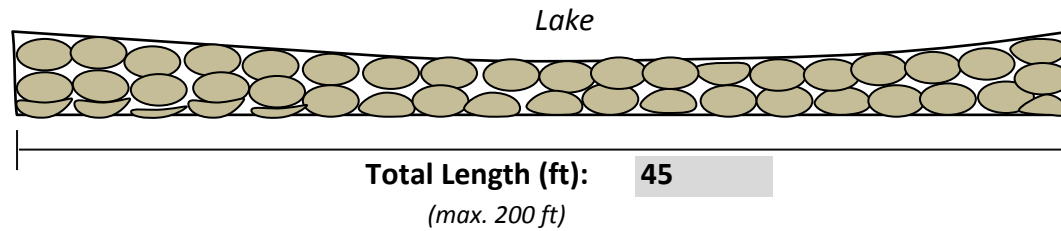


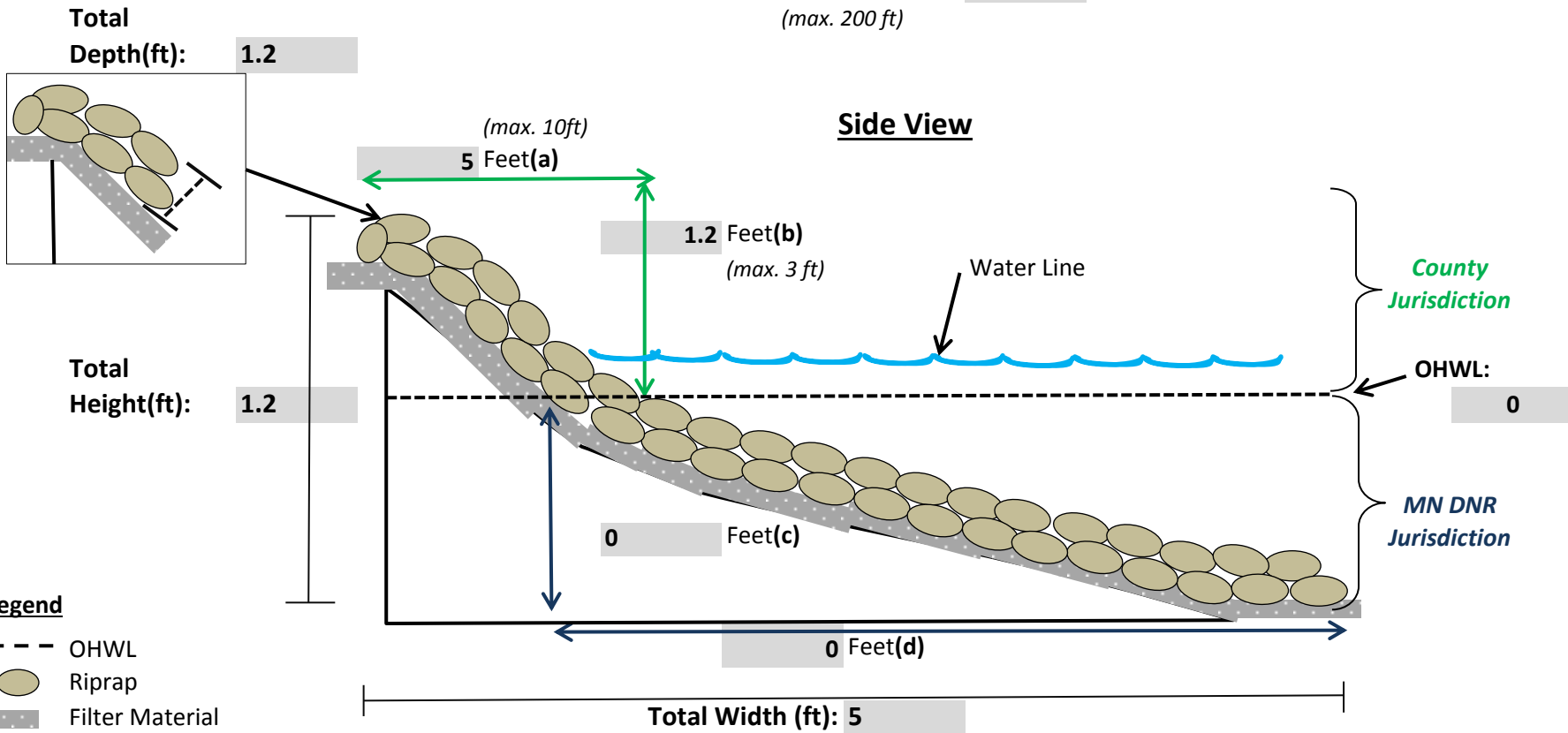
Proposed Rip Rap Project Design



Top View



Side View



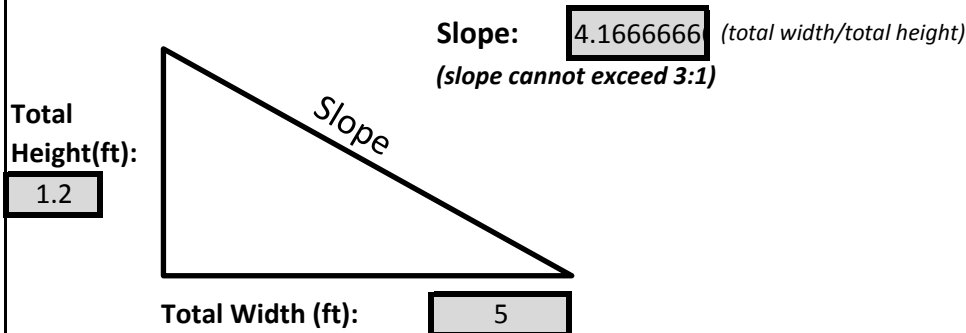
Legend

- - - OHWL
- Riprap
- Filter Material
- ~ Water Line

Proposed Rip Rap Project

Installation Information

Slope Calculation



DNR & County Riprap Installation Requirements

Type of Rock (select one):

Field Stone *Granite* *Other (please specify):*

Average Size of Rock (inches): (6" minimum and 30" maximum)

Type of Filter Material (select one):

Filter Fabric *Gravel* *Sand*

Landward extent of riprap from OHWL (a): feet

Extent of riprap waterward (d): feet

Height of riprap above OHWL (b): feet

Height of riprap below OHWL (c): feet

****If your proposed project does not meet or exceeds the County & MN DNR installation requirements, you will need to apply for additional permits through both entities! Please contact the MN DNR to see what their requirements are for riprap installation.****

Proposed Rip Rap Project

Volume Calculations

To calculate cubic yards:

(total length x total width x total depth/27)

Total Cubic Yards of Grading, Excavating, & Filling:
(within the County's Jurisdiction)

Total Cubic Yards of Grading, Excavating, & Filling:
(Project Total)

*The proposed project **may not** exceed 10 Cubic yards within the shore impact zone, which is 50% of the required structure set back. If your proposed project exceeds 10 cubic yards within the shore impact zone, you will need to apply for a Conditional Use Permit with the Planning and Zoning Department.*

****The calculations include a safety factor for extra riprap that may be needed. The calculations also do not include any backfill that may be needed due to erosion and runoff issues.****

Worksheet created by: Le Sueur
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Staff



