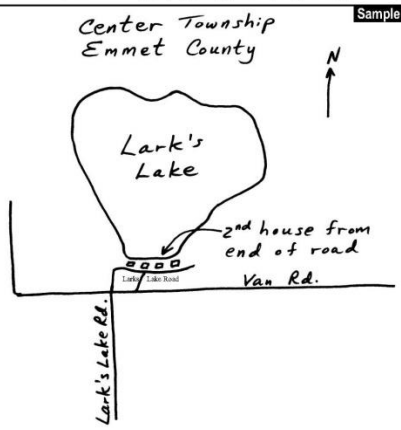
- ☐ **Site location map** that clearly identifies your project location. Draw a map, copy a plat map or a county map, or create a map using the Internet (see Sample Drawing 1).
- ☐ **Overall site plan** showing areas of proposed impacts, existing lakes, streams, wetlands, *floodplains*, and other water features. Include name of waterbodies, property boundaries and corners, easement boundaries, neighboring property owner information, and *soil erosion and sedimentation control measures.*
- ☐ ***Plan view* and *cross-section*** (elevation) drawings that are site-specific and adequate for detailed review. Show both existing and proposed conditions (see Sample Drawings 2 through 23).

All drawings should:

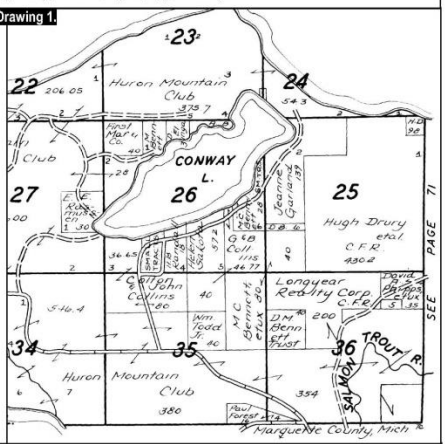
- ☐ Be legible and clearly labeled on standard weight paper of 8-1/2 x 11-inch size.
- ☐ Title block on each drawing which includes: proposed activity; applicant's name; waterbody; city, village or township; county; drawing number and number in set (i.e., Drawing 1 of 4), and date prepared.
- ☐ Reference a datum (*NGVD 29, NAVD 88,* or *IGLD 85*) if the proposed project is on *Section 10 Waters*.
- ☐ Be drawn with dimensions or to scale with the scale identified on each drawing. Show vertical scale if different than horizontal scale on each drawing.
- ☐ All plan view drawings should include a north arrow.
- ☐ Label all existing and proposed relevant features and dimensions relative to those features, especially those that correspond to questions on the application form.
- ☐ Include soil erosion and sedimentation control measures.

NOTE: To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.

Sample Drawing 1.



Site location map using a hand-drawn map that is clearly labeled

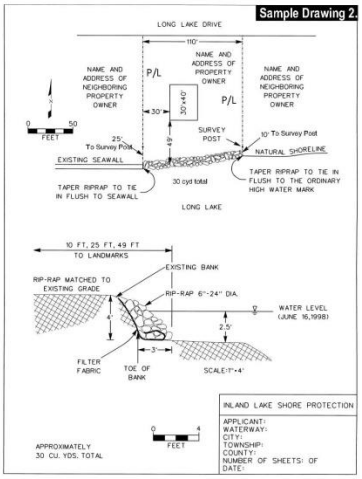


Site location map using a copy of a county plat book

APPENDIX B
General Instructions for All Drawings and Sample Drawings
Also Refer to EZ Guides at www.mi.gov/jointpermit

Location Map

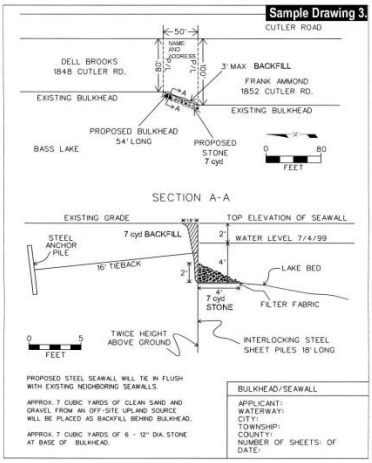
Sample Drawing 2.



Complete **Section 10D** and **Sections 10A, 10B, 10C, 12, and 13** if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review; include:

- ☐ Name of waterbody, applicant, neighboring property owner information, property boundaries, and corners.
- ☐ Existing and proposed conditions along the *shoreline* at your project location.
- ☐ Existing conditions and/or structures along the *shoreline* for each adjacent parcel.
- ☐ Dimensions from fixed objects to property boundaries and the proposed shore protection.
- ☐ Length (ft), volume (cu yd) and type (i.e., field stone, angular rock, etc.) of *riprap.*
- ☐ Locations of *filter fabric* and *soil erosion and sedimentation control measures.*
- ☐ Observed water level and date of observation and datum (*NGVD 29* or *IGLD 85* on *Section 10 Waters*).
- ☐ Minimum and maximum distances landward and waterward of proposed shore protection to the existing *shoreline* or ordinary high water mark.

Sample Drawing 3.



Complete **Section 10D** and **Sections 10A, 10B, 10C, 12, and 13** if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review; include:

- ☐ Name of waterbody, applicant, neighboring property owner information, property boundaries, and corners.
- ☐ Existing and proposed conditions along the *shoreline* at your project location.
- ☐ Existing conditions and/or structures along the *shoreline* for each adjacent parcel.
- ☐ Dimensions from fixed objects to property boundaries and the proposed shore protection.
- ☐ Length of *seawall/bulkhead* and return wall (ft). If structure will be tied into adjacent walls, show how.
- ☐ Locations of *filter fabric* and *soil erosion and sedimentation control measures.*
- ☐ Type of construction material (i.e., wood, steel concrete, vinyl, etc.).
- ☐ Observed water level and date of observation and datum (*NGVD 29* or *IGLD 85* on *Section 10 Waters*).
- ☐ Minimum and maximum distances landward and waterward of proposed shore protection to the existing *shoreline* or ordinary high water mark.

Site Map and Cross Section

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Native field stone is the traditional method used for shoreline stabilization. Natural Shoreline Stabilization is a new technology gaining popularity in Northern Michigan because of its many benefits. Natural shorelines combine natural bio logs, plants, and sometimes rocks to recreate a natural shoreline that benefits wildlife, is ecologically friendly to the lake and its inhabitants, filters storm water runoff, and recreates the Up-North aesthetic.

- **Creates a softer shoreline resistant to ice push**
  - Hardened shorelines, unless appropriately sloped and constructed, present a barrier to ice flow so ice rams into the hardened shoreline and pushes it into the bank creating humps at the shore.
  - Hardened shorelines transfer energy from wave and ice action to the ends of the wall and can erode the adjoining properties or lands between any gaps in the rock.
  - Hardened shorelines transfer energy from wave and ice action down from its face and scour the area in front of the rock wall destroying fish habitat that may have existed.
- **Creates habitat for fish and fish food**
  - Plants and shrubs at the shoreline shade the water from the harsh summer sun.
  - Insects, on which fish feed, live and breed in the plants in the shallows of water bodies.
  - Little fish hide from predators in plants near shore.
- **Maintains the Up-North Aesthetic**
  - People come to Northern Michigan because of its beauty.
  - Replicating that natural environment using the natural shoreline stabilization method maintains that beauty, allowing people to escape the feel of suburbia.
- **Creates a barrier for geese**
  - Check out the YouTube video: Sebastian the Goose.
  - Geese are grazers and love mowed lawns right up to the water's edge.
  - Geese are always on the watch for predators; a shoreline planted to trees, shrubs and other plants (preferably native plants) create a hiding place for predators keeping geese away from your lawn.
- **Creates habitat for birds and butterflies**
  - Native plants at the shoreline attract birds, butterflies, and dragon flies which feed on mosquitos.
  - Birds and butterflies are beautiful and magical.
  - Providing a more balanced environment minimizes the nuisance pests.
- **Filters Storm Water**
  - Storm water is said to be the number one pollutant of the Grand Traverse Bay.
  - The Grand Traverse Bay receives 60% of its water from the Chain of Lakes.
  - Plants at the shoreline absorb and filter storm water runoff before it can reach surface water bodies.
  - There never used to be slime on the rocks in Torch and now there is. The lakes are being loved to death – we all need to do our part in protecting the quality of water we all enjoy.
- **Provides privacy and view if done strategically.**
- **Check out the MNSP website to see how beautiful your shoreline can look: https://sites.google.com/site/mishorelinepartnership/.**

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