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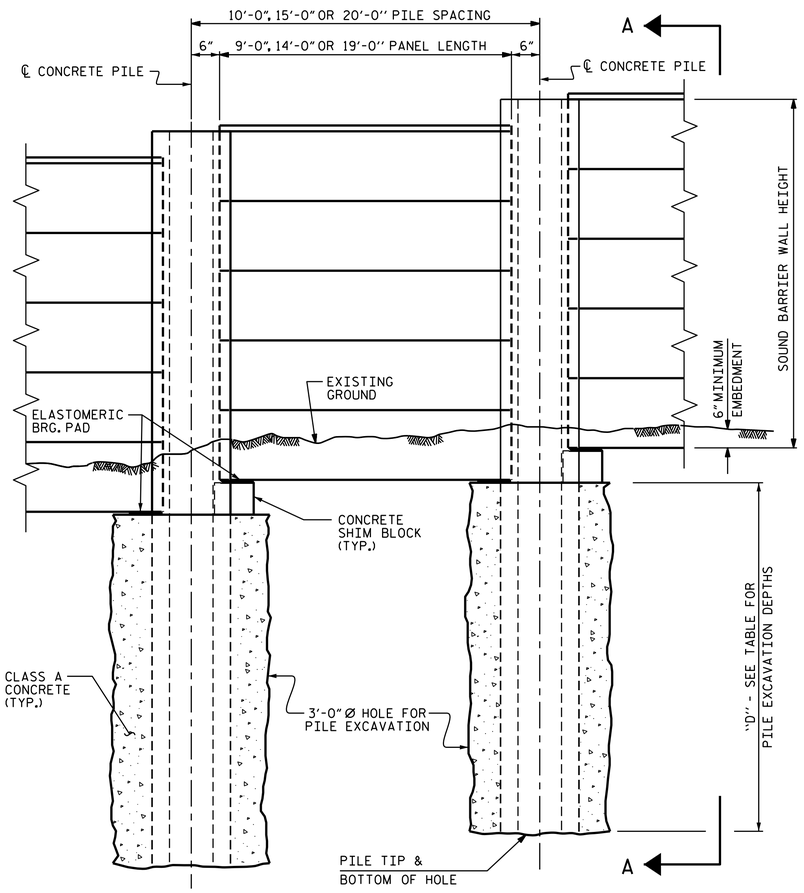
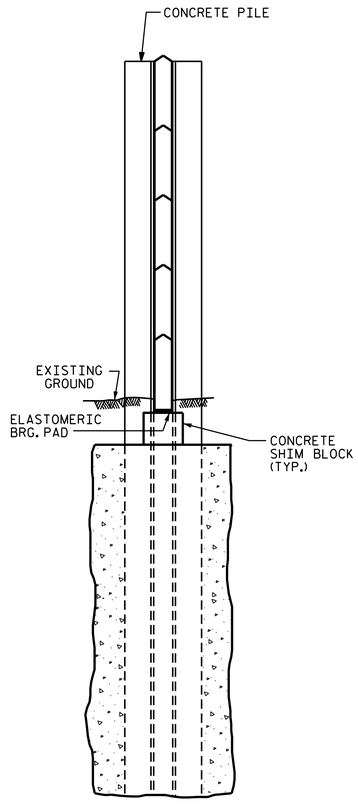


ELEVATION



SECTION A-A

PILE EXCAVATION DEPTHS "D"

WALL #2	FROM : STA. 10+00.00 -NW2REV- TO : STA. 15+00.00 -NW2REV-	
3'-0" Ø HOLE	PILE SPACING	WALL HEIGHT H = 10' - 14'
	10'-0"	✳ 10'-0"
	15'-0"	✳ 11'-0"
WALL #2	FROM : STA. 15+00.00 -NW2REV- TO : STA. 17+65.00 -NW2REV-	
3'-0" Ø HOLE	PILE SPACING	WALL HEIGHT H = 14'
	10'-0"	✳ 10'-0"
	15'-0"	✳ 10'-0"

✳ OR MINIMUM 5'-0" DEPTH WITH A MINIMUM 3'-0" ROCK SOCKET.

NOTES

FOR NOISE WALL, SEE SPECIAL PROVISIONS.

CONSTRUCT SOUND BARRIER WALL TO LINES AND GRADES SHOWN ON THE ROADWAY PLANS.

PROVIDE PANELS WITH A FLAT BOTTOM.

VERIFY THE LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING HOLES TO ENSURE SUFFICIENT CLEARANCE IS AVAILABLE.

ADJUST PILE EXCAVATION ELEVATIONS TO MAINTAIN 6" MINIMUM EMBEDMENT OF THE BOTTOM PANEL.

USE CLASS AA FOR PANELS AND CLASS A CONCRETE PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-4 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE 10'-0", 15'-0", OR 20'-0" PILE SPACINGS. STANDARD PRECAST CONCRETE PANELS MAY BE USED WITH THE 10'-0" AND 15'-0" PILE SPACING. FOR 20'-0" PILE SPACING, PANELS DESIGNED AND MANUFACTURED BY A THIRD PARTY VENDER SHALL BE USED.

FOR SOUND BARRIER WALL STATIONS, OFFSETS, AND WALL ENVELOPE, SEE ROADWAY PLANS.

PLACE 1" Ø BACKER RODS FULL HEIGHT ON EACH SIDE OF THE PRECAST PANELS. SET AND SEAL THE BACKER ROD IN PLACE WITH SEALANT THAT CONFORMS WITH ARTICLE 1028-3 OF THE STANDARD SPECIFICATIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

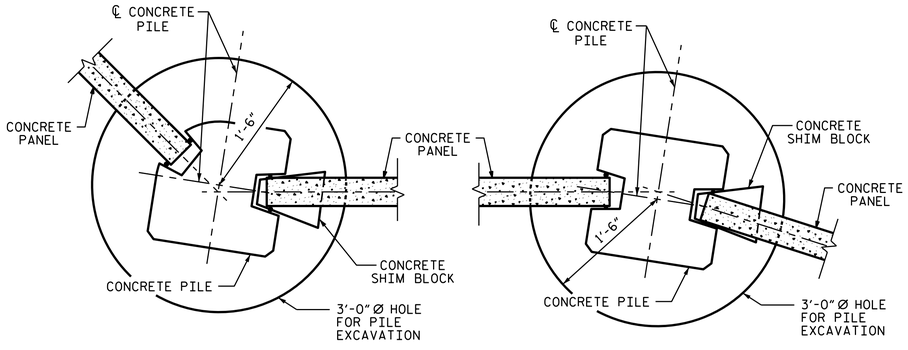
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR ARCHITECTURAL CONCRETE SURFACE TREATMENT OF NOISE WALL, SEE SPECIAL PROVISIONS.

PILE REINFORCING STEEL
DESIGN WIND PRESSURE = 40 PSF

PILE TYPE I				PILE TYPE III			
PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES	PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES
10'-0"	H ≤ 25'	4 - #8 EA. FACE	#3 @ 1'-4" CTS.	10'-0"	H ≤ 25'	3 - #9 SHORT FACE 4 - #9 LONG FACE	#3 @ 1'-4" CTS.
15'-0"	H ≤ 20'	4 - #8 EA. FACE	#3 @ 1'-4" CTS.	15'-0"	H ≤ 20'	3 - #9 SHORT FACE 4 - #9 LONG FACE	#3 @ 1'-4" CTS.
	20'< H ≤ 25'	4 - #10 EA. FACE	#3 @ 1'-4" CTS.		20'< H ≤ 25'	3 - #11 SHORT FACE 4 - #11 LONG FACE	#3 @ 1'-4" CTS.
20'-0"	H ≤ 20'	4 - #9 EA. FACE	#3 @ 1'-4" CTS.	20'-0"	H ≤ 20'	3 - #10 SHORT FACE 4 - #10 LONG FACE	#3 @ 1'-4" CTS.
	20'< H ≤ 25'	4 - #11 EA. FACE	#3 @ 1'-4" CTS.				

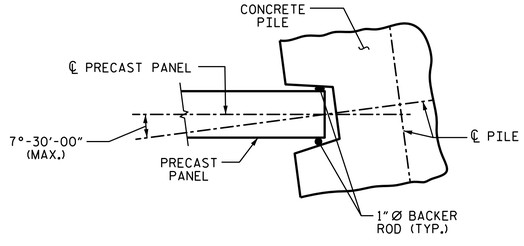
PILE TYPE II				PILE TYPE III ALT.			
PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES	PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES
10'-0"	H ≤ 25'	4 - #6 EA. FACE	#3 @ 1'-4" CTS.	10'-0"	H ≤ 25'	3 - #9 SHORT FACE 4 - #9 LONG FACE	#3 @ 1'-4" CTS.
15'-0"	H ≤ 20'	4 - #6 EA. FACE	#3 @ 1'-4" CTS.	15'-0"	H ≤ 20'	3 - #9 SHORT FACE 4 - #9 LONG FACE	#3 @ 1'-4" CTS.
	20'< H ≤ 25'	4 - #7 EA. FACE	#3 @ 1'-4" CTS.		20'< H ≤ 25'	3 - #11 SHORT FACE 4 - #11 LONG FACE	#3 @ 1'-4" CTS.
20'-0"	H ≤ 20'	4 - #6 EA. FACE	#3 @ 1'-4" CTS.	20'-0"	H ≤ 20'	3 - #10 SHORT FACE 4 - #10 LONG FACE	#3 @ 1'-4" CTS.
	20'< H ≤ 25'	4 - #8 EA. FACE	#3 @ 1'-4" CTS.				



15° TO 45° TURNS
(PILE TYPE III)

0° TO 15° TURNS
(PILE TYPE I)

TYPICAL WALL TURN DETAILS



PILE ROTATION LIMIT FOR WALL TURN

(ROTATE THE CONCRETE PILE ±7°-30'-00" TO ACCOMMODATE WALL TURN.)

BILL OF MATERIAL

NOISE WALL	9990 S.F.
ARCHITECTURAL CONCRETE SURFACE TREATMENT OF NOISE WALL	9990 S.F.

QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.

PROJECT NO. U-3330

NASH COUNTY

STATION: 30+80.70 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

NOISE WALL

NORTH CAROLINA PROFESSIONAL SEAL 21271 ENGINEER GREGORY W. DICKEY

DocuSigned by: Greg Dickey 8A4E46B8CE5B486...
3/29/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SW-1
1			3			TOTAL SHEETS
2			4			3

ASSEMBLED BY : William T. Parker	DATE : 04/16	ADDED	10/1/11
CHECKED BY : H. A. LOCKLEAR	DATE : 12/16	REV. 1/15/14	RWW/TMG
DRAWN BY : MAA 6/11		REV. 9/26/14	MAA/TMG
CHECKED BY : GM 6/11			

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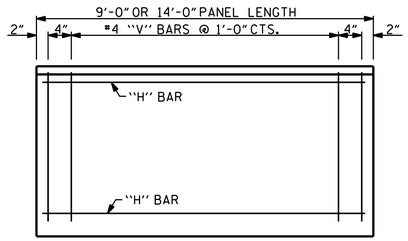
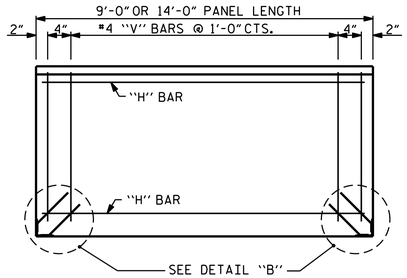
gdickey

STD. NO. SBW1



FRONT ELEVATION OF UPPER PRECAST PANELS



FRONT ELEVATION OF BOTTOM PRECAST PANEL

QUANTITIES FOR ONE PRECAST PANEL (FOR 10'-0" PILE SPACING)

PANEL HEIGHT	CLASS AA CONCRETE	BAR TYPES												
		HORIZONTAL							VERTICAL					
	C.Y.	NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)	NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)
2'-0"	0.22	3	H1	#4	STR	8'-8"	17	11	V1	#4	STR	1'-8"	12
3'-0"	0.33	4	H2	#4	STR	8'-8"	23	11	V2	#4	STR	2'-8"	20
4'-0"	0.44	5	H3	#4	STR	8'-8"	29	11	V3	#4	STR	3'-8"	27

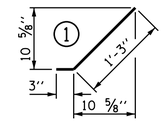
QUANTITIES FOR ONE PRECAST PANEL (FOR 15'-0" PILE SPACING)

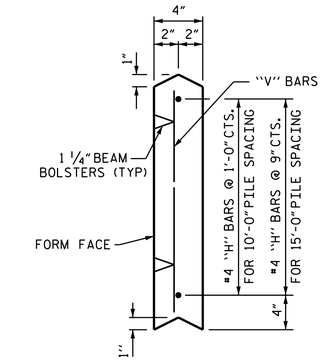
PANEL HEIGHT	CLASS AA CONCRETE	BAR TYPES												
		HORIZONTAL							VERTICAL					
	C.Y.	NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)	NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)
3'-0"	0.52	5	H1	#4	STR	13'-8"	46	16	V1	#4	STR	2'-8"	29
4'-0"	0.69	6	H2	#4	STR	13'-8"	55	16	V2	#4	STR	3'-8"	39
5'-0"	0.86	7	H3	#4	STR	13'-8"	64	16	V3	#4	STR	4'-8"	50
6'-0"	1.04	8	H4	#4	STR	13'-8"	73	16	V4	#4	STR	5'-8"	61

ADDITIONAL BARS FOR ONE BOTTOM PANEL

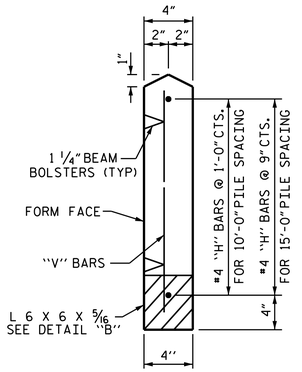
NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)
4	S1	#5	1	1'-6"	6

BAR TYPE

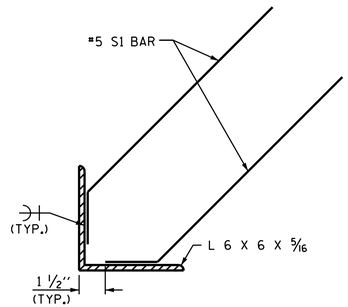




UPPER PANEL

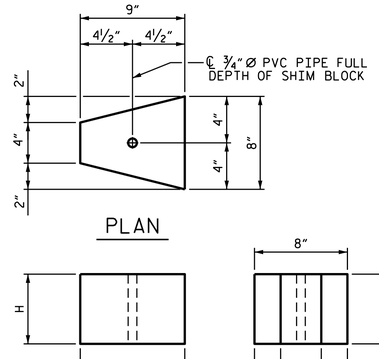


BOTTOM PANEL



DETAIL "B"

SECTION THROUGH PRECAST PANELS

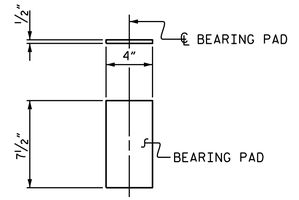


PLAN

ELEVATION END

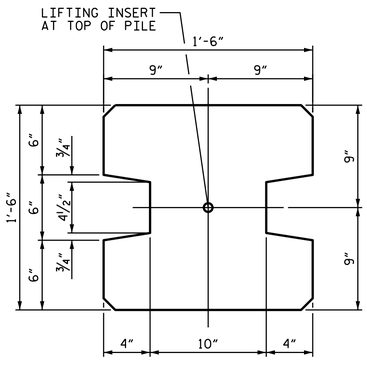
CONCRETE SHIM BLOCK

H = 3", 6" or 1'-0"

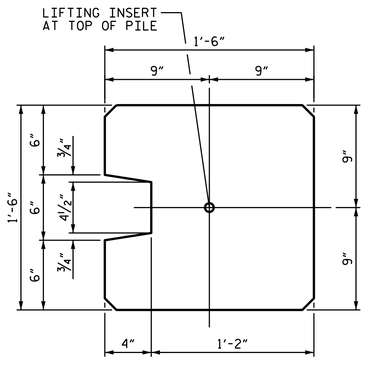


ELASTOMERIC BEARING DETAILS

ELASTOMER IN BEARINGS SHALL BE 50 DUROMETER HARDNESS.



TYPE - I
(AREA = 1.9444 SQ. FT.)



TYPE - II
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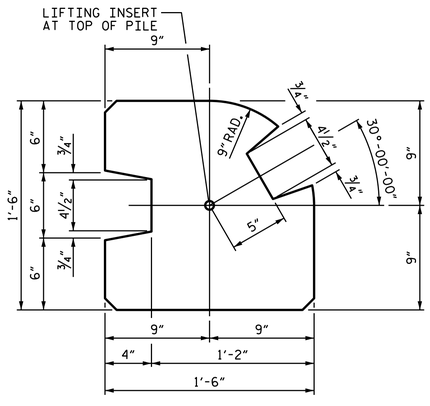
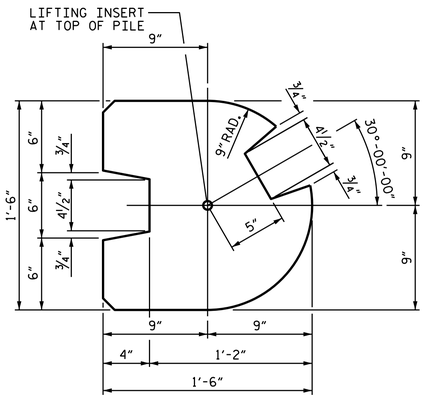


TYPE - III
(AREA = 1.8336 SQ. FT.)



TYPE - III (ALT.)
(AREA = 1.7163 SQ. FT.)

PILE DETAIL

(ALL CORNERS TO BE CHAMFERED 1")

NORTH CAROLINA PROFESSIONAL SEAL 21271 ENGINEER GREGORY W. DICKEY

DocuSigned by: Greg Dickey 3/28/2017

PROJECT NO. U-3330

NASH COUNTY

STATION: 30+80.70 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

NOISE WALL DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SW-2
1			3			TOTAL SHEETS
2			4			3

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ASSEMBLED BY : William T. Parker		DATE : 04/16	
CHECKED BY : H. A. LOCKLEAR		DATE : 12/16	
DRAWN BY : MAA 6/11	ADDED	8/31/11	
CHECKED BY : GM 6/11	REV. 1/15/14	RWW/TMG	

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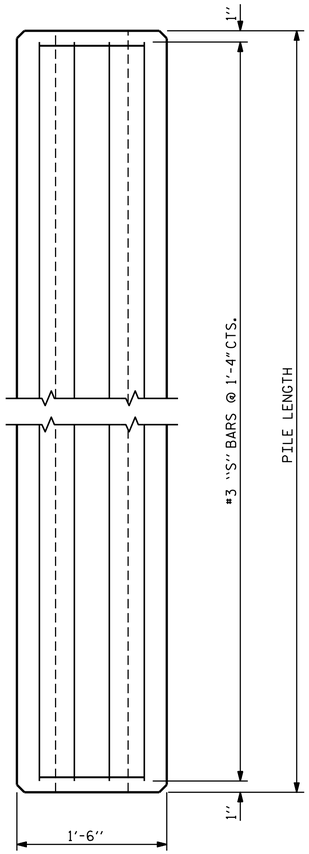
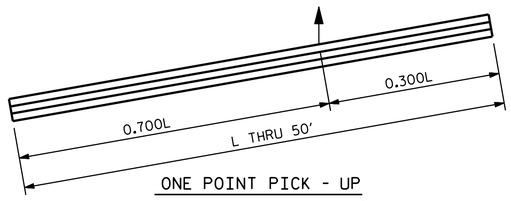
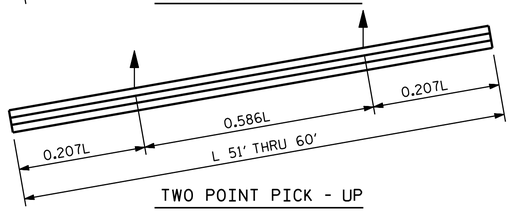
STD. NO. SBW2



ELEVATION



ONE POINT PICK - UP



TWO POINT PICK - UP

PICK - UP POINTS

NOTES

CONCRETE DESIGN DATA : f'c = 5,000 PSI

PROPOSED DEVICES FOR LIFTING PILES, RECESS DETAILS, AND PATCHING MATERIAL SHALL BE DETAILED IN SHOP DRAWINGS. AFTER ATTACHMENTS HAVE BEEN REMOVED, OPENINGS SHALL BE REPAIRED SUCH THAT THE APPEARANCE OF THE PILE IS UNIFORM.

WHERE CAST-IN-PLACE LIFTING DEVICES ARE NOT USED, PICK-UP POINTS TO BE INDICATED WITH A BLACK MARK 2" WIDE.

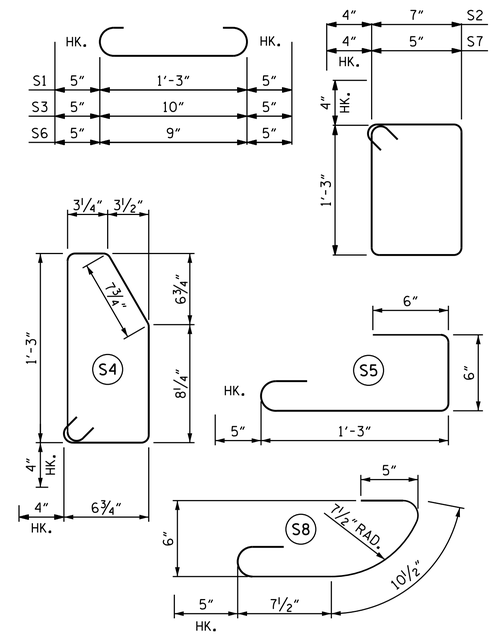
THE SLIP-FORM METHOD OF CASTING PILES WILL NOT BE PERMITTED.

ALL CORNERS TO BE CHAMFERED 1".

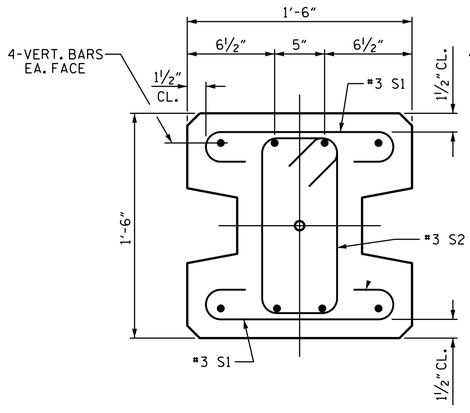
QUANTITIES FOR ONE PRECAST CONCRETE PILE

LENGTH	APPROX. PILE WT. TONS	ONE PICK-UP POINT		TWO PICK-UP POINT	
		0.300L	0.700L	0.207L	0.586L
10'-0''	1.56	3'-0''	7'-0''		
15'-0''	2.35	4'-6''	10'-6''		
20'-0''	3.14	6'-0''	14'-0''		
25'-0''	3.93	7'-6''	17'-6''		
30'-0''	4.70	9'-0''	21'-0''		
35'-0''	5.49	10'-6''	24'-6''		
40'-0''	6.28	12'-0''	28'-0''		
45'-0''	7.05	13'-6''	31'-6''		
50'-0''	7.84	15'-0''	35'-0''		
55'-0''	8.63			11'-4½''	32'-3''
60'-0''	9.42			12'-5''	35'-2''

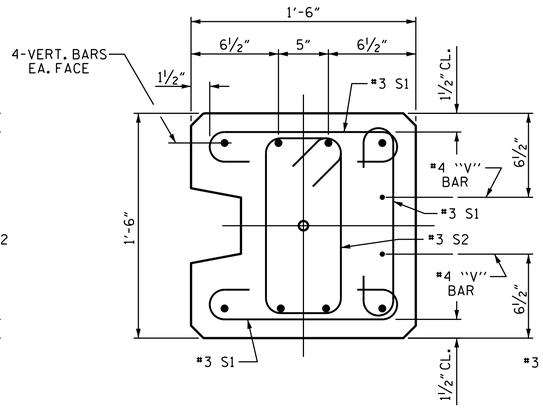
BAR TYPES



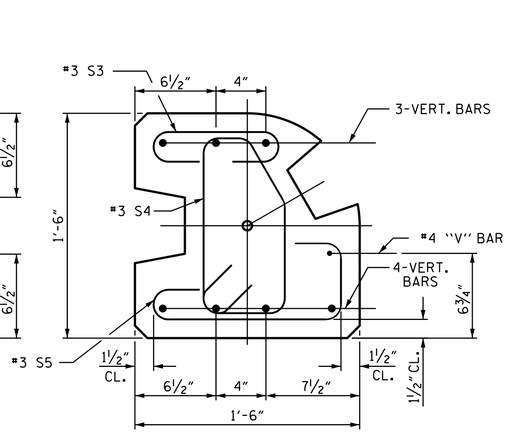
ALL BAR DIMENSIONS ARE OUT TO OUT.



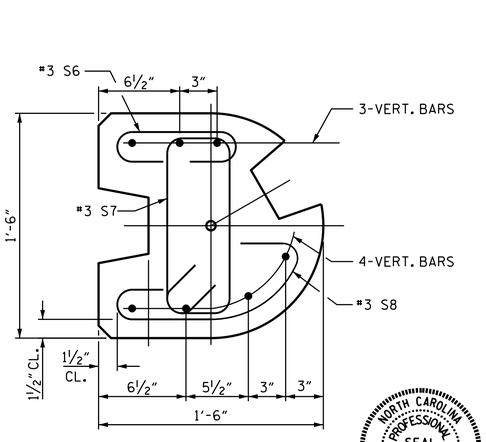
TYPE - I



TYPE - II



TYPE - III



TYPE - III (ALT.)

PILE DETAIL

FOR VERTICAL BAR PILE REINFORCING, SEE SHEET 1 OF 3

NORTH CAROLINA PROFESSIONAL SEAL 21271 ENGINEER GREGORY W. DICKEY

DocuSigned by: Greg Dickey 854E66B8CE5B4B6...
3/28/2017

PROJECT NO. U-3330
NASH COUNTY
STATION: 30+80.70 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

NOISE WALL DETAILS

ASSEMBLED BY : William T Parker	DATE : 04/16
CHECKED BY : H. A. LOCKLEAR	DATE : 12/16
DRAWN BY : MAA 6/11	ADDED 8/31/11
CHECKED BY : GM 6/11	REV. 1/15/14 RWW/TMG

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SW-3
1			3			TOTAL SHEETS
2			4			3

STD. NO. SBW3

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gdickey

GEOTECHNICAL ENGINEER

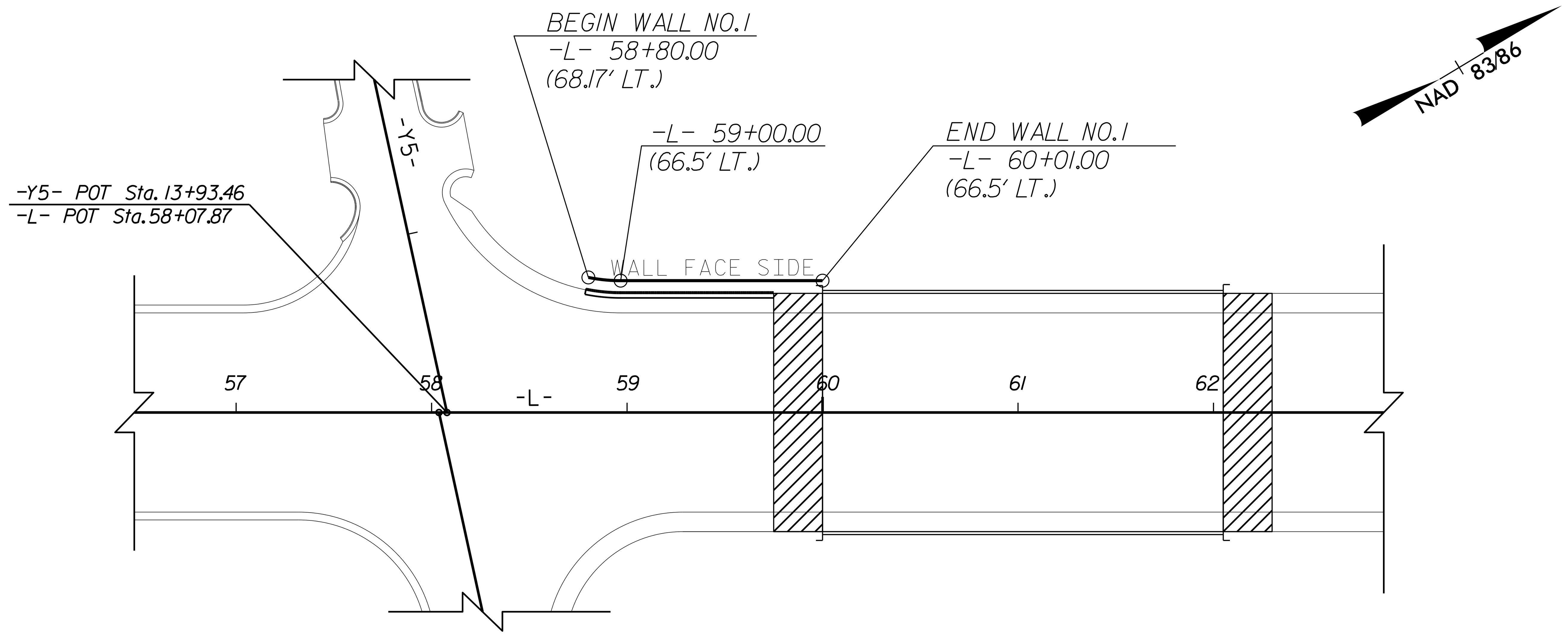
NORTH CAROLINA PROFESSIONAL SEAL 032171 ENGINEER JINYOUNG PARK

DocuSigned by: 1/31/2017

SIGNATURE DATE

ENGINEER

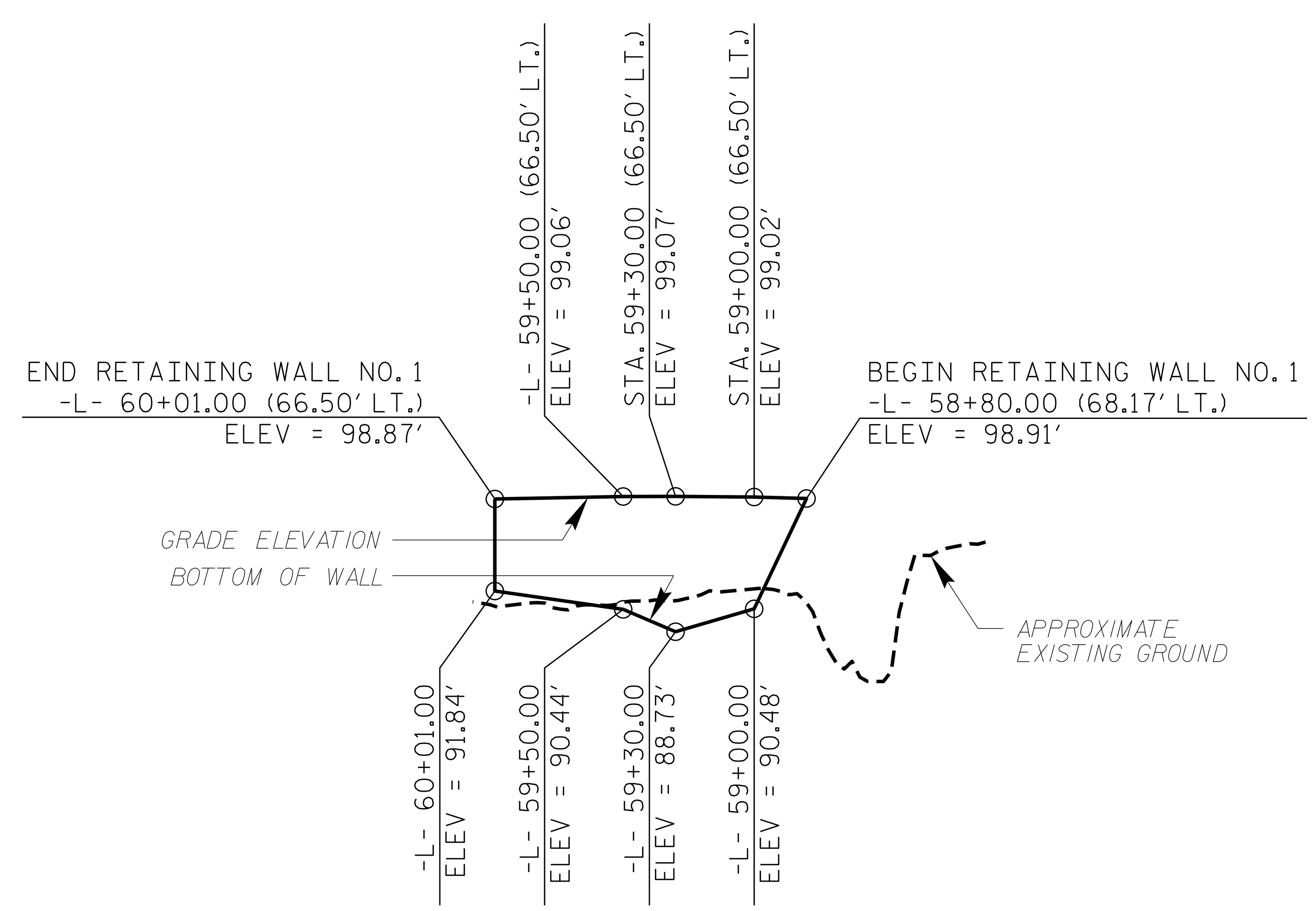
SIGNATURE DATE



PLAN VIEW FOR RETAINING WALL NO. 1

N.T.S.

ESTIMATED MSE WALL QUANTITY	
MSE RETAINING WALL NO. 1	1,260 SF



WALL ENVELOPE FOR RETAINING WALL NO. 1

EXPOSED WALL FACE VIEW, N.T.S.

PROJECT NO.: U-3330 (36596.1.1)

NASH COUNTY

STATION: 58+80.00 -L-

SHEET 1 OF 3

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 1
PLAN VIEW AND
WALL ENVELOPE

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

PREPARED BY: J. PARK	DATE: 01 / 2017
REVIEWED BY: J. BATTS	DATE: 01 / 2017

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 032171 ENGINEER JINYOUNG PARK

DocuSigned by: A713DB8C81B4496

SIGNATURE DATE 1/31/2017

ENGINEER

SIGNATURE DATE

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.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1.

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

A DRAIN IS REQUIRED FOR RETAINING WALL NO. 1.

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 NO. 1 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 3,570 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
5) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE 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	29	0

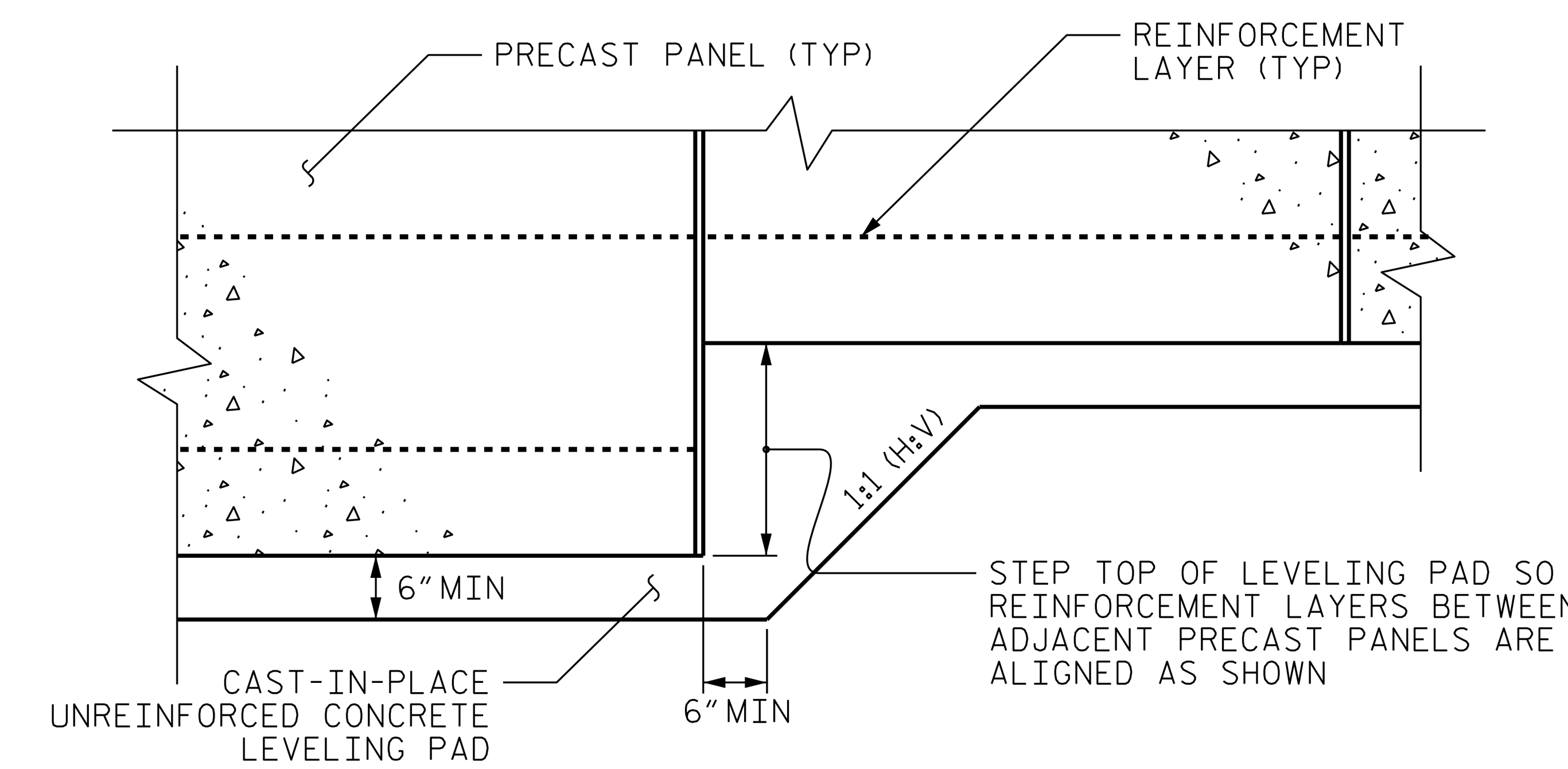
DESIGN RETAINING WALL NO. 1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

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

FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 60+00.50 -L- MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 1 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

AT THE CONTRACTOR'S OPTION, "TEMPORARY SHORING FOR WALL CONSTRUCTION" MAY BE USED TO CONSTRUCT RETAINING WALL NO. 1. SEE MSE RETAINING WALLS PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION.



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

PROJECT NO.: U-3330 (36596.1.1)

NASH COUNTY

STATION: 58+80.00 -L-

SHEET 2 OF 3

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO. 1
NOTES AND LEVELING PAD
STEP DETAILS

REVISIONS

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

SHEET NO. W-2

PREPARED BY: J. PARK	DATE: 01 / 2017
REVIEWED BY: J. BATTS	DATE: 01 / 2017

GEOTECHNICAL ENGINEER

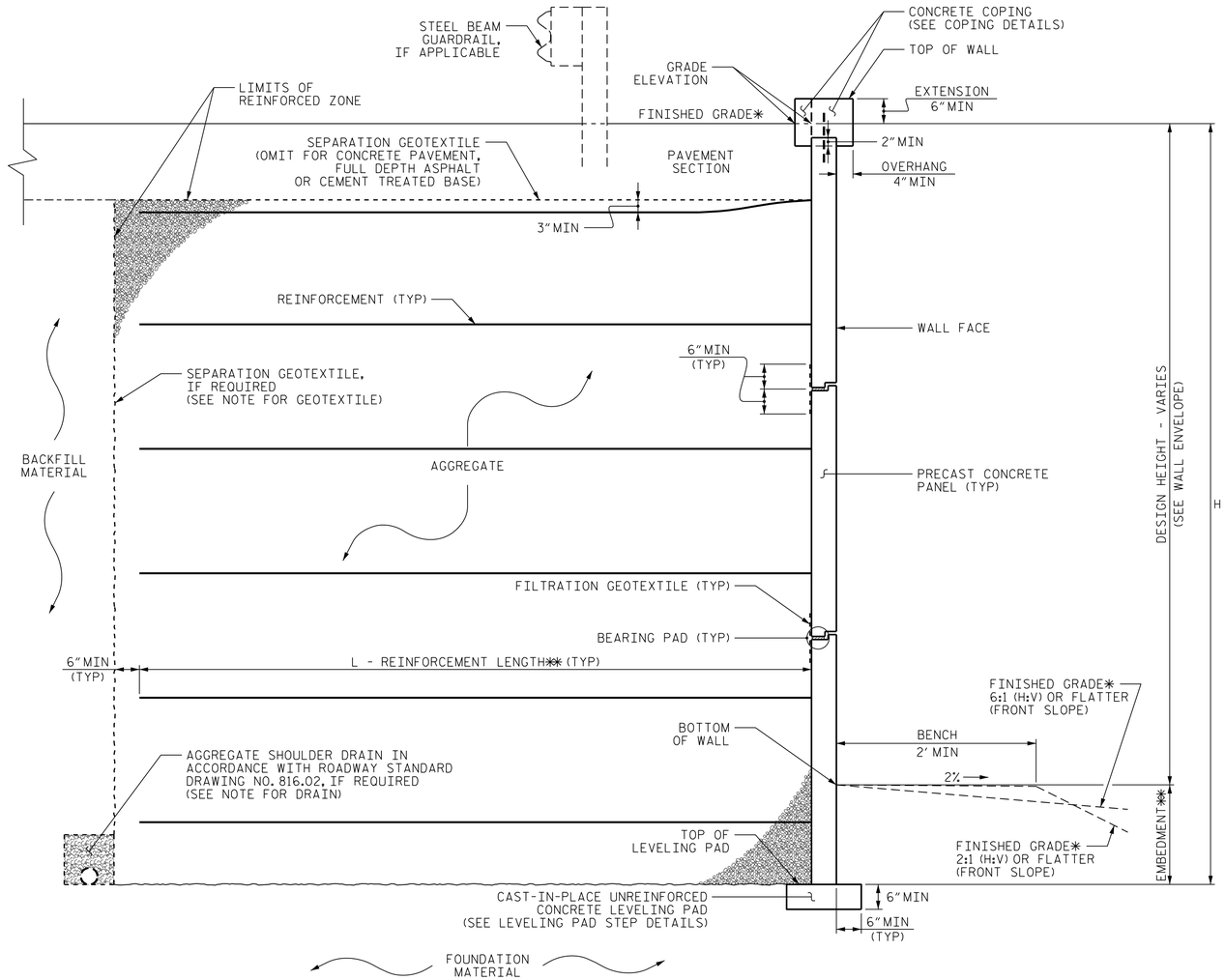
NORTH CAROLINA PROFESSIONAL SEAL 032171 ENGINEER JINYOUNG PARK

DocuSigned by: [signature] 1/31/2017

SIGNATURE DATE

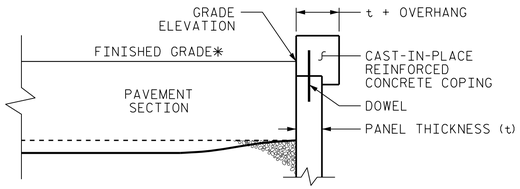
ENGINEER

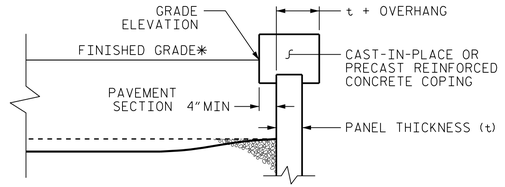
SIGNATURE DATE



MSE WALL WITH PRECAST PANELS - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
**SEE MSE RETAINING WALLS PROVISION.





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.: U-3330 (36596.1.1)

NASH COUNTY

STATION: 58+80.00 -L-

SHEET 3 OF 3

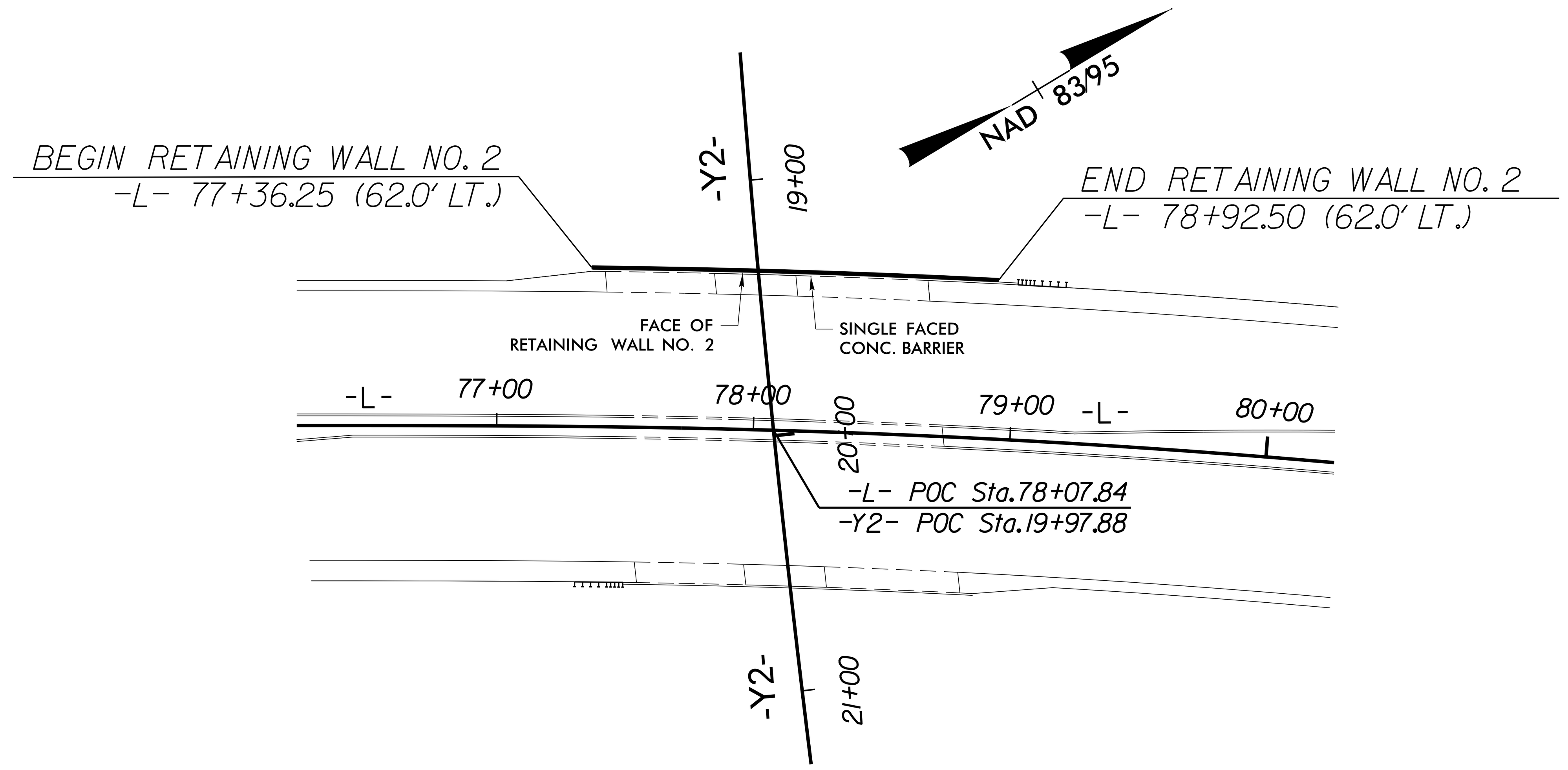
PREPARED BY: J. PARK	DATE: 01 / 2017
REVIEWED BY: J. BATTS	DATE: 01 / 2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

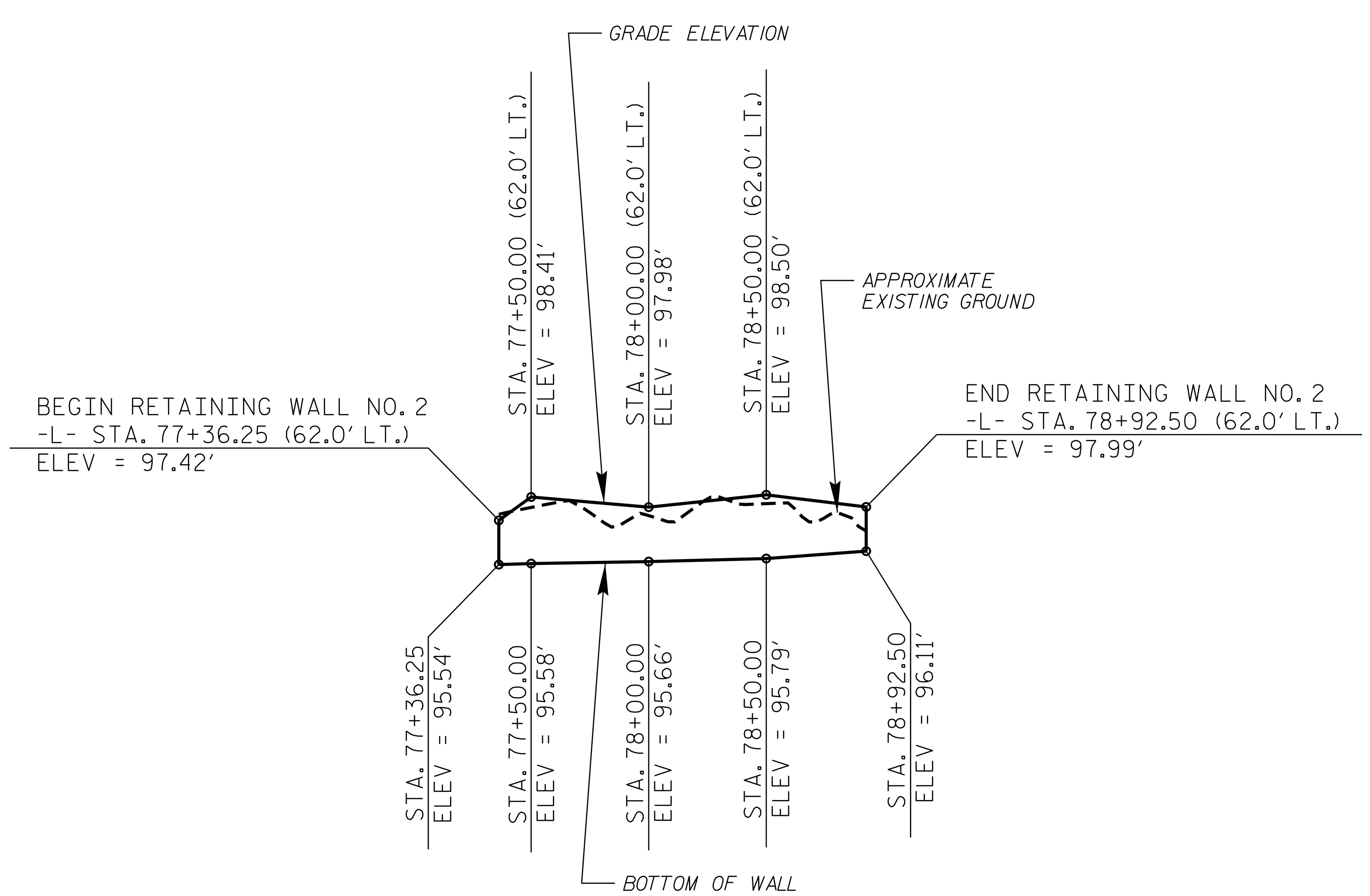
MSE RETAINING WALL NO. 1 TYPICAL SECTION

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



PLAN VIEW FOR RETAINING WALL NO. 2

EXPOSED WALL FACE VIEW, N.T.S.



WALL ENVELOPE FOR RETAINING WALL NO. 2

EXPOSED WALL FACE VIEW, N.T.S.

ESTIMATED RETAINING WALL QUANTITY

RETAINING WALL NO.	SOLDIER PILE RETAINING WALLS (SQUARE FEET)
2	385
TOTAL QUANTITY = 385 SF	

ESTIMATED RETAINING WALL QUANTITY (OPTION)

RETAINING WALL NO.	SHEET PILE RETAINING WALLS (SQUARE FEET)
2	385
TOTAL QUANTITY = 385 SF	

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030943 ENGINEER THEIN TUN ZAN

DocuSigned by: Thein Tun Zan 3/10/2017

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

PROJECT NO.: U-3330 (36596.1.1)

NASH COUNTY

STATION: 77+40.00 -L-

SHEET 1 OF 3

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 2
PLAN VIEW & WALL ENVELOPE

REVISIONS

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

SHEET NO. W-4

PREPARED BY: T. T. ZAN	DATE: 03 / 2017
REVIEWED BY: J. BATTS	DATE: 03 / 2017

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030943 ENGINEER THEIN TUN ZAN

DocuSigned by: Thein Tun Zan 3/10/2017
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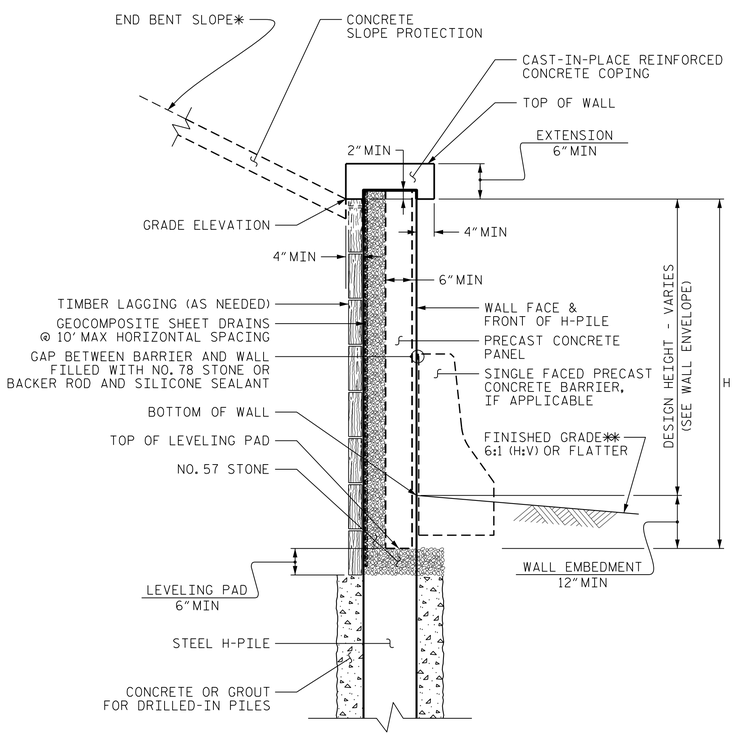
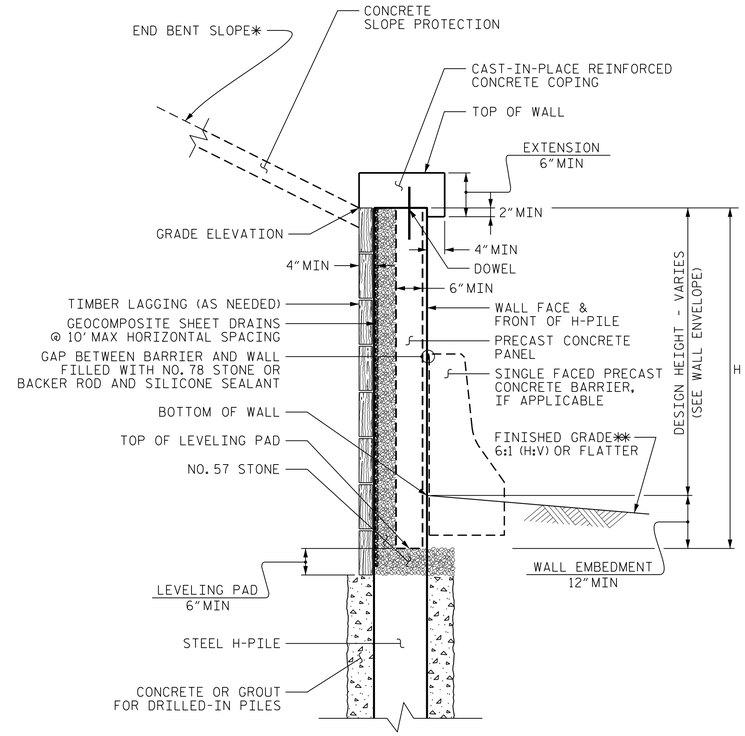
SIGNATURE DATE

ENGINEER

SIGNATURE DATE





SOLDIER PILE WALL WITH PRECAST PANEL - TYPICAL SECTIONS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS AND PILES.
*SEE PLANS FOR END BENT SLOPE DETAILS.

NOTES FOR SOLDIER PILE RETAINING WALLS:

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.

AT THE CONTRACTOR'S OPTION, USE DRIVEN H-PILES FOR RETAINING WALL NO. 2.

USE A SOLDIER PILE RETAINING WALL WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 2.

BEFORE BEGINNING SOLDIER PILE 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) H = DESIGN HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) IN-SITU ASSUMED MATERIAL PARAMETERS:
   UNIT WEIGHT, γ = 120 LB/CF
   FRICTION ANGLE, ϕ = 30 DEGREES
   COHESION, c = 0 LB/SF

DESIGN RETAINING WALL NO. 2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

LIMITED OVERHEAD CLEARANCE AVAILABLE FOR INSTALLATION OF PILES FOR RETAINING WALL NO. 2.

PREPARED BY: T. T. ZAN	DATE: 03 / 2017
REVIEWED BY: J. BATTS	DATE: 03 / 2017

PROJECT NO.: U-3330 (36596.1.1)

NASH COUNTY

STATION: 77+40.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 2
SOLDIER PILE RETAINING WALL
TYPICAL SECTIONS & NOTES

REVISIONS

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

SHEET NO. W-5

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030943 ENGINEER THEIN TUN ZAN

DocuSigned by: Thein Tun Zan 3/10/2017
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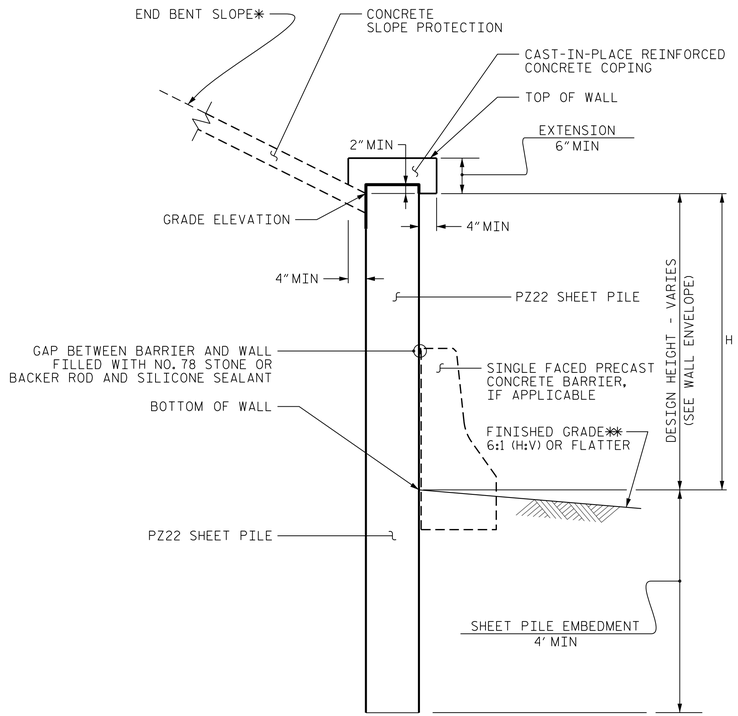
SIGNATURE DATE

ENGINEER

SIGNATURE DATE



SHEET PILE RETAINING WALL TYPICAL SECTION

*SEE PLANS FOR END BENT SLOPE DETAILS.

NOTES FOR SHEET PILE RETAINING WALLS (OPTION):

AT THE CONTRACTOR'S OPTION, USE PZ22 SHEET PILES OR EQUIVALENT FOR RETAINING WALL NO. 2.

INSTALL SHEET PILES WITH A MINIMUM 4.0 FT. EMBEDMENT BELOW THE BOTTOM OF WALL.

FOR SHEET PILE RETAINING WALLS, SEE SECTION 452 OF THE STANDARD SPECIFICATIONS.

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

USE A CONCRETE COPING ON TOP OF SHEET PILE RETAINING WALLS AS SHOWN IN THE PLAN AND IN ACCORDANCE WITH THE SECTION 452 OF THE STANDARD SPECIFICATIONS.

BEFORE BEGINNING SHEET PILE RETAINING WALL DESIGN OR CONSTRUCTION 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.

LIMITED OVERHEAD CLEARANCE AVAILABLE FOR INSTALLATION OF SHEET PILES FOR RETAINING WALL NO. 2.

PREPARED BY: T. T. ZAN	DATE: 03 / 2017
REVIEWED BY: J. BATTS	DATE: 03 / 2017

PROJECT NO.: U-3330 (36596.1.1)

NASH COUNTY

STATION: 77+40.00 -L-

SHEET 3 OF 3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 2
SHEET PILE RETAINING WALL (OPTION)
TYPICAL SECTIONS & NOTES

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3	-	-	W-6
2	-	-	4	-	-	