

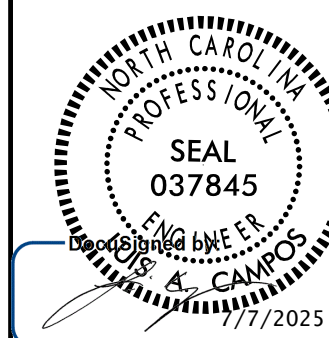
8/17/99

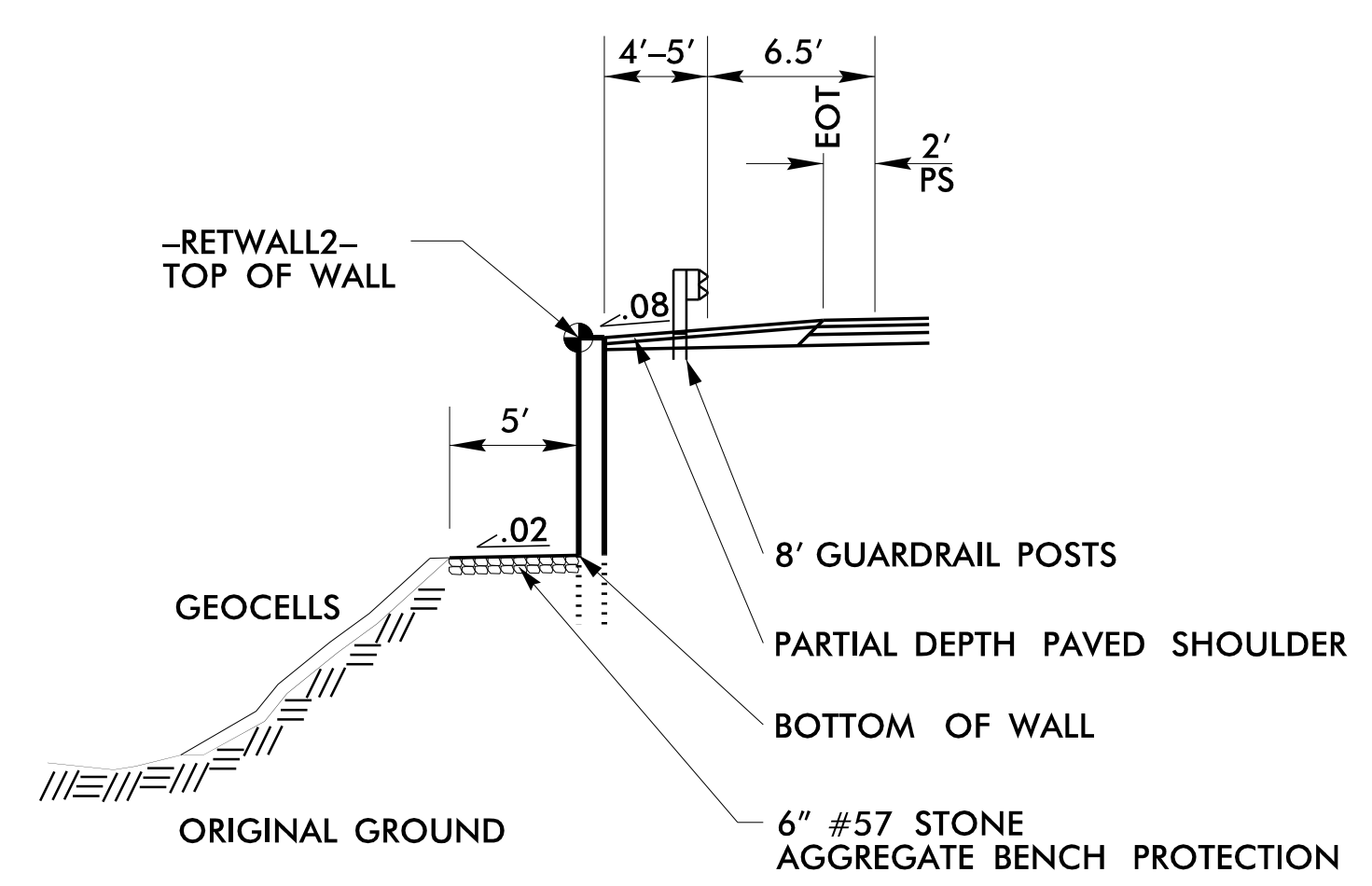
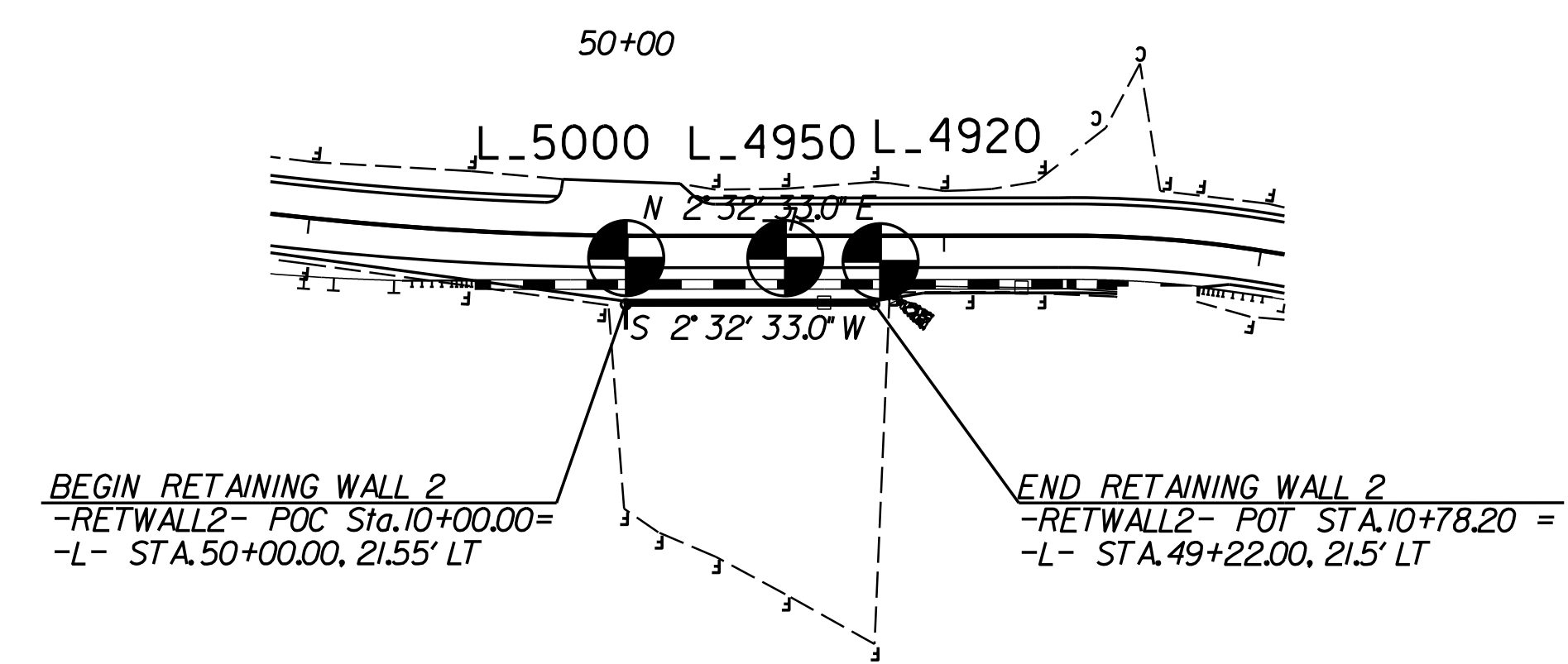
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RETAINING WALL 2 ENVELOPE

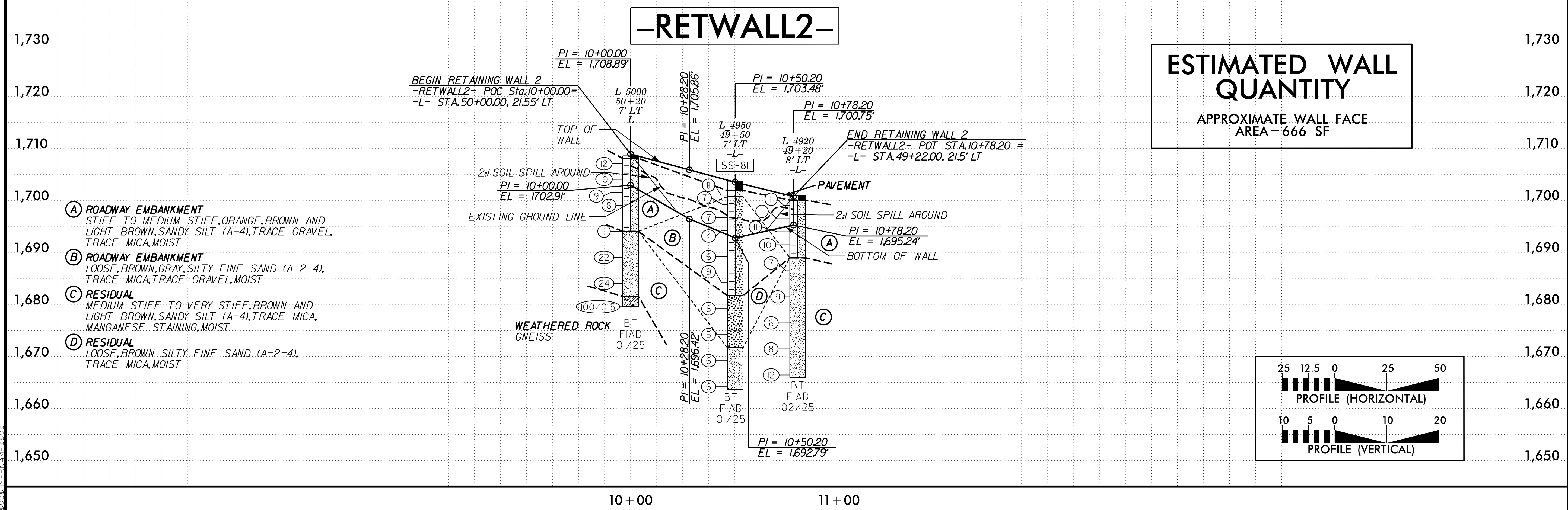
NAD 83 / NA 2011

S & E
8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

PROJECT REFERENCE NO. NC-9	SHEET NO. W-1
GEOTECHNICAL ENGINEER	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 PLANS	



RETAINING WALL 2 TYPICAL



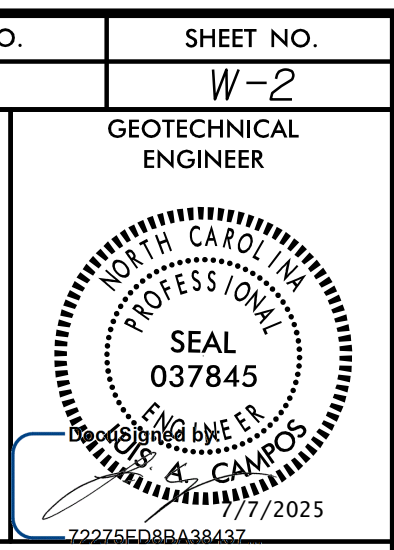
8/17/99

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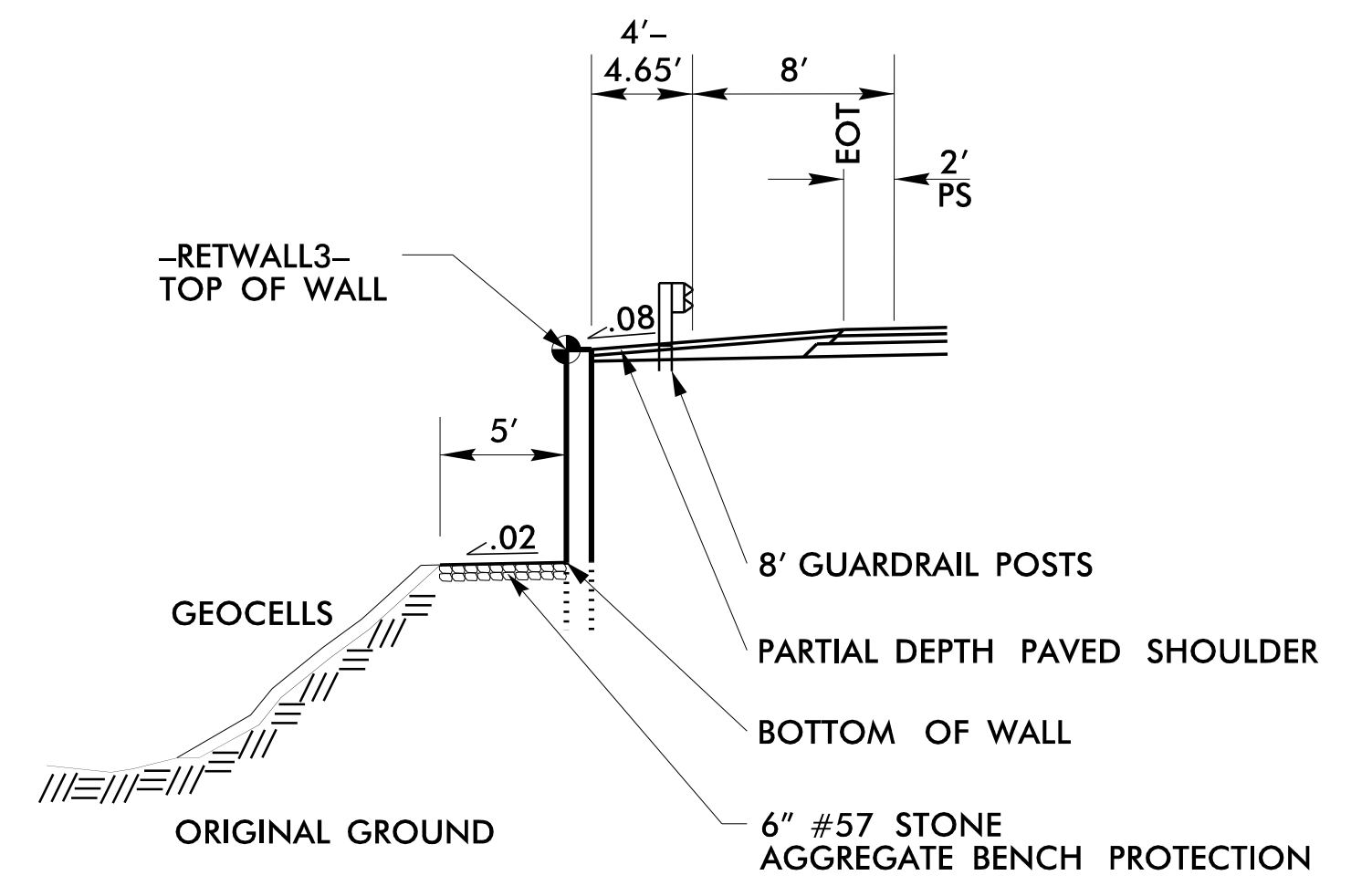
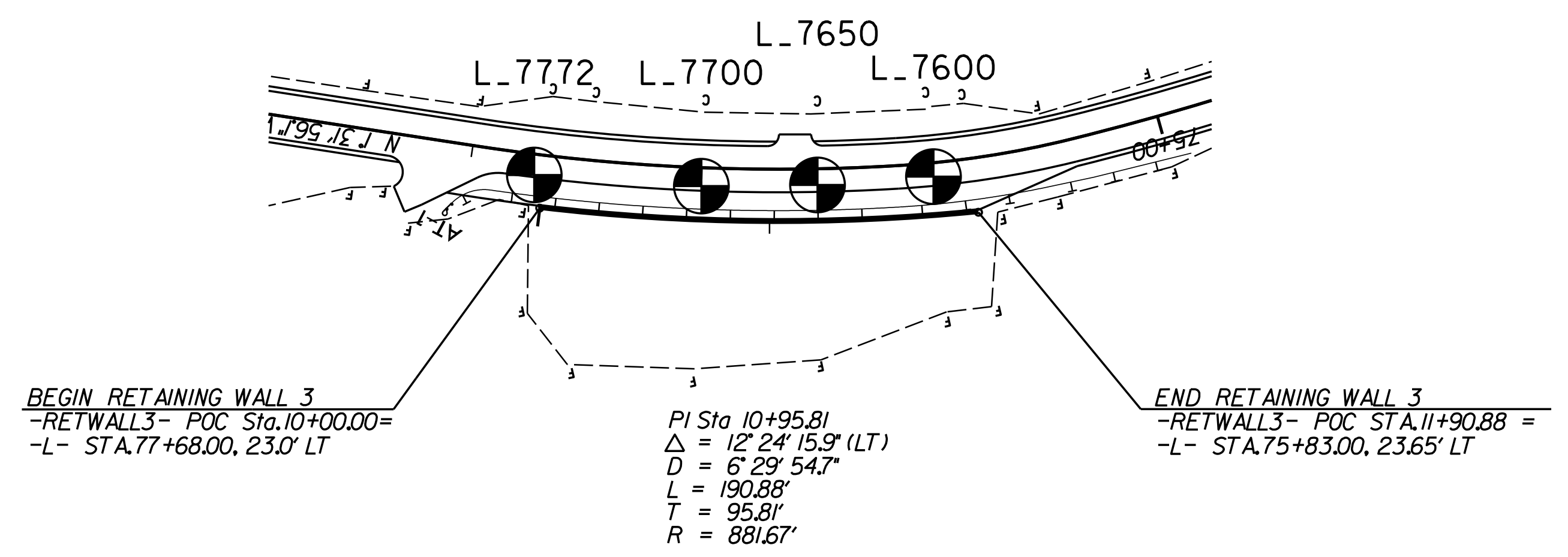
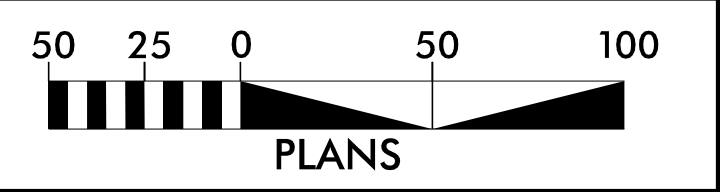
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NAD 83 / NA 2011

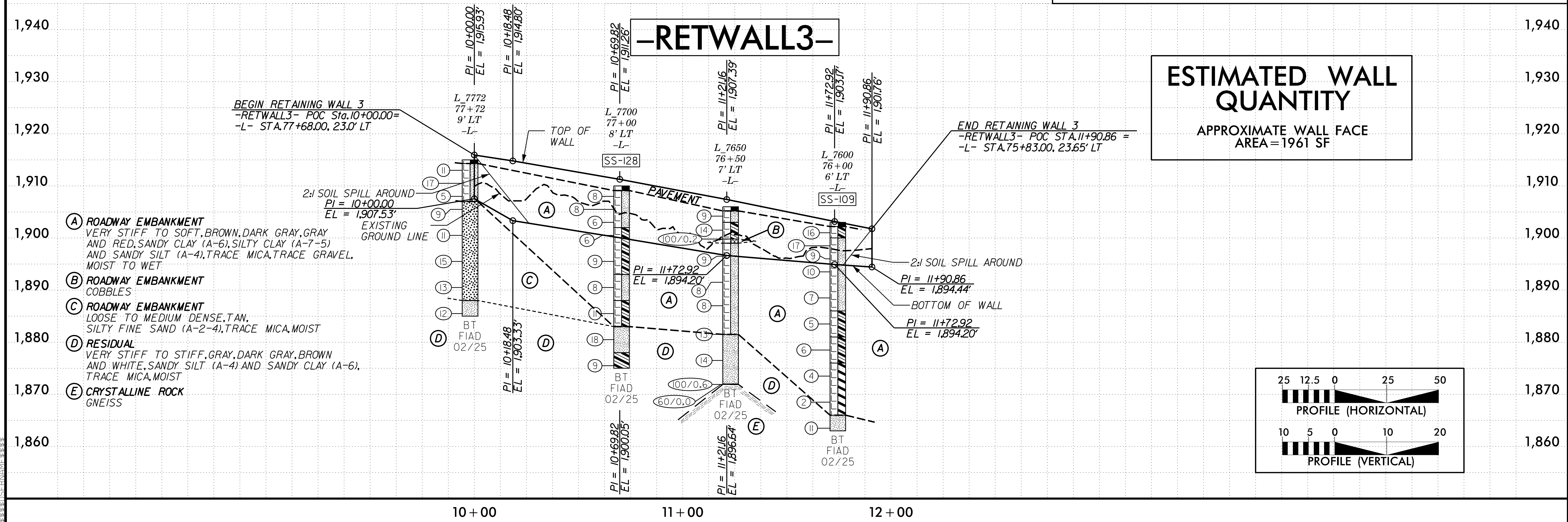
8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726



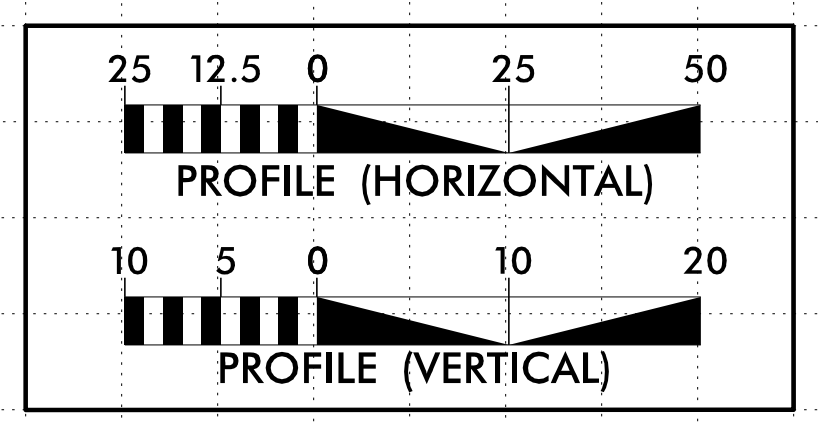
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UNLESS ALL SIGNATURES COMPLETED

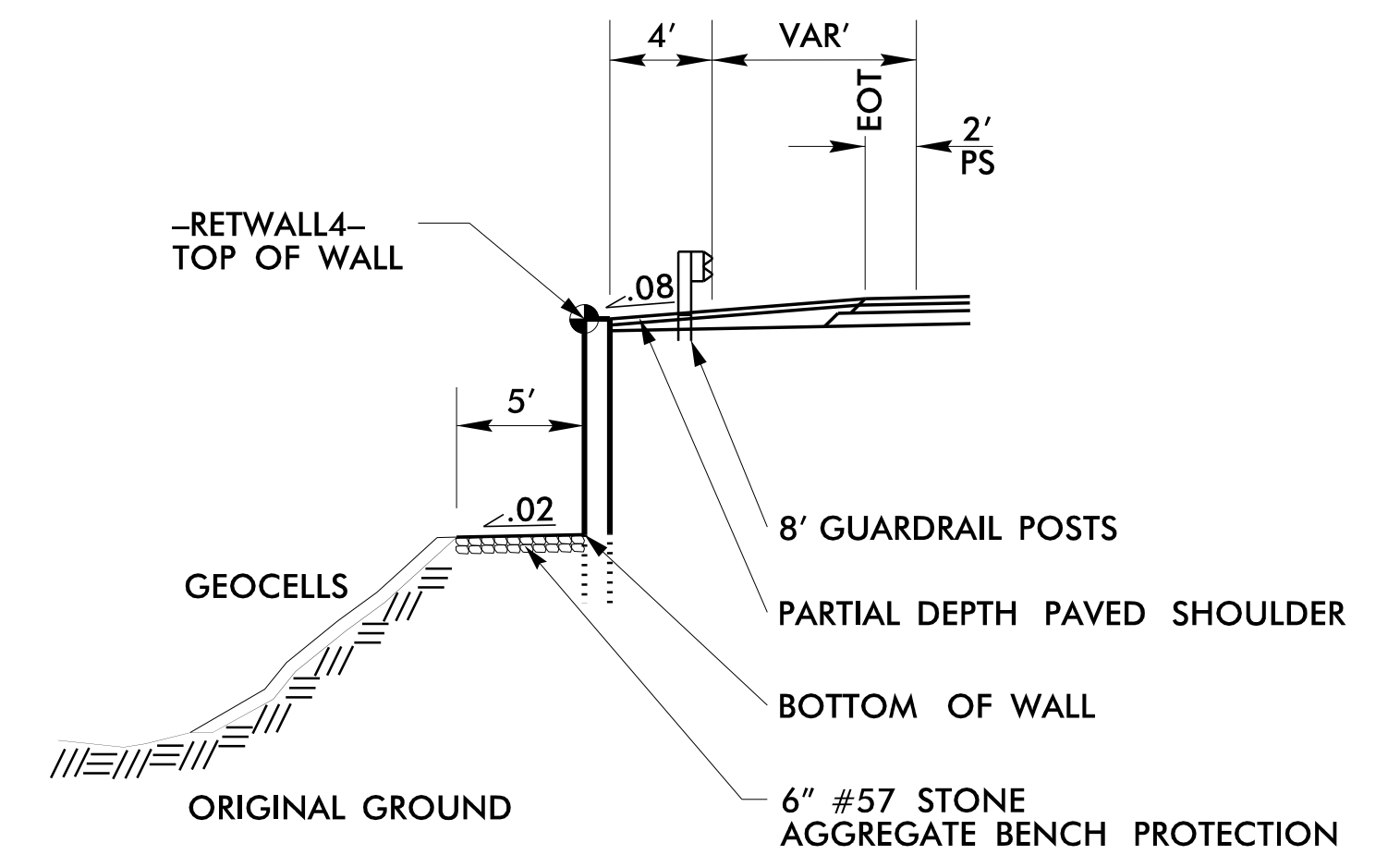


RETAINING WALL 3 TYPICAL



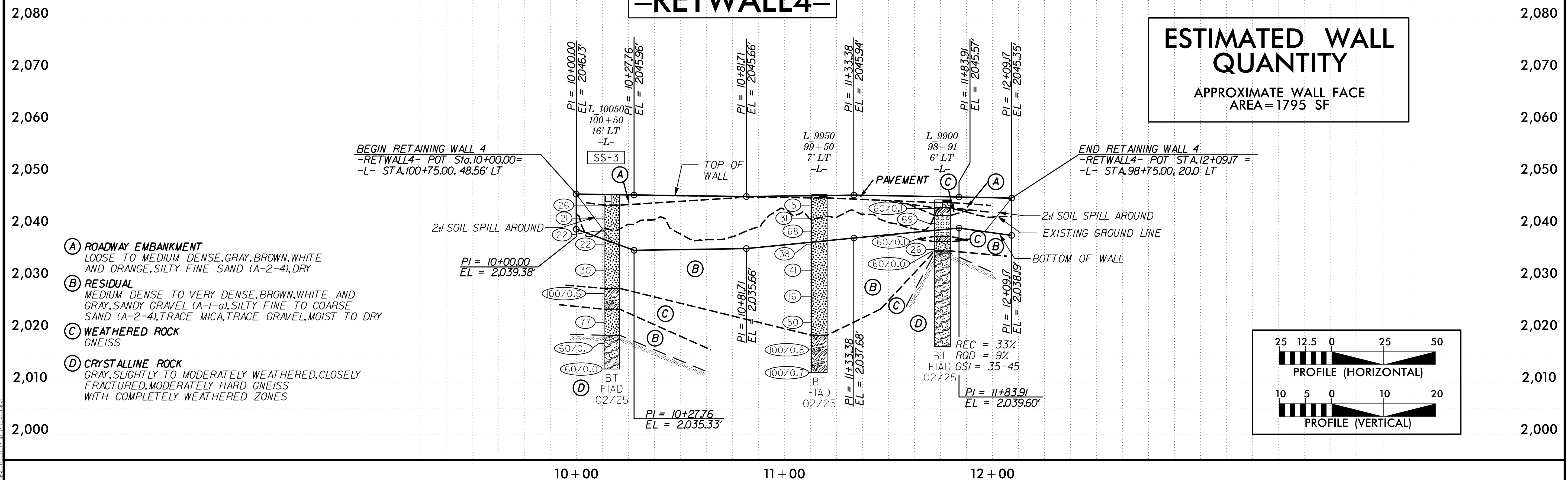
ESTIMATED WALL
QUANTITY
APPROXIMATE WALL FACE
AREA=1961 SF





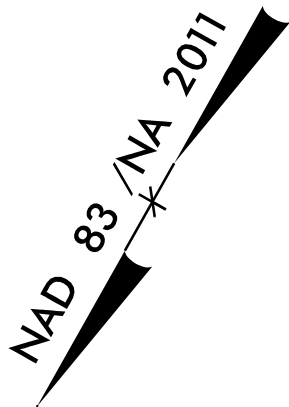
ESTIMATED WALL QUANTITY

APPROXIMATE WALL FACE
AREA=1795 SF

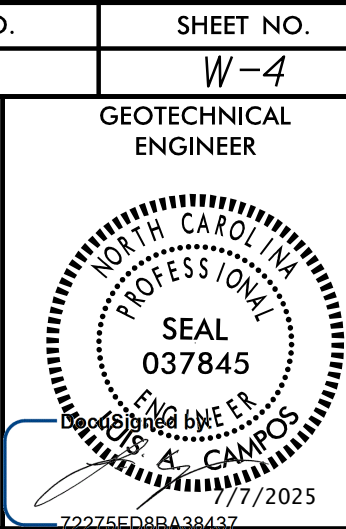


8/17/99
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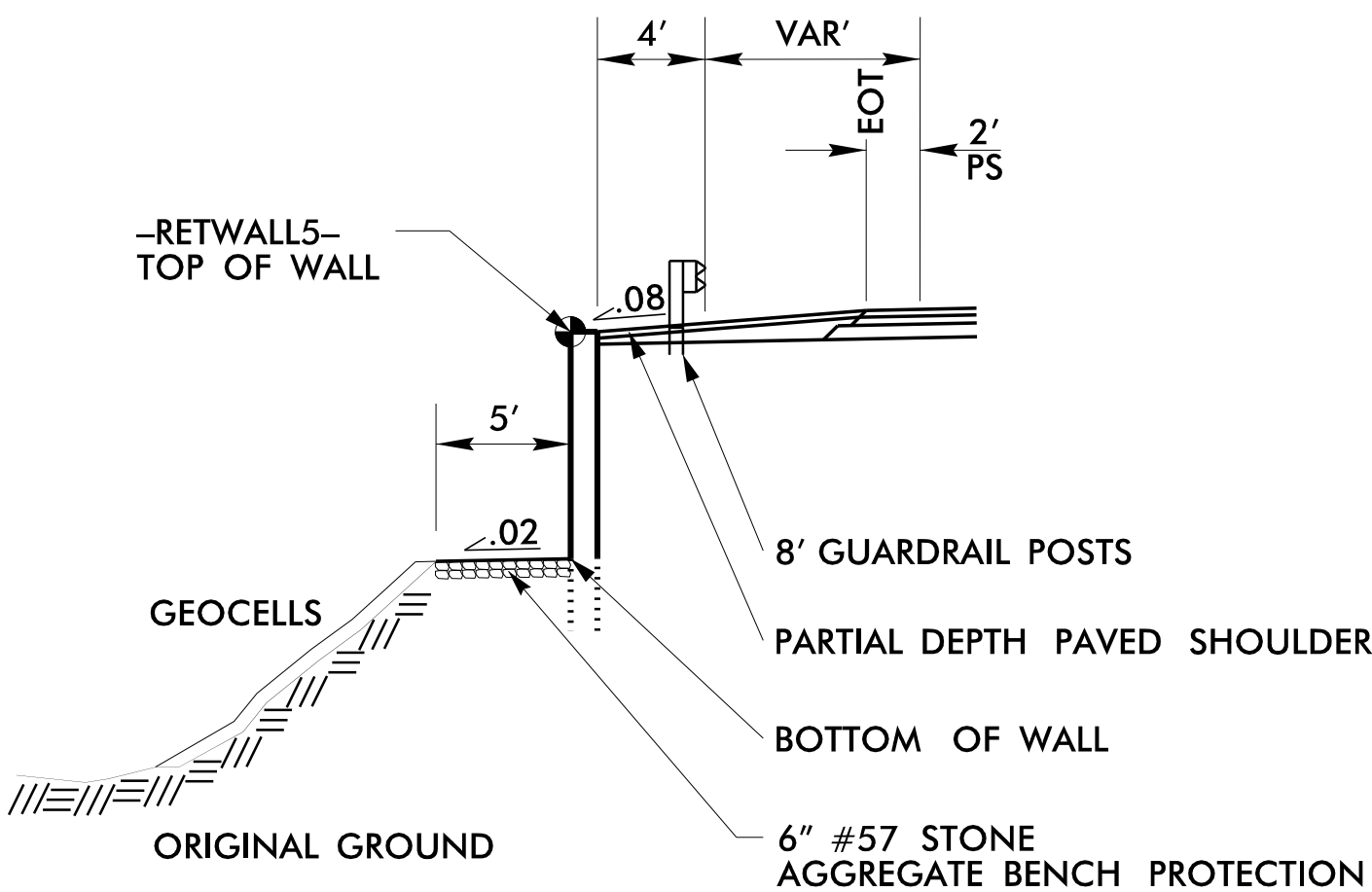
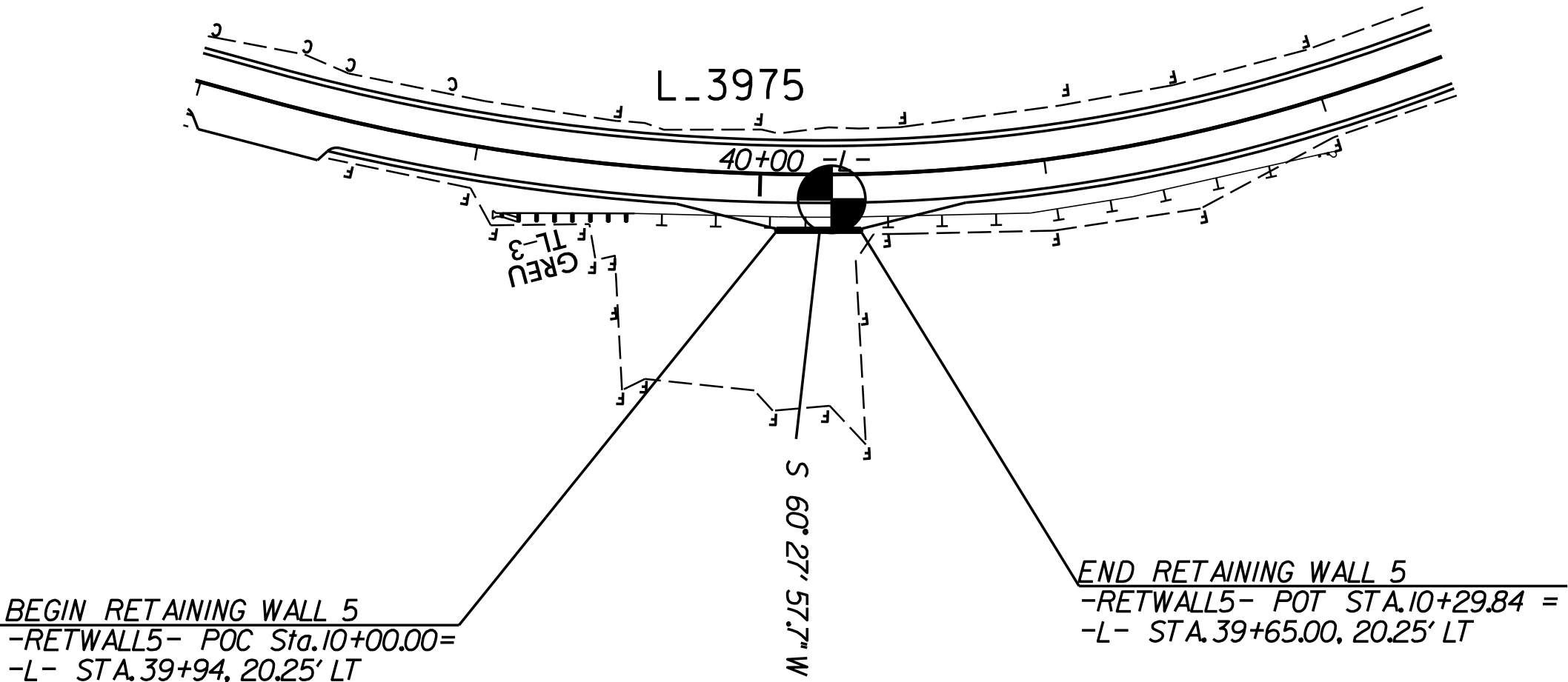
RETAINING WALL 5 ENVELOPE



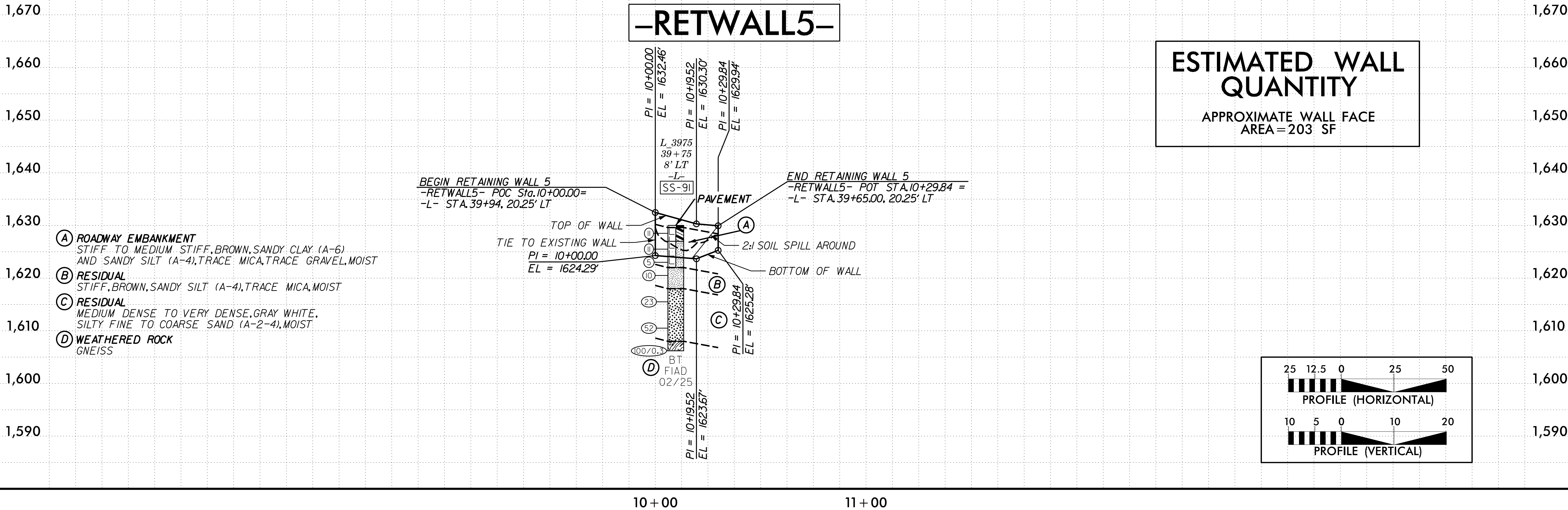
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8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726



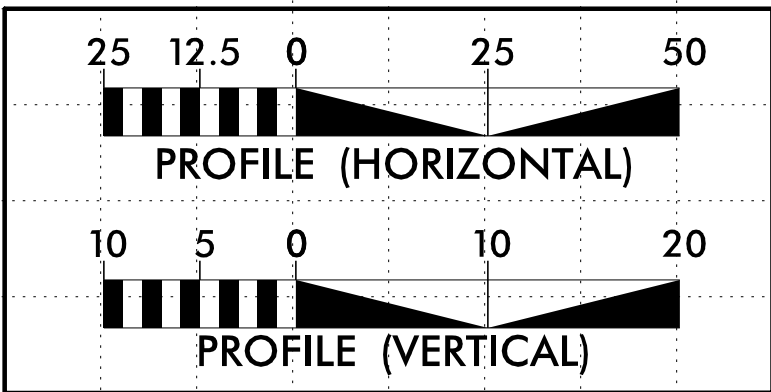
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



RETAINING WALL 5 TYPICAL



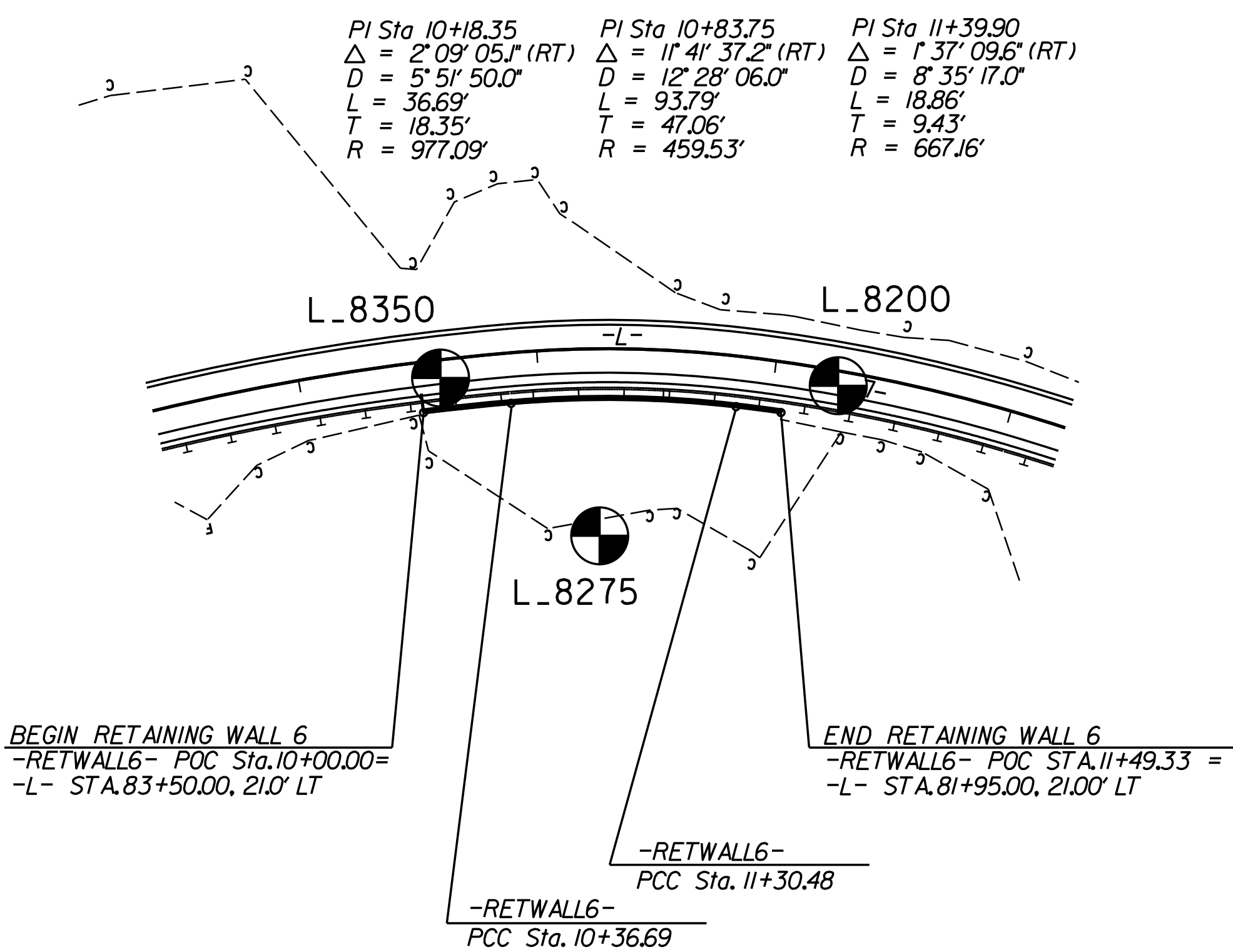
ESTIMATED WALL QUANTITY
APPROXIMATE WALL FACE
AREA=203 SF



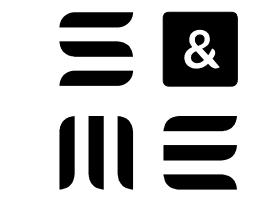
8/17/99

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RETAINING WALL 6 ENVELOPE



NAD 83 / NA 2011

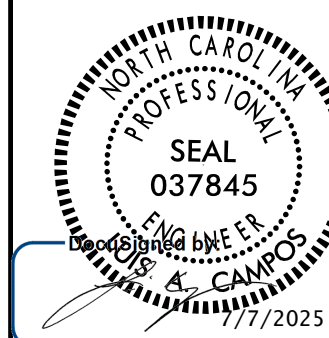


8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

PROJECT REFERENCE NO.
NC-9

SHEET NO.
W-5

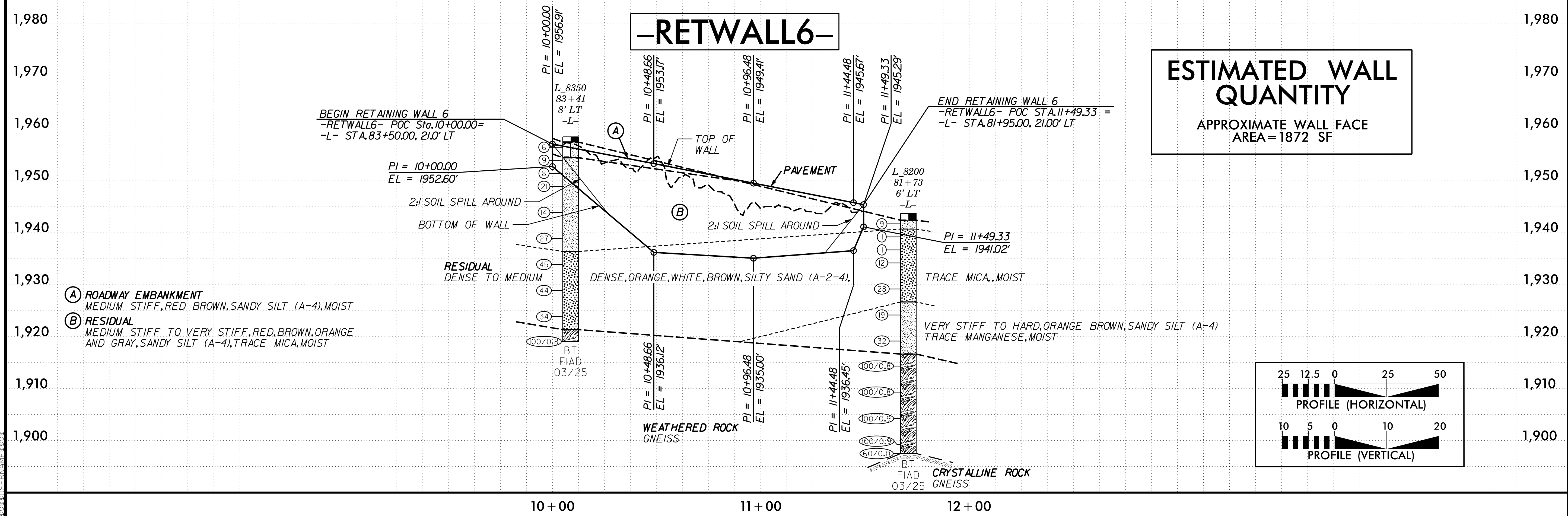
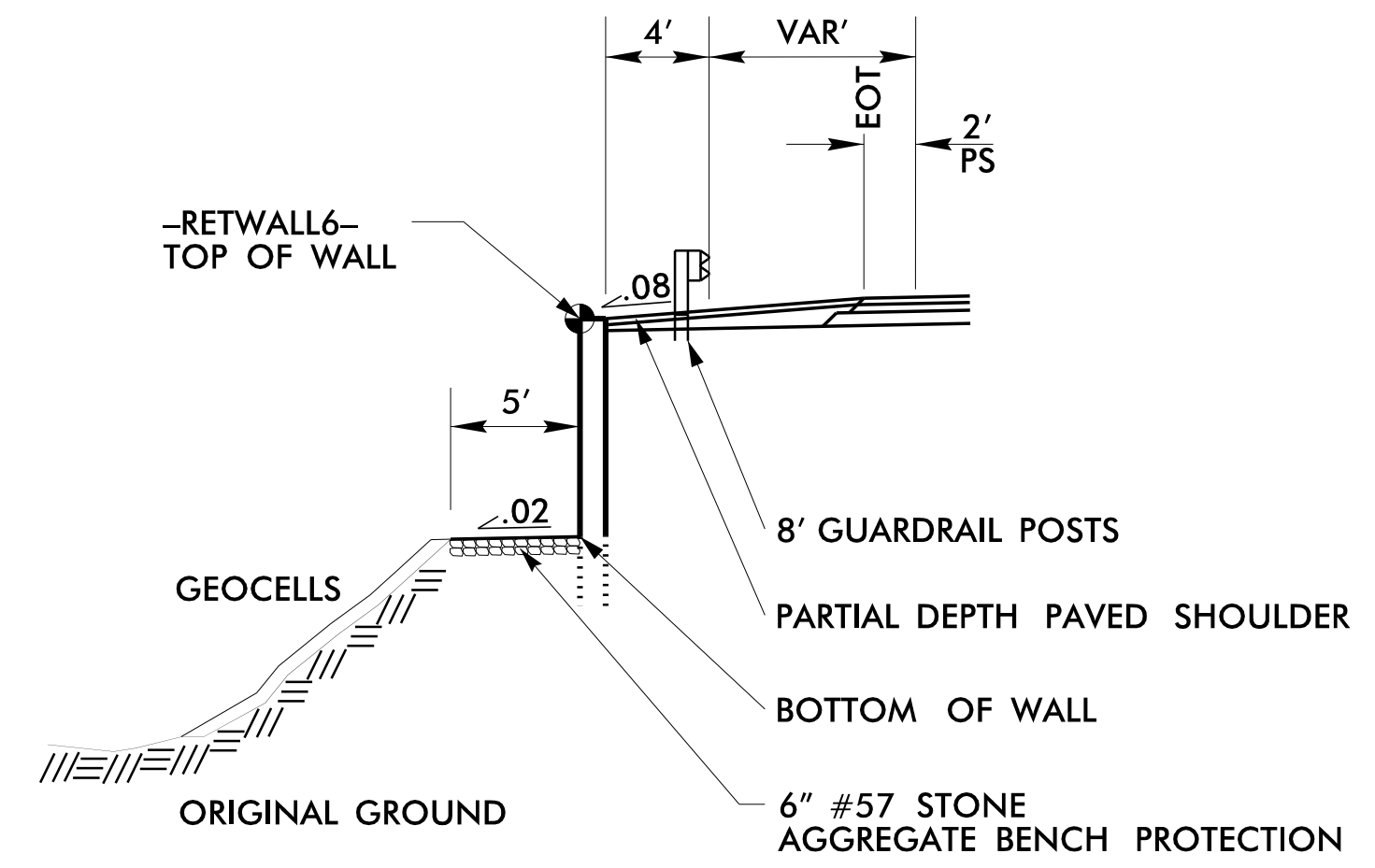
GEOTECHNICAL ENGINEER



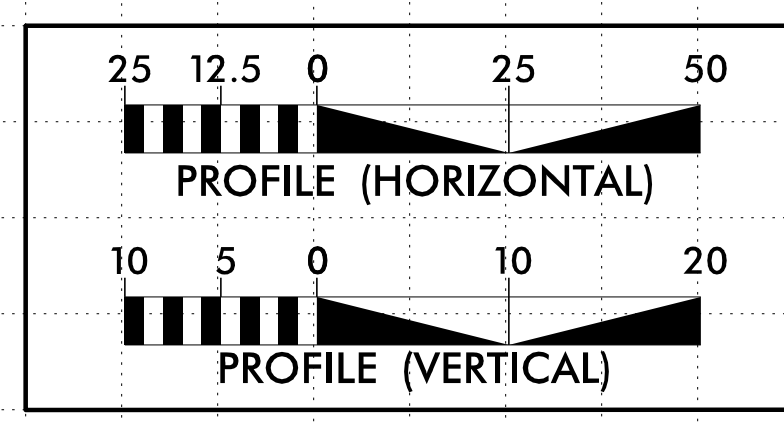
7/27/2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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PLANS

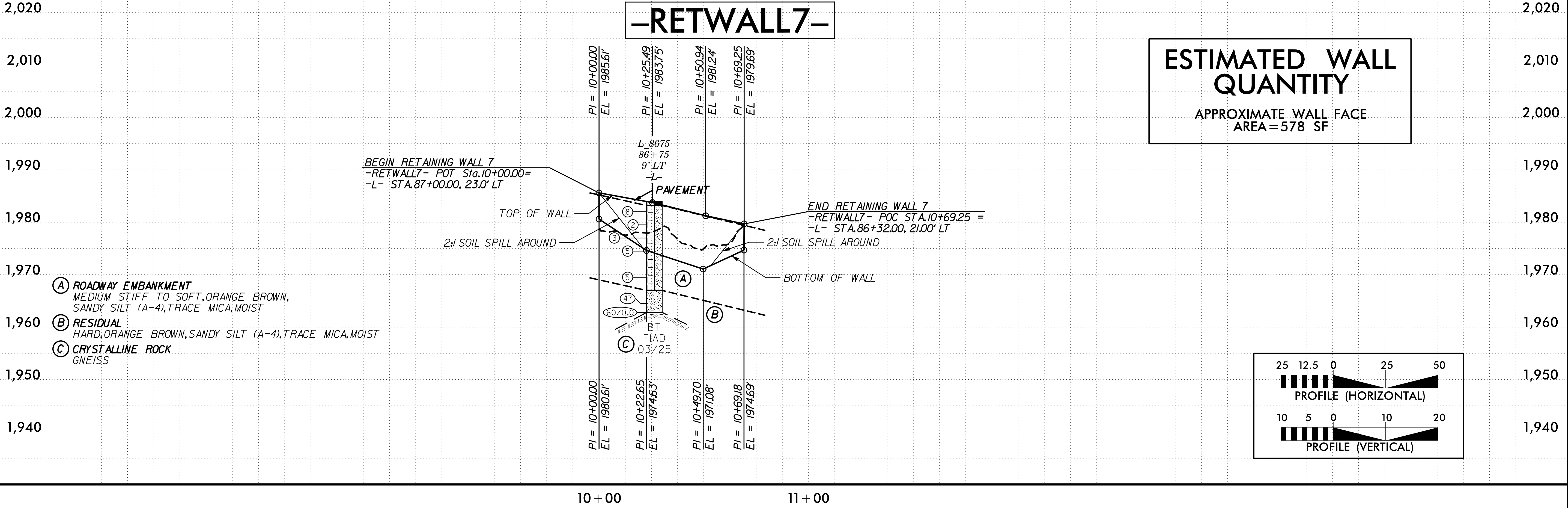
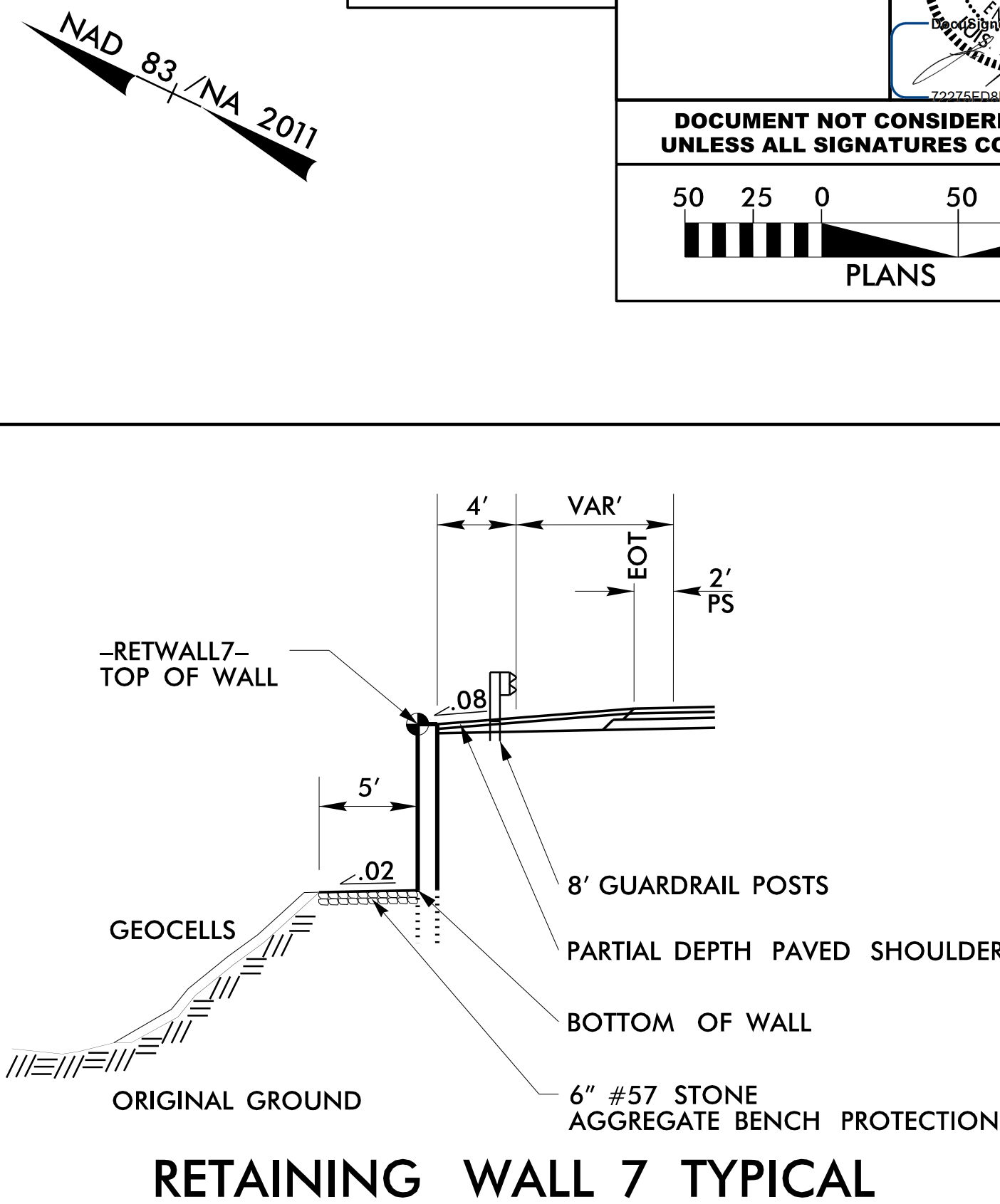
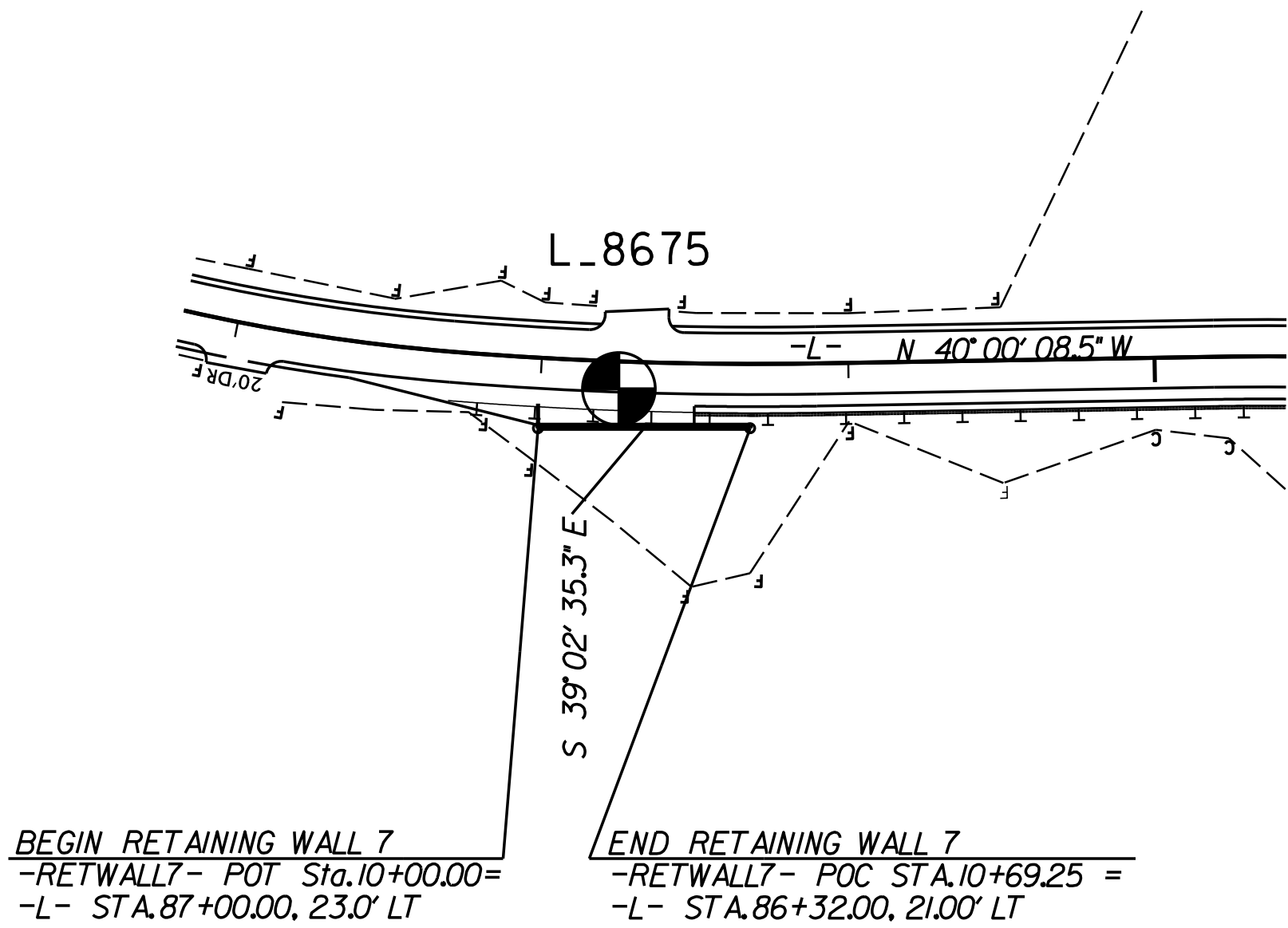


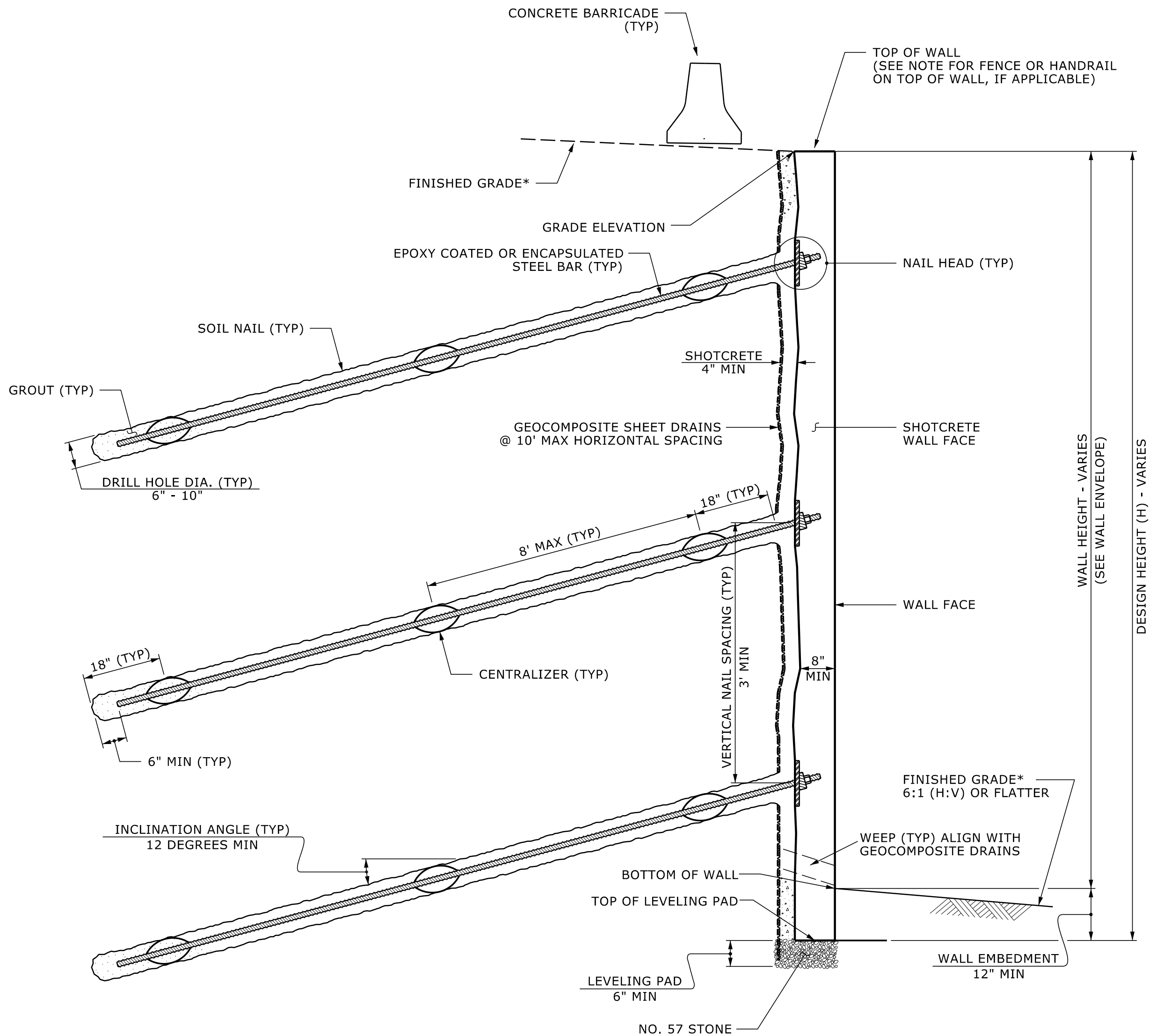
ESTIMATED WALL QUANTITY
APPROXIMATE WALL FACE AREA=1872 SF



RETAINING WALL 7 ENVELOPE

 8848 RED OAK BLVD SUITE A CHARLOTTE, NC 28217 (704) 523-4726	PROJECT REFERENCE NO.		SHEET NO.	
	NC-9		W-6	
			GEOTECHNICAL ENGINEER	
				
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED				
50 25 0 50 100  PLANS				





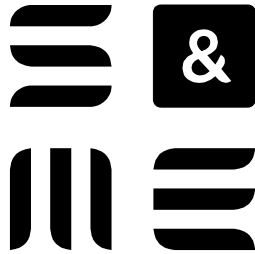
SOIL NAIL WALL - TYPICAL SECTION

*SEE PLANS FOR FINISHED GRADE DETAILS.

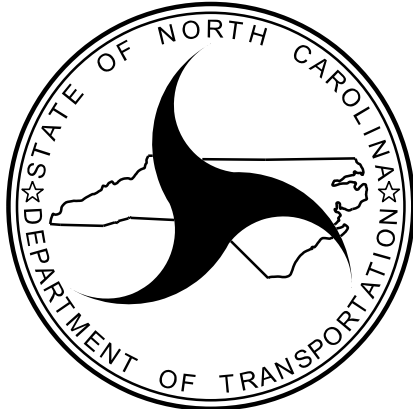
NOTES:

- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 2. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 2. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 2, 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. 2 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 1,692 FT
 - 4) ASSUMED MATERIAL PARAMETERS:
 - UNIT WEIGHT, γ = 120 PCF
 - FRICTION ANGLE, ϕ = 30 DEGREES
 - COHESION, c = 30 PSF
- DESIGN RETAINING WALL NO. 2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 2 FOR THE STRIP SURCHARGE LOAD FROM BARRICADE SHOWN.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 2.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 2 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

WBS NO.: 18314.1045063
COUNTY: HENDERSON



8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
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GEOTECHNICAL
ENGINEERING UNIT

SOIL NAIL WALL
WITHOUT BACKSLOPE -
TYPICAL & NOTES

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

PROJECT REFERENCE NO.
NC-9

SHEET NO.
W-9

GEOTECHNICAL
ENGINEER

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03/27/2025

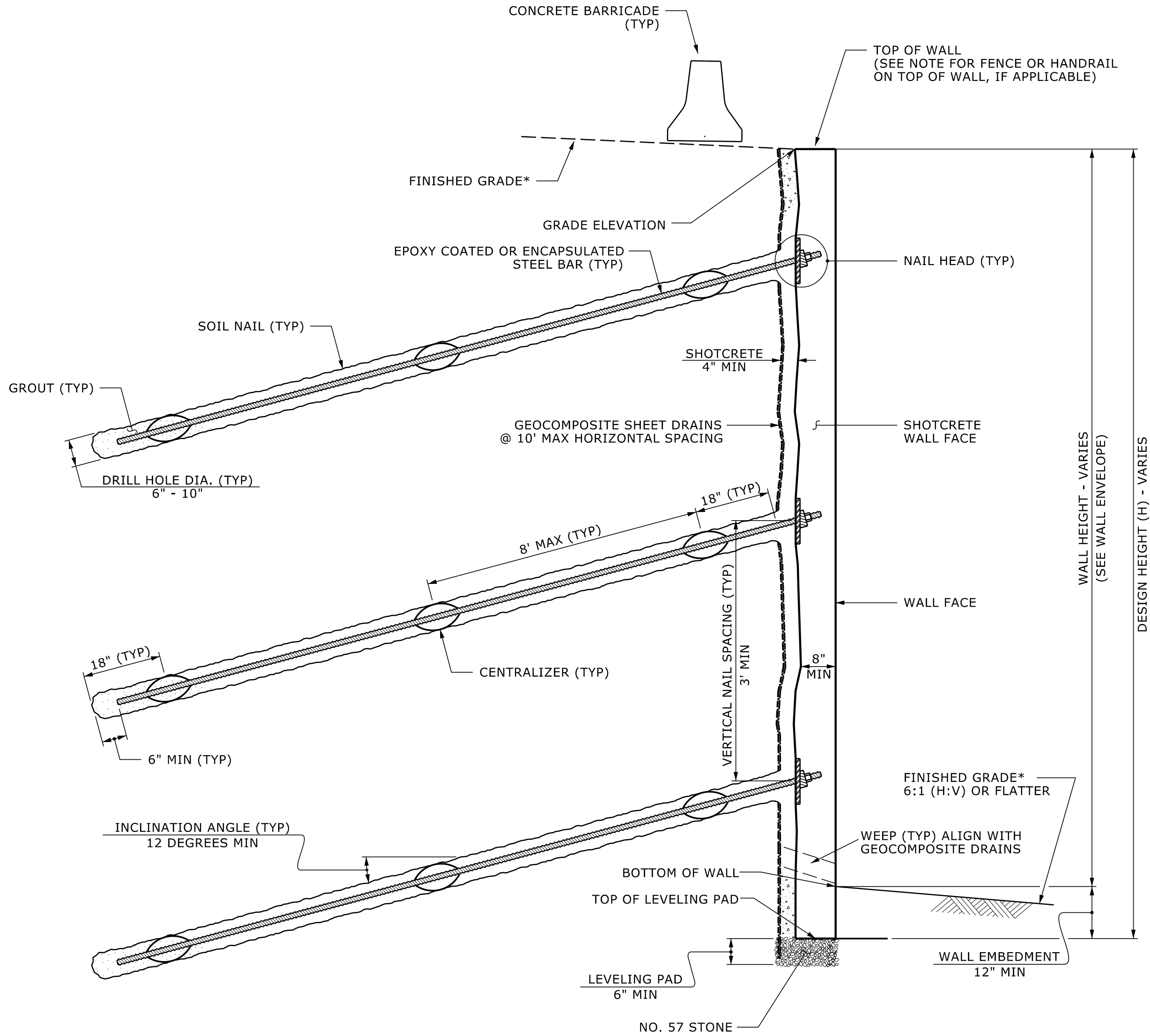
SEAL

037845

ENGINEER

JOSE A. CAMPOS

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SOIL NAIL WALL - TYPICAL SECTION

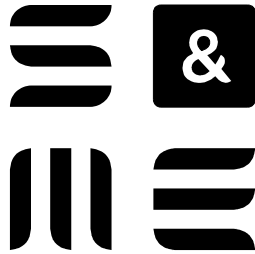
*SEE PLANS FOR FINISHED GRADE DETAILS.

NOTES:

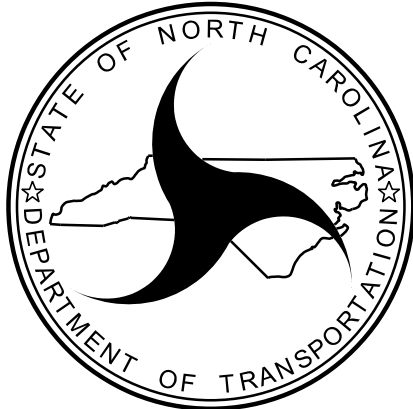
- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 3. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 3. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 3, 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. 3 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 1,893.4 FT
 - 4) ASSUMED MATERIAL PARAMETERS:
 - UNIT WEIGHT, γ = 120 PCF
 - FRICTION ANGLE, ϕ = 30 DEGREES
 - COHESION, c = 30 PSF
- DESIGN RETAINING WALL NO. 3 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 3 FOR THE STRIP SURCHARGE LOAD FROM BARRICADE SHOWN.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 3.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 3 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

WBS NO.: 18314.1045073
COUNTY: HENDERSON

PREPARED BY: LAC	DATE: 04/25
REVIEWED BY: SEM	DATE: 05/25



8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

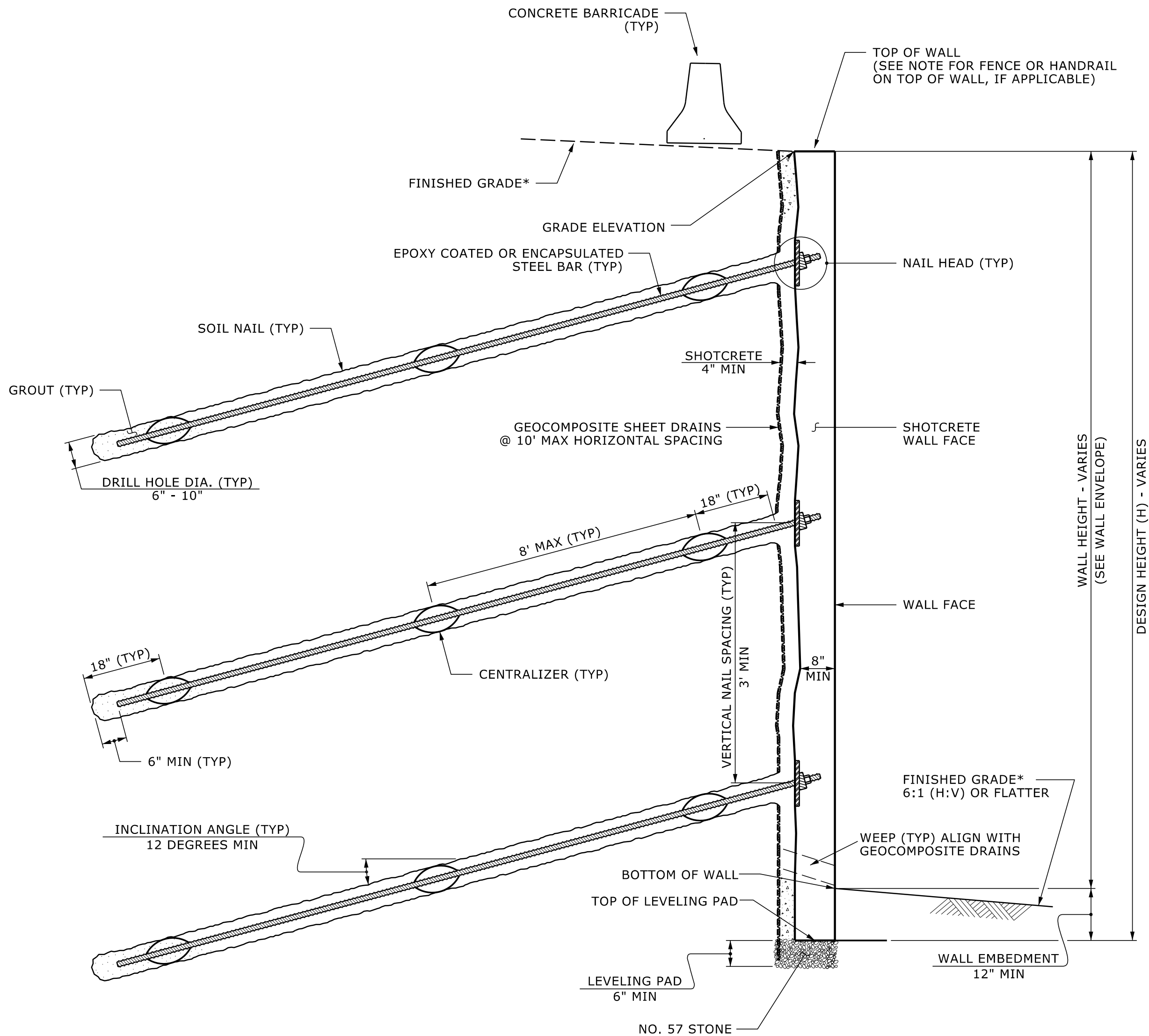


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

SOIL NAIL WALL
WITHOUT BACKSLOPE -
TYPICAL & NOTES

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



SOIL NAIL WALL - TYPICAL SECTION

*SEE PLANS FOR FINISHED GRADE DETAILS.

NOTES:

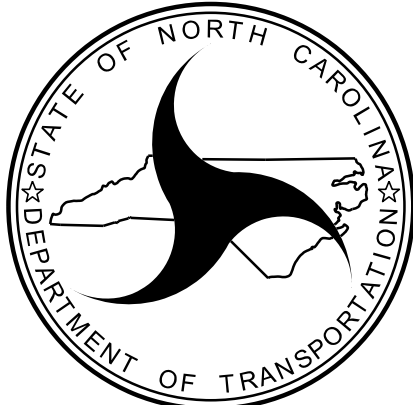
- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 4. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 4. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 4, 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. 4 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 2,034.3 FT
 - 4) ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 2,035 FT:
UNIT WEIGHT, γ = 120 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 30 PSF
 - 5) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 2,035 FT:
UNIT WEIGHT, γ = 135 PCF
FRICTION ANGLE, ϕ = 34 DEGREES
COHESION, c = 300 PSF
- DESIGN RETAINING WALL NO. 4 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 4 FOR THE STRIP SURCHARGE LOAD FROM BARRICADE SHOWN.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 4.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 4 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

WBS NO.: 18314.1045135
COUNTY: HENDERSON

PREPARED BY: LAC	DATE: 04/25
REVIEWED BY: SEM	DATE: 05/25



8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
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SOIL NAIL WALL
WITHOUT BACKSLOPE -
TYPICAL & NOTES

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

PROJECT REFERENCE NO.
NC-9

SHEET NO.
W-11

GEOTECHNICAL ENGINEER

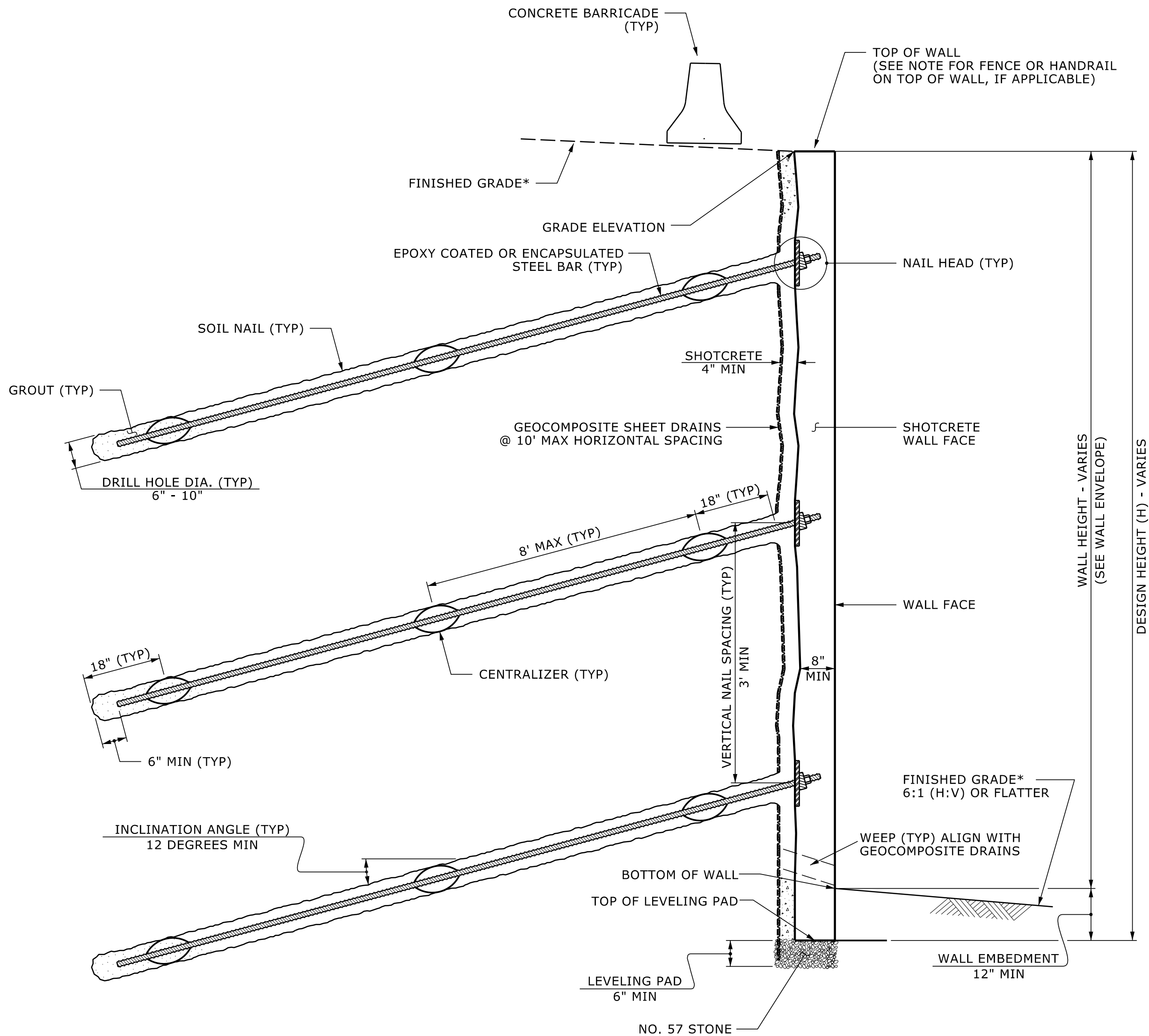
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03/27/2025

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03/27/2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SOIL NAIL WALL - TYPICAL SECTION

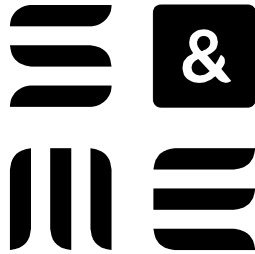
*SEE PLANS FOR FINISHED GRADE DETAILS.

NOTES:

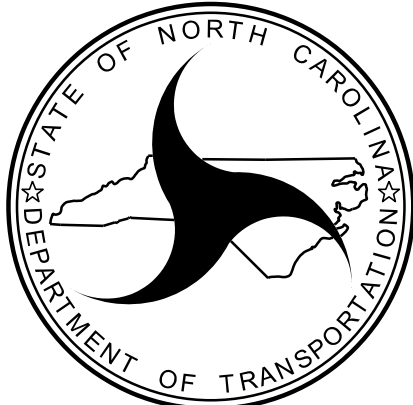
- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 5. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 5. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 5, 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. 5 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 1,622.7 FT
 - 4) ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 1,615 FT:
 - UNIT WEIGHT, γ = 120 PCF
 - FRICTION ANGLE, ϕ = 30 DEGREES
 - COHESION, c = 30 PSF
 - 5) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 1,615 FT:
 - UNIT WEIGHT, γ = 130 PCF
 - FRICTION ANGLE, ϕ = 34 DEGREES
 - COHESION, c = 100 PSF
- DESIGN RETAINING WALL NO. 5 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 5 FOR THE STRIP SURCHARGE LOAD FROM BARRICADE SHOWN.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 5.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 5 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

WBS NO.: 18314.1045035
COUNTY: HENDERSON

PREPARED BY: LAC	DATE: 04/25
REVIEWED BY: SEM	DATE: 05/25



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SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

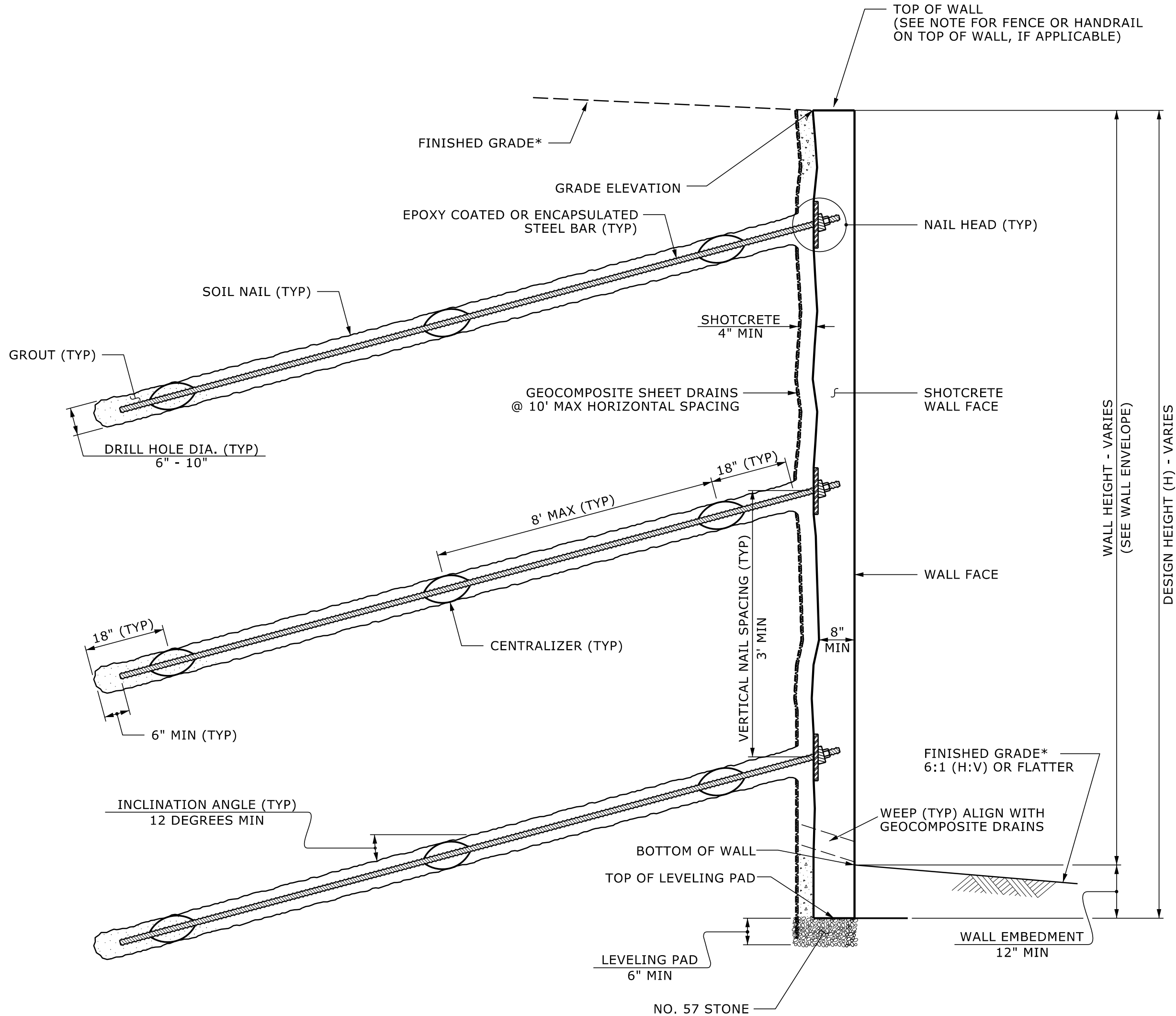


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
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GEOTECHNICAL
ENGINEERING UNIT

SOIL NAIL WALL
WITHOUT BACKSLOPE -
TYPICAL & NOTES

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



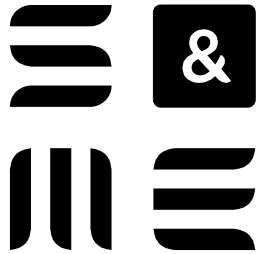
SOIL NAIL WALL - TYPICAL SECTION

*SEE PLANS FOR FINISHED GRADE DETAILS.

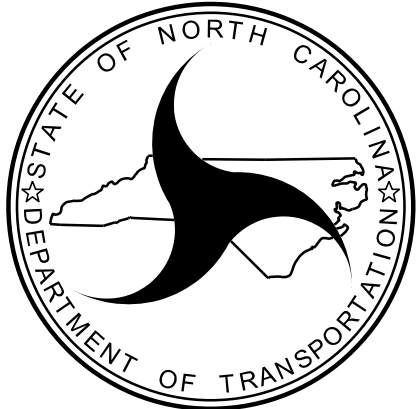
NOTES:

- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 6. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 6. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 6, 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. 6 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 1,934 FT
 - 4) ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 1,920 FT:
UNIT WEIGHT, γ = 120 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 30 PSF
 - 5) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 1,920 FT:
UNIT WEIGHT, γ = 135 PCF
FRICTION ANGLE, ϕ = 34 DEGREES
COHESION, c = 300 PSF
- DESIGN RETAINING WALL NO. 6 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 6.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 6 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

WBS NO.: 18314.1045073
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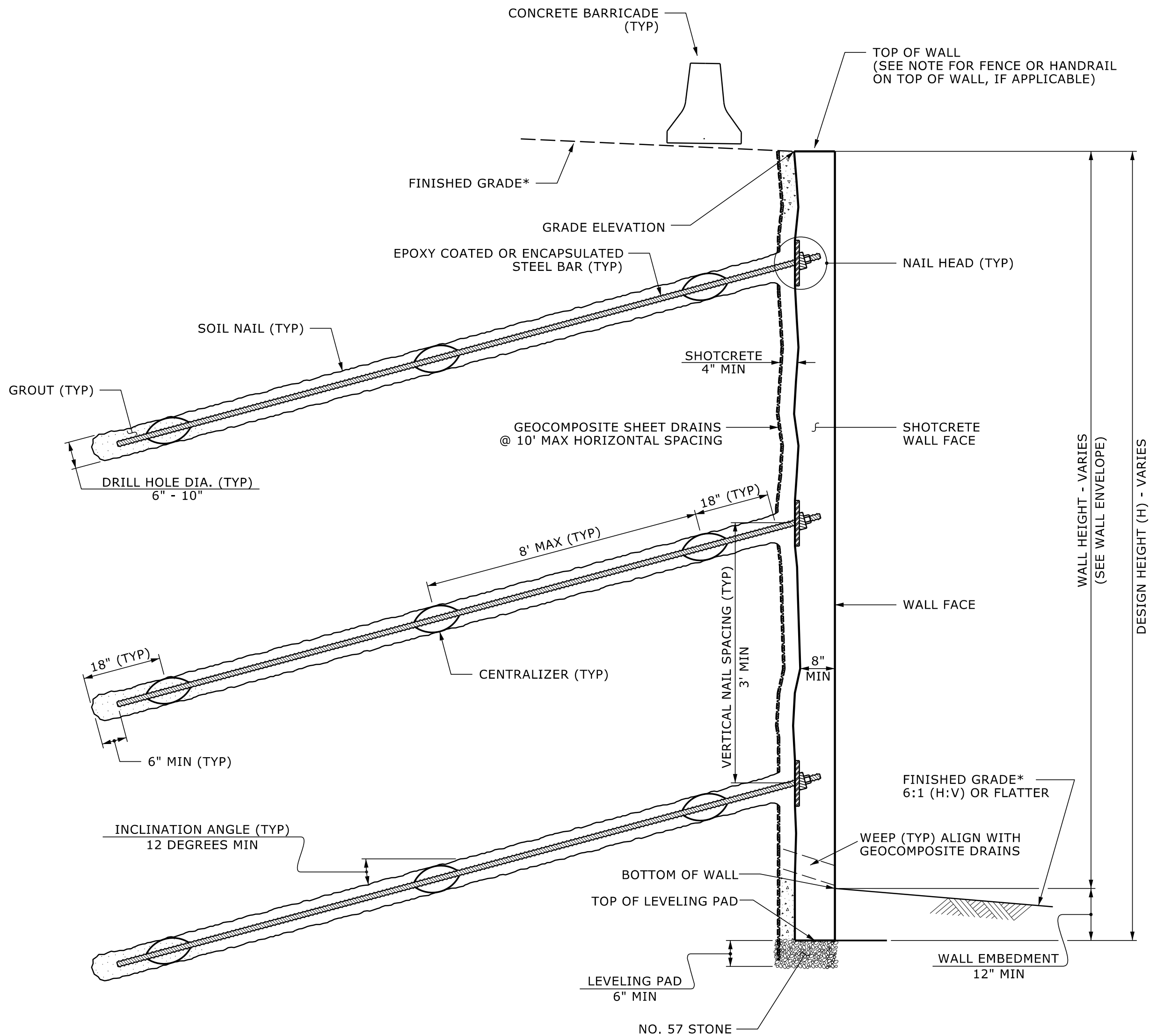


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

SOIL NAIL WALL
WITHOUT BACKSLOPE -
TYPICAL & NOTES

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
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2			4		



SOIL NAIL WALL - TYPICAL SECTION

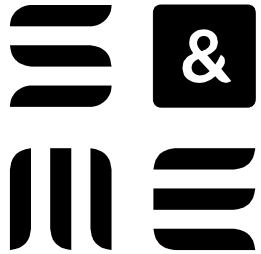
*SEE PLANS FOR FINISHED GRADE DETAILS.

NOTES:

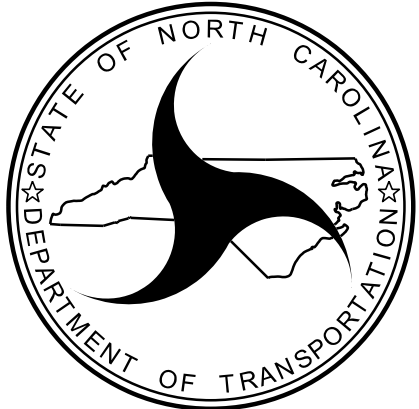
- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 7. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 7. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 7, 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. 7 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 1,970.1 FT
 - 4) ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 1,962 FT:
UNIT WEIGHT, γ = 120 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 30 PSF
 - 5) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 1,962 FT:
UNIT WEIGHT, γ = 135 PCF
FRICTION ANGLE, ϕ = 34 DEGREES
COHESION, c = 300 PSF
- DESIGN RETAINING WALL NO. 7 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 7 FOR THE STRIP SURCHARGE LOAD FROM BARRICADE SHOWN.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 7.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 7 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

WBS NO.: 18314.1045073
COUNTY: HENDERSON

PREPARED BY: LAC	DATE: 04/25
REVIEWED BY: SEM	DATE: 05/25



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PROJECT REFERENCE NO.
NC-9

SHEET NO.
W-14

GEOTECHNICAL ENGINEER

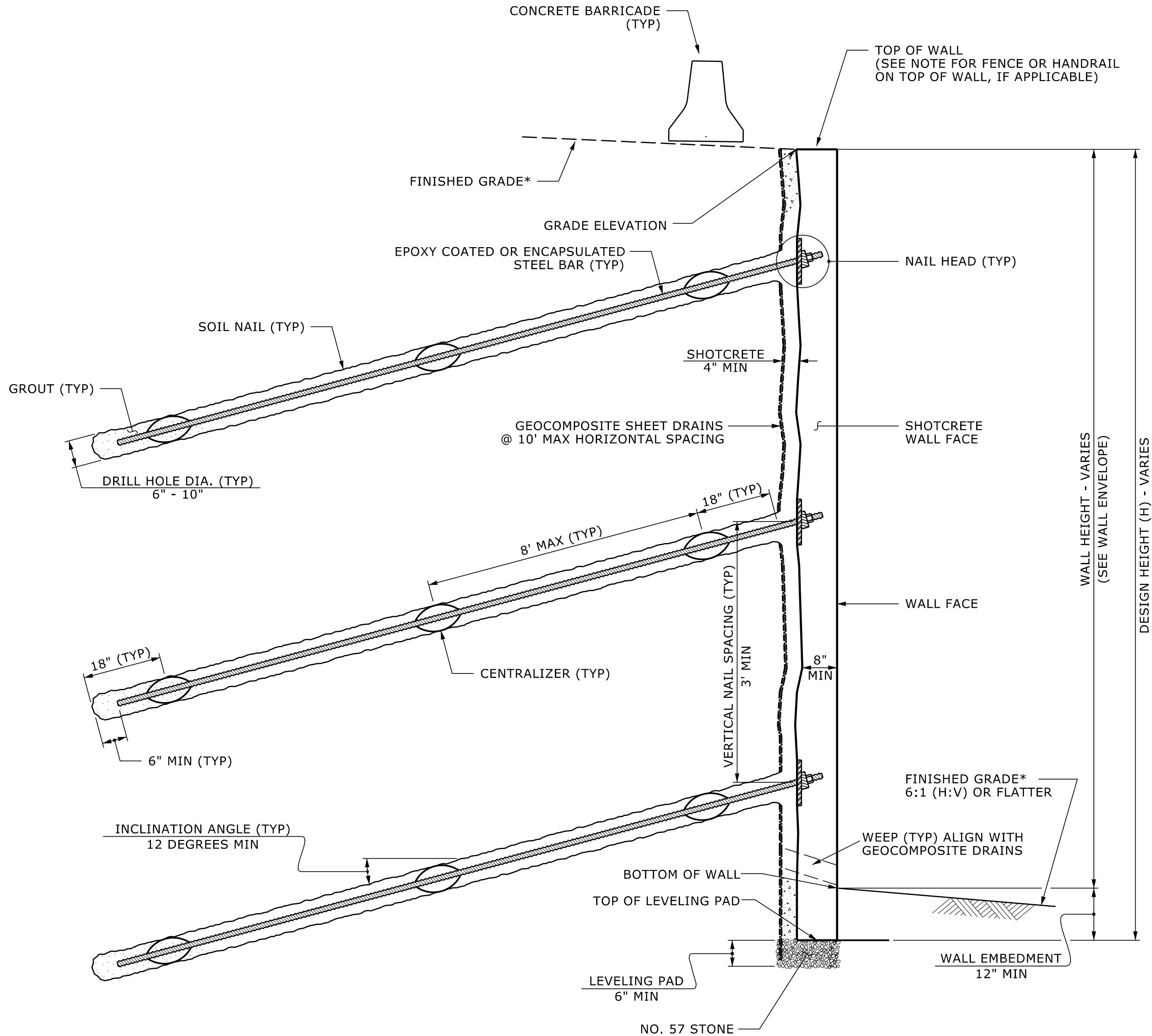
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DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SOIL NAIL WALL - TYPICAL SECTION

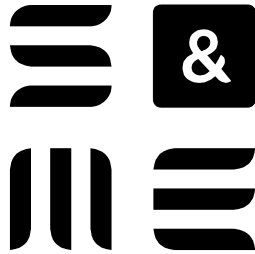
*SEE PLANS FOR FINISHED GRADE DETAILS.

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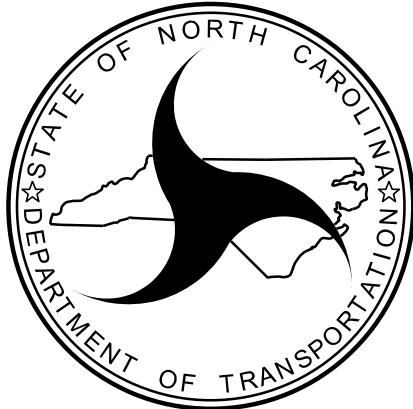
- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 8. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- A SCULPTED SHOTCRETE SURFACE TREATMENT MAY BE REQUIRED FOR THE CONCRETE FACE FOR RETAINING WALL NO. 8. FOR SCULPTED SHOTCRETE SURFACE TREATMENT, SEE SCULPTED SHOTCRETE SURFACE TREATMENT PROVISION.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 8, 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. 8 FOR THE FOLLOWING:
- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 1,993.7 FT
 - 4) ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 1,990 FT:
UNIT WEIGHT, γ = 120 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 30 PSF
 - 5) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 1,990 FT:
UNIT WEIGHT, γ = 135 PCF
FRICTION ANGLE, ϕ = 34 DEGREES
COHESION, c = 300 PSF
- DESIGN RETAINING WALL NO. 8 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 8 FOR THE STRIP SURCHARGE LOAD FROM BARRICADE SHOWN.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 8.
- "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 8 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

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