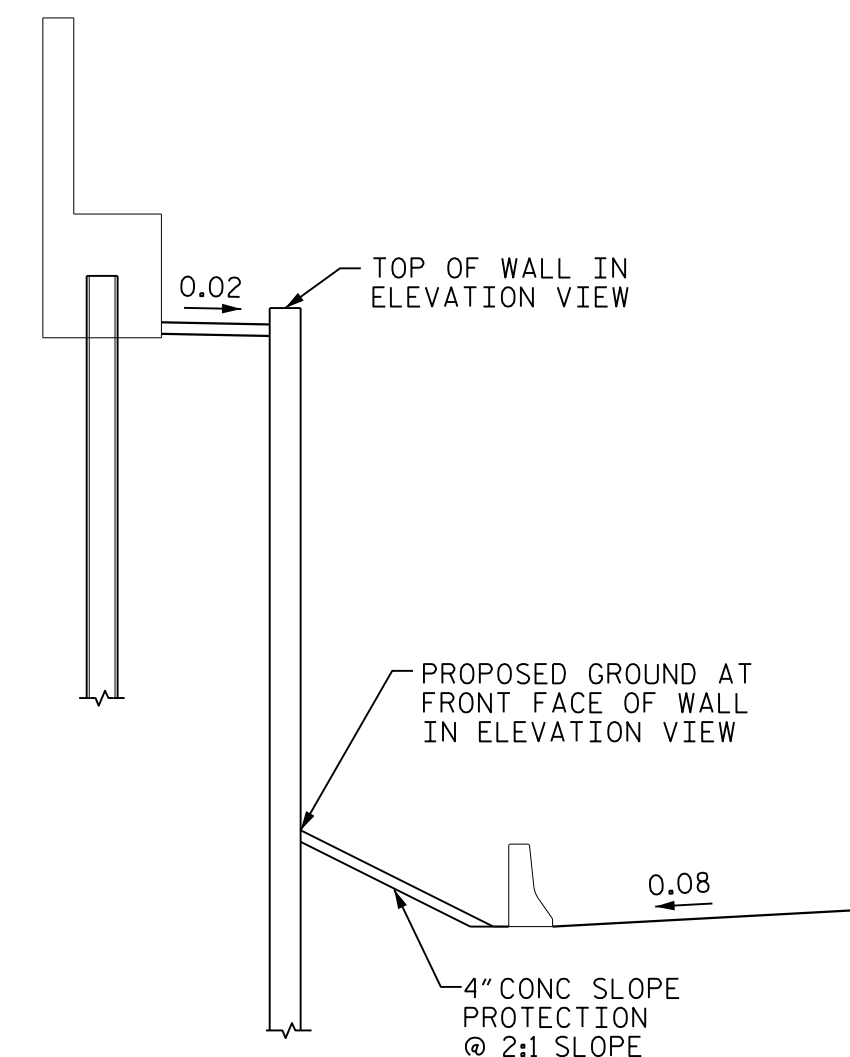


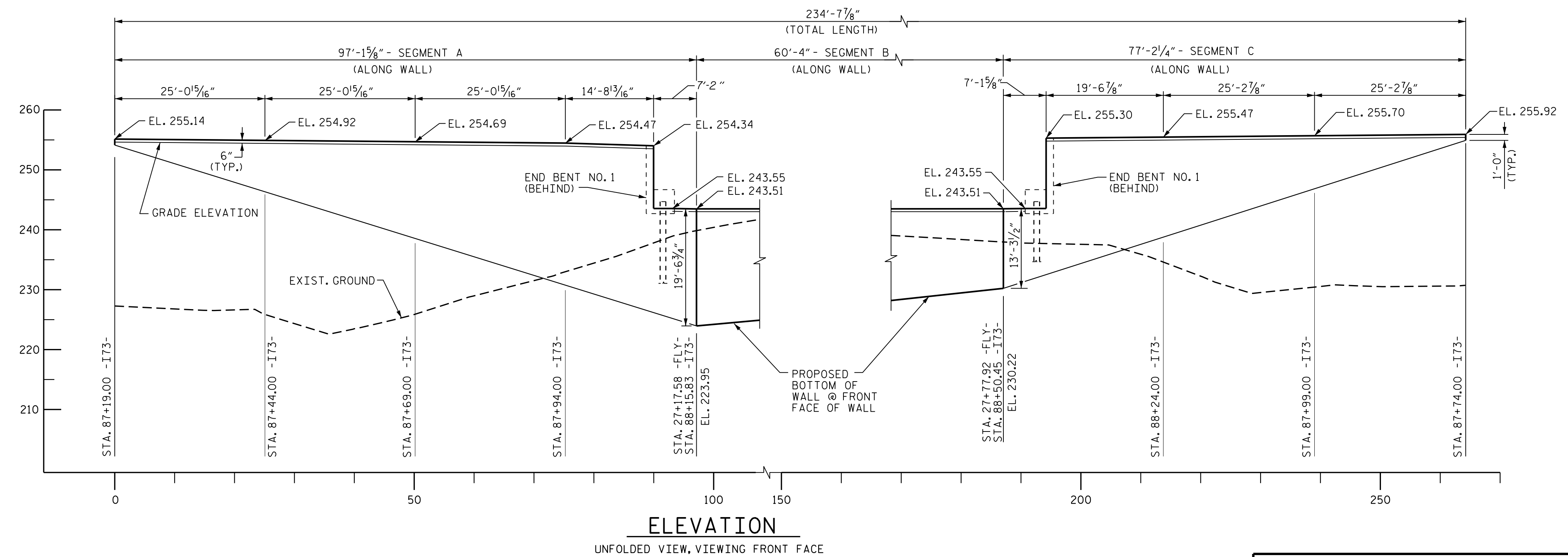
**NOTES:**

ELEVATIONS SHOWN AT TOP OF WALL ARE ACTUAL TOP OF WALL ELEVATIONS, AND SHALL BE 6" ABOVE GROUND LINES.  
 SEE SPECIAL PROVISIONS FOR MSE RETAINING WALLS.



**PLAN - RETAINING WALL #1**  
 WALL AT STRUCTURE #1, END BENT 1

**PARTIAL SECTION ALONG LEFT CONTROL LINE**



TOTAL STRUCTURE QUANTITIES	
MECHANICALLY STABILIZED EARTH WALL	*3815 SQ. FT.

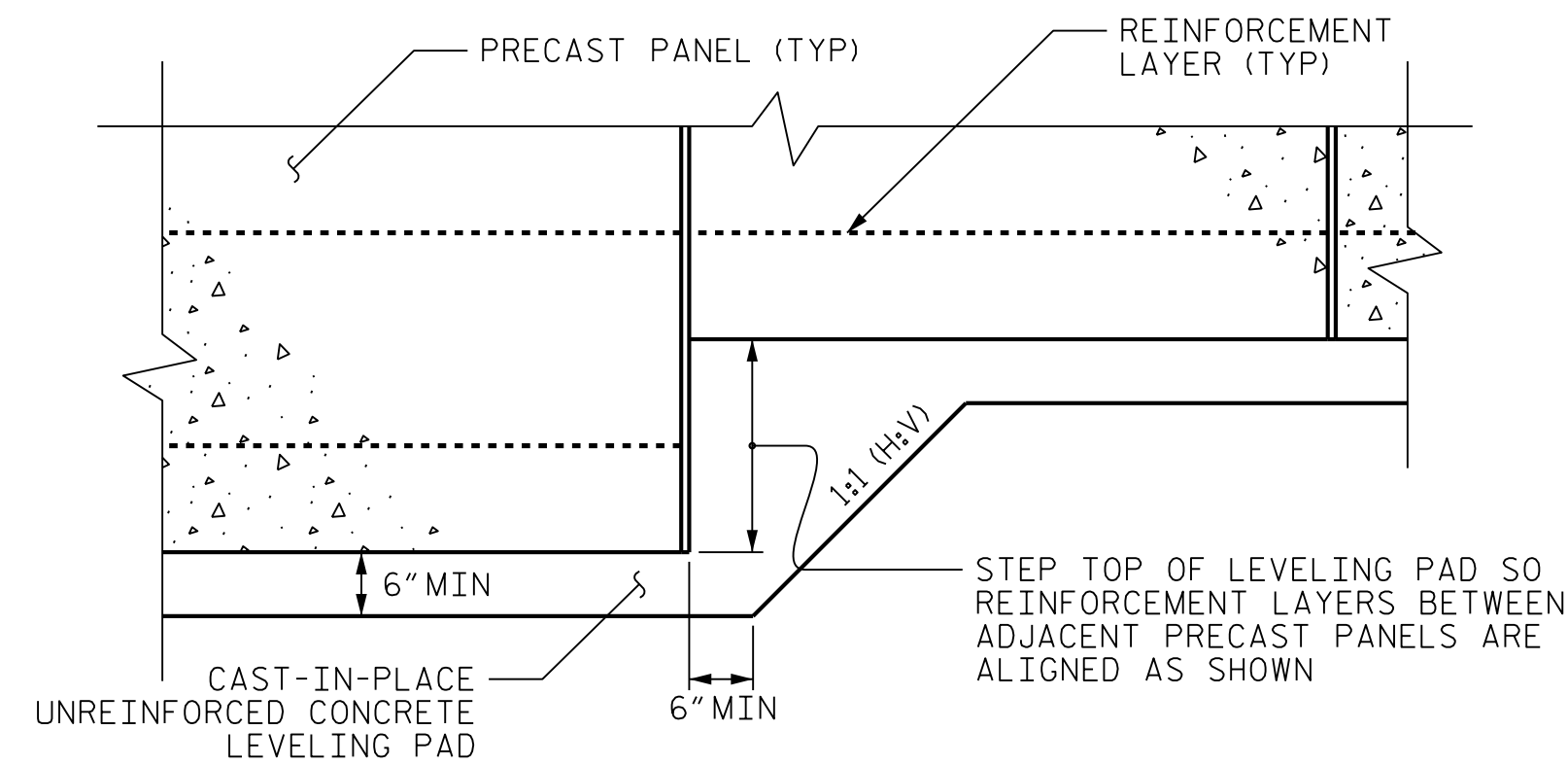
\*The MSE square foot quantity provided includes a two foot minimum embedment to the top of the leveling pad. See MECHANICALLY STABILIZED EARTH RETAINING WALLS Special Provision for embedment requirements.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 1 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

MECHANICALLY STABILIZED EARTH (MSE) Retaining Wall #1 Wall at Str #1, End Bent #1					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

NOTES:

- FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.
- A DRAIN IS REQUIRED ALONG THE FRONT FACE FOR RETAINING WALL NO. 1.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 1.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- BEFORE BEGINNING MSE 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 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 7,200 LB/SF

4) AGGREGATE PARAMETERS:

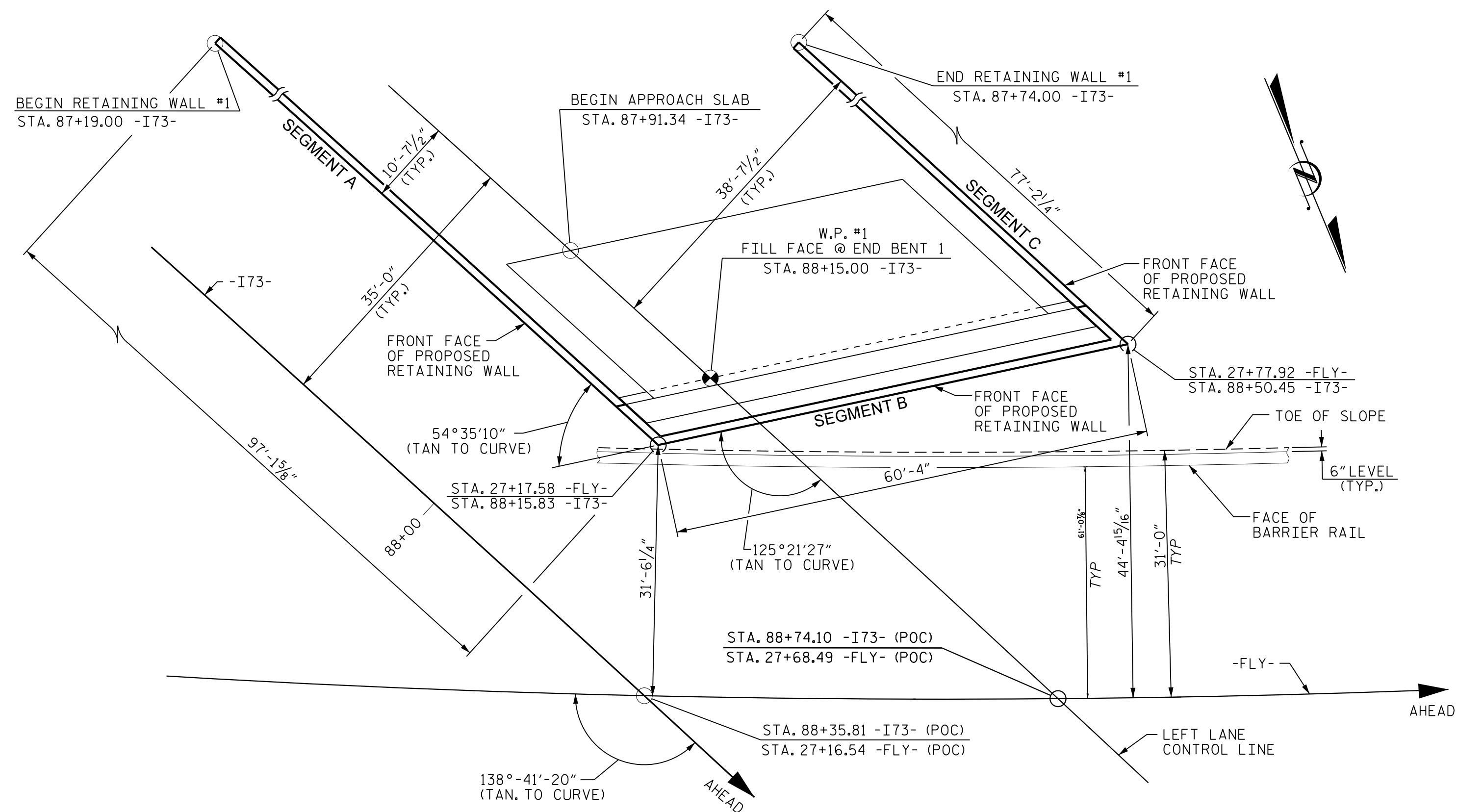
AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0

\*SEE MSE RETAINING WALLS PROVISION FOR COARSE AGGREGATE MATERIAL REQUIREMENTS.

5) IN-SITU ASSUMED MATERIAL PARAMETERS:

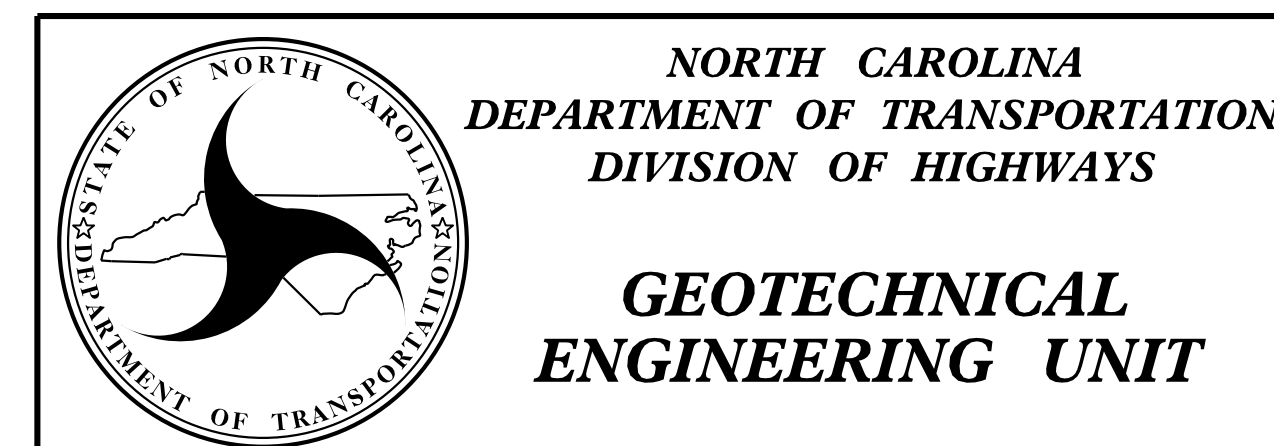
MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	29	0

- DESIGN RETAINING WALL 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 REINFORCEMENT FOR RETAINING WALL.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1. LOCATED IN STATION 88+15.00. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.
- FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 88+15.00 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.



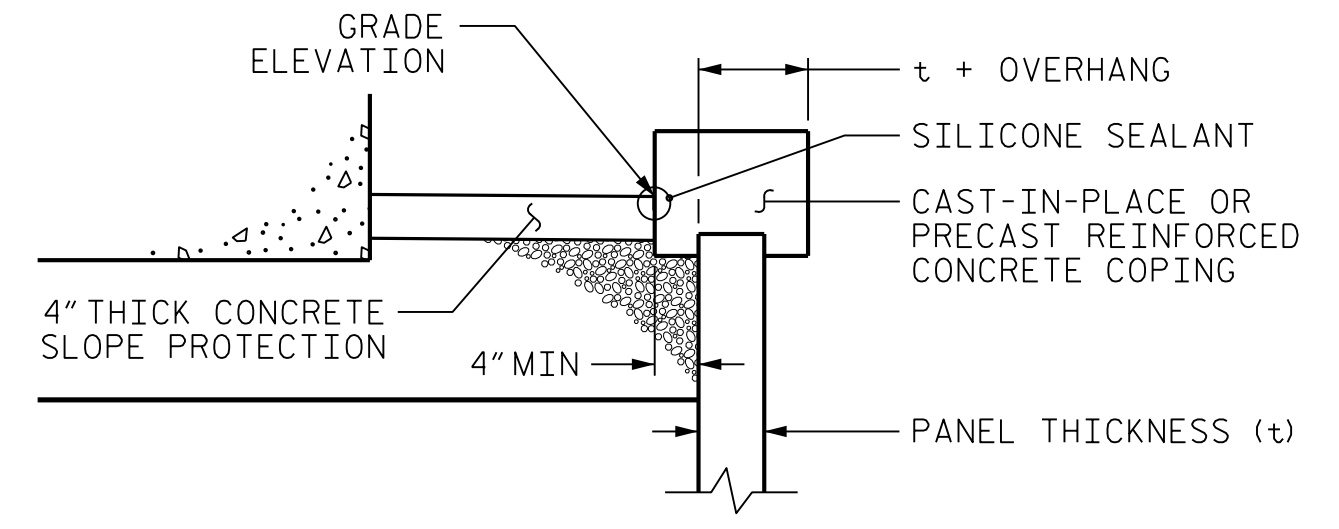
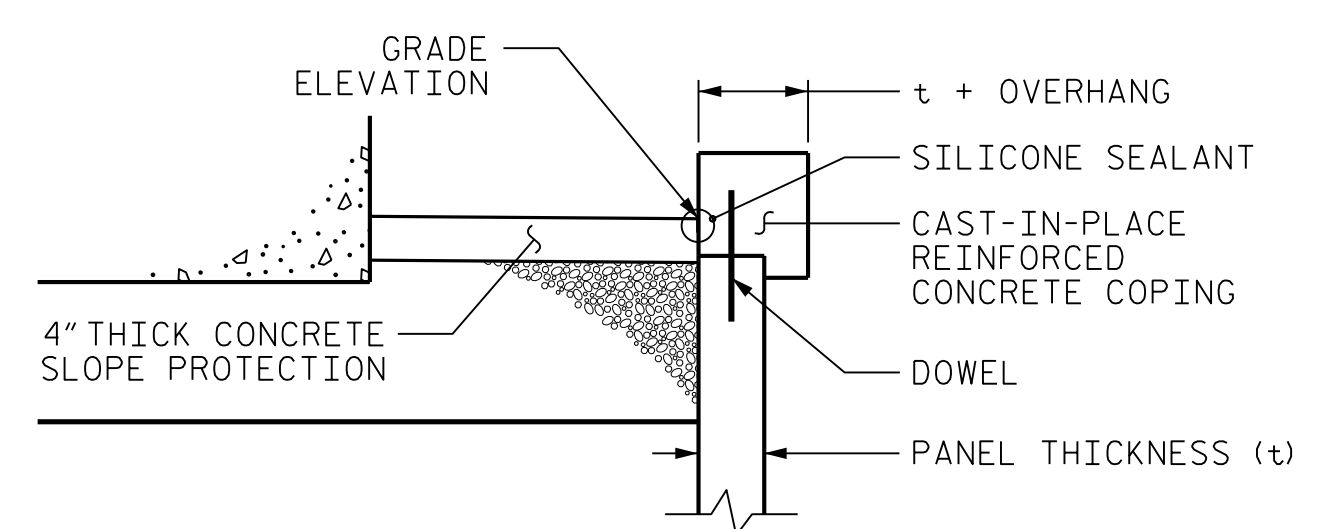
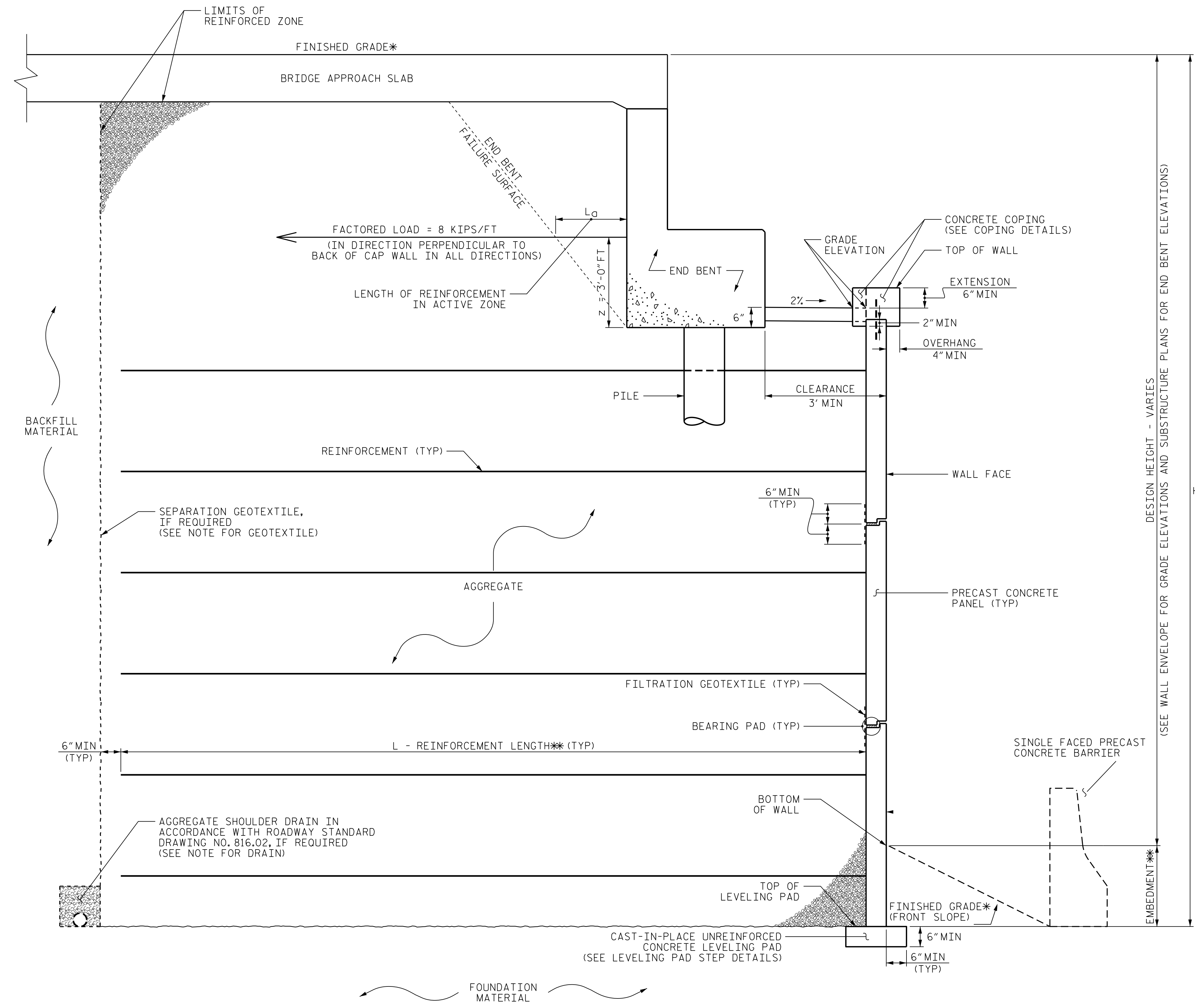
PLAN OF WALL

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 2 OF 4



Mechanically Stabilized Earth (MSE) Retaining Wall #1  
 Wall at Str #1, End Bent #1

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



**COPING DETAILS**  
AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

**MSE ABUTMENT WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
\*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
SHEET 3 OF 4

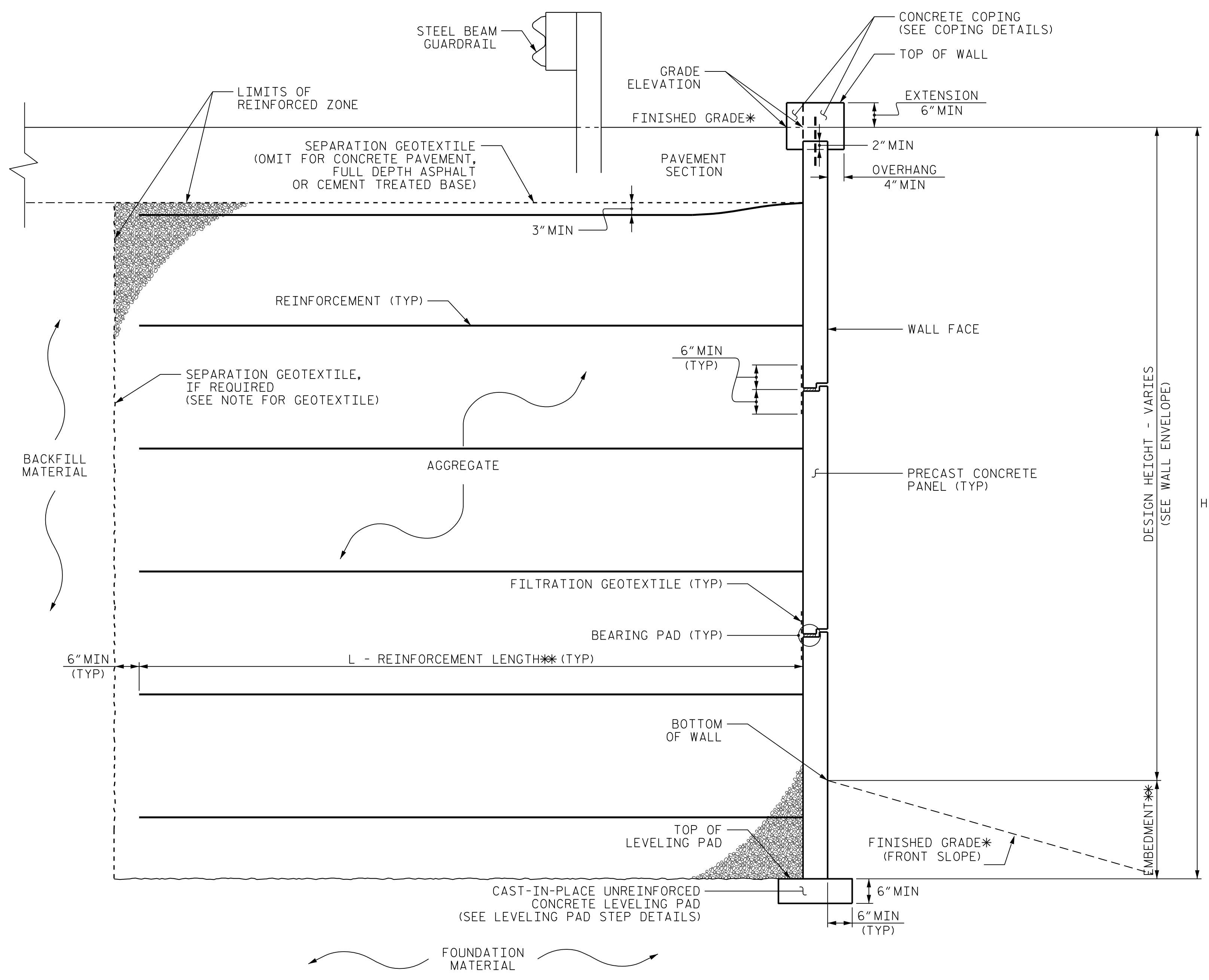
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE)  
Retaining Wall #1  
Wall at Str #1, End Bent #1

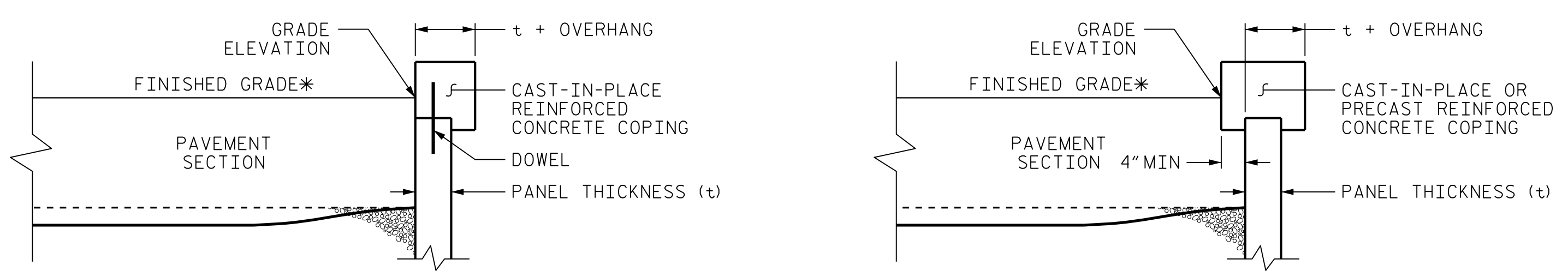
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-3
2			4			

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 4 OF 4

NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

GEOTECHNICAL  
 ENGINEERING UNIT

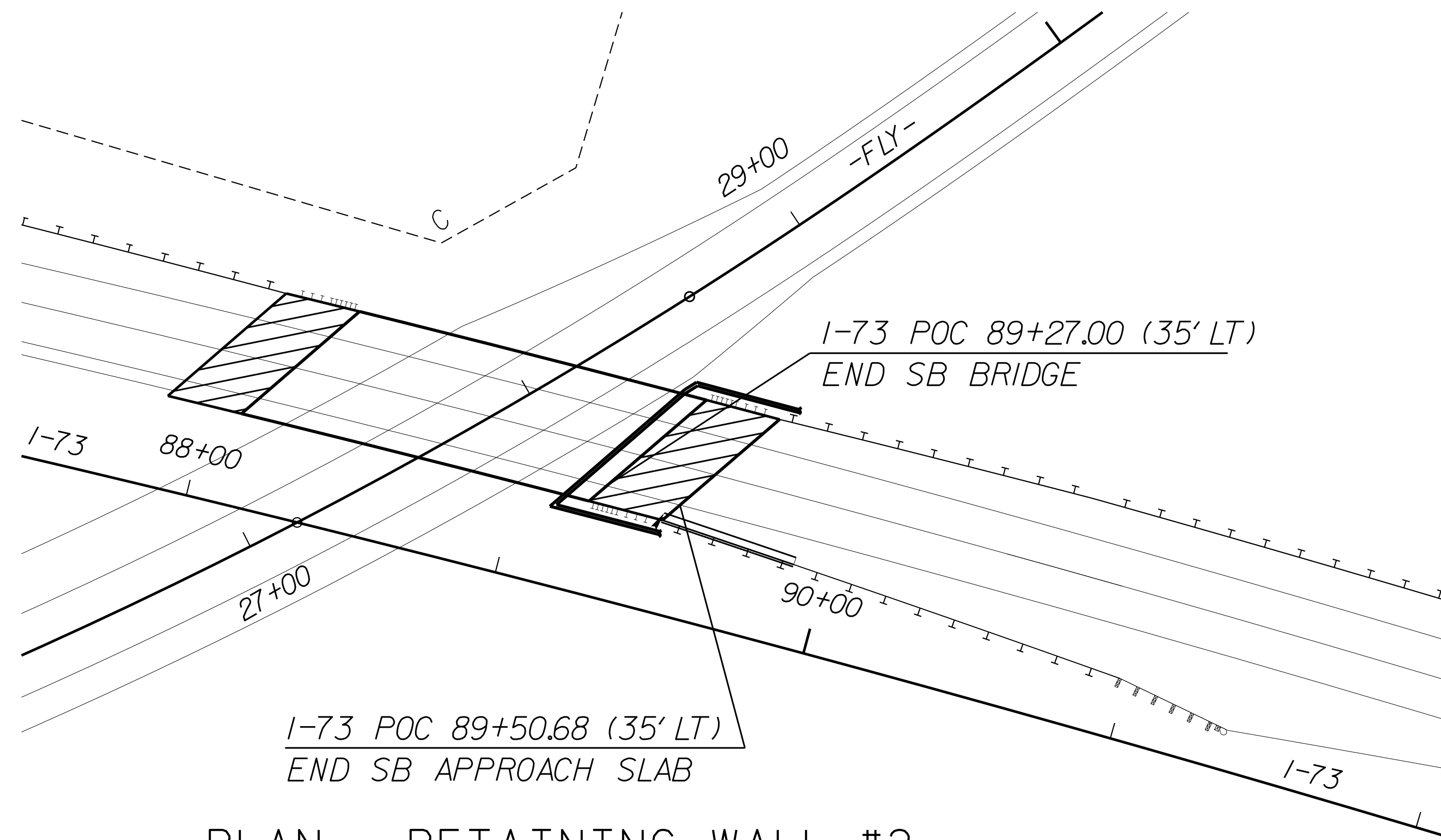
Mechanically Stabilized Earth (MSE)  
 Retaining Wall #1  
 Wall at Str #1, End Bent #1

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



DocuSigned by:  
*Brian D. Keaney* 8/19/2019  
 79CD97E468 SIGNATURE DATE

SIGNATURE DATE

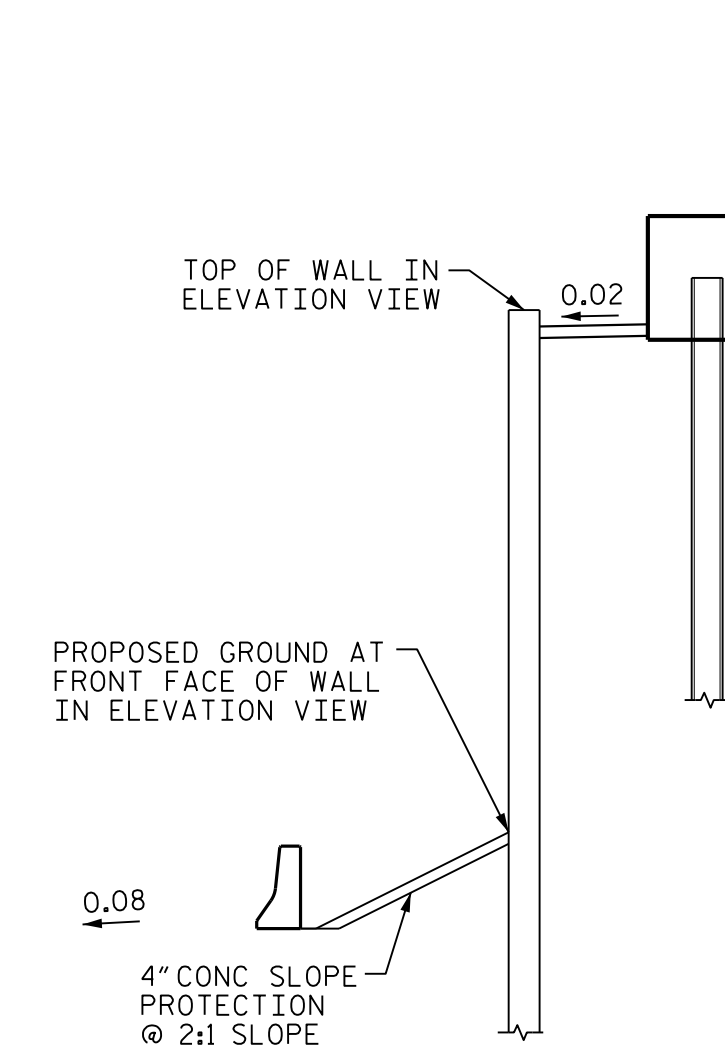


**PLAN - RETAINING WALL #2**

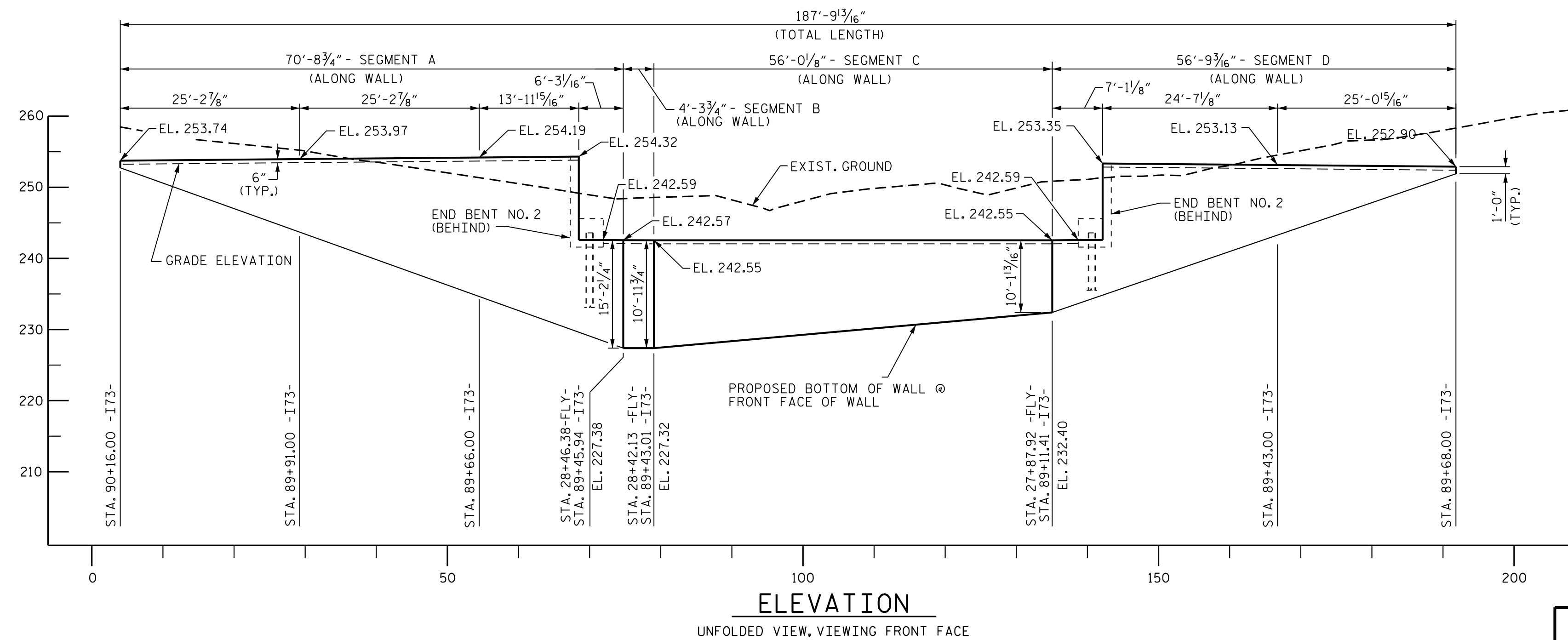
WALL AT STRUCTURE #1, END BENT 2

**NOTES:**

SEE SHEET RW-1 FOR NOTES.



**PARTIAL SECTION ALONG LEFT CONTROL LINE**



TOTAL STRUCTURE QUANTITIES	
MECHANICALLY STABILIZED EARTH WALL	*2620 SQ. FT.

\* The MSE square foot quantity provided includes a two foot minimum embedment to the top of the leveling pad. See MECHANICALLY STABILIZED EARTH RETAINING WALLS Special Provision for embedment requirements.

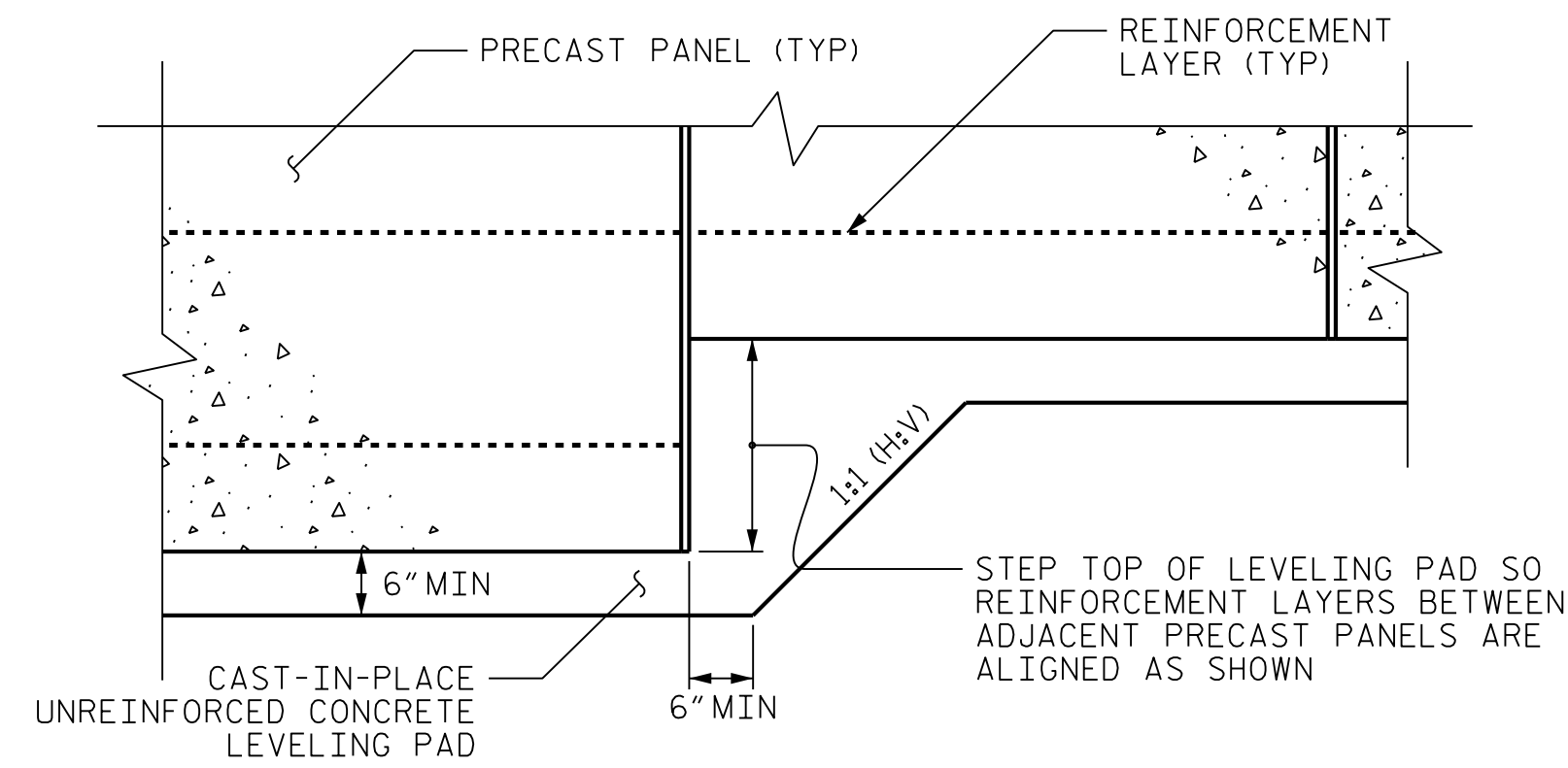
PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 1 OF 4

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

Mechanically Stabilized Earth (MSE) Retaining Wall #2  
 Wall at Str #1, End Bent #2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-5
2			4			

PREPARED BY: CGM DATE: 9/2015  
 REVIEWED BY: BDK DATE: 9/2015



PRECAST CONCRETE PANELS  
LEVELING PAD STEP DETAILS

**NOTES:**

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

A DRAIN IS REQUIRED ALONG THE FRONT FACE FOR RETAINING WALL NO. 2.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 2.

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

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

BEFORE BEGINNING MSE 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 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 7,200 LB/SF
- 4) AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0

\*SEE MSE RETAINING WALLS PROVISION FOR COARSE AGGREGATE MATERIAL REQUIREMENTS.

5) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

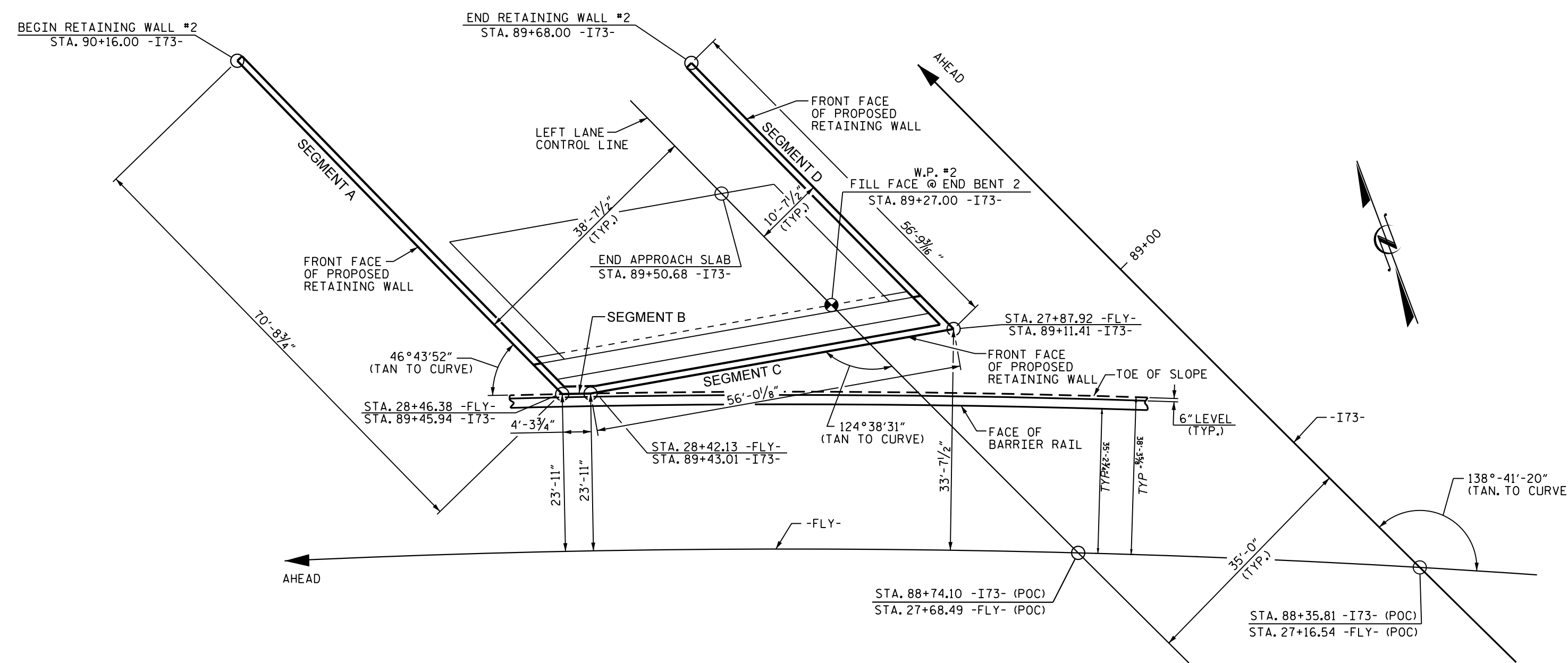
DESIGN RETAINING WALL FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 2. LOCATED IN STATION 89+27.00. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.

FOUNDATIONS FOR END BENT NO. 2 LOCATED AT STATION 89+27.00 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.



PLAN OF WALL

PROJECT NO.: R-3421A

RICHMOND COUNTY

STATION: 88+35.81 -I73-, 27+16.54 -FLY-

SHEET 2 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

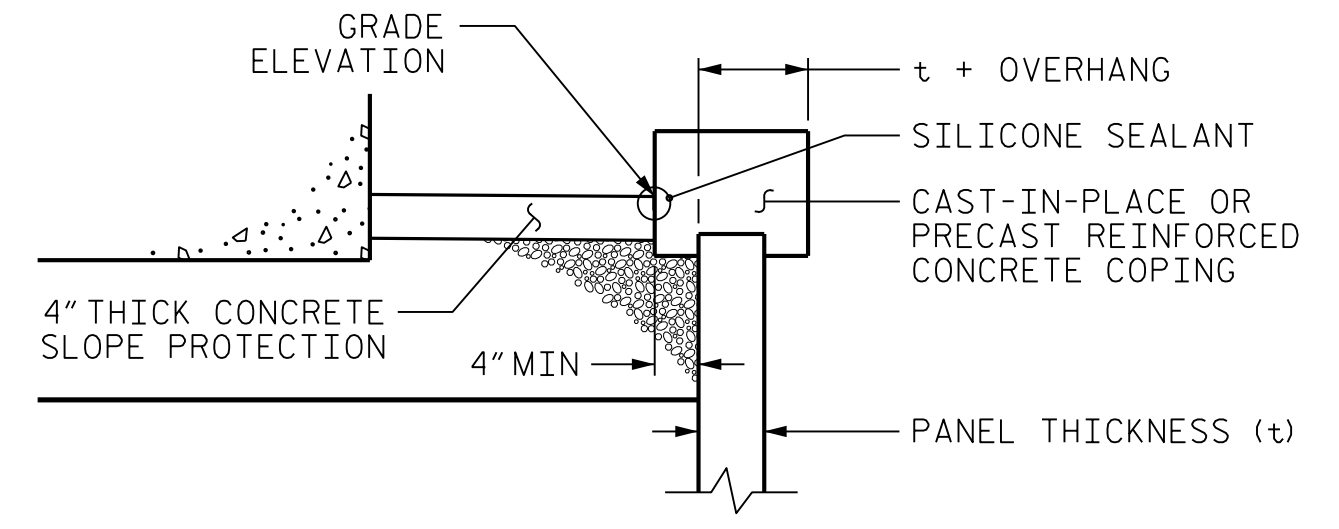
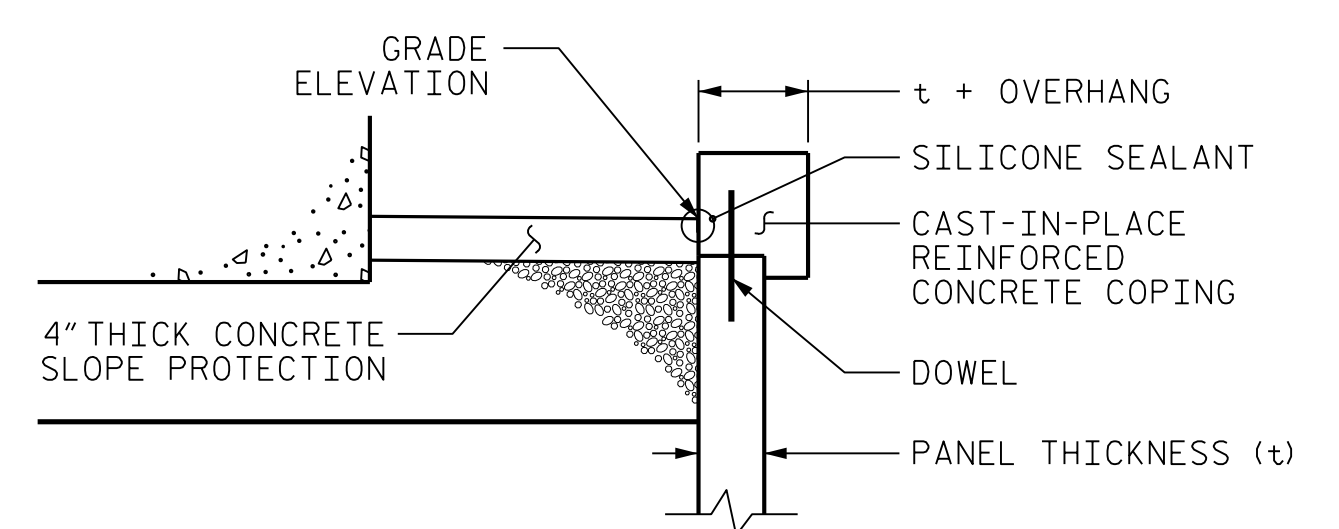
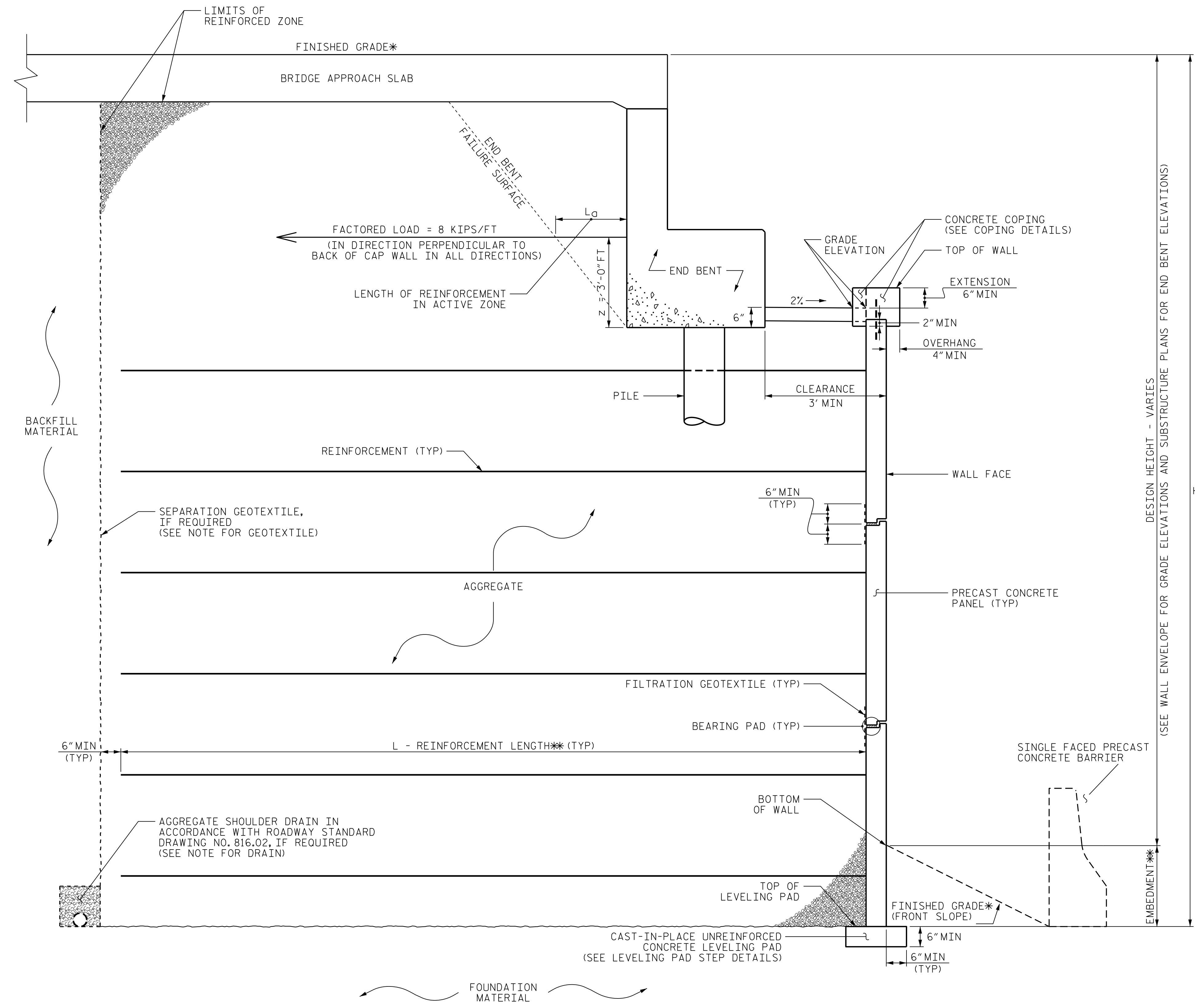
**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE)  
Retaining Wall #2  
Wall at Str #1, End Bent #2

**REVISIONS**

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

SHEET NO. W-6



**COPING DETAILS**  
AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

**MSE ABUTMENT WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
\*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
SHEET 3 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

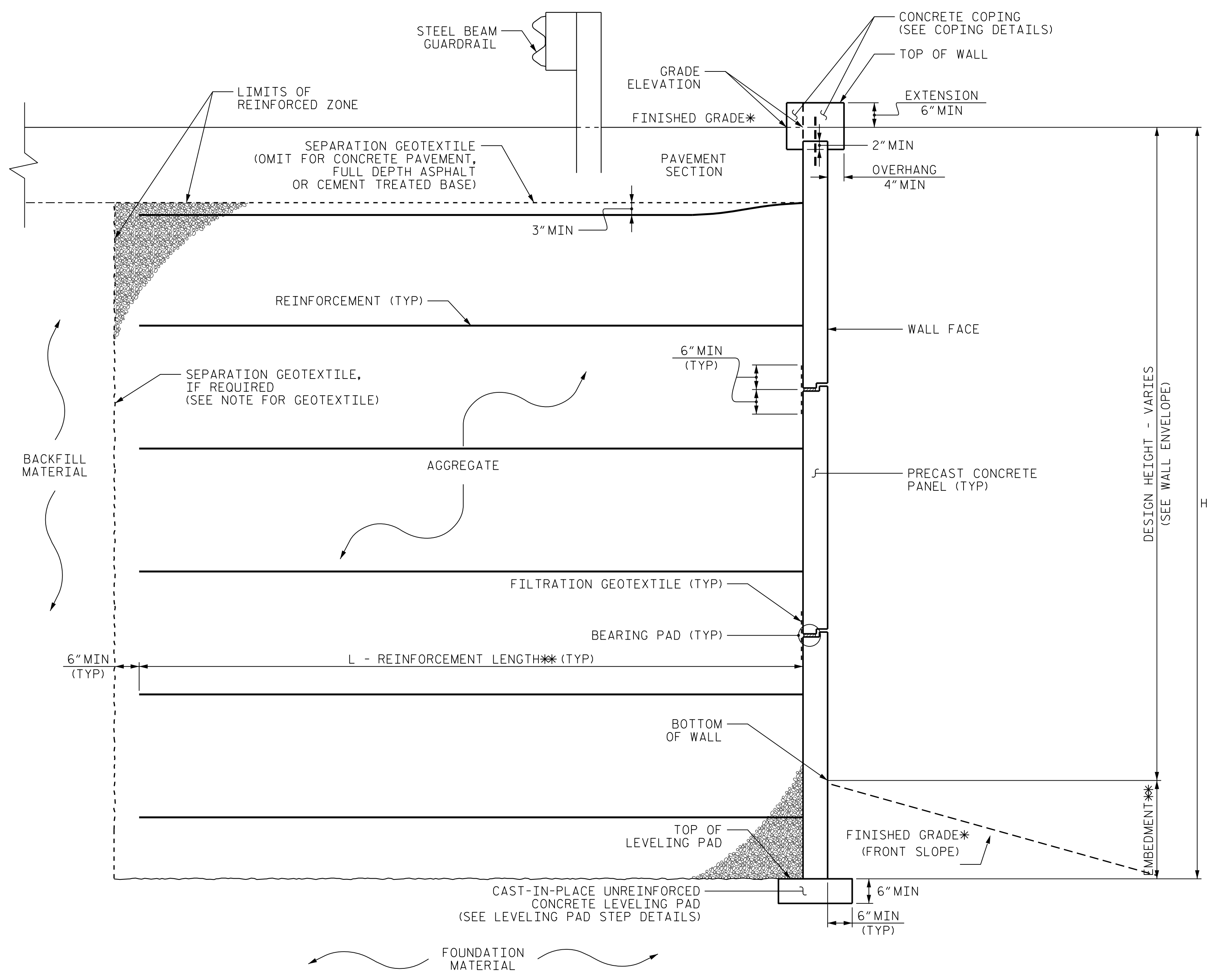
**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #2 Wall at Str #1, End Bent #2

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

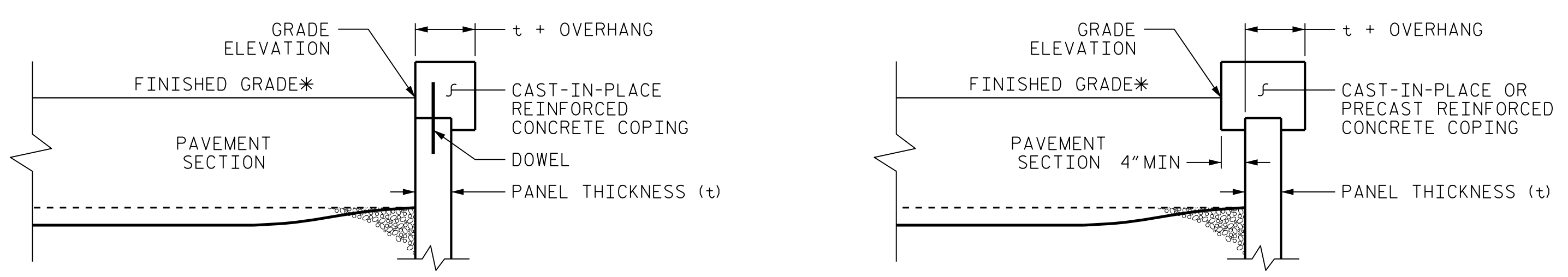
SHEET NO. W-7

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 4 OF 4

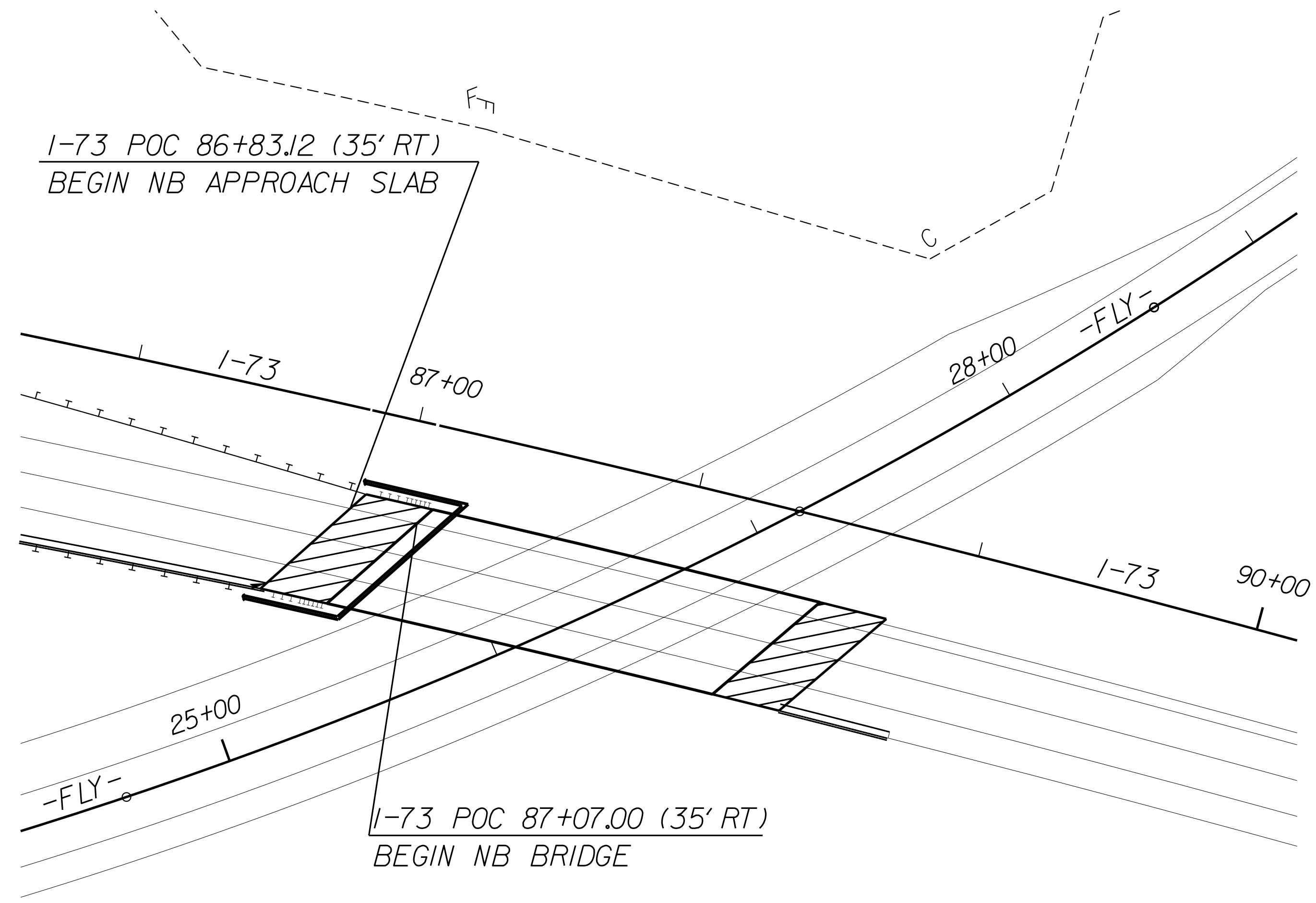
**NORTH CAROLINA**  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**GEOTECHNICAL**  
 ENGINEERING UNIT

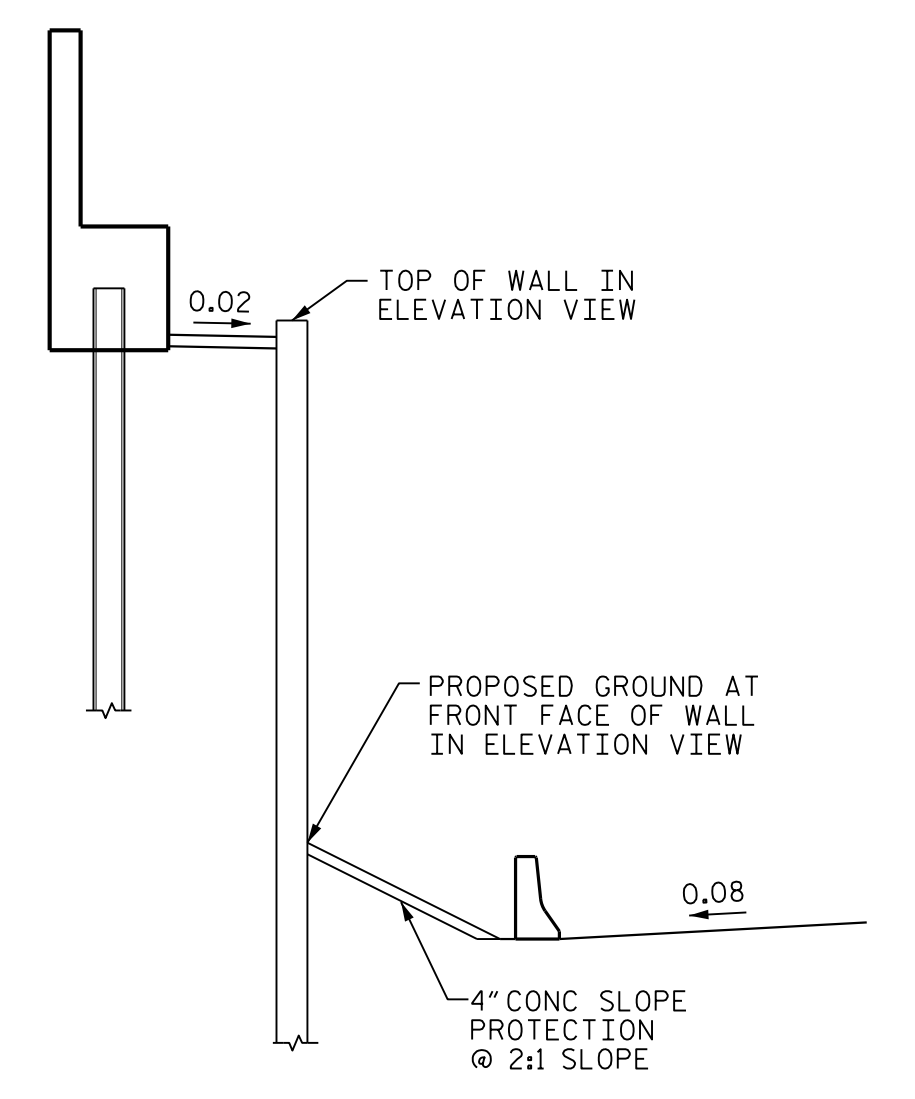
Mechanically Stabilized Earth (MSE)  
 Retaining Wall #2  
 Wall at Str #1, End Bent #2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-8
2			4			

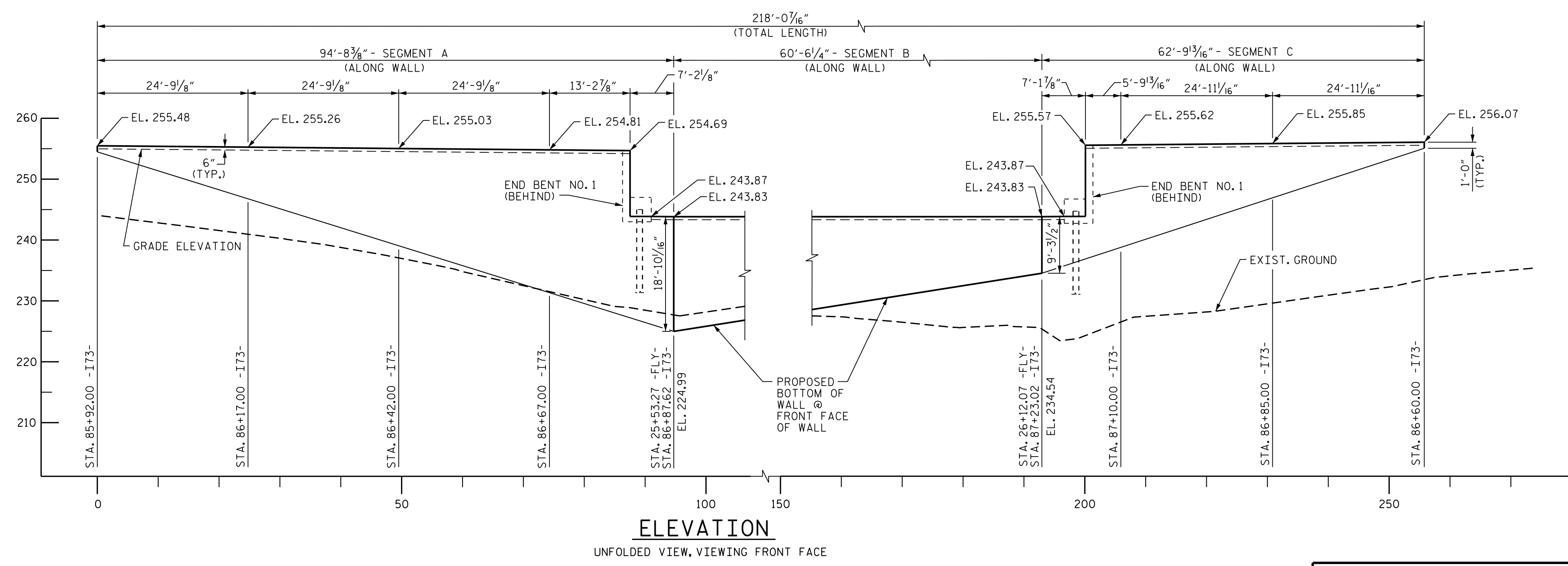




**PLAN - RETAINING WALL #3**  
WALL AT STRUCTURE #2, END BENT 1



**PARTIAL SECTION ALONG RIGHT CONTROL LINE**



TOTAL STRUCTURE QUANTITIES	
MECHANICALLY STABILIZED EARTH WALL	*3275 sq.ft

\* The MSE square foot quantity provided includes a two foot minimum embedment to the top of the leveling pad. See MECHANICALLY STABILIZED EARTH RETAINING WALLS Special Provision for embedment requirements.

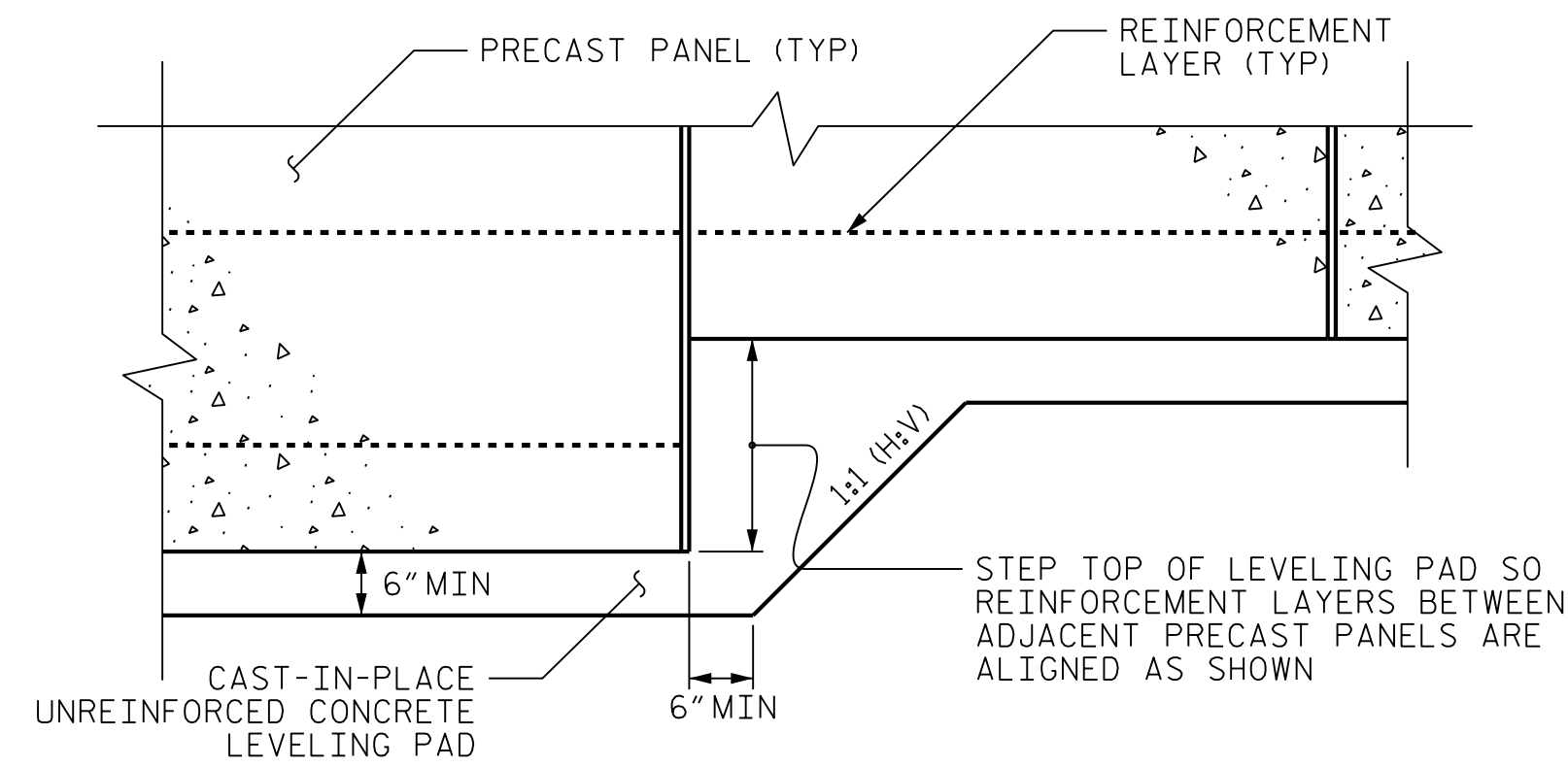
PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
SHEET 1 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #3 Wall at Str #2, End Bent #1					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



PRECAST CONCRETE PANELS  
LEVELING PAD STEP DETAILS

**NOTES:**

- FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.
- A DRAIN IS REQUIRED ALONG THE FRONT FACE FOR RETAINING WALL NO. 3.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 3.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- BEFORE BEGINNING MSE 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 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 6,800 LB/SF
  - 4) MINIMUM REINFORCEMENT LENGTH (L)=0.75H
  - 5) AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0

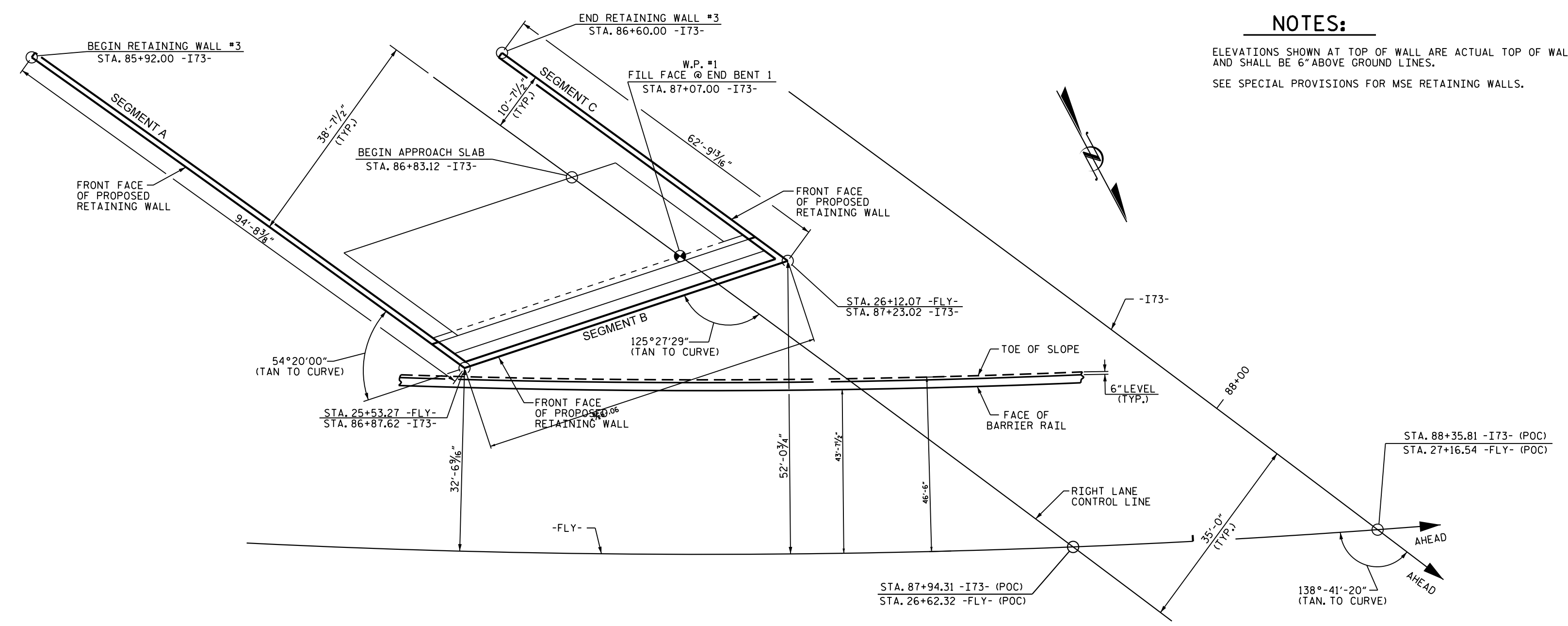
\*SEE MSE RETAINING WALLS PROVISION FOR COARSE AGGREGATE MATERIAL REQUIREMENTS.

6) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

**NOTES:**

ELEVATIONS SHOWN AT TOP OF WALL ARE ACTUAL TOP OF WALL ELEVATIONS, AND SHALL BE 6" ABOVE GROUND LINES.  
SEE SPECIAL PROVISIONS FOR MSE RETAINING WALLS.

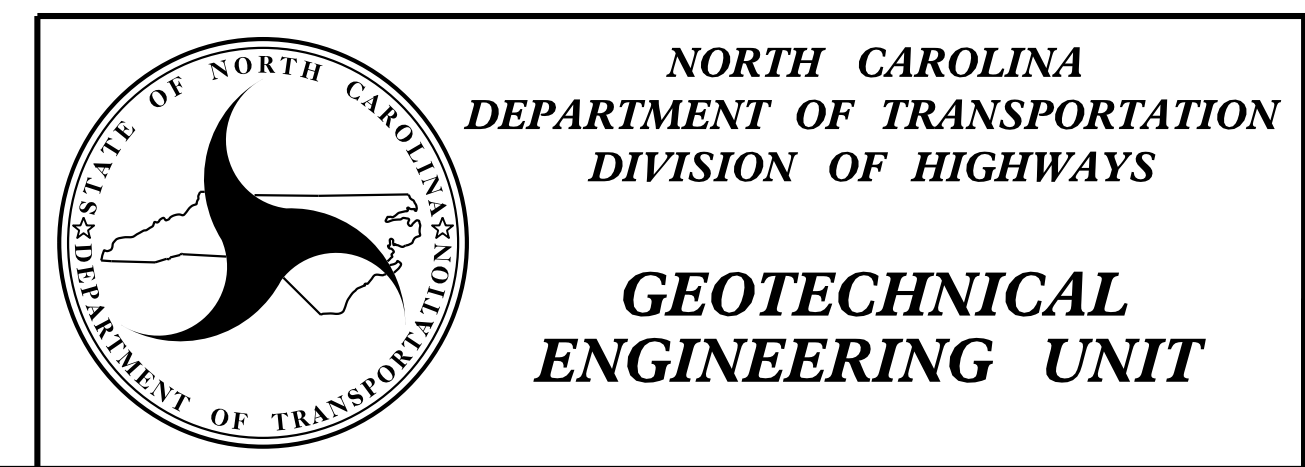


PLAN OF WALL

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

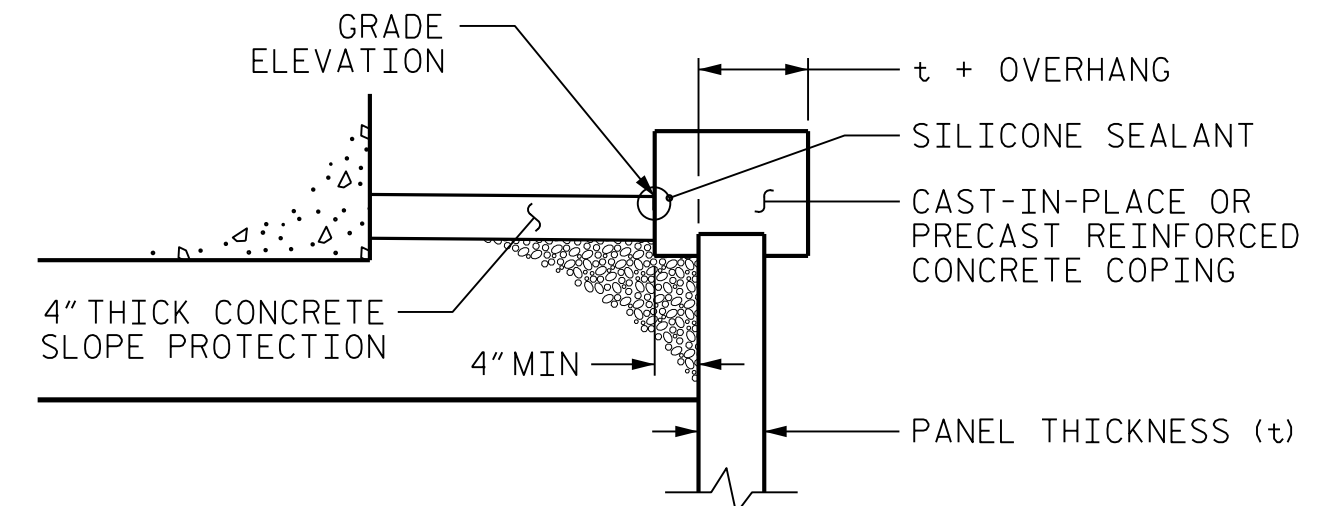
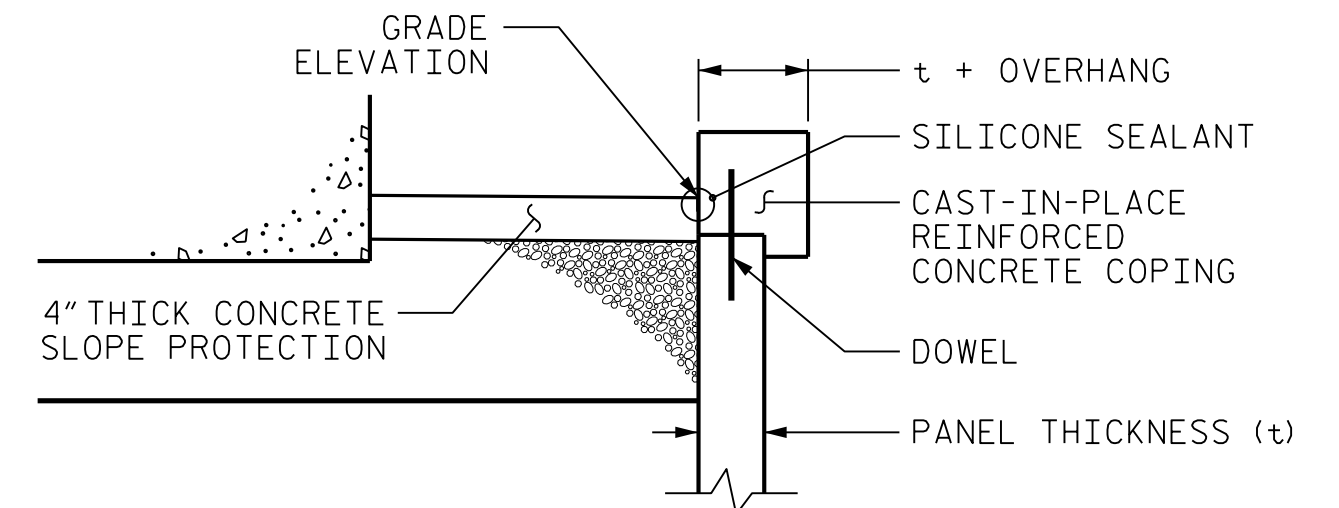
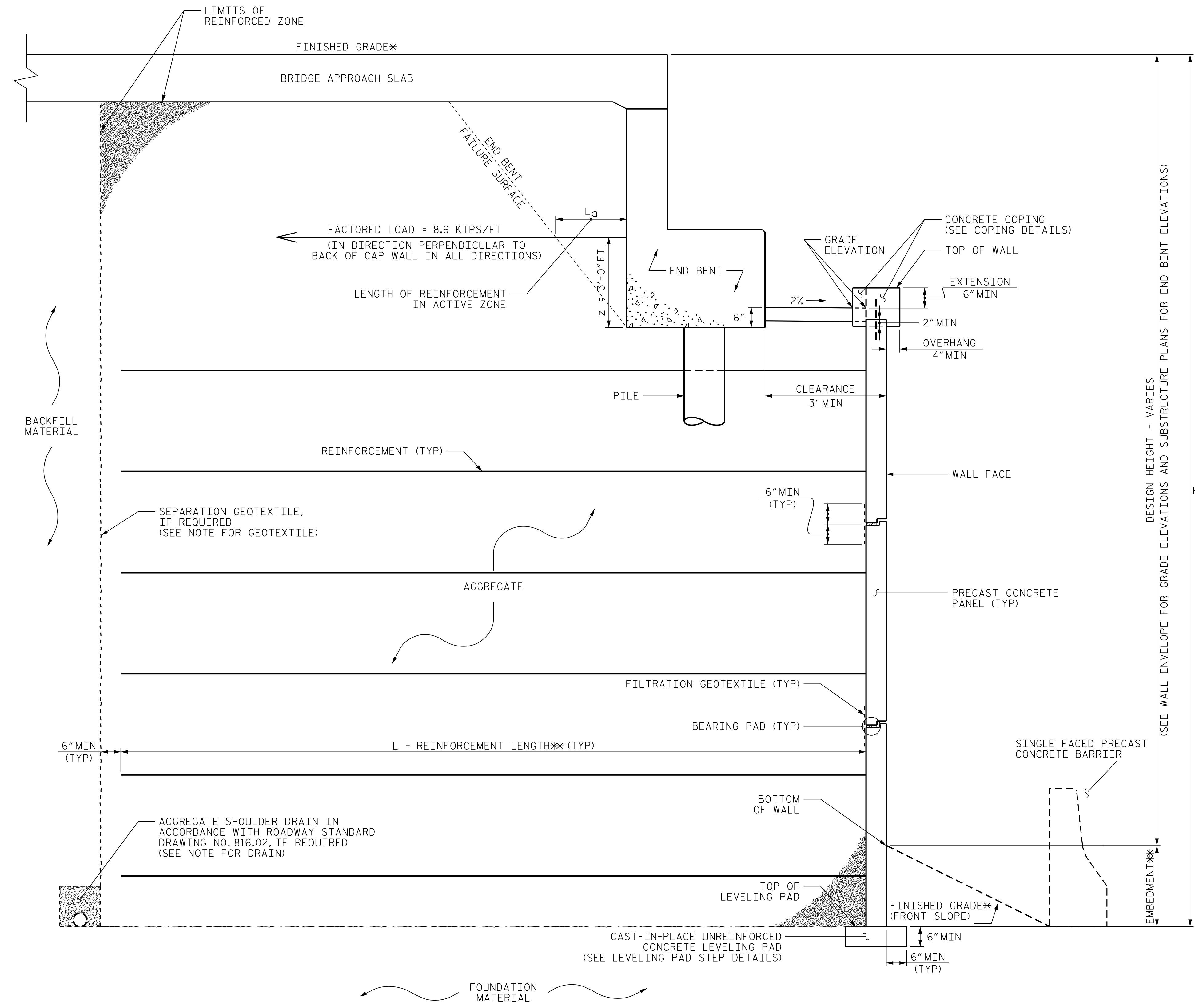
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1. LOCATED AT STATION 87+07.00. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.
- FOUNDATIONS FOR END BENT NO.1 LOCATED AT STATION 87+07.00 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 3. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
SHEET 2 OF 4



Mechanically Stabilized Earth (MSE) Retaining Wall #3  
Wall at Str #2, End Bent #1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-10
2			4			



**COPING DETAILS**  
AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

**MSE ABUTMENT WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
\*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
SHEET 3 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

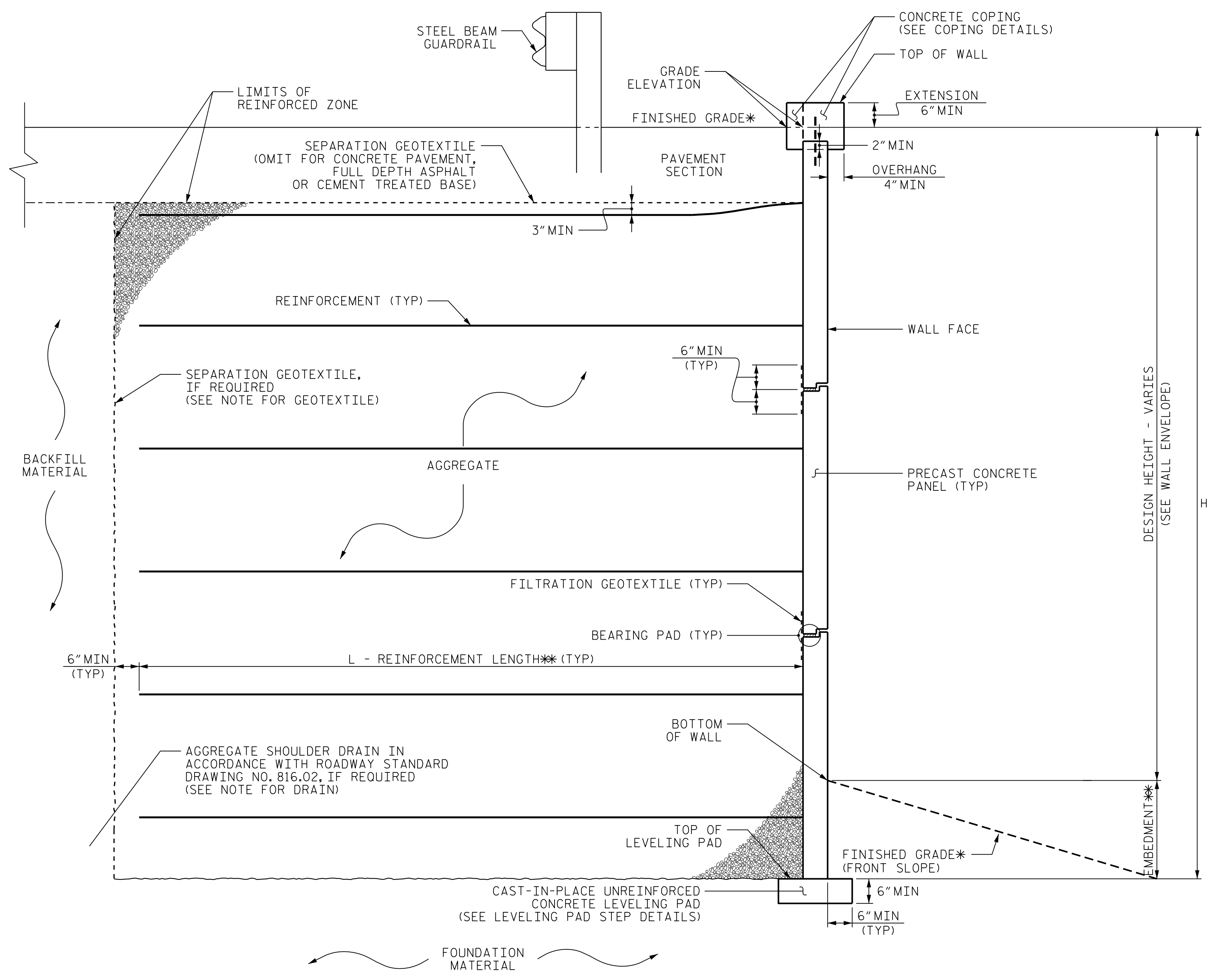
**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #3  
Wall at Str #2, End Bent #1

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

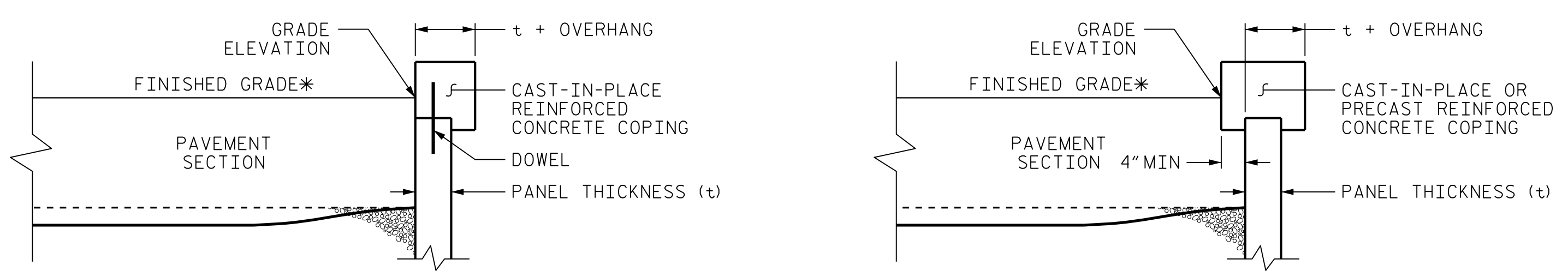
SHEET NO. W-11

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

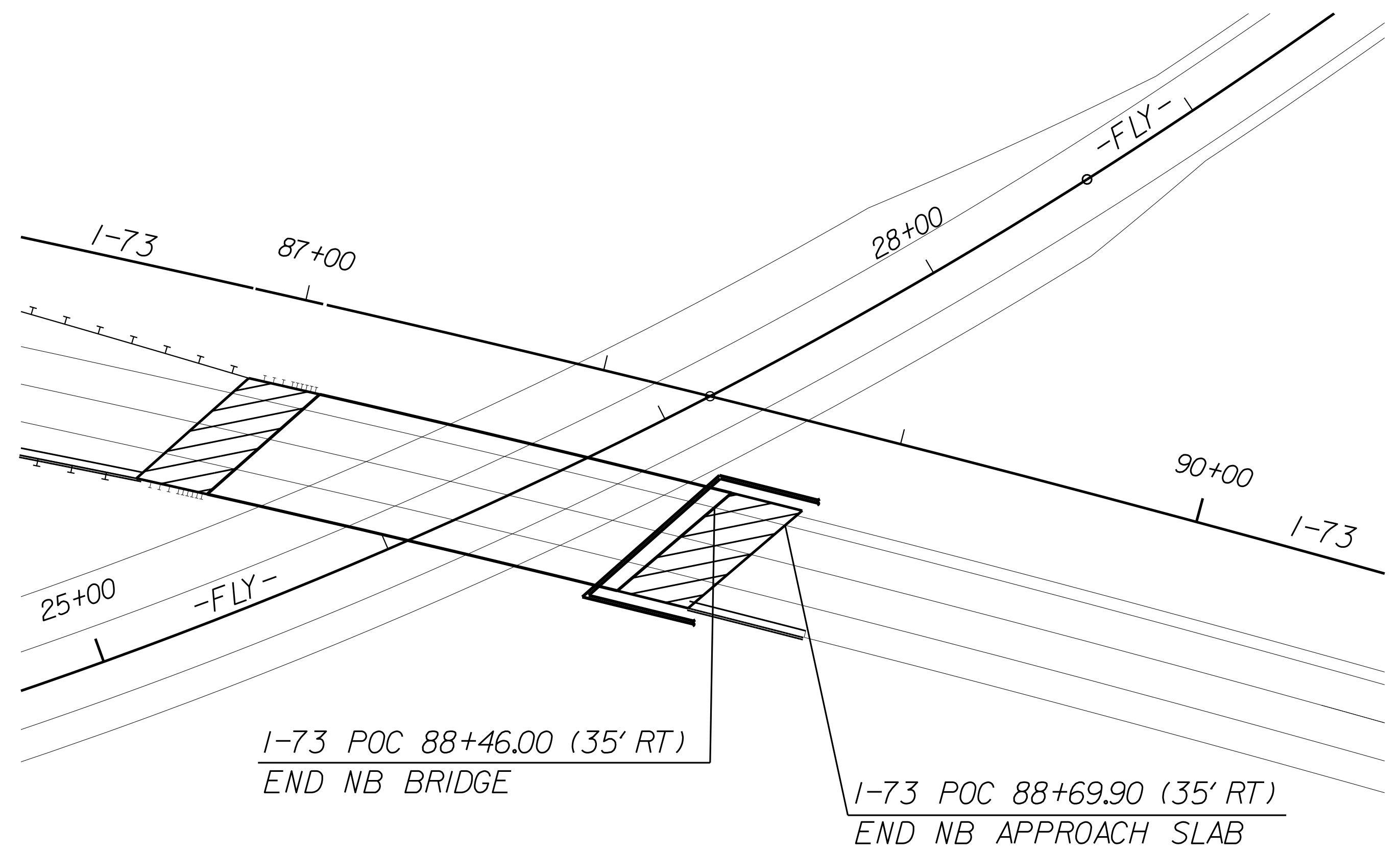
PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 4 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

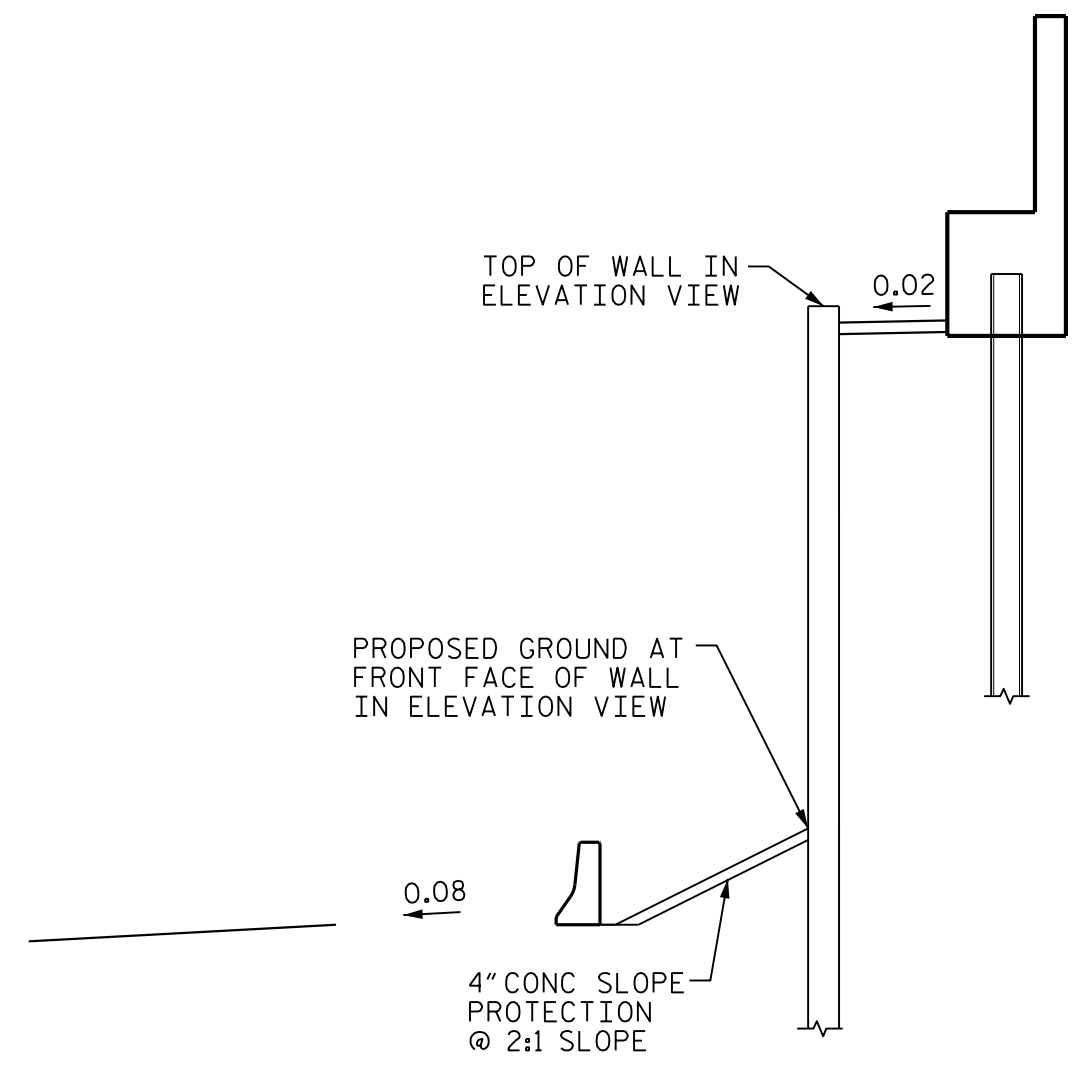
**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE)  
 Retaining Wall #3  
 Wall at Str #2, End Bent #1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-12
2			4			

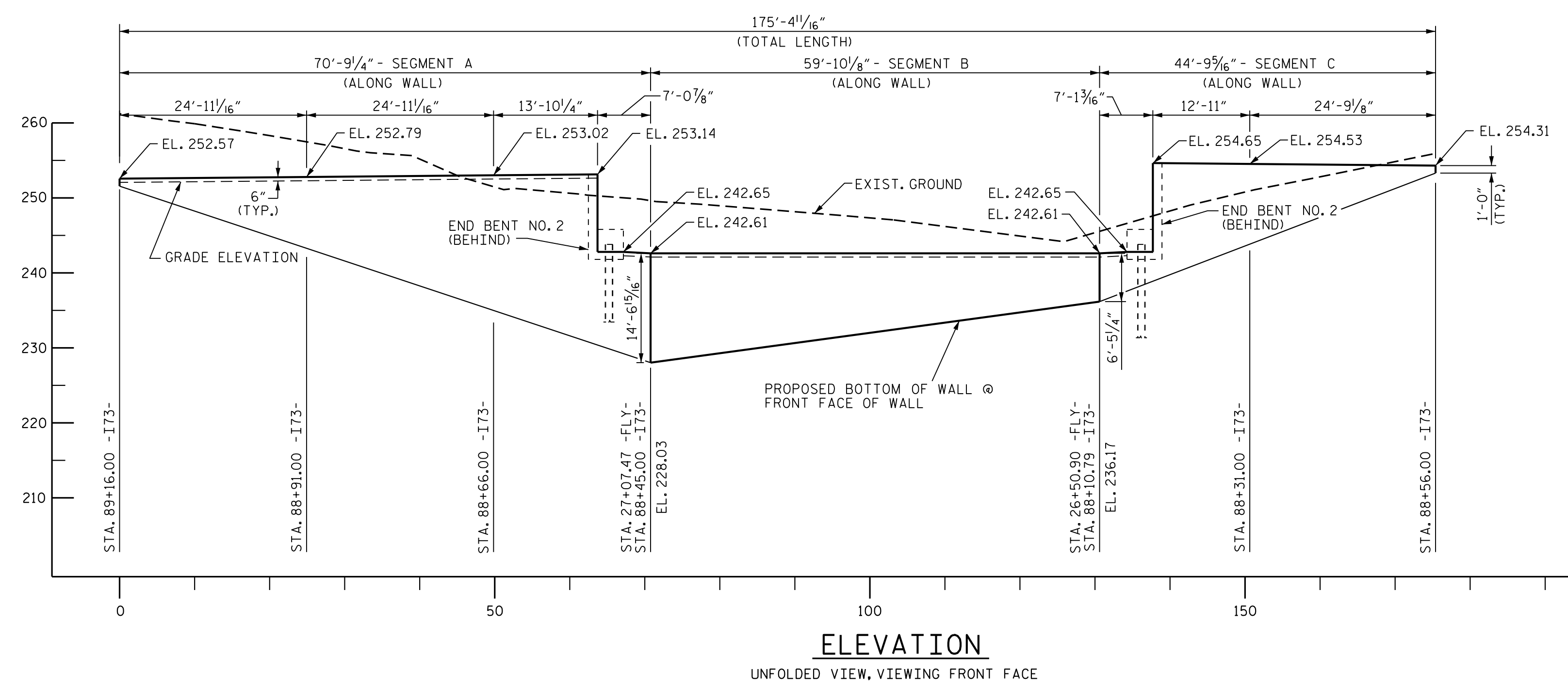


**PLAN - RETAINING WALL #4**  
 WALL AT STRUCTURE #2, END BENT 2



**PARTIAL SECTION ALONG RIGHT CONTROL LINE**

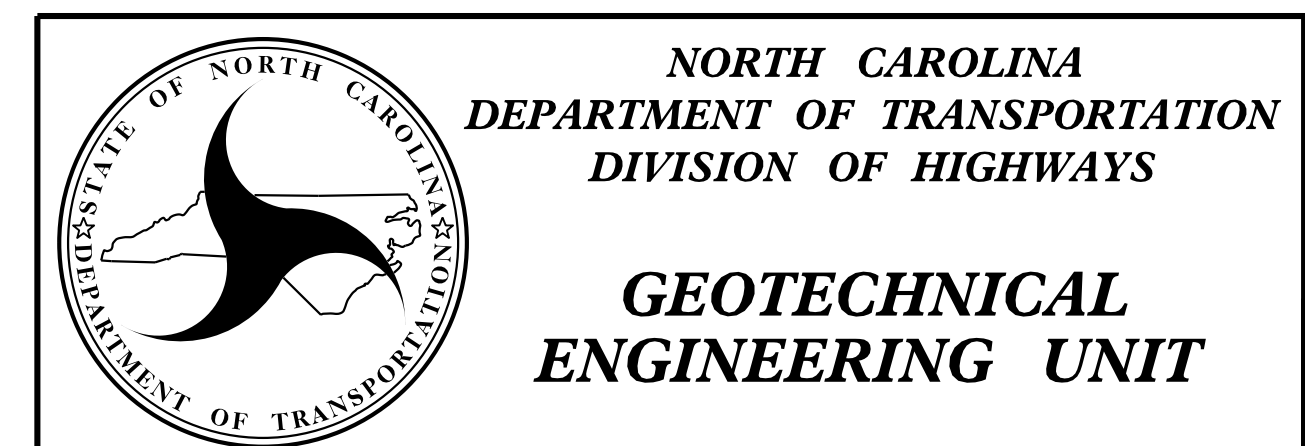
**NOTES:**  
 SEE SHEET RW-1 FOR NOTES.



TOTAL STRUCTURE QUANTITIES	
MECHANICALLY STABILIZED EARTH WALL	*2200 SQ. FT.

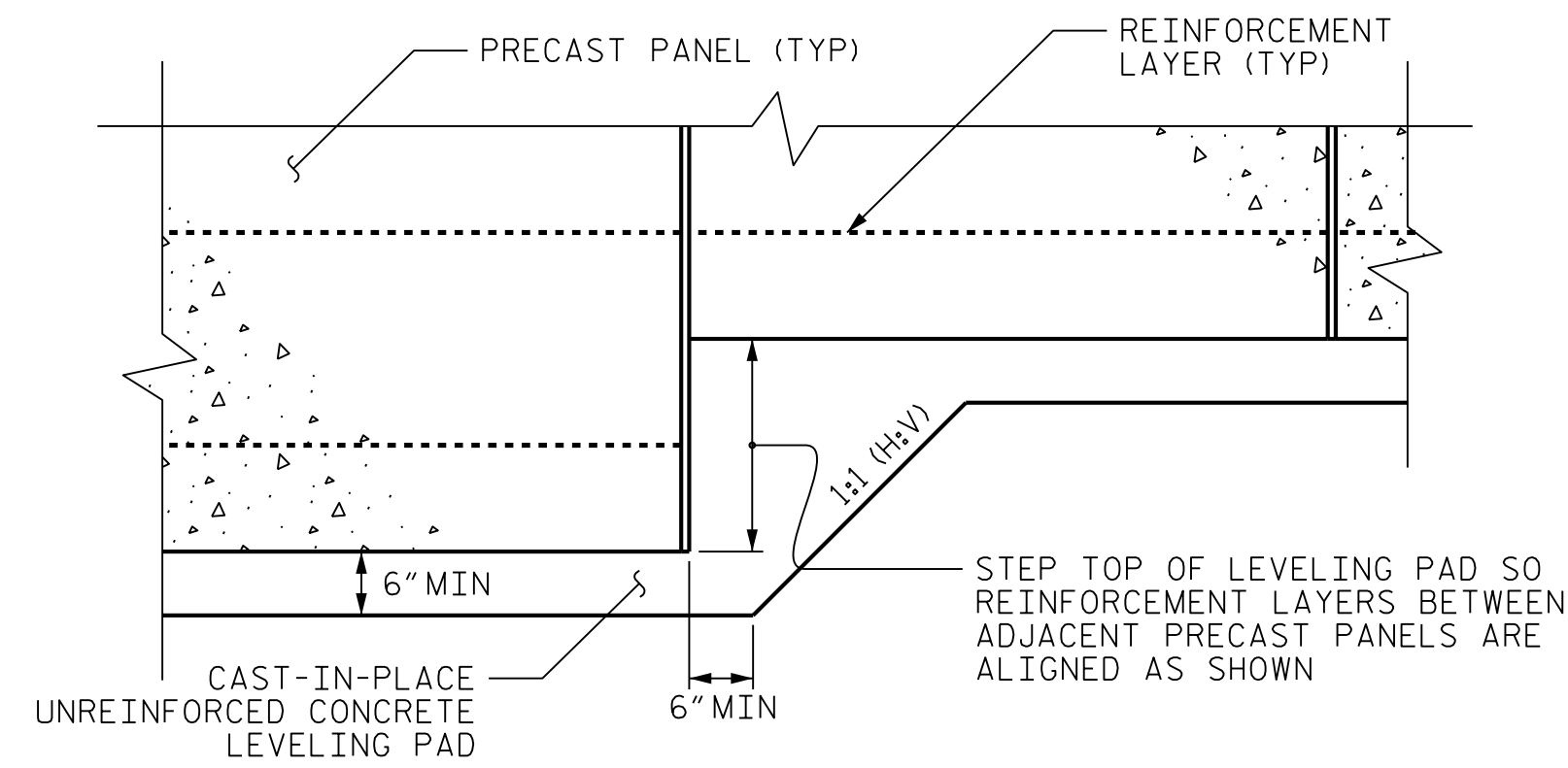
\*The MSE square foot quantity provided includes a two foot minimum embedment to the top of the leveling pad. See MECHANICALLY STABILIZED EARTH RETAINING WALLS Special Provision for embedment requirements.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35 -I73-, 27+16.54 -FLY-  
 SHEET 1 OF 4



Mechanically Stabilized Earth (MSE) Retaining Wall #4  
 Wall at Str #2, End Bent #2

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



PRECAST CONCRETE PANELS  
**LEVELING PAD STEP DETAILS**

**NOTES:**

- FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.
- A DRAIN IS REQUIRED ALONG THE FRONT FACE FOR RETAINING WALL NO. 4.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 4.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- BEFORE BEGINNING MSE 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 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 6,800 LB/SF
  - 4) MINIMUM REINFORCEMENT LENGTH (L)=0.75H
  - 5) AGGREGATE PARAMETERS:

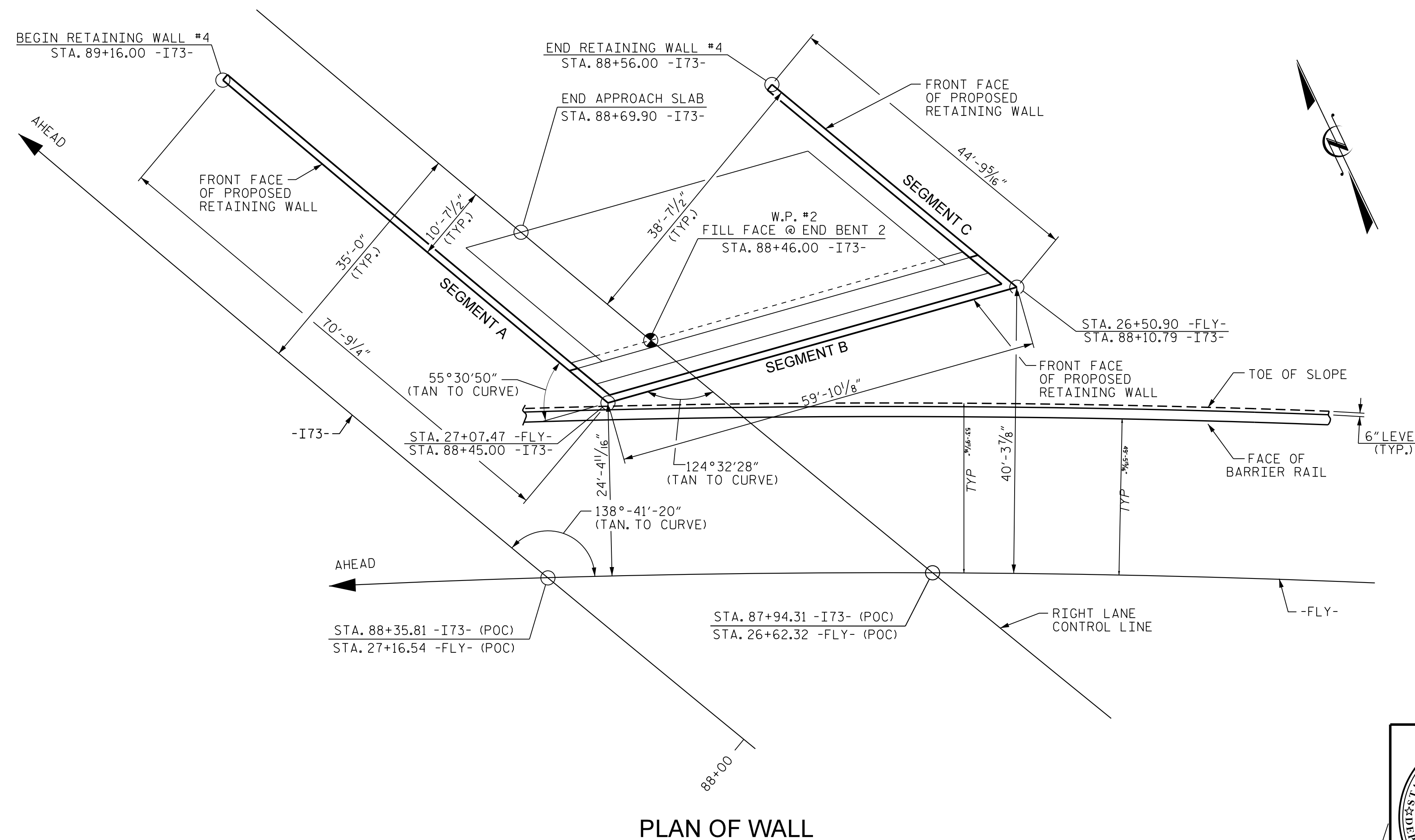
AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0

\*SEE MSE RETAINING WALLS PROVISION FOR COARSE AGGREGATE MATERIAL REQUIREMENTS.

6) IN-SITU ASSUMED MATERIAL PARAMETERS:

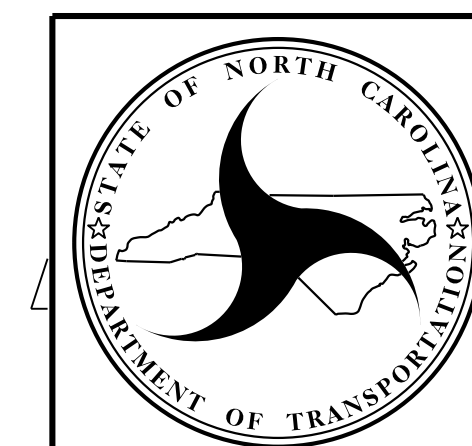
MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

- DESIGN RETAINING WALL 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 REINFORCEMENT FOR RETAINING WALL.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 2. LOCATED IN STATION 88+46.00. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.
- FOUNDATIONS FOR END BENT NO. 2 LOCATED AT STATION 88+46.00 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 4. SEE 'FOUNDATION LAYOUT' SHEET FOR FOUNDATION LOCATIONS.



**PLAN OF WALL**

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
SHEET 20F 4

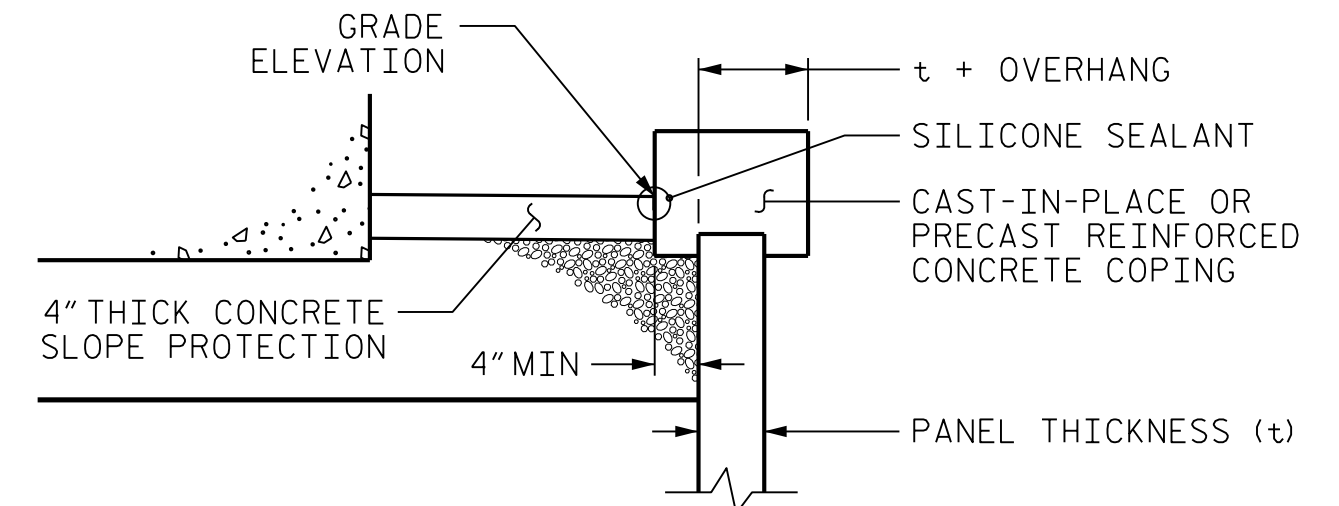
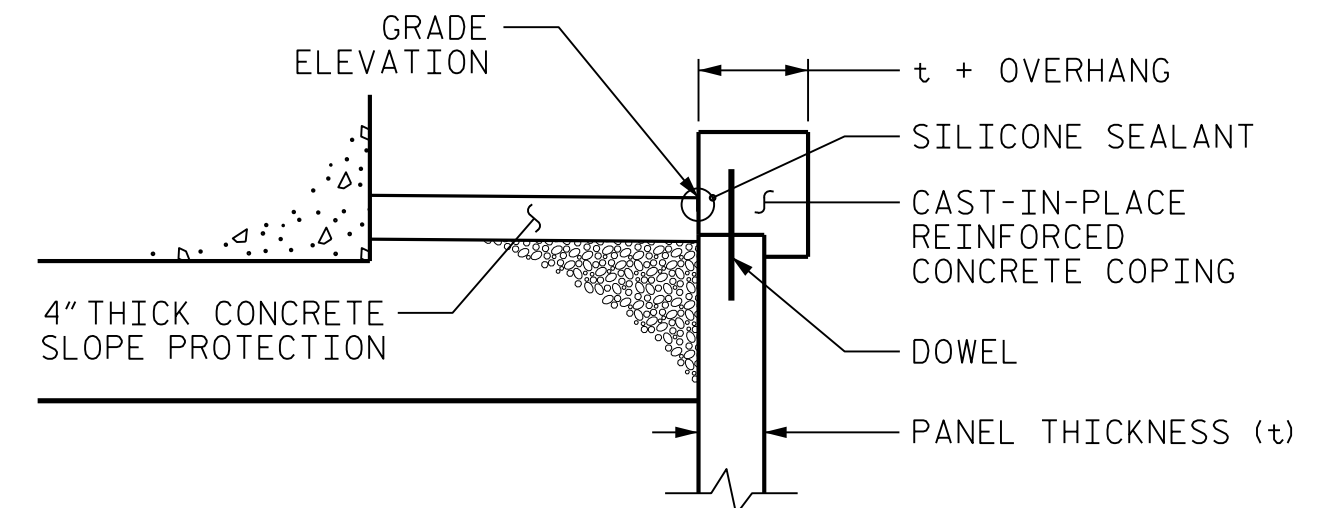
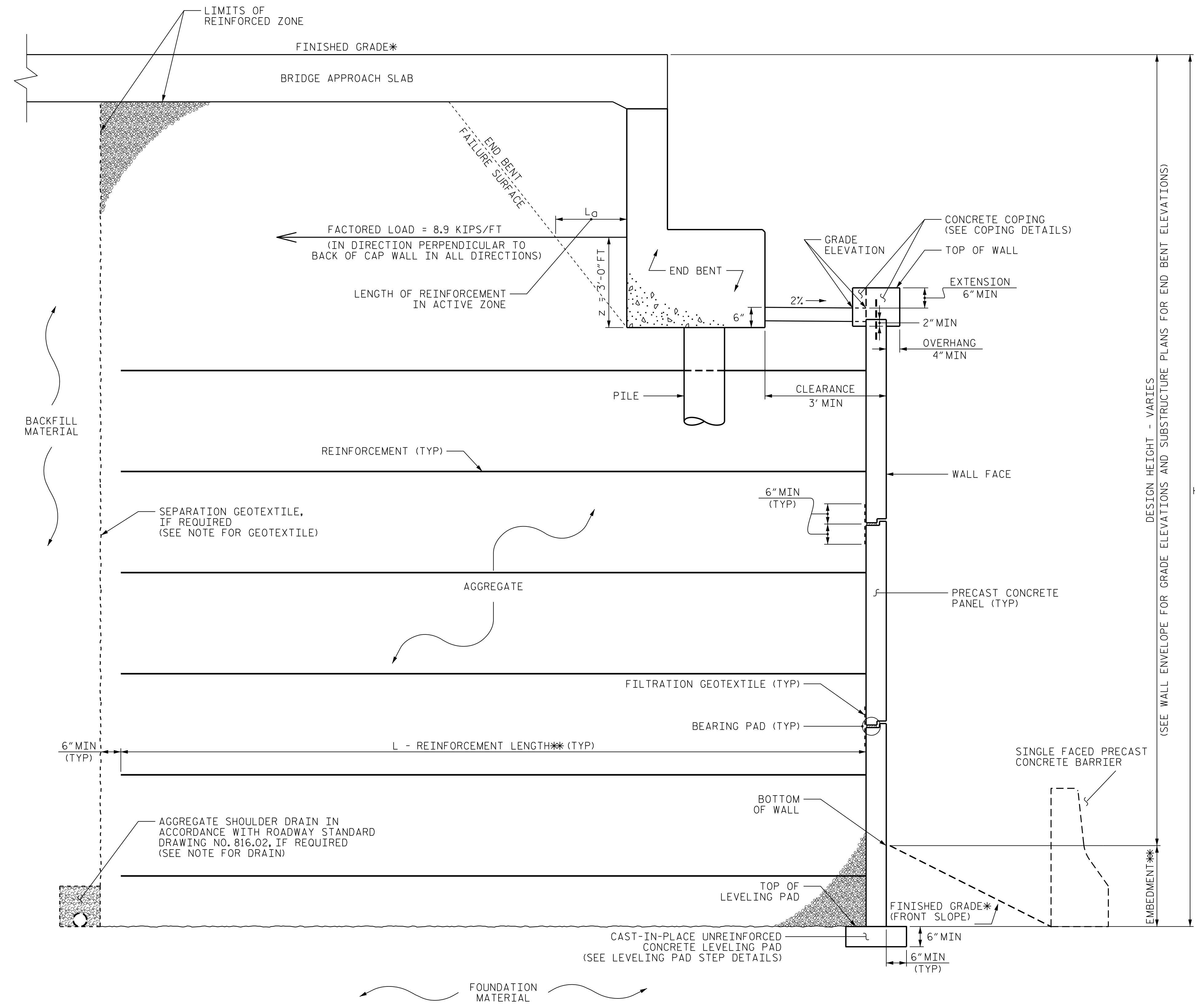


**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**  
**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #4  
Wall at Str #2, End Bent #2

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

SHEET NO. W-14



**COPING DETAILS**  
AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

**MSE ABUTMENT WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
\*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 88+35 -I73-, 27+16.54 -FLY-  
SHEET 3 OF 4

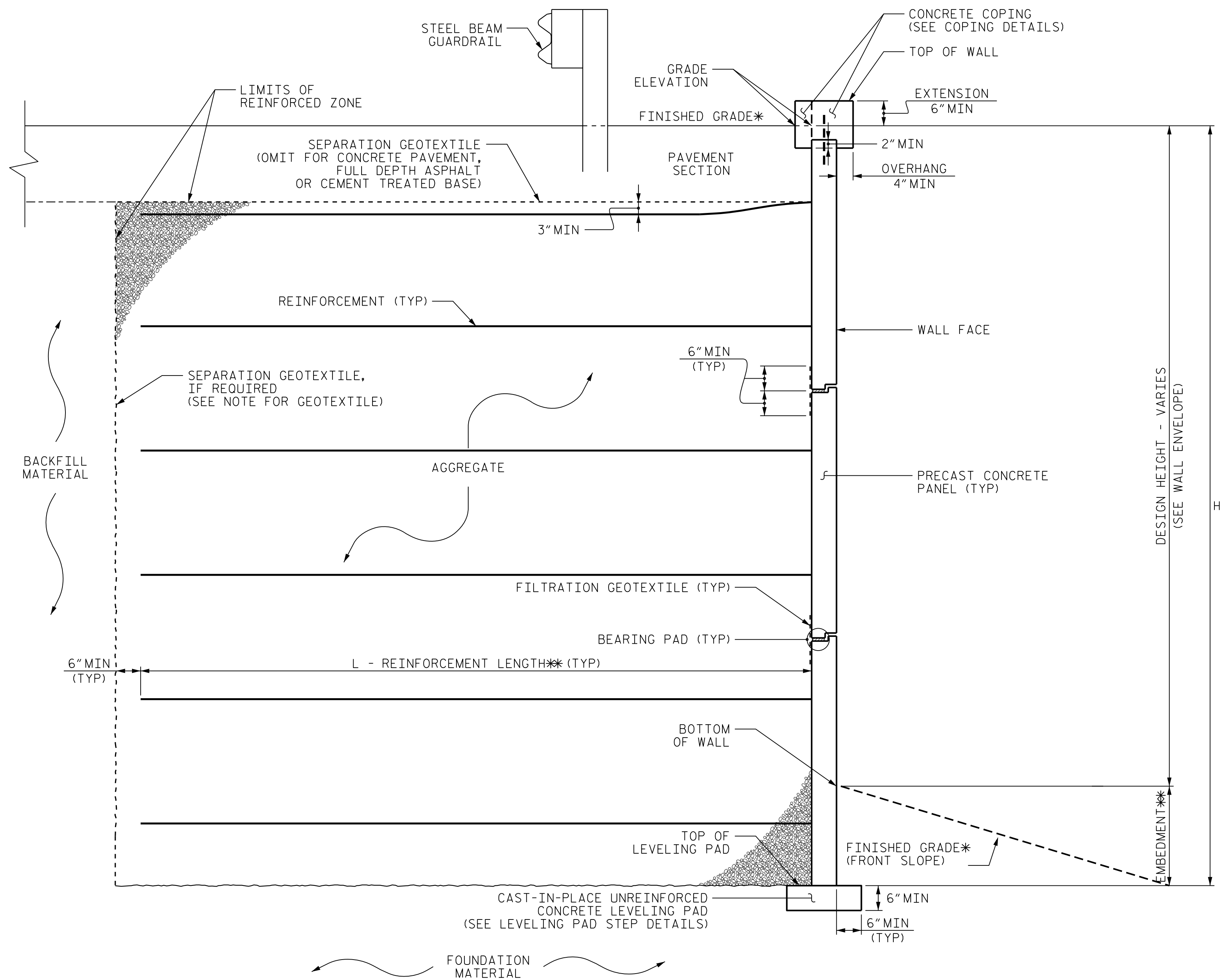
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #4  
Wall at Str #2, End Bent #2

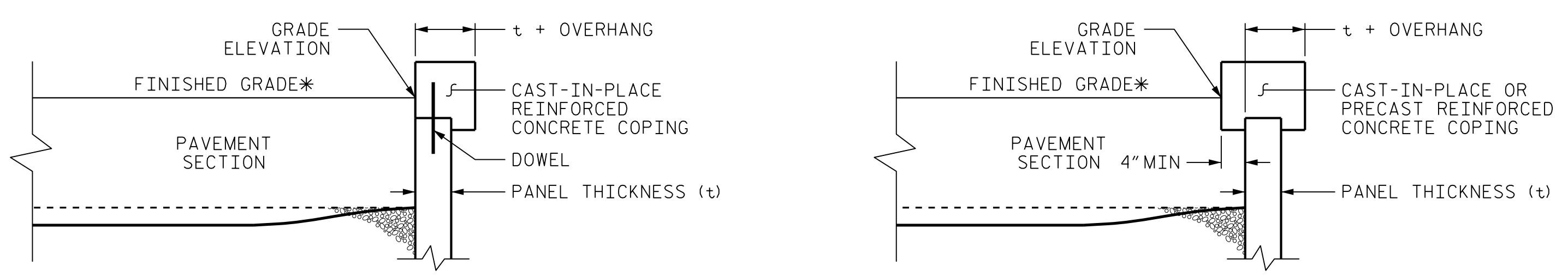
REVISIONS						SHEET NO. W-15
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 88+35.81 -I73-, 27+16.54 -FLY-  
 SHEET 4 OF 4

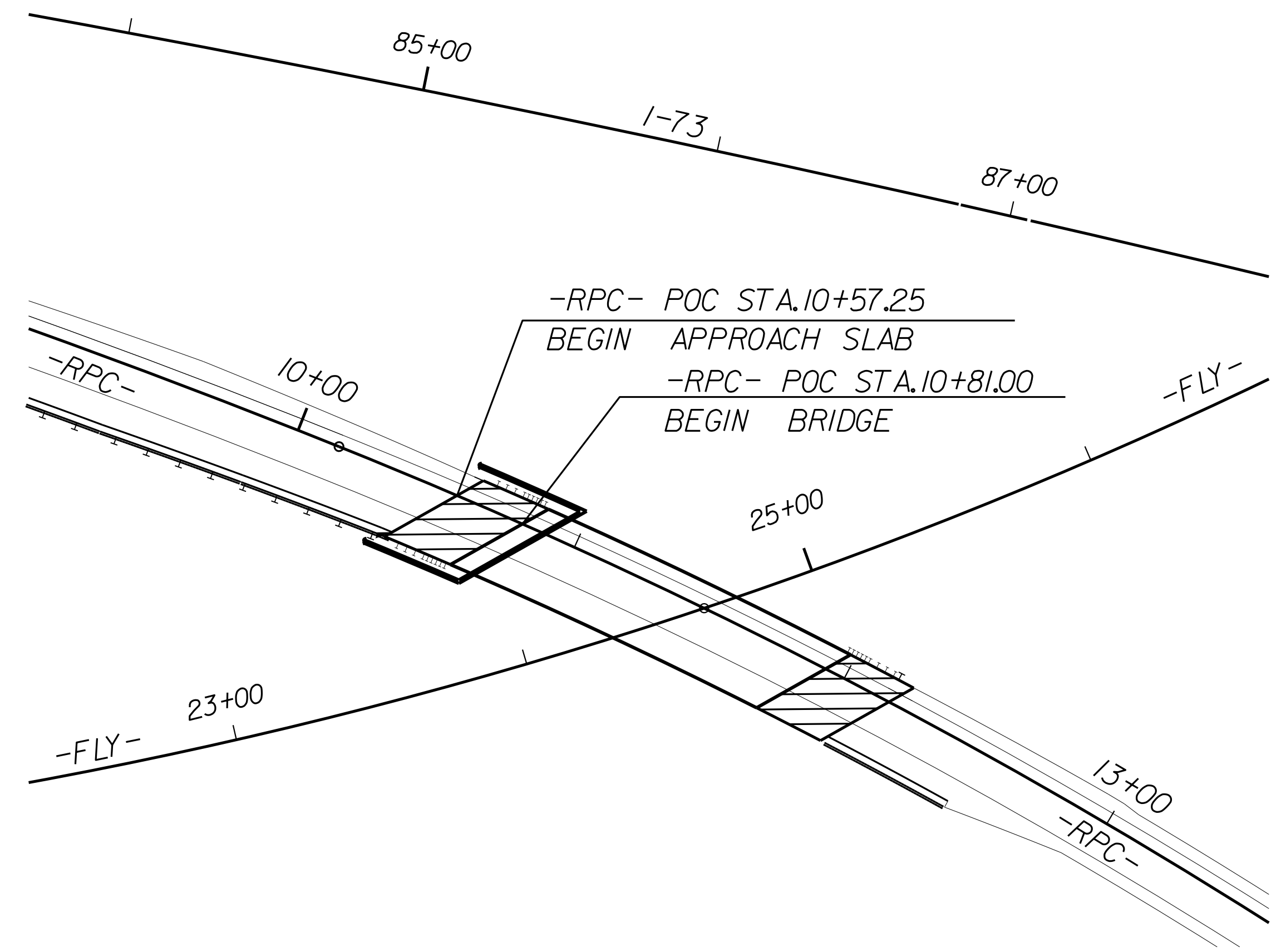
**NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS**

**GEOTECHNICAL  
 ENGINEERING UNIT**

**Mechanically Stabilized Earth (MSE)  
 Retaining Wall #4  
 Wall at Str #2, End Bent #2**

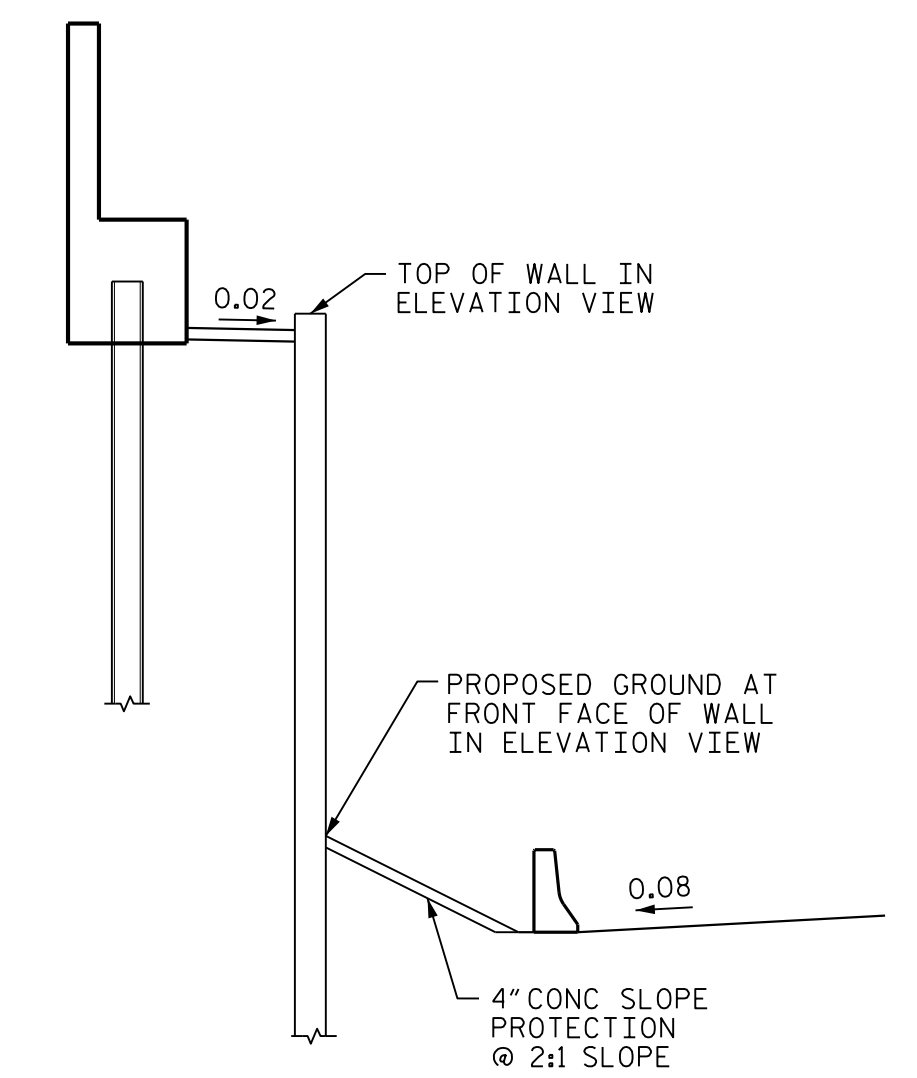
REVISIONS						SHEET NO. W-16
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			



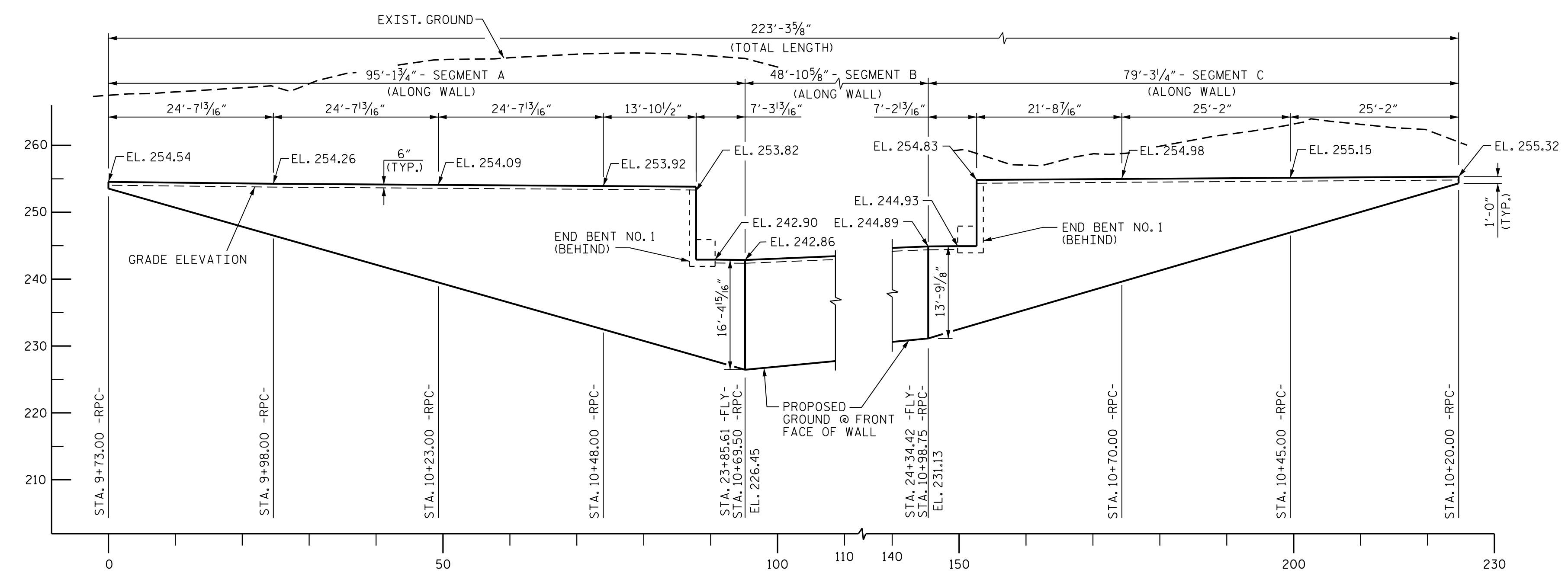


**NOTES:**

ELEVATIONS SHOWN AT TOP OF WALL ARE ACTUAL TOP OF WALL ELEVATIONS, AND SHALL BE 6" ABOVE GROUND LINES.  
 SEE SPECIAL PROVISIONS FOR MSE RETAINING WALLS.



**PLAN**



**PARTIAL SECTION ALONG -RPC-**

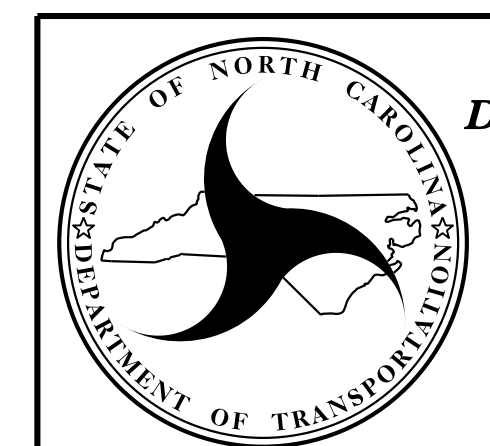
TOTAL STRUCTURE QUANTITIES	
MECHANICALLY STABILIZED EARTH WALL	*3360 SQ. FT.

\*The MSE square foot quantity provided includes a two foot minimum embedment to the top of the leveling pad. See MECHANICALLY STABILIZED EARTH RETAINING WALLS Special Provision for embedment requirements.

**ELEVATION**

UNFOLDED VIEW, VIEWING FRONT FACE

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 11+47.77 -RPC-, 24+61.99 - FLY-  
 SHEET 1 OF 4

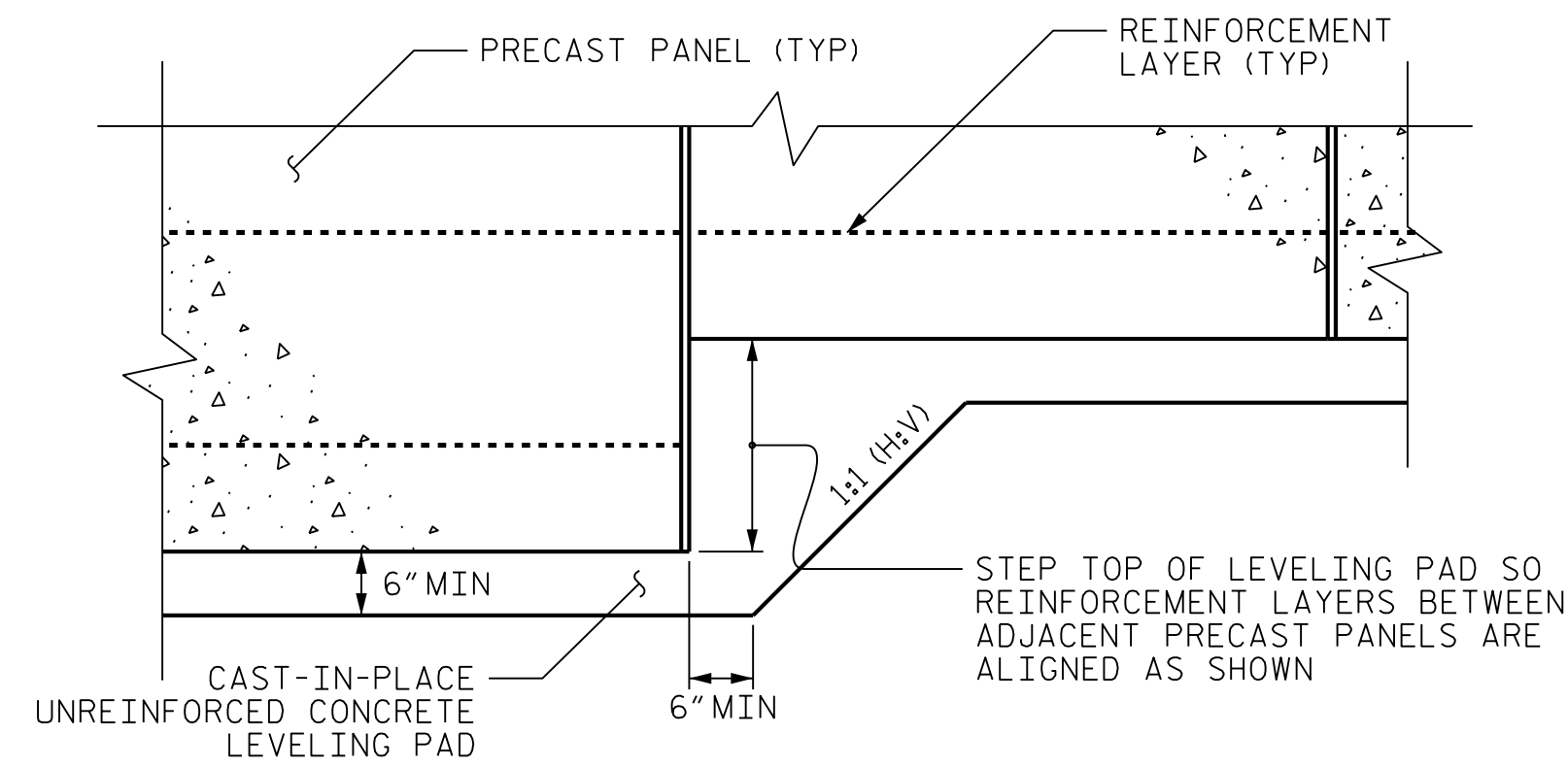


**NORTH CAROLINA**  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**GEOTECHNICAL**  
**ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE)  
 Retaining Wall #5  
 Wall at Str #5, End Bent #1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-17
2			4			



PRECAST CONCRETE PANELS  
LEVELING PAD STEP DETAILS

**NOTES:**

- FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.
- A DRAIN IS REQUIRED ALONG THE FRONT FACE FOR RETAINING WALL NO. 5.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 5.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- BEFORE BEGINNING MSE 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 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 6,500 LB/SF
  - 4) AGGREGATE PARAMETERS:

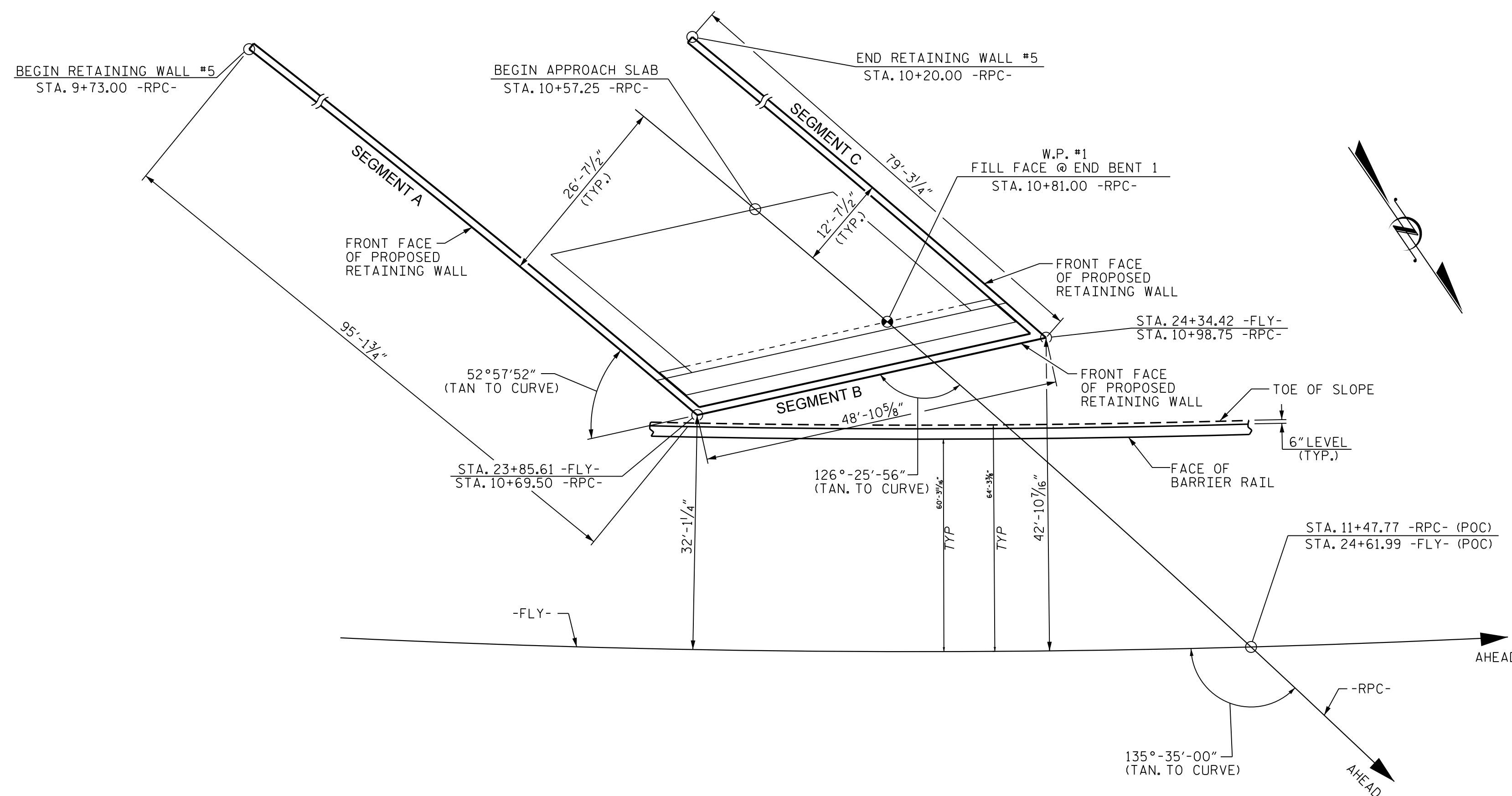
AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0

\*SEE MSE RETAINING WALLS PROVISION FOR COARSE AGGREGATE MATERIAL REQUIREMENTS.

- 5) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

- DESIGN RETAINING WALL 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 REINFORCEMENT FOR RETAINING WALL.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1. LOCATED IN STATION 10+81.00. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.
- FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 10+81.00 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 5. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.



PLAN OF WALL

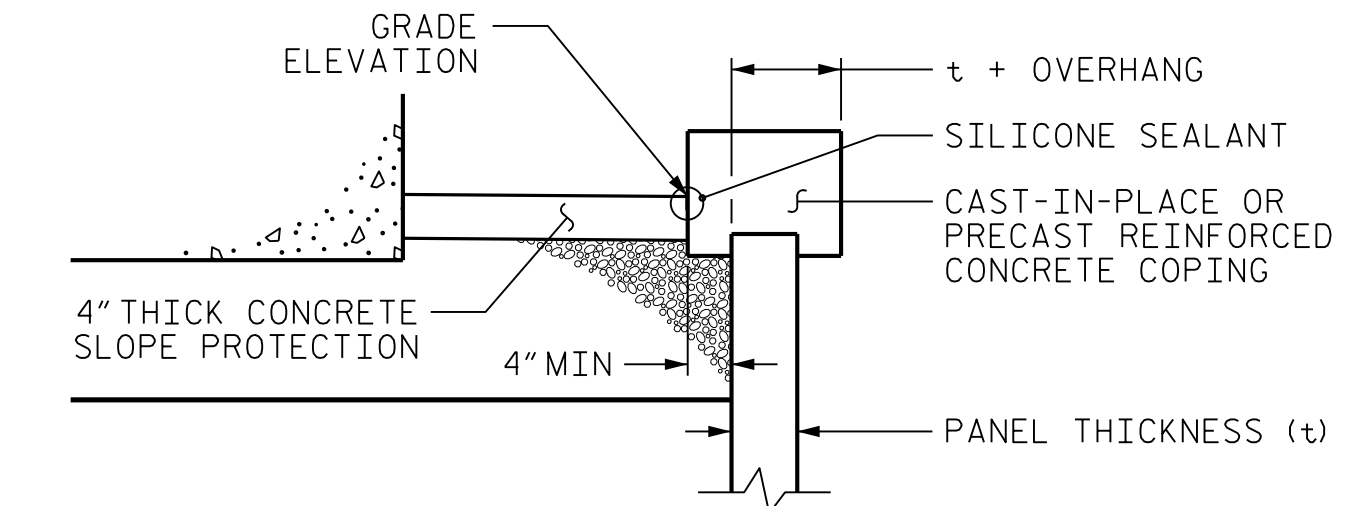
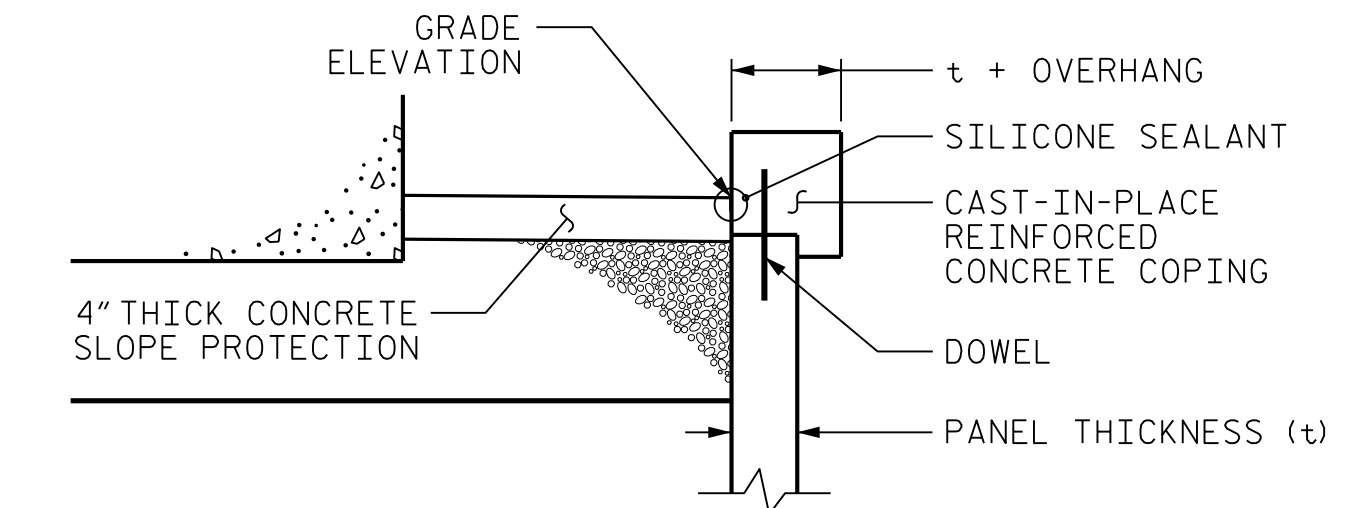
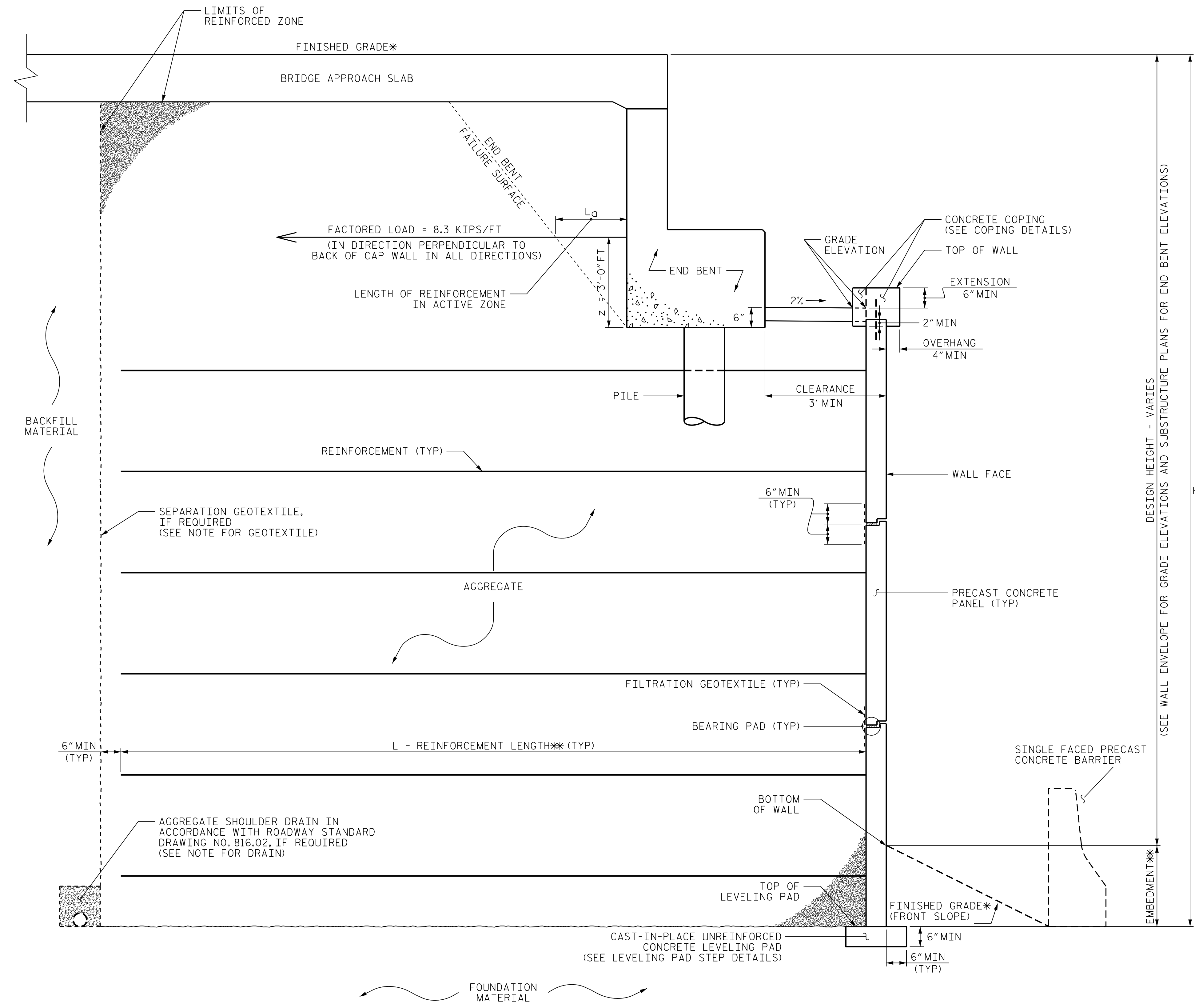
PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 11+47.77 -RPC-, 24+61.99 -FLY-  
SHEET 2 OF 4

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #5 Wall at Str #5, End Bent #1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-18
2			4			



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

**MSE ABUTMENT WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: R-3421A

RICHMOND COUNTY

STATION: 11+47.77 -RPC-, 24+61.99 - FLY-

SHEET 3 OF 4

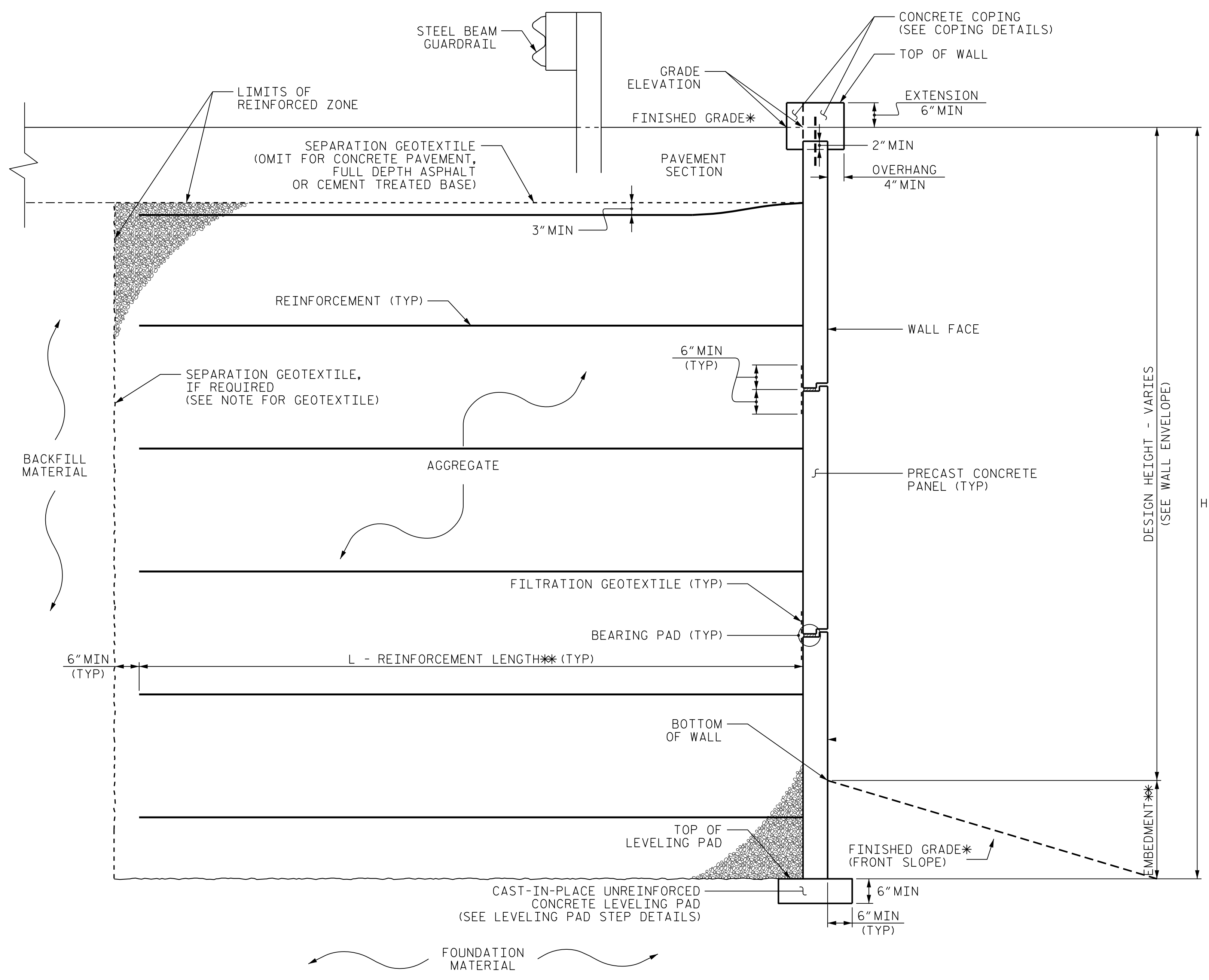
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE) Retaining Wall #5 Wall at Str #5, End Bent #1

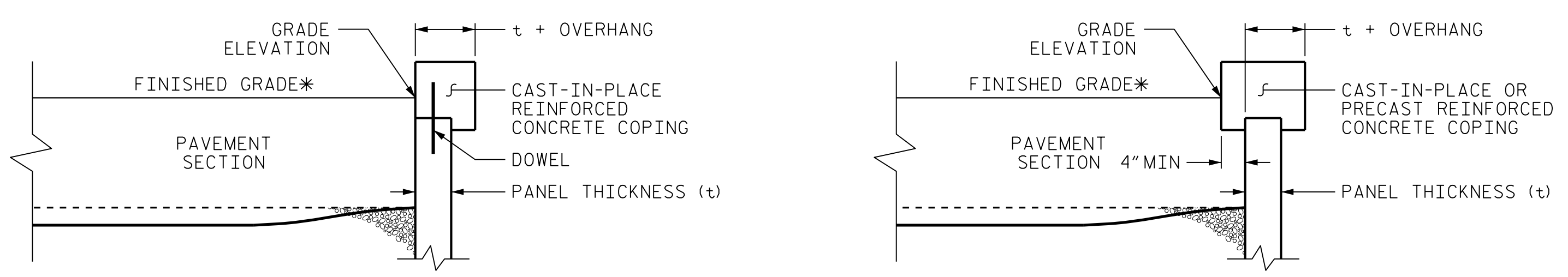
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-19
2			4			

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 11+47.77 - RPC- , 24+61.99 - FLY-  
 SHEET 4 OF 4

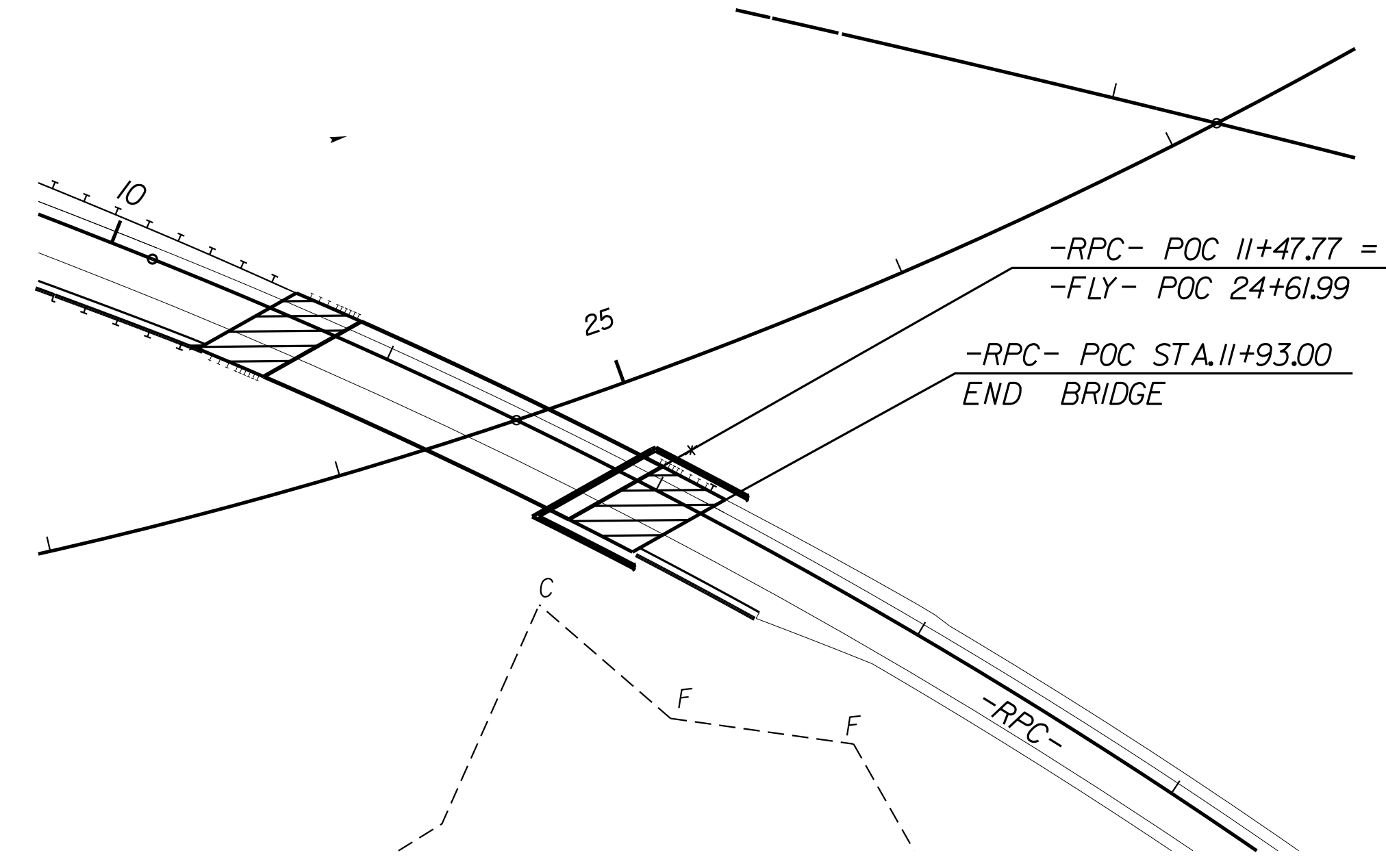
**NORTH CAROLINA**  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**GEOTECHNICAL ENGINEERING UNIT**

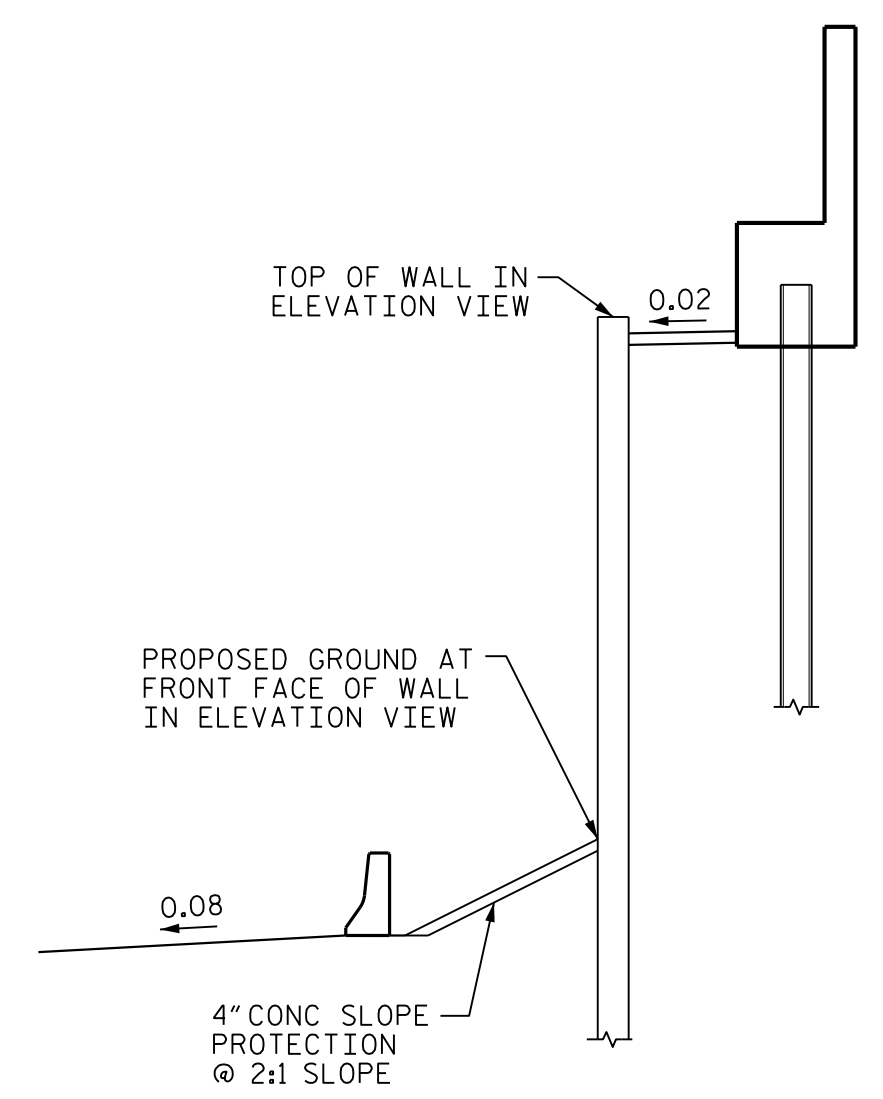
Mechanically Stabilized Earth (MSE)  
 Retaining Wall #5  
 Wall at Str #5, End Bent #1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-20
2			4			

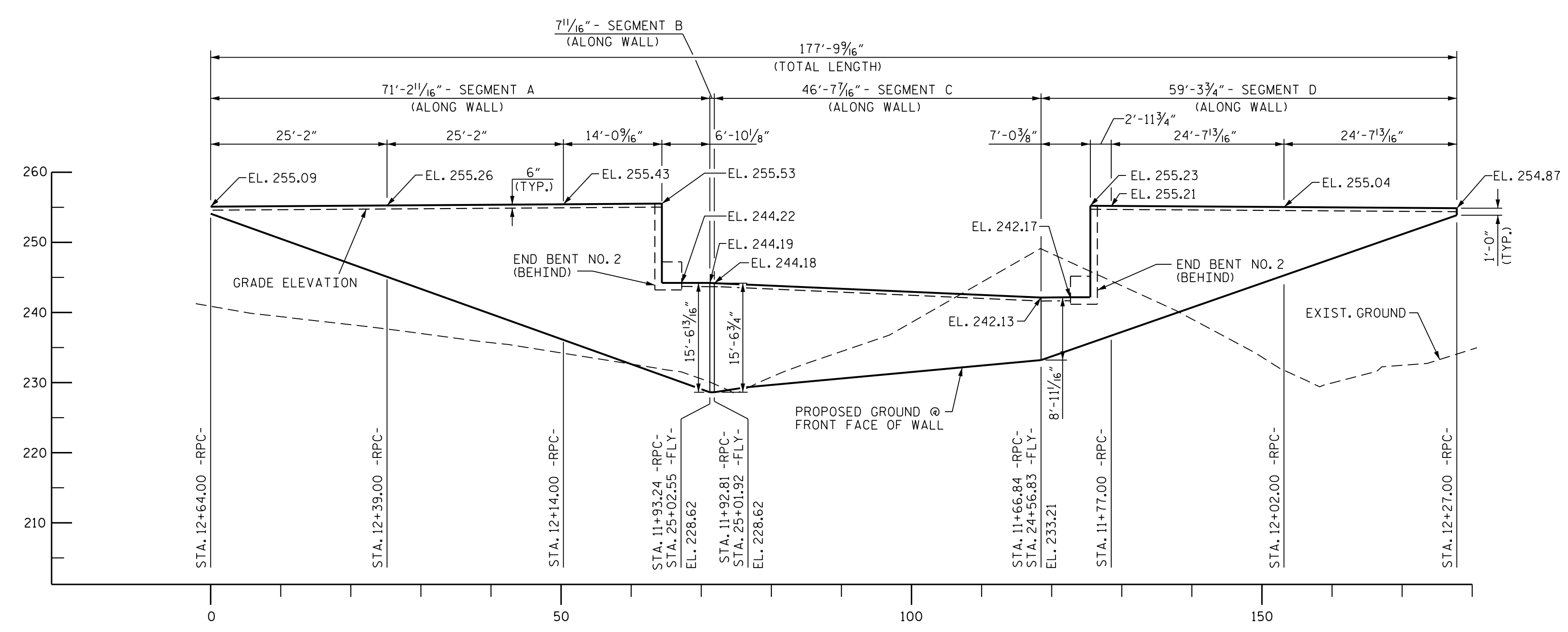
**NOTES:**  
SEE SHEET RW-1 FOR NOTES.



**PLAN**



**PARTIAL SECTION ALONG -RPC-**



**ELEVATION**

UNFOLDED VIEW, VIEWING FRONT FACE

TOTAL STRUCTURE QUANTITIES	
MECHANICALLY STABILIZED EARTH WALL	*2450 SQ. FT.

\*The MSE square foot quantity provided includes a two foot minimum embedment to the top of the leveling pad. See MECHANICALLY STABILIZED EARTH RETAINING WALLS Special Provision for embedment requirements.

PROJECT NO.: R-3421A

RICHMOND COUNTY

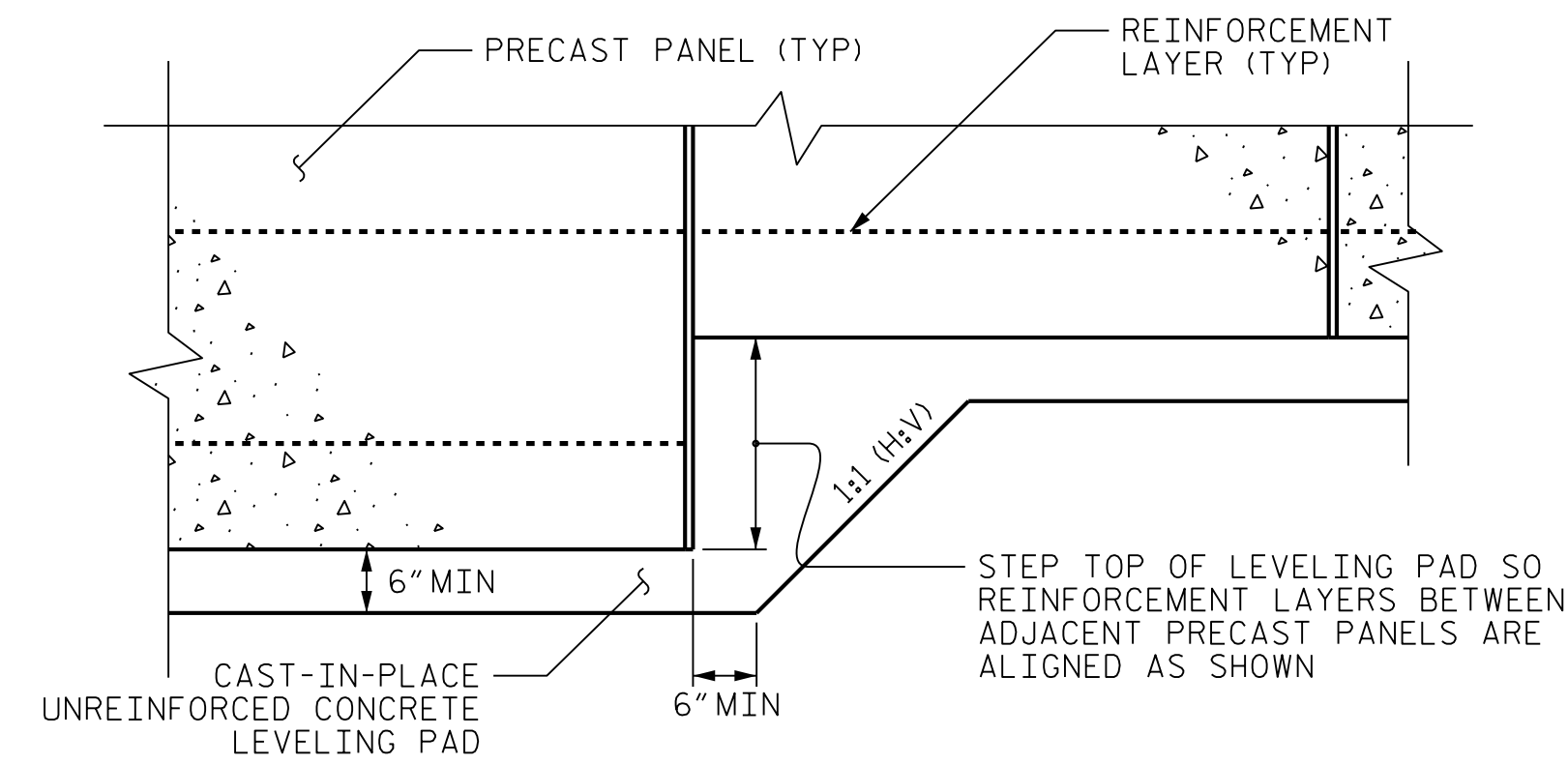
STATION: 11+47.77 -RPC-, 24+61.99 -FLY-

SHEET 1 OF 4

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MECHANICALLY STABILIZED Earth (MSE) Retaining Wall #6 Wall at Str #5, End Bent #2					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



**PRECAST CONCRETE PANELS  
LEVELING PAD STEP DETAILS**

**NOTES:**

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

A DRAIN IS REQUIRED ALONG THE FRONT FACE FOR RETAINING WALL NO. 6.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 6.

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

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

BEFORE BEGINNING MSE 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 FOR THE FOLLOWING:

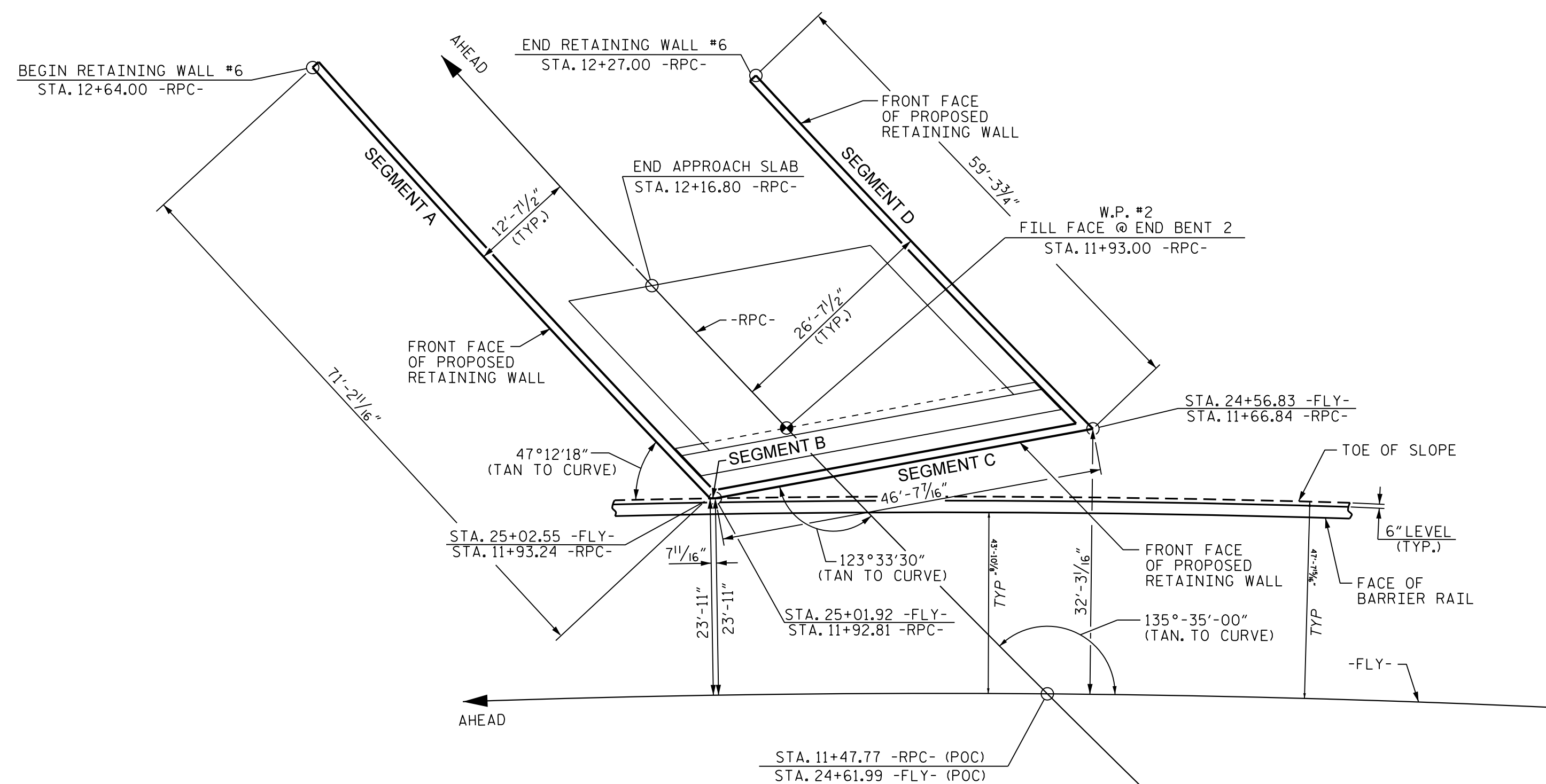
- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 6,500 LB/SF
- 4) AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0

\*SEE MSE RETAINING WALLS PROVISION FOR COARSE AGGREGATE MATERIAL REQUIREMENTS.

5) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0



**PLAN OF WALL**

DESIGN RETAINING WALL 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 REINFORCEMENT FOR RETAINING WALL.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 2. LOCATED IN STATION 11+93.00. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.

FOUNDATIONS FOR END BENT NO. 2 LOCATED AT STATION 11+93.00 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 6. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 11+47.77 - RPC, 24+61.99 - FLY-  
 SHEET 2 OF 4



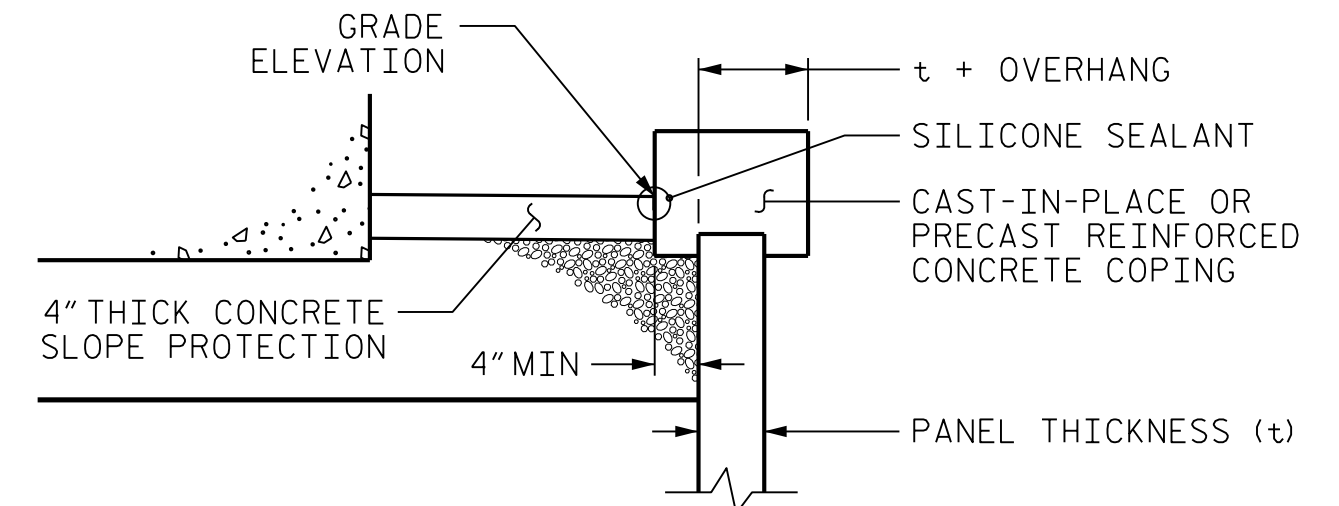
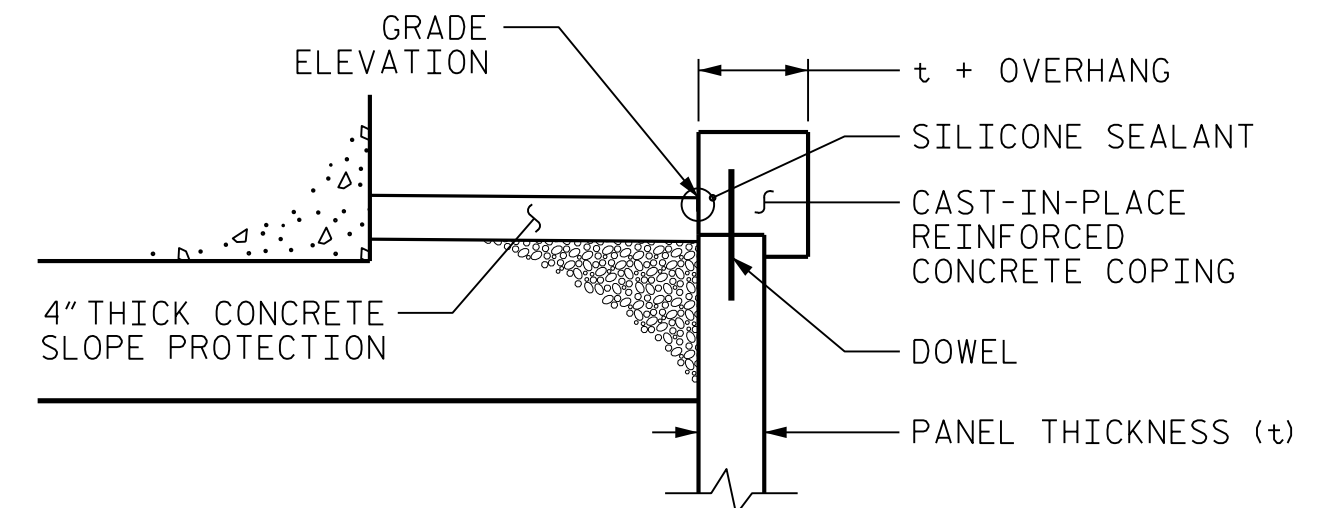
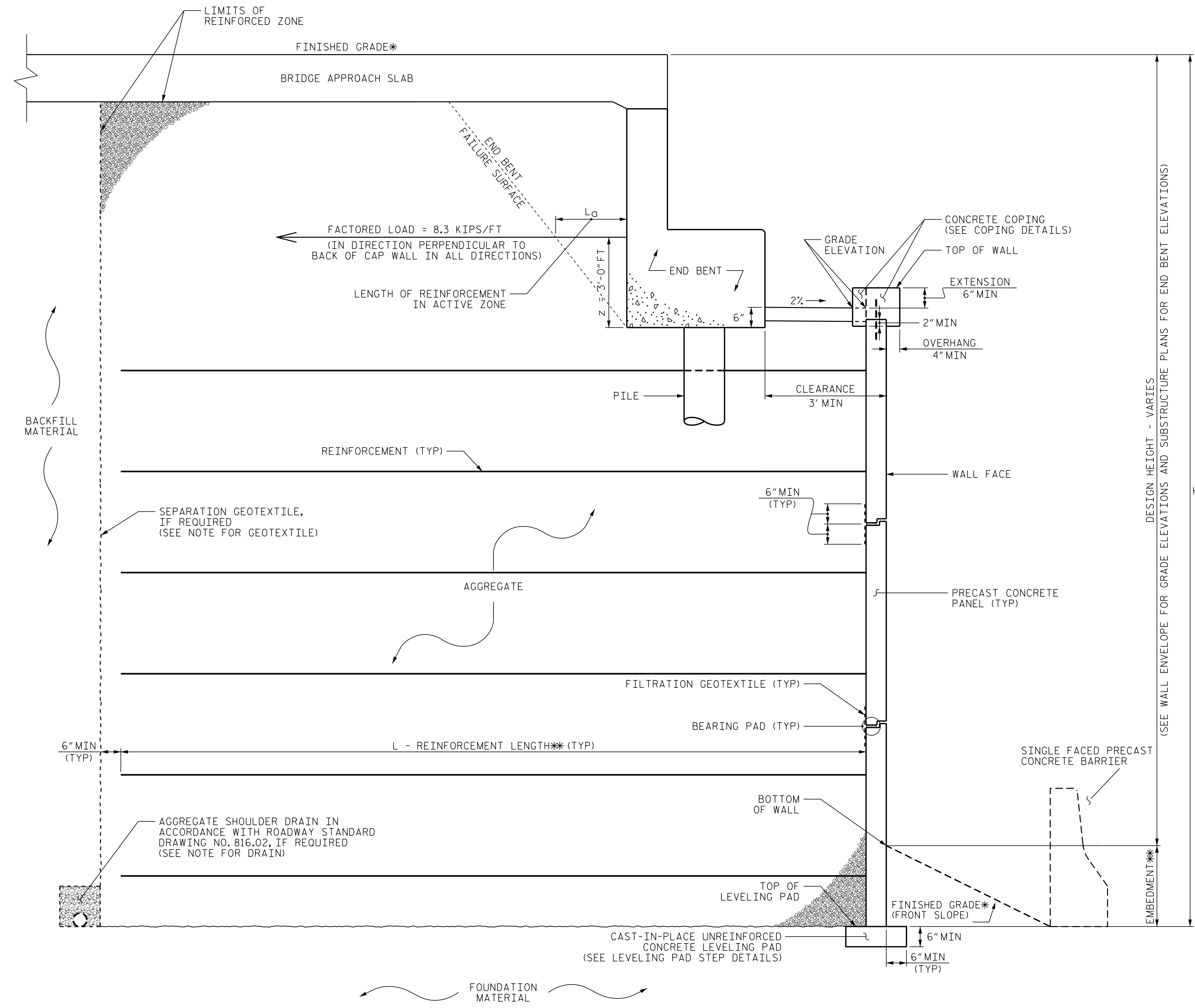
**NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**GEOTECHNICAL  
ENGINEERING UNIT**

**Mechanically Stabilized Earth (MSE)  
Retaining Wall #6  
Wall at Str #5, End Bent #2**

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

SHEET NO. W-22



**COPING DETAILS**  
AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.

**MSE ABUTMENT WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
\*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

PROJECT NO.: R-3421A  
RICHMOND COUNTY  
STATION: 11+47.77 -RPC-, 24+61.99 - FLY-  
SHEET 3 OF 4

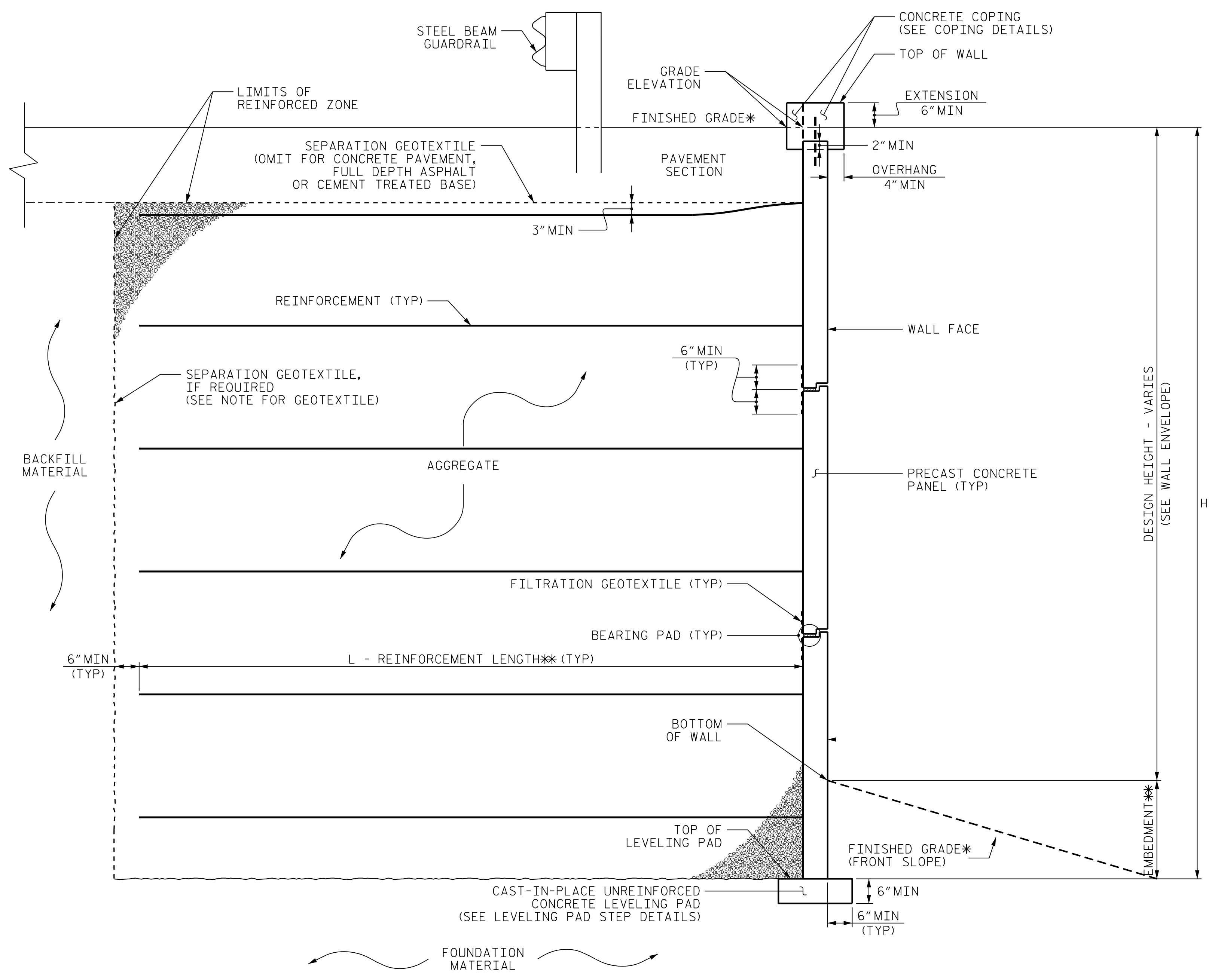
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE)  
Retaining Wall #6  
Wall at Str #5, End Bent #2

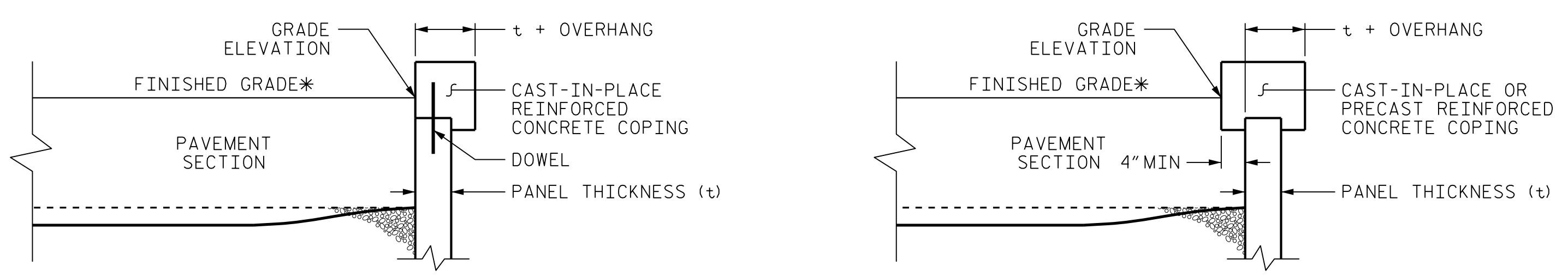
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-23
2			4			

PREPARED BY: CGM	DATE: 9/2015
REVIEWED BY: BDK	DATE: 9/2015



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: R-3421A  
 RICHMOND COUNTY  
 STATION: 11+47.77 - RPC- , 24+61.99 - FLY-  
 SHEET 4 OF 4

**NORTH CAROLINA**  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**GEOTECHNICAL**  
**ENGINEERING UNIT**

Mechanically Stabilized Earth (MSE)  
 Retaining Wall #6  
 Wall at Str #5, End Bent #2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-24
2			4			