


GEOTECHNICAL ENGINEER



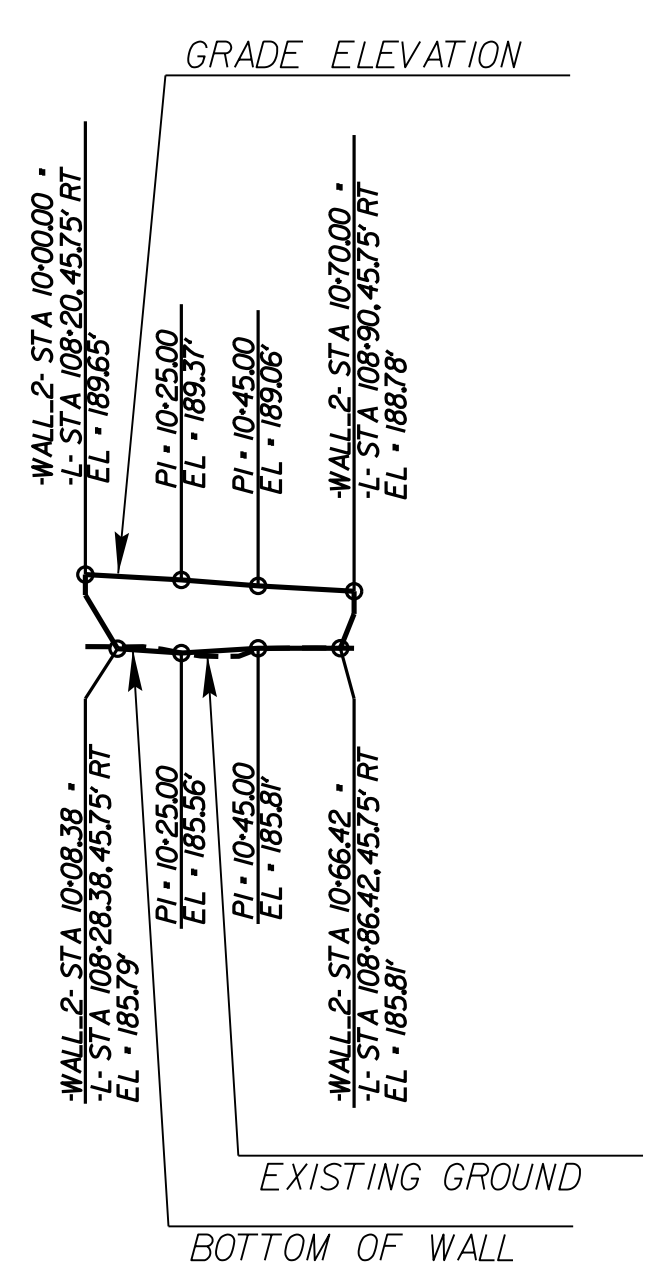
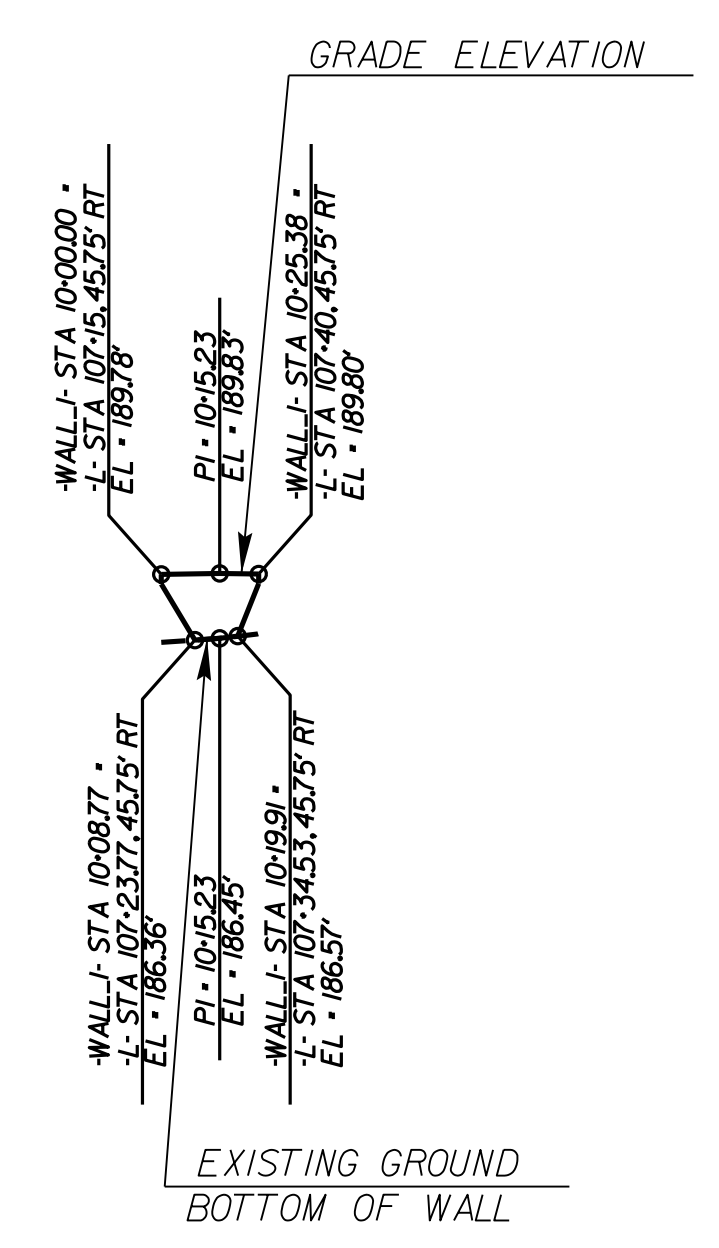
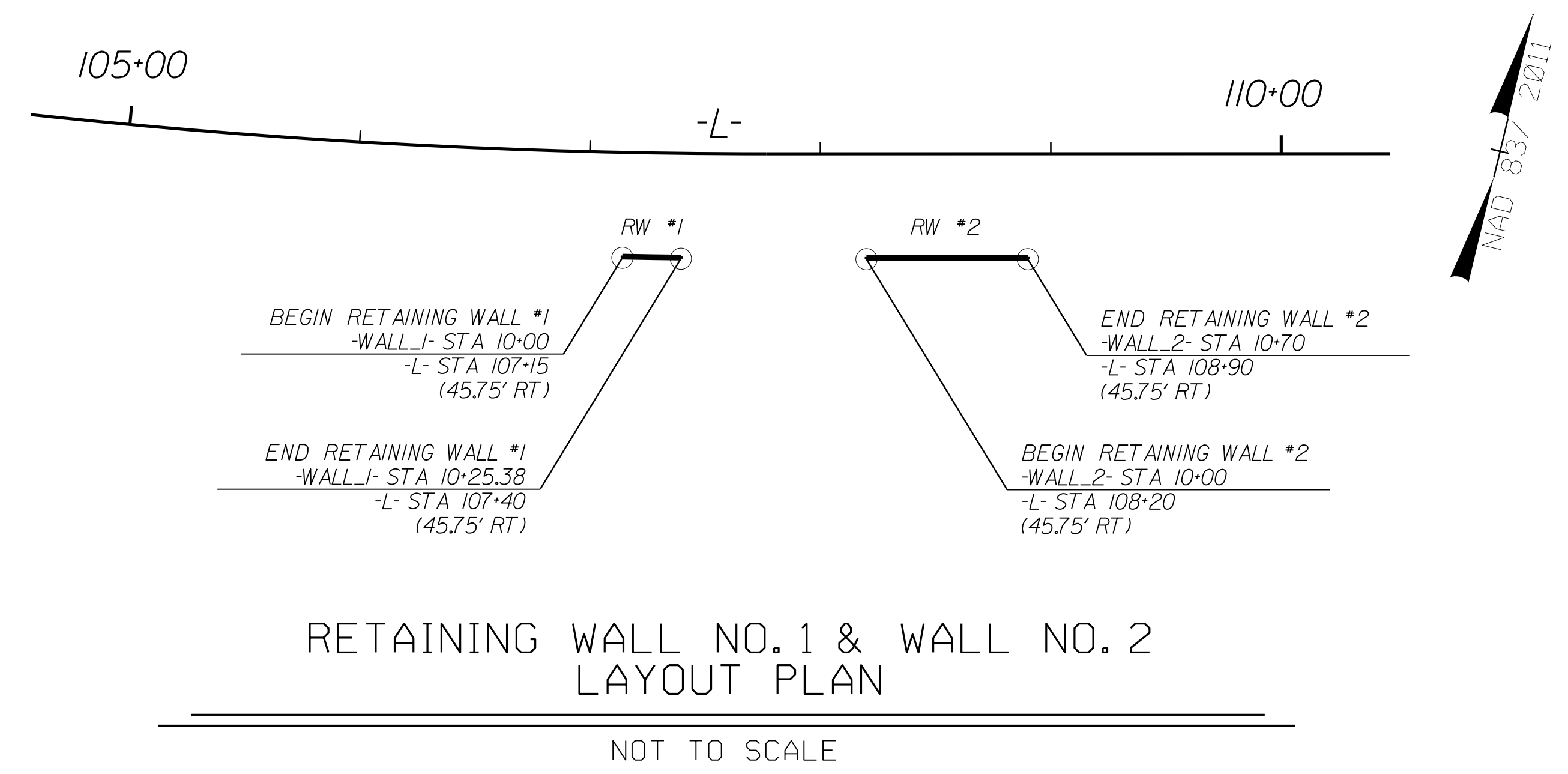
DocuSigned by:  
**Ther Tan Zan** 08/06/2024

SIGNATURE DATE

ENGINEER

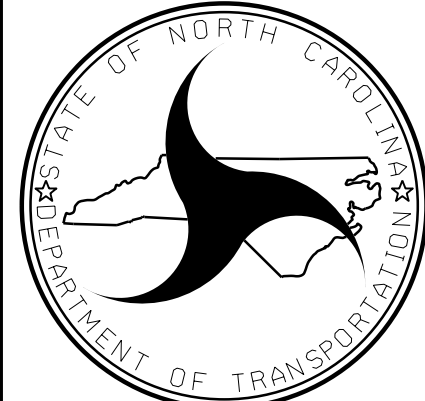
SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



ESTIMATED RETAINING WALL QUANTITIES		
RETAINING WALL NO. 1	SEGMENTAL GRAVITY RETAINING WALLS	90 SQ.FT.
RETAINING WALL NO. 2	SEGMENTAL GRAVITY RETAINING WALLS	300 SQ.FT.

PROJECT NO.: 39001.1.3 (U-3422A)  
 CUMBERLAND COUNTY  
 STATION: -L- 107+20 & 108+20  
 SHEET 1 OF 2



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**GEOTECHNICAL  
ENGINEERING UNIT**

**RETAINING WALLS  
LAYOUT PLAN &  
WALL ENVELOPES**

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

SHEET NO. W-1

PREPARED BY: T. T. ZAN	DATE: 08-24
REVIEWED BY: J. PARK	DATE: 08-24

**NOTES:**

FOR STANDARD SEGMENTAL GRAVITY RETAINING WALLS, SEE SECTION 454 OF THE STANDARD SPECIFICATIONS.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

DO NOT ATTACH FENCES OR HANDRAILS TO STANDARD SEGMENTAL GRAVITY WALLS.

DO NOT USE STANDARD SEGMENTAL GRAVITY WALLS FOR INTERSTATE HIGHWAY OR RAILROAD PROJECTS.

DO NOT USE STANDARD SEGMENTAL GRAVITY WALLS WHEN SURCHARGE LOADS WILL BE WITHIN 5'-6" OF THE BACK OF SRW CAP UNITS FOR WALL HEIGHTS UP TO 4' AND WITHIN 10' OF THE BACK OF SRW CAP UNITS FOR WALL HEIGHTS GREATER THAN 4' TO 5'.

DO NOT USE STANDARD SEGMENTAL GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.

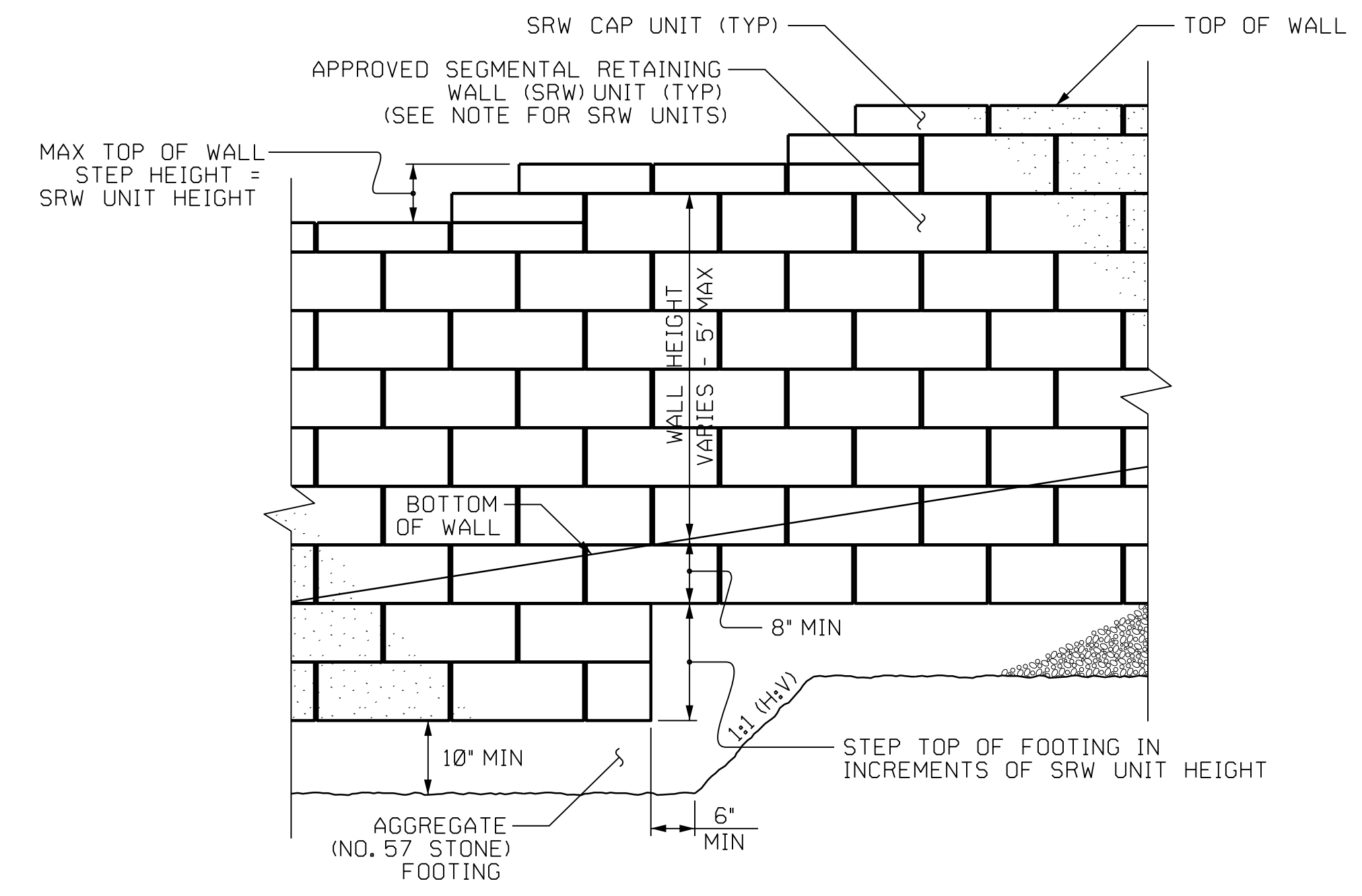
SEGMENTAL RETAINING WALL (SRW) UNITS ARE APPROVED FOR EITHER 2' OR 5' MAXIMUM WALL HEIGHTS. FOR DETAILS AND DIMENSIONS OF APPROVED SRW UNITS AND MAXIMUM WALL HEIGHTS, SEE [connect.ncdot.gov/resources/Geological/Pages/Products.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Products.aspx)

DO NOT MIX APPROVED SRW UNITS FROM DIFFERENT VENDORS ON THE SAME STANDARD SEGMENTAL GRAVITY WALL. USE THE SAME SIZE APPROVED SRW UNITS FOR EACH WALL SECTION.

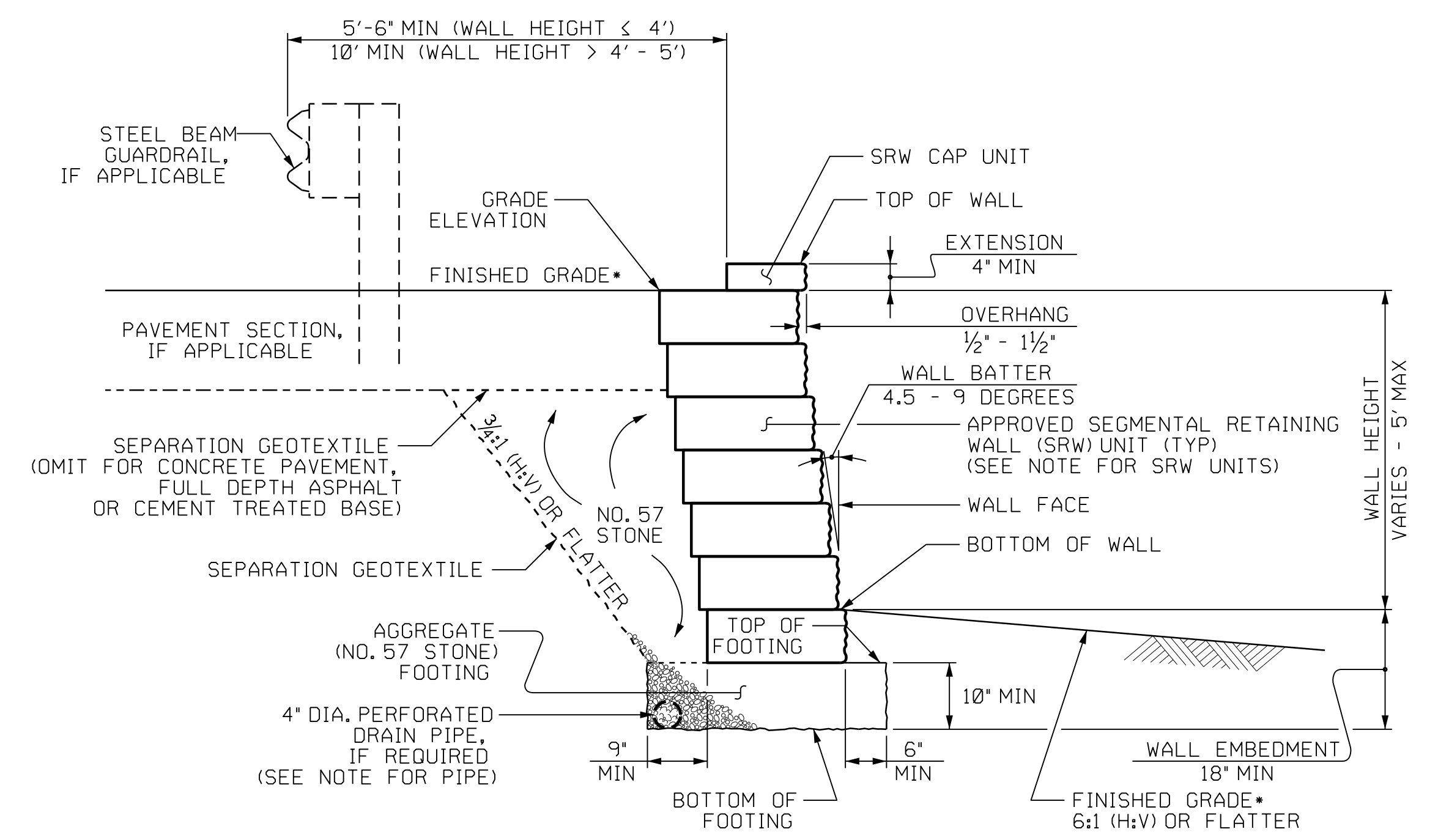
BEFORE BEGINNING STANDARD SEGMENTAL GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.

A DRAIN PIPE IS REQUIRED IF GROUNDWATER IS ABOVE BOTTOM OF FOOTINGS.

DO NOT PLACE NO. 57 STONE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

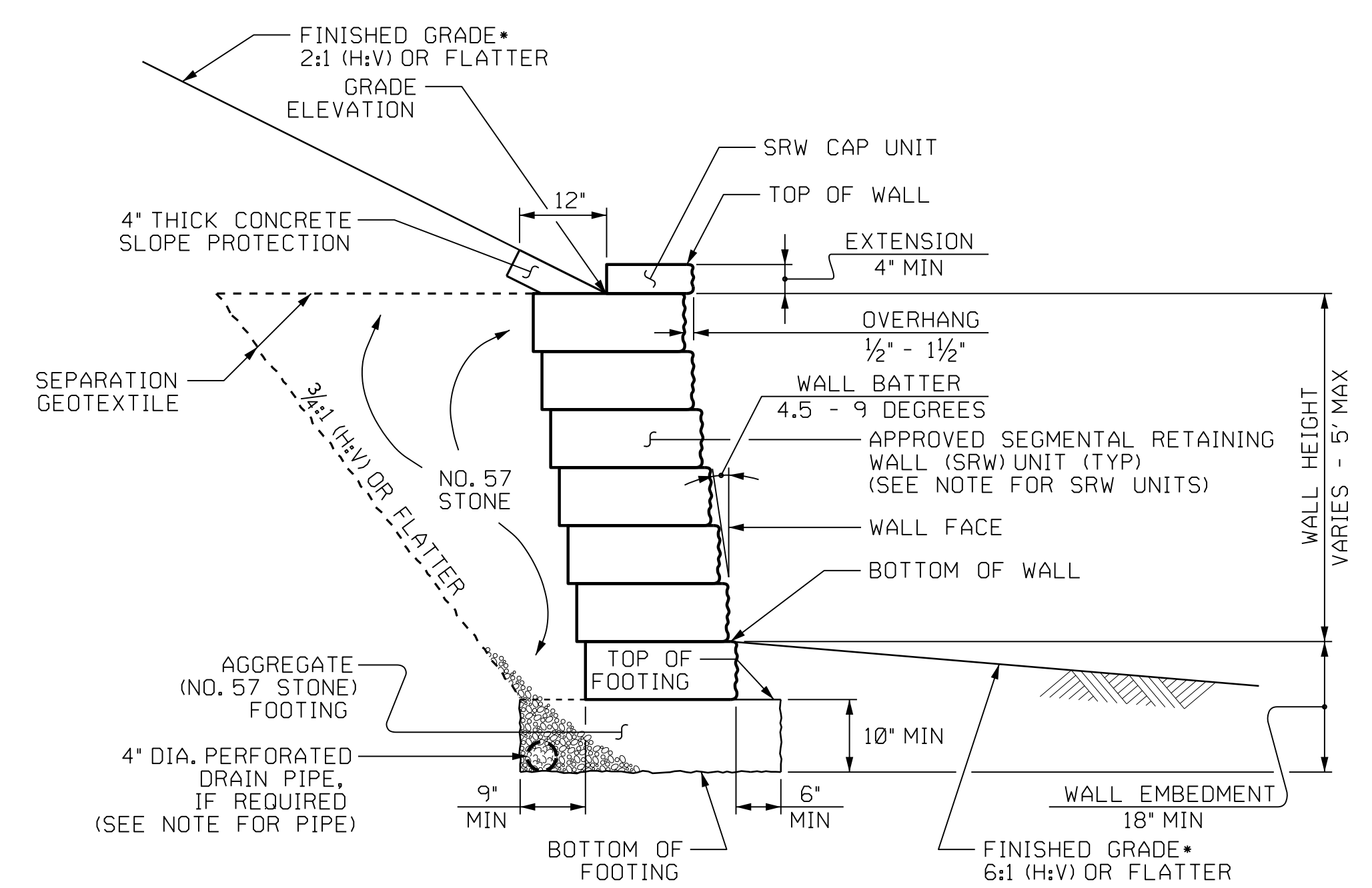


**STANDARD SEGMENTAL GRAVITY WALL - PARTIAL ELEVATION**



**STANDARD SEGMENTAL GRAVITY WALL WITHOUT SLOPE**

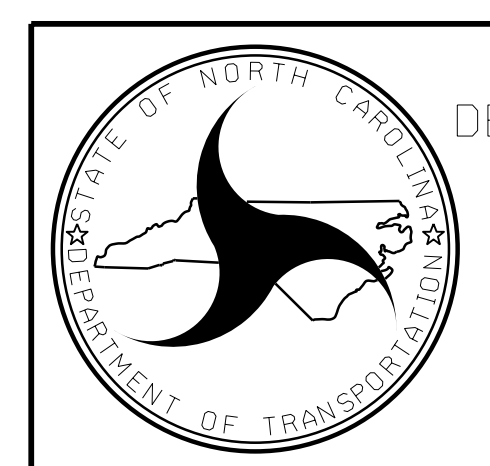
\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



**STANDARD SEGMENTAL GRAVITY WALL WITH SLOPE**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: 39001.1.3 (U-3422A)  
 CUMBERLAND COUNTY  
 STATION: -L- 107+20 & -L- 108+20  
 SHEET 2 OF 2



NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

GEOTECHNICAL  
 ENGINEERING UNIT

STANDARD DETAIL NO. 454.01

STANDARD  
 SEGMENTAL GRAVITY  
 RETAINING WALL

DATE: 10-19-21

SHEET NO. 2