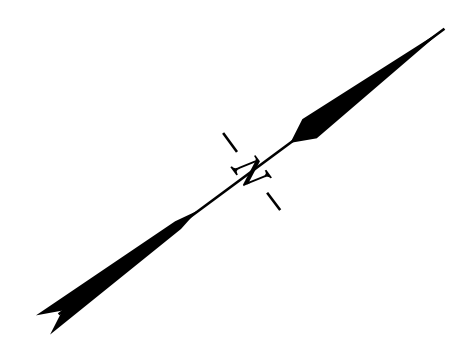
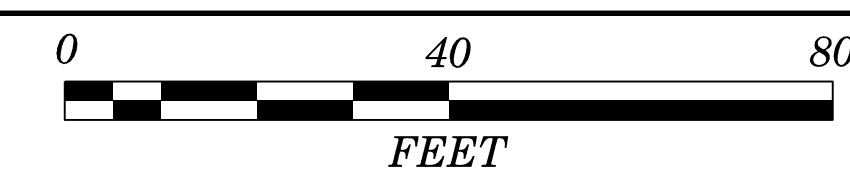


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DB 1486 PG 1

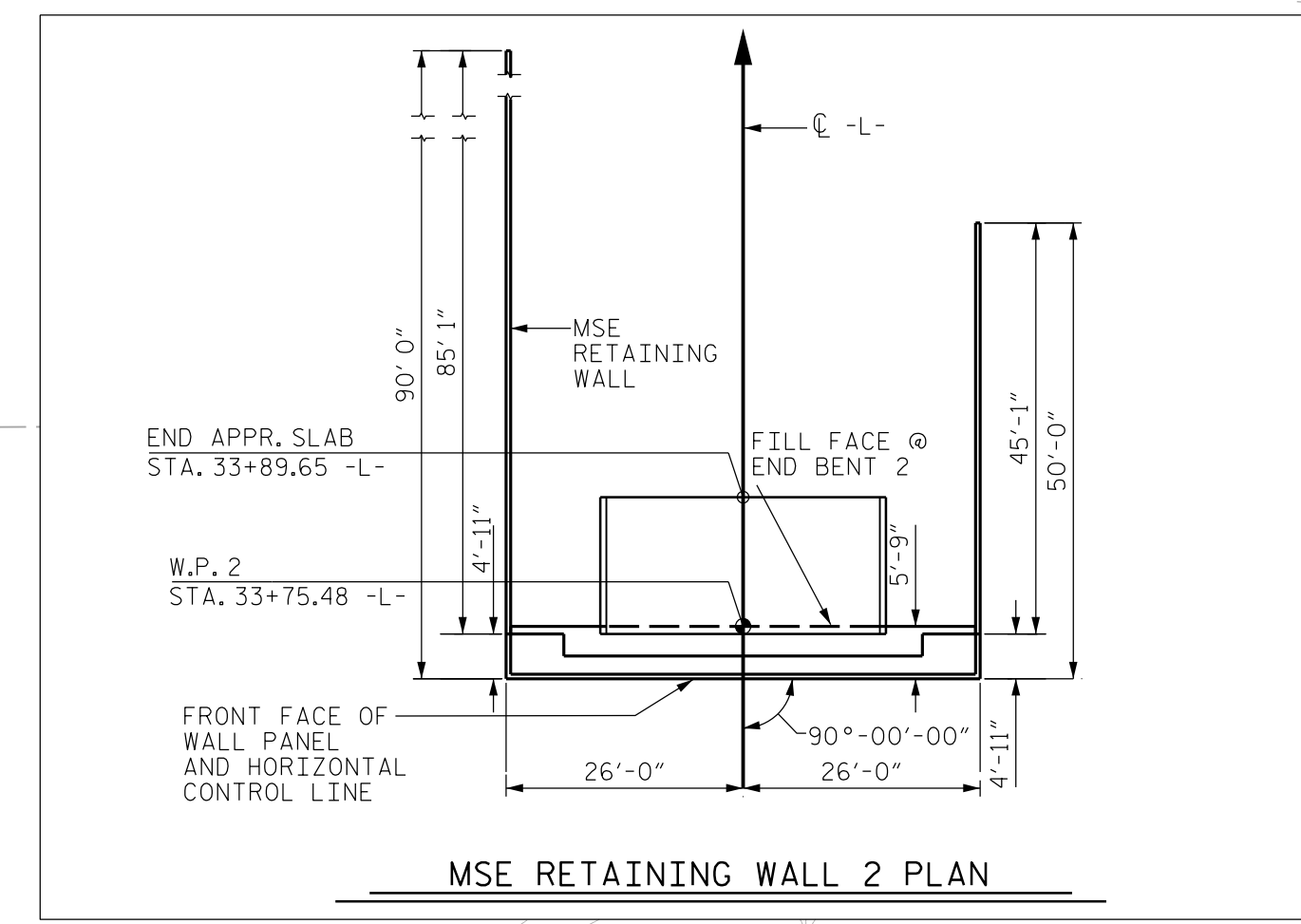
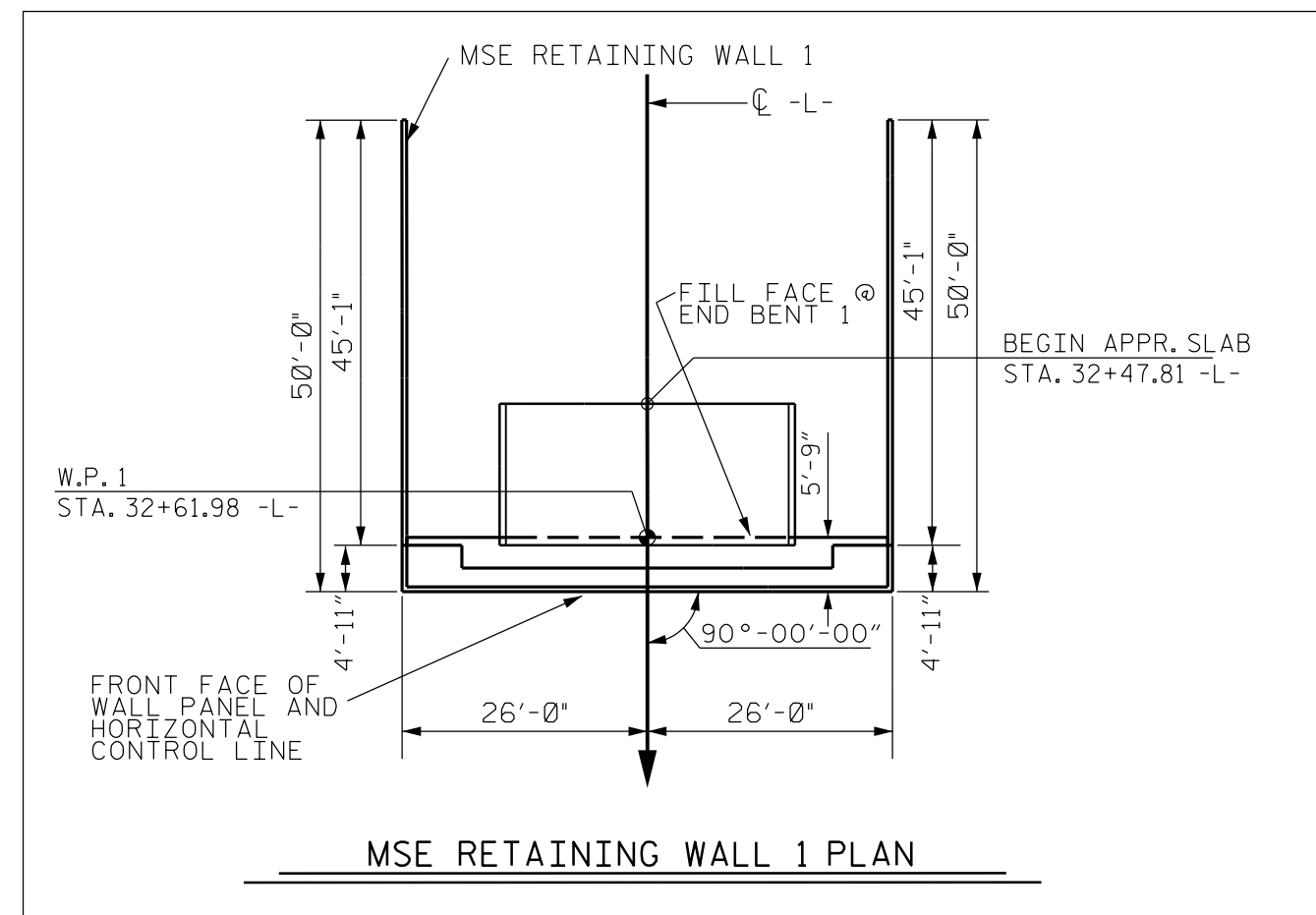
ESTIMATED TEMPORARY SHORING FOR WALL CONSTRUCTION QUANTITY (SQUARE FEET)	
AT MSE RETAINING WALL NO. 1	850
AT MSE RETAINING WALL NO. 2	850



GEOTECHNICAL ENGINEER
Matthew J. Alexander
Professional Seal
SEAL 040231
ENGINEER
MATTHEW J. ALEXANDER
10/3/2016

SIGNATURE _____ DATE _____

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1 ADDED APPROXIMATE TEMPORARY SHORING LOCATION AND QUANTITY ESTIMATE.

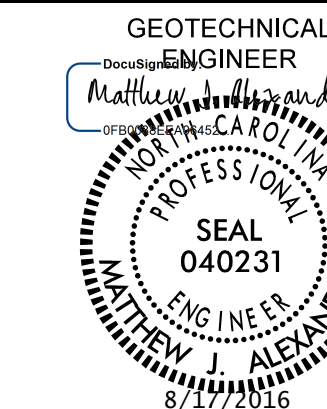
PREPARED BY: M. J. ALEXANDER	DATE: 06/2016
REVIEWED BY: A. A. NASH	DATE: 06/2016

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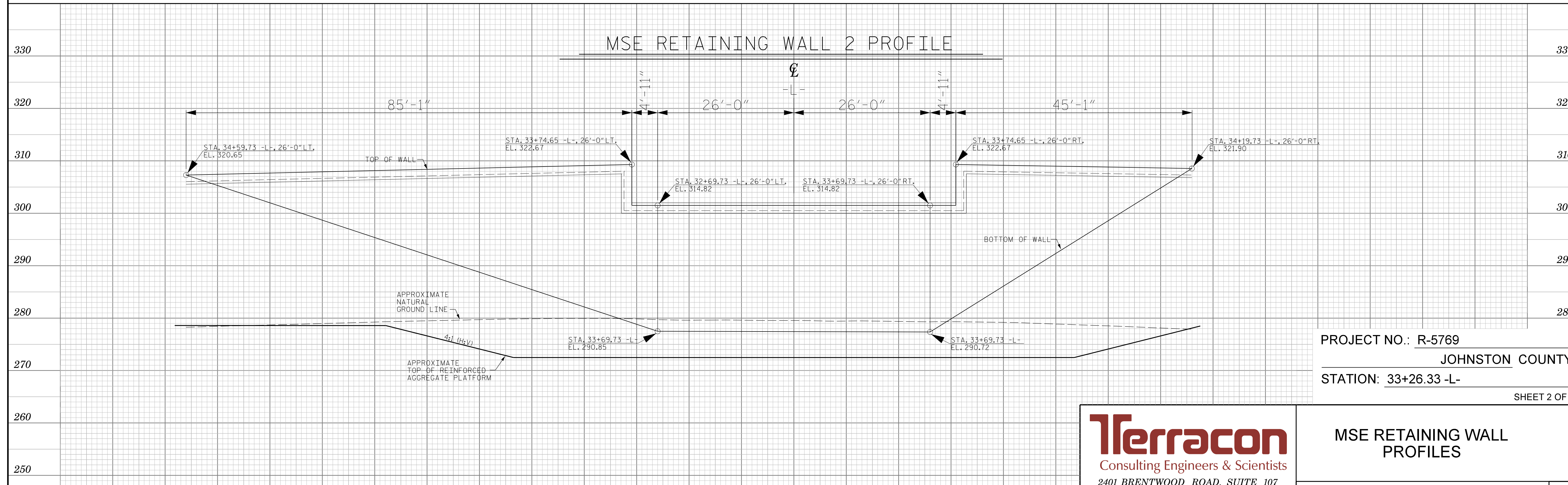
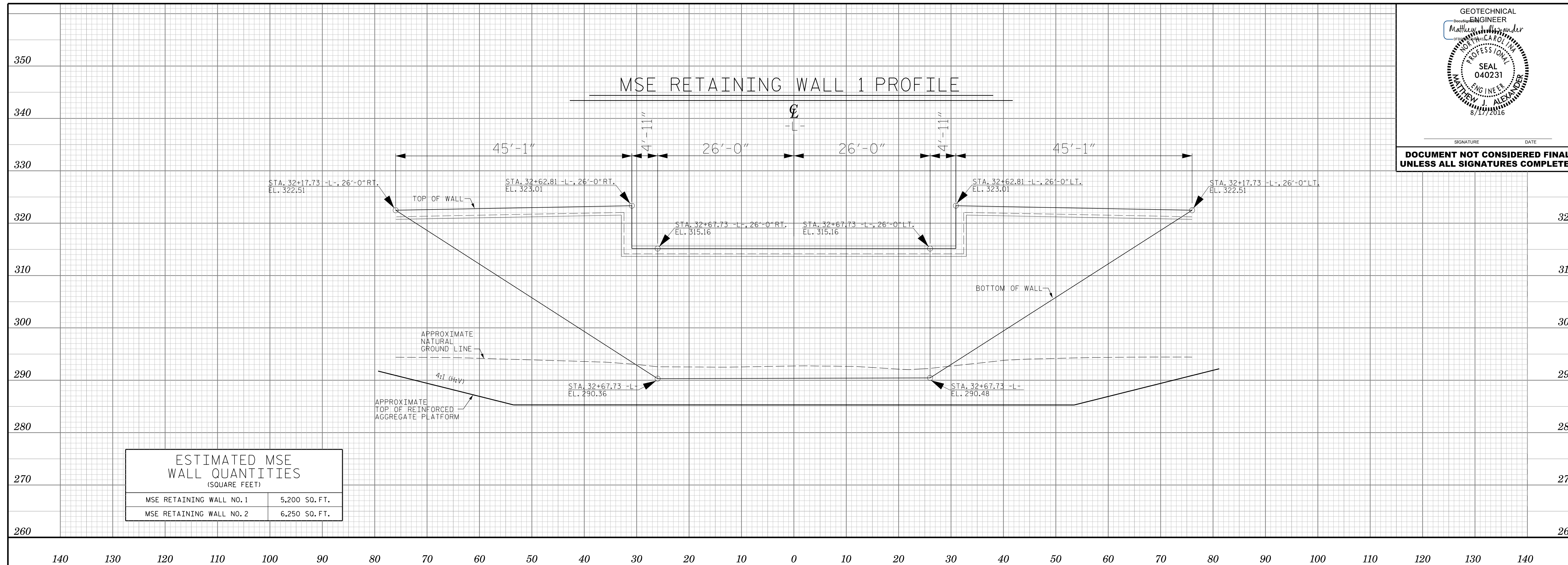
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STATION: 33+26.33 -L-

MSE RETAINING WALL LOCATION PLAN

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1	MJA	09/2016	3			W-1
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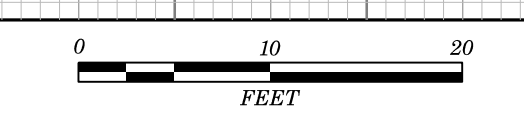


PROJECT NO.: R-5769
JOHNSTON COUNTY
STATION: 33+26.33 -L-
SHEET 2 OF 6

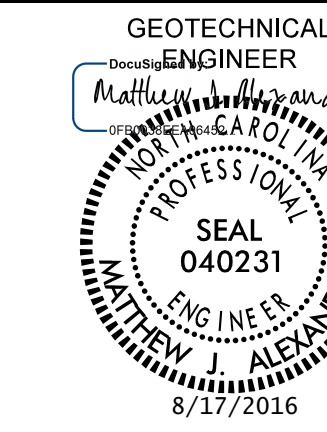
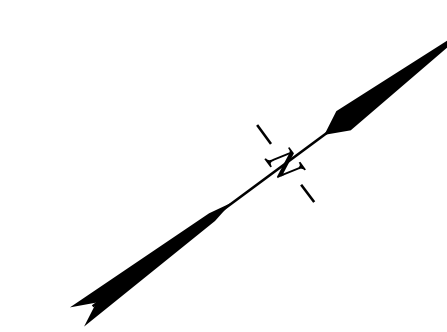
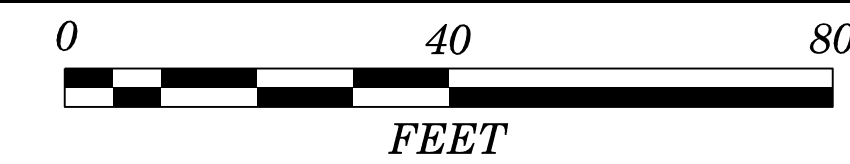
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1	MJA	07/2016	3			W-2
2			4			

PREPARED BY: W. D. FIELDS DATE: 06/2016
REVIEWED BY: A. A. NASH DATE: 06/2016

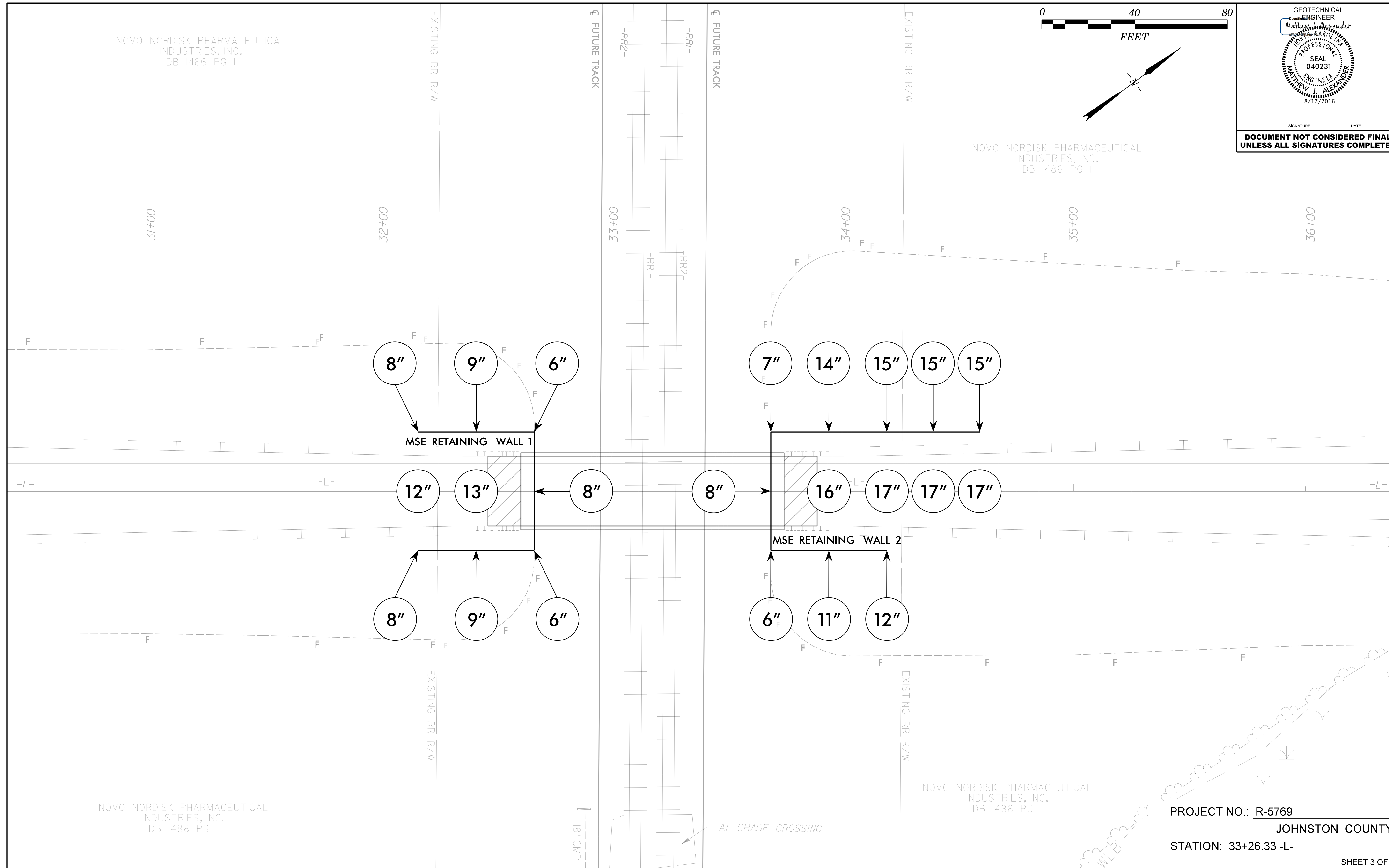


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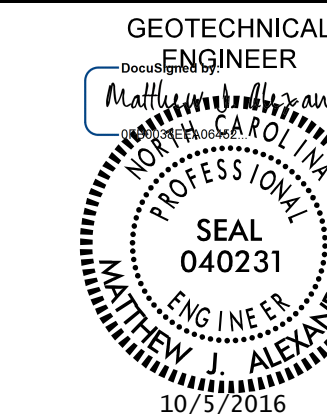
SHEET 3 OF 6

LEGEND	
(XX")	TOTAL ESTIMATED SETTLEMENT AT WALL LOCATION IN INCHES
PREPARED BY: M. J. ALEXANDER	DATE: 06/2016
REVIEWED BY: A. A. NASH	DATE: 06/2016

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MSE RETAINING WALL
ESTIMATED SETTLEMENT

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2			4			



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NOTES:

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

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

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALLS NO.1 AND 2.

A DRAIN IS NOT REQUIRED FOR RETAINING WALLS NO.1 AND 2.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALLS NO.1 AND 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 WALLS NO.1 AND 2 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 8,250 LB/SF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
- 5) EMBEDMENT ELEVATION FOR WALL FACES PARALLEL TO NORFOLK SOUTHERN RAILROAD = 285.3 FT
- 6) EMBEDMENT DEPTH FOR WALL FACES PERPENDICULAR TO NORFOLK SOUTHERN RAILROAD = H/7 OR 2 FT, BUT NOT DEEPER THAN TOP OF REINFORCED AGGREGATE PLATFORM
- 7) REINFORCED ZONE 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 AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

8) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
BACKFILL	125	34	0
FOUNDATION	N/A	N/A	N/A

THE MINIMUM EMBEDMENT ELEVATION FOR THE WALL FACES PARALLEL TO THE NORFOLK SOUTHERN RAILROAD AT RETAINING WALLS NO.1 AND 2 INCLUDES EMBEDMENT FOR FUTURE CONSTRUCTION IN THE RAILROAD RIGHT-OF-WAY PER NORFOLK SOUTHERN RAILROAD.

DESIGN RETAINING WALLS NO.1 AND 2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

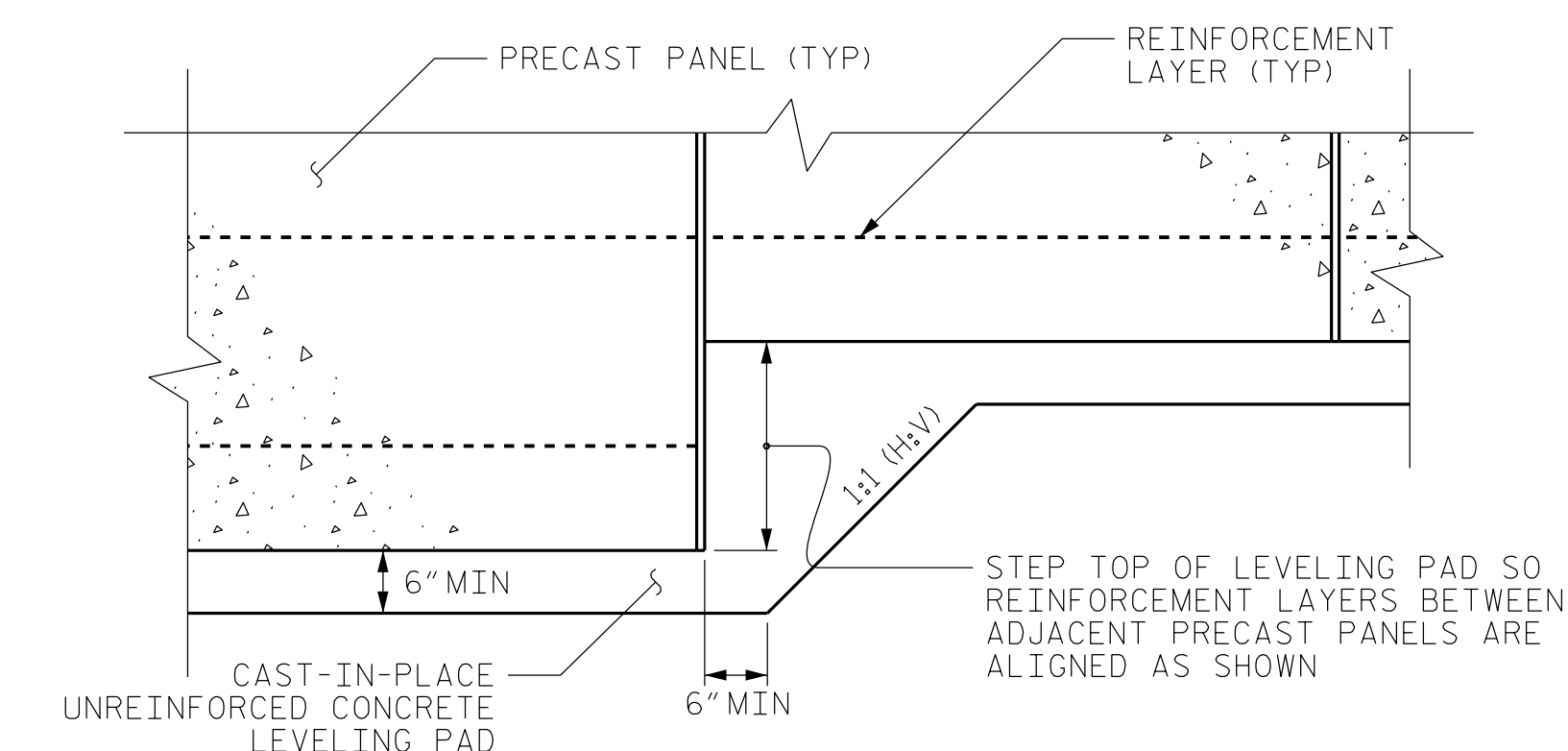
EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS NO.1 AND 2.

FOUNDATIONS FOR END BENT NO.1 LOCATED AT STATION 32+61.98 -L- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

FOUNDATIONS FOR END BENT NO.2 LOCATED AT STATION 33+75.48 -L- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

"TEMPORARY SHORING" IS REQUIRED FOR MSE RETAINING WALLS NO.1 AND 2 IN ACCORDANCE WITH THE MSE WALL AND TEMPORARY SHORING FOR WALL CONSTRUCTION SPECIAL PROVISIONS.

EXPOSED SURFACES OF MSE WALLS ARE TO RECEIVE A CONCRETE STAIN. FOR CONCRETE PENETRATING STAIN, SEE STRUCTURE SPECIAL PROVISIONS.



**PRECAST CONCRETE PANELS
LEVELING PAD STEP DETAIL**

1 REVISED TEMPORARY SHORING REFERENCE TO MSE WALL SPECIAL PROVISION AND TEMPORARY SHORING FOR WALL CONSTRUCTION SPECIAL PROVISION.

PREPARED BY: M. J. ALEXANDER	DATE: 06/2016
REVIEWED BY: A. A. NASH	DATE: 06/2016

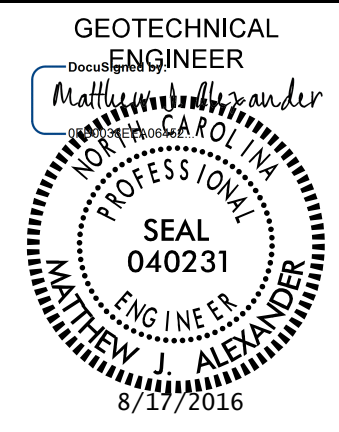
PROJECT NO.: R-5769
JOHNSTON COUNTY
STATION: 33+26.33 -L-

SHEET 4 OF 6

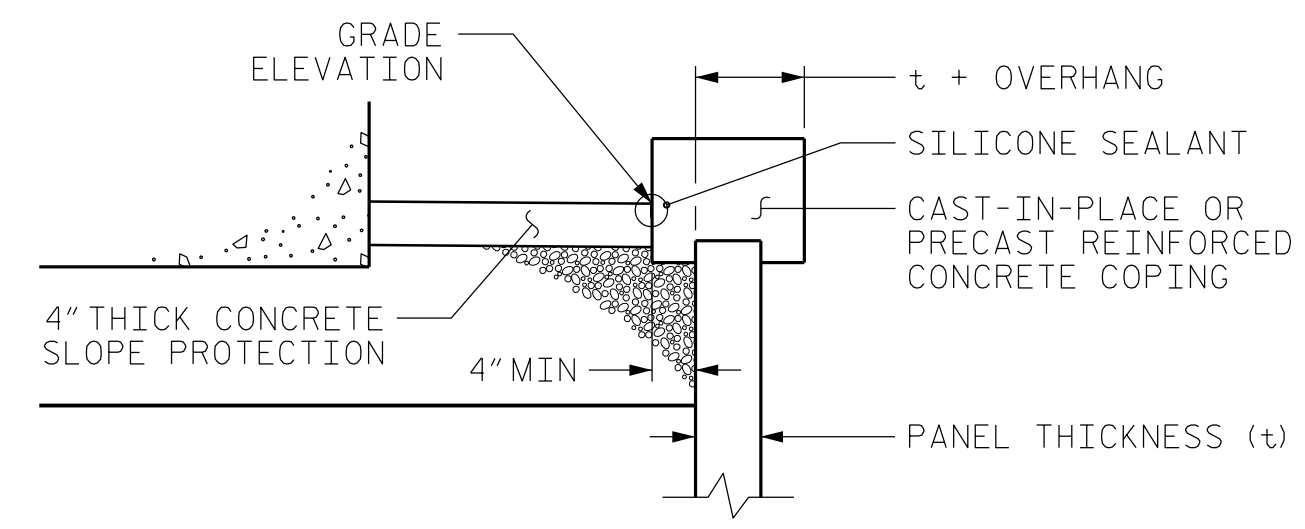
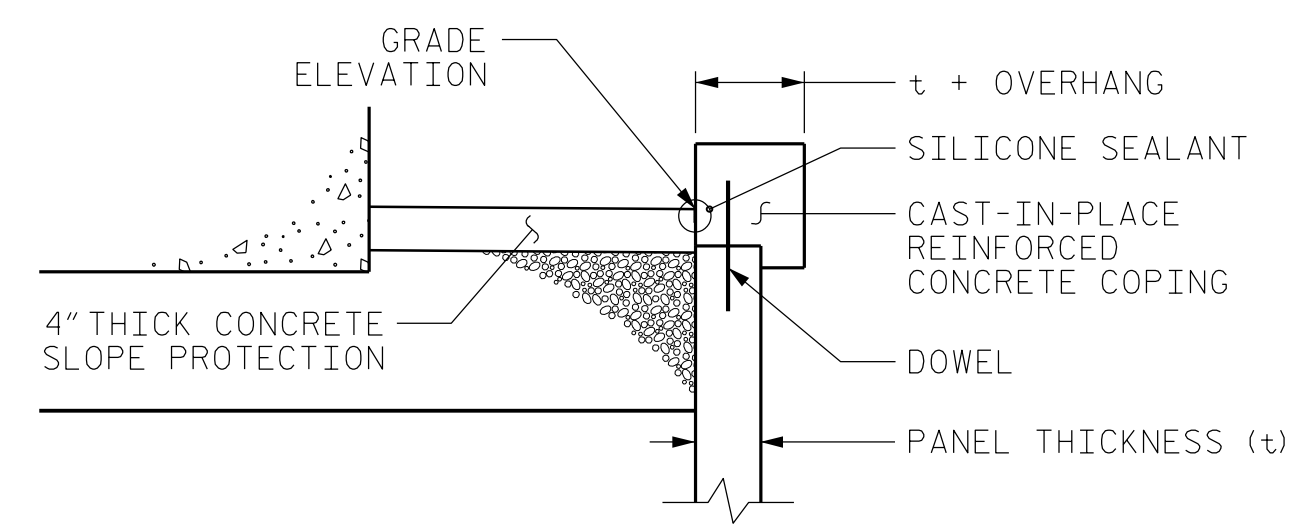
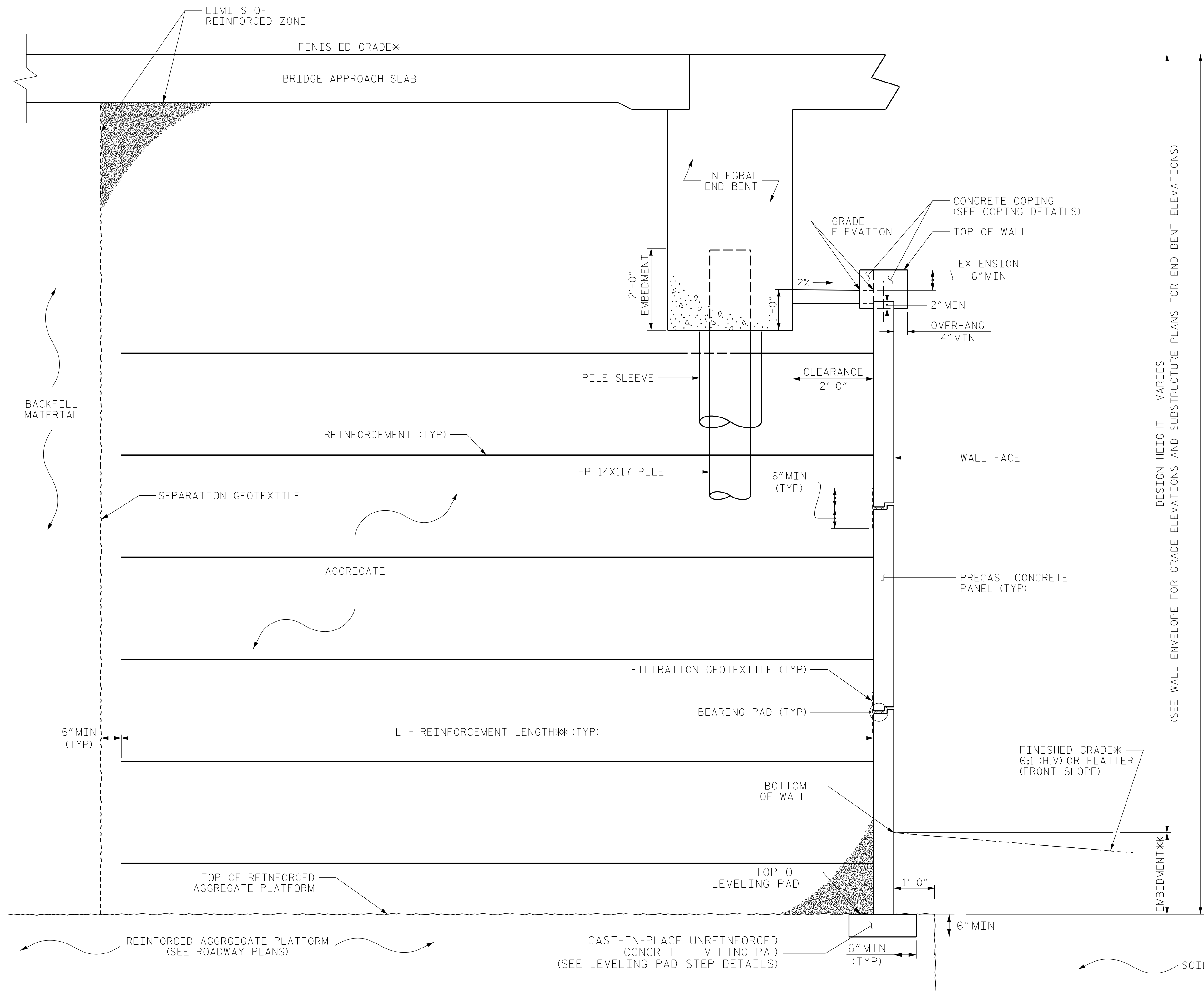
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**MSE RETAINING WALL
NOTES**

REVISIONS						SHEET NO.
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1	MJA	10/2016	3			W-4
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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-5769
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STATION: 33+26.33 -L-

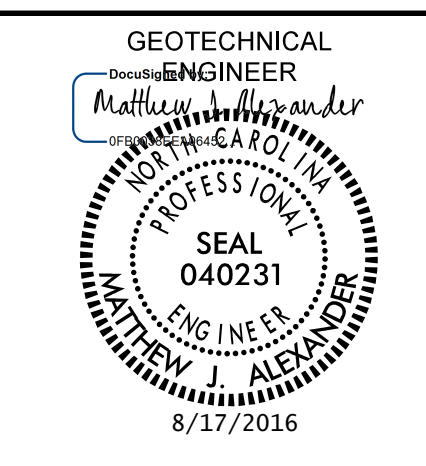
SHEET 5 OF 6

PREPARED BY: M. J. ALEXANDER	DATE: 06/2016
REVIEWED BY: A. A. NASH	DATE: 06/2016

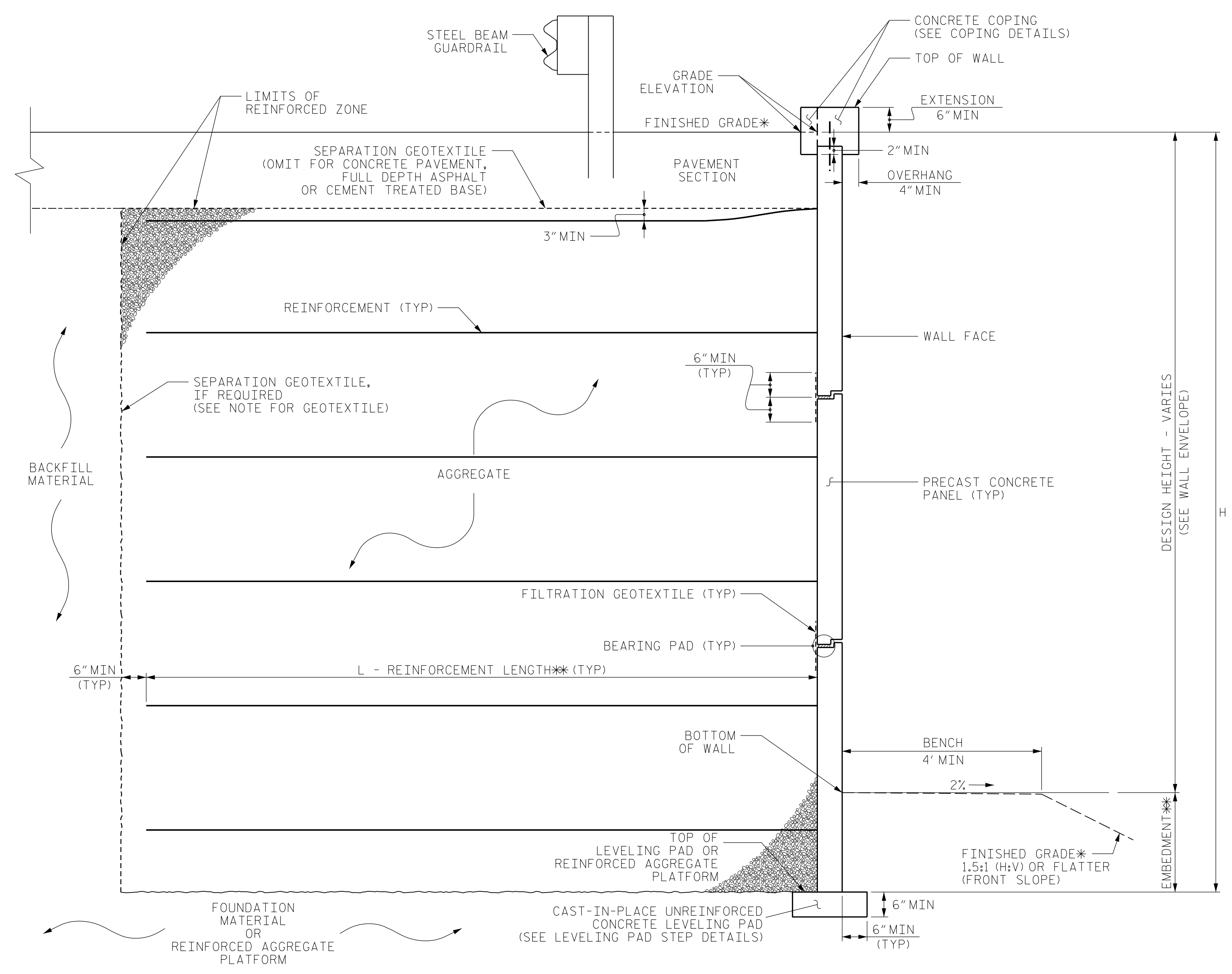
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**MSE RETAINING WALL
TYPICAL SECTION
WITH BRIDGE PILES**

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1	MJA	07/2016	3			W-5
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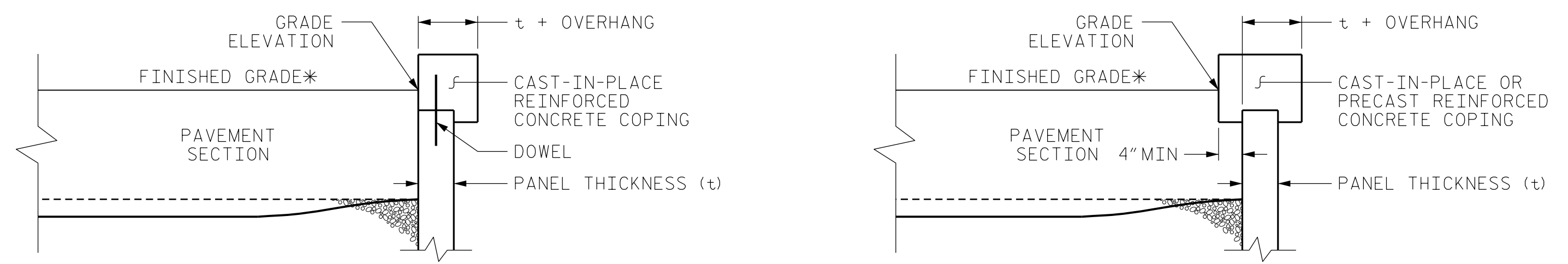


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MSE WALL WITH PRECAST PANELS - TYPICAL SECTION

*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-5769
JOHNSTON COUNTY
STATION: 33+26.33 -L-

SHEET 6 OF 6

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**MSE RETAINING WALL
TYPICAL SECTION**

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NO.	BY	DATE	NO.	BY	DATE
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2			4		

PREPARED BY: M. J. ALEXANDER	DATE: 06/2016
REVIEWED BY: A. A. NASH	DATE: 06/2016

SHEET NO.
W-6

