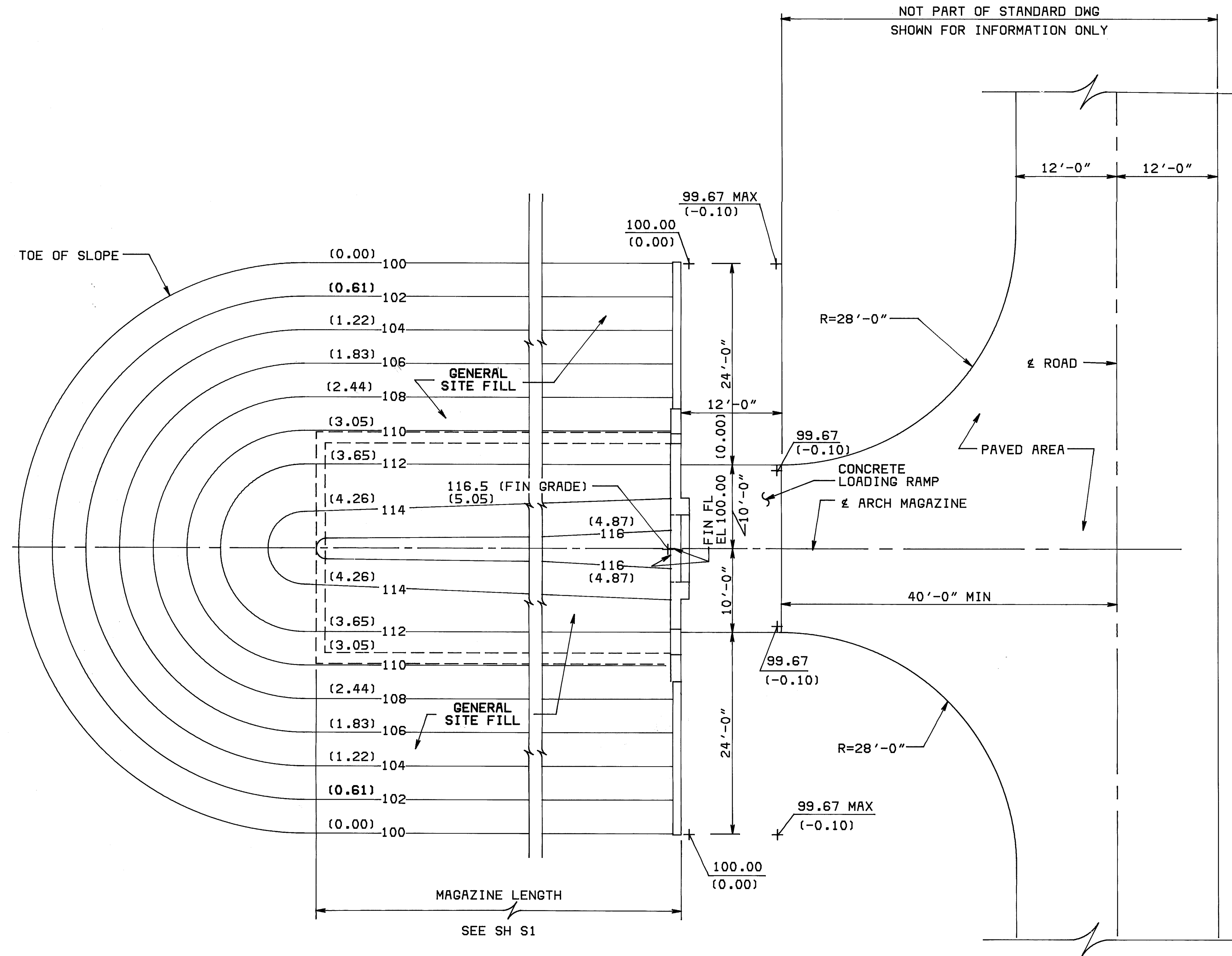


REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

ABBREVIATIONS

AB	ANCHOR BOLT	LG	LARGE, LONG
ABT	ABOUT	LGTH	LENGTH
ACI	AMERICAN CONCRETE INSTITUTE	LLV	LONG LEG VERTICAL
AHR	ANCHOR	LTGS	LIGHTINGS
AMP	AMPERE	M	METERS
ASSY	ASSEMBLY	MACH	MACHINE
AWG	AMERICAN WIRE GAUGE	MAG	MAGAZINE
BKR	BREAKER	MAX	MAXIMUM
CJ	CONSTRUCTION JOINT	MET	METAL
CL	CENTERLINE	MIN	MINIMUM
CND	CONDUIT	MM	MILLIMETER
CLR	CLEAR	MS	MILLISECONDS
CM	CUBIC METERS	NAPEC	NAVAL AMMUNITION PRODUCTION ENGINEERING CENTER
CONC	CONCRETE	NAVFAC	NAVAL FACILITIES ENGINEERING COMMAND
CONST	CONSTRUCTION	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CONT	CONTINUOUS	NF	NEAR FACE
COORD	COORDINATE	NO	NUMBER
CTR	CENTER	OC	ON CENTER
CY	CUBIC YARDS	OPNG	OPENING
DET	DETAIL	OPP	OPPOSITE
DIA	DIAMETER	PCI	POUNDS PER CUBIC INCH
DIM	DIMENSION	PL	PLATE
DN	DOWN	PROJ	PROJECTION
DWG	DRAWING	PSF	POUNDS PER SQUARE FOOT
DWLS	DOWELS	PSI	POUNDS PER SQUARE INCH
EA	EACH	PVMT	PAVEMENT
EF	EACH FACE	R	RADIUS
EJ	EXPANSION JOINT	RCPTS	RECEPTACLES
EL	ELEVATION	REF	REFERENCE
ENCL	ENCLOSE, ENCLOSURE	REINF	REINFORCEMENT
EQ	EQUAL	REQD	REQUIRED
EQUIP, EQPT	EQUIPMENT	RHW	RUBBER HEAT AND WATER RESISTANT INSULATION
EW	EACH WAY	SECT	SECTION
EXPN	EXPANSION	SH	SHEET
F	FAHRENHEIT	SNT	SEALANT (JOINT SEALING MATERIAL)
FDN	FOUNDATION	SP	SPACE
FF	FAR FACE	SST	STAINLESS STEEL
FIN	FINISH	STD	STANDARD
FIXTS	FIXTURES	STIF	STIFFENER
FL	FLOOR	STL	STEEL
FTG	FOOTING	SYMM	SYMMETRICAL
G	GRAM	T&B	TOP AND BOTTOM
GALV	GALVANIZE	THD	THREADED
GEN	GENERAL	THW	THERMOPLASTIC HEAT AND WATER RESISTANT INSULATION
GFCI	GROUND FAULT CURRENT INTERRUPTOR	TOS	TOP OF STEEL
GND	GROUND	TYP	TYPICAL
GR	GRADE	UNO	UNLESS NOTED OTHERWISE
HEX	HEXAGONAL	W	WITH
HP	HORSEPOWER	W/O	WITHOUT
HPT	HIGH POINT	WT	WEIGHT
IDS	INTRUSION DETECTION SYSTEM	WWF	WELDED WIRE FABRIC
JT	JOINT		
KG	KILOGRAM		
KSI	KIPS PER SQUARE INCH		
KW	KILOWATT		



SITE PLAN MAGAZINE AT GRADE-LEVEL

SCALE: 1/8" = 1'-0"
CONTOUR INTERVAL: 2'

NOTES:

- SEE GEN NOTE 15, NAVFAC DWG NO. 1404340 FOR REF ELEVATION.
- NUMBERS IN PARENTHESIS ARE METERS.
- CONTOURS SHOWN REPRESENT TYPICAL CONDITIONS FOR SINGLE MAGAZINE. CONTOURS MAY REQUIRE ADJUSTMENT FOR SITING OF MULTIPLE MAGAZINES, OR WHERE SOIL OR DRAINAGE CONDITIONS SO INDICATE.

THIS SET OF 15 DRAWINGS (NAVFAC DRAWING NOS. 1404328-42, SUPERSEDE SD-1059128-30, 1069906, 1059132, 1355460-61).

METRIC CONVERSIONS REINFORCING BARS	
BAR SIZE	* DIAMETER (MM)
#3	10
#4	13
#5	16
#6	19
#7	22
#8	25
#9	29

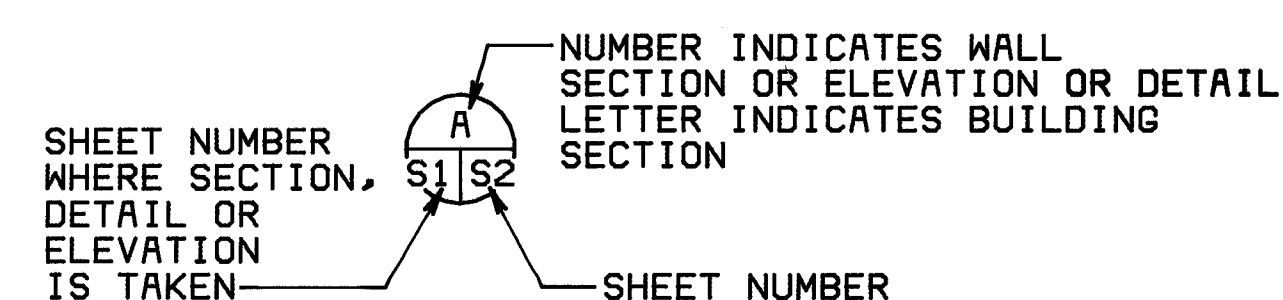
* EXCLUDES DEFORMATIONS SEE STRUCTURAL DWGS FOR REINF BAR USE

METRIC CONVERSIONS STRUCTURAL STEEL SHAPES	
SHAPE DESIGNATION ON DRAWING	METRIC EQUIVALENT DEPTH (MM) X WT PER LENGTH (KG PER M)
C8 X 11.5	203 X 83.38
W8 X 13	203 X 94.26
C10 X 15.3	254 X 110.94
S10 X 25.4	254 X 184.17
W10 X 30	254 X 217.52

SEE STRUCTURAL DWGS FOR STRUCT STEEL USE

METRIC CONVERSIONS	
1'-0" = 305MM	
10'-0" = 3050MM	
12'-0" = 3660MM	
24'-0" = 7315MM	
28'-0" = 8534MM	
40'-0" = 12.20M	

CHECK GRAPHIC SCALES BEFORE USING.



GRAPHIC SCALES

1/8" = 1'-0" 8' 4' 0 8' 16'

		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND 200 STOVALL STREET ALEXANDRIA, VA. 22302	
HAYES, SEAY, MATTERN & MATTERN ARCHITECTS ENGINEERS PLANNERS ROANOKE, VIRGINIA DSDN W/MZ DR CAD CHK SRC SUPV SRC CH ENGR SA SUBMITTED BY DATE 8-28-84 TITLE EARTH-COVERED STEEL ARCH MAGAZINE PROJECT NO. 1404328-42 DRAWING NO. 1404328-42		STANDARD EARTH-COVERED STEEL ARCH MAGAZINE CIVIL SITE PLAN AND ABBREVIATIONS MAGAZINE AT GRADE-LEVEL	
NAVFAC APPROVED DATE 8-7-84 APPROVED DATE 8-7-84		SIZE CODE IDENT. NO. NAVFAC DRAWING NO. F 80091 1404328 CONSTR. CONTR. NO.	
SATISFACTORY TO DDESB DATE 8-7-84		SCALE AS NOTED SPEC. NFSS - M19 SHEET C1 OF	

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

ABBREVIATIONS

AB	ANCHOR BOLT	LG	LARGE, LONG
ABT	ABOUT	LGTH	LENGTH
ACI	AMERICAN CONCRETE INSTITUTE	LLV	LONG LEG VERTICAL
AHR	ANCHOR	LTGS	LIGHTINGS
AMP	AMPERE	M	METERS
ASSY	ASSEMBLY	MACH	MACHINE
AWG	AMERICAN WIRE GAUGE	MAG	MAGAZINE
BKR	BREAKER	MAX	MAXIMUM
CJ	CONSTRUCTION JOINT	MET	METAL
¢	CENTERLINE	MIN	MINIMUM
CND	CONDUIT	MM	MILLIMETER
CLR	CLEAR	MS	MILLISECONDS
CM	CUBIC METERS	NAPEC	NAVAL AMMUNITION PRODUCTION ENGINEERING CENTER
CONC	CONCRETE	NAVFAC	NAVAL FACILITIES ENGINEERING COMMAND
CONST	CONSTRUCTION		
CONT	CONTINUOUS		
COORD	COORDINATE		
CTR	CENTER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CY	CUBIC YARDS	NF	NEAR FACE
DET	DETAIL	NO	NUMBER
DIA	DIAMETER	OC	ON CENTER
DIM	DIMENSION	OPNG	OPENING
DN	DOWN	OPP	OPPOSITE
DWG	DRAWING	PCI	POUNDS PER CUBIC INCH
DWLS	DOWELS	PL	PLATE
EA	EACH	PROJ	PROJECTION
EF	EACH FACE	PSF	POUNDS PER SQUARE FOOT
EJ	EXPANSION JOINT	PSI	POUNDS PER SQUARE INCH
EL	ELEVATION	PVMT	PAVEMENT
ENCL	ENCLOSE, ENCLOSURE	R	RADIUS
EQ	EQUAL	RCPTS	RECEPTACLES
EQUIP, EQPT	EQUIPMENT	REF	REFERENCE
EW	EACH WAY	REINF	REINFORCEMENT
EXPN	EXPANSION	REQD	REQUIRED
F	FAHRENHEIT	RHW	RUBBER HEAT AND WATER RESISTANT INSULATION
FDN	FOUNDATION	SECT	SECTION
FF	FAR FACE	SH	SHEET
FIN	FINISH	SNT	SEALANT (JOINT SEALING MATERIAL)
FIXTS	FIXTURES	SP	SPACE
FL	FLOOR	SST	STAINLESS STEEL
FTG	FOOTING	STD	STANDARD
G	GRAM	STIF	STIFFENER
GALV	GALVANIZE	STL	STEEL
GEN	GENERAL	SYMM	SYMMETRICAL
GFCI	GROUND FAULT CURRENT INTERRUPTOR	T&B	TOP AND BOTTOM
GND	GROUND	THD	THREADED
GR	GRADE	THW	THERMOPLASTIC HEAT AND WATER RESISTANT INSULATION
HEX	HEXAGONAL	TOS	TOP OF STEEL
HP	HORSEPOWER	TYP	TYPICAL
HPT	HIGH POINT	UNO	UNLESS NOTED OTHERWISE
IDS	INTRUSION DETECTION SYSTEM	W	WITH
JT	JOINT	W/O	WITHOUT
KG	KILOGRAM	WT	WEIGHT
KSI	KIPS PER SQUARE INCH	WMF	WELDED WIRE FABRIC
KN	KILOWATT		

METRIC CONVERSIONS REINFORCING BARS	
BAR SIZE	* DIAMETER (MM)
#3	10
#4	13
#5	16
#6	19
#7	22
#8	25
#9	29

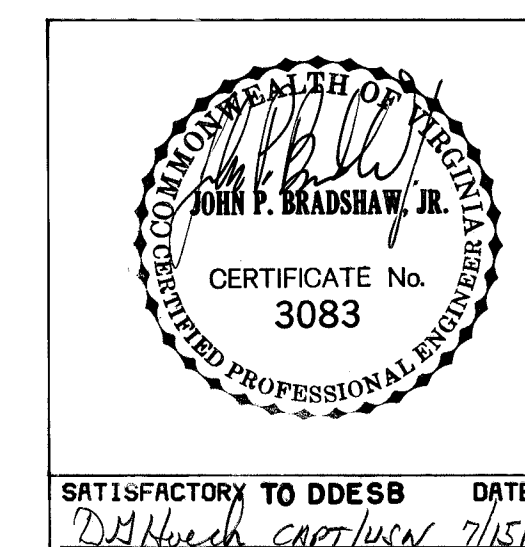
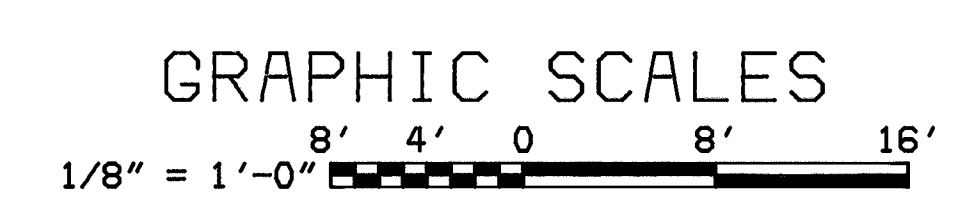
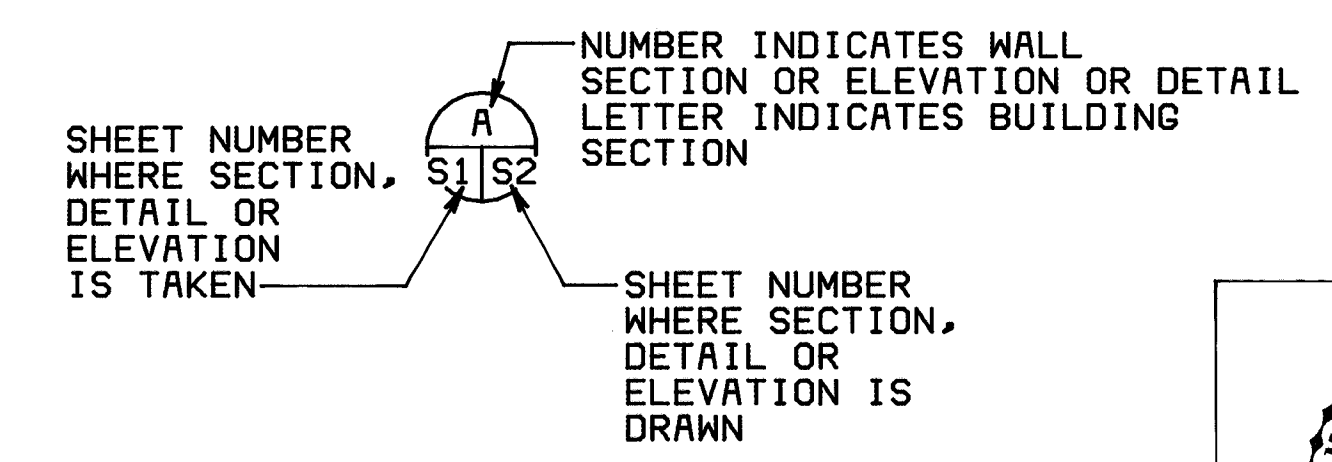
* EXCLUDES DEFORMATIONS SEE STRUCTURAL DWGS FOR REINF BAR USE

METRIC CONVERSIONS STRUCTURAL STEEL SHAPES	
SHAPE DESIGNATION ON DRAWING	METRIC EQUIVALENT DEPTH (MM) X WT PER LENGTH (KG PER M)
C8 X 11.5	203 X 83.38
W8 X 13	203 X 94.26
C10 X 15.3	254 X 110.94
S10 X 25.4	254 X 184.17
W10 X 30	254 X 217.52

SEE STRUCTURAL DWGS FOR STRUCT STEEL USE

METRIC CONVERSIONS	
1'-0"	= 305MM
7'-6"	= 2286MM
10'-0"	= 3050MM
12'-0"	= 3660MM
14'-0"	= 4270MM
20'-0"	= 6096MM
28'-0"	= 8534MM
34'-0"	= 10.4M
39'-0"	= 11.3M
52'-6"	= 16.0M
30'-0"	= 9100MM
40'-0"	= 12.20M

CHECK GRAPHIC SCALES BEFORE USING



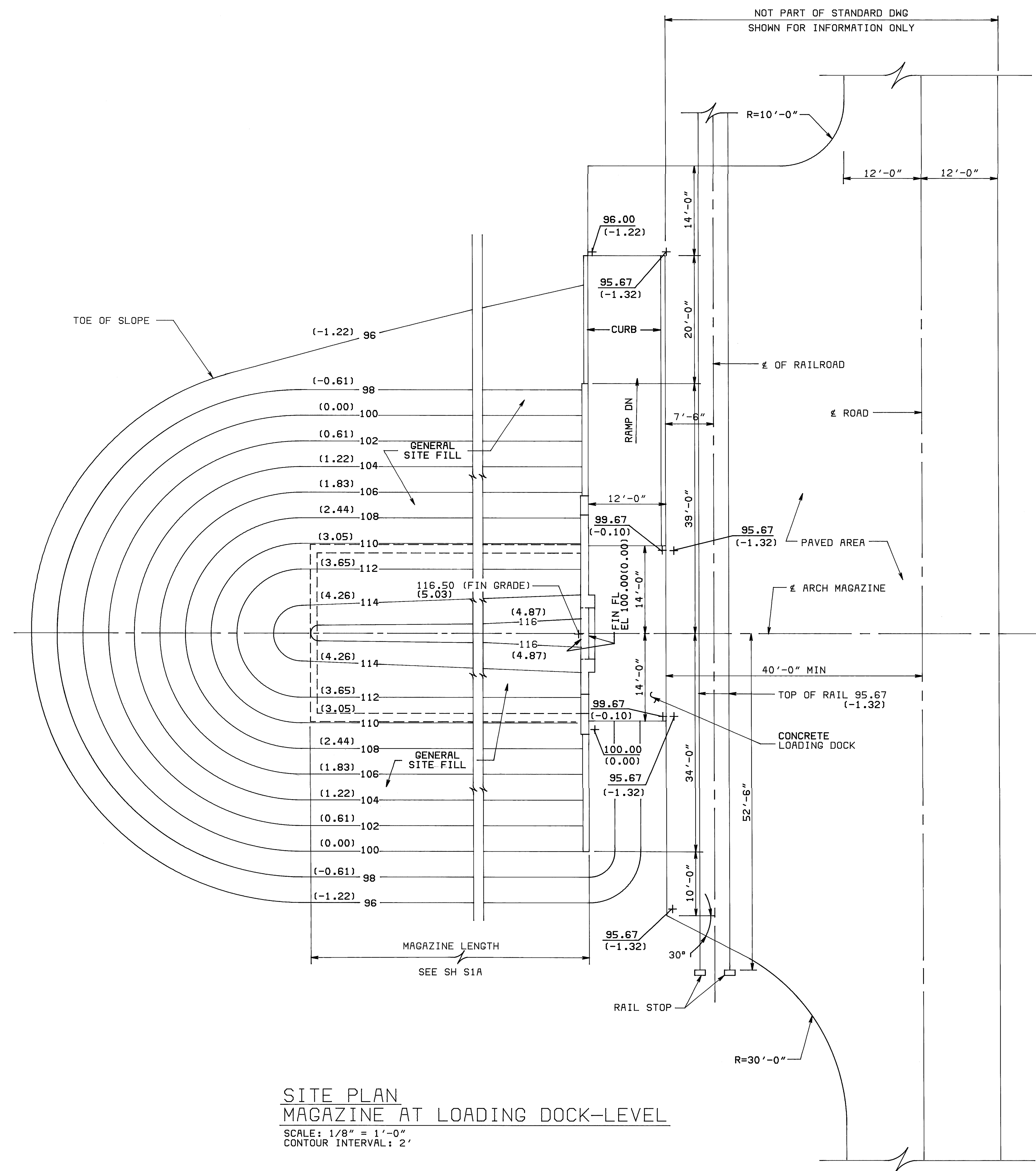
HAYES, SEAY, MATERN & HARTEN ARCHITECTS ENGINEERS PLANNERS ROANOKE, VIRGINIA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND 200 STOVALL STREET ALEXANDRIA, VA. 22302	
DSON	WAZ	DR	CAD
SUPV	SEC	CH	ENGR
SUBMITTED BY: <i>[Signature]</i>		DATE: 2/15/82	
TITLE: <i>[Signature]</i>		DATE: 2/15/82	
DRAWN BY: <i>[Signature]</i>		DATE: 2/15/82	
CHECKED BY: <i>[Signature]</i>		DATE: 2/15/82	
APPROVED BY: <i>[Signature]</i>		DATE: 2/15/82	
NAVAFAC	1404328	SIZE	CODE IDENT. NO.
DWG NO.	1404328	F	80091
DATE	2/15/82	CONSTR. CONTR. NO.	1404329
SHEET NO. 1 OF 15		SCALE AS NOTED SPEC. NFSS - M19 SHEET C1A OF	

THIS SET OF 15 DRAWINGS (NAVAFAC DRAWING NOS. 1404328 - 42, SUPERSEDE SD-1059128 - 30, 1069906, 1059132, 1355460 - 61).

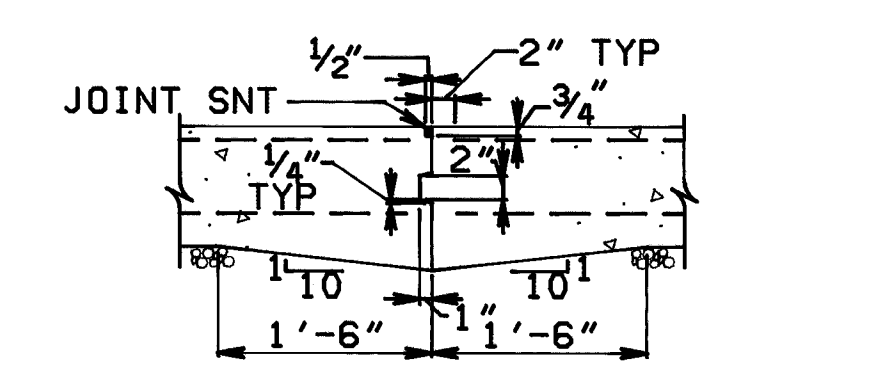
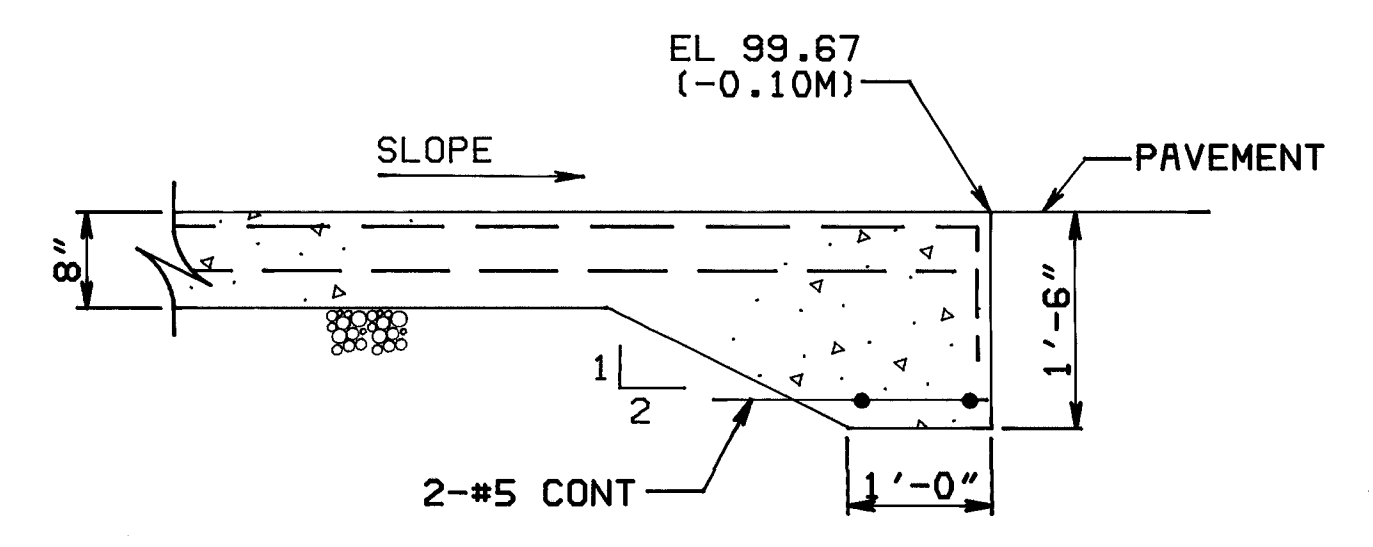
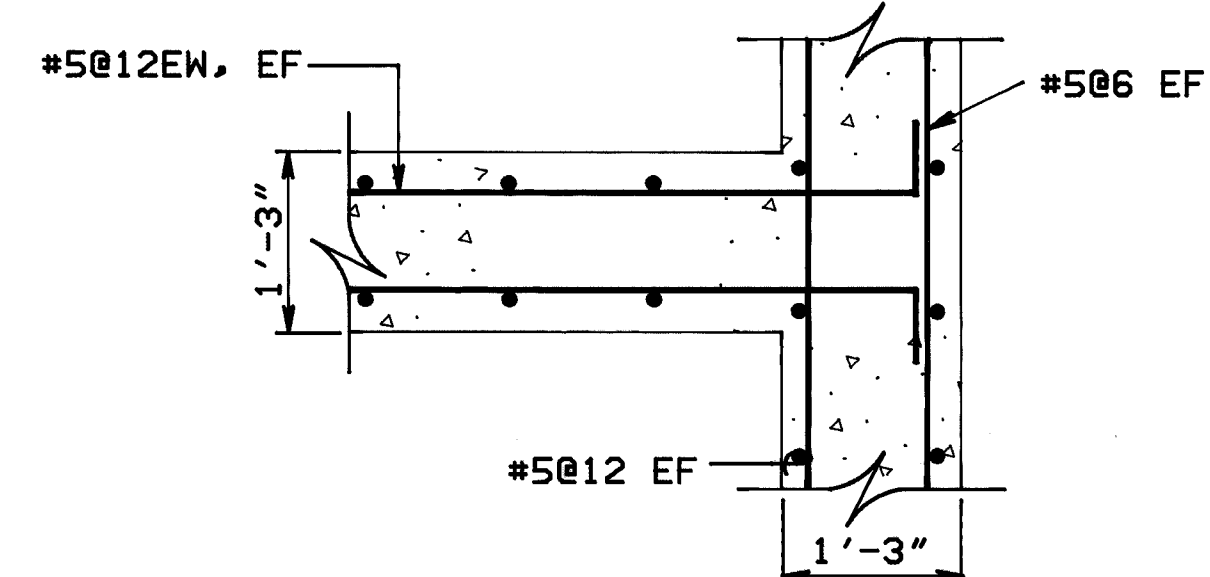
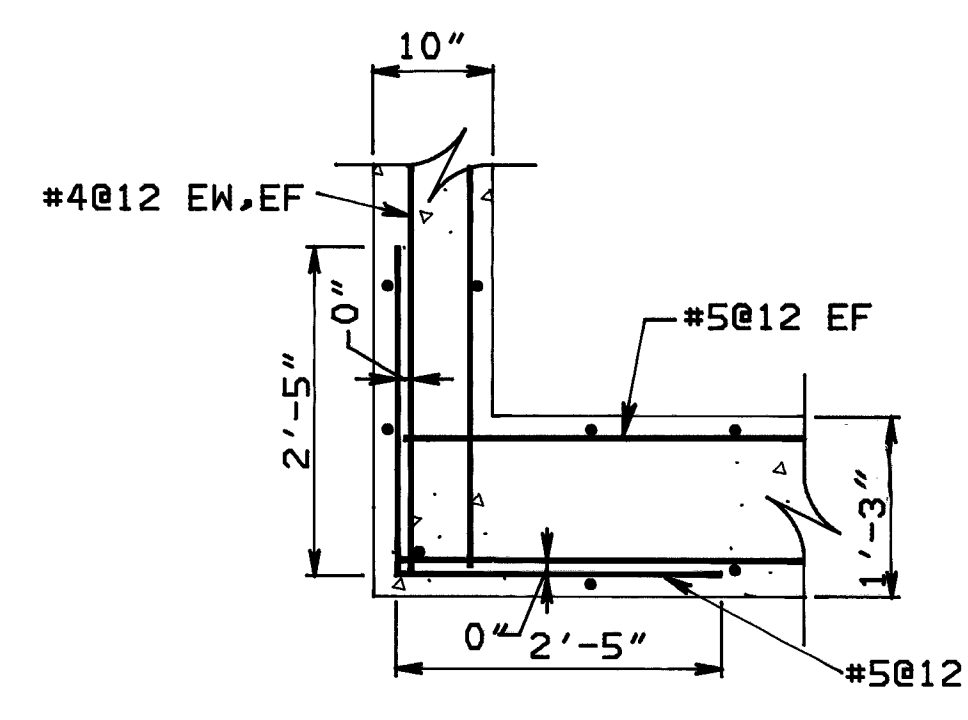
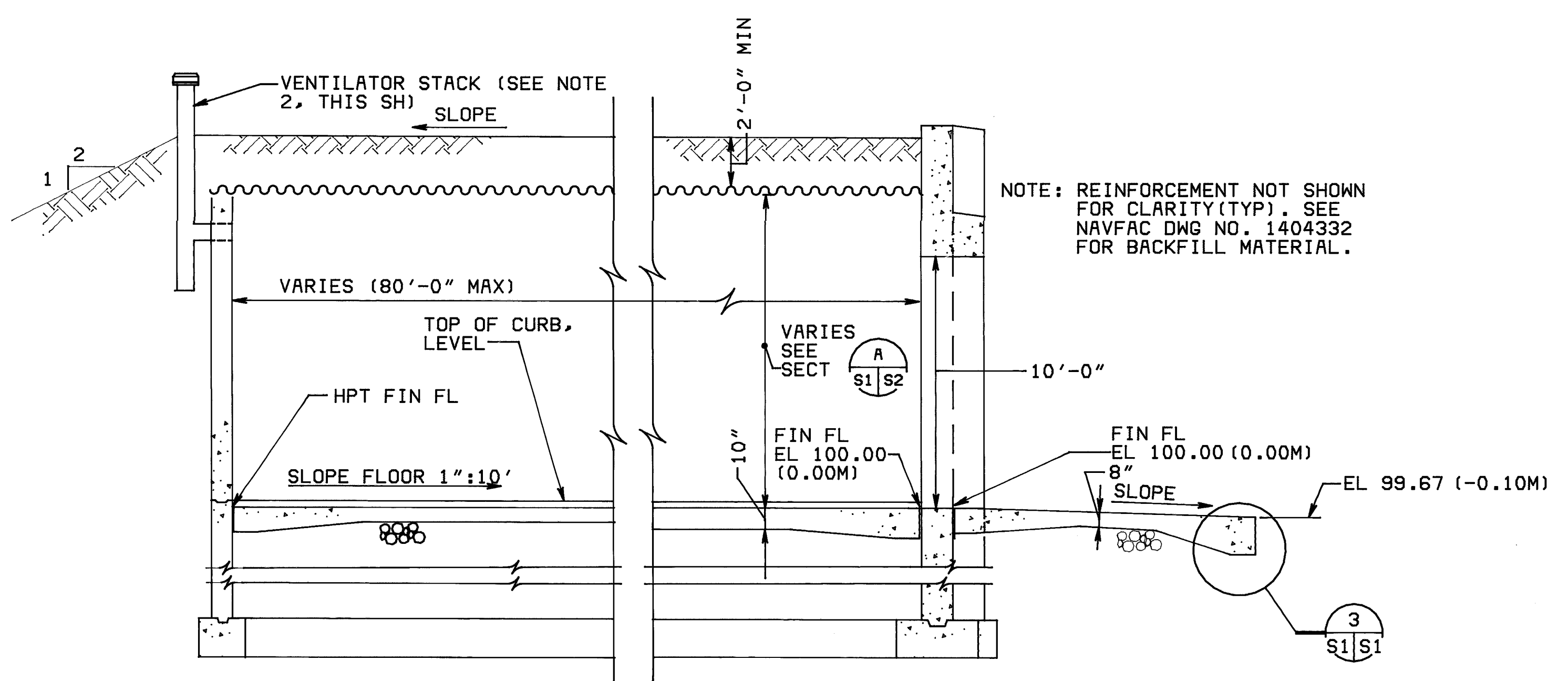
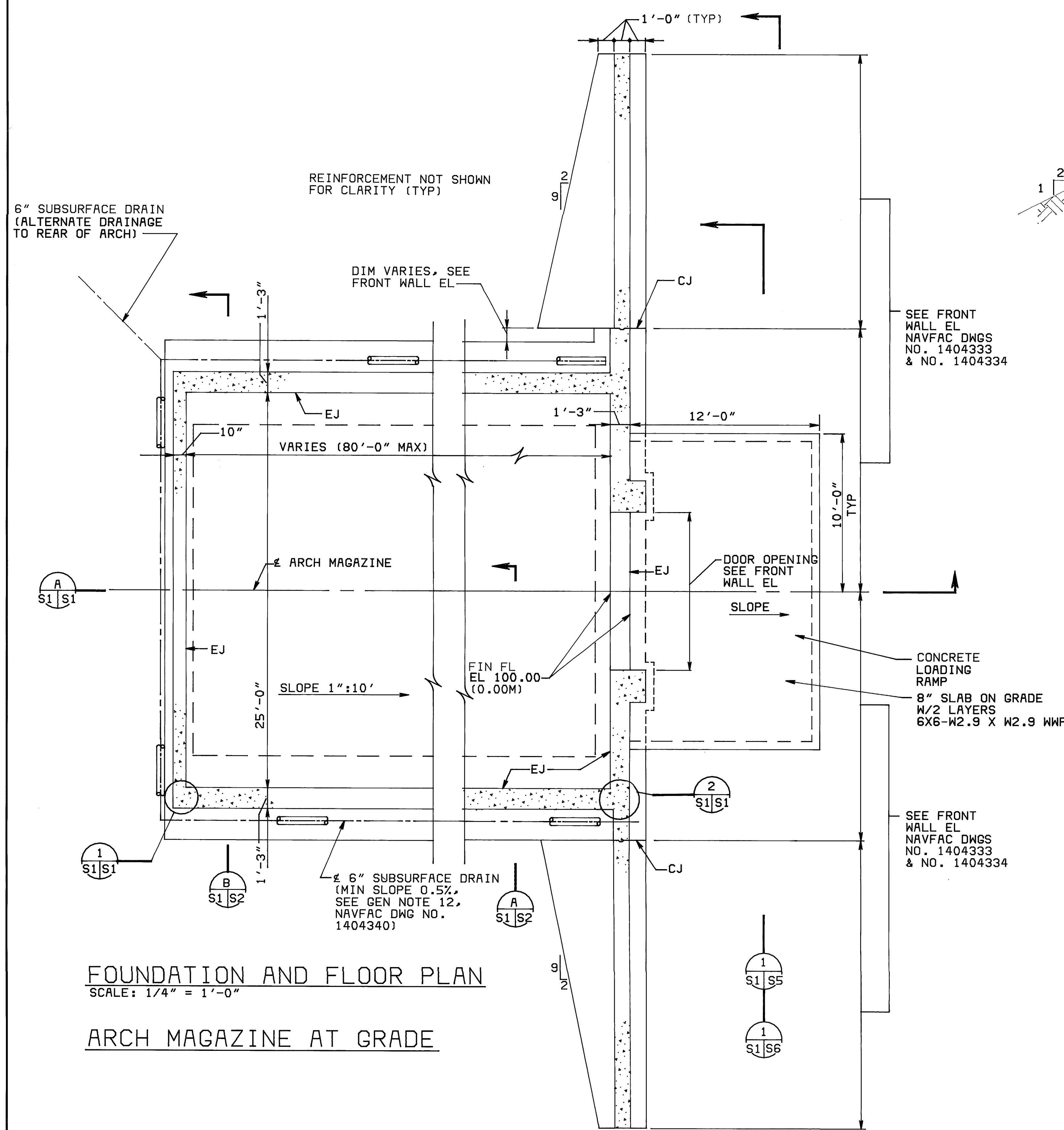
SITE PLAN MAGAZINE AT LOADING DOCK-LEVEL

SCALE: 1/8" = 1'-0"
CONTOUR INTERVAL: 2'

- NOTES:
- SEE GEN NOTE 15, NAVFAC DWG NO. 1404340 FOR REF ELEVATION.
 - NUMBERS IN PARENTHESIS ARE METERS.
 - CONTOURS SHOWN REPRESENT TYPICAL CONDITIONS. FOR SINGLE MAGAZINE, CONTOURS MAY REQUIRE ADJUSTMENT FOR SITING OF MULTIPLE MAGAZINES, OR WHERE SOIL OR DRAINAGE CONDITIONS SO INDICATE.

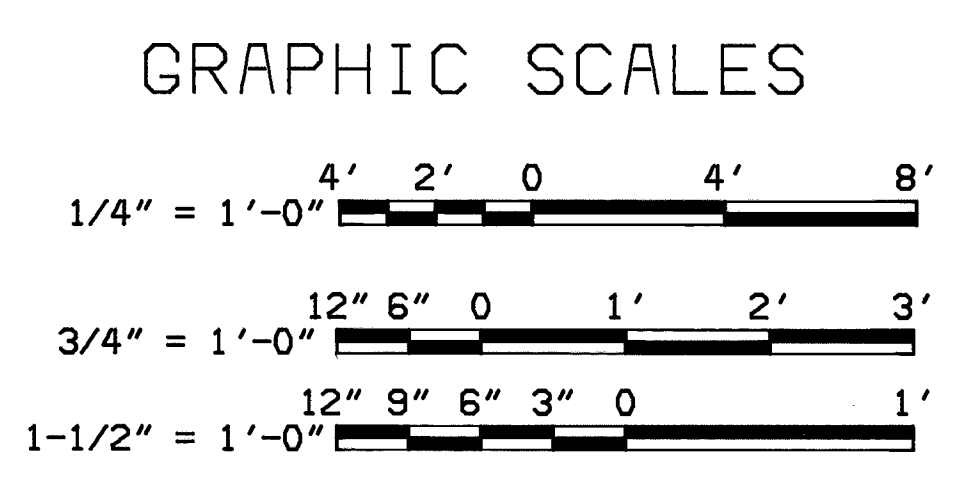


REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



- NOTES:
- DET 1 AND DET 2, THIS SHEET, SHOW CONDITIONS BELOW FLOOR SLAB.
 - SEE NAVFAC DWG NO. 1404340 FOR GENERAL NOTES, VENTILATOR SCHEDULE AND WALL CRACK CONTROL JOINT DETAILS

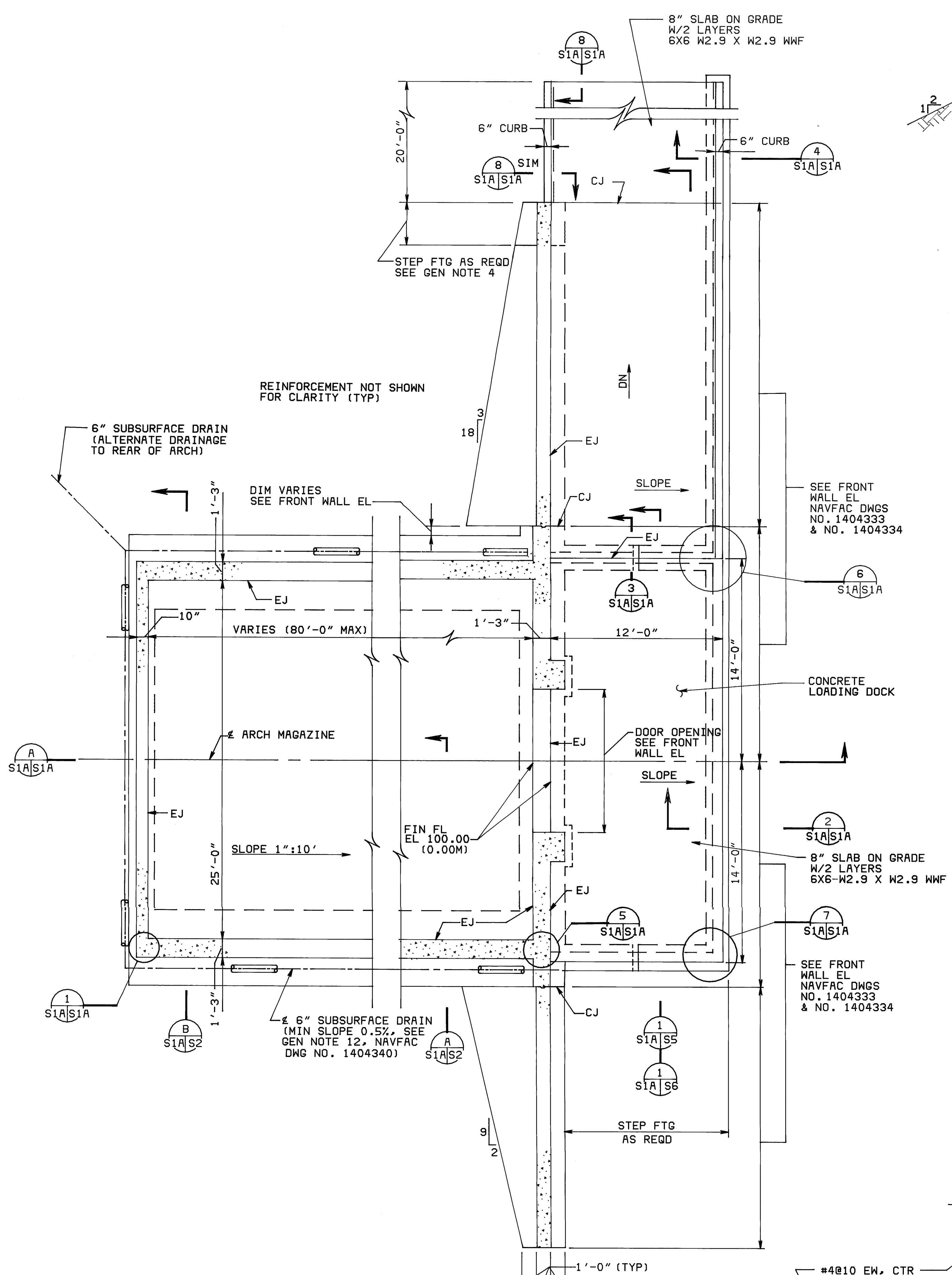
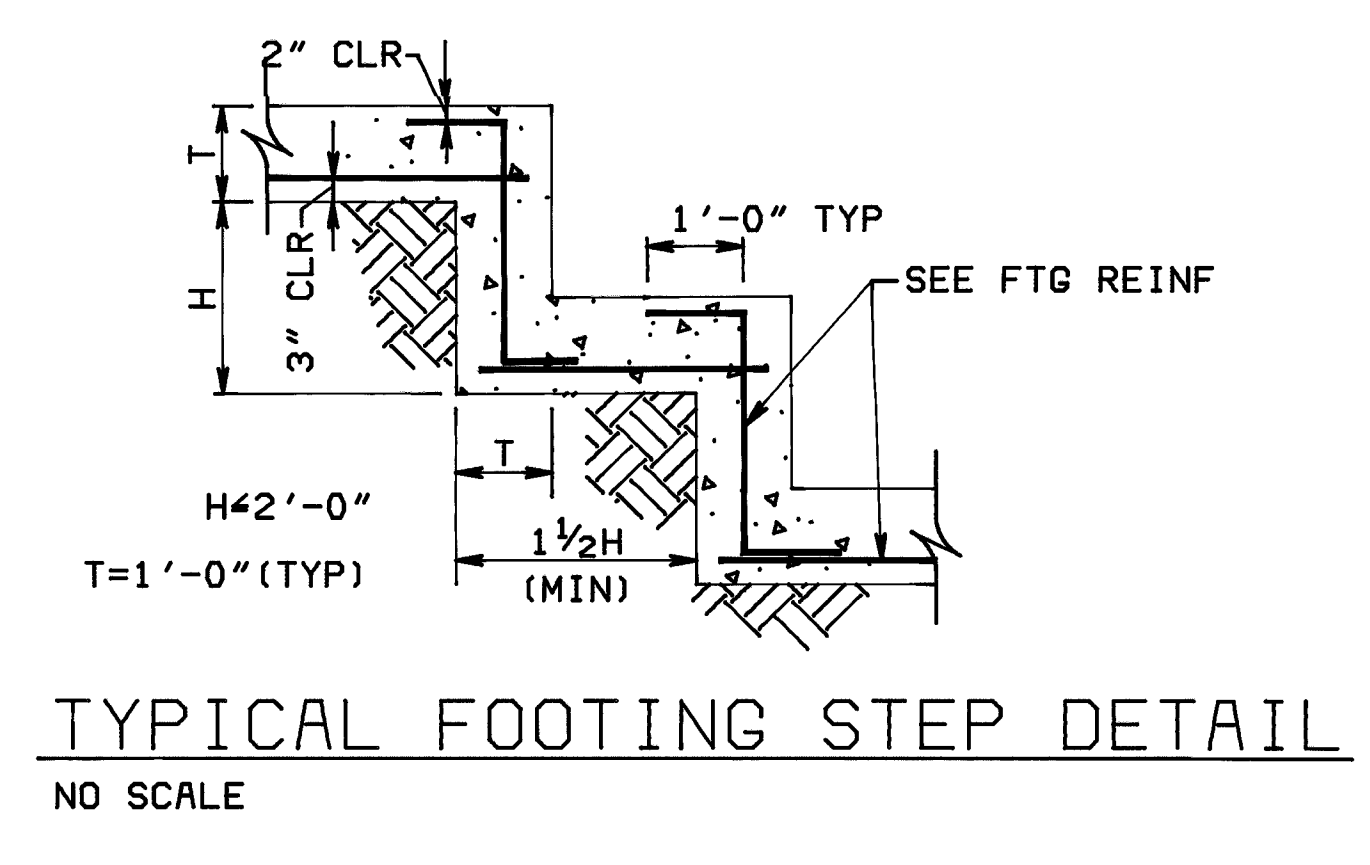
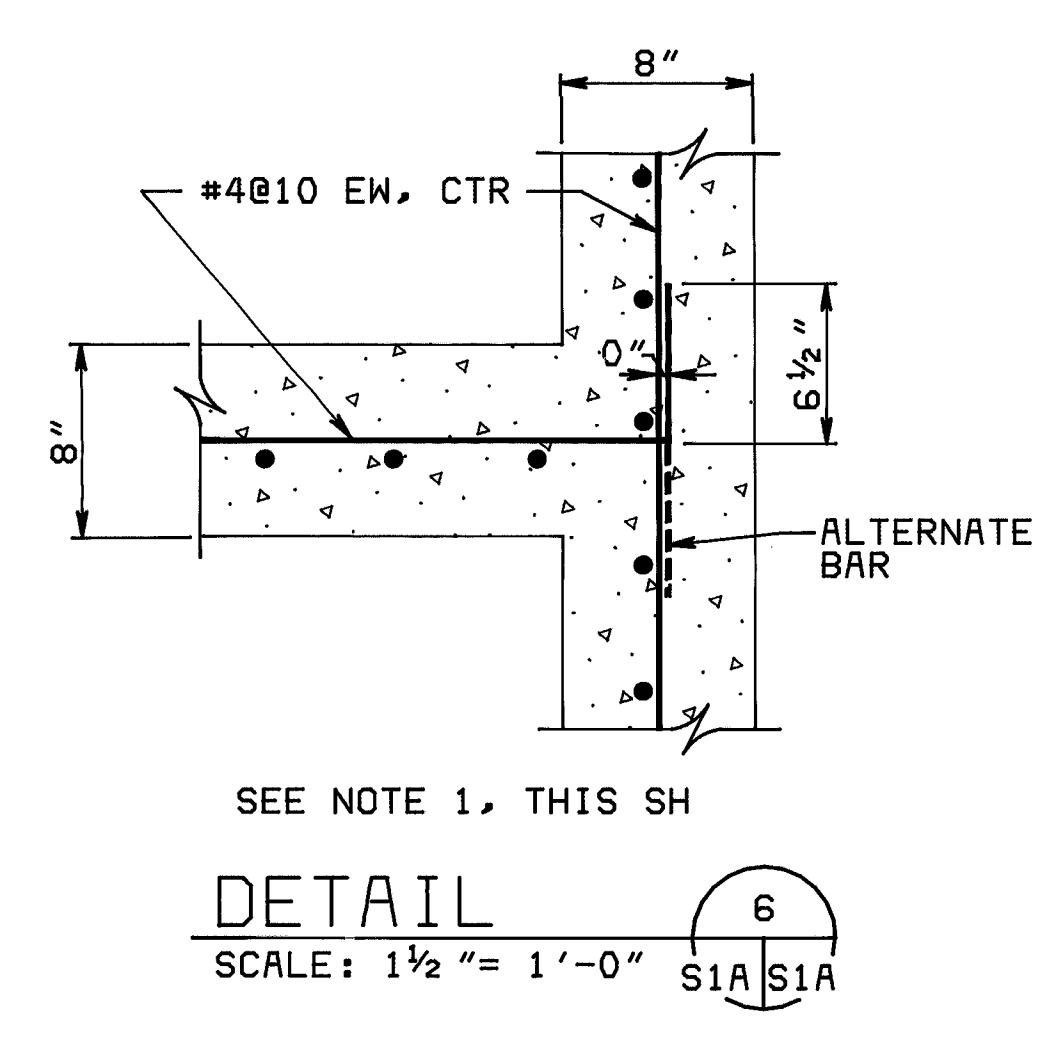
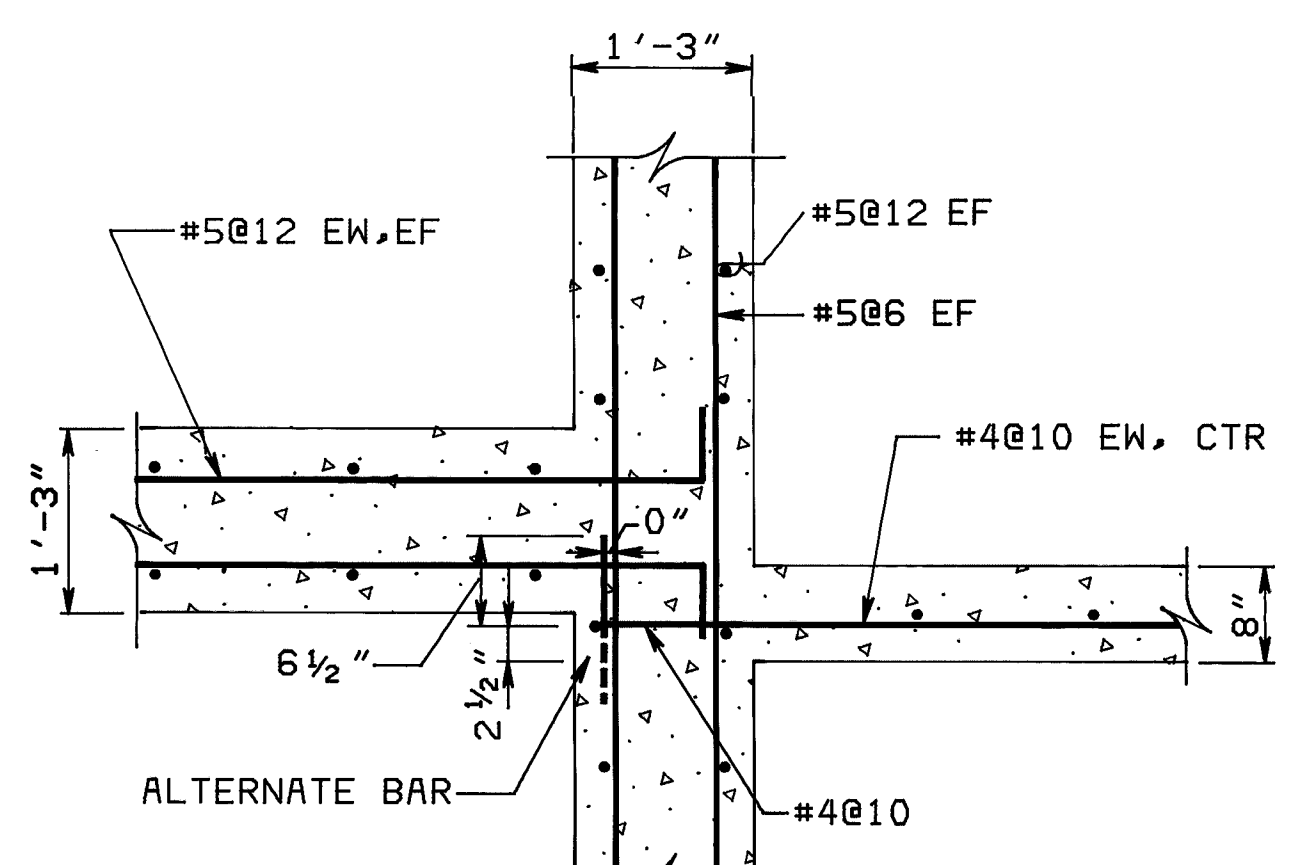
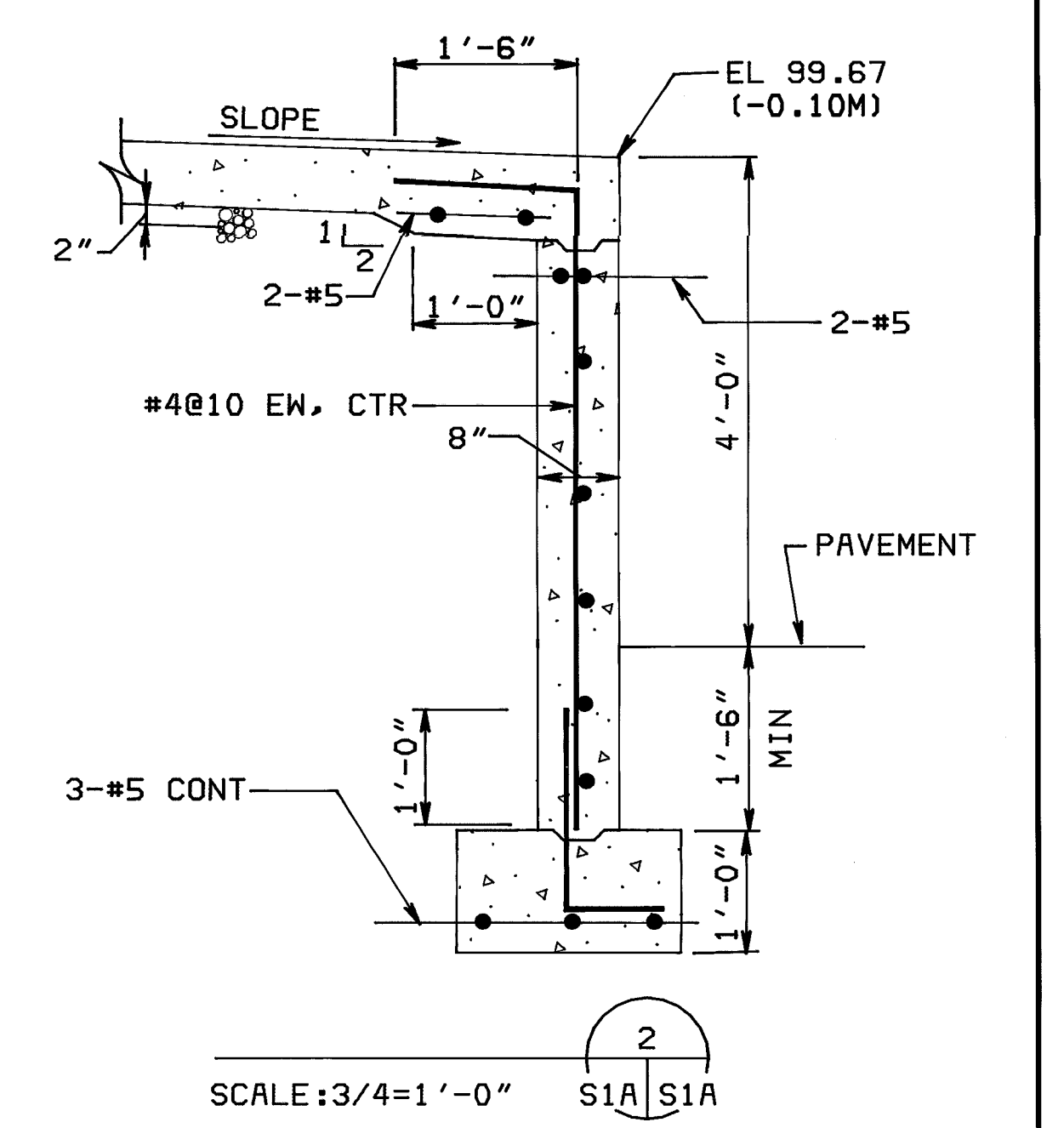
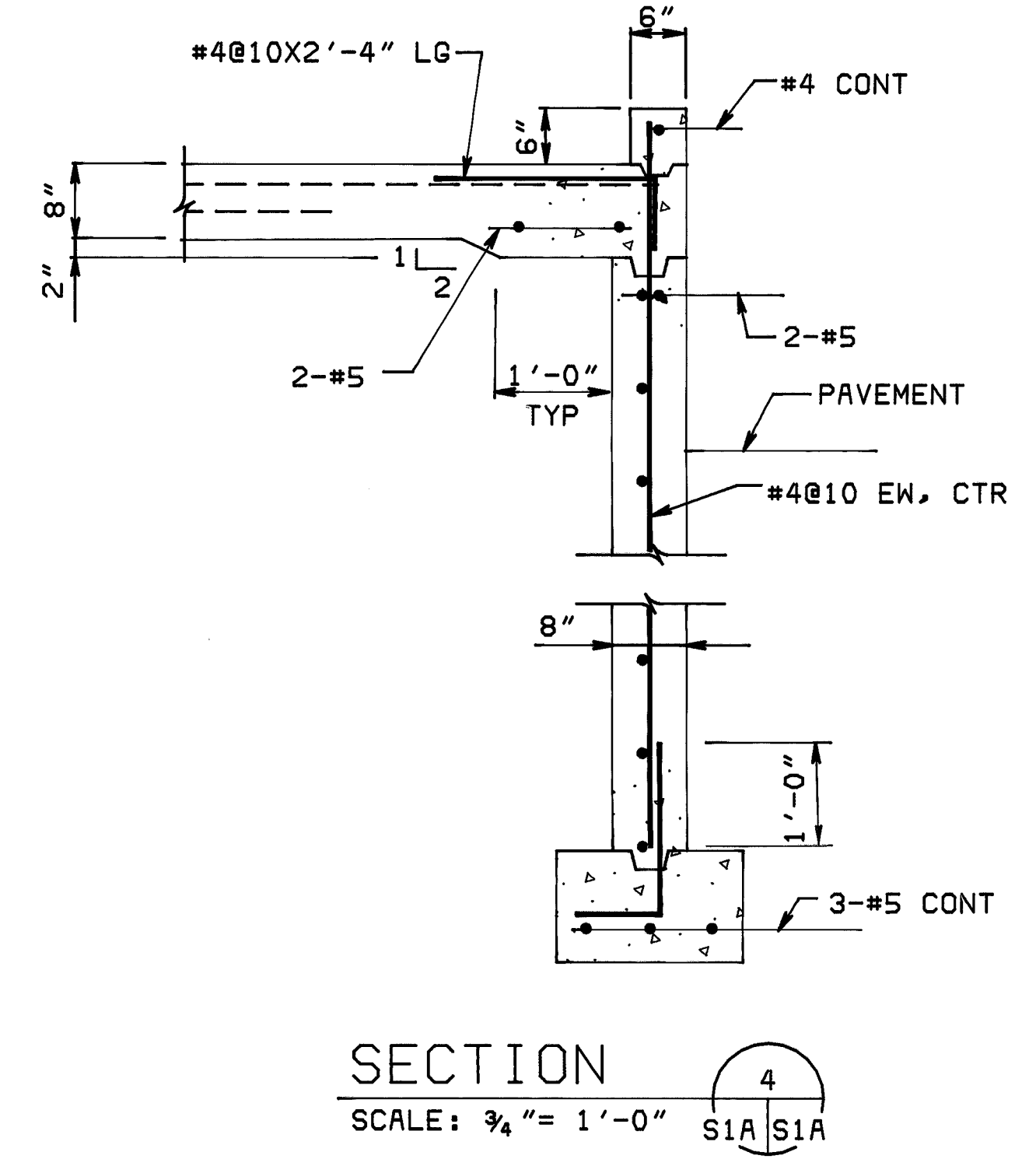
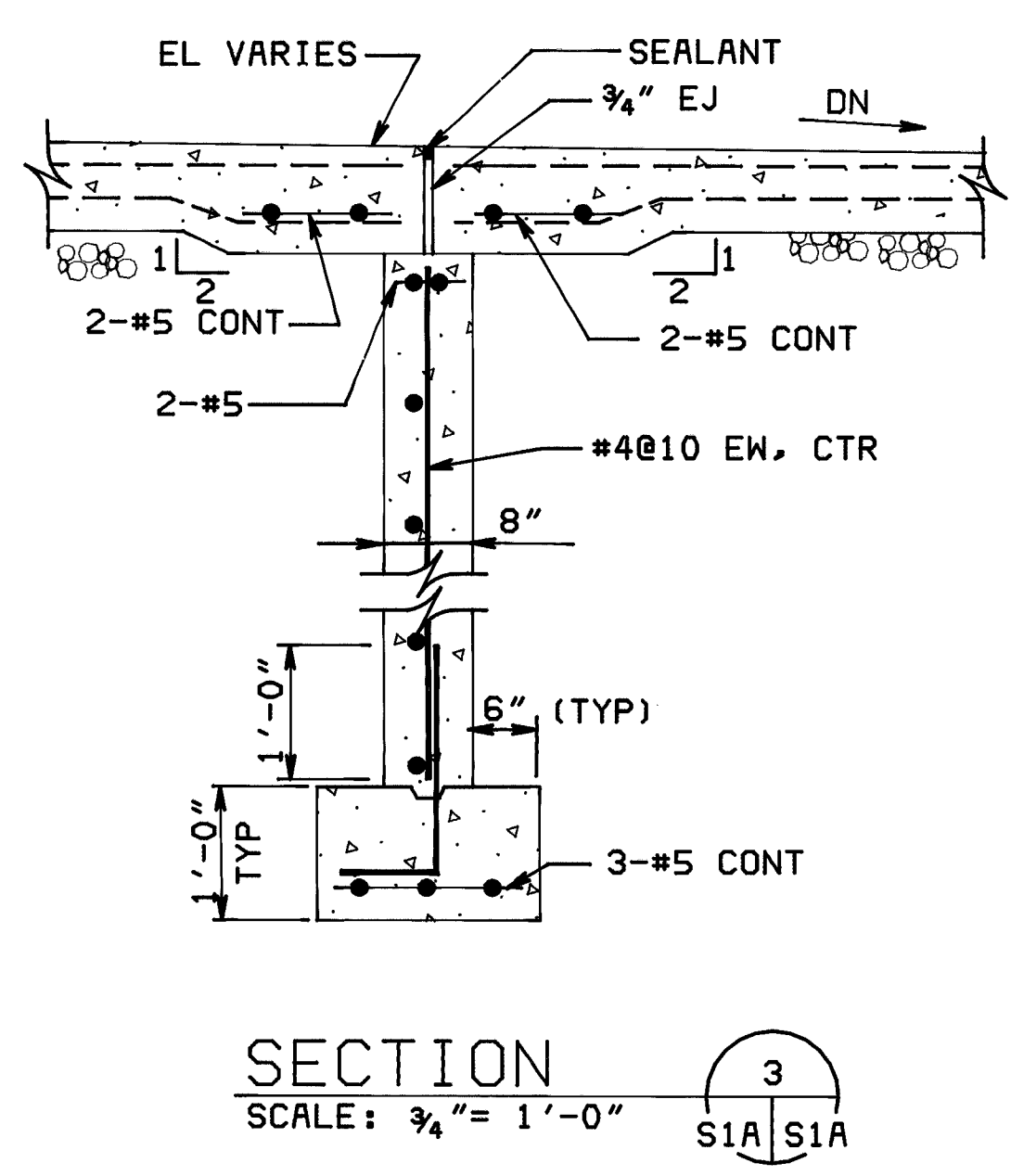
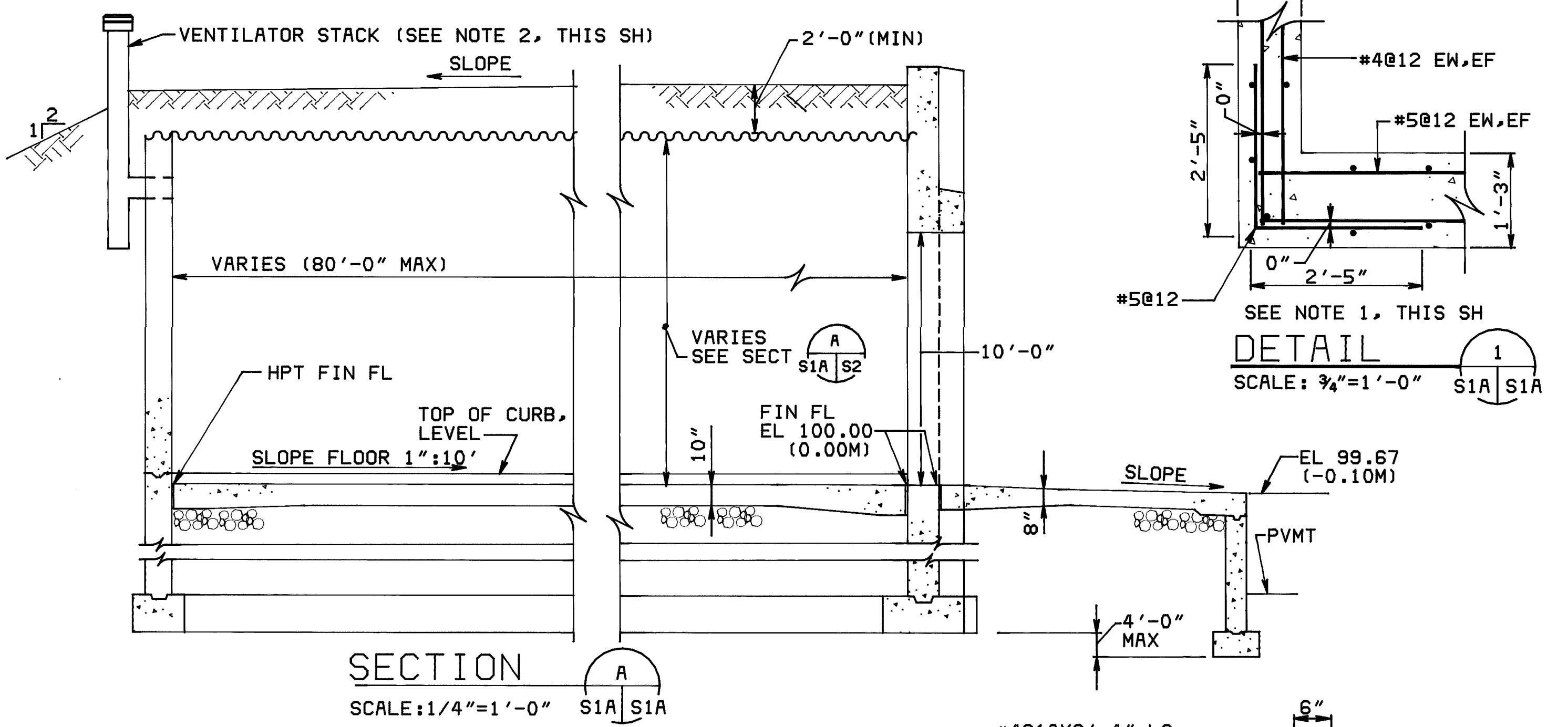
METRIC CONVERSIONS	
1/4" = 6MM	1'-5" = 432MM
1/2" = 13MM	1'-6" = 457MM
3/4" = 19MM	2'-0" = 609MM
1" = 25MM	2'-5" = 737MM
2" = 51MM	3'-0" = 914MM
4" = 102MM	5'-0" = 1520MM
6" = 152MM	10'-0" = 3050MM
8" = 203MM	12'-0" = 3660MM
10" = 254MM	15'-0" = 4570MM
1'-0" = 305MM	25'-0" = 7630MM
1'-2 3/8" = 365MM	80'-0" = 24.4M
1'-3" = 381MM	



HAYES, SEAY, MATTERN & MATTERN ARCHITECTS ENGINEERS PLANNERS ROANOKE, VIRGINIA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND 200 STOVALL STREET ALEXANDRIA, VA. 22332	
DESIGN: J.P. BRADSHAW, JR.		STANDARD EARTH-COVERED STEEL ARCH MAGAZINE	
SUBMITTED BY: J.P. BRADSHAW, JR.		STRUCTURAL FOUNDATION AND FLOOR PLAN AND SECTIONS MAGAZINE AT GRADE-LEVEL	
NAVFAC IDENT. NO. 1404333	SIZE CODE IDENT. NO. 80091	NAVFAC DRAWING NO. 1404330	
APPROVED: [Signature] DATE: 8-7-84		CONSTR. CONTR. NO. SCALE AS NOTED SPEC. NFSS - M19 SHEET S1 OF	

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

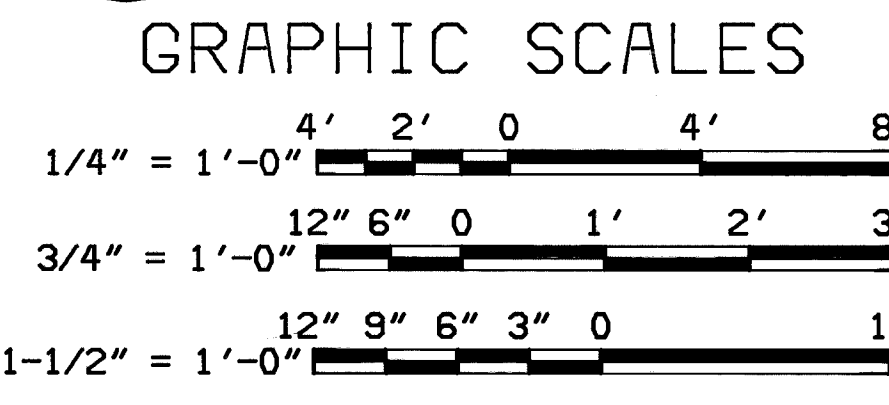
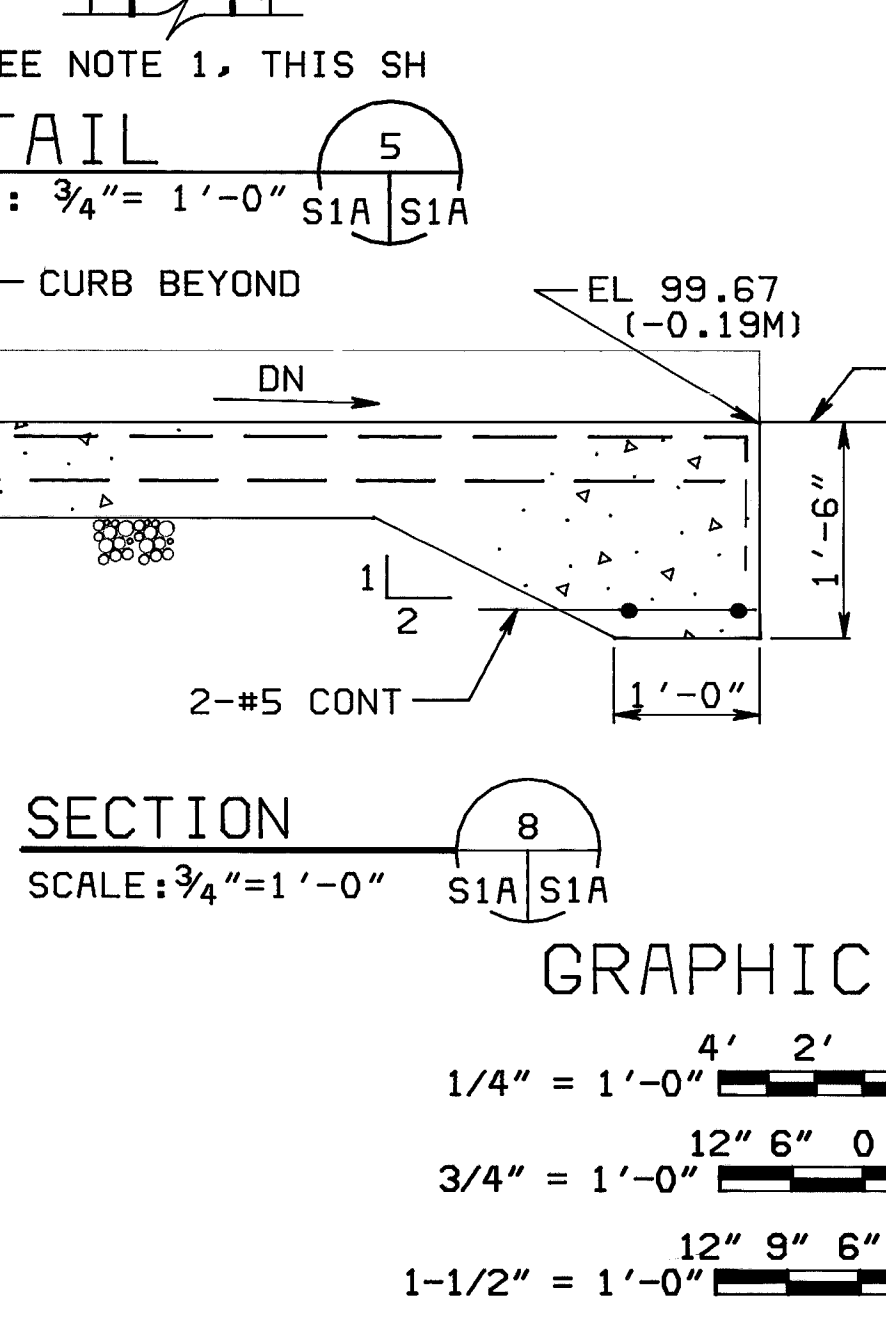
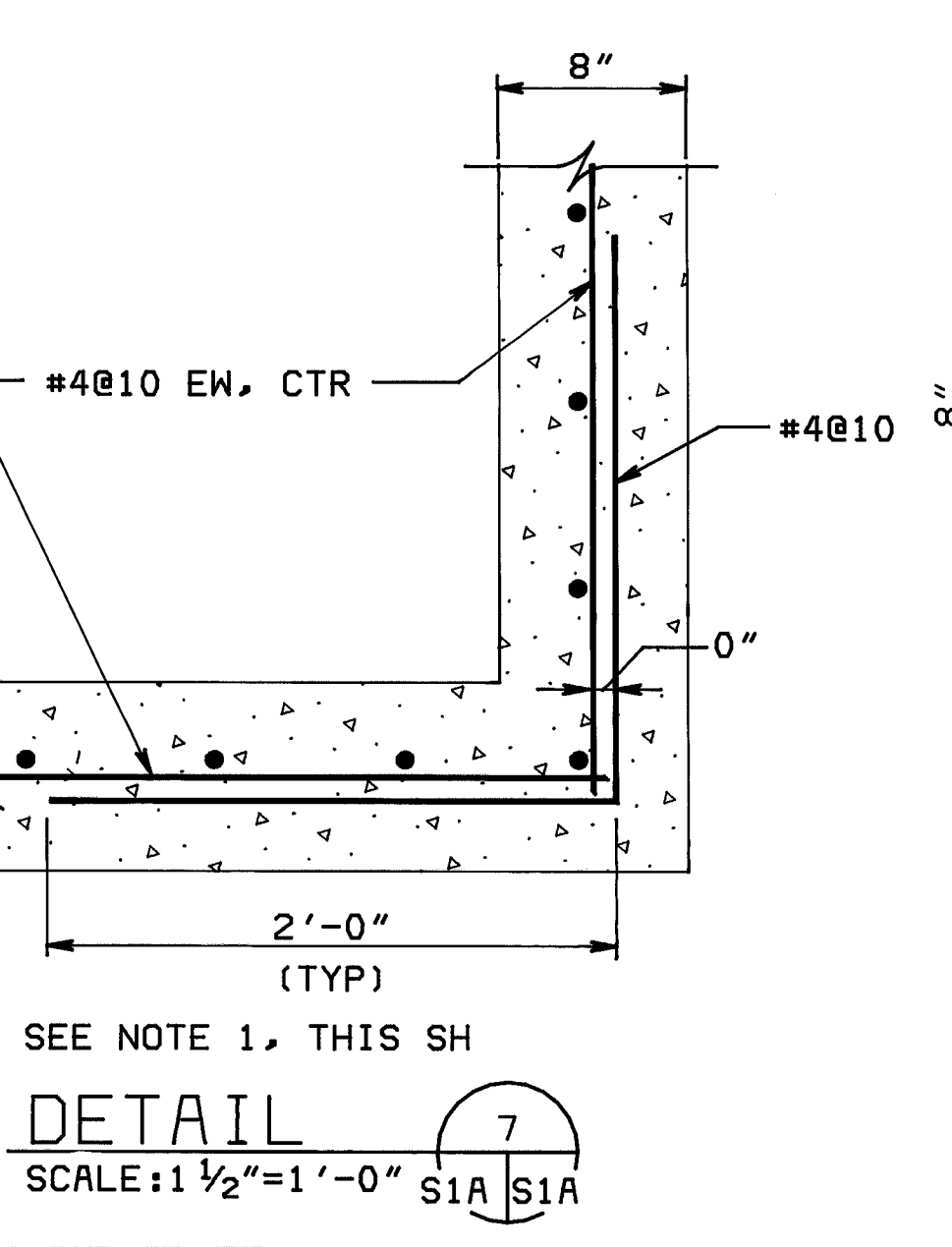
NOTE: REINF NOT SHOWN FOR CLARITY (TYP).
SEE NAVFAC DWG NO. 1404332 FOR
BACKFILL MATERIAL.



FOUNDATION AND FLOOR PLAN
SCALE: 1/4" = 1'-0"

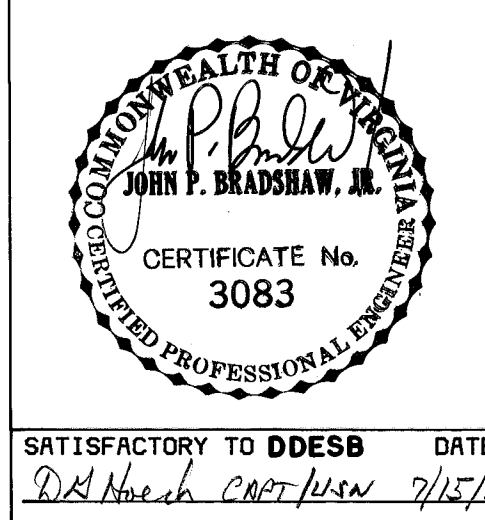
ARCH MAGAZINE AT LOADING DOCK-LEVEL

- NOTES:
- DET 1, DET 5, DET 6, DET 7 AND TYPICAL FOOTING STEP DETAIL THIS SHEET, SHOW CONDITIONS BELOW FLOOR SLAB.
 - SEE NAVFAC DWG NO. 1404340 FOR GENERAL NOTES, VENTILATOR SCHEDULE, AND WALL CRACK CONTROL JOINT DETAILS.



METRIC CONVERSIONS			
1/4" = 6MM	1'-2 3/8" = 365MM	20'-0" = 6096MM	
1/2" = 13MM	1'-3" = 381MM	25'-0" = 7630MM	
3/4" = 19MM	1'-5" = 432MM	80'-0" = 24.4M	
1 1/2" = 38MM	1'-6" = 457MM		
2" = 51MM	1'-8" = 508MM		
2 1/2" = 64MM	2'-0" = 610MM		
4" = 102MM	2'-4" = 712MM		
6" = 152MM	2'-5" = 737MM		
6 1/2" = 165MM	4'-0" = 1220MM		
8" = 203MM	10'-0" = 3050MM		
10" = 254MM	12'-0" = 3660MM		
14'-0" = 305MM	14'-0" = 4270MM		

CHECK GRAPHIC SCALES BEFORE USING



HAYES, SEAY, MATTERN & MATTERN ARCHITECTS ENGINEERS PLANNERS ROANOKE, VIRGINIA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ALEXANDRIA, VA. 22322

STANDARD EARTH-COVERED STEEL ARCH MAGAZINE STRUCTURAL FOUNDATION AND FLOOR PLAN AND SECTIONS LOADING DOCK-LEVEL MAGAZINE

SIZE CODE IDENT. NO. NAVFAC DRAWING NO. 1404331

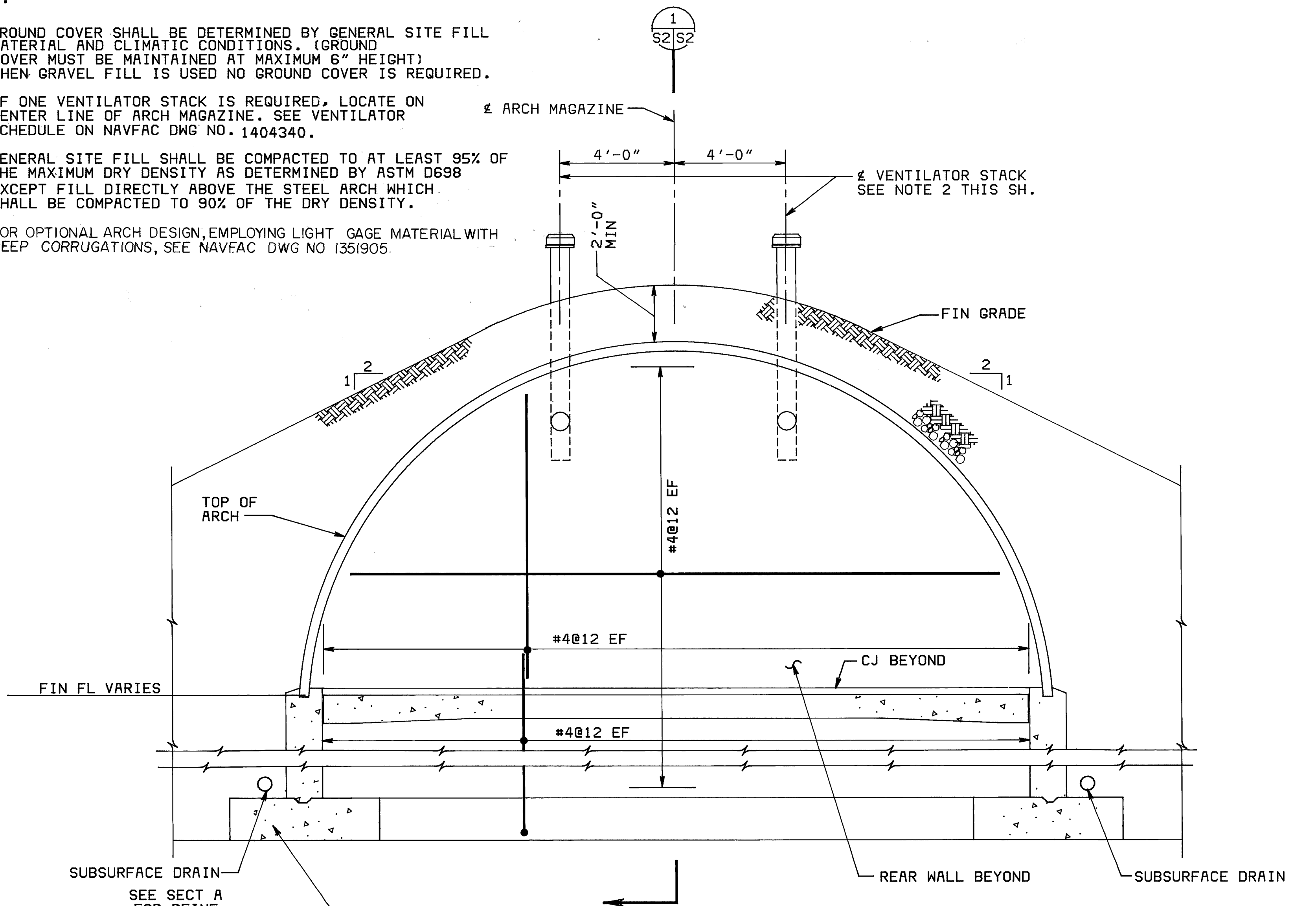
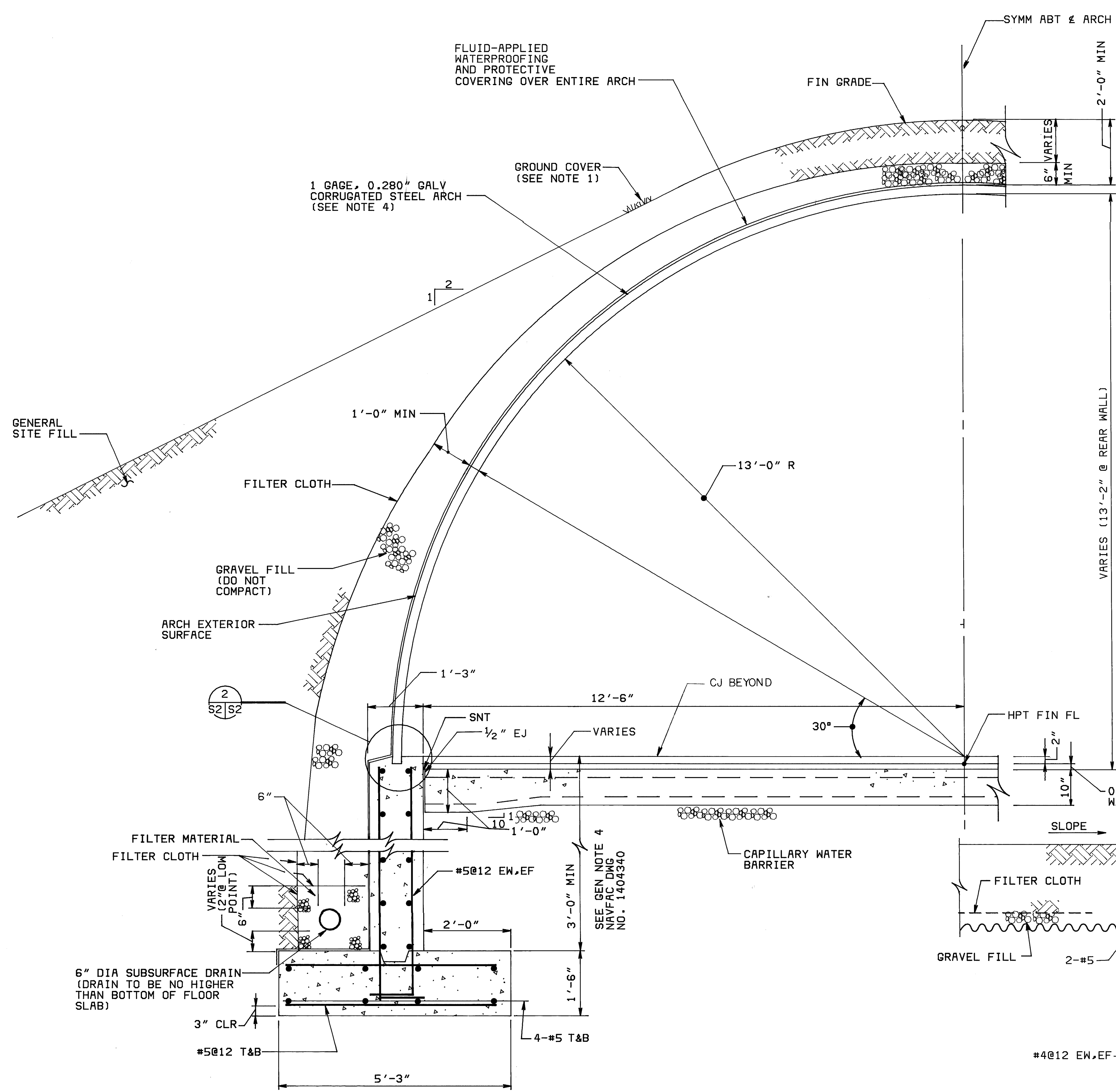
DATE 7/15/82

SCALE AS NOTED SPEC. NFSS-M19 SHEET S1A0F

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

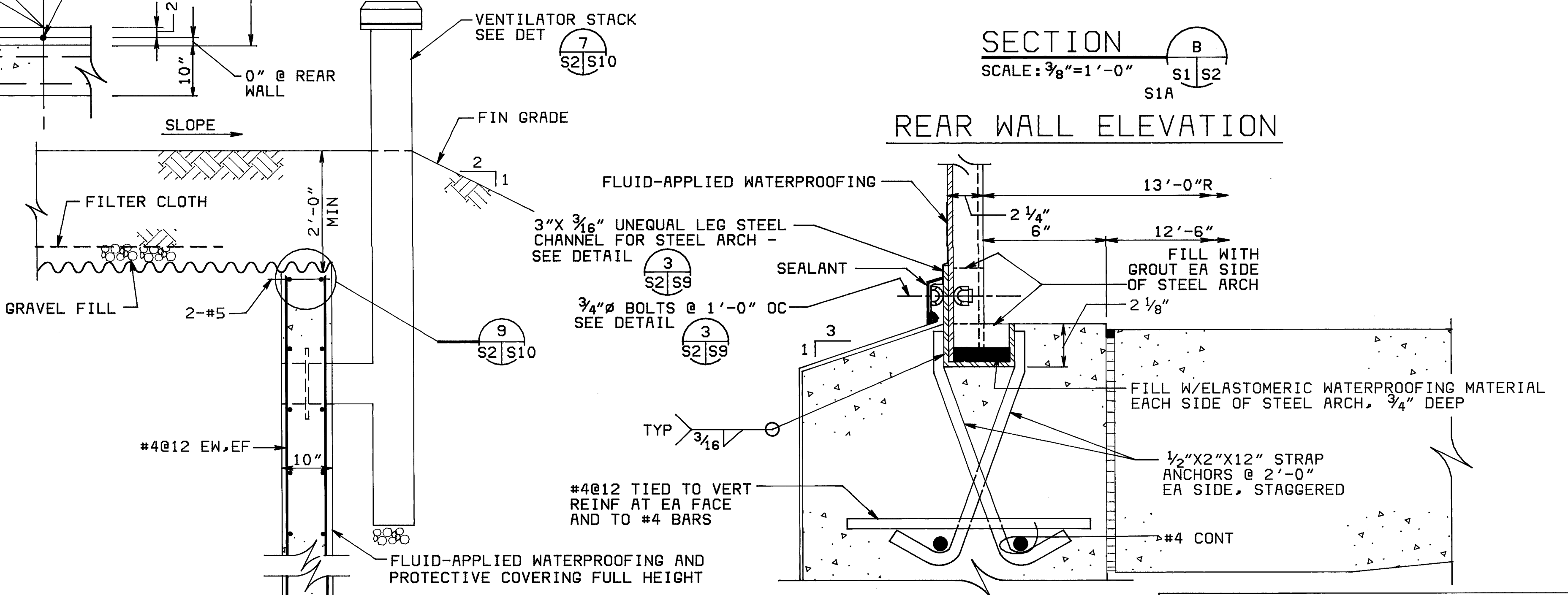
NOTES:

1. GROUND COVER SHALL BE DETERMINED BY GENERAL SITE FILL MATERIAL AND CLIMATIC CONDITIONS. (GROUND COVER MUST BE MAINTAINED AT MAXIMUM 6" HEIGHT) WHEN GRAVEL FILL IS USED NO GROUND COVER IS REQUIRED.
2. IF ONE VENTILATOR STACK IS REQUIRED, LOCATE ON CENTER LINE OF ARCH MAGAZINE. SEE VENTILATOR SCHEDULE ON NAVFAC DWG NO. 1404340.
3. GENERAL SITE FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 EXCEPT FILL DIRECTLY ABOVE THE STEEL ARCH WHICH SHALL BE COMPACTED TO 90% OF THE DRY DENSITY.
4. FOR OPTIONAL ARCH DESIGN, EMPLOYING LIGHT GAGE MATERIAL WITH DEEP CORRUGATIONS, SEE NAVFAC DWG NO 1351905.

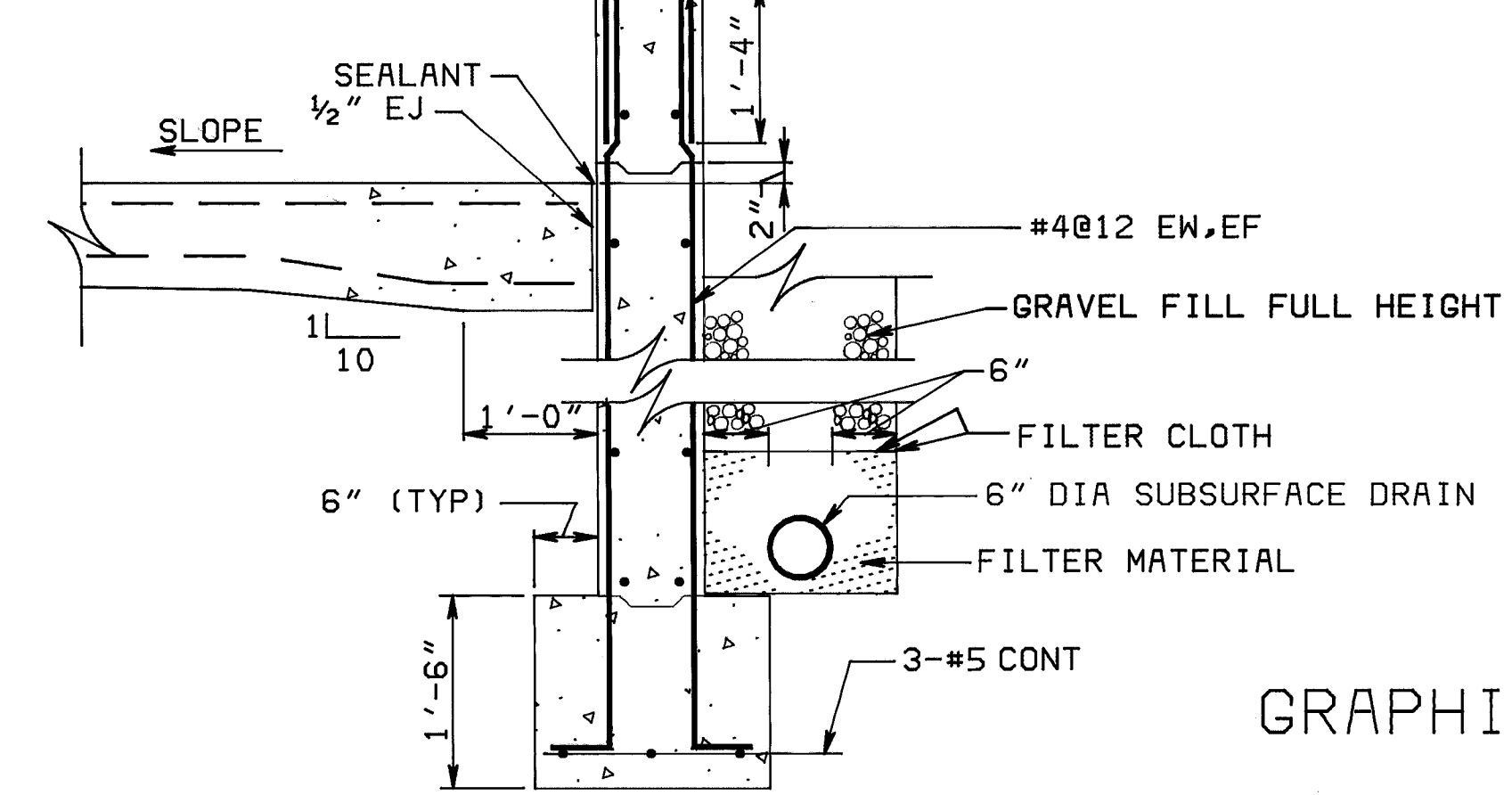


SECTION B
SCALE: 3/8"=1'-0"
S1A S1 S2

REAR WALL ELEVATION



DETAIL 2
SCALE: 3"=1'-0"
S2 S2

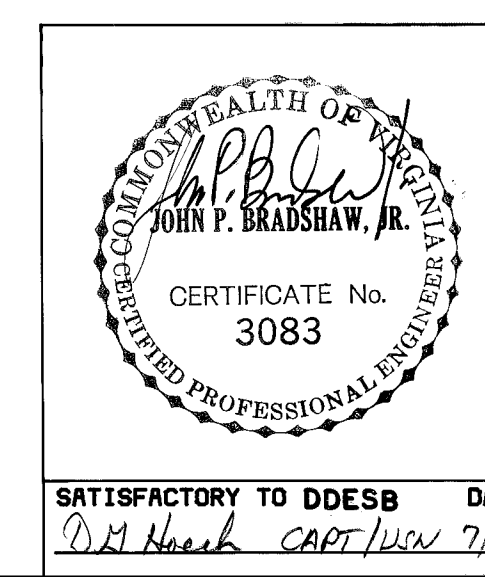
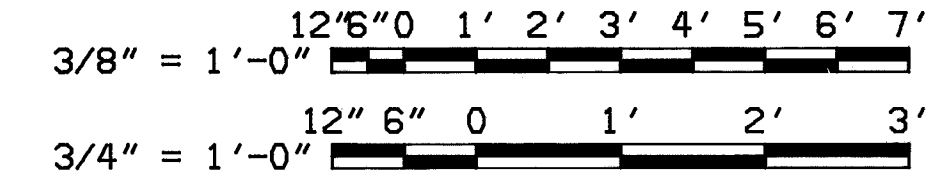


SECTION 1
SCALE: 3/4"=1'-0"
S2 S2

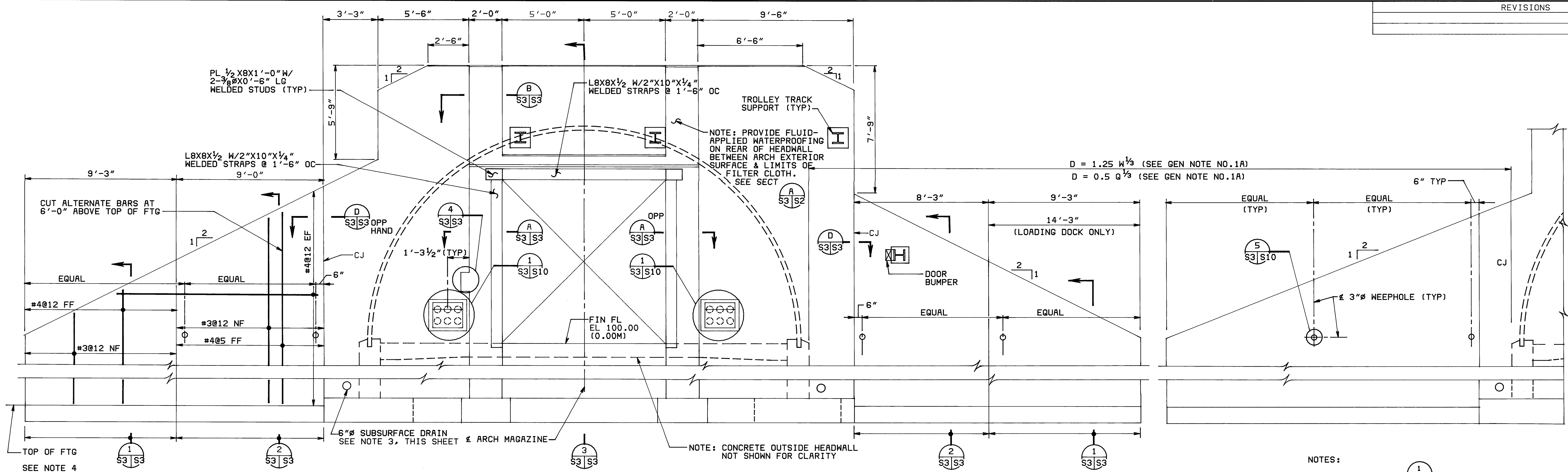
METRIC CONVERSIONS			
3/16" = 5MM	2'-0" = 610MM		
1/2" = 13MM	4'-0" = 1220MM		
3/4" = 19MM	5'-3" = 1600MM		
1 3/4" = 44MM	8'-0" = 2440MM		
2" = 51MM	12'-6" = 3800MM		
2 1/2" = 54MM	13'-0" = 3962MM		
3" = 76MM	13'-2" = 4013MM		
6" = 152MM			
10" = 254MM			
1'-0" = 305MM			
1'-4" = 406MM			
1'-6" = 457MM			

CHECK GRAPHIC SCALES BEFORE USING.

GRAPHIC SCALES



HAYES, SEAY, MATTERN & MATTERN ARCHITECTS ENGINEERS PLANNERS
 RANDOLPH, VIRGINIA
 200 STOVALL STREET ALEXANDRIA, VA, 22332
 DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 80091
 EARTH-COVERED STEEL ARCH MAGAZINE
 ARCH SECTION AND MISCELLANEOUS DETAILS
 STRUCTURAL
 NAVFAC DRAWING NO. 1404332
 DATE 8-7-84
 APPROVED BY [Signature] DATE 8-7-84
 Satisfactory to DDESB DATE 8-7-84
 CONSTR. CONTR. NO.
 SCALE AS NOTED SPEC. NFSS-M19 SHEET S2 OF

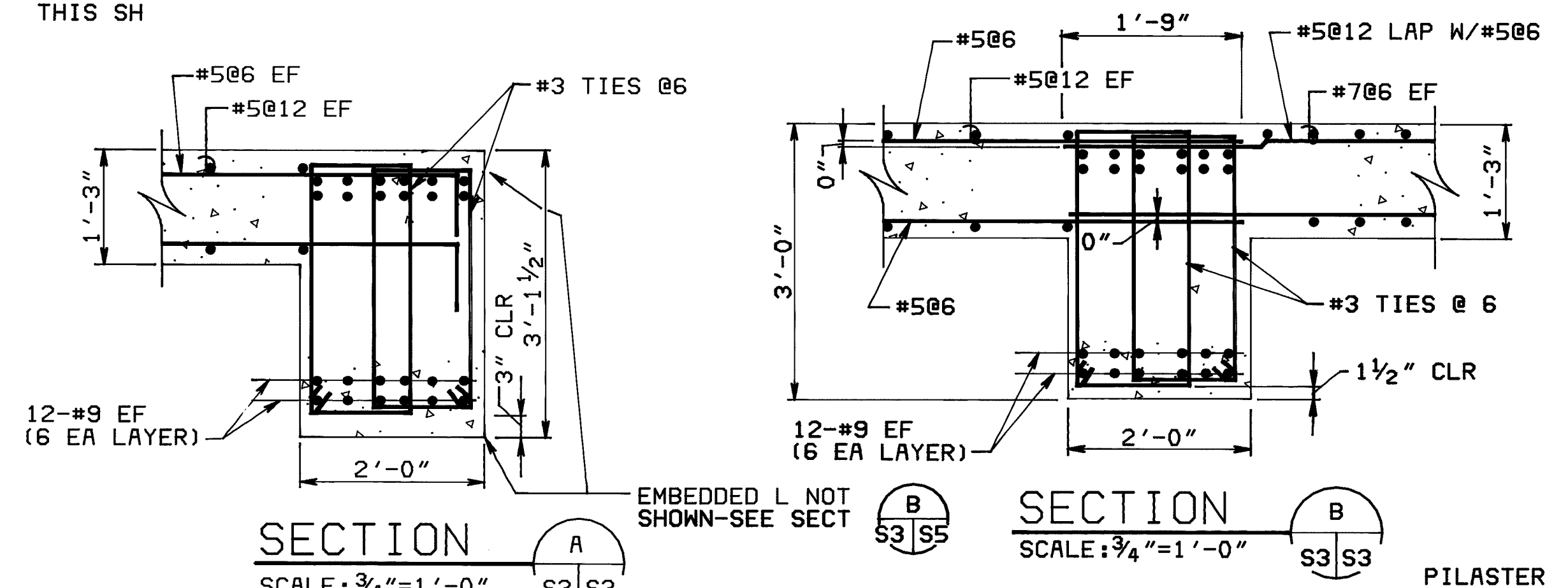


$D = 1.25 W^{1/3}$ (SEE GEN NOTE NO.1A)
 $D = 0.5 Q^{1/3}$ (SEE GEN NOTE NO.1A)

ELEVATION 1
 SCALE: $3/8" = 1'-0"$
 S1A S1 S3

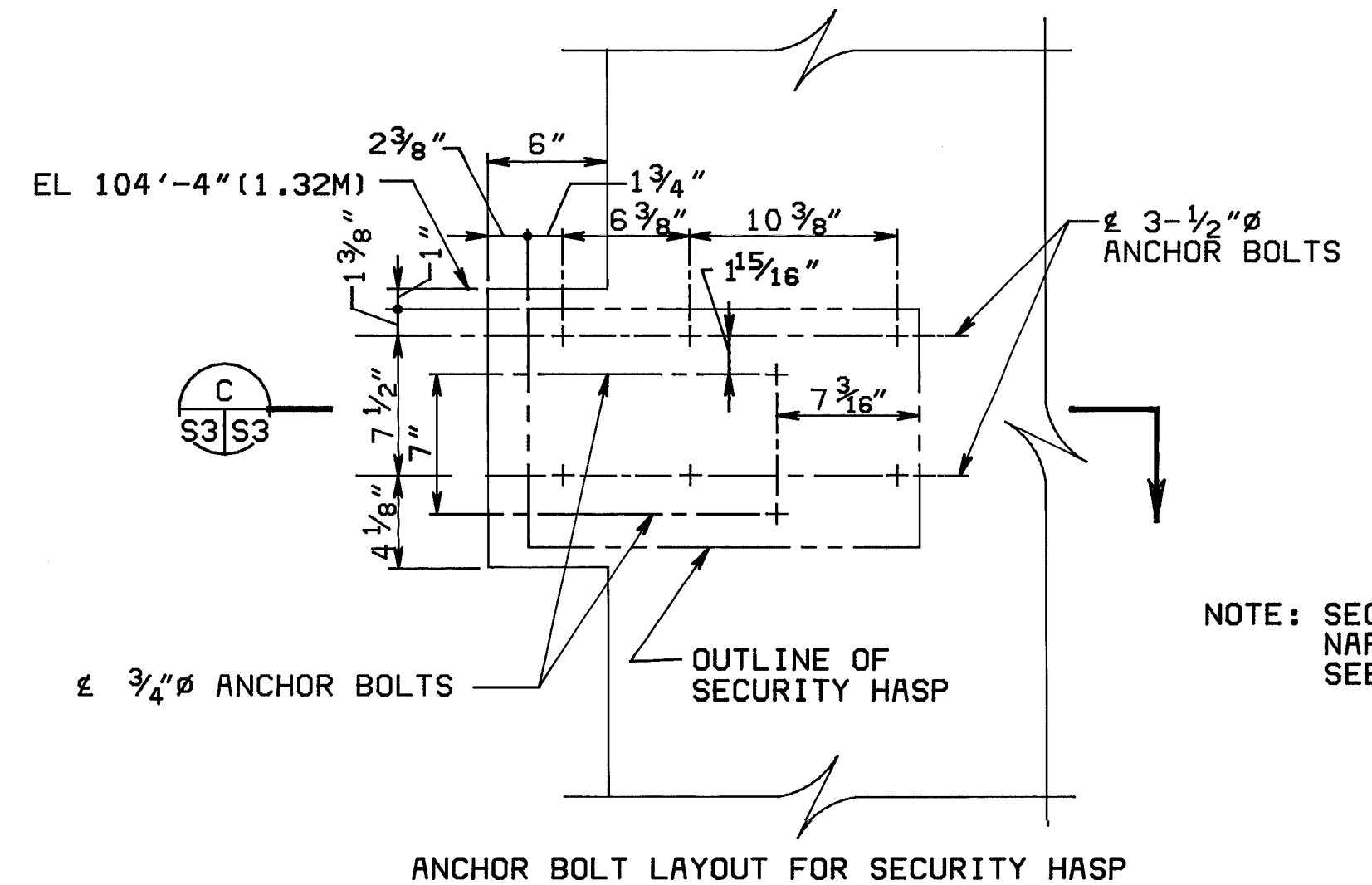
FRONT WALL ELEVATION
 10'-0" WIDE DOOR OPENING

- NOTES:**
1. SEE ELEVATION 1 (NAVFAC DNG NO. 1404335) FOR DOOR DETAILS.
 2. PILASTER SHALL BE PLUMB. ALLOWABLE DEVIATION FROM VERTICAL SHALL NOT EXCEED $1/4"$ PER 10 FEET VERTICAL HEIGHT.
 3. 6" SUBSURFACE DRAIN PENETRATES HEADWALL FOR DRAINAGE TO FRONT OF MAGAZINE ONLY.
 4. VERIFY FOOTING AND RETAINING WALL DESIGN IF FOOTINGS ARE LOWERED. SEE GEN NOTE 4, NAVFAC DNG NO. 1404340.
 5. SEE NAVFAC DNG NO. 1404340 FOR WALL CRACK CONTROL JOINT DETAILS, AND GENERAL NOTES.



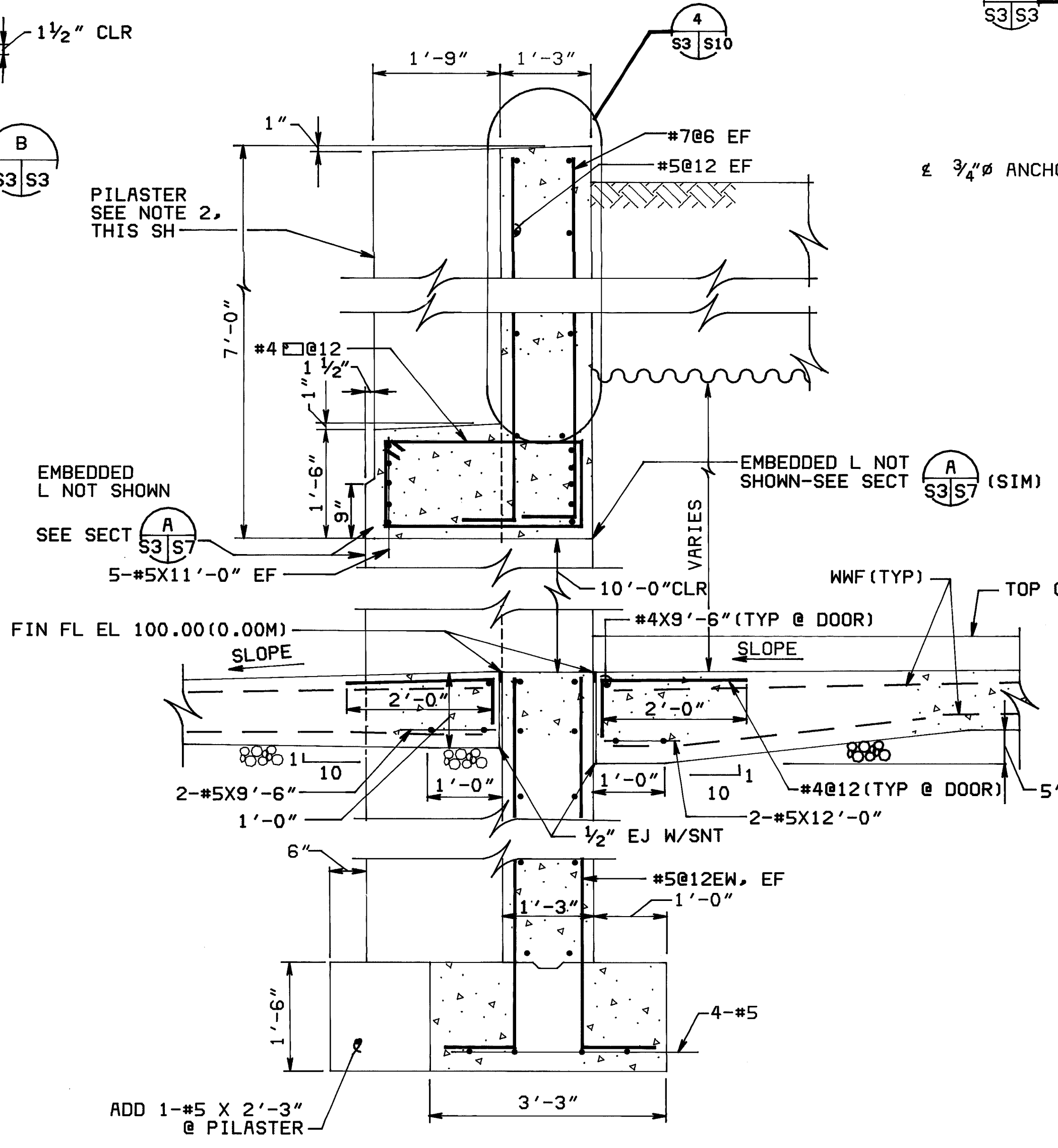
SECTION A
 SCALE: $3/4" = 1'-0"$
 S3 S3

SECTION B
 SCALE: $3/4" = 1'-0"$
 S3 S3

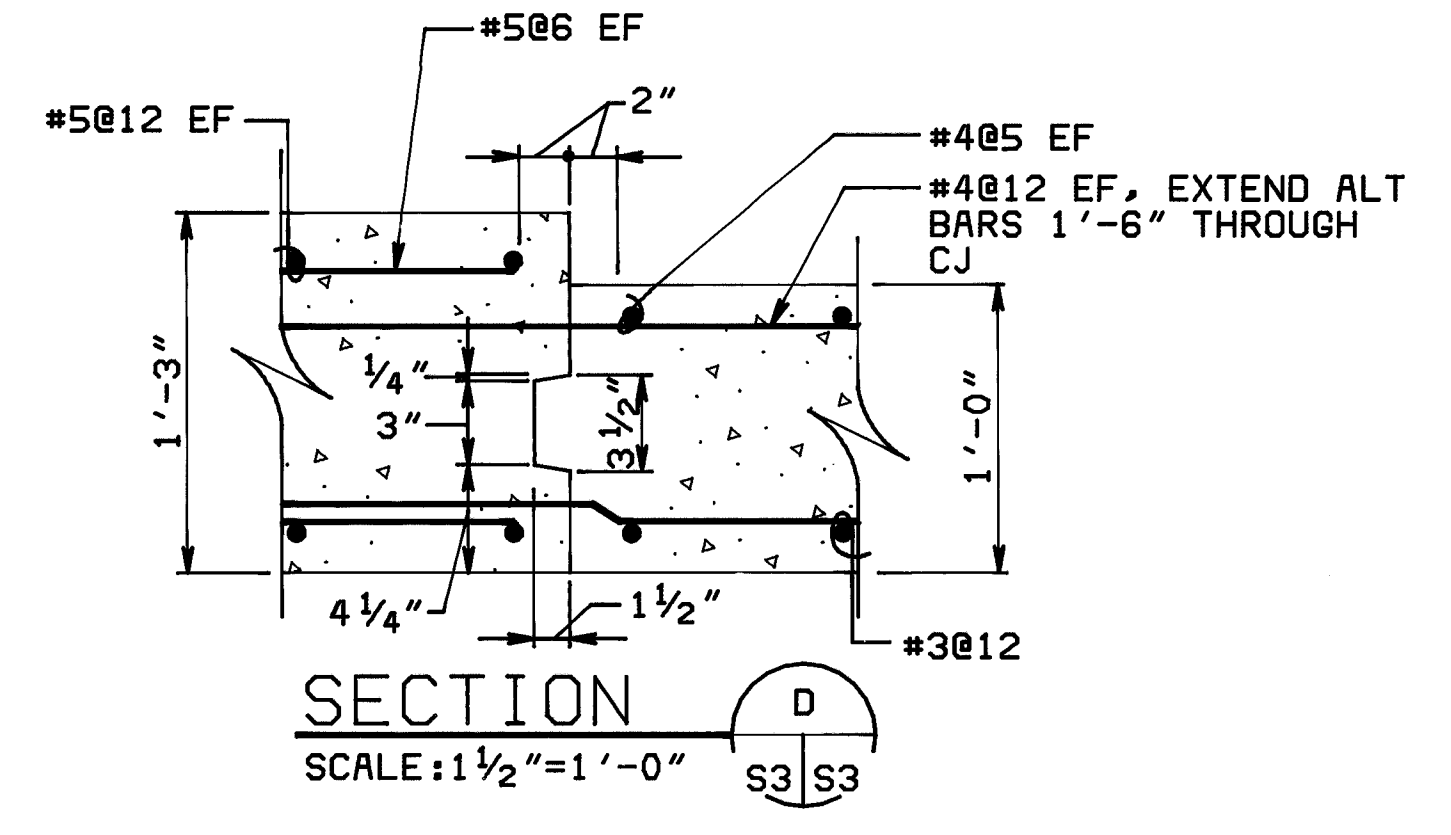


DETAIL 4
 SCALE: $1 1/2" = 1'-0"$
 S3 S3

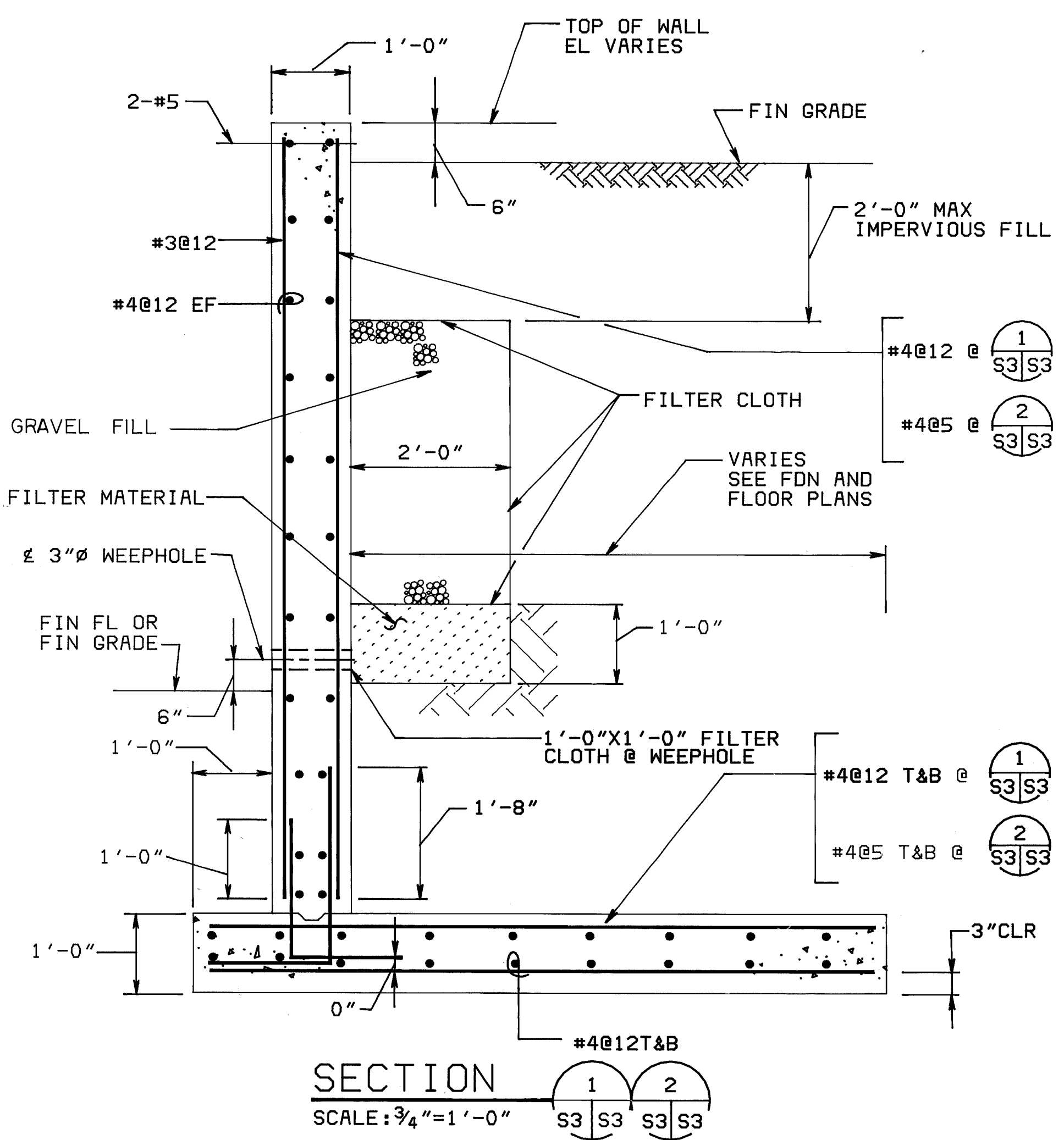
NOTE: SECURITY HASP WILL BE FURNISHED BY NAPEC WITH INSTALLATION INSTRUCTIONS, CONTRACTOR INSTALL. SEE SH S9 FOR SECURITY HASP DETAILS.



SECTION 3
 SCALE: $3/4" = 1'-0"$
 S3 S3

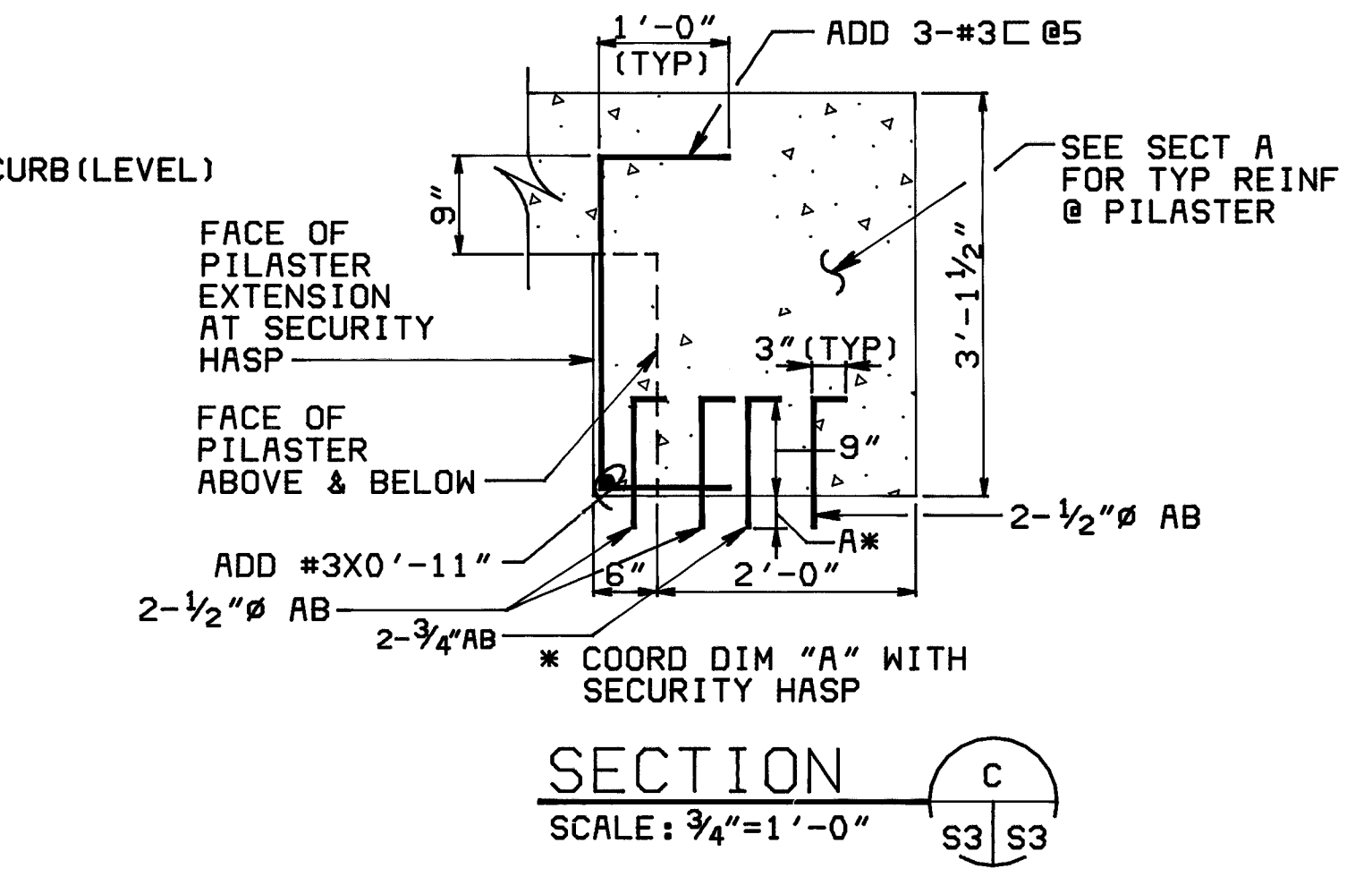


SECTION D
 SCALE: $1 1/2" = 1'-0"$
 S3 S3



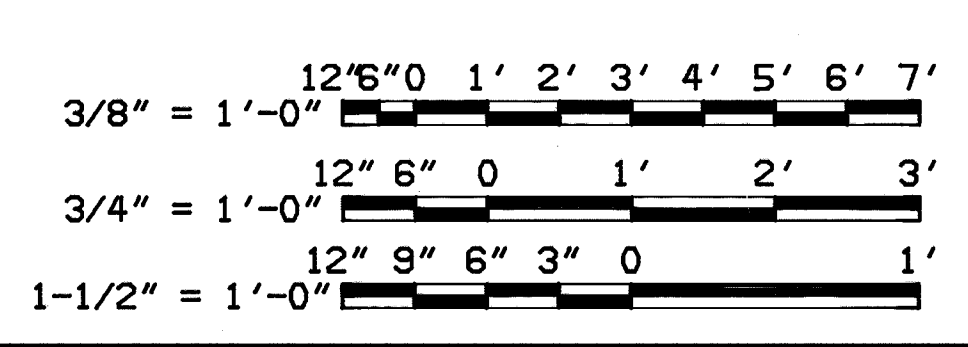
SECTION 1
 SCALE: $3/4" = 1'-0"$
 S3 S3

SECTION 2
 SCALE: $3/4" = 1'-0"$
 S3 S3



SECTION C
 SCALE: $3/4" = 1'-0"$
 S3 S3

GRAPHIC SCALES



METRIC CONVERSIONS

1/4" = 6MM	4 1/8" = 105MM	10 3/8" = 264MM	5'-8 1/2" = 1740MM
1/2" = 13MM	4 1/4" = 108MM	11" = 297MM	5'-9" = 1750MM
3/4" = 19MM	4 15/16" = 125MM	1'-0" = 305MM	5'-9 1/2" = 1980MM
1" = 25MM	5" = 127MM	1'-2" = 356MM	7'-0" = 2130MM
1 1/8" = 28MM	6" = 152MM	1'-3" = 381MM	8'-3" = 2510MM
1 1/4" = 35MM	6 1/16" = 154MM	1'-6" = 508MM	8'-0" = 2740MM
1 1/2" = 38MM	6 3/8" = 162MM	1'-8" = 508MM	9'-3" = 2830MM
1 3/4" = 44MM	6 1/2" = 165MM	2'-0" = 610MM	10'-0" = 3050MM
2" = 51MM	7" = 178MM	2'-6" = 761MM	11'-0" = 3350MM
2 1/8" = 55MM	7 1/8" = 183MM	3'-1 1/2" = 952MM	11'-5" = 3480MM
3" = 76MM	7 1/2" = 191MM	3'-3" = 990MM	12'-0" = 3660MM
3 1/2" = 89MM	9" = 228MM	5'-6" = 1670MM	14'-3" = 4340MM
4" = 102MM			

CHECK GRAPHIC SCALES BEFORE USING

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 200 STOVALL STREET ALEXANDRIA, VA. 22332

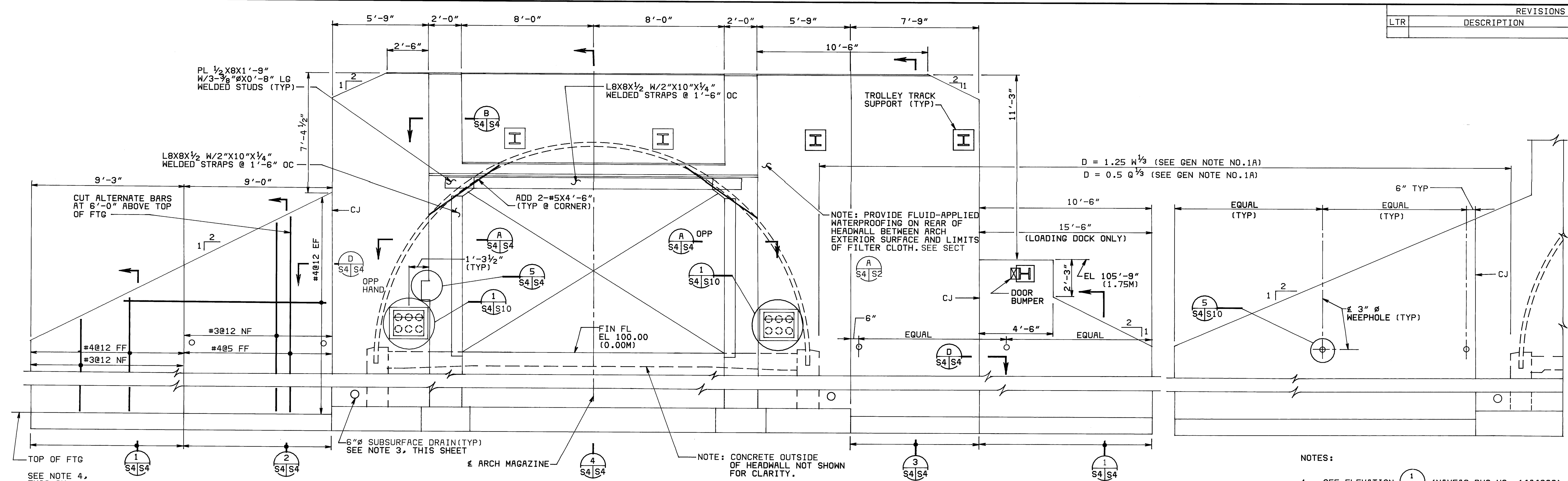
STANDARD
 EARTH-COVERED STEEL ARCH MAGAZINE
 STRUCTURAL
 FRONT WALL ELEVATION, SECTIONS AND DETAILS
 10'-0" WIDE DOOR OPENING

SIZE CODE IDENT. NO. NAVFAC DRAWING NO.
 F 80091 1404333

SATISFACTORY TO DDESB DATE: 11/18/84
 APPROVED: [Signature] DATE: 11/18/84
 PREPARED: [Signature] DATE: 11/18/84

SCALE: RS NOTED SPEC: NFSS - M19 SHEET S3 OF

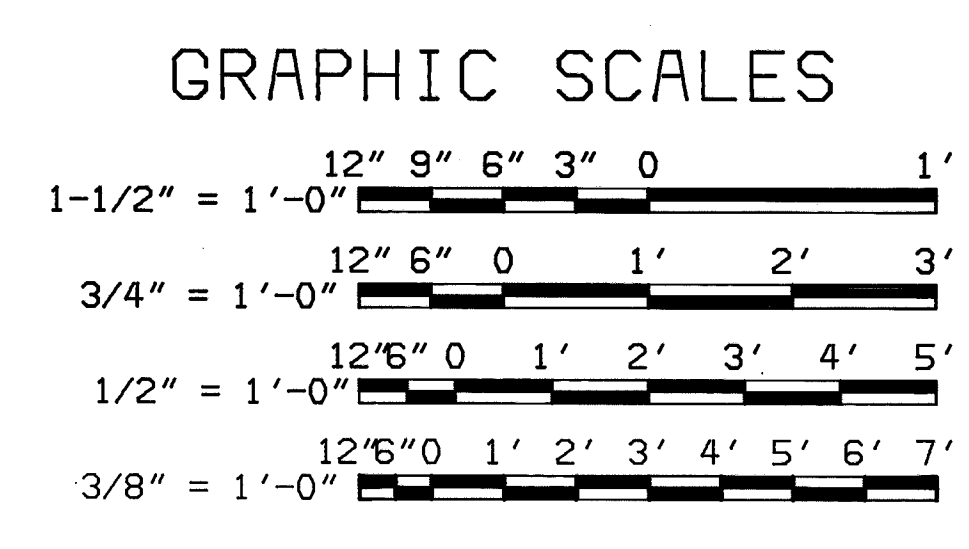
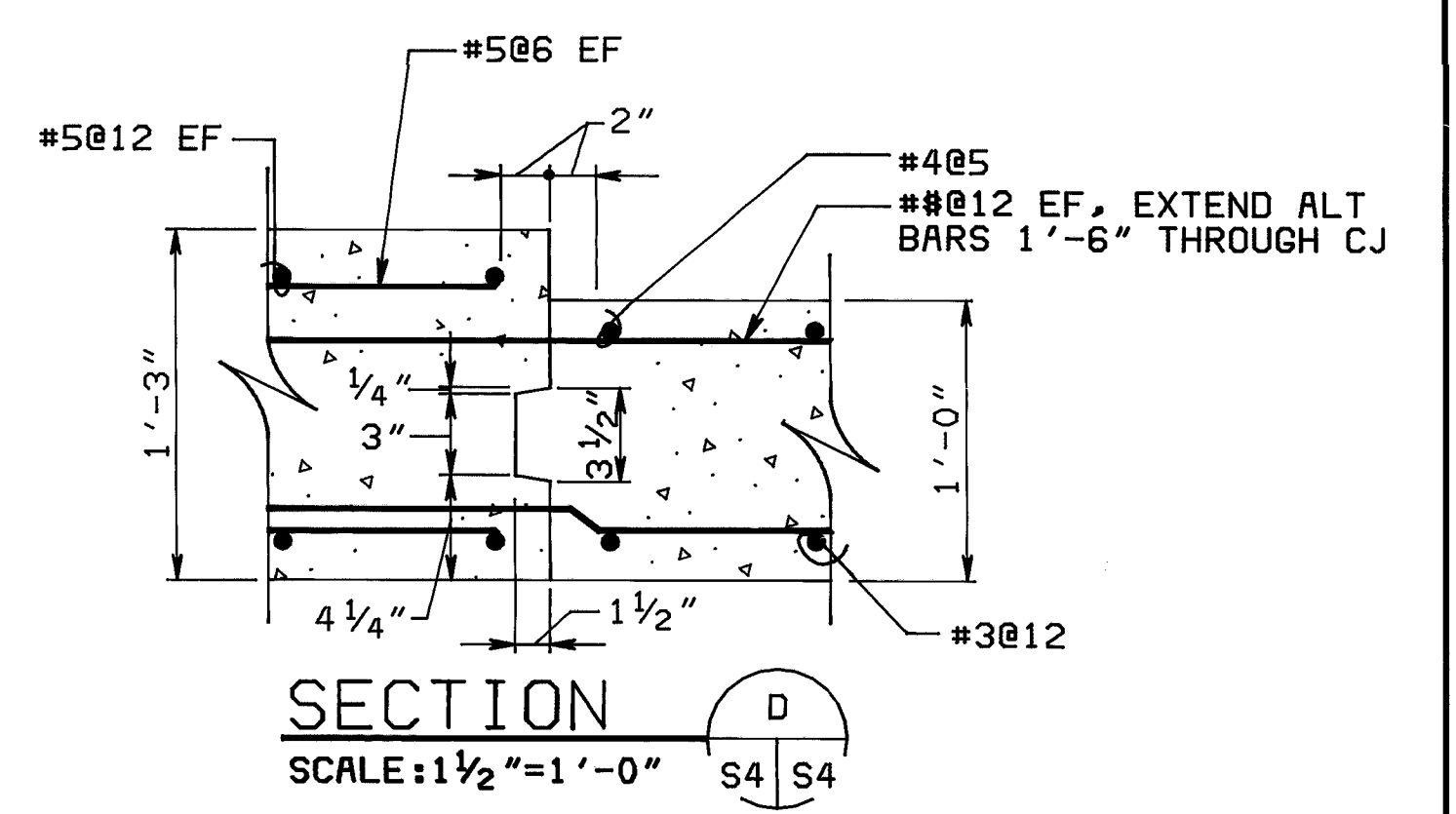
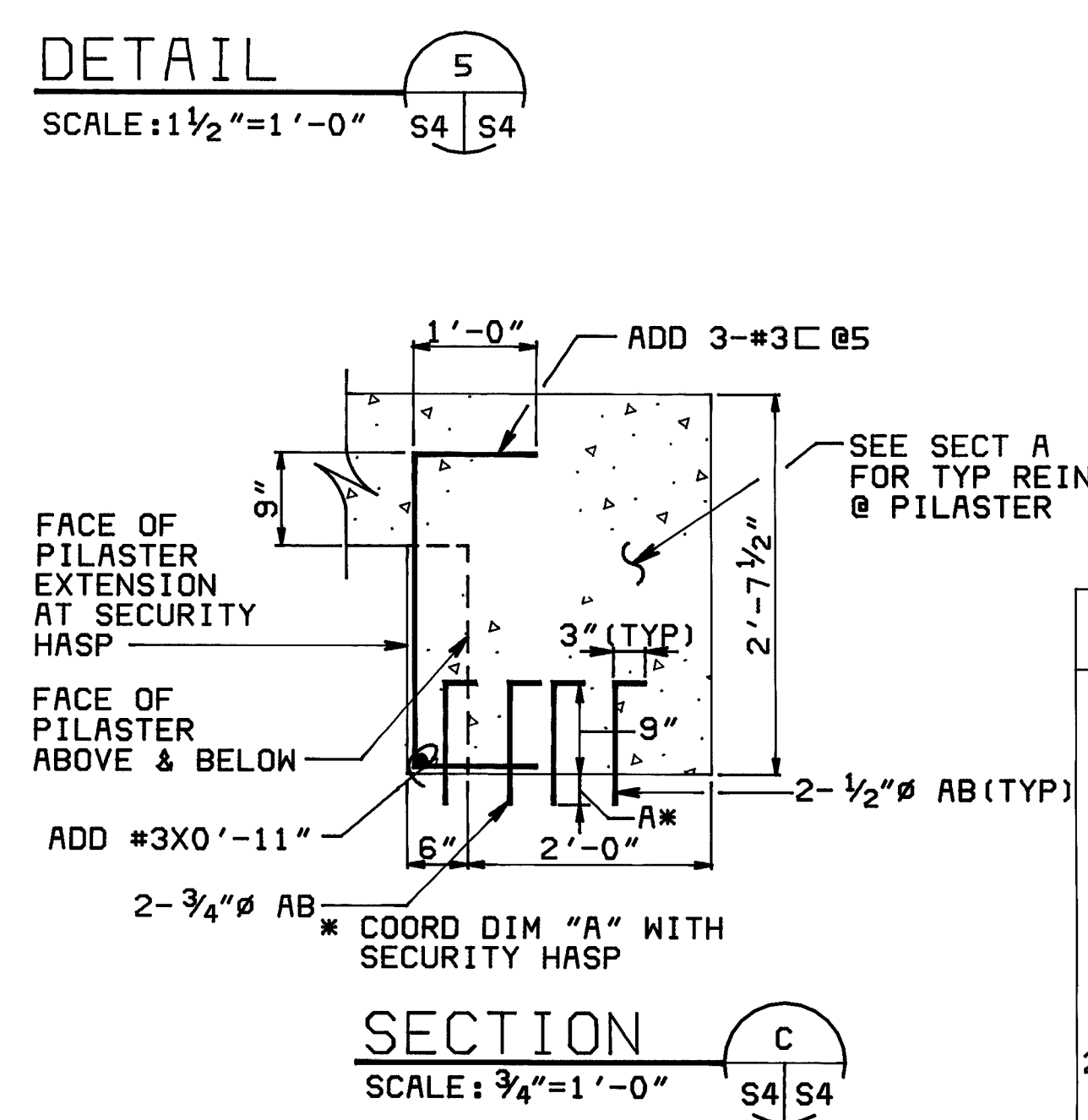
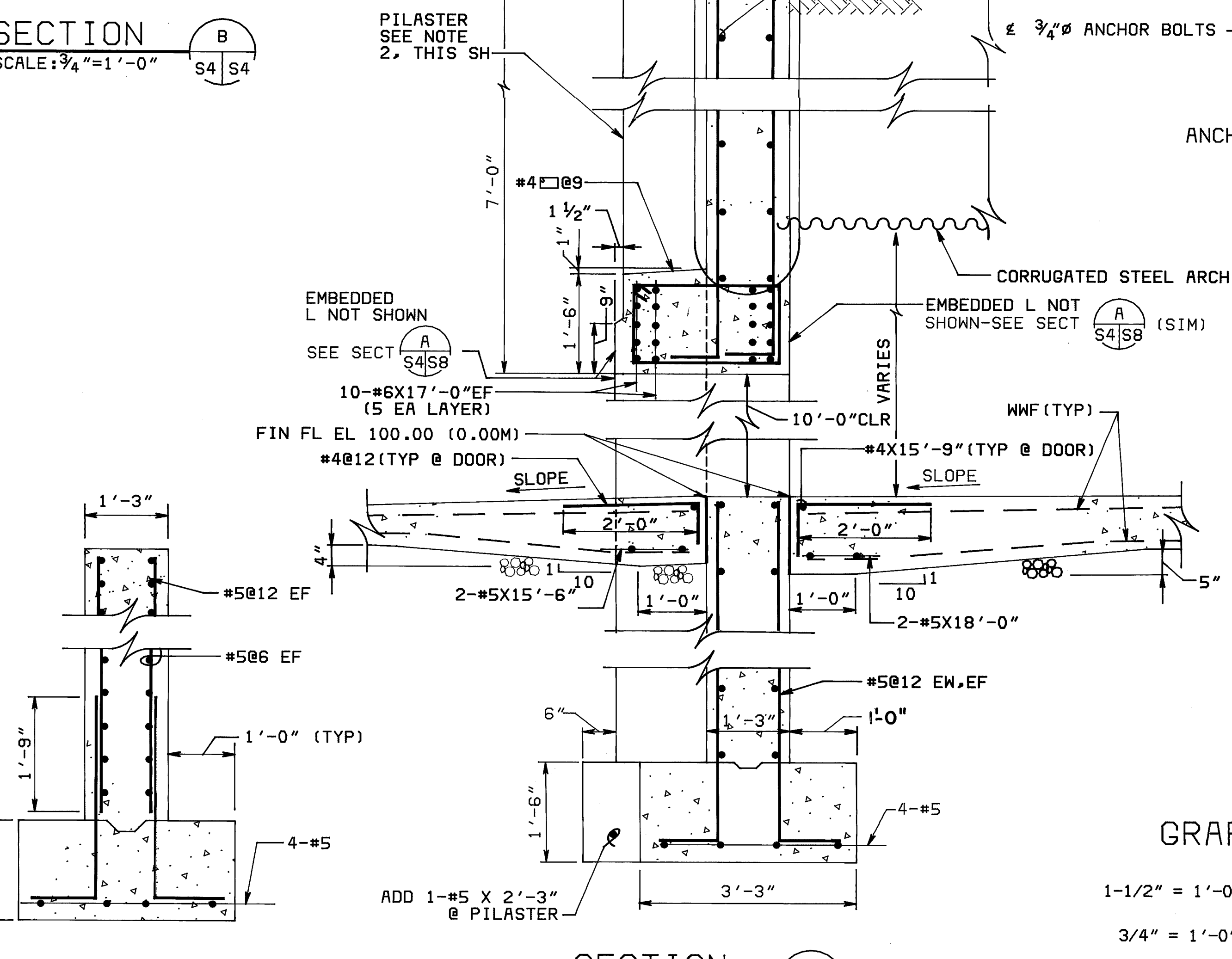
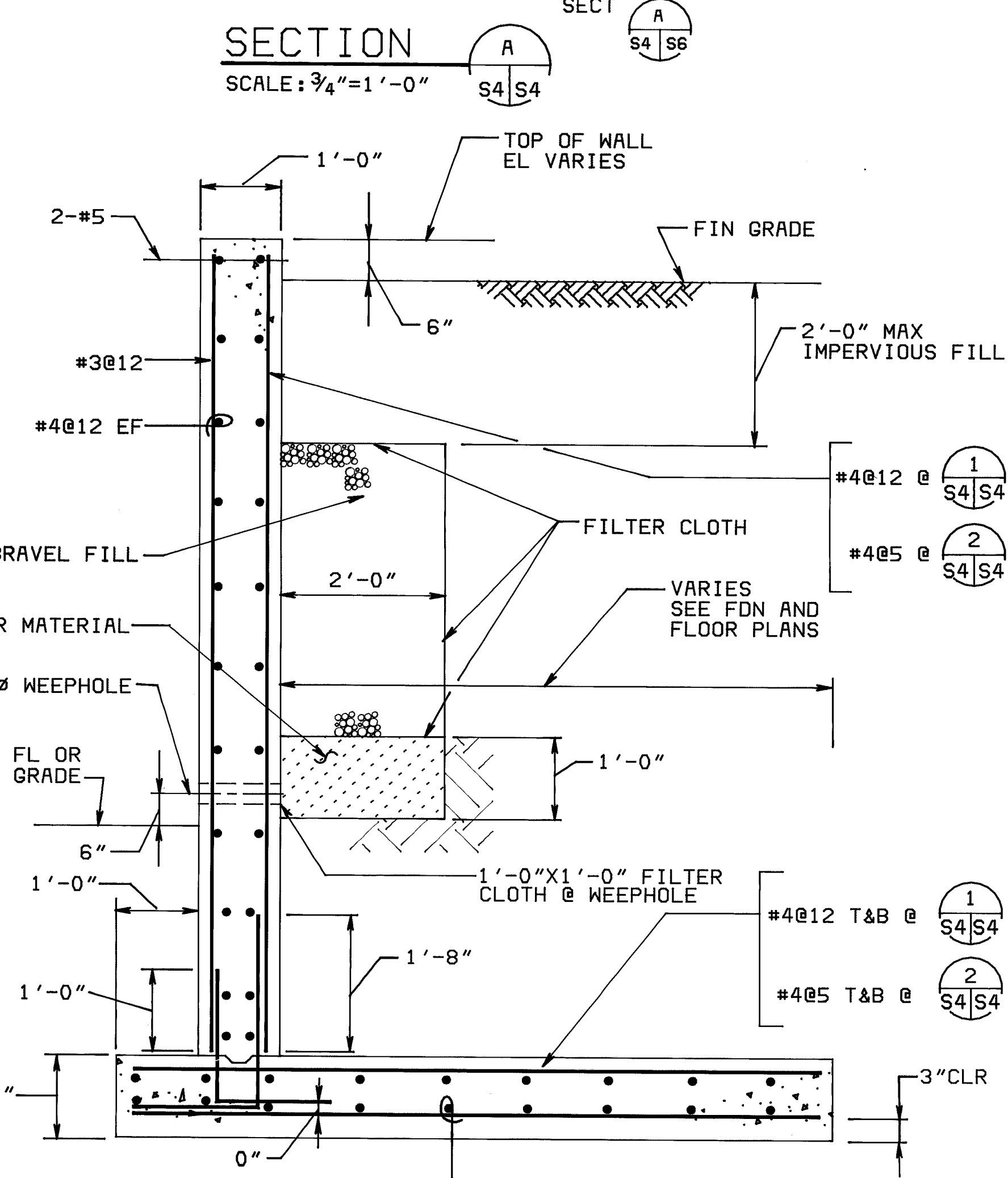
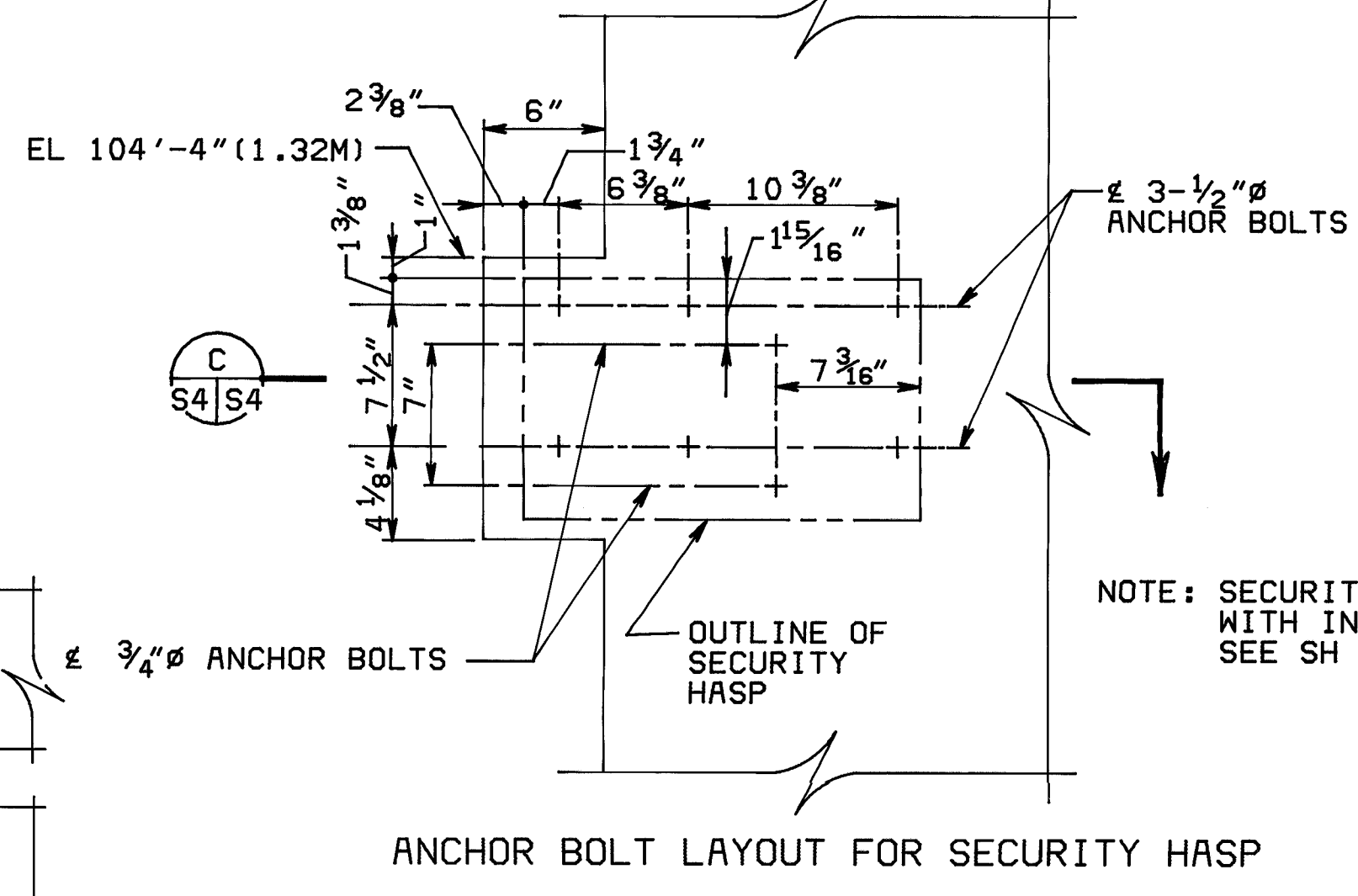
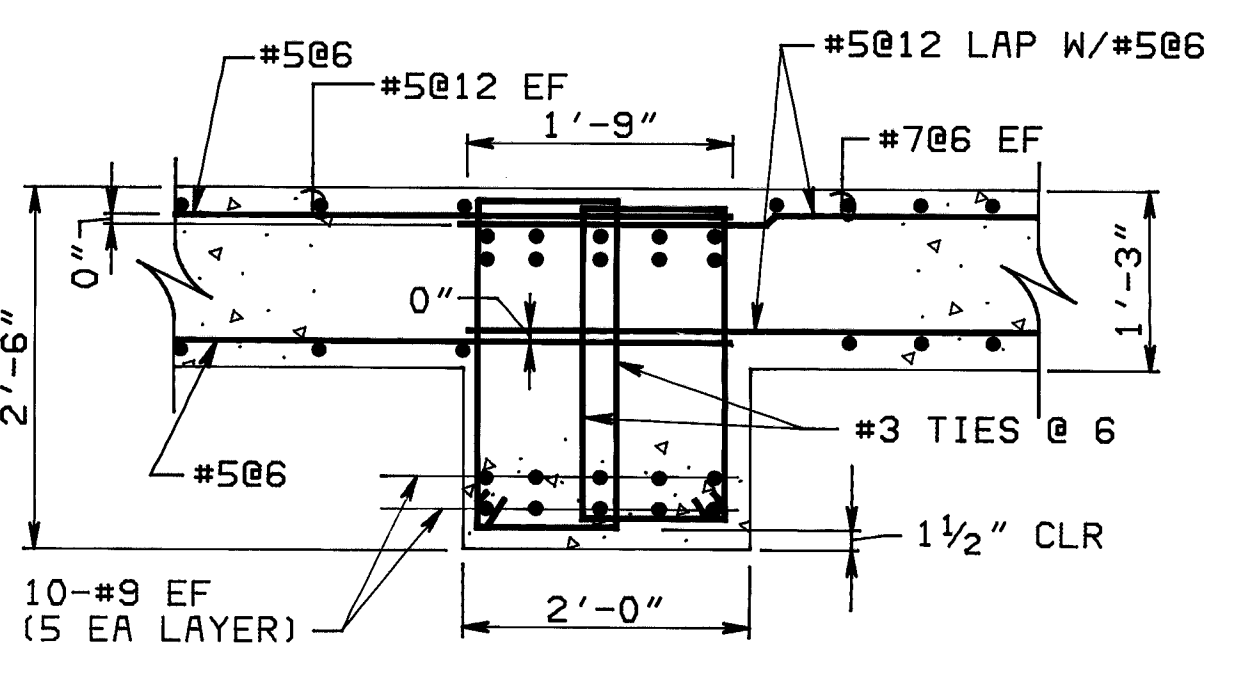
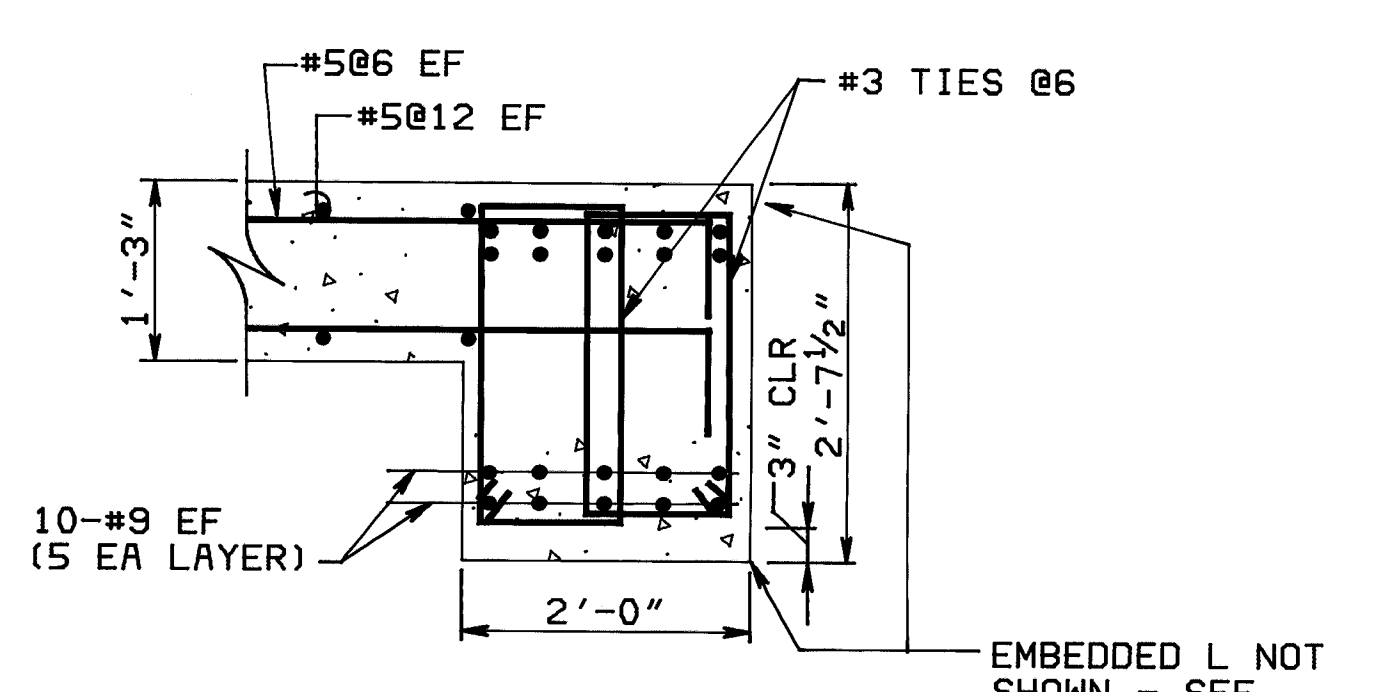
REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



- NOTES:
- SEE ELEVATION 1/51 (NAVFAC DWG NO. 1404336) FOR DOOR DETAILS.
 - PILASTER SHALL BE PLUMB, ALLOWABLE DEVIATION FROM VERTICAL SHALL NOT EXCEED 1/4" PER 10 FEET VERTICAL HEIGHT.
 - 6" SUBSURFACE DRAIN PENETRATES HEADWALL FOR DRAINAGE TO FRONT OF MAGAZINE ONLY.
 - VERIFY FOOTING AND RETAINING WALL DESIGN IF FOOTINGS ARE LOWERED. SEE GEN NOTE 4, NAVFAC DWG NO. 1404340.
 - SEE NAVFAC DWG NO. 1404340 FOR WALL CRACK CONTROL JOINT DETAILS, AND GENERAL NOTES.

ELEVATION 1
SCALE: 3/8" = 1'-0"
S1A S4 S4

FRONT WALL ELEVATION
16'-0" WIDE DOOR OPENING



METRIC CONVERSIONS			
1/4" = 6MM	4 1/8" = 105MM	1'-2" = 356MM	5'-8" = 1750MM
3/8" = 10MM	4 1/4" = 108MM	1'-3" = 381MM	7'-0" = 2130MM
1/2" = 13MM	5" = 127MM	1'-6" = 457MM	7'-3" = 2210MM
3/4" = 19MM	6" = 152MM	1'-8" = 508MM	7'-9" = 2360MM
1" = 25MM	6 3/8" = 162MM	1'-9" = 533MM	8'-0" = 2440MM
1 1/8" = 28MM	6 1/2" = 165MM	2'-0" = 610MM	9'-0" = 2740MM
1 3/8" = 35MM	7" = 178MM	2'-3" = 660MM	9'-3" = 2820MM
1 1/2" = 38MM	7 1/2" = 183MM	2'-6" = 761MM	10'-0" = 3050MM
1 3/4" = 44MM	7 7/8" = 191MM	2'-9" = 813MM	10'-6" = 3200MM
2" = 51MM	8" = 203MM	3'-0" = 914MM	11'-3" = 3430MM
2 1/8" = 55MM	10 3/8" = 264MM	3'-1 1/2" = 952MM	14'-3" = 4340MM
3" = 76MM	11" = 279MM	3'-3" = 990MM	15'-6" = 4724MM
3 1/2" = 89MM	1'-0" = 305MM	4'-6" = 1350MM	15'-9" = 4800MM
4" = 102MM	1'-2" = 356MM	5'-6" = 1670MM	16'-0" = 4880MM
		5'-8 1/2" = 1740MM	18'-0" = 5486MM

CHECK GRAPHIC SCALES BEFORE USING

HAYES, SEAY, MATTERN & MATTERN ARCHITECTS ENGINEERS PLANNERS 200 STOVALL STREET ALEXANDRIA, VA. 22332

NAVFACILITIES ENGINEERING COMMAND

STANDARD EARTH-COVERED STEEL ARCH MAGAZINE

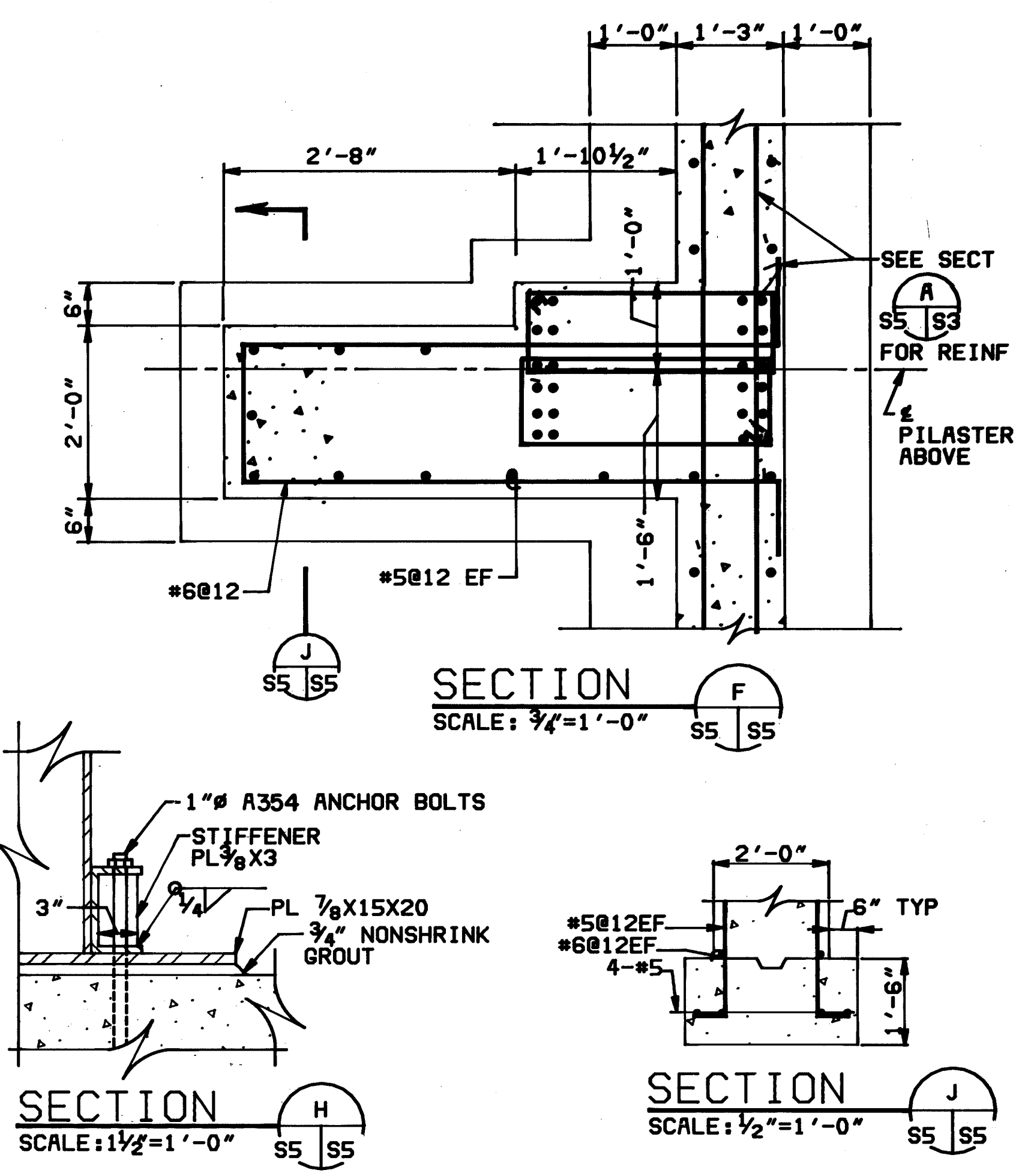
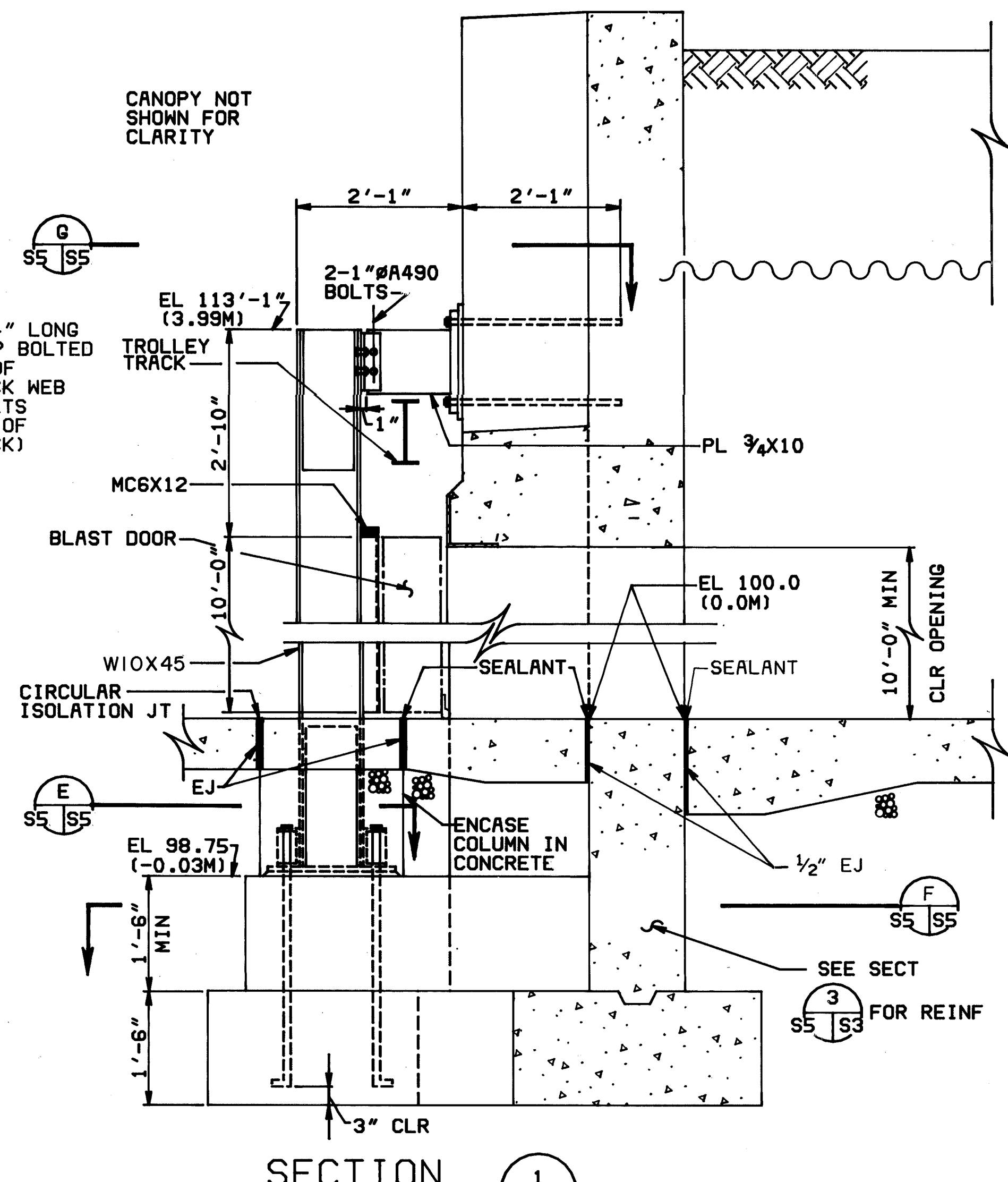
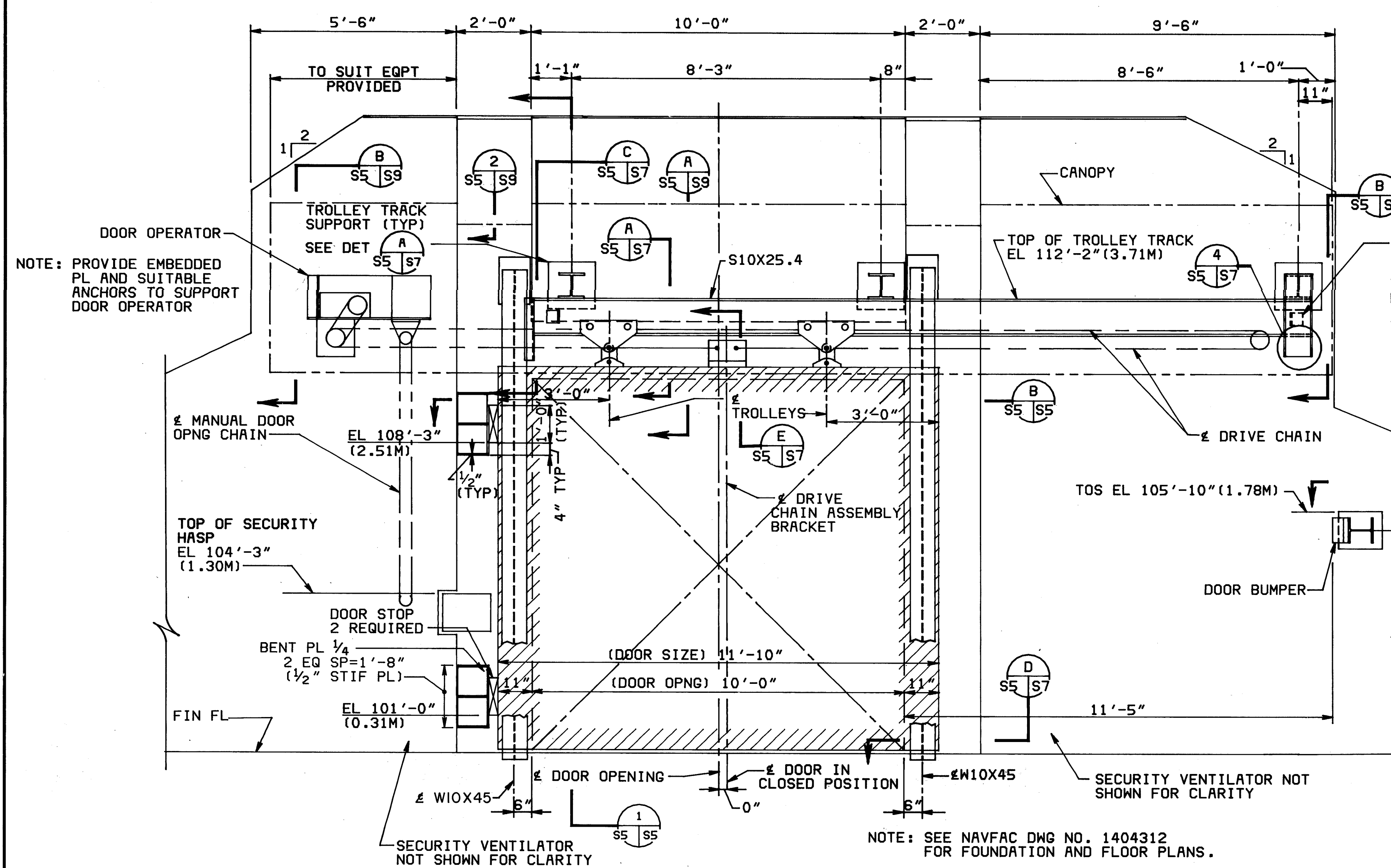
STRUCTURAL FRONT WALL ELEVATION, SECTIONS AND DETAILS 16'-0" WIDE DOOR OPENING

NAVFAC DRAWING NO. 1404334

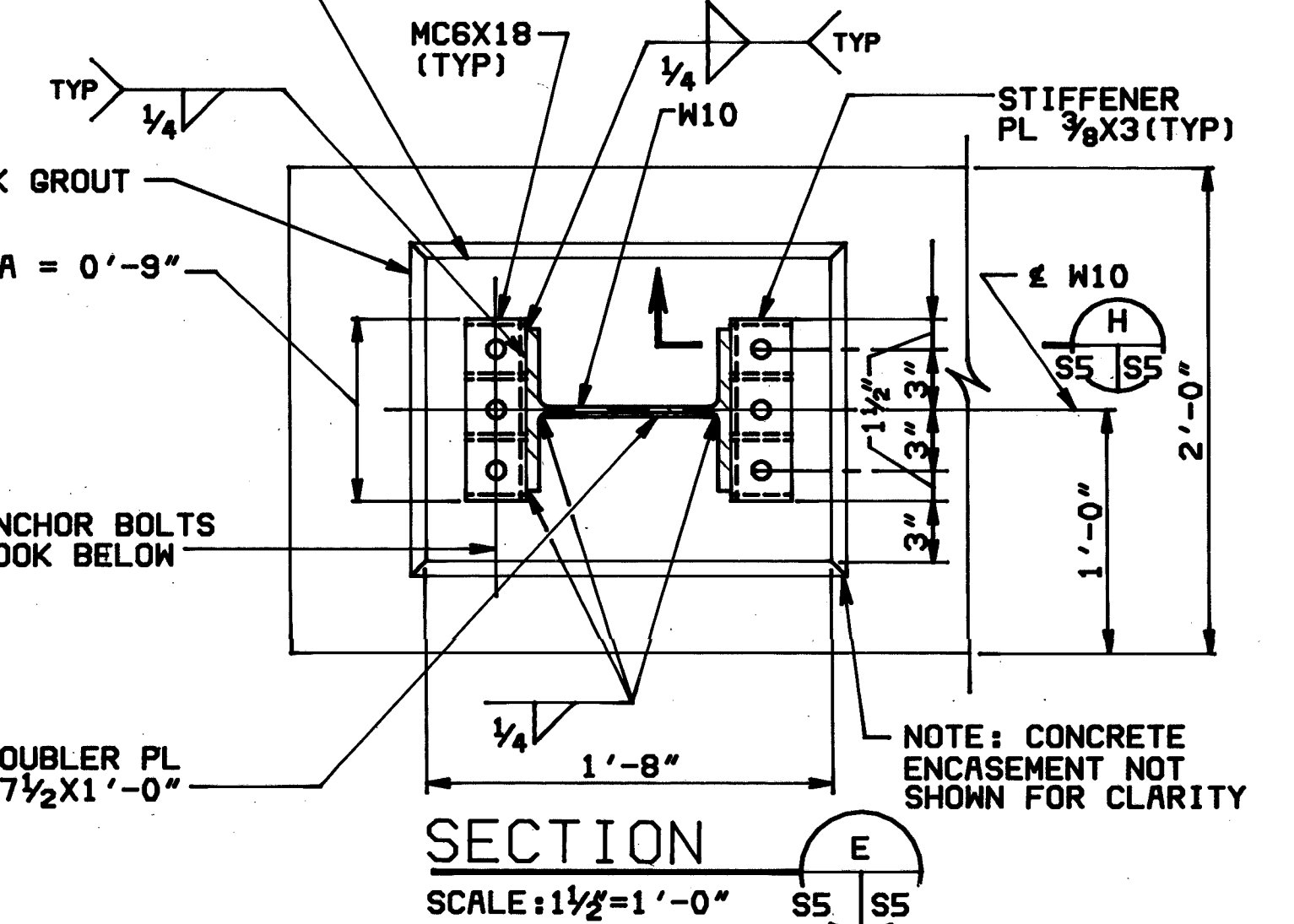
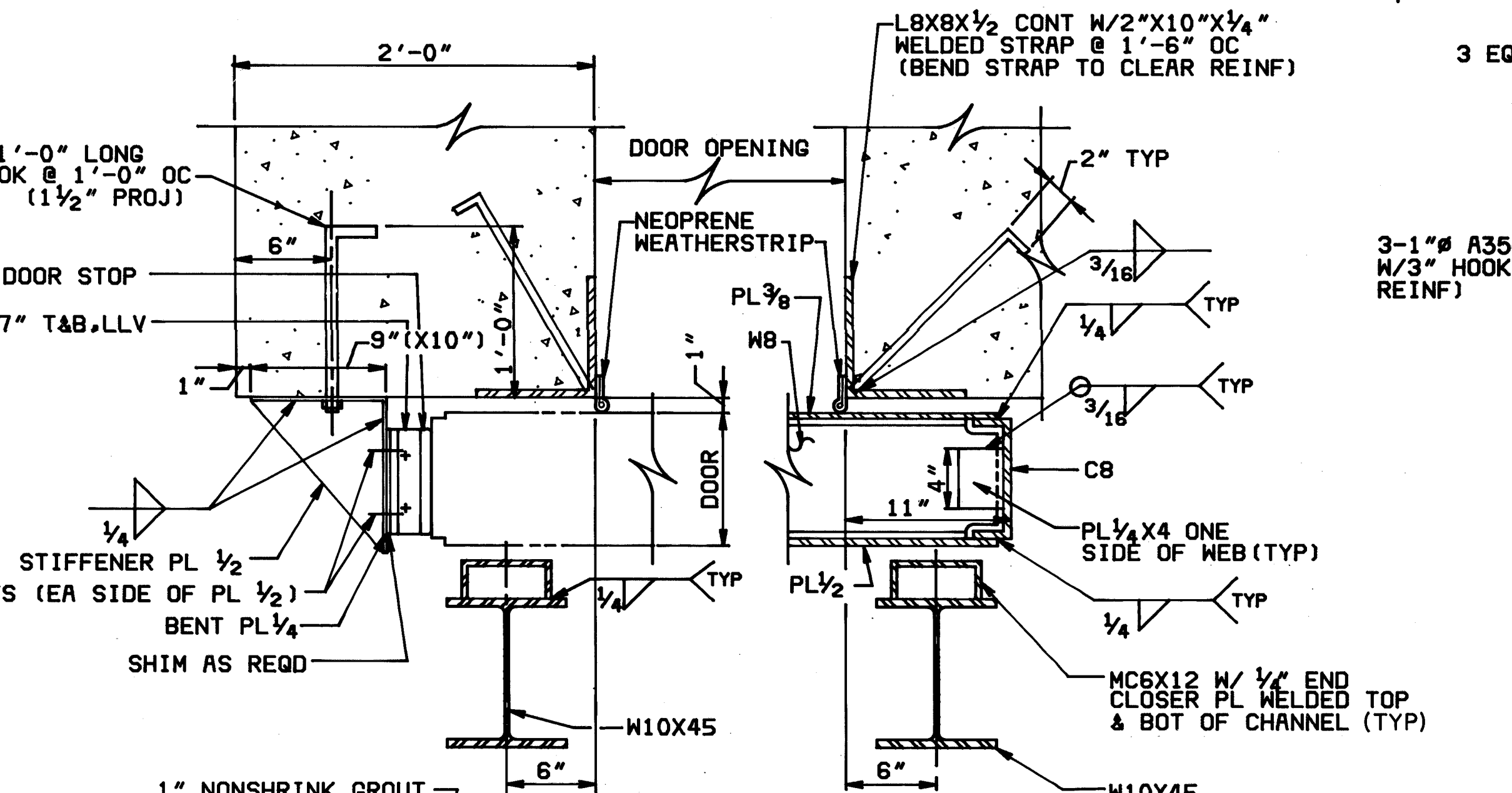
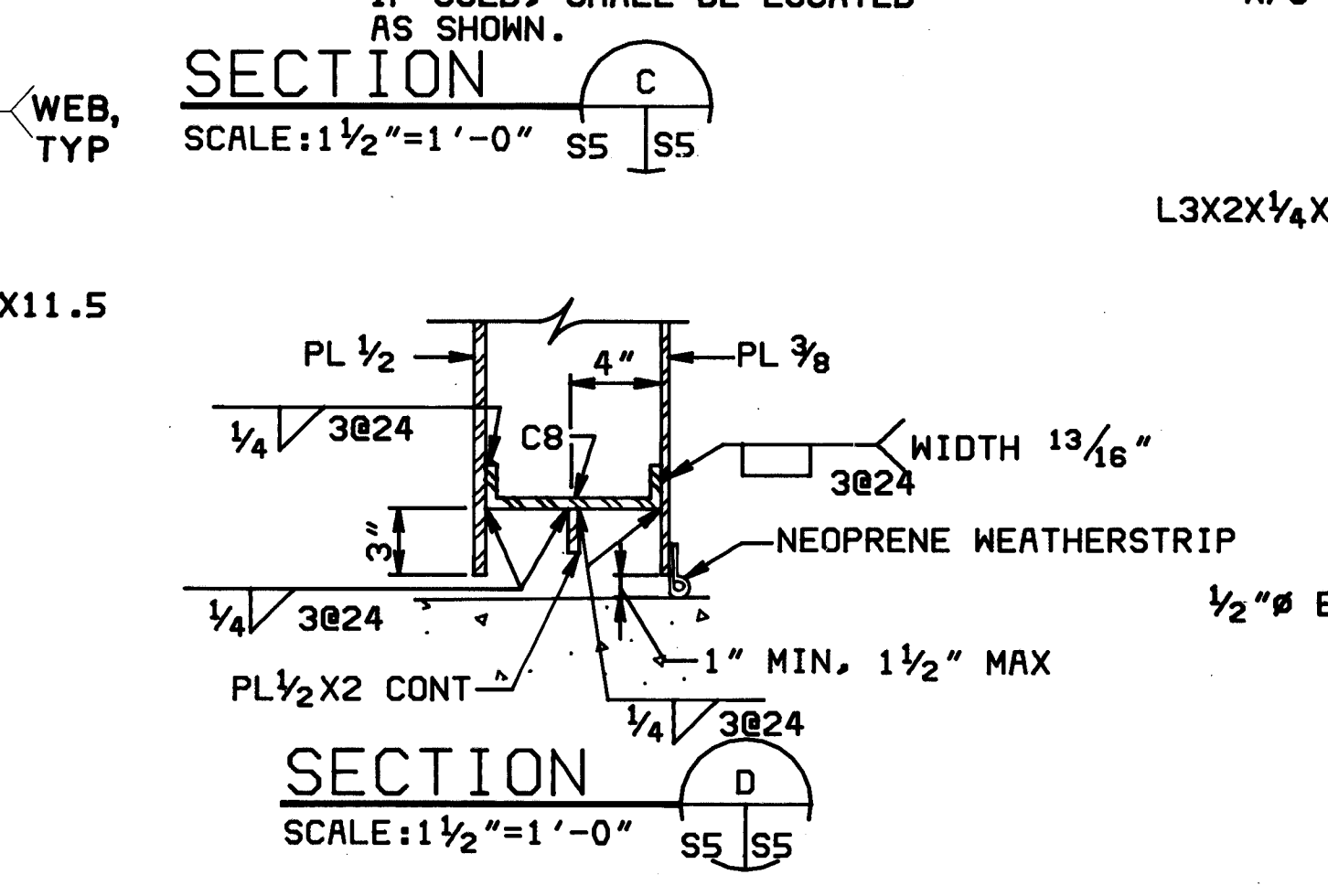
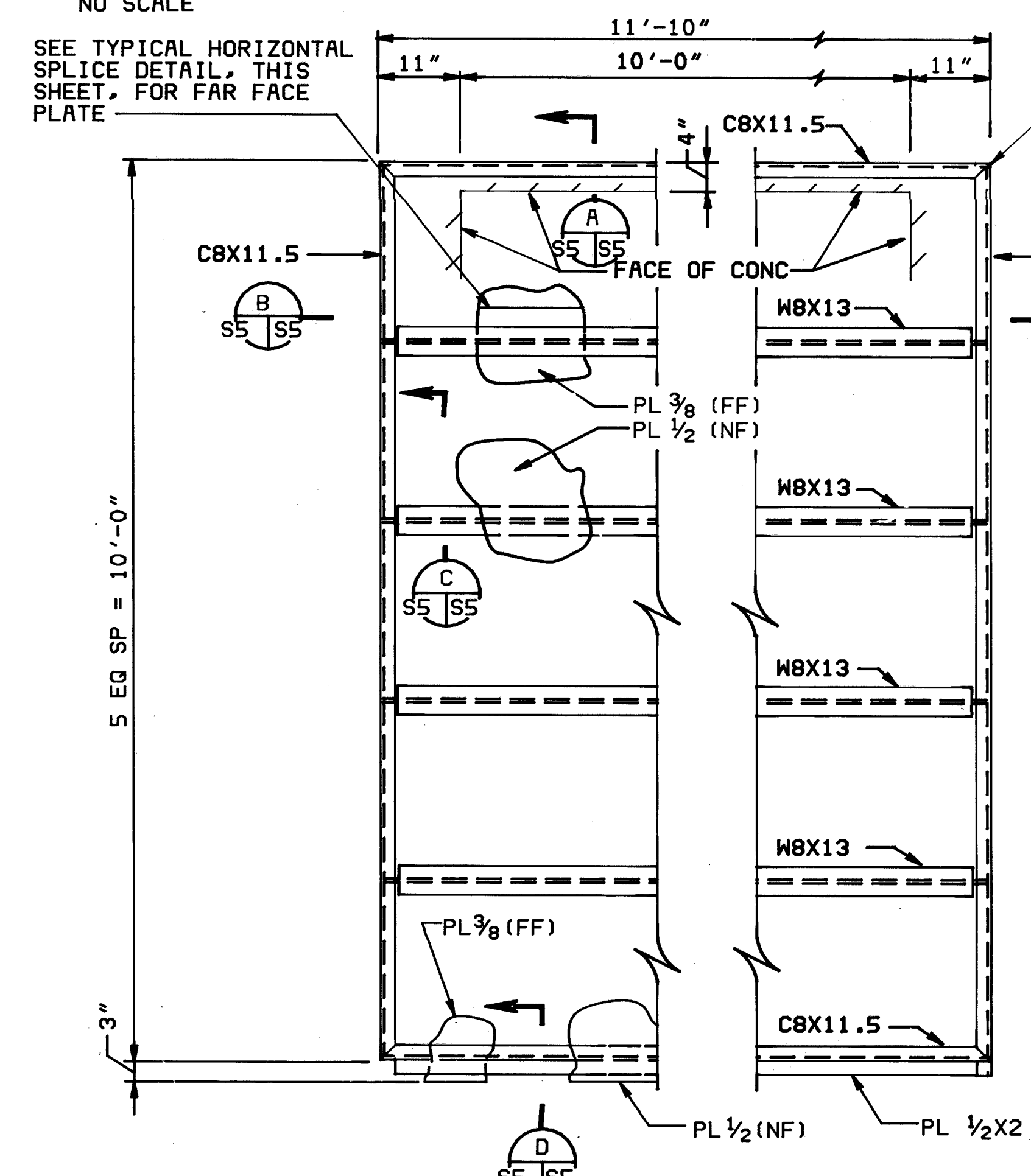
DATE: 8-7-84

SCALE: AS NOTED SPEC. NFSS - M19 SHEET S4 OF

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE



TYPICAL VERTICAL SPLICE
NO SCALE



- NOTES:
- VERTICAL SPLICES IN DOOR PLATES, IF USED, SHALL BE SPACED APART A MIN OF 5'-0", AND SHALL BE CONTINUOUS FULL DOOR HEIGHT.
 - LOCATIONS OF ALL SPLICES IN DOOR PLATES SHALL BE SHOWN ON SHOP DRAWINGS.
 - SEE NAVFAC DMG NO. 1404310 & NO. 1404311 FOR ABBREVIATIONS.

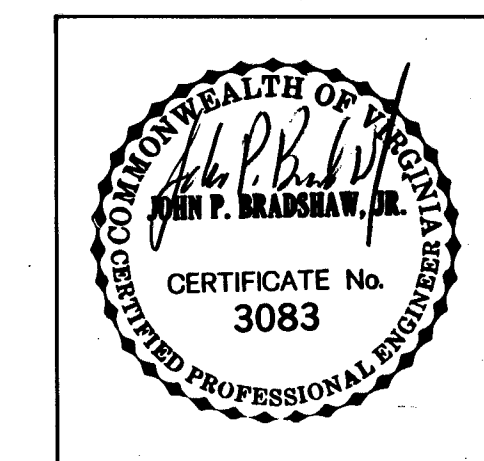
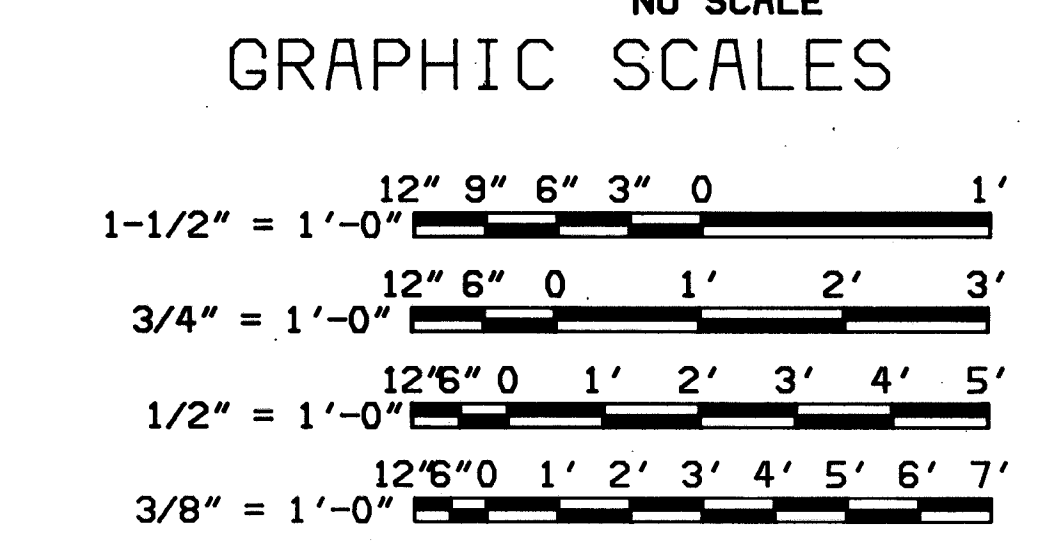
METRIC CONVERSIONS

3/16" = 5MM	3" = 76MM	1'-1" = 330MM	3'-0" = 914MM
1/4" = 6MM	3 1/2" = 89MM	1'-2" = 356MM	4'-0" = 1220MM
5/16" = 8MM	4" = 102MM	1'-3" = 381MM	4'-6" = 1350MM
3/8" = 10MM	5" = 127MM	1'-4" = 406MM	5'-0" = 1520MM
7/16" = 13MM	6" = 152MM	1'-6" = 457MM	5'-6" = 1670MM
1/2" = 13MM	6 1/4" = 165MM	1'-8" = 508MM	8'-3" = 2510MM
5/8" = 16MM	7" = 178MM	1'-10" = 559MM	8'-6" = 2591MM
3/4" = 19MM	8" = 203MM	2'-0" = 610MM	9'-6" = 2890MM
13/16" = 21MM	9" = 228MM	2'-1" = 635MM	10'-0" = 3050MM
7/8" = 22MM	1" = 25MM	2'-2" = 660MM	11'-5" = 3480MM
1 1/8" = 25MM	1 1/4" = 32MM	2'-4" = 685MM	11'-11" = 3630MM
1 1/4" = 28MM	1 3/8" = 35MM	2'-6" = 761MM	
1 1/2" = 38MM	1 1/2" = 38MM	2'-8" = 813MM	
1 5/8" = 41MM	1 7/8" = 48MM	2'-10" = 864MM	
2" = 51MM	2" = 51MM		

CHECK GRAPHIC SCALES BEFORE USING

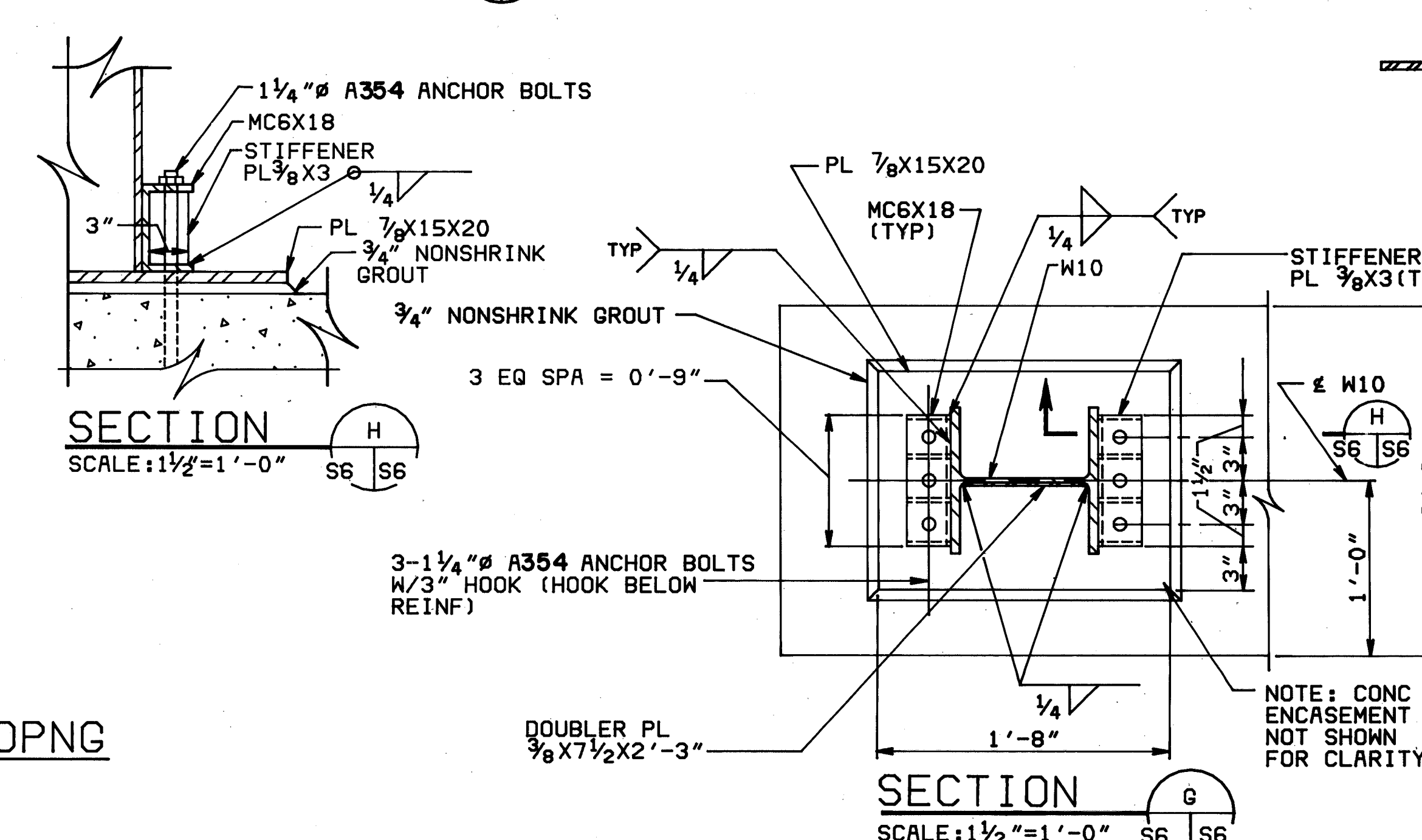
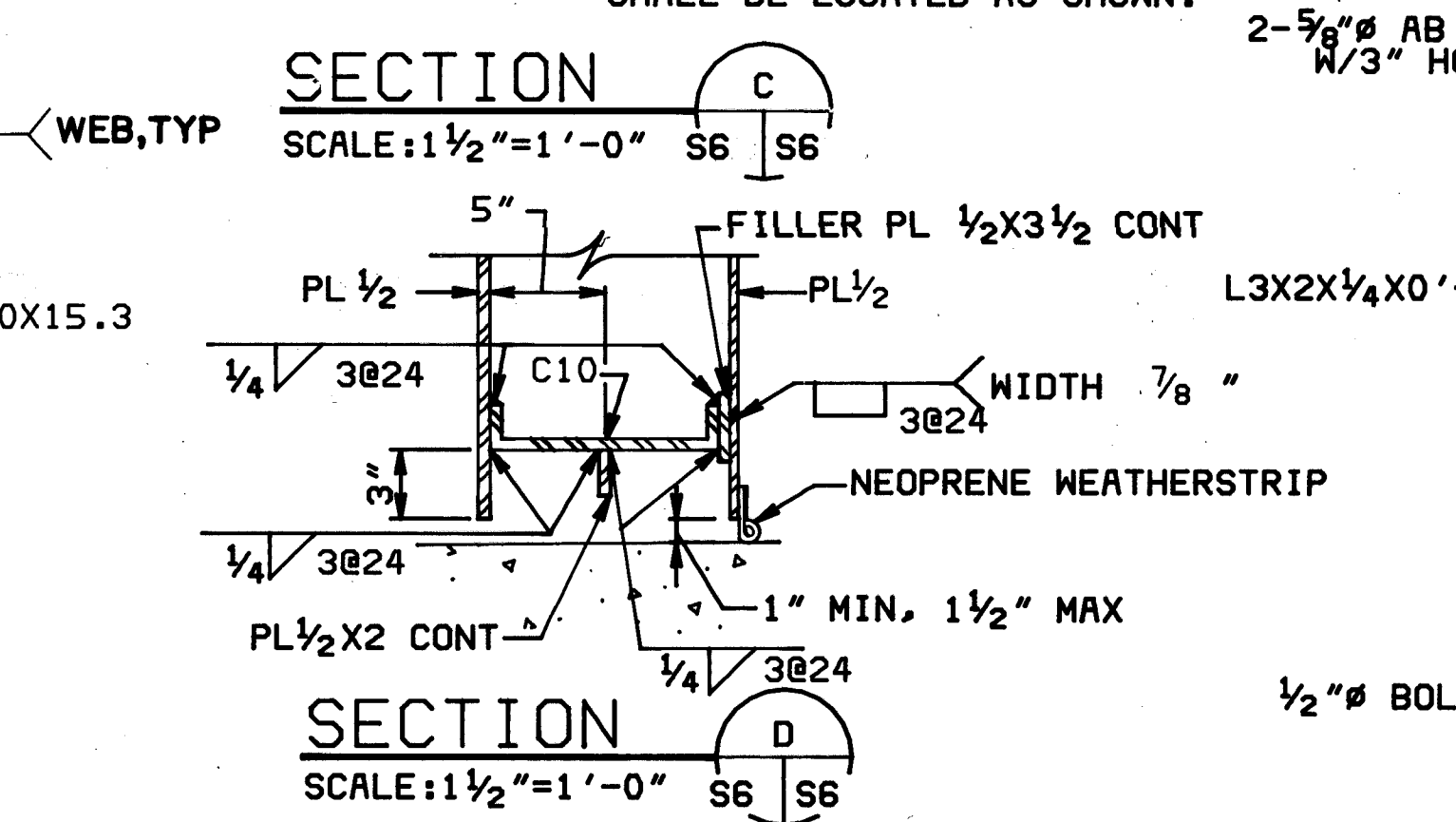
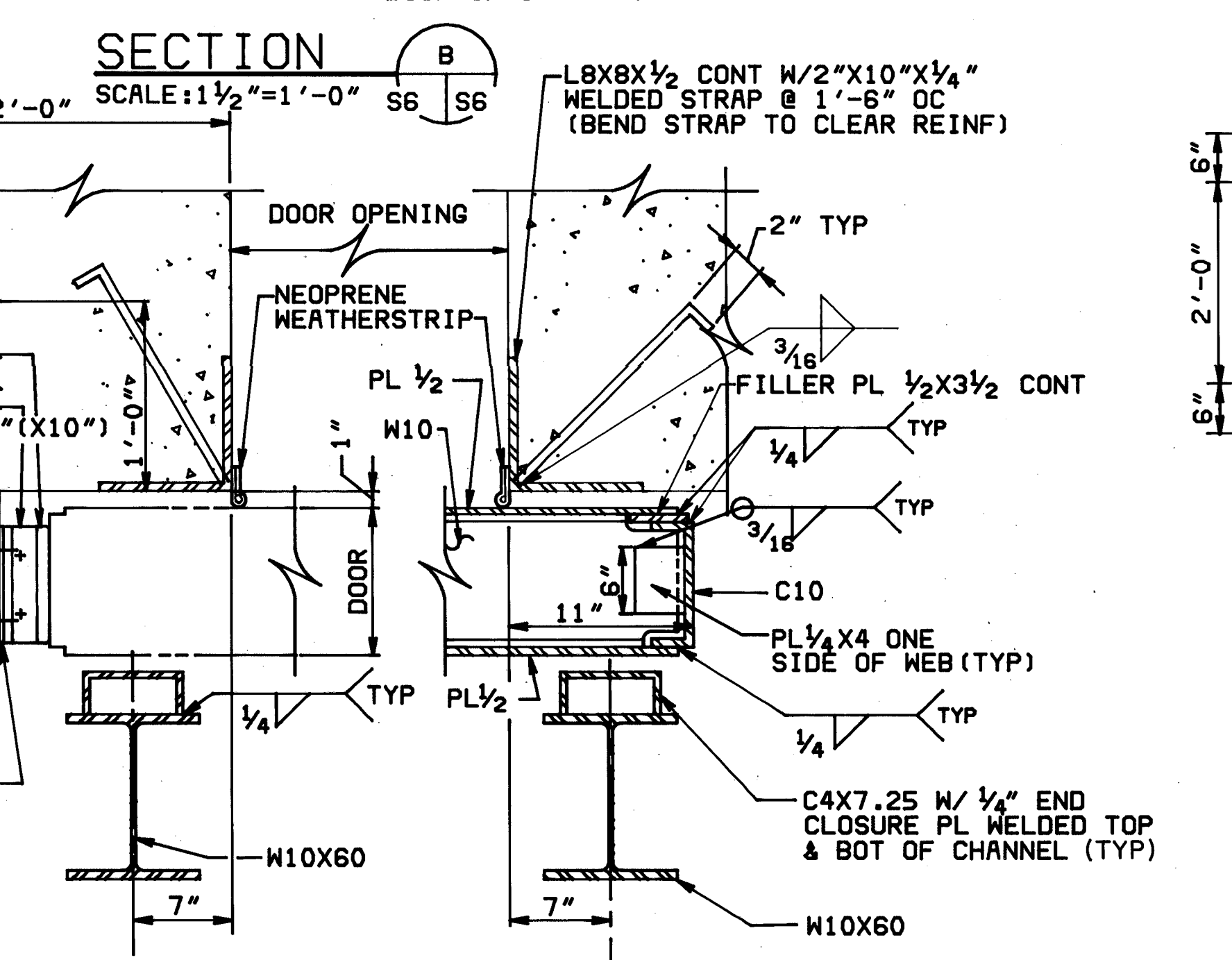
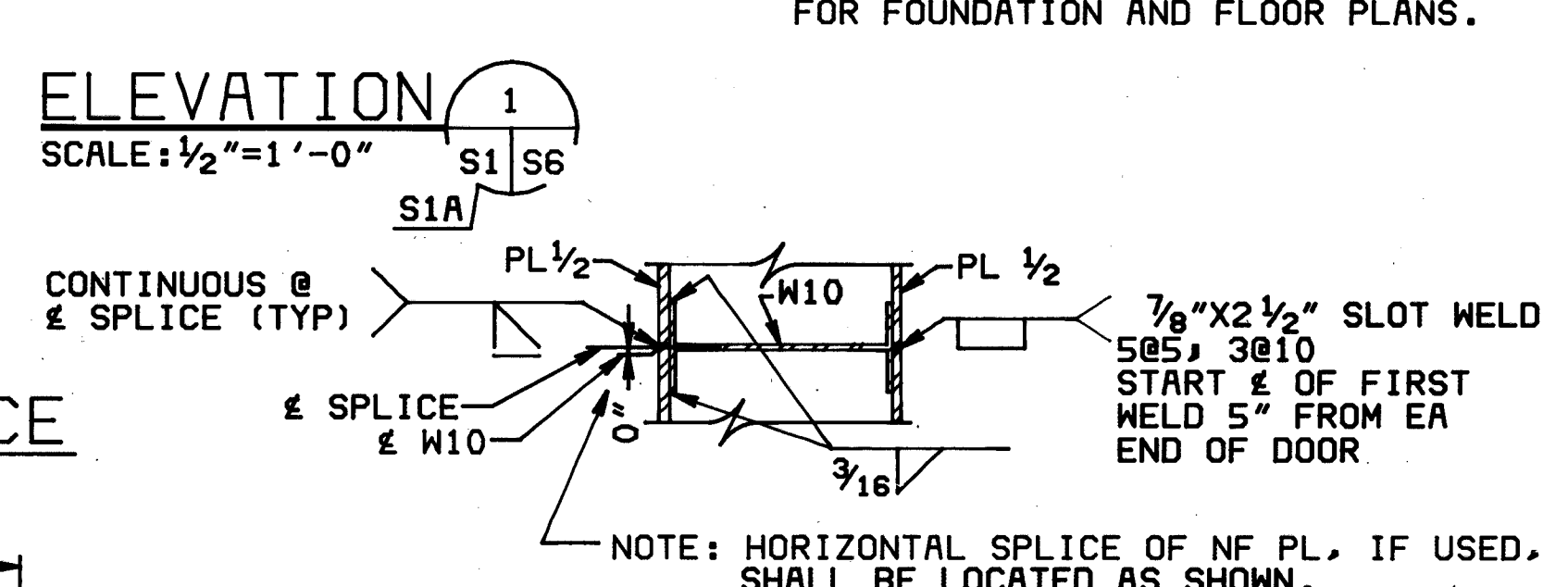
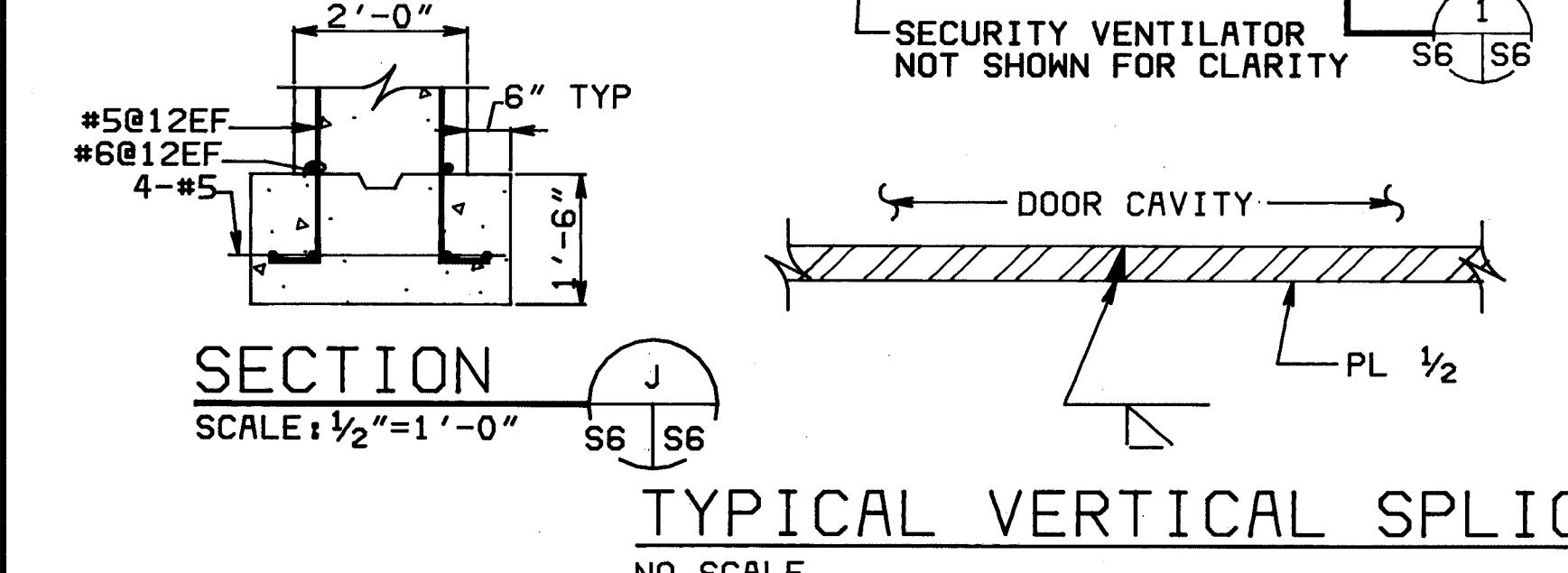
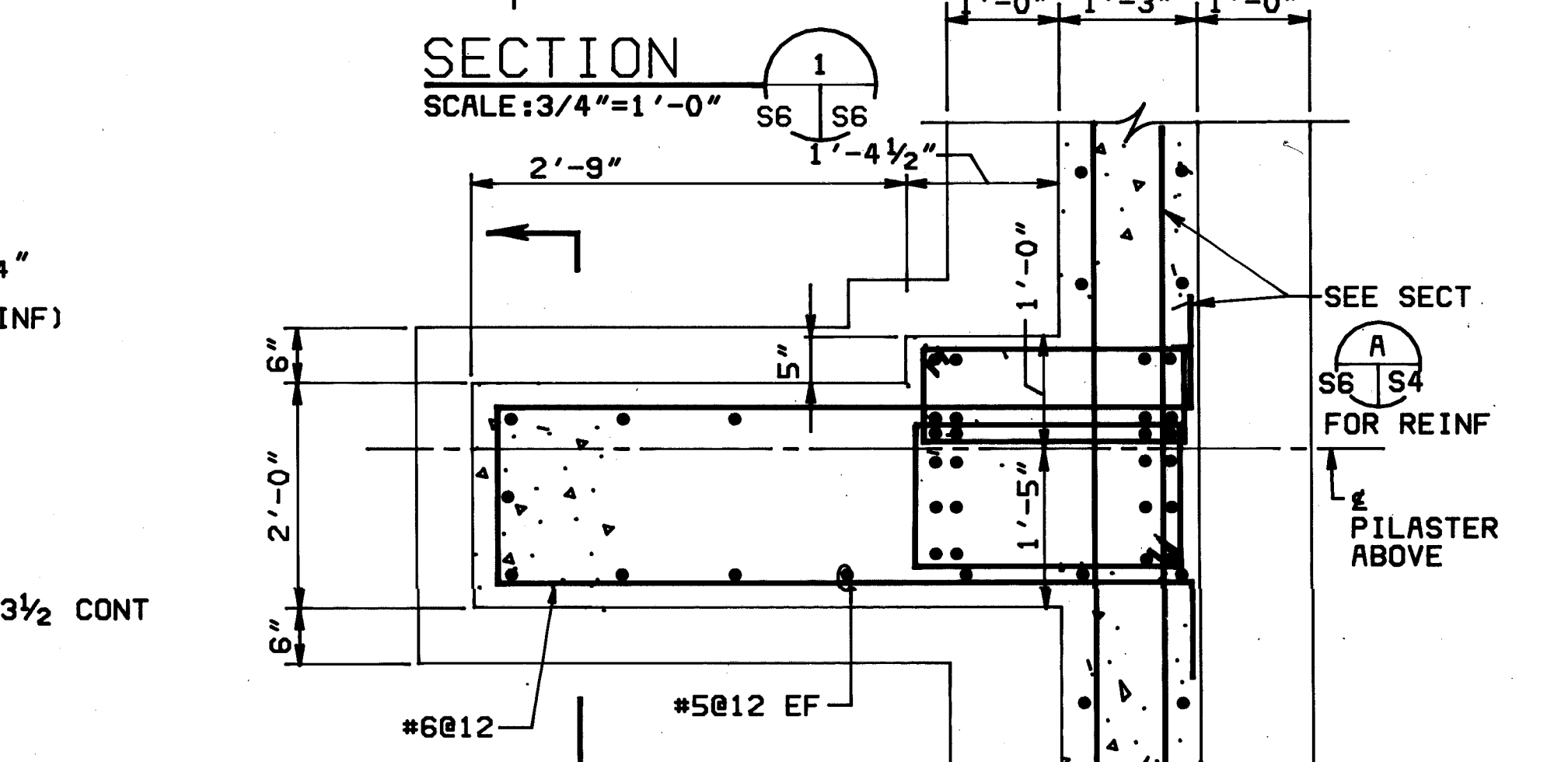
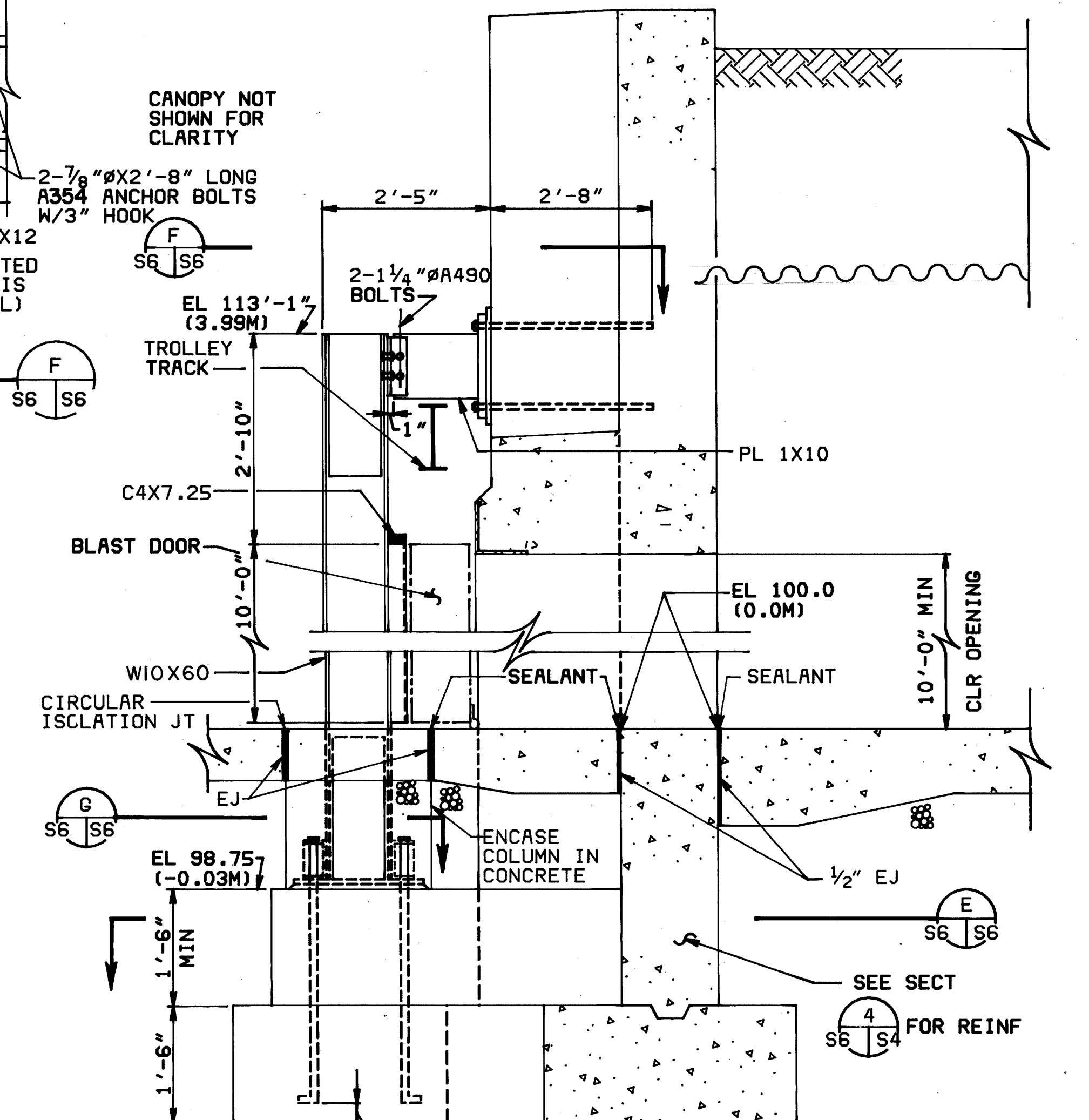
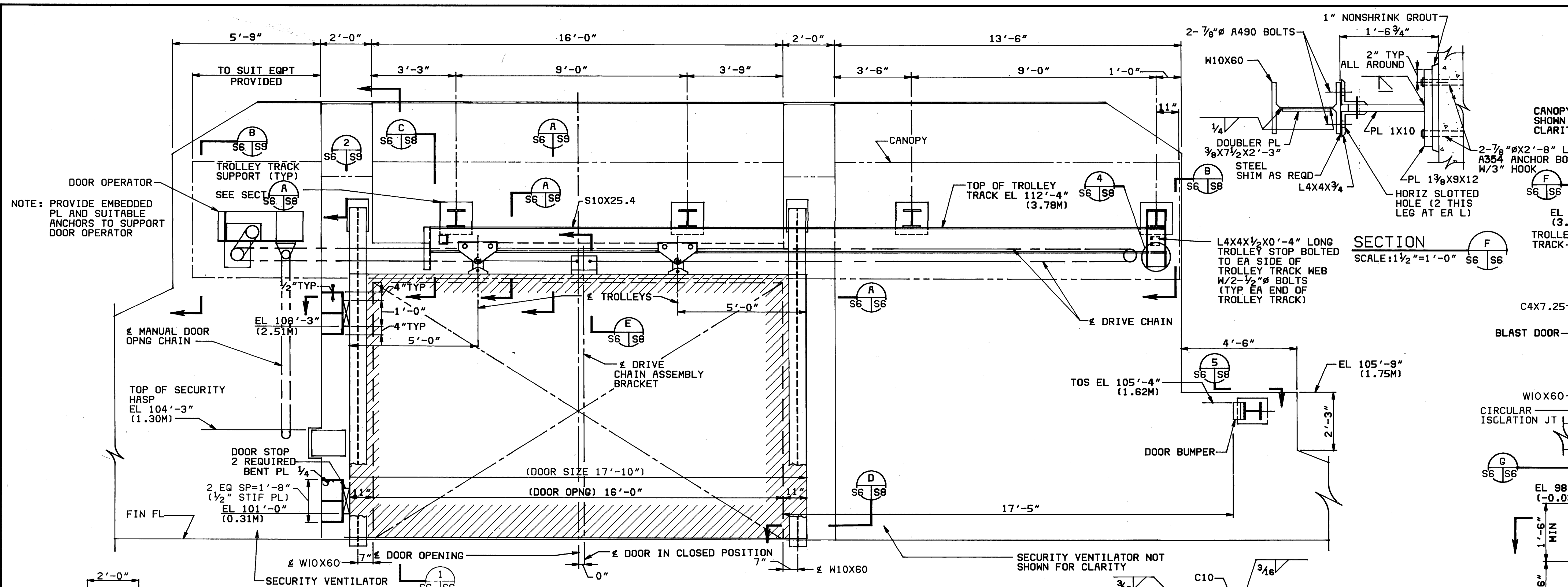
FRONT ELEVATION DOOR FRAMING FOR 10'-0" WIDE DOOR OPNG
SCALE: 3/4" = 1'-0"

SECTION G
SCALE: 1 1/2" = 1'-0"



HAYES, BEAY, MATTERN & MATTERN ARCHITECTS - ENGINEERS - PLANNERS		NAVY FACILITIES ENGINEERING COMMAND	
ROANOKE, VIRGINIA		200 STOVALL STREET ALEXANDRIA, VA. 22304	
DESIGN	CAD	DR	CAD
SUPV	SPEC	CH	ENGR
DATE	12/15/83	DATE	12/15/83
SUBMITTED BY		STANDARD	
DATE		EARTH-COVERED STEEL ARCH MAGAZINE	
FIRM NUMBER		STRUCTURAL	
PROJECT		DOOR ELEVATIONS, SECTIONS AND DETAILS	
DRAWING NO.		10'-0" WIDE DOOR OPNG	
SCALE		NAVFAC DRAWING NO.	
F		80091	
DATE		CONTR. CONTR. NO.	
8-7-84			
SHEET 55 OF 55		SCALE AS NOTED SPEC. NFSS-M19	

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

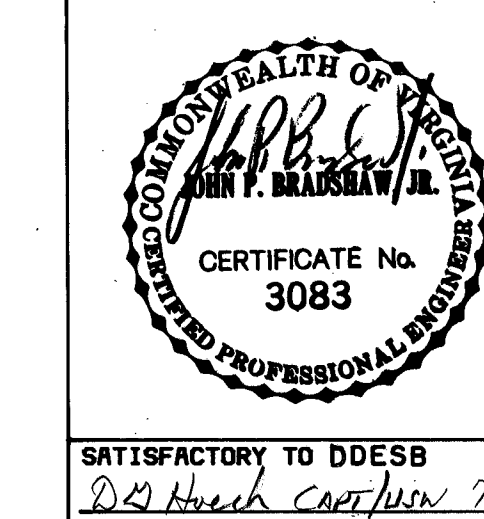
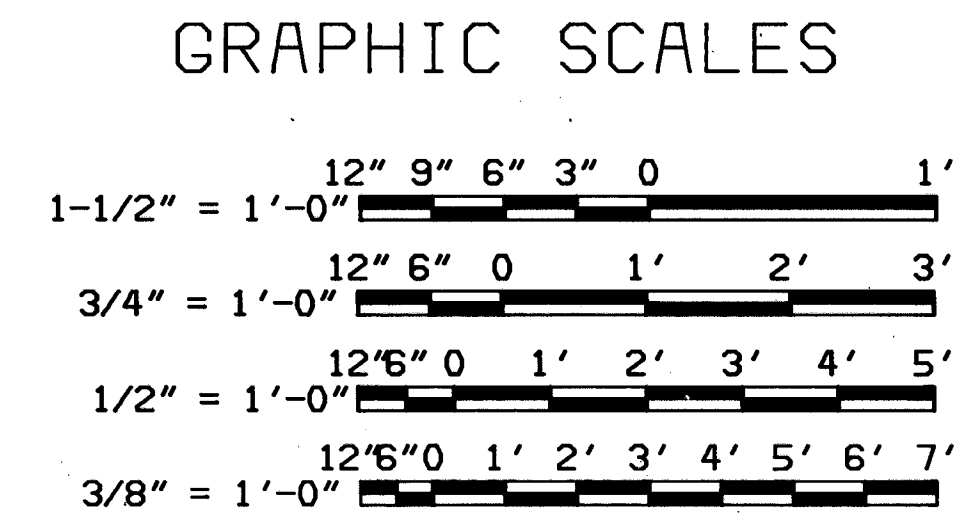
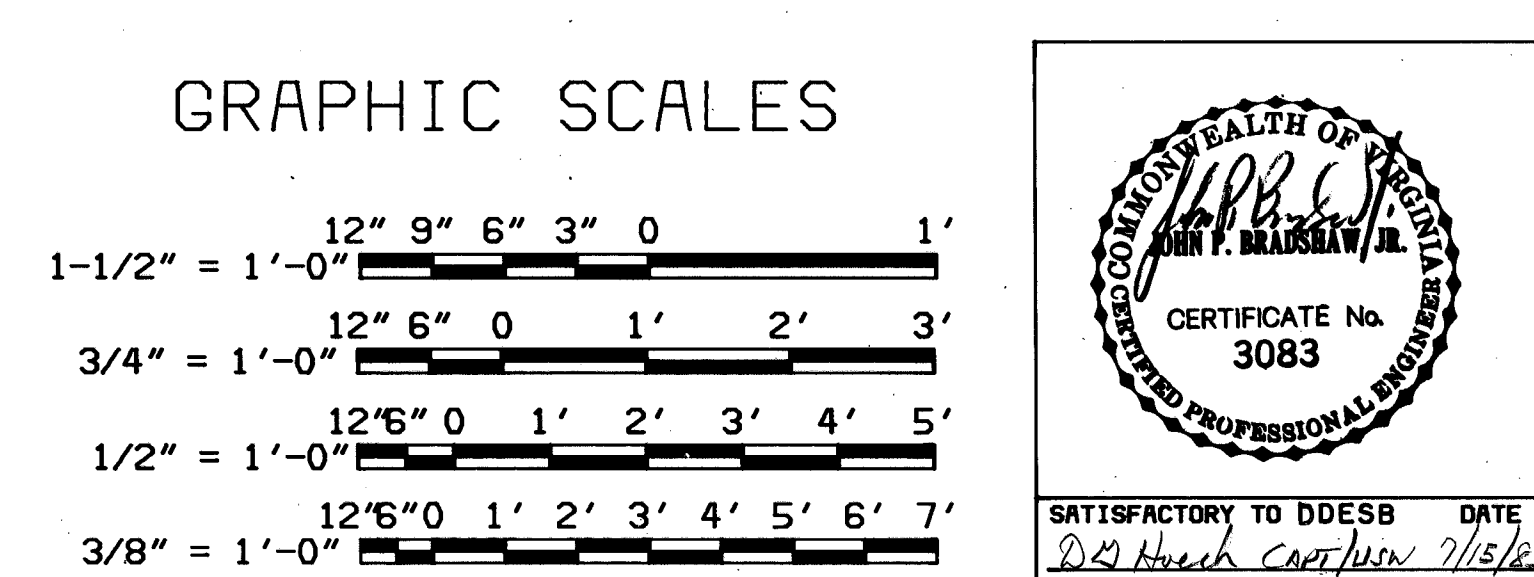
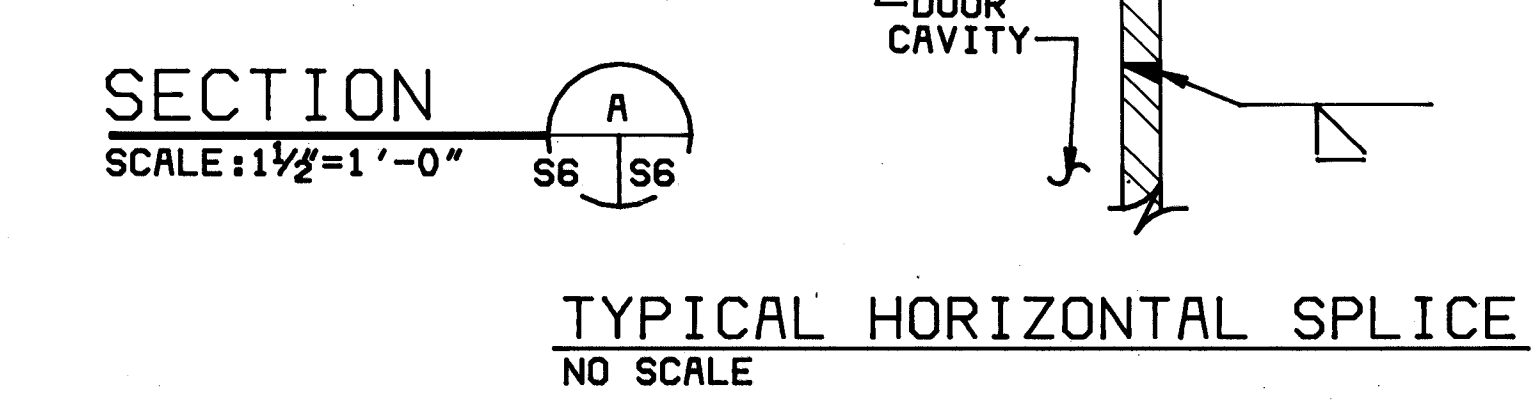


- NOTES:
- VERTICAL SPLICES IN DOOR PLATES, IF USED, SHALL BE SPACED APART A MIN OF 5'-0", AND SHALL BE CONTINUOUS FOR FULL DOOR HEIGHT.
 - LOCATIONS OF ALL SPLICES IN DOOR PLATES SHALL BE SHOWN ON SHOP DRAWINGS.
 - SEE NAVFAC DWG NO. 1404310 & NO. 1404311 FOR ABBREVIATIONS.

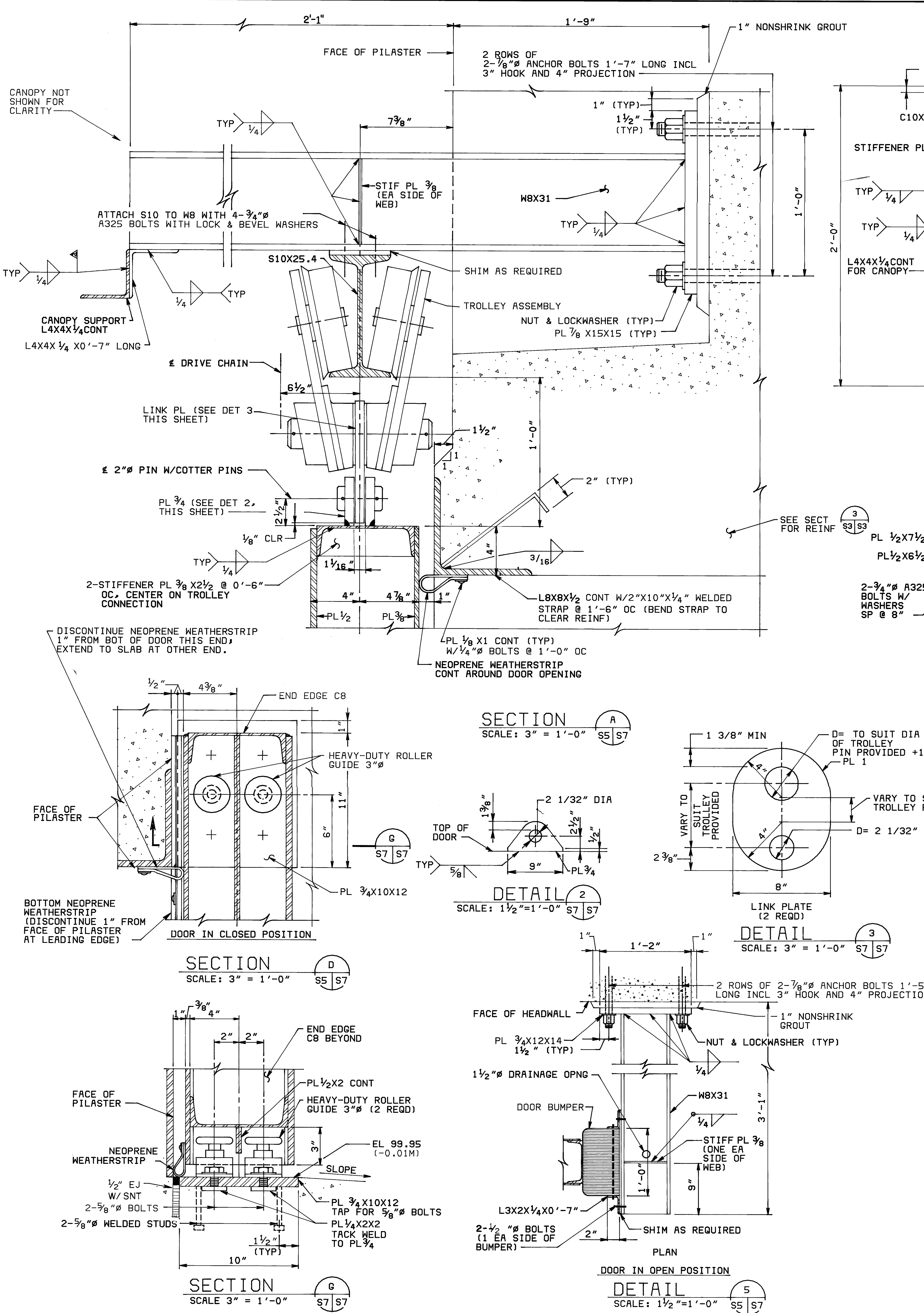
METRIC CONVERSIONS			
3/16" = 5MM	3" = 76MM	1'-2" = 356MM	3'-9" = 1142MM
1/4" = 6MM	3 1/2" = 89MM	1'-3" = 381MM	4'-0" = 1220MM
5/16" = 8MM	4" = 102MM	1'-4" = 406MM	4'-6" = 1350MM
3/8" = 10MM	5" = 127MM	1'-6" = 457MM	5'-0" = 1520MM
7/16" = 13MM	6" = 152MM	1'-8" = 508MM	5'-9" = 1750MM
1/2" = 16MM	6 1/2" = 158MM	1'-10" = 559MM	9'-0" = 2740MM
5/8" = 19MM	7" = 178MM	2'-0" = 610MM	10'-0" = 3050MM
3/4" = 22MM	8" = 203MM	2'-3" = 686MM	13'-6" = 4115MM
7/8" = 25MM	9" = 228MM	2'-9" = 838MM	16'-0" = 4880MM
1 1/8" = 28MM	10" = 254MM	2'-10" = 864MM	17'-5" = 5334MM
1 1/4" = 32MM	11" = 279MM	3'-0" = 914MM	17'-11" = 5462MM
1 1/2" = 38MM	1'-0" = 305MM	3'-3" = 990MM	
2" = 51MM	1'-1" = 330MM	3'-6" = 1066MM	
2 1/2" = 64MM			

FRONT ELEVATION
DOOR FRAMING FOR 16'-0" WIDE DOOR OPNG
SCALE: 3/4"=1'-0"

PLAN
DOOR IN CLOSED POSITION

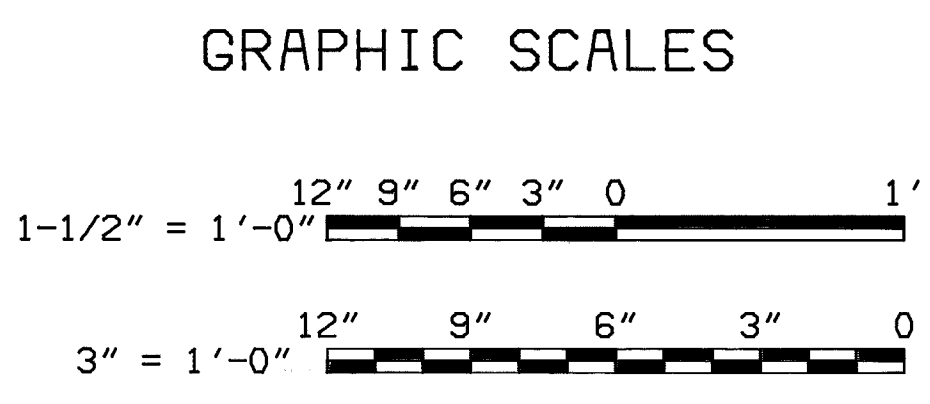


DESIGNER		DEPARTMENT OF THE NAVY	
HAYES, SEAY, WATTERS & WATTERS ARCHITECTS, ENGINEERS, PLANNERS & SURVEYORS ROANOKE, VIRGINIA	DR CAD: JBR CHK: JBR	NAVAL FACILITIES ENGINEERING COMMAND 200 STOVALL STREET ALEXANDRIA, VA. 22302	STANDARD EARTH-COVERED STEEL ARCH MAGAZINE STRUCTURAL DOOR ELEVATION, SECTIONS AND DETAILS 16'-0" WIDE DOOR OPNG
DATE: 11/25/84	DATE: 11/25/84	SIZE: F	CODE IDENT. NO.: 80091
DATE: 8-1-84	DATE: 8-1-84	NO. 1404336	CONSTR. CONTR. NO.
DATE: 8-1-84	DATE: 8-1-84	SCALE AS NOTED	SPEC. NFSS-M19
DATE: 8-1-84	DATE: 8-1-84	SHEET S6 OF	



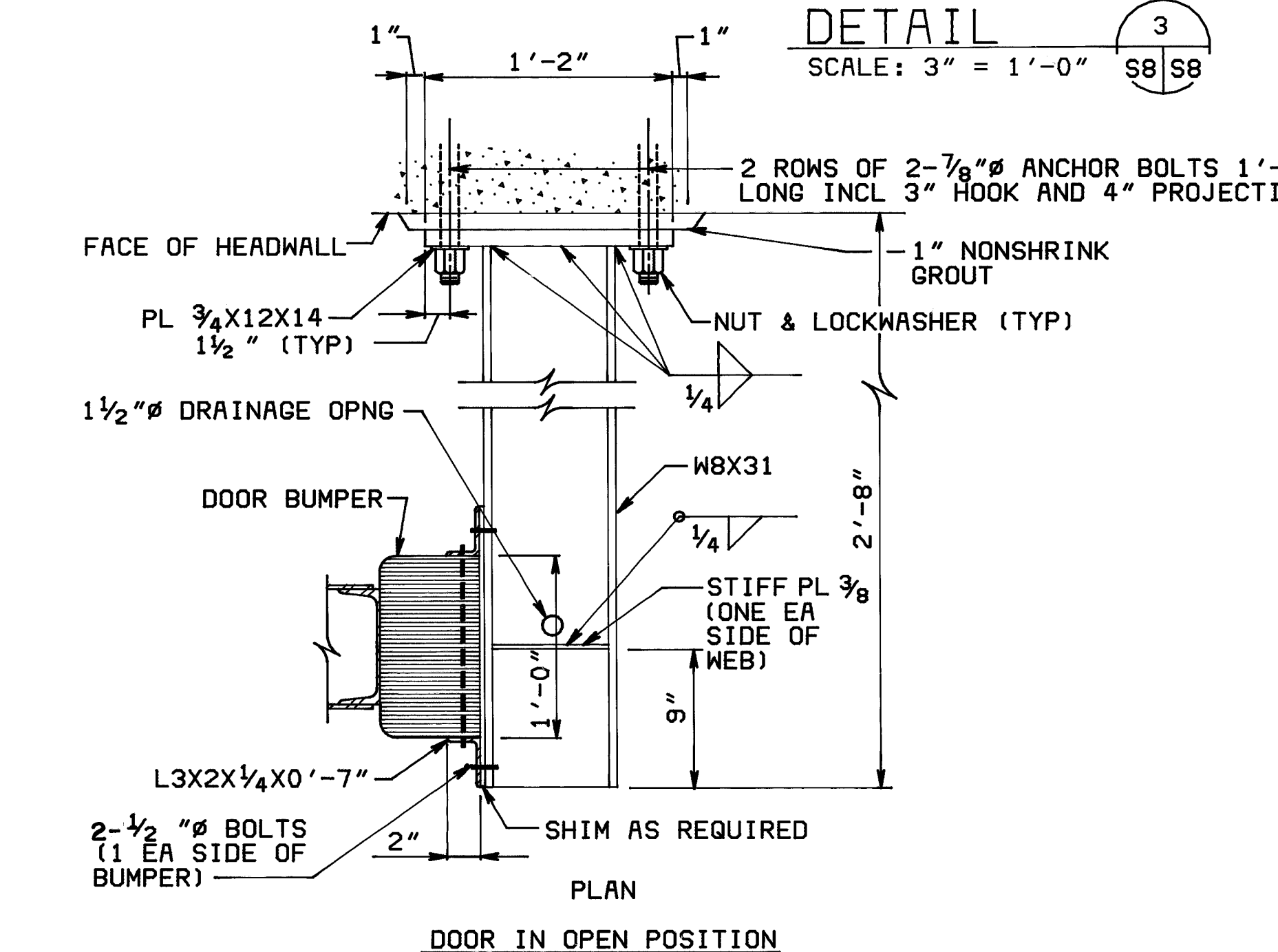
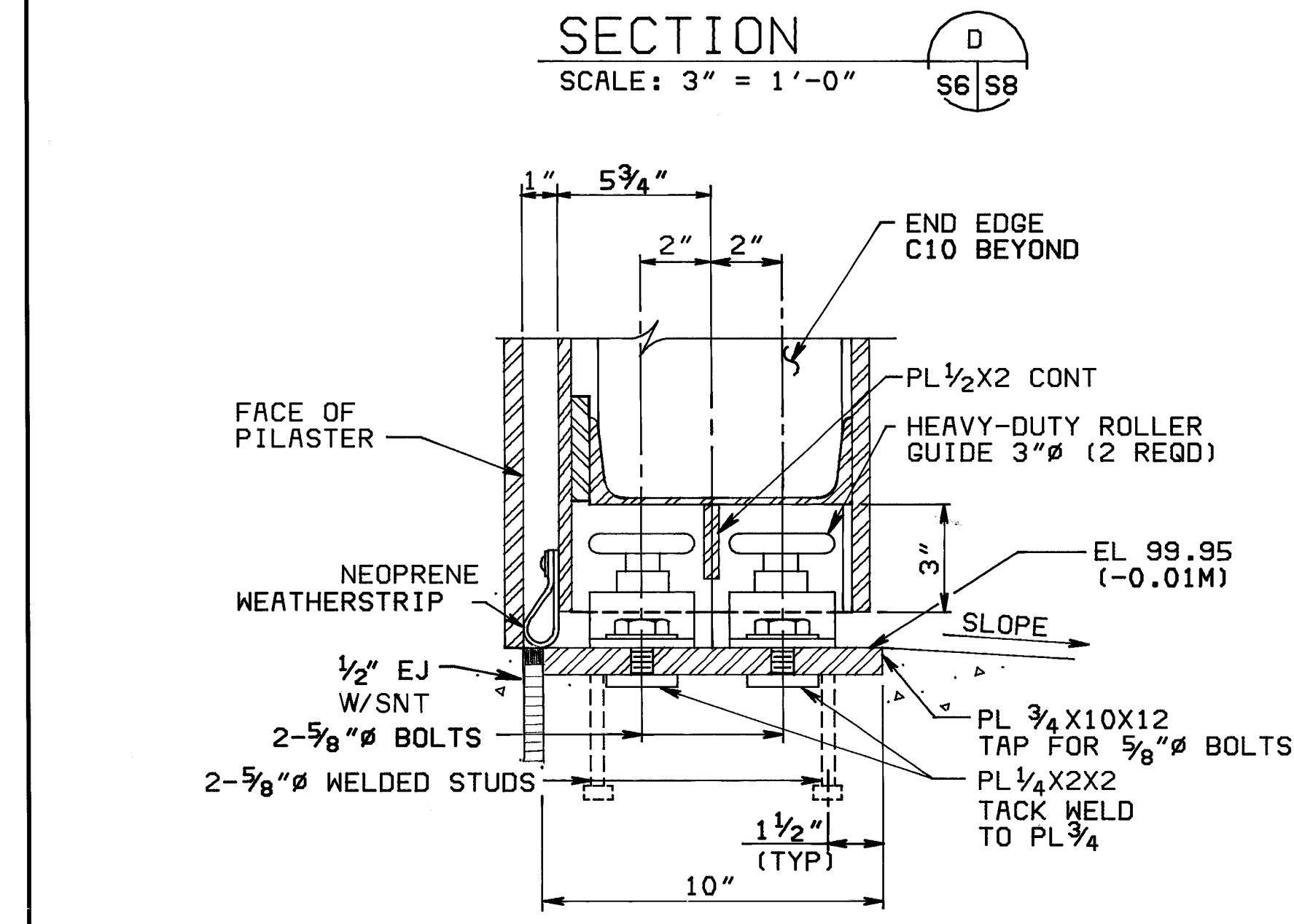
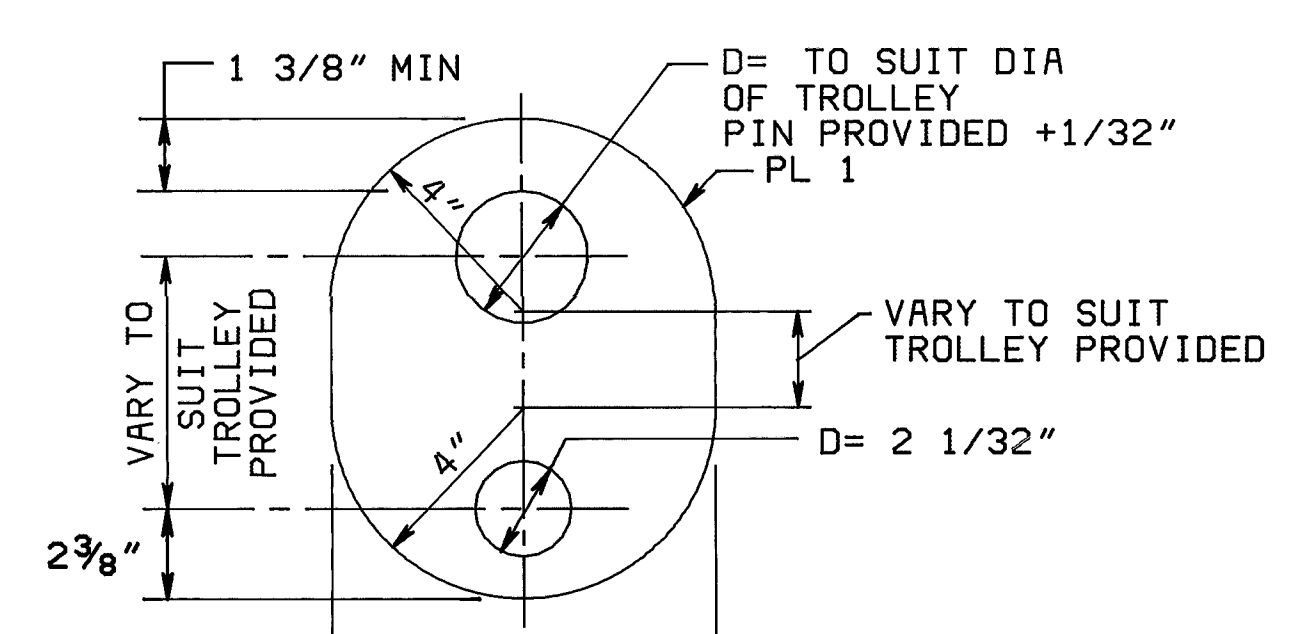
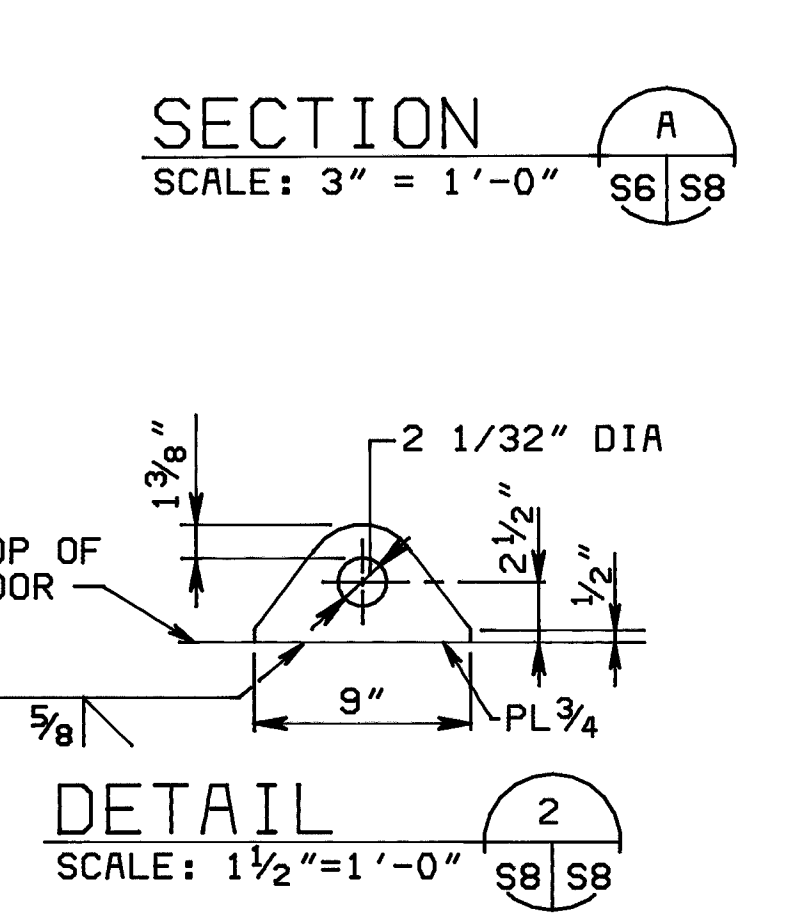
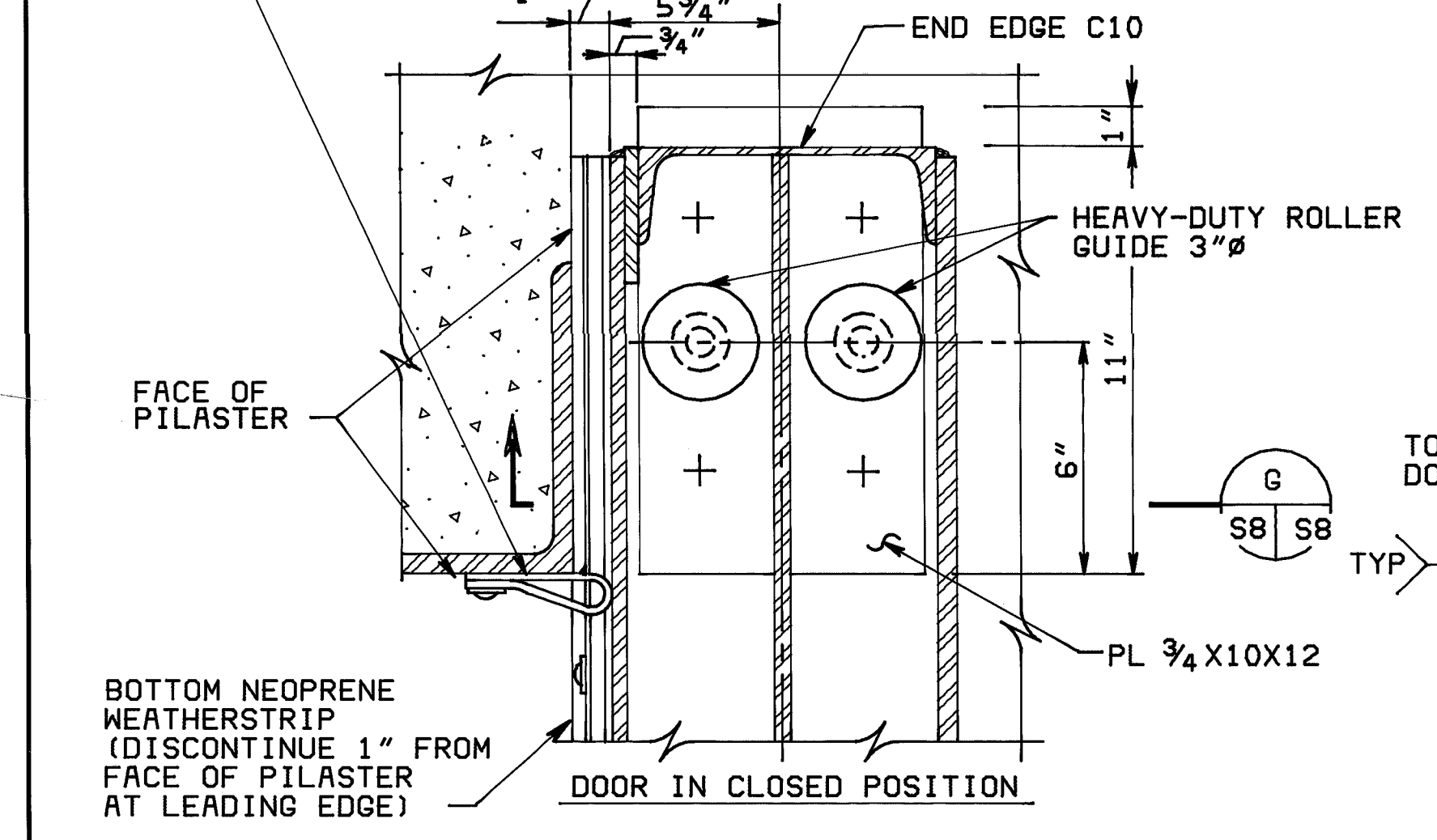
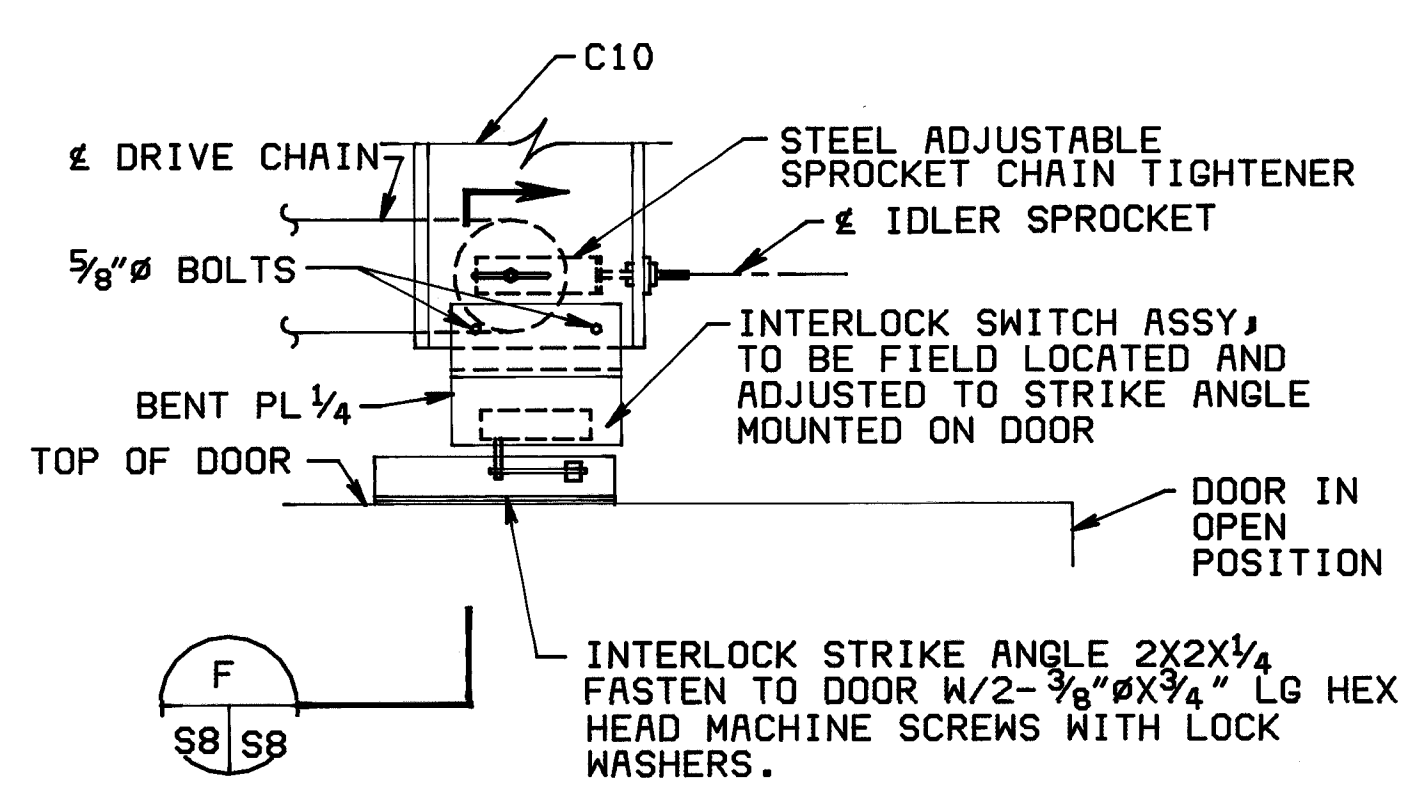
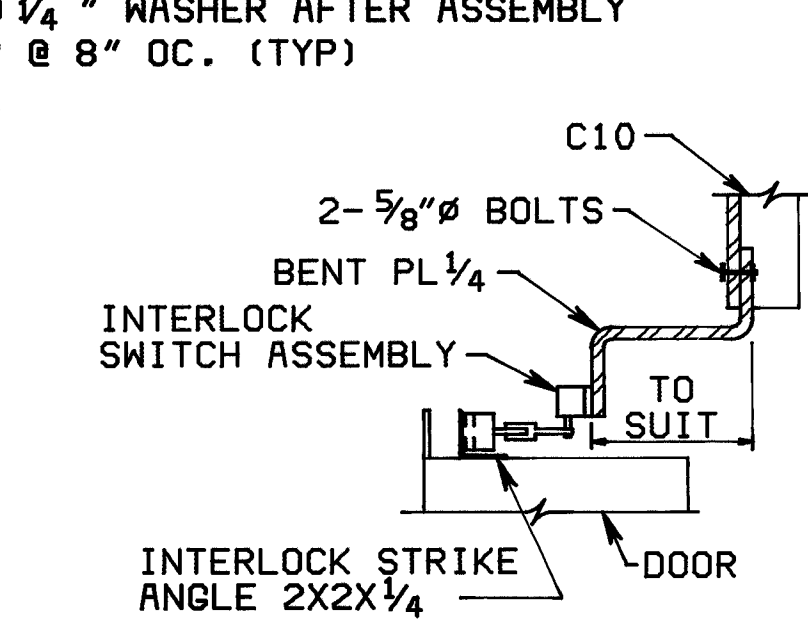
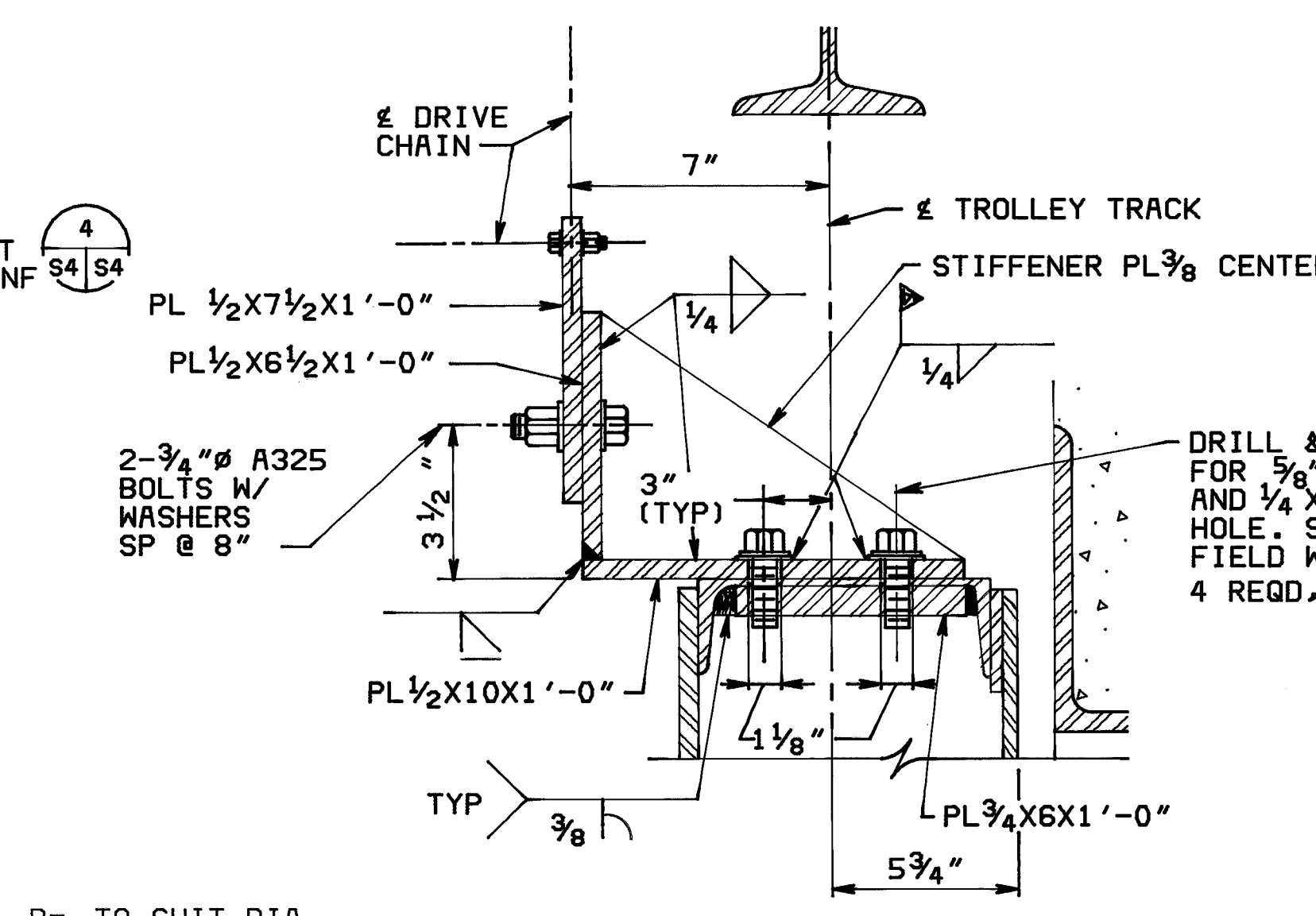
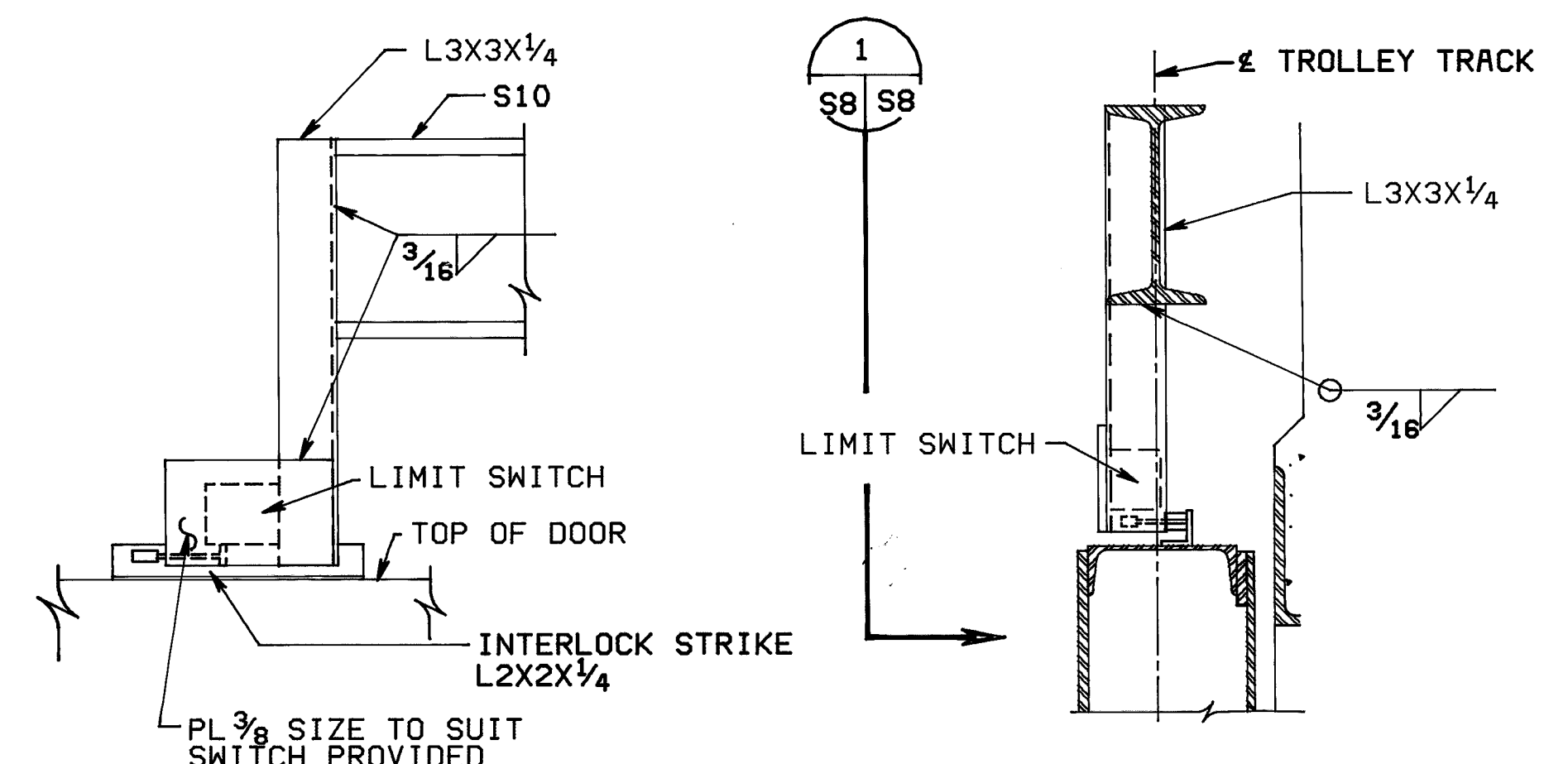
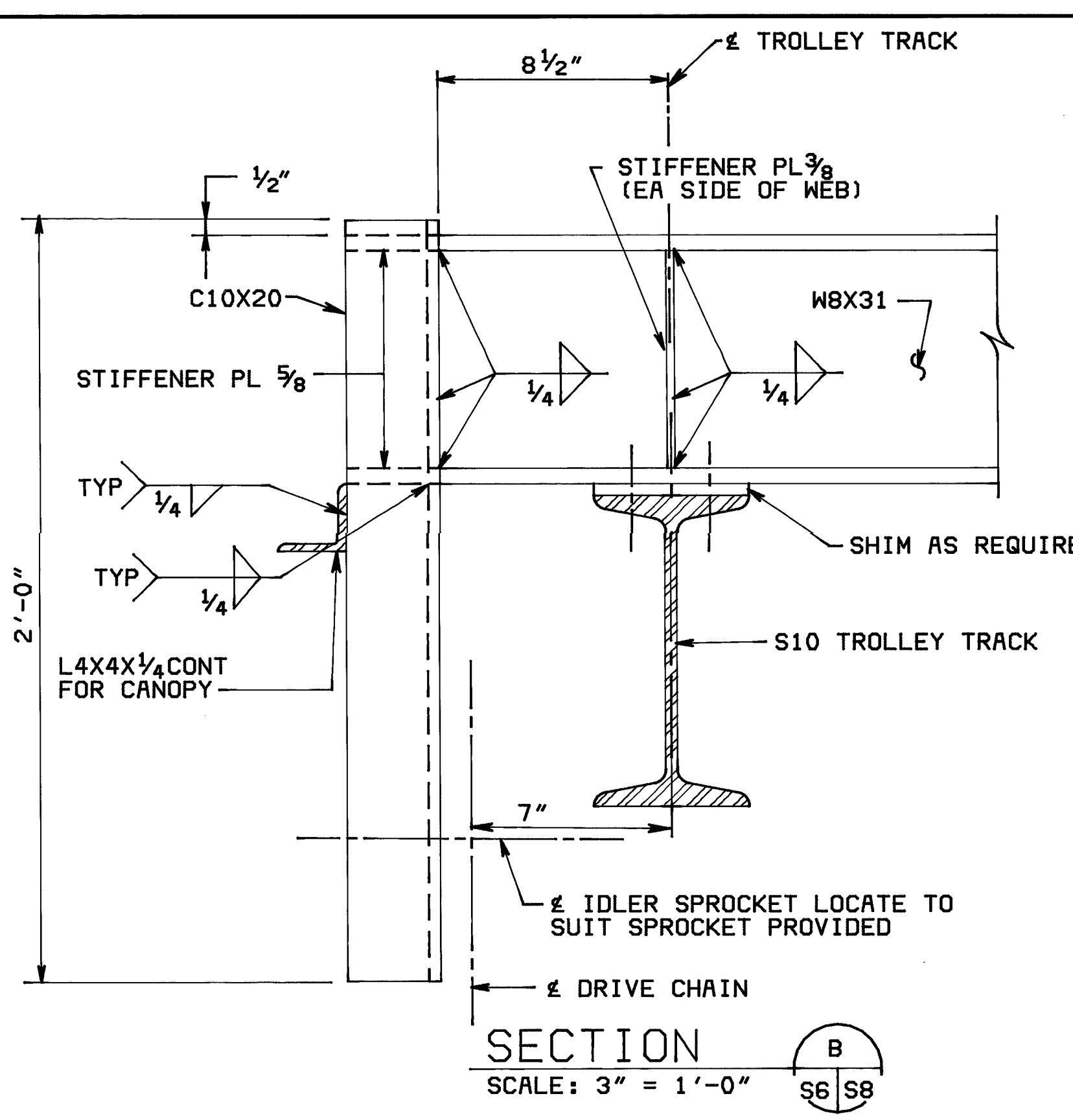
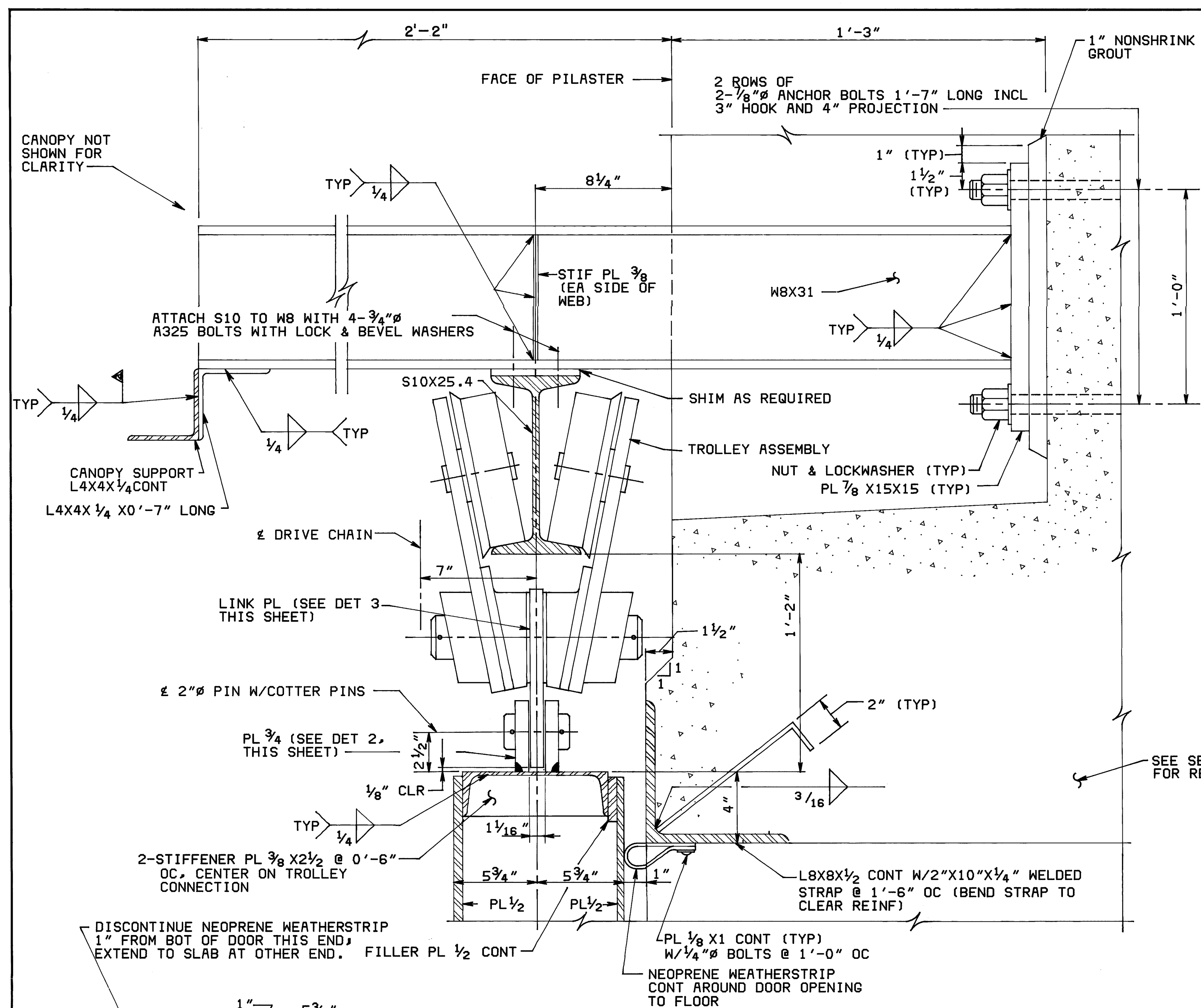
REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

METRIC CONVERSIONS			
1/32" = 1MM	1 1/8" = 28MM	4 3/8" = 112MM	1'-2" = 356MM
1/8" = 3MM	1 3/8" = 35MM	4 7/8" = 124MM	1'-3" = 381MM
1/4" = 6MM	1 1/2" = 38MM	6" = 152MM	1'-5" = 432MM
5/16" = 8MM	1 3/4" = 44MM	6 1/2" = 165MM	1'-6" = 457MM
3/8" = 10MM	2" = 51MM	7" = 178MM	1'-6 1/2" = 460MM
1/2" = 13MM	2 1/32" = 52MM	7 3/8" = 188MM	1'-7" = 483MM
5/8" = 16MM	2 1/4" = 57MM	7 1/2" = 191MM	1'-9" = 533MM
1 1/16" = 17MM	2 1/2" = 64MM	8" = 203MM	1'-9 5/8" = 549MM
3/4" = 19MM	3" = 76MM	9" = 228MM	2'-0" = 610MM
7/8" = 22MM	3 1/2" = 89MM	10" = 254MM	2'-0 3/4" = 628MM
1" = 25MM	3 3/4" = 95MM	11" = 297MM	3'-0" = 914MM
1 1/16" = 27MM	4" = 102MM	1'-0" = 305MM	3'-1" = 939MM
CHECK GRAPHIC SCALES BEFORE USING			



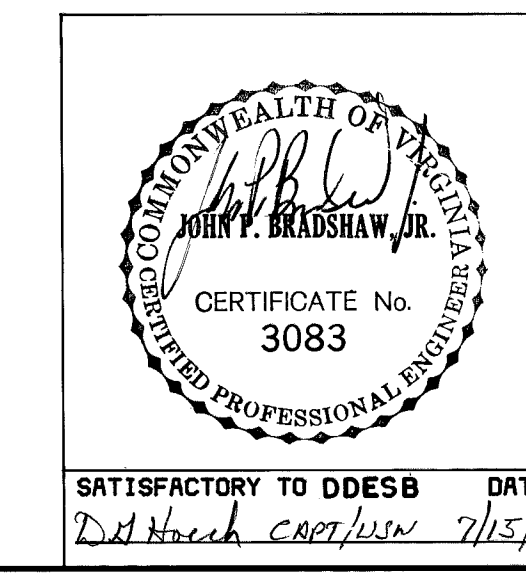
	HAYES, SEAY, MATTEN & MATTEN ARCHITECTS ENGINEERS PLANNERS ROANOKE, VIRGINIA DESIGNED BY: <i>ASB</i> CHECKED BY: <i>ASB</i> SUBMITTED BY: <i>ASB</i> DATE: <i>12/2/84</i> SUPV. ENGR. <i>ASB</i> PROJ. NUMBER: <i>1404337</i> NORTHING: <i>ASB</i> DRAWING NO.: <i>8-7-34</i> DATE: <i>8-7-84</i> SATISFACTORY TO DUESB	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND 200 STOVALL STREET ALEXANDRIA, VA. 22302	
	STANDARD EARTH-COVERED STEEL ARCH MAGAZINE STRUCTURAL DOOR DETAILS 10'-0" WIDE DOOR OPENING	SIZE CODE IDENT. NO.: F 80091 1404337	NAVFAC CODE IDENT. NO.: 1404337
	CONSTR. CONTR. NO.: SCALE AS NOTED SPEC. NFSS- M19 SHEET 57 OF		

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

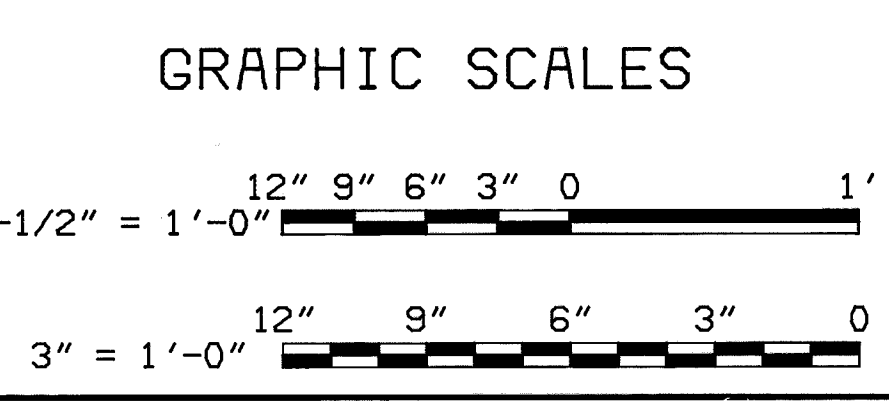


METRIC CONVERSIONS			
1/32" = 1MM	1 1/8" = 27MM	5" = 127MM	1'-0" = 305MM
1/8" = 3MM	1 1/4" = 32MM	5 3/4" = 146MM	1'-2" = 356MM
3/16" = 5MM	1 3/8" = 35MM	6" = 152MM	1'-3" = 381MM
1/4" = 6MM	1 1/2" = 38MM	6 1/2" = 165MM	1'-5" = 432MM
5/16" = 8MM	2" = 51MM	7" = 178MM	1'-6" = 457MM
3/8" = 10MM	2 1/8" = 52MM	7 1/2" = 191MM	1'-7" = 483MM
1/2" = 13MM	2 1/4" = 57MM	8" = 203MM	1'-7 1/2" = 495MM
5/8" = 16MM	2 1/2" = 64MM	8 1/4" = 209MM	2'-0" = 610MM
1 1/8" = 17MM	3" = 76MM	8 1/2" = 216MM	2'-2 3/8" = 676MM
3/4" = 19MM	3 1/2" = 89MM	9" = 229MM	2'-8" = 813MM
7/8" = 22MM	3 3/4" = 95MM	10" = 254MM	3'-0" = 914MM
1" = 25MM	4" = 102MM	11" = 279MM	

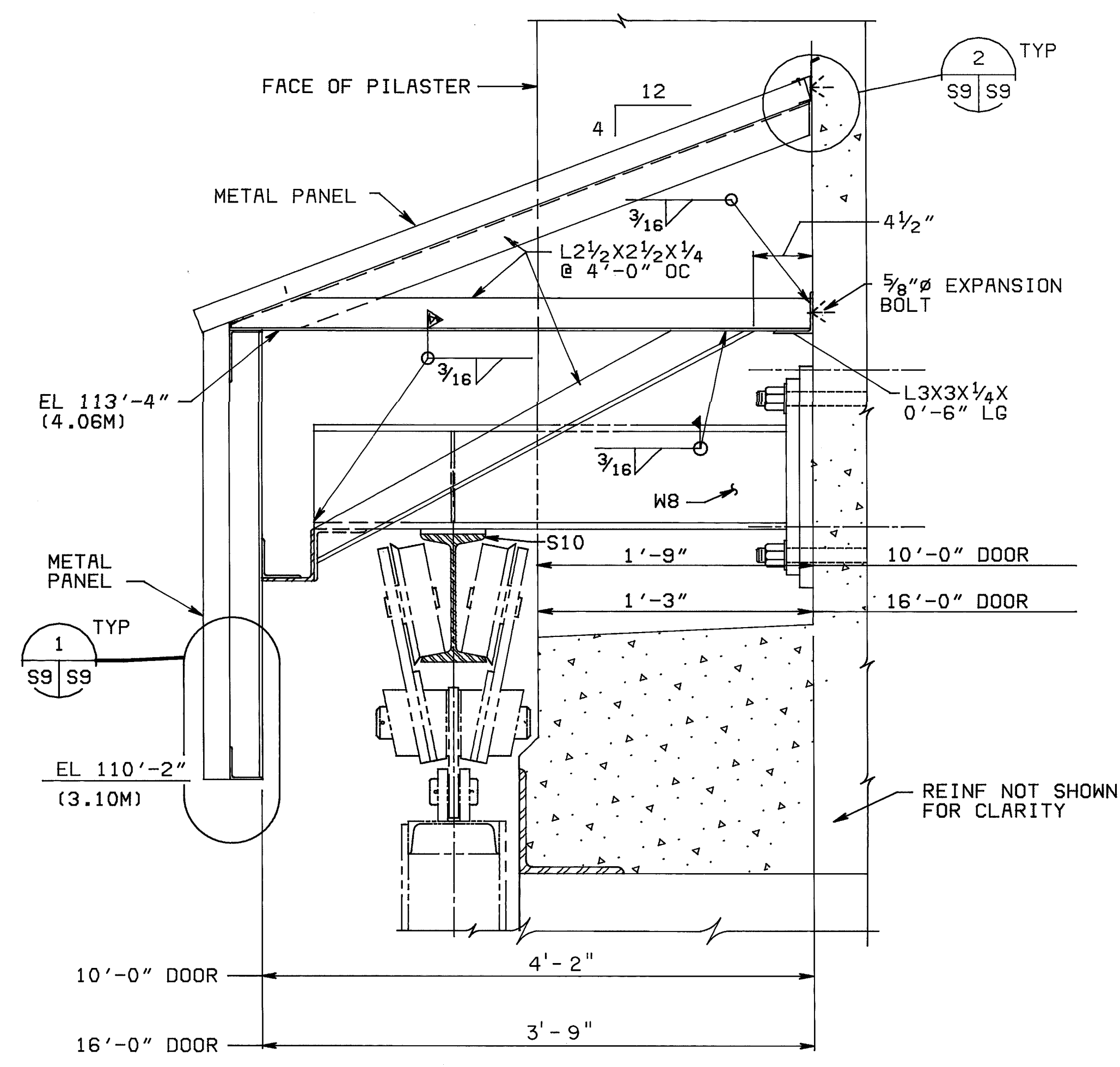
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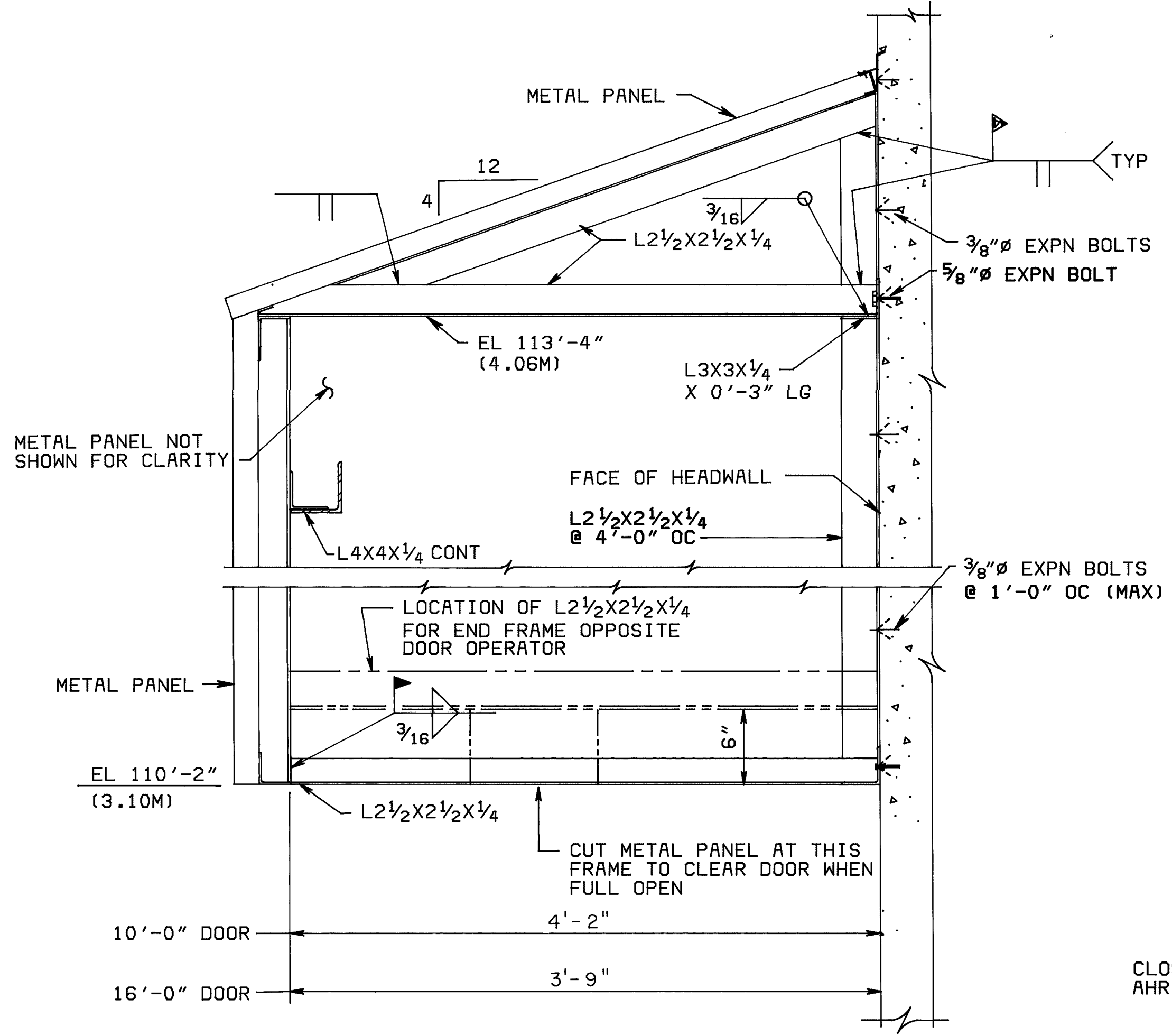
DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
ARCHITECTS ENGINEERS PLANNERS		200 STOVALL STREET	
ROANOKE, VIRGINIA		ALEXANDRIA, VA. 22332	
DESIGN	CAT	DR	CHK
SUPV	SFC	CH	ENGR
SUBMITTED BY: JPB		DATE: 8-7-64	
PROJECT: 11		SHEET: 58	
DRAWING: 11		TITLE: 1404338	
DATE: 8-7-64		SCALE: AS NOTED	
DRAWN: JPB		CHECKED: JPB	
DATE: 8-7-64		DATE: 8-7-64	
DRAWING NO. 1404338		CONSTR. CONTR. NO.	
SHEET 58 OF 58		SPEC. NFSS-M19	



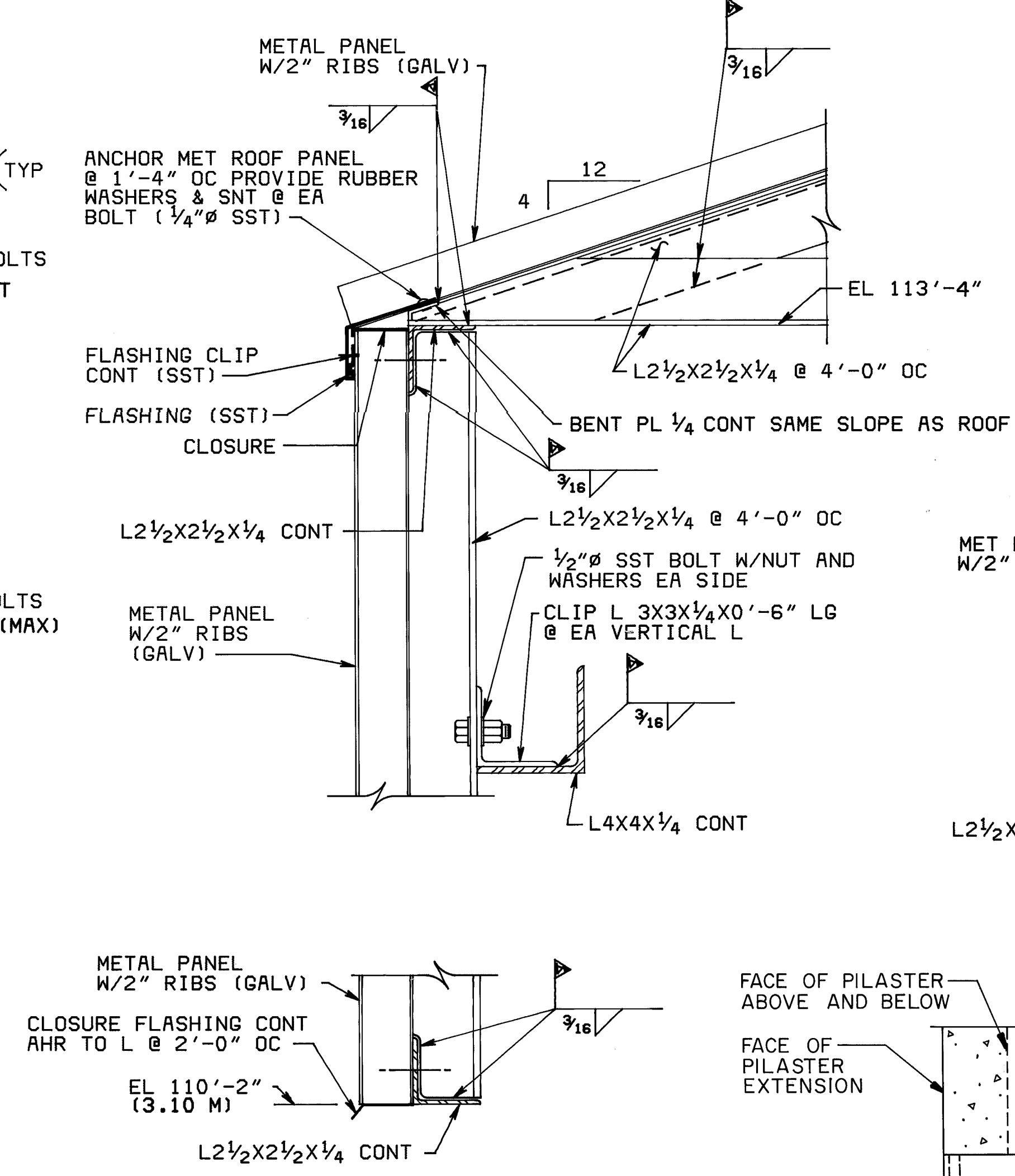
REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



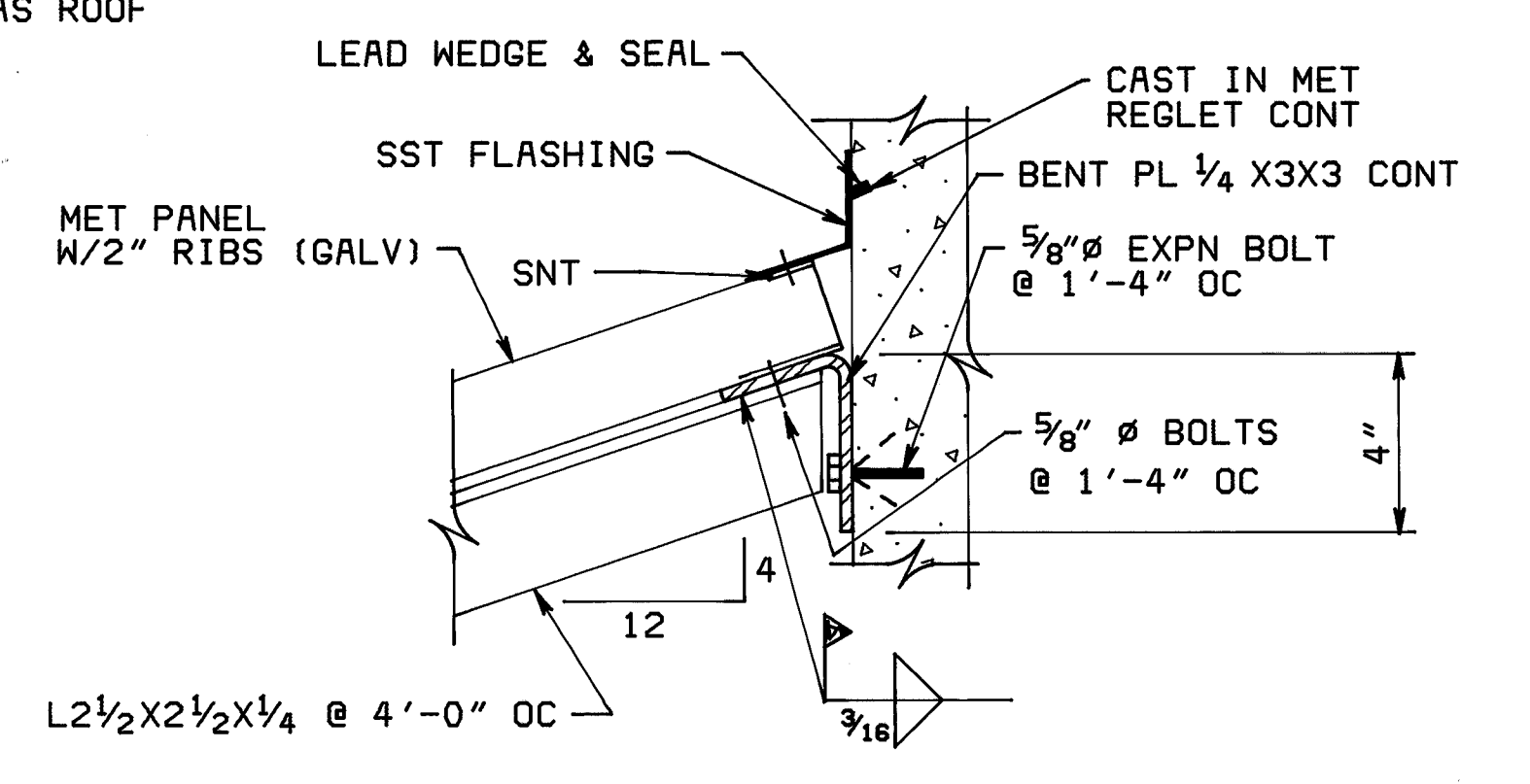
INTERMEDIATE CANOPY FRAME
SECTION A
SCALE: 1 1/2"=1'-0"
S5, S9, S6



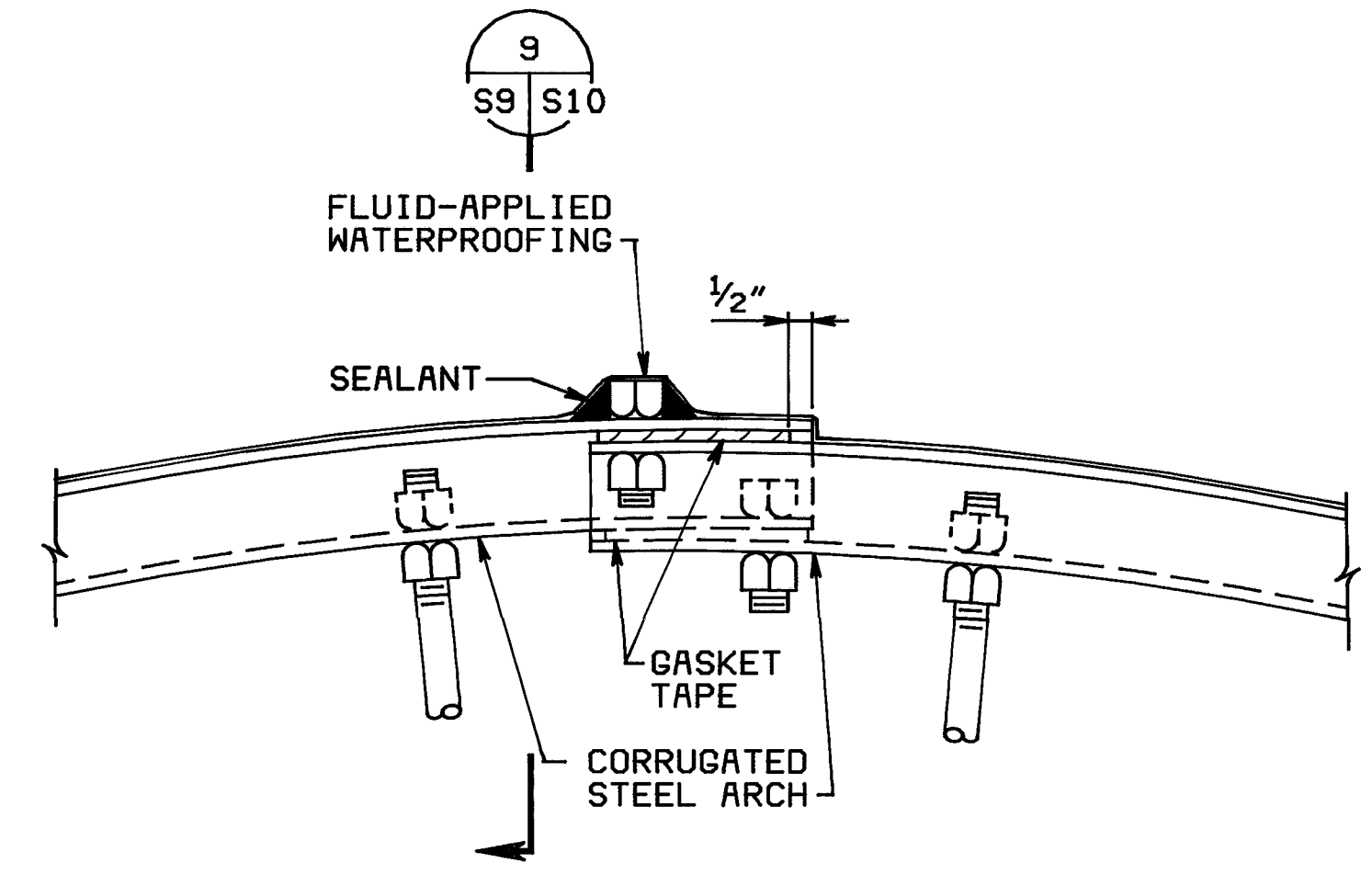
END CANOPY FRAME
SECTION B
SCALE: 1 1/2"=1'-0"
S5, S9, S6



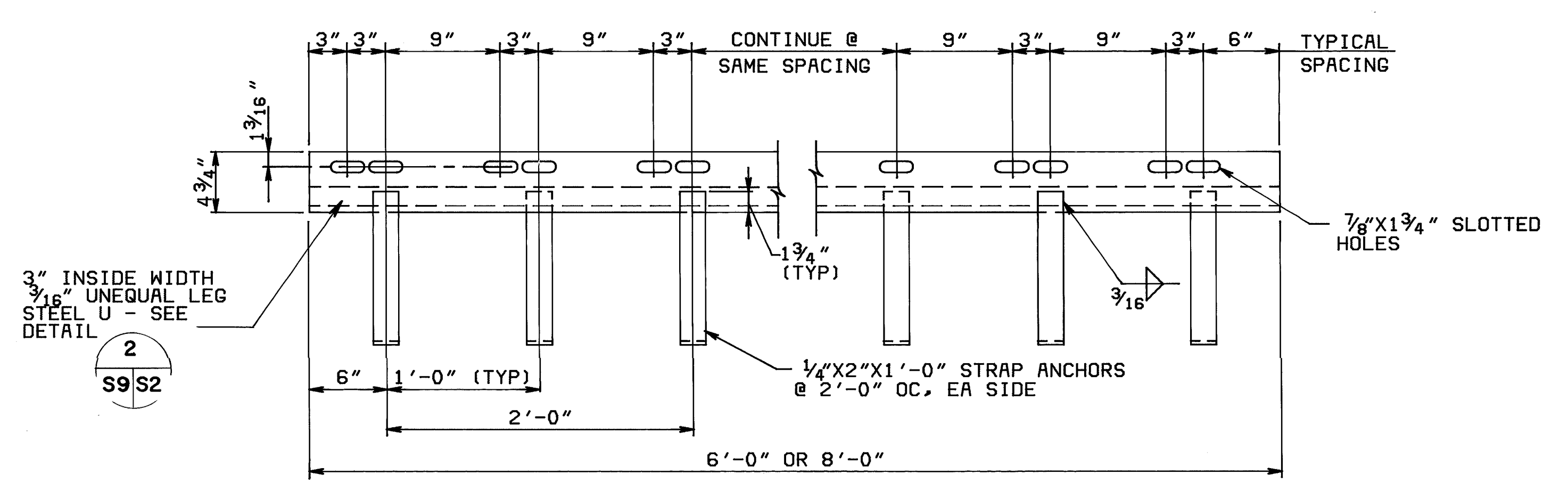
DETAIL 1
SCALE: 3"=1'-0"
S9, S9



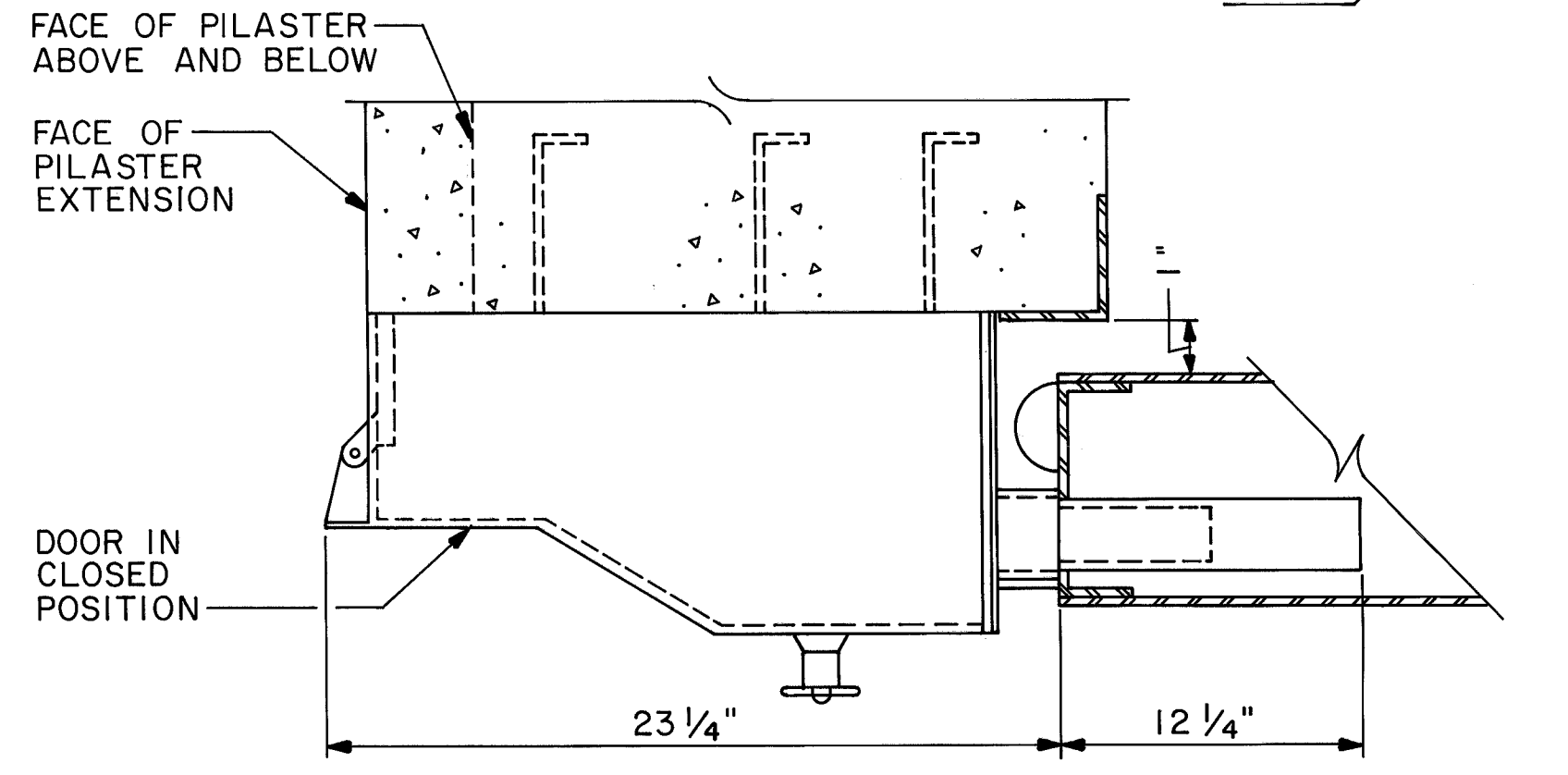
DETAIL 2
SCALE: 3"=1'-0"
S5, S6, S9, S9



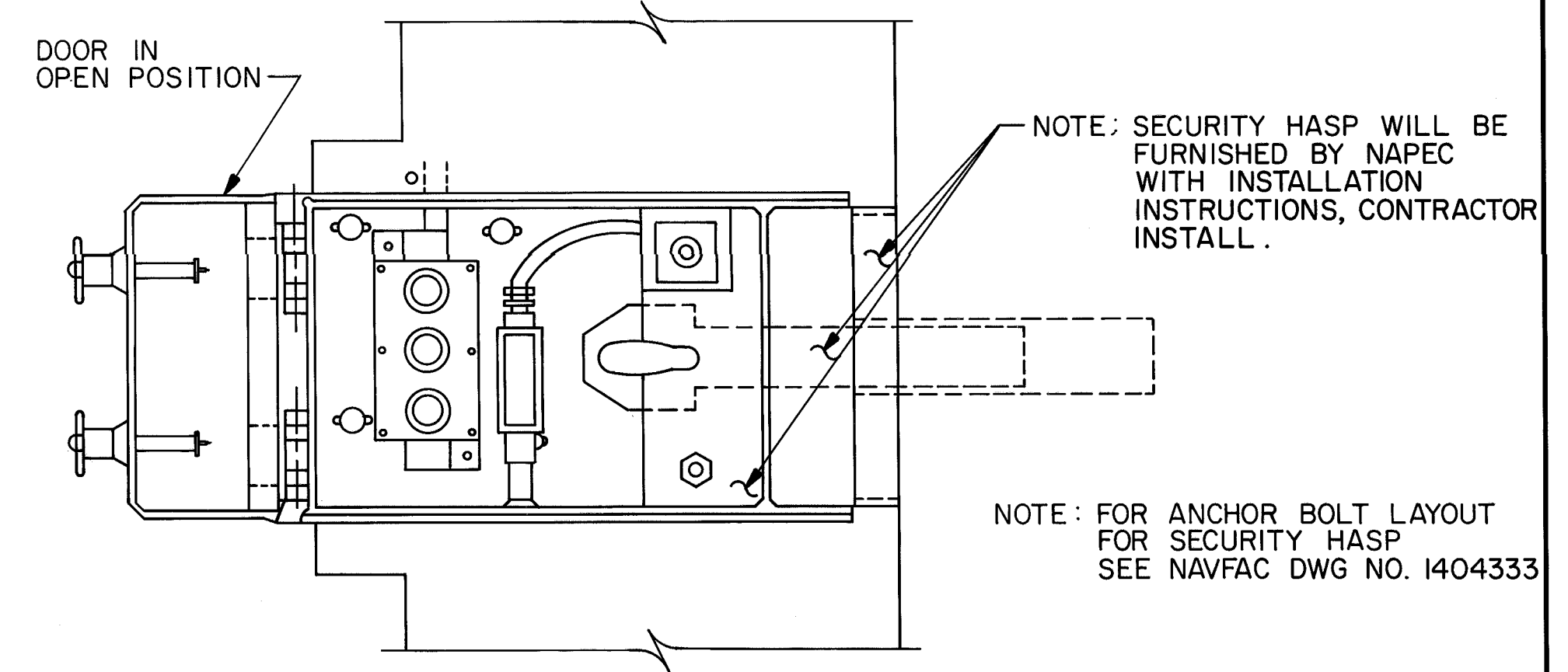
TYPICAL SPLICE DETAIL
NO SCALE



DETAIL 3
SCALE: 1 1/2"=1'-0"
S2, S9

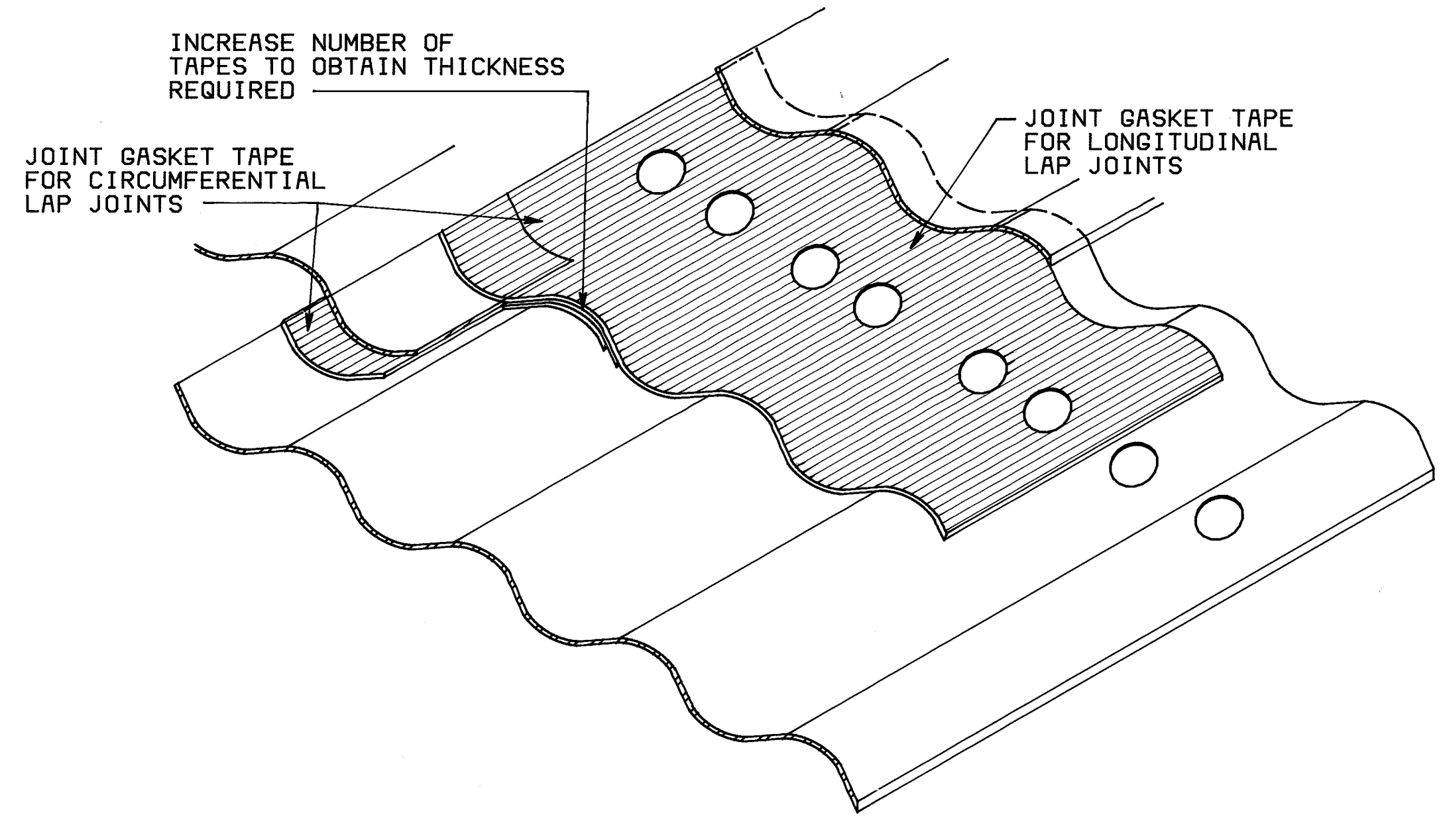


PLAN



ELEVATION

SLIDING DOOR SECURITY HASP DETAIL
NO SCALE

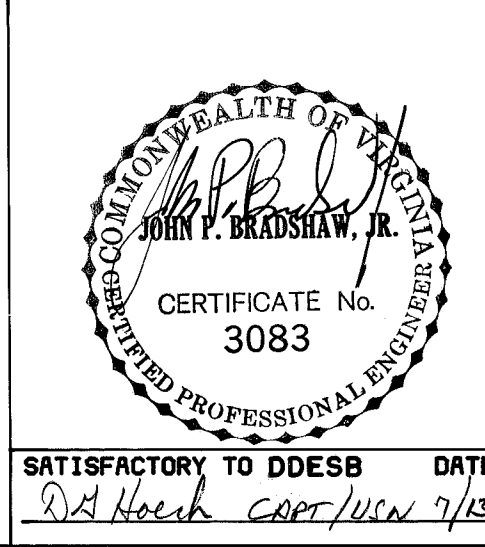
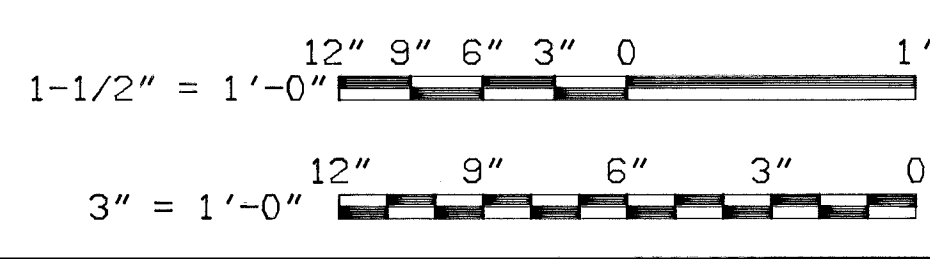


JOINT TAPE INSTALLATION DETAIL
NO SCALE

METRIC CONVERSIONS		
3/16" = 5MM	3" = 76MM	3'-2 1/2" = 978MM
1/4" = 6MM	4" = 102MM	3'-7 1/8" = 1095MM
3/8" = 10MM	4 1/2" = 115MM	3'-9 3/8" = 1158MM
1/2" = 13MM	4 3/4" = 121MM	4'-0" = 1220MM
5/8" = 16MM	6" = 152MM	4'-0 3/4" = 1239MM
7/8" = 22MM	9" = 228MM	4'-1 3/4" = 1264MM
1 1/16" = 30MM	1'-0" = 305MM	6'-0" = 1829MM
1 1/2" = 38MM	1'-3" = 381MM	8'-0" = 2440MM
1 3/4" = 44MM	1'-4" = 406MM	10'-0" = 3050MM
2" = 51MM	1'-7 1/4" = 489MM	16'-0" = 4880MM
2 1/2" = 64MM	2'-0" = 610MM	

CHECK GRAPHIC SCALES BEFORE USING

GRAPHIC SCALES



NAVAC DWG NO. 1404333

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
200 STOVALL STREET
ALEXANDRIA, VA. 22332

STANDARD
EARTH-COVERED STEEL ARCH MAGAZINE
STRUCTURAL
CANOPY SECTIONS AND MISCELLANEOUS DETAILS

SIZE CODE IDENT. NO. NAVAC DRAWING NO.
F 80091 1404339

SATISFACTORY TO DDESB DATE APPROVED DATE
DVA Head CONFORM 1/15/88 [Signature] 2-7-88

SCALE AS NOTED SPEC. NFSS - M19 SHEET S9 OF

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED

GENERAL NOTES

- DESIGN LOADS
 - A. BLAST LOAD: BASED ON INTERMAGAZINE SEPARATION DISTANCES D FOR A QUANTITY OF HIGH EXPLOSIVE W EQUAL TO 500,000 POUNDS (Q=227,000 KG) EQUIVALENT TNT, AS FOLLOWS:

(1) SIDE-TO-SIDE	D = 1.25W ^{1/3}	(U.S. UNITS)
	D = 0.50W ^{1/3}	(METRIC UNITS)
(2) FRONT-TO-REAR	D = 2.0W ^{1/3}	(U.S. UNITS)
	D = 0.80W ^{1/3}	(METRIC UNITS)
 - B. STRUCTURAL ELEMENT OVERPRESSURE

BLAST DOOR HEADWALL	DESIGN BLAST OVERPRESSURE	TIME DURATION	FAILURE CRITERIA	DUCTILITY MAXIMUM SUPPORT RATIO	ROTATION
BLAST DOOR HEADWALL	158 PSI	20 MS	15	10"	12"
 - C. ROOF LIVE LOAD (MAINTENANCE EQUIPMENT) 100 PSF
 - D. ROOF DEAD LOAD (2 FT MIN EARTH FILL) VARIES
 - E. FLOOR LIVE LOAD 2000 PSF
 - F. LOADING RAMP OR LOADING DOCK LIVE LOAD 1000 PSF
 - G. SEISMIC DATA ZONE 4
 - H. ASSUMED ALLOWABLE SOIL BEARING 4000 PSF
 - I. ASSUMED DYNAMIC RESPONSE (SOIL BEARING) 2.5
 - J. ASSUMED LATERAL SOIL PRESSURE COEFFICIENT 0.33
 - K. ASSUMED COEFFICIENT OF FRICTION (CONC ON SOIL) 0.50
 - L. ASSUMED SUBGRADE MODULUS 200 PCI
- MATERIAL STRENGTHS
 - A. CONCRETE 28-DAY COMPRESSIVE STRENGTH (UNO) $f'_c = 4000$ PSI
 - B. REINFORCING STEEL
 - STIRRUPS AND TIES $f_y = 40$ KSI MIN
 - ALL OTHER WELDED WIRE FABRIC $f_y = 60$ KSI
 - STRUCTURAL STEEL SHAPES & PLATES $F_y = 36$ KSI
- THIS STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE STRENGTH DESIGN METHOD OF BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318) AND THE PROCEDURES AND REQUIREMENTS OF NAVFAC P-397, "STRUCTURES TO RESIST THE EFFECTS OF ACCIDENTAL EXPLOSIONS."
- ELEVATION OF BOTTOM OF FTG SHALL BE ESTABLISHED BELOW THE DEPTH OF FROST PENETRATION. FOOTING SHALL BE LOWERED AS REQUIRED TO OBTAIN SUITABLE BEARING. ALL UNSUITABLE FOUNDATION MATERIAL SHALL BE REMOVED WITH FOOTINGS RESTING ON UNDISTURBED SOIL WITH A MINIMUM BEARING CAPACITY OF 4000 PSF. IF AN ALLOWABLE SOIL BEARING OTHER THAN 4000 PSF IS ASSUMED, THEN FOOTINGS MUST BE REDESIGNED.
- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, NOVEMBER, 1978."
- ALL REINFORCEMENT SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI 315-80, UNLESS OTHERWISE SHOWN. MINIMUM SPLICE LENGTHS SHALL BE AS SHOWN IN TABLE-1, THIS SH, UNLESS OTHERWISE INDICATED. ALL HOOKS ARE 90° STANDARD HOOKS, UNLESS NOTED OTHERWISE. PROVIDE DOWELS TO MATCH REIN IN WALLS.
- UNLESS OTHERWISE SHOWN, REINFORCEMENT AT WALL CORNERS AND INTERSECTIONS SHALL BE IN ACCORDANCE WITH DETAILS SHOWN IN ACI 315-80 AND LAP SPLICES SHALL BE CLASS C.
- UNLESS OTHERWISE SHOWN, PROVIDE CONCRETE PROTECTION FOR ALL REINFORCING IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-77).
- UNLESS OTHERWISE SHOWN, FLOOR SLAB ON GRADE SHALL BE 10 INCHES THICK AND SHALL BE REINFORCED WITH TWO LAYERS OF 6X6-W4X4 WELDED WIRE FABRIC. A POLYETHYLENE VAPOR BARRIER AND 4" CAPILLARY WATER BARRIER SHALL BE PLACED BENEATH ALL SLABS ON GRADE.
- PROVIDE ADEQUATE INSPECTION PANELS IN WALL FORMING TO FACILITATE CONCRETE PLACEMENT TO INSURE THAT NO VOIDS OCCUR, AND THAT ADEQUATE COMPACTION IS ATTAINED.
- CONTINUOUS REINFORCING IN WALLS AND FOOTINGS MAY BE SPLICED, AS REQUIRED, PROVIDING BARS ARE OF THE LONGEST PRACTICABLE LENGTH AND SPLICES ARE SHOWN ON THE REINFORCING SHOP DRAWINGS. SEE TABLE-1, THIS SH.
- SUBSURFACE DRAIN TO BE SITE ADAPTED TO DRAIN TO FRONT OR REAR OF MAGAZINE.
- WHERE THE WATER TABLE IS NEAR THE ELEVATION OF THE MAGAZINE FLOOR SLAB, THE DETAILS SHALL BE MODIFIED TO PREVENT WATER SEEPAGE INTO THE MAGAZINE (E.G., WATERSTOPS).
- PROVIDE CRACK CONTROL JOINTS IN SLAB ON GRADE AT 25'-0" ON CENTER UNLESS OTHERWISE SHOWN.
- ALL DRAWINGS ARE REFERENCED TO A FINISHED FLOOR ELEVATION 100'-0" (0.00M). FOR TRUE SITE ELEVATION, SEE GRADING AND DRAINAGE PLANS.

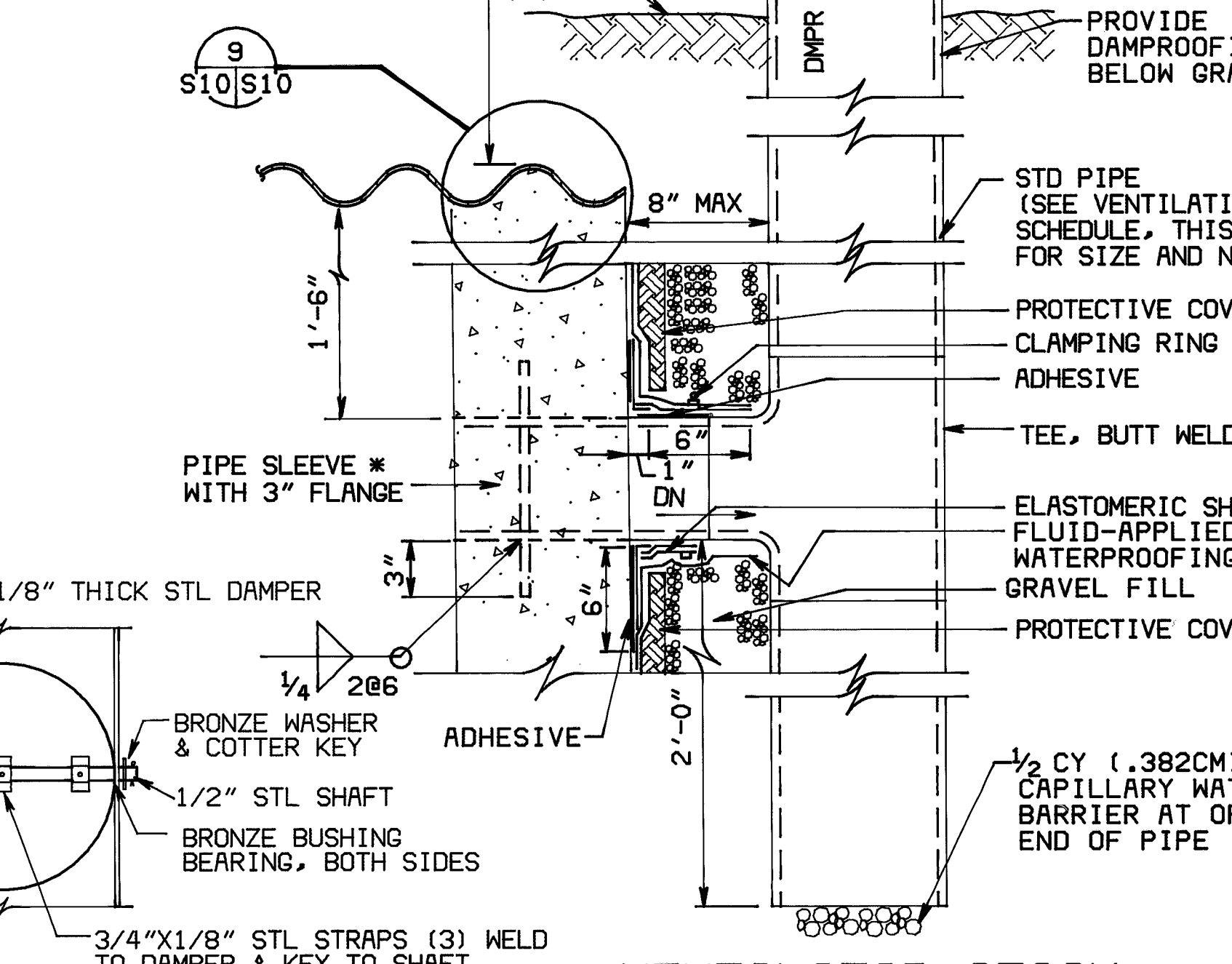
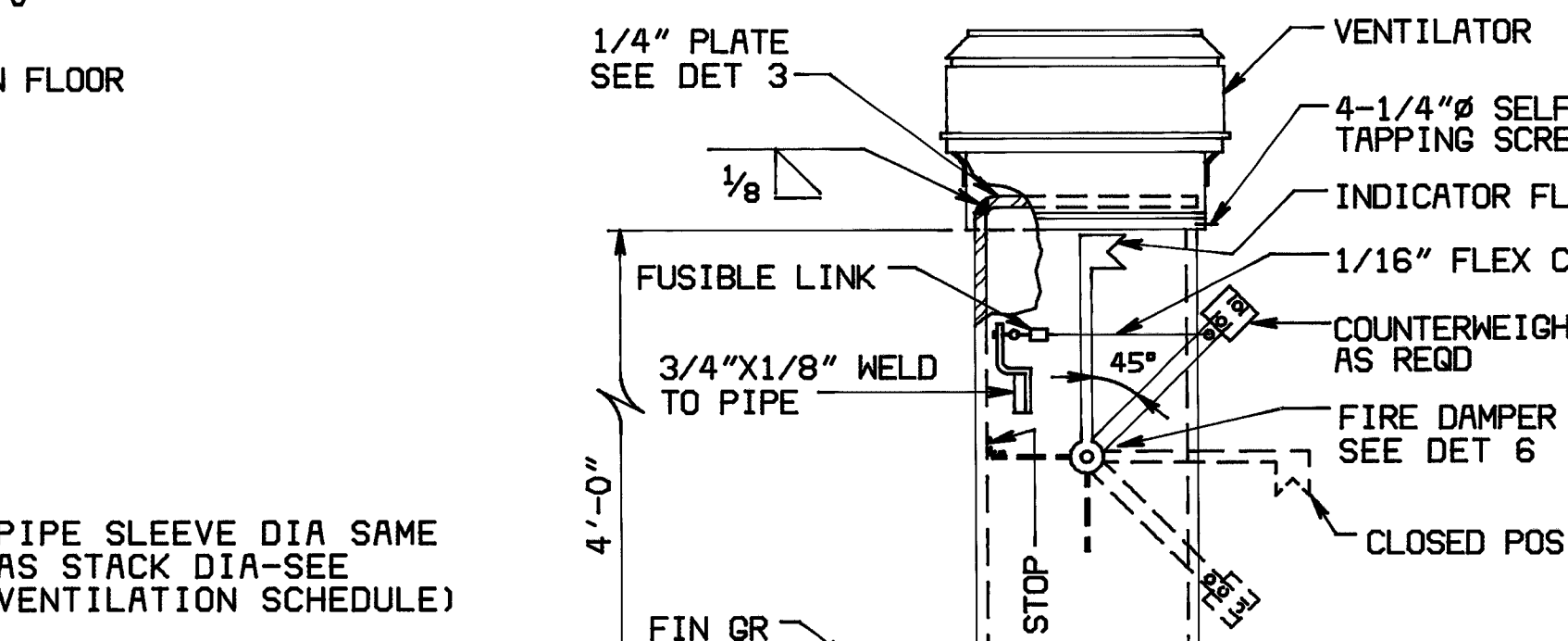
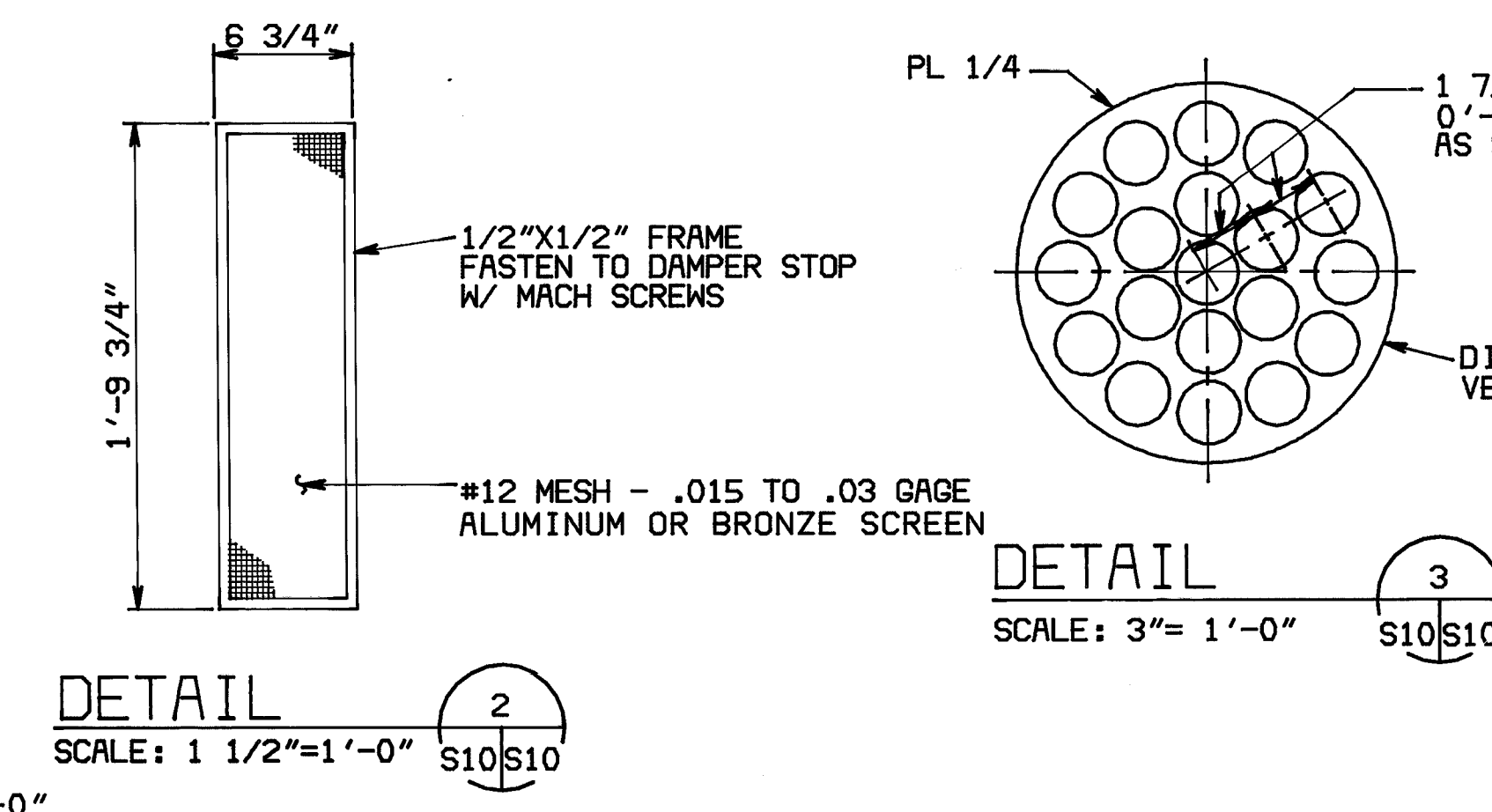
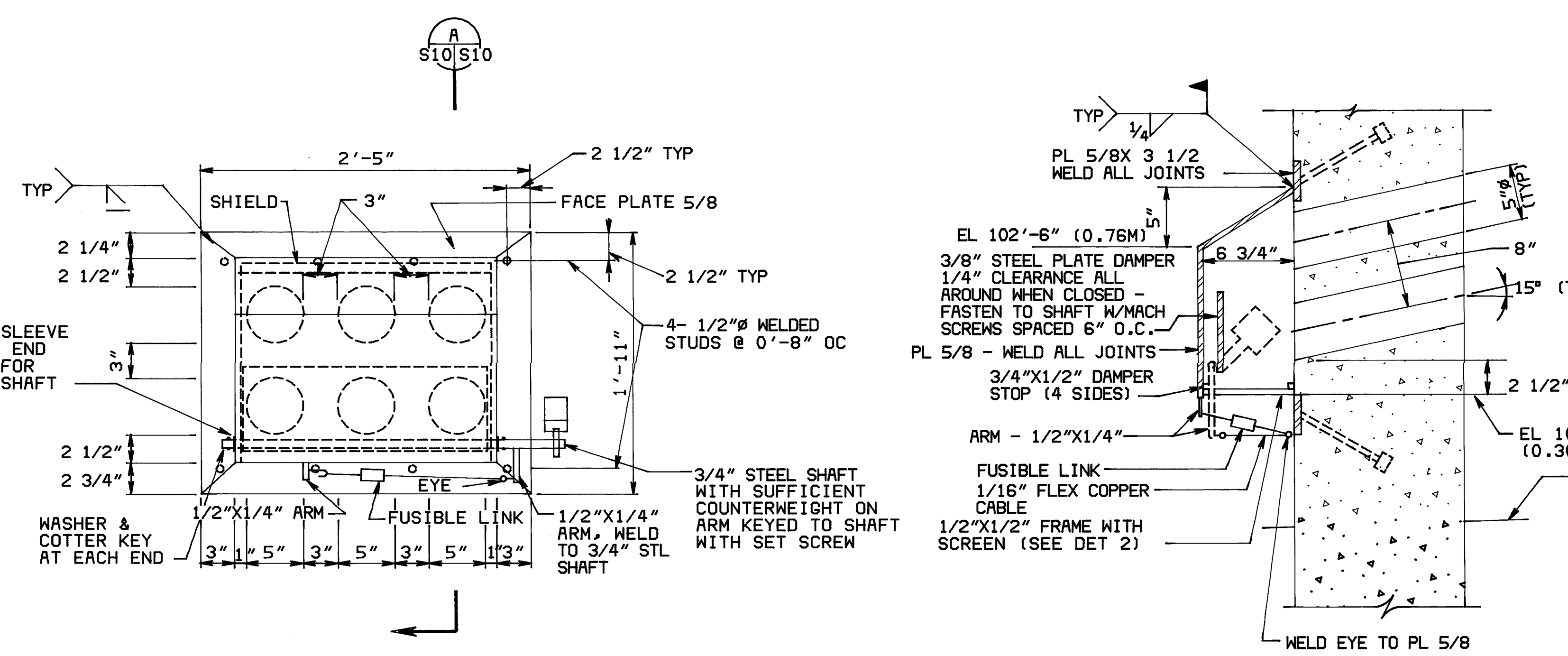
METRIC CONVERSIONS		
1/16" = 2MM	2" = 51MM	9" = 228MM
3/16" = 3MM	2 1/4" = 57MM	9 3/8" = 244MM
1/4" = 5MM	2 1/2" = 64MM	10" = 254MM
5/16" = 6MM	2 3/4" = 70MM	1'-0" = 305MM
3/8" = 10MM	3" = 76MM	1'-6" = 457MM
7/16" = 14MM	4" = 102MM	1'-7 1/4" = 489MM
1/2" = 19MM	5" = 127MM	1'-9 3/4" = 552MM
9/16" = 14MM	6" = 152MM	1'-11" = 584MM
5/8" = 16MM	6 1/2" = 165MM	2'-0" = 610MM
11/16" = 17MM	6 3/4" = 171MM	2'-5" = 737MM
3/4" = 19MM	7" = 178MM	2'-10" = 762MM
13/16" = 20MM	8" = 203MM	25'-0" = 7630MM

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
200 STOVALL STREET ALEXANDRIA, VA. 22332

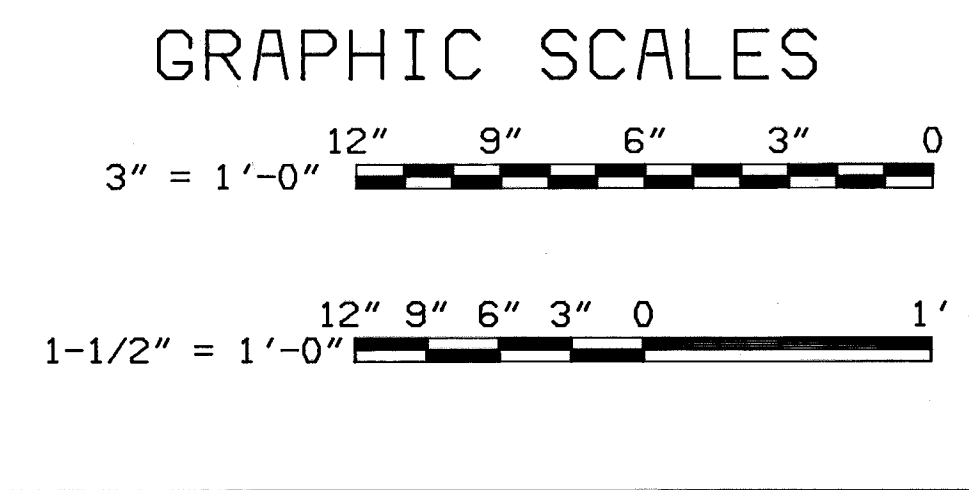
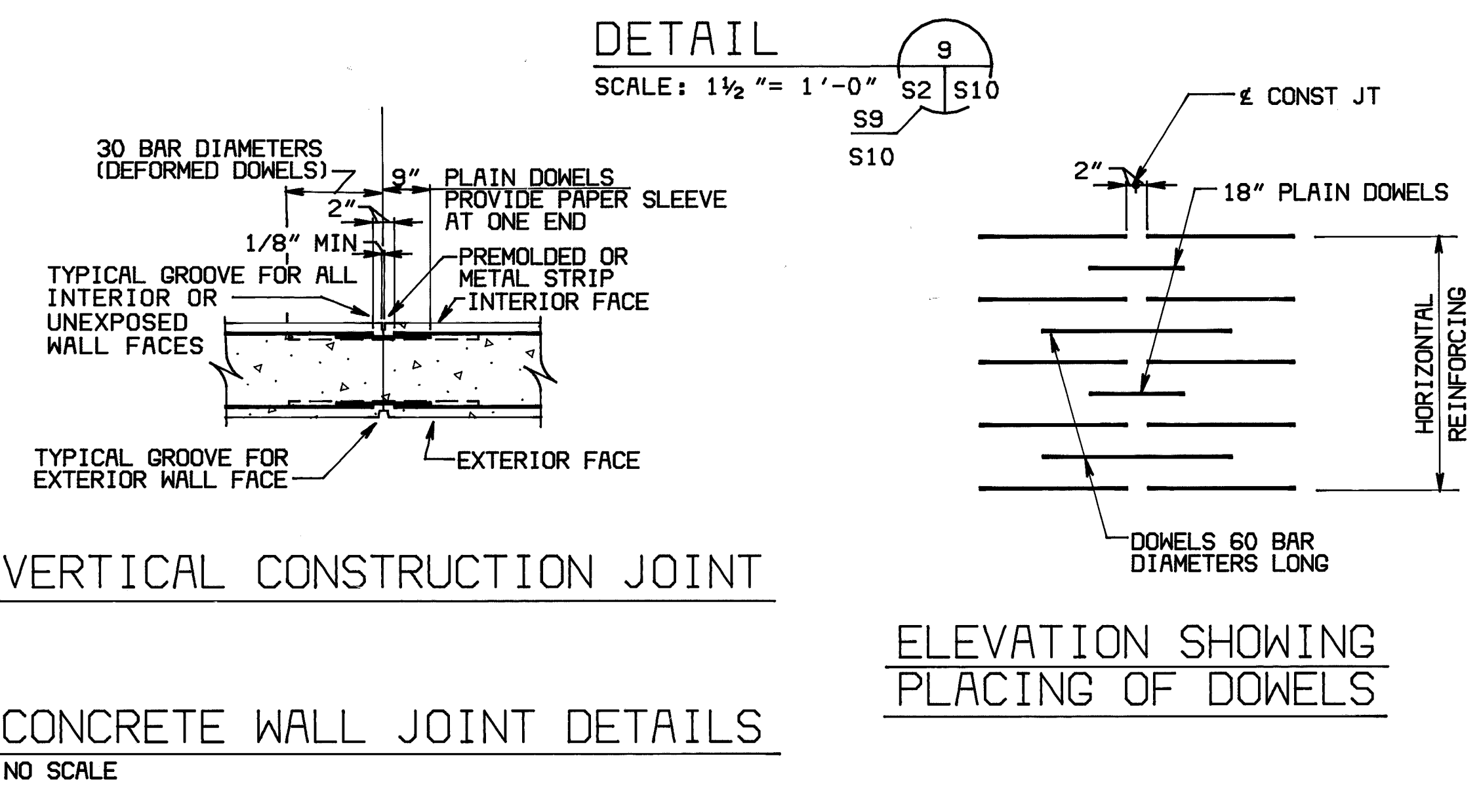
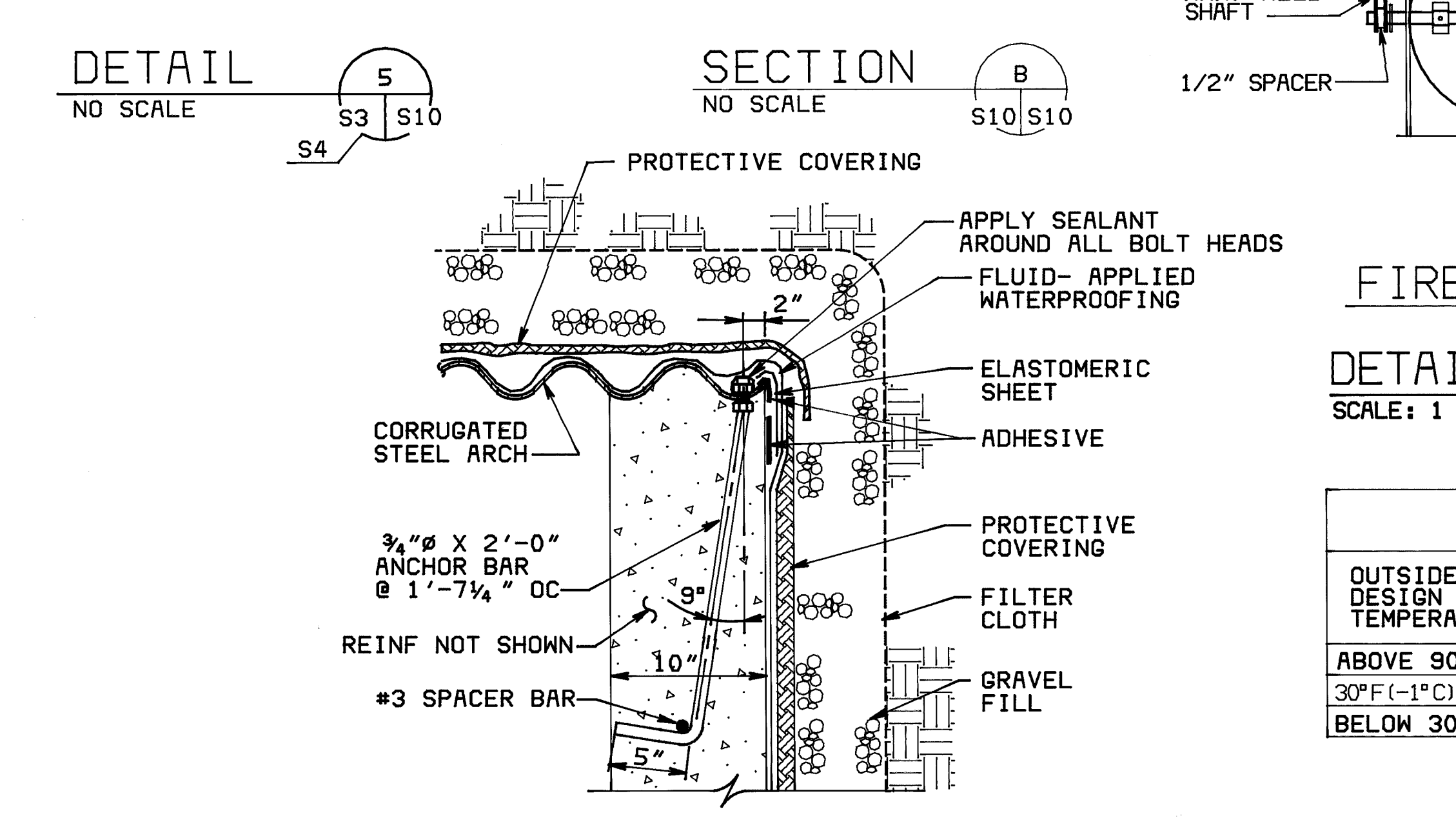
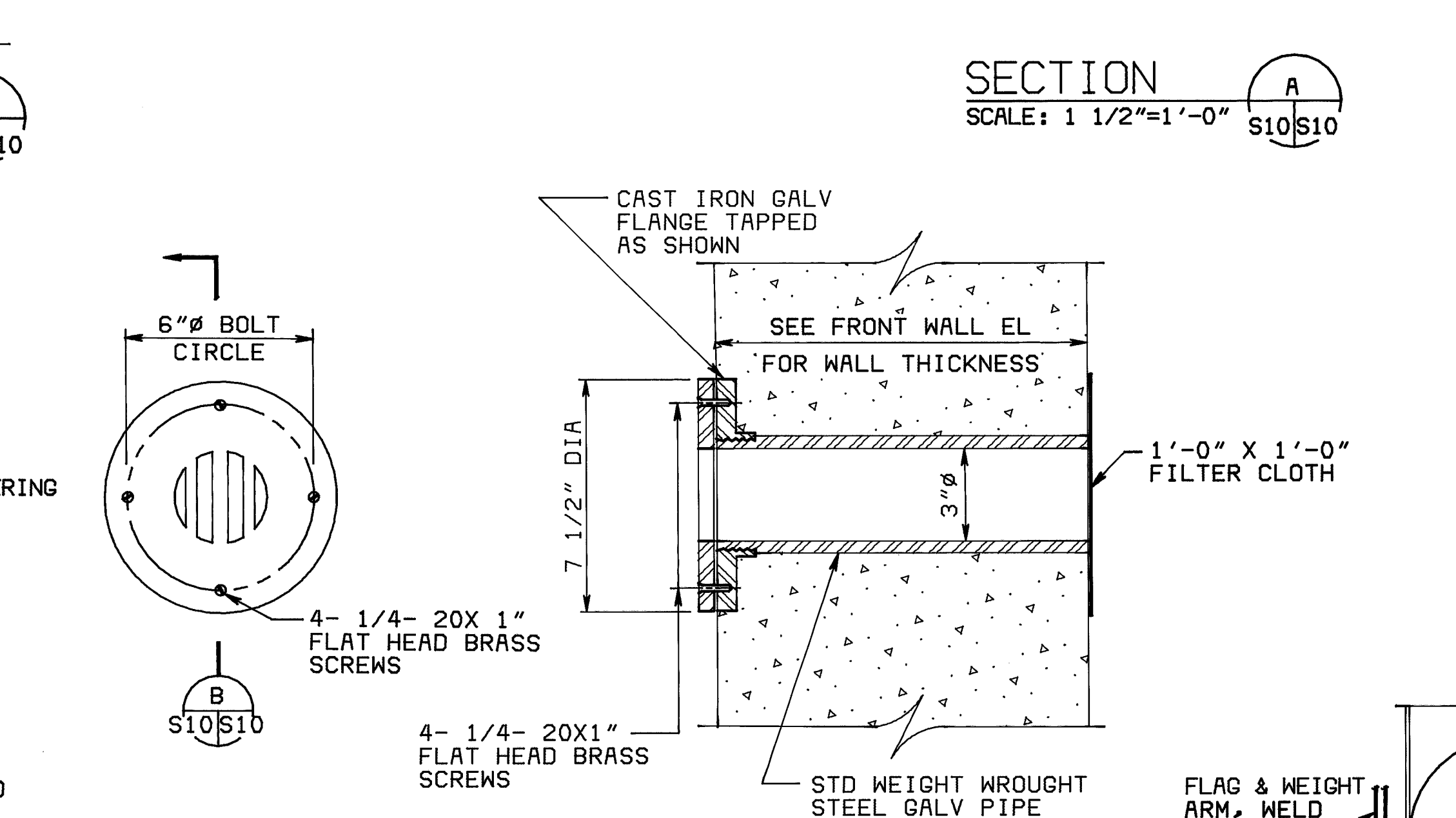
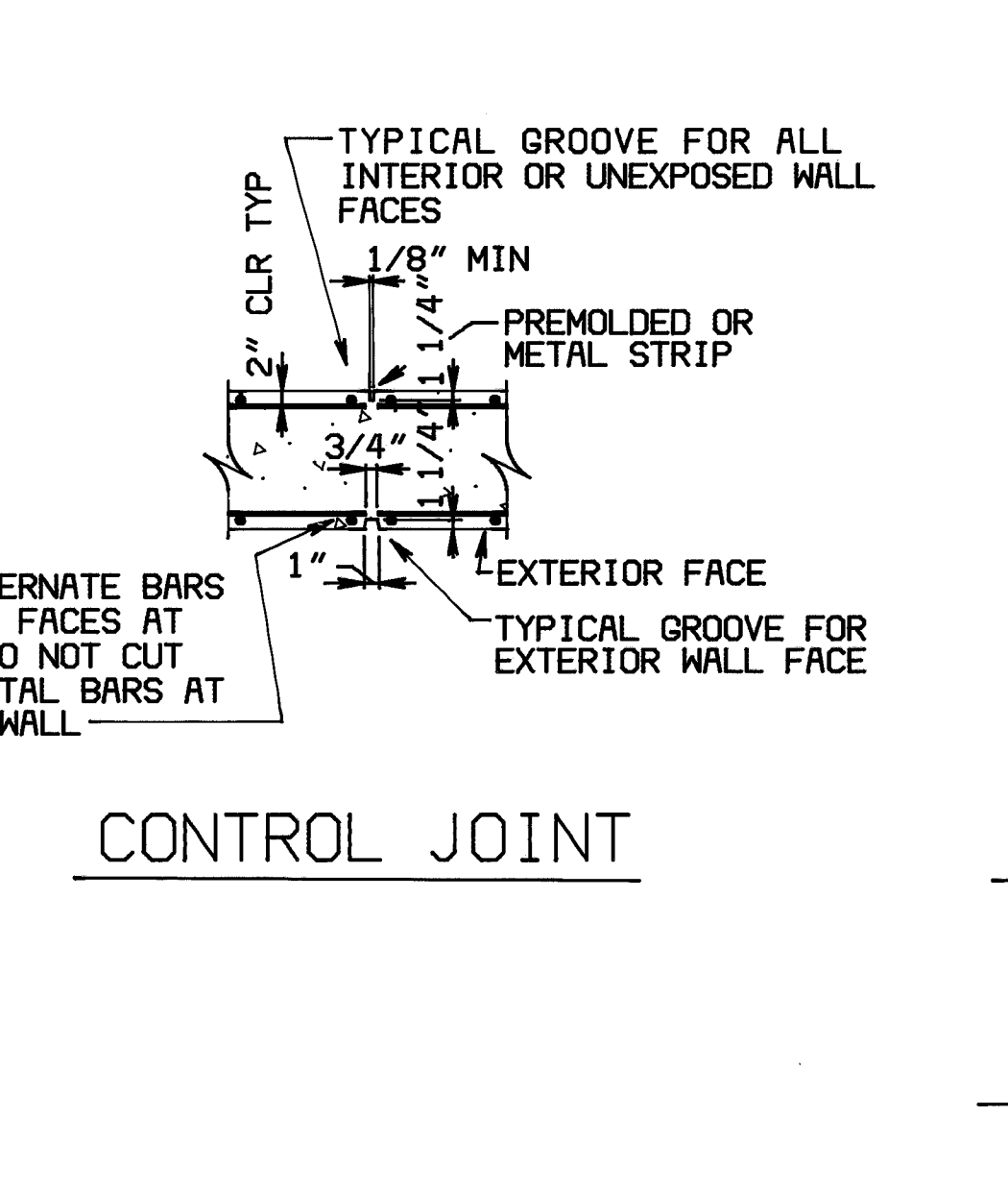
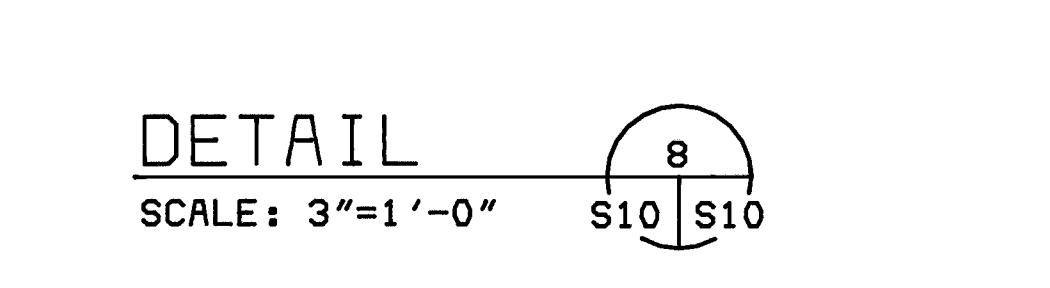
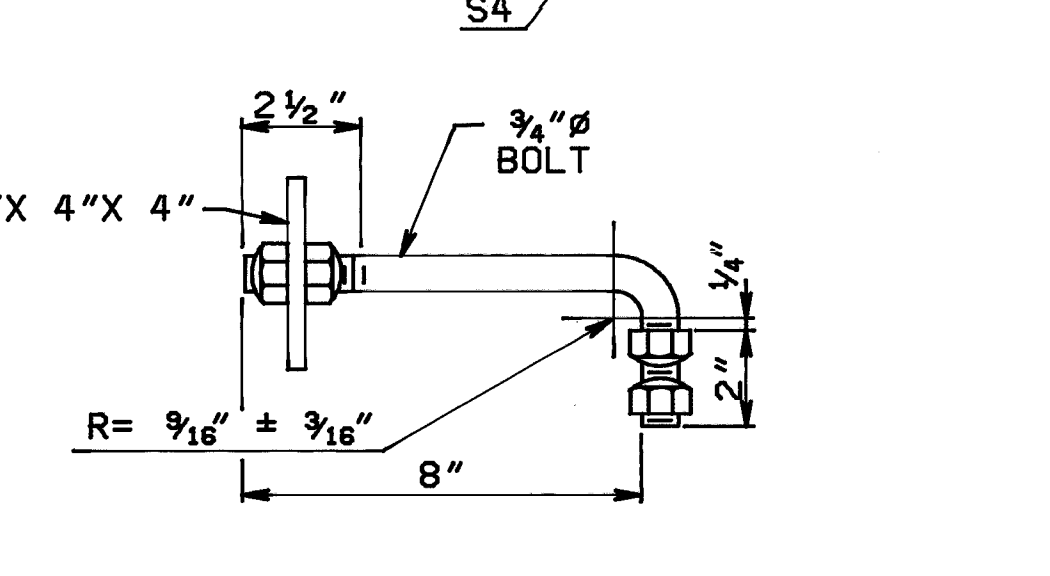
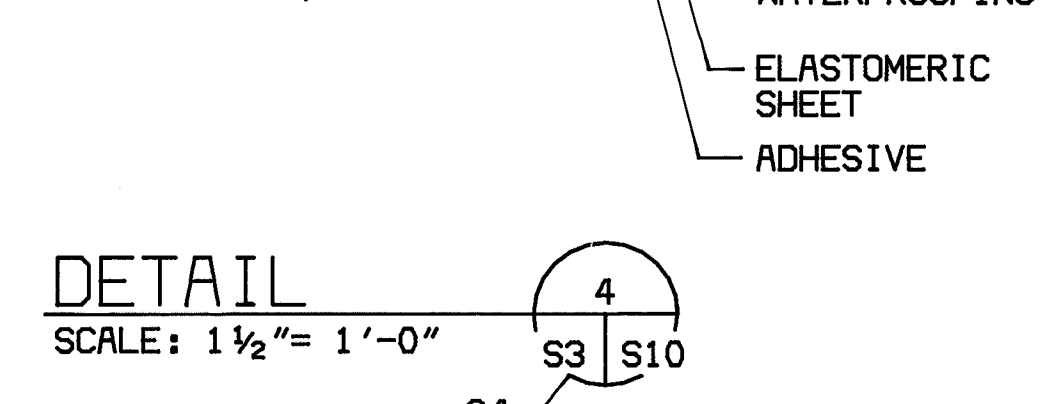
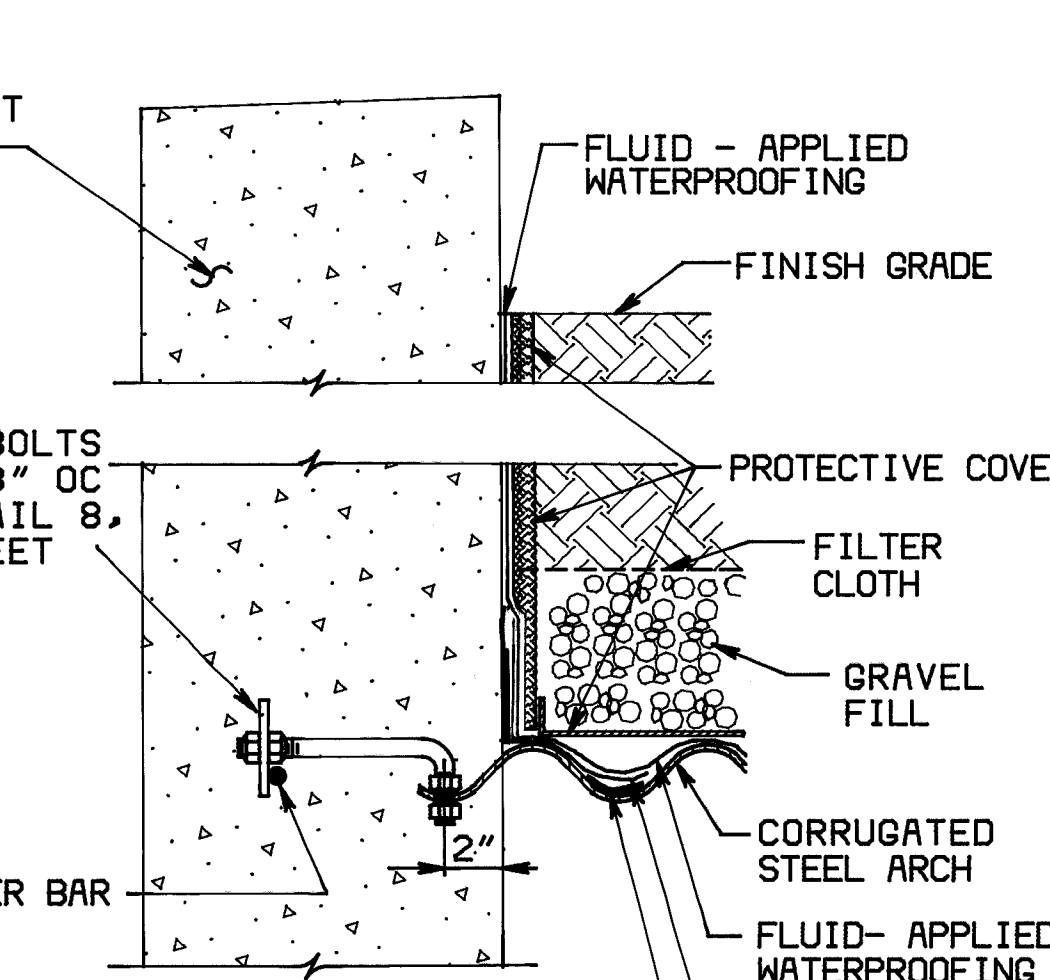
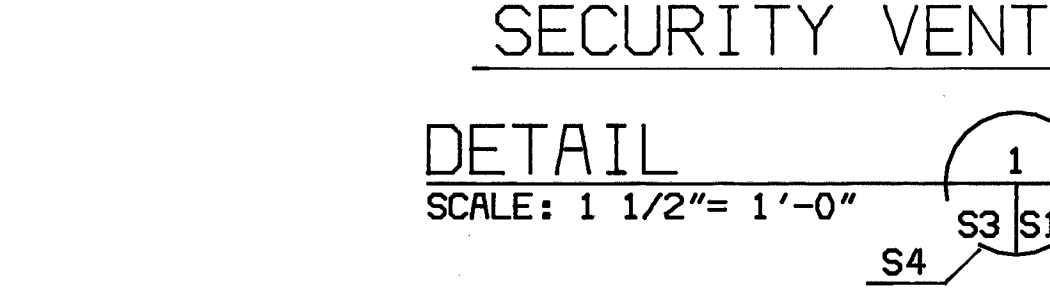
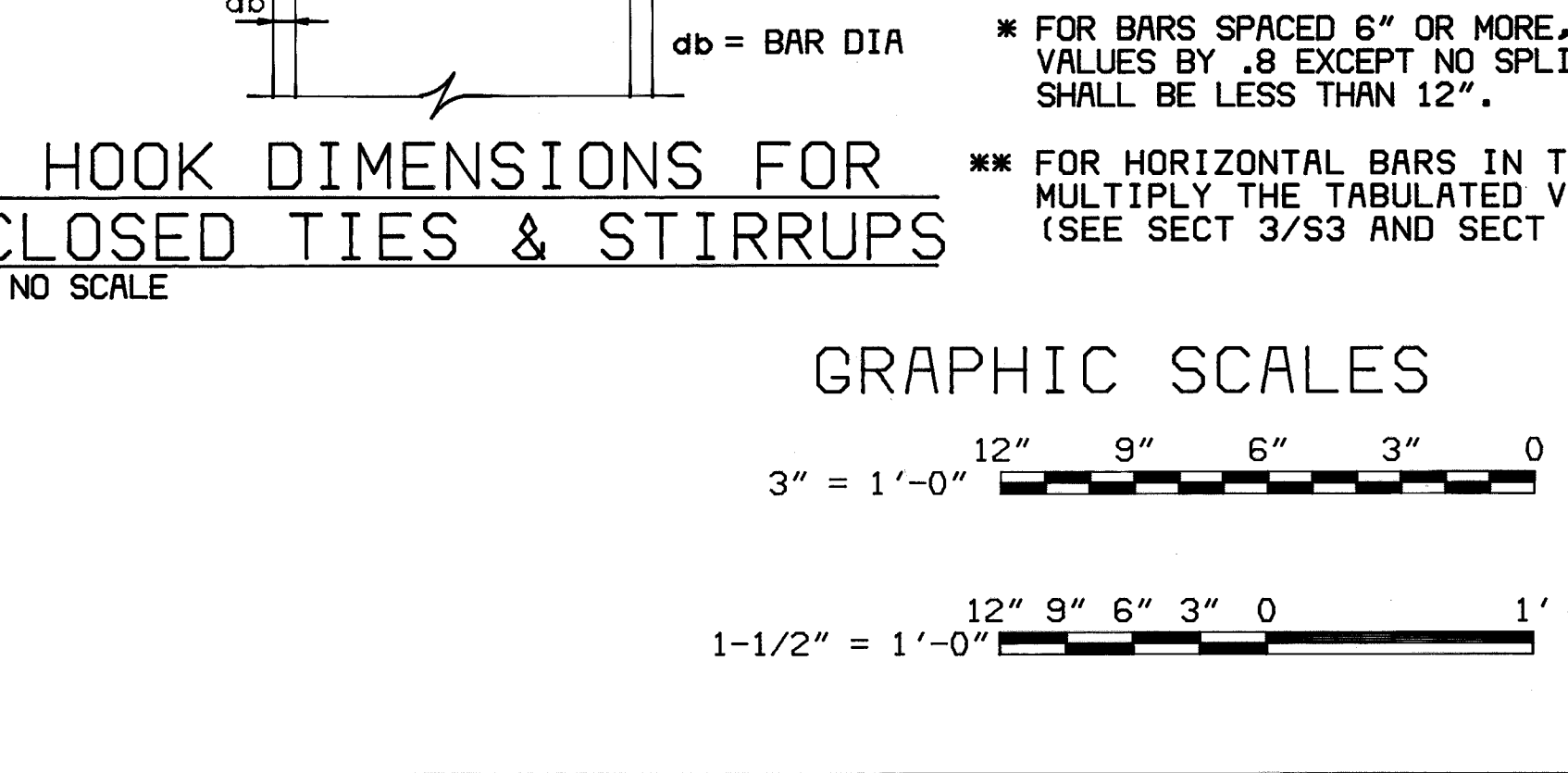
STANDARD
EARTH-COVERED STEEL ARCH MAGAZINE
STRUCTURAL
VENTILATORS, MISCELLANEOUS DETAILS
AND GENERAL NOTES

SIZE CODE IDENT. NO. NAVFAC DRAWING NO.
F 80091 1404340

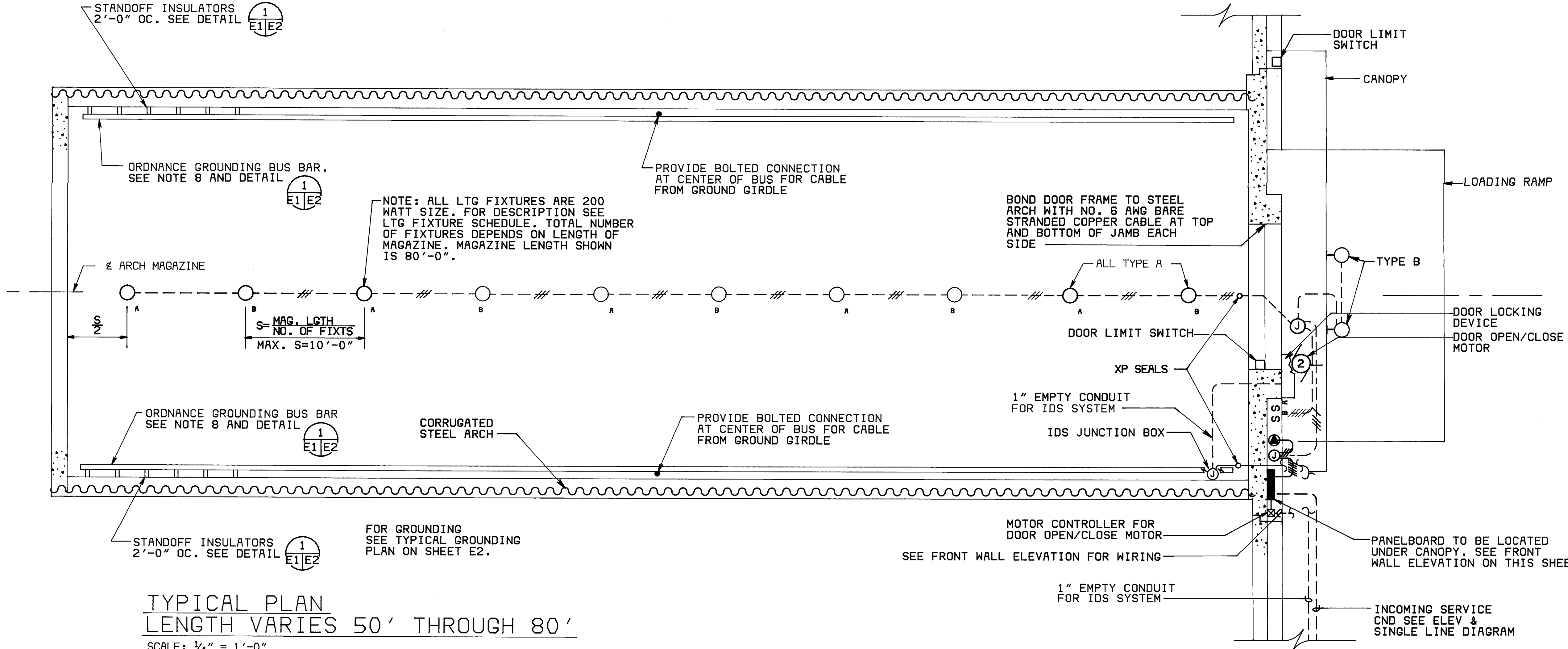
CONSTR. CONTR. NO.
SCALE AS NOTED SPEC. NFSS - M19 SHEETS 100F



VENTILATION SCHEDULE		
OUTSIDE DESIGN TEMPERATURE	LENGTH OF MAGAZINE	
	50' TO 80'	LESS THAN 50'
ABOVE 90°F (32°C)	STACK 10"Ø - 2 EA	8"Ø - 2 EA
30°F (-1°C) TO 90°F	STACK 8"Ø - 2 EA	10"Ø - 1 EA
BELOW 30°F (-1°C)	STACK 10"Ø - 1 EA	8"Ø - 1 EA



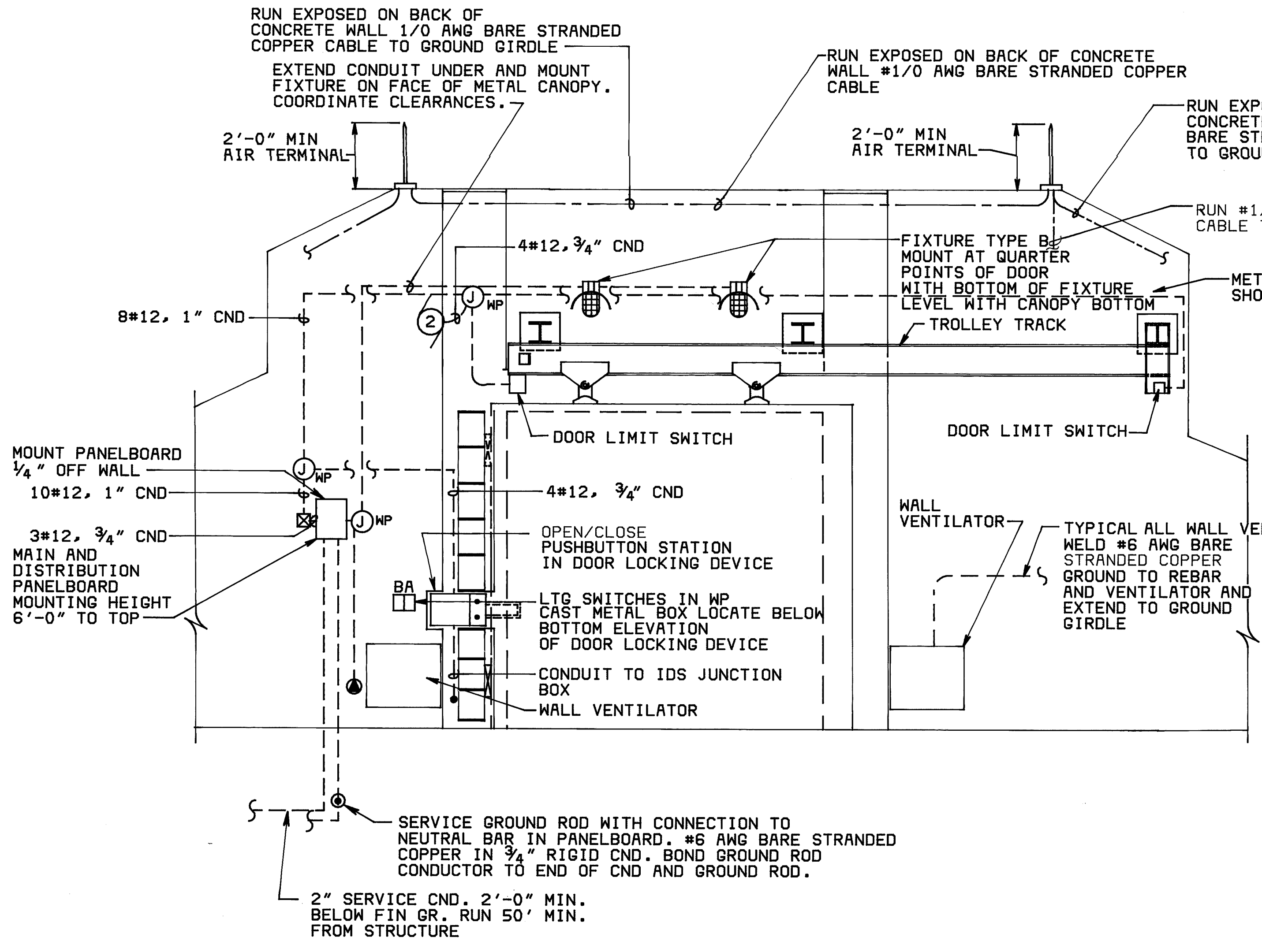
REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



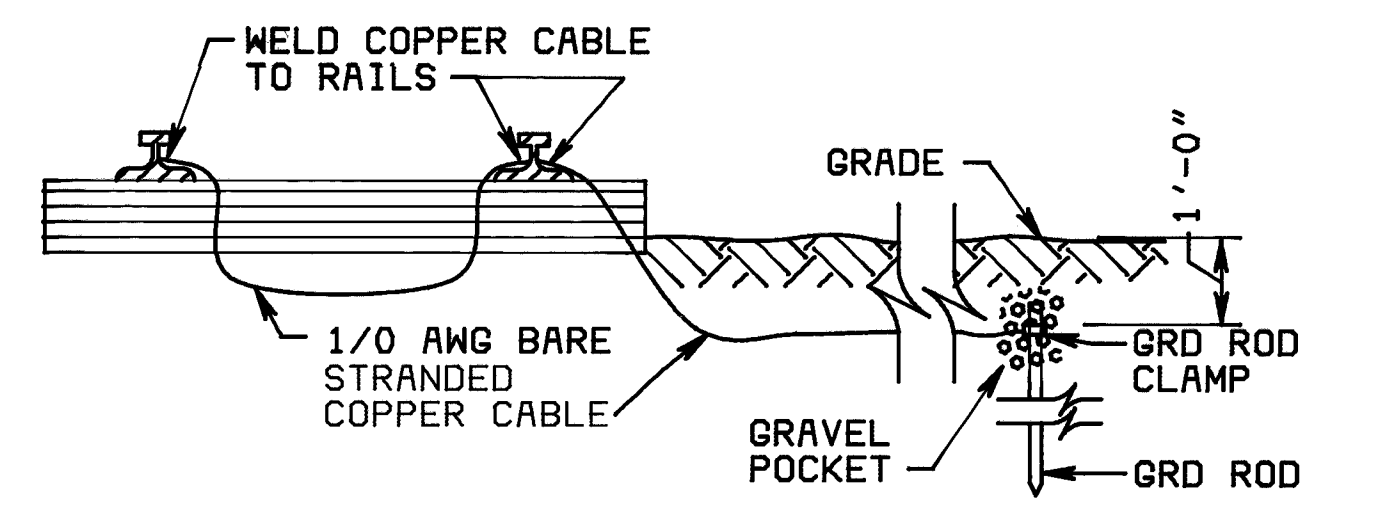
- ### LEGEND
- LIGHTING FIXTURE - CEILING TYPE A
 - LETTER DENOTES SWITCH CONTROL
 - LIGHTING FIXTURE - BRACKET TYPE B
 - SINGLE RECEPTACLE - GND TYPE - 20A, 125V, 3P
 - JUNCTION BOX, WALL MOUNTED
 - S_{A,B} LOCAL SWITCH WITH PILOT LIGHT - SP-20A, 120/277V (SUBSCRIPT DENOTES FIXTURE CONTROL)
 - DISTRIBUTION PANELBOARD 120/240V, 1Ø, 3W, S/N, SOLID GROUND BUS IN NEMA 3R ENCLOSURE
 - EXPLOSION PROOF SEAL FITTING IN CONDUIT RUN
 - //-- WIRING IN RIGID CONDUIT - EXPOSED (CROSS MARKS DENOTE NUMBER OF WIRES WHEN OTHER THAN TWO)
 - GROUNDING CONDUCTOR AS DESCRIBED (SEE NOTE 5)
 - ⊙ GROUND ROD (DRIVEN IN EARTH) W/TEST POCKET
 - CONTINUOUS BURIED GND GIRDL - NO. 1/0 AWG BARE STRANDED COPPER CABLE - 1'-6" MIN. BELOW GRADE EXCEPT 2'-0" MIN. UNDER ROADWAY (SEE NOTE 6)
 - XP EXPLOSION PROOF
 - WP WEATHER PROOF
 - ② MOTOR - NUMBER DENOTES HORSEPOWER
 - ▷ CABLE TO CABLE CONNECTION BY EXOTHERMIC WELD PROCESS
 - ⊠ MOTOR CONTROLLER

- ### NOTES
- INTERIOR ELECTRICAL EQUIPMENT AND ITS INSTALLATION SHALL CONFORM TO NATIONAL ELECTRICAL CODE NFPA 70 LATEST REVISION FOR THE TYPE OF HAZARDOUS LOCATION INVOLVED AND AS A MINIMUM CLASS I, DIVISION II, GROUP D AND CLASS II, DIVISION II, GROUP G.
 - RACEWAY SHALL BE RIGID STEEL, THREADED CONDUIT MIN. SIZE 3/4".
 - CONDUCTORS SHALL BE COPPER WITH RHM OR THM INSULATION (EXCEPT GROUND CONDUCTOR). MINIMUM SIZE NO. 12AWG.
 - GROUND RODS SHALL BE INSTALLED IN UNDISTURBED EARTH AND SHALL NOT BE LOCATED IN OR UNDER PAVING OF ANY KIND OR IN ANY UNPAVED WALK, PATH OR ROADWAY.
 - FOR GENERAL GROUNDING REQUIREMENTS REFER TO NAVFAC STANDARD SPECIFICATION M19.
 - WHERE GROUND GIRDL IS LOCATED UNDER ROADWAY THE CABLE SHALL BE INSTALLED IN HEAVY WALL RIGID PVC CONDUIT FOR PHYSICAL PROTECTION.
 - FOR DETAILS OF STEEL ARCH GROUNDING CONNECTIONS SEE NAVFAC DWG 1404342.
 - ORDNANCE GROUNDING BUS BAR SHALL BE FOR EQUIPMENT GROUNDING ONLY AND SHALL HAVE ONE POINT GROUND CONNECTION TO THE GROUND GIRDL AS SHOWN, AND SHALL OTHERWISE BE COMPLETELY ISOLATED FROM ALL OTHER METAL PARTS AND/OR GROUND CONNECTIONS OF THE STRUCTURE. BUS BARS ARE REQUIRED IN A LIMITED NUMBER OF MAGAZINES ONLY.

TYPICAL PLAN
LENGTH VARIES 50' THROUGH 80'
SCALE: 1/4" = 1'-0"

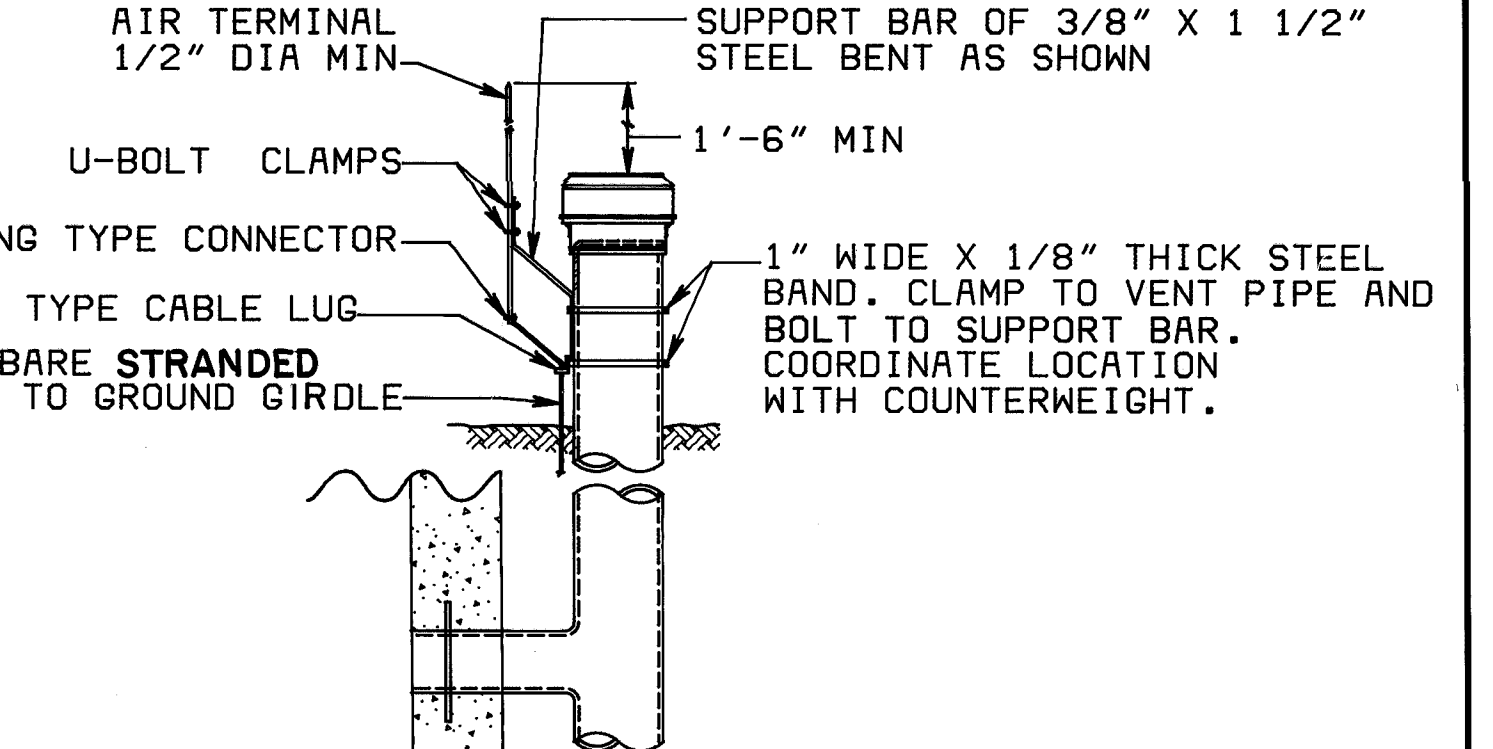


FRONT WALL ELEVATION
SCALE: 3/8" = 1'-0"

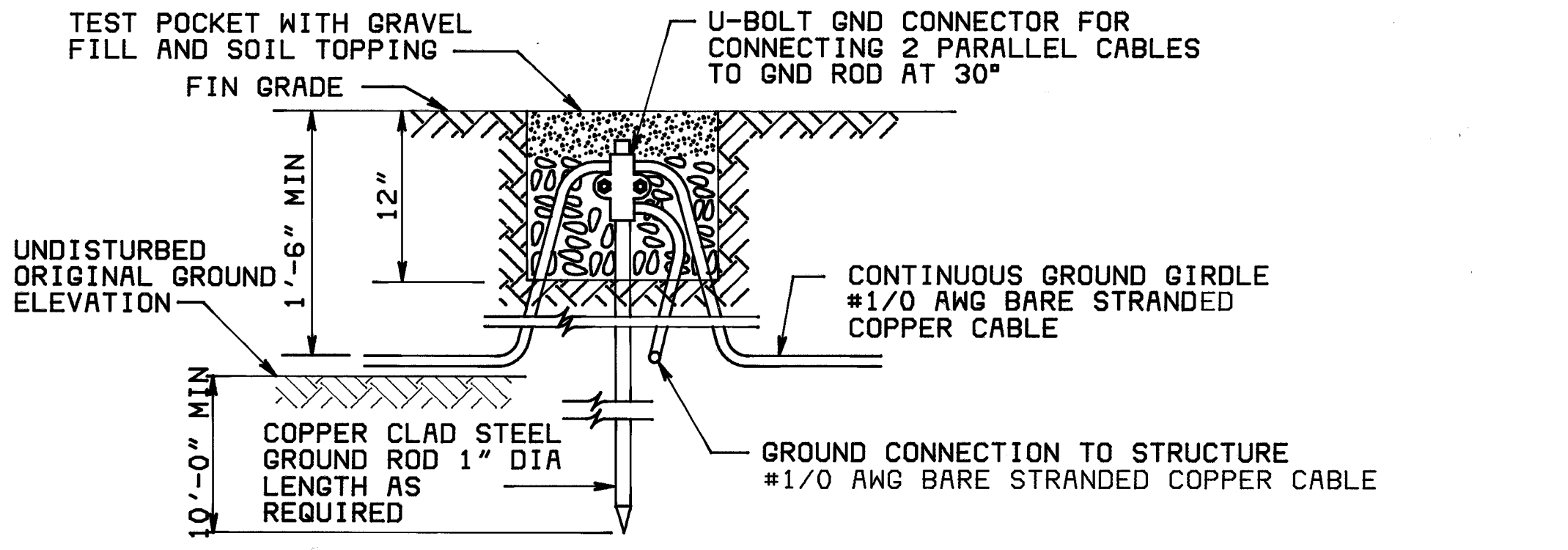


DETAIL-GROUNDING OF RR TRACK
NO SCALE

- ### NOTES - GROUNDING
- ALL REINFORCING STEEL IN BUILDING, PLATFORM, RETAINING WALLS, PAVEMENT IN FRONT OF BUILDING, AND ALL METAL PARTS AND EQUIPMENT IN BUILDING SHALL BE BONDED TO GROUND GIRDL. CONNECTIONS SHALL BE NO. 6 AWG MIN. BARE STRANDED COPPER WIRE OR EQUIVALENT CAPACITY COPPER BRAID STRAP.



VENTILATOR GROUNDING
DETAIL NO SCALE



TYPICAL GND ROD INSTALLATION
NO SCALE

GRAPHIC SCALES

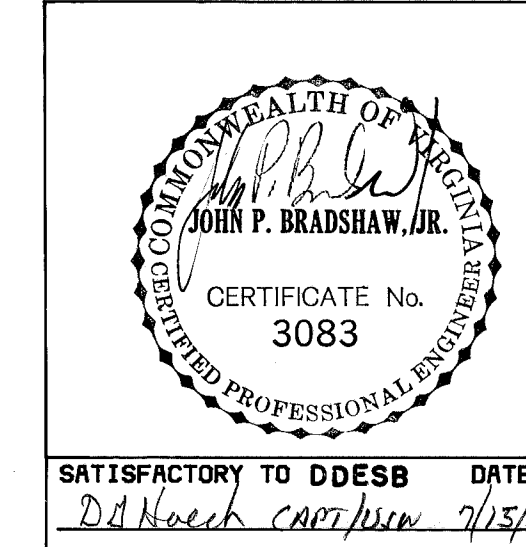
1/4" = 1'-0" 4' 2' 0 4' 8'

12' 6" 0 1' 2' 3' 4' 5' 6' 7'

3/8" = 1'-0"

METRIC CONVERSIONS

1/8" = 3MM	6'-0" = 1829MM
1/4" = 6MM	10'-0" = 3050MM
3/8" = 10MM	20'-0" = 6096MM
1/2" = 13MM	50'-0" = 15.3M
3/4" = 19MM	
1" = 25MM	
1 1/2" = 38MM	
2" = 51MM	
1'-0" = 305 MM	
1'-6" = 457MM	
1'-8" = 508MM	
2'-0" = 610MM	



HAYES, SEAY, MATTERN & MATTERN ARCHITECTS, ENGINEERS, PLANNERS AND SURVEYORS, VIRGINIA

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
200 STOVALL STREET ALEXANDRIA, VA. 22302

STANDARD
EARTH-COVERED STEEL ARCH MAGAZINE

ELECTRICAL
PLANS AND DETAILS

NAVIFAC DRAWING NO. 1404341

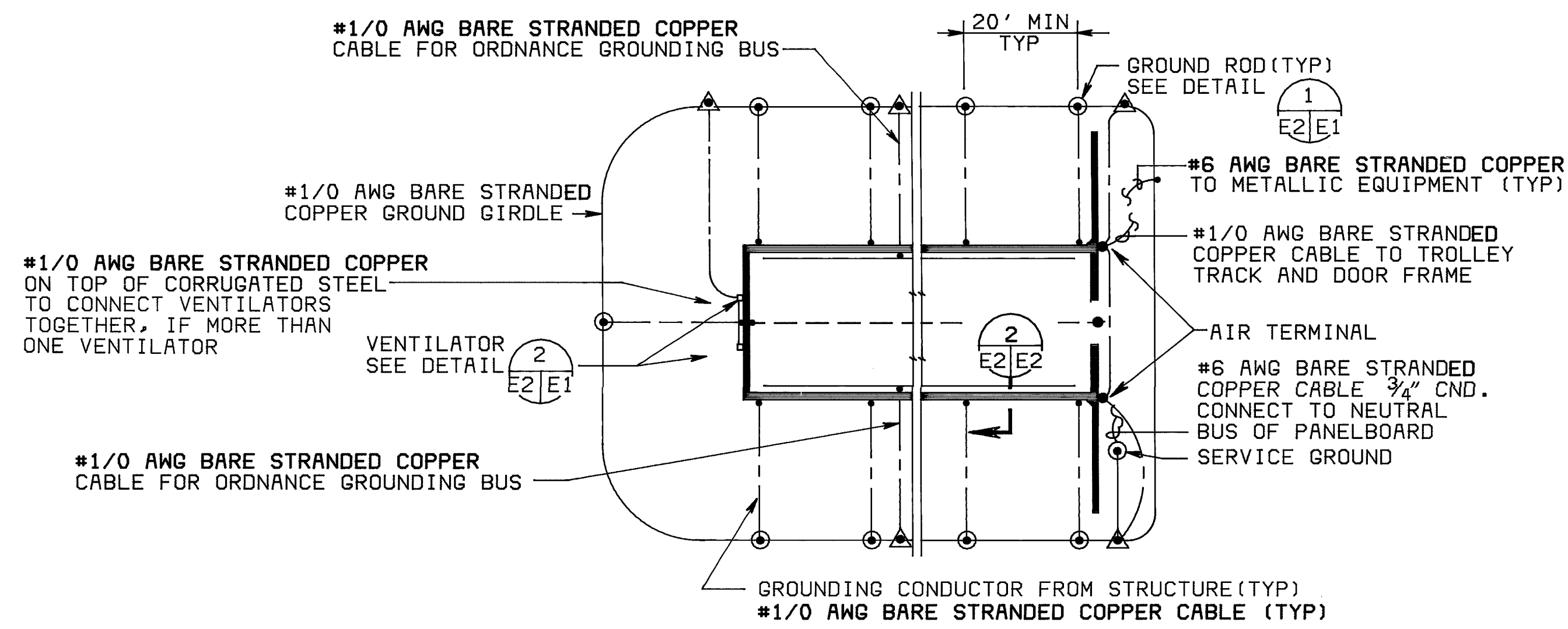
SIZE CODE IDENT. NO. NAVFAC DRAWING NO. F 80091

CONSTR. CONTR. NO.

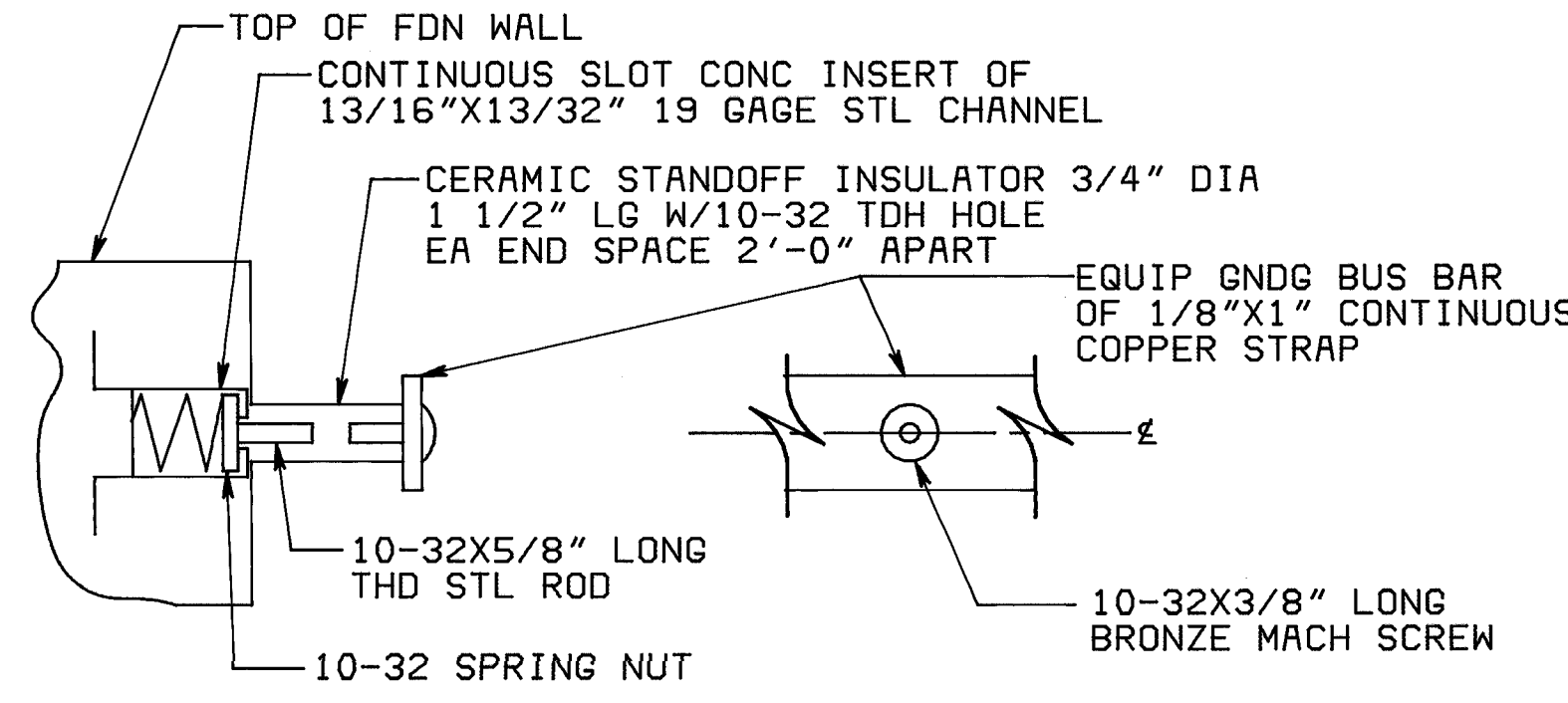
DATE 07-89

SCALE AS NOTED SPEC. NFSS- M19 SHEET E1 OF

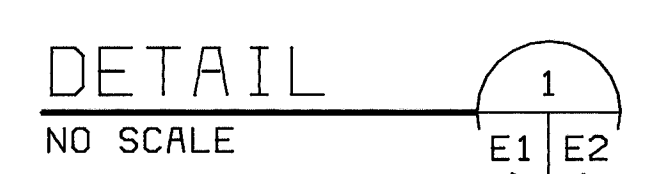
REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



TYPICAL GROUNDING PLAN
SCALE: 1" = 20'-0"

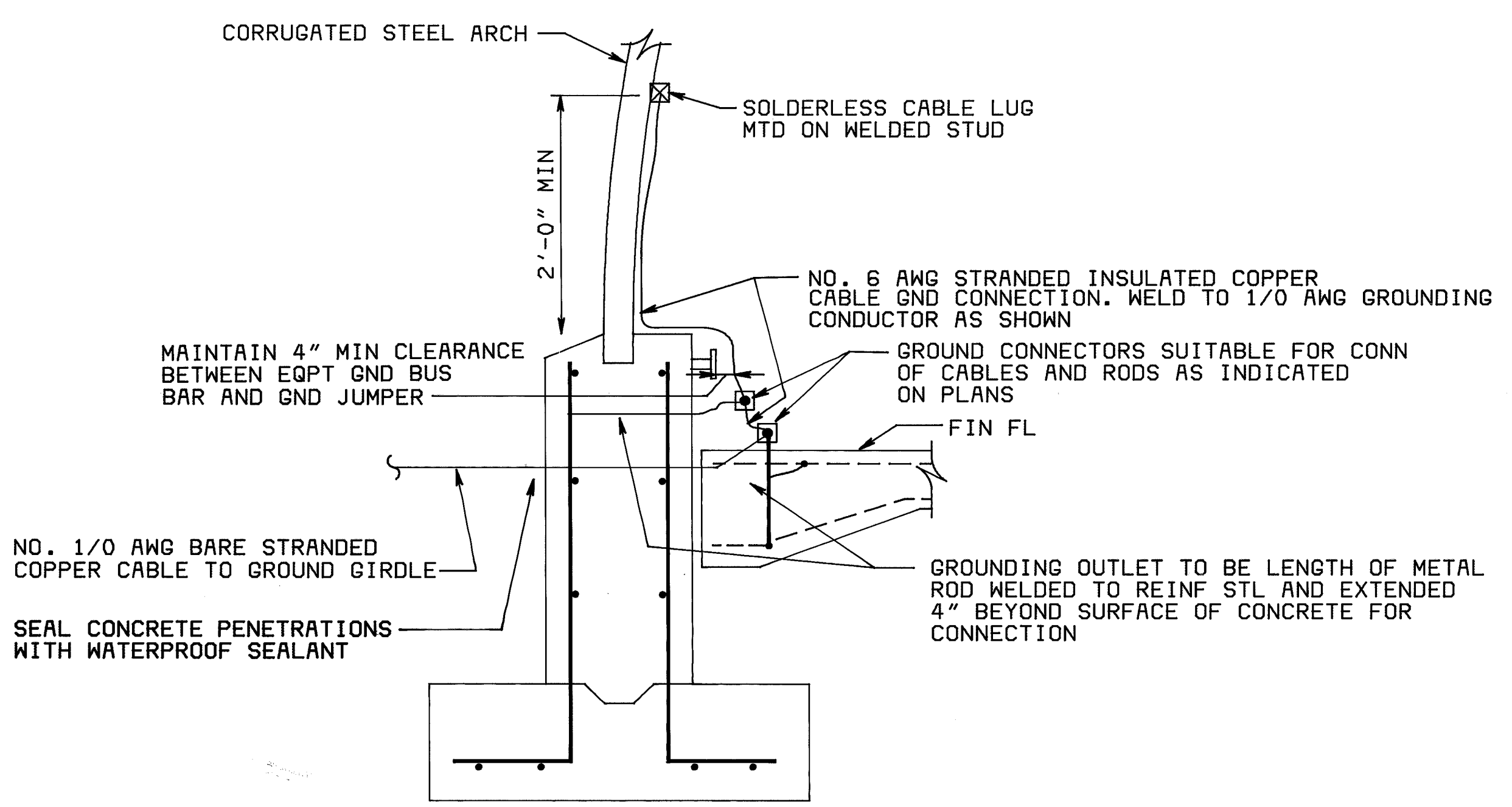


SECTION FRONT VIEW
ORDNANCE GROUNDING BUS BAR

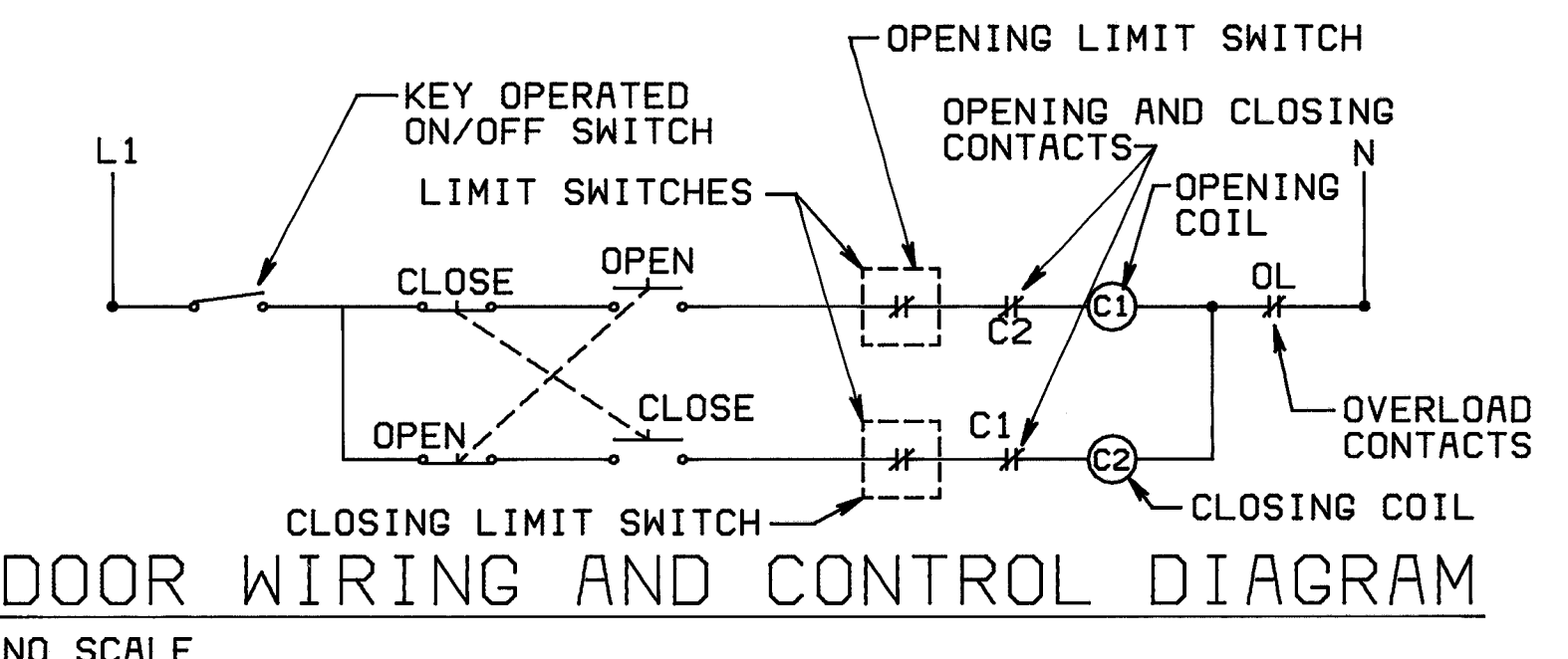


DETAIL 1
NO SCALE

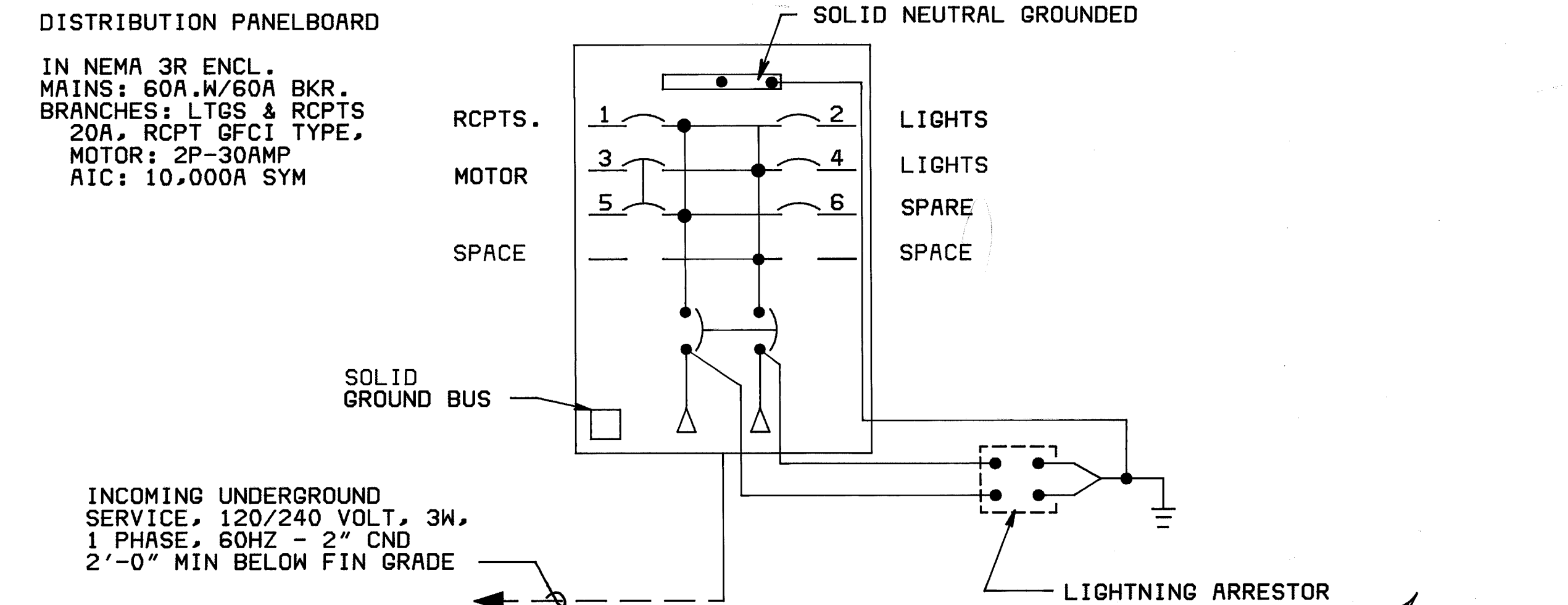
ELECTRICAL LOAD SCHEDULE												
ARCH TYPE	MAGAZINE SIZE		EXTERIOR				INTERIOR				MOTOR	PANEL TOTAL (1 MAG) (KW) *
	WIDTH (FT)	LENGTH (FT)	LGT FIX	RECP	LGT FIX	RECP	RECP	RECP	QTY	SIZE		
1	25	80	2	200	1	900	10	200	0	1	2 HP 2880	6.2
2	25	50	2	200	1	900	5	200	0	1	2 HP 2880	5.2
* CONNECTED LOAD												



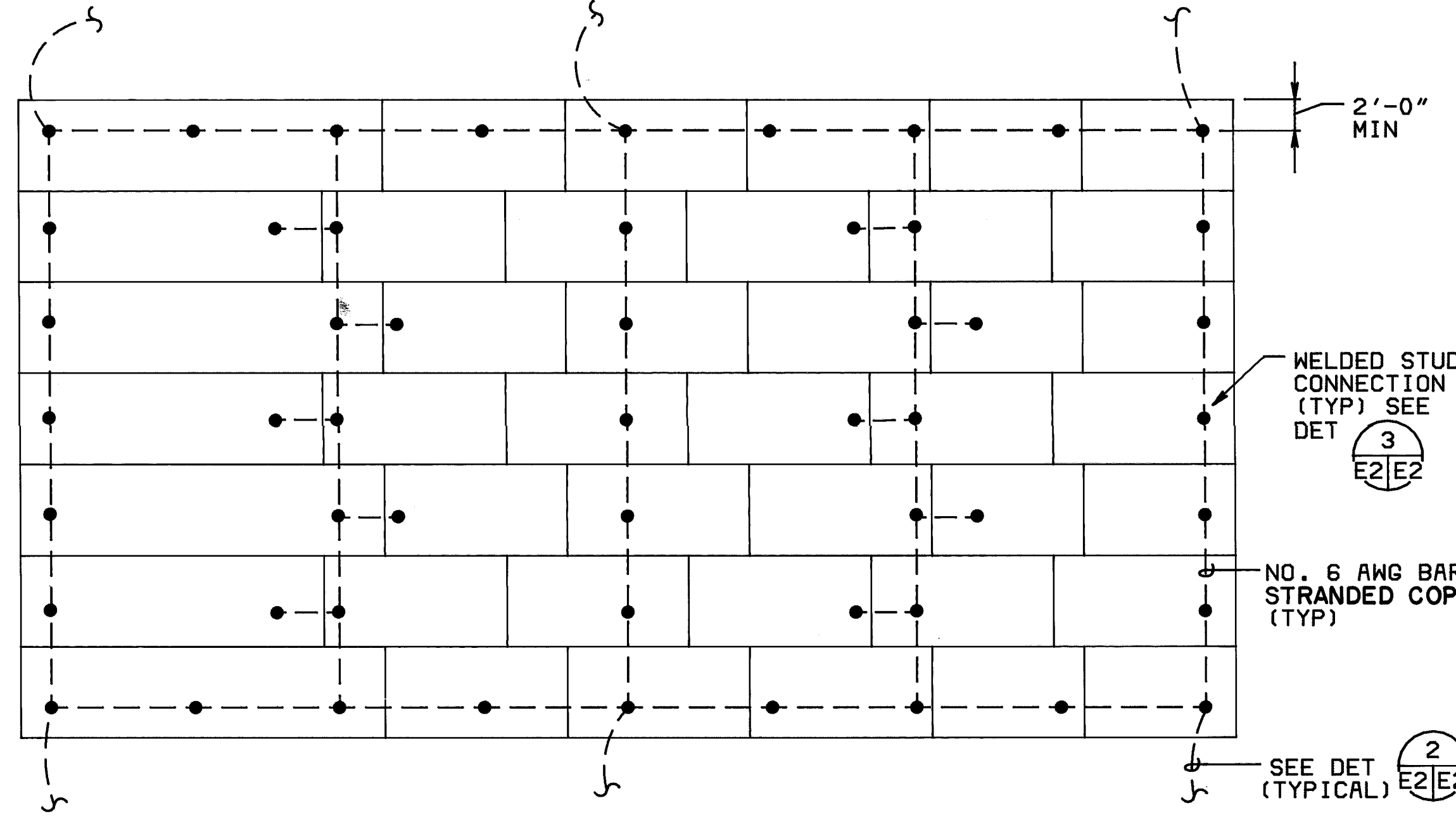
TYPICAL GROUND CONNECTIONS
SECTION 2
NO SCALE



DOOR WIRING AND CONTROL DIAGRAM
NO SCALE

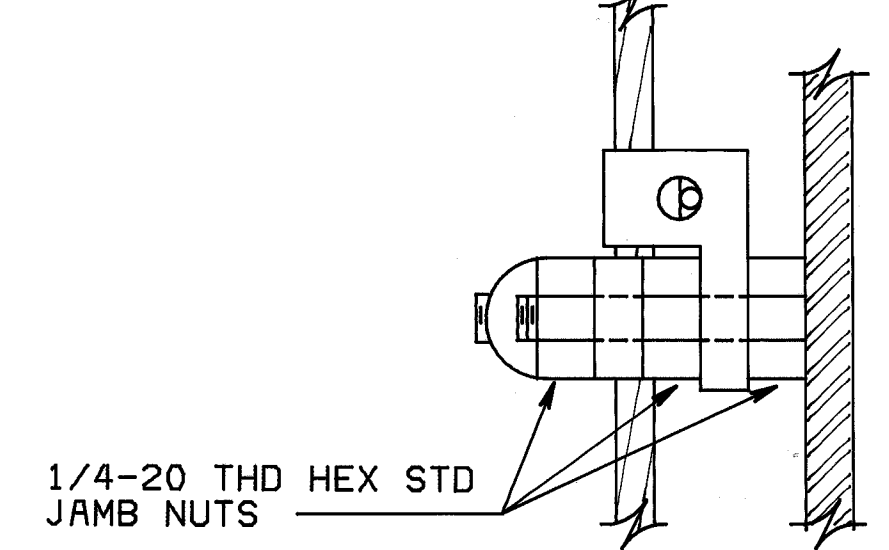


ELECTRICAL SERVICE SINGLE LINE DIAGRAM
NO SCALE

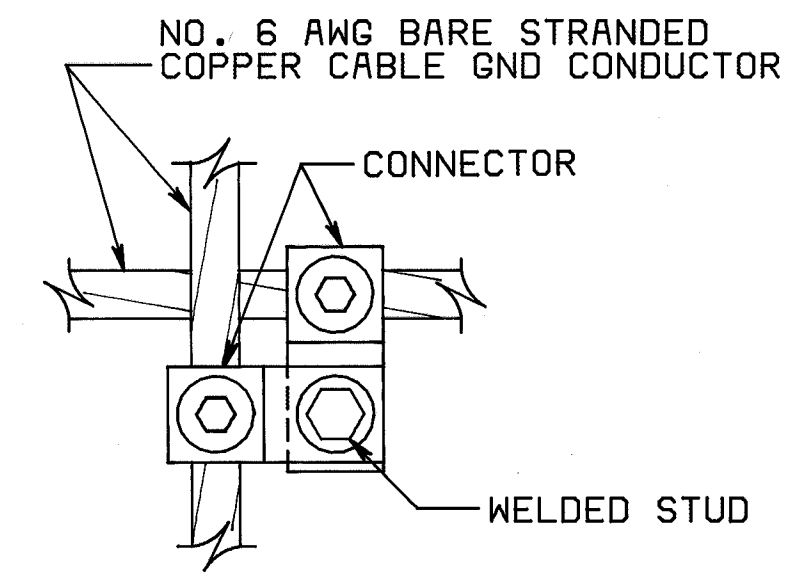


PLAN STEEL ARCH GROUNDING CONNECTIONS
SCALE: 1/8" = 1'-0"

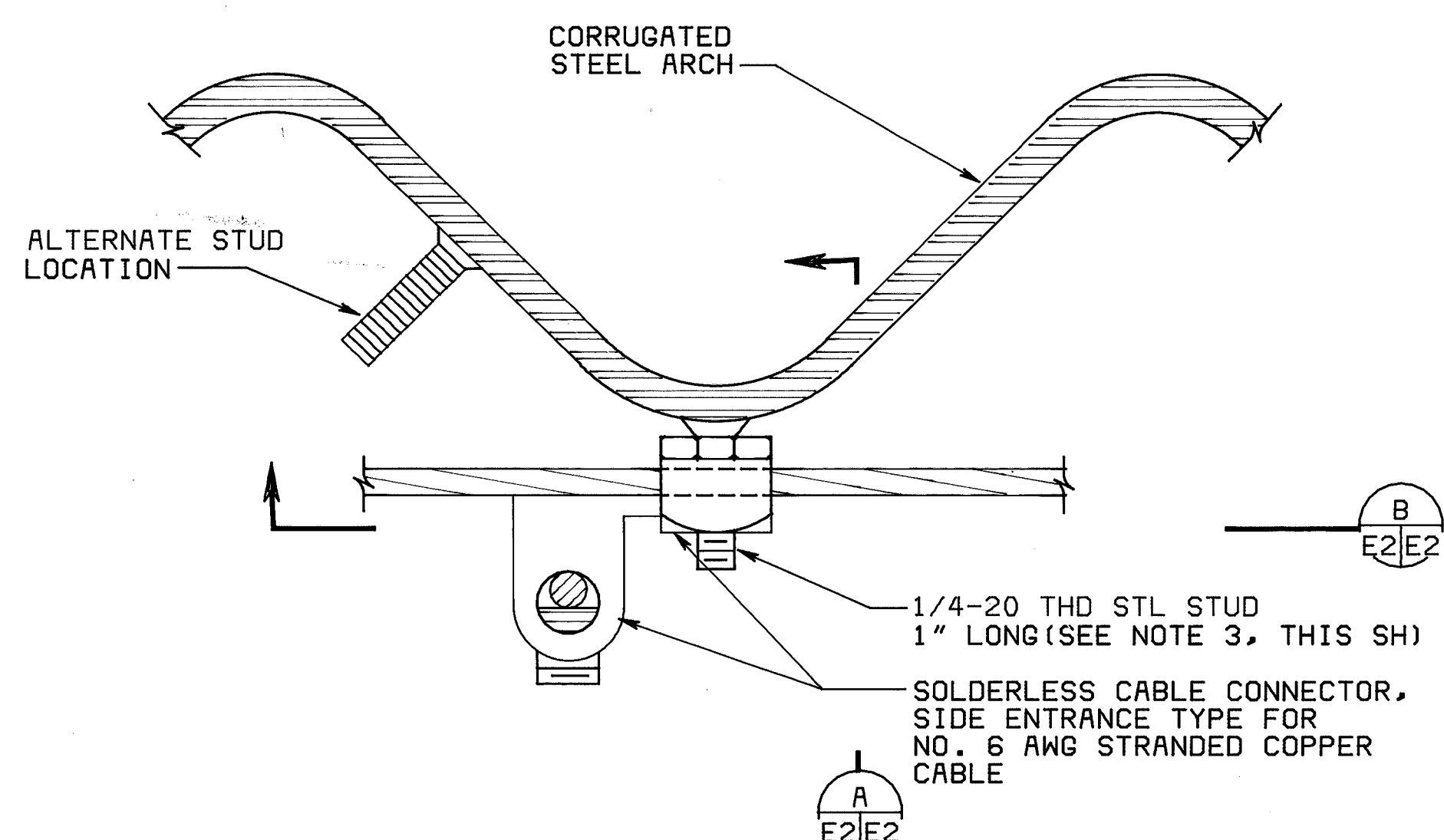
LIGHTING FIXTURE SCHEDULE		
TYPE	DESCRIPTION	SIZE
A	EXPLOSION PROOF INCANDESCENT CEILING MOUNTED ASSEMBLY WITH CLEAR LAMP, GLOBE, GUARD AND DOME REFLECTOR SUITABLE FOR HAZARDOUS LOCATION CLASS I, DIV II, GROUP D AND CLASS II, DIV II, GROUP G.	200W
B	VAPOR TIGHT INCANDESCENT WALL MOUNTED FIXTURE, ENCLOSED AND GASKETED, WITH CLEAR LAMP, GLOBE, GUARD AND 30° ANGLE REFLECTOR - TO BE OPERATED BY PHOTO-CELL MOUNTED ABOVE FIXTURE.	200W



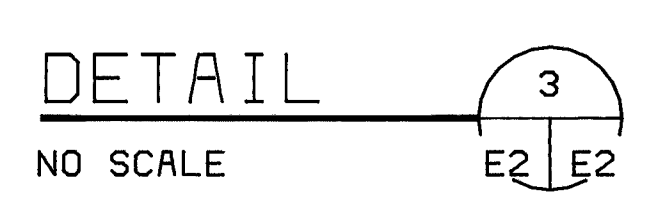
SECTION A
NO SCALE



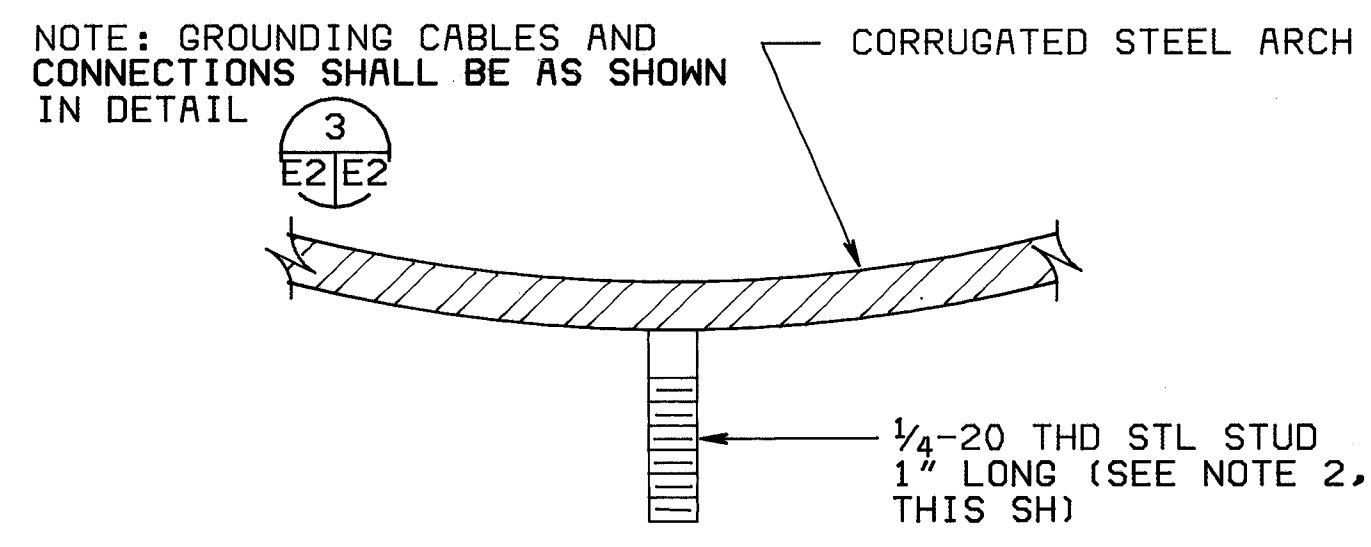
SECTION B
NO SCALE



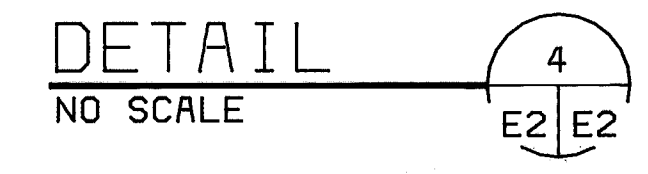
WELDED STUD GROUND CONNECTION



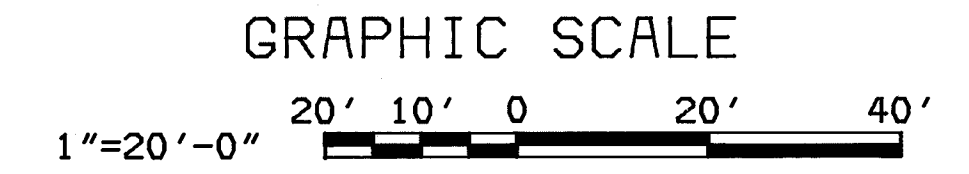
DETAIL 3
NO SCALE



TYPICAL WELDED STUD



DETAIL 4
NO SCALE



GRAPHIC SCALE

NOTES:

- REQUIREMENT: DUE TO SEALING OF JOINTS AND DAMP-PROOFING REQUIRED BY NAVFAC STANDARD SPECIFICATIONS M19 INDIVIDUAL STEEL ARCH PLATES (OR MODULAR PANELS) ARE EFFECTIVELY ELECTRICALLY ISOLATED FROM EACH OTHER AND FROM THE EARTH. THE GROUNDING CONNECTIONS SHOWN ON THIS DRAWING SHALL BE APPLIED TO MEET THE ELECTRICAL BONDING REQUIREMENTS OF THE STANDARD SPECIFICATIONS
- CONNECTIONS: THE GROUNDING CONNECTIONS SHOWN SHALL BE INSTALLED ON THE INTERIOR SURFACE OF THE STEEL ARCH. FOR DETAILS OF THE INTERCONNECTIONS BETWEEN STEEL ARCH AND GROUNDING SYSTEM SEE DETAILS THIS SHEET.
- WELDED STUDS: WELDED STUDS SHALL BE OF THE SIZE AND THE TYPE SHOWN AND SHALL BE INSTALLED BY THE SHIELDED ELECTRIC ARC OR CAPACITOR-DISCHARGE STUD WELDING PROCESS AS APPROPRIATE FOR MATERIAL THICKNESS, BY MEANS OF MANUAL PORTABLE STUD-WELDING EQUIPMENT DESIGNED FOR THE PURPOSE. STUDS SHALL BE LOCATED AS SHOWN ON THE PLANS WITH A MINIMUM OF ONE STUD PER PLATE OR PANEL AND ADDITIONAL STUDS AS REQUIRED TO PROVIDE ADEQUATE SUPPORT OF THE GROUNDING CONDUCTORS. WHERE THE WELDING PROCESS DESTROYS THE GALVANIZING ON THE ARCH STEEL THE AREAS SHALL BE RECOATED BY ZINC SPRAYING TO PROVIDE PROTECTION AGAINST CORROSION WHILE MAINTAINING ELECTRICAL CONDUCTIVITY.
- ALL REINFORCING STEEL IN BUILDING, PLATFORM, RETAINING WALLS, PAVEMENT IN FRONT OF BUILDING, AND ALL METAL PARTS AND EQUIPMENT IN BUILDING SHALL BE BONDED TO GROUND GIRDL. CONNECTIONS SHALL BE NO. 6 AWG MIN BARE STRANDED COPPER WIRE OR EQUIVALENT CAPACITY COPPER BRAID STRAP.

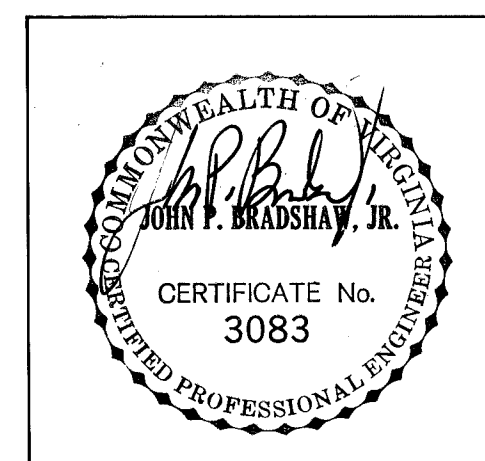
NOTE: GROUNDING CABLES AND CONNECTIONS SHALL BE AS SHOWN IN DETAIL



DETAIL 3
NO SCALE

METRIC CONVERSIONS			
1/8" =	3MM	2'-0" =	610MM
1/4" =	6MM	20'-0" =	6096MM
3/8" =	10MM	25'-0" =	7630MM
1/2" =	13MM	50'-0" =	15.3M
5/8" =	16MM	80'-0" =	24.4M
3/4" =	19MM		
13/16" =	21MM		
1" =	25MM		
1 1/2" =	38MM		
4" =	102MM		
1'-0" =	305MM		
1'-6" =	457MM		

CHECK GRAPHIC SCALES BEFORE USING



NAVY ARCHITECTS ENGINEERS PLANNERS
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ROANOKE, VIRGINIA

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STANDARD
EARTH-COVERED STEEL ARCH MAGAZINE
ELECTRICAL
SCHEDULES AND SINGLE LINE DIAGRAM

NAVFAC DRAWING NO. 1404342
CONSTR. CONTR. NO.
F 80091

DATE: 11/15/62
APPROVED: [Signature]
DATE: 8-1-64