

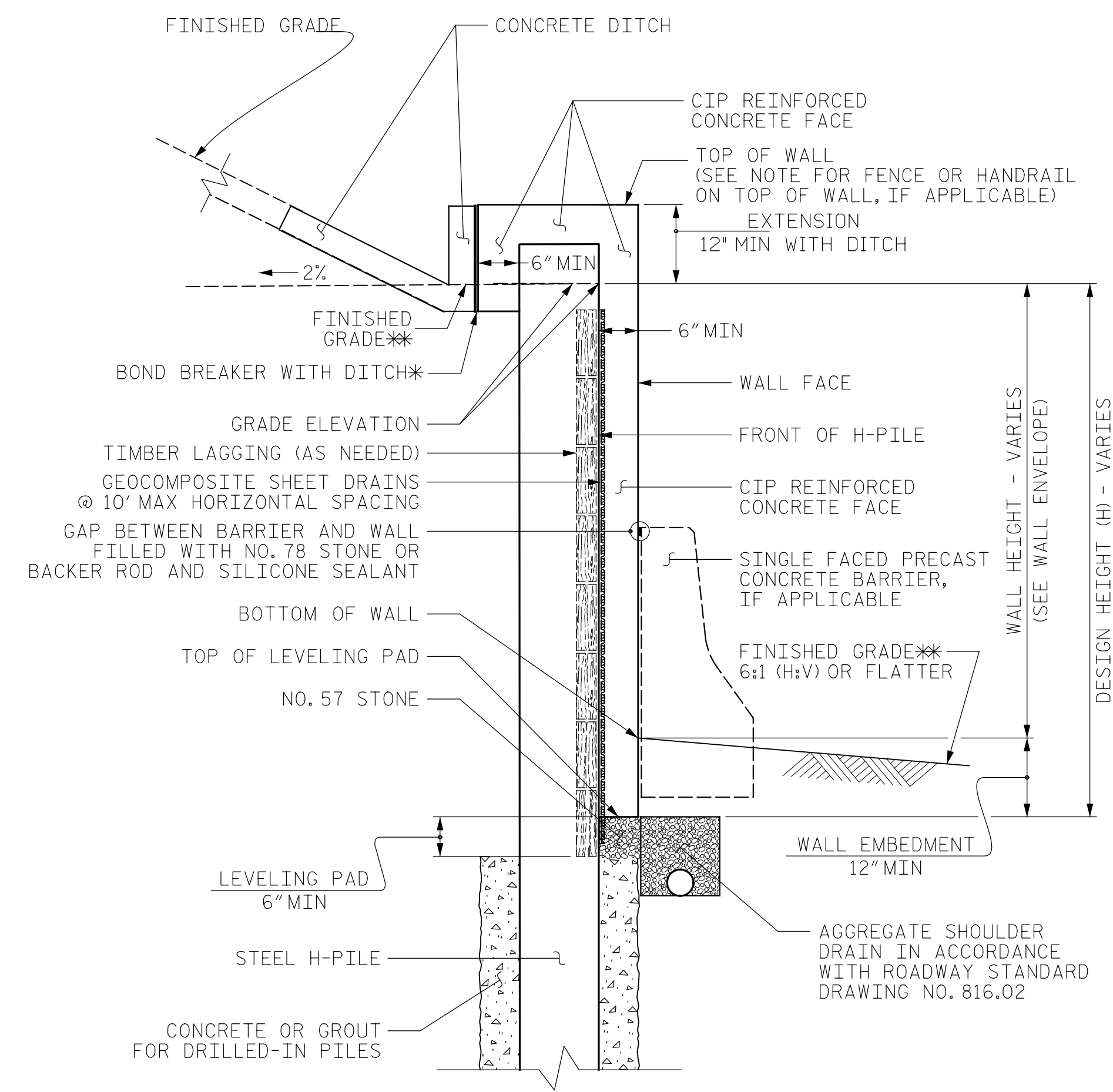
GEOTECHNICAL ENGINEER

ENGINEER

DocuSigned by:
Shane Johnson
12/09/2024

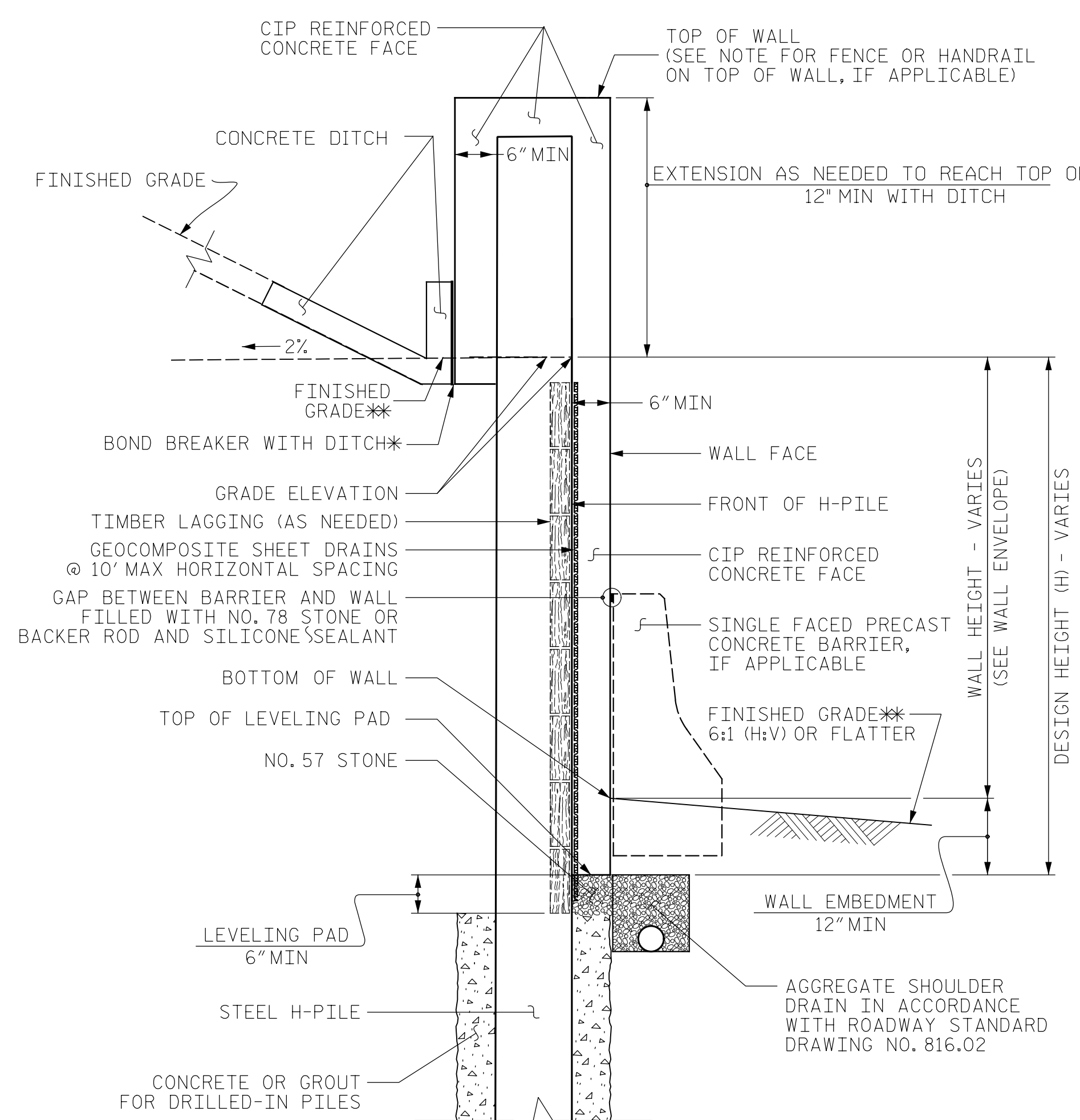
DATE: 12/09/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



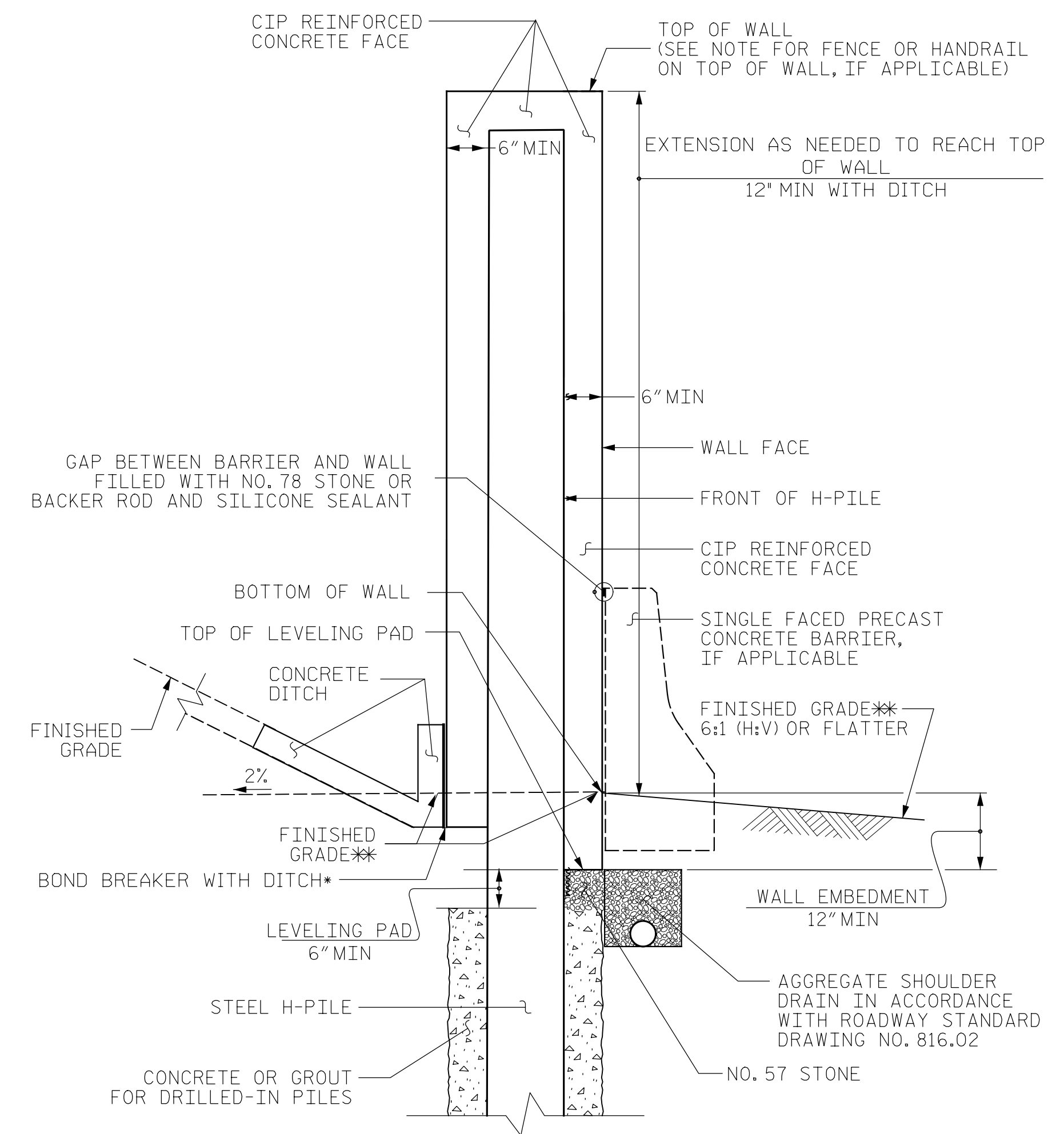
FULLY EMBEDDED SOLDIER PILE WALL WITH CIP FACE - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.



PARTIALLY EMBEDDED SOLDIER PILE WALL WITH CIP FACE - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

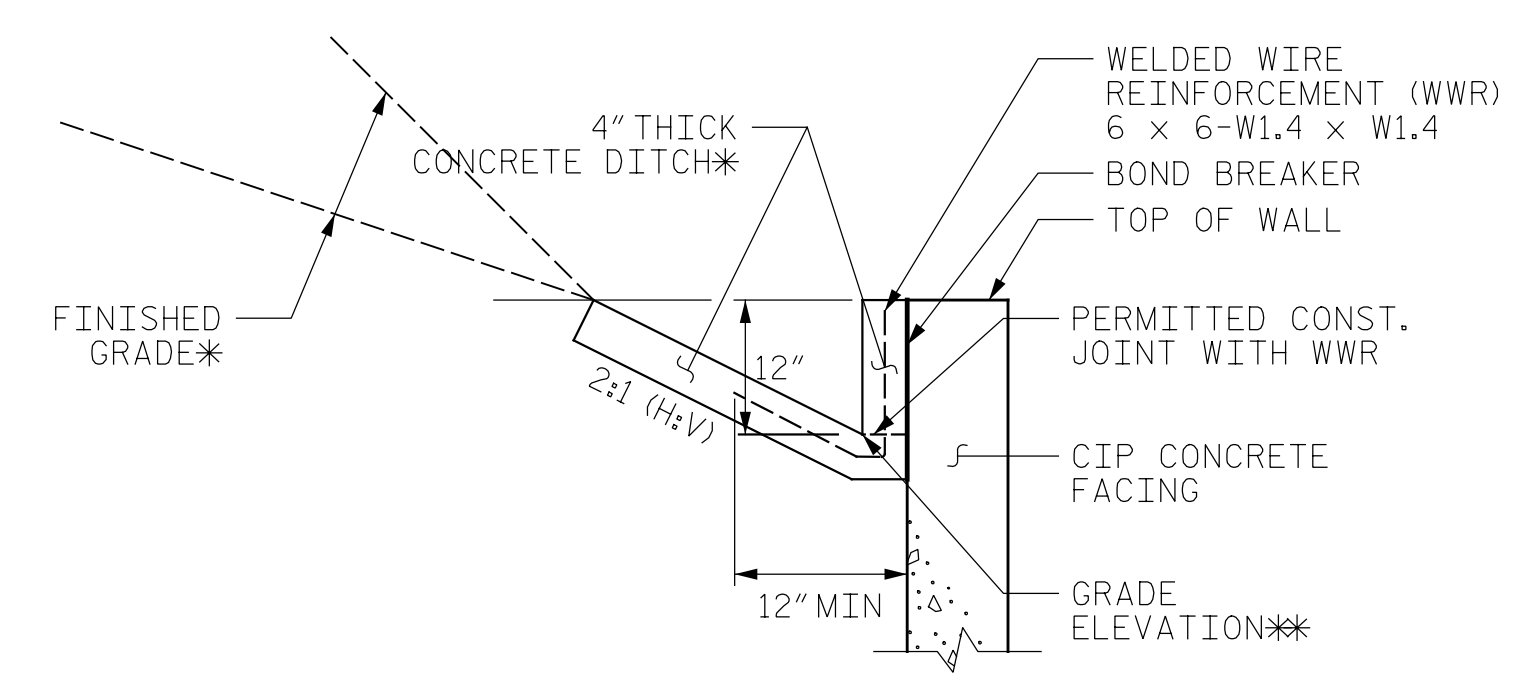


ABOVE GRADE SOLDIER PILE WALL WITH CIP FACE - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

NOTES:

- FOR SOLDIER PILE RETAINING WALLS, SEE SOLDIER PILE RETAINING WALLS PROVISION.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL (IF APPLICABLE) IS REQUIRED ON TOP OF RETAINING WALL NO. 1. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- DRILLED-IN H-PILES ARE REQUIRED FOR RETAINING WALL NO. 1.
- USE A SOLDIER PILE RETAINING WALL WITH A CIP REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 1.
- A NATURAL STONE ARCHITECTURAL FINISH IS REQUIRED FOR THE CIP REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 1. THE NATURAL STONE FINISH MUST BE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISION AND APPROVED BY NCDOT.
- BEFORE BEGINNING SOLDIER PILE WALL DESIGN FOR RETAINING WALL NO. 1, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.
- DESIGN RETAINING WALL NO. 1 FOR THE FOLLOWING:
 - 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT DEPTH = 1 FT
 - 4) DESIGN WALL SECTION ABOVE GRADE ELEVATION FOR WIND PRESSURE OF 27 PSF



CONCRETE DITCH BEHIND WALL WITH CONCRETE FACING

*SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.
**SEE WALL ENVELOPE FOR GRADE ELEVATIONS.

| Retaining Wall No. 1 | | | | | | | | | | | |
|------------------------------------|---------|--------|------------------------------------|------------------|---------|------------------------|----------|------------------|-----|----|---|
| -W1- 10+00 to 10+50 ⁽¹⁾ | | | -W1- 10+50 to 11+50 ⁽¹⁾ | | | -W1- 11+50 to 12+66.12 | | | | | |
| | V (pcf) | φ' (°) | c' (psf) | | V (pcf) | φ' (°) | c' (psf) | | | | |
| Above EL. 461 ft | 115 | 30 | 0 | Above EL. 457 ft | 115 | 30 | 0 | Above EL. 463 ft | 115 | 30 | 0 |
| Below EL. 461 ft | 120 | 32 | 0 | Below EL. 457 ft | 125 | 36 | 0 | Below EL. 463 ft | 120 | 30 | 0 |
| Below EL. 447 ft | 120 | 30 | 0 | Below EL. 446 ft | 150 | 42 | 0 | Below EL. 457 ft | 125 | 36 | 0 |
| Below EL. 440 ft | 135 | 42 | 0 | | | | | | | | |

Notes:
1 - Pile excavation into weathered rock or crystalline rock may be required.
2 - Groundwater not encountered in borings.

PREPARED BY: _____ DATE: _____
REVIEWED BY: _____ DATE: _____

PROJECT NO.: R-5930B
CHATHAM COUNTY
STATION: -W1- 10+00.00 TO 12+66.12
SHEET 2 OF 4 WALL ID RW-1



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 1 SOLDIER PILE WALL WITH OR WITHOUT BACK SLOPE - TYPICALS & NOTES

| REVISIONS | | | | | | SHEET NO. |
|-----------|----|------|-----|----|------|-----------|
| NO. | BY | DATE | NO. | BY | DATE | |
| 1 | | | 3 | | | W-2 |
| 2 | | | 4 | | | |