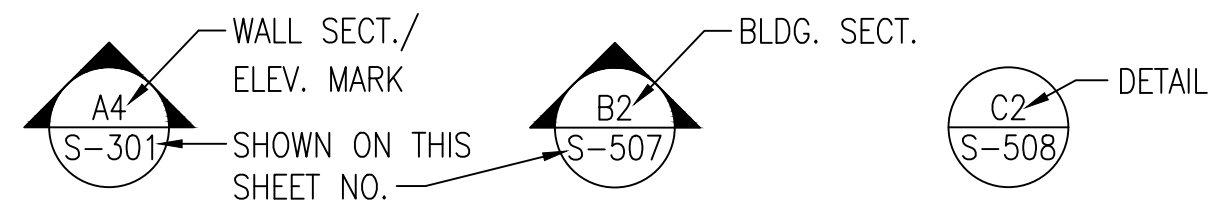


GENERAL NOTES

MATERIALS AND CONSTRUCTION

- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF $f'c = 4,000$ psi AT 28 DAYS AND SHALL HAVE A MINIMUM DENSITY OF 145 PCF.
- ALL REINFORCING BARS SHALL CONFORM TO THE SPECIFICATION FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT, ASTM A615, GRADE 60
- CONCRETE AGGREGATE SHALL HAVE A MAXIMUM SIZE OF 1 INCH.
- ALL REINFORCING BARS SHALL BE CONTINUOUS IN ANY ONE DIRECTION EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS. PROVIDE CLEAR COVER IF NOT SHOWN PER ACI 318 RECOMMENDATIONS.
- EXCEPT AS NOTED, ALL CONCRETE CONSTRUCTION AND DETAILING SHALL CONFORM TO THE LATEST STANDARDS OF THE ACI DETAILING MANUAL (SP-66), AND BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).
- EXCEPT FOR WELDED WIRE FABRIC, NO WELDING OF REINFORCING BARS SHALL BE PERMITTED UNLESS INDICATED ON DRAWINGS.
- STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO THE STANDARD SPECIFICATION FOR STRUCTURAL STEEL SHAPES, ASTM A-992 GRADE 50.
- STRUCTURAL RETANGULAR HSS SHALL CONFORM TO THE STANDARD SPECIFICATION ASTM A500 GRADE C.
- STRUCTURAL STEEL CHANNELS, ANGLES, PLATES AND BARS SHALL CONFORM TO THE STANDARD SPECIFICATION FOR CARBON STRUCTURAL STEEL ASTM A572 GRADE 50.
- METAL ROOFING AND SIDING SHALL CONFORM TO THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), LATEST EDITION.
- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), LATEST EDITION.
- WELDING FOR STRUCTURAL STEEL SHALL CONFORM TO THE STRUCTURAL WELDING CODE, AWS D1.1, LATEST EDITION.
- ANCHOR BOLTS AND ALL-THREADED ANCHOR RODS MUST CONFORM TO ASTM F1554, GRADE 36, UNLESS OTHERWISE NOTED. NUTS MUST CONFORM TO ASTM A563. HIGH STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS MUST CONFORM TO ASTM A325. ALL BOLTS SHALL HAVE THREADS EXCLUDED FROM THE SHEAR PLANE.
- ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH THE COATING AND PAINTING SPECIFICATIONS.
- TOP 12 INCHES OF SUBGRADE SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM STANDARD D1557
- UNLESS NOTED ON DRAWINGS, SPLICE AND DEVELOPMENT LENGTH OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TABLE S-104A.
- FOR FILLET WELD SIZES NOT SHOWN ON DRAWINGS, PROVIDE MINIMUM SIZE FILLET WELDS IN ACCORDANCE WITH WELDING CODE AWS D1.1, LATEST EDITION.
- UNLESS SHOWN OTHERWISE, ALL REINFORCING BAR HOOKS SHALL BE STANDARD HOOKS IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318, LATEST EDITION.



ELECTRICAL BONDING

- ALL STEEL DOORS AND FRAMES SHALL BE ELECTRICALLY BONDED TO THE MAGAZINE REINFORCING CAGE.
- ALL STRUCTURAL AND MISCELLANEOUS ITEMS EMBEDDED IN CONCRETE SHALL BE ELECTRICALLY BONDED TO THE REINFORCING CAGE BY WIRE TIES.
- THE REINFORCING CAGE SHALL BE MADE ELECTRICALLY CONTINUOUS BY WIRE TIES AT A MINIMUM OF 4'-0" ON CENTERS IN ANY DIRECTION.
- ALL WALL AND CONSTRUCTION JOINTS SHALL BE ELECTRICALLY BONDED. SEE THE ELECTRICAL DRAWINGS FOR DETAILS.

DESIGN LOADS

1. STATIC LOADS:

- A. ROOF DEAD LOAD (1 1/2 FT. EARTH FILL +6" GRAVEL) = 200 PSF
- B. FLOOR LOADS
 - a) UNIFORM STORAGE LIVE LOAD = 2000 PSF
 - b) FORKLIFT WHEEL LOAD:
 - BASED ON DREXEL MODEL NO. SL-88-ESS = 8000 LB MAX LOAD
 - MAXIMUM WHEEL LOAD = 26,000 LBS
 - WHEEL CONTACT AREA = 65 SQ. IN.
- C. ROOF LIVE LOAD = 100 PSF

2. SEISMIC DESIGN DATA:

- A. OCCUPANCY CATEGORY ----- III
- B. IMPORTANCE FACTOR ----- 1.25
- C. SEISMIC DESIGN CATEGORY ----- "D"
- D. SITE SEISMICITY ----- $S_s = 1.95g$
 $S_1 = 0.75g$
- E. SITE CLASS ----- "D"

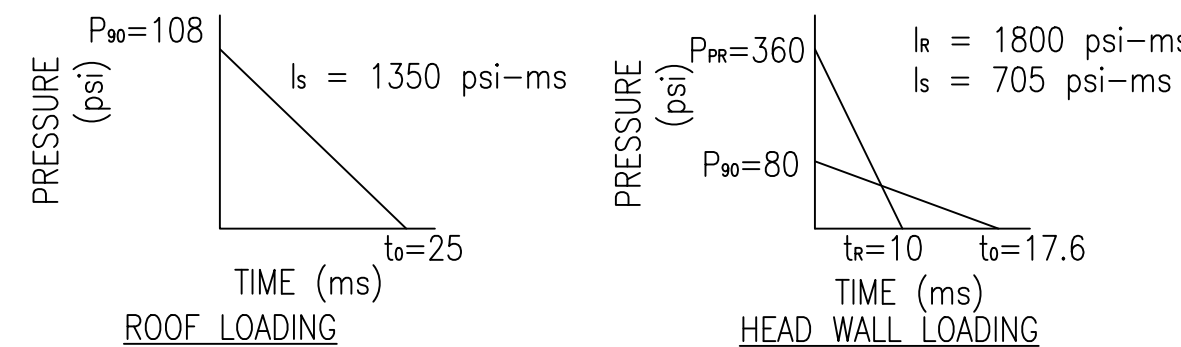
3. WIND DESIGN DATA:

- A. DESIGN WIND SPEED ----- 132 MPH
- B. EXPOSURE ----- "C"
- C. OCCUPANCY CATEGORY ----- III
- D. IMPORTANCE FACTOR ----- 1.15

4. BLAST LOADS:

ORIGINAL BLAST DESIGN BASED ON INTERMAGAZINE SEPARATION DISTANCES FOR NET EQUIVALENT WEIGHT EXPLOSIVE EQUAL TO 350,000 LBS (W) AS FOLLOWS:

- A. ROOF DESIGN: DONOR MAGAZINE AT 141' (2 X $W^{1/3}$) TO THE REAR OF THE ACCEPTOR MAGAZINE
- B. HEADWALL DESIGN: DONOR MAGAZINE AT 141' (2 X $W^{1/3}$) TO THE FRONT OF THE ACCEPTOR MAGAZINE.



DESIGN SOIL DATA

- A. DESIGN SOIL BEARING PRESSURE ----- 4,000 PSF
- B. DESIGN DYNAMIC RESPONSE FACTOR (SOIL BEARING) ----- 2.5
- C. DESIGN LATERAL SOIL PRESSURE COEF.:
 - 1. MAGAZINE WALLS ----- 0.5
 - 2. WING WALLS ----- 0.3
- D. DESIGN COEF. OF FRICTION (CONC. ON SOIL) ----- 0.50
- E. MODULUS OF SUBGRADE REACTION ----- 150 PCI TO 250 PCI

DEFLECTION CRITERIA

MAXIMUM SUPPORT ROTATIONS OR DUCTILITY RATIO:

- A. ROOF SLAB = 8
- B. HEAD WALL = 6°
- C. HEADER BEAM = 2°
- D. PILASTERS $X_M/X_E = 3.0$
- E. BLAST DOORS = 12°

NOTES TO DESIGNER – REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

- FOUNDATIONS SHALL BE REVISED TO REFLECT SPECIFIC SITE SOIL CONDITIONS.
 - A. IF THE DEPTH OF FOOTINGS (SIDEWALLS, BACKWALL, COLUMNS, PILASTERS AND GRADE BEAMS) HAVE TO BE INCREASED EITHER BECAUSE OF THE DEPTH OF FROST OR TO OBTAIN SUITABLE SOIL BEARING CAPACITY AS SPECIFIED, THE VOLUME OF SOIL BETWEEN THE DEPTH OF THE FOOTING SHOWN ON THE DRAWING AND THE DEPTH REQUIRED SHALL BE REPLACED WITH CONCRETE.
 - B. RETAINING WALLS WHOSE FOOTING DEPTHS MUST BE INCREASED FOR FROST SHALL BE REDESIGNED. IF THE SOIL BEARING CAPACITY IS LESS THAN THAT SPECIFIED THEN THE RETAINING WALL FOOTINGS MUST BE REDESIGNED
- THE FLOOR SLAB AND TRENCH COVER MUST BE REDESIGNED IF WHEEL LOADING WILL BE SIGNIFICANTLY HIGHER THAN THE DESIGN LOADING. MUST BE VERIFIED AT LOCATIONS UTILIZING A SIDE LOADING LIFT TRUCK.
- DESIGN CONSIDERATIONS (TO BE COORDINATED WITH CONTRACTING OFFICER):
 - A.) HIGH SECURITY LOCKING DEVICE – STANDARD OR ILD (INTERNAL LOCKING DEVICE).
 - B.) LOADING PLATFORM OR CONCRETE PAD.
 - C.) HEAT TRACING REQUIREMENT (SEE NOTES TO DESIGNER ON SHEET E-001 & E-801).
 - D.) HAZARDOUS ELECTRICAL EQUIPMENT REQUIREMENT (SEE NOTES TO DESIGNER ON SHEET E-001).
 - E.) TEST WELL LOCATIONS (SEE NOTES TO DESIGNER ON SHEET E-103.)
- SHEETS S-513 & S-513(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER). IF ALT SHEET IS USED, RENAME TO ORIGINAL SHEET.
- SHEETS S-305 & S-305(ALT) AND S-511 & S-511(ALT) IDENTIFY DIFFERENT TRENCH PLUG SYSTEM. THE EOR WILL VERIFY THE CORRECT TRENCH PLATE/PLUG SYSTEM AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER). IF ALT SHEETS ARE USED, RENAME TO ORIGINAL SHEETS.
- PROVIDE COATING AND PAINTING SPECIFICATIONS AS PART OF THE CONSTRUCTION CONTRACT DOCUMENTS THAT REQUIRES THE FOLLOWING FOR THE STEEL SLIDING DOORS:
 - A. ALL DUST, DIRT, OIL, GREASE, WELD FLUX RESIDUE, LOOSE DIRT & OTHER FOREIGN MATTER THAT MAY INHIBIT COATING BOND TO STRUCTURAL STEEL SHALL BE REMOVED IN THE SHOP IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC), SPG.
 - B. EXCEPT FOR CONTACT SURFACES OF MOVING PARTS, ALL EXPOSED SURFACES OF STRUCTURAL STEEL SHALL RECEIVE 1.5 MIL (DRY) COAT OF ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645. UNEXPOSED SURFACES SHALL RECEIVE 1.0 MIL (DRY) COAT OF ASPHALT VARNISH CONFORMING TO FEDERAL SPECIFICATION TT-V-51. ALL PRIMER COATING SHALL BE PERFORMED IN THE SHOP.
 - C. ALL EXPOSED SURFACES OF STRUCTURAL STEEL SHALL RECEIVE TWO FIELD COATS OF COATING WITH A MINIMUM THICKNESS OF 4.0 MIL (DRY) CONFORMING TO FEDERAL SPECIFICATION TT-P-102 OR TT-P-37.
- LOADING PLATFORM CAN BE ADDED AS SITE ADAPT WHEN REQUIRED AS A MODIFICATION TO THE CURRENT DESIGN DRAWINGS. WHEN A LOADING PLATFORM IS USED, SITE PLAN SUBMITTALS MUST INCLUDE ENDORSEMENT LETTER FROM NAVFAC EXWC. THESE LETTERS ARE NOT REQUIRED TO BE SITE-SPECIFIC. CONTACT BRAD DURANT (NAVFAC EXWC EXPLOSION EFFECTS AND CONSEQUENCES DIVISION) AT BRADLEY.J.DURANT2.CIV@US.NAVY.MIL TO REQUEST A COPY OF THE APPROPRIATE ENDORSEMENT LETTER.
- THE HIGH SECURITY HASP INDICATED ON SHEET S-513 IS NO LONGER IN PRODUCTION. THE ILD ON S-513ALT MUST BE USED.

DEPARTMENT OF DEFENSE EXPLOSIVE SAFETY BOARD (DDESB) APPROVAL NOTES

- THIS STANDARD WAS APPROVED ORIGINALLY BY THE DDESB FOR CONSTRUCTION AS A 7-BAR STRUCTURE FOR EXPLOSIVE WEIGHTS UP TO 350,000 POUNDS OF (NEW) HAZARD DIVISION (HD) 1.1 MATERIAL. SUBSEQUENTLY THE STANDARD WAS APPROVED FOR EXPLOSIVE WEIGHTS UP TO 500,000 POUNDS (NEW).
- ANY DEVIATION FROM THE STANDARD APPROVED DRAWINGS, EXCEPT FOR FOUNDATION MODIFICATIONS, WITHOUT THE WRITTEN APPROVAL FROM THE DEPARTMENT OF DEFENSE EXPLOSIVE SAFETY BOARD (DDESB) MAY REQUIRE THE MAGAZINE TO BE CONSIDERED AN UNDEFINED MAGAZINE AND MAY SEVERELY RESTRICT THE ALLOWABLE STORAGE CAPACITY.

THESE DRAWINGS ARE BASED ON THE DEFINITIVE SET
 DESIGNED BY: AMMANN & WHITNEY, CONSULTING ENGINEERS
 PROJECT TITLE: STANDARD BOX MAGAZINE TYPE 'D'
 NAVFAC DRAWING NUMBER: 6448522 - 6448554 DATE: 17 MAY 1997
 NUMBER OF SHEETS: 33

THE STRUCTURAL DESIGN IN THESE UPDATED STANDARD DRAWINGS DOES NOT SUBSTANTIALLY DEVIATE FROM THE ORIGINAL STANDARD. SOME ASPECTS OF THE ELECTRICAL DESIGN HAVE BEEN MODIFIED FROM THE ORIGINAL STANDARD.

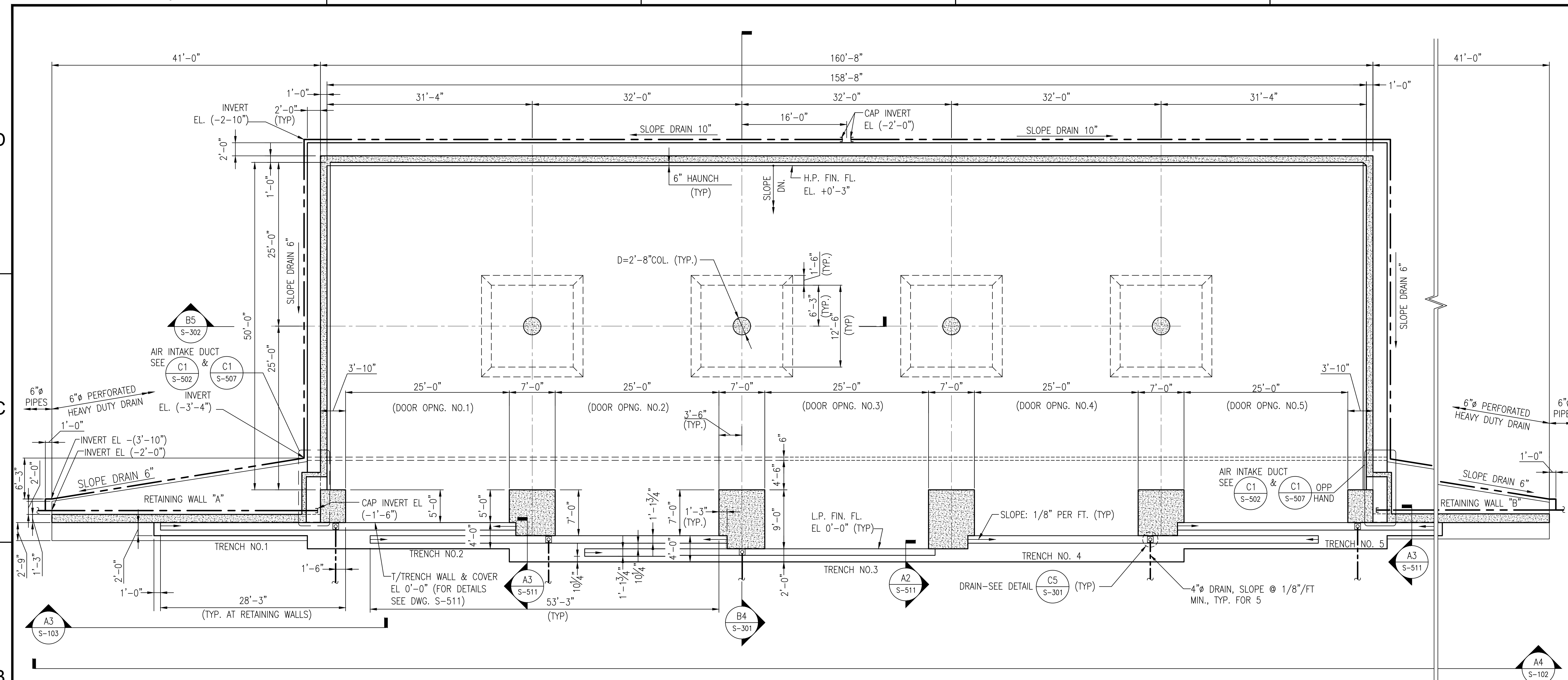
THESE STANDARD DRAWINGS SUPERSEDE NAVFAC STANDARD DRAWINGS 18232899 TO 18232936

DATE	09/14/22
DESCRIPTION	TYPE D STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YY
DRW	IWR
CHK	LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
NAVFAC DRAWING NO.	14084162
SHEET	1 of 40
S-001	

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
 DESIGN AND CONSTRUCTION
 TYPE D BOX MAGAZINE
 GENERAL NOTES

SCALE: AS NOTED
 PROJECT NO.:
 CONSTR. CONTR. NO.:
 NAVFAC DRAWING NO.: 14084162
 SHEET 1 of 40
S-001

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9dab18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-101 PLOTTED: Tuesday, June 06, 2023 - 9:21 am USER: kelle.cornino



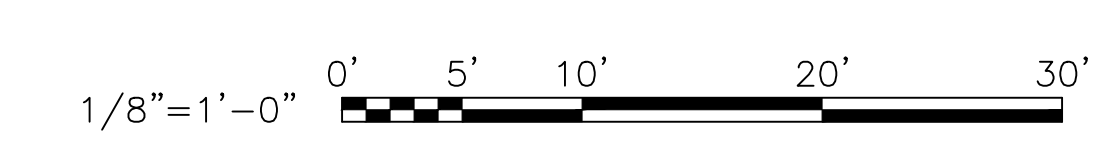
FLOOR PLAN


SCALE: 1/8" = 1'-0"

PLAN NOTES

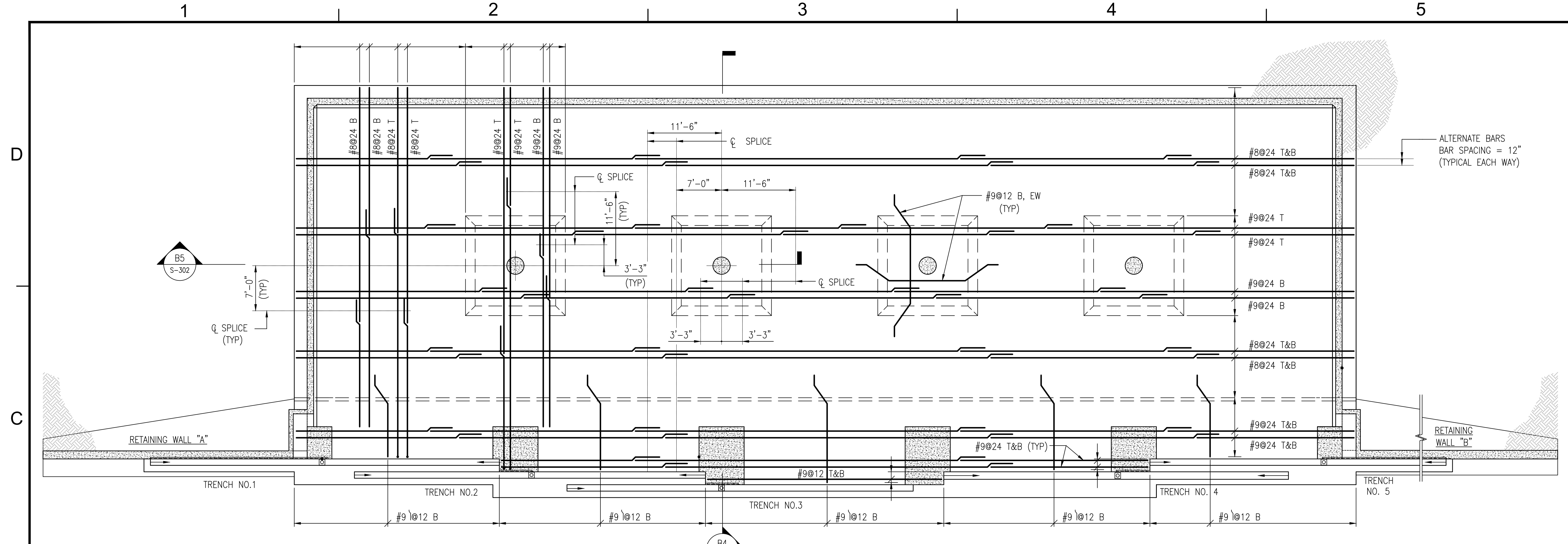
- DATUM ELEVATION 0'-0" TAKEN AS TOP OF TRENCH WALL AND TOP OF TRENCH COVER. FOR ACTUAL ELEVATION SEE CIVIL DRAWINGS.
- GROUND COVER SHALL BE DETERMINED BY GENERAL SITE FILL MATERIAL AND CLIMATIC CONDITIONS. (GROUND COVER MUST BE MAINTAINED AT MAXIMUM 6" HEIGHT.)

GRAPHIC SCALE:

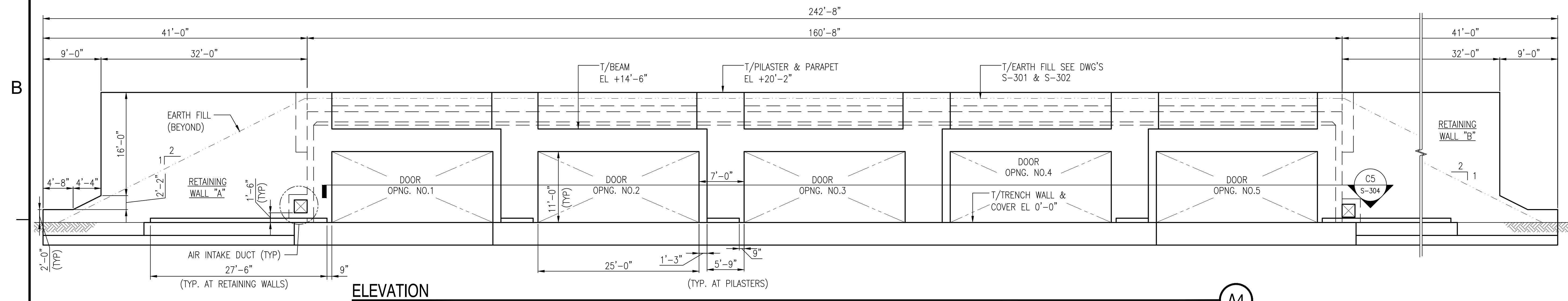


DATE	09/14/22
DESCRIPTION	TYPED STANDARD
	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YY
DES	DRW IWR CHK LMM
PMDDM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
TYPE D BOX MAGAZINE FLOOR PLAN	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.	14084163
SHEET	2 OF 40
S-101	
DRAWING REVISION: 25 AUGUST 2020	

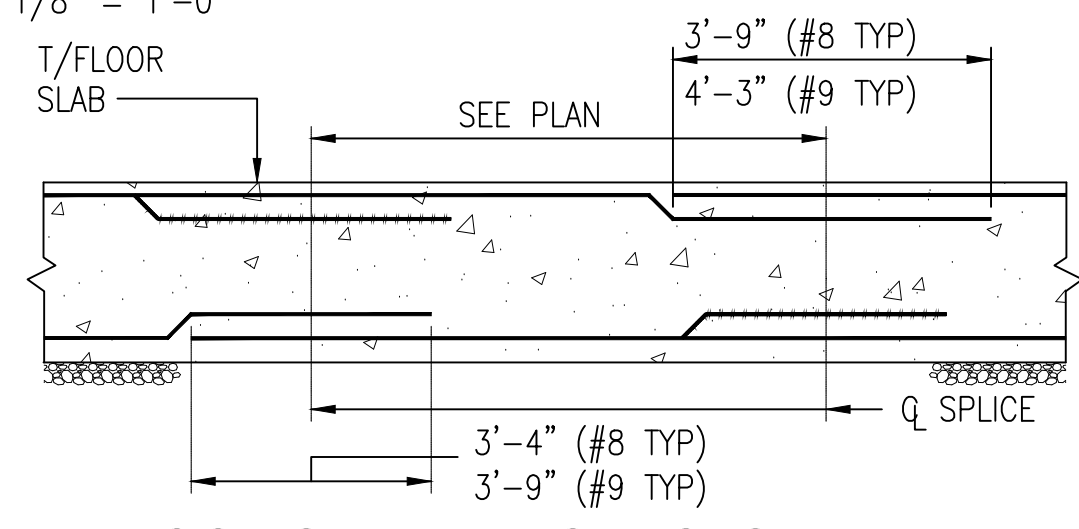
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FLOOR SLAB PLAN
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"

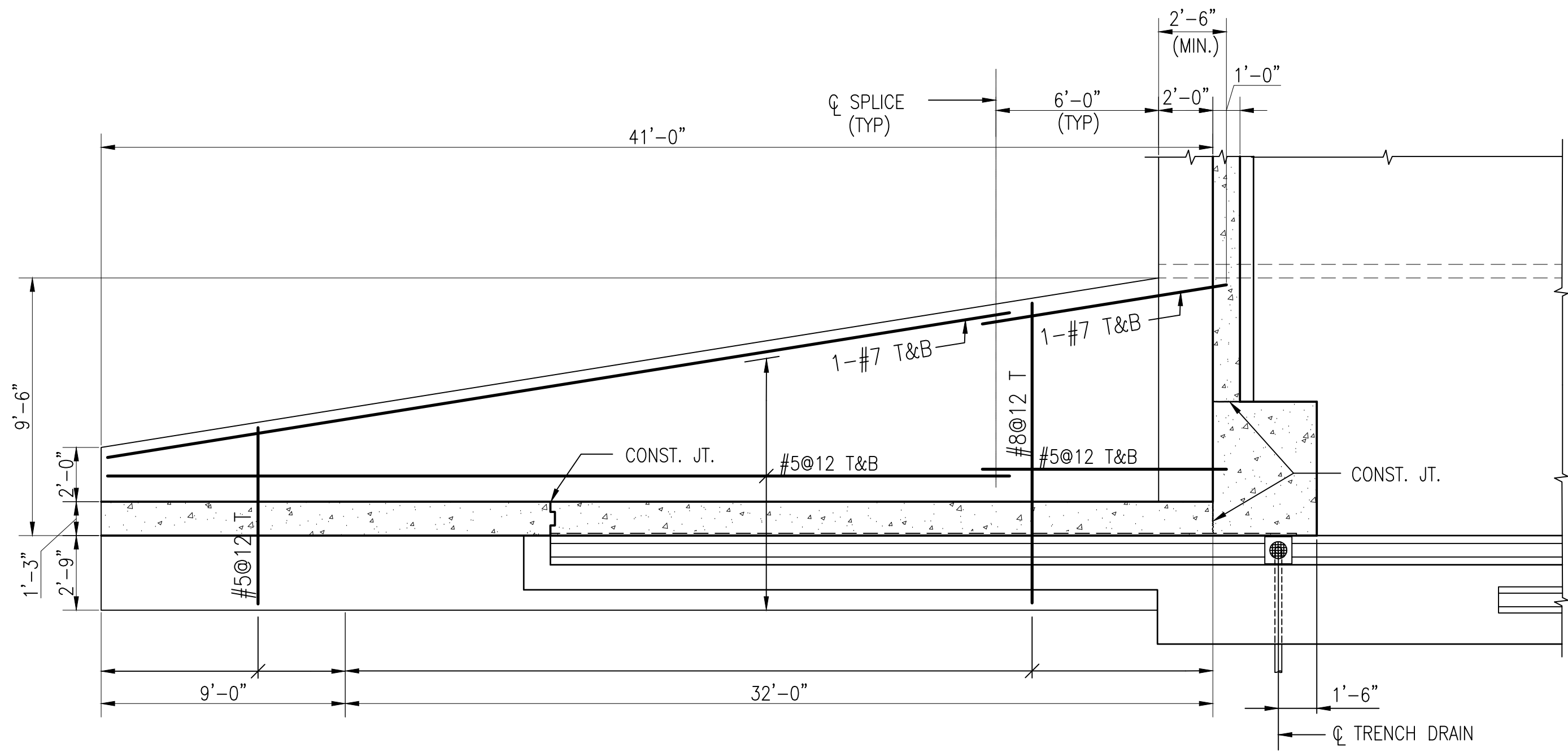


FLOOR SLAB BAR SPLICES
NOT TO SCALE

- NOTES:**
- FOR "RETAINING WALL ELEVATION" SEE DWG. S-103.
 - FOR ADDITIONAL REINFORCING AT DOOR TRENCHES SEE DWG'S S-503 AND S-504.
 - FOR STAGGERED SPLICES: BAR SPLICES INDICATED THUS STAGGER ALTERNATE BAR SPLICES AS INDICATED ON PLAN SEE SECTION "FLOOR SLAB BAR SPLICES" THIS DWG.



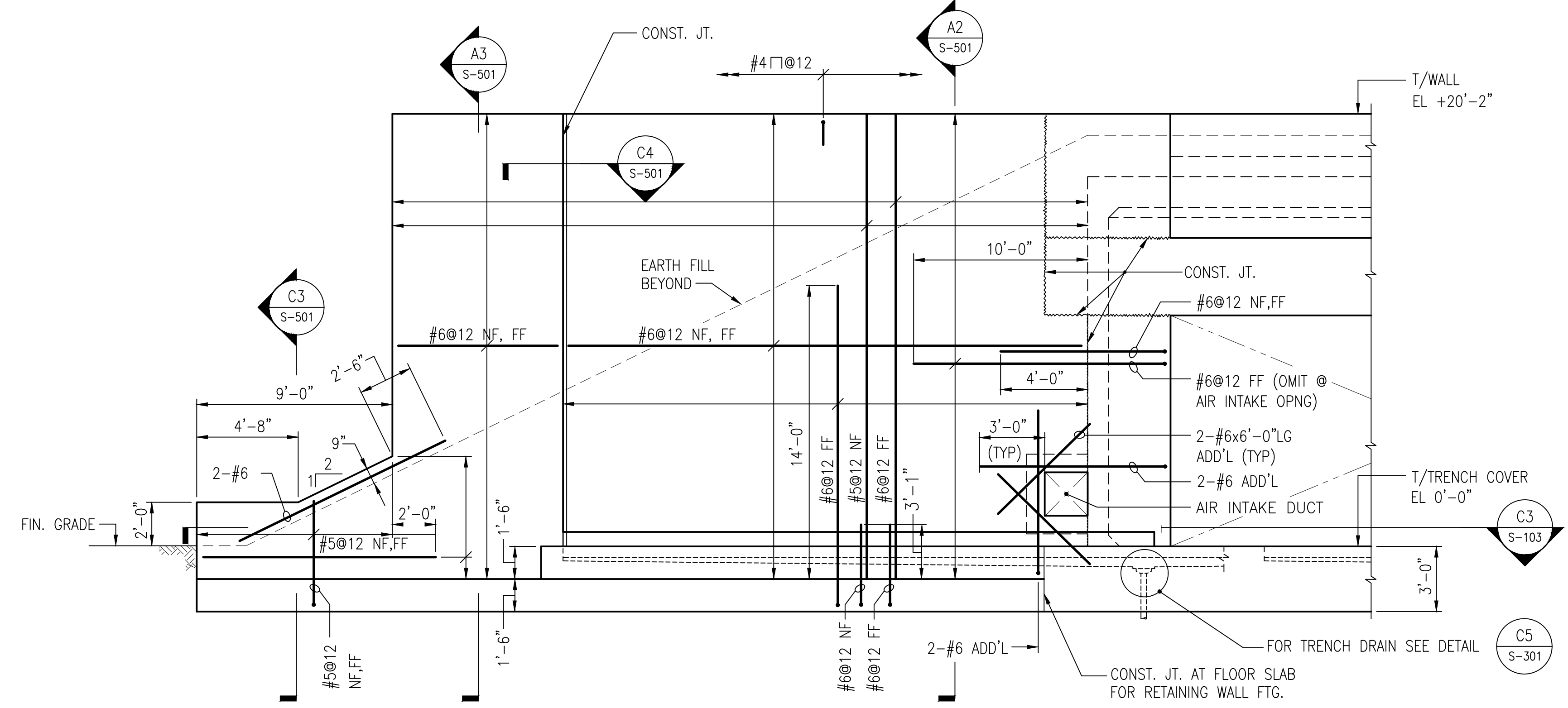
APPROVED	DATE	09/14/22	APP'R
TYPED STANDARD	DESCRIPTION		
TYPE D BOX MAGAZINE SLAB PLAN AND FRONT ELEVATION			
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND DESIGN AND CONSTRUCTION			
BRANCH MANAGER: JTW CHIEF ENGINEER: RICHARD L. STEPHENS, P.E. FIRE PROTECTION: DPS			
SCALE: AS NOTED PROJECT NO.: 14084164 CONSTR. CONTR. NO.: -- SHEET 3 OF 40 S-102 <small>DRAWING REVISION: 25 AUGUST 2020</small>			



FOUNDATION PLAN - RETAINING WALL "A" SHOWN

SCALE: 1/4" = 1'-0"
RETAINING WALL "B" OPPOSITE HAND

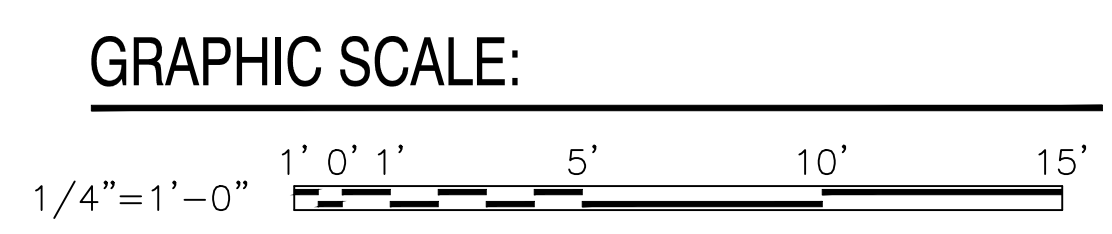
S-103 C3



ELEVATION - RETAINING WALL "A" SHOWN

SCALE: 1/4" = 1'-0"
RETAINING WALL "B" OPPOSITE HAND, SIMILAR

S-101 A3



DATE	09/14/22
DESCRIPTION	TYPE D STANDARD
SYMBOL	



APPROVED			
FOR COMMANDER NAVFAC			
ACTIVITY			
SATISFACTORY TO	DATE		
DES	DRW	CHK	LMM
PM/DM			
BRANCH MANAGER	JTW		
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.		
FIRE PROTECTION	DPS		

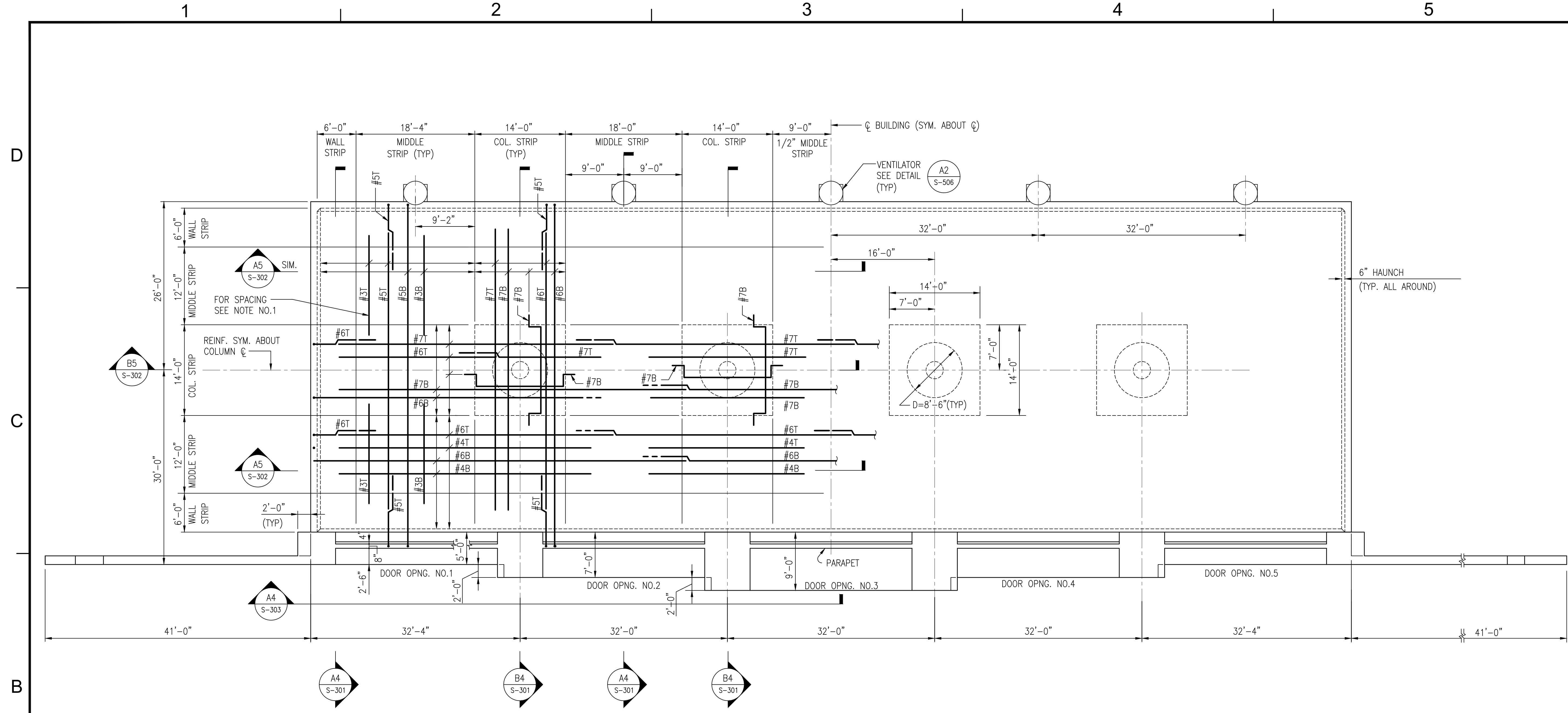
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND

BRANCH	TYPE D BOX MAGAZINE
DESCRIPTION	RETAINING WALL PLAN AND ELEVATION

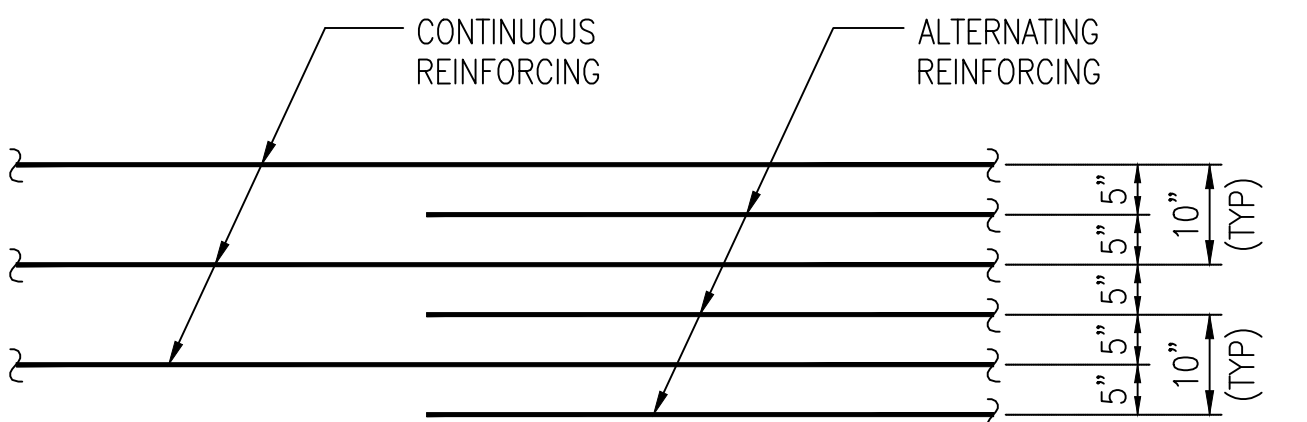
SCALE	AS NOTED
PROJECT NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	14084165
SHEET	4 OF 40
S-103	

DRAWING REVISION: 25 AUGUST 2020

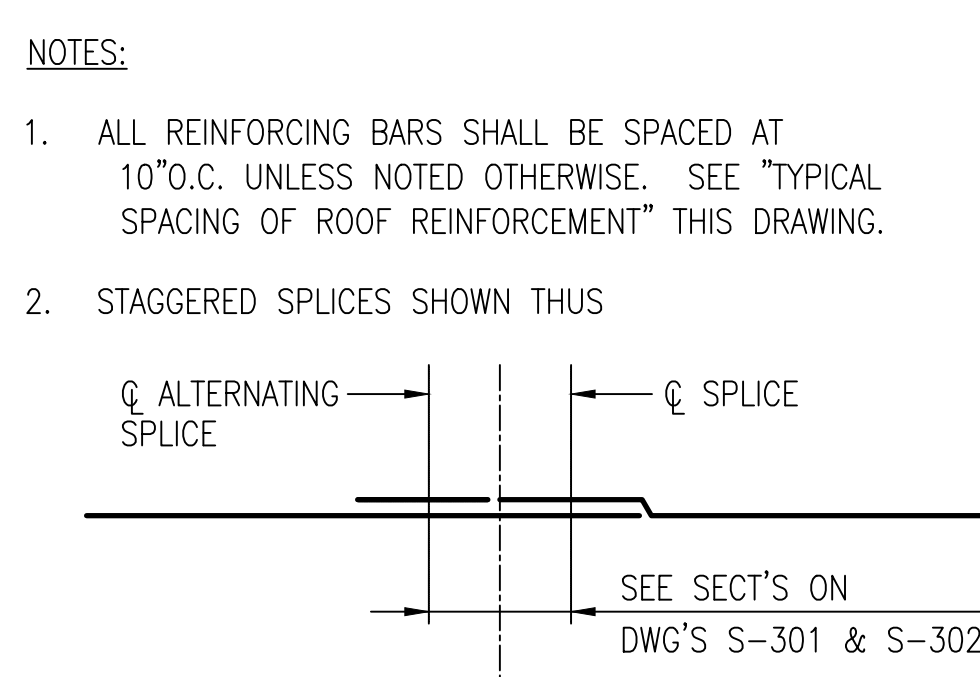
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ROOF PLAN
SCALE: 1/8" = 1'-0"



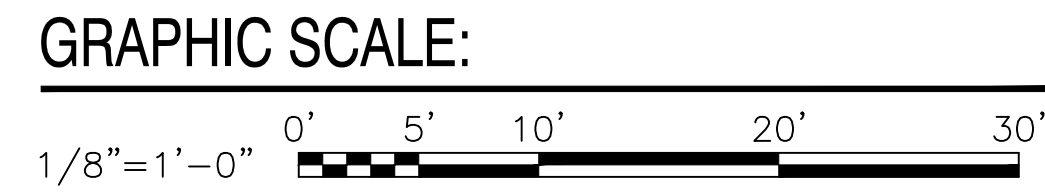
TYPICAL SPACING OF ROOF REINFORCEMENT
NOT TO SCALE



- NOTES:**
- ALL REINFORCING BARS SHALL BE SPACED AT 10" O.C. UNLESS NOTED OTHERWISE. SEE "TYPICAL SPACING OF ROOF REINFORCEMENT" THIS DRAWING.
 - STAGGERED SPLICES SHOWN THUS

TABLE S104A
SPLICE AND DEVELOPMENT LENGTH TABLE (TYP UNO)

BAR SIZE, NO.	NOMINAL DIAMETER, IN	DEVELOPMENT		NON-ROOF SPLICE		ROOF SPLICE	
		TOP BAR	OTHER BAR	TOP BAR	OTHER BAR	TOP BAR	OTHER BAR
3	0.375	18	14	24	18	31	24
4	0.5	25	19	32	25	42	32
5	0.625	31	24	40	31	52	40
6	0.75	37	29	48	37	63	48
7	0.875	54	42	70	54	91	70
8	1	62	47	80	62	104	80
9	1.128	70	54	90	70	118	90
10	1.27	78	60	102	78	132	102
11	1.41	87	67	113	87	147	113



APPROVED: [Signature]

DATE: 09/14/22

TYPE D STANDARD

SEAL

APPROVED: [Signature]

DATE: MM/DD/YYYY

DES: [Signature] DRW: IWR CHK: LMM

BRANCH MANAGER: JTW

CHIEF ENGINEER: RICHARD L. STEPHENS, P.E.

FIRE PROTECTION: DPS

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND

DESIGN AND CONSTRUCTION

TYPE D BOX MAGAZINE

ROOF PLAN

SCALE: AS NOTED

PROJECT NO.:

CONSTR. CONTR. NO.:

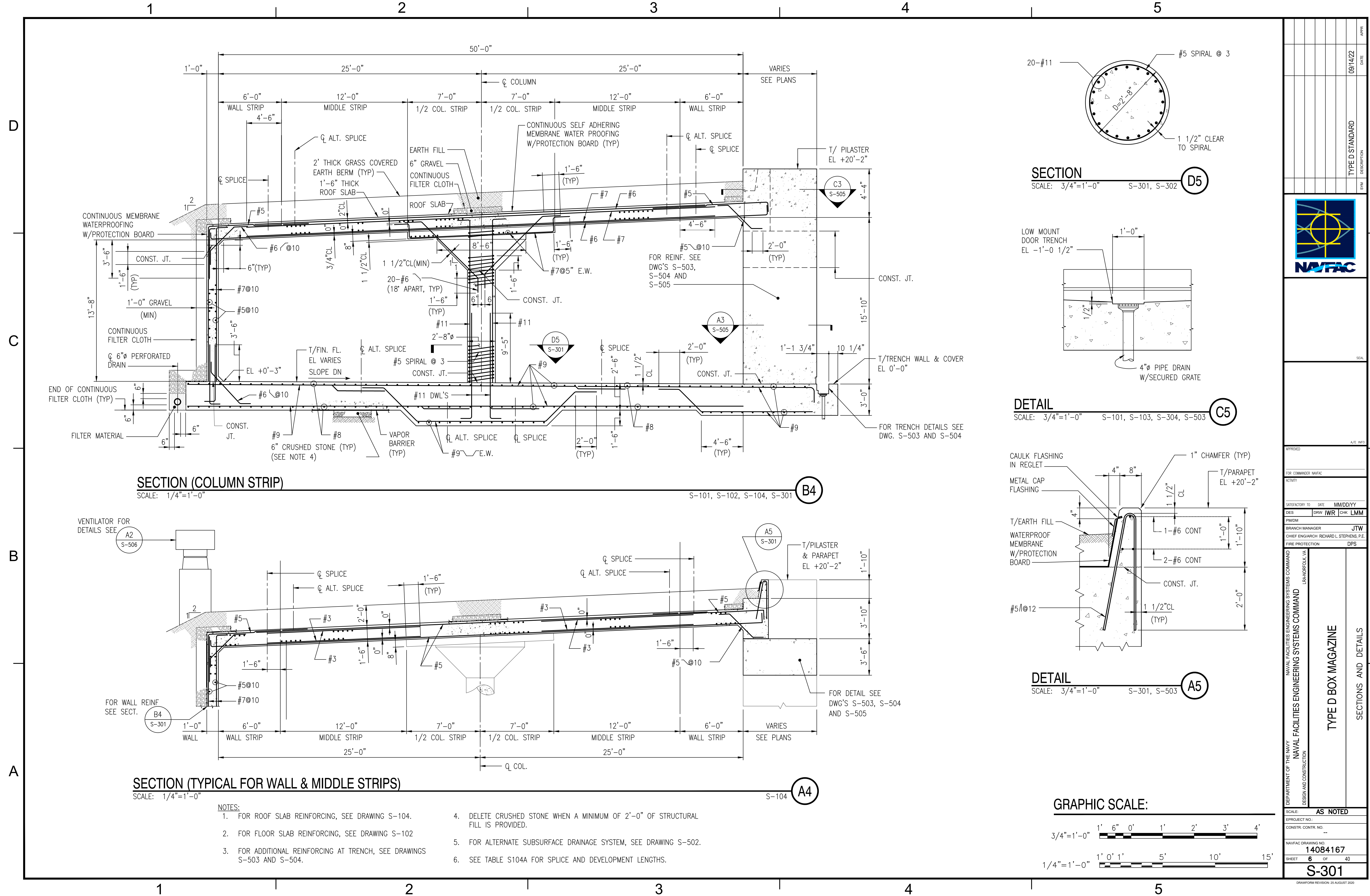
NAVFAC DRAWING NO. 14084166

SHEET 5 OF 40

S-104

DRAWING REVISION: 25 AUGUST 2020

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SECTION (COLUMN STRIP)
SCALE: 1/4"=1'-0"

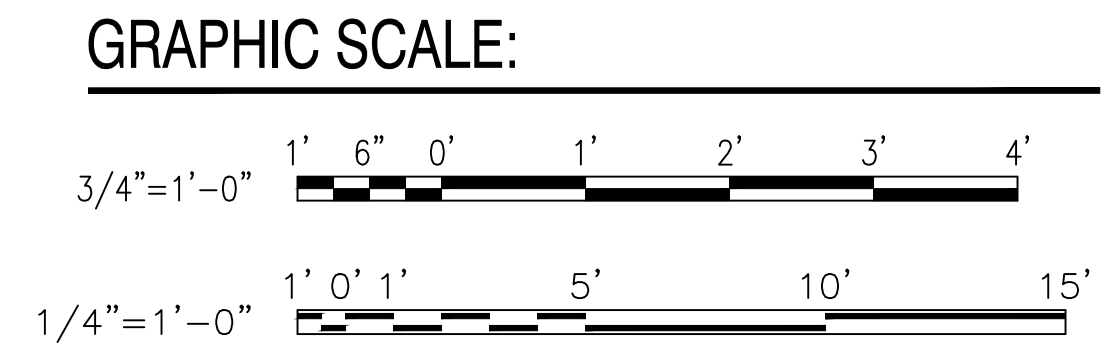
SECTION (TYPICAL FOR WALL & MIDDLE STRIPS)
SCALE: 1/4"=1'-0"

SECTION
SCALE: 3/4"=1'-0" S-301, S-302 **D5**

DETAIL
SCALE: 3/4"=1'-0" S-101, S-103, S-304, S-503 **C5**

DETAIL
SCALE: 3/4"=1'-0" S-301, S-503 **A5**

- NOTES:**
1. FOR ROOF SLAB REINFORCING, SEE DRAWING S-104.
 2. FOR FLOOR SLAB REINFORCING, SEE DRAWING S-102
 3. FOR ADDITIONAL REINFORCING AT TRENCH, SEE DRAWINGS S-503 AND S-504.
 4. DELETE CRUSHED STONE WHEN A MINIMUM OF 2'-0" OF STRUCTURAL FILL IS PROVIDED.
 5. FOR ALTERNATE SUBSURFACE DRAINAGE SYSTEM, SEE DRAWING S-502.
 6. SEE TABLE S104A FOR SPLICE AND DEVELOPMENT LENGTHS.



DATE	09/14/22
DESCRIPTION	TYPED STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	MM/DD/YYYY
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DESIGN AND CONSTRUCTION	
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
TYPE D BOX MAGAZINE SECTIONS AND DETAILS	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084167
SHEET	6 OF 40
S-301	
<small>DRAWING REVISION: 25 AUGUST 2020</small>	

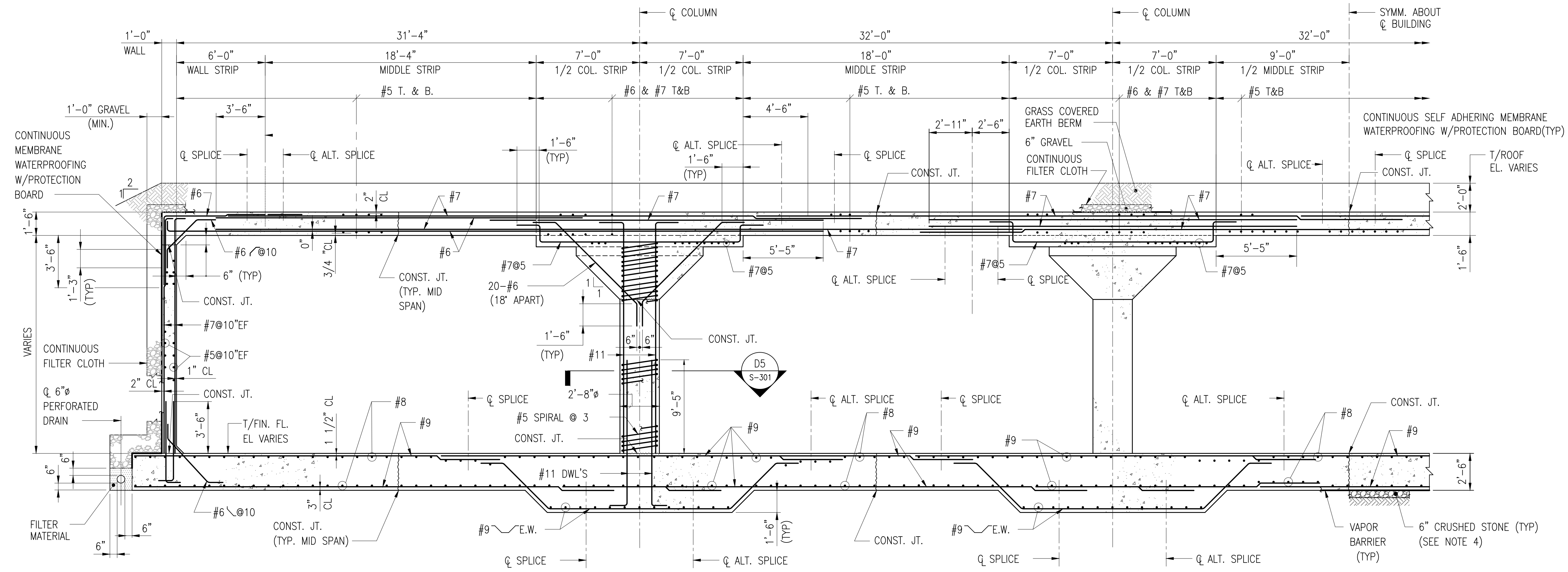
1 2 3 4 5

D

C

B

A

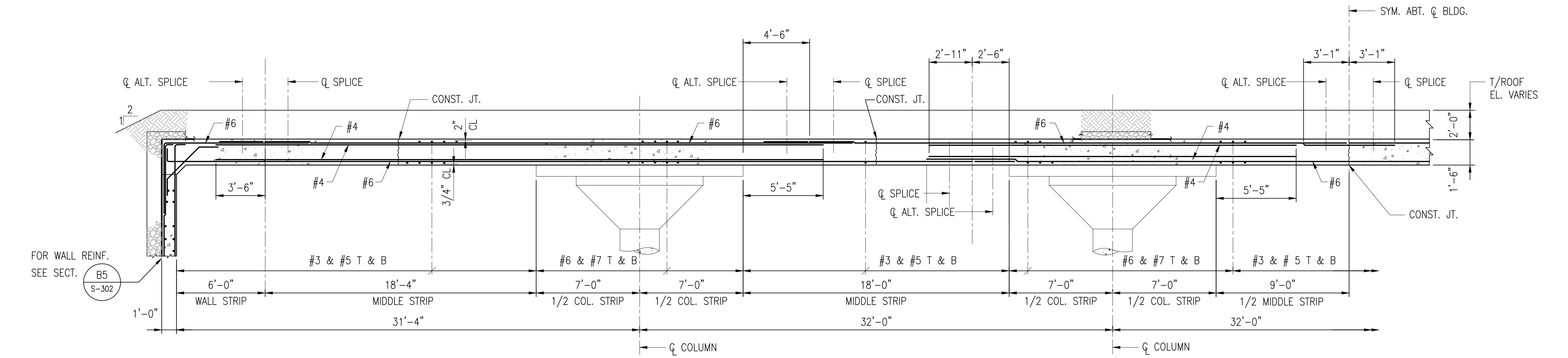


SECTION (COLUMN STRIP)

SCALE: 1/4" = 1'-0"

S-101, S-102, S-104, S-302

B5



SECTION (TYPICAL FOR WALL & MIDDLE STRIPS)

SCALE: 1/4" = 1'-0"

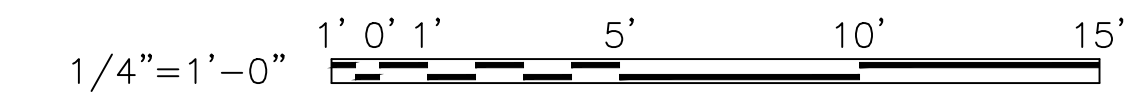
S-104


A5

NOTES:

- FOR ROOF SLAB REINFORCING, SEE DRAWING S-104.
- FOR FLOOR SLAB REINFORCING, SEE DRAWING S-102.
- FOR ADDITIONAL REINFORCING AT TRENCH, SEE DRAWINGS S-503 AND S-504.
- DELETE CRUSHED STONE WHEN A MINIMUM OF 2'-0" OF STRUCTURAL FILL IS PROVIDED.
- FOR ALTERNATE SUBSURFACE DRAINAGE SYSTEM SEE DRAWING S-502.
- SEE TABLE S104A FOR SPLICE AND DEVELOPMENT LENGTHS.

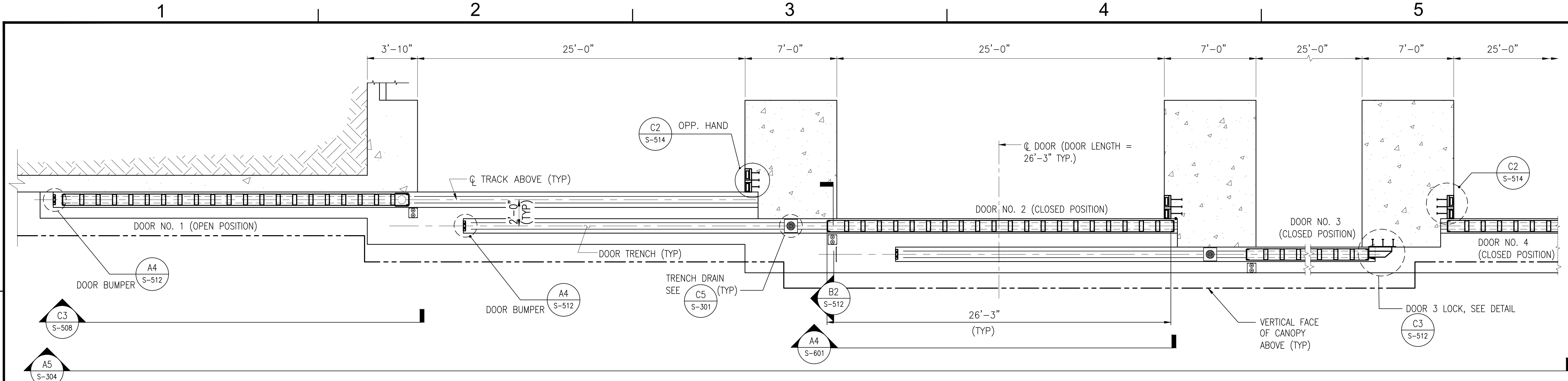
GRAPHIC SCALE:



DATE	09/14/22
DESCRIPTION	TYPED STANDARD
	
APPROVED	
FOR COMMANDER NAFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YY
DRW	CHK
LM	LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
BRANCH OFFICE	
SECTION	
<p>TYPE D BOX MAGAZINE</p>	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAFAC DRAWING NO.:	14084168
SHEET	7 OF 40
<p>S-302</p>	
DRAWING REVISION: 25 AUGUST 2020	

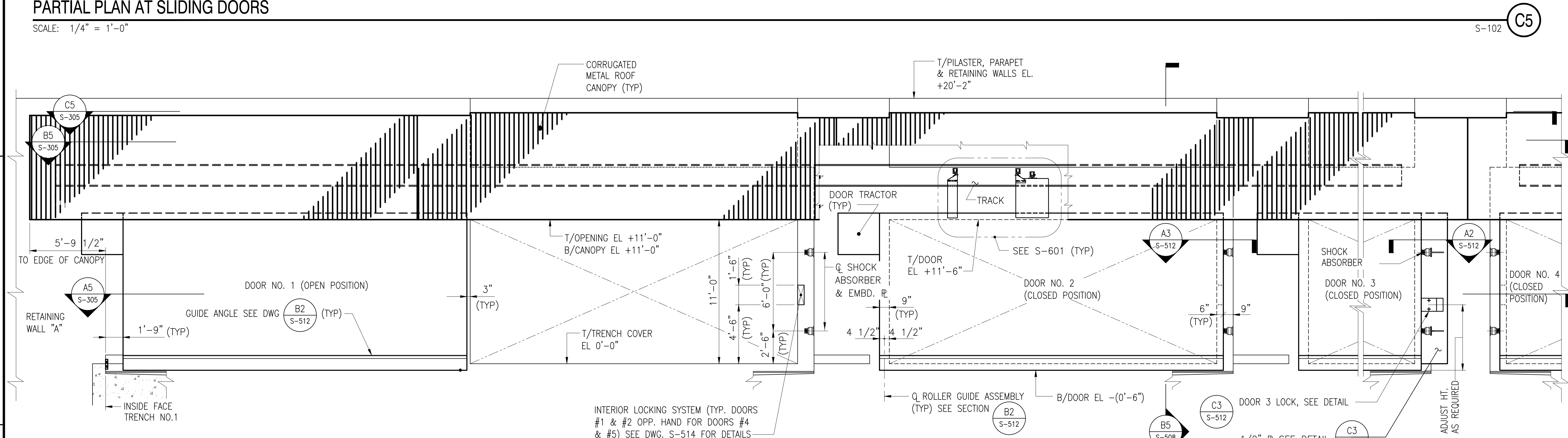
1 2 3 4 5

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9dab18-15576\Box D_2022.9.27.dwg LAYOUT NAME: S-302 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino



PARTIAL PLAN AT SLIDING DOORS

SCALE: 1/4" = 1'-0"



PARTIAL FRONT WALL ELEVATION

SCALE: 1/4" = 1'-0"

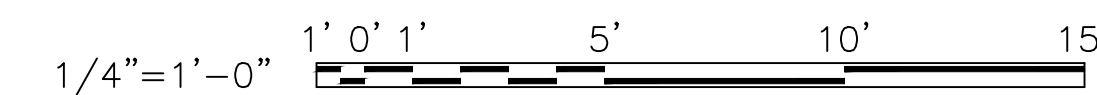
NOTES:

- DOOR #4 AND DOOR #5 ARE OPPOSITE HAND. SEE DWG. S-101 FOR ORIENTATION.
- ANGLES AROUND OPENINGS OMITTED FOR CLARITY.
- FOR DOOR DETAILS SEE DWG. S-508.
- FOR DOOR TRACTOR ASSEMBLY SEE DWG'S S-601, S-602 AND S-603.
- FOR DOOR SHOCK ABSORBERS OPERATING REQUIREMENTS SEE DWG. S-512.
- FOR BRUSH WEATHERSTRIP AROUND DOOR OPENING SEE DETAIL A5 AND SECTION B2

NOTES TO DESIGNER - REMOVE NOTES REFERING TO LOCK MECHANISM C2 OR A2 ON DOOR 3 WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

- SHEETS S-513 & S-513(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER). IF ALT SHEET IS USED, RENAME TO ORIGINAL SHEET.

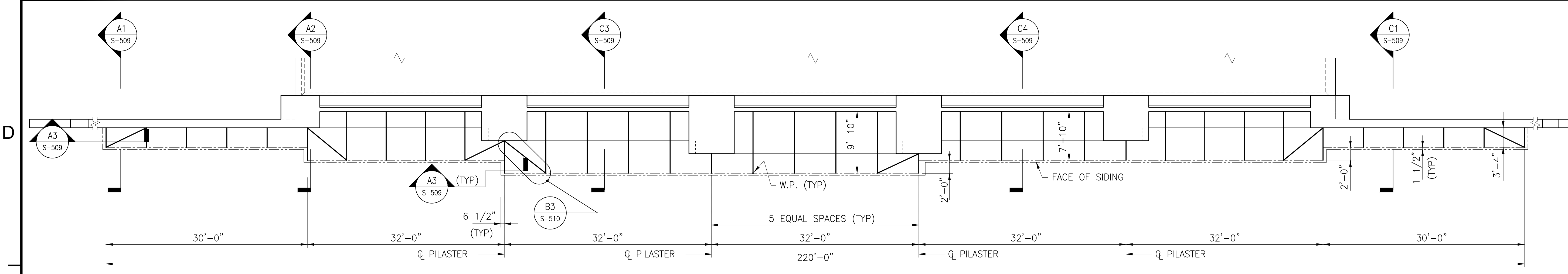
GRAPHIC SCALE:



DATE	09/14/22
DESCRIPTION	TYPED STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	MM/DD/YYYY
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DESIGN AND CONSTRUCTION	
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
TYPE D BOX MAGAZINE EXTERIOR HEADWALL PLAN AND ELEVATION	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084170
SHEET	9 OF 40
S-304	
<small>DRAWING REVISION: 25 AUGUST 2020</small>	

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9dab18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-304 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

1 2 3 4 5

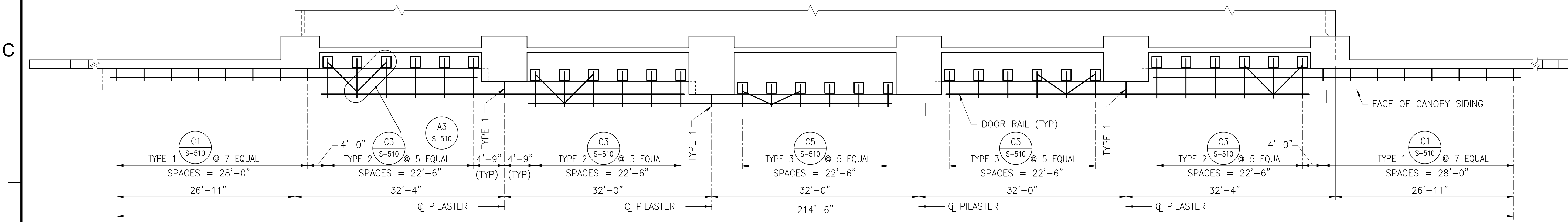


PLAN SECTION - CANOPY SUPPORT FRAMES

SCALE: 1/8" = 1'-0"

FOR CANOPY SUPPORT FRAMES, SEE DRAWING S-509.

S-304 C5

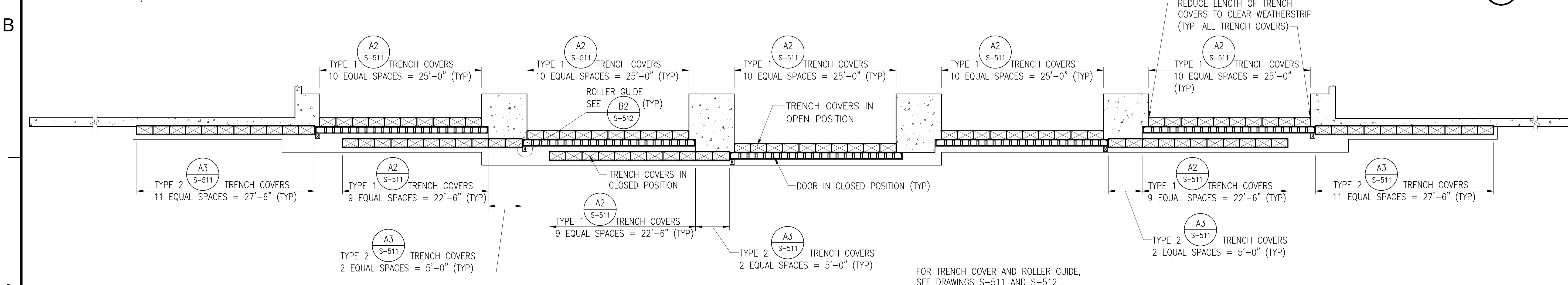


PLAN SECTION - DOOR RAIL SUPPORT BEAMS

SCALE: 1/8" = 1'-0"

FOR DOOR RAIL SUPPORT BEAMS, SEE DRAWING S-510.

S-304 B5



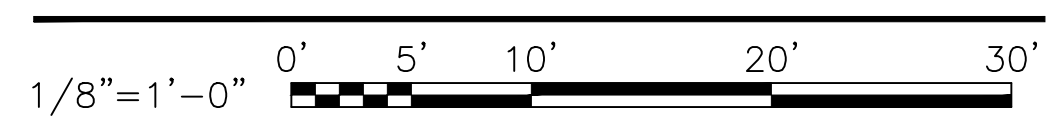
PLAN SECTION - DOOR TRENCH COVERS

SCALE: 1/8" = 1'-0"

FOR TRENCH COVER AND ROLLER GUIDE, SEE DRAWINGS S-511 AND S-512

S-304 A5

GRAPHIC SCALE:

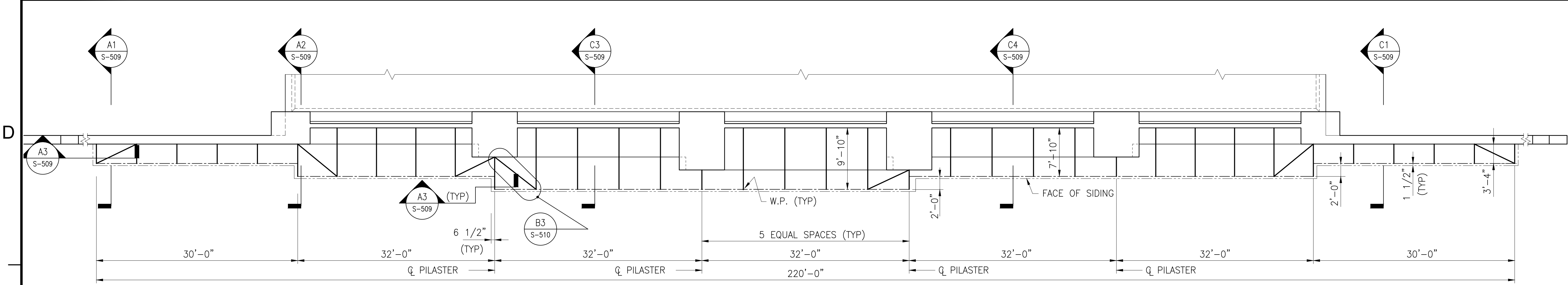


DATE	09/14/22
DESCRIPTION	TYPED STANDARD
APPR.	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YY
DRW	IWR
CHK	LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DESIGN AND CONSTRUCTION	
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
LEAD ARCHITECT	
TYPE D BOX MAGAZINE	
PLAN SECTIONS, CANOPY, RAIL SUPPORTS, TRENCH COVERS	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084171
SHEET	10 OF 40
S-305	
<small>DRAWING REVISION: 25 AUGUST 2020</small>	

1 2 3 4 5

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4eb4-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-305 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

1 2 3 4 5

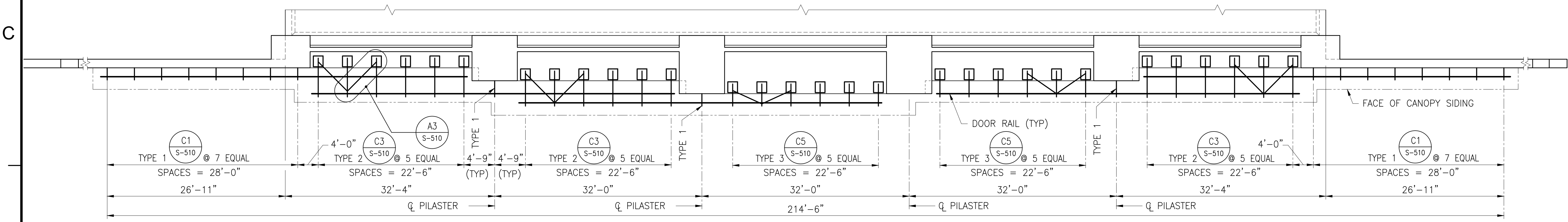


PLAN SECTION - CANOPY SUPPORT FRAMES

FOR CANOPY SUPPORT FRAMES, SEE DRAWING S-509.

SCALE: 1/8" = 1'-0"

S-304 C5

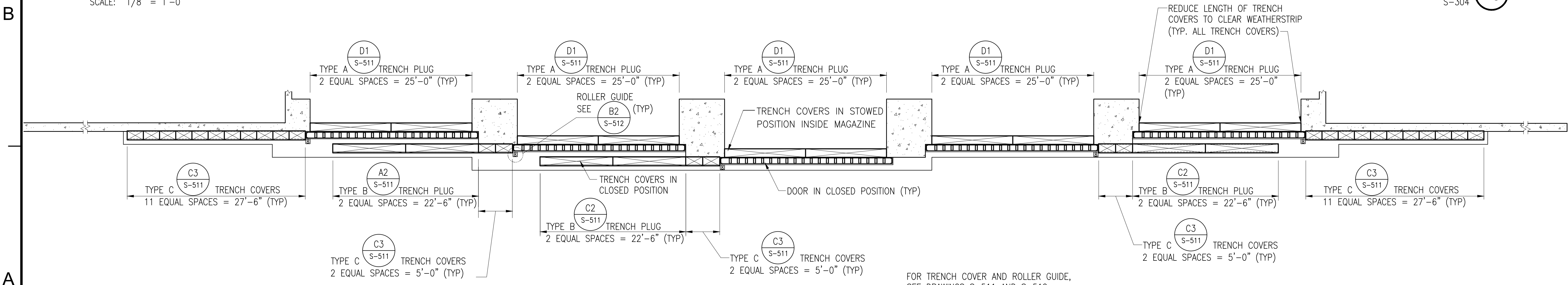


PLAN SECTION - DOOR RAIL SUPPORT BEAMS

FOR DOOR RAIL SUPPORT BEAMS, SEE DRAWING S-510.

SCALE: 1/8" = 1'-0"

S-304 B5

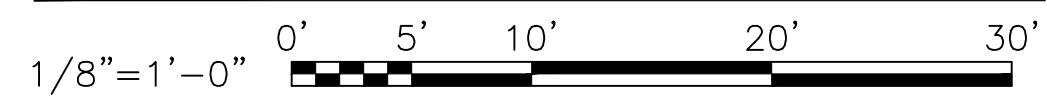


PLAN SECTION - DOOR TRENCH COVERS

FOR TRENCH COVER AND ROLLER GUIDE, SEE DRAWINGS S-511 AND S-512

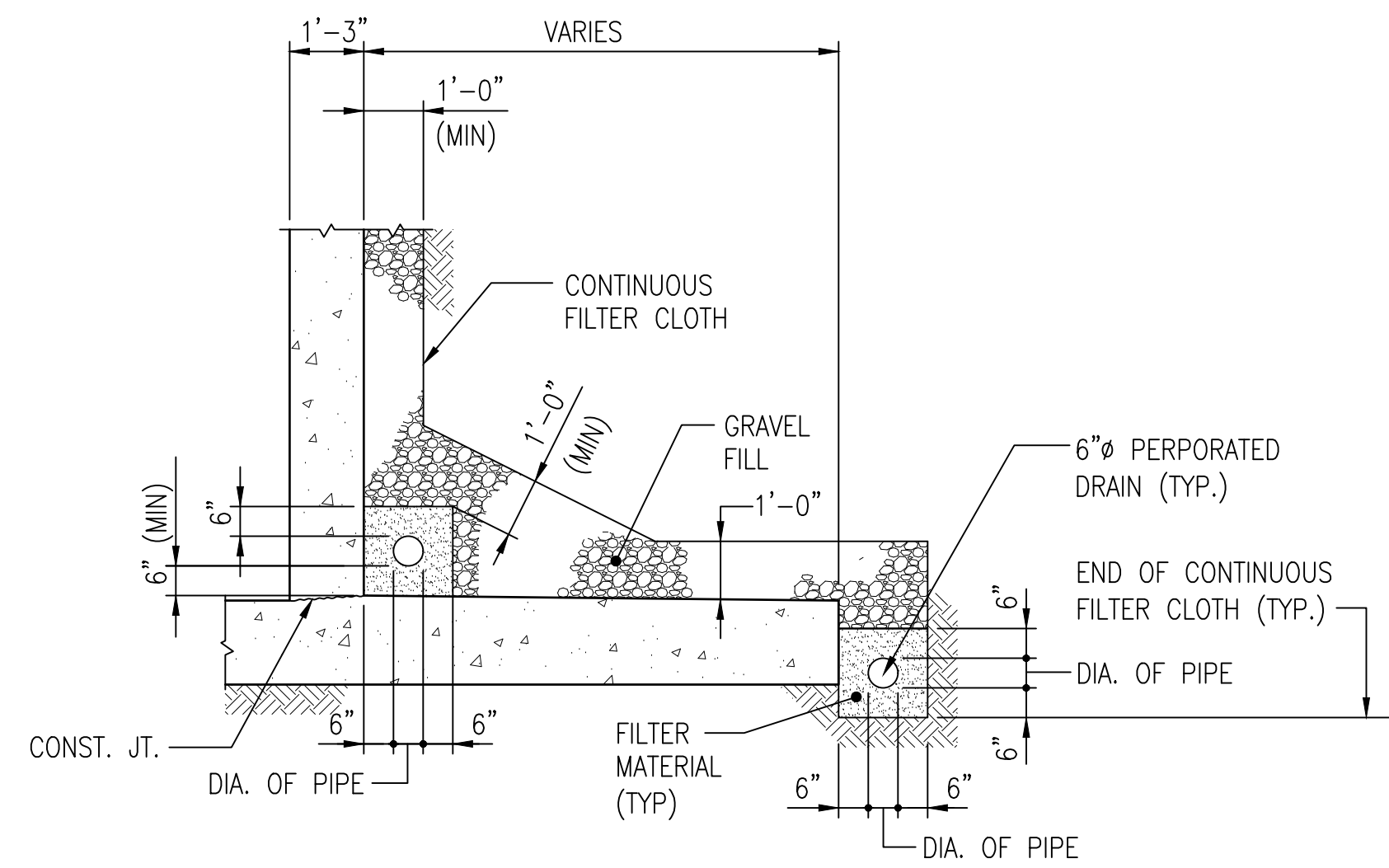
SCALE: 1/8" = 1'-0"

S-304 A5

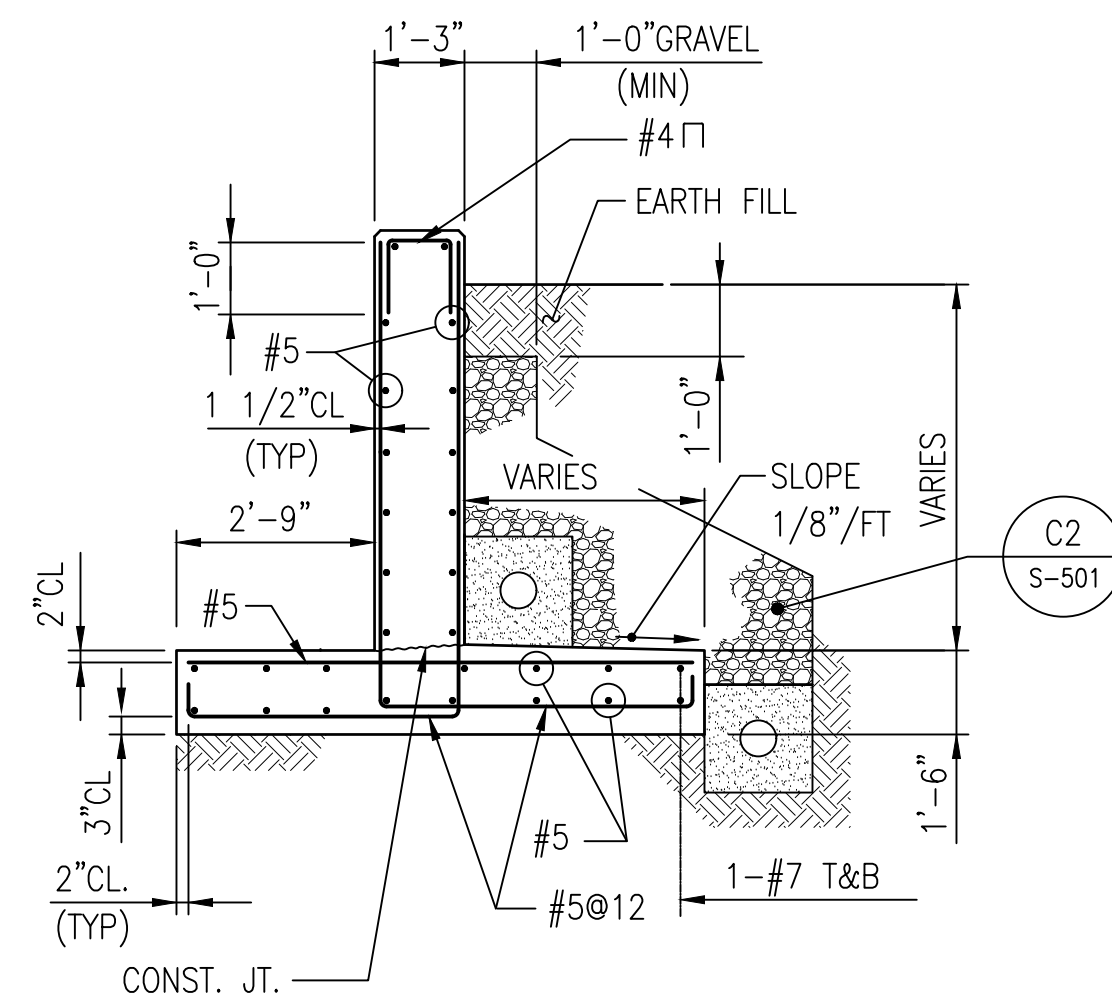


DATE	09/14/22
DESCRIPTION	TYPED STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION	BRAND/LOCAL/VA
PROJECT NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	14084172
SHEET	11 OF 40
S-305 ALT	
DRAWING REVISION: 25 AUGUST 2020	

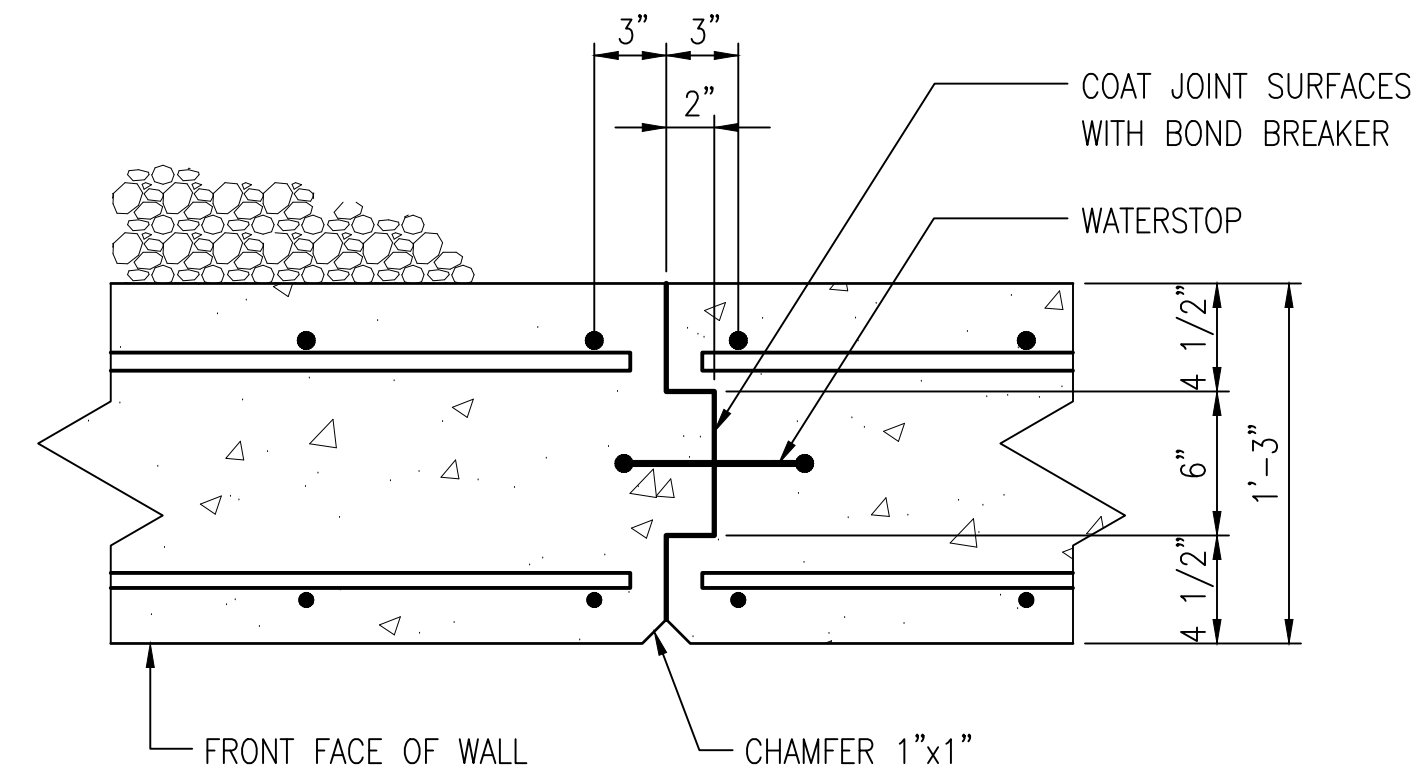
FILE NAME: C:\Users\helicorino\AppData\Local\Temp\A4e4d418h_15576\BOX_C_2022.9.27.dwg LAYOUT NAME: S-305 ALT PLOTTED: Tuesday, June 06, 2023 9:22am USER: helicorino



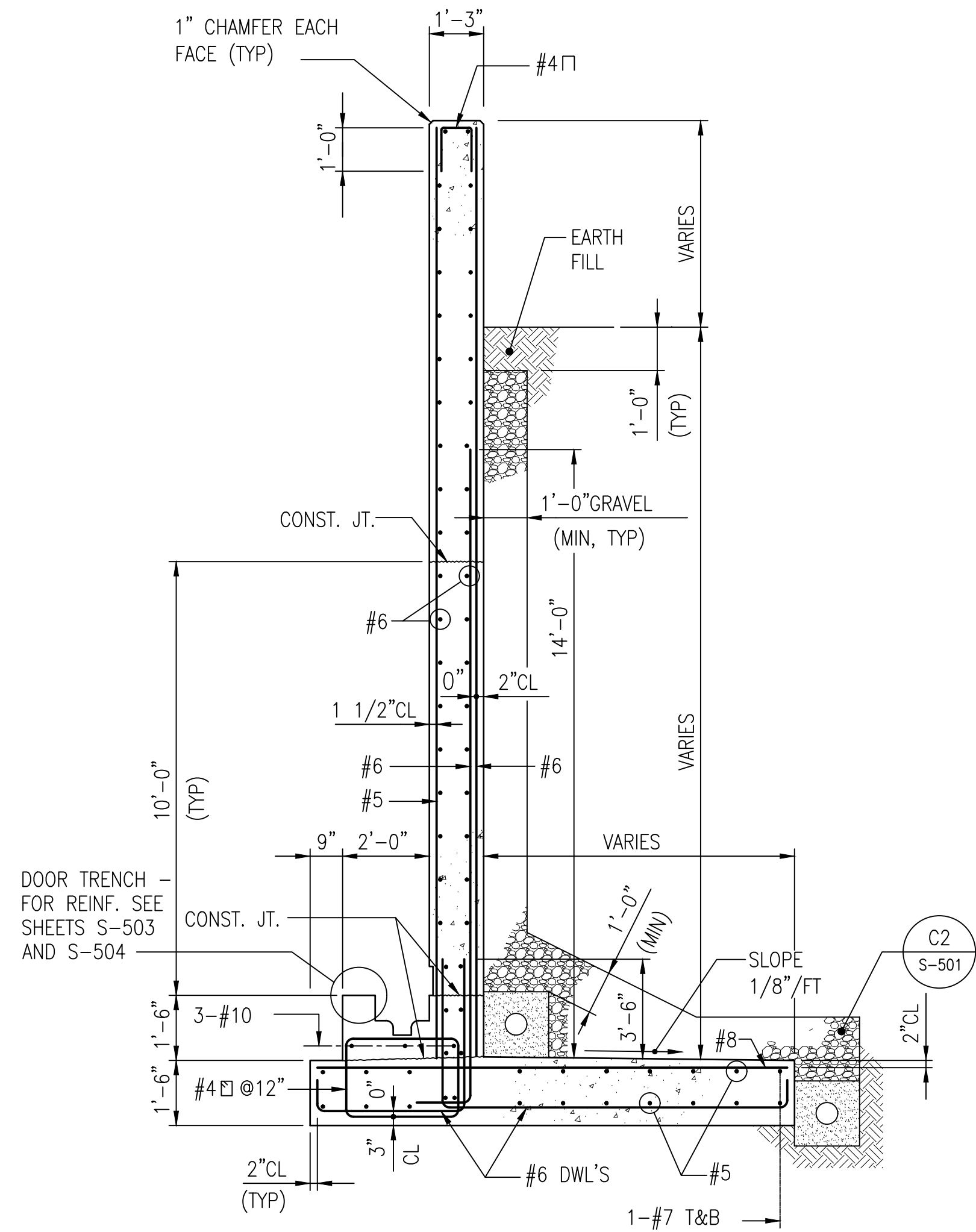
DETAIL (TYPICAL 6" Ø PERFORATED DRAIN)
SCALE: 3/8" = 1'-0" S-501 **C2**



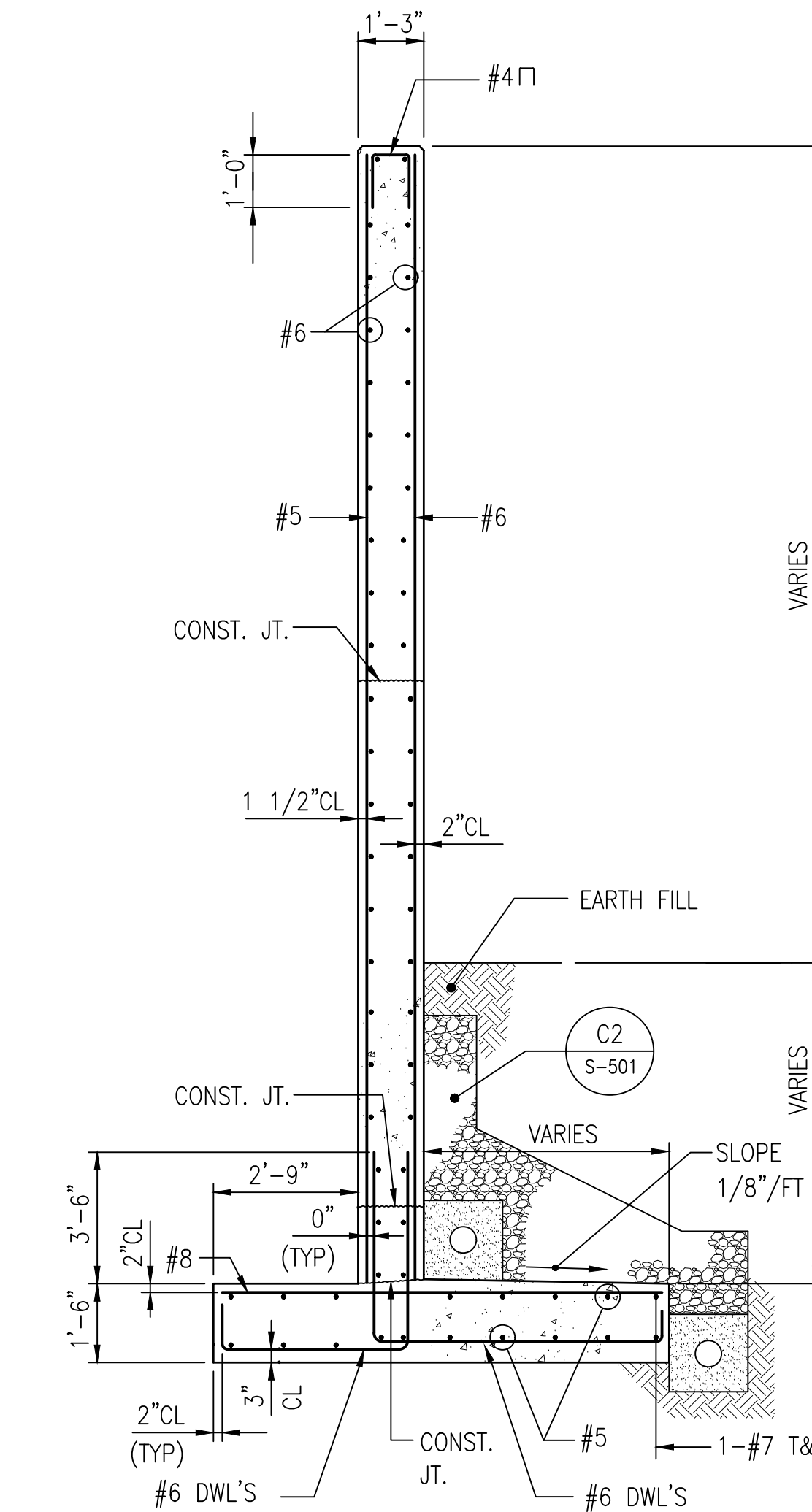
SECTION
SCALE: 3/8" = 1'-0" S-103 **C3**



SECTION
SCALE: 1 1/2" = 1'-0" S-103 **C4**

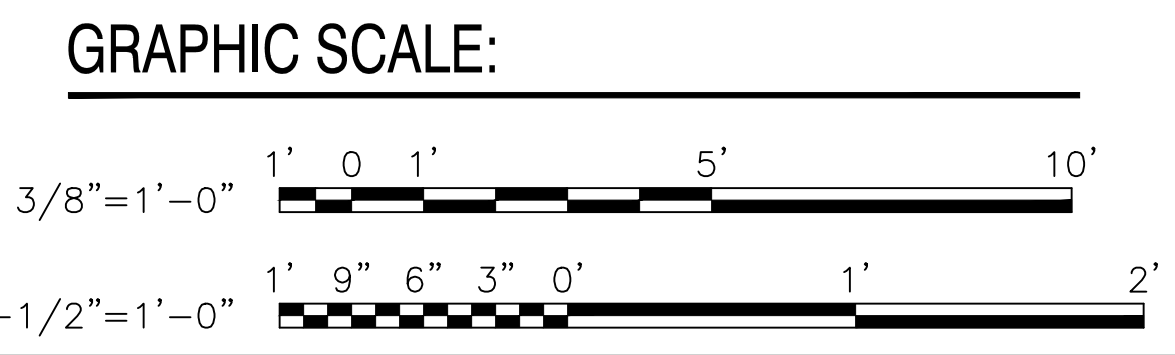


SECTION
SCALE: 3/8" = 1'-0" S-103 **A2**



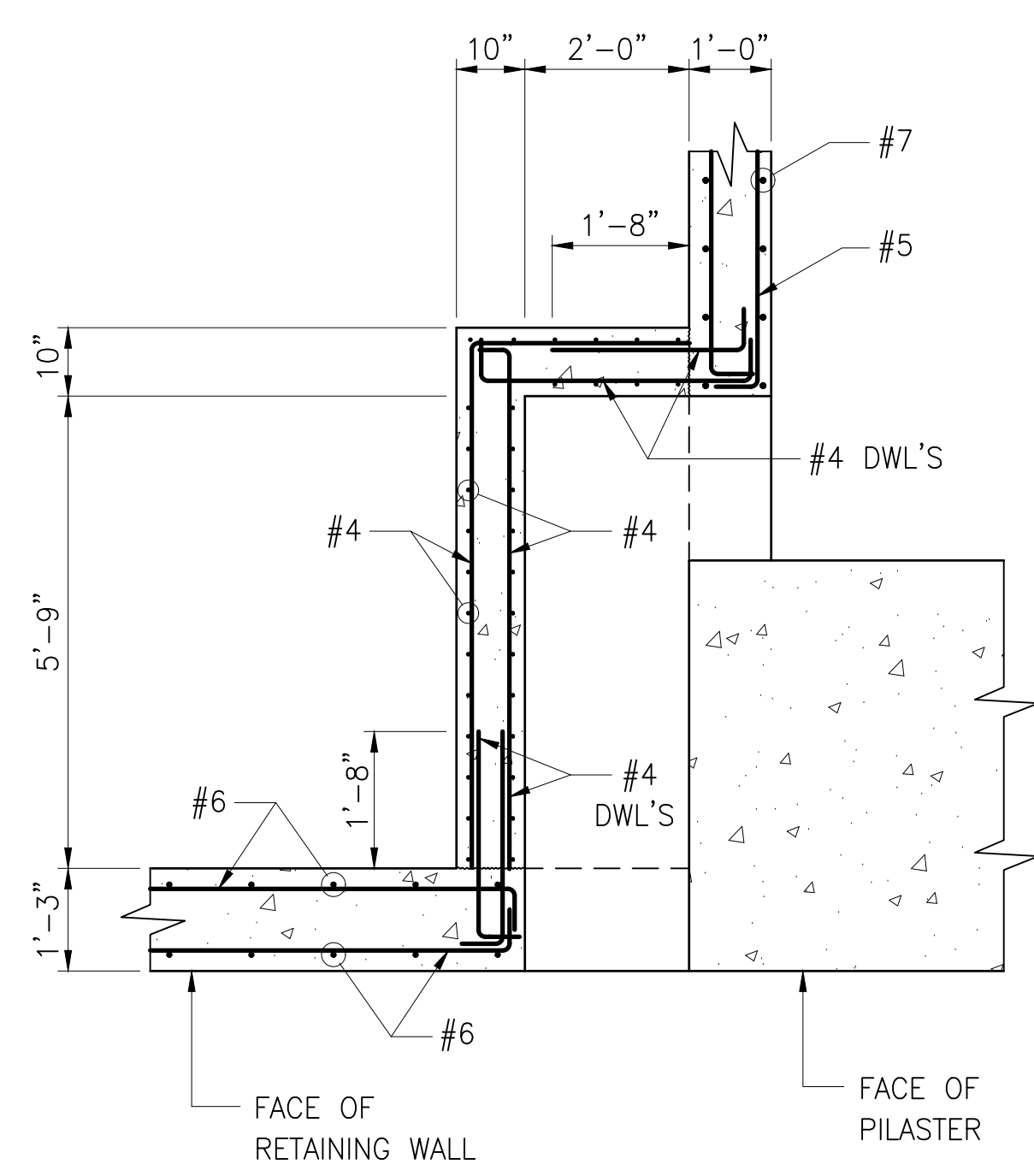
SECTION
SCALE: 3/8" = 1'-0" S-103 **A3**

NOTE:
FOR ALTERNATE SUBSURFACE
DRAINAGE SYSTEM SEE **C5**
S-502



APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPE D STANDARD
ACTIVITY	DATE	09/14/22
SATISFACTORY TO	DATE	MM/DD/YY
DES	DRW	IWR
CHK	CHK	LMM
PM/DM		
BRANCH MANAGER	JTW	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	BRANFAC/CDL/VA	
	TYPE D BOX MAGAZINE	
	RETAINING WALL DETAILS	
SCALE:	AS NOTED	
PROJECT NO.:		
CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.:	14084173	
SHEET	12	OF 40
	S-501	
DRAWING REVISION: 25 AUGUST 2020		

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9dab18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-501 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino



NOTE: FOR LOUVER & SECURITY GRILLE DETAILS SEE DWG. S-507.

PARTIAL PLAN - AIR INTAKE

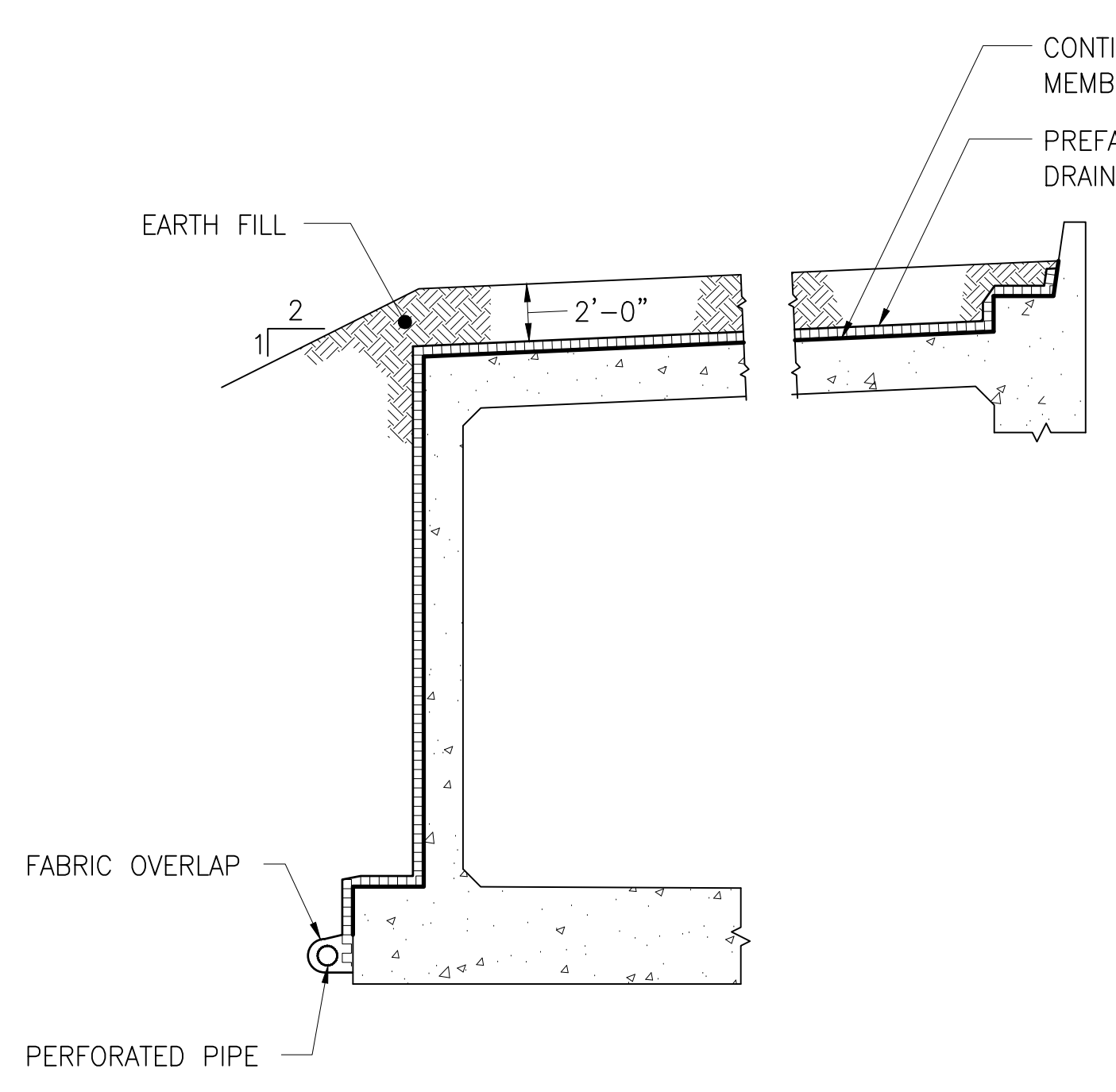
SCALE: 1/2" = 1'-0"

S-101, S-502



IN LIEU OF SUBSURFACE DRAINAGE SYSTEM (GRANULAR FILL, FILTER FABRIC, PERFORATED DRAIN) AND THE PROTECTION BOARD FOR THE CONTINUOUS MEMBRANE WATERPROOFING INDICATED, THE CONTRACTOR MAY PROVIDE THE OPTIONAL SUBDRAINAGE SYSTEM CONSISTING OF PERFORATED DRAIN AND GRANULAR FILL, WATERPROOFING MEMBRANE, PREFABRICATED DRAINAGE BOARD OR MAT, AND FILTER FABRIC. PROTECTION BOARD IS ACCEPTABLE OVER THE WATERPROOFING MEMBRANE IF REQUIRED BY THE MEMBRANE MANUFACTURER AT THE MAGAZINE WALLS AND TOP OR/AND AT THE RETAINING WALLS FOR THE MAGAZINE AS DETAILED BELOW. THE LOCATION, GRADES, AND MATERIALS SHOWN FOR DOWNSLOPE PIPING (DRAINAGE AND FILTER FABRIC/FILL MATERIAL) INTO WHICH THE PREFABRICATED DRAINAGE SYSTEM CONNECTS SHALL NOT VARY FROM THAT INDICATED. THE OPTIONAL PREFABRICATED DRAINAGE SYSTEMS LISTED BELOW ARE ACCEPTABLE FOR USE. A COMPLETE SET OF SHOP DRAWINGS, ALONG WITH THE MANUFACTURER'S PRODUCT LITERATURE, THICKNESS CALCULATIONS, AND INSTALLATION INSTRUCTIONS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL:

GEOFAB	BY	MERCANTILE DEVELOPMENT INC.
ENKADRAIN	BY	AMERICAN ENKA CO.
STRIPDRAIN	BY	ARMCO CONSTRUCTION PRODUCTS
MIRADRAIN	BY	MIRAFI INC.
GEOTECH	BY	GEOTECH SYSTEM CORP.

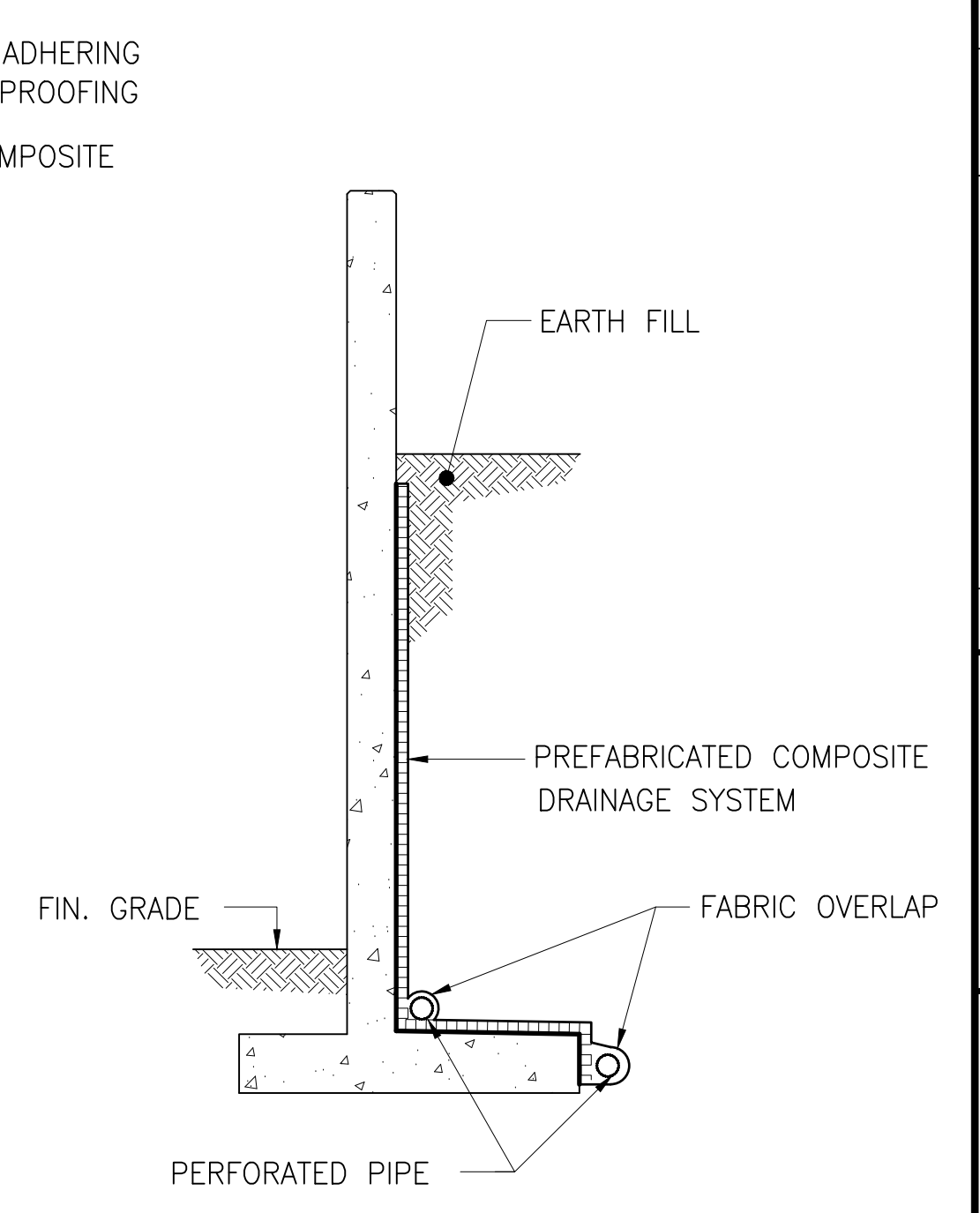


BUILDING ROOF AND WALLS

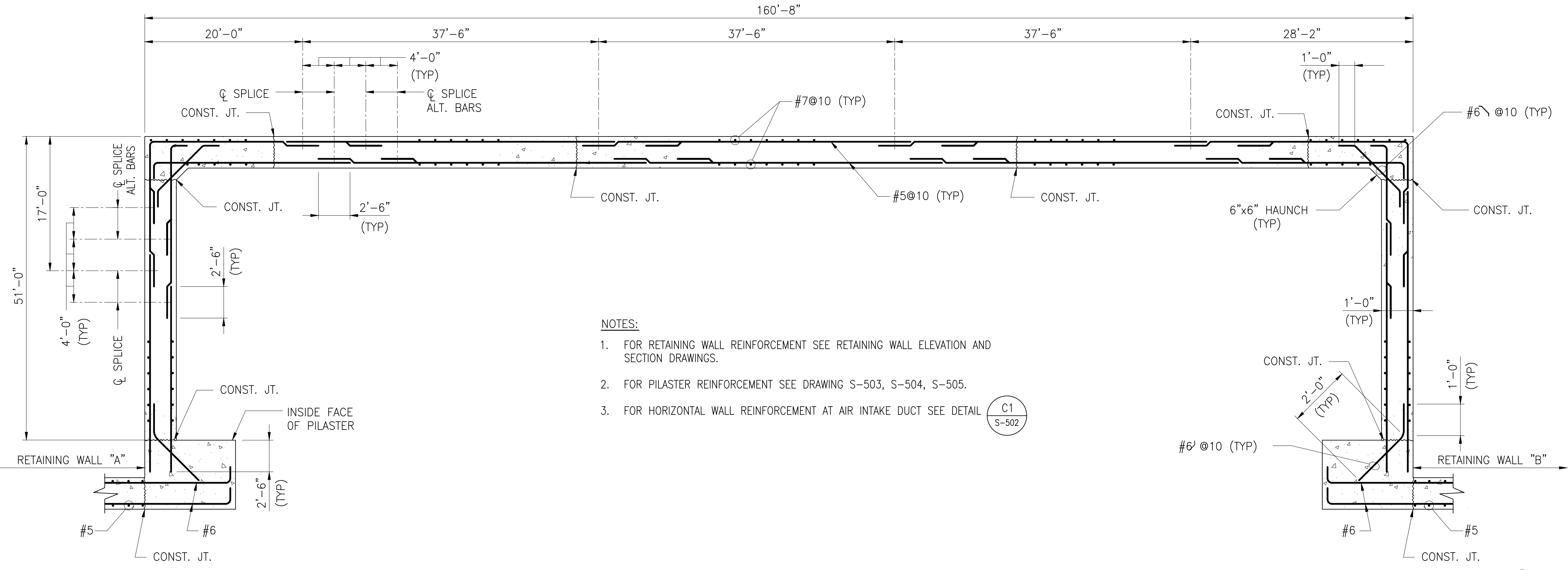
ALTERNATE EARTH FILL DRAINAGE SYSTEM

SCALE: 3/16" = 1'-0"

S-301, S-302, S-501



RETAINING WALLS



NOTES:

1. FOR RETAINING WALL REINFORCEMENT SEE RETAINING WALL ELEVATION AND SECTION DRAWINGS.
2. FOR PILASTER REINFORCEMENT SEE DRAWING S-503, S-504, S-505.
3. FOR HORIZONTAL WALL REINFORCEMENT AT AIR INTAKE DUCT SEE DETAIL C1 S-502

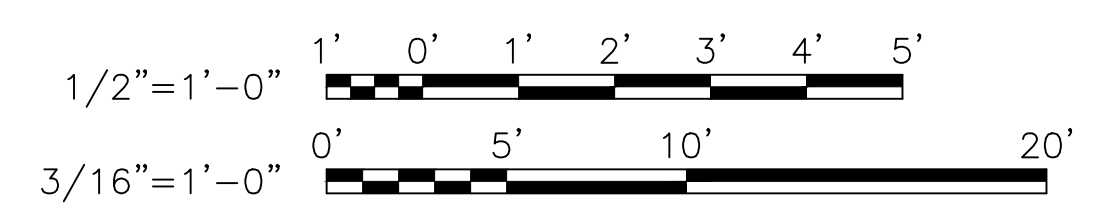
REQUIRED SPlicing OF HORIZONTAL WALL REINFORCEMENT

N.T.S.

S-301, S-302



GRAPHIC SCALE:



APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPE D STANDARD
ACTIVITY	SYMBOL	
SATISFACTORY TO	DATE	MM/DD/YYYY
DES	DRW	IWR
CHK	CHK	LMM
PM/DM		
BRANCH MANAGER		JTW
CHIEF ENGINEER		RICHARD L. STEPHENS, P.E.
FIRE PROTECTION		DPS
DEPARTMENT OF THE NAVY		
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND		
DESIGN AND CONSTRUCTION		
BRANCH OFFICE		
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND		
TYPE D BOX MAGAZINE		
SECTIONS AND DETAILS		
SCALE:		AS NOTED
PROJECT NO.:		
CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.:		14084174
SHEET	13	OF 40
		S-502
DRAWING REVISION: 25 AUGUST 2020		

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4d4b-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-502 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

1

2

3

4

5

D

C

B

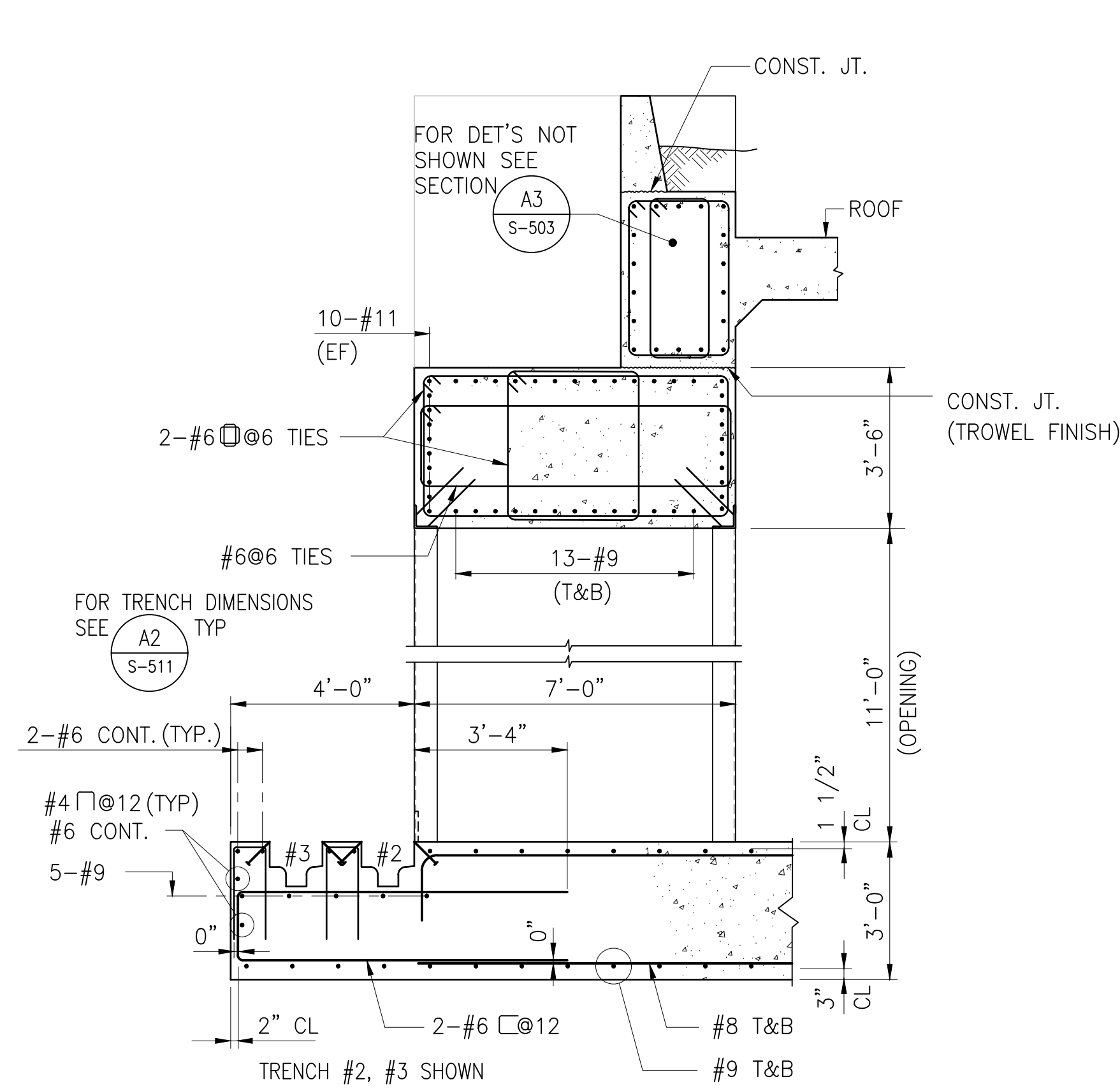
A

D

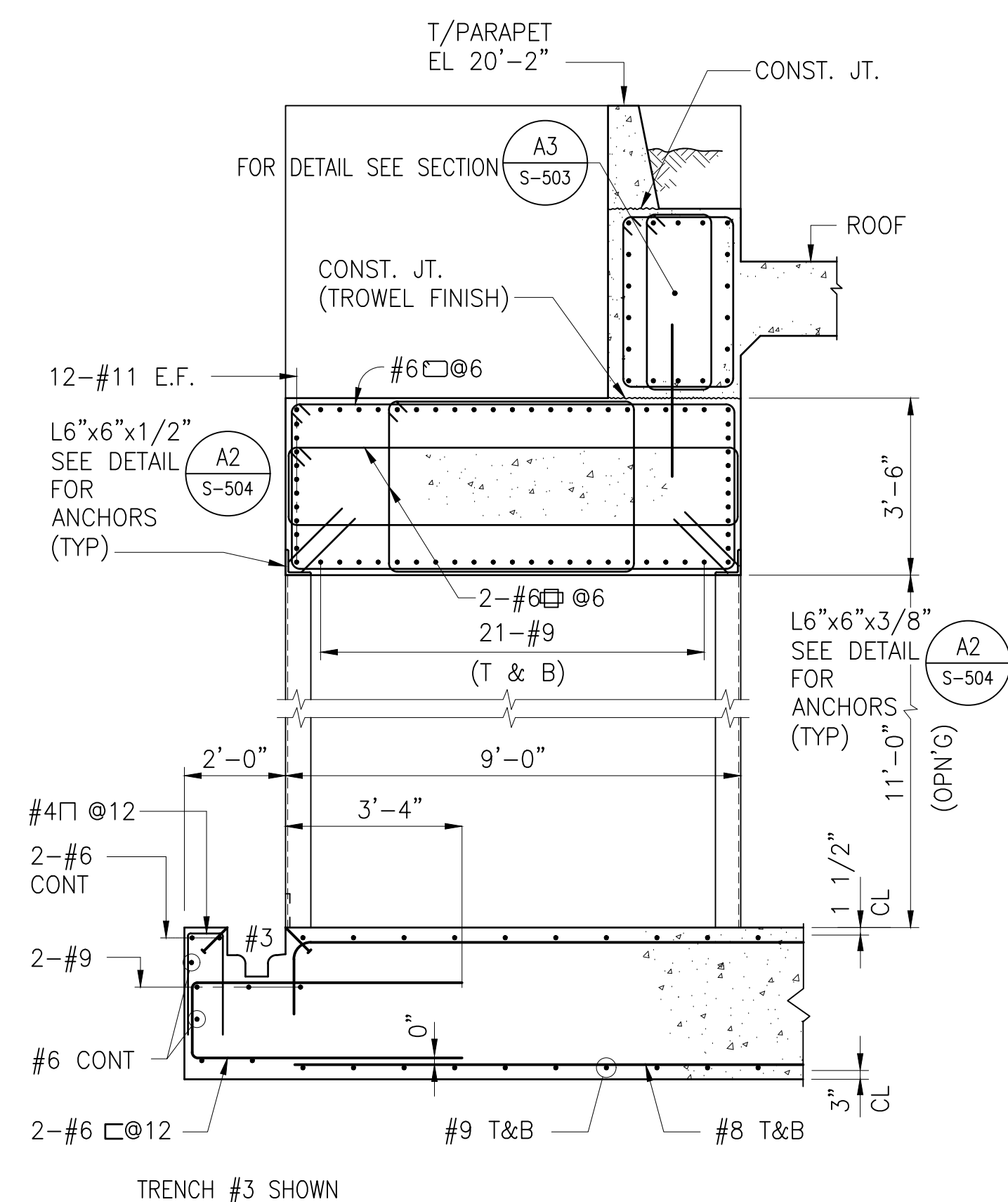
C

B

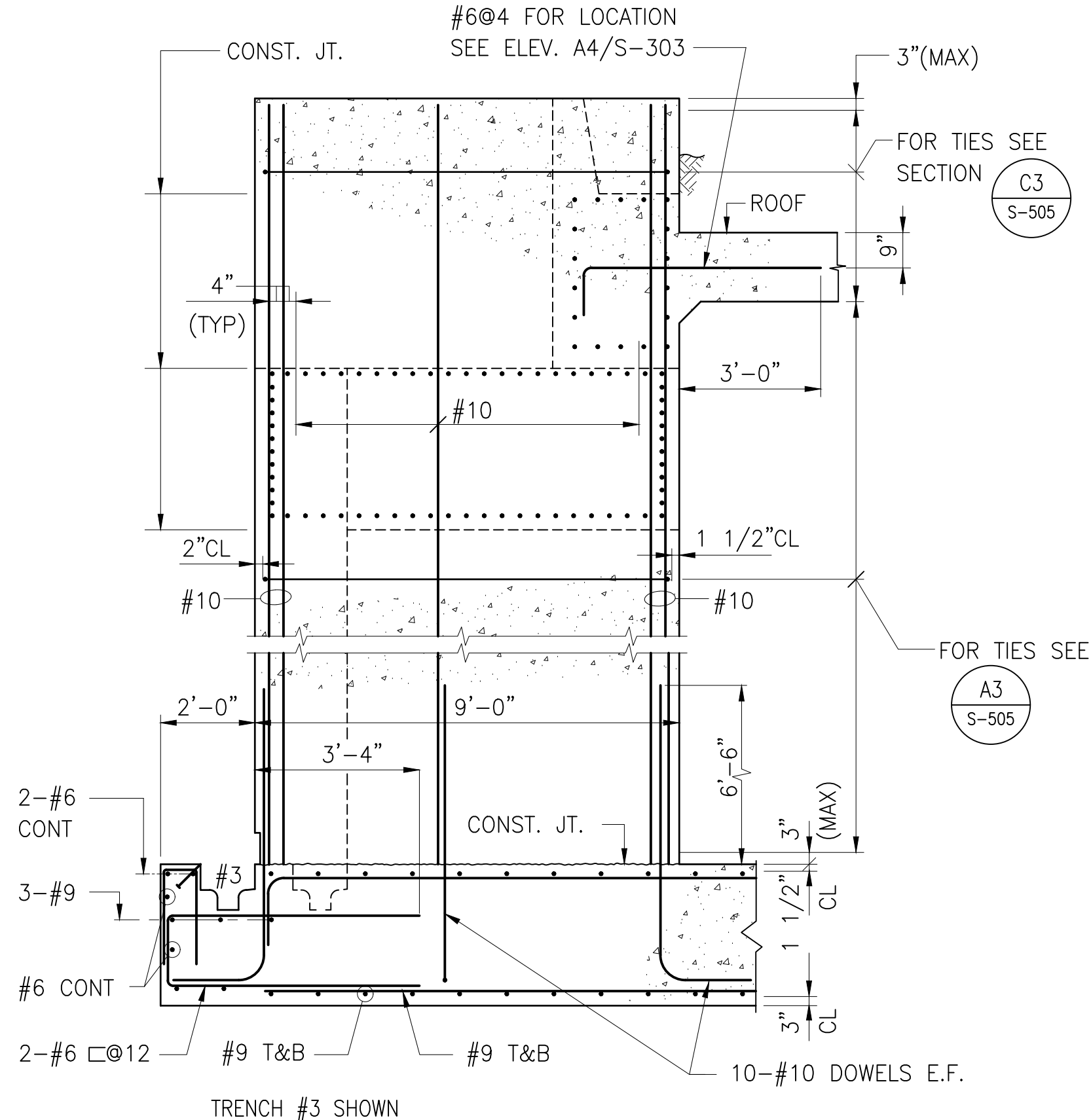
A



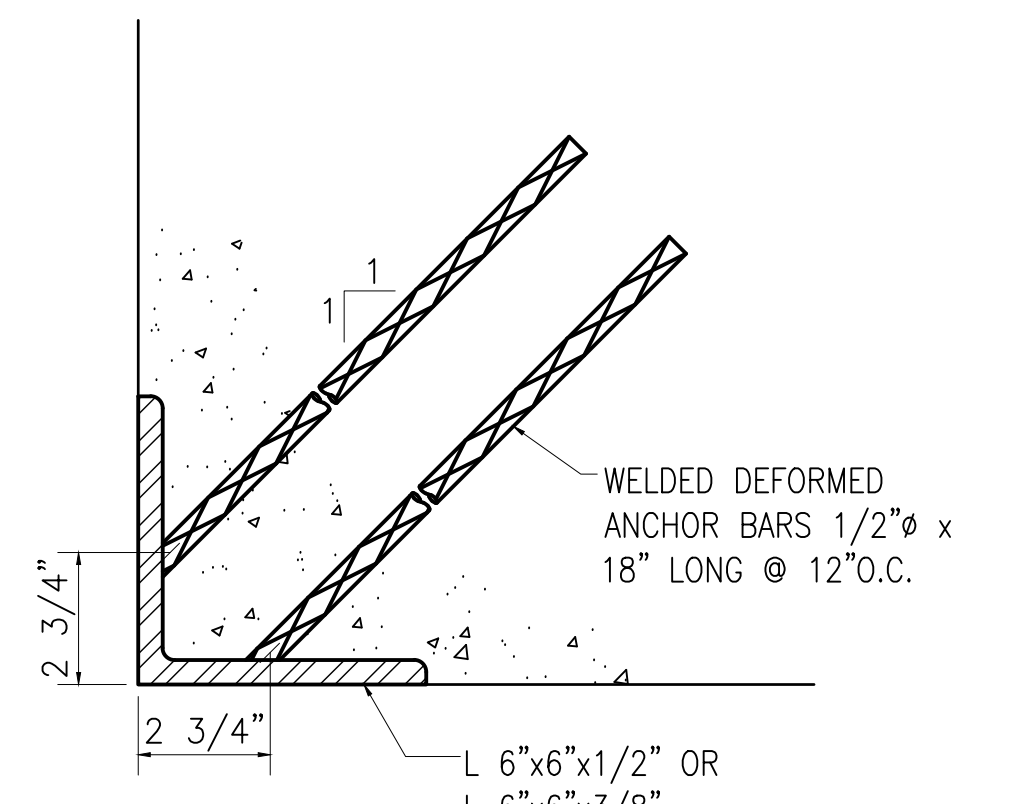
SECTION
SCALE: 3/8" = 1'-0"
S-303 **C2**



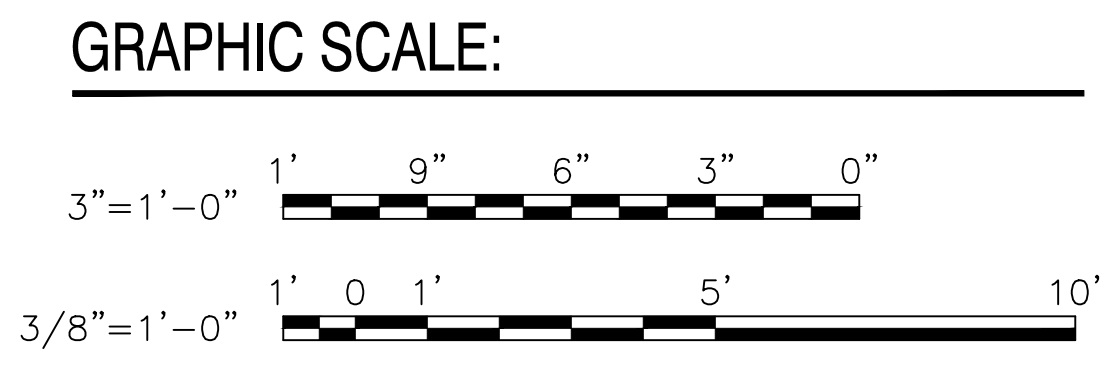
SECTION
SCALE: 3/8" = 1'-0"
S-303 **C3**



SECTION
SCALE: 3/8" = 1'-0"
S-303 **C4**



SECTION
SCALE: 3" = 1'-0"
S-503, S-504, S-505, S-510 **A2**



DATE	09/14/22
APPR.	
DESCRIPTION	TYPED STANDARD
SYMBOL	
TYPE D BOX MAGAZINE HEAD WALL SECTIONS	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	DRW IWR CHK LMM
PMIDM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION	LEBANON, VA
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084176
SHEET	15 OF 40
S-504	
<small>DRAWING REVISION: 25 AUGUST 2020</small>	

1

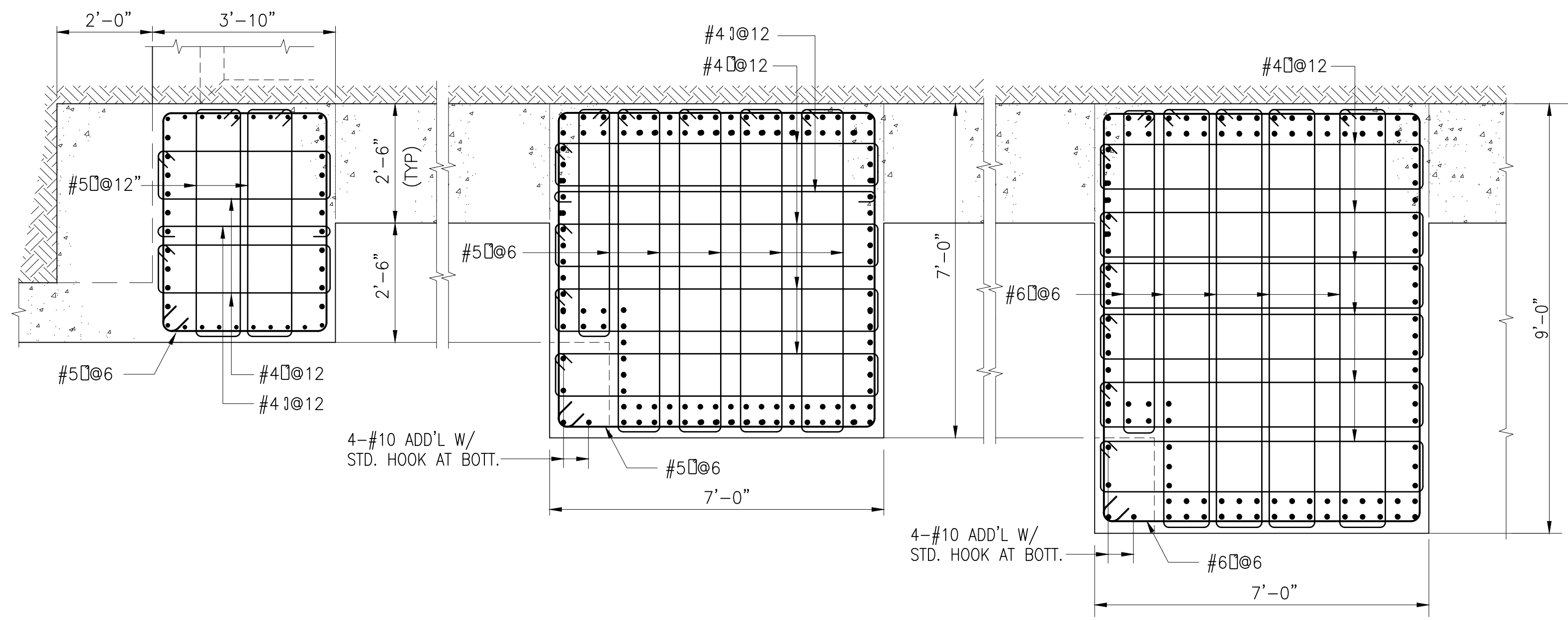
2

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4

5

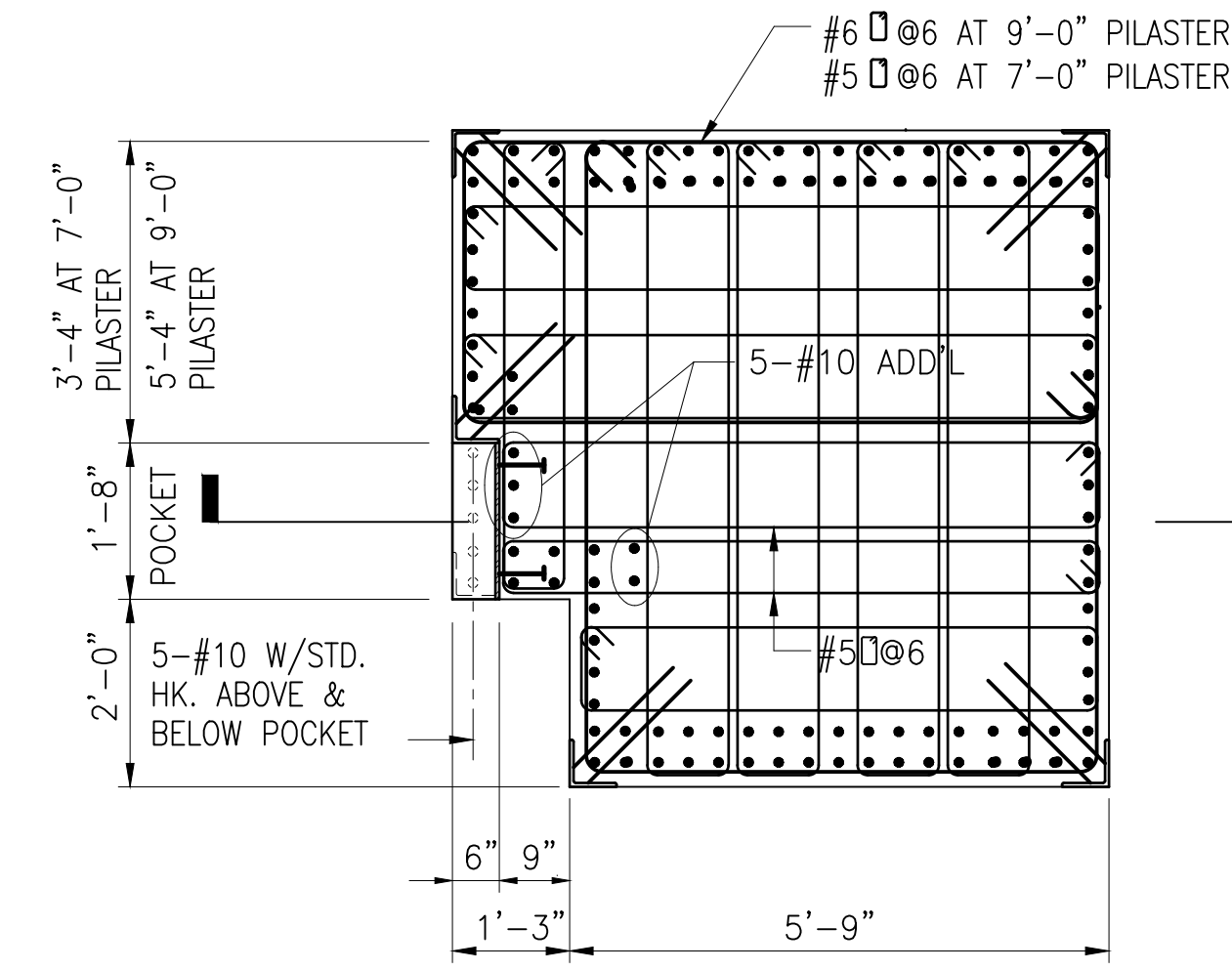
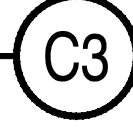
FILE NAME: C:\Users\kellecortino\AppData\Local\Temp\4e9d4b18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-504 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kellecortino



SECTION

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

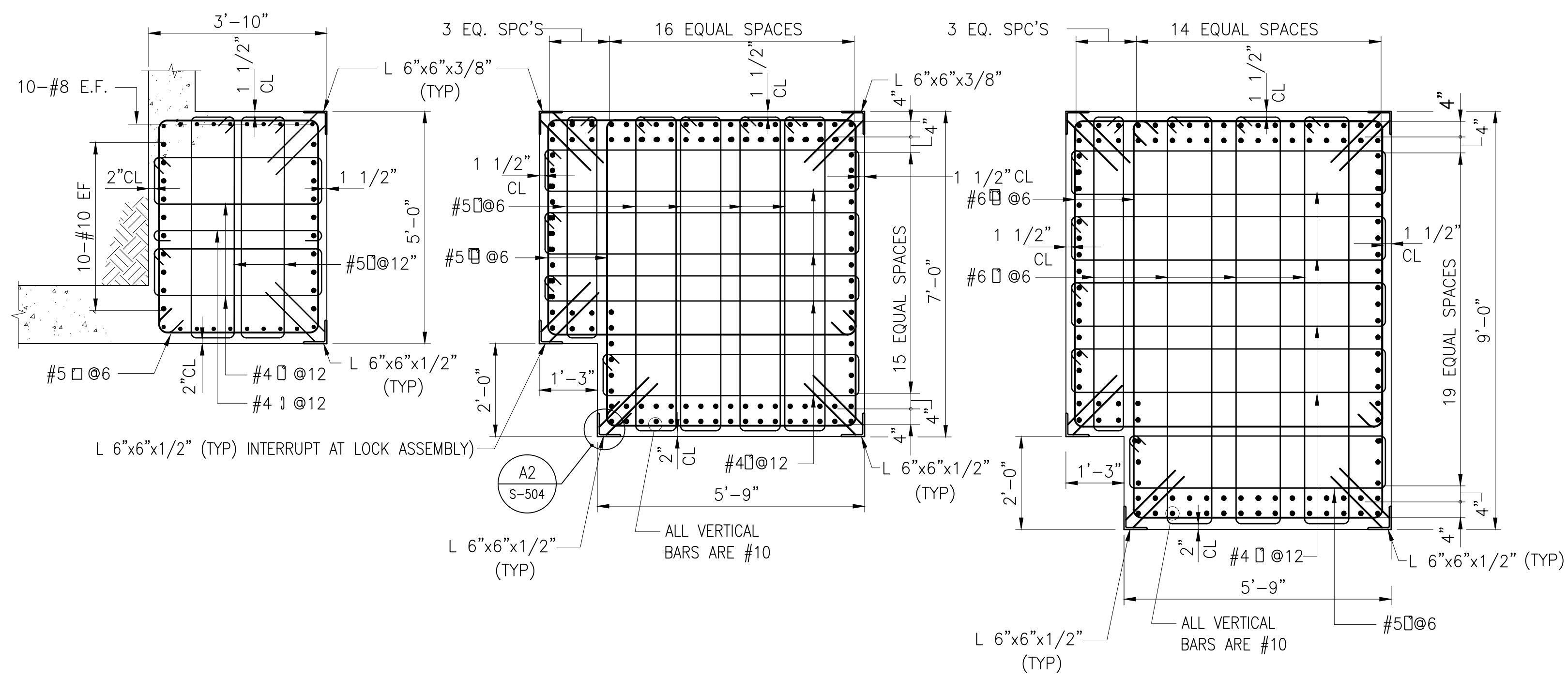
S-301, S-303, S-503, S-504



SECTION

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

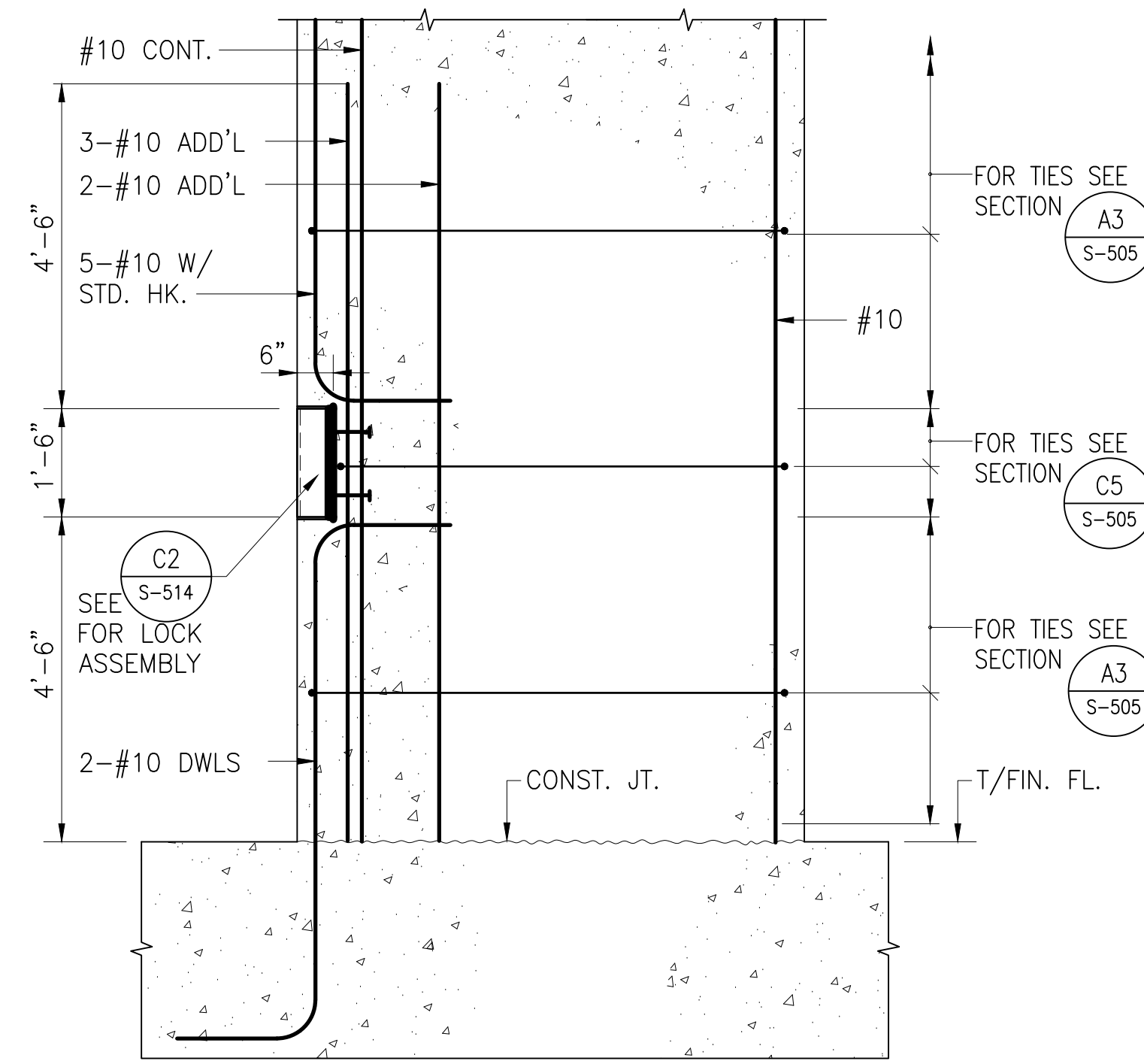
S-303, S-505



SECTION

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

S-301, S-303, S-503, S-504, S-505



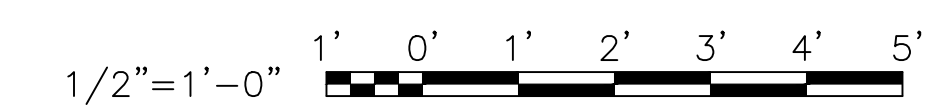
SECTION

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

S-505



GRAPHIC SCALE:



APPROVED	DATE	APP'R
	09/14/22	
TYPED STANDARD		
SYN DESCRIPTION		
TYPE D BOX MAGAZINE HEAD WALL DETAILS		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND DESIGN AND CONSTRUCTION		
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND BRANCH MANAGER CHIEF ENGINEER RICHARD L. STEPHENS, P.E. FIRE PROTECTION DPS		
SATISFACTORY TO DATE MM/DD/YYYY DES DRW IWR CHK LMM		
PROJECT NO.: CONSTR. CONTR. NO.:		
SCALE: AS NOTED		
NAVFAC DRAWING NO. 14084177		
SHEET 16 OF 40		
S-505		
<small>DRAWING REVISION: 25 AUGUST 2020</small>		

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\kelle.cornino_15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-505 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino 18232953

1

2

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4

5

D

C

B

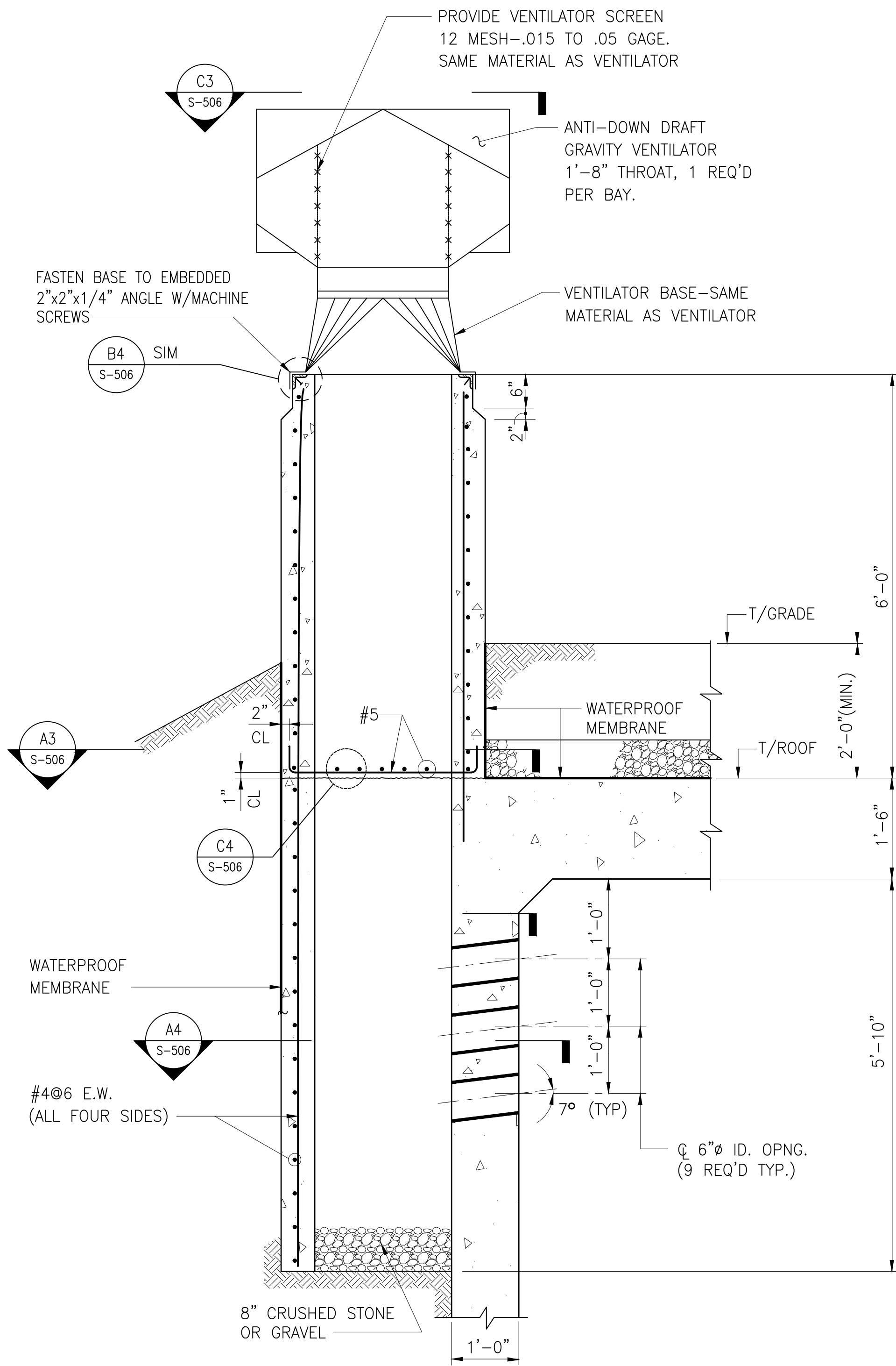
A

D

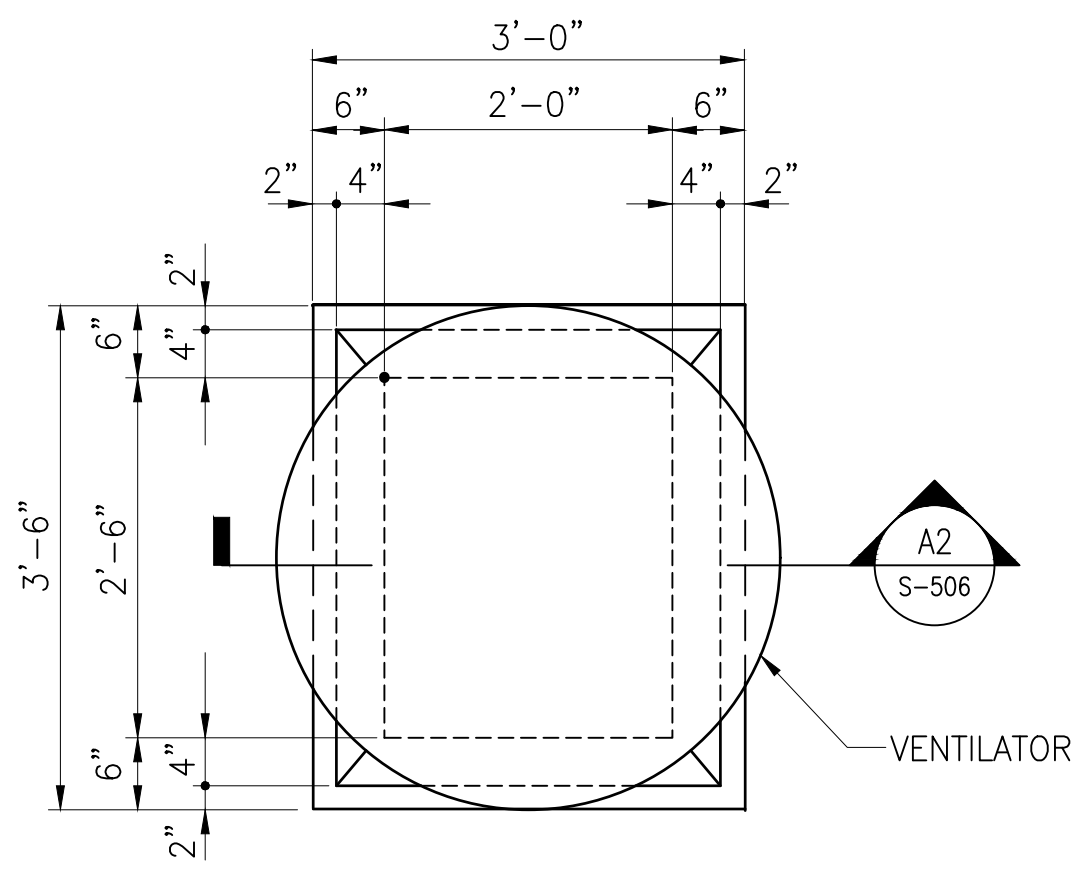
C

B

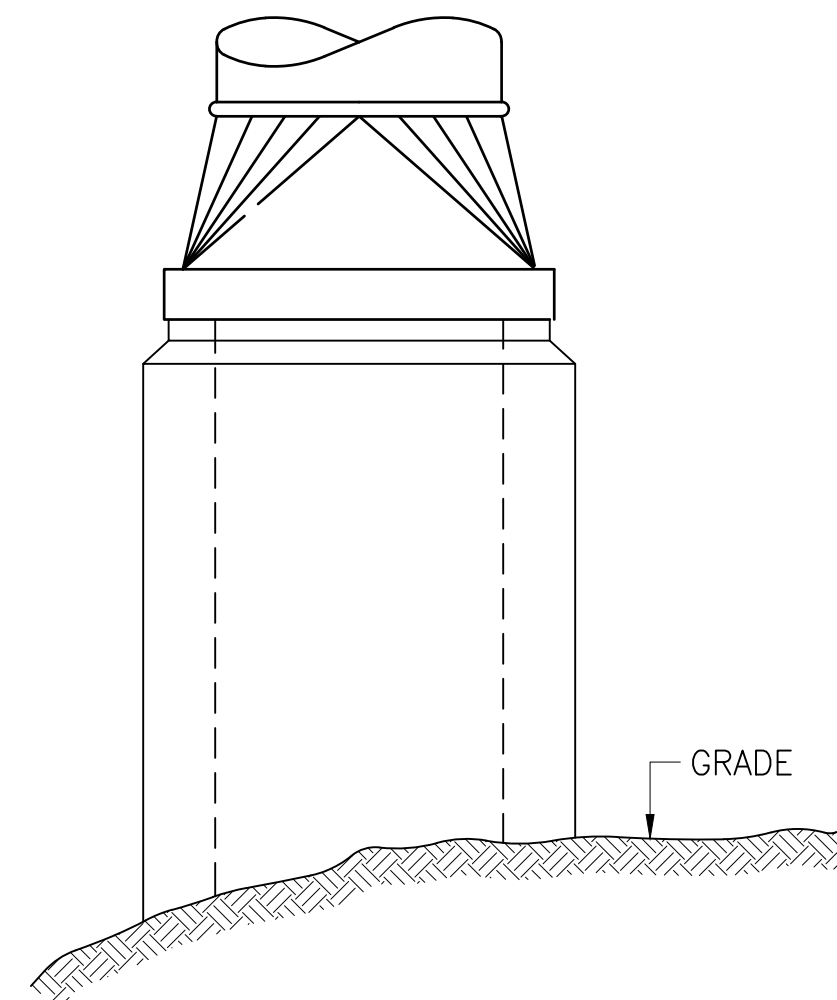
A



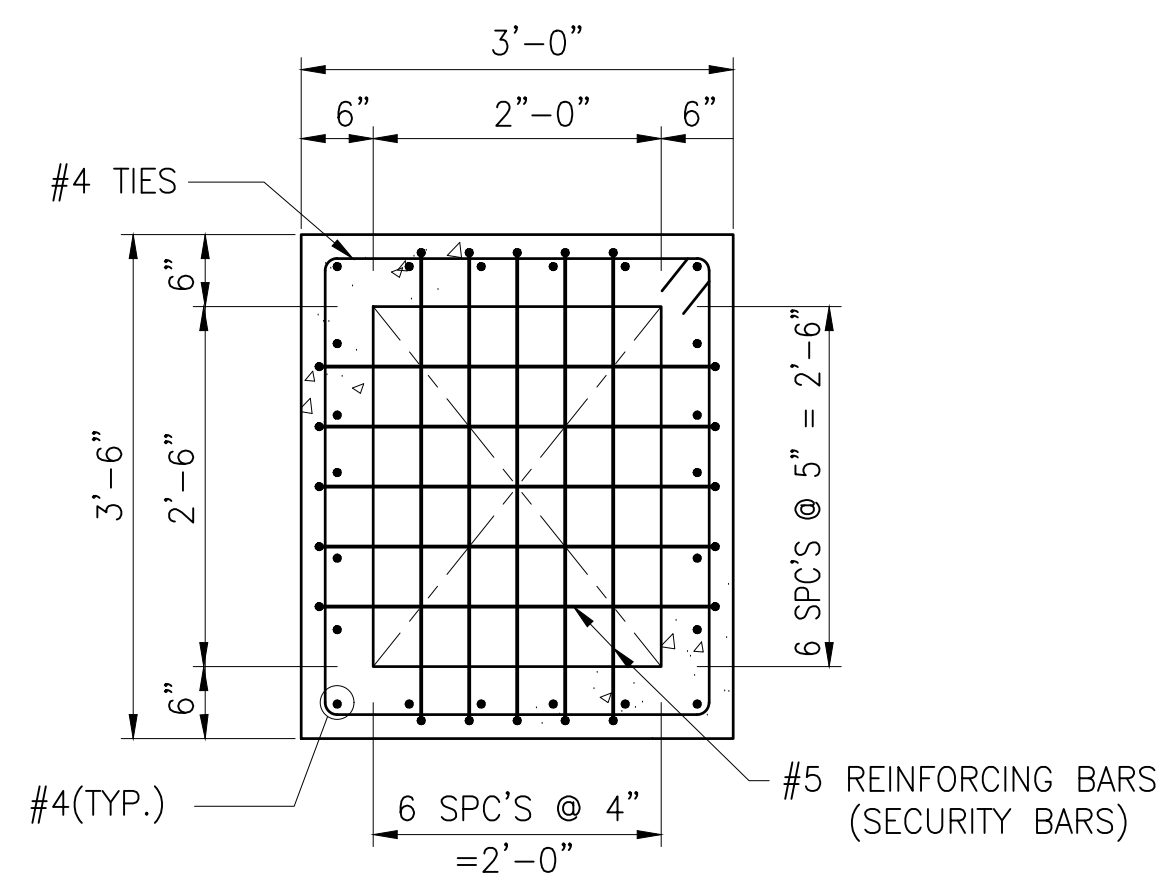
SECTION
SCALE: 3/4" = 1'-0" S-104, S-301, S-506 **A2**



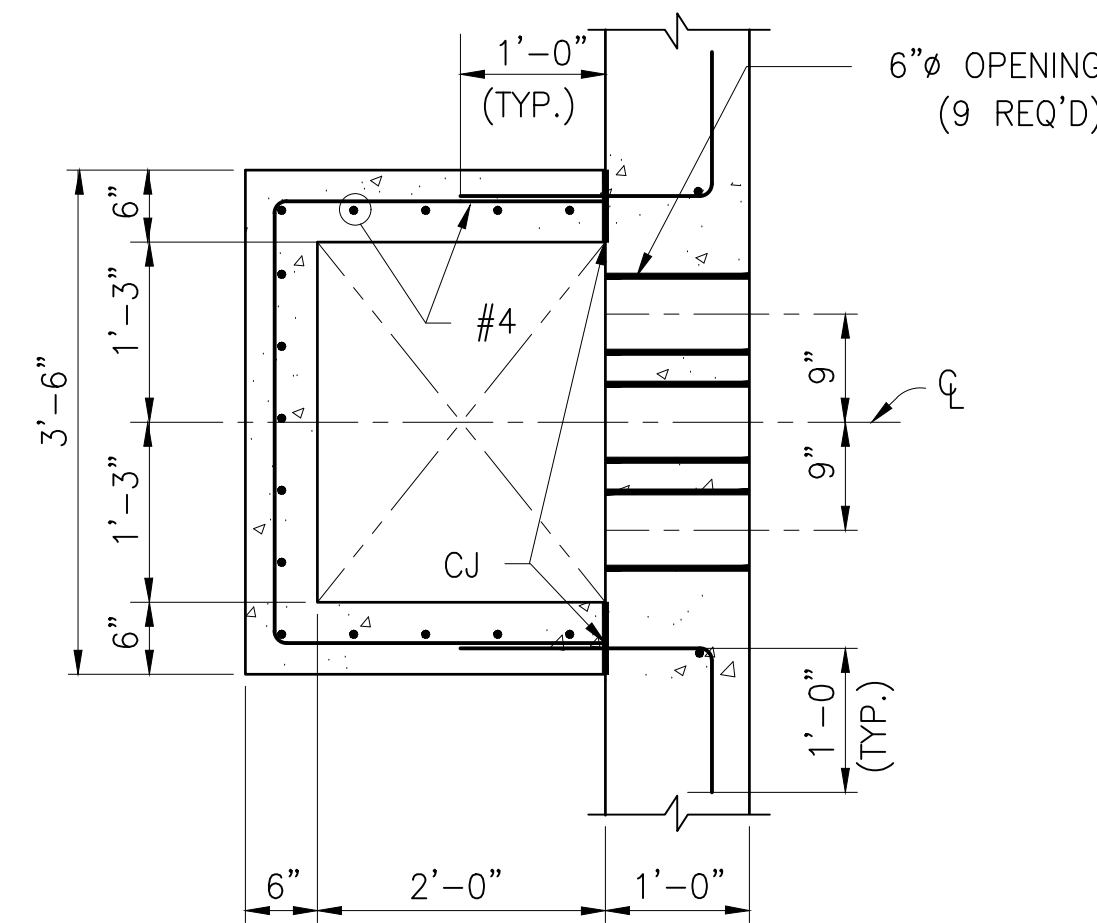
DETAIL
SCALE: 3/4" = 1'-0" S-506 **C3**



ELEVATION
SCALE: 3/4" = 1'-0" S-506 **B3**



SECTION
SCALE: 3/4" = 1'-0" S-506 **A3**



SECTION
SCALE: 3/4" = 1'-0" S-506 **A4**

NOTES

1. VENTILATOR SHALL BE DESIGNED BY THE CONTRACTOR FOR A SUSTAINED WIND SPEED OF 132 M.P.H.
2. REFER TO ELECTRICAL DRAWINGS FOR LIGHTNING ROD LOCATION ON VENTILATOR.
3. ALL MOVING PARTS SHALL BE NON-SPARKING TYPE.
4. GRAVITY VENTILATOR SHALL BE INTRINSICALLY SAFE.



APPROVED
FOR COMMANDER NAFAC
ACTIVITY
SATISFACTORY TO DATE MM/DD/YY
DES IWR CHK LMM
PMIDM
BRANCH MANAGER JTW
CHIEF ENGINEER RICHARD L. STEPHENS, P.E.
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION

TYPE D BOX MAGAZINE
VENTILATOR DETAILS, SECTIONS AND ELEVATIONS

SCALE: AS NOTED
PROJECT NO.:
CONSTR. CONTR. NO.:

NAVFAC DRAWING NO. 14084178
SHEET 17 OF 40

S-506

DATE 09/14/22

DESCRIPTION TYPED STANDARD

DATE 09/14/22

DATE 09/14/22

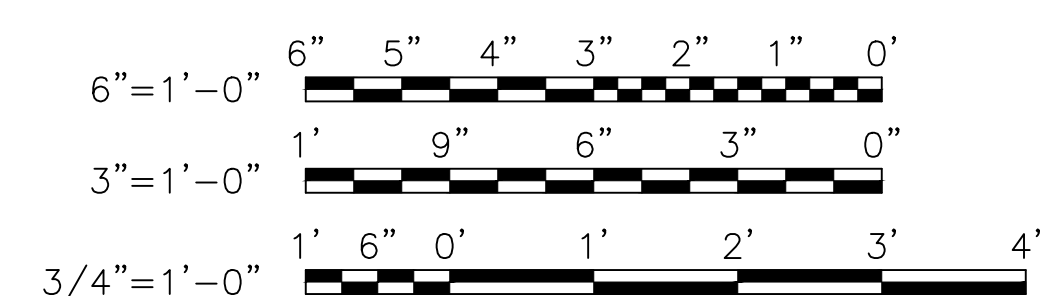
DATE 09/14/22

DATE 09/14/22

DATE 09/14/22

DATE 09/14/22

GRAPHIC SCALE:



1

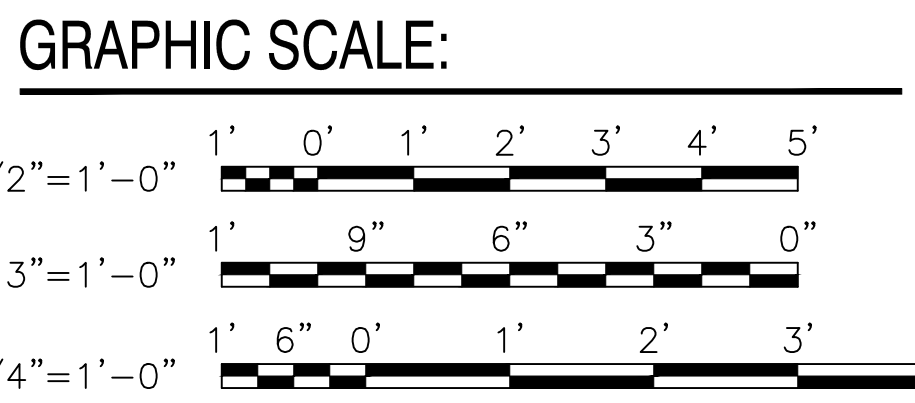
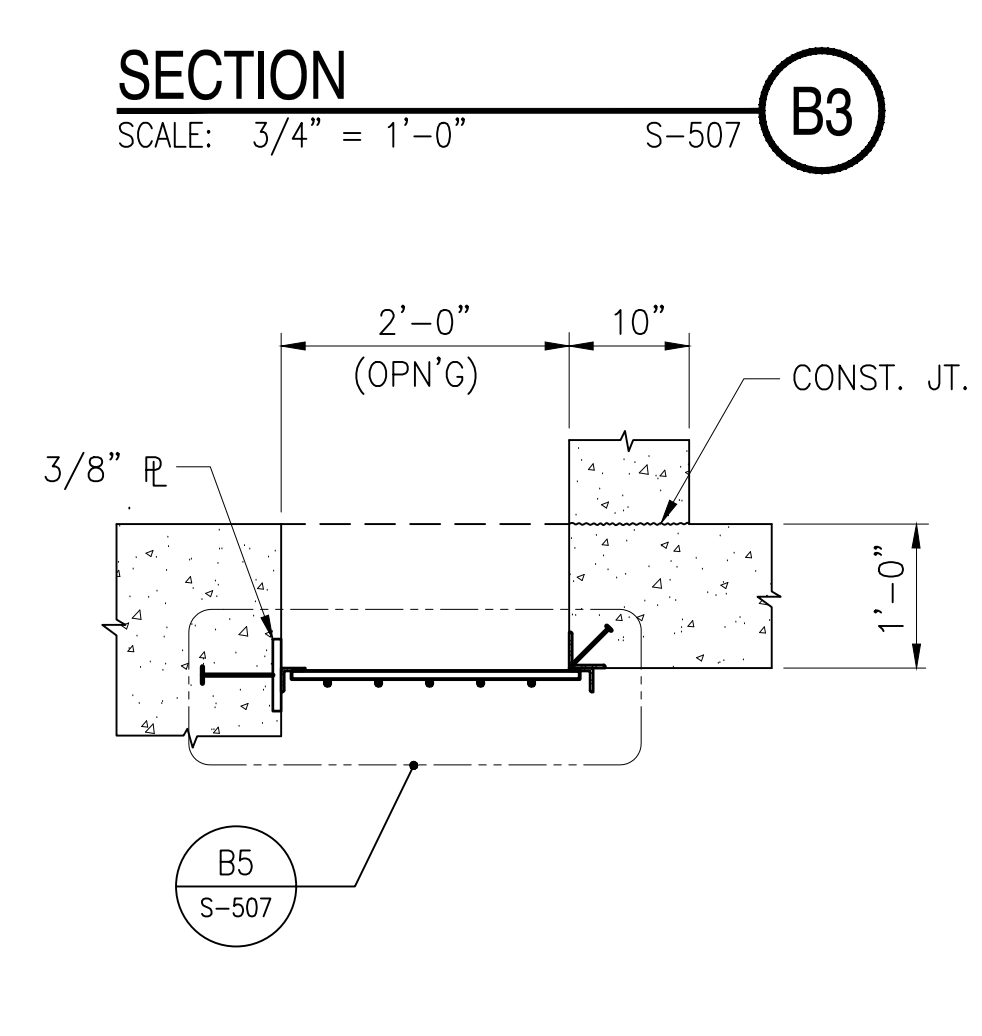
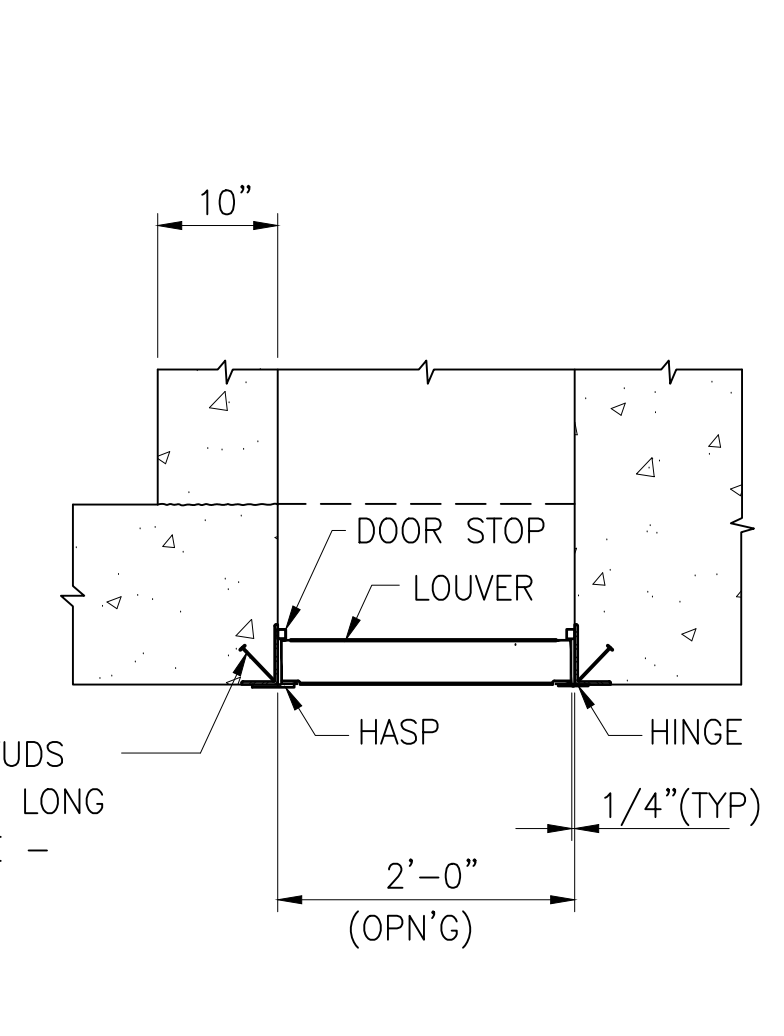
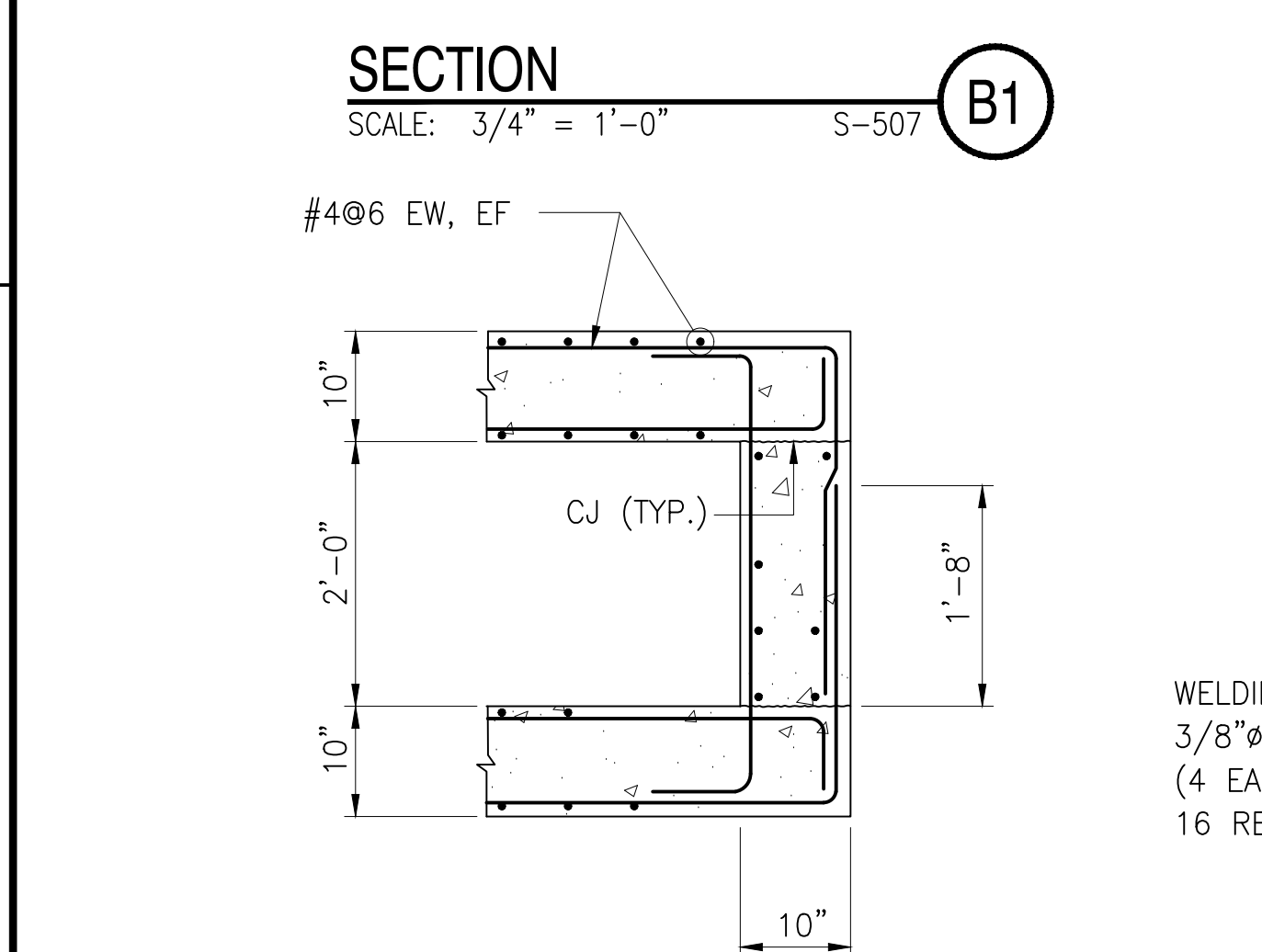
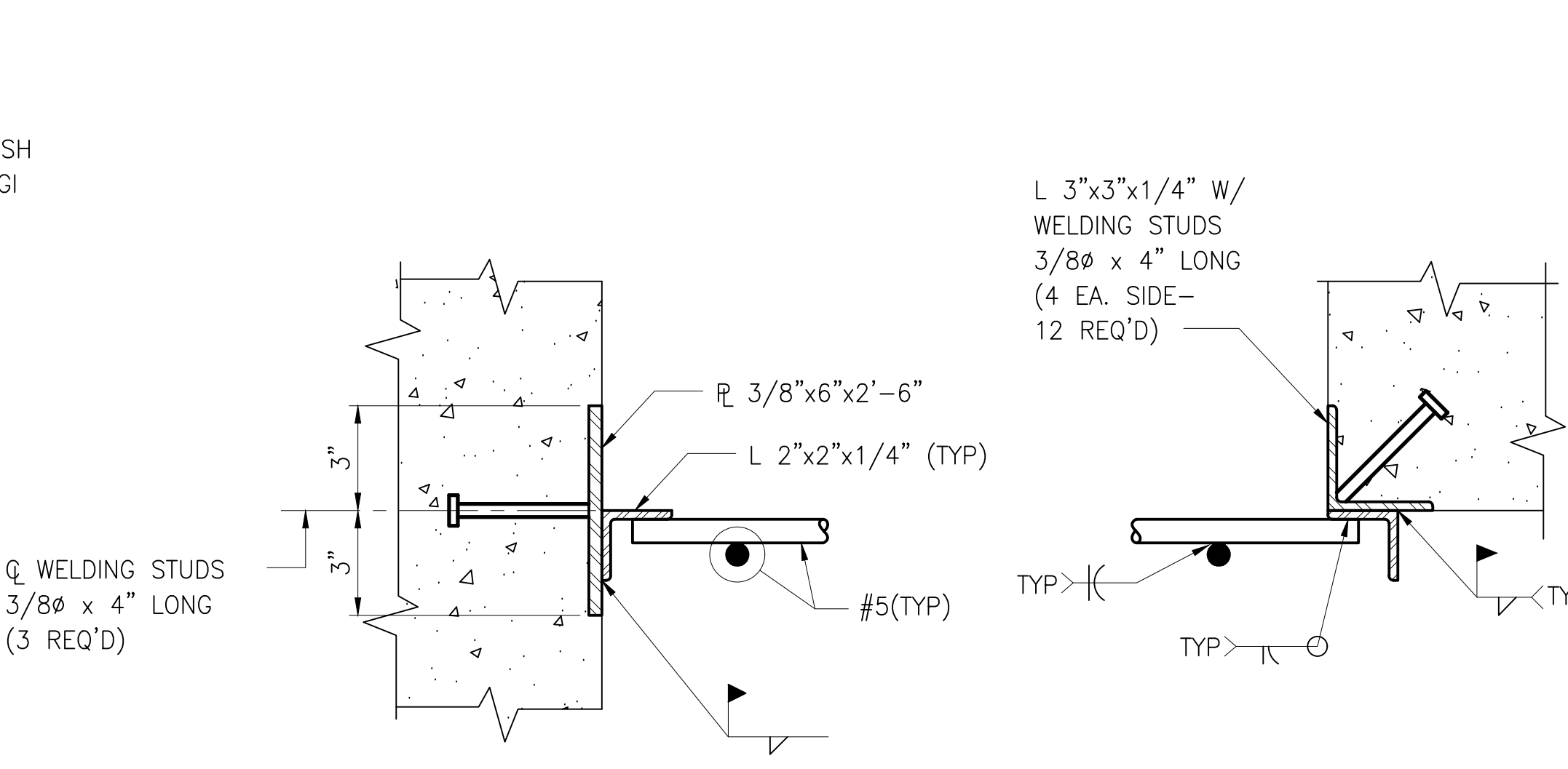
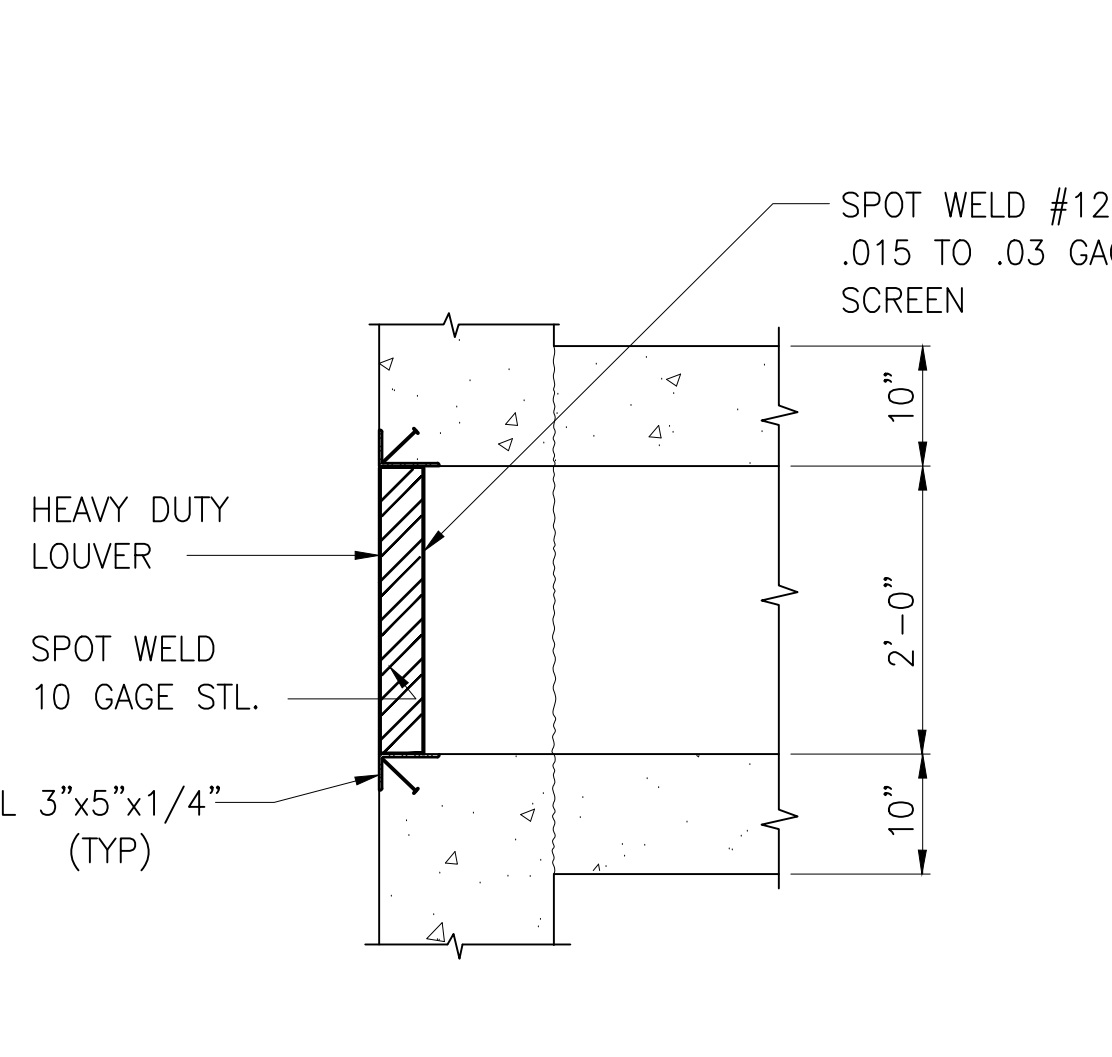
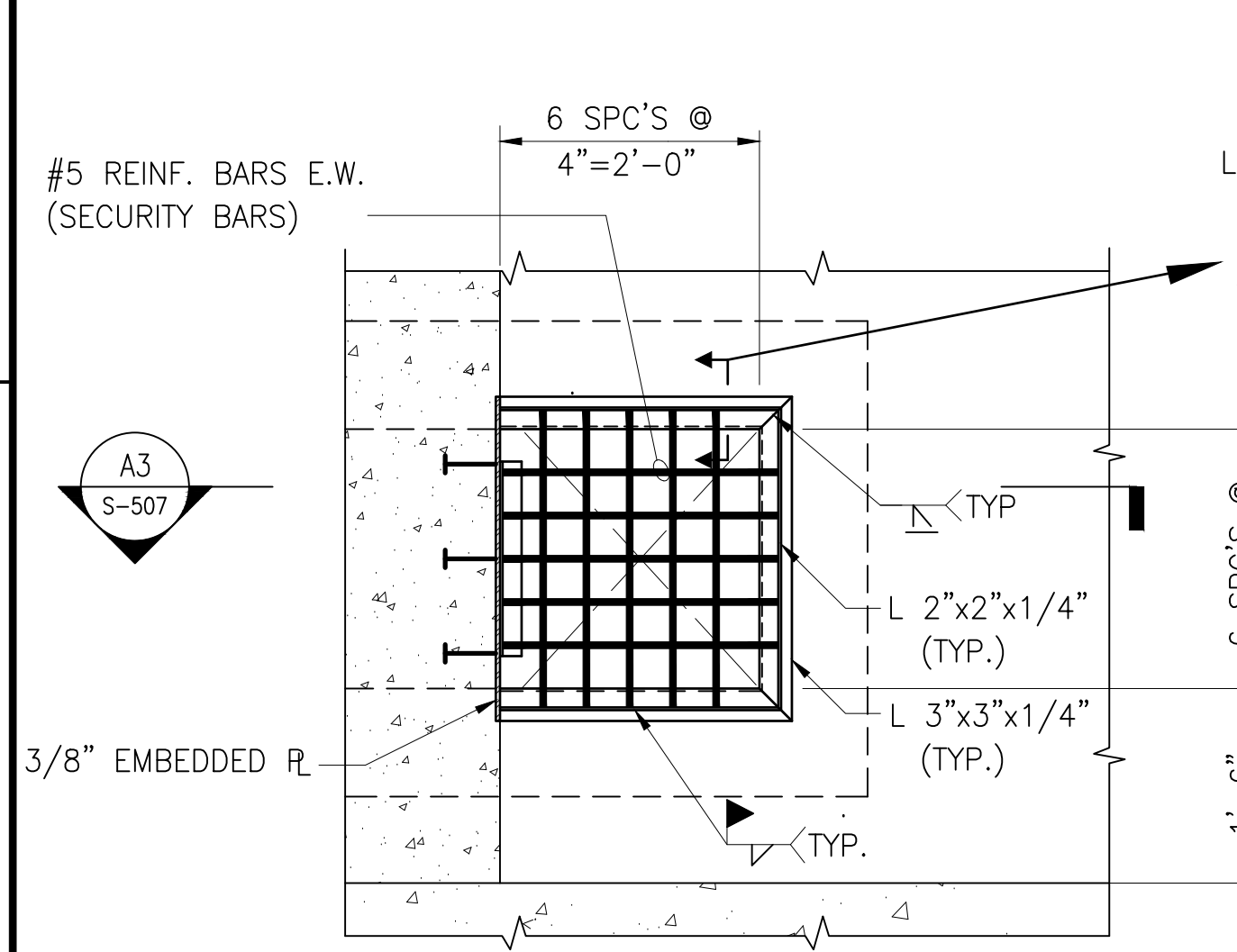
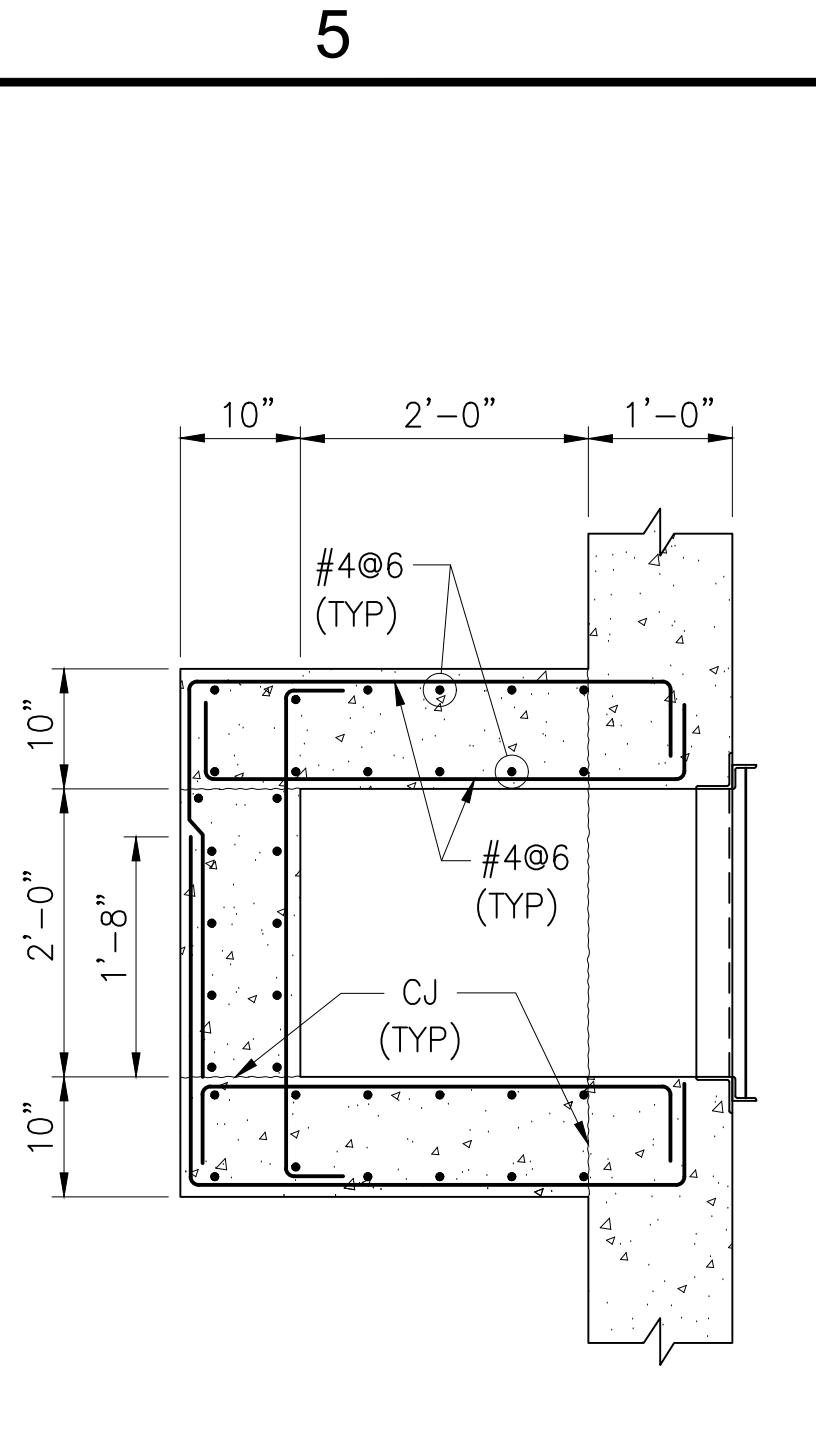
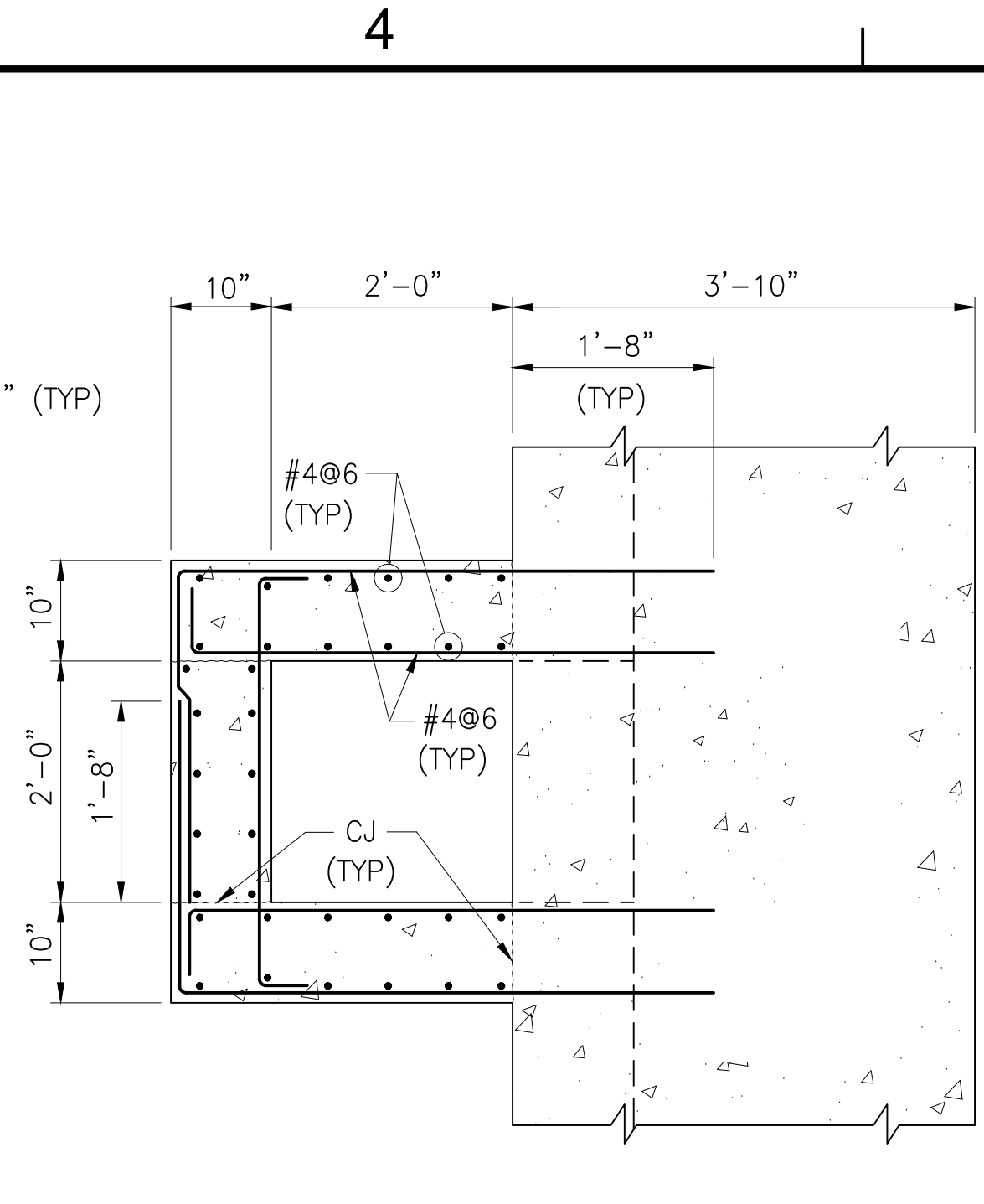
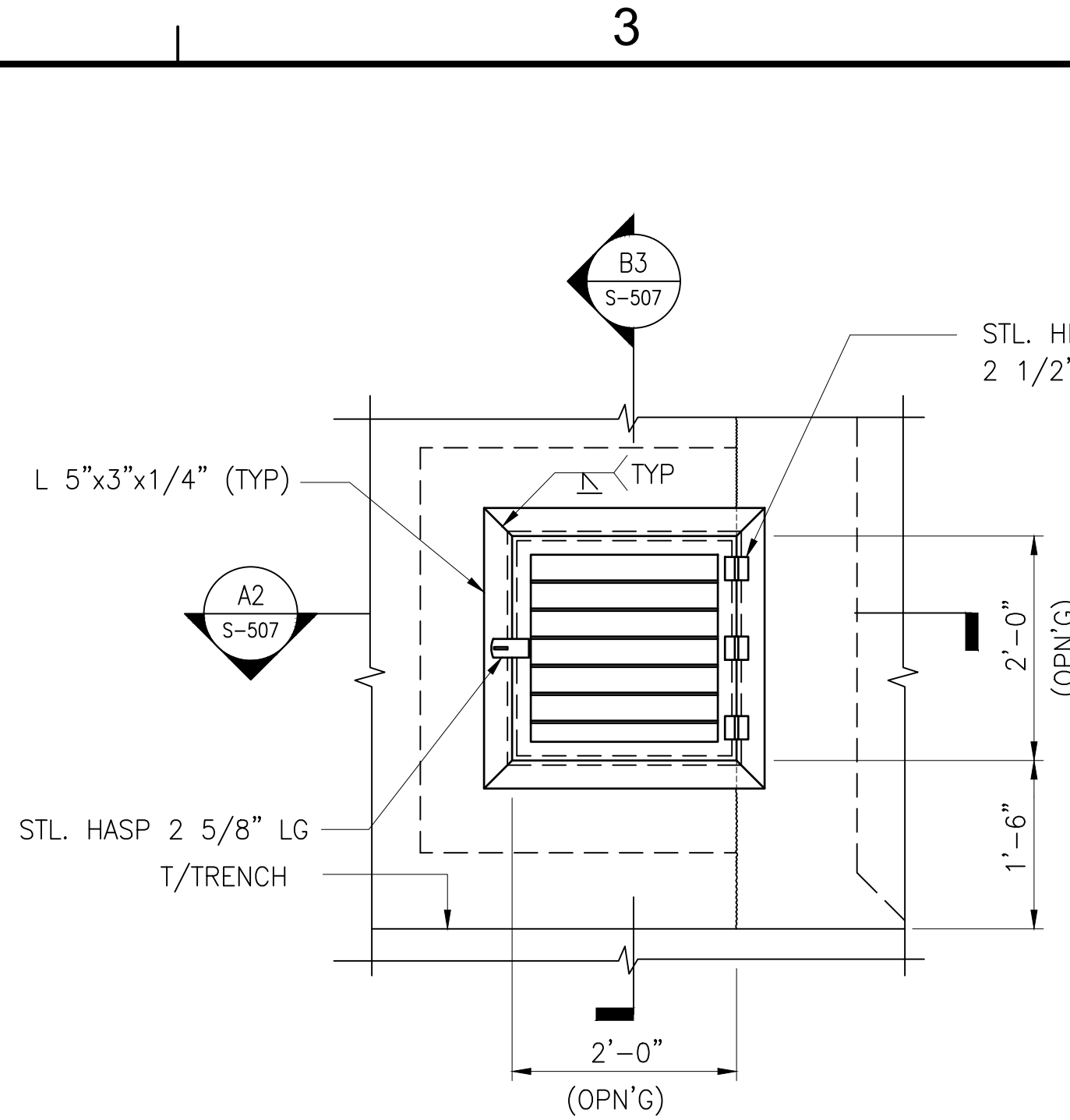
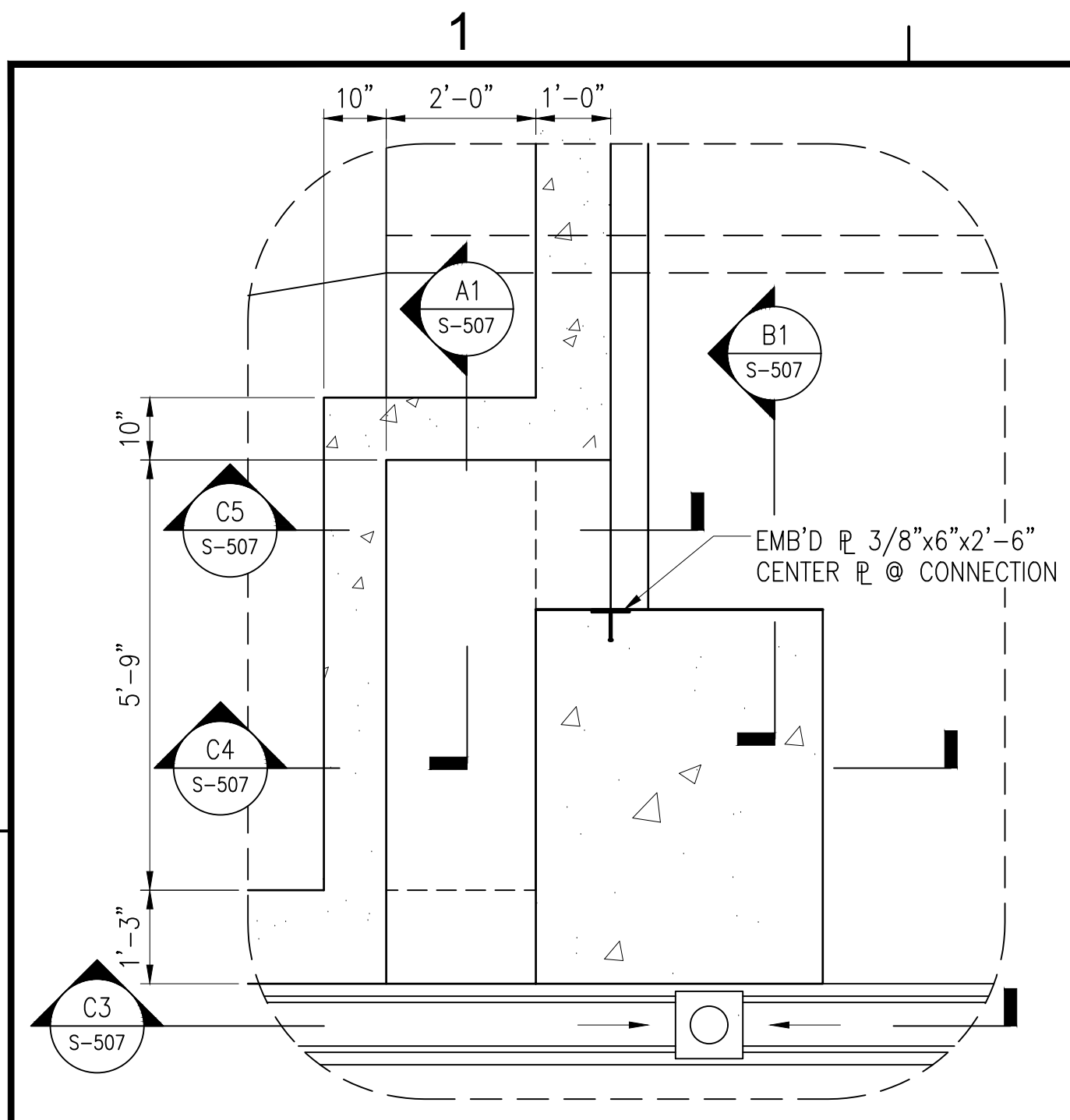
2

3

4

5

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4b18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-506 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino



APPROVED	DATE	09/14/22
DESIGNED	DATE	
CHECKED	DATE	
DRAWN	DATE	
IN CHARGE	DATE	
PROJECT NO.	14084179	
CONSTR. CONTR. NO.	--	
NAVFAC DRAWING NO.	S-507	
SHEET	18	OF 40
DRAWING REVISION: 25 AUGUST 2020		

NAVFAC

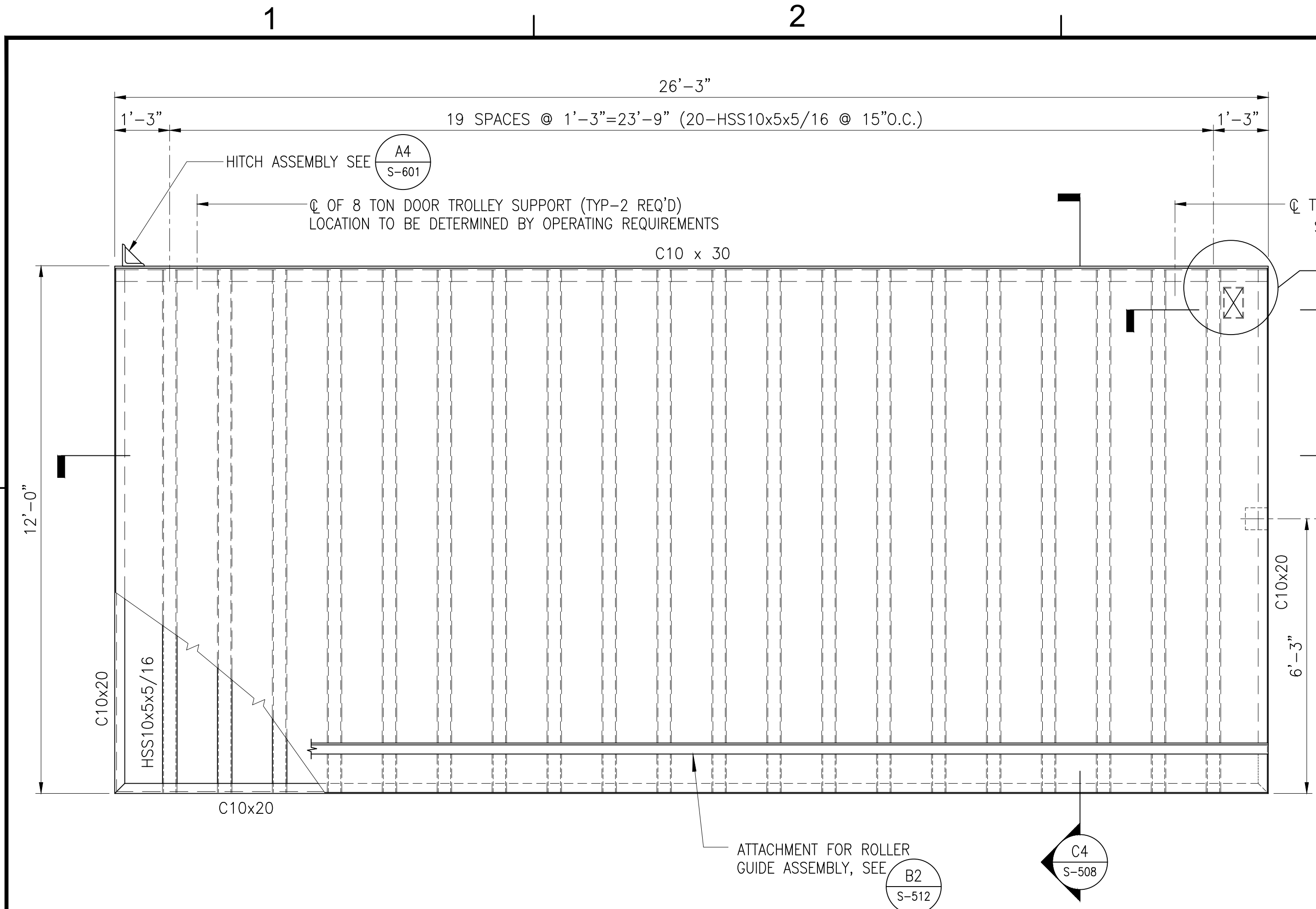
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
BRANFORD, VA

TYPE D BOX MAGAZINE
AIR INTAKE SECTIONS AND DETAILS

AS NOTED

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4eb4-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-507 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino



SLIDING DOOR ELEVATION

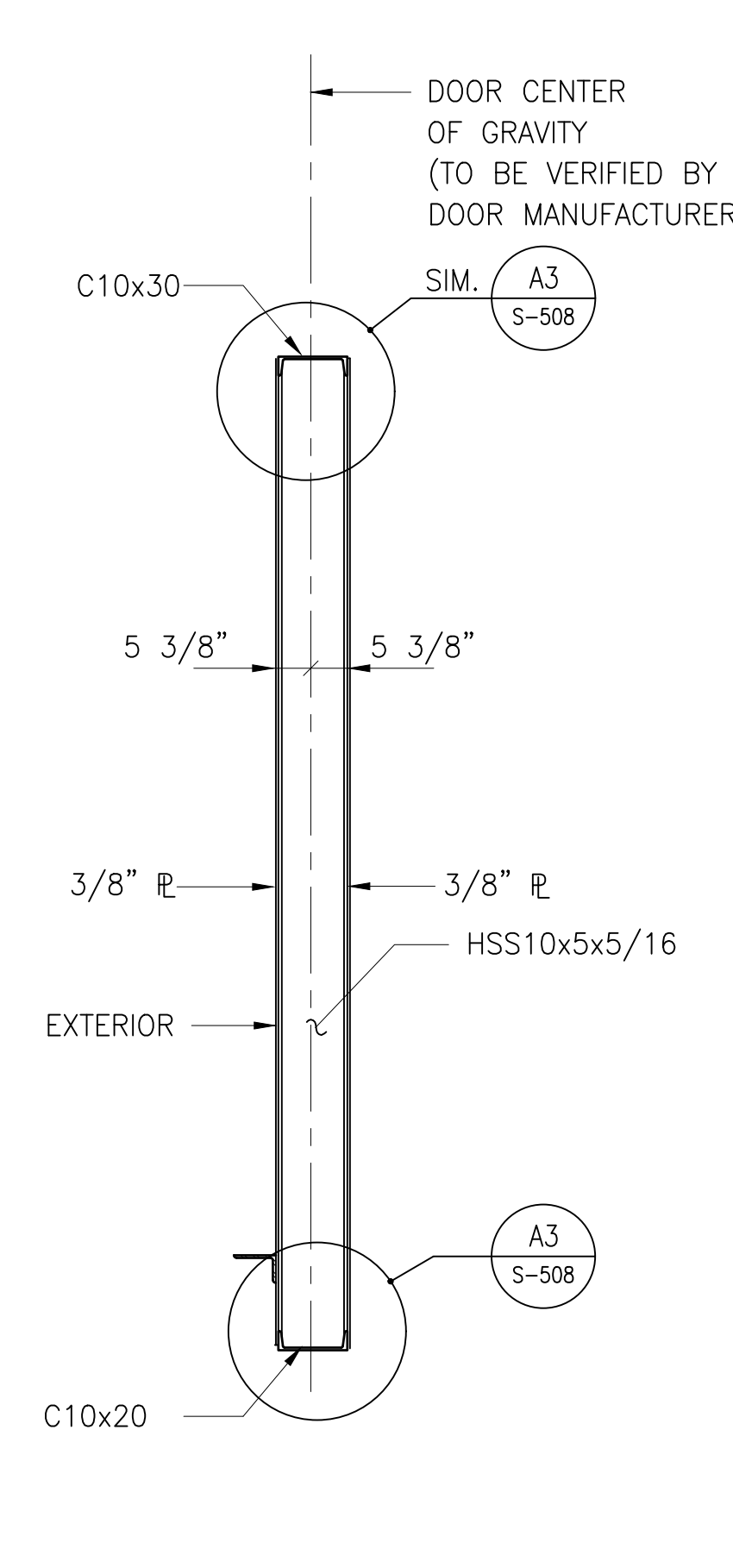
SCALE: 1/2" = 1'-0"

S-304 **C3**

DOOR SECTION

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

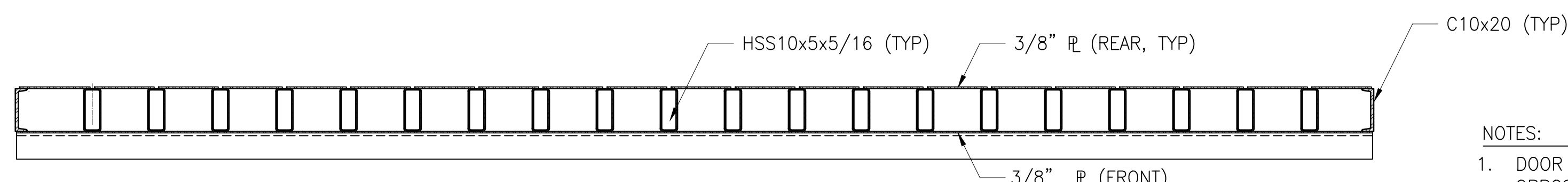
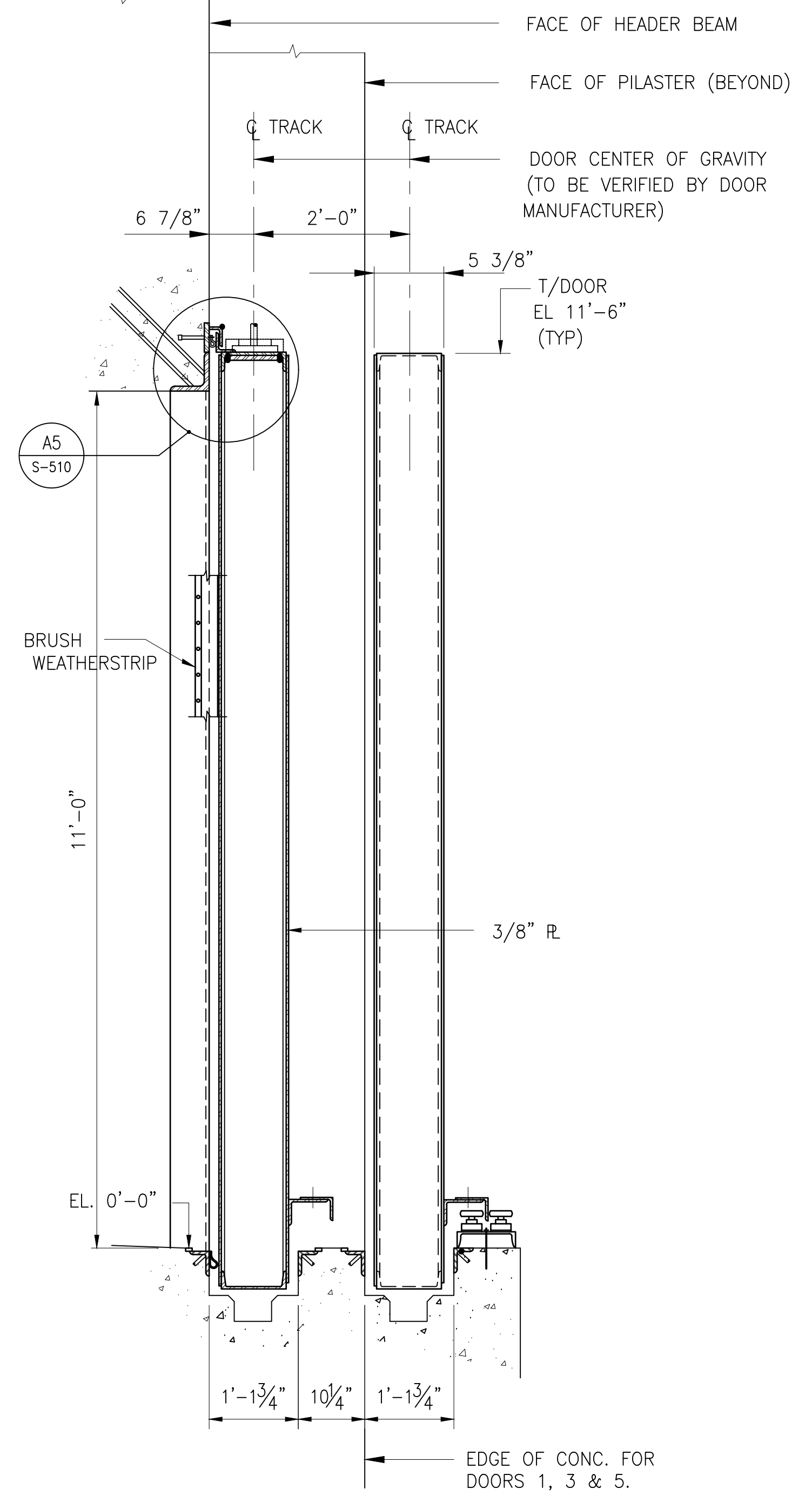
S-508 **C4**



SECTION

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

S-304 **B5**

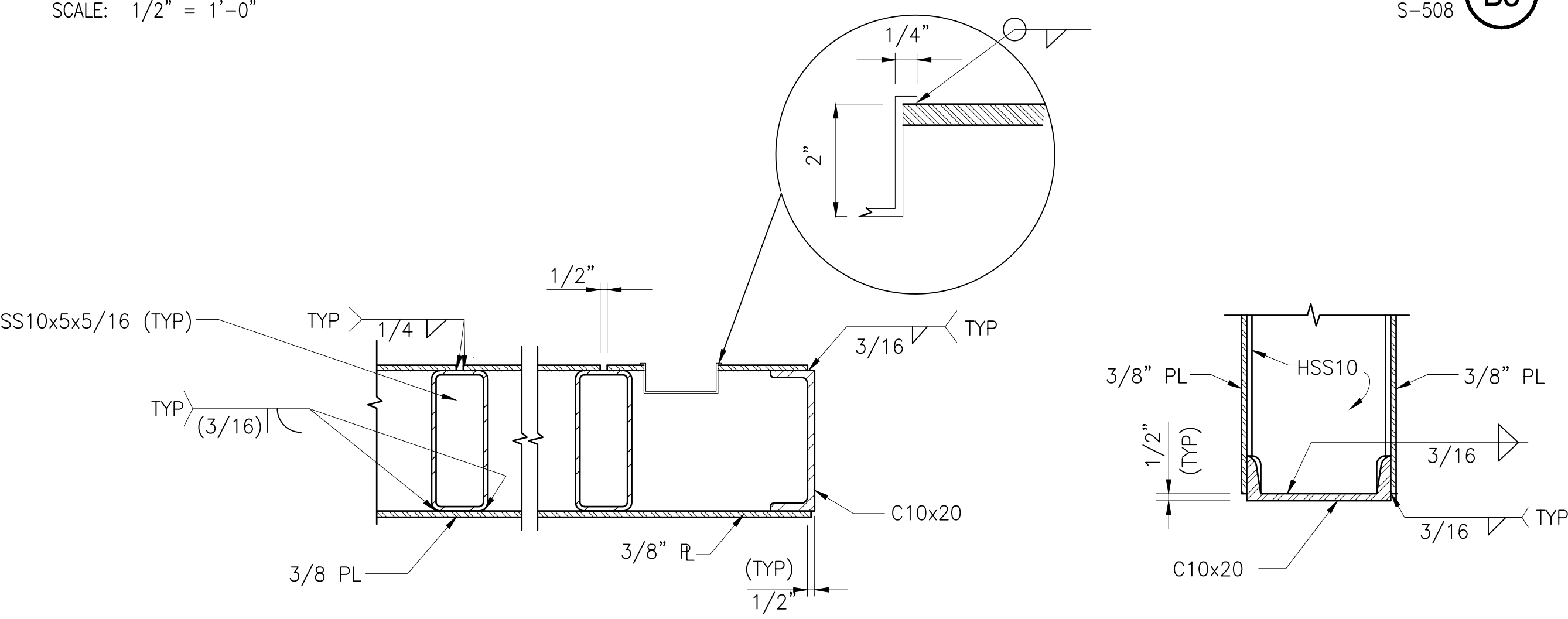


SLIDING DOOR SECTION

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

S-508 **B3**

- NOTES:
- DOOR NO'S 1, 2 AND 3 AS SHOWN. DOOR NO'S 4 AND 5 OPPOSITE HAND.
 - PROVIDE 6"x6"x10" STEEL BLOCK AT LEADING EDGE OF DOOR NO'S 1, 2, 4 AND 5 FOR INTERNAL LOCK ASSEMBLY. SEE DETAIL **C2** (S-514)



SECTION

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

S-508 **A2**

SECTION

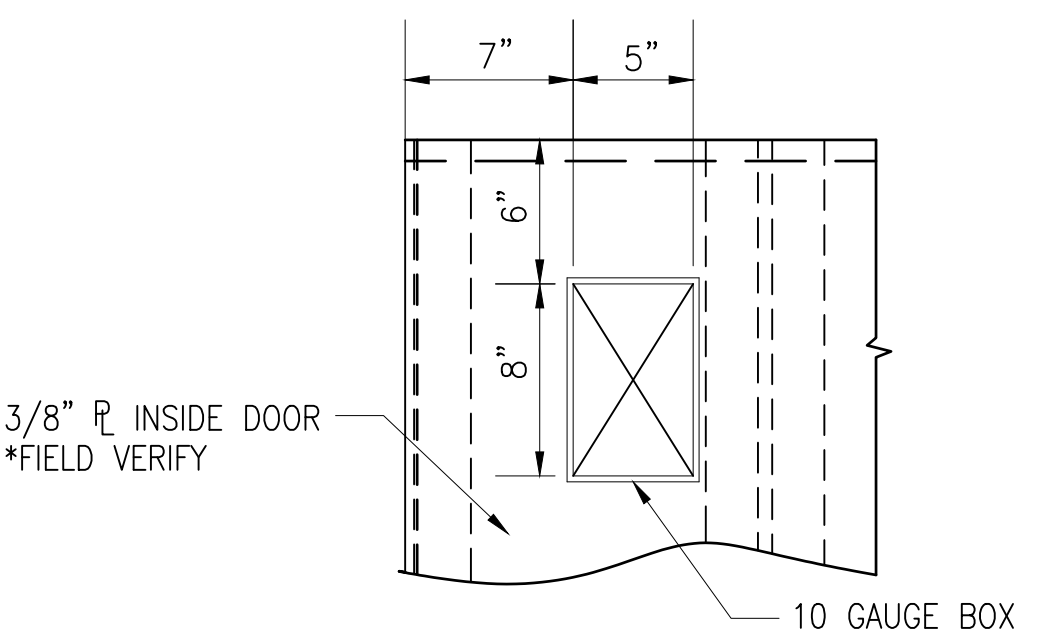
SCALE: 1 1/2" = 1'-0"

S-508 **A3**

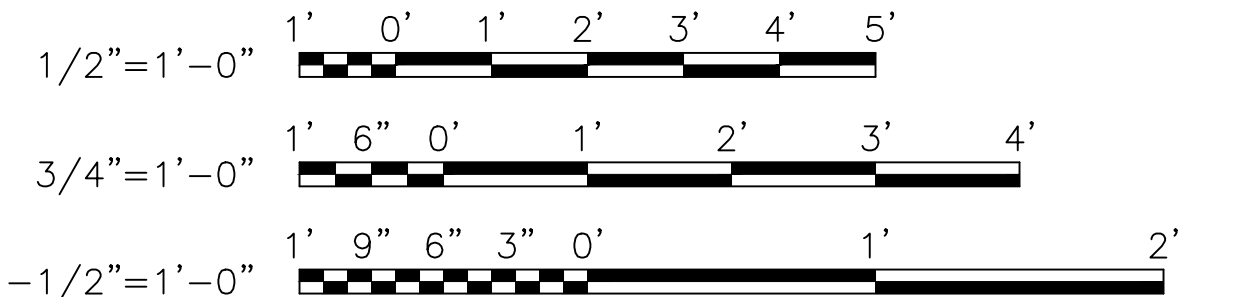
ELEVATION (DOOR INTERIOR VIEW)

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

S-508 **A4**



GRAPHIC SCALE:



DATE	09/14/22
DESCRIPTION	TYPED STANDARD
SEAL	
A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	MM/DD/YYYY
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
TYPE D BOX MAGAZINE	
SLIDING DOOR SECTION DETAILS AND ELEVATION	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084180
SHEET	19 OF 40
S-508	
DRAWING REVISION: 25 AUGUST 2020	

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4d4b-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-508 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

1

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D

C

B

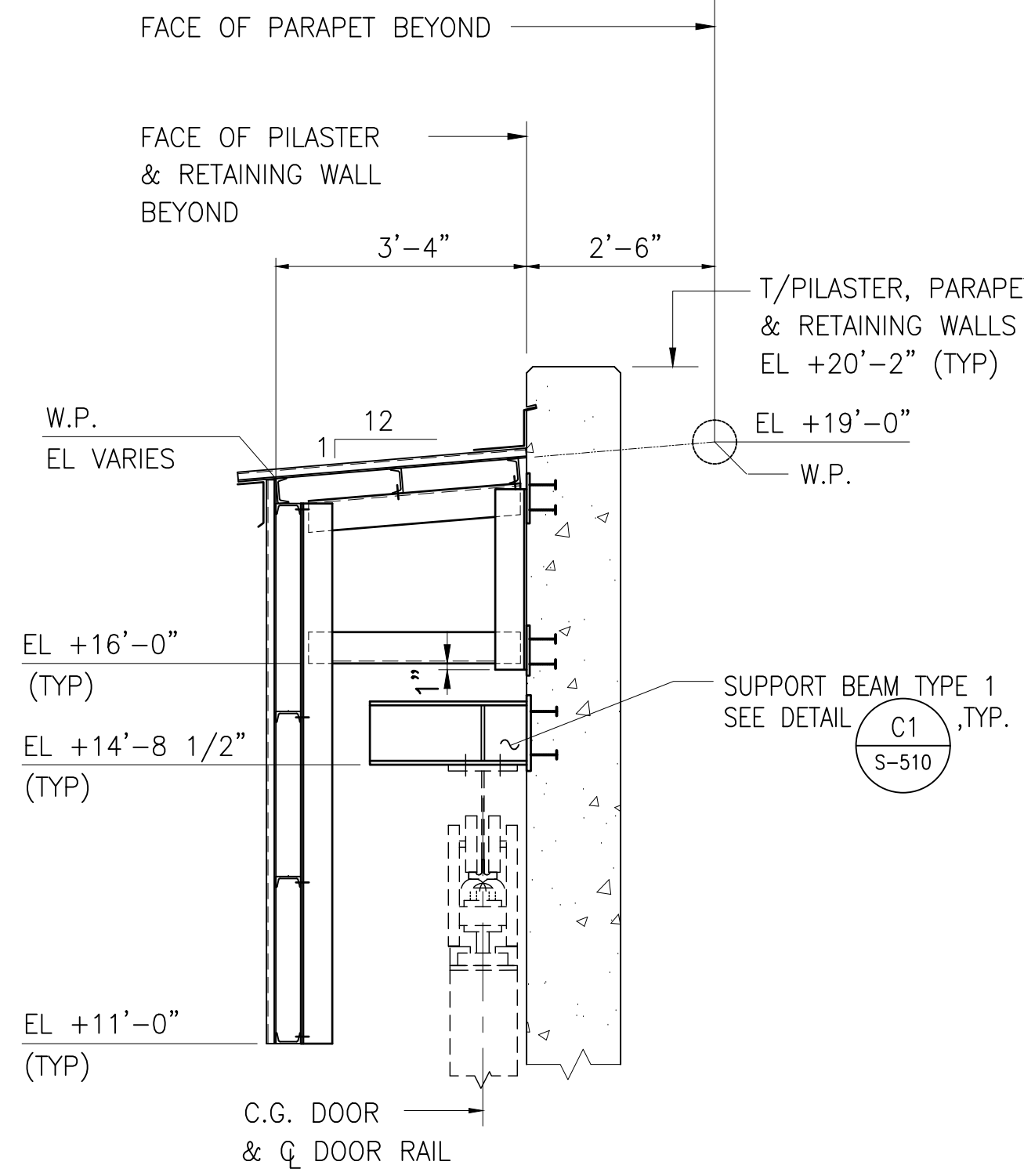
A

D

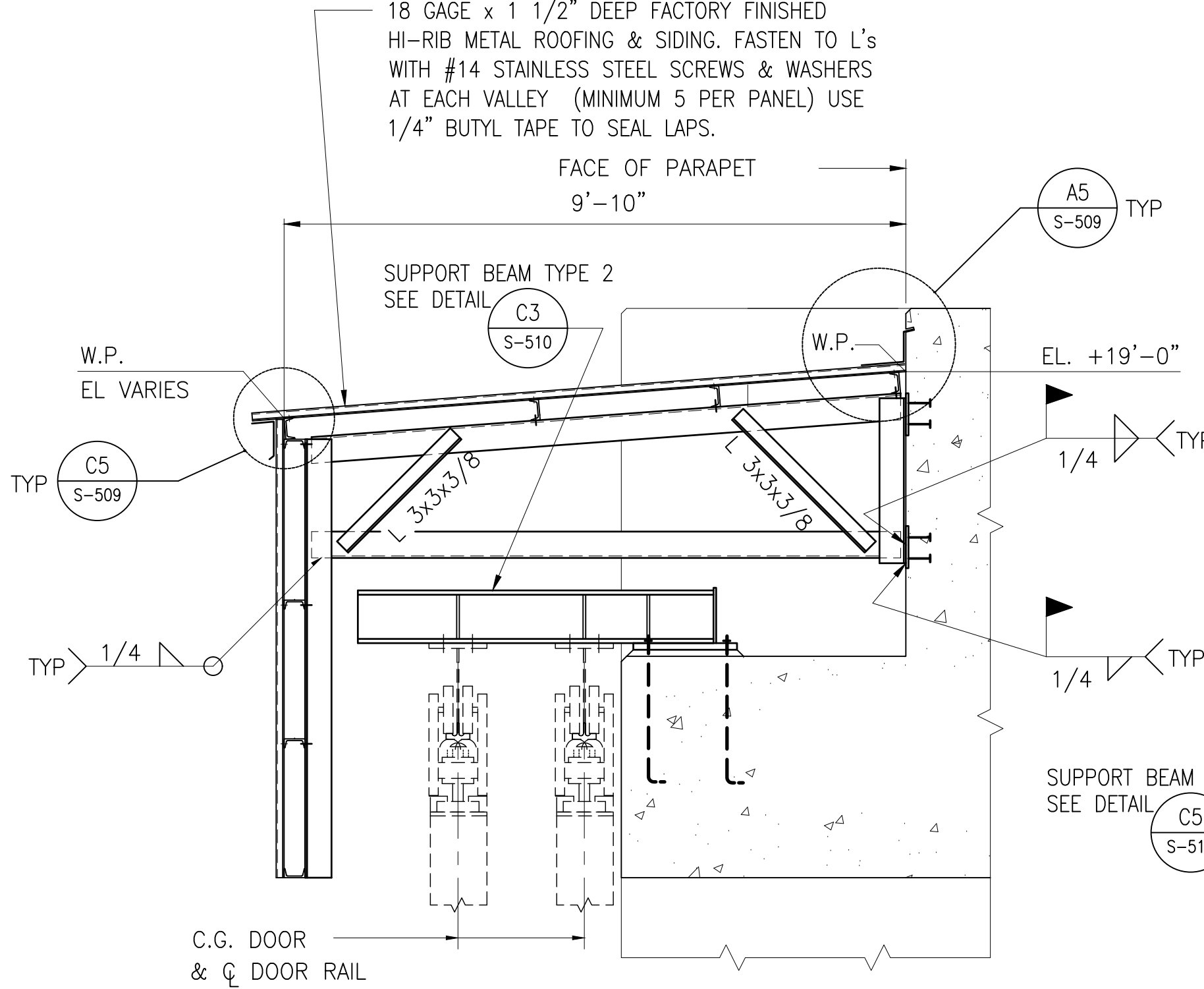
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B

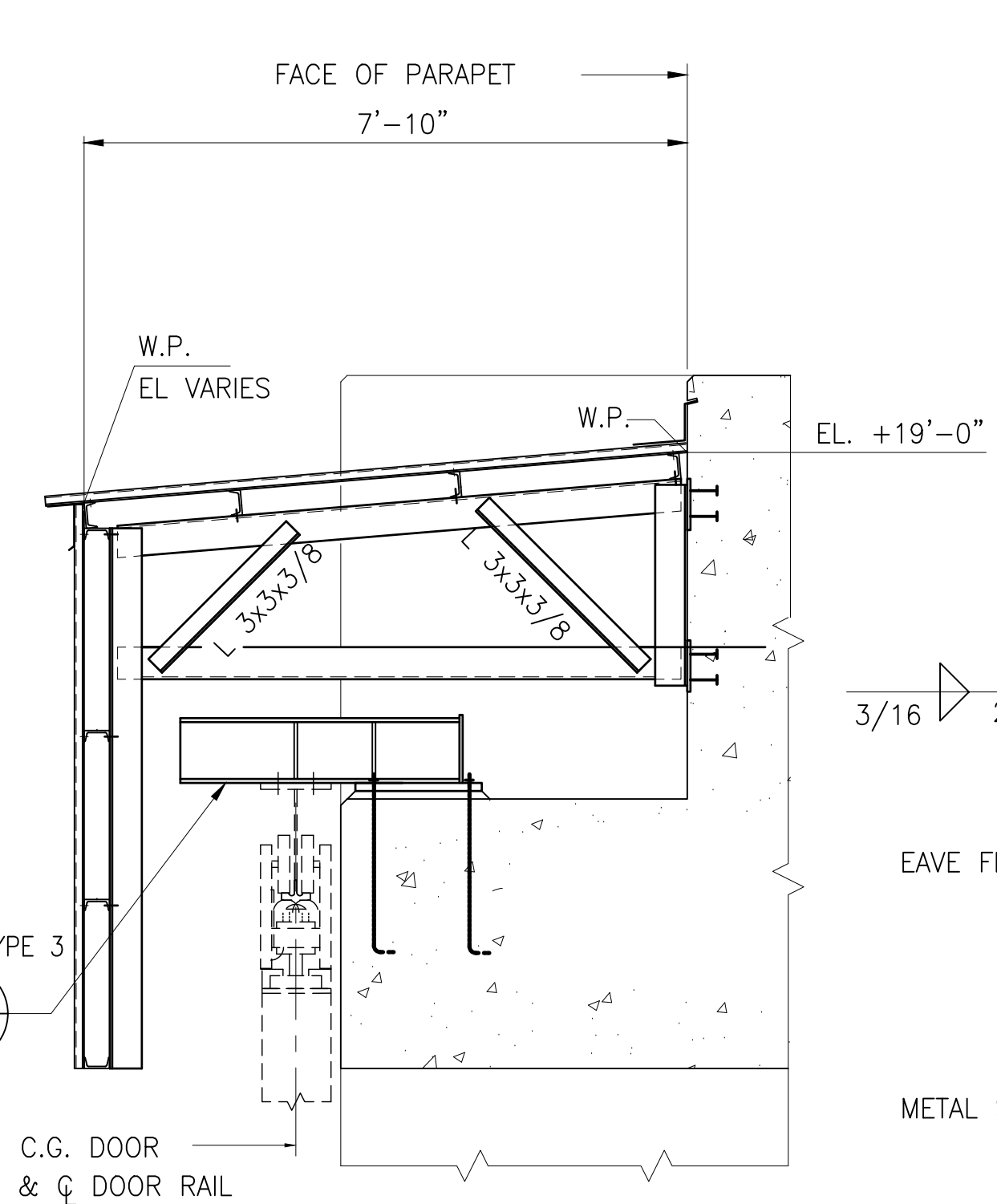
A



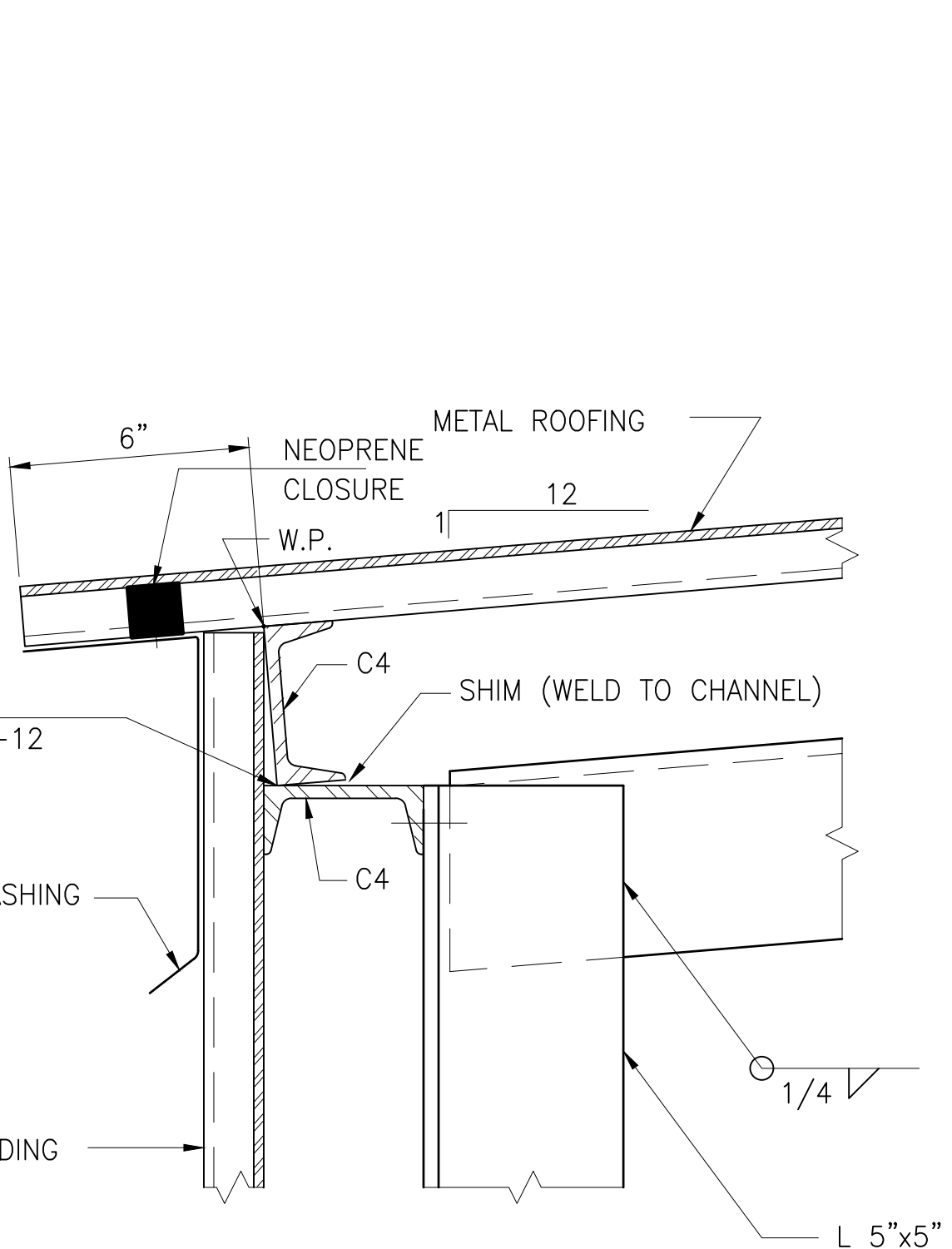
SECTION
SCALE: 1/2" = 1'-0"
S-305 **C1**



SECTION
SCALE: 1/2" = 1'-0"
S-305 **C3**

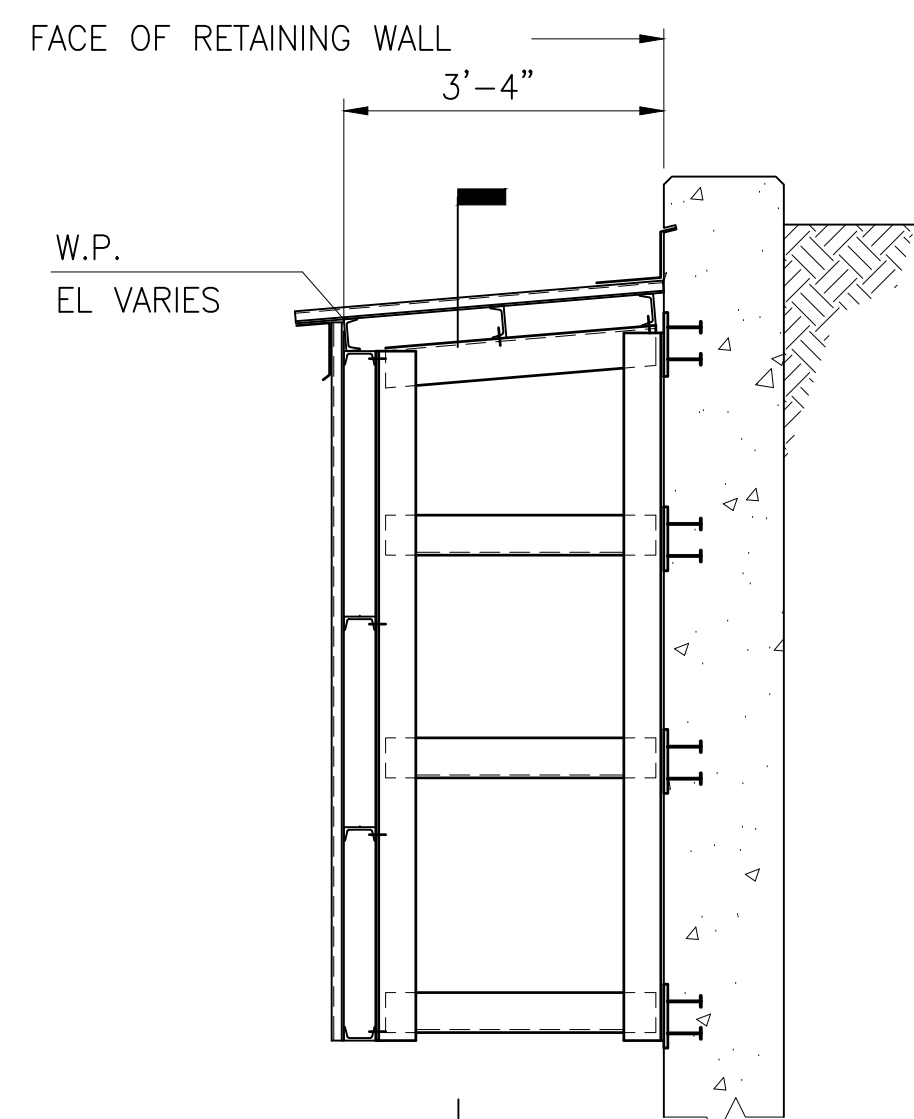


SECTION
SCALE: 1/2" = 1'-0"
S-305 **C4**

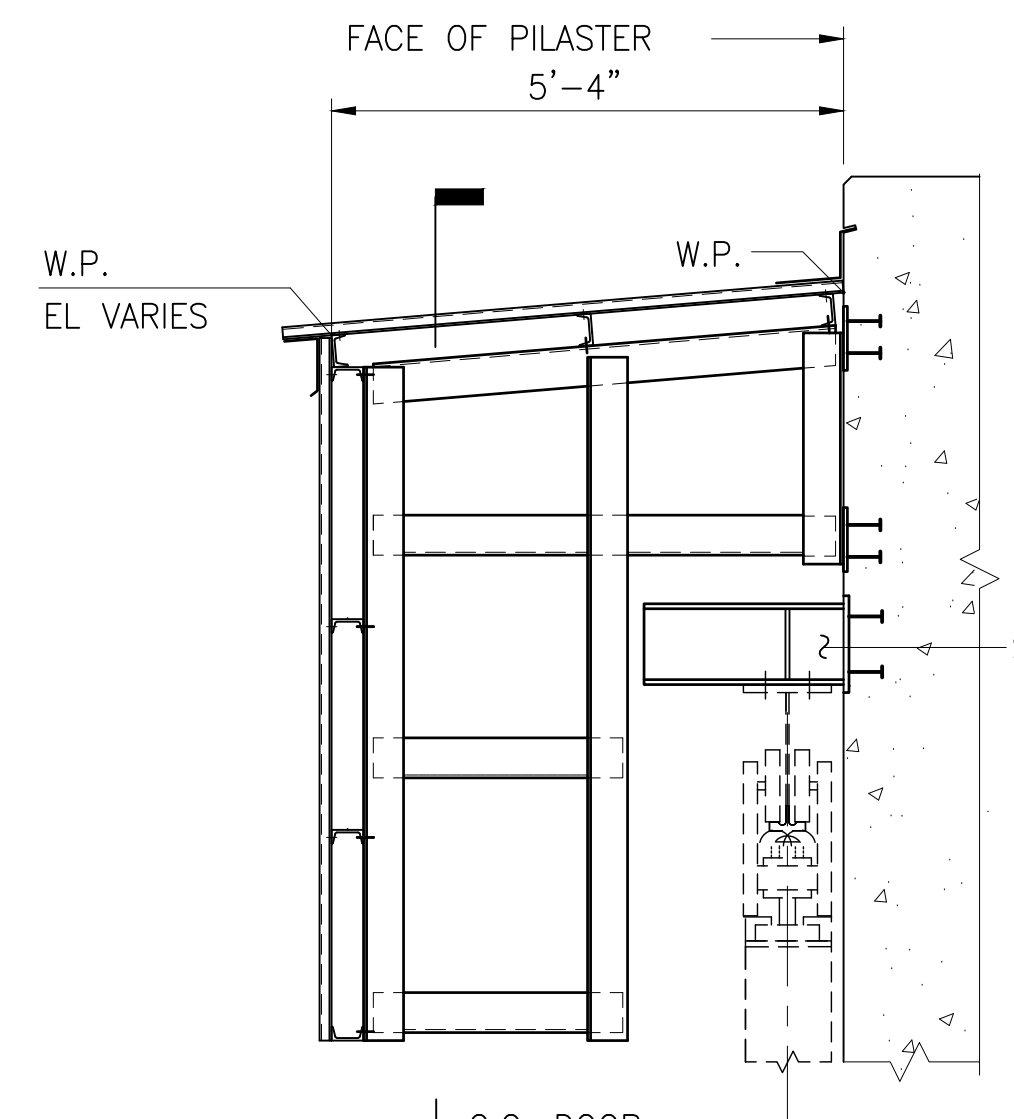


DETAIL
SCALE: 3" = 1'-0"
S-509 **C5**

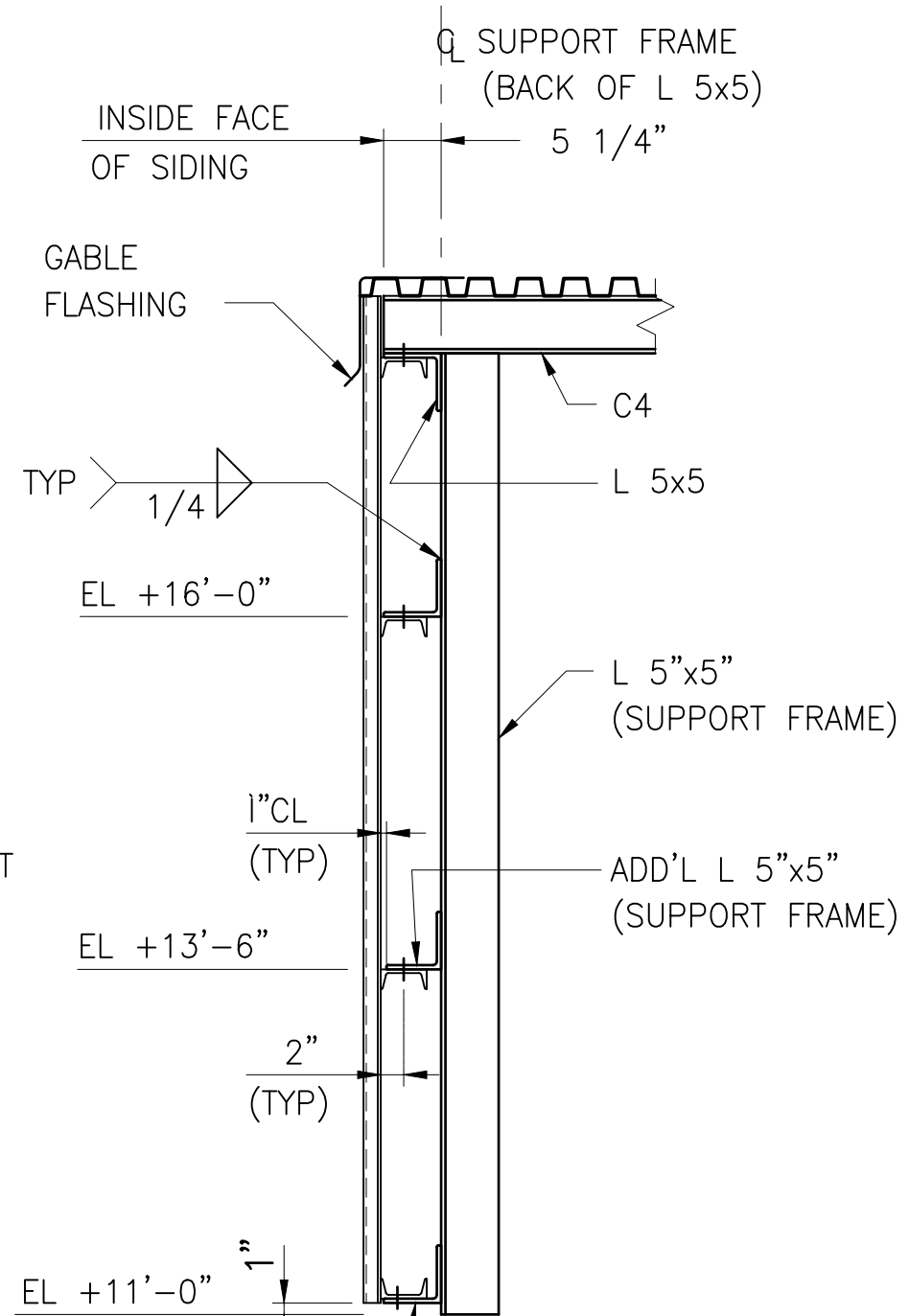
- NOTES:**
1. ALL ANGLES TO BE 5"x5"x3/8" UNLESS NOTED OTHERWISE.
 2. ALL PURLINS AND GIRTS TO BE C4x7.25, FASTENED TO ANGLES WITH TWO 5/8"Ø A325 BOLTS (TYP).



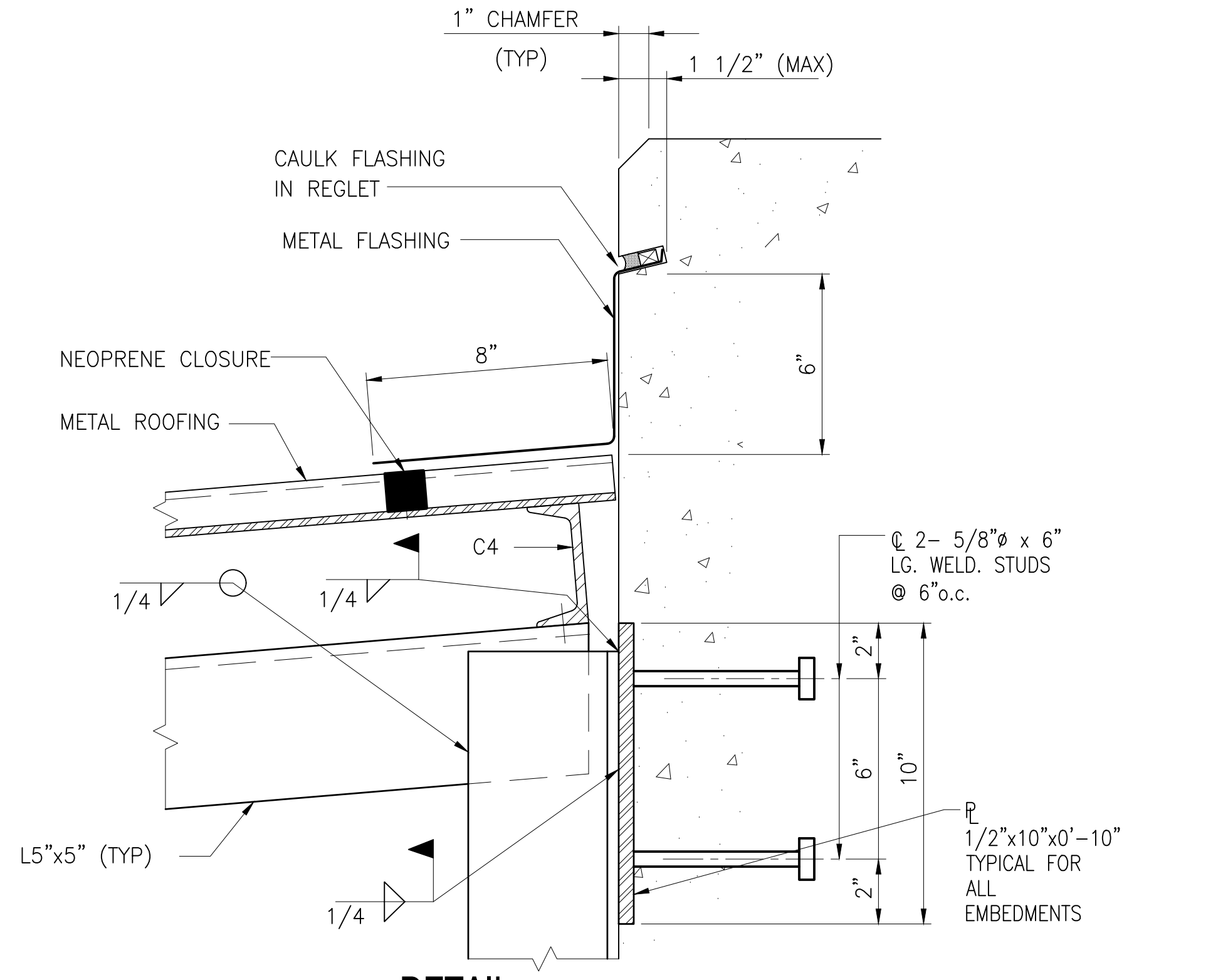
SECTION
SCALE: 1/2" = 1'-0"
S-305 **A1**



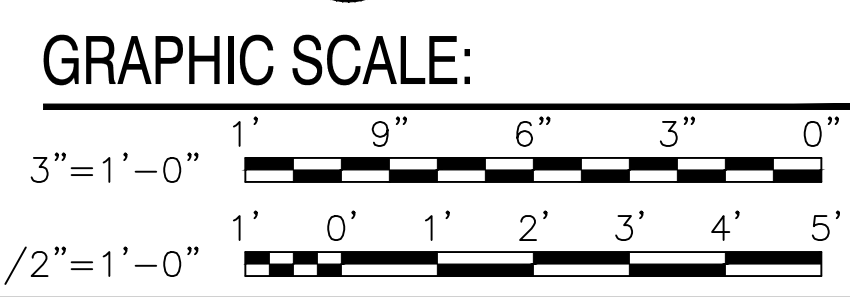
SECTION
SCALE: 1/2" = 1'-0"
S-305 **A2**



SECTION
SCALE: 1/2" = 1'-0"
S-305, S-509 **A3**



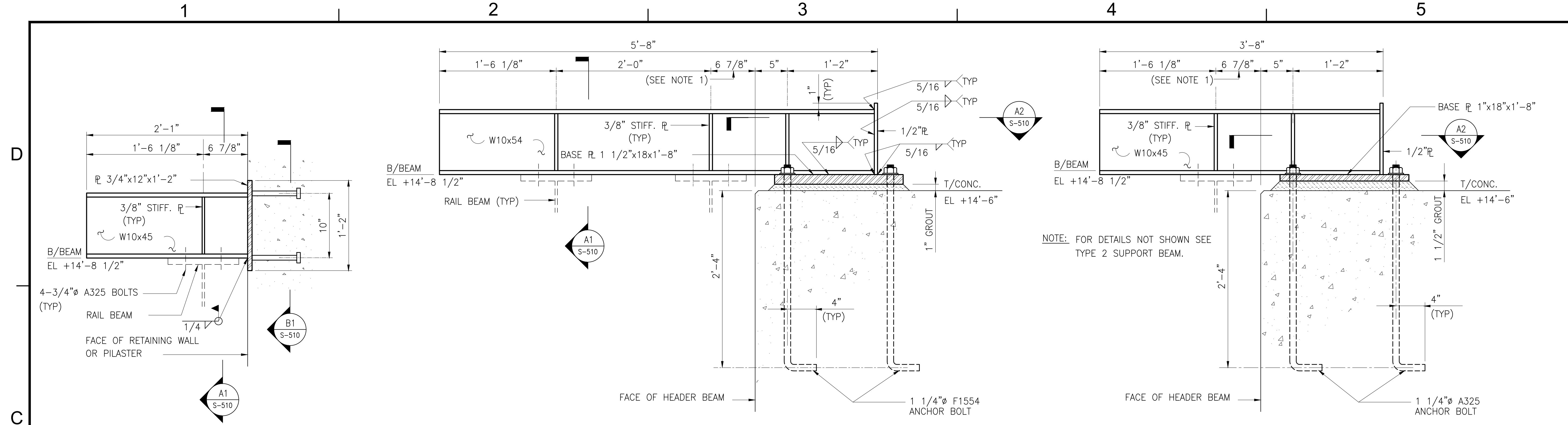
DETAIL
SCALE: 3" = 1'-0"
S-509 **A5**



APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPE D STANDARD
TYPE D BOX MAGAZINE CANOPY DETAILS		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND DESIGN AND CONSTRUCTION		
BRANCH MANAGER: JTW CHIEF ENGINEER: RICHARD L. STEPHENS, P.E. FIRE PROTECTION: DPS		
PROJECT NO.: CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.: 14084181 SHEET 20 OF 40 S-509		
<small>DRAWING REVISION: 25 AUGUST 2020</small>		

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4d4b-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-509 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

FILE NAME: C:\Users\jelicorino\appdata\local\temp\4a9d4b18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-510 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kellicorino



TYPE 1 SUPPORT BEAM C1

SCALE: 1 1/2" = 1'-0" S-305, S-509

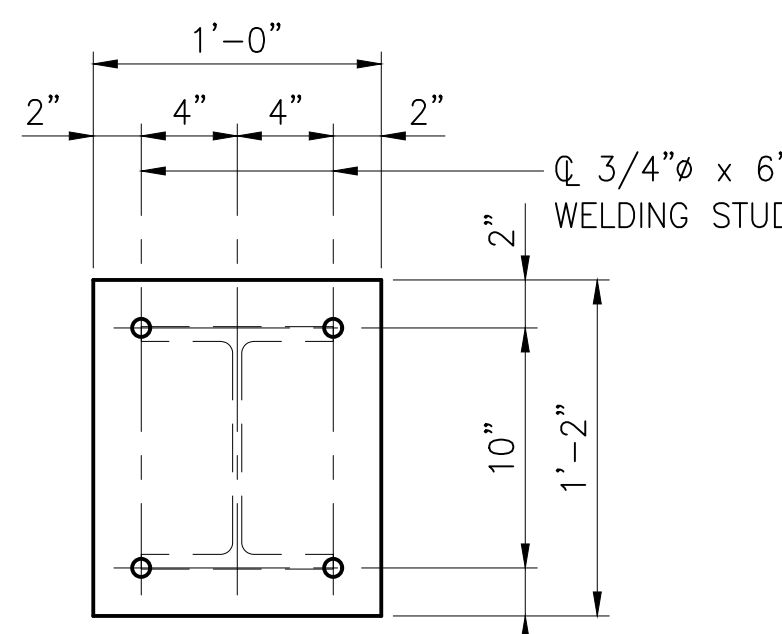
NOTE 1: LOCATION OF RAIL BEAM TO BE VERIFIED BY DOOR MANUF.

TYPE 2 SUPPORT BEAM C3

SCALE: 1 1/2" = 1'-0" S-305, S-509

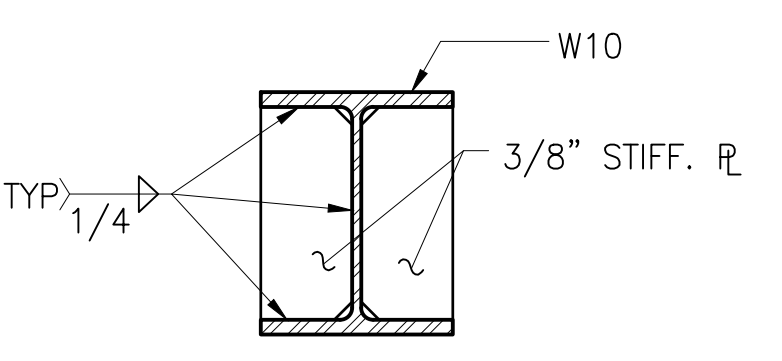
TYPE 3 SUPPORT BEAM C5

SCALE: 1 1/2" = 1'-0" S-305, S-509



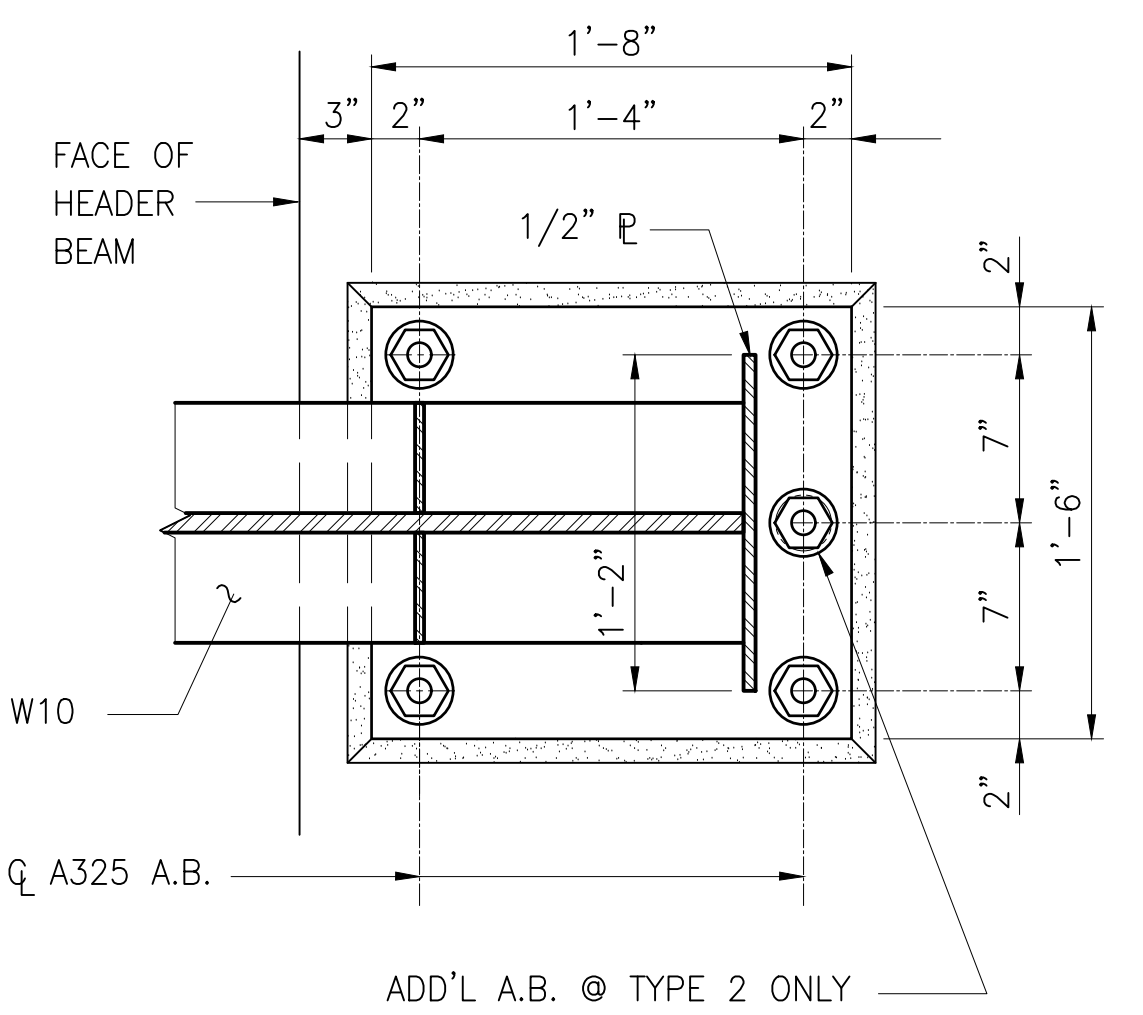
SECTION B1

SCALE: 1 1/2" = 1'-0" S-510



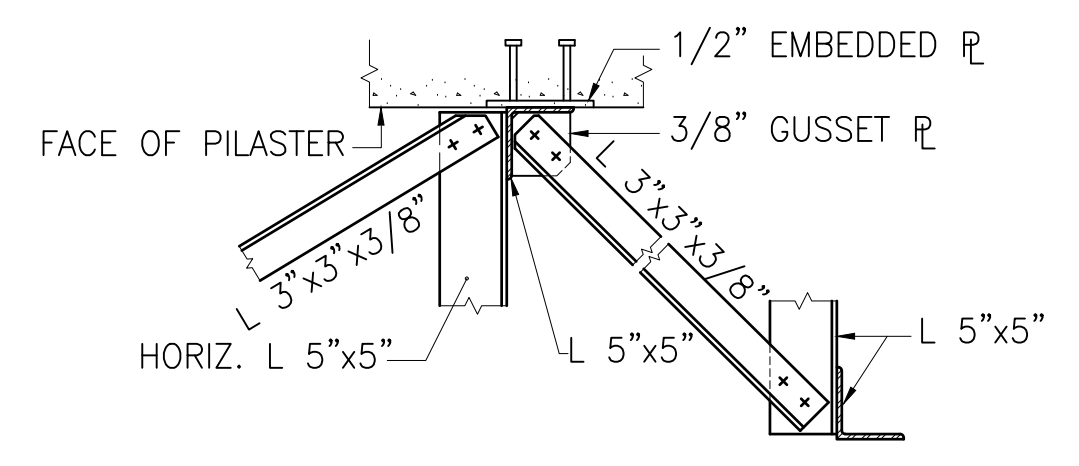
SECTION A1

SCALE: 1 1/2" = 1'-0" S-510



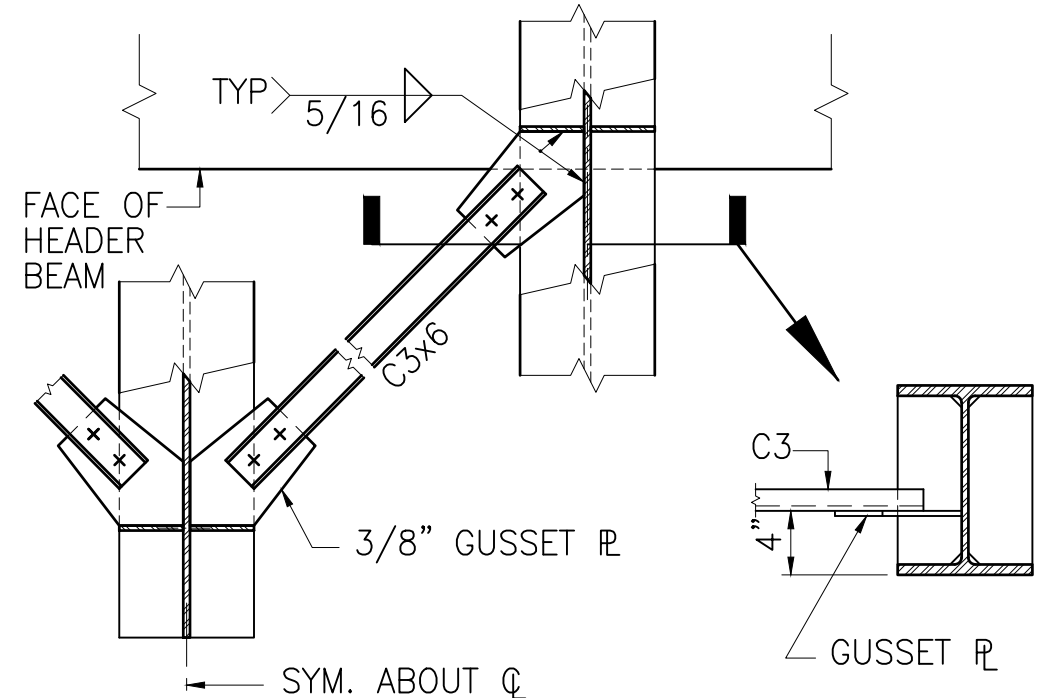
SECTION A2

SCALE: 1 1/2" = 1'-0" S-510



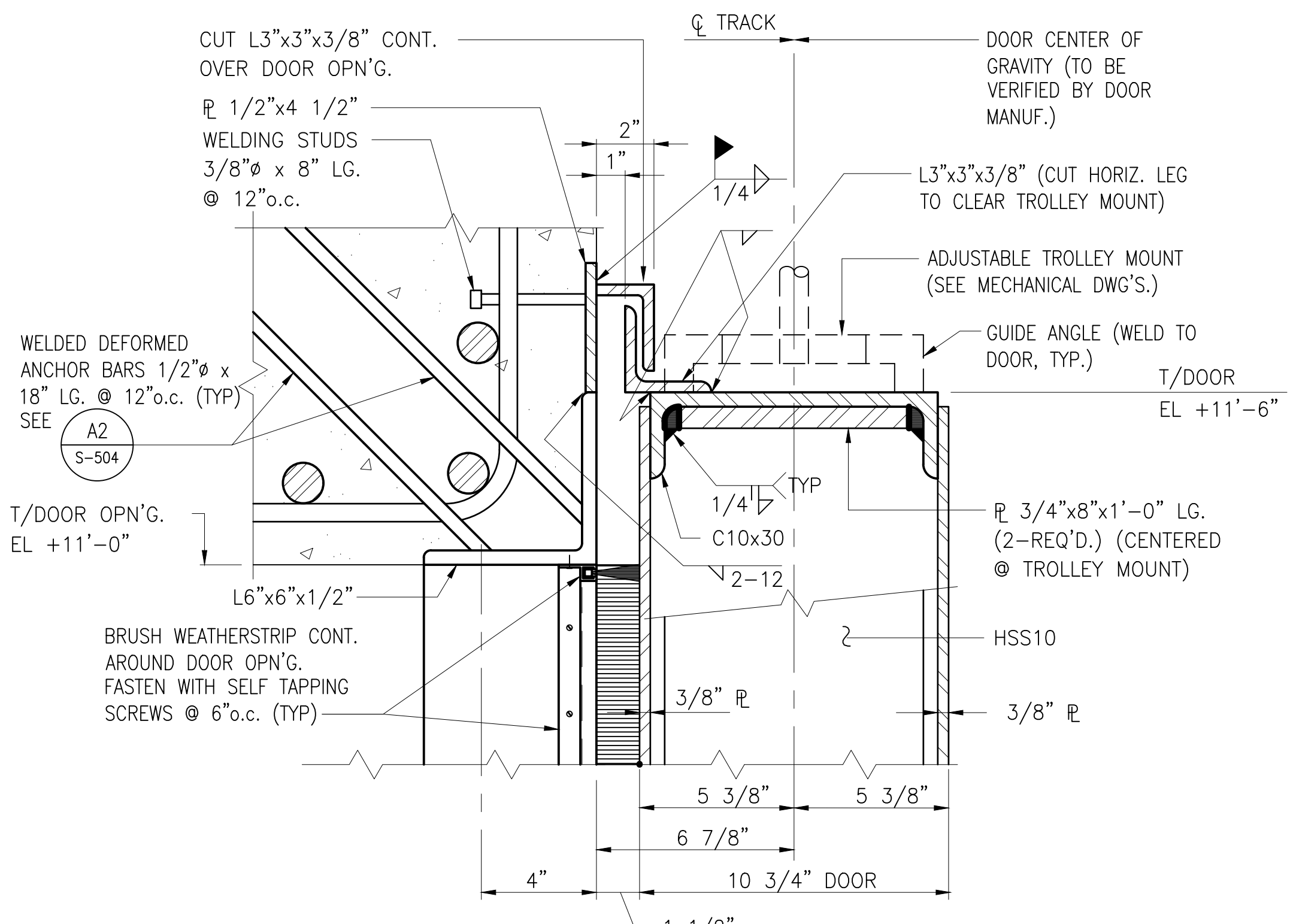
DETAIL B3

SCALE: 1" = 1'-0" S-305



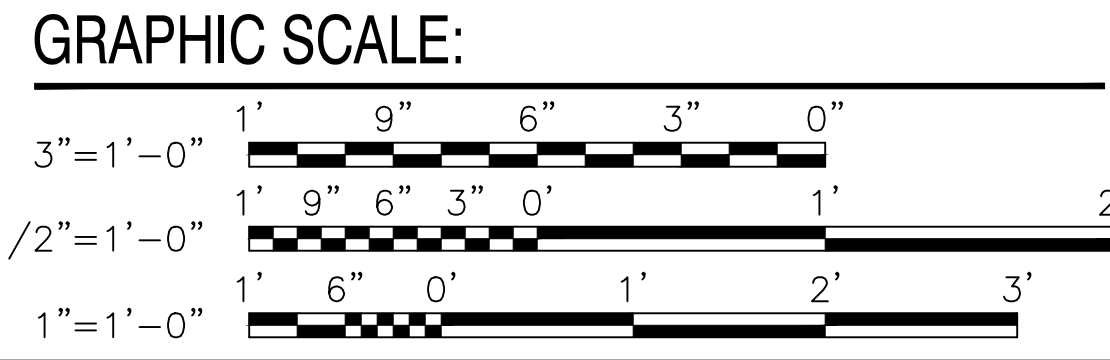
DETAIL A3

SCALE: 1" = 1'-0" S-305



DETAIL A5

SCALE: 3" = 1'-0" S-508, S-512



APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPED STANDARD
ACTIVITY	DATE	09/14/22
SATISFACTORY TO	DATE	MM/DD/YYYY
DES	DRW	IWR
CHK	LMM	
PM/DM		
BRANCH MANAGER	JTW	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION		
TYPE D BOX MAGAZINE		
RAIL SUPPORT BEAM - DETAILS		
SCALE:	AS NOTED	
PROJECT NO.:	14084182	
CONSTR. CONTR. NO.:	-	
NAVFAC DRAWING NO.:	14084182	
SHEET	21	OF 40
S-510		
DRAWING REVISION: 25 AUGUST 2020		

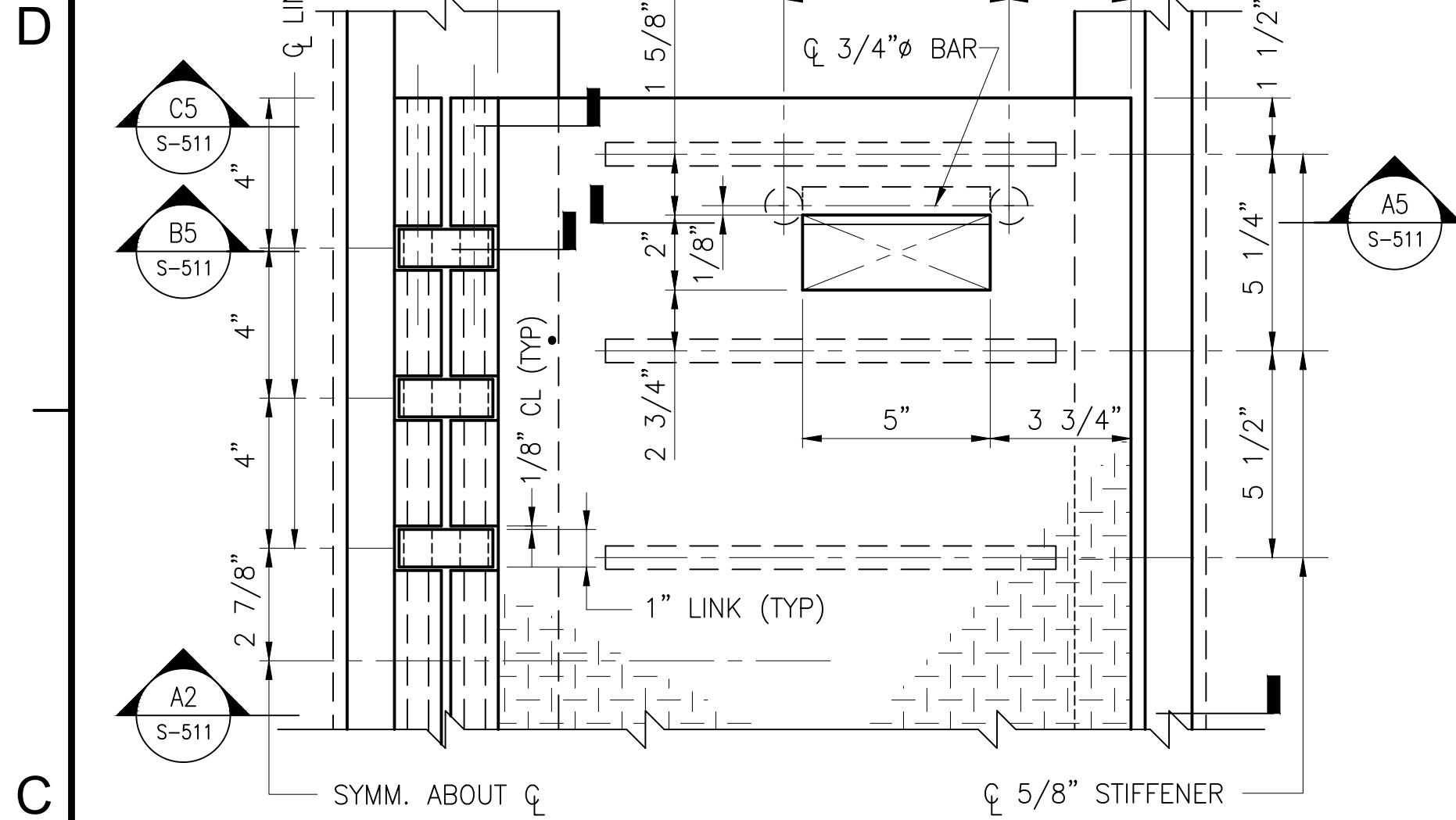
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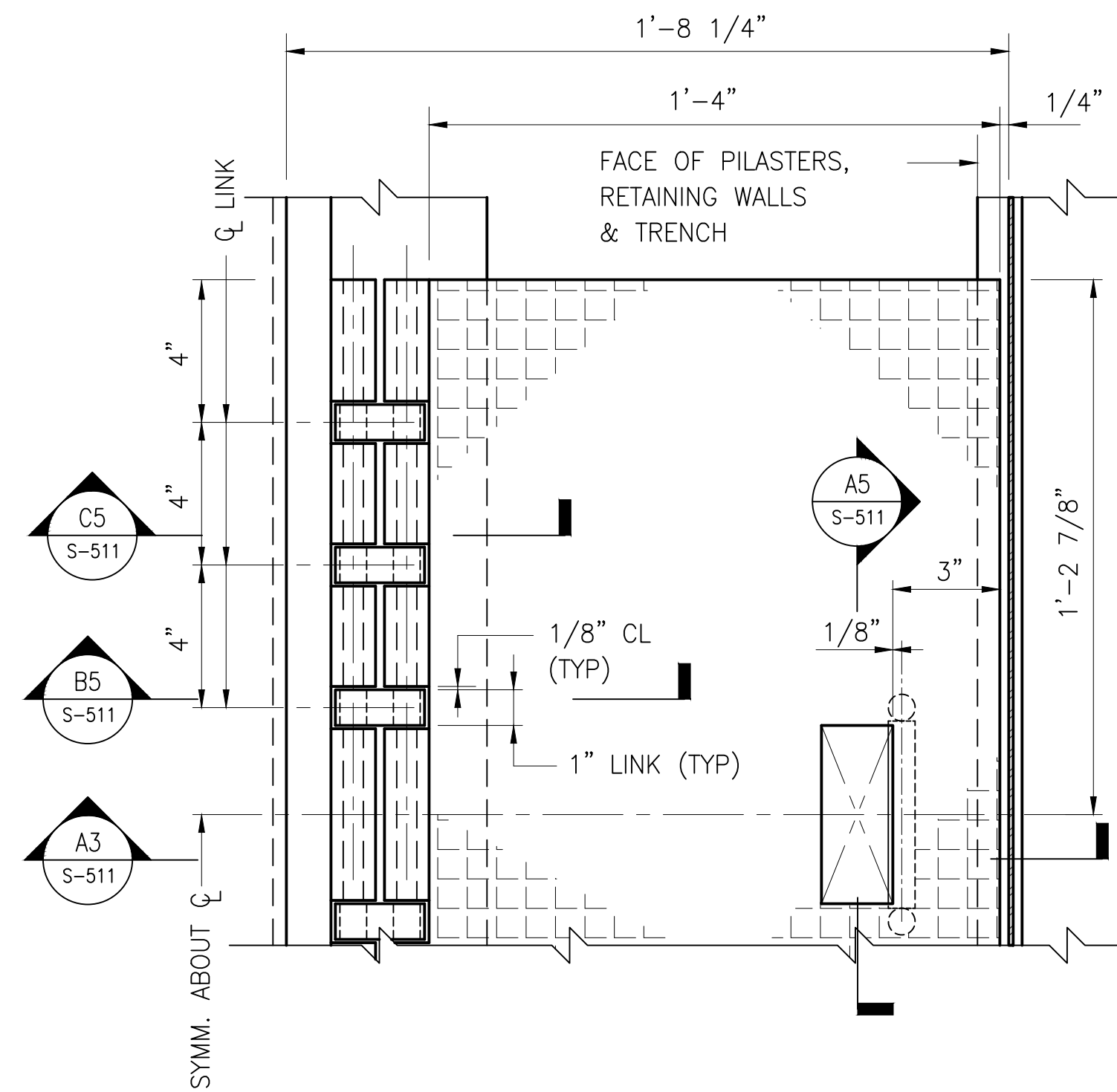
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TYPE 1 TRENCH COVER

SCALE: 3" = 1'-0"

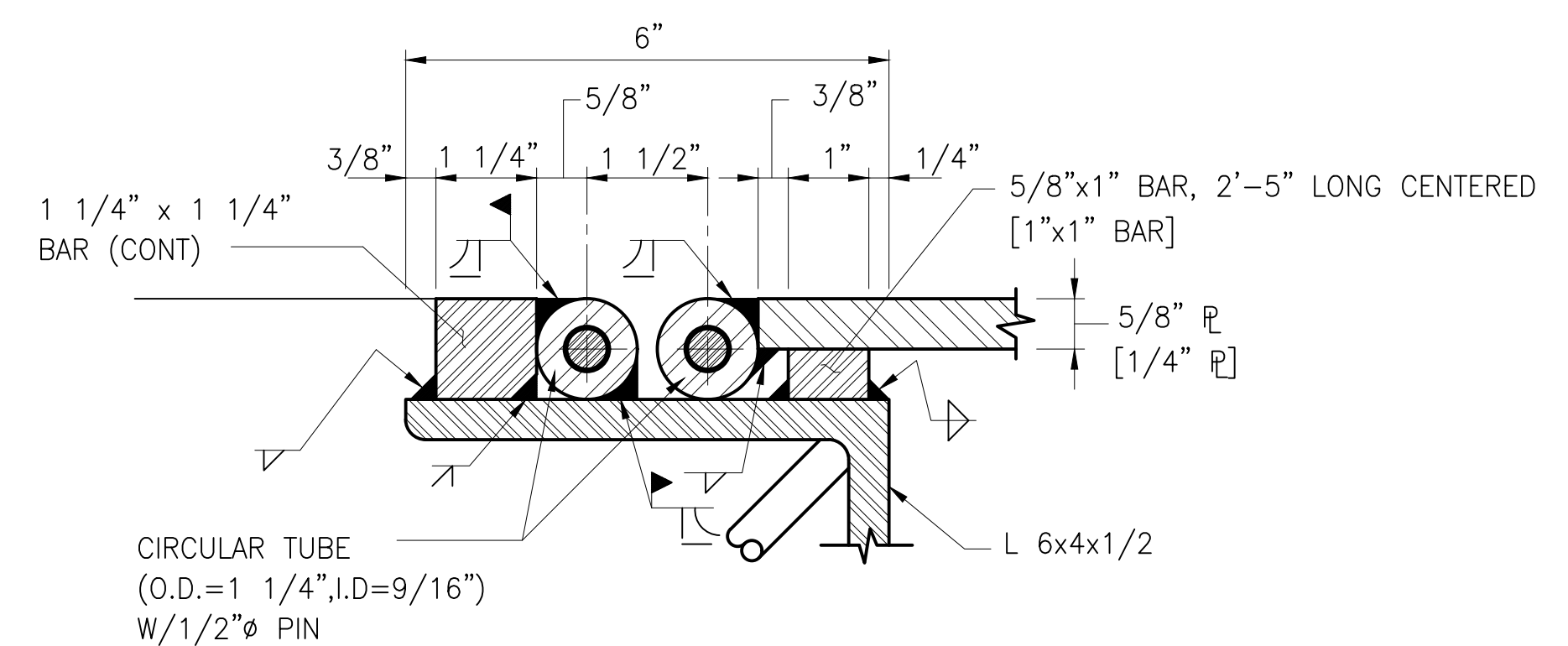
S-305 **C2**



TYPE 2 TRENCH COVER

SCALE: 3" = 1'-0"

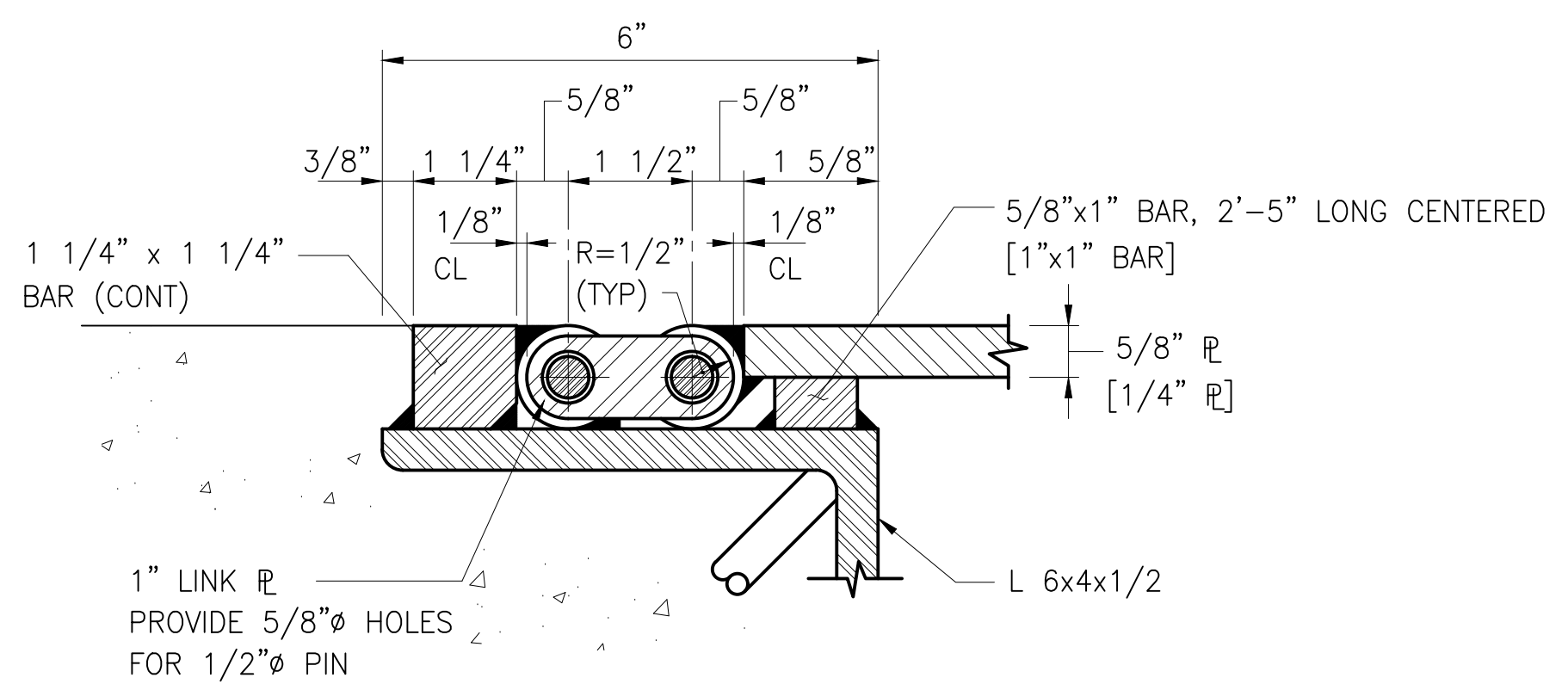
S-305 **C3**



SECTION

SCALE: 6" = 1'-0"

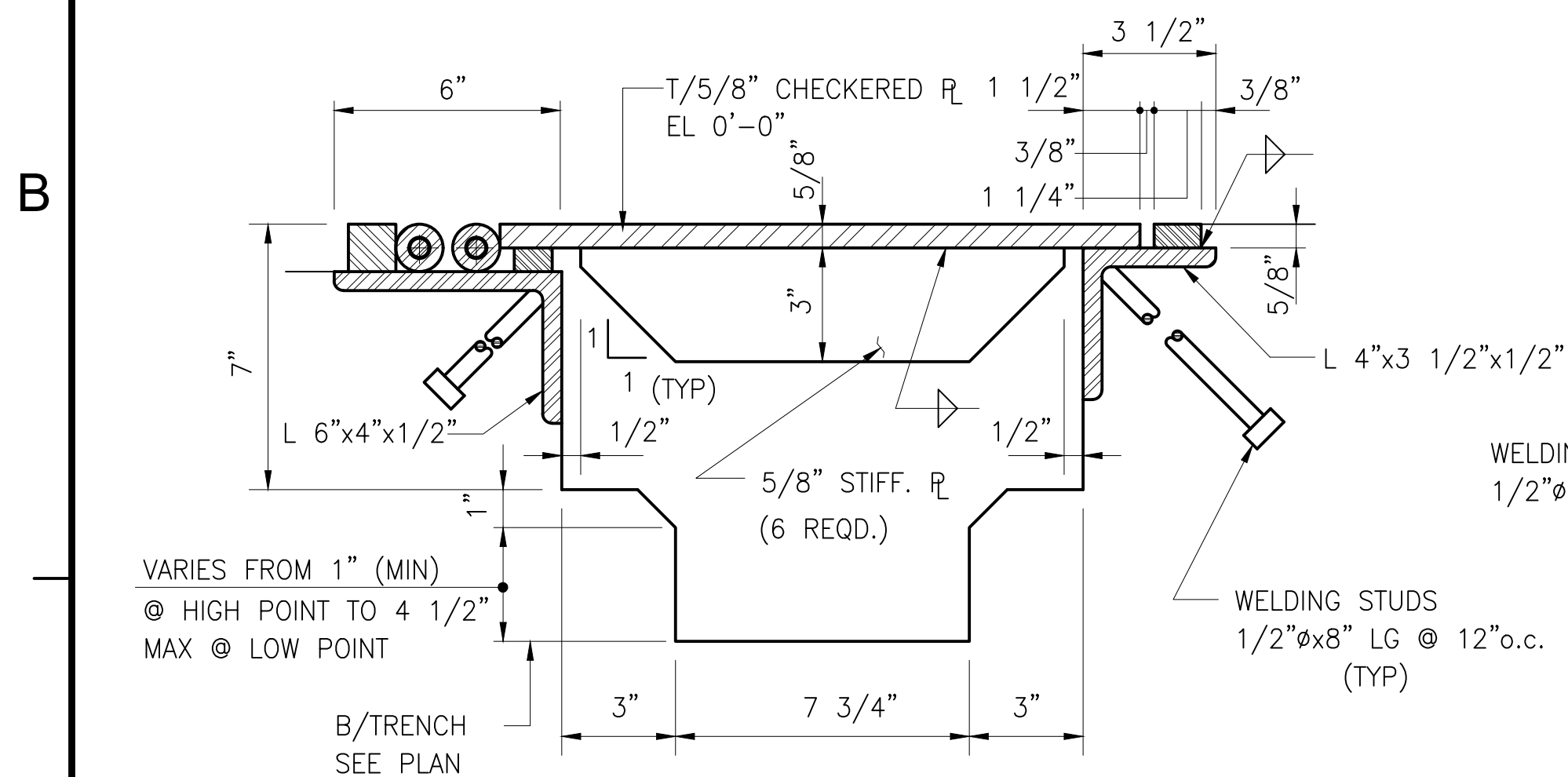
S-511 **C5**



SECTION

SCALE: 6" = 1'-0"

S-511 **B5**

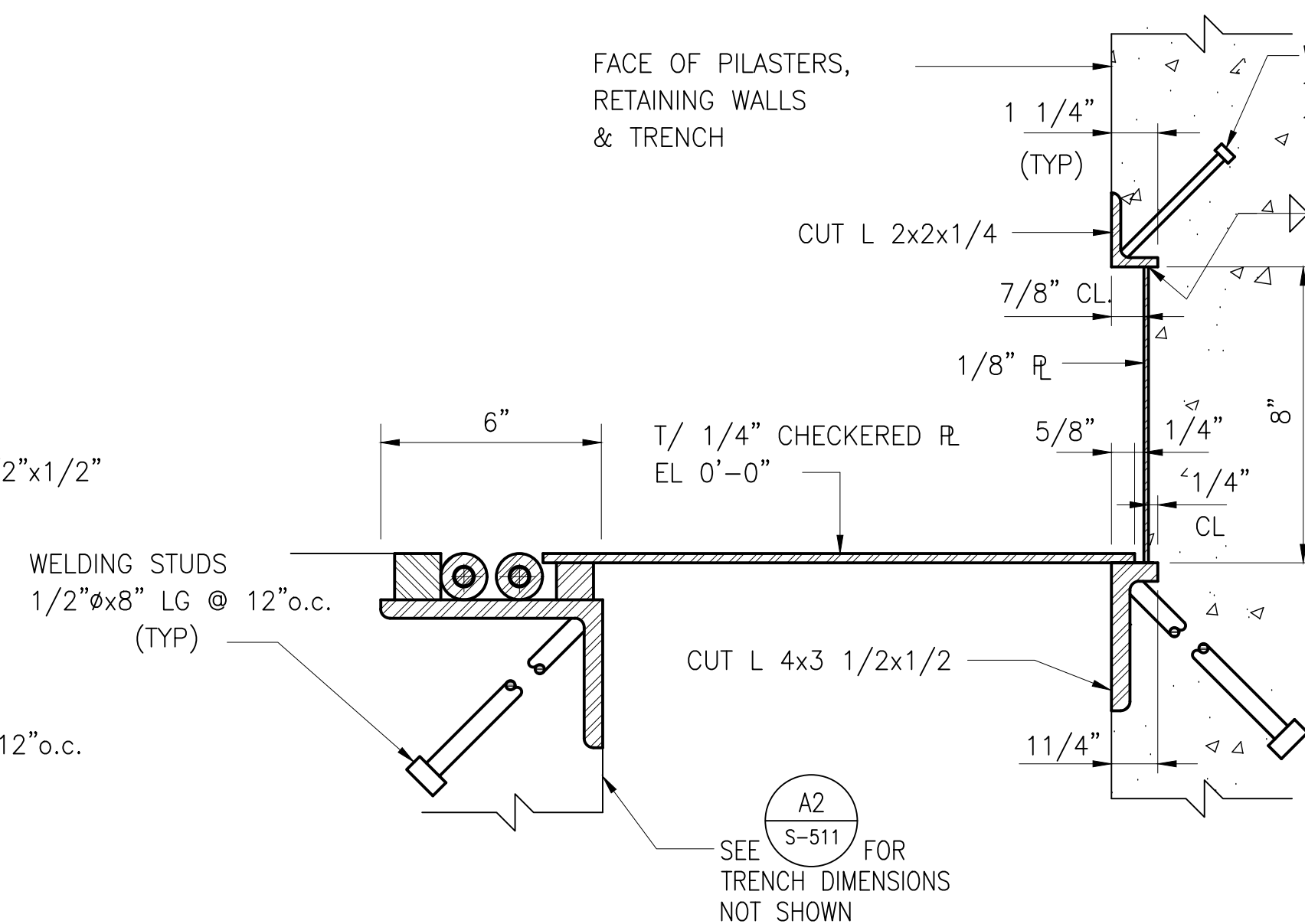


TYPE 1 TRENCH COVER

SCALE: 3" = 1'-0"

S-101, S-305, S-503, S-504, S-511

A2

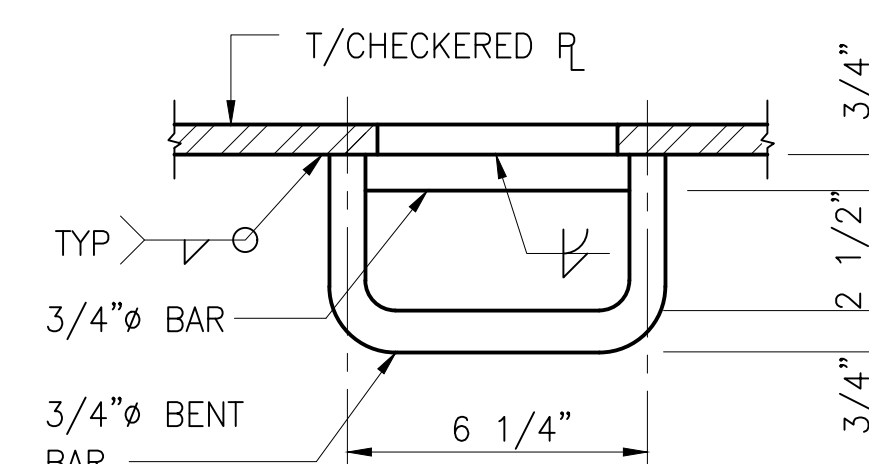


TYPE 2 TRENCH COVER

SCALE: 3" = 1'-0"

S-101, S-305, S-511

A3



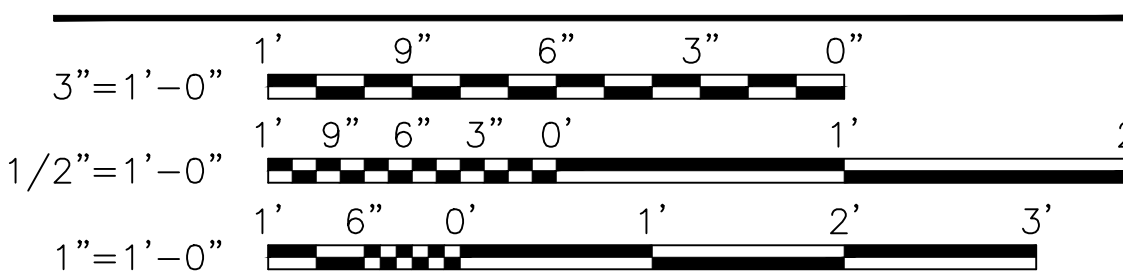
SECTION

SCALE: 3" = 1'-0"

S-511

A5

GRAPHIC SCALE:



NOTES:

- TRENCH COVER PLATES SHALL HAVE A MINIMUM $f_y = 50$ KSI.
- TRENCH COVER PLATES AND ATTACHMENTS INCLUDING HINGES AND PINS SHALL BE GALVANIZED.

DATE	09/14/22
APP'R	
DESCRIPTION	TYPED STANDARD
SYMBOL	
TYPE D BOX MAGAZINE RAIL SUPPORT BEAM - DETAILS	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YYYY
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION	BRANFORD, VA
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084183
SHEET	22 OF 40
S-511	
DRAWING REVISION: 25 AUGUST 2020	

1

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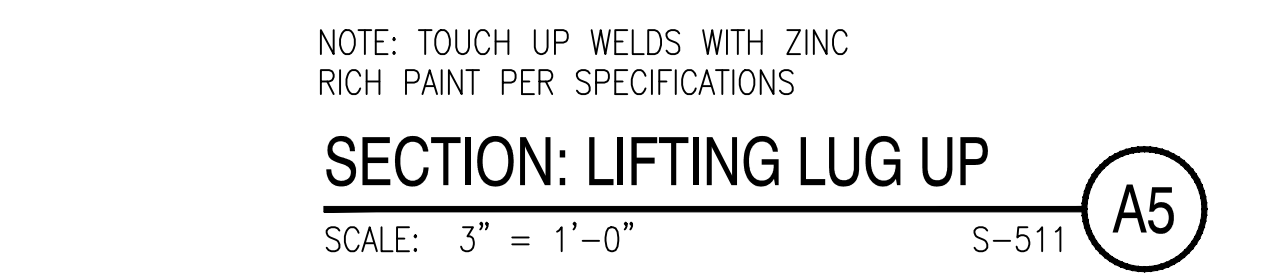
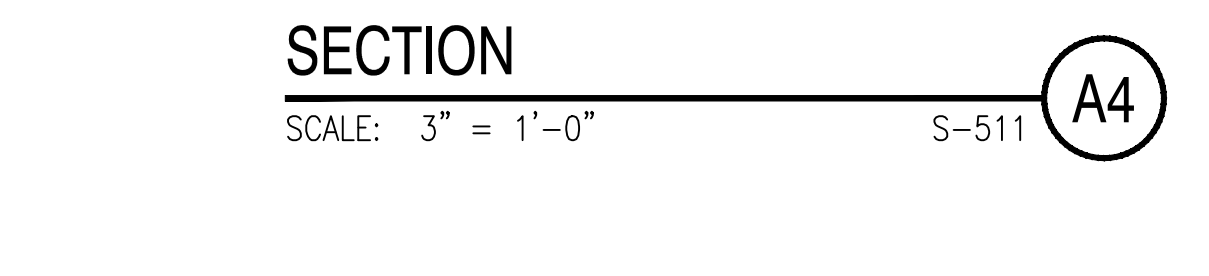
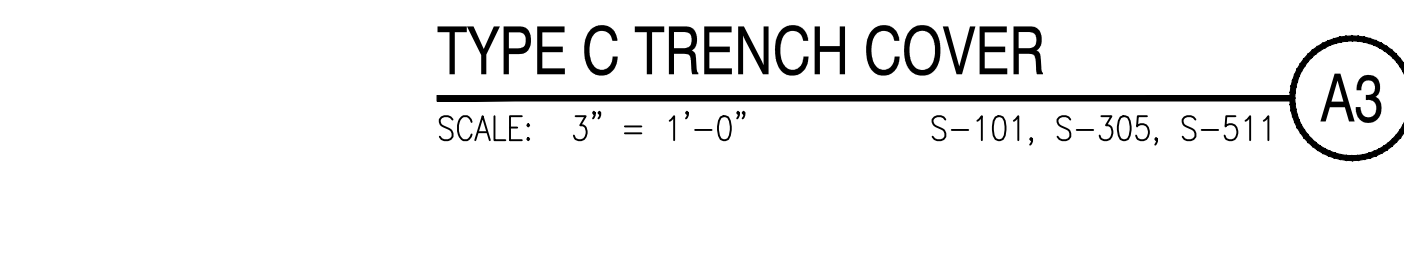
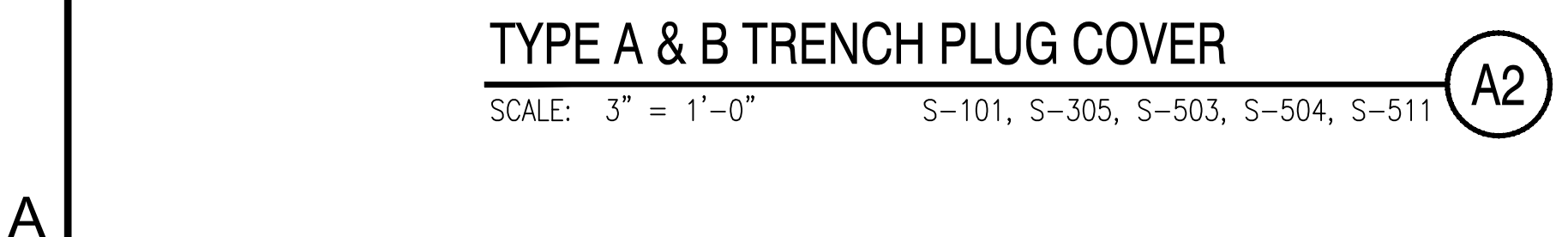
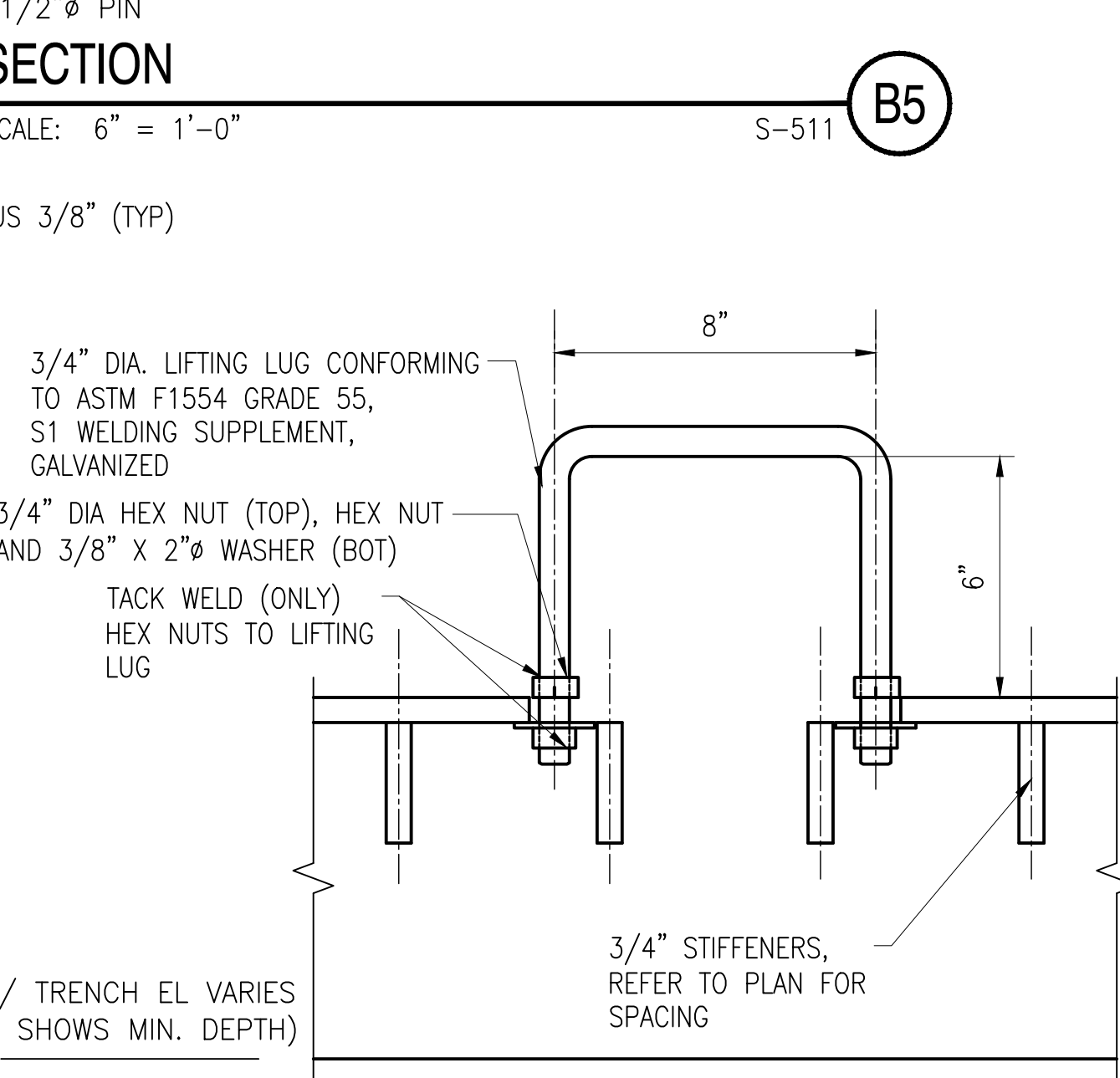
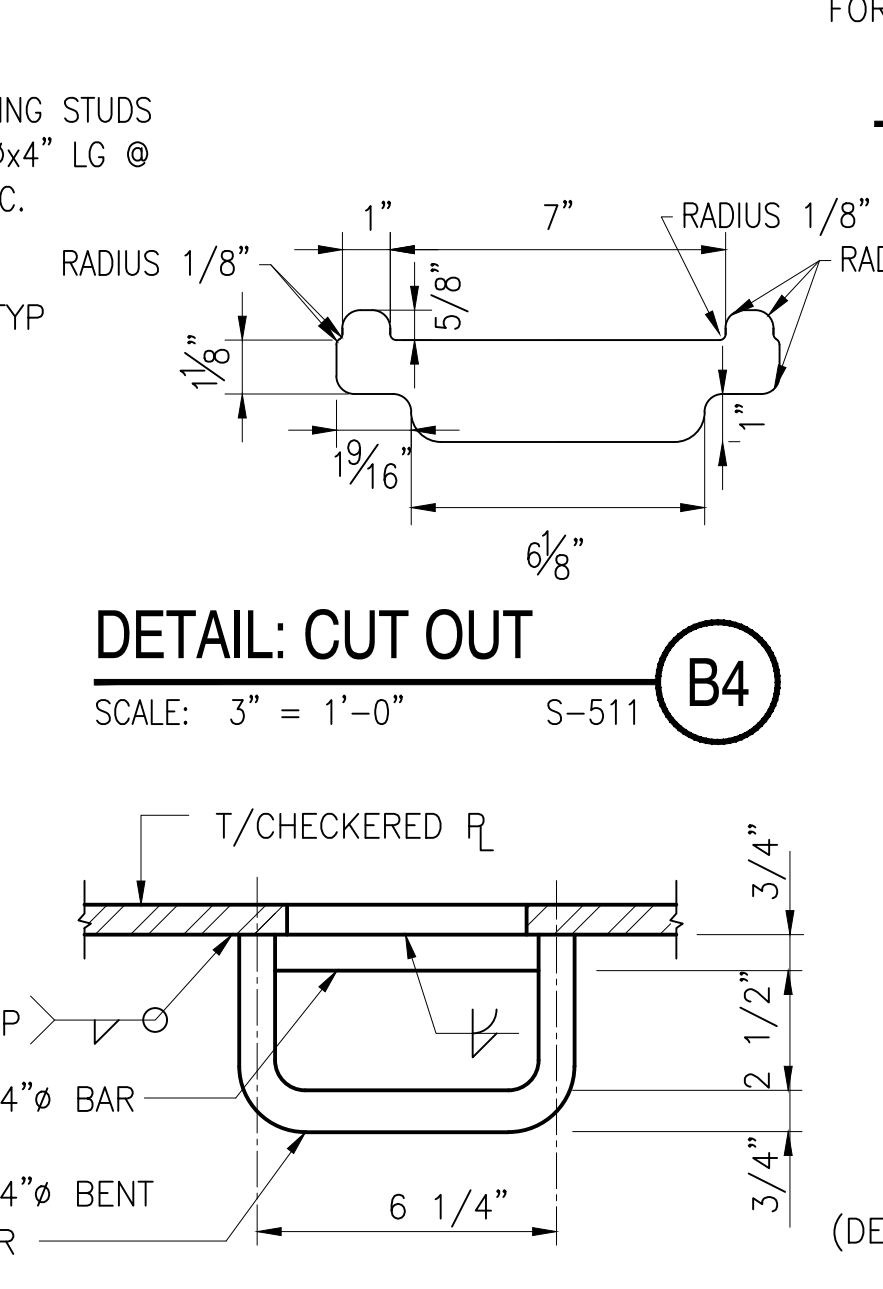
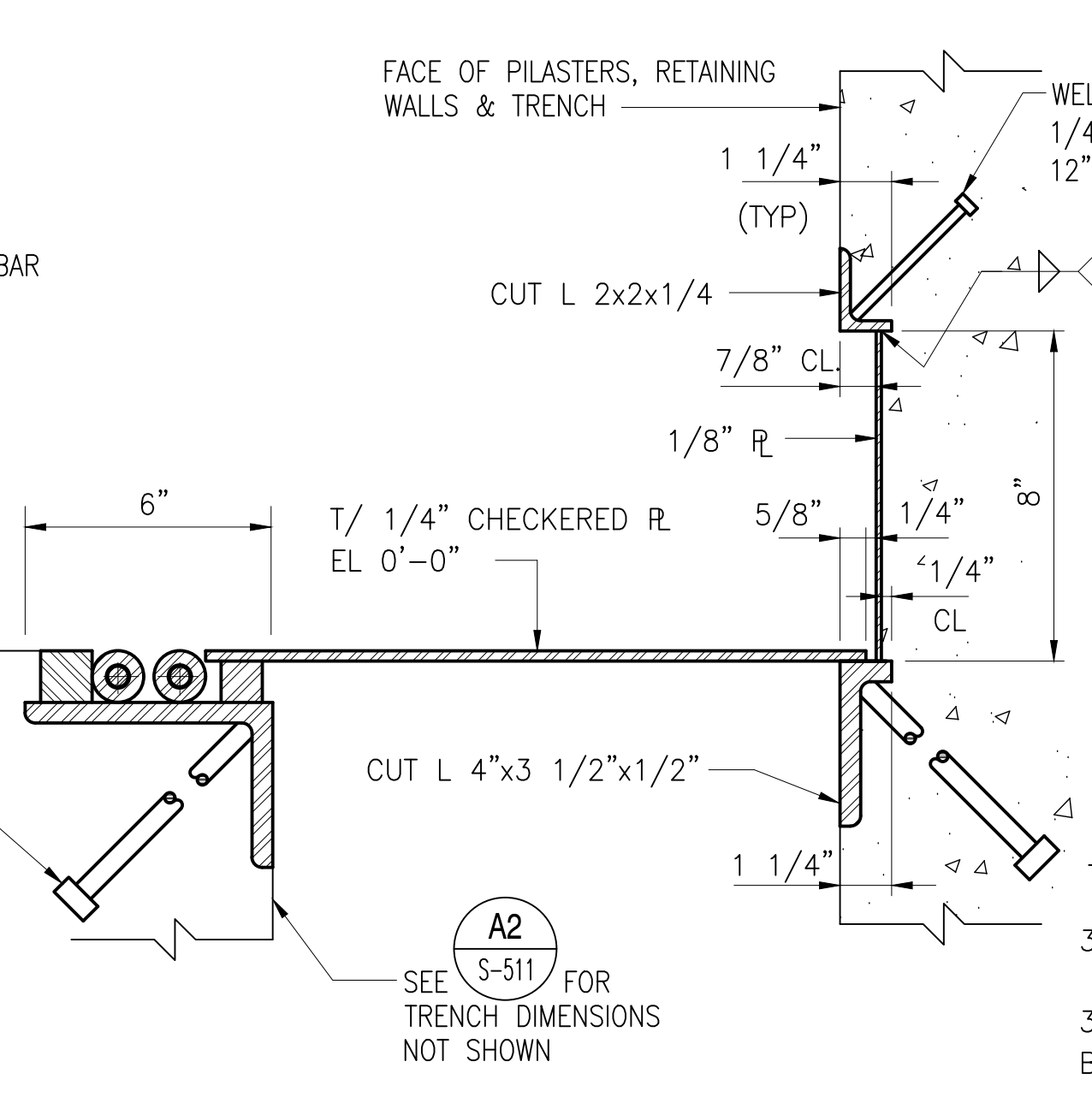
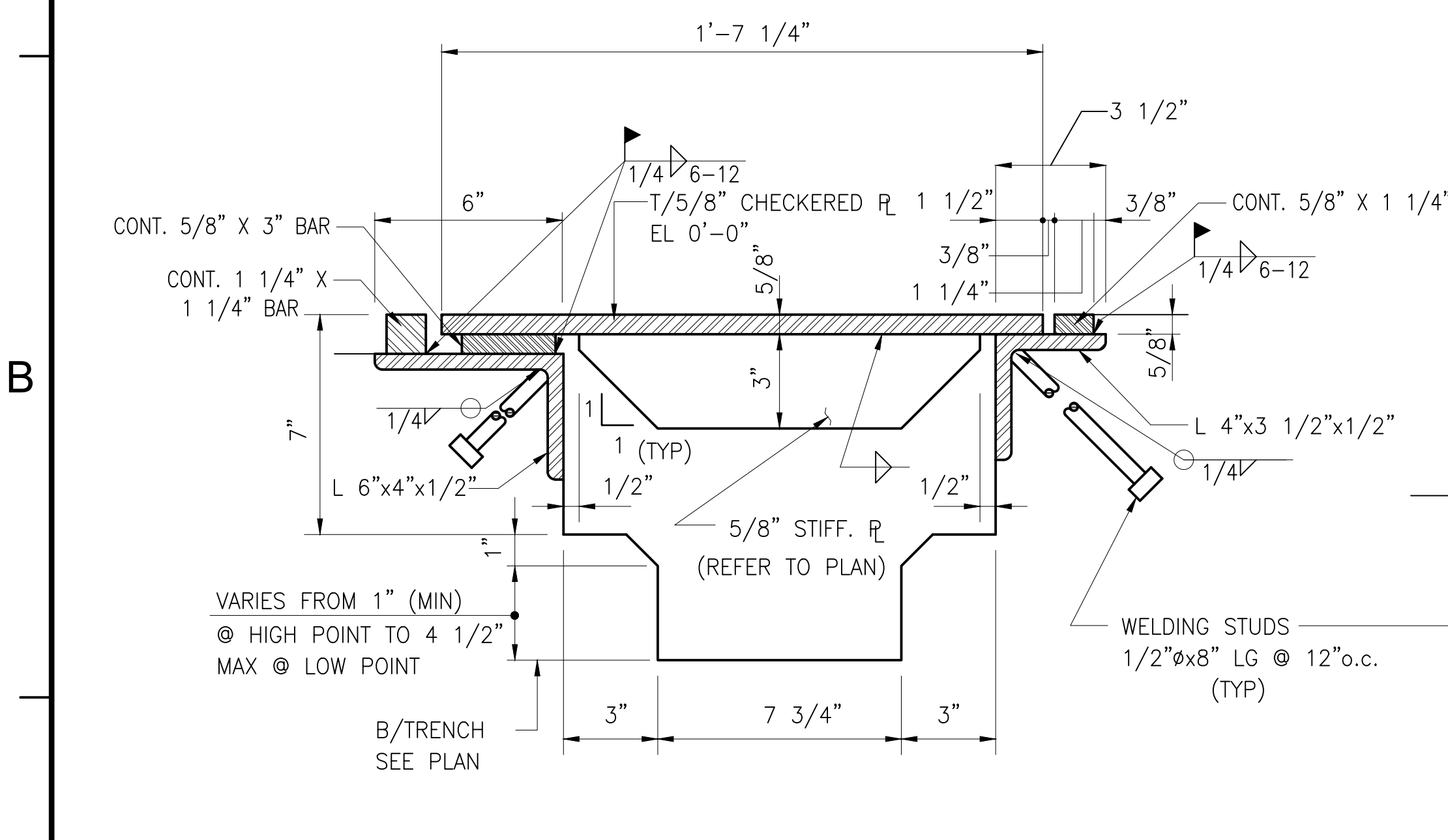
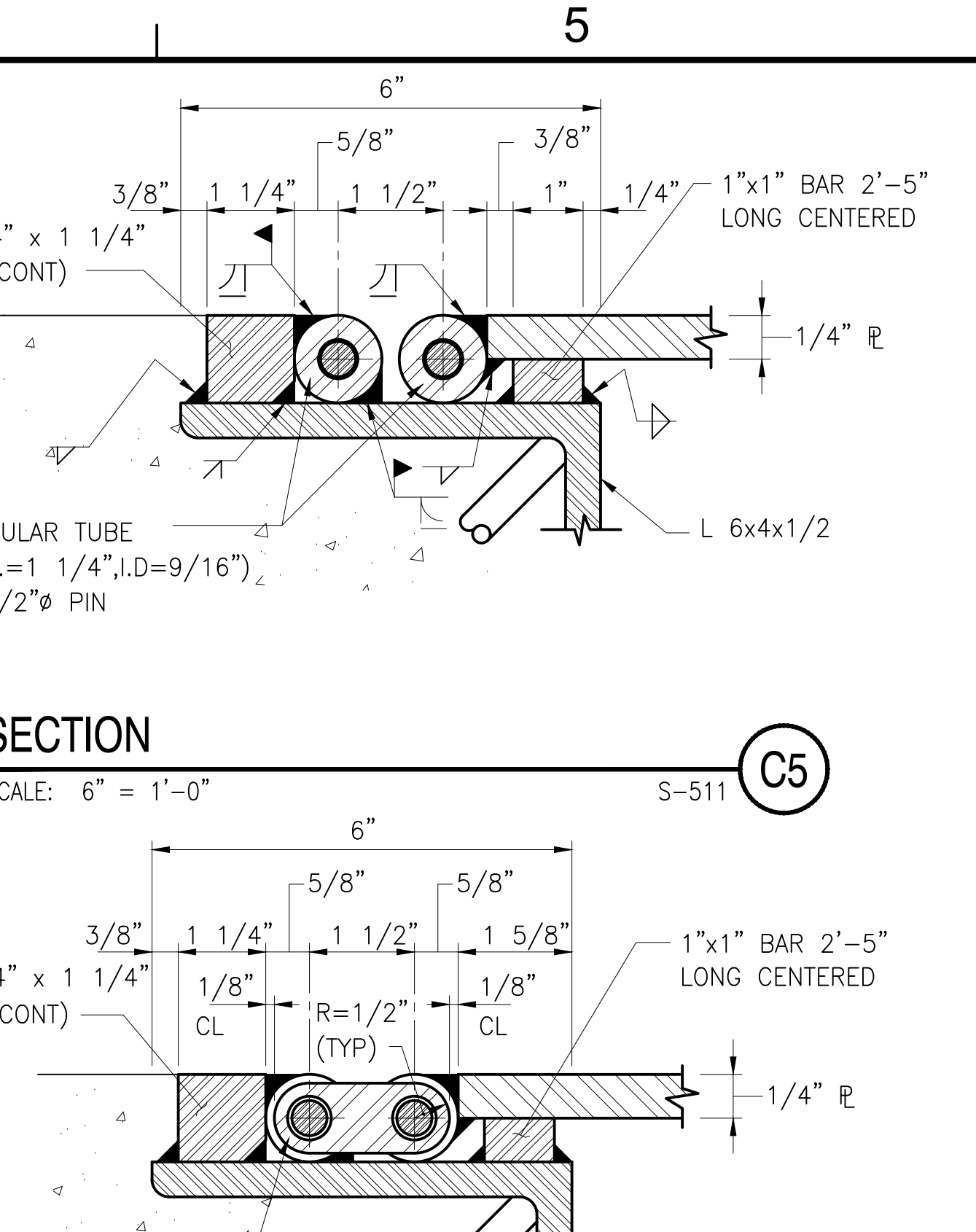
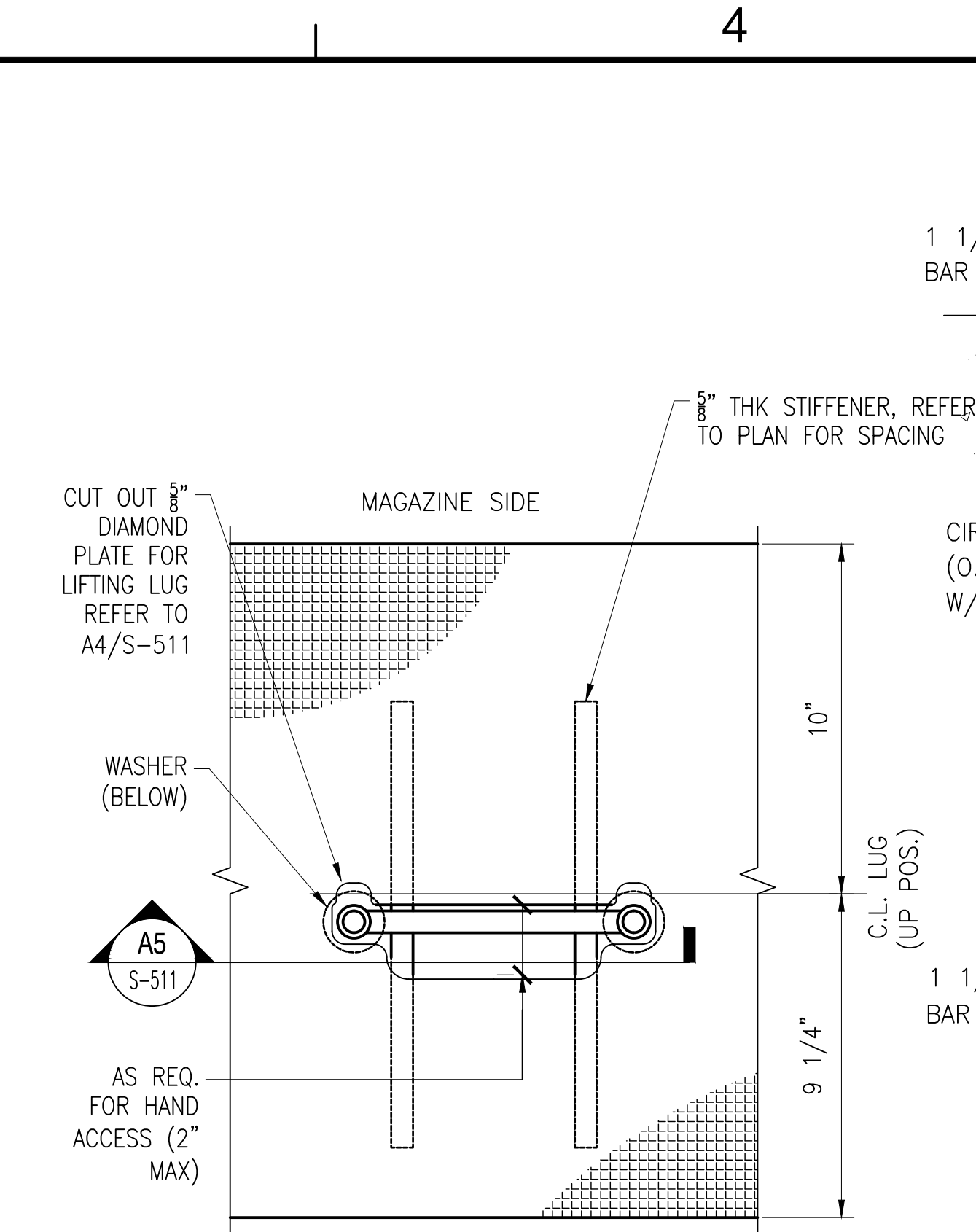
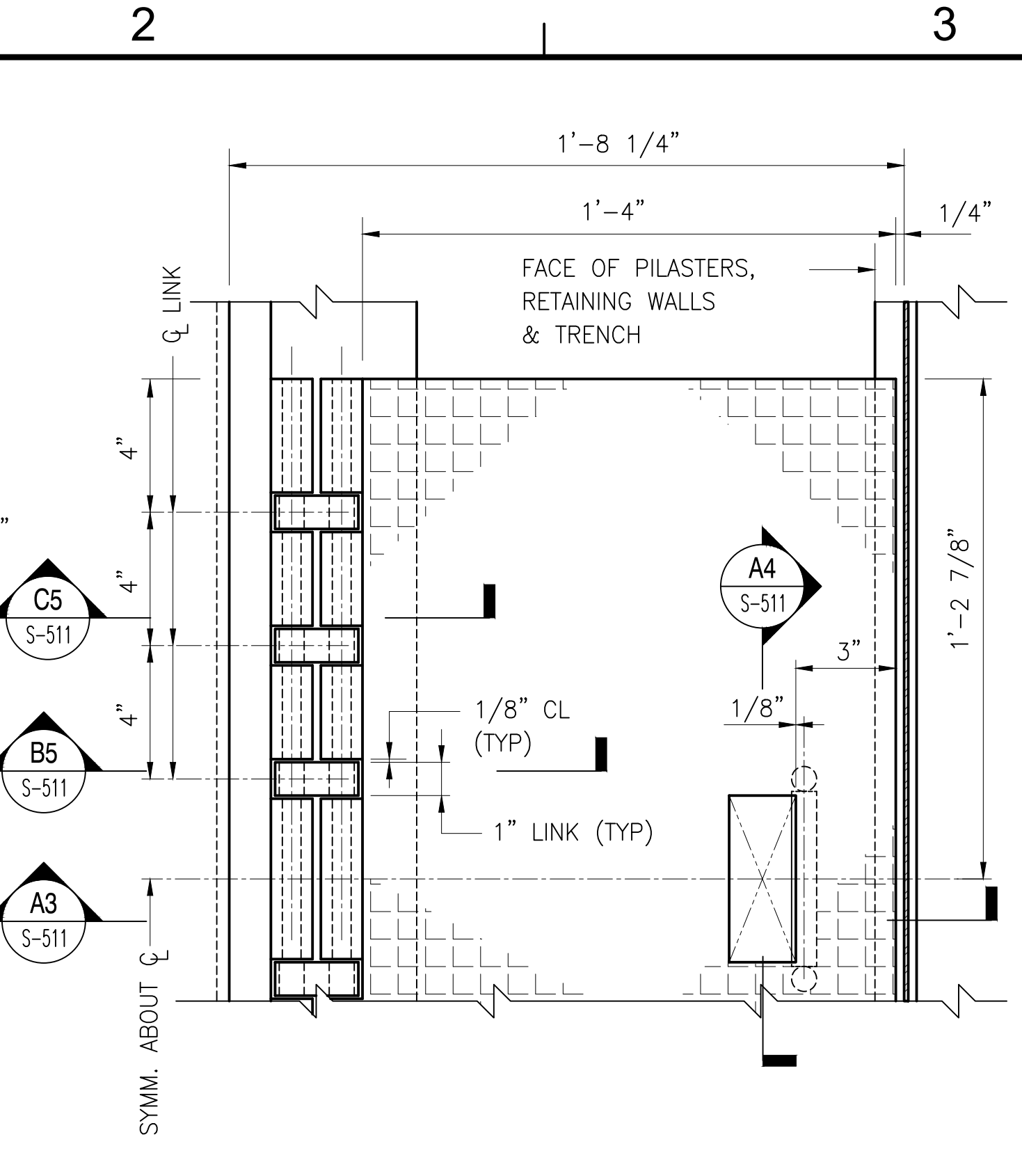
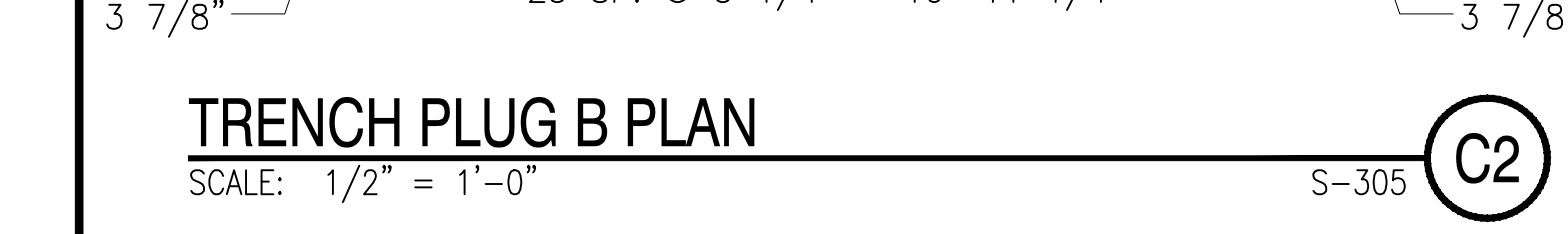
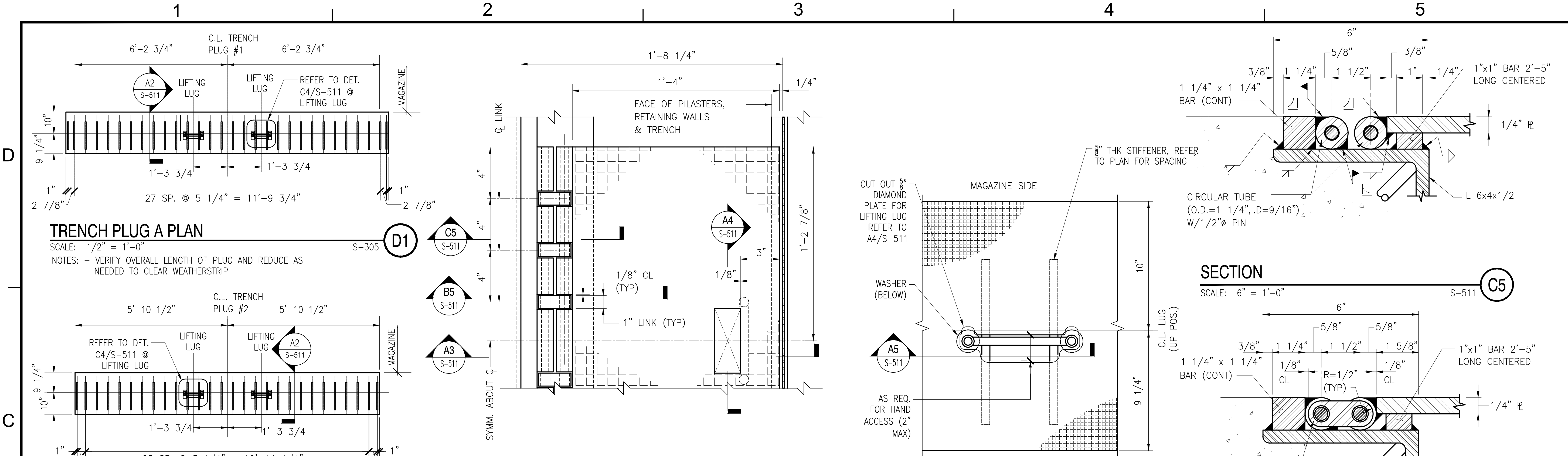
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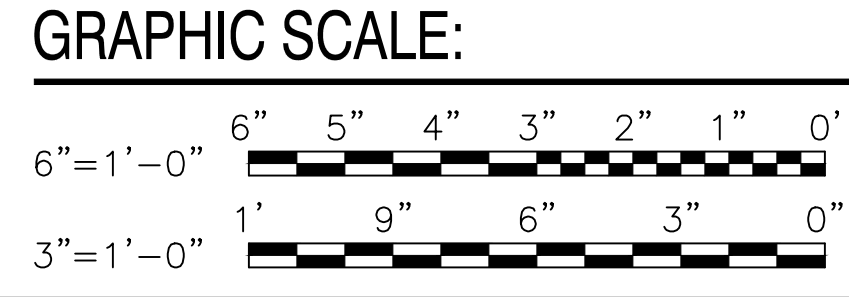
5

FILE NAME: C:\Users\kellecortino\AppData\Local\Temp\kellecortino_15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-511 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kellecortino

FILE NAME: C:\Users\jelle.cornio\AppData\Local\Temp\15576\Box D_2022.9.27.dwg LAYOUT NAME: S-511 ALT PLOTTED: Tuesday, June 06, 2023 9:22am USER: jelle.cornio



- NOTES:
- TRENCH COVER PLATES SHALL HAVE A MINIMUM $f_y = 50$ KSI.
 - TRENCH COVER PLATES AND ATTACHMENTS INCLUDING HINGES AND PINS SHALL BE GALVANIZED.



DATE	09/14/22
APPR.	
DESCRIPTION	TYPED STANDARD
SYMBOL	
TYPE D BOX MAGAZINE TRENCH COVER DETAILS	
APPROVED	
FOR COMMANDER NAFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DESIGN AND CONSTRUCTION	LEBANON, VA
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAFAC DRAWING NO.:	14084184
SHEET	23 OF 40
S-511 ALT	
<small>DRAWING REVISION: 25 AUGUST 2020</small>	

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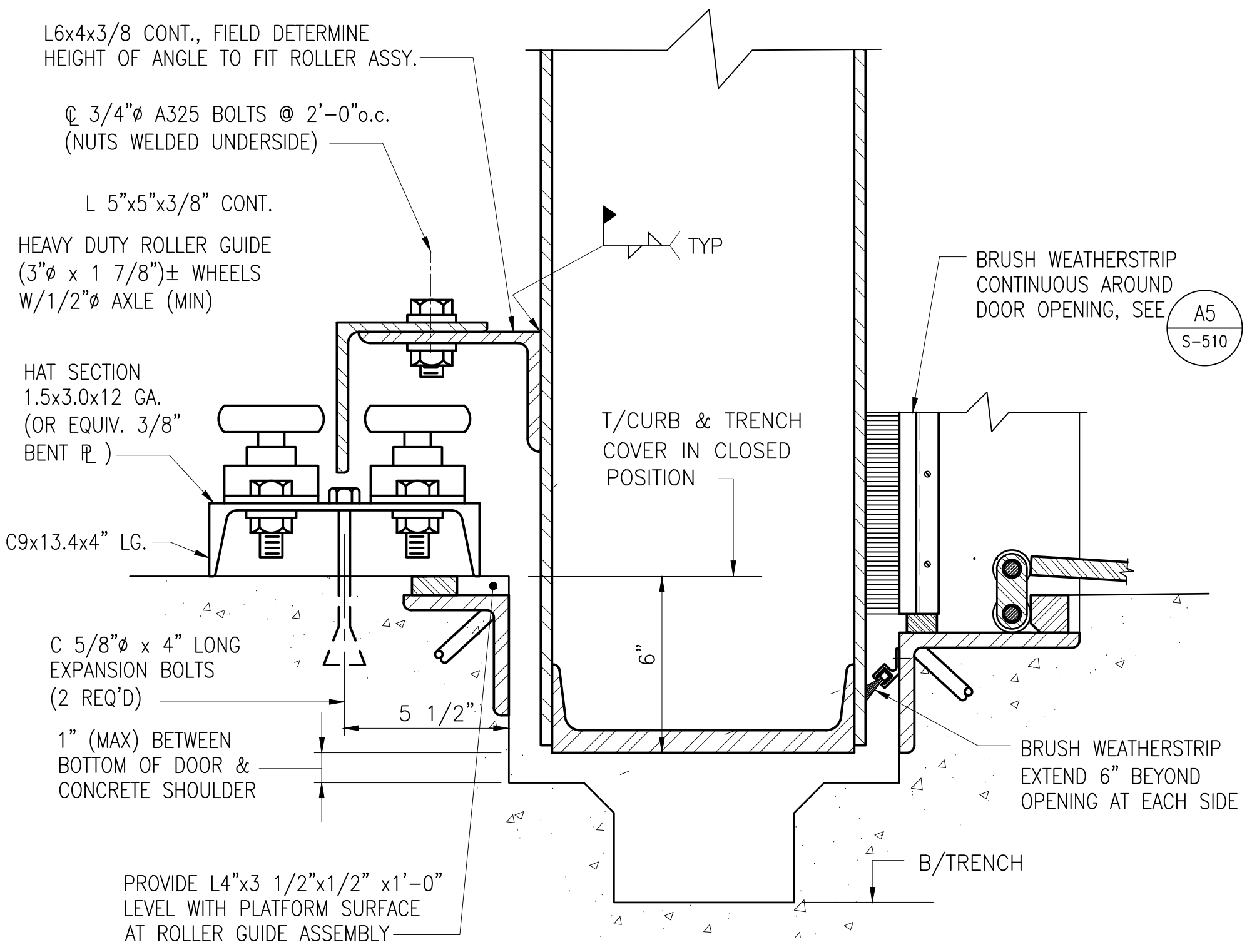
C

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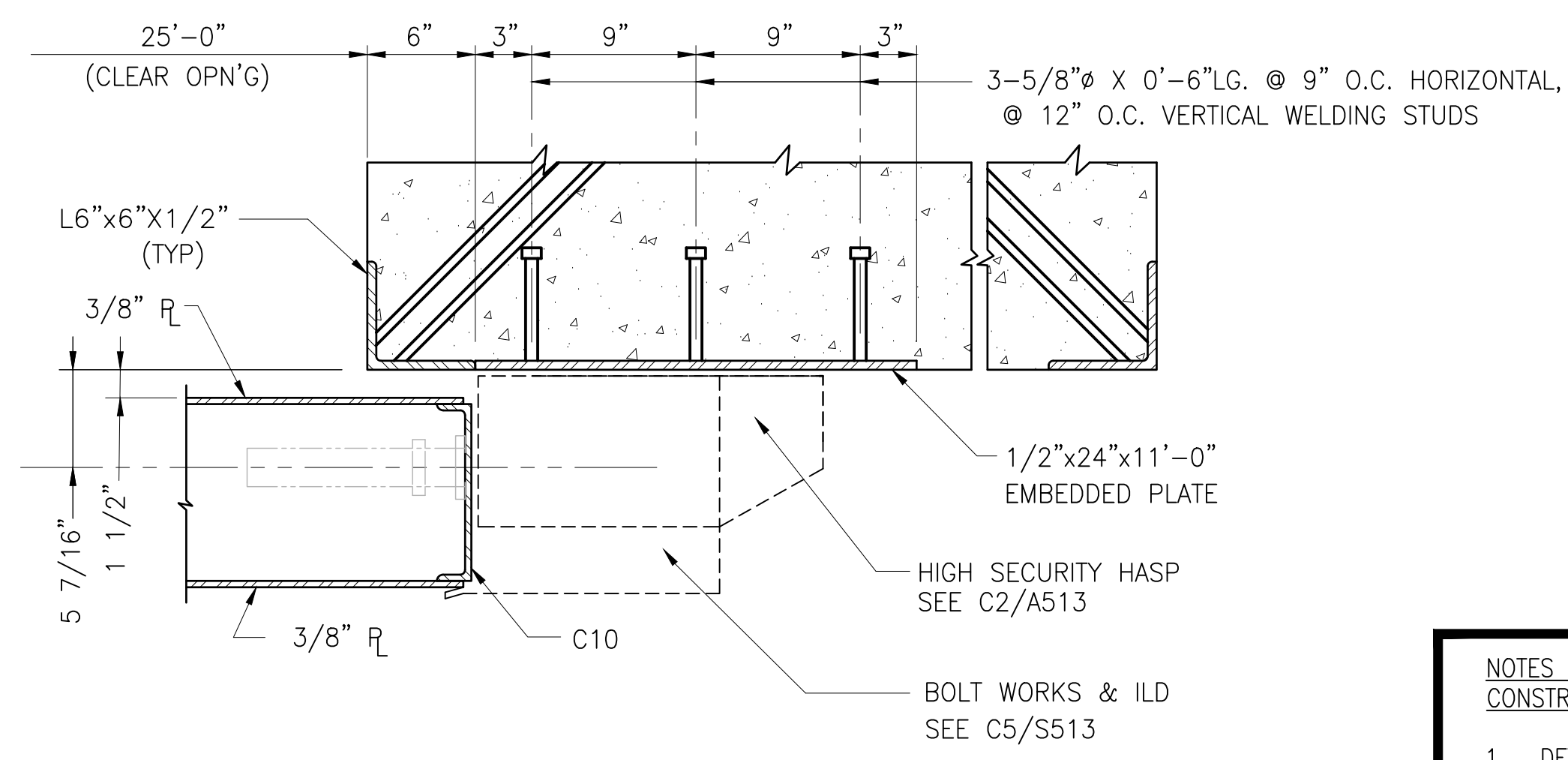
DOOR SHOCK ABSORBERS— OPERATING REQUIREMENTS

- MAXIMUM DOOR SPEED 12 FT/MIN OPENING/CLOSING.
- DOOR CLOSING SHOCK ABSORBER:
AT PILASTER
- QUANTITY = 2
- STOPPING DISTANCE = 1 INCH
- MAXIMUM FORCE PER SHOCK ABSORBER = 10,000 LBS
- DUTY CYCLE = 10 DEFLECTIONS/HOUR
- DOOR OPENING SHOCK ABSORBER:
AT TRENCH
- QUANTITY = 2
- STOPPING DISTANCE = 2 INCHES
- MAXIMUM FORCE PER SHOCK ABSORBER = 5,000 LBS
- DUTY CYCLE = 10 DEFLECTIONS/HOUR



ROLLER GUIDE SECTION (B2)

SCALE: 3" = 1'-0" S-304, S-305, S-508

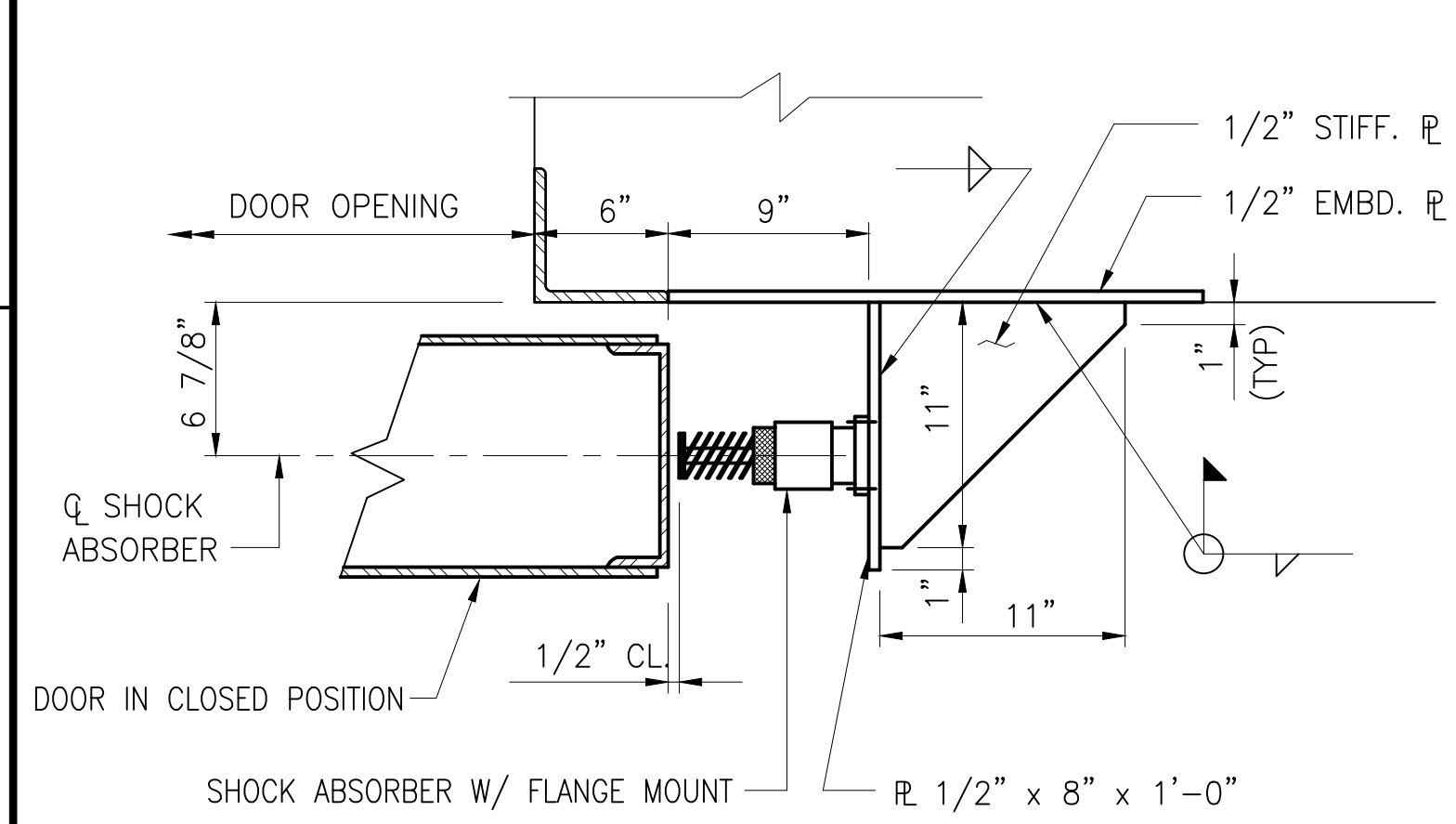


MAGAZINE LOCK DETAIL (C3)

SCALE: 1 1/2" = 1'-0" S-304
NOTE TO DESIGNER, EDIT DETAIL & NOTES BASED ON LOCK SELECTION FOR PROJECT

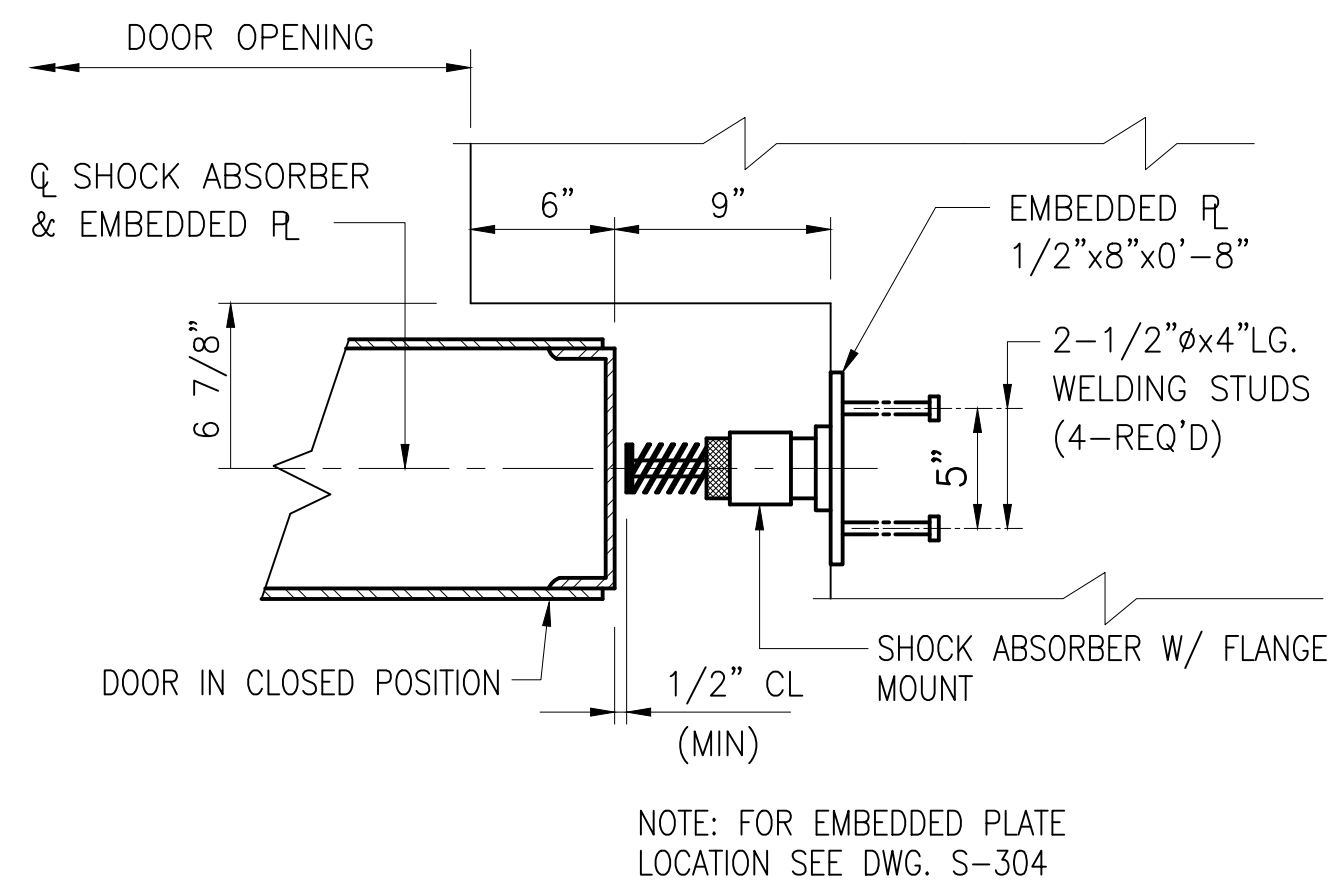
NOTES TO DESIGNER — REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

- DETAIL C3 IDENTIFIES DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND MODIFY THIS DETAIL ACCORDINGLY



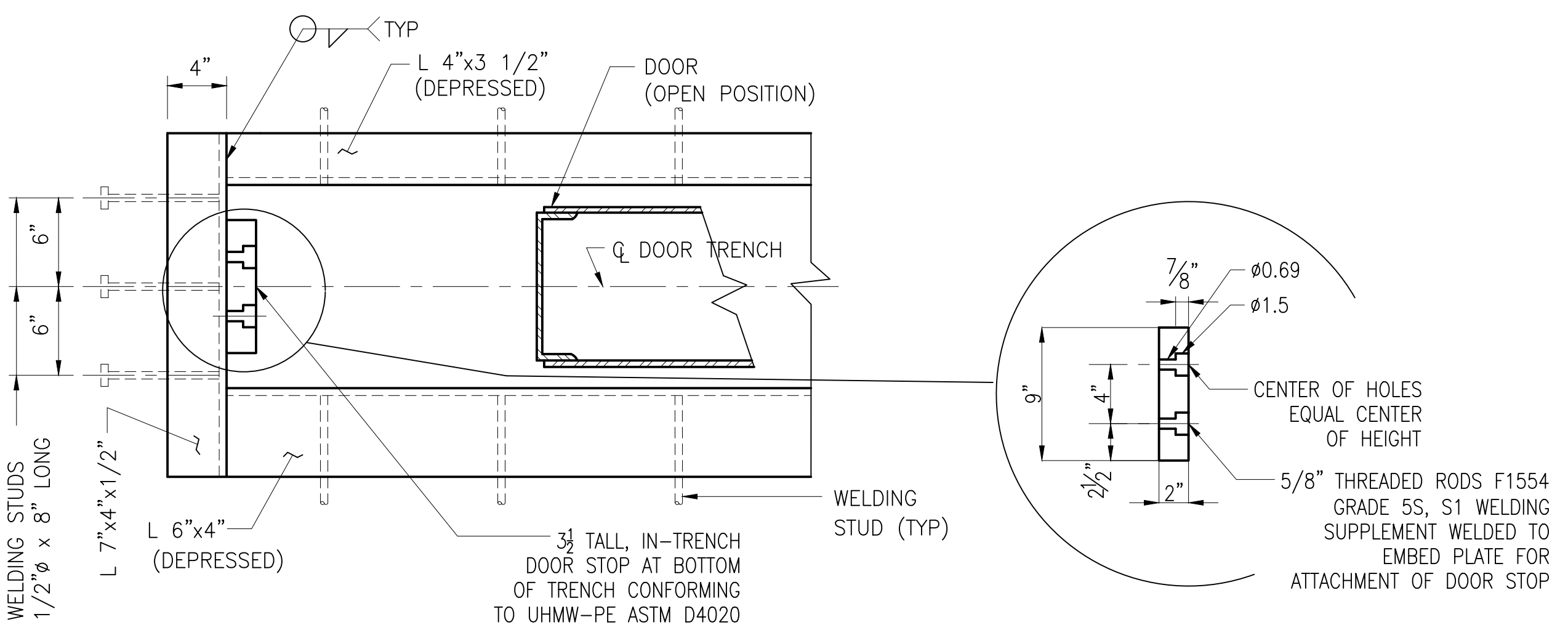
SECTION (A2)

SCALE: 1 1/2" = 1'-0" S-304



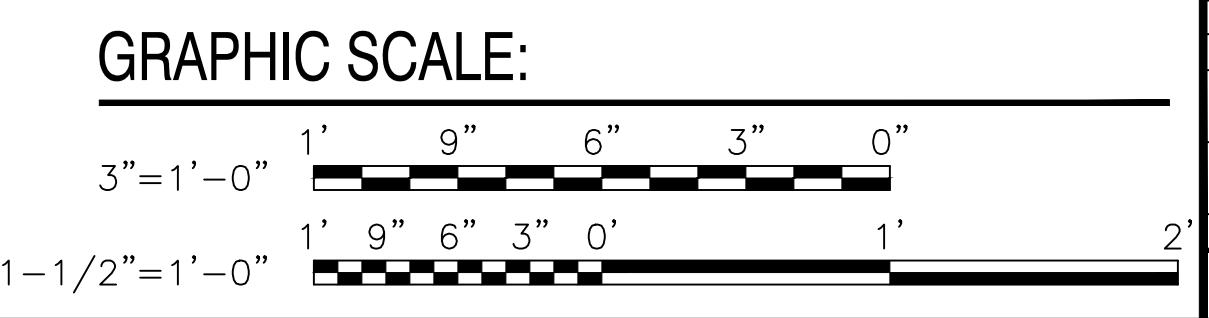
SECTION (A3)

SCALE: 1 1/2" = 1'-0" S-304



DETAIL (A4)

SCALE: 1 1/2" = 1'-0" S-304



APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPED STANDARD
ACTIVITY	SEAL	
SATISFACTORY TO	DATE	MM/DD/YY
DES	DRW	IWR
PM/DM	CHK	LMM
BRANCH MANAGER	JTW	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	LEANOR COLA, VA
DESIGN AND CONSTRUCTION	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
TYPE D BOX MAGAZINE		
DOOR ROLLER GUIDES AND SHOCK ABSORBER DETAILS		
SCALE:	AS NOTED	
PROJECT NO.:	14084185	
CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.:	14084185	
SHEET	24	OF 40
S-512		
DRAWING REVISION: 25 AUGUST 2020		

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\kelle.cornino\AppData\Local\Temp\15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-512 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

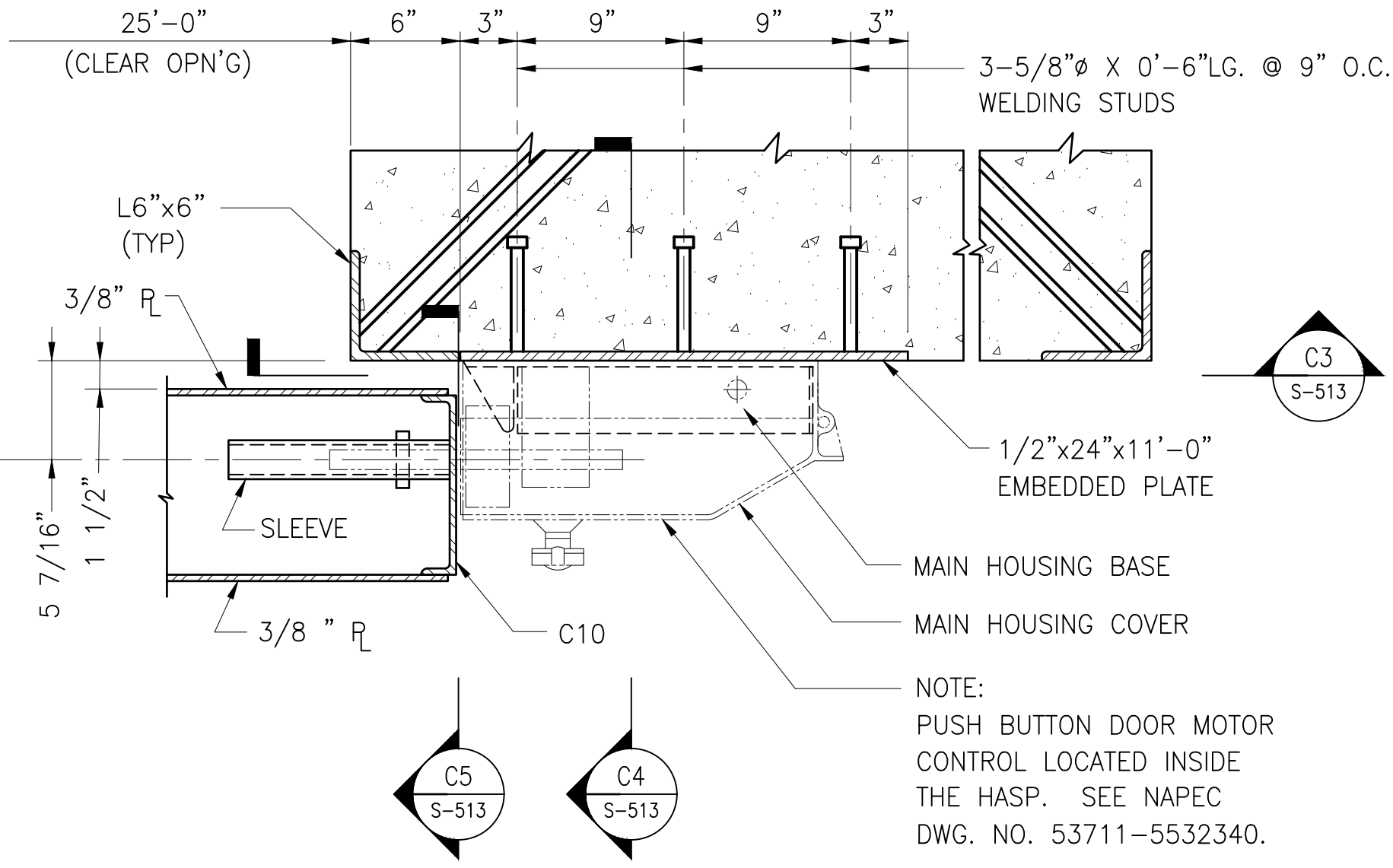
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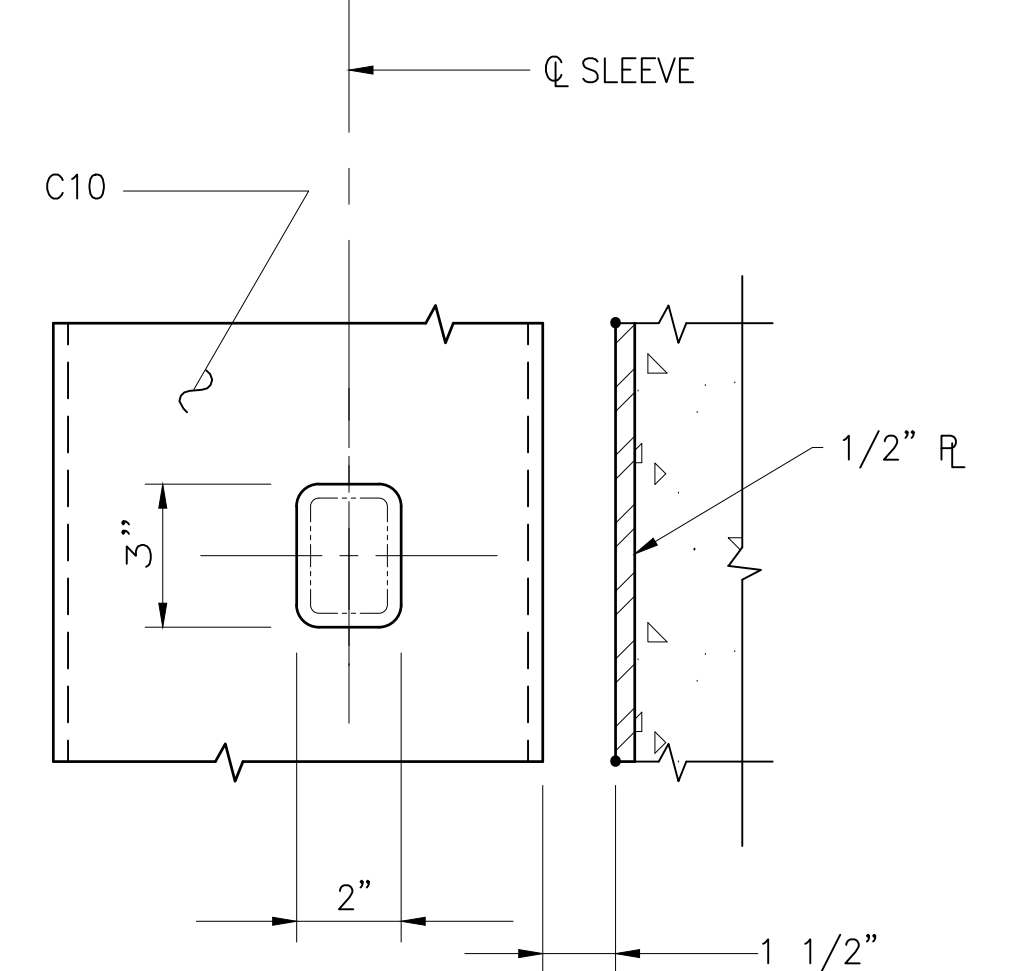
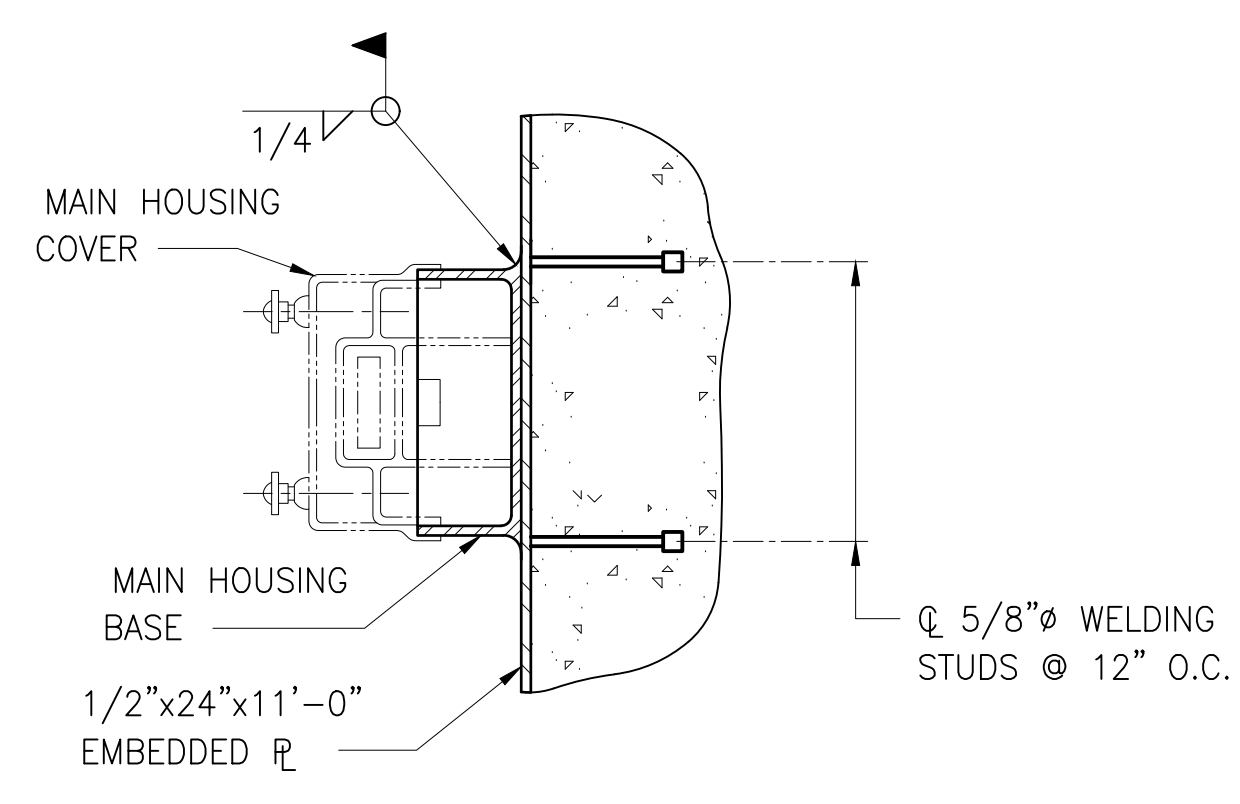
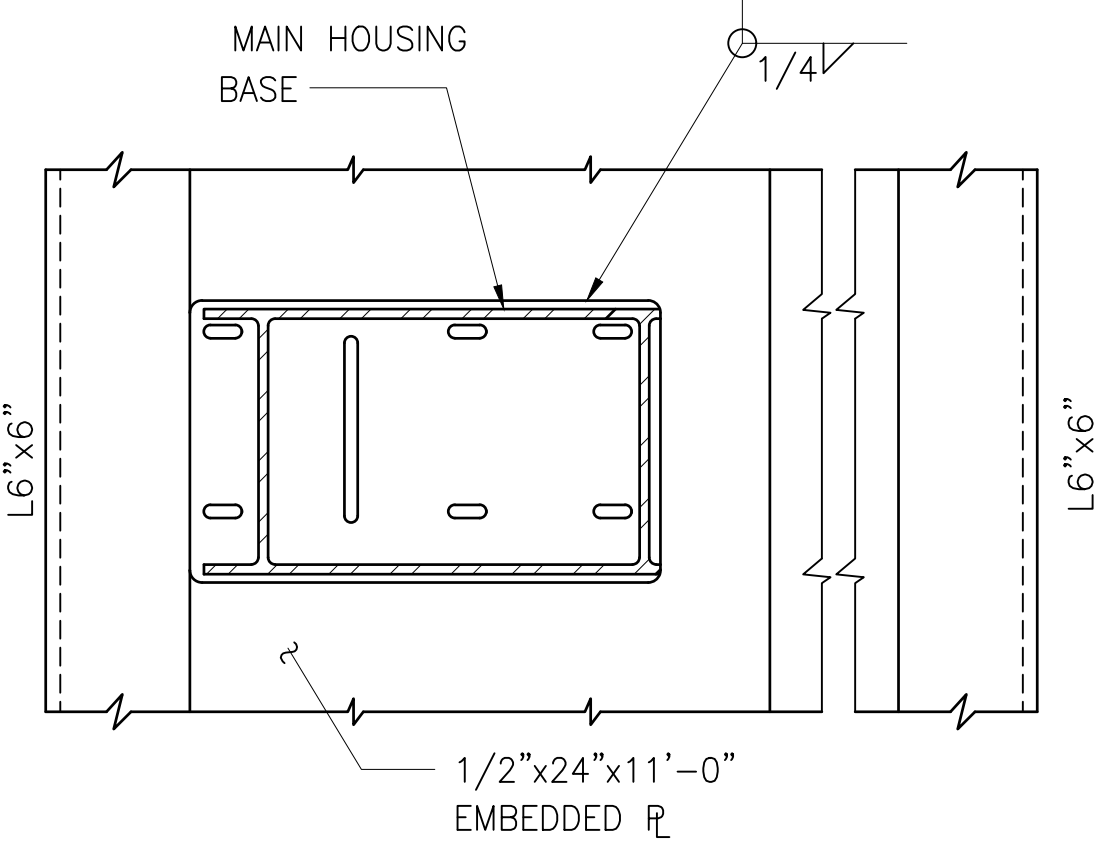
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NOTE: HIGH SECURITY HASP ON DOOR NO.3 SHALL BE NAPEC 1332 UNIVERSAL HASP, GOVERNMENT FURNISHED AND SHALL BE INSTALLED IN ACCORDANCE WITH NAVAMPROENGNCN PUBLICATION "STANDARD PLANS FOR HIGH SECURITY HASPS AND INTRUDER DETECTION SYSTEMS ASHORE" INSTALLATION PROCEDURE FOR THE HASP SHALL FOLLOW STEPS 1 THRU 8 LISTED ON NAPEC STANDARD DWG. 1446.



HIGH SECURITY HASP DETAIL

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

S-512

C2

SECTION

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

S-513

C3

SECTION

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

S-513

C4

SECTION

SCALE: 3" = 1'-0"

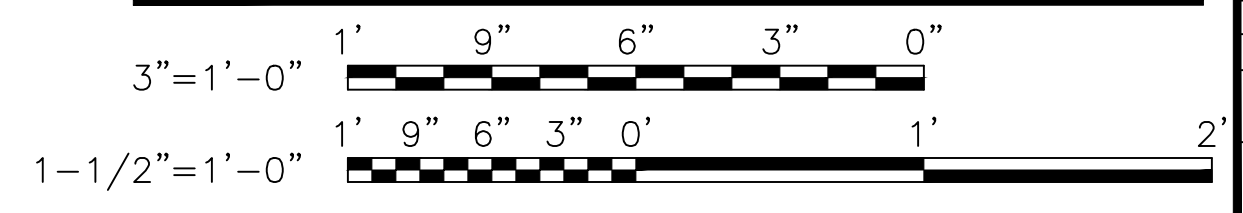
S-513

C5

NOTES TO DESIGNER -- REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

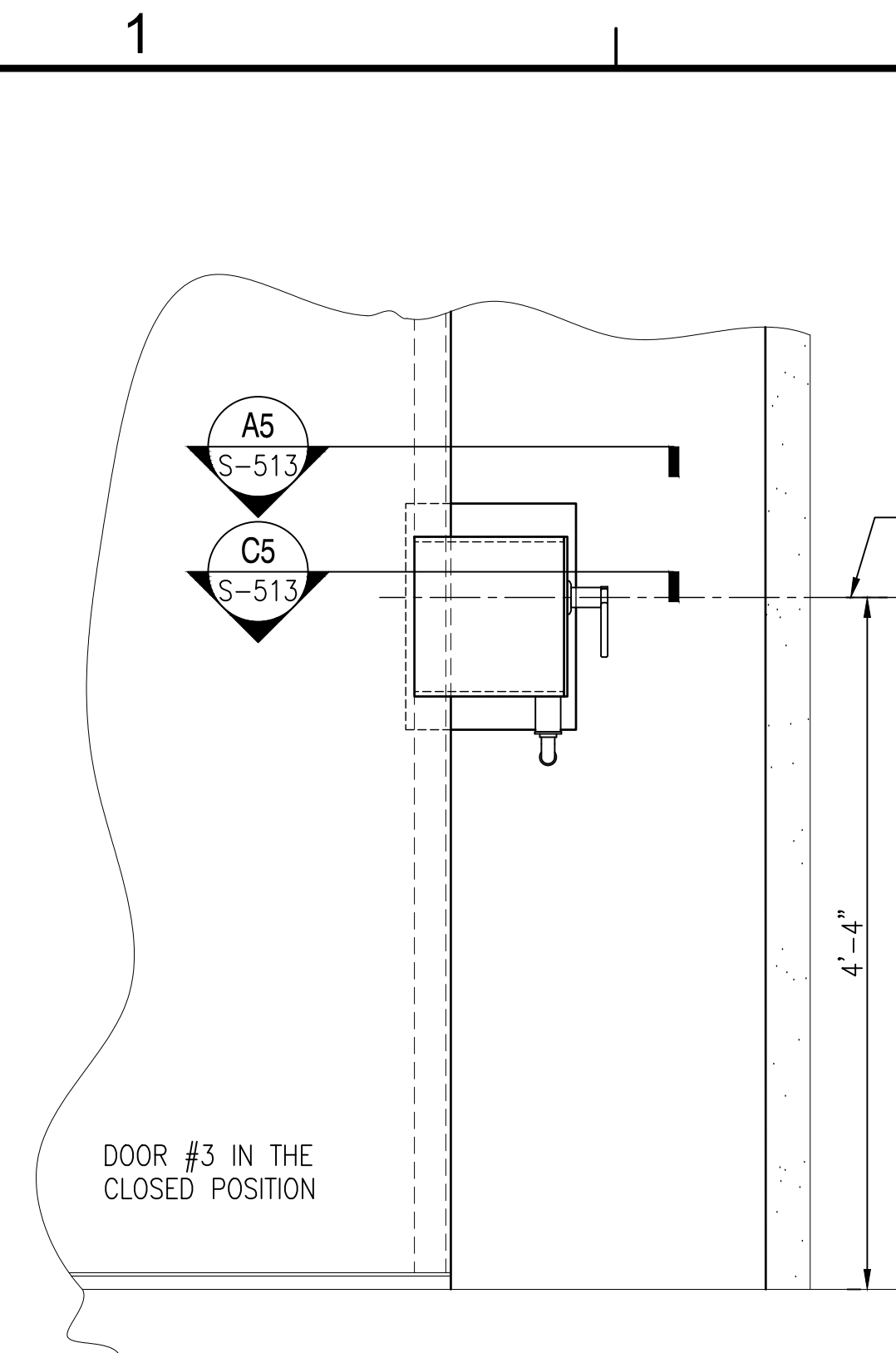
1. SHEETS S-513 & S-513(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER). IF ALT SHEET IS USED, RENAME TO ORIGINAL SHEET.

GRAPHIC SCALE:



APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPE D STANDARD
ACTIVITY	SWR	
SATISFACTORY TO	DATE	MM/DD/YY
DES	DRW	IWR
CHK	CHK	LMM
PMIDM		
BRANCH MANAGER	JTW	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	BRANFAC/OLE/VA
DESIGN AND CONSTRUCTION	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
	TYPE D BOX MAGAZINE	
	LOCK AND HIGH SECURITY HASP DETAILS	
SCALE:	AS NOTED	
PROJECT NO.:		
CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.	14084186	
SHEET	25	OF 40
	S-513	
DRAWING REVISION: 25 AUGUST 2020		

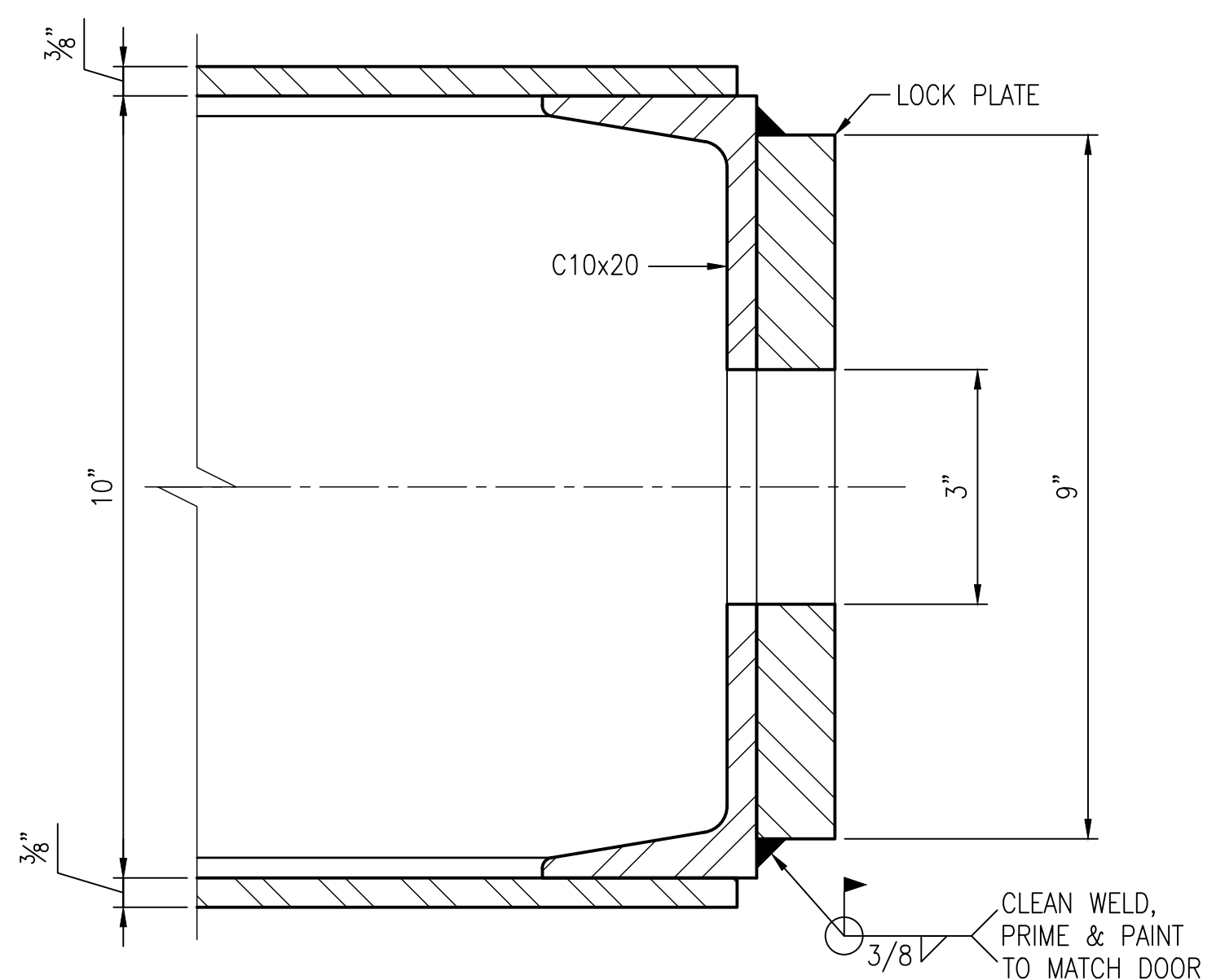
FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\kelle.cornino_15576\Box D_2022.9.27.dwg LAYOUT NAME: S-513 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino



NOTE: SEE MANUFACTURERS INSTALLATION DATA FOR ADDITIONAL INFORMATION

DOOR IN THE CLOSED POSITION

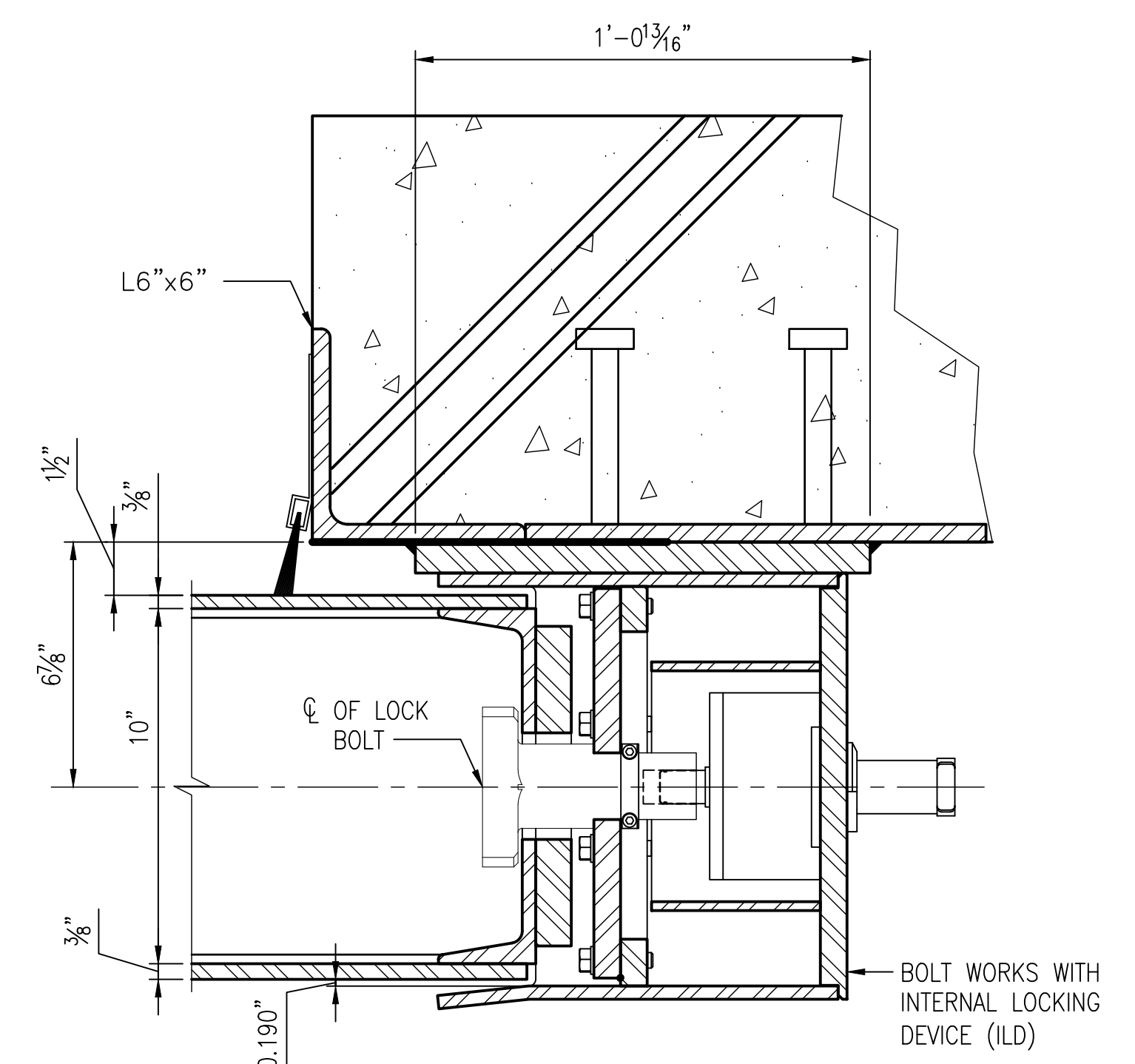
INTERNAL LOCKING DEVICE (ILD) IS A U.S. GOVERNMENT DESIGNED AND PATENTED LOCKING SYSTEM. THE CONTRACTOR SHALL CONTACT THE NAVAL FACILITIES ENGINEERING AND EXPEDITIONARY WARFARE CENTER (NF EXWC), DOD LOCK PROGRAM, ILD SUPPORT HOTLINE AT 1-805-982-LOCK (DSN 551-LOCK) OR E-MAIL TO ILD_Field_Support@navy.mil FOR ALL ILD AND BOLTWORK DRAWINGS AND INSTALLATION INFORMATION AND INTRUSION DETECTION SWITCH (IDS) INFORMATION. THE CONTRACTOR SHALL FOLLOW ALL ILD AND BOLTWORK INSTALLATION INSTRUCTIONS PROVIDED BY NF EXWC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PURCHASING THE ILD, IDS, BMS, AND THE BOLTWORKS AND THE INSTALLATION THERE OF.



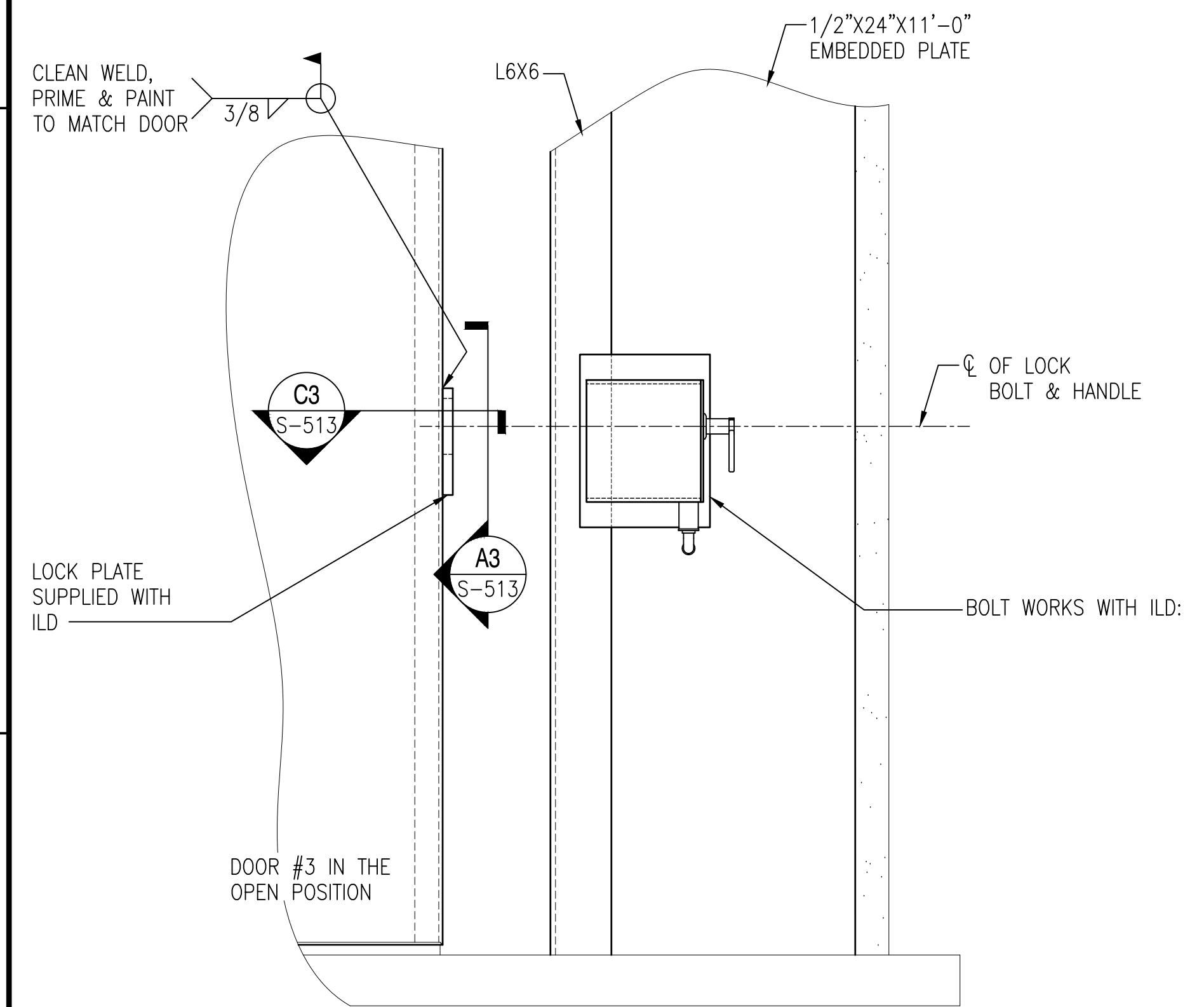
SECTION S-513 C3
SCALE: 6" = 1'-0"

NOTES TO DESIGNER - REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

1. SHEETS S-513 & S-513(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER). IF ALT SHEET IS USED, RENAME TO ORIGINAL SHEET.

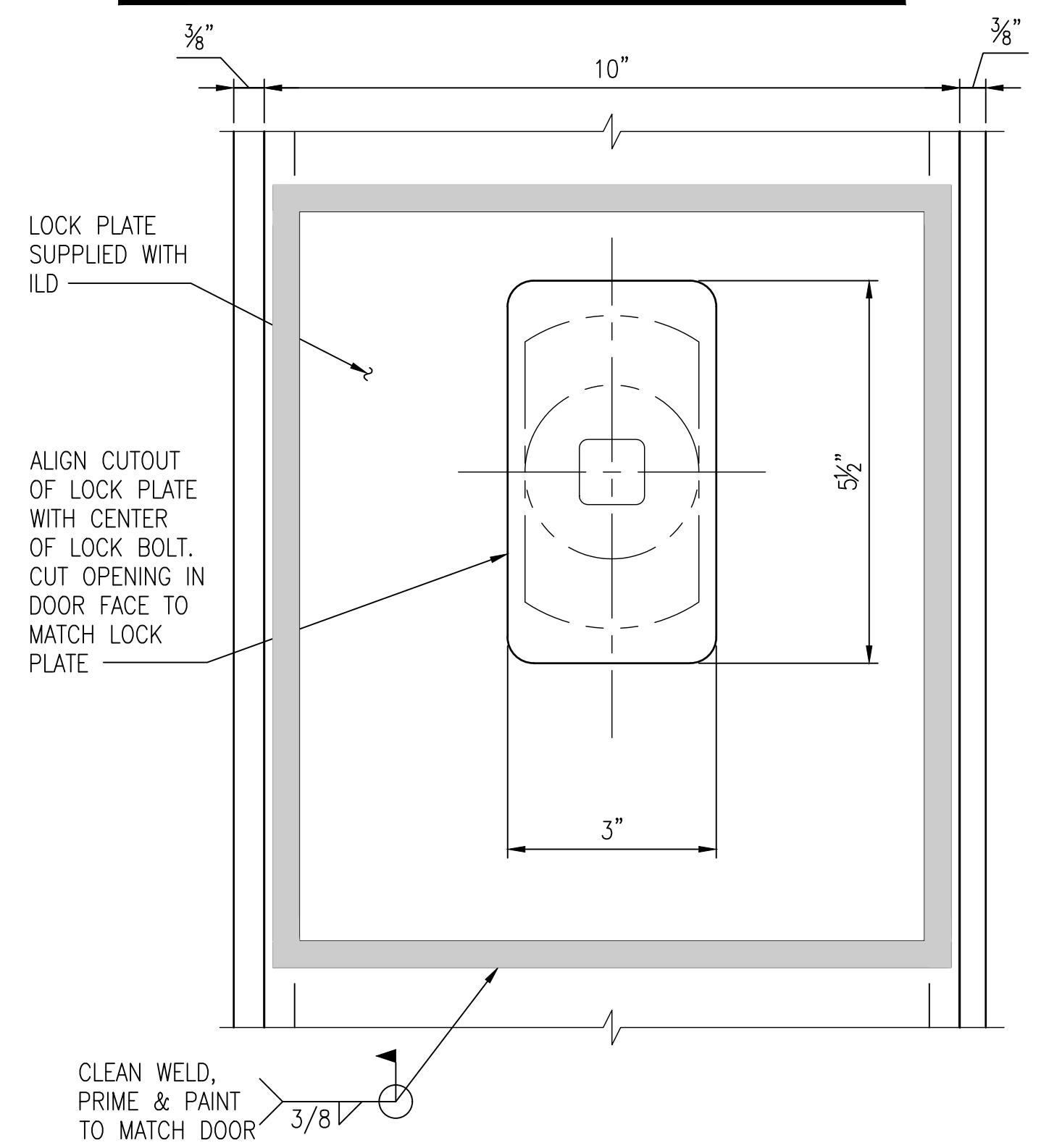


SECTION AT LOCKING ASSEMBLY CLOSED S-513 C5
SCALE: 3" = 1'-0"

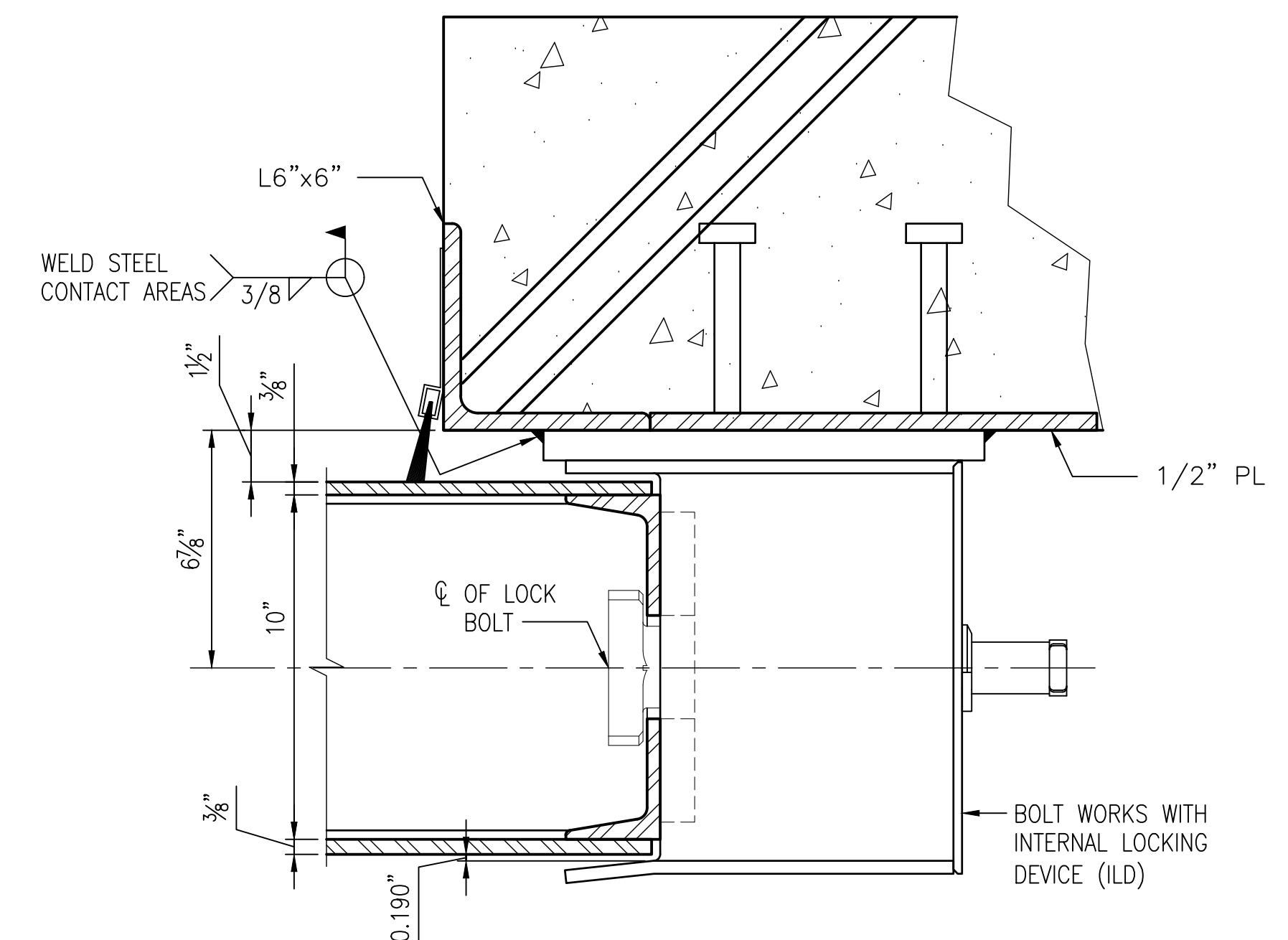


NOTE: SEE MANUFACTURERS INSTALLATION DATA FOR ADDITIONAL INFORMATION

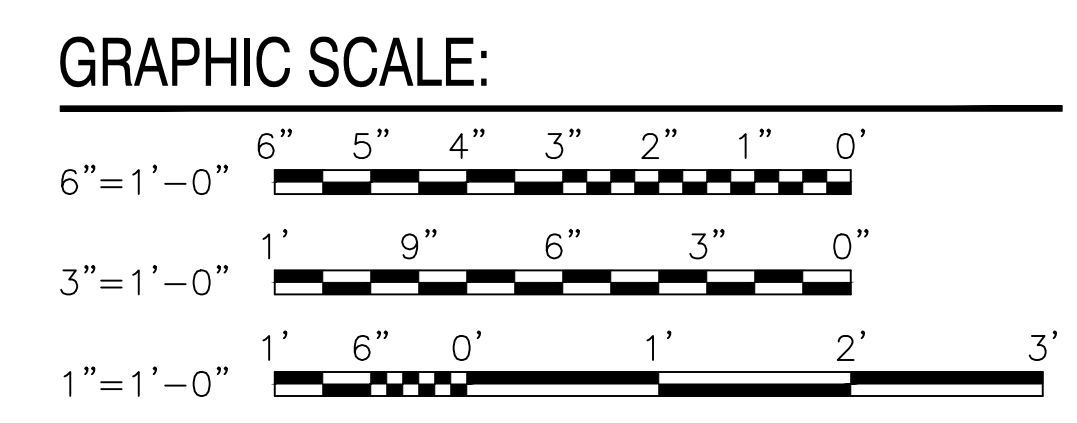
DOOR IN THE OPEN POSITION



SECTION S-513 A3
SCALE: 6" = 1'-0"



SECTION ABOVE LOCKING ASSEMBLY S-513 A5
SCALE: 3" = 1'-0"



ELEVATION - HIGH SECURITY HASP - DOOR #3 S-512 A2
SCALE: 1" = 1'-0"

APPROVED	DATE	09/14/22
FOR COMMANDER NAVFAC	DESCRIPTION	TYPE D STANDARD
ACTIVITY	DATE	09/14/22
SATISFACTORY TO DATE	DATE	MM/DD/YYYY
DES	DRW	IWR
CHK	CHK	LMM
PM/DM		
BRANCH MANAGER		JTW
CHIEF ENGINEER		RICHARD L. STEPHENS, P.E.
FIRE PROTECTION		DPS
DEPARTMENT OF THE NAVY		
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND		
DESIGN AND CONSTRUCTION		
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND		
LEAD ARCHITECT		
TYPE D BOX MAGAZINE		
ALTERNATE HIGH SECURITY HASP - ILD DETAILS		
SCALE:	AS NOTED	
PROJECT NO.:	14084187	
CONSTR. CONTR. NO.:	-	
NAVFAC DRAWING NO.:	14084187	
SHEET	26	OF 40
S-513ALT		
DRAWING REVISION: 25 AUGUST 2020		

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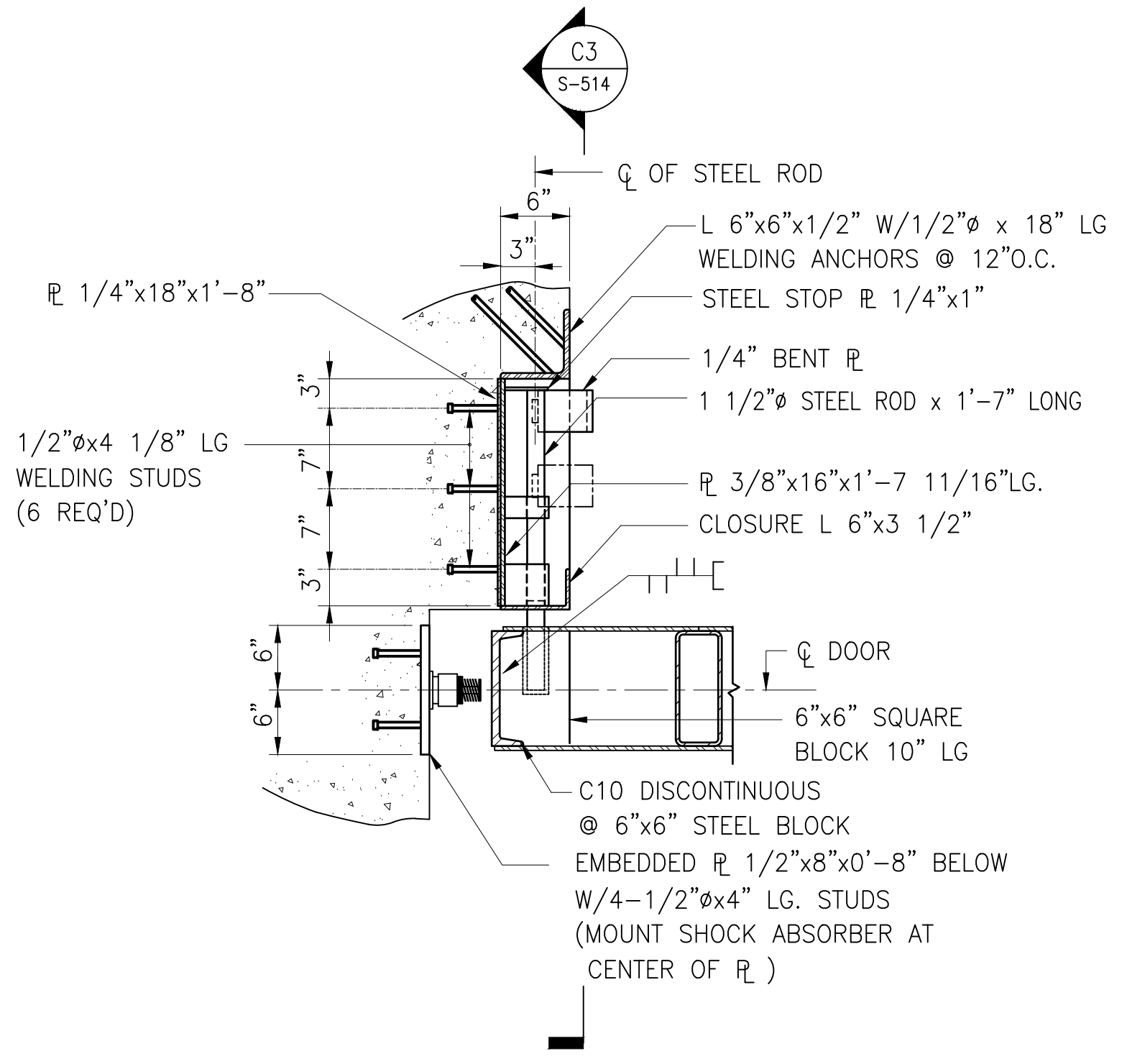
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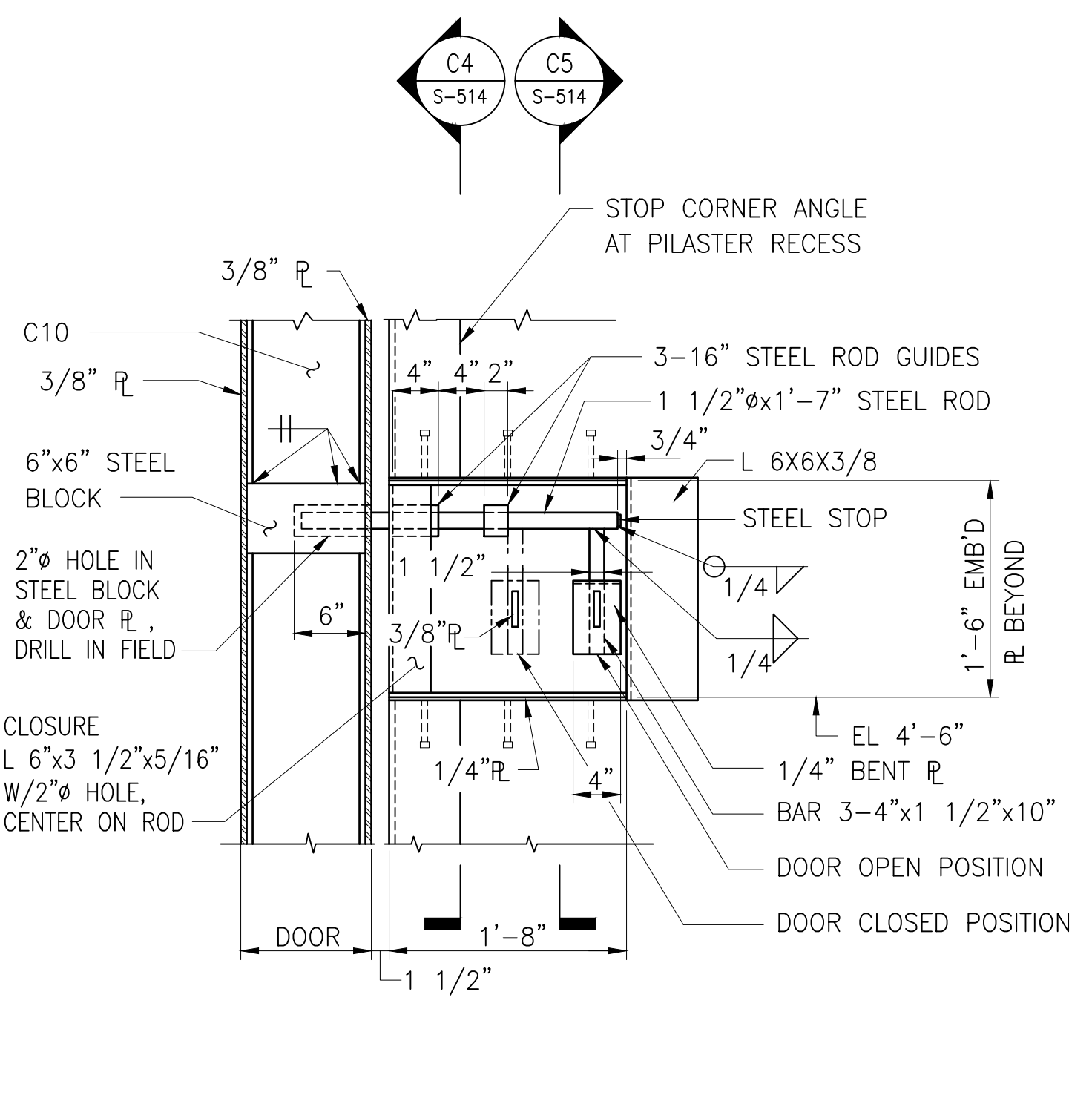
C

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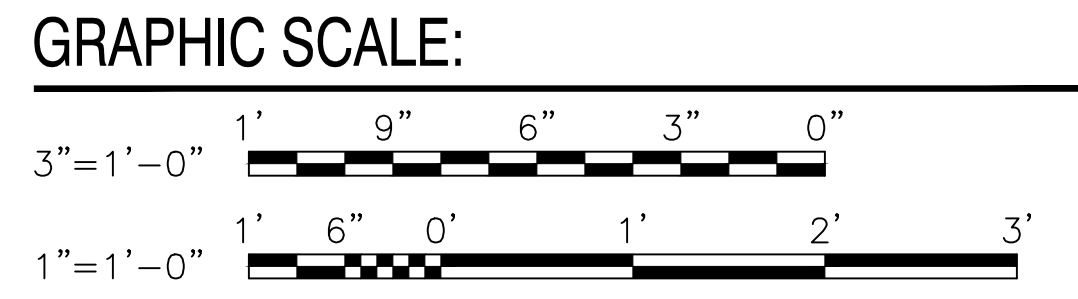
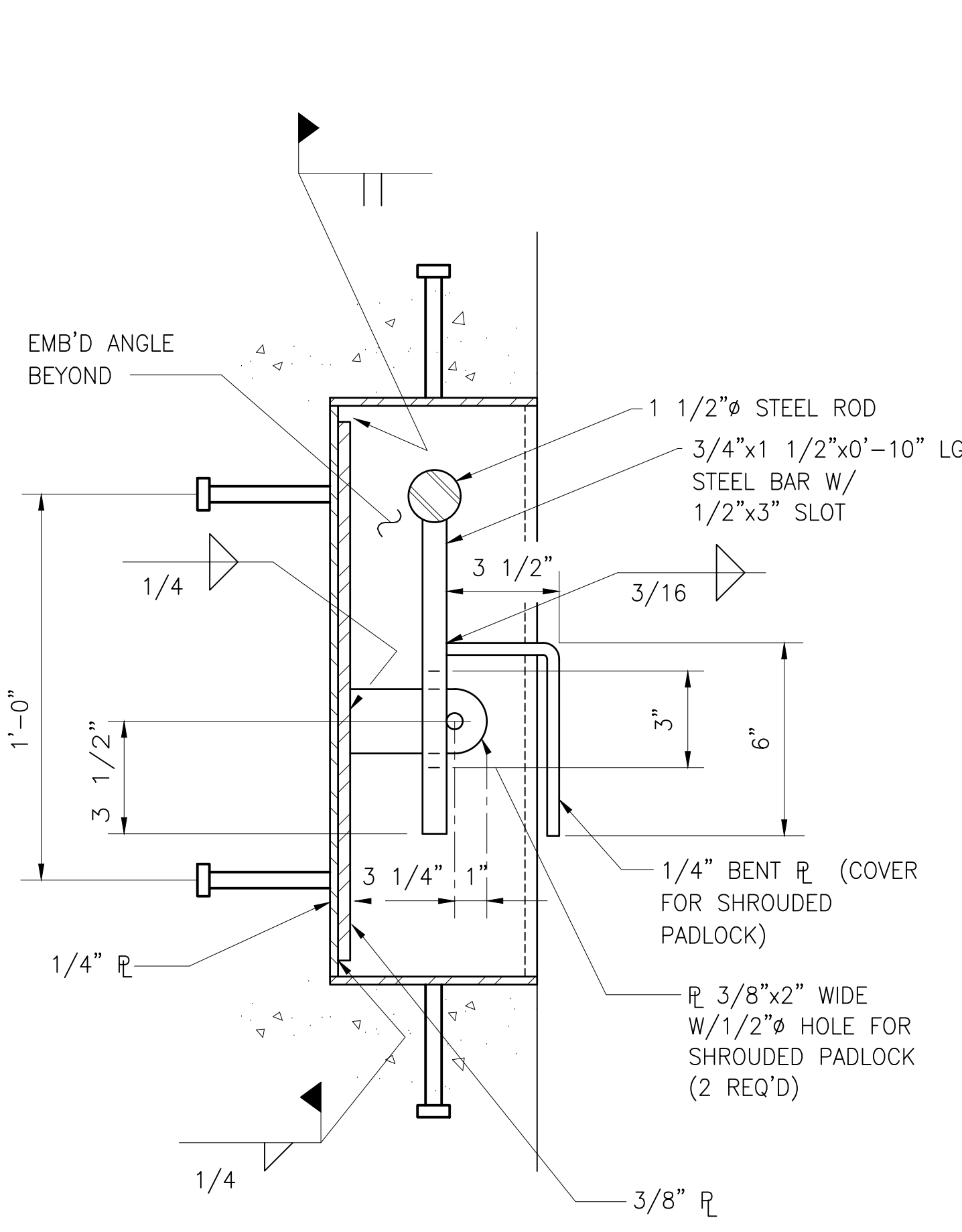
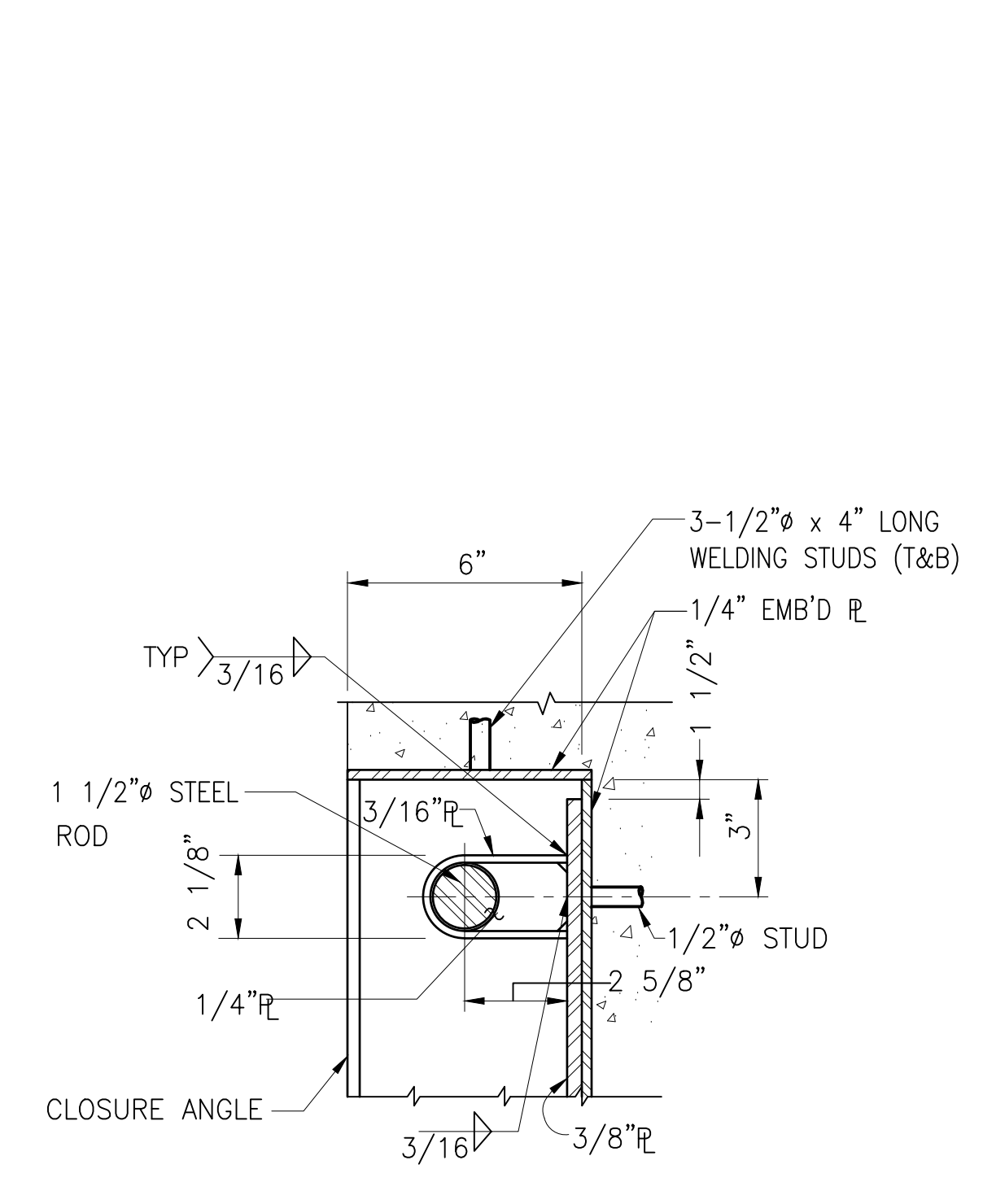
A



INTERIOR DOOR LOCK ASSEMBLY DETAIL
 SCALE: 1" = 1'-0" S-304, S-505, S-508 (C2)



SECTION
 SCALE: 1" = 1'-0" S-514 (C3)



APPROVED	DATE	APP'R
	09/14/22	
TYPED STANDARD	DESCRIPTION	
TYPE D BOX MAGAZINE INTERIOR DOOR LOCK DETAILS		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND DESIGN AND CONSTRUCTION		
BRANCH MANAGER: JTW CHIEF ENGINEER: RICHARD L. STEPHENS, P.E. FIRE PROTECTION: DPS		
SCALE: AS NOTED PROJECT NO.: CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO: 14084188 SHEET 27 OF 40		
S-514 <small>DRAWING REVISION: 25 AUGUST 2020</small>		

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\kelle.cornino_15576\BOX_D_2022.9.27.dwg LAYOUT NAME: S-514 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9d4d4b-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-601 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

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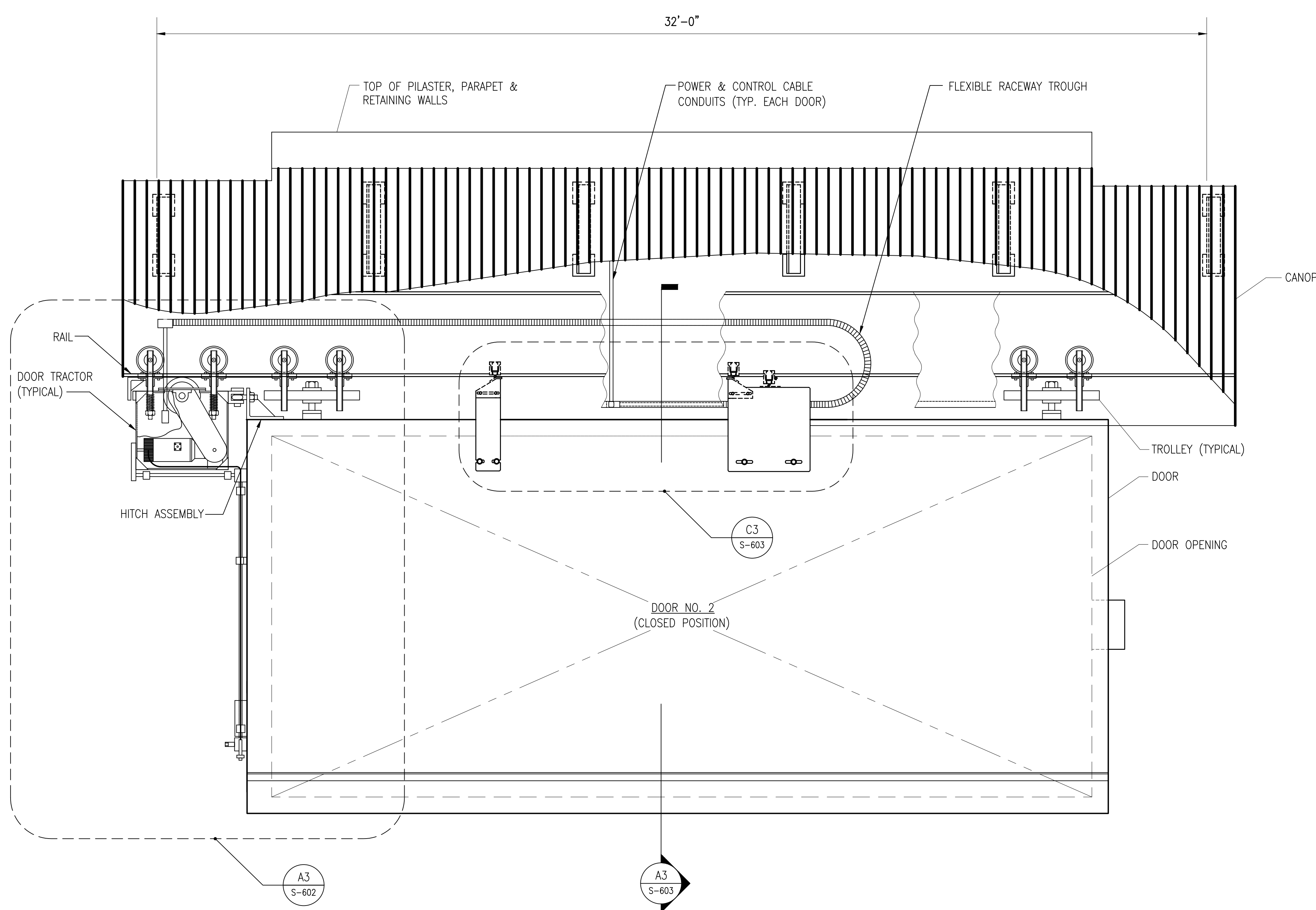
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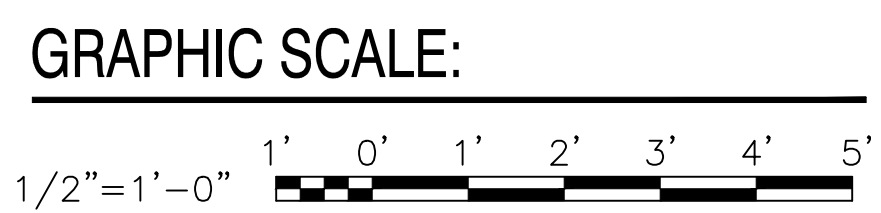
B

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FRONT ELEVATION - SLIDING DOOR
 SCALE: 1/2" = 1'-0"

S-304, S-508 **A4**



APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC	09/14/22	
ACTIVITY	TYPE D STANDARD	
SATISFACTORY TO	DATE	
DES	MM/DD/YY	
DES	DRW IWR	CHK LMM
PM/DM		
BRANCH MANAGER	JTW	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	BRANCH OFFICE	
	TYPE D BOX MAGAZINE	
	ELEVATION - SLIDING DOOR OPERATOR	
SCALE:	AS NOTED	
PROJECT NO.:		
CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.	14084189	
SHEET	28	OF 40
	S-601	
DRAWING REVISION: 25 AUGUST 2020		

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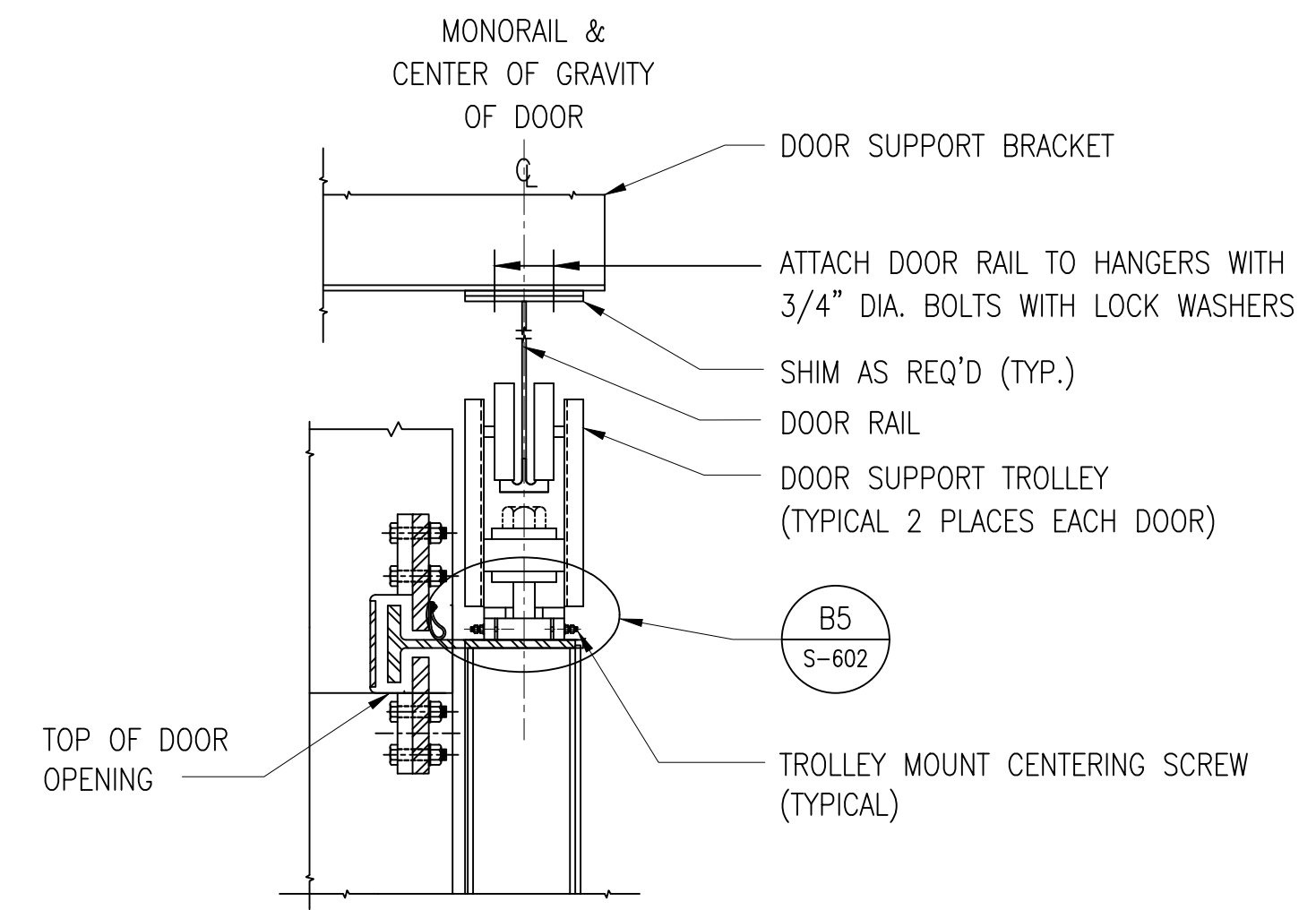
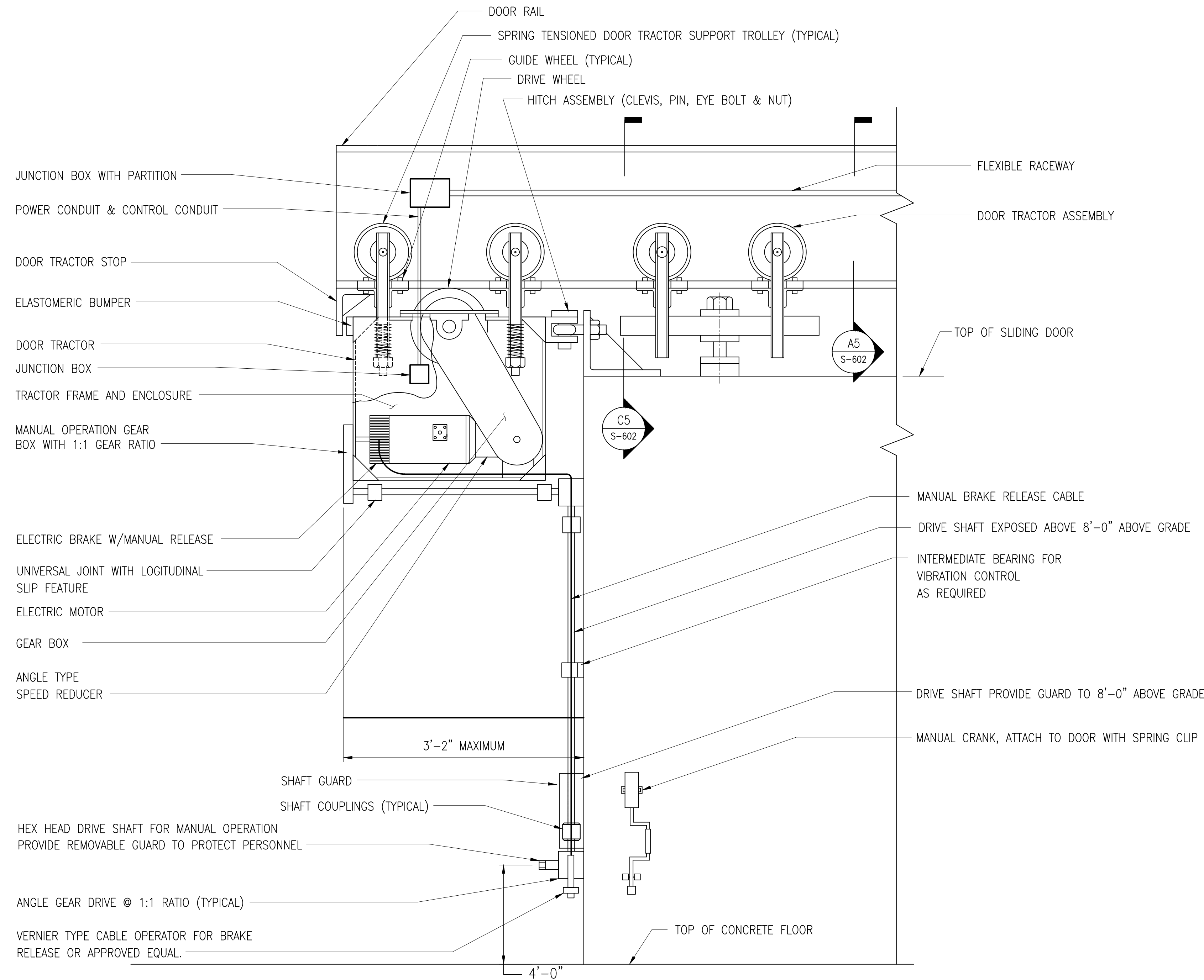
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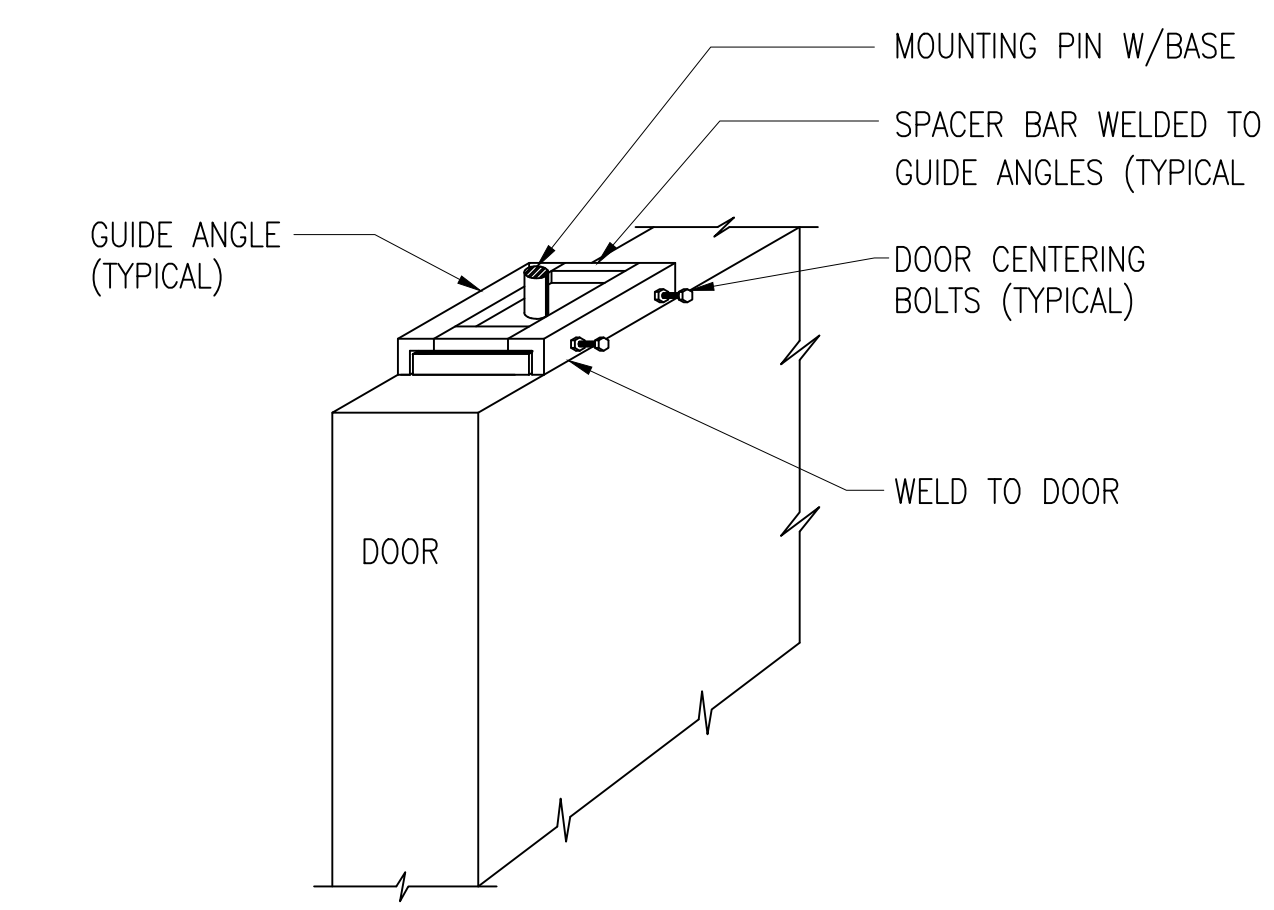
C

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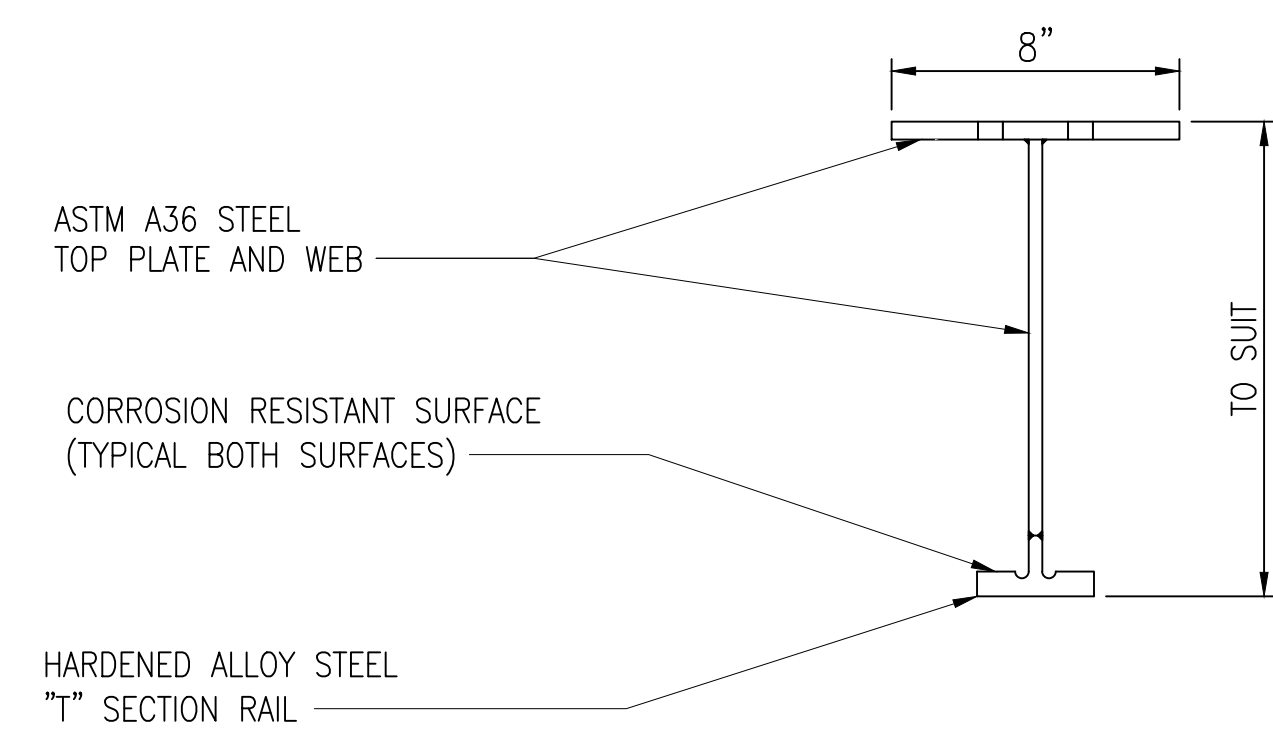
A



SECTION
NOT TO SCALE S-602 C5



DETAIL
NOT TO SCALE S-602 B5



SECTION
NOT TO SCALE S-602 A5

DETAIL
NOT TO SCALE S-601 A3

- NOTES:**
1. USE DOOR CENTERING BOLTS TO POSITION THE TROLLEY PIN & BASE FOR A BALANCED DOOR.
 2. WELD TROLLEY MOUNTING BASE TO GUIDE ANGLES AND SPACER BARS AFTER BALANCING DOOR.
 3. CONTRACTOR MAY SUBMIT ALTERNATE TROLLEYS & MOUNTS FOR APPROVAL.

DATE	09/14/22
DESCRIPTION	TYPE D STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	MM/DD/YY
DES	DRW IWR CHK LMM
PM/DM	
BRANCH MANAGER	JTW
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION	BRANFORD, VA
TYPE D BOX MAGAZINE SLIDING DOOR DETAILS	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.	14084190
SHEET	29 OF 40
S-602	
DRAWING REVISION: 25 AUGUST 2020	

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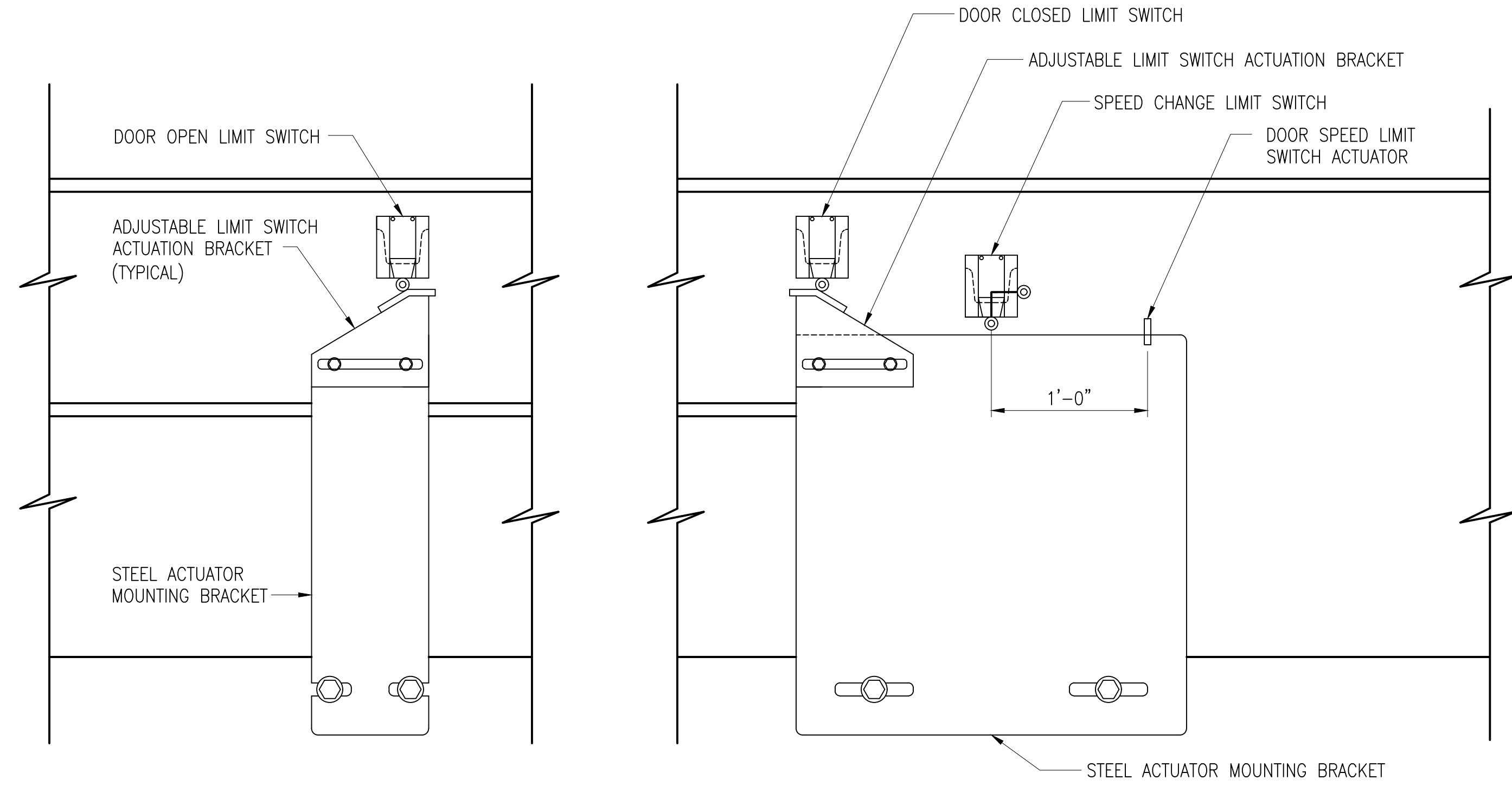
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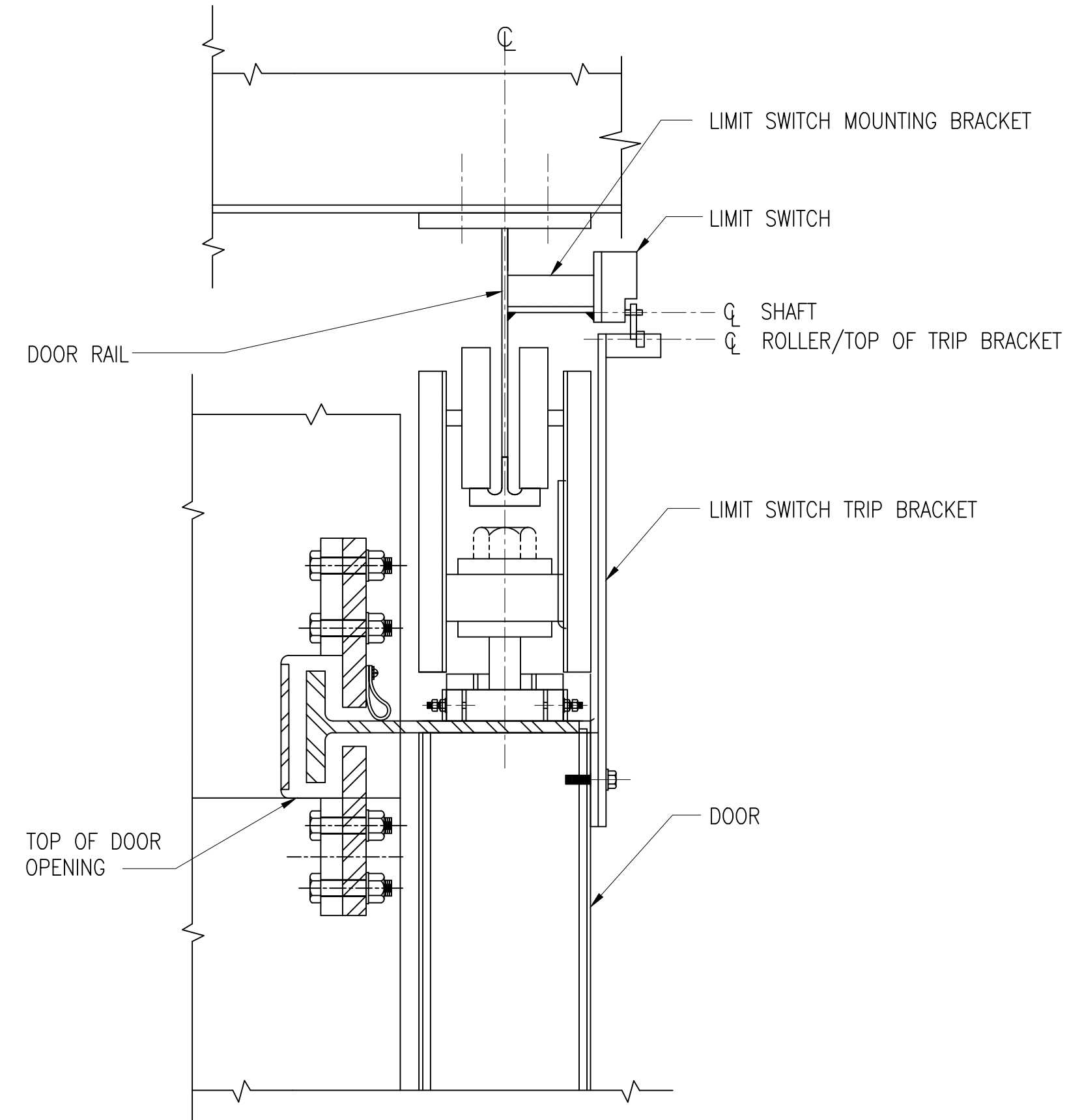
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DETAIL
NOT TO SCALE

S-601

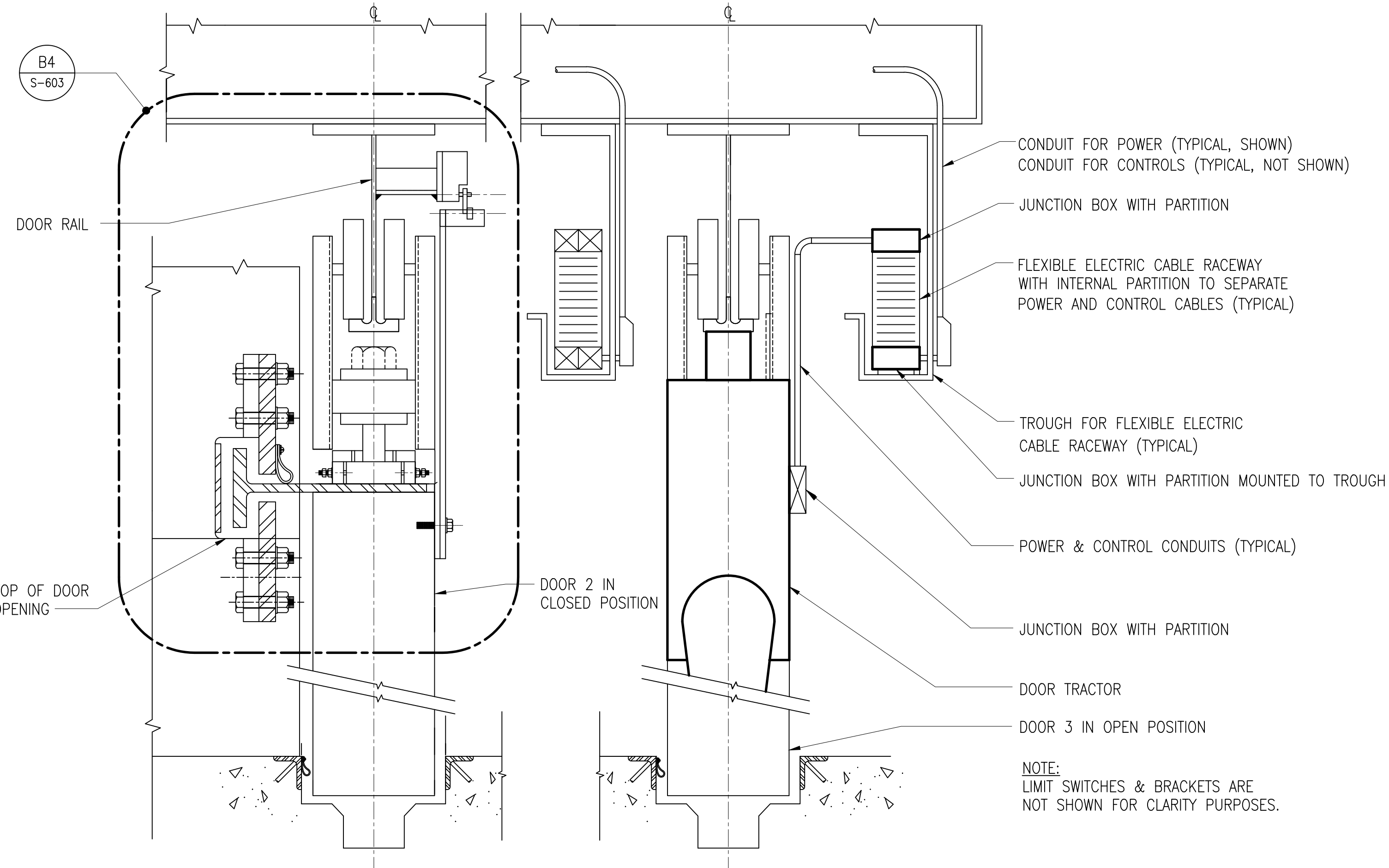
C3



DETAIL
NOT TO SCALE

S-603


B4



SECTION
NOT TO SCALE

S-601

A3

APPROVED	DATE	APP'R
09/14/22		
TYPE D STANDARD	DESCRIPTION	
		
<p>TYPE D BOX MAGAZINE</p> <p>SLIDING DOOR DETAILS</p>		
APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	MM/DD/YY
DES	DRW	IWR
CHK	LMM	
PM/DM		
BRANCH MANAGER	JTW	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	BRANFAC/DCAL/VA
DESIGN AND CONSTRUCTION		
SCALE:	AS NOTED	
PROJECT NO.:		
CONSTR. CONTR. NO.:		
NAVFAC DRAWING NO.	14084191	
SHEET	30	OF 40
S-603		
<small>DRAWING REVISION: 25 AUGUST 2020</small>		

FILE NAME: C:\Users\kellecorino\AppData\Local\Temp\4e9d4d4b-15576\BOX D_2022.9.27.dwg LAYOUT NAME: S-603 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kellecorino

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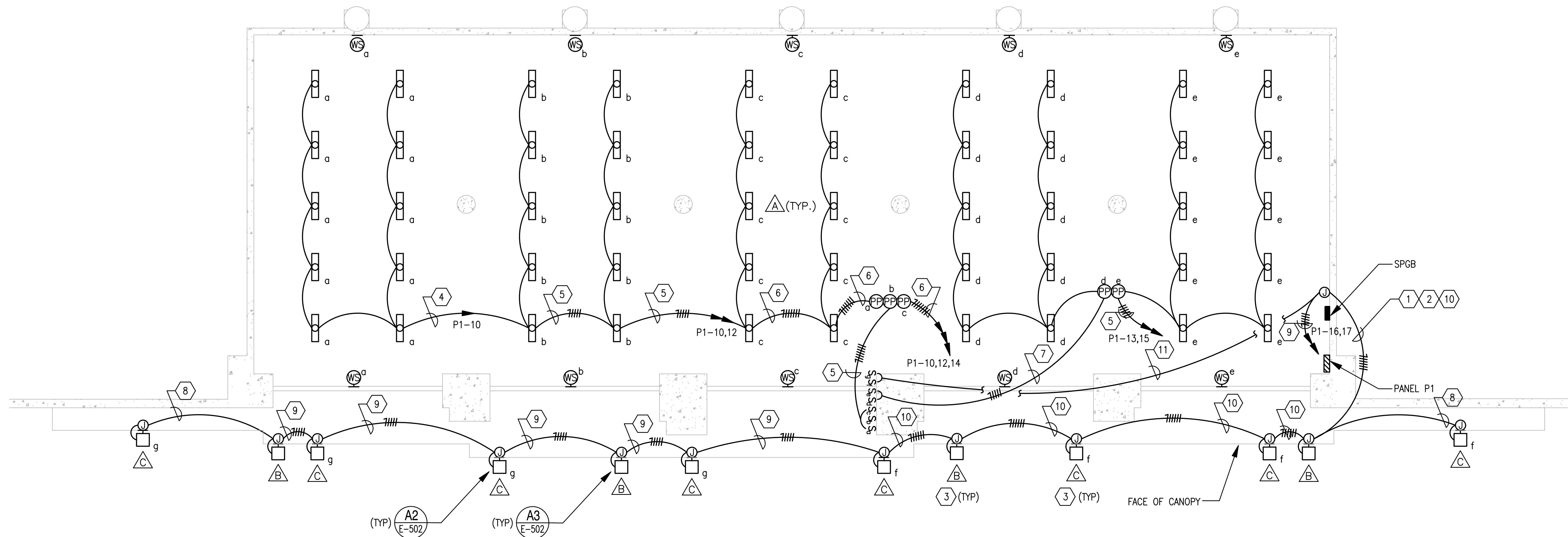
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LIGHTING PLAN

SCALE : 1/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE						
FIXTURE SYMBOL	SKETCH NO. & TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES	LUMEN OUTPUT
△	NL-11 SEE SHEET E-701	LED	120	SURFACE CEILING MOUNT		12000
△	XL-17 SEE SHEET E-701	LED	120	WALL MOUNTED 14' AFG	2, 3	1700
△	XL-21 SEE SHEET E-701	LED	120	WALL MOUNTED 14' AFG	1	7000

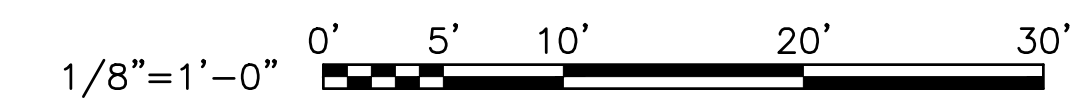
LIGHTING FIXTURE SCHEDULE NOTES

- LOAD/UNLOAD LIGHTING.
- PROVIDE WITH INTEGRAL PHOTOCCELL CONTROL.
- SECURITY LIGHTING.

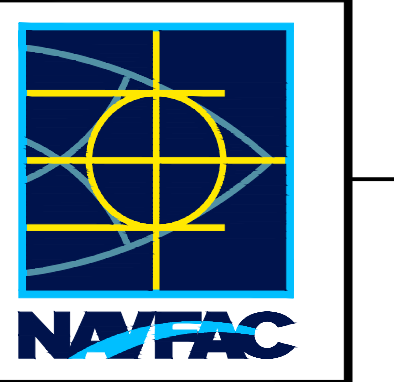
NOTES

- CONDUIT MUST ENTER VIA WALL NEAR SINGLE POINT GROUND BAR. AT POINT OF ENTRY INTO THE MAGAZINE, BOND CONDUIT TO SINGLE POINT GROUND BAR WITH #2/0 BARE CU.
- LIGHTING TYPE "B" FIXTURES SHALL BE FED FROM CIRCUIT P1-16. LIGHTING FIXTURE TYPE "C" FIXTURES SHALL BE FED FROM CIRCUIT P1-17 AND CONTROLLED BY LIGHT SWITCHES "f" AND "g" AS INDICATED.
- LIGHTING TYPE "B" AND "C" FIXTURES SHALL BE MOUNTED TO THE STRUCTURAL SUPPORT ANGLES LOCATED ON THE FRONT OF THE CANOPY. COORDINATE EXACT LOCATION OF STRUCTURAL SUPPORT ANGLES WITH THE STRUCTURAL DRAWINGS.
- 3-#8 AND 1-#8 GND IN 1-1/2" C
- 6-#8 AND 1-#8 GND IN 1-1/2" C
- 9-#8 AND 1-#8 GND IN 1-1/2" C
- 4-#8 AND 1-#8 GND IN 1-1/2" C
- 2-#6 AND 1-#6 GND IN 1-1/2" C
- 2-#6 AND 1-#6 GND FOR △ AND 2-#12 AND 1-#12 GND FOR △ IN 1-1/2" C
- 3-#6 AND 1-#6 GND FOR △ AND 2-#12 AND 1-#12 GND FOR △ IN 1-1/2" C
- 3-#6 AND 1-#6 GND IN 1-1/2" C
- PROVIDE ADDITIONAL JUNCTION BOXES AT SWITCHES, LIGHT FIXTURES, AND POWER PACKS AS NEEDED TO SPLICE CIRCUITS TO #12 CONDUCTORS

GRAPHIC SCALE



DATE	09/14/22
APPROVED	
TYPE D STANDARD	
SYMBOL	DESCRIPTION



SEAL	
A/E INFO	

APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	

SATISFACTORY TO	DATE	MM/DD/YY
DES	DRW	RJL
CHK	CHK	SEK
PMIDM		
BRANCH MANAGER	SEK	
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.	
FIRE PROTECTION	DPS	

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	BRANFORD, VA
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	DESIGN AND CONSTRUCTION	
TYPE D BOX MAGAZINE		
LIGHTING PLAN		

SCALE:	AS NOTED
PROJECT NO.:	14084193
CONSTR. CONTR. NO.:	--
NAVFAC DRAWING NO.:	E-101
SHEET	32 OF 40

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9dab18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: E-101 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

1 2 3 4 5

D

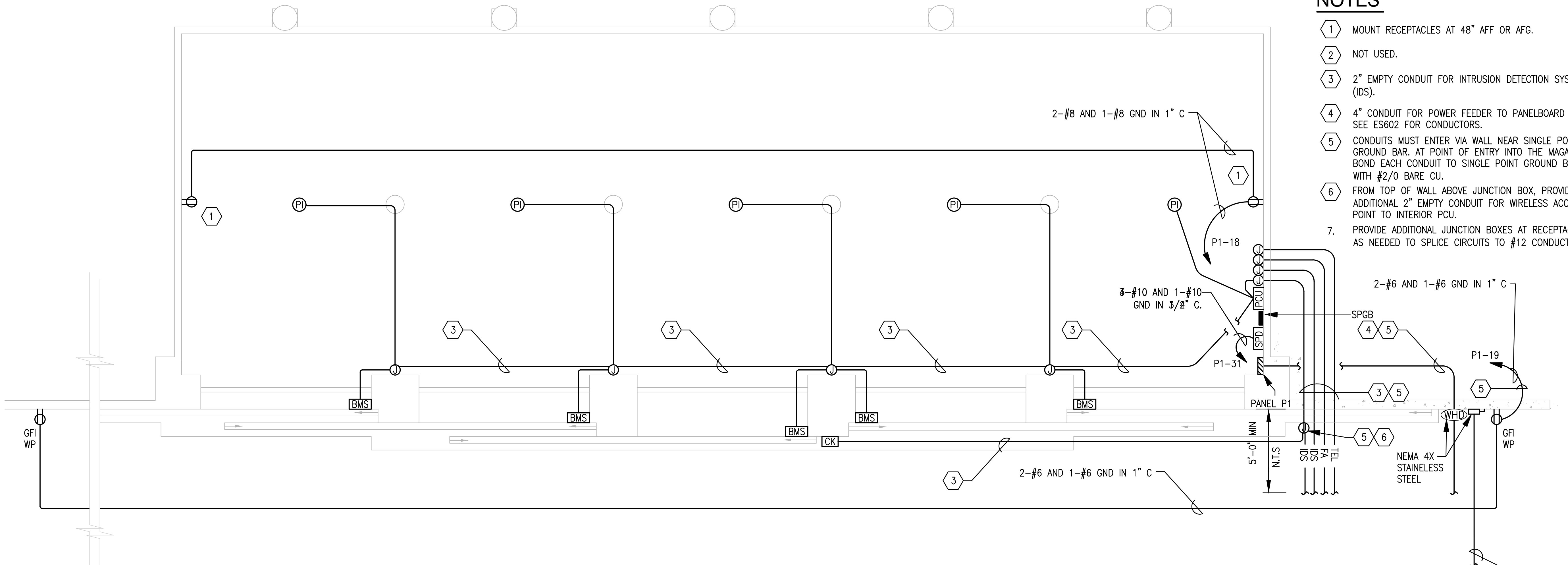
C

B

A

NOTES

- ① MOUNT RECEPTACLES AT 48" AFF OR AFG.
- ② NOT USED.
- ③ 2" EMPTY CONDUIT FOR INTRUSION DETECTION SYSTEM (IDS).
- ④ 4" CONDUIT FOR POWER FEEDER TO PANELBOARD "P1", SEE ES602 FOR CONDUCTORS.
- ⑤ CONDUITS MUST ENTER VIA WALL NEAR SINGLE POINT GROUND BAR. AT POINT OF ENTRY INTO THE MAGAZINE, BOND EACH CONDUIT TO SINGLE POINT GROUND BAR WITH #2/0 BARE CU.
- ⑥ FROM TOP OF WALL ABOVE JUNCTION BOX, PROVIDE ADDITIONAL 2" EMPTY CONDUIT FOR WIRELESS ACCESS POINT TO INTERIOR PCU.
- 7. PROVIDE ADDITIONAL JUNCTION BOXES AT RECEPTACLES AS NEEDED TO SPLICE CIRCUITS TO #12 CONDUCTORS.



UNDERGROUND CIRCUITS, SEE SHEETS EX106 AND EX602 FOR CONDUITS AND CONDUCTORS. STUB SPARE CONDUIT AT BASE OF MAGAZINE WALL BELOW DISCONNECT SWITCH, MIN 12" ABOVE GRADE. SEAL, PLUG, AND GROUND.

POWER PLAN

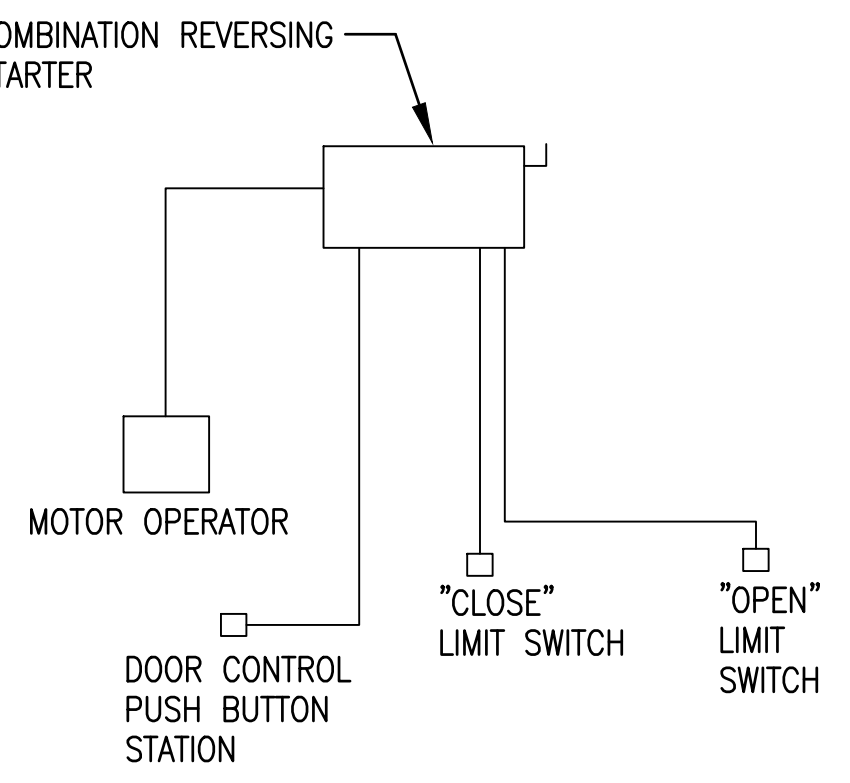
SCALE : 1/8" = 1'-0"

GENERAL NOTE

- 1. PI, BMS, CK, PCU, AND WIRELESS ACCESS POINT WILL BE PROVIDED AND INSTALLED BY OTHERS. CONTRACTOR TO PROVIDE 2" EMPTY CONDUITS FOR INTRUSION DETECTION SYSTEM AND WIRELESS TELECOMMUNICATIONS AS SHOWN AND NOTED ON DRAWING.

SLIDING DOOR WIRING INSTALLATION DIAGRAM NOTES

- 1. DESIGN USES 2208V SINGLE PHASE POWER FOR THE MOTOR.
- 2. INCLUDE OPEN AND CLOSE LIMIT SWITCHES TO TURN OFF MOTOR IN THE MOTOR CONTROL CIRCUIT.
- 3. DOOR CONTROL PUSHBUTTON STATION SHALL BE MOUNTED 48" ABOVE PLATFORM. ROUTE CIRCUIT CONCEALED OUTSIDE OF THE MAGAZINE BACK TO THE COMBINATION REVERSING STARTER VIA THE SERVICE ENTRANCE PENETRATIONS.
- 4. THE EXACT LOCATION OF DOOR OPERATOR AND LIMIT SWITCHES SHALL BE IN ACCORDANCE WITH DOOR MANUFACTURER'S REQUIREMENTS.
- 5. COORDINATE CONDUCTORS AND PROTECTIVE DEVICES WITH ACTUAL DOOR MOTOR EQUIP PROVIDED.

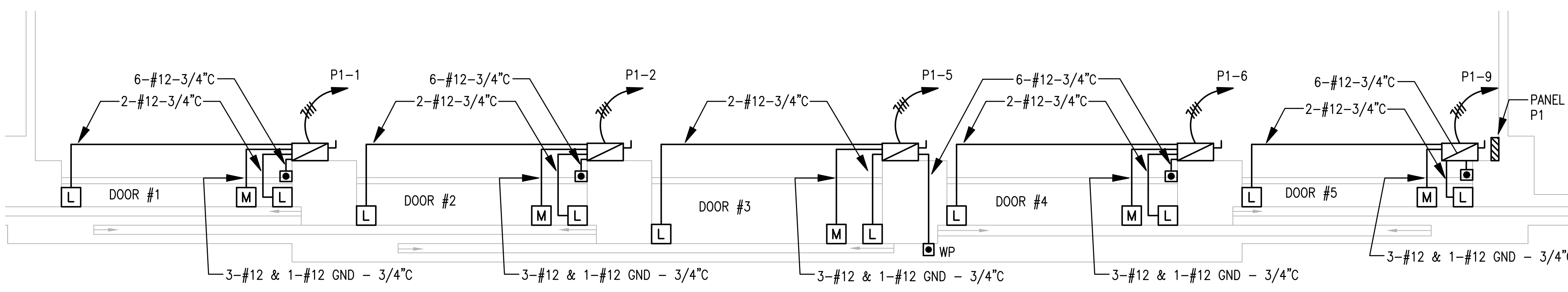


SLIDING DOOR WIRING INSTALLATION DIAGRAM

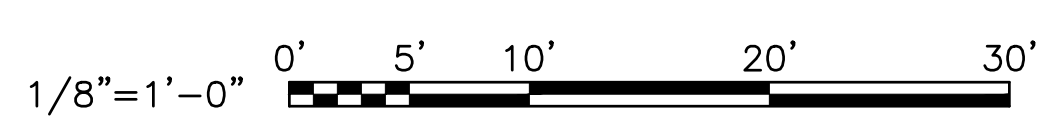
TYPICAL FOR DOORS 1, 2, 3, 4, AND 5

PARTIAL POWER PLAN - DOOR CONTROLS

SCALE : 1/8" = 1'-0"



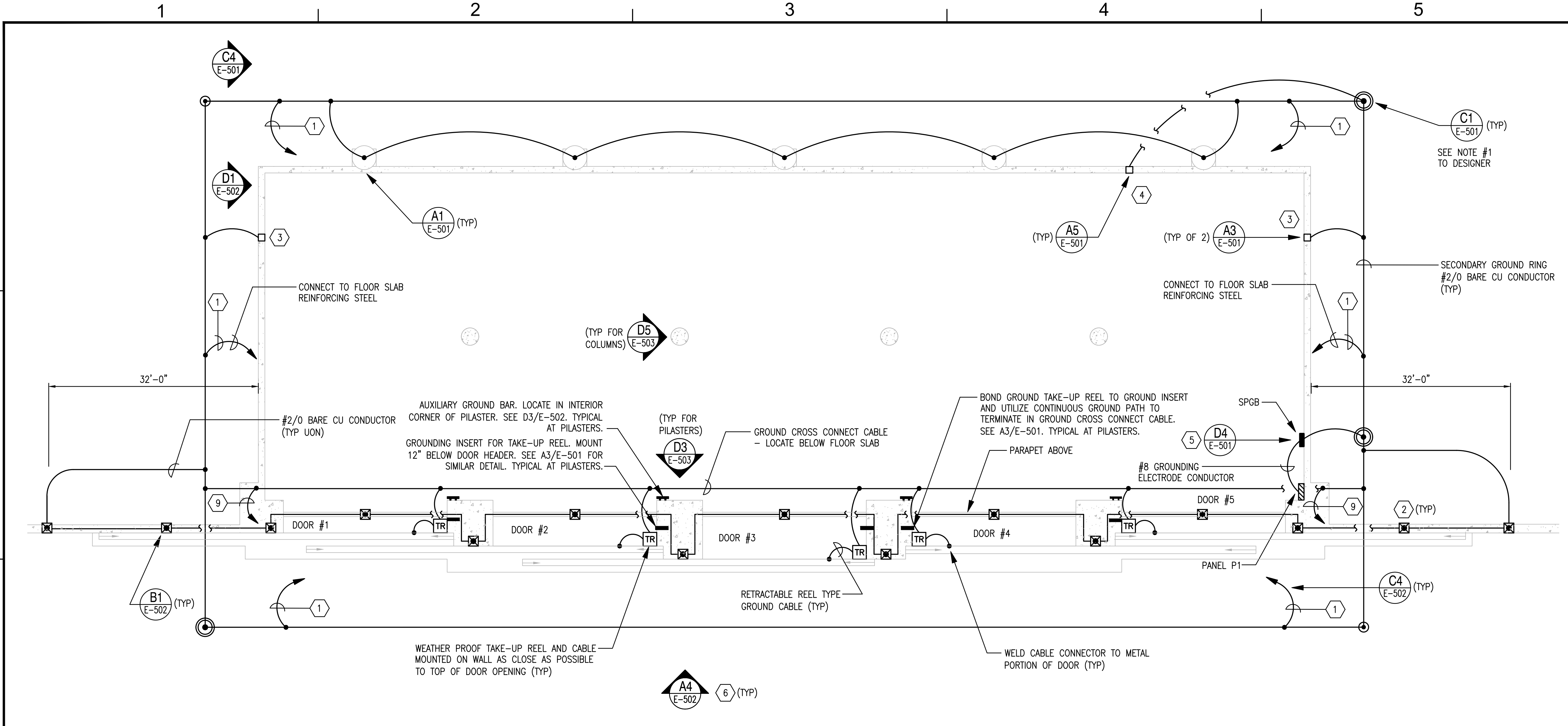
GRAPHIC SCALE



DATE	09/14/22
DESCRIPTION	TYPED STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE MM/DD/YY
DES	DRW R_JL CHK SEK
PMIDM	
BRANCH MANAGER	SEK
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DESIGN AND CONSTRUCTION	
NAVFACILITIES ENGINEERING SYSTEMS COMMAND	
NAVFACILITIES ENGINEERING SYSTEMS COMMAND	
NAVFACILITIES ENGINEERING SYSTEMS COMMAND	
NAVFACILITIES ENGINEERING SYSTEMS COMMAND	
NAVFAC DRAWING NO.	14084194
SHEET	33 OF 40
E-102	

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\kelle.cornino\15576\BOX D_2022.9.27.dwg LAYOUT NAME: E-102 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

FILE NAME: C:\Users\kelle.cornino\appdata\local\temp\4c3d4d4b-15576\BOX D_2022.9.27.dwg LAYOUT NAME: E-103 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino



NOTES

- 1 ALL REINFORCING STEEL IN BUILDING SHALL BE BONDED WITH #2/0 BARE COPPER CONDUCTORS TO EARTH ELECTRODE SYSTEM (SECONDARY GROUND RING). SEE DETAILS ON SHEET E-502.
- 2 LIGHTNING PROTECTION POINTS SHALL BE LOCATED AS SHOWN ON THE PLAN. THE MAXIMUM SPACING SHALL BE 16'-0".
- 3 PROVIDE STATIC GROUND INSERT, NAMPLATE AND REMOVABLE TAG ON EACH SIDE OF THE MAGAZINE AS INDICATED.
- 4 PROVIDE ORDNANCE GROUND INSERT WITH #2/0 BARE CU CONDUCTOR IN 3/4" PVC CONDUIT TO GROUND TEST WELL AS INDICATED. PROVIDE A NAMEPLATE AND REMOVABLE TAG.
- 5 PROVIDE A GROUND BAR NEXT TO THE SERVICE ENTRANCE PENETRATIONS AND USE AS THE SINGLE POINT GROUND LOCATION FOR INCOMING SERVICES.
- 6 PROVIDE BONDING CONNECTIONS ACROSS CONSTRUCTION JOINTS WHEN THEY ARE USED.

- 7 ALL REINFORCING STEEL IN BUILDING MUST BE CONTINUOUS AND BONDED BETWEEN INDIVIDUAL REINFORCING BARS USING METALLIC WIRE TIES AT A MAXIMUM OF 4 FEET IN EACH DIRECTION
- 8 GROUND RING BURIAL DEPTH FROM FINISHED AND ORIGINAL (NATURAL) GRADE MUST BE A MINIMUM OF 30 INCHES.
- 9 #2/0 BARE CU CONDUCTOR BONDED TO GROUND CROSS CONNECT CABLE AND EMBEDDED IN COLUMN. BOND TO ALL VERTICAL DOOR FRAME ANGLES (2 TOTAL) EMBEDDED IN COLUMN WITH #2/0 BARE CU CONDUCTOR, AND BOND COLUMN REINFORCING STEEL. BOND TO DOOR FRAME ANGLES AT 1 FOOT AFF OR LOWER

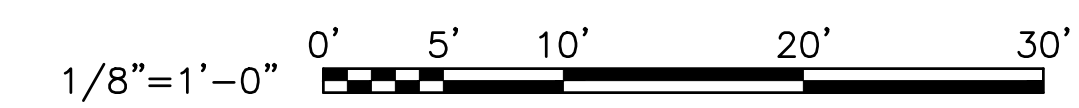
GROUNDING PLAN

SCALE : 1/8" = 1'-0"

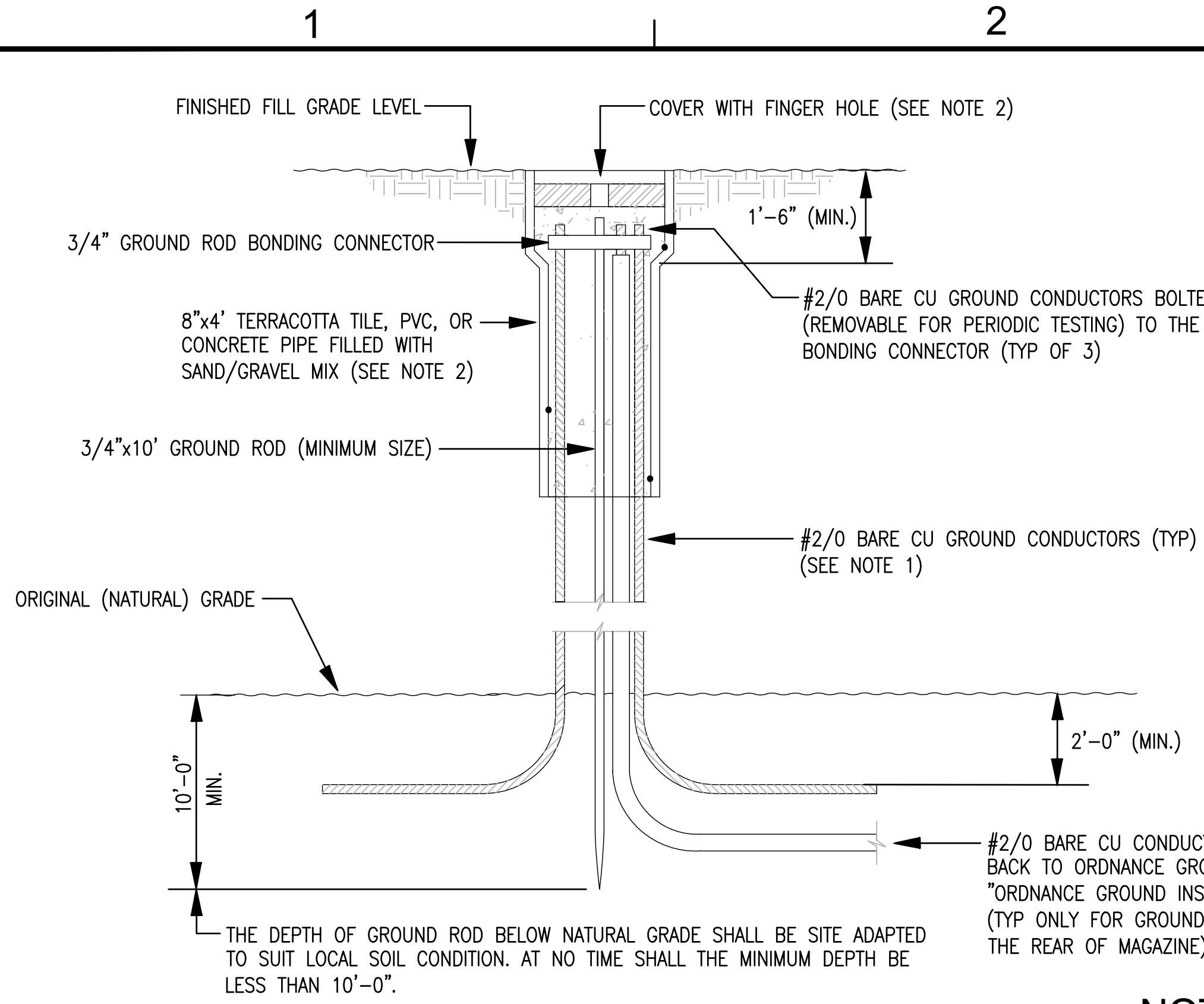
NOTES TO DESIGNER

1. DETERMINE THE PRECISE TEST WELL LOCATIONS DURING THE PROJECT DESIGN AND CONSIDER PERIODIC ACCESS TO THE TEST WELLS GIVEN THE INSTALLATION LOCATION.
2. ENSURE TRENCH DRAIN IS PROPERLY BONDED TO EITHER GROUND GIRDLE OR STRUCTURAL STEEL VIA APPROVED COMPRESSION CRIMP.

GRAPHIC SCALE



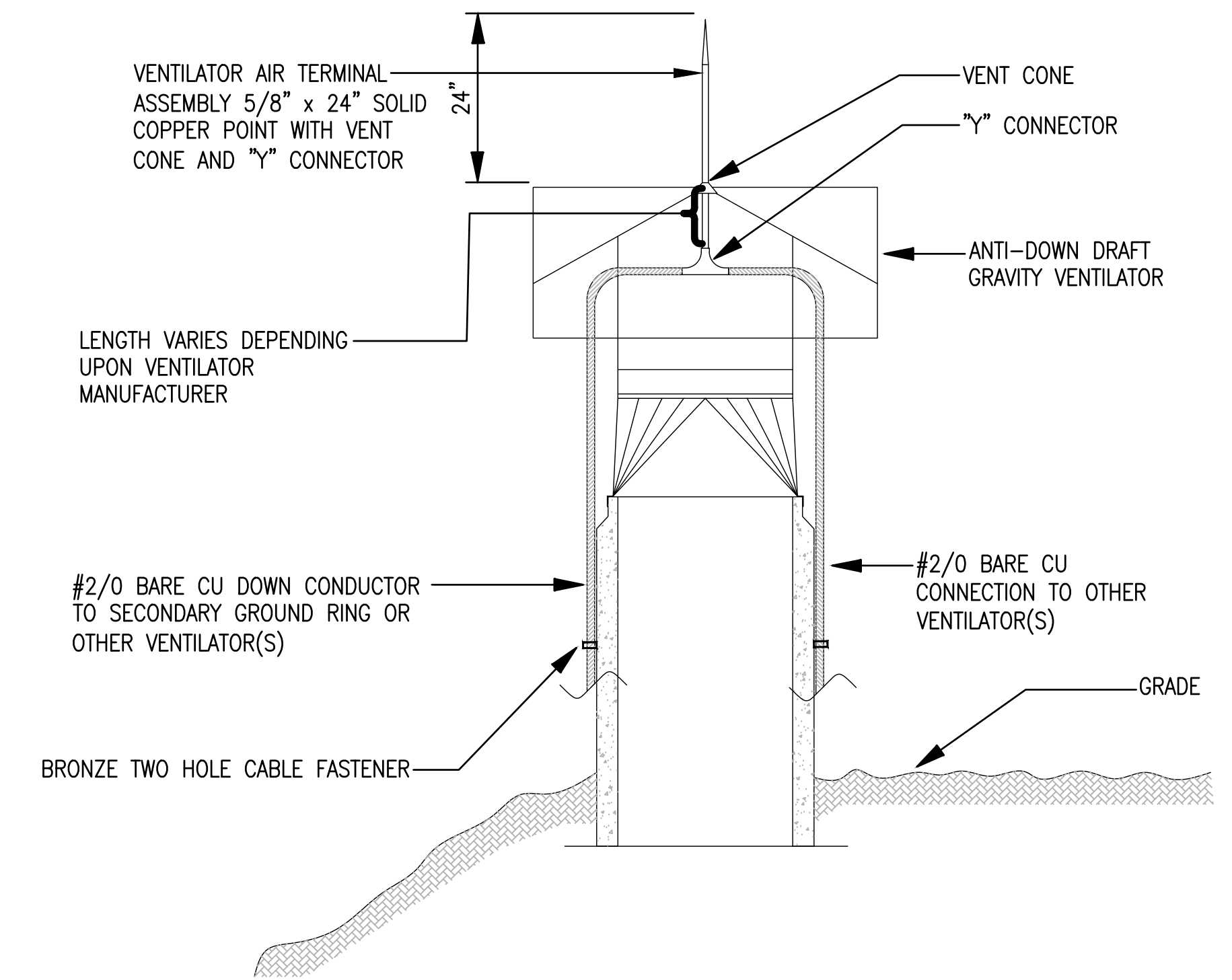
	DATE: 09/14/22
	APP'R:
	DESCRIPTION: TYPE D STANDARD
	DRAWN: JRL
	CHECKED: SEK
	DATE: MM/DD/YYYY
	DESIGN AND CONSTRUCTION: NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
	BRANCH MANAGER: SEK
	CHIEF ENGINEER: RICHARD L. STEPHENS, P.E.
	FIRE PROTECTION: DPS
	LEAD ARCHITECT: LEANOR COLLETTA, VA
	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
	TYPE D BOX MAGAZINE
	GROUNDING PLAN
	SCALE: AS NOTED
	PROJECT NO.: 14084195
	CONSTR. CONTR. NO.: --
	NAVFAC DRAWING NO.: 14084195
	SHEET 34 OF 40
	E-103
	DRAWING REVISION: 25 AUGUST 2020



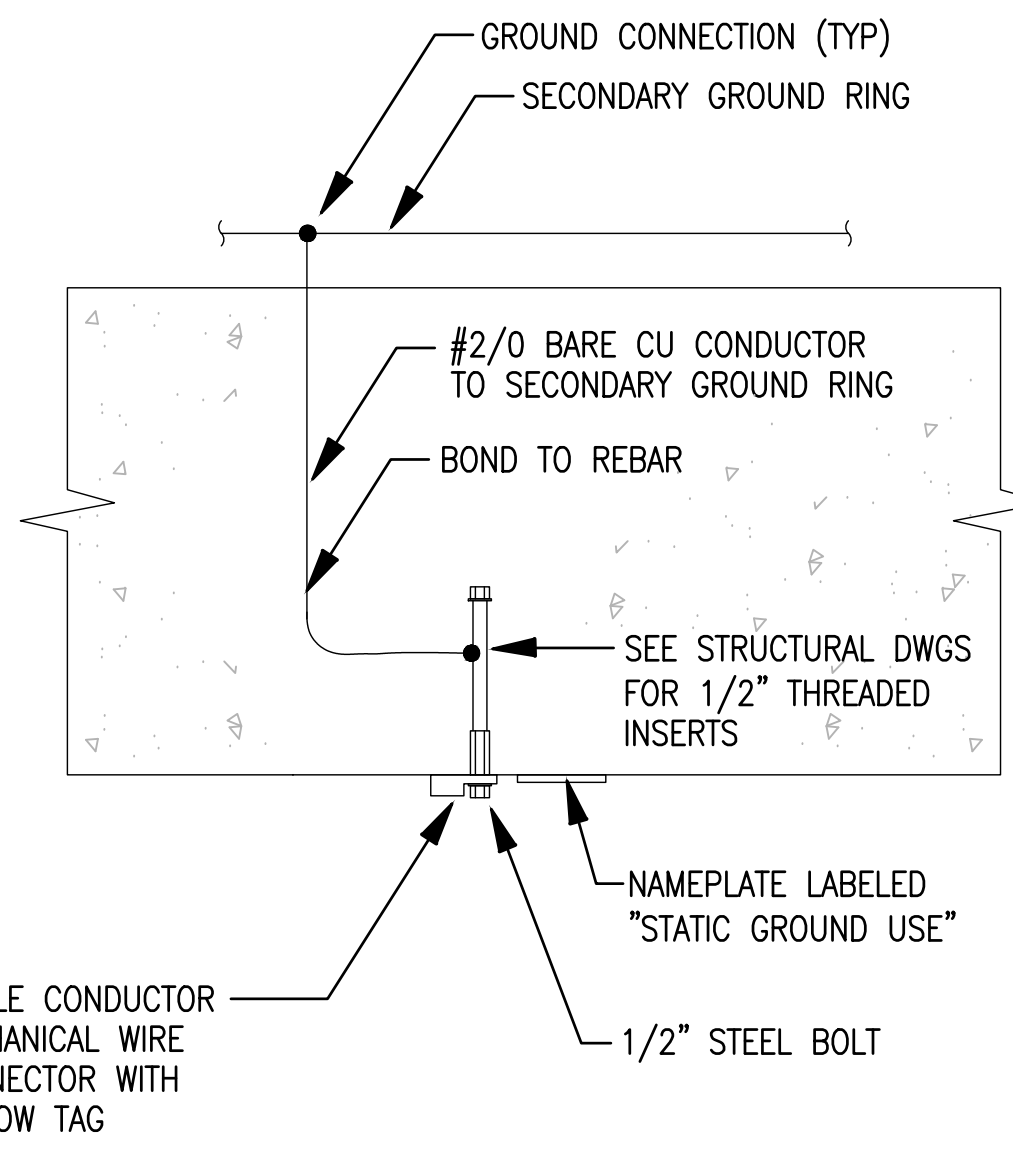
**GROUND TEST WELL
INSTALLATION IN EARTH FILL** (C1)
N.T.S. E-103

NOTE 1: MAINTAIN THE GROUND CONDUCTORS ISOLATED FROM THE GROUND ROD UNTIL THE BOND CONNECTION AT THE TOP.
NOTE 2: PROVIDE "TRAFFIC RATED" TEST WELL AND COVER FOR PAVED AREAS.
NOTE 3: GROUND RING BURIAL DEPTH FROM FINISHED GRADE MUST BE A MINIMUM OF 30 INCHES.

NOTE
1. ALL REINFORCING STEEL IN BUILDING MUST BE CONTINUOUS AND BONDED BETWEEN INDIVIDUAL REINFORCING BARS USING METALLIC WIRE TIES, BRAZING, OR WELDING AT A MAXIMUM OF 5 FEET IN EACH DIRECTION.

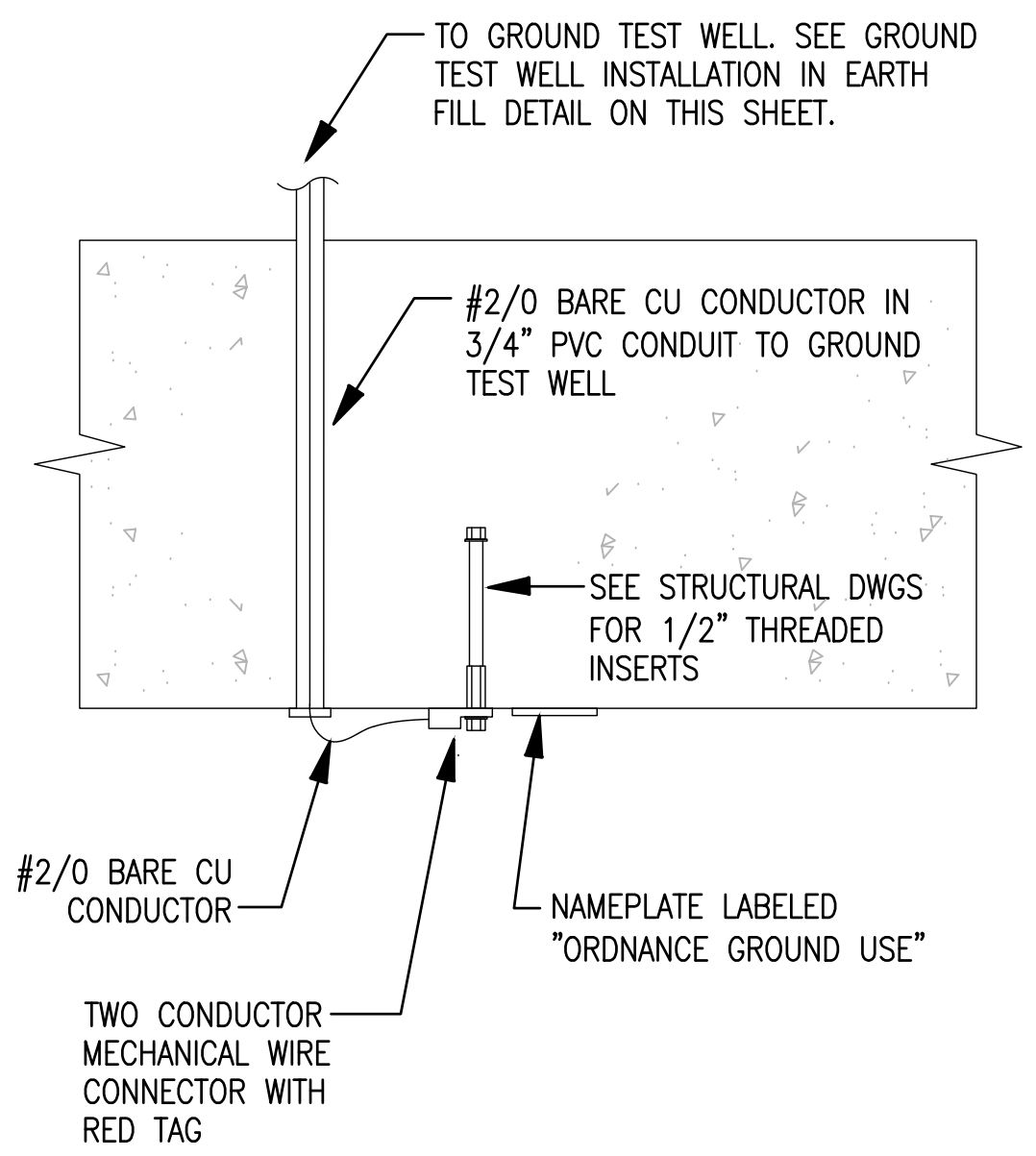


TYPICAL VENTILATOR DETAIL (A1)
N.T.S. E-103



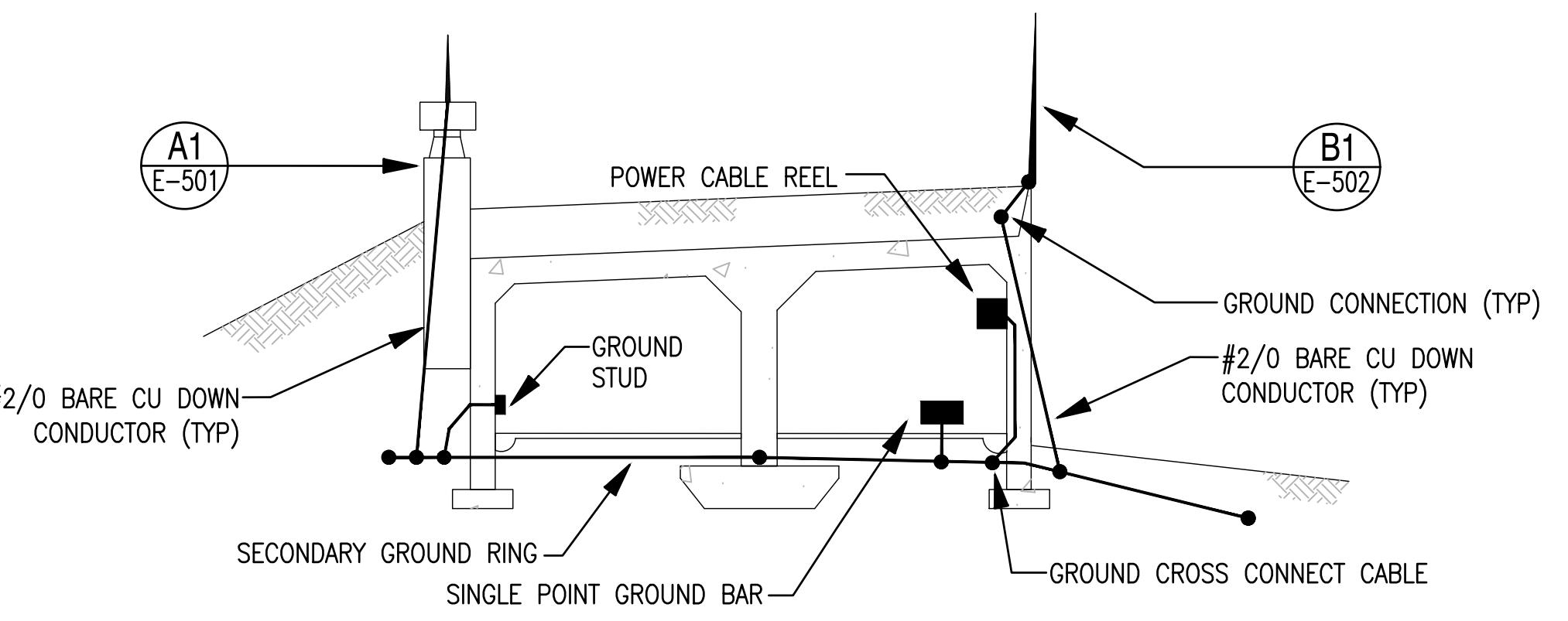
STATIC GROUND INSERT DETAIL (A3)
N.T.S. E-103

STATIC GROUND INSERT DETAIL NOTES:
1. PROVIDE A REMOVABLE YELLOW MELAMINE PLASTIC TAG THAT ATTACHES TO THE STATIC GROUND INSERT. THE TAG SHALL INCLUDE THE FOLLOWING INFORMATION:
"NOT IN SERVICE. NO MAINTENANCE REQUIRED."
INSTALLATION MEETS STATIC/FACILITY GROUND REQUIREMENT PER NAVSEA OP-5. ACTIVITY SHALL PERFORM TESTING PER NAVSEA OP-5 AND ENACT MAINTENANCE SCHEDULE WHEN THE STATIC/FACILITY GROUND INSERT IS PLACED IN SERVICE.
RETAIN THIS TAG TO REATTACH WHEN REMOVED FROM SERVICE."
2. MOUNT GROUND INSERT AT 36" AFF

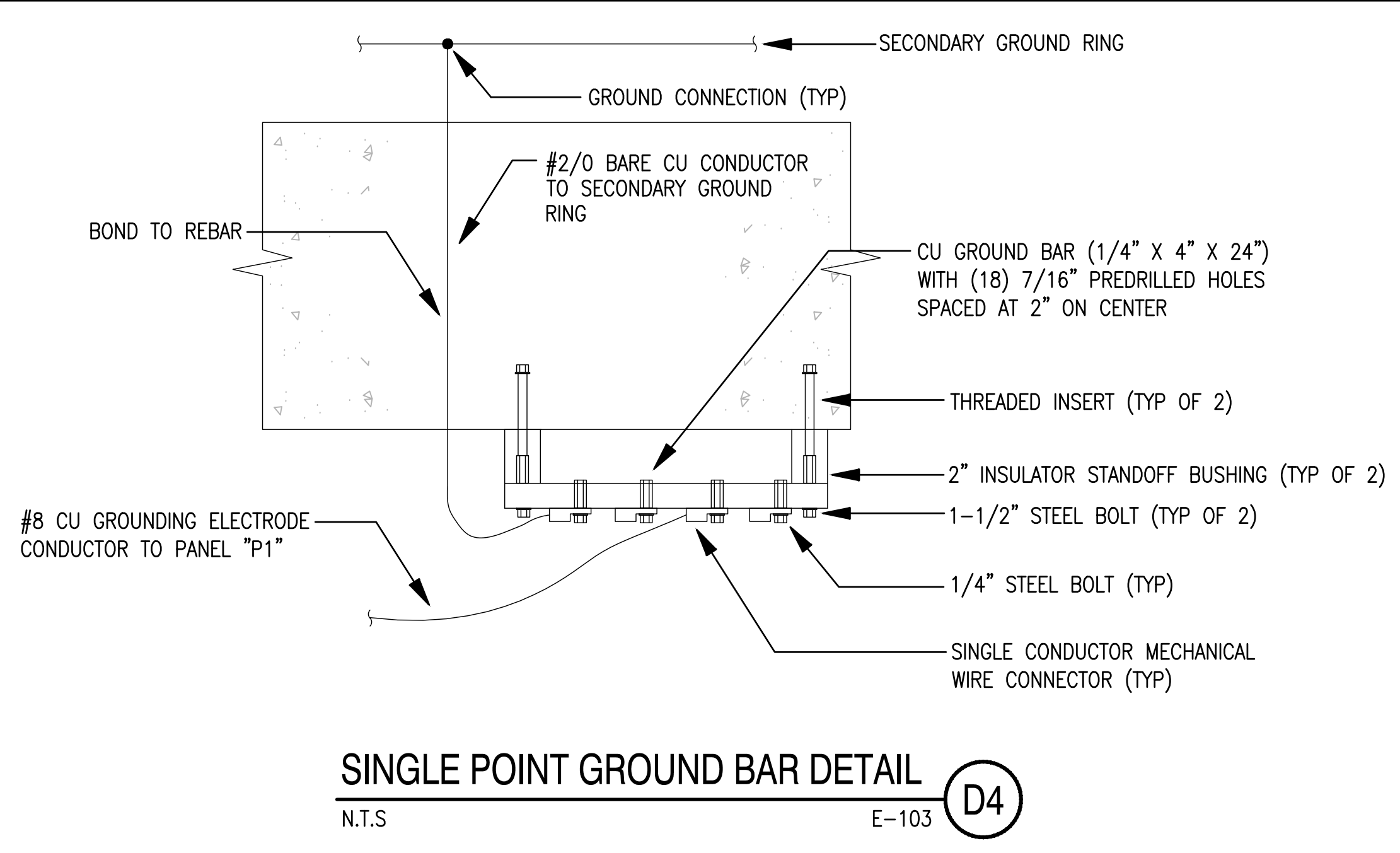


ORDNANCE GROUND INSERT DETAIL (A5)
N.T.S. E-103

ORDNANCE GROUND INSERT DETAIL NOTES:
1. PROVIDE A REMOVABLE RED MELAMINE PLASTIC TAG THAT ATTACHES TO THE ORDNANCE GROUND INSERT. THE TAG SHALL INCLUDE THE FOLLOWING INFORMATION:
"NOT IN SERVICE. NO MAINTENANCE REQUIRED."
INSTALLATION MEETS ORDNANCE GROUND REQUIREMENT PER NAVSEA OP-5. ACTIVITY SHALL PERFORM TESTING PER NAVSEA OP-5 AND ENACT MAINTENANCE SCHEDULE WHEN THE ORDNANCE GROUND INSERT IS PLACED IN SERVICE.
RETAIN THIS TAG TO REATTACH WHEN REMOVED FROM SERVICE."
2. MAINTAIN THREADED INSERT ISOLATION. DO NOT ALLOW THE THREADED INSERT TO TOUCH REBAR OR OTHER METALLIC OBJECTS IN THE WALL.
3. MOUNT GROUND INSERT AT 36" AFF



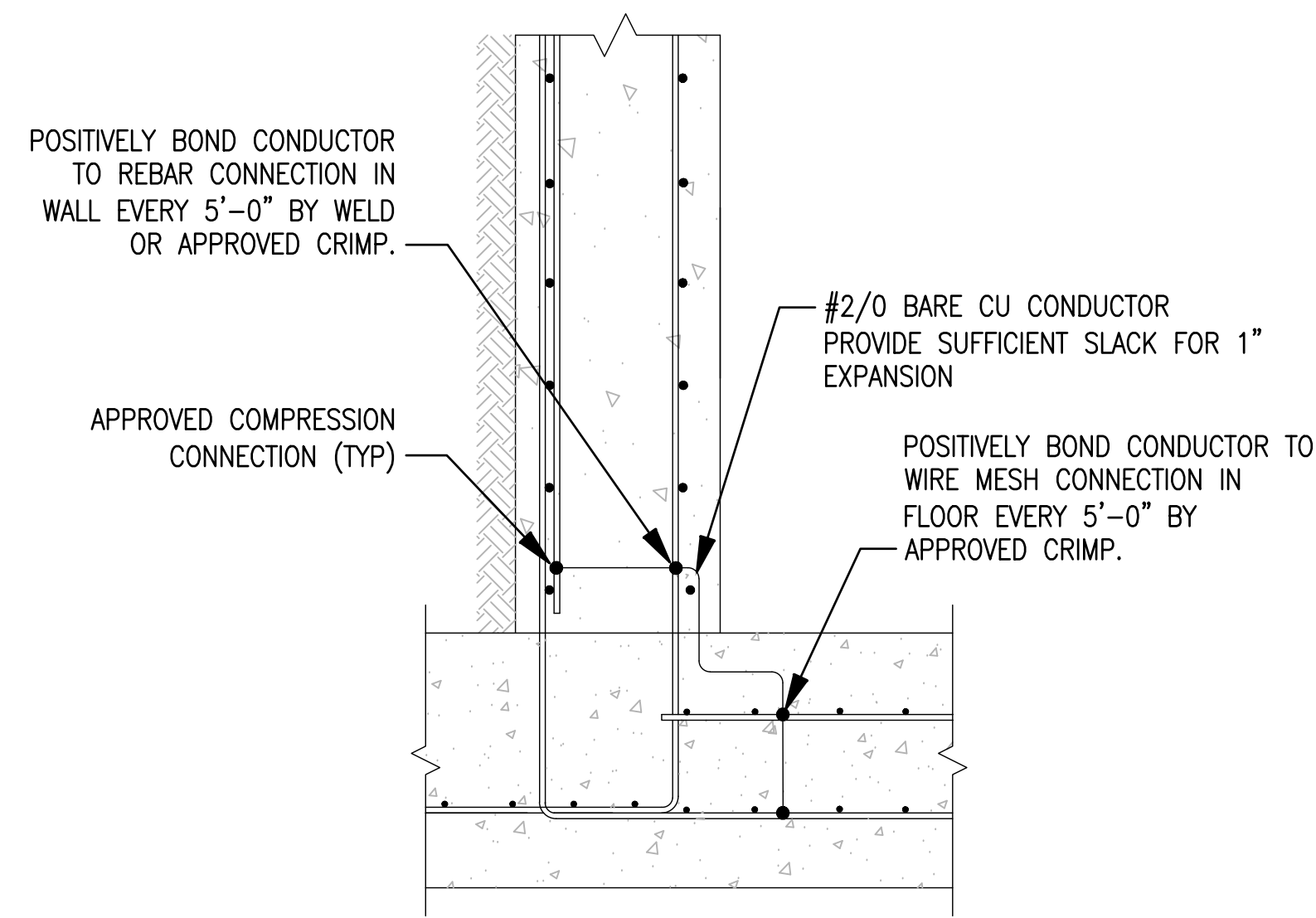
GROUNDING SECTION DETAIL (C4)
N.T.S. E-103



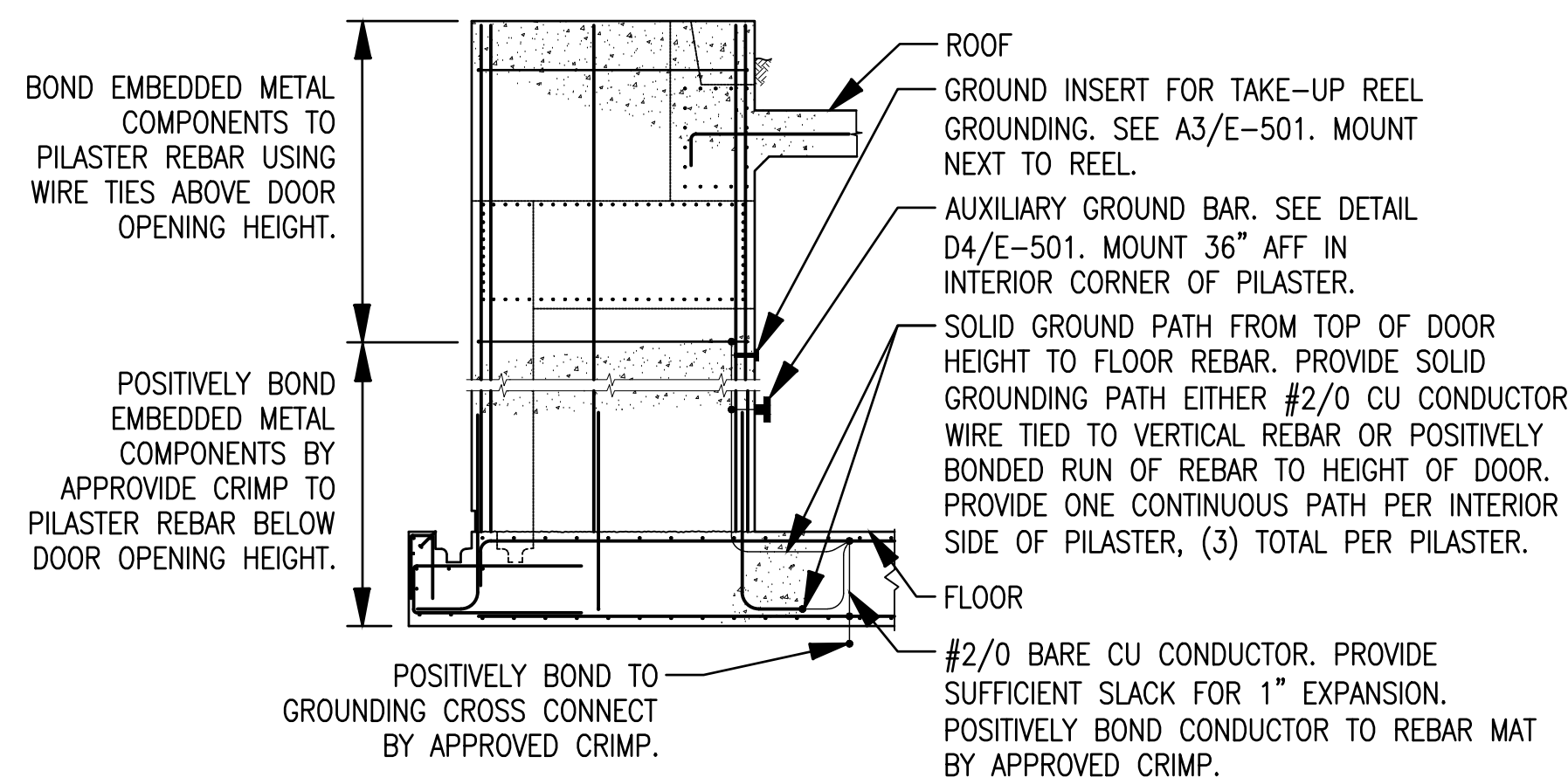
SINGLE POINT GROUND BAR DETAIL (D4)
N.T.S. E-103

DATE	09/14/22
DESCRIPTION	TYPE D STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YY
DRW	RJL
CHK	SEK
PM/DM	
BRANCH MANAGER	SEK
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
TYPE D BOX MAGAZINE	
DETAILS	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084196
SHEET	35 OF 40
E-501	

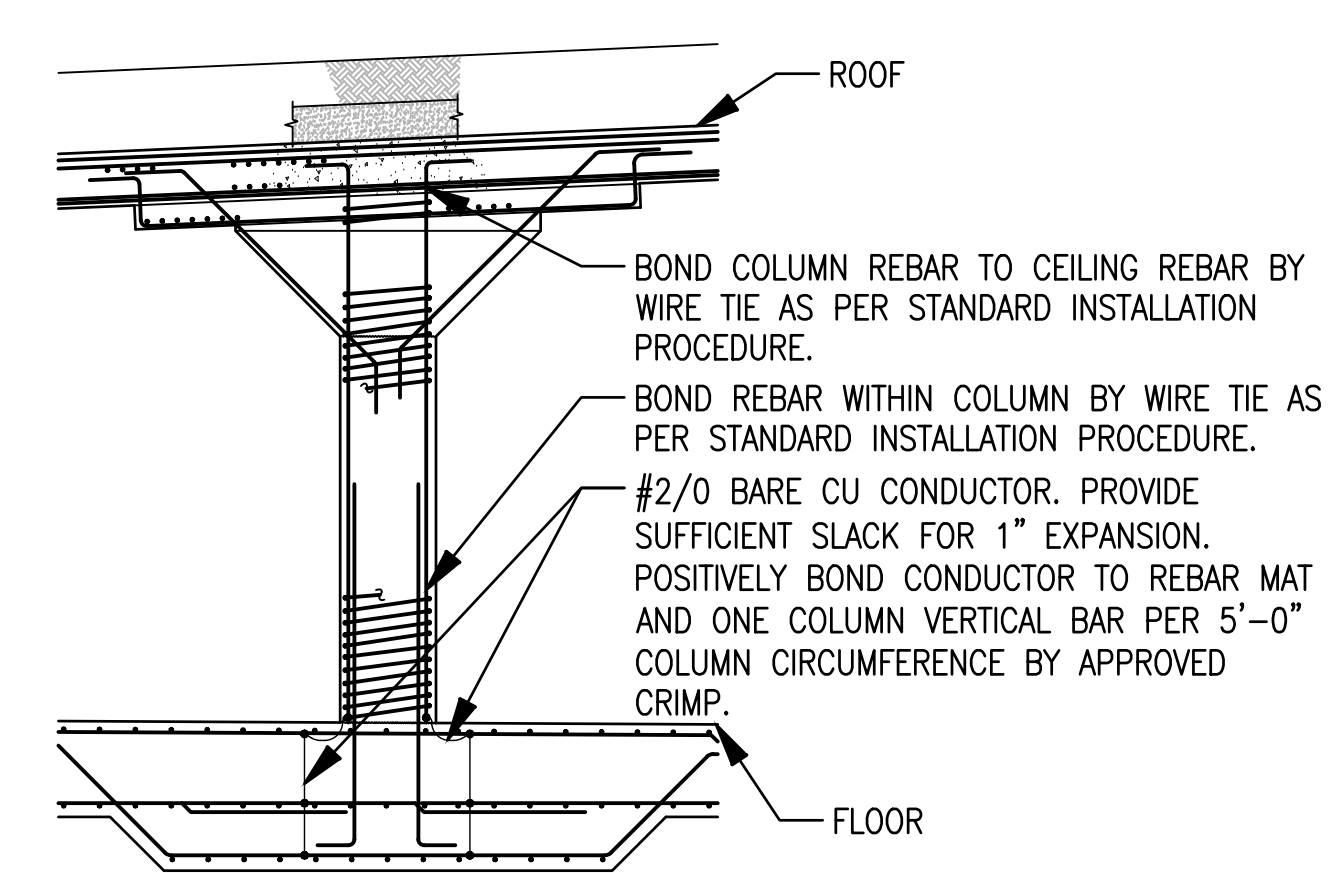
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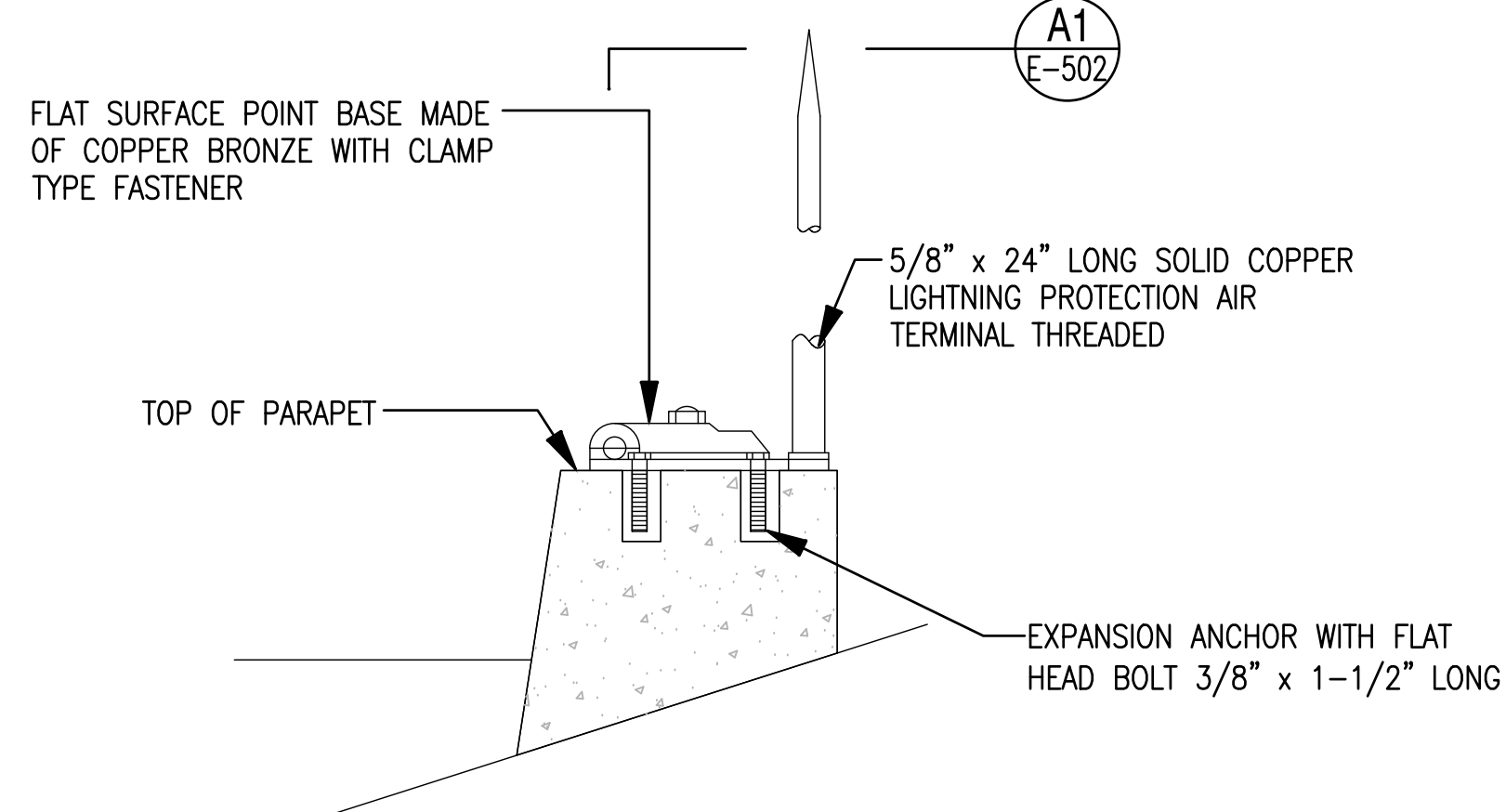
FLOOR TO WALL CONNECTION (D1)
N.T.S. E-103



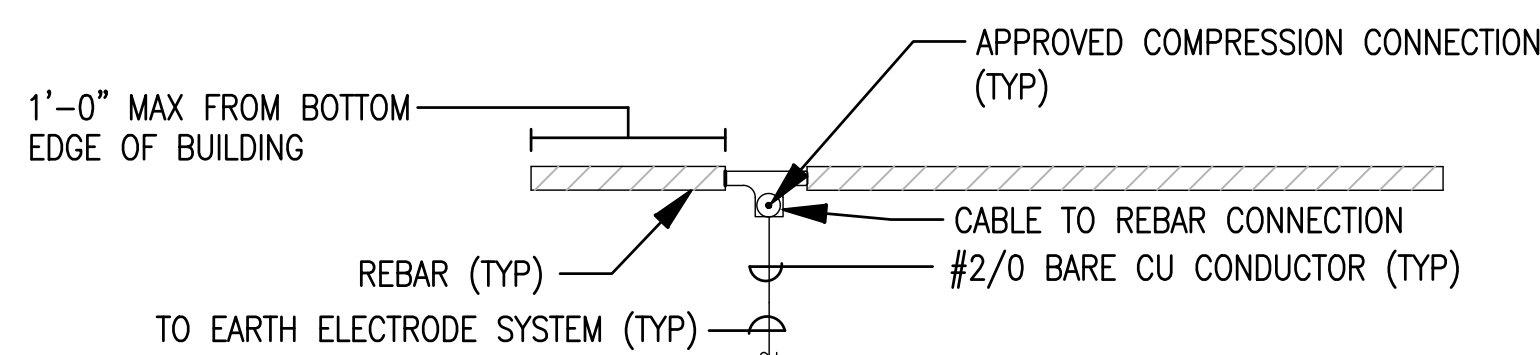
PILASTER GROUNDING AND BONDING DETAIL (D3)
N.T.S. E-103, E-501



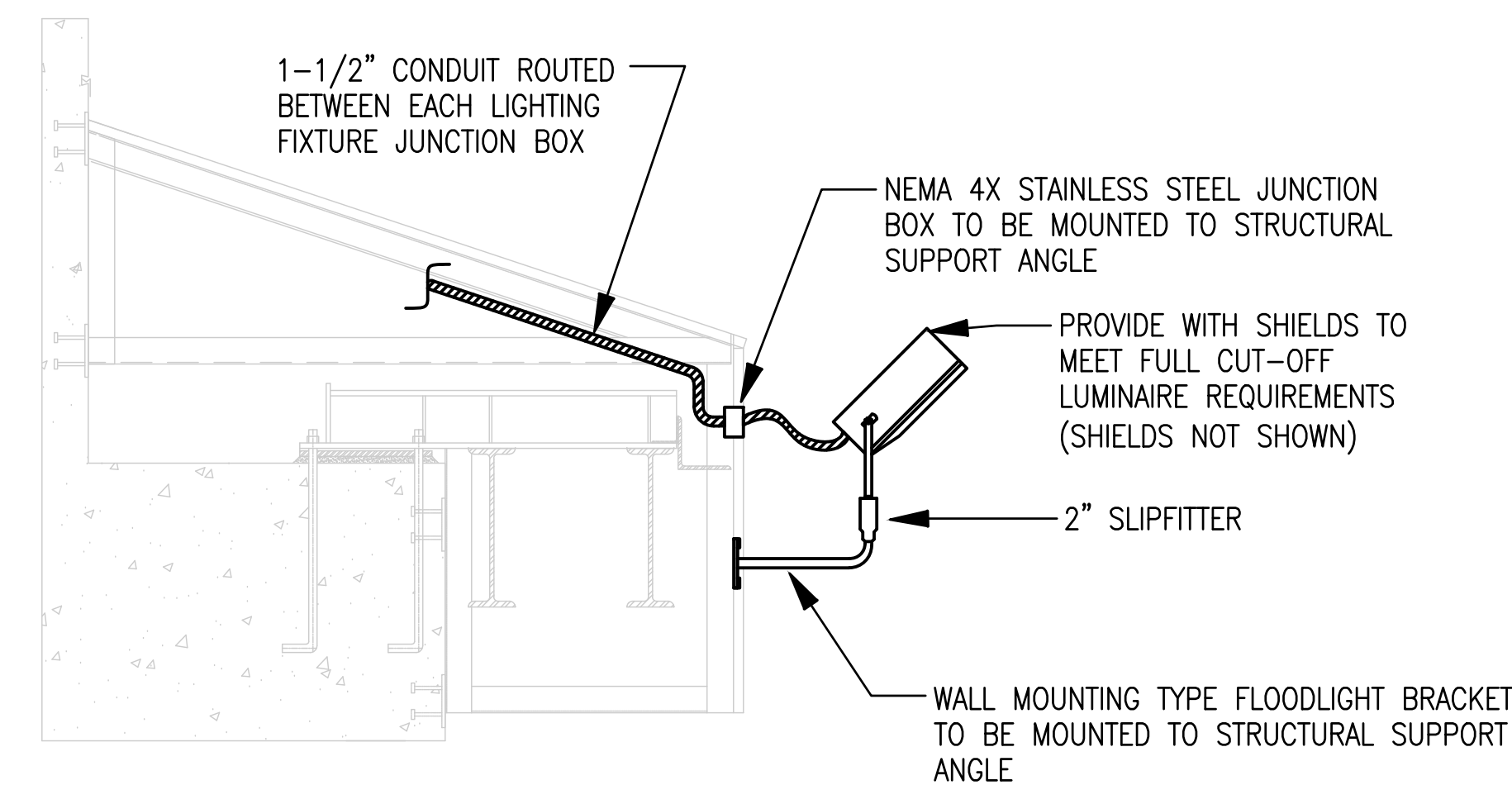
COLUMN GROUNDING AND BONDING DETAIL (D5)
N.T.S. E-103



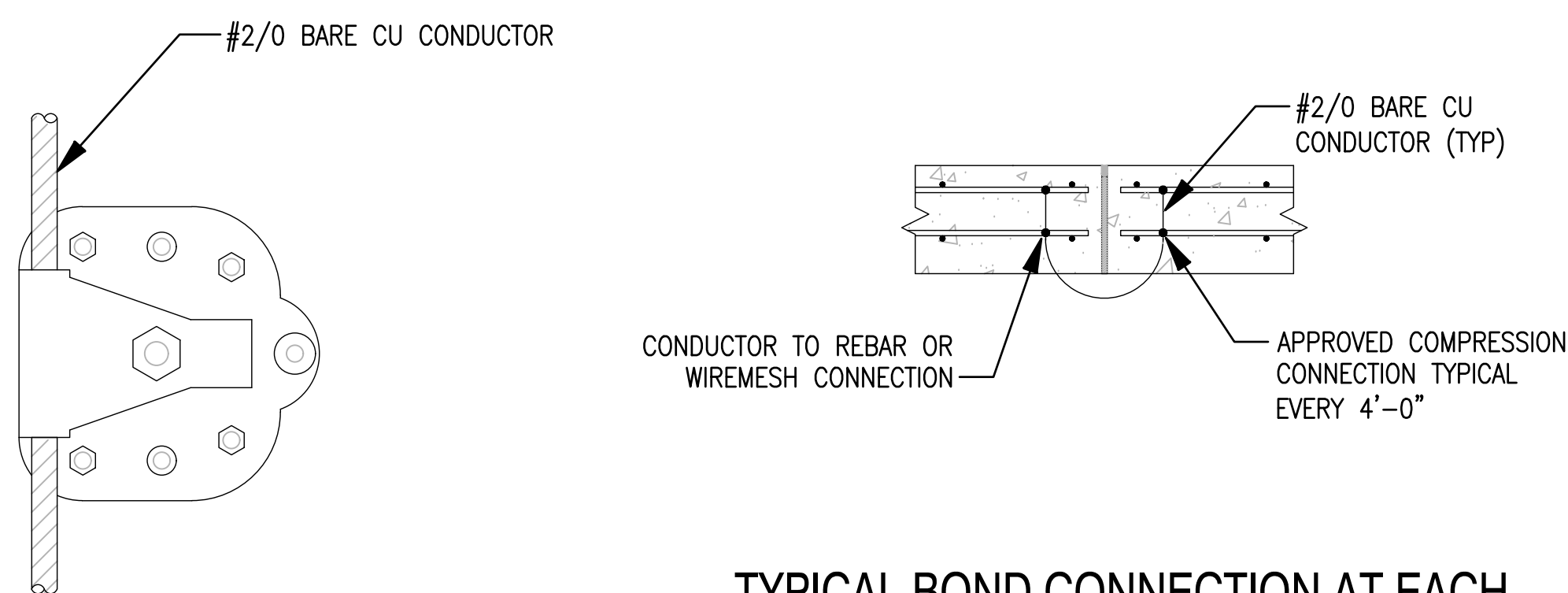
MOUNTING DETAIL (B1)
N.T.S. E-103



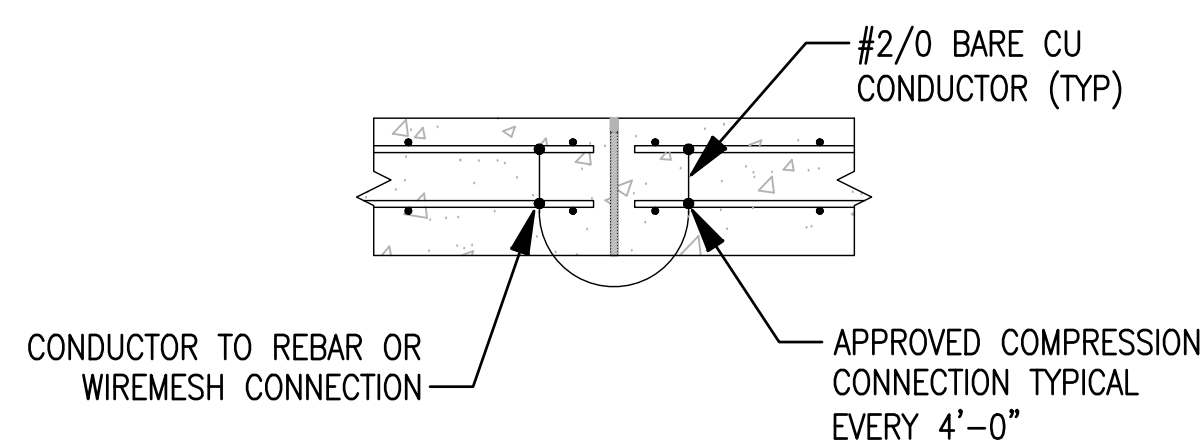
GROUNDING REINFORCING STEEL (C4)
N.T.S. E-103



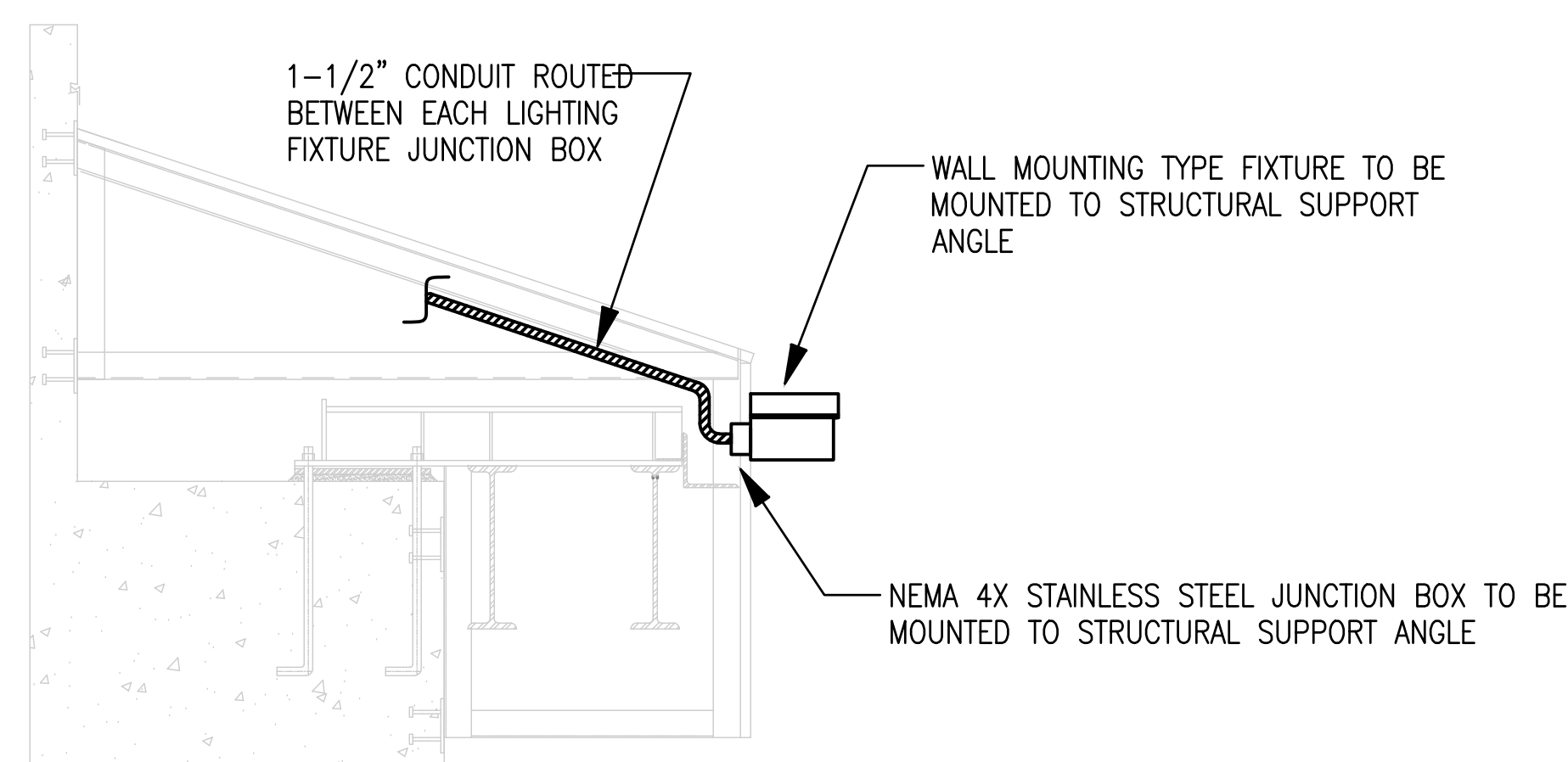
FLOOD LIGHTING MOUNTING DETAIL (A2)
N.T.S. E-101



CABLE CONNECTION DETAIL (A1)
N.T.S. E-502



TYPICAL BOND CONNECTION AT EACH CONSTRUCTION JOINT (A4)
N.T.S. E-103



SECURITY LIGHTING MOUNTING DETAIL (A3)
N.T.S. E-101

NOTE

- ALL REINFORCING STEEL IN BUILDING MUST BE CONTINUOUS AND BONDED BETWEEN INDIVIDUAL REINFORCING BARS USING METALLIC WIRE TIES, BRAZING, OR WELDING AT A MAXIMUM OF 5 FEET IN EACH DIRECTION

DATE	09/14/22
DESCRIPTION	TYPE D STANDARD
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES	MM/DD/YY
PM/DM	DRW R/JL CHK SEK
BRANCH MANAGER	SEK
CHIEF ENGINEER	RICHARD L. STEPHENS, P.E.
FIRE PROTECTION	DPS
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
DESIGN AND CONSTRUCTION	
BRANCH OFFICE	
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	
BRANCH OFFICE	
TYPE D BOX MAGAZINE DETAILS	
SCALE:	AS NOTED
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	14084197
SHEET	36 OF 40
E-502	
<small>DRAWING REVISION: 25 AUGUST 2020</small>	

FILE NAME: C:\Users\kelle.cornino\AppData\Local\Temp\4e9dab48-15576\BOX D_2022.9.27.dwg LAYOUT NAME: E-502 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.cornino

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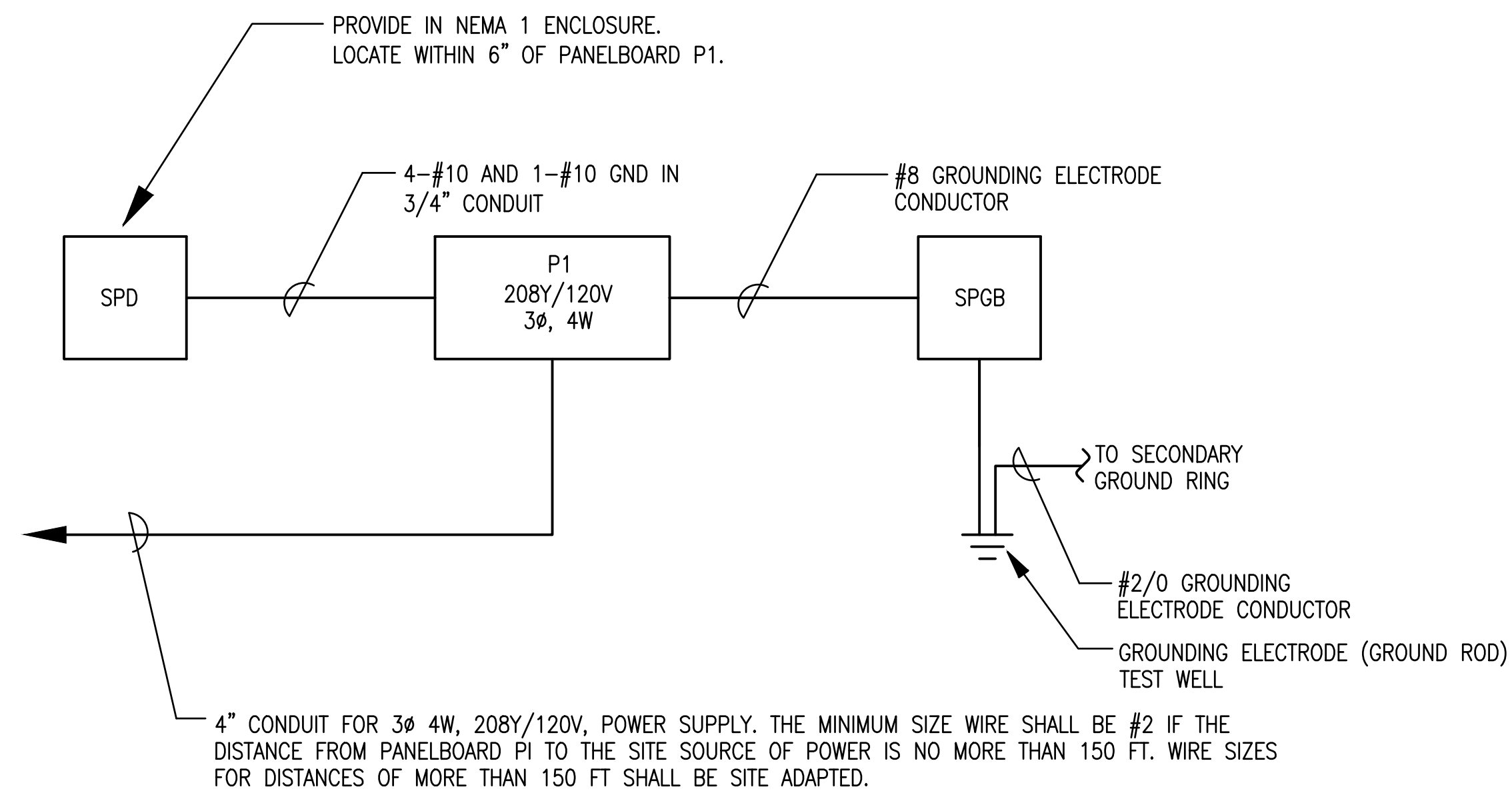
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B

B

A

A



POWER RISER DIAGRAM

PANELBOARD "P1" SCHEDULE

150A. 120/240 V., 1 PHASE, 3 WIRE, 10 KAIC MINIMUM, SURFACE MOUNT

LOAD SERVED	LOAD (AMPS)		BKR. TRIP	WIRE SIZE	CKT. NO.	PHASE		CKT. NO.	WIRE SIZE	BKR. TRIP	LOAD (AMPS)		LOAD SERVED
	A	B				A	B				A	B	
DOOR #1	3		20	12	1			2	12	20	3		DOOR #2
		3										3	
DOOR #3	3		20	12	5			6	12	20	3		DOOR #4
		3										3	
DOOR #5	3		20	12	9			10	12	20	11		MAGAZINE LIGHTING
		3						12	12	20		11	MAGAZINE LIGHTING
MAGAZINE LIGHTING	11		20	12	13			14	12	20	11		MAGAZINE LIGHTING
MAGAZINE LIGHTING		11		20	15			16	12	20		2	SECURITY LIGHTING
FLOOD LIGHTING	11		20	12	17			18	12	20	1		RECEPTACLES
RECEPTACLES		1	20	12	19			20	12	20		10	DOOR #4 HEAT TRACING *
* DOOR #1 HEAT TRACING	10		20	12	21			22	12	20	10		DOOR #5 HEAT TRACING *
* DOOR #2 HEAT TRACING		10		20	23			24	12	20		8	DRAIN PIPE HEAT TRACING *
* DOOR #3 HEAT TRACING	10		20	12	25			26	12	20	8		DRAIN PIPE HEAT TRACING *
* DRAIN PIPE HEAT TRACING		8		20	27			28	12	20		8	DRAIN PIPE HEAT TRACING *
* DRAIN PIPE HEAT TRACING	8		20	12	29			30	12	20	5		PCU
SPD		0	30	10	31			32		20			SPARE
SPARE			20		33			34		20			SPARE
SPARE			20		35			36		20			SPARE
SPARE			20		37			38		20			SPARE
SPARE			20		39			40		20			SPARE
SPARE			20		41			42		20			SPARE
TOTAL	59	39								52	45	TOTAL	

TOTAL CONNECTED AMPS A: 111 B: 84

NOTES

1. PROVIDE POWER FROM A DEDICATED SINGLE PHASE TRANSFORMER RATED FOR 208Y/120V SECONDARY.
2. PROVIDE LIGHTNING ARRESTERS IN THE SINGLE PHASE TRANSFORMER.
3. THE DOOR AND DRAIN PIPE HEAT TRACING CIRCUITS ONLY APPLY IF HEAT TRACING IS INSTALLED. SEE SHEET E-801.
4. ASTERISK INDICATES THAT THE BREAKERS ARE SPARE IF HEAT TRACING IS NOT PROVIDED.
5. PROVIDE 32 CKT MINIMUM PANELBOARD WHEN HEAT TRACE IS NOT PROVIDED.



APPROVED

FIR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE MM/DD/YY

DES [] DRW [] RUL [] CHK [] SEK []

BRANCH MANAGER

CHIEF ENGINEER RICHARD L. STEPHENS, P.E.

FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND

DESIGN AND CONSTRUCTION

BRANCH MANAGER

TYPE D BOX MAGAZINE

POWER RISER DIAGRAM AND PANELBOARD SCHEDULE

SCALE: AS NOTED

PROJECT NO. --

CONSTR. CONTR. NO. --

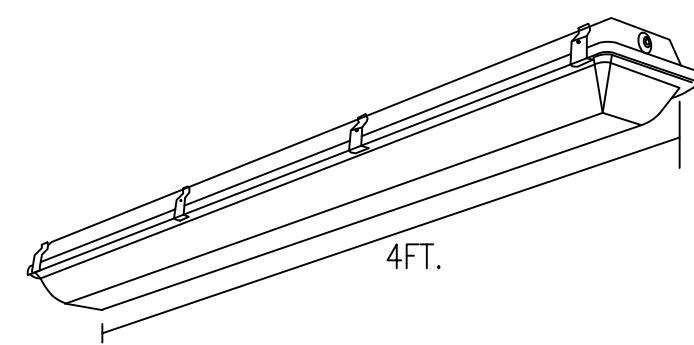
NAVFAC DRAWING NO. 14084198

SHEET 37 OF 40

E-601

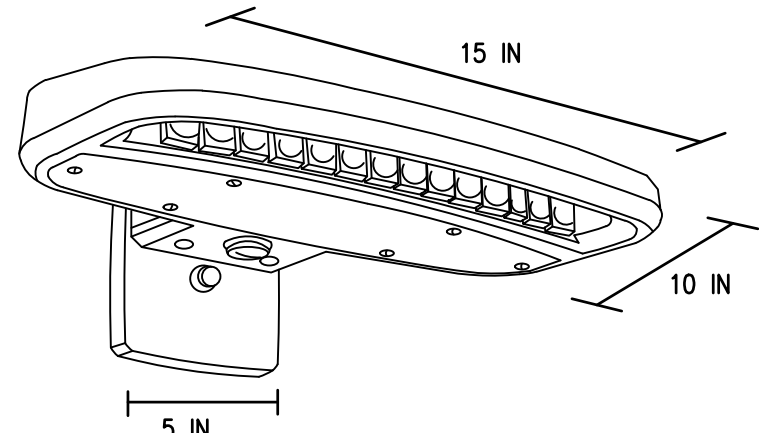
DRAWING REVISION: 25 AUGUST 2020

FILE NAME: C:\Users\kellecortino\AppData\Local\Temp\4e9d4d4b-15576\Box D_2022.9.27.dwg LAYOUT NAME: E-601 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kellecortino



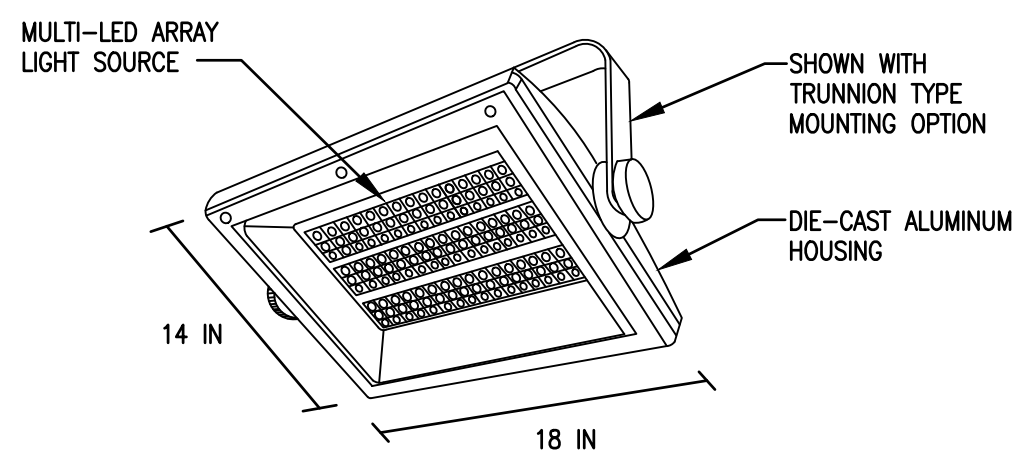
LUMINAIRE REQUIREMENTS:

- HOUSING - FIBERGLASS OR FIBERGLASS-REINFORCED POLYESTER OUTER HOUSING, WITH ALUMINUM COMPONENT TRAY AND HEAT SINK. LENGTHS OF 4FT OR 8FT.
- LENS - IMPACT-RESISTANT ACRYLIC OR OPTIONAL POLYCARBONATE, WITH CONTINUOUS CLOSED-CELL POLYURETHANE GASKET, SECURED WITH STAINLESS STEEL OR POLYCARBONATE LATCHES.
- LIGHT SOURCE - SOLID STATE LEDS WITH MINIMUM 50K HOURS RATED LIFE AT L70, 3500K CCT UON, MINIMUM 80 CRI, MAXIMUM 4-STEP MCADAM ELLIPSE BINNING TOLERANCE FOR COLOR CONSISTENCY, AND MINIMUM EFFICACY OF 100 LUMENS/WATT. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
- DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, < 20% TOTAL HARMONIC DISTORTION. ON-OFF CONTROL, STEP-DIMMABLE OR FULLY DIMMABLE AS INDICATED.
- CERTIFICATION - UL 1598, WET LOCATION (IP65, IP66, IP67), DLC QUALIFIED, AND ROHS COMPLIANT. COMPLIES WITH LM79, LM80 AND TM21 TESTING STANDARDS. UL 924 WHEN EQUIPPED WITH EMERGENCY BATTERY BACK-UP.
- MOUNTING - SURFACE-MOUNTED OR SUSPENDED FROM CEILING.
- OPTIONS - POWER CORD, INTEGRAL MOTION SENSOR, EMERGENCY BACK-UP.
- THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.



LUMINAIRE REQUIREMENTS:

- HOUSING - DIE-CAST OR EXTRUDED ALUMINUM WITH INTEGRAL PASSIVE COOLING MECHANISM. HEAT SINK SHALL BE INCORPORATED DIRECTLY INTO HOUSING OR DRIVER COMPARTMENT TO ENSURE MAXIMUM HEAT TRANSFER AND DISSIPATION.
- FINISH - MULTI-STAGE PRE-TREATMENT, FINISHED WITH BAKED-ON POLYESTER POWDER COAT. FINISH SHALL PASS 2500 HOUR SALT SPRAY TEST PER ASTM B117. STANDARD FINISH IS DARK BRONZE, WITH OTHER CUSTOM COLORS AVAILABLE.
- POWER SUPPLY/LED DRIVER - CLASS 1 DRIVER SHALL OPERATE AT 120/277 VOLTS, 50/60 HZ, WITH OTHER VOLTAGES OPTIONAL; POWER FACTOR GREATER THAN 0.9 AND THD LESS THAN 20% AT FULL LOAD. MINIMUM EFFICACY SHALL BE 60 LM/W AT MAXIMUM 600mA OPERATING CURRENT.
- LED OPTICAL ASSEMBLY - PRECISION MOLDED ACRYLIC LENS PROVIDED FOR MULTIPLE HIGH-POWERED LEDS PRODUCING NEMA TYPE III DISTRIBUTION OR AS OTHERWISE INDICATED. BUG UPLIGHT RATING OF U0, WITH GLARE RATING AS DETERMINED BY LIGHTING ZONE INSTALLED. MINIMUM COLOR RENDERING INDEX (CRI) SHALL BE 70 FOR CORRELATED COLOR TEMPERATURE (CCT) OF 4000-4500 DEGREES K.
- CERTIFICATION - UL AND/OR ETL LISTED FOR DAMP OR WET LOCATIONS AS INDICATED, AND ROHS COMPLIANT.
- OPTIONS - VARIOUS LUMEN OUTPUT RATING AS INDICATED, PHOTOCELL, AND 0-10 VOLT DIMMING DRIVER.
- OTHER - THE ABOVE SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS AND IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER'S PREFERENCE. ALL DIMENSIONS ARE NOMINAL AND VARY PER MANUFACTURER.

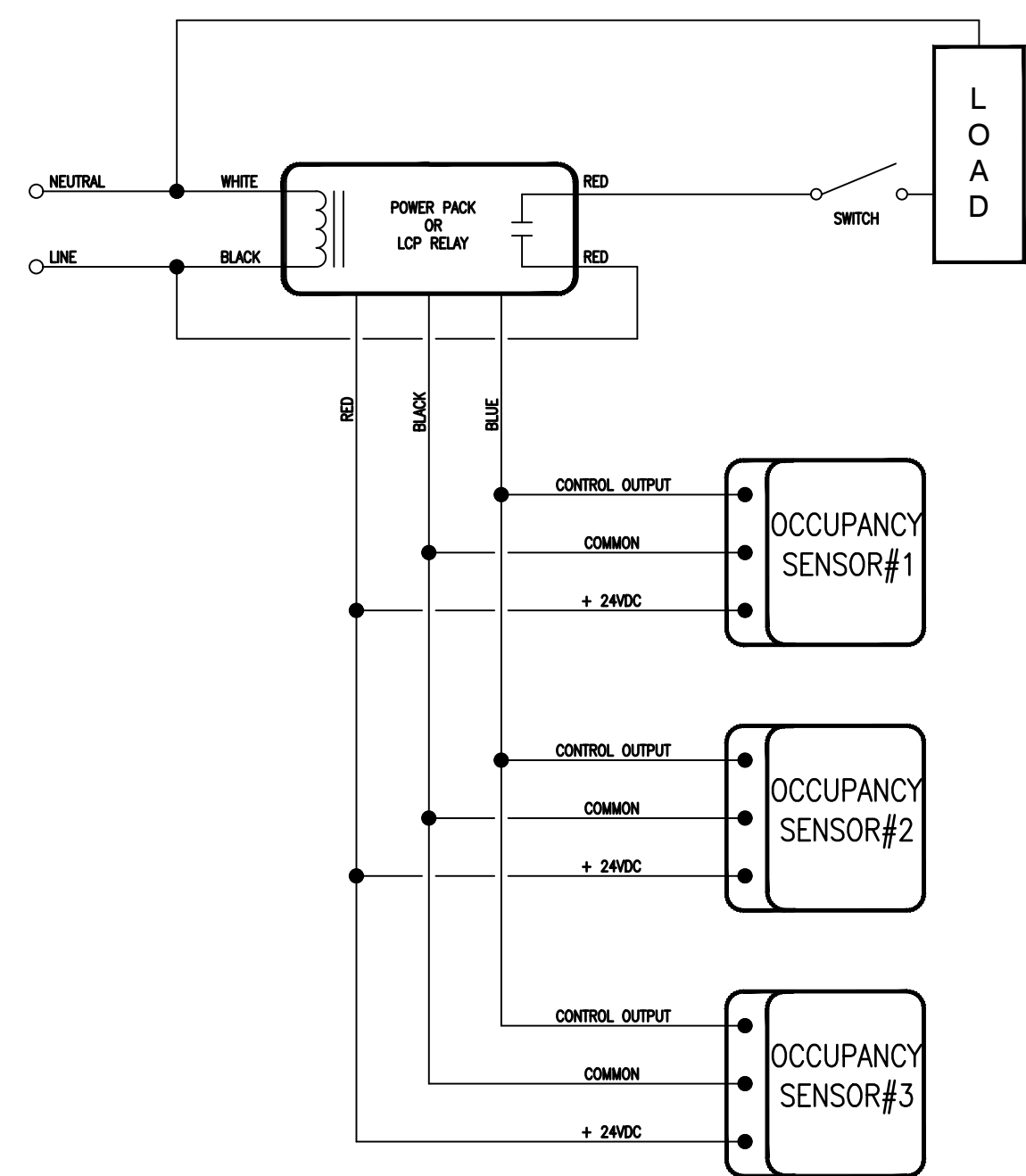


LUMINAIRE REQUIREMENTS:

- HOUSING - DIE CAST ALUMINUM WITH INTEGRAL PASSIVE COOLING MECHANISM. HEAT SINK SHALL BE INCORPORATED DIRECTLY INTO HOUSING TO ENSURE MAXIMUM HEAT TRANSFER AND DISSIPATION.
- FINISH - MULTI-STAGE PRE-TREATMENT, FINISHED WITH BAKED-ON POLYESTER POWDER COAT. FINISH SHALL PASS 2500 HOUR SALT SPRAY TEST PER ASTM B117. DARK BRONZE FINISH COLOR IS STANDARD.
- POWER SUPPLY/LED DRIVER - CLASS 1 ELECTRONIC DRIVER SHALL OPERATE AT 120/277 VOLTS, 50/60 HZ, WITH OTHER VOLTAGES OPTIONAL. POWER FACTOR SHALL BE GREATER THAN 0.9 AND THD LESS THAN 20% AT FULL LOAD. MINIMUM EFFICACY SHALL BE 60 LM/W AT MAXIMUM 600mA OPERATING CURRENT.
- LED OPTICAL ASSEMBLY - MULTI-LED ARRAY OPTIMIZED FOR SPECIFIC DISTRIBUTION PATTERN AS INDICATED. MINIMUM COLOR RENDERING INDEX (CRI) OF 70 FOR CORRELATED COLOR TEMPERATURE OF 4000-4500 DEGREES K.
- LENS - TEMPERED GLASS IN DIE-CAST ALUMINUM FRAME WITH SILICONE GASKET.
- SURGE PROTECTION - 6 KV MINIMUM, COMPLIANT WITH ANSI C62.41.2.
- CERTIFICATION - UL AND/OR ETL LISTED FOR WET LOCATIONS AND 2G VIBRATION STANDARD PER ANSI C136.32. OPTICAL ASSEMBLY SHALL BE MINIMUM IP65 PER ANSI/IEC 60529.
- OPTIONS - PHOTOCELL, FINISH COLOR, OUTPUT DISTRIBUTION TYPE AND TRUNNION OR SLIPFITTER TYPE MOUNTING.
- OTHER - THE ABOVE SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS AND IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER'S PREFERENCE. ALL DIMENSIONS ARE NOMINAL AND VARY PER MANUFACTURER.

LED ENCLOSED AND GASKETED

REVISED: APRIL 2016 LIGHTING PLATE: NL-11

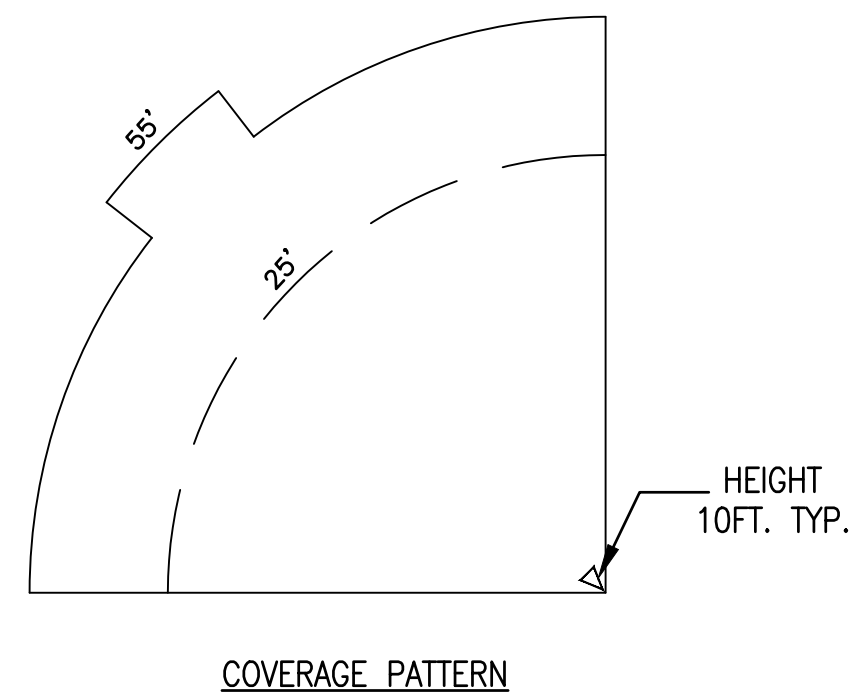
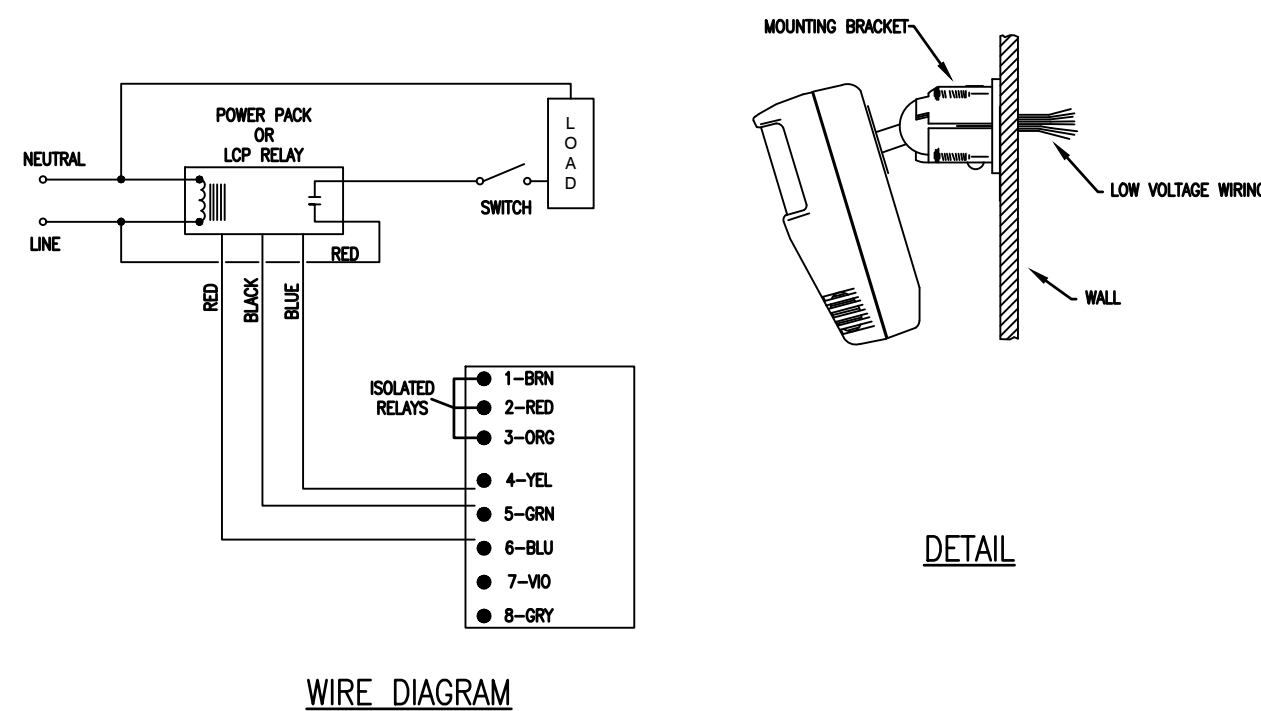


MULTIPLE OCCUPANCY SENSOR

SKETCH DATE: APRIL 2013 STYLE: MOS

LED WALL PACK

REVISED: MARCH 2013 LUMINAIRE PLATE: XL-17



NOTES:

- SEE DETAIL PN-1 FOR SENSOR REQUIREMENTS.

PIR WALL MOUNT SENSOR

SKETCH DATE: APRIL 2013 STYLE: WS

LED FLOOD LUMINAIRE

REVISED: MARCH 2013 LUMINAIRE PLATE: XL-21

REQUIREMENTS:

- PIR TECHNOLOGY SHALL UTILIZE A TEMPERATURE COMPENSATED, DUAL ELEMENT SENSOR AND A MULTI-ELEMENT FRENSEL LENS (POLY IR4 MATERIAL).
- SENSOR SHALL UTILIZE TECHNOLOGY TO OPTIMIZE AUTOMATIC TIME DELAY TO FIT OCCUPANT USAGE PATTERNS BY DIP SWITCH.
- LINE VOLTAGE SENSORS SHALL HAVE NO MINIMUM LOAD REQUIREMENT AND BE CAPABLE OF SWITCHING 0 TO 800W AT 120VAC, 50/60 HZ AND 0 TO 1200W AT 277VAC, 50/60 HZ. CONTROL VOLTAGE SENSORS SHALL NOT EXCEED A MAXIMUM LOAD REQUIREMENT OF 20mA AT 24VDC.
- SENSOR SHALL HAVE AUTOMATIC-ON OR MANUAL OPERATION ADJUSTABLE WITH DIP SWITCH.
- SENSOR SHALL HAVE TIME DELAY OF 5 TO 30 MINUTES, IN INCREMENTS OF 5 MINUTES, WITH WALK THROUGH AND TEST MODE SET BY DIP SWITCH.
- SENSOR SHALL BE CAPABLE OF DETECTION OF OCCUPANCY AT DESKTOP LEVEL UP TO 300 SQ. FT. AND GROSS MOTION UP TO 1000 SQ. FT. WITH A FIELD VIEW OF 180 DEGREES.
- SENSOR SHALL PROVIDE HIGH IMMUNITY TO FALSE TRIGGERING FROM RFI AND EMI.
- SENSOR SHALL HAVE A LED INDICATOR THAT REMAINS ACTIVE DURING OCCUPANCY.
- SENSOR SHALL HAVE A BUILT-IN LIGHT LEVEL SENSOR THAT IS OPERATIONAL FROM 8 TO 180 FOOT-CANDLES.
- SENSOR COVERAGE SHALL BE TESTED TO CURRENT NEMA WD 7 STANDARDS.
- SENSOR SHALL HAVE A STANDARD FIVE YEAR WARRANTY AND SHALL BE UL LISTED.
- SENSOR SHALL HAVE NO LEAKAGE CURRENT TO LOAD WHEN IN THE OFF MODE.

PIR SENSOR NOTES

SKETCH DATE: APRIL 2013 STYLE: PN-1

APPROVED	DATE	09/14/22
TYPE D STANDARD	DESCRIPTION	
TYPE D BOX MAGAZINE LIGHTING DETAILS		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND DESIGN AND CONSTRUCTION		
BRANCH MANAGER: SEK CHIEF ENGINEER: RICHARD L. STEPHENS, P.E. FIRE PROTECTION: DPS		
SCALE: AS NOTED PROJECT NO.: CONSTR. CONTR. NO.: NAVFAC DRAWING NO.: 14084199 SHEET 38 OF 40 E-701 <small>DRAWING REVISION: 25 AUGUST 2020</small>		

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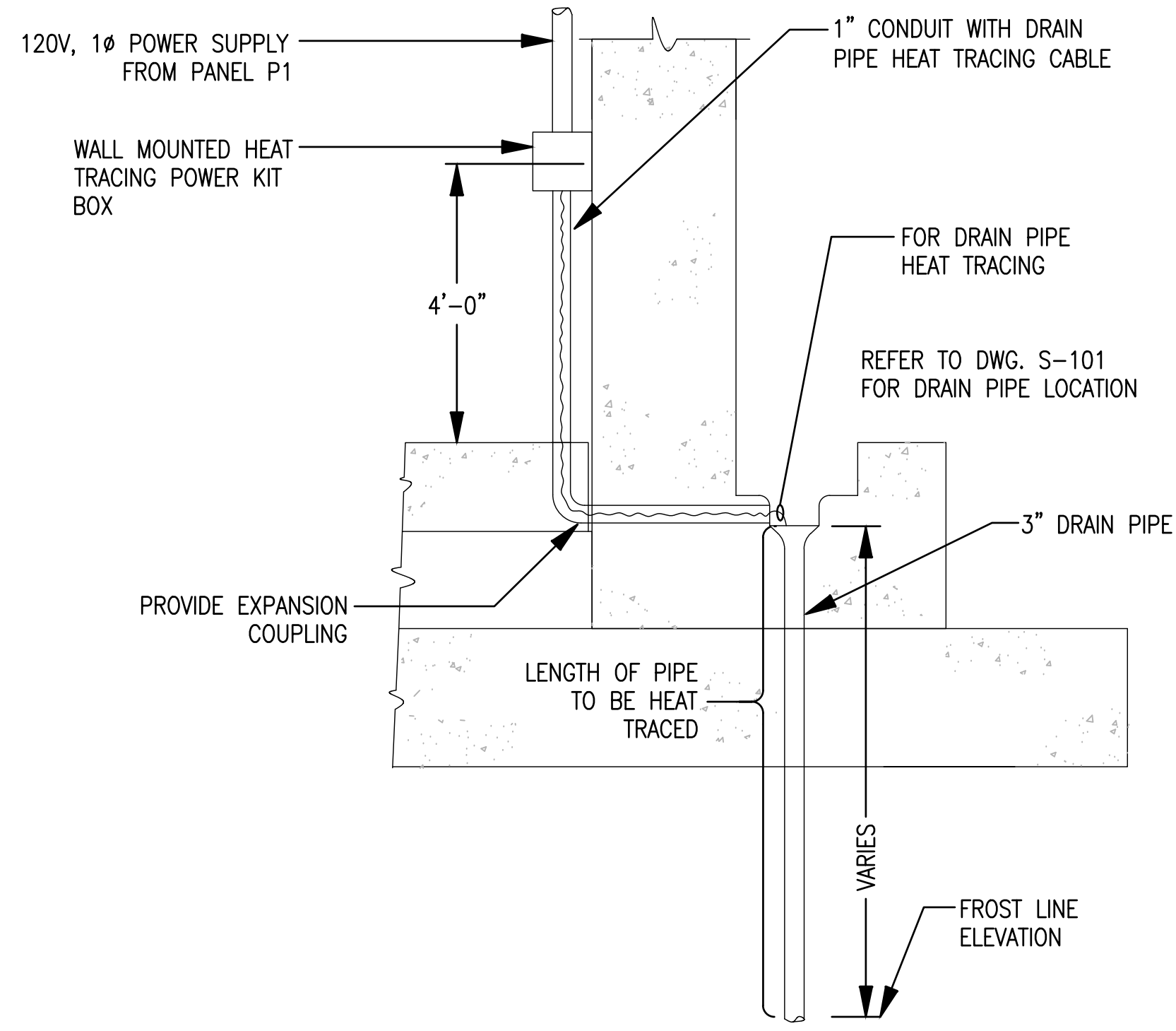
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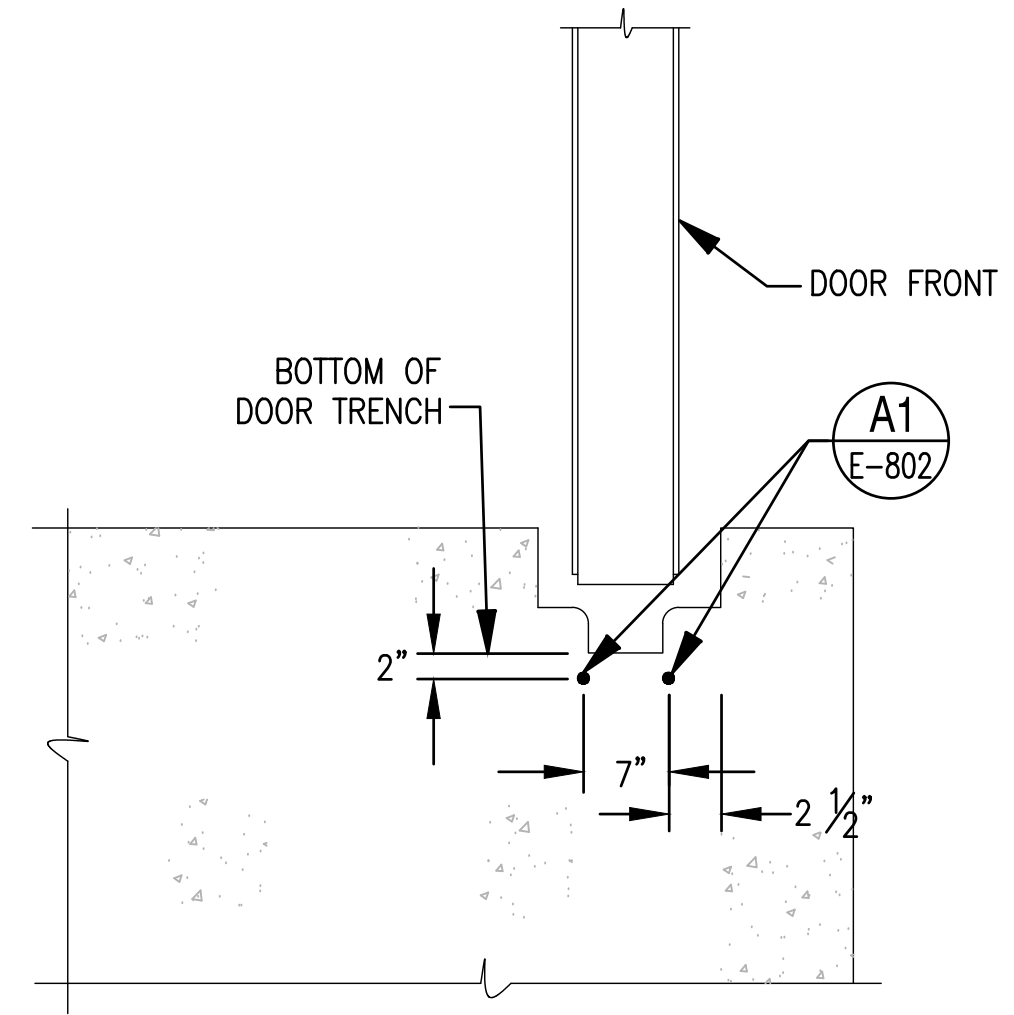
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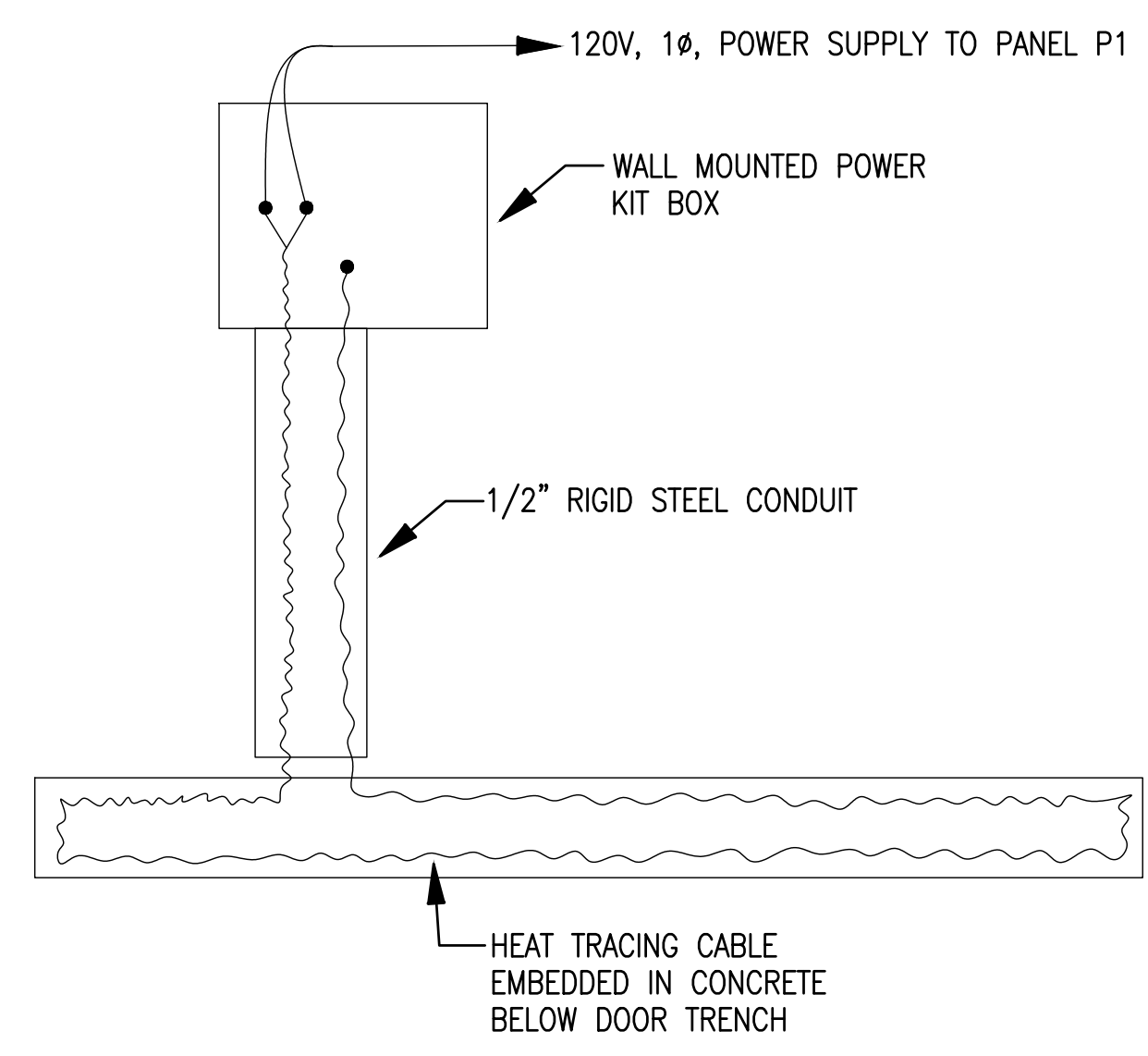
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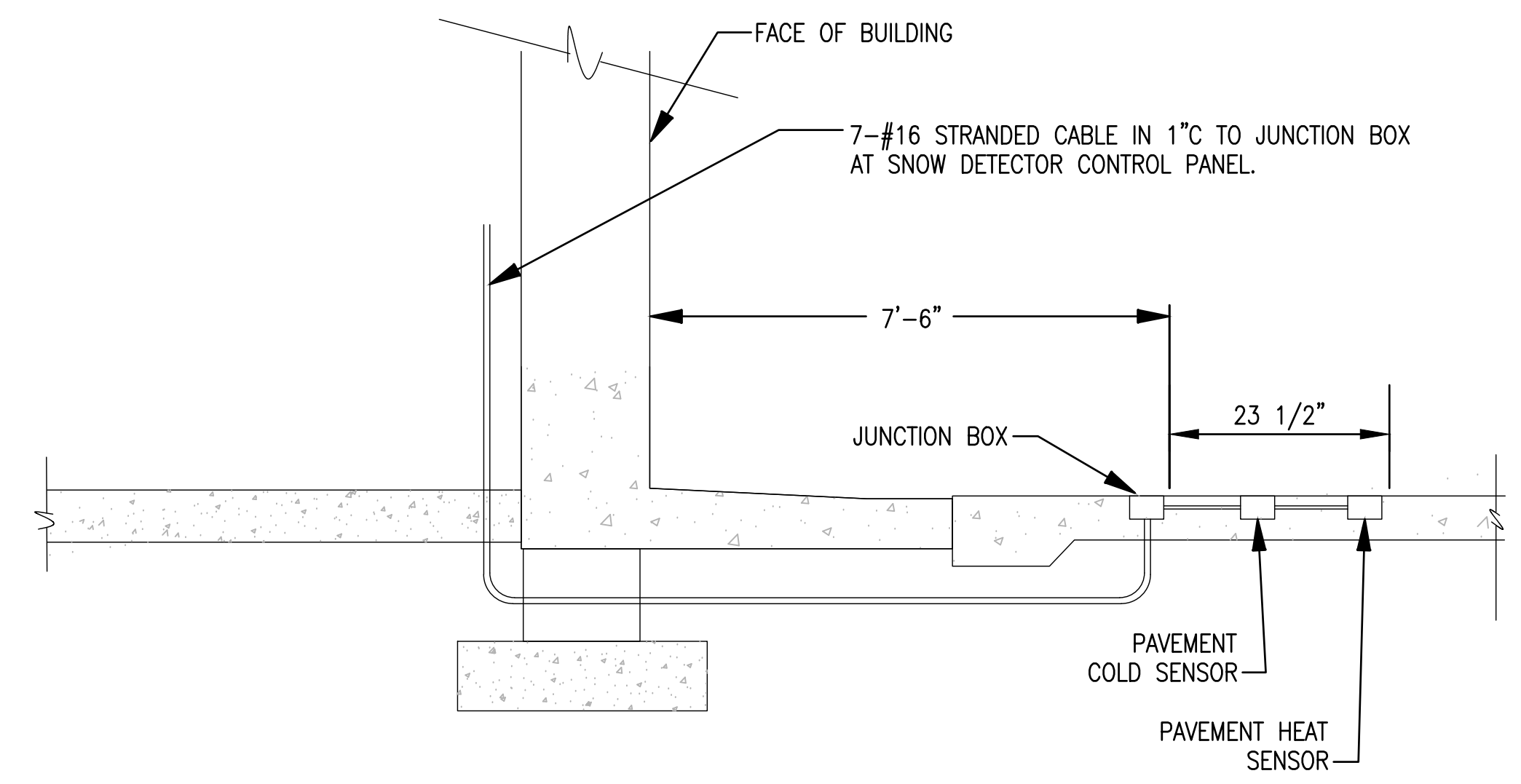
DRAIN PIPE HEAT TRACING DETAIL (C1)
N.T.S. E-801



HEAT TRACING CABLE DETAIL (C4)
N.T.S. E-801

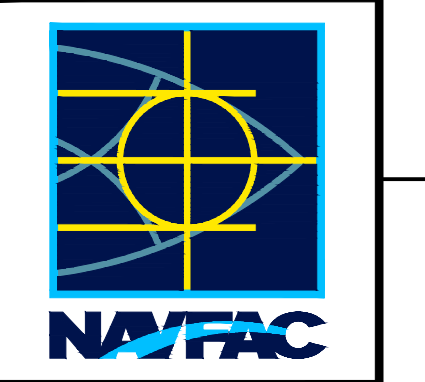


TYPICAL DOOR TRENCH HEAT TRACING WIRING DIAGRAM (A1)
N.T.S. E-802



SNOW DETECTOR LOCATION DETAIL (A4)
N.T.S. E-801

DATE	09/14/22
DESCRIPTION	TYPE D STANDARD
BY	
APPROVED	



SEAL	
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A/E INFO	
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APPROVED	
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FIR COMMANDER NAVFAC

ACTIVITY	
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SATISFACTORY TO	DATE	MM/DD/YY
DES	DRW	RJL
CHK	CHK	SEK

BRANCH MANAGER: SEK
CHIEF ENGINEER: RICHARD L. STEPHENS, P.E.
FIRE PROTECTION: DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DESIGN AND CONSTRUCTION

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
BRANFAC04A.1A
TYPE D BOX MAGAZINE
HEAT TRACE DETAILS

SCALE: AS NOTED

PROJECT NO.:
CONSTR. CONTR. NO.:

NAVFAC DRAWING NO. 14084201

SHEET 40 OF 40

E-802
DRAWING REVISION: 25 AUGUST 2020

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FILE NAME: C:\Users\kelle.corsino\AppData\Local\Temp\4e3d4b18-15576\BOX D_2022.9.27.dwg LAYOUT NAME: E-802 PLOTTED: Tuesday, June 06, 2023 - 9:22am USER: kelle.corsino