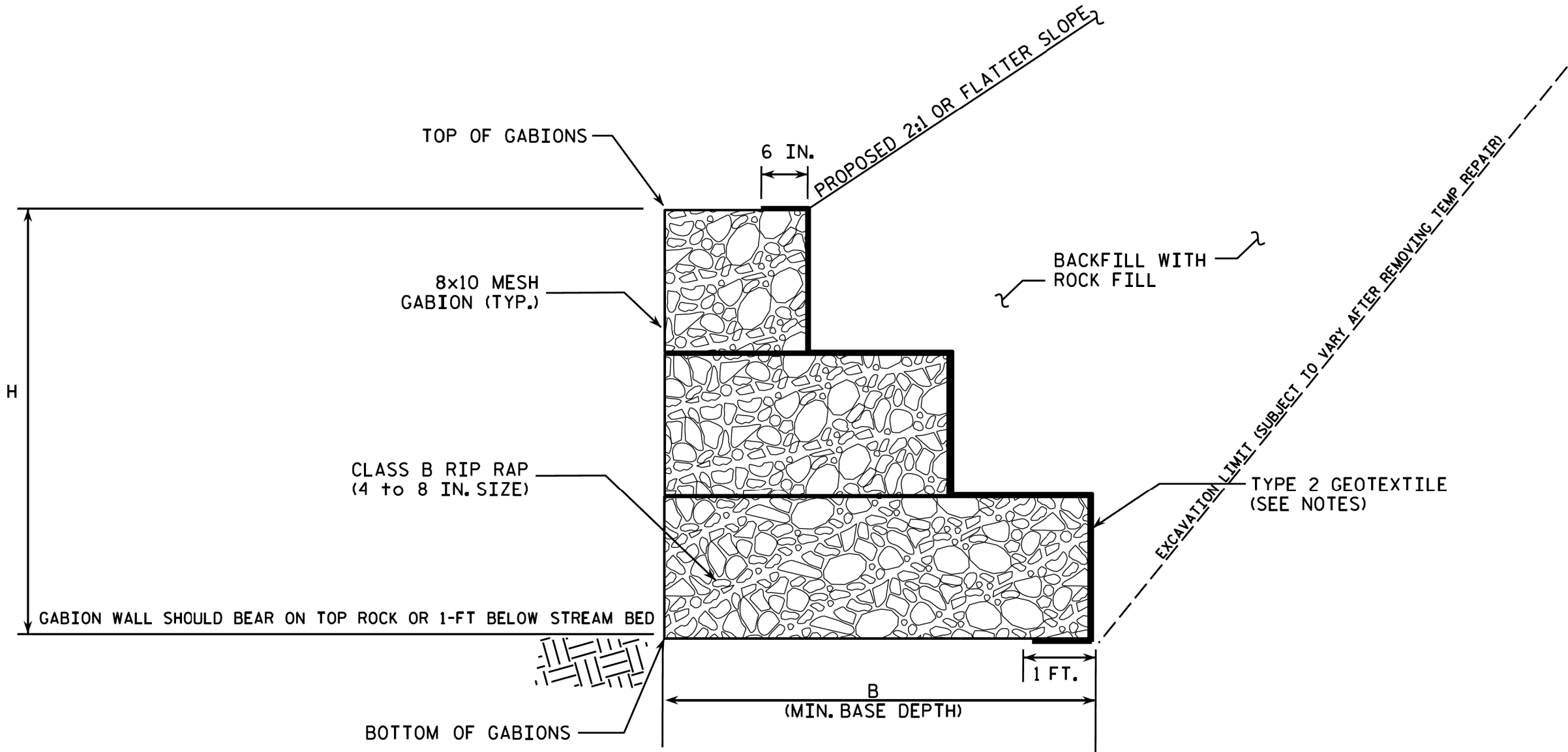


TYPICAL SECTION - B/H = 1.0 (MIN.)  
N.T.S.



TYPICAL SECTION - B/H = 1.0 (MIN.)  
N.T.S.

FOR GABION RETAINING WALL, SEE PROVISION.

ALL WORKMANSHIP TO BE IN ACCORDANCE WITH NCDOT AND GABION MANUFACTURER'S SPECIFICATIONS.

REMOVE THE TEMPORARY REPAIRS (RIP RAP AND BOULDERS) AND ANY LOOSE DEBRIS ON THE SURFACES OF THE SLOPES TO UNDISTURBED IN-SITU MATERIALS TO THE SATISFACTION OF THE ENGINEER BEFORE CONSTRUCTING GABION WALLS.

IF LOOSE MATERIALS EXIST AT THE BOTTOMS OF THE PROPOSED GABION WALLS, UNDERCUT THE MATERIALS TO THE SATISFACTION OF THE ENGINEER BEFORE CONSTRUCTING GABION WALLS.

USE GALVANIZED & PVC COATED GABIONS WITH 8x10 MESH.

PLACE TYPE 2 GEOTEXTILE ON FOUNDATION SOILS AND ARRANGE EMPTY GABIONS AS SHOWN. FASTEN ADJACENT UNITS AND HAND PLACE CLASS B RIP RAP (4 TO 8 IN. NOMINAL SIZE) IN GABIONS. PROVIDE GABION STIFFENERS WHERE REQUIRED. CLOSE LID AND FASTEN.

BACKFILL BEHIND GABIONS WITH ROCK FILL. PRIOR TO BACKFILLING, COVER BACK OF GABION WITH TYPE 2 GEOTEXTILE AND SLIGHTLY OVERLAP FABRIC ON GABION TOP. FABRIC SHALL COVER GABION SIDES AT ENDS OF EACH COURSE.

PLACE NEXT COURSE OF EMPTY GABIONS, FASTEN ADJACENT UNITS TOGETHER, HAND PLACE RIP RAP IN GABIONS, PROVIDE GABION STIFFENERS WHERE REQUIRED, CLOSE AND FASTEN LID. INSTALL FABRIC ON GABION BACK, AND BACKFILL BEHIND GABIONS. GABIONS SHOULD BE BENCHED INTO EXISTING GROUND BEYOND FAILED AREA AT EACH END. REPEAT UNTIL TOP COURSE OF GABIONS IS INSTALLED.

EXTEND FABRIC OVER TOP COURSE OF GABIONS BEYOND THE SLOPE TIE POINT AT THE TOP OF WALL.

GRADE ABOVE AND BEHIND GABIONS AT A SLOPE INCLINATION OF 2(H):1(V) OR FLATTER.

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF SITE 7. THE INFORMATION PROVIDED FOR DESIGN WAS BASED ON VISUAL OBSERVATIONS AND APPROXIMATIONS AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

BEFORE BEGINNING GABION RETAINING WALL DESIGN AT SITE 7, SURVEY WALL LOCATION AND SUBMIT A WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE WALL ENVELOPE IS ACCEPTED.

DESIGN GABION RETAINING WALL FOR EXTERNAL AND GLOBAL STABILITY.

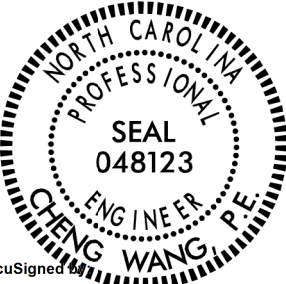
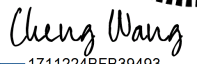
DESIGN GABION RETAINING WALL FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN GABION RETAINING WALL AT SITE 7 FOR THE FOLLOWING:

- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
- 2) DESIGN LIFE = 75 YEARS
- 3) IN-SITU ASSUMED MATERIAL PARAMETERS (RESIDUAL SOILS):  
UNIT WEIGHT,  $\gamma$  = 120 PCF  
FRICTION ANGLE,  $\phi$  = 30 DEGREES  
COHESION,  $c$  = 0 PSF
- 4) IN-SITU ASSUMED MATERIAL PARAMETERS (WEATHERED ROCK)  
UNIT WEIGHT,  $\gamma$  = 130 PCF  
FRICTION ANGLE,  $\phi$  = 41 DEGREES  
COHESION,  $c$  = 0 PSF

WALL 1 =	1,876	SO. FT.
WALL 2 =	240	SO. FT.
WALL 3 =	417	SO. FT.
TOTAL STRUCTURE QUANTITY = 2,533 SO. FT.		

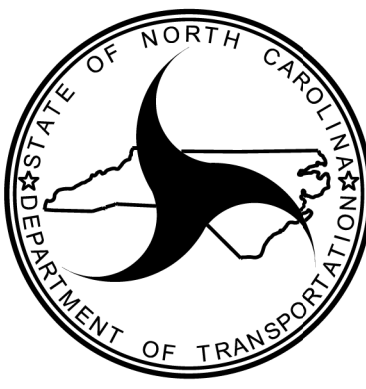
TOTAL STRUCTURE QUANTITY INCLUDES EMBEDMENT BELOW GRADE

GEOTECHNICAL ENGINEER	ENGINEER
	
 8/8/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PREPARED BY: C. WANG, P.E.	DATE: 08/2025
REVIEWED BY: P. ALTON, P.E.	DATE: 08/2025



Prepared in the Office of:  
**FROEHLING & ROBERTSON, INC.**  
Engineering Stability Since 1881  
310 Hubert Street  
Raleigh, North Carolina 27603-2302  
License No. F-0266  
Bus: 919.828.3441 Fax: 919.828.5751



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
  
**GEOTECHNICAL  
ENGINEERING UNIT**

PROJECT NO.: DF18314.2045066

COUNTY: HENDERSON

GABION RETAINING WALL  
SITE 7- BALD ROCK RD.

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.  
2G-7

REVISIONS