

PROJECT TITLE:
208 MAYAN WAY
MANKATO, MN
RETAINING WALL
PROJECT

I hereby certify that this plan, specification,
or report was prepared by me or under my direct
supervision and that I am a duly Licensed Professional
Engineer under the laws of the State of Minnesota.
Signature: Mark J. Lawton
Print Name: MARK J. LAWTON
Date 7-17-2025 License No. 17051



1
S1

PHOTO 1

NOTE:
PHOTOS BY OWNER AND ARE RE-USED
WITH OWNER'S PERMISSION



2
S1

PHOTO 2

GOPHER STATE ONE CALL
BEFORE DIGGING, CONTACT GOPHER
STATE ONE CALL AT 800-252-1166
FOR THE MARKING OF UNDERGROUND
UTILITIES. CONTACT AT LEAST TWO (2)
BUSINESS DAYS IN ADVANCE BEFORE
EXCAVATION OR GRADING.

No.	SUBMISSIONS & REVISIONS	Date

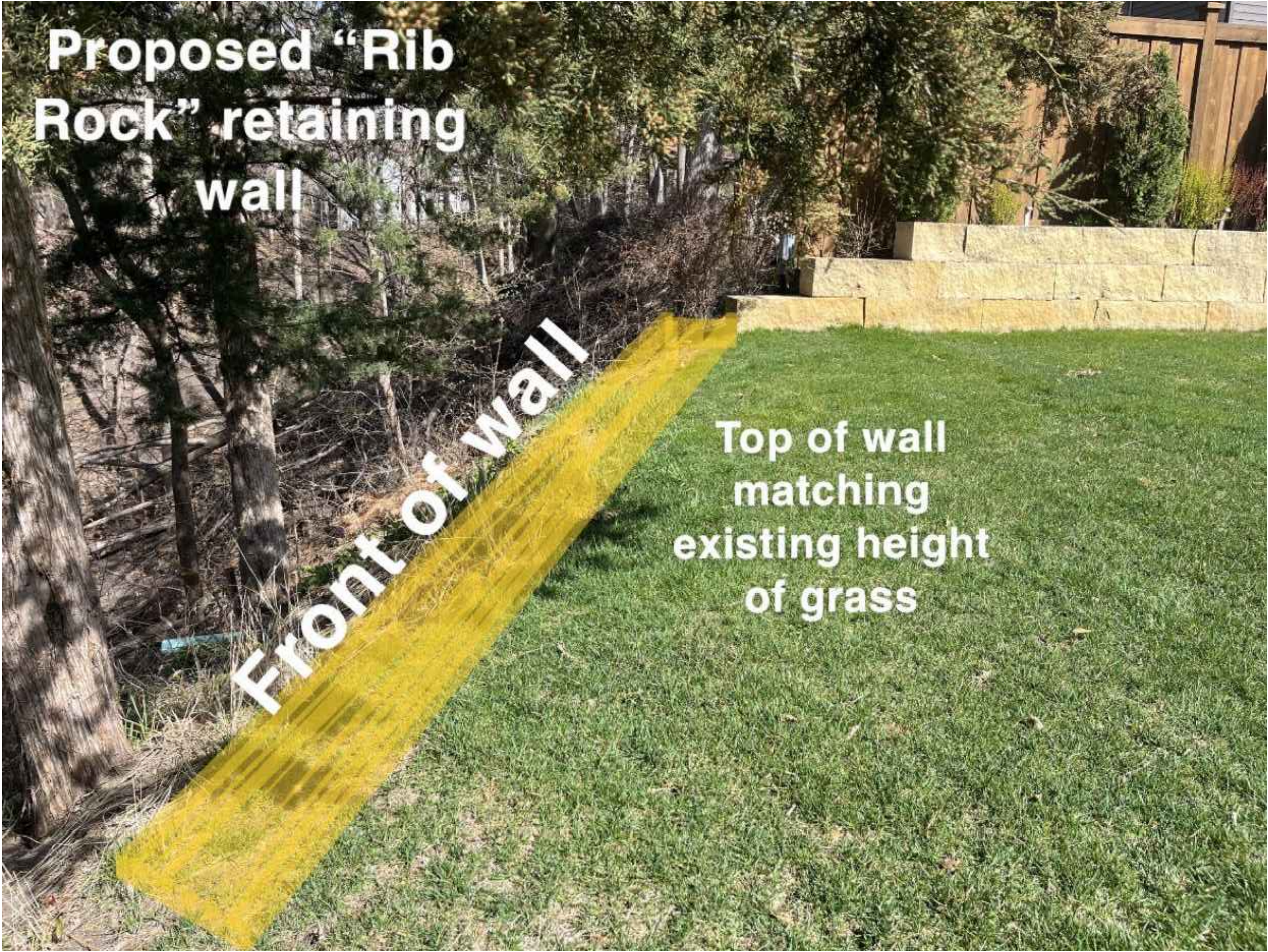
SHEET:
PHOTOS

DATE: 7-17-2025
DRAWN BY: JLS
CHECKED BY: ML

S1

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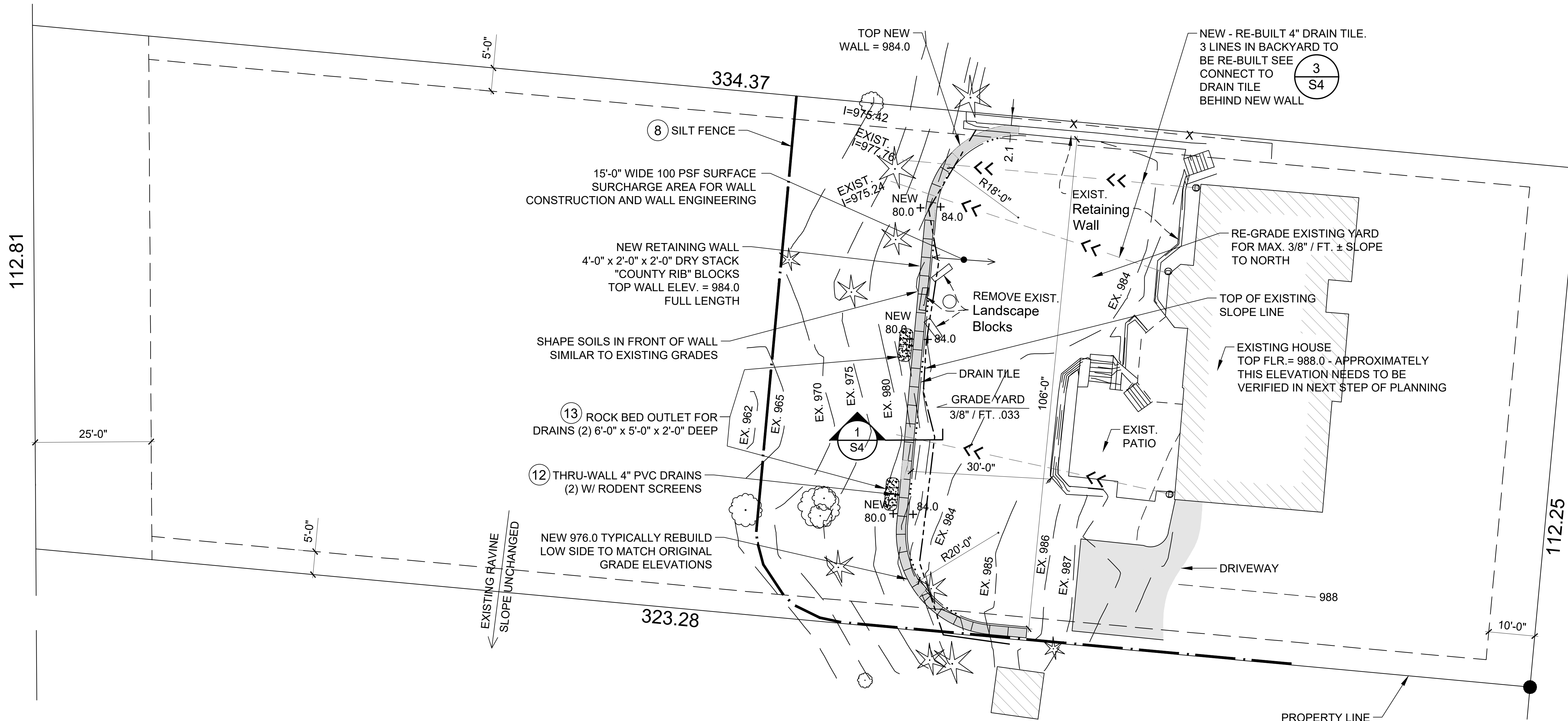
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- S3 NOTES:**
- EXISTING ELEVATIONS NEED TO BE CONFIRMED BY CONTRACTOR OR SURVEYOR. ADJUST GRADES AS NEEDED TO MATCH SITE CONCEPT SHOWN ABOVE ON S3.
 - ON ORIGINAL ISG SURVEY NO BENCH MARK IS SHOWN. FROM MN LIDAR LTN ASSUMES HOUSE FLOOR ELEV. IS 988.0.
 - EX MEANS EXISTING.
 - THE TOPOGRAPHY SURVEY DATA IS A MERGING OF MN LIDAR TOPO AND THE TOPO DATA OF OTHER CONSULTANTS. THIS IS A TOPOGRAPHY DRAWING ONLY. THIS DRAWING SHALL NOT BE CONSIDERED A LEGAL SURVEY DOCUMENT OF ANY KIND, AS IT WAS NOT PRODUCED BY, OR STATED TO BE AS SUCH, BY A LAND SURVEYOR LICENSED IN THE STATE OF MINNESOTA.

1 SITE
S3 NTS



GOPHER STATE ONE CALL

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SHEET:
SITE MAP

DATE: 7-17-2025

DRAWN BY: JLS

CHECKED BY: ML

S3

2 SECTION - LOW WALL
S4 0 1' 2' SCALE: 1/2"=1'-0"

CHECKED BY: ML

Design Data

- a. Design and loads per MN State Building Code 2020, and ASCE 7-22, and County Materials Pro Guides data.

Special Project Notes

- a. LTN Engineering Limitations: LTN Engineering’s work is limited to the design of the County Rib Rock style retaining wall as sold by County Materials Co.. This is for structure related work only. Any other site or in-the-house construction, is not included in the LTN Engineering scope of work. This work is limited to that directed by Mr. Larry Krmpotich.
- b. LTN Engineering is not a geotechnical engineering company and whether the project has a certified Geotechnical Engineering Report for it, or not, LTN Engineering LLC shall not be held responsible for any extra soil correction costs, extra foundation costs, foundation related construction costs, or extra foundation engineering costs, for the project. To answer soil construction uncertainties or reasonable soils construction questions, contact LTN Engineering first, then if necessary, contact a Geotechnical Engineer. Geotechnical information on these drawings, coming from LTN Engineering, is based on fundamental geotechnical knowledge acquired over 40 years, for basic soil/structure relationships. Should there be Geotechnical (soils) questions encountered during construction contact a Geotechnical Engineering company.
- c. When differences between these Structural Note Specifications and Municipal Specifications or Building Department Regulations or Manufacturer Instructions, and the original Project Specifications are encountered, contact the LTN Engineer first, and ask for clarification.
- d. The design of the County Rib Rock style wall is by County Materials Co. and has been adopted by LTN Engineering for this project. Wall detailing is taken from the project information given to LTN Engineering LLC by County Materials Co. and by the Project Manager.

Foundations

- a. The Contractor shall inspect, have verified by a Geotechnical Engineer, and then if needed, correct foundation bearing soils, to assure minimum 2000 psf bearing capacity.
- b. Cross reference and cross check all drawings, to insure correct dimensions, and locations of piping and structure.
- c. During cold weather construction, build wall on soil that has not been allowed to freeze, nor will be allowed to freeze, during the winter time period of its construction.
- d. Clear and grab tall grass and remove topsoil down to native soils. Place wall granular base on native soil.

Block Wall

- a. Use County Rib style blocks and capstone fctd. by County Materials Co. Owner to select color and style of blocks.
- b. Use SRW7 series Geogrid for tie backs.
- c. Install per manufacturers instructions. If there is a discrepancy between LTN and County Materials Co. install directions, contact LTN Eng. SER.

Concrete (if required)

- a. Concrete
 - a. For any in-fill concrete, or pipe outlet, or rock outlet concrete, use: f’c = 3500 psi, 3/8” max aggregate. Concrete exposed to freeze-thaw shall have air entrainment of 5-7 %. Slump 3-5”.
- b. All concrete to be “normal weight”.
- c. Cold weather concrete per ACI 301-20 and ACI 306R-16.
- d. Concrete engineering design is per ACI-350-20 and ACI 318-19.
- e. General concrete construction per ACI 301-20 “Specifications for Structural Concrete for Buildings” and ACI 318-19.

- f. Concrete testing: The strength test shall consist of two specimens that shall be tested at 28 days and one specimen to be tested at 7 days. Concrete tests shall be performed by an independent testing materials laboratory and paid for directly by the Owner. Apply concrete testing procedures according to ASTM C31, ASTM C39 and ASTM C17.
 - a. Use one of the following three criteria for when testing samples are to be taken. Sample 1) once a day for each mix placed; or 2) once for each 150 yd.^3, or fraction thereof, of each mix placed each day; or 3) once for each 5000 ft^2 of slab or wall surface area, or fraction thereof, placed each day.
 - b. If the total quantity of a given concrete mix poured, in a given day, is less than 50 yd^3, strength tests may be waived, if agreed to, by the Architect / Engineer.
- g. Ready-mixed concrete to be delivered, handled and placed per ASTM C94.

Reinforcing (if required)

- a. Standard reinforcing ASTM 615, Fy=60000 psi, deformed.
- b. Should Epoxy Coated Reinforcing be desired, use epoxy coated per ASTM A775 or A934, both Fy=60000 psi.
- c. Design, detailing and construction according to ACI 315, ACI 350-20, ACI 301 Chapter 5 and CRSI Manual of Standard Practice.

Grout (if needed)

- a. 5000 psi min., non-shrink, non metallic

Special Inspections

- a. These notes shall serve as the Statement of Special Inspections. (1704.3)
- b. In the event that a special inspector is required for an item not described in or covered by these notes, the inspections shall be performed by a qualified special inspector employed by an independent materials testing company. This work shall be paid for by the owner.
- c. Soils Special Inspection:
 - a. The required verification and inspection of soils, as described in MN Building Code Table 1705.6, Required Special Inspections and Tests of Soils. This Inspection shall be as directed by a Geotechnical Engineer or by an experienced soil science Technician representing an established Materials Testing Company or by the SER (Structural Engineer of Record).
 - b. Note this item comes from the MN Building Code 2020 and is not in the MN Residential Bldg. Code 2020. This inspection is a special request from LTN Engineering. Inspected items (from Table 1705.6) are all typical and common for this level of construction.

General

- a. Notify the Architect or Engineer about discrepancies between the field conditions and these construction documents.
- b. Examine architectural, mechanical, and electrical drawings to determine locations and dimensions of chases, inserts, openings, sleeves, and other project requirements not shown on these drawings.
- c. If any conflicts or discrepancies are found within these specifications and the LTN Engineering drawings, contact the Engineer and resolve the issue prior to construction.
- d. Contractor is to provide all temporary bracing, shoring, guying, or other means necessary to avoid excessive stresses and to hold existing structural elements in place during construction. Shoring design is by Contractor. Structural members are designed for “in-place” loads.
- e. Substitutions to these drawings and specifications, or deviations to these drawings and specifications, that are created by the Contractor, and then constructed by the Contractor, and done without the approval of LTN Engineering, shall make the Contractor the responsible party for any structural effects that result from the unauthorized change.

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SHEET:

STRUCTURAL NOTES

DATE: 7-17-2025

DRAWN BY: JLS

CHECKED BY: ML

S5