

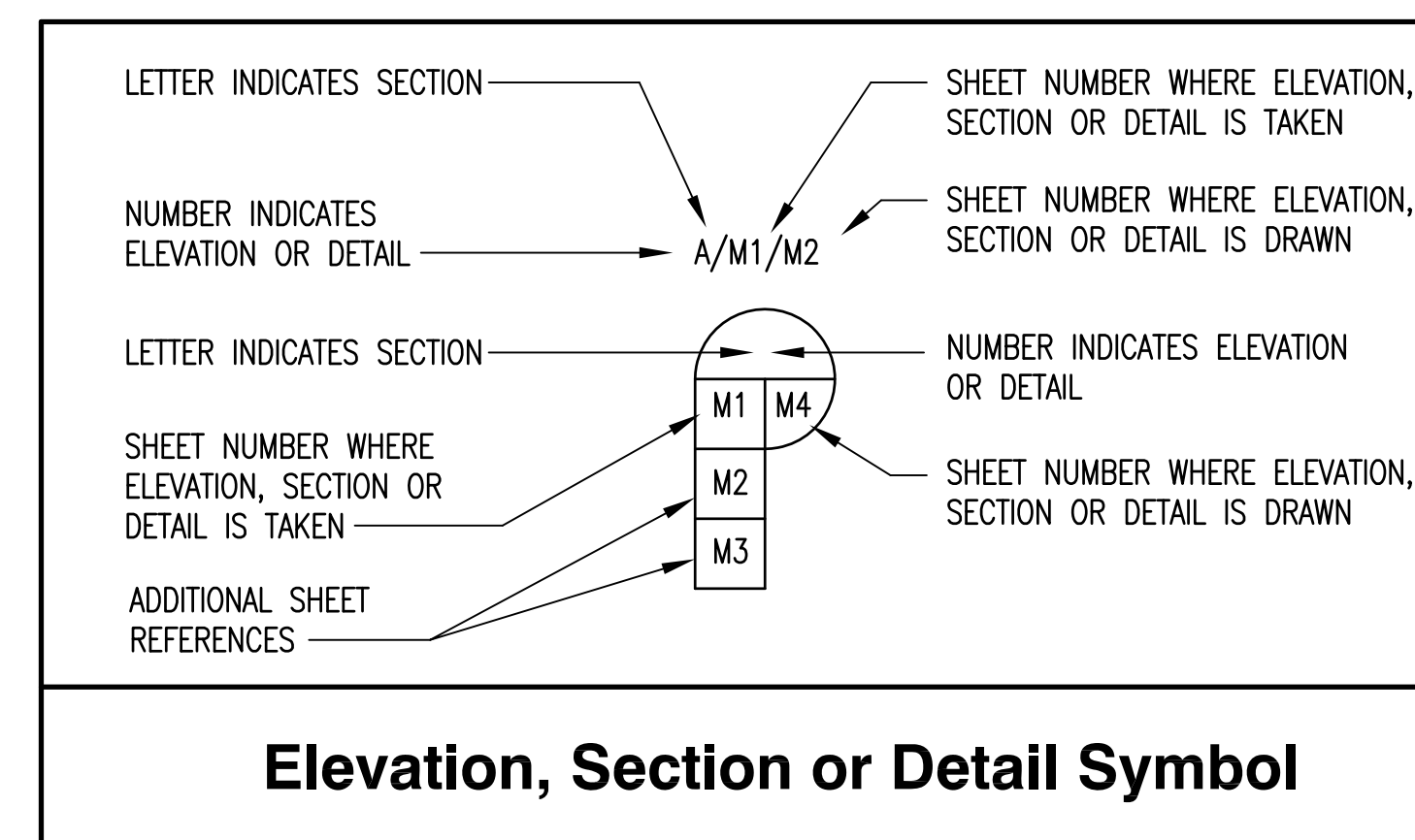
REPAIR LARGE UNIT HQs BUILDING 421 MARINE CORPS BASE CAMP LEJEUNE N.C.

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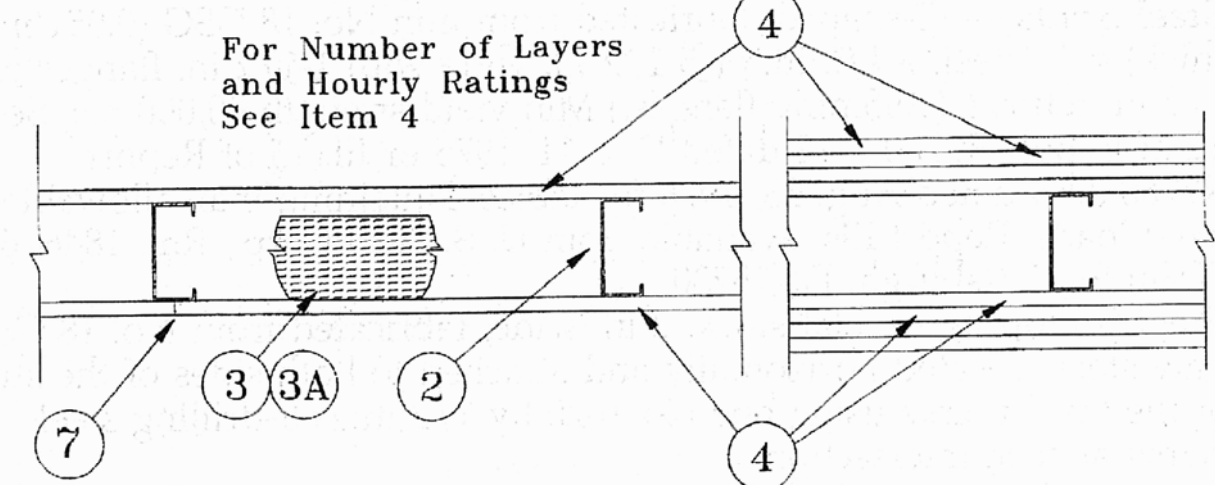
LOCATION OF BUILDING 421

TEMPORARY TRAILERS



				G-001	
DES. DLG/MPO DR. MPO CHK. RTB SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421		TITLE SHEET	
APPROVED: PWO OR OICC		DATE:	SIZE:	CODE IDENT NO:	NAVFAC DRAWING NO.
SATISFACTORY TO:		DATE:	F 80091	60008592	CONST. CONTR. NO. 140085-11-B-0127
SCALE: AS NOTED		SPEC. 05-11-0127		SHEET 01 OF 42	

Design No. U419
Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 3 & 4)



- Floor and Ceiling Runners** — (Not shown) — Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
- Steel Studs** — Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- Batts and Blankets*** — (Required as indicated under Item 4) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.
- Batts and Blankets*** — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.
- Gypsum Board*** — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

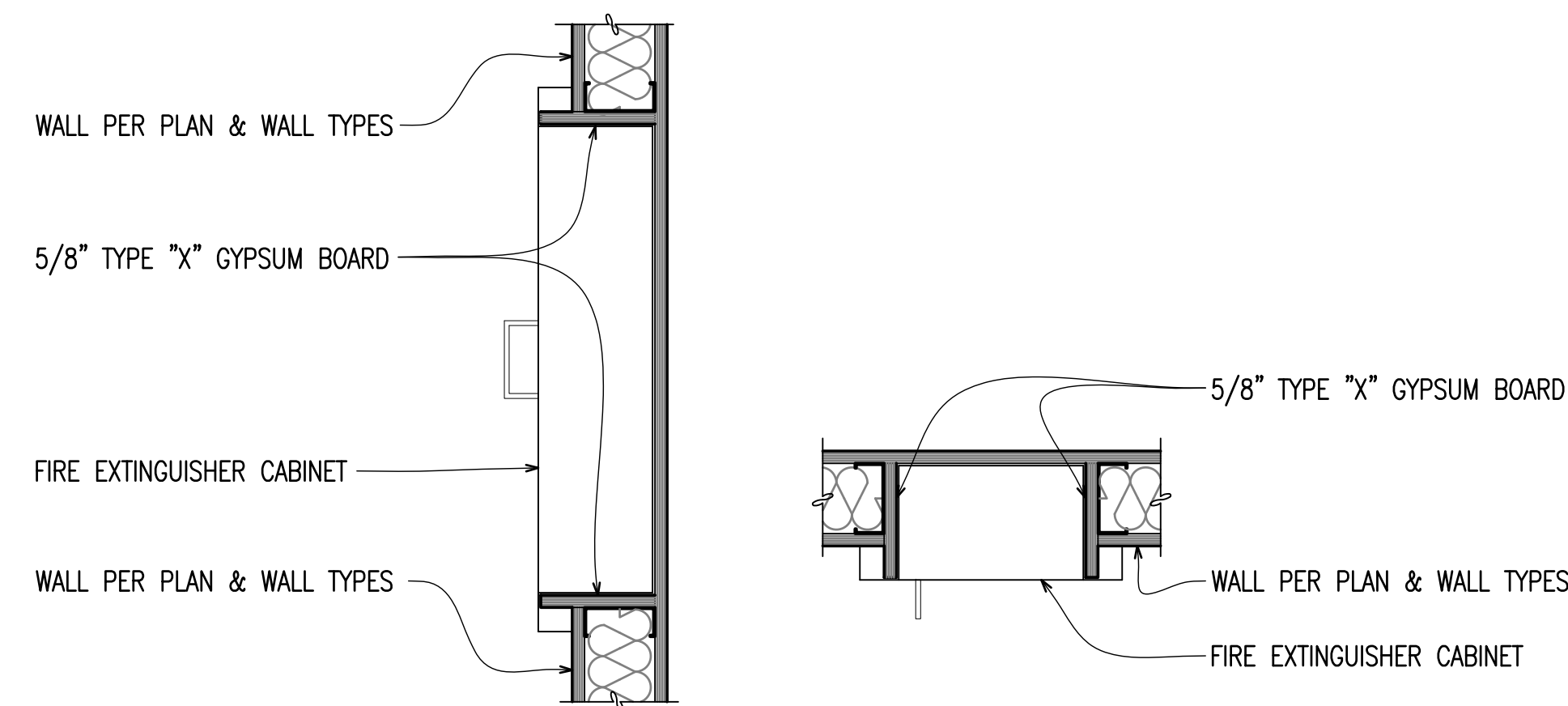
CANADIAN GYPSUM COMPANY — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

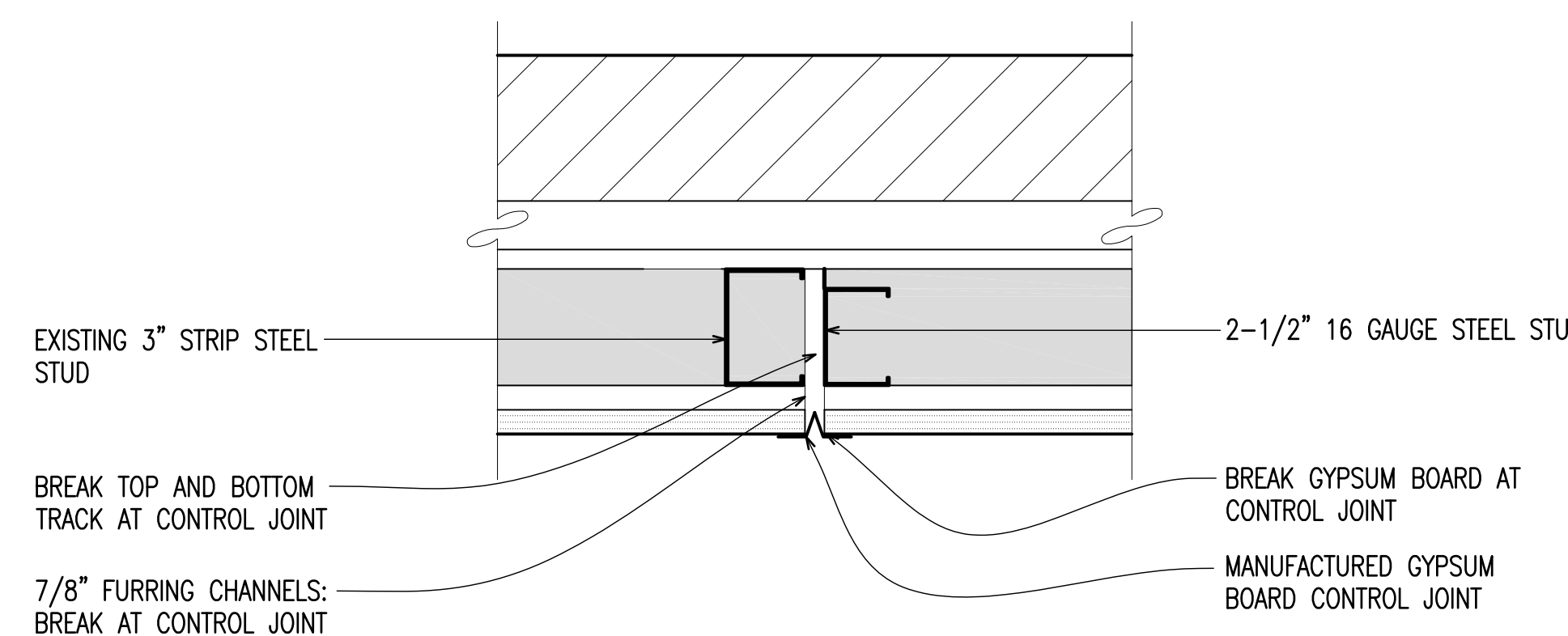
- Gypsum Board*** — (As an alternate to Item 4) — 5/8 in. thick gypsum panels, installed as described in Item 4 with Type S-12 steel screws. The length and spacing of the screws as specified under Item 5.
CANADIAN GYPSUM COMPANY — Type FRX
UNITED STATES GYPSUM CO — Type FRX
- Gypsum Board*** — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 5. Joint covering (Item 7) not required.
CANADIAN GYPSUM COMPANY — Type SHX.
UNITED STATES GYPSUM CO — Type SHX.
USG MEXICO S A DE C V — Type SHX.
- Fasteners** — (Not shown) — Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 12 in. OC. **Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.
- Furring Channels** — (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.
- Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.
- Siding, Brick or Stucco** — (Optional, not shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.
- Caulking and Sealants*** — (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS
* Bearing the UL Classification Mark

NOTE: NON LOAD BEARING WALLS WHICH ARE IDENTIFIED AS BEING ONE (1) HOUR FIRE RATED SHALL USE UL ASSEMBLY DETAIL U419.



NOTE: SEE FIRE EXTINGUISHER CABINET MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION: WHEN FIRE EXTINGUISHER CABINET IS LOCATED IN A FIRE RATED WALL PROVIDE A FIRE-RATED FIRE EXTINGUISHER CABINET AND INSTALL PER MANUFACTURER'S INSTRUCTIONS TO MAINTAIN FIRE RATING OF WALL.

1
A-10216-002 FIRE EXTINGUISHER CABINET INSTALLATION
SCALE: 1-1/2" = 1'-0"

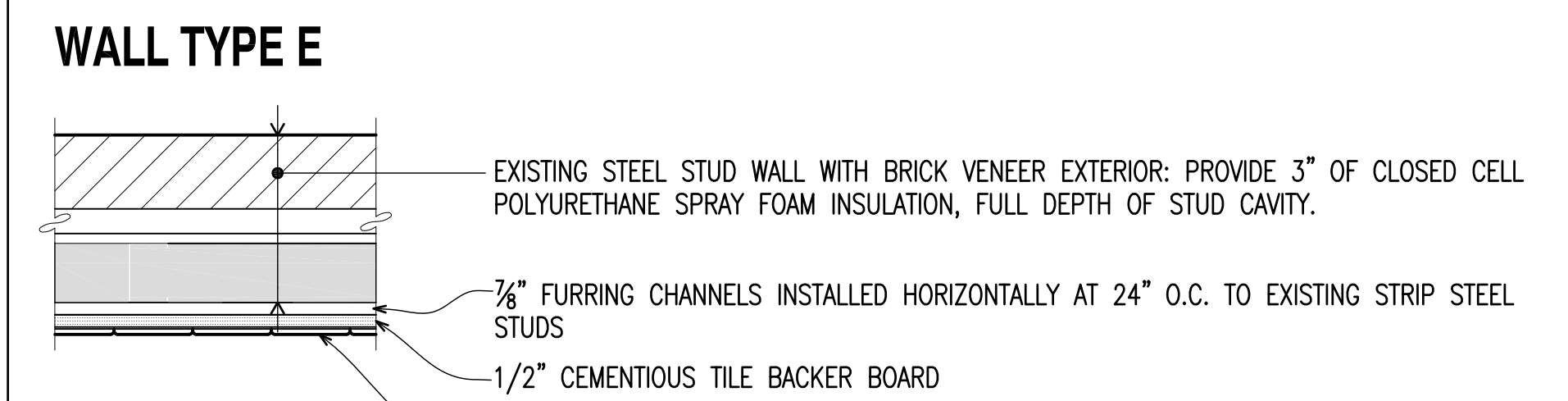
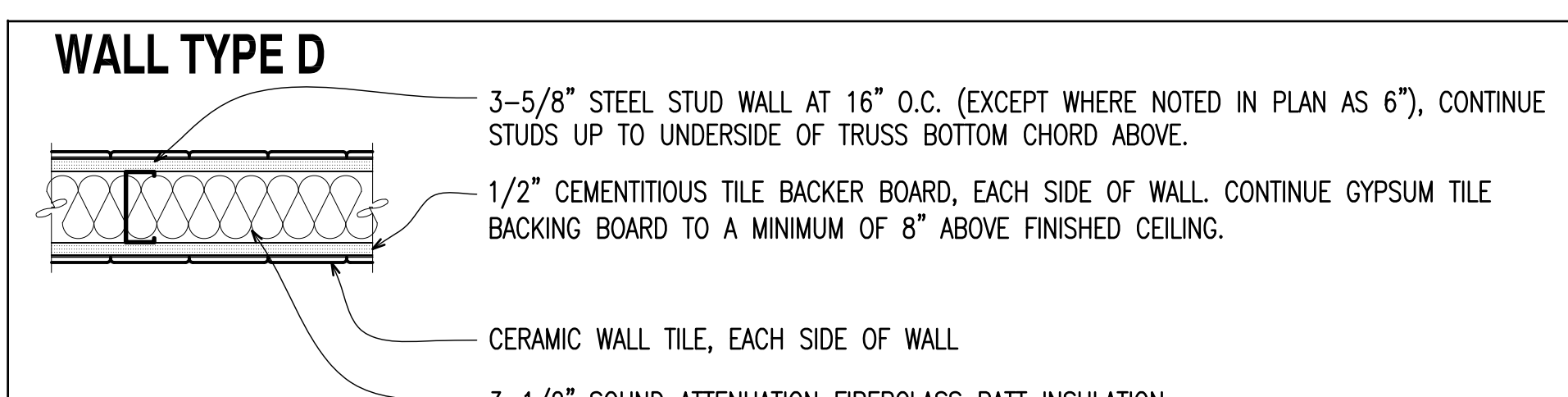
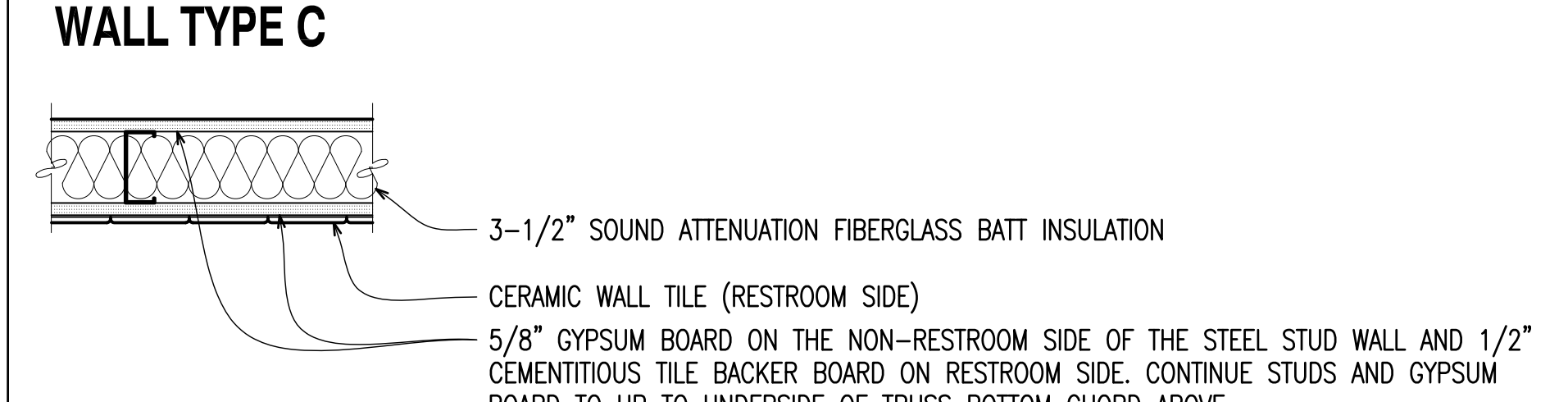
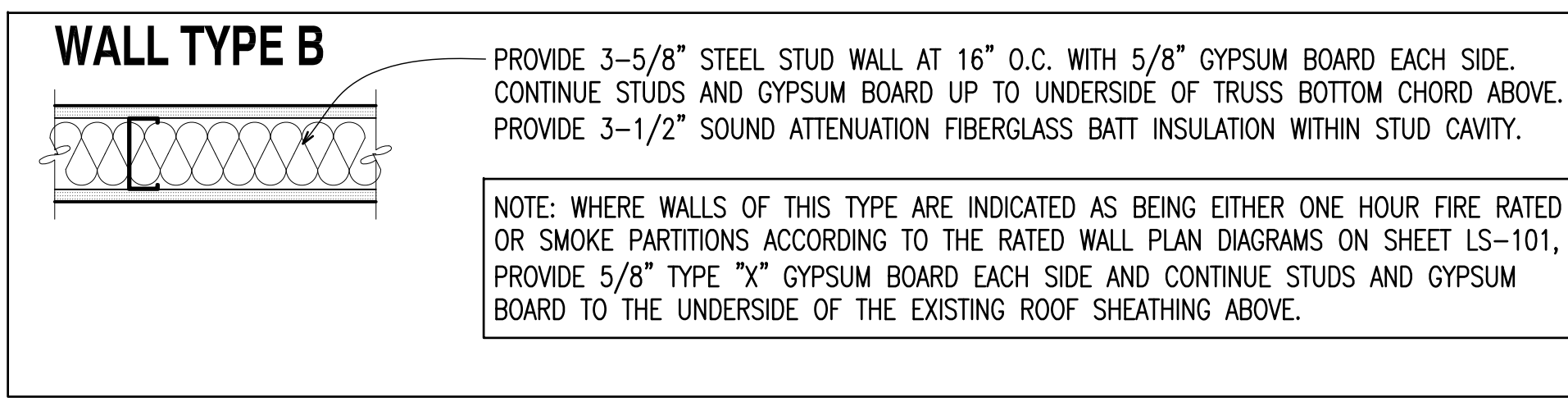
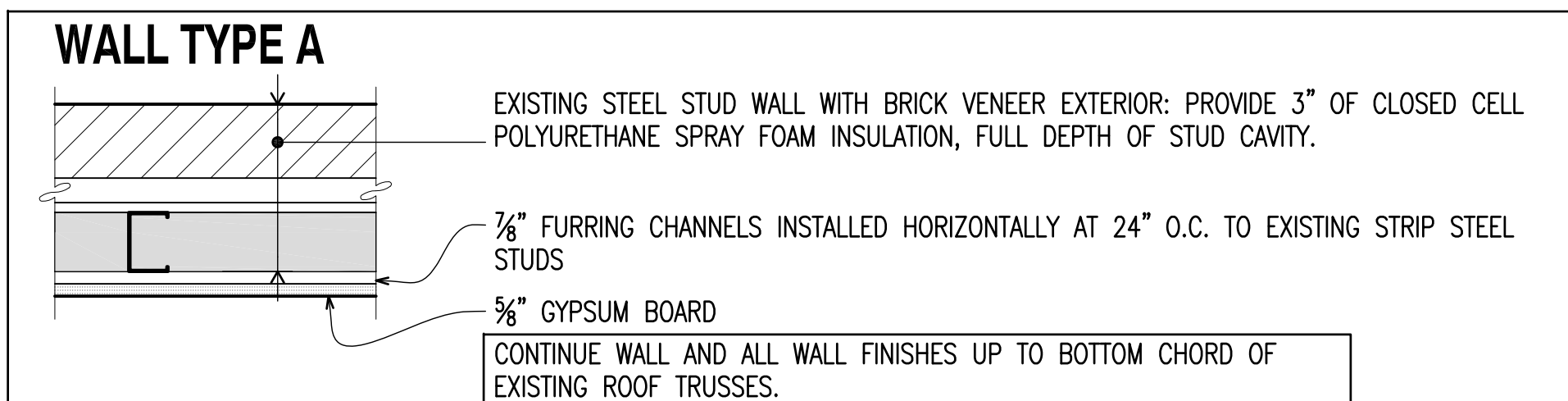


2
G-00216-002 GYPSUM BOARD CONTROL JOINT
SCALE: 3" = 1'-0"

WALL TYPE DESCRIPTIONS

WALL TYPES AS INDICATED IN CONSTRUCTION PLAN SHEET A-102, AND RESTROOM PLANS SHEET A-401. ALL MATERIALS ARE NEW UNLESS INDICATED AS EXISTING. ALL GYPSUM BOARD IS TO BE 5/8" TYPE "X", UNLESS OTHERWISE NOTED.

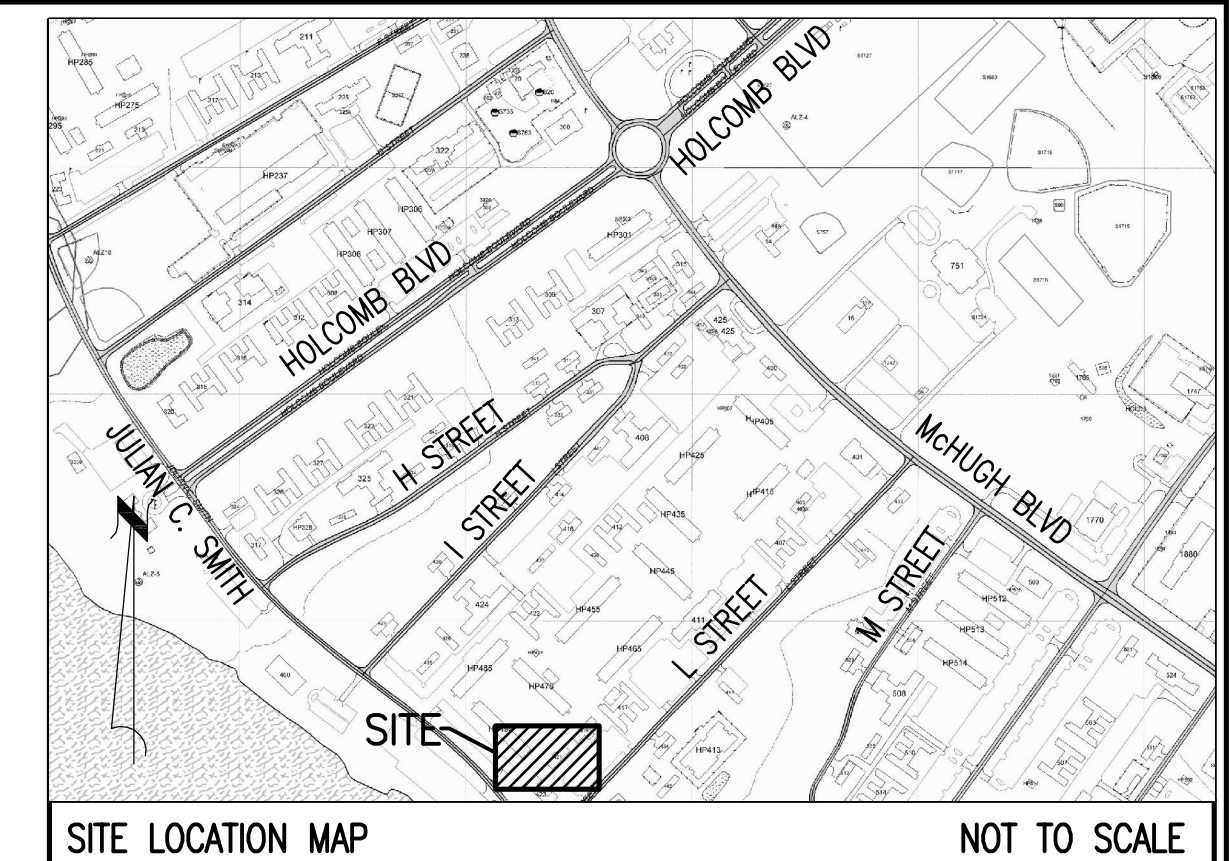
SCALE: 1-1/2" = 1'-0"



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

		G-002	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJUNE, NORTH CAROLINA	
DES. DLG/MPO DR. MPO CHK. RTB SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC DATE: _____ SATISFACTORY TO: DATE: _____		WALL TYPES & DETAILS NAVFAC DRAWING NO. 60008593 CONST. CONTR. NO. 149035-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 02 OF 42	

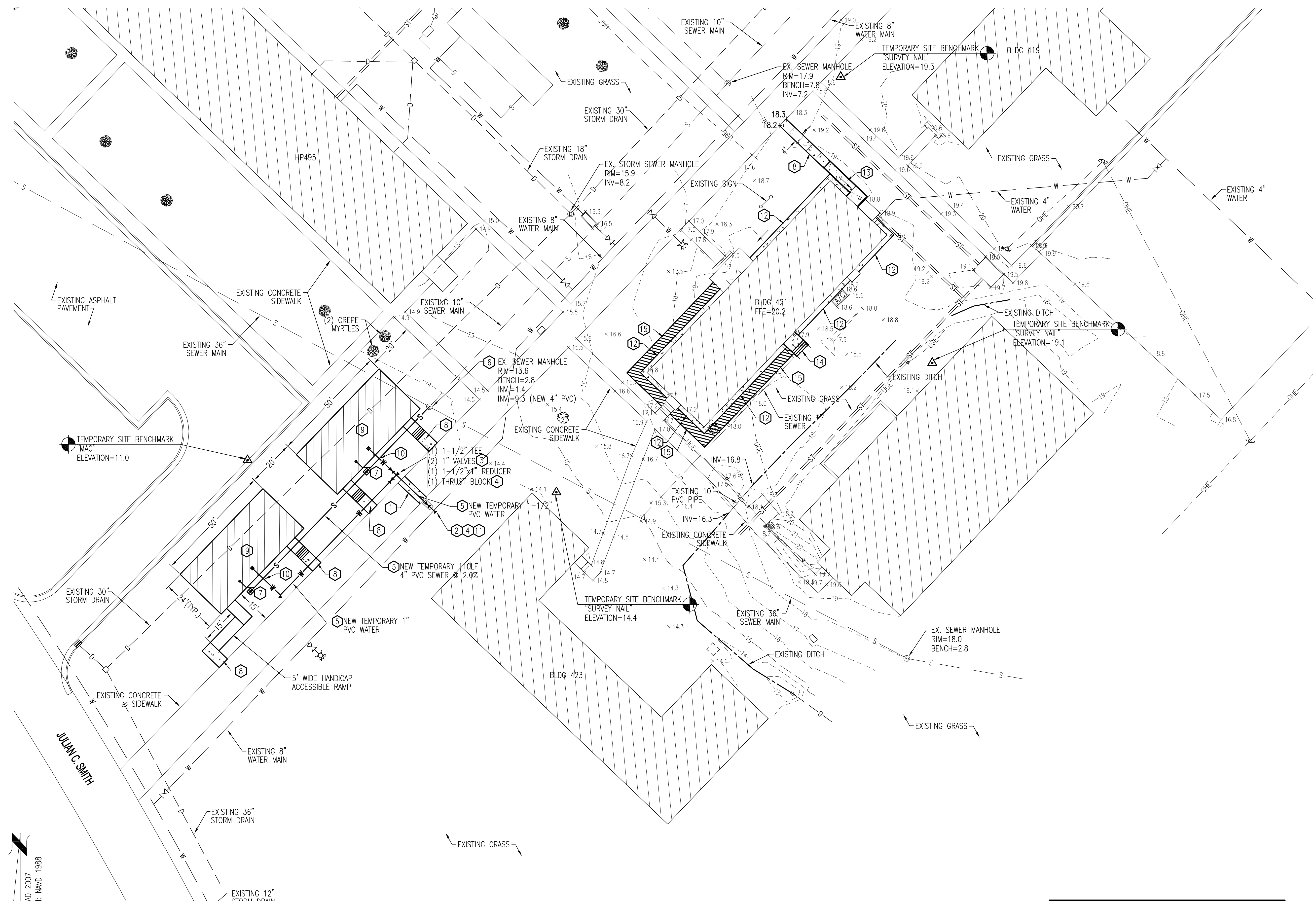
REVISIONS		
SYM	DATE	APPROVED



SITE LOCATION MAP NOT TO SCALE

ABBREVIATIONS	
C/L	CENTER LINE
DI	DROP INLET
EOP	EDGE OF PAVEMENT
ELEV	ELEVATION
EX	EXISTING
HOR	HORIZONTAL
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
OHE	OVERHEAD ELECTRIC
OC	ON CENTER
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SF	SQUARE FEET
SSMH	SANITARY SEWER MANHOLE
TYP	TYPICAL
VERT	VERTICAL
WWF	WELDED WIRE FABRIC
WM	WATER METER
&	AND
±	PLUS OR MINUS
%	PERCENT

CIVIL LEGEND		
EXISTING	DESCRIPTION	NEW
⊗	WATER VALVE	⊗
⊗	POST INDICATOR VALVE	⊗
⊗	THRUST BLOCK	⊗
⊗	FIRE HYDRANT	⊗
⊗	SANITARY SEWER MANHOLE	⊗
⊗	SANITARY SEWER CLEANOUT	⊗
⊗	STORM SEWER MANHOLE	⊗
⊗	STORM DRAIN	⊗
⊗	PEDESTAL	⊗
⊗	POWER POLE	⊗
⊗	LIGHT POLE	⊗
⊗	GUY WIRE	⊗
⊗	SANITARY SEWER (GRAVITY)	⊗
⊗	SANITARY SEWER (FORCE MAIN)	⊗
⊗	STORM SEWER	⊗
⊗	DOMESTIC WATER	⊗
⊗	UNDERGROUND STEAM CONDENSATE	⊗
⊗	OVERHEAD ELECTRICAL	⊗
⊗	UNDERGROUND ELECTRICAL	⊗
⊗	UNDERGROUND COMMUNICATIONS	⊗
⊗	CONCRETE	⊗
⊗	ASPHALT	⊗
⊗	TEMPORARY BENCHMARK	⊗
⊗	SPOT ELEVATIONS	⊗
⊗	CONTOUR LINES	⊗
⊗	TREE	⊗
⊗	SURVEY CONTROL POINT	⊗
⊗	SOURCE/DESTINATION UNKNOWN	⊗
⊗	DEMOLITION ITEMS	⊗



- GENERAL CONSTRUCTION NOTES:**
- THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION.
 - PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
 - ALL EXISTING VEGETATED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN, SEE DETAIL B, SHEET C-501.
- NEW WORK ITEMS:**
- PAVEMENT CUT & PATCH - SEE DETAIL A, SHEET C-501.
 - NEW 8" x 1-1/2" TAPPING SADDLE & VALVE - SEE DETAIL C, SHEET C-501 AND SPECIFICATIONS.
 - NEW 1" VALVE - SEE DETAIL C, SHEET C-501.
 - THRUST BLOCK - SEE DETAIL D, SHEET C-501.
 - PROVIDE ALL TRENCHING IN ACCORDANCE WITH DETAIL E, SHEET C-501.
 - CONNECT 4" PVC TO EXISTING MANHOLE.
 - NEW SEWER CLEAN OUT - SEE DETAIL F, SHEET C-501.
 - NEW CONCRETE SIDEWALK. SEE DETAIL G, SHEET C-501.
 - NEW 24'x50' TEMPORARY OFFICE. SEE DETAIL A, SHEET C-502 AND SPECIFICATION.
 - ROUTE NEW WATER SERVICE ABOVE SEWER SERVICE.
 - NEW BACKFLOW PREVENTER & ENCLOSURE, SEE DETAIL B, SHEET C-502 AND SPECIFICATIONS.
 - NEW CONCRETE MAINTENANCE STRIP, SEE ARCHITECTURAL DRAWINGS, SHEET A-102.
 - NEW CONCRETE ACCESSIBLE RAMP, SEE ARCHITECTURAL DRAWINGS, SHEET A-102.
 - NEW CONCRETE LANDING AND STEPS, SEE ARCHITECTURAL DRAWINGS, SHEET A-102.
 - AREA TO BE GRADED AND SLOPED AWAY FROM BUILDING, SEE ARCHITECTURAL DRAWINGS, SHEET A-102.

SPECIAL SEEDING NOTE:

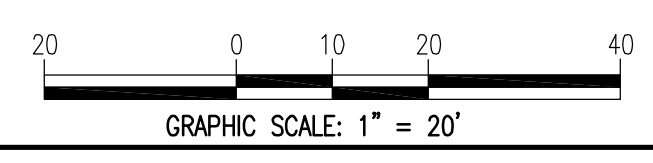
THE ANGLE FOR GRADED SLOPES AND FILL SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. ADDITIONALLY, WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS FROM THE COMPLETION OF THE PROJECT (WHICHEVER IS SHORTER), PERMANENT GROUND COVER SHALL BE ESTABLISHED.

STORMWATER MANAGEMENT NOTES:

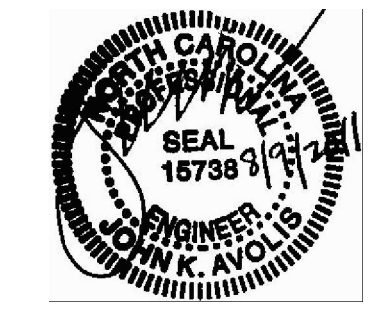
- ALL TEMPORARY OFFICE FACILITIES (TRAILERS) AND ALL NEW NEW TEMPORARY CONCRETE SIDEWALKS SERVING THE PROJECT SHALL BE REMOVED IN THEIR ENTIRETY AT THE CONCLUSION OF CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL GRASSED CONDITION AT THE CONCLUSION OF CONSTRUCTION.

NC GRID NAD 2007
VERTICAL DATUM: NAVD 1988

A SITE PLAN
SCALE: 1" = 20'

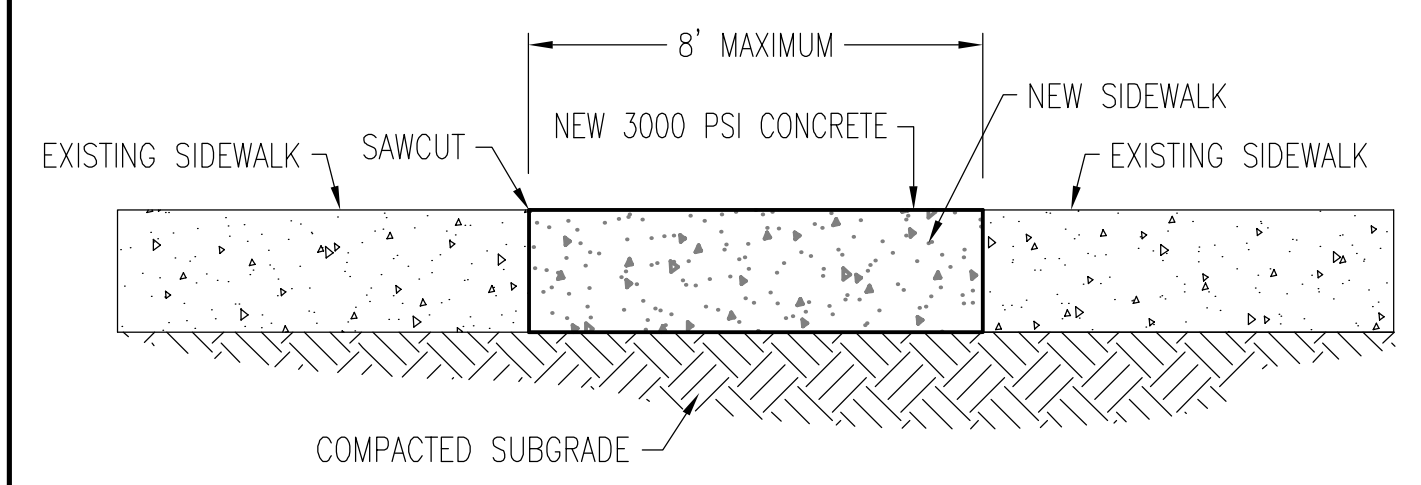


PROJECT # 11043
AVOLIS ENGINEERING, P.A.
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NEW BERN, NC 28561
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MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA 317-C POLLOCK STREET NEW BERN, NC	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
	REPAIR THE LARGE UNIT HQ's BLDG 421 SITE PLAN	
DES. J.K. AVOLIS, P.E. DR. MSP/WFF CHK. J.C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR.	APPROVED: PWO OR OICC DATE:	NAVFAC DRAWING NO. 60008594 CONST. CONTR. NO. N40085-11-B-0127 SHEET 3 OF 42
SATISFACTORY TO:	DATE:	SCALE:

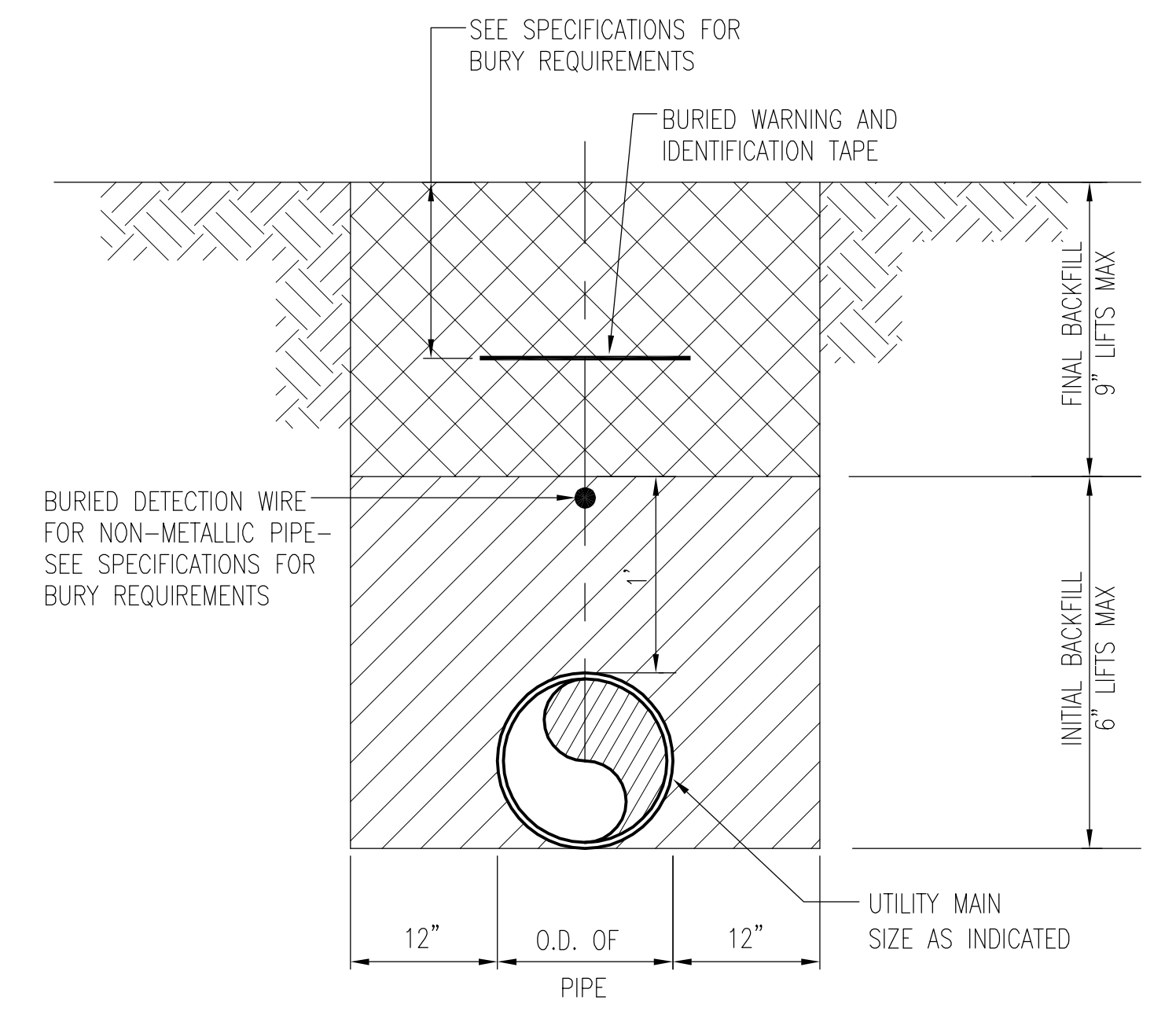
REVISIONS		
SYM	DATE	APPROVED



TYPICAL REPAIR OF CONCRETE SIDEWALK CUT

NOTE: REMOVE CONCRETE SIDEWALK AT JOINTS WHEN JOINTS ARE LOCATED WITHIN 5 FEET OF AREA OF WORK. CONCRETE FINISH & JOINT PATTERN SHALL MATCH EXISTING.

A CUT & PATCH
C-101(C-50) NOT TO SCALE



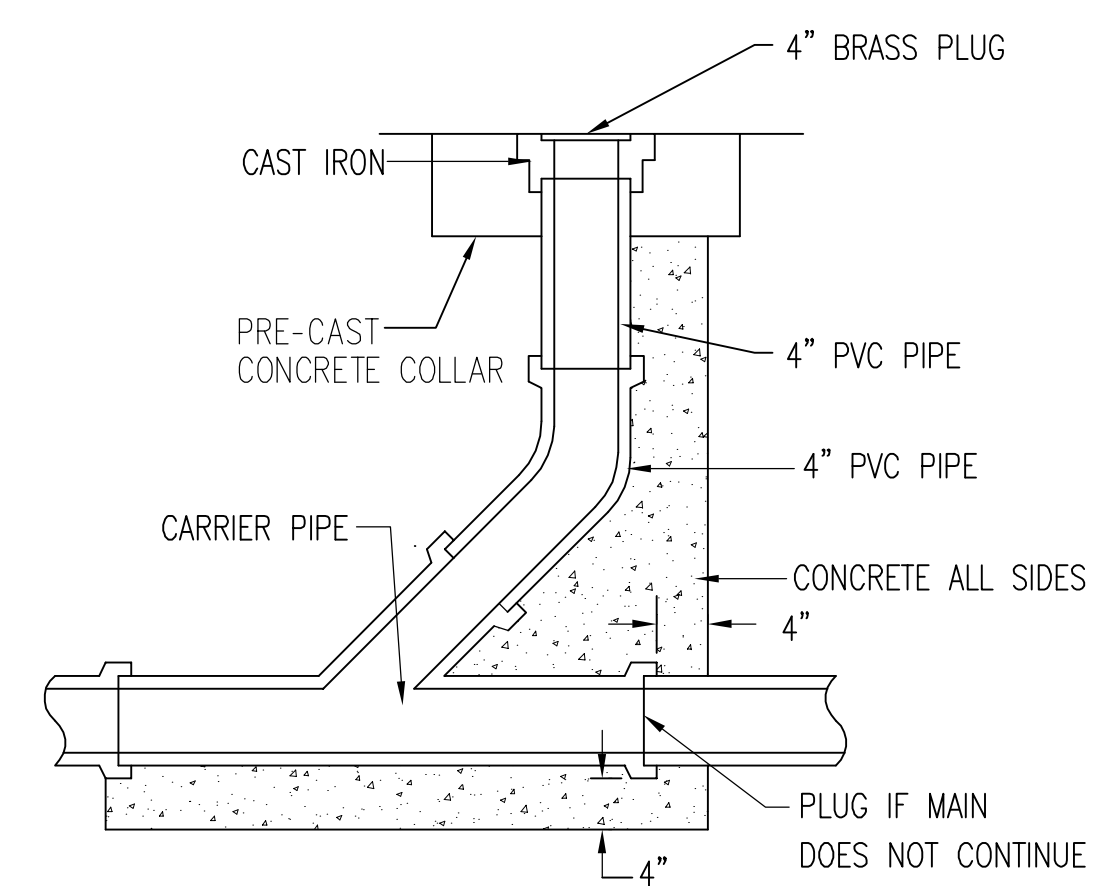
PIPE TRENCH WITHOUT BEDDING

E PIPE TRENCH SECTION
C-101(C-50) NOT TO SCALE

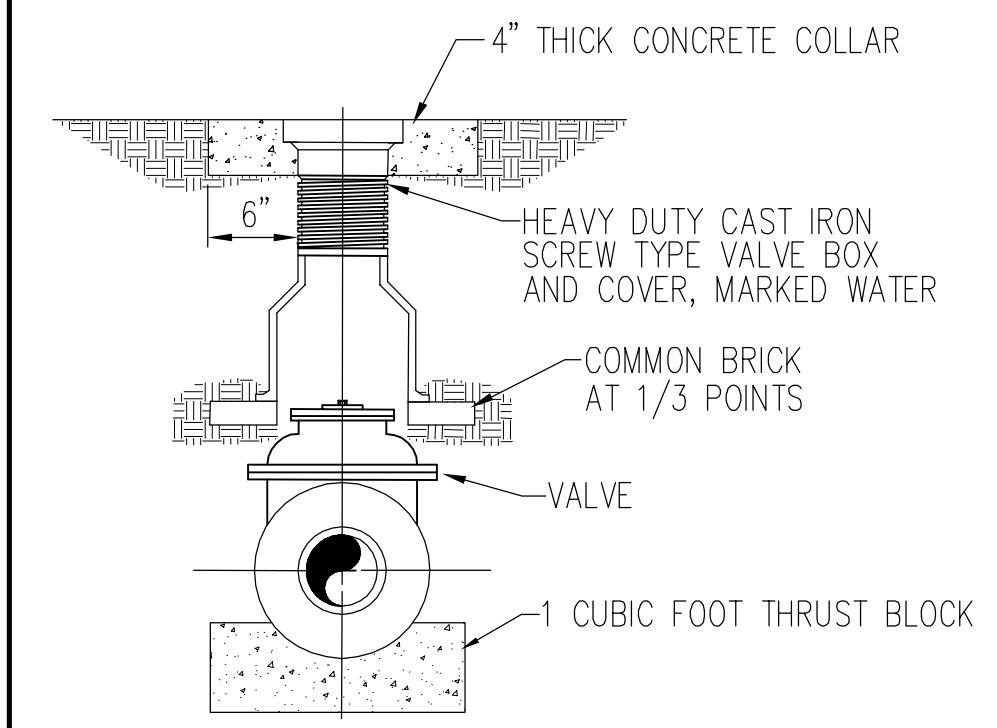
TEMPORARY VEGETATIVE SEEDING
AFTER COMPLETION OF GRADING ACTIVITIES AND THE CONSTRUCTION OF SWALES, ALL EXPOSED AREAS SHALL BE SEED TO THE FOLLOWING SPECIFICATIONS:
SEED BED
LIME 1-1/2 TON PER ACRE
FERTILIZER 1/2-TON PER ACRE
SEED
RYE GRASS 50 LBS PER ACRE
TALL FESCUE 100 LBS PER ACRE
MAY THROUGH AUGUST:
CENTIPEDE 5 LBS PER ACRE
PROCEDURE
STRAW MULCH SHALL BE APPLIED AT A RATE WHICH WILL INSURE APPROXIMATELY 75% COVERAGE OF THE SEED AREA. THE STRAW AND SOON SEED WILL BE LIGHTLY DISCED INTO THE BED TO GIVE IT FURTHER RESISTANCE TO BLOWING AND WASHING.
THE CONTRACTOR SHALL GUARANTEE A FULL STAND OF GRASS OVER THE ENTIRE DISTURBED AREA. IF NECESSARY THE CONTRACTOR WILL WET DOWN THE AREAS TO ASSIST IN SEED GERMINATION OR AID IN GROWTH IN TIMES OF EXCESSIVELY DRY WEATHER. A STAND OF GRASS WILL BE CONSIDERED ACCEPTABLE WHEN THE ENTIRE STAND OF GRASS IS AT LEAST FOUR INCHES HIGH AND HAS ACHIEVED AT LEAST 95% COVERAGE OF DISTURBED AREAS. RESEEDING WILL BE REQUIRED AS NECESSARY BY THE CONTRACTOR TO OBTAIN THE SPECIFIED STAND OF GRASS.

PERMANENT SEEDING VEGETATION
ALL DISTURBED AREAS NOT COVERED WITH BUILDINGS, PAVEMENTS, OR OTHER IMPERMEABLE SURFACES SHALL BE SOODED.

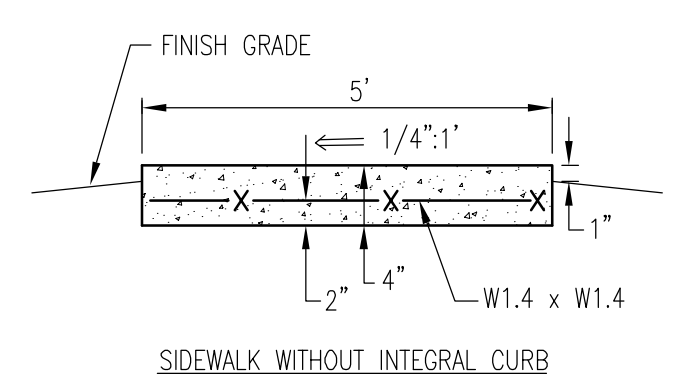
B VEGETATION PLAN
C-101(C-50) NOT TO SCALE



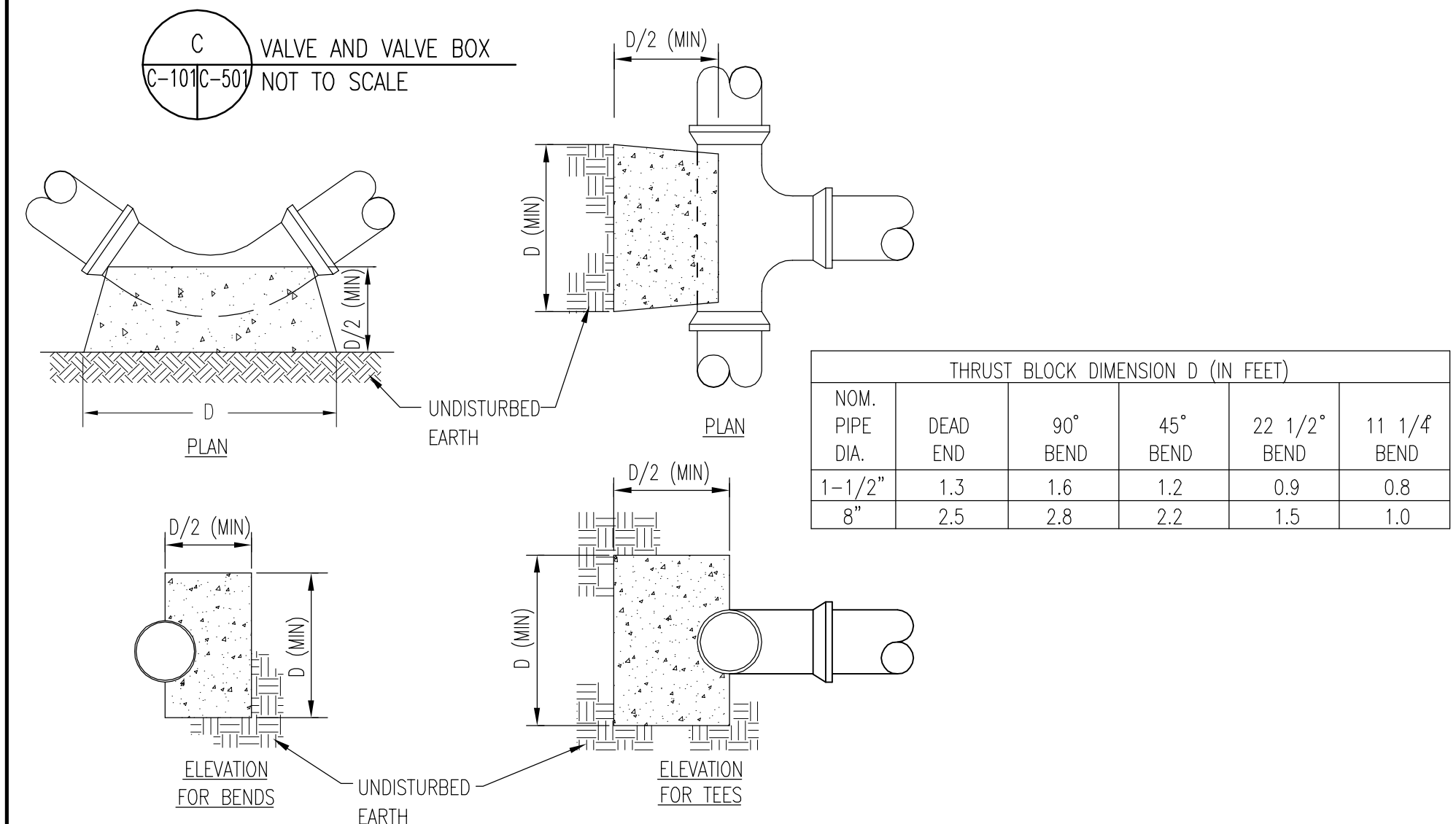
F SEWER CLEANOUT
C-101(C-50) NOT TO SCALE



C VALVE AND VALVE BOX
C-101(C-50) NOT TO SCALE



G CONCRETE SIDEWALK
C-101(C-50) NOT TO SCALE



THRUST BLOCK DIMENSION D (IN FEET)						
NOM. PIPE DIA.	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	
1-1/2"	1.3	1.6	1.2	0.9	0.8	
8"	2.5	2.8	2.2	1.5	1.0	

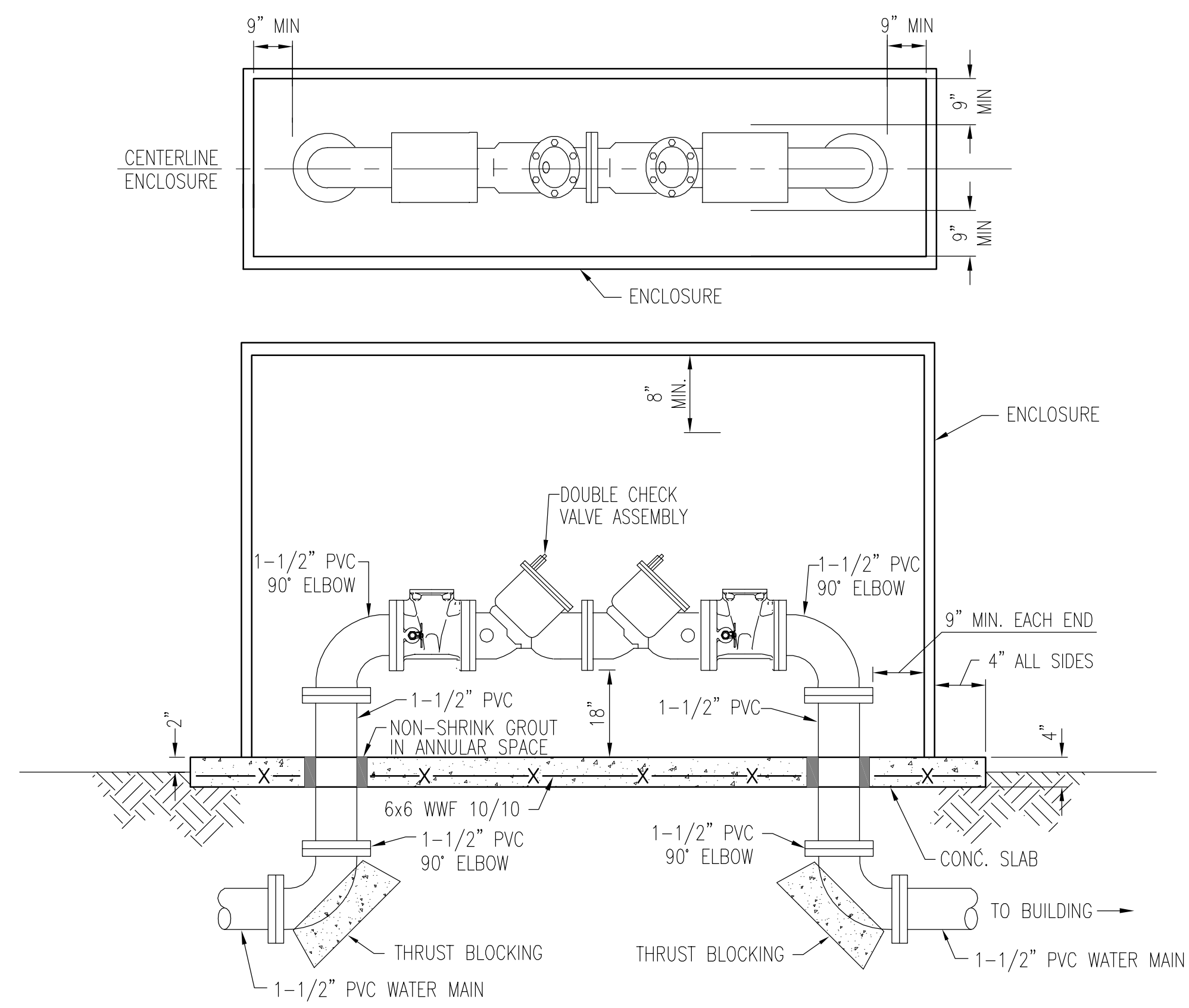
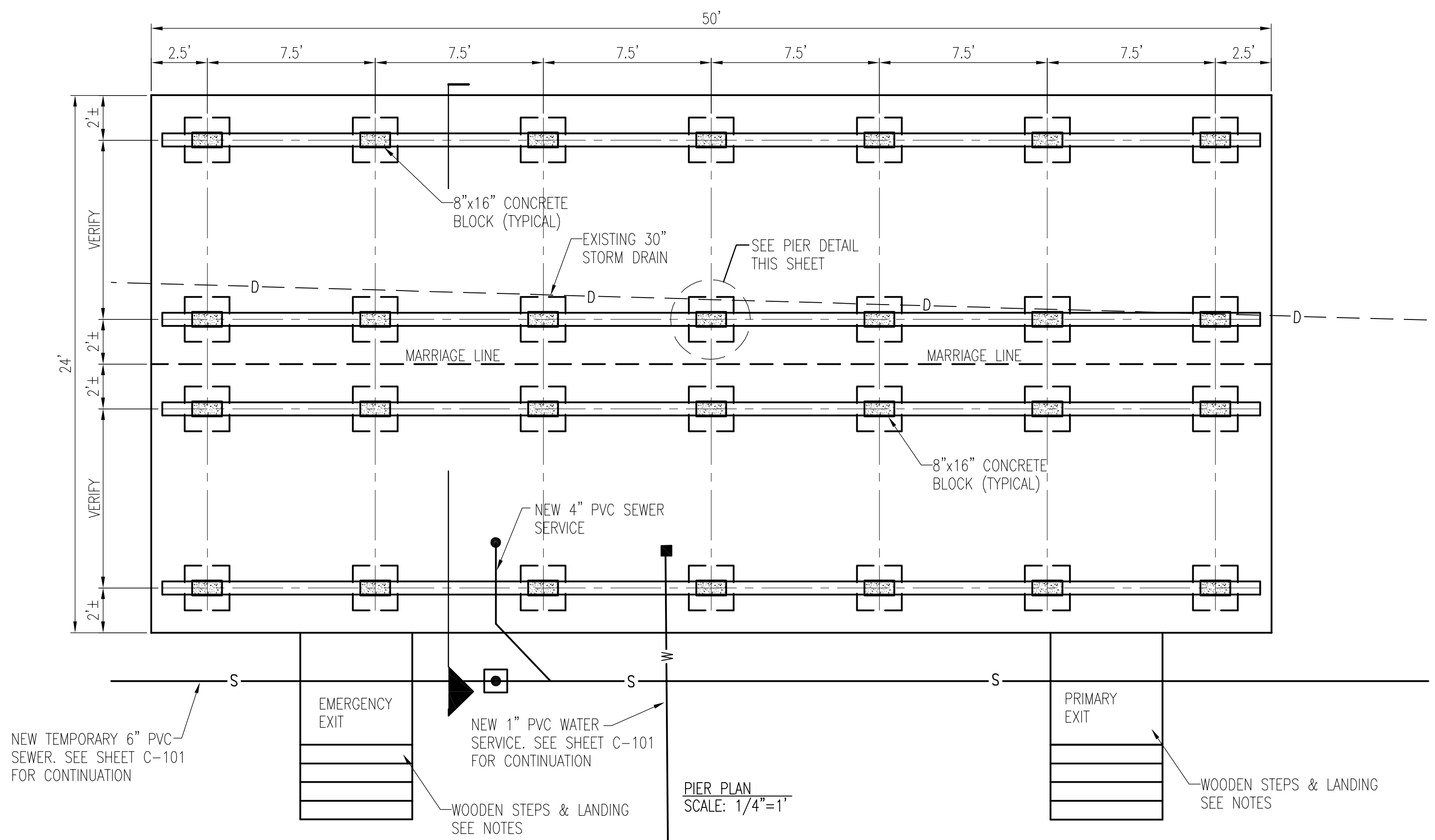
D THRUST BLOCK
C-101(C-50) NOT TO SCALE

NOTES:
1. PROVIDE EXPANSION JOINTS ALONG ALL EXISTING STRUCTURES AND WALKS AND AT 50' INTERVALS ALONG STRAIGHT SECTIONS OF WALK.
2. PROVIDE CONTRACTION JOINTS AT 5'-0" INTERVALS AND AT ALL CHANGES IN DIRECTION OF WALK. CONTRACTION JOINTS SHALL BE 1/8" WIDE X 3/4" DEEP.

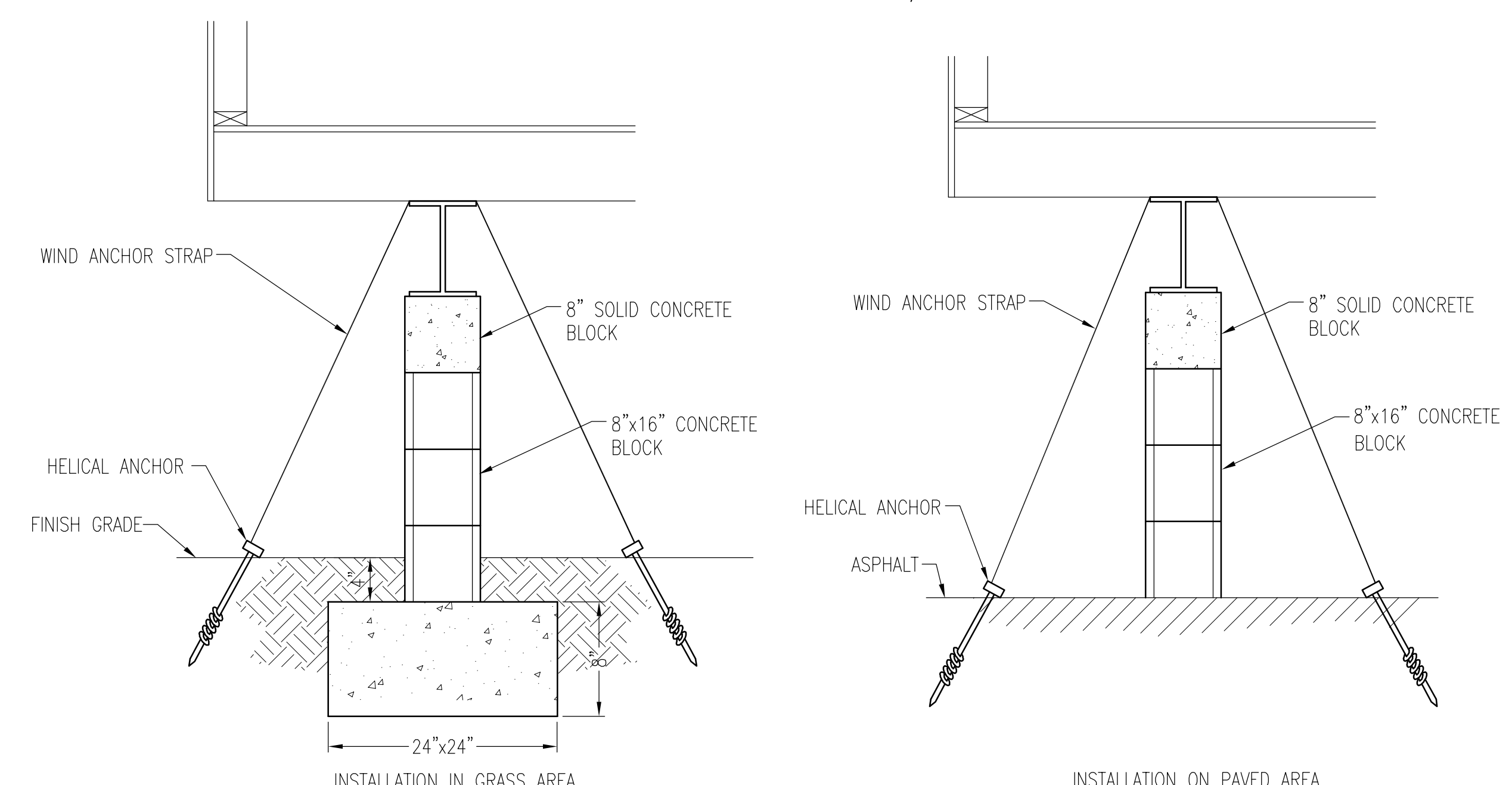
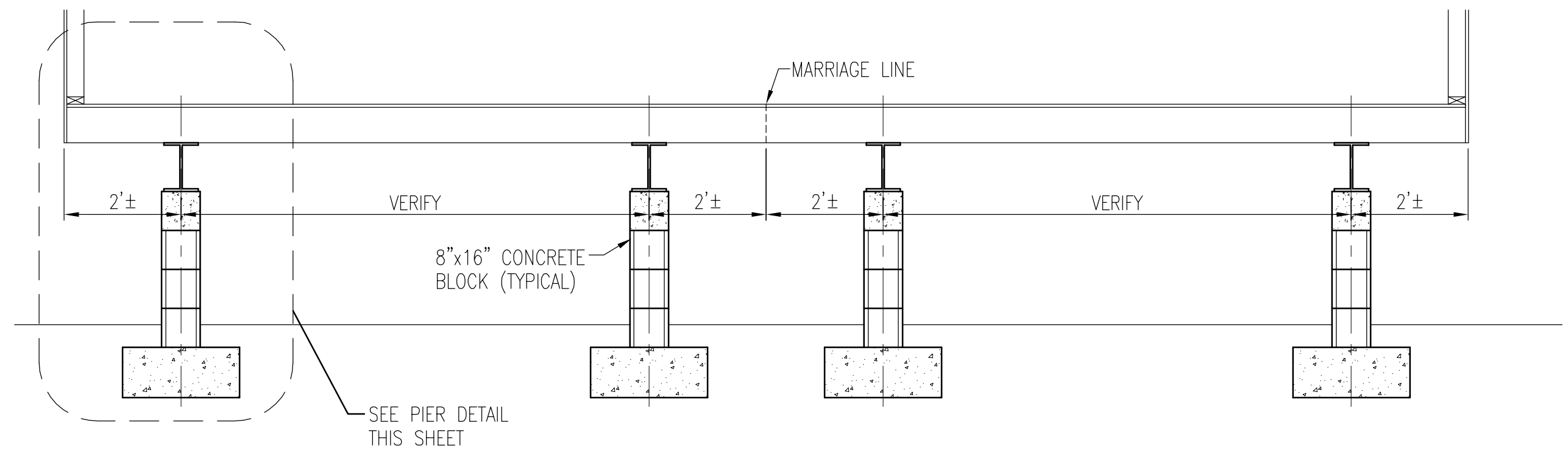
AVOLIS ENGINEERING, P.A.
P.O. BOX 15664
NEW BERN, NC 28561
PH (252) 633-0088, FAX (252) 633-6507

 MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA 317-C POLLOCK STREET NEW BERN, NC		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		C-501	
		REPAIR THE LARGE UNIT HQ's BLDG 421 DETAILS		NAVFAC DRAWING NO. 60008595 CONST. CONTR. NO. N40085-11-B-0127 SCALE: SPEC. 05-11-0127 SHEET 4 OF 42	

REVISIONS		
SYM	DATE	APPROVED



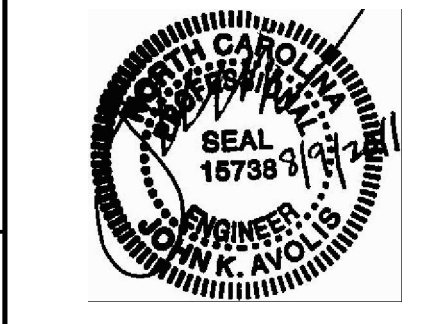
B
C-101C-502
DOUBLE CHECK VALVE ASSEMBLY & ENCLOSURE AT TEMPORARY OFFICES
NOT TO SCALE



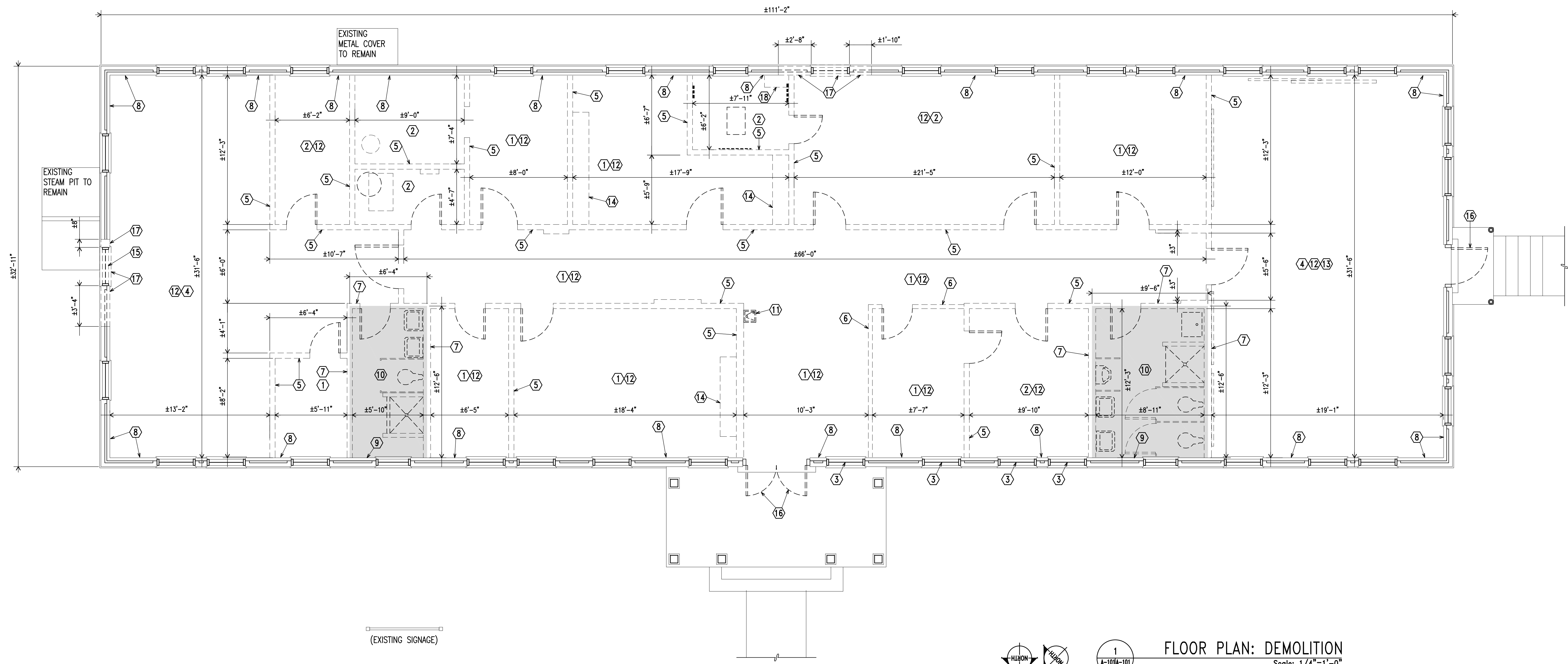
- NOTES:**
1. ALL TEMPORARY OFFICE TRAILERS INSTALLED ON THIS PROJECT SHALL BE APPROVED FOR INSTALLATION WITHIN A 130MPH (3-SECOND GUST) WIND ZONE.
 2. THE FOUNDATION REQUIREMENTS DEPICTED HEREON ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE A FOUNDATION PIER PLAN, FOOTING DETAILS, AND STRAPPING PLANS AND DETAILS FOR THE MOBILE OFFICE STRUCTURES SELECTED. THIS INFORMATION SHALL BE PREPARED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL PRIOR TO ERECTION.
 3. THE CONTRACTOR SHALL PROVIDE A 5'x5' ELEVATED WOOD LANDING AND STEPS FOR ACCESS TO EACH DOOR OF EACH OFFICE UNIT. ADDITIONALLY, ONE HANDICAP ACCESSIBLE RAMP AND ACCESS WAY SHALL BE PROVIDED TO ONE OFFICE TRAILER AS DESIGNATED BY THE CONTRACTING OFFICER. THE STAIRS AND RAMP SHALL BE DESIGNED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL PRIOR TO CONSTRUCTION.
 4. UPON REMOVAL OF TEMPORARY OFFICE TRAILERS, ALL SURFACES DISTURBED SHALL BE RETURNED TO ITS ORIGINAL CONDITIONS.
 5. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITY CONNECTION POINTS ON THE MOBILE OFFICES SELECTED AND ADJUST THE SERVICE LINES APPROPRIATELY. THE CONTRACTOR SHALL MAKE ALL UTILITY CONNECTIONS TO THE MOBILE OFFICES AND RENDER THEM FULLY FUNCTIONAL.

A
C-101C-502
TEMPORARY OFFICE - FOUNDATION PLAN, SECTION, AND DETAILS

AE PROJECT # 11043
AVOLIS ENGINEERING, P.A.
P.O. BOX 15664
NEW BERN, NC 28561
PH (252) 633-0088, FAX (252) 633-6507



MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA <small>317-C POLLOCK STREET NEW BERN, NC</small>		C-502	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>	
DES. J.K. AVOLIS, P.E. DR. MSP/WFF CHK. J.C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR.		REPAIR THE LARGE UNIT HQ's BLDG 421 DETAILS	
APPROVED: PWO OR OICC DATE: _____ SATISFACTORY TO: DATE: _____		SIZE: F CODE: 80091	NAVFAC DRAWING NO. 60008596 CONST. CONTR. NO. N40085-11-B-0127 SCALE: SPEC. 05-11-0127



FLOOR PLAN: DEMOLITION
Scale: 1/4"=1'-0"

LEGEND

REMOVE EXISTING CERAMIC MOSAIC FLOOR TILE AND MUD BEDS IN DEPRESSED AREAS OF SLAB. CLEAN AND PREPARE EXISTING DEPRESSED AREAS OF CONCRETE FLOOR SLAB FOR NEW CONCRETE INFILL.

GENERAL NOTES

- ASBESTOS MATERIAL AND LEAD-BASED PAINT TESTING HAS BEEN PERFORMED ON EXISTING AREAS OF WORK. SEE THE SPECIFICATION FOR ASBESTOS MATERIAL AND LEAD-BASED PAINT REPORT RESULTS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE STANDARD OF CARE REGARDING THE HANDLING OF ANY MATERIALS FOUND TO BE HAZARDOUS AND THE PROTECTION OF PERSONS FROM EXPOSURE.
- ALL MATERIALS ARE TO BE CONSIDERED NEW UNLESS SPECIFICALLY REFERRED TO AS "EXISTING."

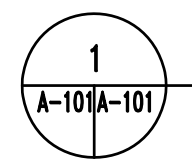
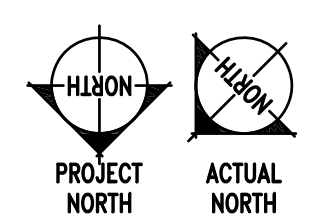
GENERAL DEMOLITION NOTES

- ALL INTERIOR DOORS AND STEEL DOOR FRAMES ARE TO BE REMOVED.
- AT EACH WINDOW LOCATION, REMOVE THE WOOD STOOL AND APRON, WINDOW BLIND WHERE PRESENT AND WINDOW SHADE. REMOVE CERAMIC TILE AT WINDOW SILLS.
- REMOVE EXISTING PLASTER, ALL FURRING, AND LOOSE FILL INSULATION FROM THE BOTTOM CHORD OF THE ROOF TRUSSES ±8'-11" ABOVE THE FINISHED FLOOR, TYPICAL ENTIRE BUILDING.

KEYED DEMOLITION NOTES

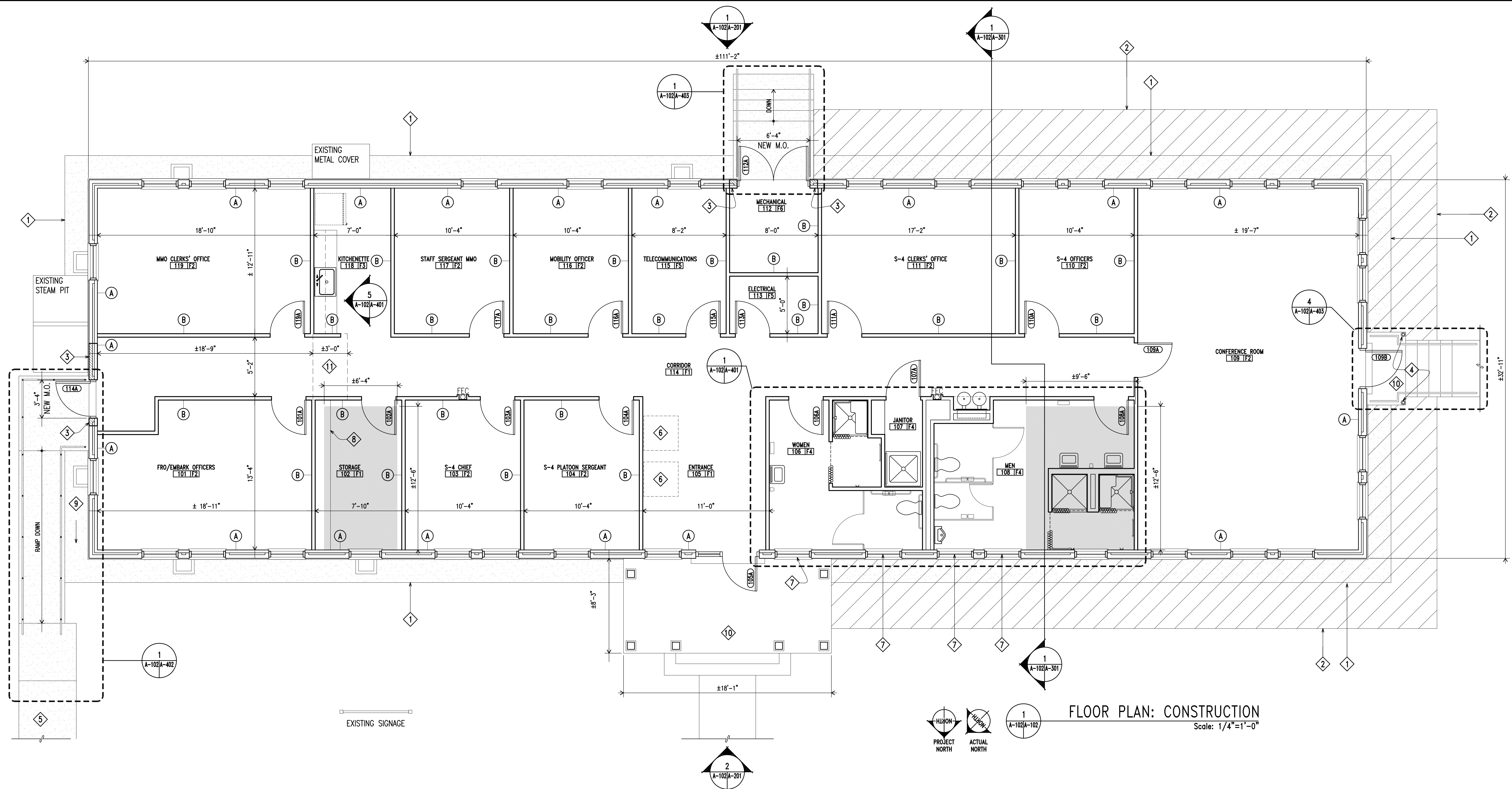
APPLY TO THIS SHEET ONLY

- REMOVE EXISTING CARPET AND EXISTING VINYL COMPOSITION TILE BENEATH CARPET. CLEAN AND PREPARE EXISTING CONCRETE FLOOR SLAB FOR NEW FLOOR FINISHES.
- REMOVE EXISTING VINYL COMPOSITION TILE. CLEAN AND PREPARE EXISTING CONCRETE FLOOR SLAB FOR NEW FLOOR FINISHES.
- EXISTING SINGLE HUNG WINDOW UNIT TO BE REGLAZED. SEE CONSTRUCTION NOTES SHEET A-102
- REMOVE EXISTING SOLID VINYL PLANKS, AND EXISTING CARPET AND VINYL COMPOSITION TILE BENEATH SOLID VINYL PLANKS. CLEAN AND PREPARE EXISTING CONCRETE FLOOR SLAB FOR NEW FINISHES.
- REMOVE EXISTING WOOD STUD WALL ±9'-0" HIGH WITH PLASTER FINISHES ON BOTH SIDES INCLUDING ±8" HIGH WOOD WALL BASE.
- REMOVE EXISTING WOOD STUD WALL ±9'-0" HIGH WITH PLYWOOD FINISHES ON BOTH SIDES INCLUDING ±8" HIGH WOOD WALL BASE.
- REMOVE EXISTING WOOD STUD WALL ±9'-0" HIGH WITH PLASTER FINISH AND ±8" HIGH WOOD WALL BASE ON ONE SIDE AND CERAMIC TILE WAINSCOT ±4'-2" HIGH AND PLASTER FINISH ±9'-0" HIGH ON THE OTHER SIDE.
- REMOVE EXISTING PLASTER WALL FINISHES AND ALL FURRING ±9'-0" HIGH, INCLUDING WOOD WALL BASE.
- REMOVE EXISTING CERAMIC TILE WAINSCOT ±4'-2" HIGH AND PLASTER FINISH ±9'-0" HIGH.
- REMOVE EXISTING PLUMBING FIXTURES, PREFABRICATED SHOWER STALL, TOILET PARTITIONS, URINAL SCREENS, MIRRORS, SOAP DISPENSERS, AND PAPER TOWEL DISPENSERS. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- REMOVE EXISTING WATER COOLER. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- REMOVE EXISTING SUSPENDED ACOUSTIC CEILING SYSTEM INCLUDING BUT NOT LIMITED TO CEILING TILES, SUSPENSION GRID AND HANGERS, ±7'-11" ABOVE THE FINISHED FLOOR.
- REMOVE EXISTING WOOD WAINSCOT ±3'-0" HIGH, CHAIR RAIL, CEILING MOLDING, AND WOOD TRIM AT ALL WINDOWS AND DOOR. REMOVE WOOD FRAMED WINDOW SHADES AT WINDOWS.
- REMOVE EXISTING WOOD SHELVES.
- REMOVE EXISTING WINDOW AIR CONDITIONER AND RETURN TO THE GOVERNMENT.
- REMOVE EXISTING ALUMINUM DOOR, DOOR FRAME, AND THRESHOLD.
- REMOVE EXISTING WINDOW AND PORTION OF WALL AS NECESSARY TO PROVIDE NEW MASONRY OPENING WIDTH FOR NEW DOOR(S). SEE A-102 FOR NEW MASONRY OPENING REQUIREMENTS.
- REMOVE EXISTING FURRED OUT BULKHEAD (PLASTER AND FRAMING).



		A-101	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC DATE:		FLOOR PLAN: DEMOLITION NAVFAC DRAWING NO. 60008597	
SATISFACTORY TO: DATE:		CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 06 OF 42	

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



FLOOR PLAN: CONSTRUCTION
Scale: 1/4"=1'-0"

LEGEND

INFILL DEPRESSED AREAS IN SLAB WITH NEW CONCRETE, FLUSH WITH SURROUNDING FINISHED FLOOR ELEVATION, ±2".

GENERAL NOTES

SEE REFLECTED CEILING PLAN SHEETS FOR AREAS TO RECEIVE NEW CEILING FINISHES, MATERIALS, HEIGHTS, ETC. SEE FINISH SCHEDULE SHEET A-602 FOR ALL MATERIAL AND COLOR SELECTIONS, AS PER FINISH DESIGNATIONS FOR EACH IDENTIFIED ROOM ON THE CONSTRUCTION PLAN. WHERE DOORS ARE INDICATED AS NUMBERED IN THE CONSTRUCTION PLAN, REFER TO THE DOOR SCHEDULE SHEET A-601 FOR NEW DOOR DESCRIPTIONS.

ROOM NAME → OFFICE (101) (107A)
NEW DOOR DESIGNATION: SEE DOOR SCHEDULE
ROOM NUMBER → ROOM FINISH DESIGNATION: SEE FINISH SCHEDULE

WALL TYPE DESIGNATION: SEE SHEET G-002 (SEE ENLARGED PLANS FOR ADDITIONAL)

INDICATES NEW WALL CONSTRUCTION: SEE SHEET G-002 FOR WALL TYPE DESCRIPTIONS

FCC → FIRE EXTINGUISHER/CABINET LOCATION: SEE SHEET G-002 FOR INSTALLATION DETAILS

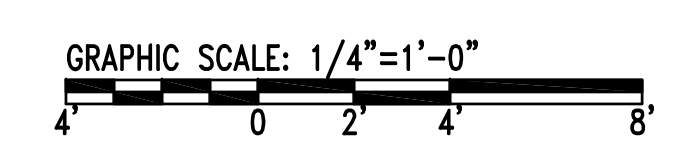
DIMENSIONS SHOWN THIS → ARE TO FACE OF STUD, FRAMING MEMBER, OR MASONRY, ETC.
DIMENSIONS SHOWN THIS → ARE TO CENTER LINE OF OPENING, BEAM, OR MEMBER, ETC.

GENERAL CONSTRUCTION NOTES

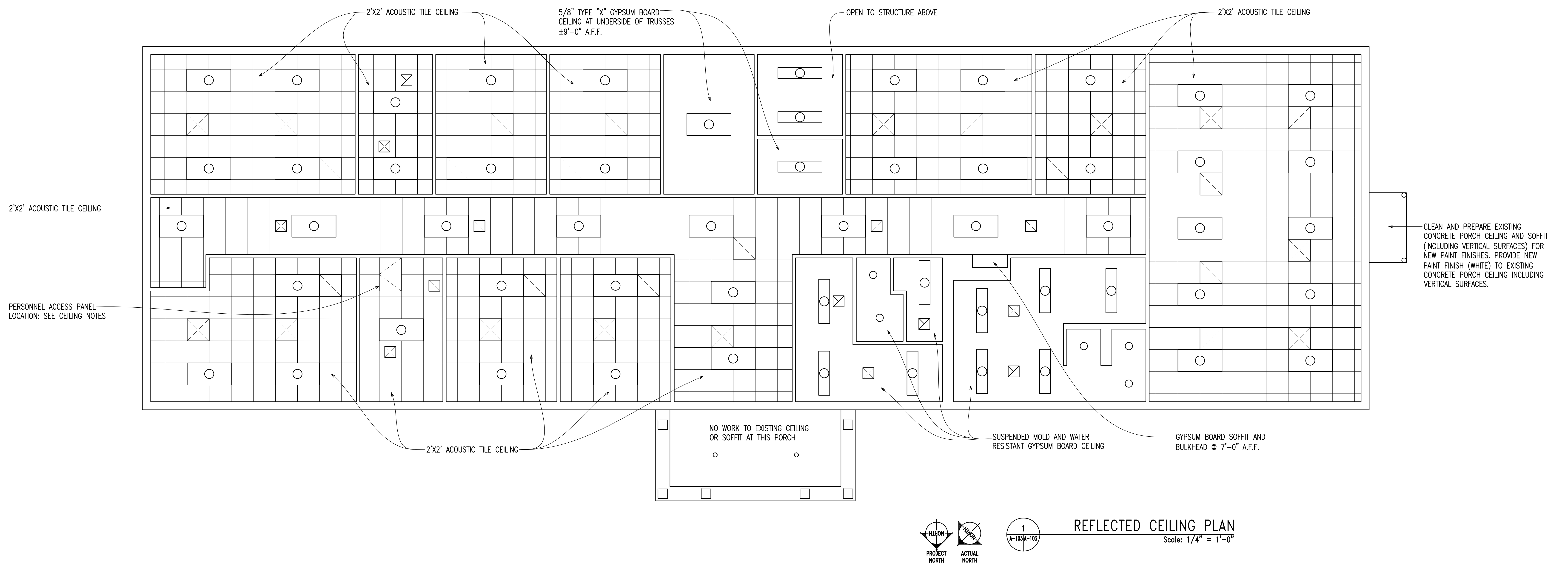
- ALL WINDOWS ARE TO BE PROVIDED WITH NEW STOOL: 1X NATURAL FINISH RED OAK (STAINED, WITH RADIUS EDGE), AND NEW APRONS: 1X3 NATURAL FINISH RED OAK (STAINED), EXCEPT IN ROOMS WHICH HAVE CERAMIC WALL TILE, WHICH ARE TO RECEIVE CERAMIC TILE.
- CLEAN AND PREPARE ALL EXISTING PAINTED ALUMINUM WINDOWS (INTERIOR ONLY). PAINT ALL EXISTING PAINTED ALUMINUM WINDOWS (WHITE), (INTERIOR ONLY).
- REMOVE RUST, DETERIORATED PAINT, CLEAN AND PREPARE ALL EXISTING LINTELS ABOVE WINDOWS FOR NEW PAINT FINISH. PROVIDE NEW PAINT FINISH (WHITE), REFER TO 5/A-901 FOR TYPICAL CONDITION.
- ALL WINDOWS ARE TO RECEIVE NEW WINDOW BLINDS.
- ASBESTOS MATERIAL AND LEAD-BASED PAINT TESTING HAS BEEN PERFORMED ON EXISTING AREAS OF WORK. SEE THE SPECIFICATION FOR ASBESTOS MATERIAL AND LEAD-BASED PAINT REPORT RESULTS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE STANDARD OF CARE REGARDING THE HANDLING OF ANY MATERIALS FOUND TO BE HAZARDOUS AND THE PROTECTION OF PERSONS FROM EXPOSURE.
- ALL NEW STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

KEYED CONSTRUCTION NOTES

- NOTES APPLY TO THIS SHEET ONLY
- NEW 2'-0" WIDE CONCRETE MAINTENANCE STRIP: SEE SECTION 1/A-301. WHERE STRIP ABUTS EXISTING CONCRETE VENT WELLS AT BELOW GRADE FOUNDATION VENTS, ENSURE MAINTENANCE STRIP IS FLUSH WITH OR BELOW TOP OF EXISTING CONCRETE VENT WELL.
 - PROVIDE EARTH FILL ±12" DEEP X ±4' WIDE. SLOPE FILL AWAY FROM BUILDING AND FEATHER TO MEET EXISTING GRADE AS APPROPRIATE FOR DRAINAGE. PRIOR TO INSTALLATION OF CONCRETE MAINTENANCE STRIP. PROVIDE SEEDING AS SPECIFIED. ADJUST DEPTH OF FILL AT BELOW GRADE FOUNDATION VENTS.
 - PROVIDE NEW MASONRY OPENING FOR NEW DOOR(S) WITH WALL INFILL CONSTRUCTION AT NEW JAMBS TO MATCH ADJACENT WALL TYPE IN CONSTRUCTION, OVERALL THICKNESS AND PLANE. NEW BRICK MASONRY SHALL MATCH EXISTING BRICK MASONRY.
 - REMOVE EXISTING RUST AND LAYERS OF PAINT DOWN TO BARE METAL. CLEAN, PRIME AND PAINT (WHITE) EXISTING 3"Ø STEEL COLUMNS AT EXTERIOR PORCHES. REFER TO 4/A-901 FOR TYPICAL CONDITION.
 - PROVIDE 4" THICK CONCRETE SIDEWALK AT GRADE, FLUSH WITH CONNECTING EXISTING SIDEWALK, REFER TO CIVIL DRAWINGS FOR CONNECTION.
 - VENDING MACHINE BY GOVERNMENT.
 - RE-GLAZE EXISTING WINDOWS WITH PATTERNED GLAZING. WINDOWS ARE SINGLE HUNG AND EACH SASH SHALL BE REMOVED, REGLAZED AND REINSTALLED IN PLACE. EXISTING SASHES (DAYLIGHT OPENING) ARE APPROXIMATELY 2'-8" WIDE X 2'-0" HIGH.
 - PROVIDE (5) MELAMINE SHELVES 3/4" THICK X 16" DEEP X ±13'-0" WIDE. PROVIDE WALL STANDARDS AND BRACKETS.
 - IN AREAS BETWEEN CONCRETE RAMPS AND THE EXISTING BUILDING, SLOPE CONCRETE TO DRAIN AWAY FROM BUILDING.
 - REMOVE DETERIORATED PAINT, CLEAN AND PREPARE EXISTING CONCRETE EXTERIOR PORCHES, INCLUDING STEPS FOR NEW PAINT FINISHES. PROVIDE NEW PAINT FINISH (WHITE) TO ALL EXISTING HORIZONTAL AND VERTICAL CONCRETE SURFACES INCLUDING STEPS, TYPICAL FOR EXISTING CONCRETE PORCHES. PAINT FACE OF EACH STAIR RISER "SAFETY YELLOW." SEE REFLECTED CEILING PLAN FOR WORK AT EXISTING PORCH CEILING.
 - PROVIDE A PLATFORM AS INDICATED FOR THE NEW MECHANICAL EQUIPMENT: PROVIDE 3-5/8" 16 GAUGE COLD-FORMED METAL STUDS AT 16" O.C. WITH 16 GAUGE TOP AND BOTTOM TRACKS - LOCATED UNDER EACH METAL JOIST OF THE MECHANICAL PLATFORM. PROVIDE 8" 16 GAUGE COLD-FORMED METAL JOISTS AT 16" O.C. AND 3/4" PLYWOOD. THE PLATFORM SHALL EXTEND 6" BEYOND THE PERIMETER OF THE ERV (REFER TO MECHANICAL DRAWINGS) IN ALL DIRECTIONS.



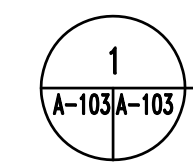
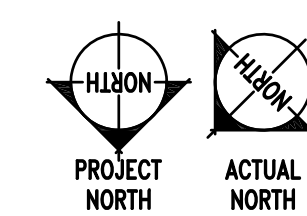
		A-102	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC DATE:		FLOOR PLAN: CONSTRUCTION NAVFAC DRAWING NO.	
SATISFACTORY TO: DATE:		60008598	
SCALE: AS NOTED SPEC. 05-11-0127		CONST. CONTR. NO. N40085-11-B-0127 SHEET 07 OF 42	



CEILING NOTES

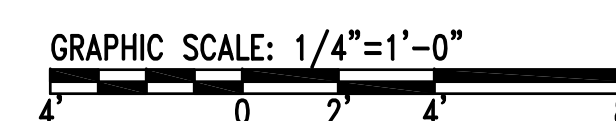
NOTES APPLY TO THIS SHEET ONLY

- COORDINATE CEILING LAYOUT WITH MECHANICAL AND LIGHTING PLANS.
- ALL CEILING HEIGHTS SHALL BE APPROXIMATELY $\pm 7'-6"$ ABOVE FINISHED FLOOR; PROVIDE $\pm 1-1/2"$ GYPSUM BOARD BULKHEAD AT EXISTING WINDOW HEADS WHICH ARE $\pm 7'-7 1/2"$. COORDINATE FINAL CEILING HEIGHT WITH REQUIRED CLEARANCES FOR ALL MECHANICAL SYSTEMS.
- CONTRACTOR SHALL COORDINATE PLACEMENT OF DIFFUSERS.
- PERSONNEL ACCESS PANEL LOCATION IS APPROXIMATE. COORDINATE ACCESS PANEL LOCATION IN THE FIELD WITH EXISTING STEEL TRUSSES, NEW MECHANICAL EQUIPMENT, NEW LIGHTING, NEW HVAC DIFFUSERS, AND CEILING GRID.
- PROVIDE 3-5/8" 20 GAUGE METAL FRAMING BRACED BACK TO THE BOTTOM CHORDS OF STEEL ROOF TRUSSES TO SUPPORT PERSONNEL ACCESS PANEL FRAME.

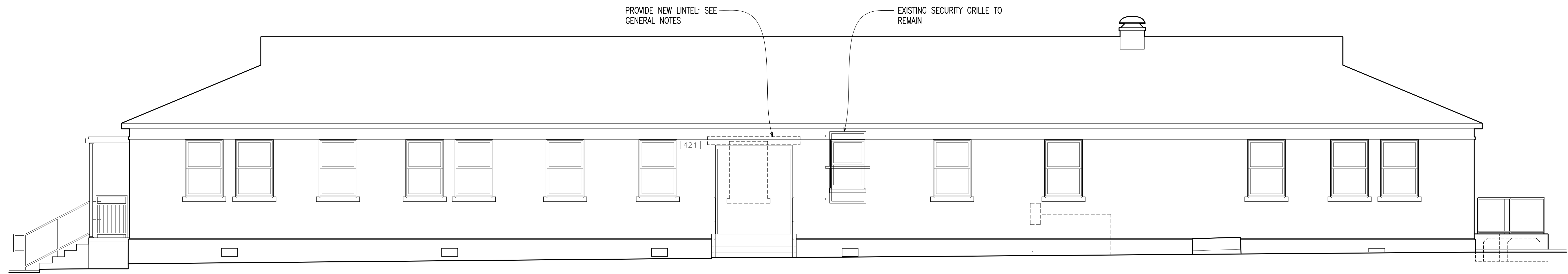


REFLECTED CEILING PLAN

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



		A-103	
		MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA <small>317-C POLLOCK STREET NEW BERN, NC</small>	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY:		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>	
DESIGN DIR. APPROVED: PWO OR OICC DATE:		REPAIR LARGE UNIT HQs BUILDING 421	
SATISFACTORY TO: DATE:		REFLECTED CEILING PLAN NAVFAC DRAWING NO. 60008599 CONST. CONTR. NO. N40085-11-B-0127	
MBFA NO.: 1110		F 80091 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 08 OF 42	



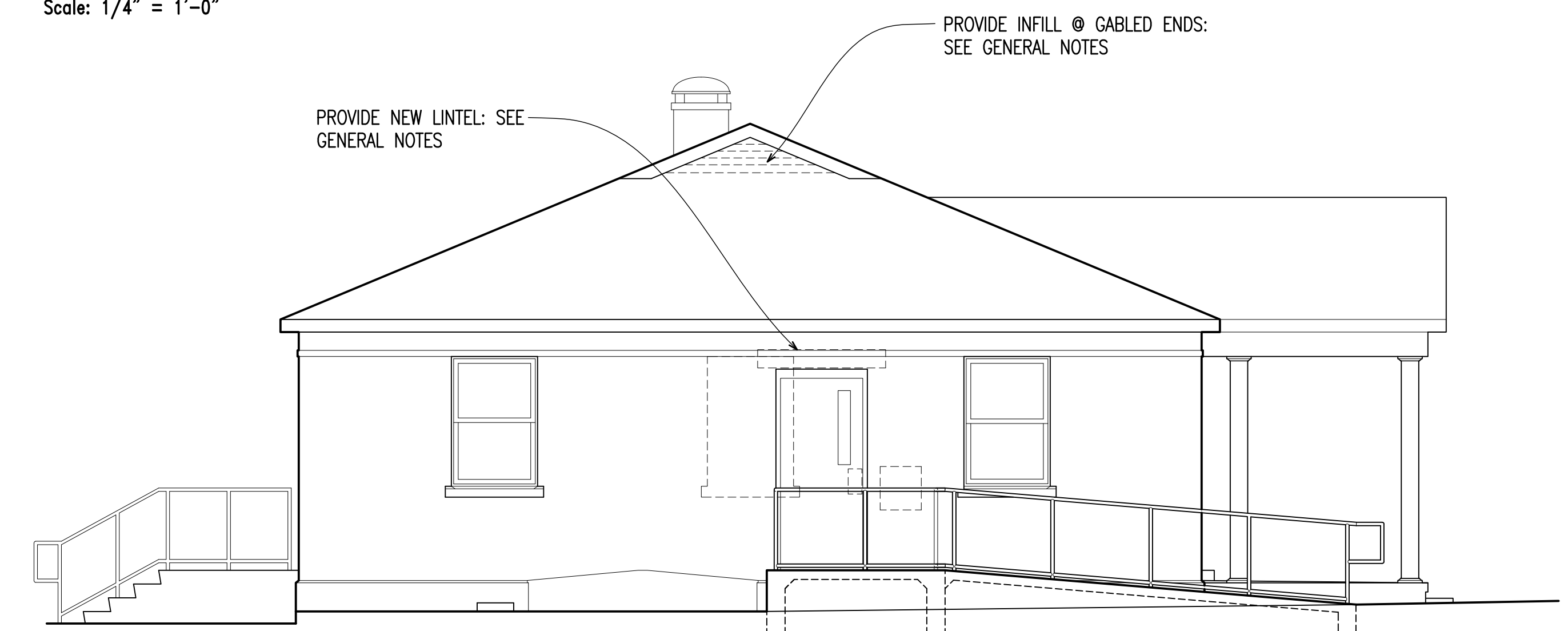
1
A-102(A)-201 (SOUTH) EXTERIOR ELEVATION
Scale: 1/4" = 1'-0"



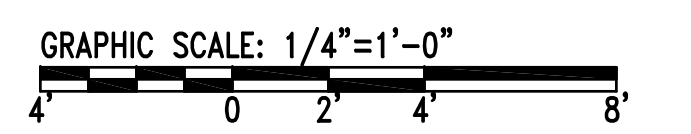
2
A-102(A)-201 (NORTH) EXTERIOR ELEVATION
Scale: 1/4" = 1'-0"



3
A-102(A)-201 (WEST) EXTERIOR ELEVATION
Scale: 1/4" = 1'-0"



4
A-102(A)-201 (EAST) EXTERIOR ELEVATION
Scale: 1/4" = 1'-0"

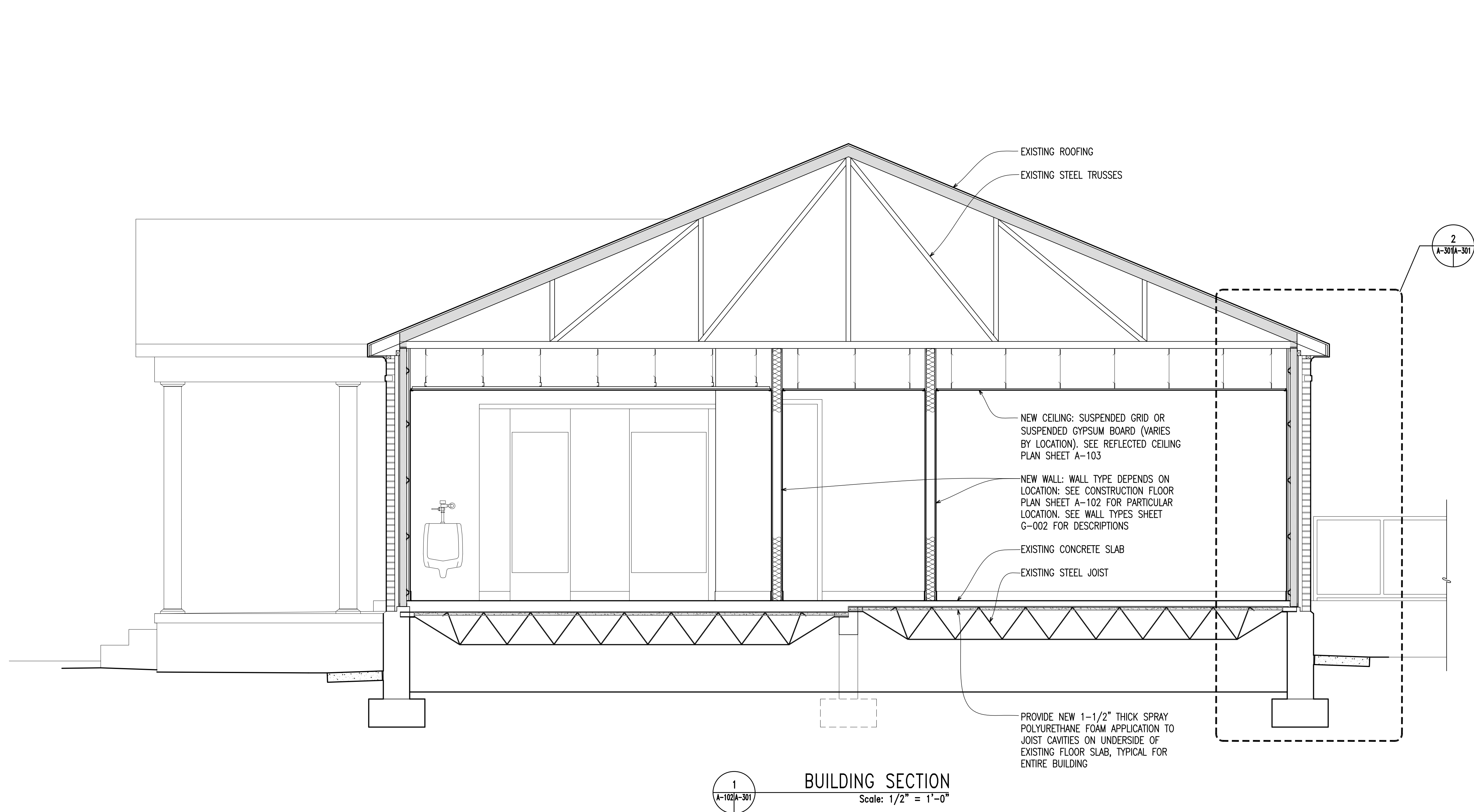


GENERAL CONSTRUCTION NOTES

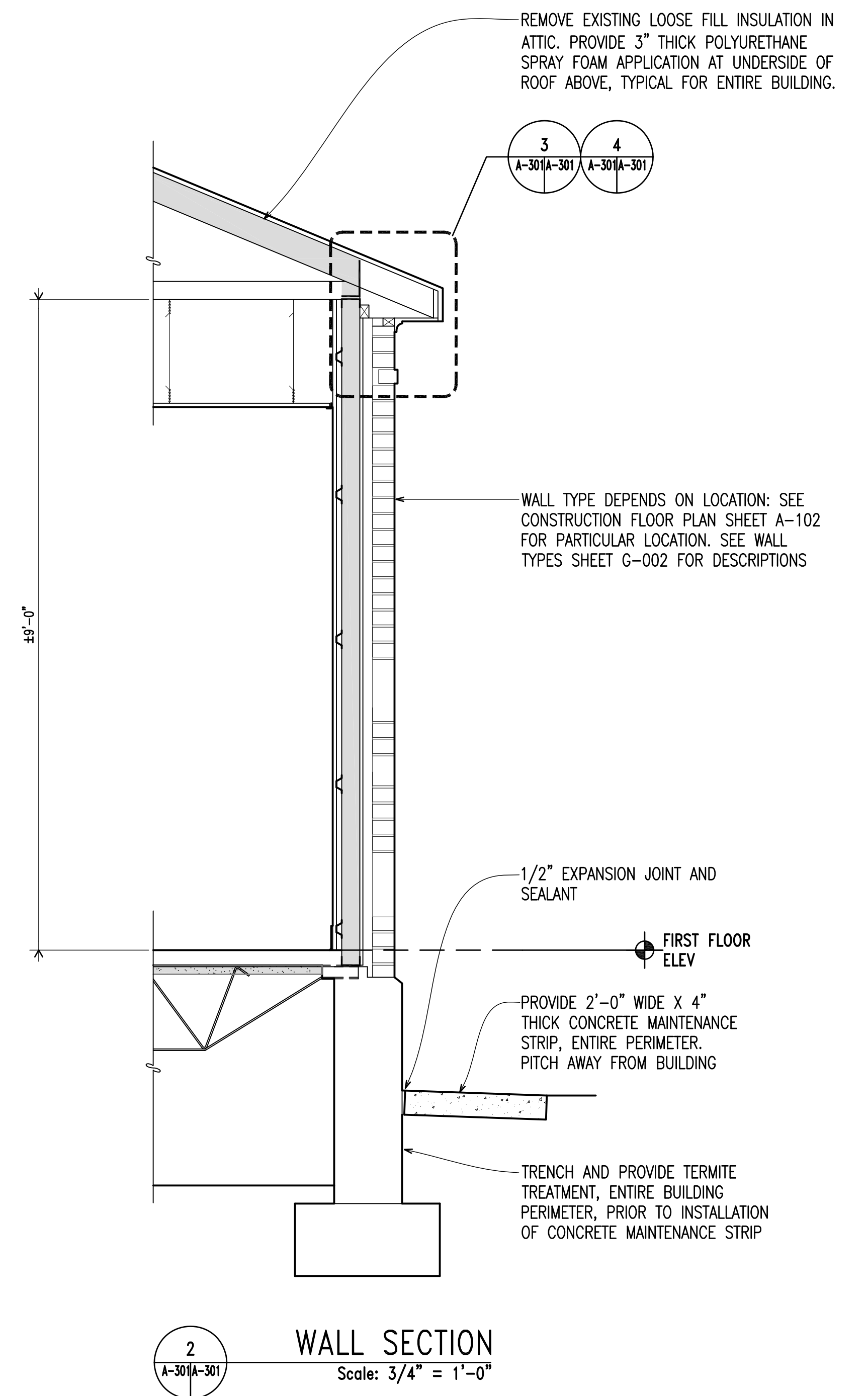
NOTES APPLY TO THIS SHEET ONLY

- REMOVE DETERIORATED PAINT, CLEAN AND PREPARE EXISTING CONCRETE FOUNDATION, CONCRETE FOUNDATION VENT WELLS, CONCRETE WINDOW SILLS, AND CONCRETE PORCHES FOR NEW PAINT FINISH. PROVIDE NEW PAINT FINISH (WHITE), TYPICAL FOR CONCRETE FOUNDATION AND CONCRETE FOUNDATION VENT WELLS AT ENTIRE BUILDING PERIMETER. PROVIDE NEW PAINT FINISH (WHITE), TYPICAL FOR EXISTING CONCRETE PORCHES AND ALL WINDOW SILLS. REFER TO 6, 7/A-901 FOR TYPICAL CONDITIONS AT PORCHES.
- SEE PLUMBING, MECHANICAL AND ELECTRICAL PLANS FOR NEW PENETRATIONS THROUGH EXISTING WALLS AND ROOF. PROVIDE FLASHINGS AND SEALANT TO PROVIDE A WATERPROOF INSTALLATION. PATCH AND REPAIR ANY EXISTING HOLES OR PENETRATIONS IN WALLS AND ROOF RESULTING FROM THE REMOVAL OF ITEMS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: WINDOW AIR CONDITIONER UNITS, STAIRS AND STAIR COMPONENTS, ELECTRICAL CONDUIT AND REFRIGERANT LINES.
- REMOVE EXISTING WOOD LOUVERS WITHIN EXISTING GABLED ROOF VENT LOCATIONS AND REPLACE WITH NEW INFILL CONSTRUCTION TO SEAL ATTIC. PROVIDE NEW 3-5/8" COLD FORMED METAL FRAMING AND 5/8" GLASS MAT GYPSUM SHEATHING BOARD, 15# FELT AND VINYL SIDING WITHIN SPACE WHERE LOUVERS HAVE BEEN REMOVED. TYPICAL AT ALL GABLE VENT LOCATIONS.
- REMOVE EXISTING PERFORATED VINYL SOFFIT AND REPLACE WITH NON-PERFORATED VINYL SOFFIT (WHITE), ENTIRE EAVE, ENTIRE PERIMETER, REFER TO DETAIL 3/A-301.
- REMOVE EXISTING STEEL LINTELS WHERE EXISTING WINDOWS HAVE BEEN REMOVED TO ALLOW FOR INSTALLATION OF NEW DOORS. PROVIDE NEW STEEL ANGLE LINTELS AT NEW MASONRY OPENINGS. SEE DOOR DETAILS, SHEET A-601, FOR ADDITIONAL INFORMATION. PROVIDE TEMPORARY SUPPORT DURING DEMOLITION AND CONSTRUCTION.
- REMOVE EXISTING PAINT ON ALL BRICK SURFACES, REFER TO 1, 2 & 3/A-901 FOR TYPICAL CONDITIONS.
- REPOINT EXISTING BRICK WHERE LINTELS HAVE CAUSED SEPARATION BETWEEN THE BRICK COURSES, ±40 LINEAR FEET, REFER TO 8, 9/A-901 FOR TYPICAL CONDITIONS.
- SCRUB AND RINSE, BY POWERWASHING, ALL EXISTING EXTERIOR BRICK MASONRY AND CONCRETE MASONRY WALKWAYS ON ENTIRE BUILDING WITH BIODEGRADABLE CLEANER TO REMOVE BIOLOGICAL DEPOSITS AND DIRT.

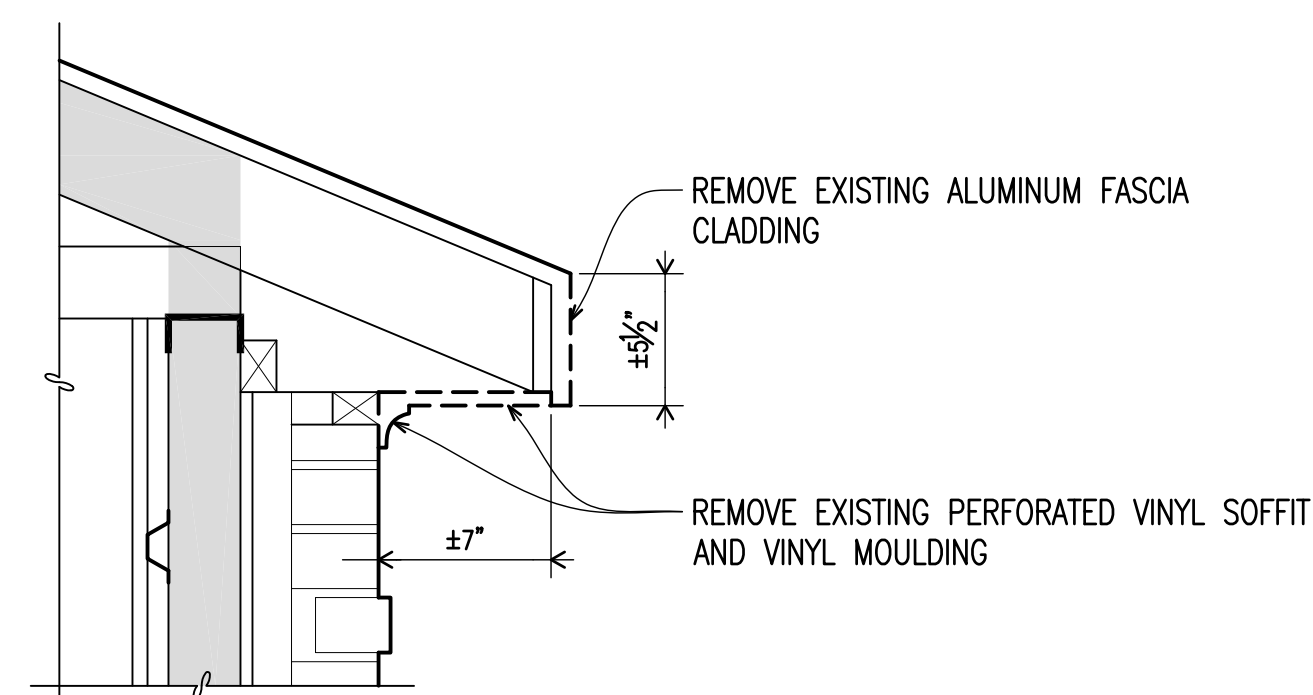
		A-201	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG/MPO DR. MPO CHK. RTB SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC SATISFACTORY TO:		EXTERIOR ELEVATIONS NAVFAC DRAWING NO. 60008600 CONST. CONTR. NO. N40085-11-B-0127	
DATE: _____ DATE: _____		SIZE: F CODE IDENT NO: 80091 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 09 OF 42	



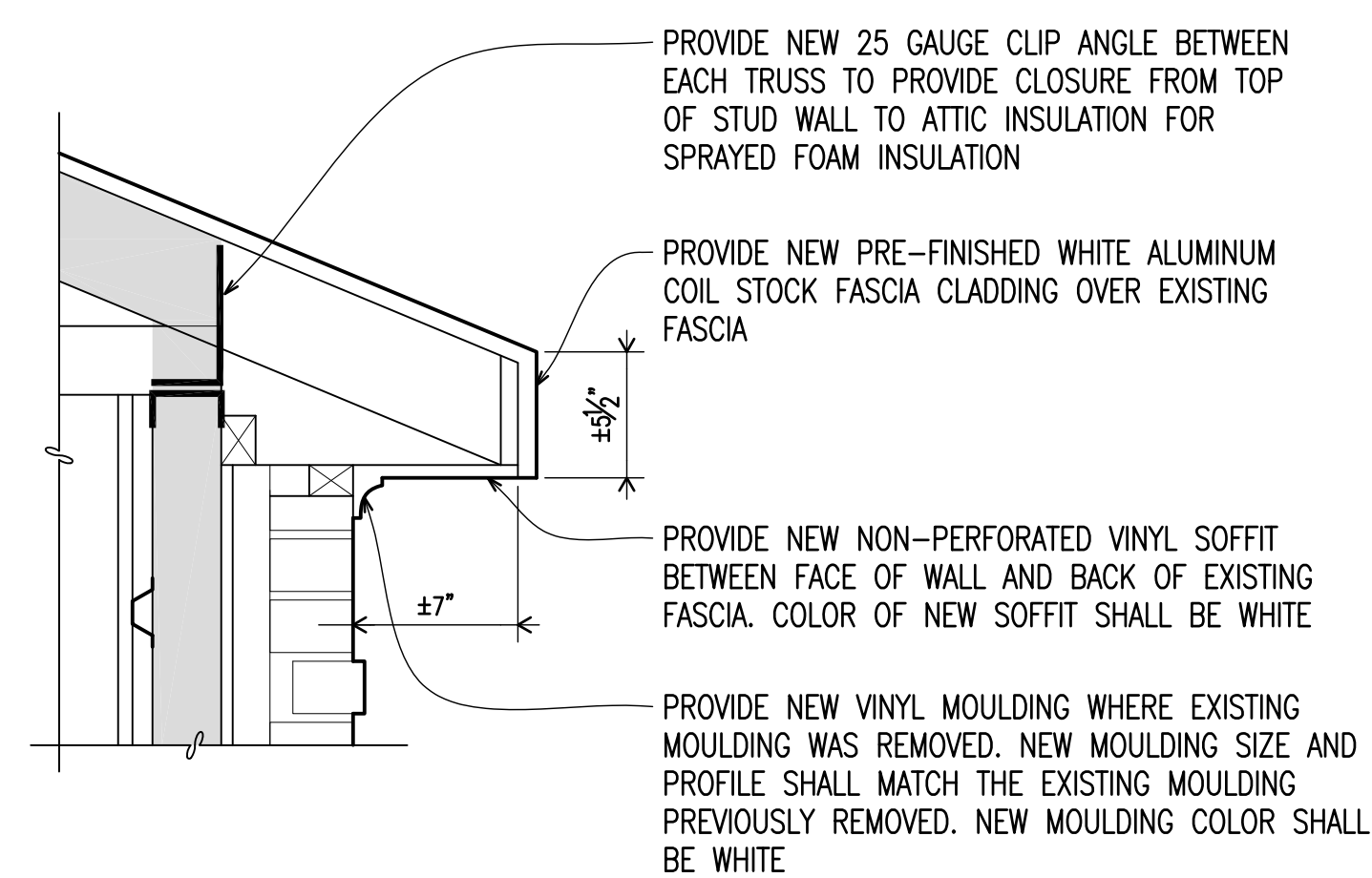
1 BUILDING SECTION
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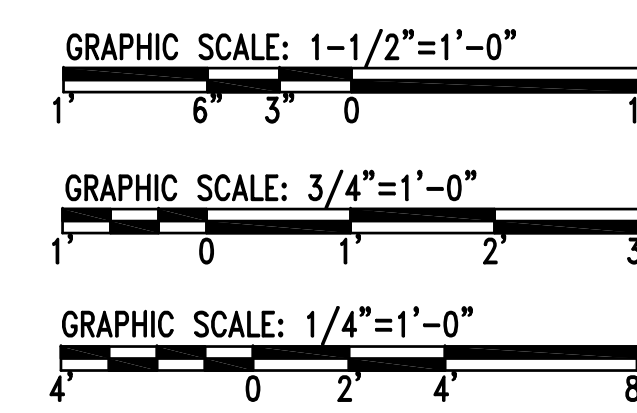
2 WALL SECTION
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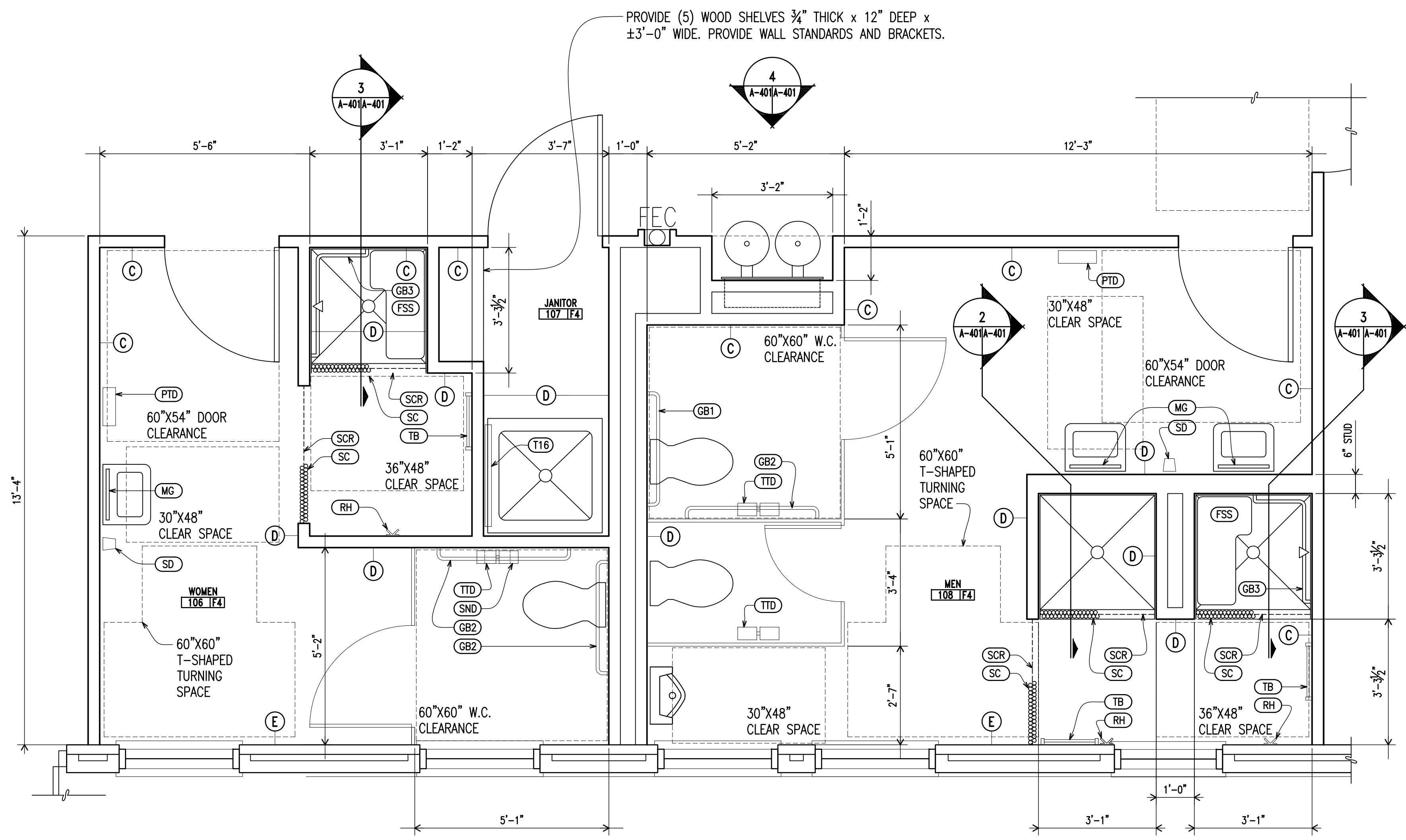
3 DEMOLITION
Scale: 1-1/2" = 1'-0"



4 CONSTRUCTION
Scale: 1-1/2" = 1'-0"

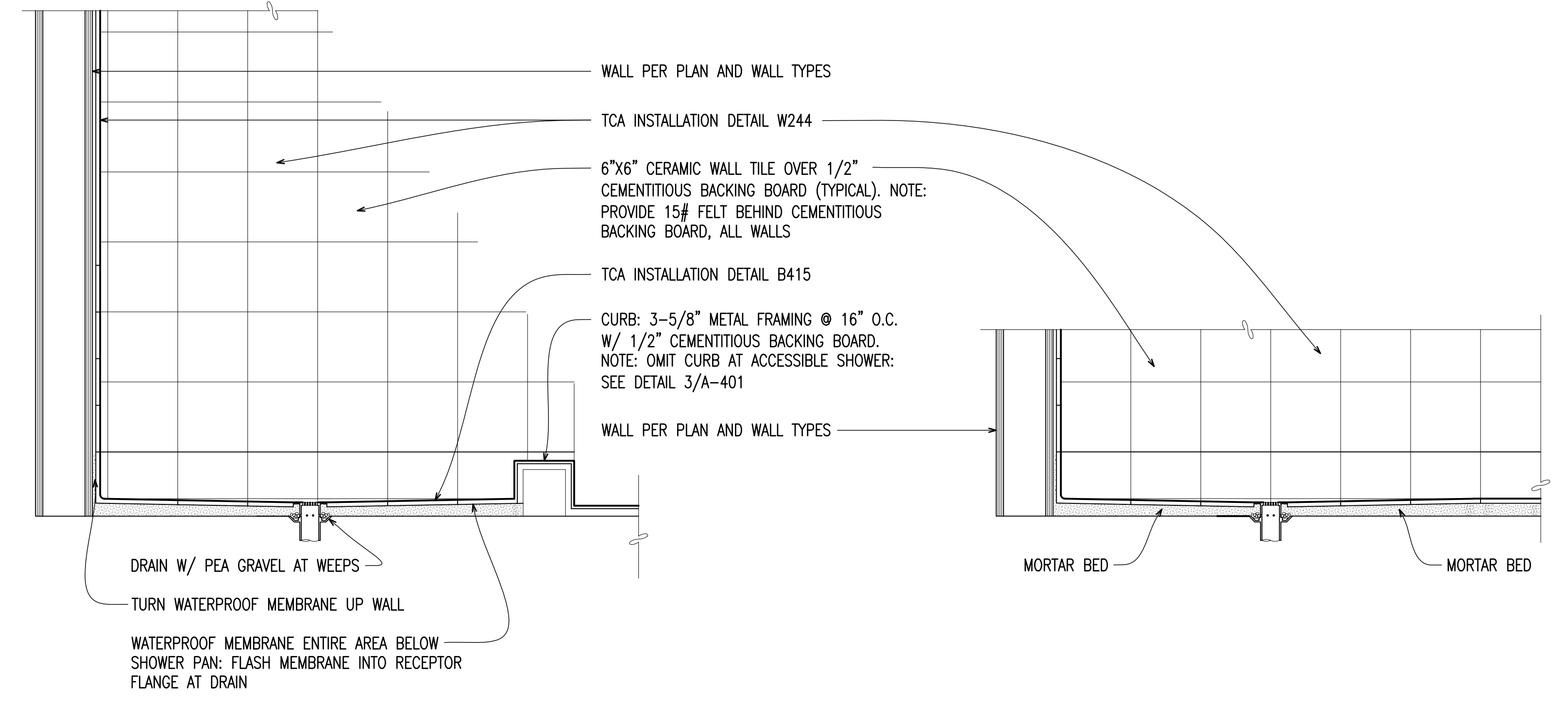


		A-301	
		MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA 317-F POLLOCK STREET NEW BERN, NC	
DES. DLG/MPO DR. MPO CHK. RTB SUBMITTED BY: DESIGN DIR.		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
APPROVED: PWO OR OICC DATE:		REPAIR LARGE UNIT HQs BUILDING 421	
SATISFACTORY TO: DATE:		BUILDING SECTIONS NAVFAC DRAWING NO. 60008601	
SCALE: AS NOTED SPEC. 05-11-0127		SHEET 10 OF 42	



1 A-102A-401 ENLARGED RESTROOM PLAN Scale: 1/2"=1'-0"

PROJECT NORTH ACTUAL NORTH



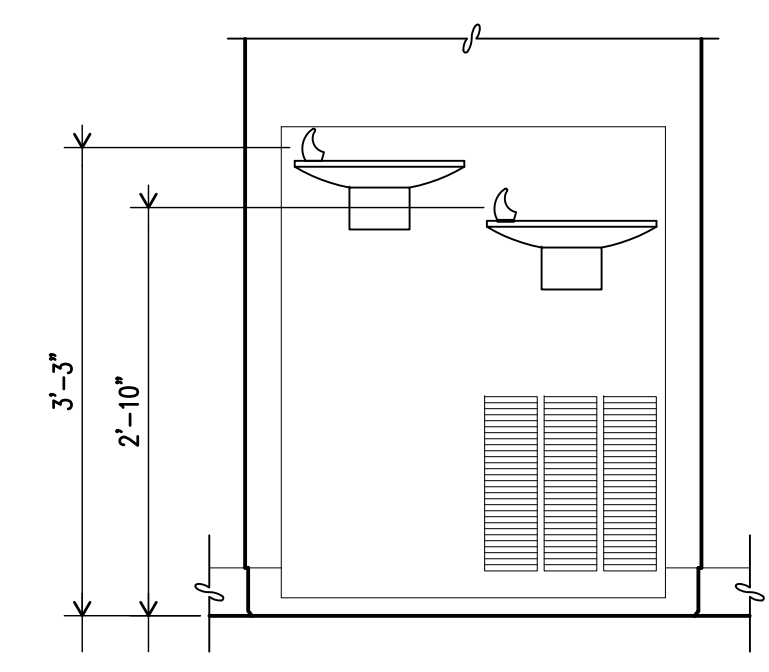
2 A-401A-401 SECTION AT SHOWER Scale: 1-1/2"=1'-0"

3 A-401A-401 ACCESSIBLE TRANSFER SHOWER Scale: 1-1/2"=1'-0"

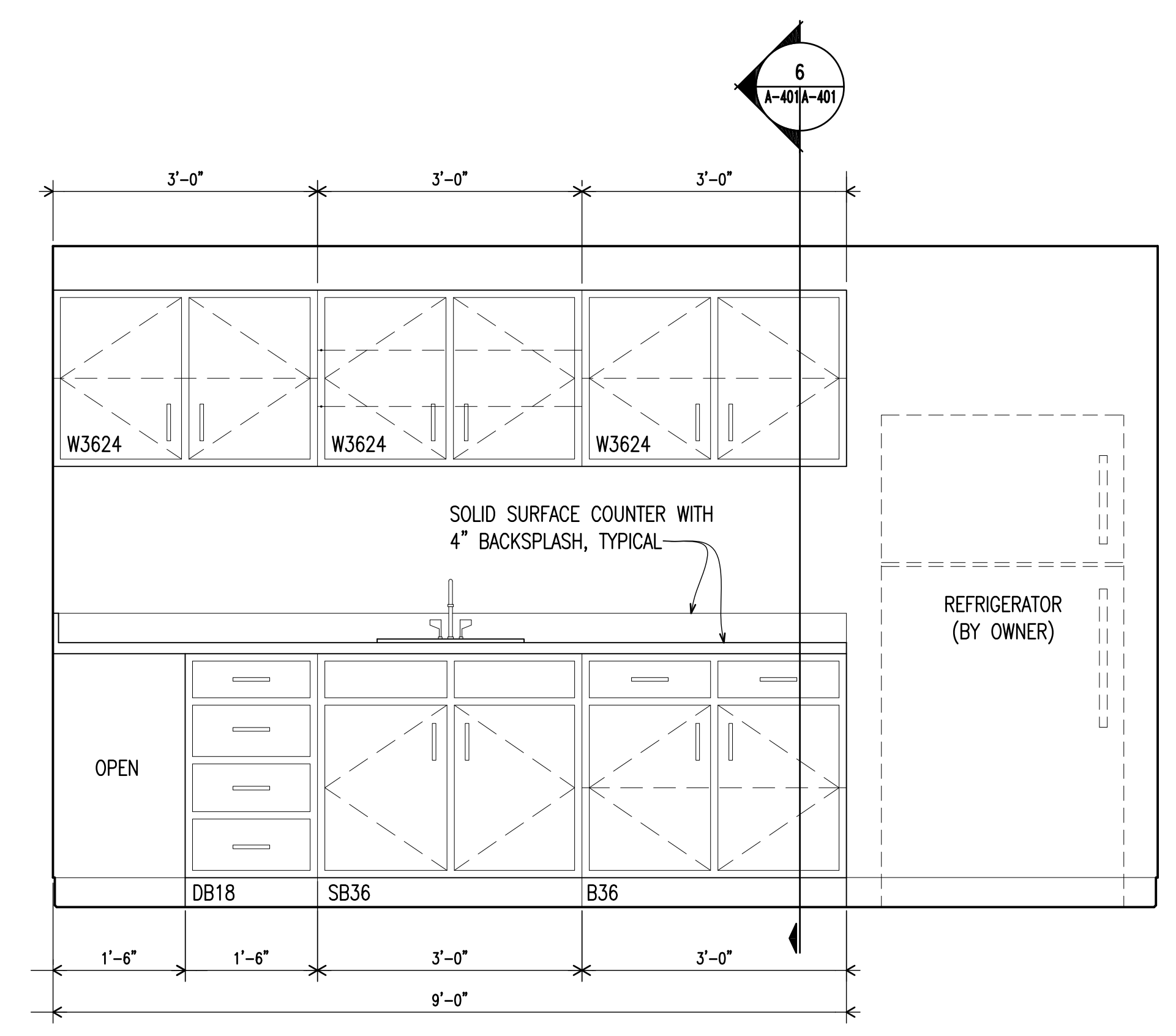
TOILET ACCESSORIES SCHEDULE

NOTE: ACCESSORIES SPECIFIED APPEAR ON DESIGNATED PLANS, AND NOT ALL ACCESSORIES SHOWN HERE MAY BE SPECIFIED. COORDINATE WITH PLAN DESIGNATIONS. SEE SPECIFICATION FOR DETAILED PRODUCT INFORMATION INCLUDING ACCEPTABLE MANUFACTURERS, FINISHES, ETC.

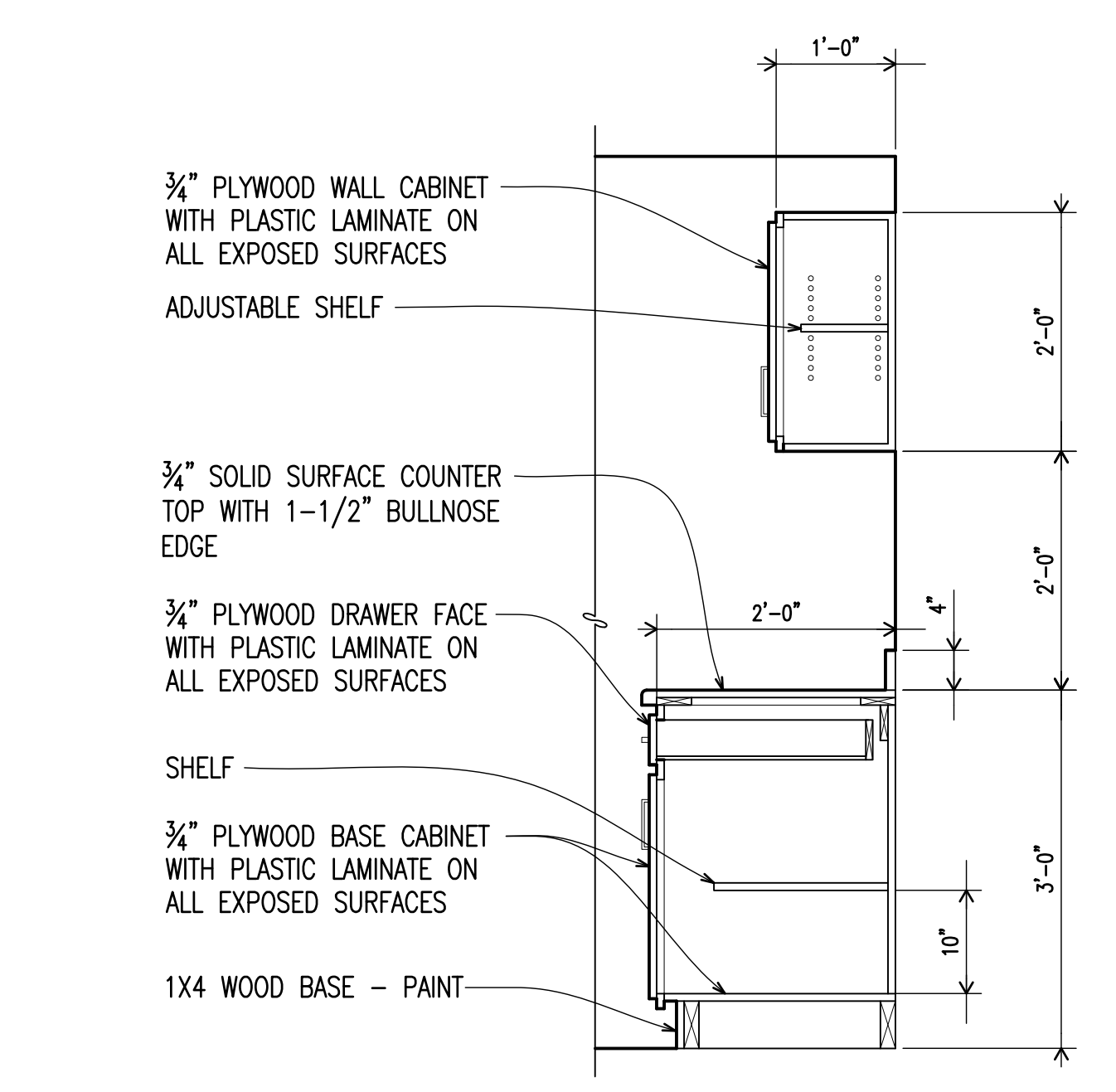
MARK	DESCRIPTION	MARK	DESCRIPTION
TTD	TOILET TISSUE DISPENSER	TB	TOWEL BAR: 18"
GB1	GRAB BAR: 36"	SMHD	SHELF / MOP HOLDER / HOOKS
GB2	GRAB BAR: 42"	FSS	WALL MOUNTED FOLDING SHOWER SEAT
SND	SANITARY NAPKIN DISPOSAL	RPTD	RECESSED PAPER TOWEL DISPENSER: "C" FOLD INDIVIDUAL TOWEL TYPE
SD	SOAP DISPENSER	CTHS	CLOTHES / TOWEL HOOK STRIP
MG	WALL MOUNTED MIRROR: 18"X36"	SCR	SHOWER ROD
TMC	WALL MOUNTED TILTING ACCESSIBLE MIRROR: 18"X36"	SC	SHOWER CURTAIN AND HOOKS: WIDTH = WIDTH OF OPENING + 6"
PTD	PAPER TOWEL DISPENSER: "C" FOLD INDIVIDUAL TOWEL TYPE	RH	DOUBLE ROBE HOOK
US	UTILITY SHELF	GB3	GRAB BAR: L-SHAPED 24" X 18"



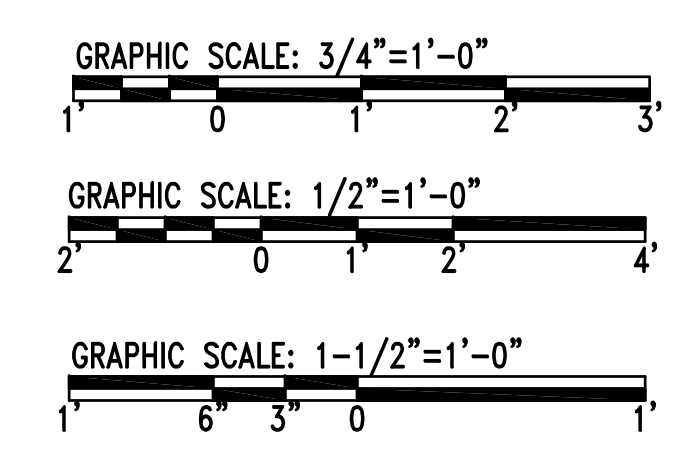
4 A-401A-401 INTERIOR ELEVATION RECESSED ELECTRIC WATER COOLERS Scale: 3/4"=1'-0"



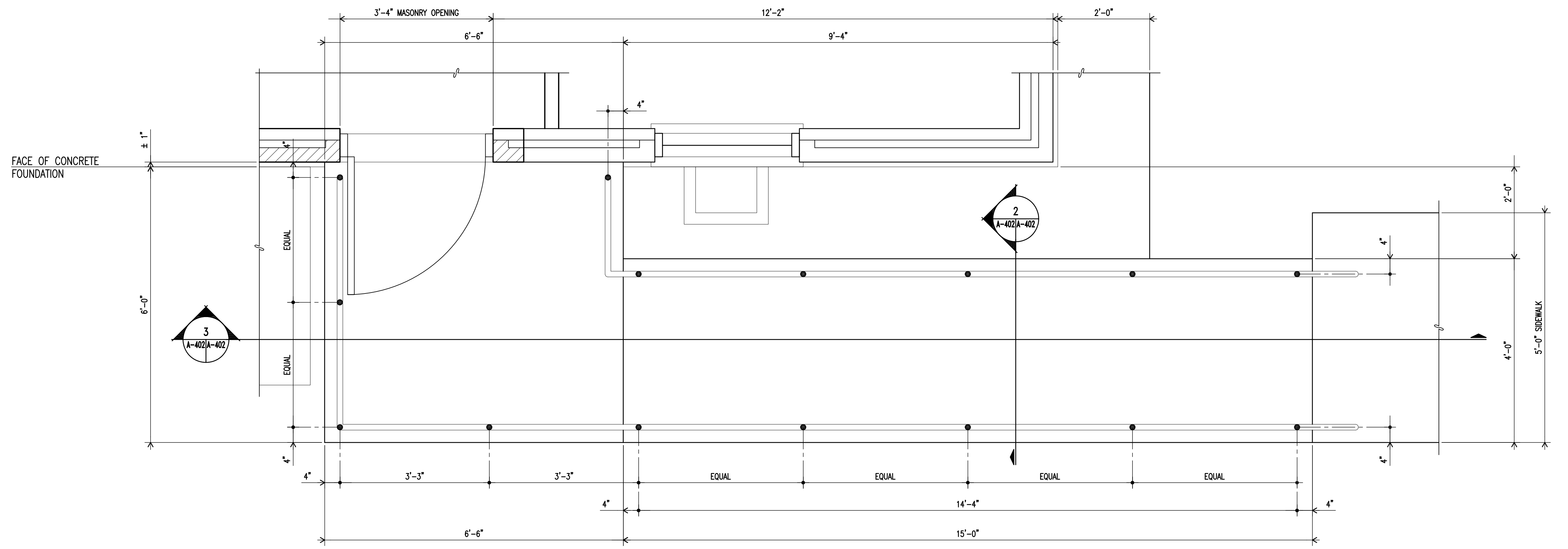
5 A-102A-401 KITCHENETTE 118 Scale: 3/4"=1'-0"



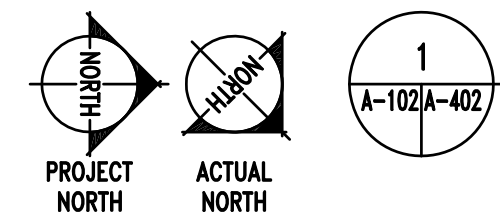
6 A-401A-401 KITCHENETTE 118 Scale: 3/4"=1'-0"



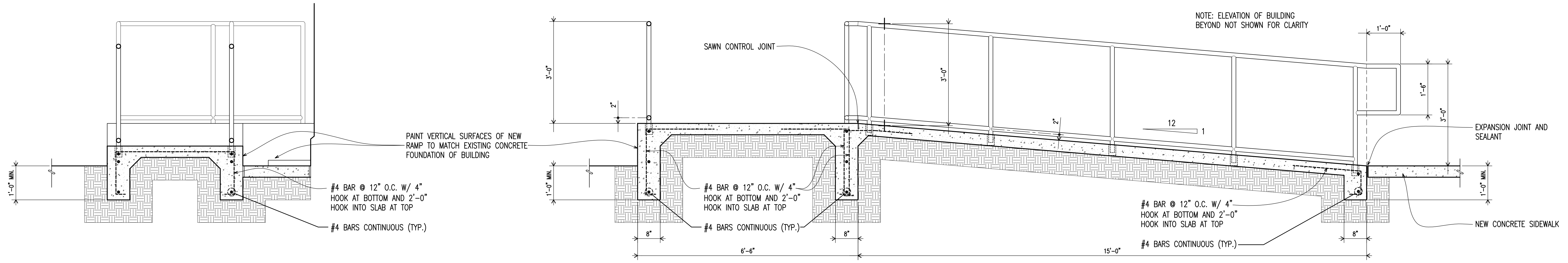
		A-401	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE:		REPAIR LARGE UNIT HQs BUILDING 421	
SATISFACTORY TO: DATE:		ENLARGED PLANS & DETAILS NAVFAC DRAWING NO. 6008602 CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 11 OF 42	



STEEL HANDRAILS: RAILINGS SHALL BE 1-1/4" DIAMETER HOT-DIPPED GALVANIZED STEEL PIPE. ALL JOINTS SHALL BE COPEDED, MITERED, WELDED AND GROUND SMOOTH. EMBED 4" INTO NEW CONCRETE RAMP AREAS AS DIMENSIONED IN PLAN AND GROUT SOLID.



ENLARGED PLAN AT RAMP
Scale: 3/4" = 1'-0"

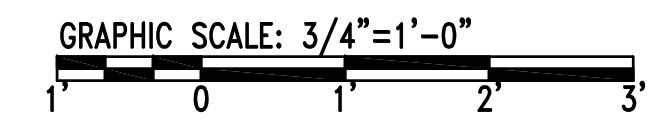


NOTE: RAMP PITCH MUST NOT EXCEED 1:12. FIELD VERIFY ACTUAL GRADE DIFFERENTIAL TO DETERMINE FINAL RAMP LENGTH REQUIRED.

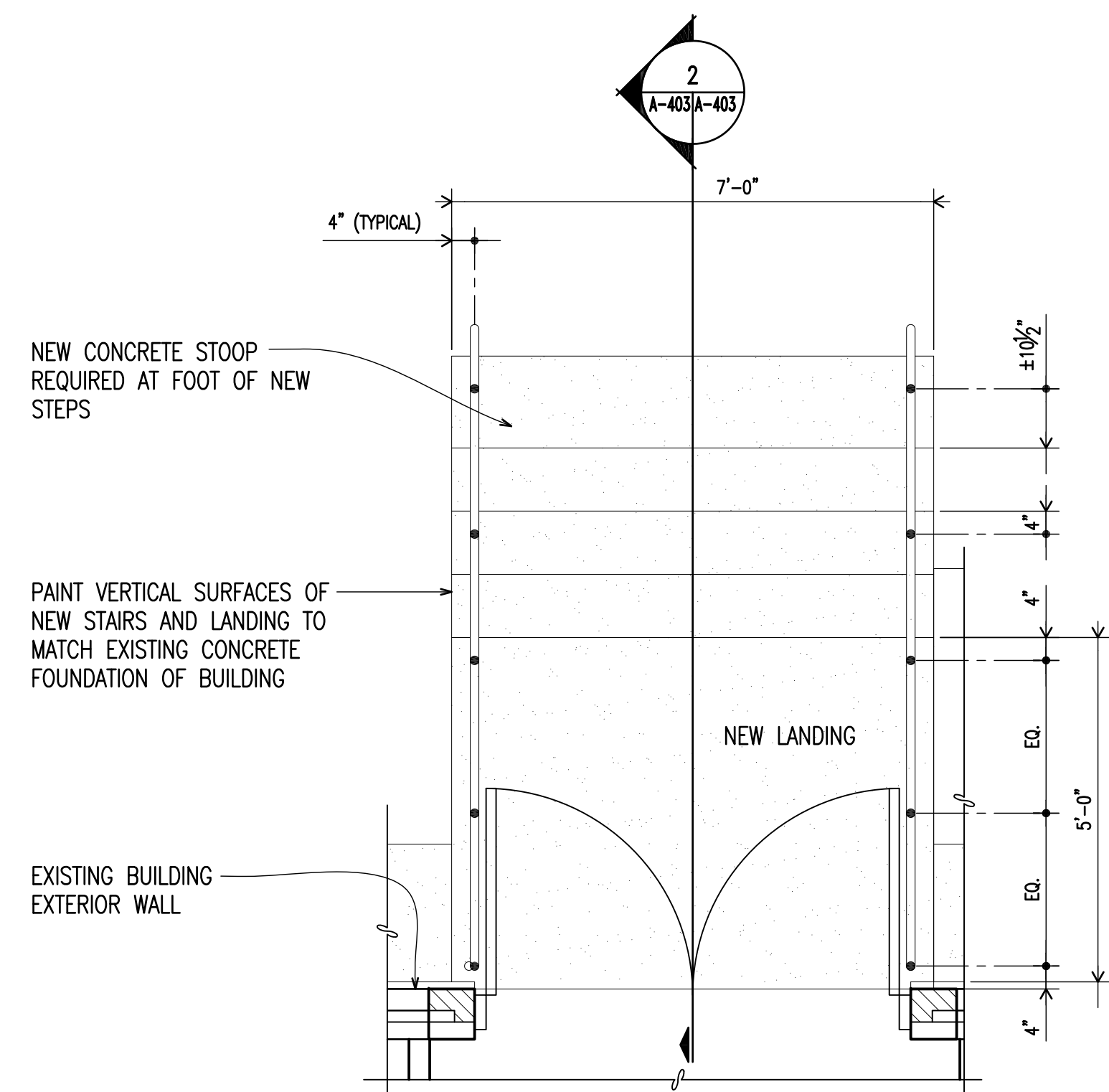
CONCRETE NOTES: SLAB SHALL BE 3000 PSI 4" CONCRETE SLAB ON GRADE REINFORCED WITH 4X4 WL.4 X WL.4 WWR. SLAB SHALL BEAR ON COMPACTED FILL. ALL FINISHED WALKING SURFACES SHALL BE BROOM FINISHED.

2 SECTION THRU RAMP
Scale: 3/4" = 1'-0"

3 SECTION THRU RAMP
Scale: 3/4" = 1'-0"

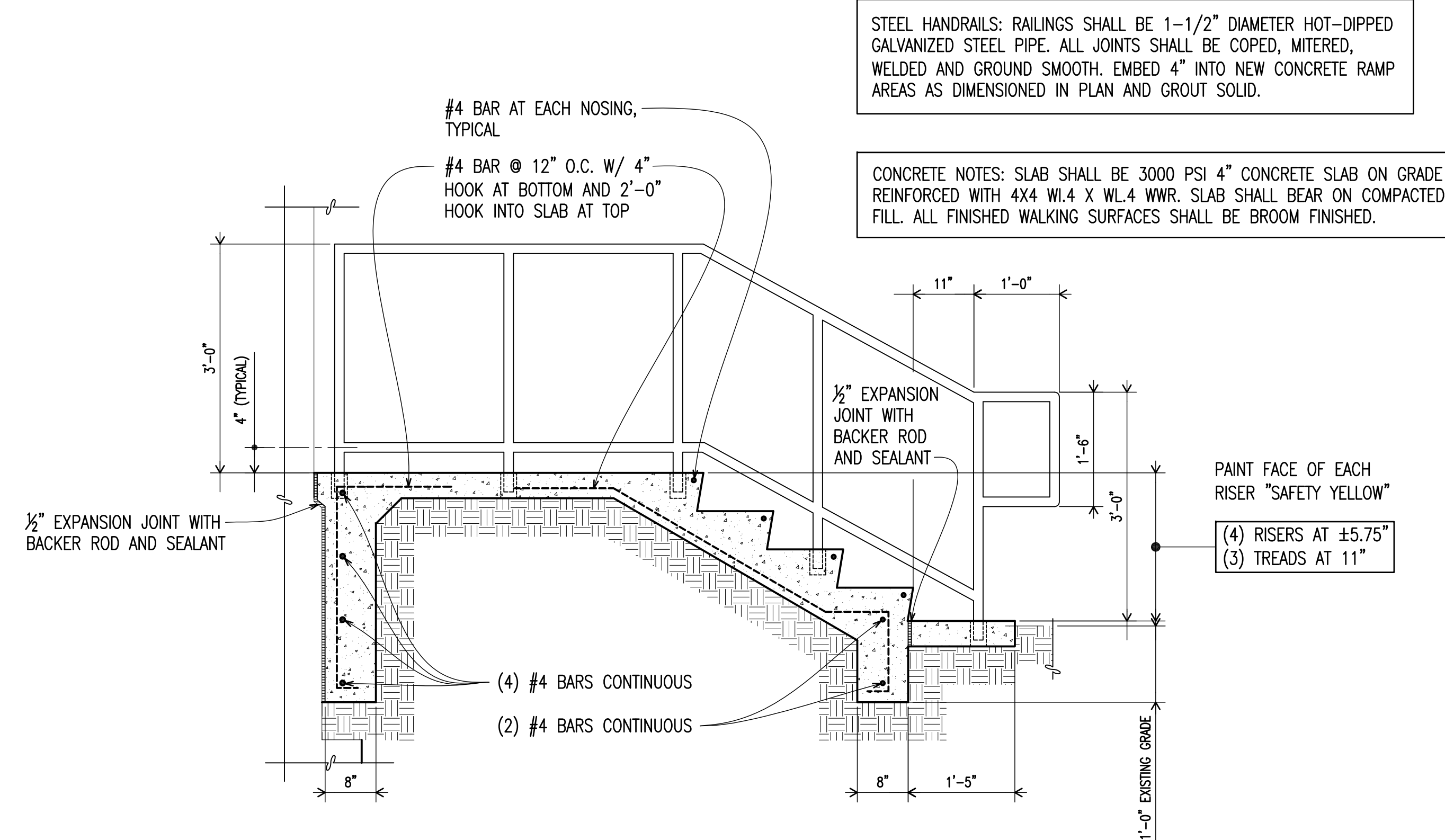


		A-402	
		MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA 317-C POLLOCK STREET NEW BERN, NC	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		REPAIR LARGE UNIT HQs BUILDING 421	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE:		EXTERIOR ACCESSIBILITY RAMP NAVFAC DRAWING NO. 60008603 CONST. CONTR. NO. N40085-11-B-0127	
SATISFACTORY TO: DATE:		F 80091 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 12 OF 42	



1 ENLARGED ENTRY PLAN

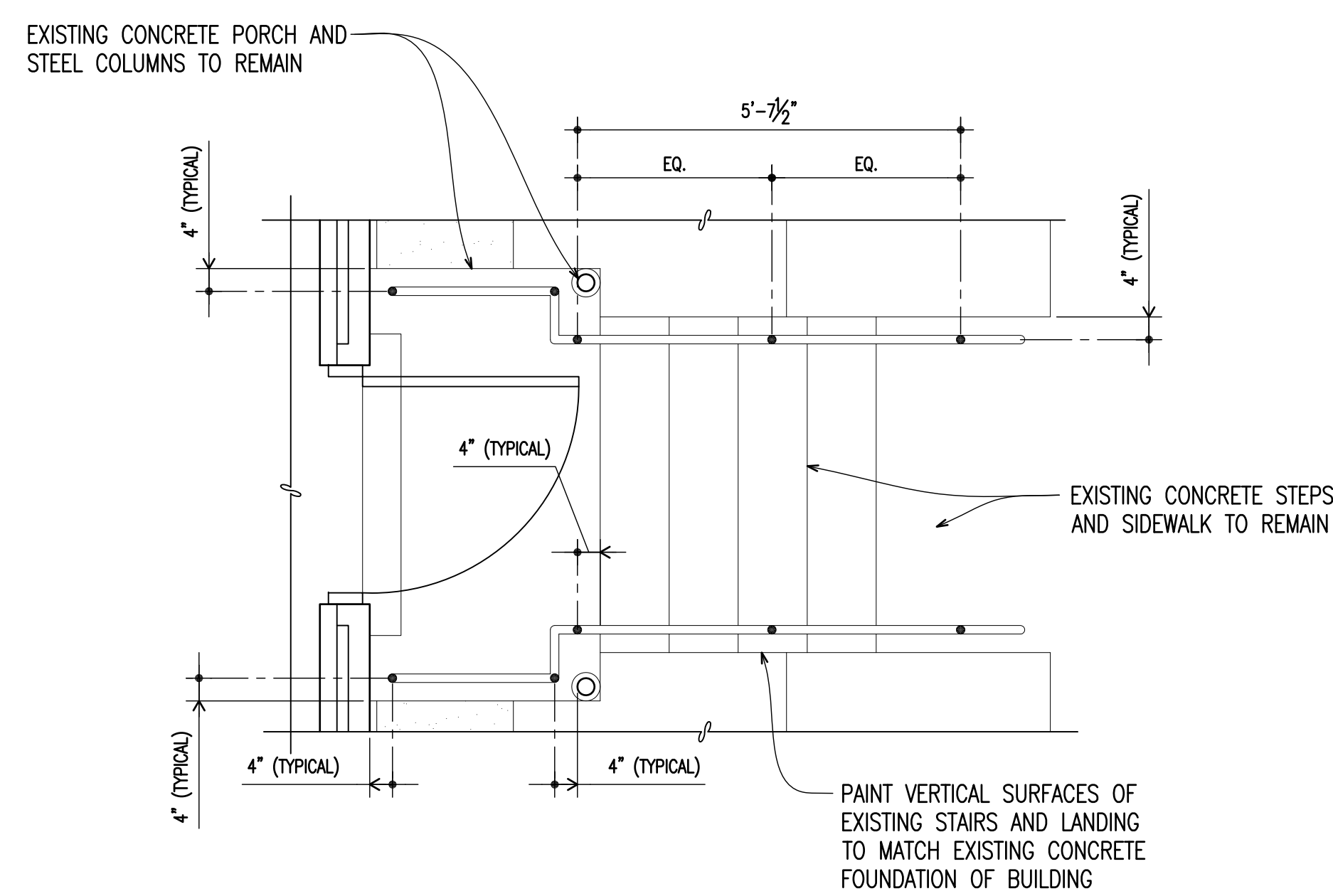
A-1024-403 AT NEW MECHANICAL ROOM Scale: 1/2" = 1'-0"



2 SECTION THRU NEW ENTRY

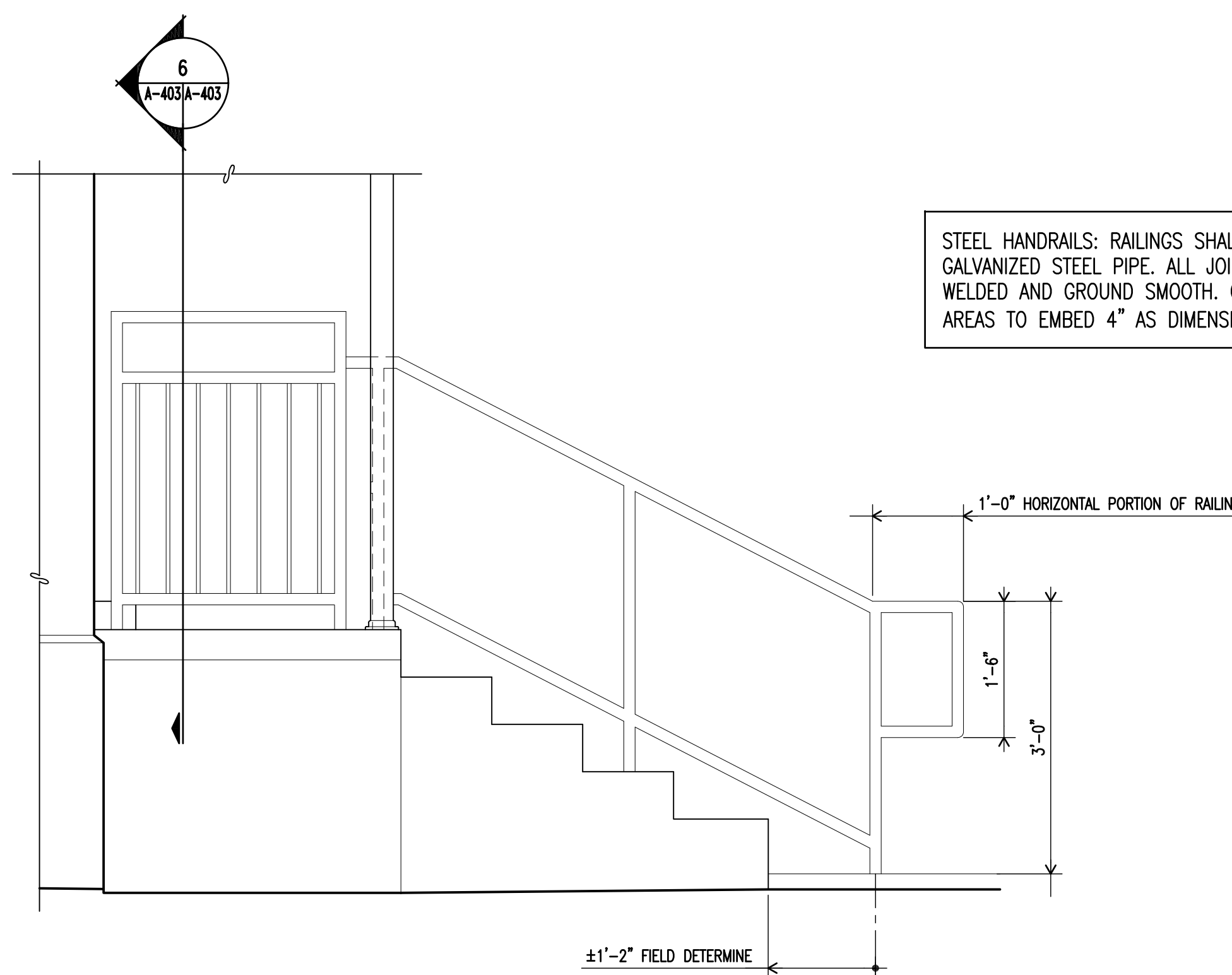
A-403A-403 NEW STEPS, LANDING & HANDRAIL Scale: 3/4" = 1'-0"

3 NOT USED Scale: 3/4" = 1'-0"



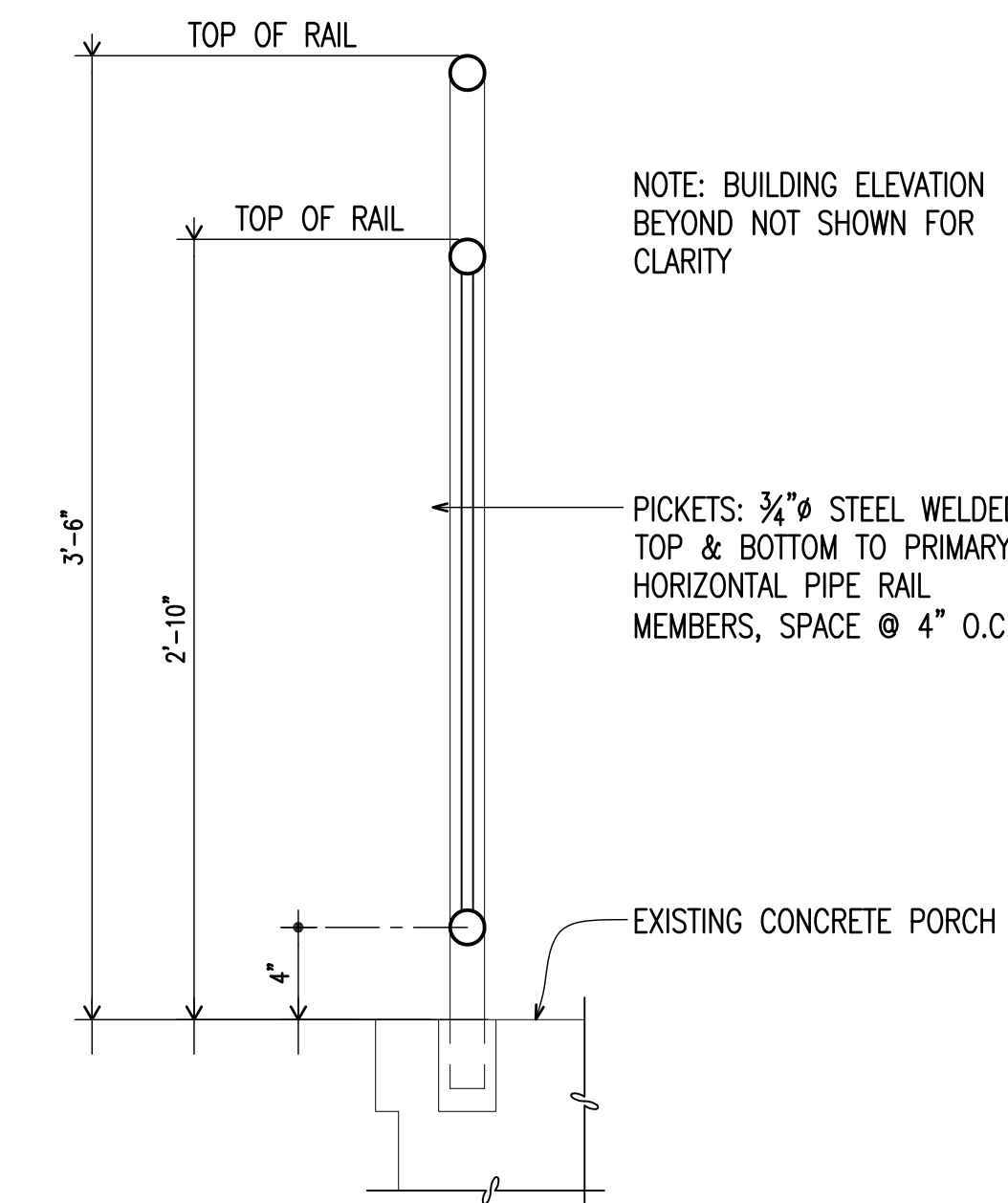
4 ENLARGED RAILING PLAN

A-1024-403 AT EXISTING PORCH & STEPS Scale: 1/2" = 1'-0"



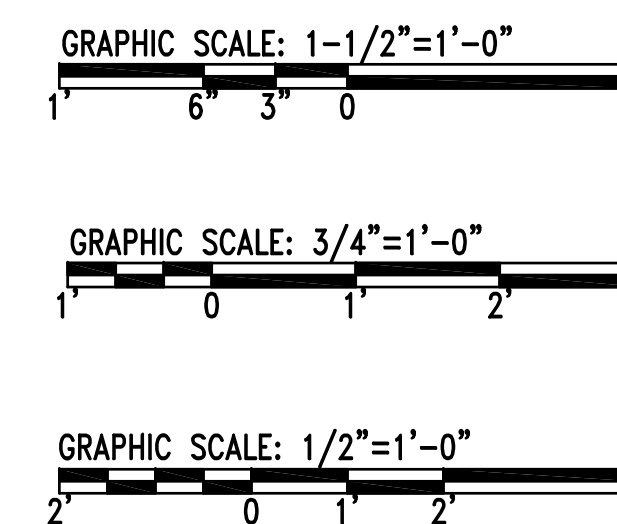
5 RAILING ELEVATION

A-403A-403 AT EXISTING PORCH & STEPS Scale: 3/4" = 1'-0"



6 SECTION AT GUARDRAIL

A-403A-403 AT EXISTING PORCH Scale: 1-1/2" = 1'-0"



		A-403	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE:		REPAIR LARGE UNIT HQs BUILDING 421	
SATISFACTORY TO: DATE:		EXTERIOR STEPS & RAILINGS NAVFAC DRAWING NO. 60008604 CONST. CONTR. NO. N40085-11-B-0127	
SCALE: AS NOTED SPEC. 05-11-0127		SHEET 13 OF 42	

DOOR SCHEDULE NOTE: SILL DETAIL OMITTED IF FLOORING IS CONTINUOUS ON EACH SIDE OF DOOR

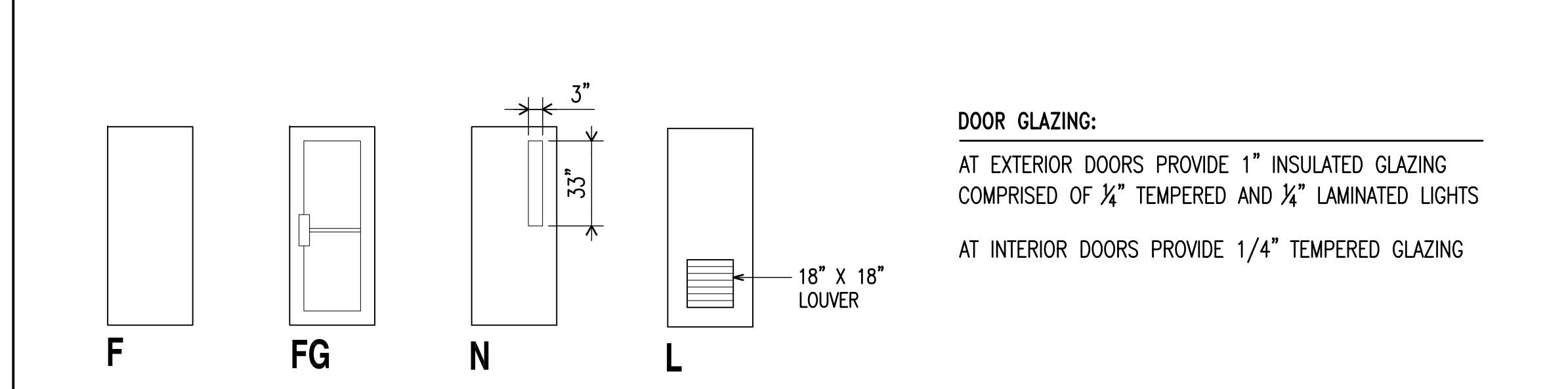
MARK	DOOR TYPE	WIDTH	HT.	THK.	MATERIAL	GLAZING	FRAME			REMARKS	FIRE RATING (WHERE APPLICABLE)		
							TYPE	DETAILS	MATERIAL				
101A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
102A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
103A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
104A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
105A	FG	3'-0"	7'-0"	1-3/4"	ALUM		C	2/A-601	2/A-601	2/A-601	ALUM		
106A	L	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	7/A-601	STEEL		
107A	L	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	7/A-601	STEEL		
108A	L	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	7/A-601	STEEL		
109A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
109B	F	3'-0"	6'-8"	1-3/4"	STEEL		D	1/A-601	1/A-601	1/A-601	STEEL		
110A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
111A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
112A	F	6'-0"	7'-0"	1-3/4"	STEEL		B	3/A-601	3/A-601	3/A-601	STEEL		
113A	F	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	5/A-601	STEEL		
114A	N	3'-0"	7'-0"	1-3/4"	STEEL		A	3/A-601	3/A-601	3/A-601	STEEL		
115A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
116A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
117A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		
119A	N	3'-0"	7'-0"	1-3/4"	WOOD		A	4/A-601	5/A-601	6/A-601	STEEL		

REMARKS * SEE SPECIFICATION SECTION 08 41 00 FOR DOOR HARDWARE

NO REMARKS

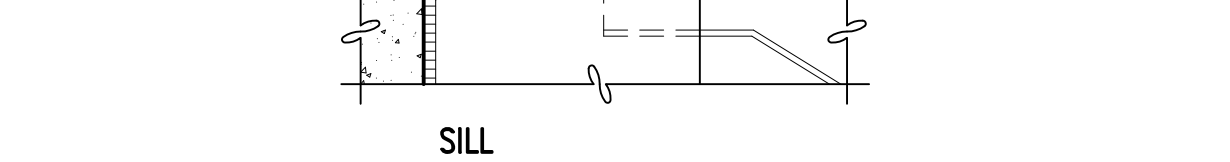
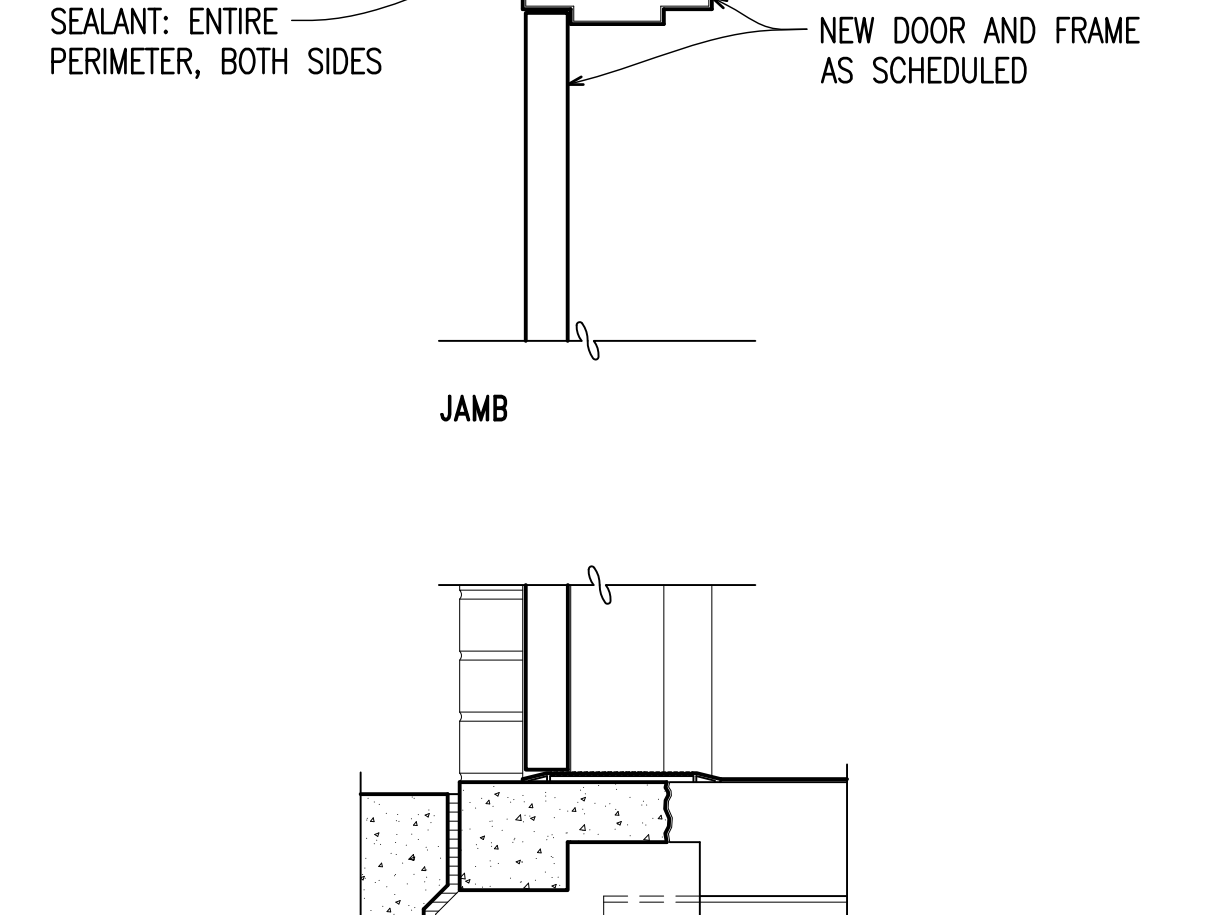
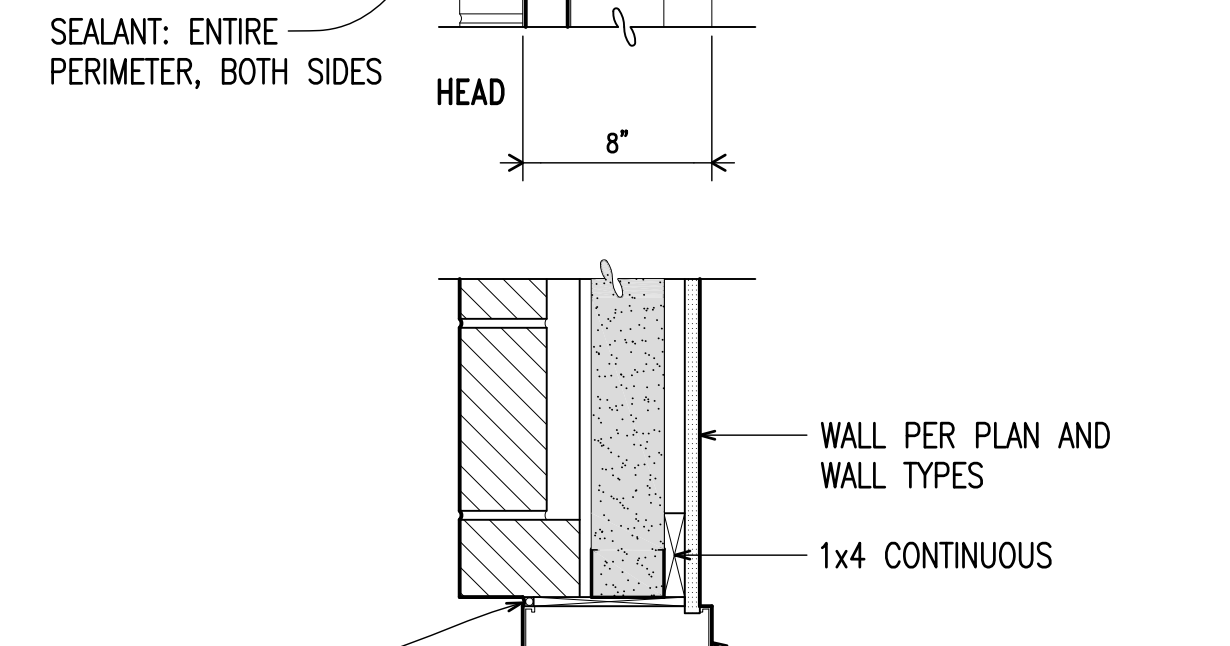
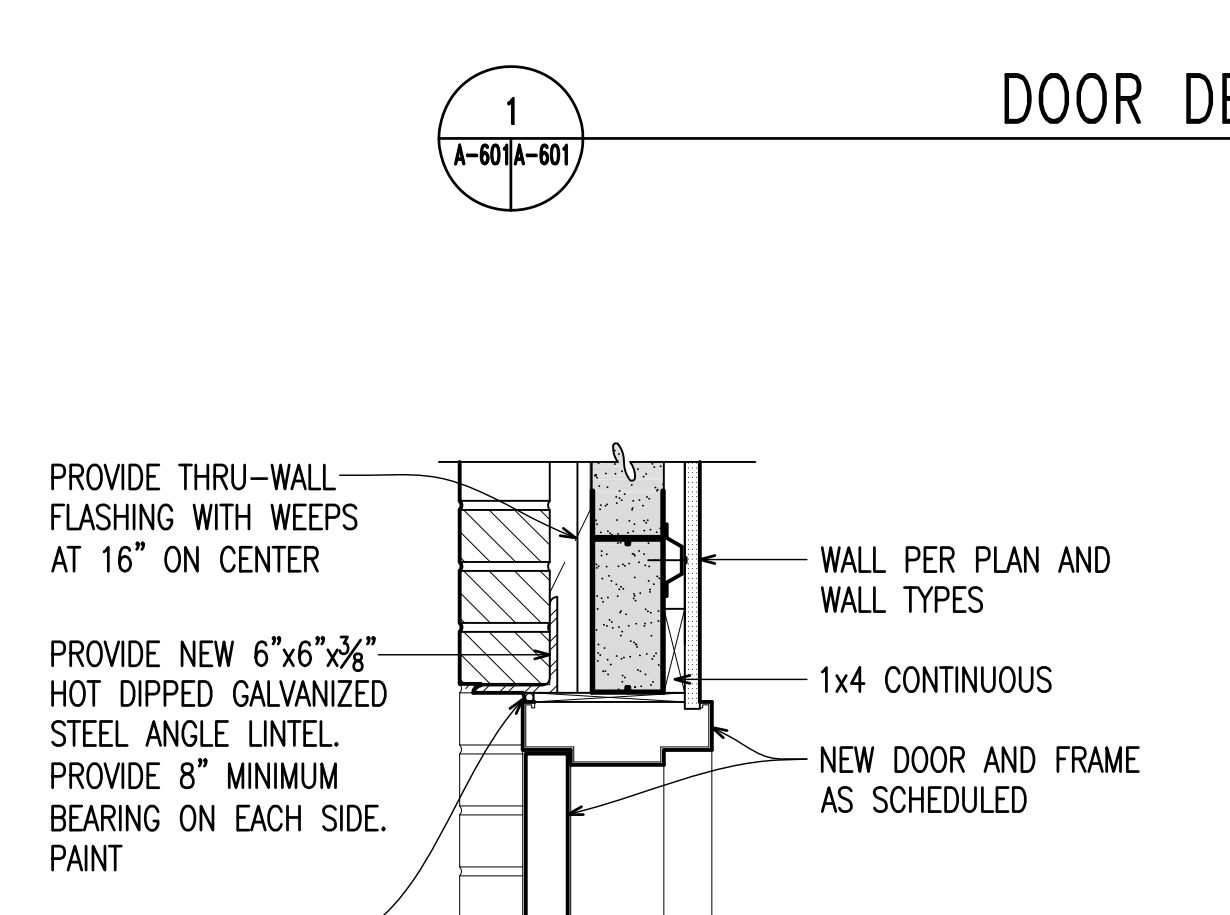
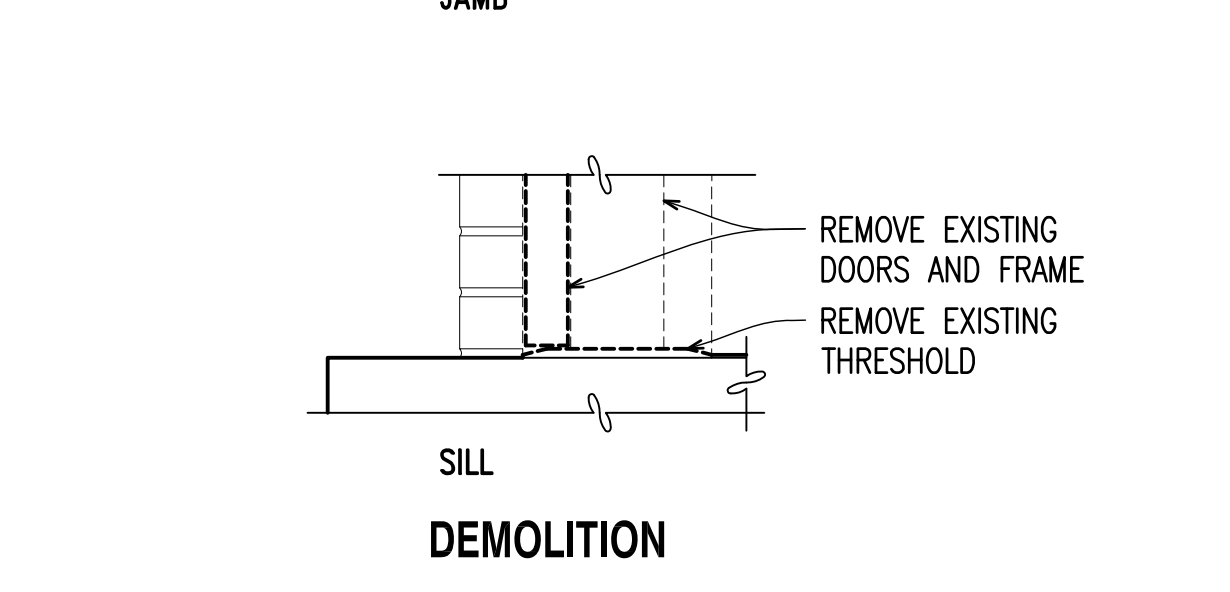
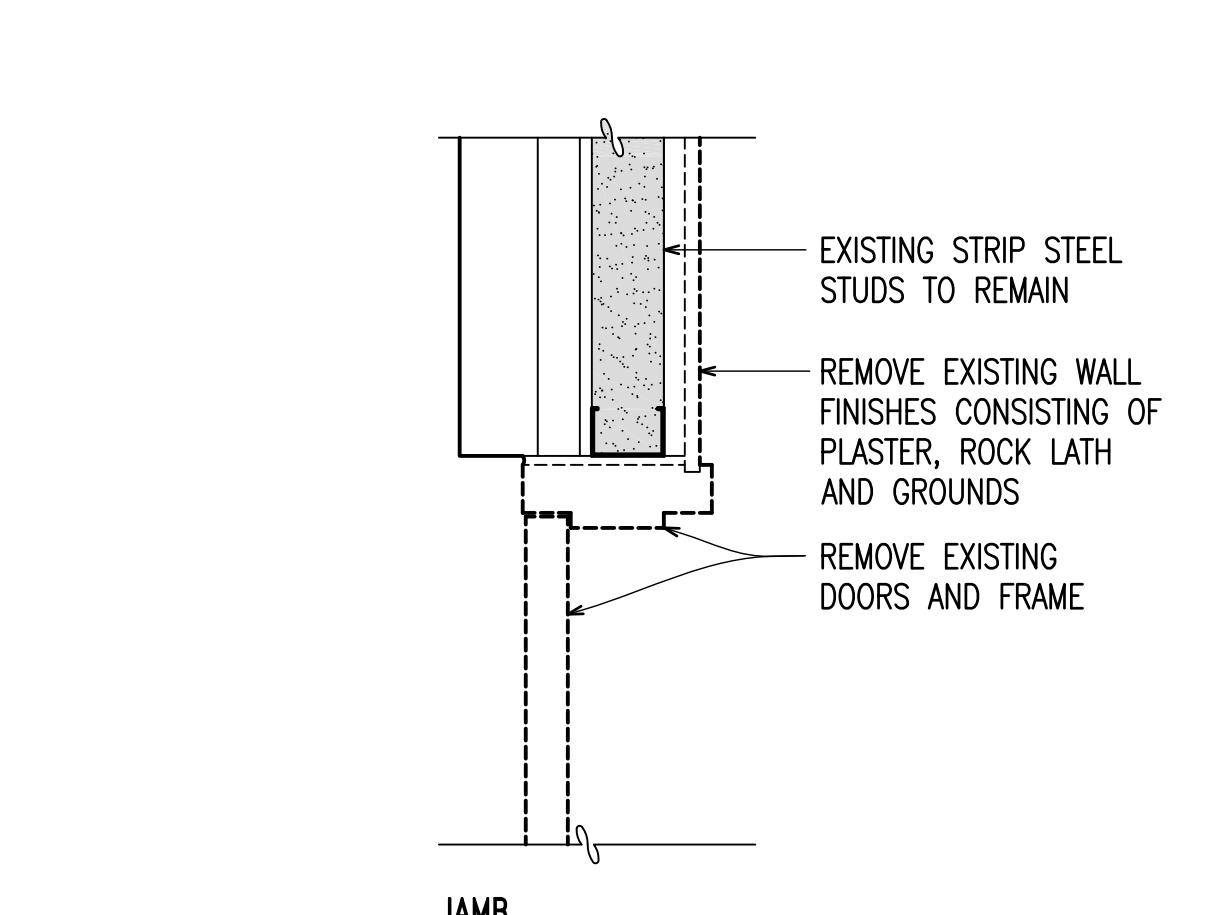
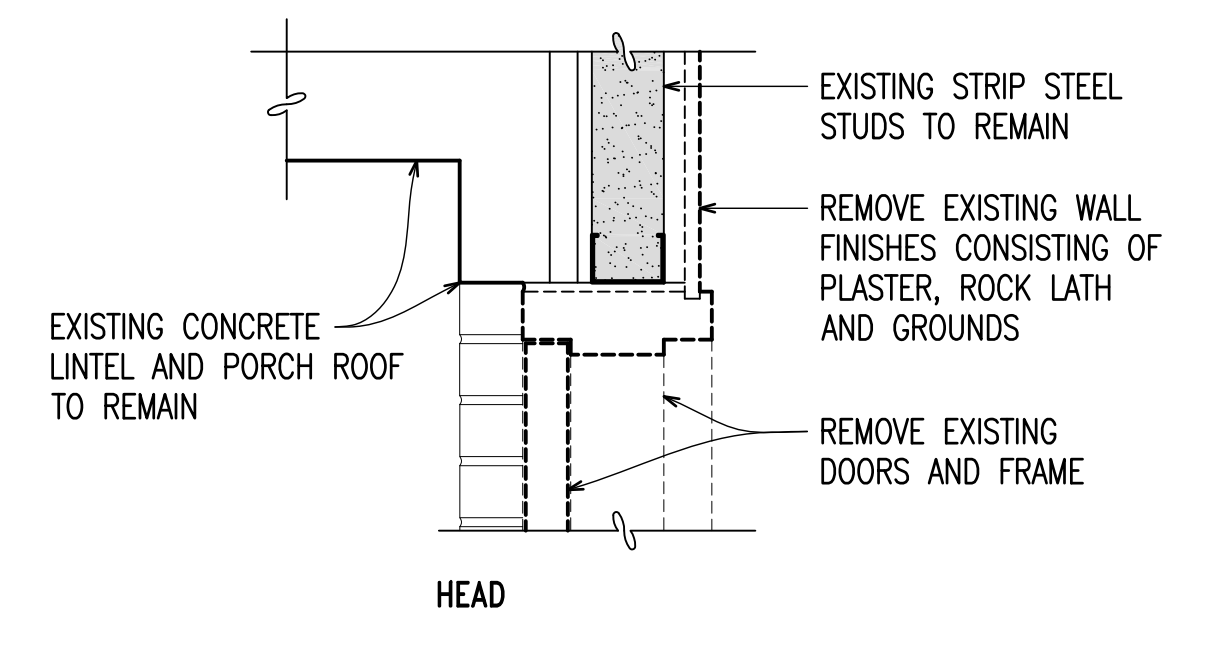
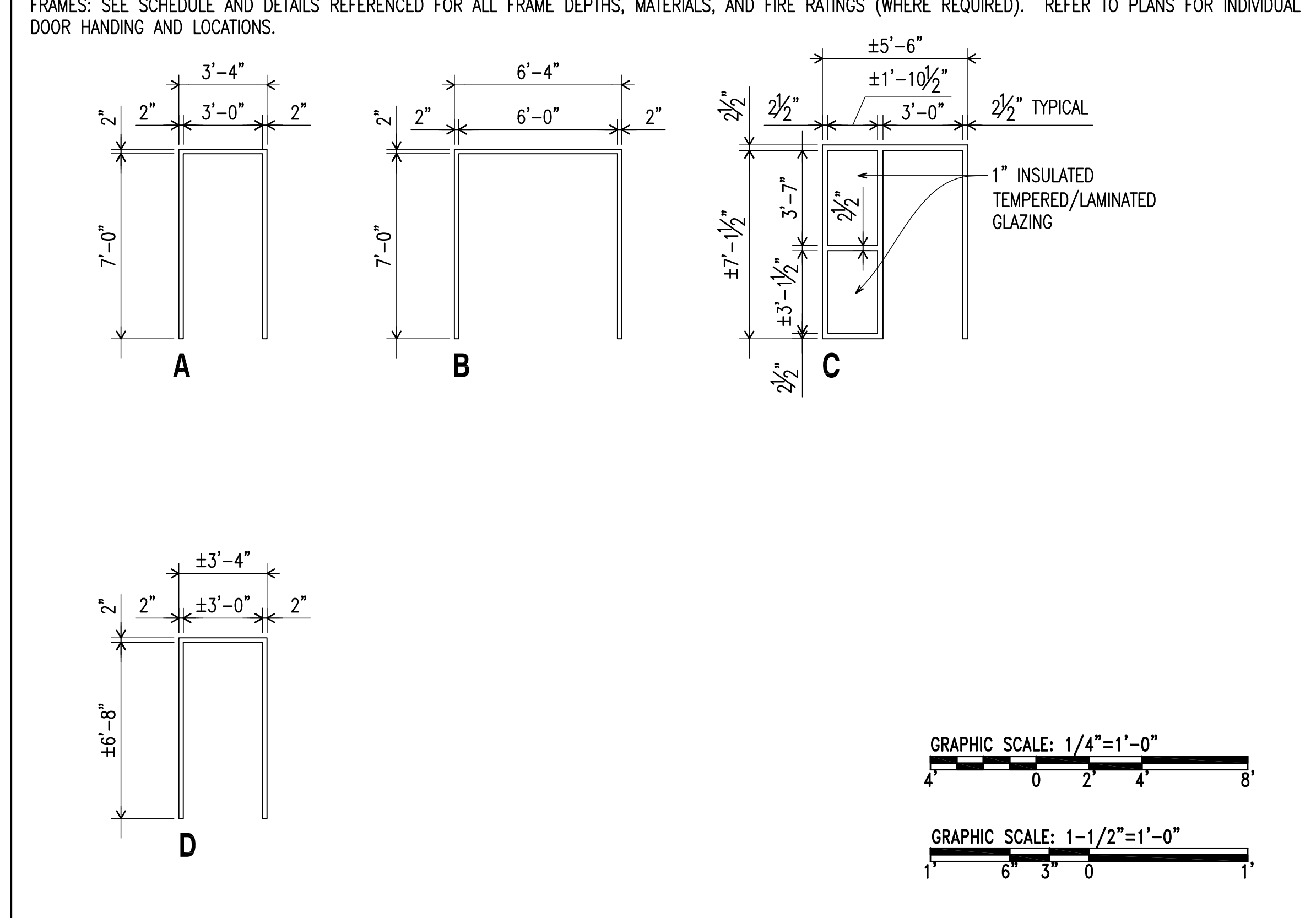
DOOR TYPES NOTE: DOOR SIZES GIVEN IN SCHEDULE ARE APPROXIMATE, BASED ON FIELD MEASUREMENTS. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS PRIOR TO ORDERING AND INSTALLING NEW DOORS.

SEE SCHEDULE FOR SIZES, THICKNESS, MATERIALS, GLAZING TYPES, AND FIRE RATINGS (WHERE REQUIRED). REFER TO PLANS FOR INDIVIDUAL DOOR HANDING AND LOCATIONS

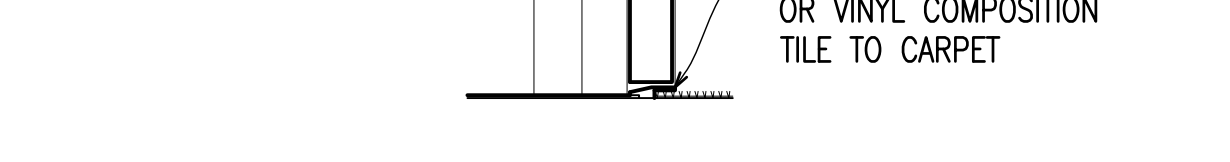
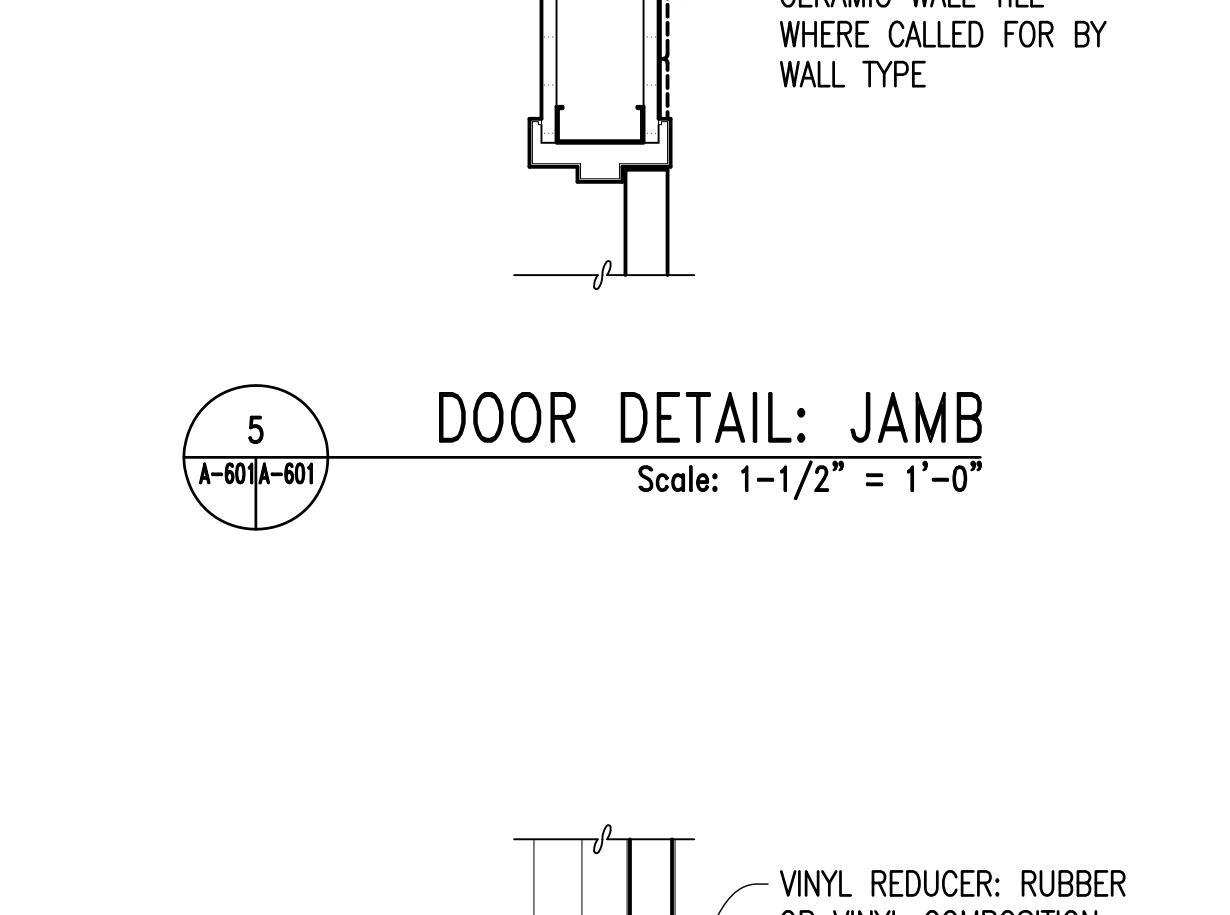
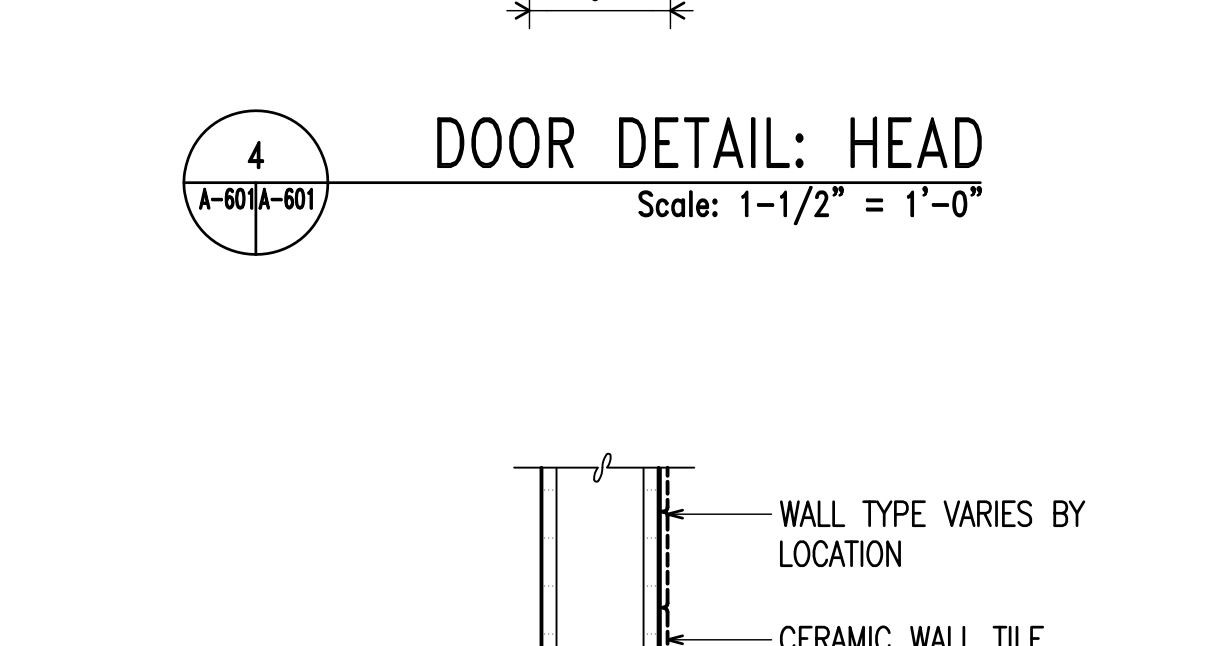
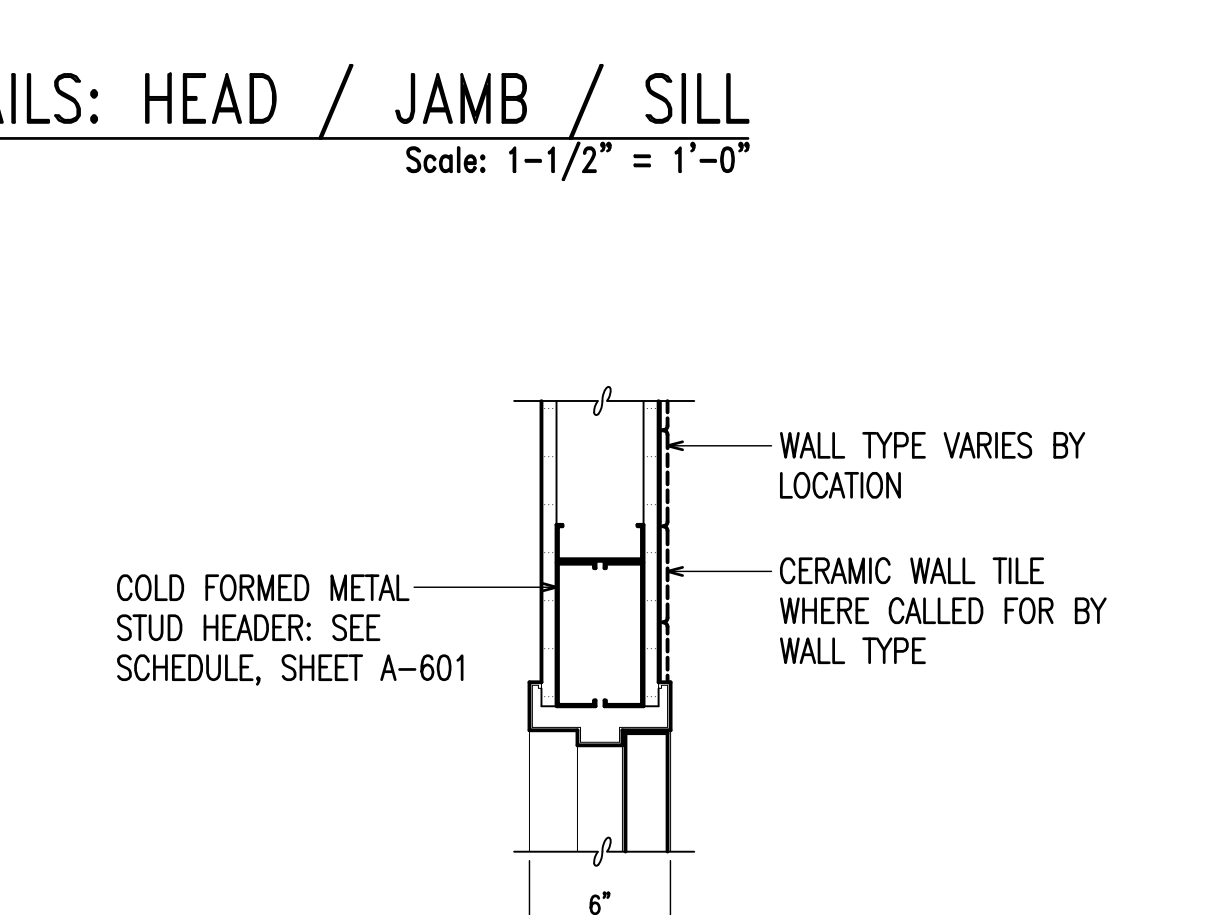
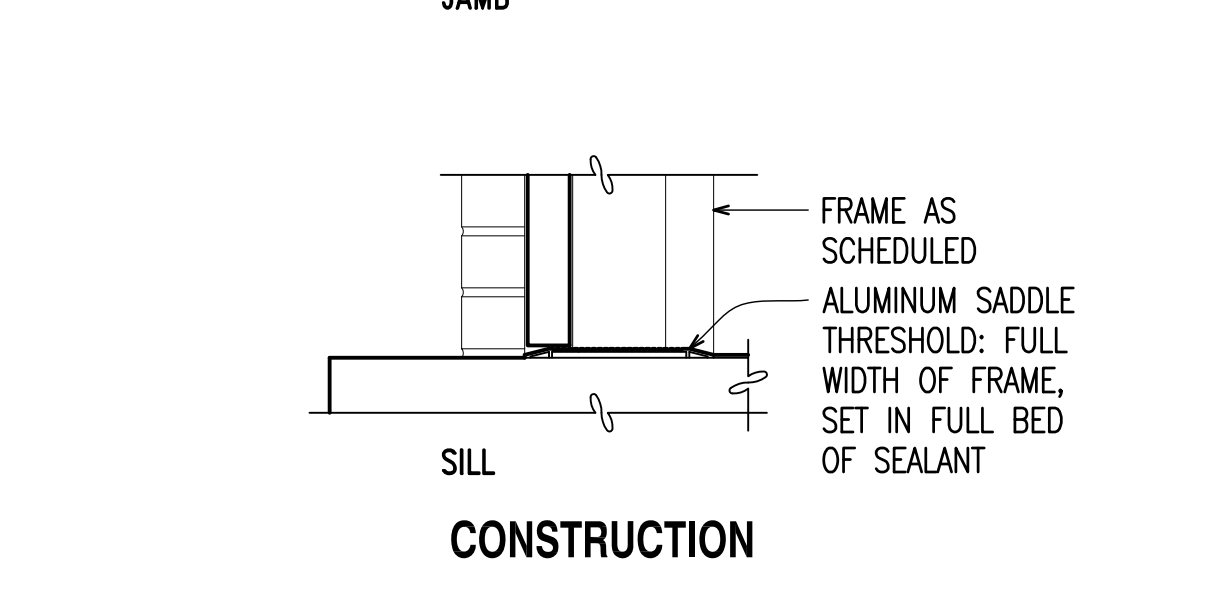
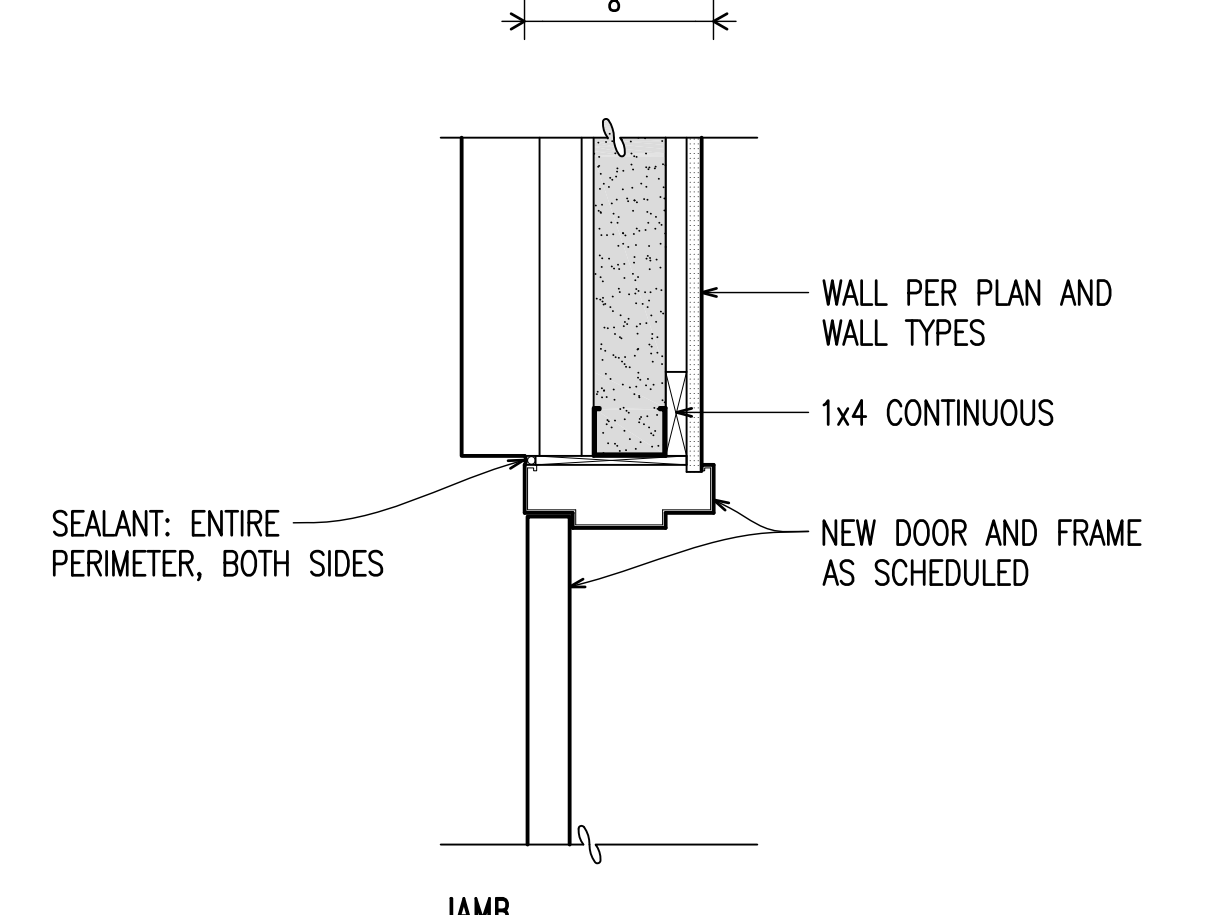
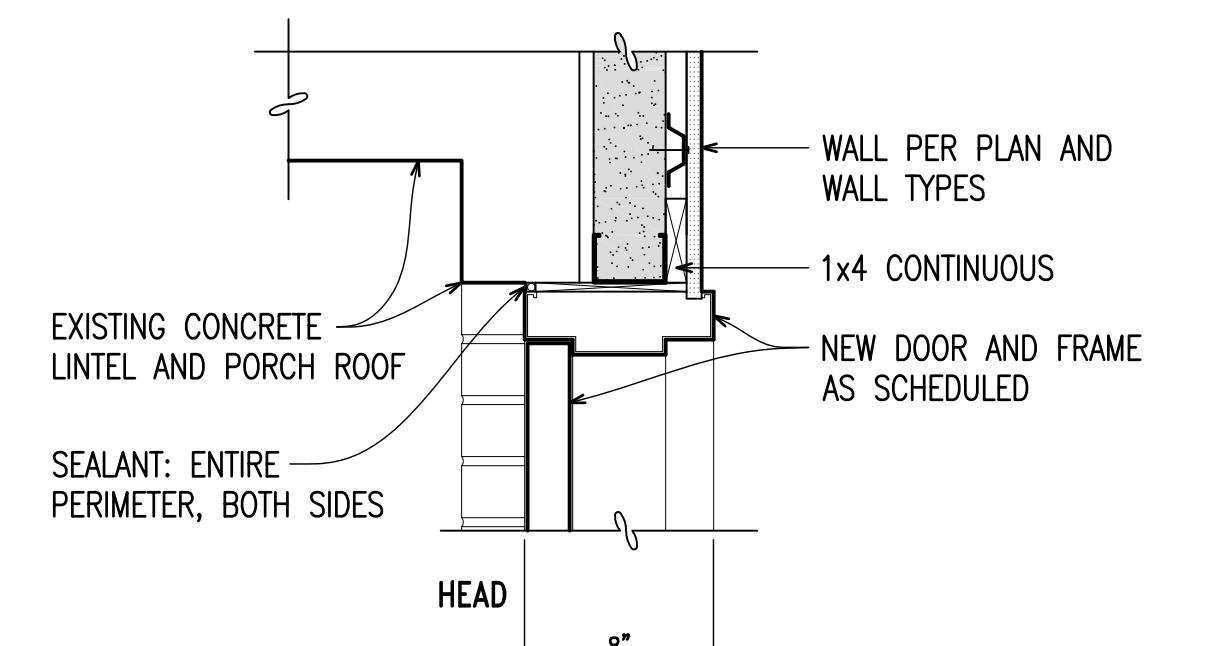


FRAME TYPES NOTE: FRAME SIZES GIVEN ARE APPROXIMATE, BASED ON FIELD MEASUREMENTS. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS PRIOR TO ORDERING AND INSTALLING NEW FRAMES.

FRAMES: SEE SCHEDULE AND DETAILS REFERENCED FOR ALL FRAME DEPTHS, MATERIALS, AND FIRE RATINGS (WHERE REQUIRED). REFER TO PLANS FOR INDIVIDUAL DOOR HANDING AND LOCATIONS.



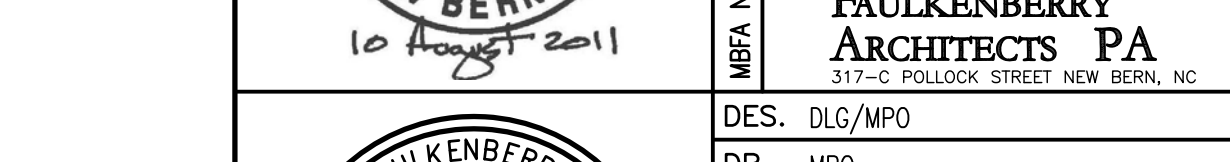
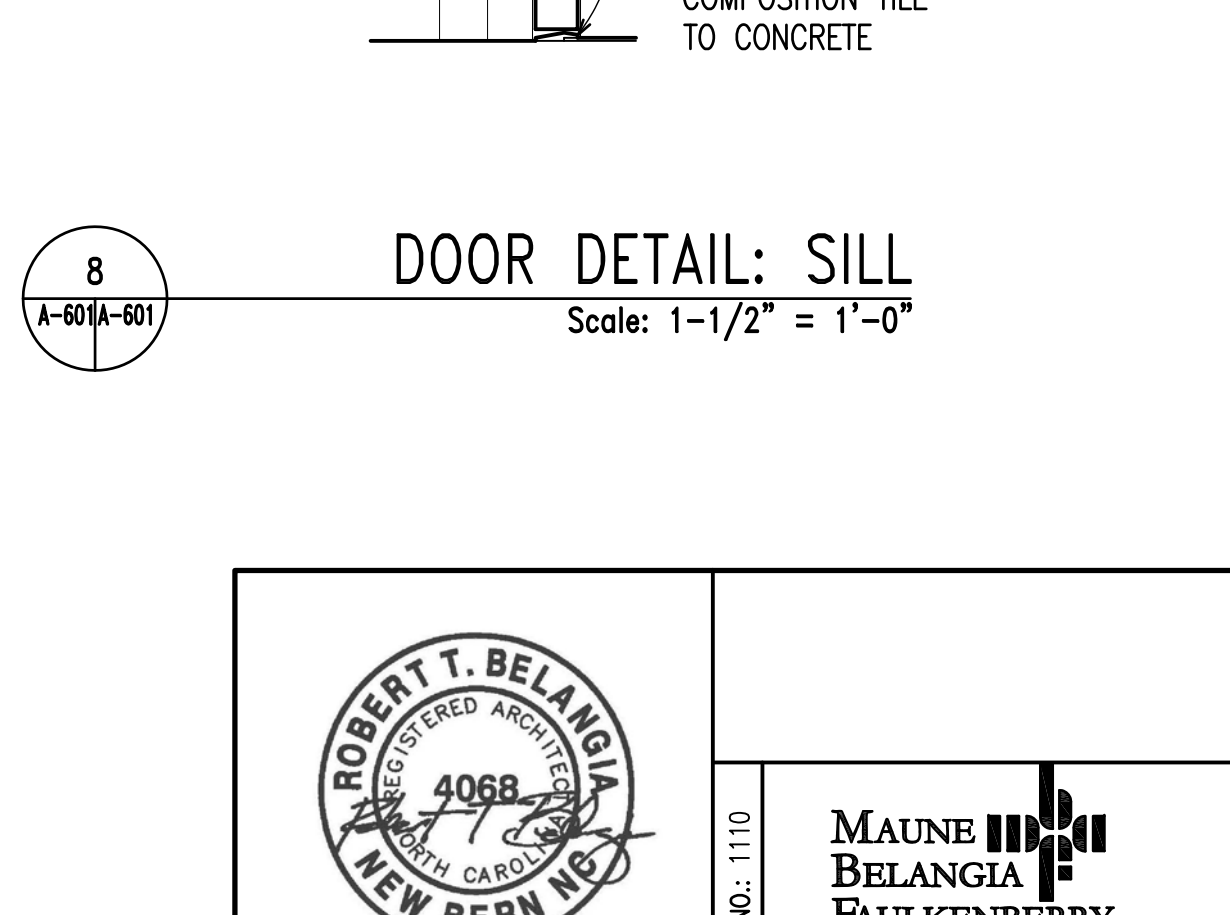
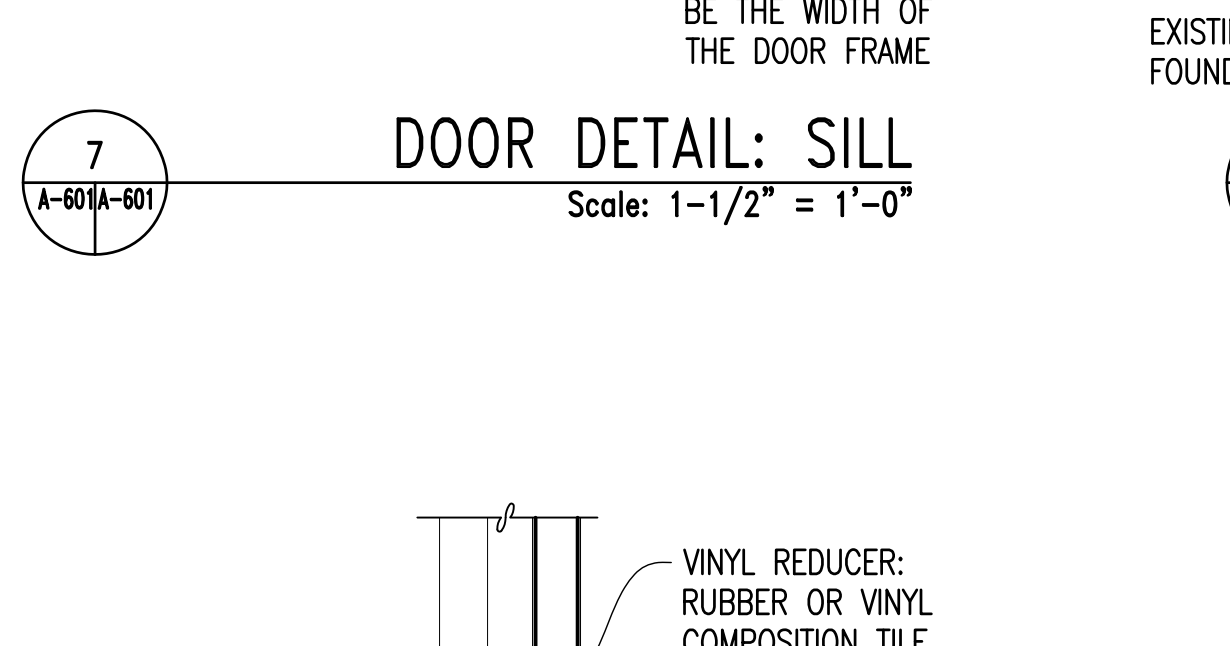
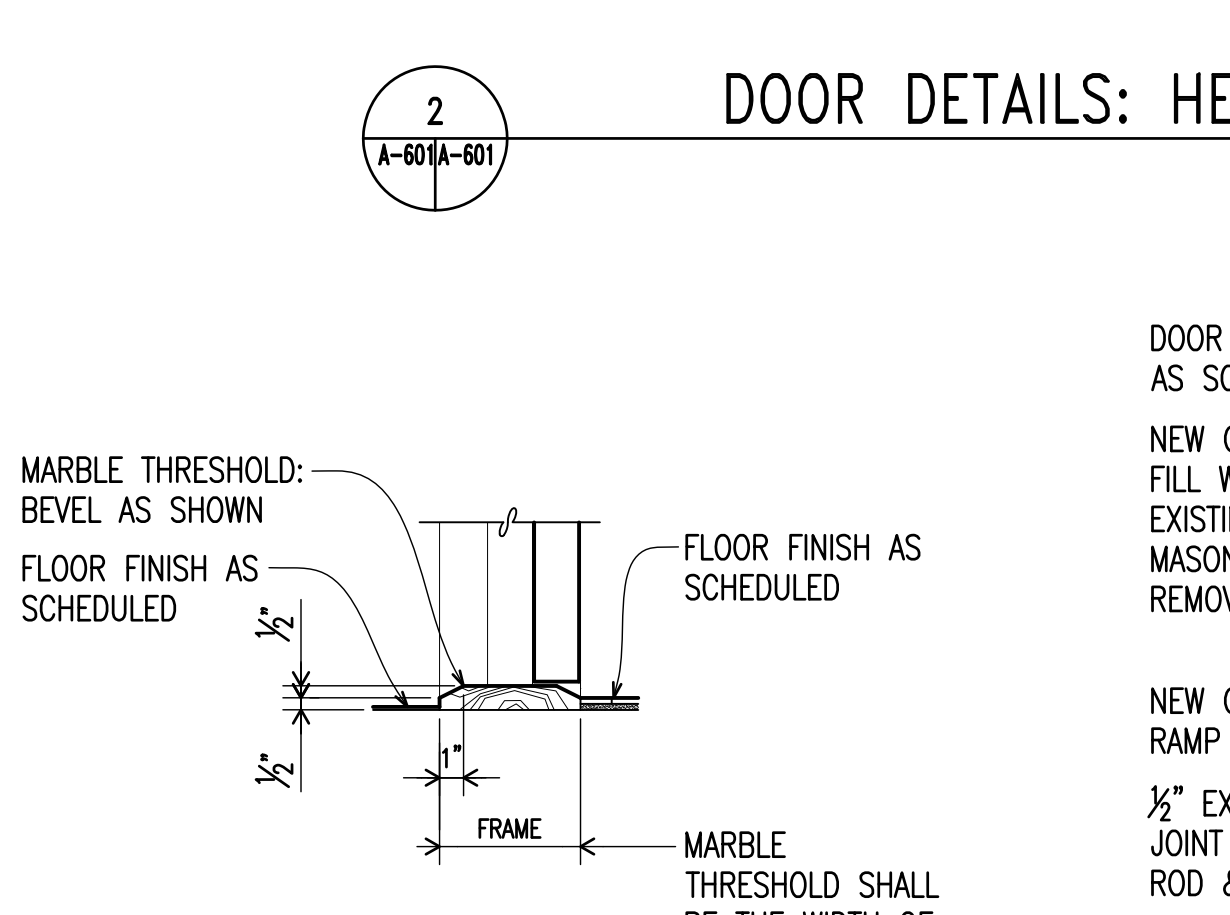
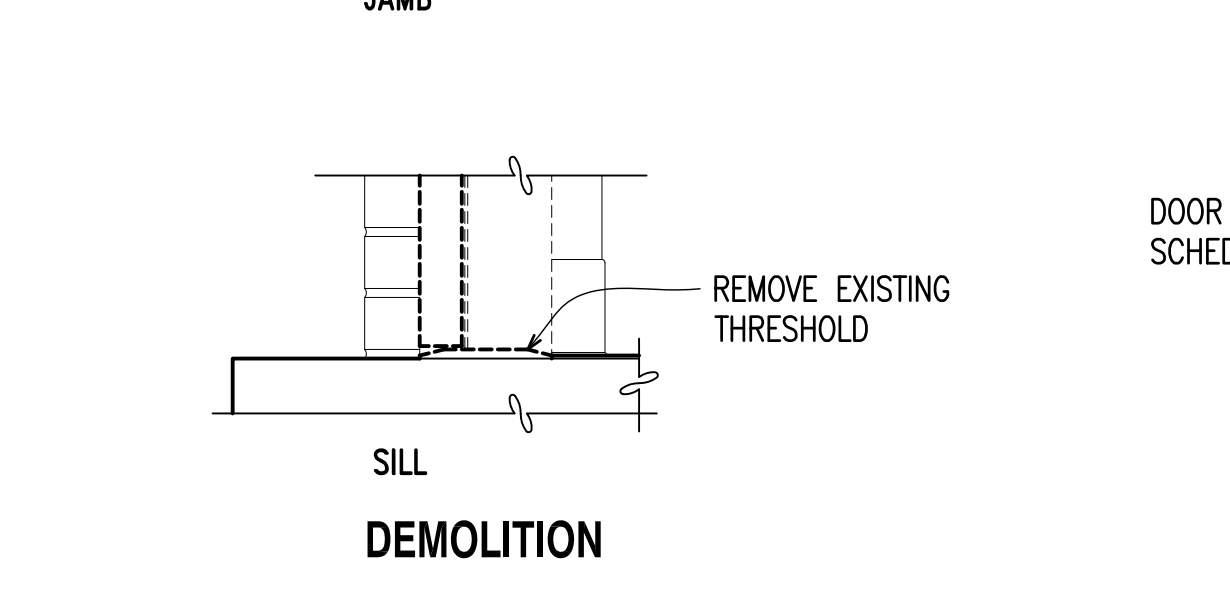
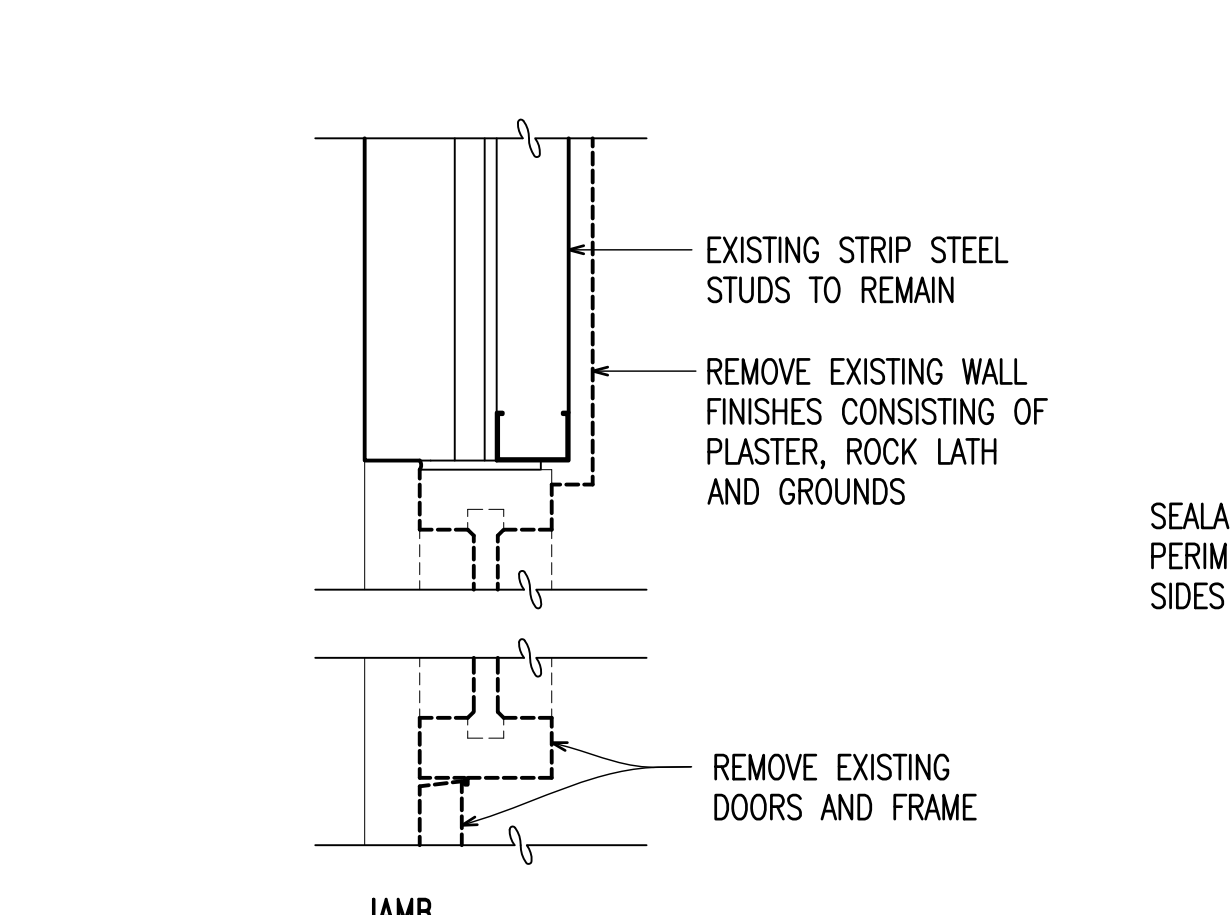
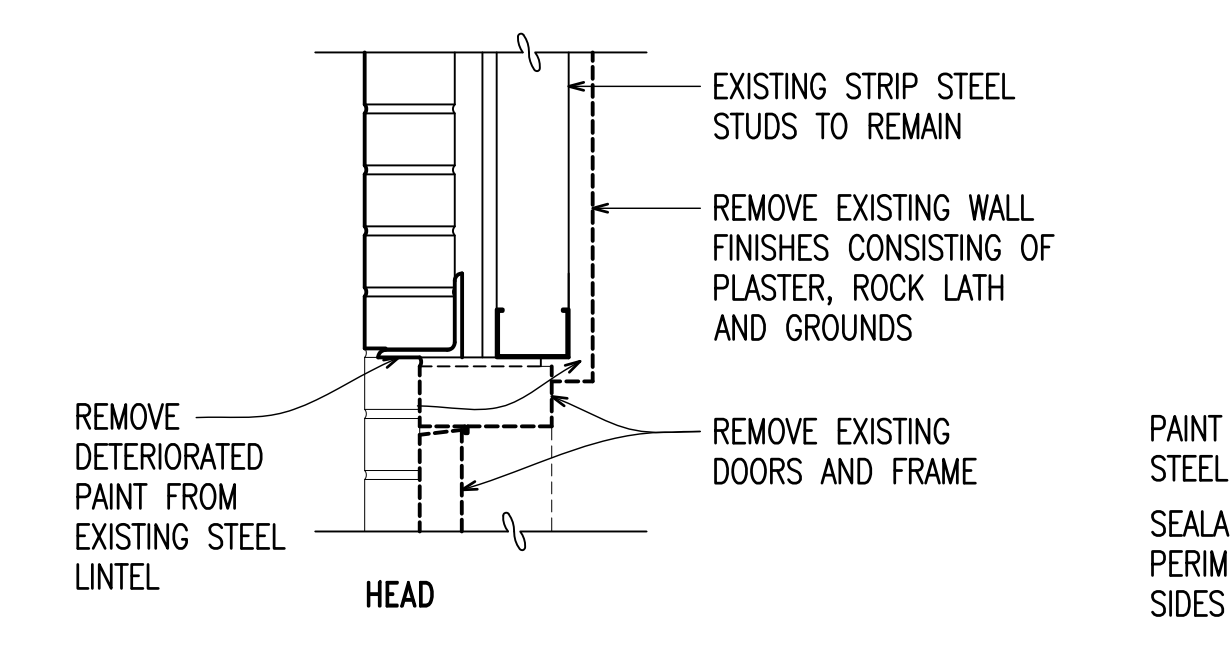
3 DOOR DETAILS: HEAD / JAMB / SILL Scale: 1-1/2" = 1'-0"



4 DOOR DETAIL: HEAD Scale: 1-1/2" = 1'-0"

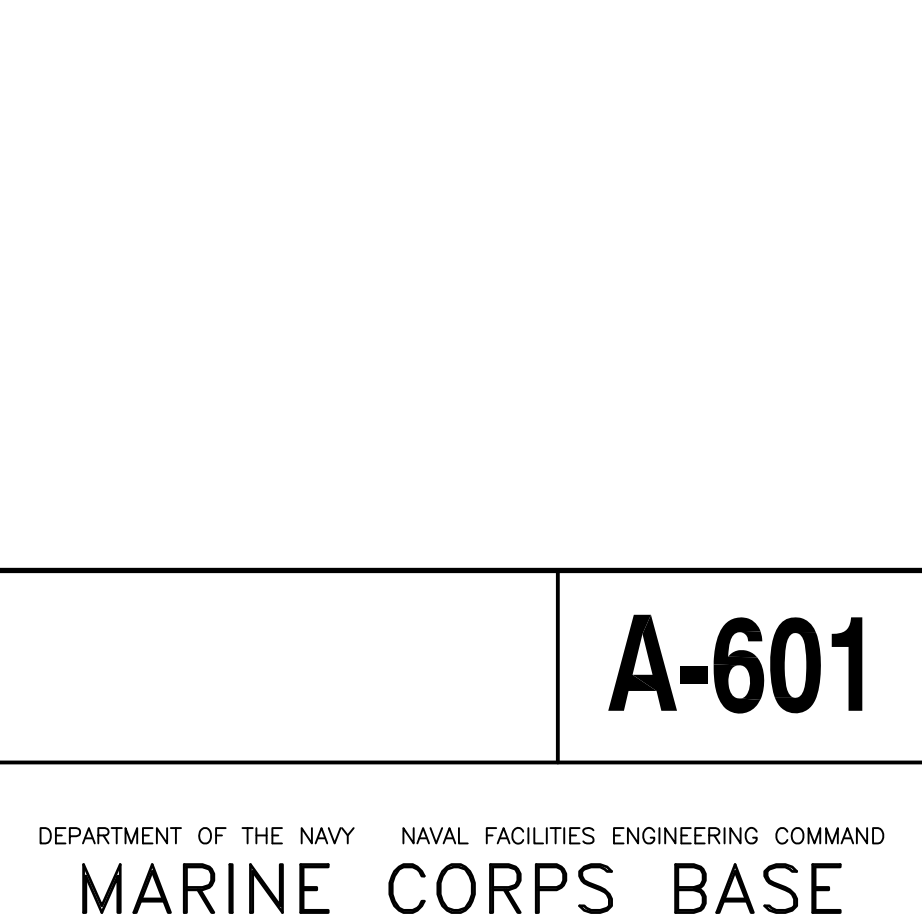
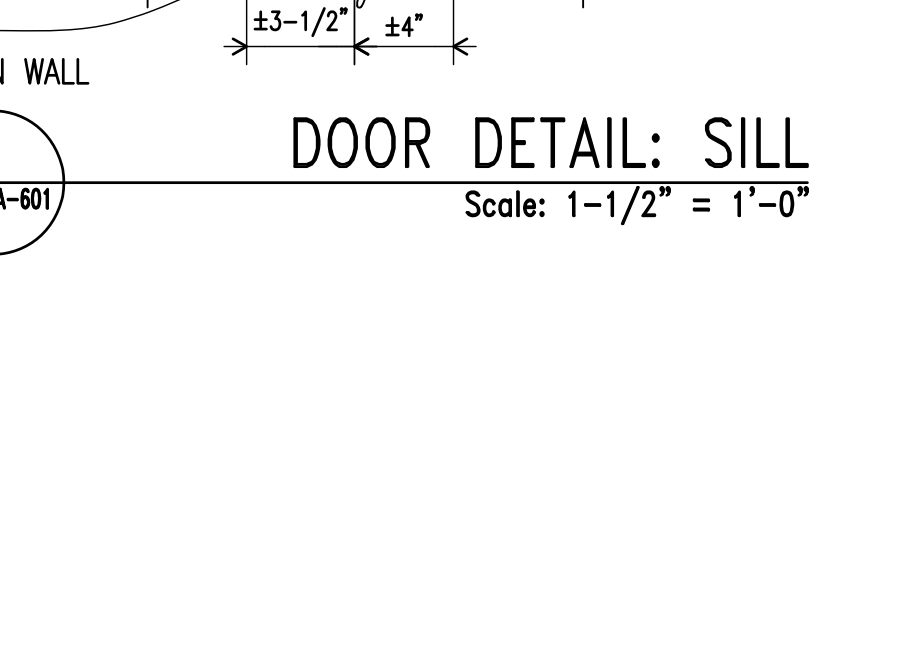
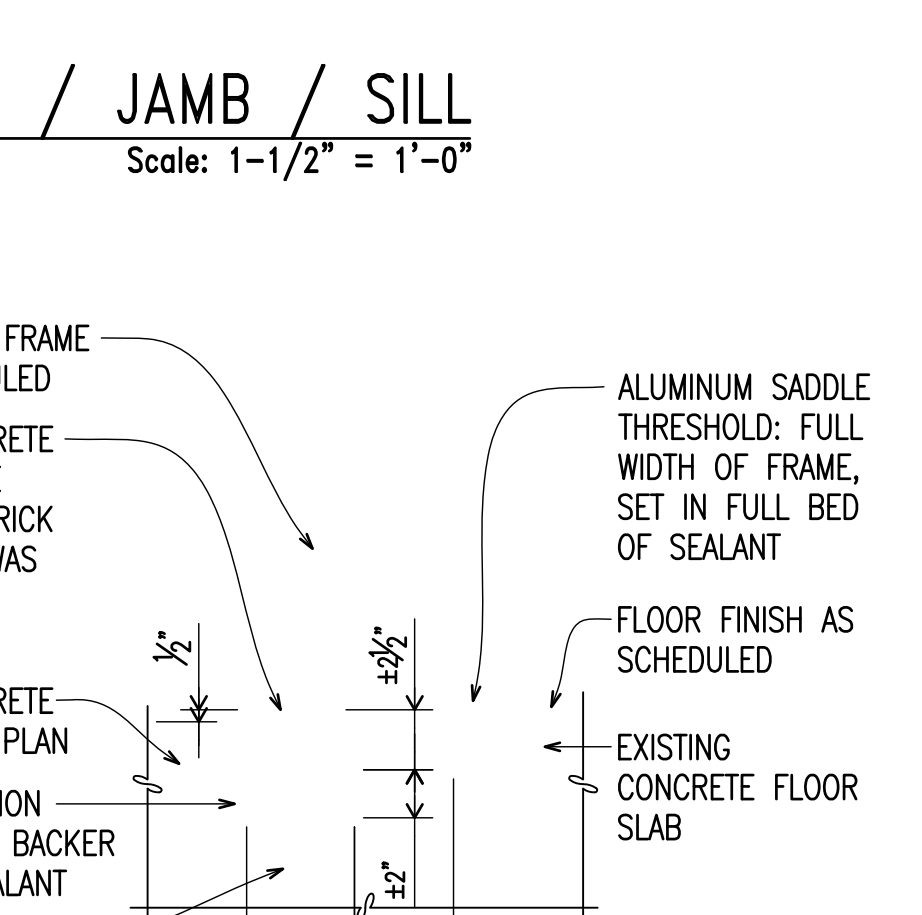
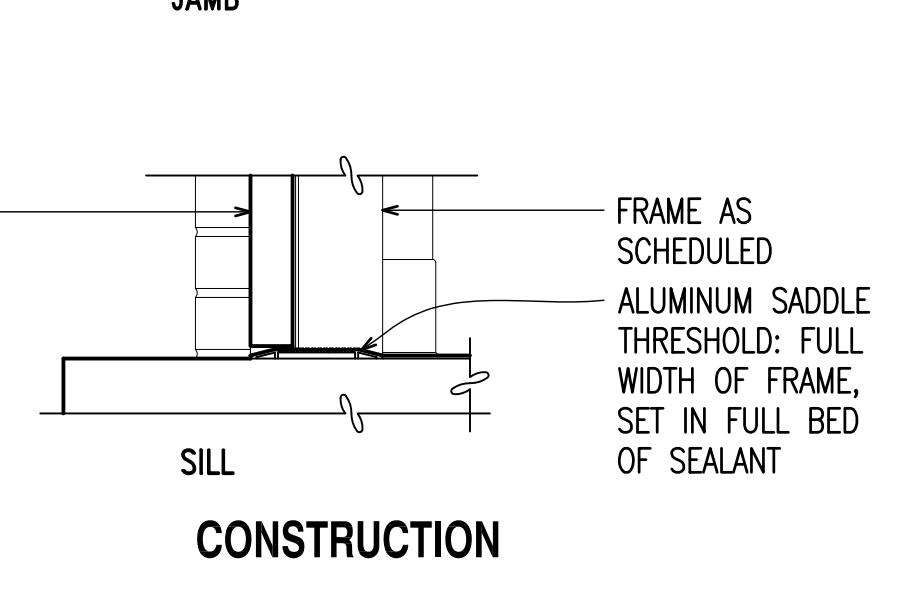
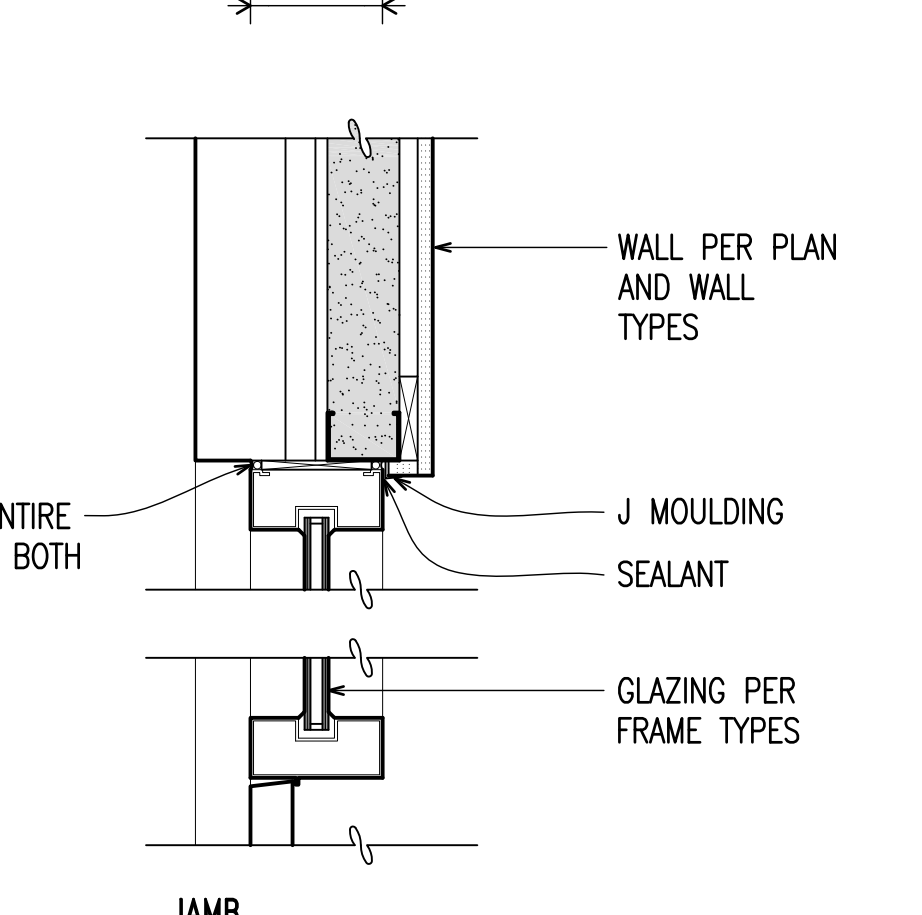
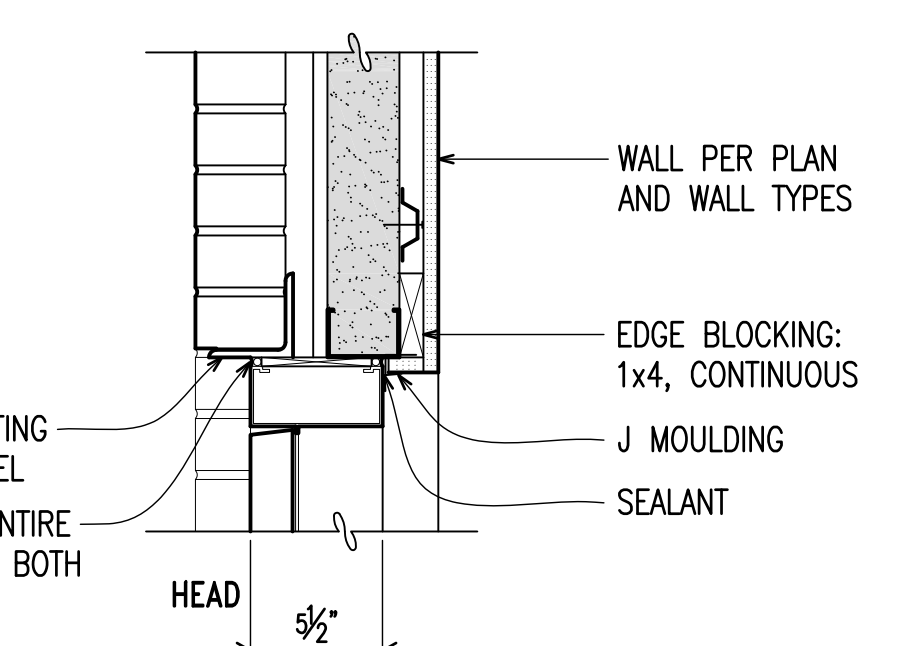
5 DOOR DETAIL: JAMB Scale: 1-1/2" = 1'-0"

6 DOOR DETAIL: SILL Scale: 1-1/2" = 1'-0"

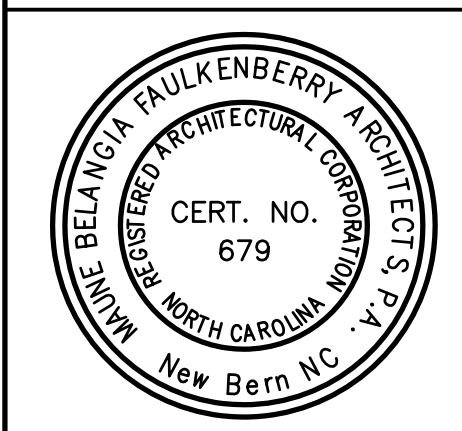
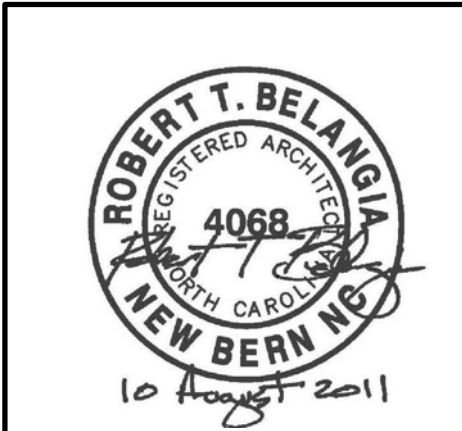


7 DOOR DETAIL: SILL Scale: 1-1/2" = 1'-0"

8 DOOR DETAIL: SILL Scale: 1-1/2" = 1'-0"



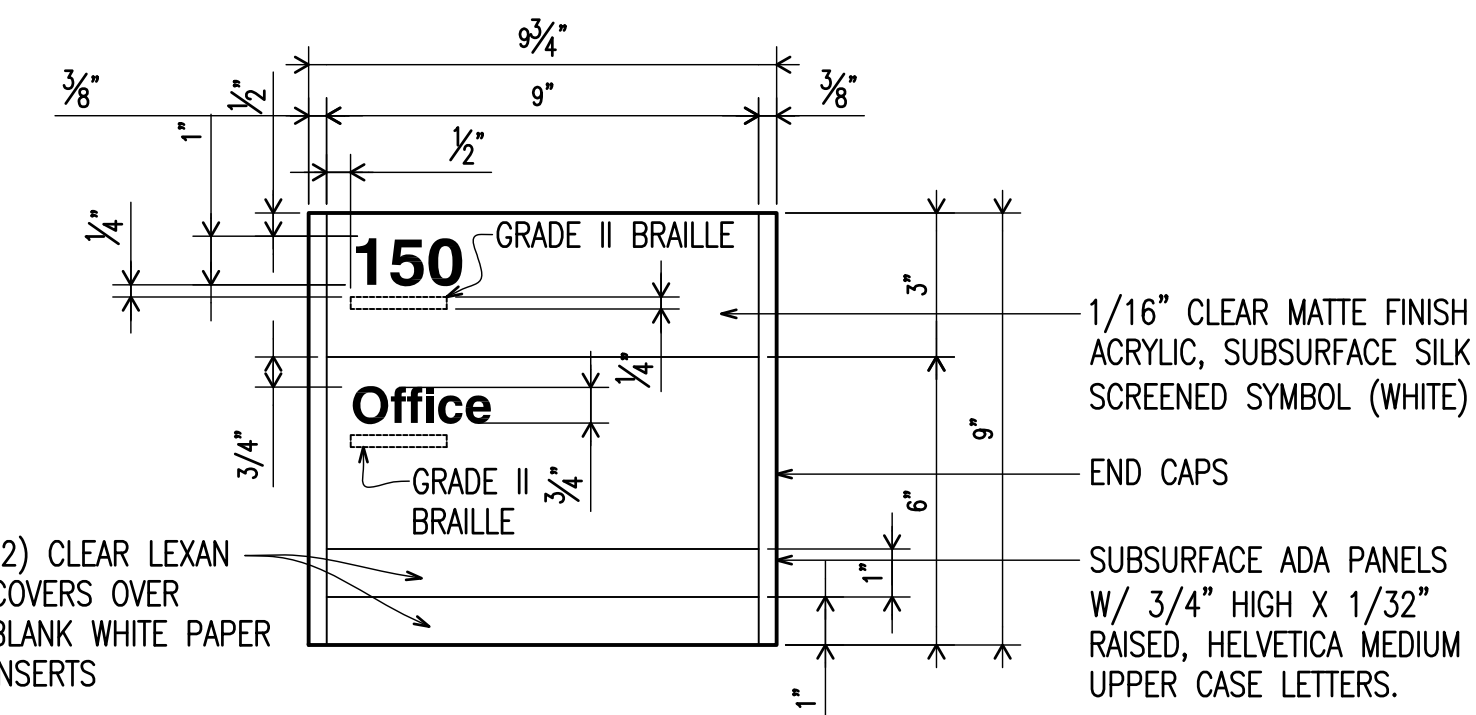
9 DOOR DETAIL: SILL Scale: 1-1/2" = 1'-0"



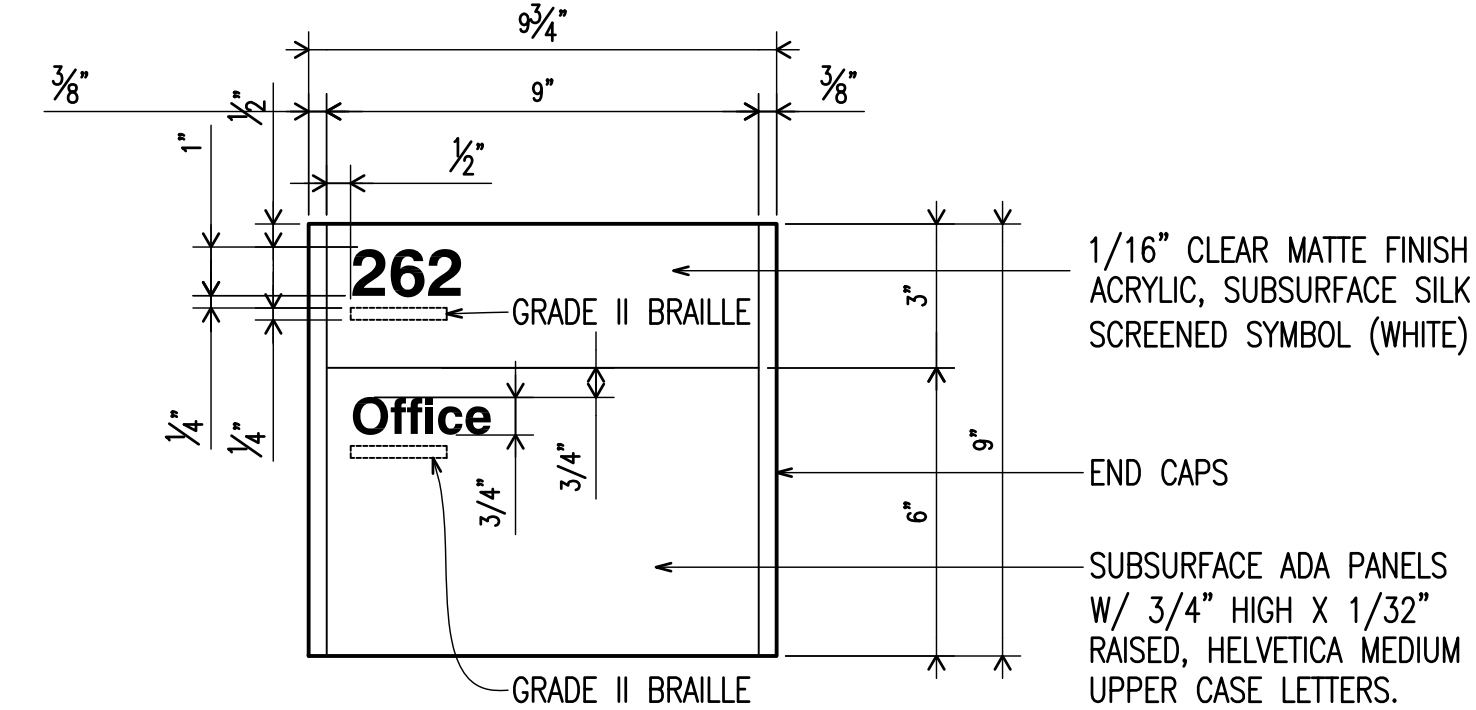
		<p>A-601</p>	
<p>DES. DIR. / APPROVED: PWO OR OICC</p>		<p>REPAIR LARGE UNIT HQs BUILDING 421</p>	
<p>DATE: 10 August 2011</p>		<p>DOOR SCHEDULE & DETAILS</p>	
<p>APPROVED: PWO OR OICC</p>		<p>NAVAC DRAWING NO. 60008605</p>	
<p>DATE: 10 August 2011</p>		<p>CONSTR. CONTR. NO. N40085-11-B-0127</p>	
<p>SATISFACTORY TO:</p>		<p>SCALE: AS NOTED SPEC. 05-11-0127 SHEET 14 OF 42</p>	

SIGNAGE SCHEDULE

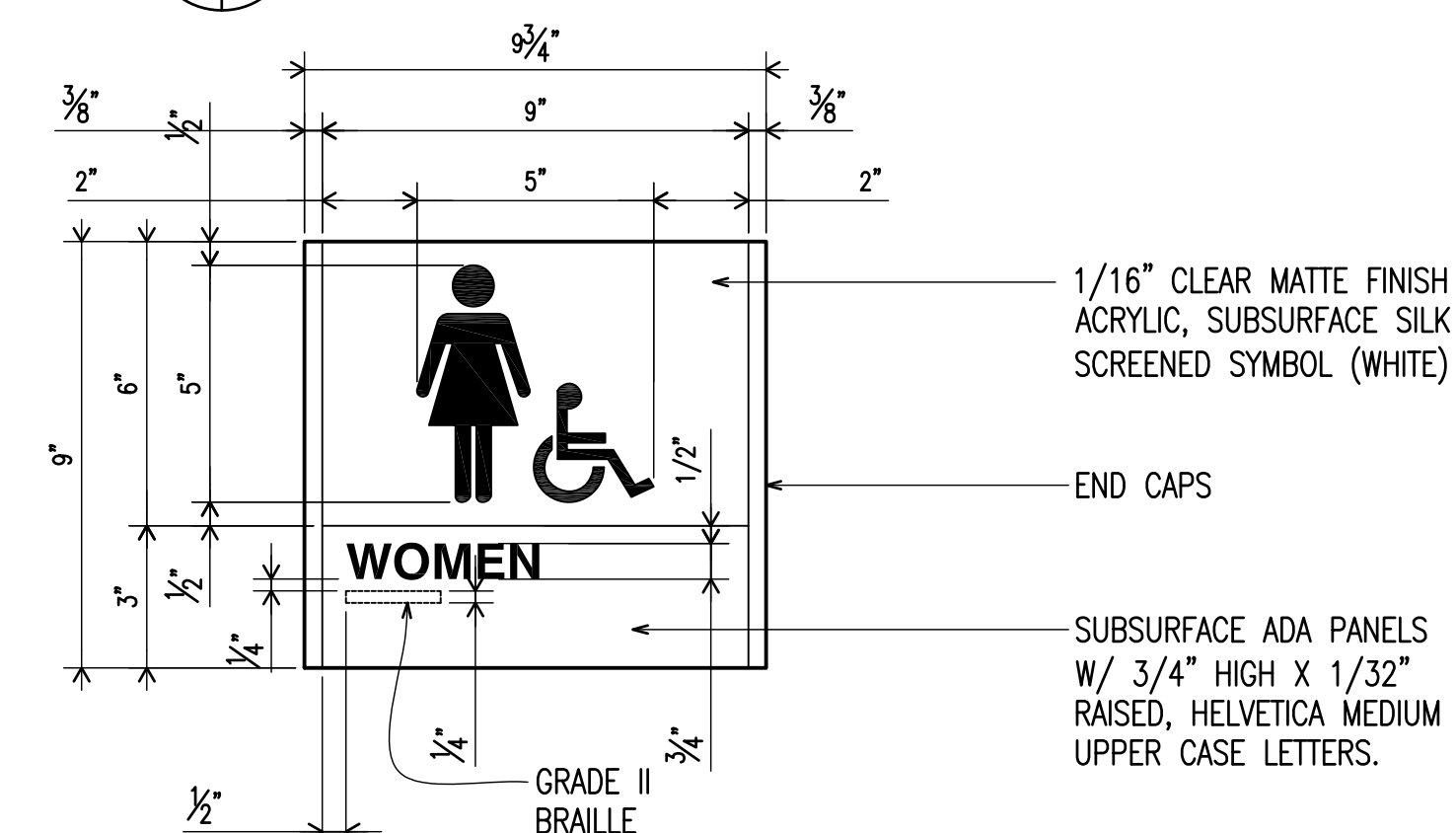
ARCHITECT'S ROOM NUMBER		ACTUAL ROOM NUMBER		SIGN TYPE	REMARKS	ARCHITECT'S ROOM NUMBER		ACTUAL ROOM NUMBER		SIGN TYPE	REMARKS
ARCHITECT'S ROOM NAME	ACTUAL ROOM NAME	ARCHITECT'S ROOM NUMBER	ACTUAL ROOM NAME			ARCHITECT'S ROOM NUMBER	ACTUAL ROOM NAME	ARCHITECT'S ROOM NUMBER	ACTUAL ROOM NAME		
101	FRO / EMBARK OFFICERS			A		111	S-4 CLERKS			A	
102	STORAGE			B		112	MECHANICAL			E	
103	S-4 CHIEF			A		113	ELECTRICAL			E	
104	S-4 PLATOON SERGEANT			A		115	TELECOMMUNICATIONS			E	
106	WOMEN			C		116	MOBILITY OFFICER			A	
107	JANITOR			E		117	STAFF SERGEANT MMO			A	
108	MEN			D		118	KITCHENETTE			B	
109	CONFERENCE			F		119	MMO CLERKS			A	
110	S-4 OFFICERS			A							



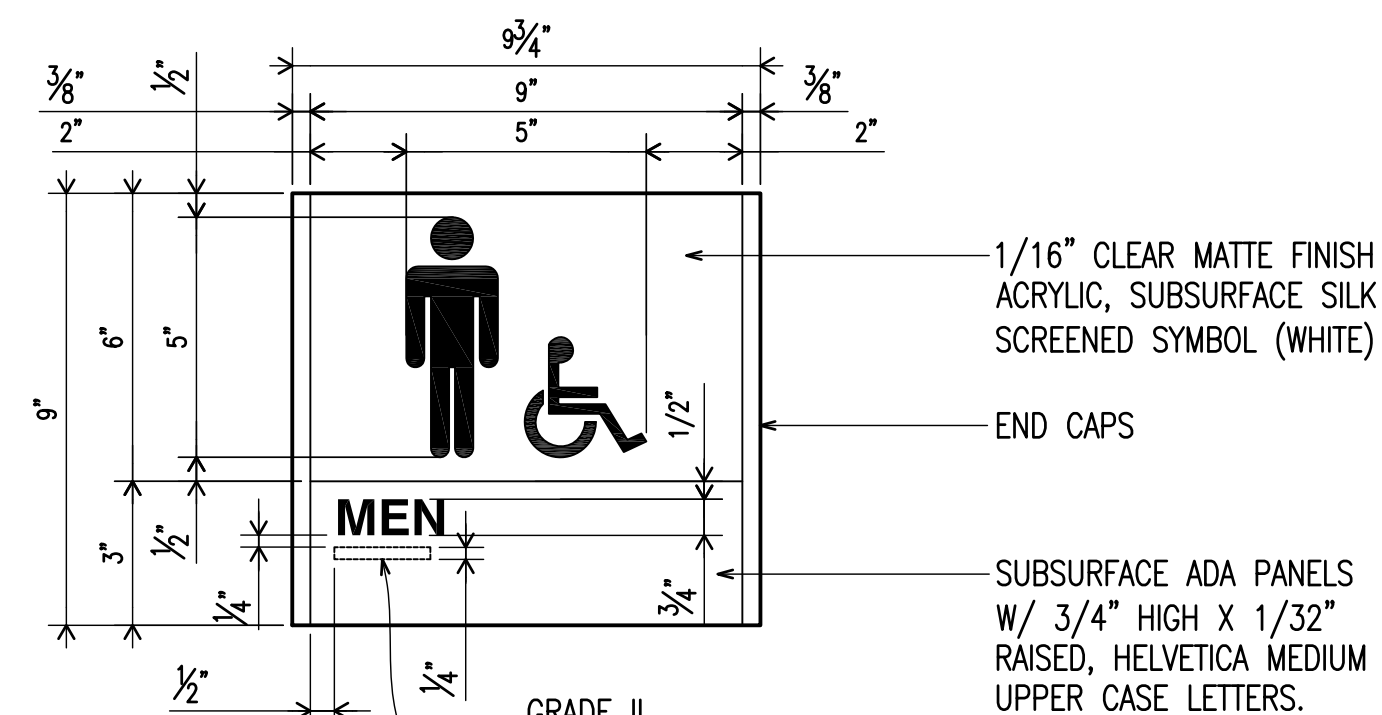
1 SIGN TYPE "A"
TYPICAL OFFICE Scale: 3"=1'-0"



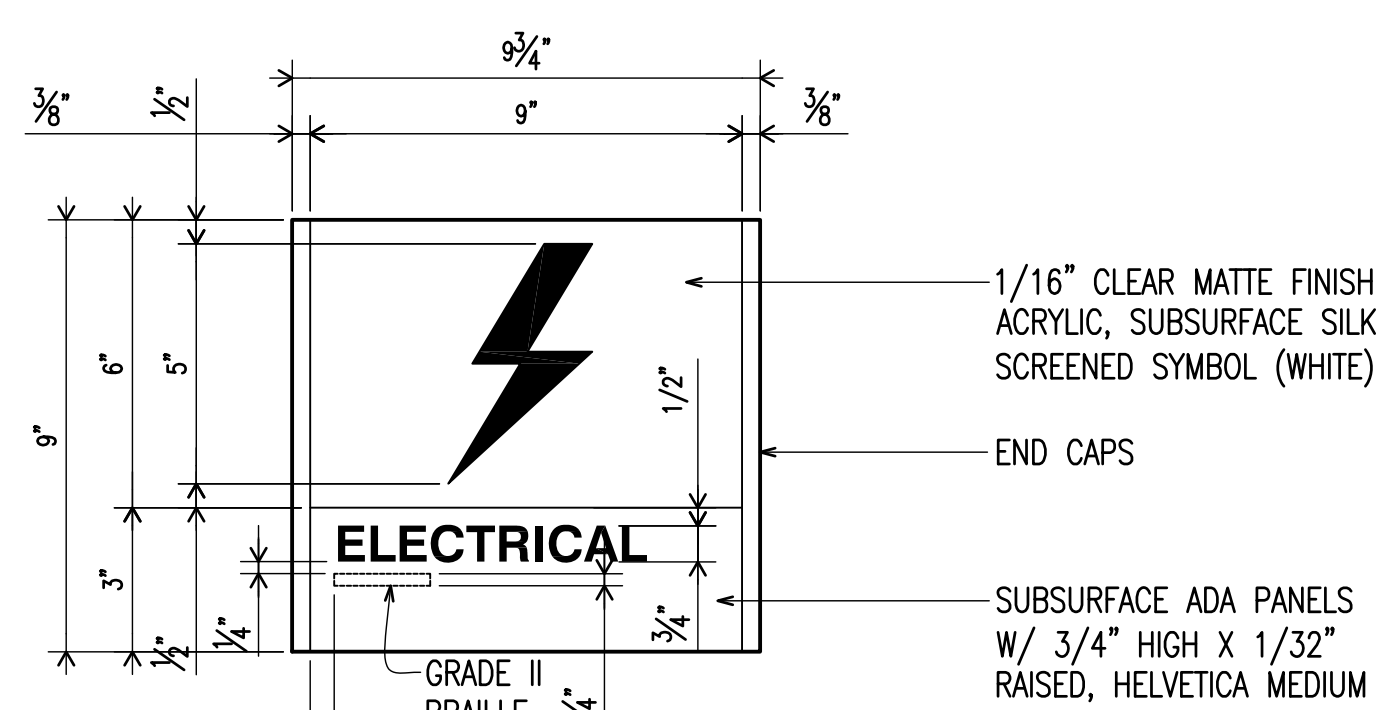
2 SIGN TYPE "B"
TYPICAL ROOM Scale: 3"=1'-0"



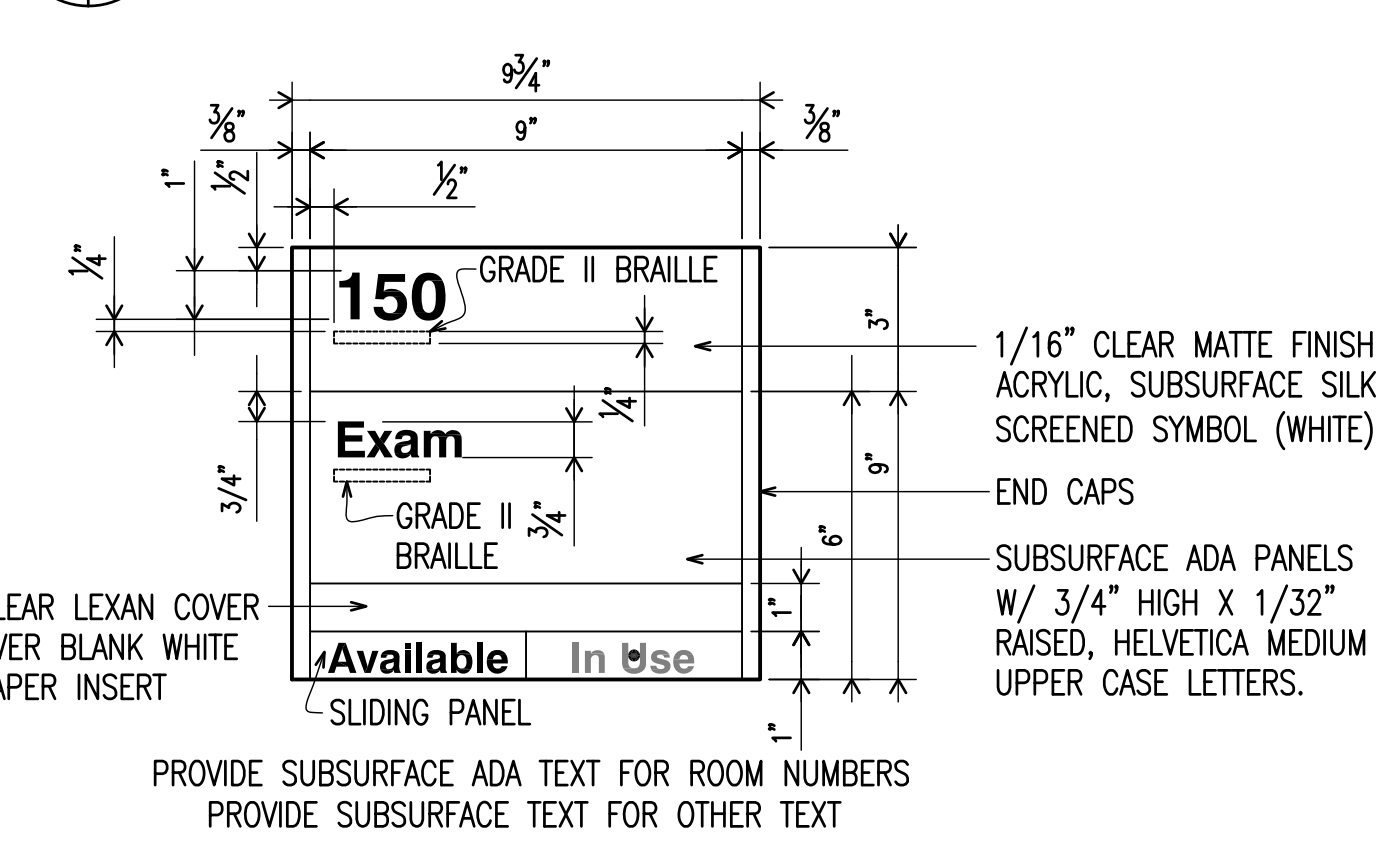
3 SIGN TYPE "C"
WOMEN'S ROOM Scale: 3"=1'-0"



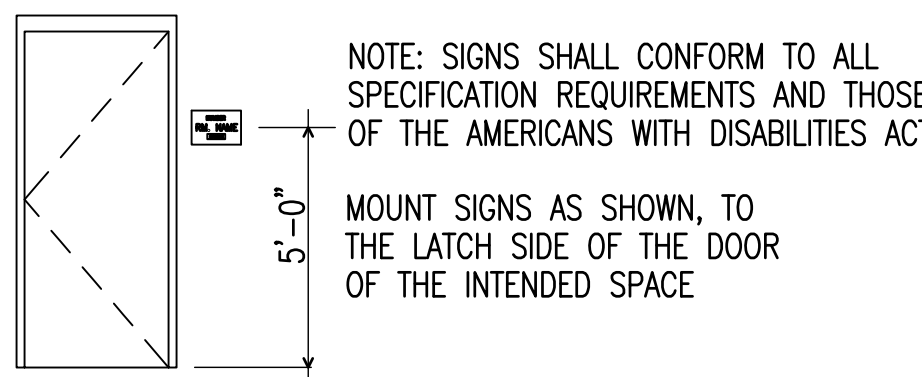
5 SIGN TYPE "D"
MEN'S ROOM Scale: 3"=1'-0"



6 SIGN TYPE "E"
ELECTRICAL Scale: 3"=1'-0"



3 SIGN TYPE "F"
CONFERENCE Scale: 3"=1'-0"



FINISH SCHEDULE

MARK	FLOOR	WALLS	BASE	CEILING	MILLWORK	REMARKS
F1	RESILIENT TILE	GYPSON BOARD (PAINTED)	RUBBER	ACOUSTIC TILE CEILING		
F2	CARPET	GYPSON BOARD (PAINTED)	RUBBER	ACOUSTIC TILE CEILING		
F3	RESILIENT TILE	GYPSON BOARD (PAINTED)	RUBBER	ACOUSTIC TILE CEILING	SOLID SURFACE AND PLASTIC LAMINATE	①
F4	CERAMIC TILE	CERAMIC TILE	CERAMIC	GYPSON BOARD (PAINTED)		
F5	RESILIENT TILE	GYPSON BOARD (PAINTED)	RUBBER	GYPSON BOARD (PAINTED)		
F6	CONCRETE WITH SEALER	GYPSON BOARD (PAINTED)	RUBBER	OPEN TO STRUCTURE ABOVE		

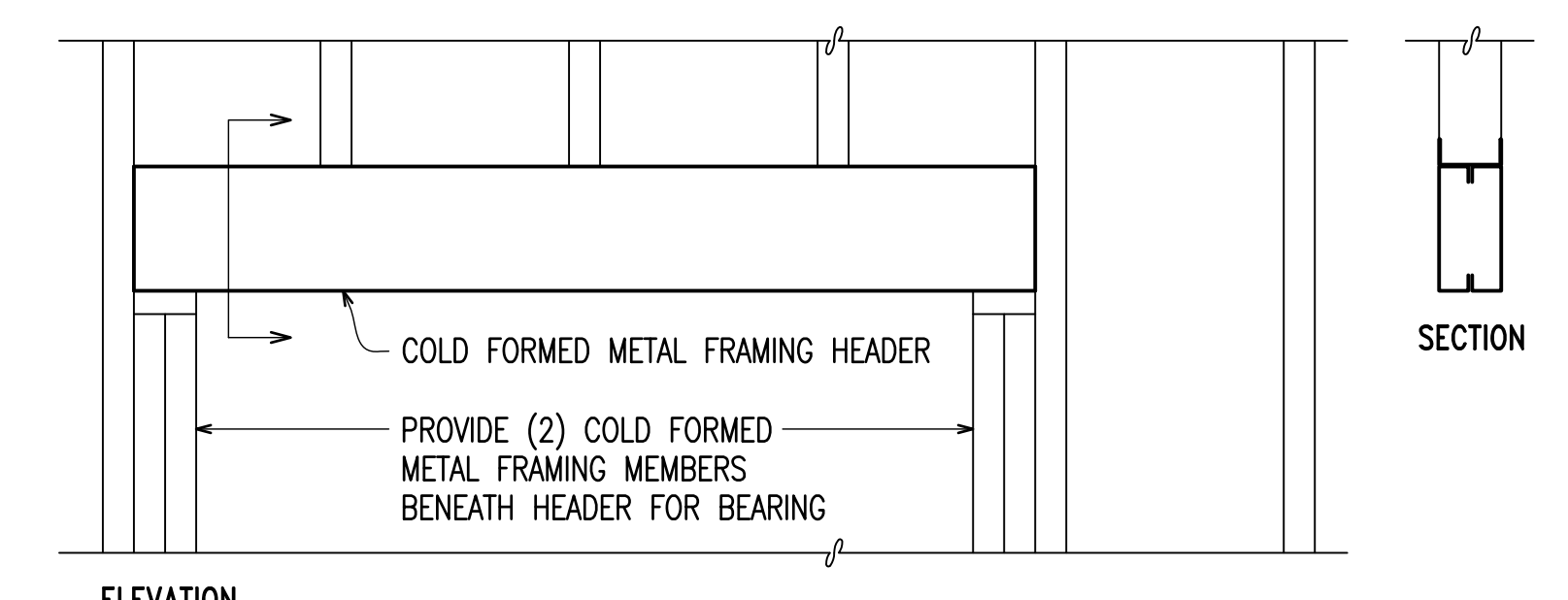
REMARKS

① MILLWORK OCCURS IN KITCHENETTE 118 ONLY

COLOR AND MATERIAL SELECTIONS

SEE PLANS AND PLAN NOTES FOR ALL MATERIAL DESCRIPTIONS AND INTENDED LOCATIONS FOR INSTALLATIONS. NAMES INDICATED FOR COLORS, TEXTURES, AND PATTERNS OF MATERIALS ARE FOR THE PURPOSE OF SELECTION ONLY. OTHER MANUFACTURERS MATERIALS MAY BE ACCEPTABLE PROVIDED MATERIALS CLOSELY APPROXIMATE COLORS, TEXTURES, AND PATTERNS INDICATED AND CONFORM TO ALL SPECIFICATION REQUIREMENTS. THE COLORS, TEXTURES, AND PATTERNS SELECTED BY INDICATED MANUFACTURERS ARE NOT INTENDED TO LIMIT SELECTION OF SIMILAR PRODUCTS.

MATERIAL	SELECTION	MATERIAL	SELECTION
PAINT: WALLS	GLIDDEN PROFESSIONAL IVORY BEIGE	RESILIENT FLOOR TILE:	ARMSTRONG EXCELON 52147 PUMICE STONE
PAINT: CEILINGS	GLIDDEN PROFESSIONAL KITTEN WHITE	CERAMIC FLOOR TILE:	DALTILE CSS3 ASIAN BLACK
PAINT: STEEL DOORS	GLIDDEN PROFESSIONAL MIDNIGHT HOUR	CERAMIC WALL TILE:	DALTILE CSS7 ENGLISH GREY
PAINT: STEEL DOOR FRAMES	GLIDDEN PROFESSIONAL MIDNIGHT HOUR	ACOUSTIC CEILING TILE:	ARMSTRONG FINE FISSURED OPEN PLAN
RUBBER BASE:	JOHNSONITE 63-BURNT UMBER	SOLID SURFACE:	WILSONART 9042EA BEDROCK
CARPET:	SHAW CONTRACT SHIMMER 17755 NATURAL TONIC	PLASTIC LAMINATE:	WILSONART LAMINATE 4889-60 SPICED ZEPHYR



COLD FORMED METAL FRAMING HEADER SCHEDULE

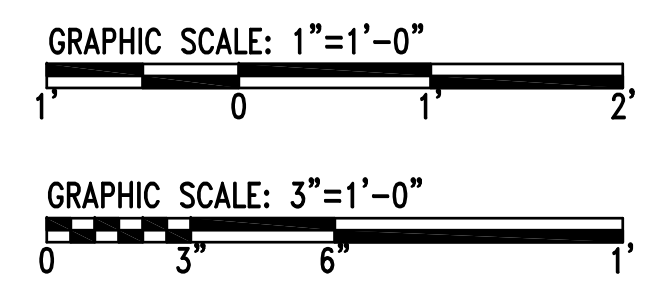
OPENING	HEADER SIZE	REMARKS
≤ 3'-0"	(2) 6"x1-5/8" - 16 GA	
3'-0" ≤ 6'-0"	(2) 8"x1-5/8" - 16 GA	
> 6'-0"	(2) 10"x1-5/8" - 14 GA	

COLD FORMED METAL FRAMING HEADER NOTES

1. Provide headers as shown unless noted otherwise on plans, sections, or details for all openings wider than 1'-0".

COLD FORMED METAL FRAMING HEADER SCHEDULE

NO SCALE



		A-602	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG/MPD DR. MPD CHK. RTB SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQS BUILDING 421	
APPROVED: PWO OR OICC DATE:		SIGNAGE SCHEDULE, FINISH SCHEDULE & DETAILS NAVFAC DRAWING NO.	
SATISFACTORY TO: DATE:		SIZE CODE IDENT NO. 60008606	
SCALE: AS NOTED SPEC. 05-11-0127		SHEET 15 OF 42	



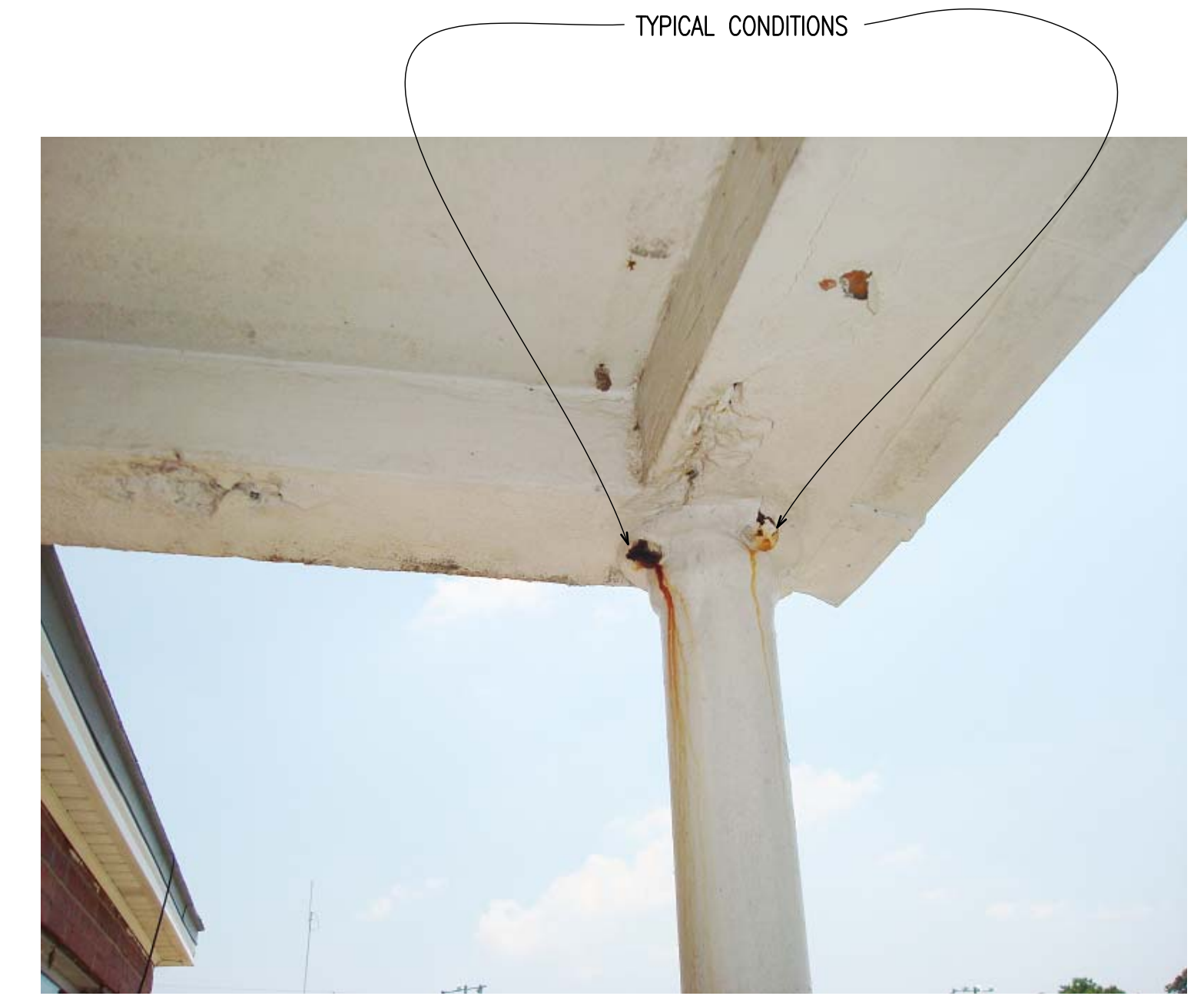
1 PHOTOGRAPH
A-201A-901 EXISTING BRICK SURFACE N.T.S.



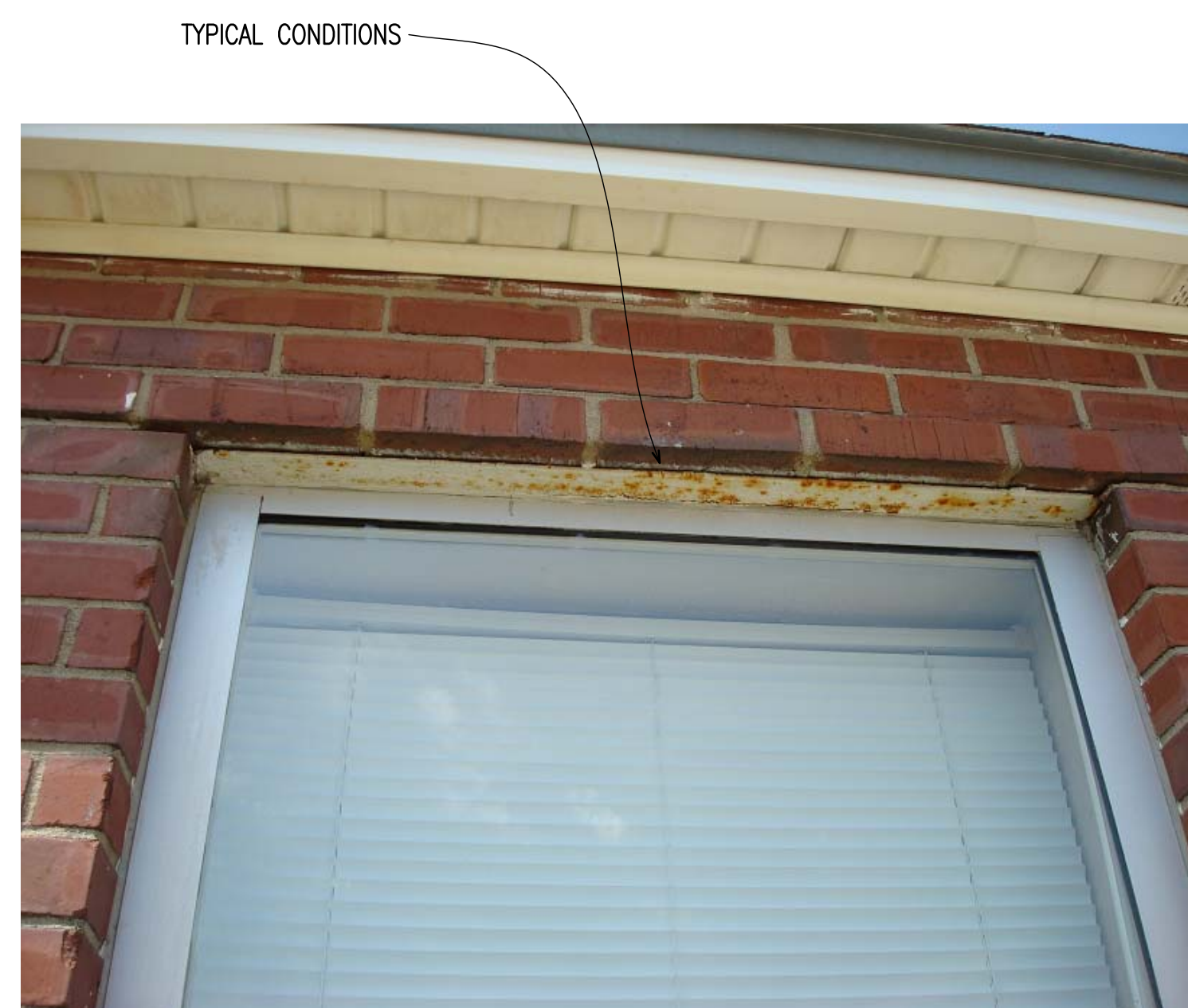
2 PHOTOGRAPH
A-201A-901 EXISTING BRICK SURFACE N.T.S.



3 PHOTOGRAPH
A-201A-901 EXISTING BRICK SURFACE N.T.S.



4 PHOTOGRAPH
A-102A-901 EXISTING STEEL COLUMNS AT SIDE PORCH N.T.S.



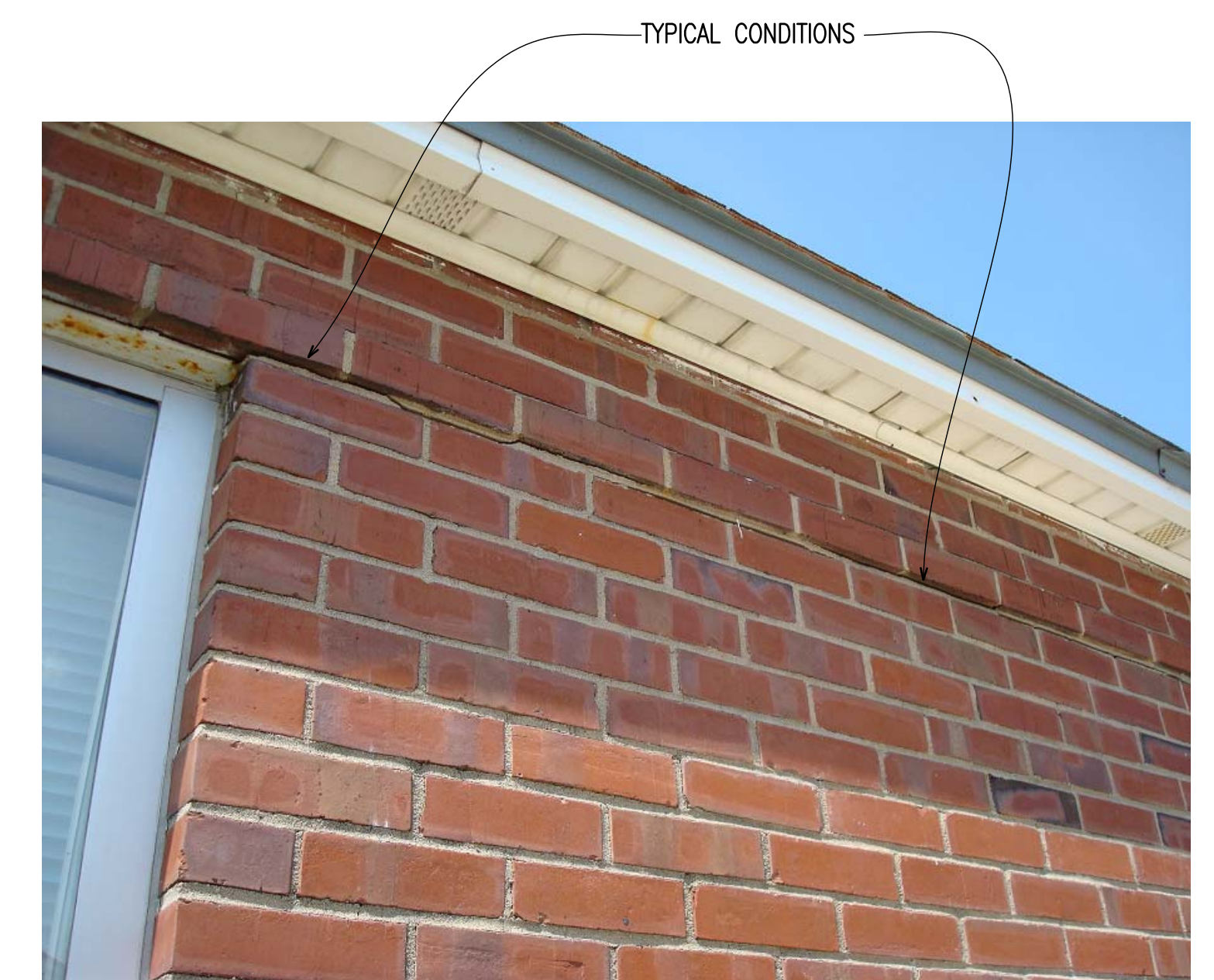
5 PHOTOGRAPH
A-102A-901 EXISTING LINTEL ABOVE WINDOWS N.T.S.



6 PHOTOGRAPH
A-201A-901 EXISTING FRONT PORCH N.T.S.



7 PHOTOGRAPH
A-201A-901 EXISTING SIDE PORCH N.T.S.

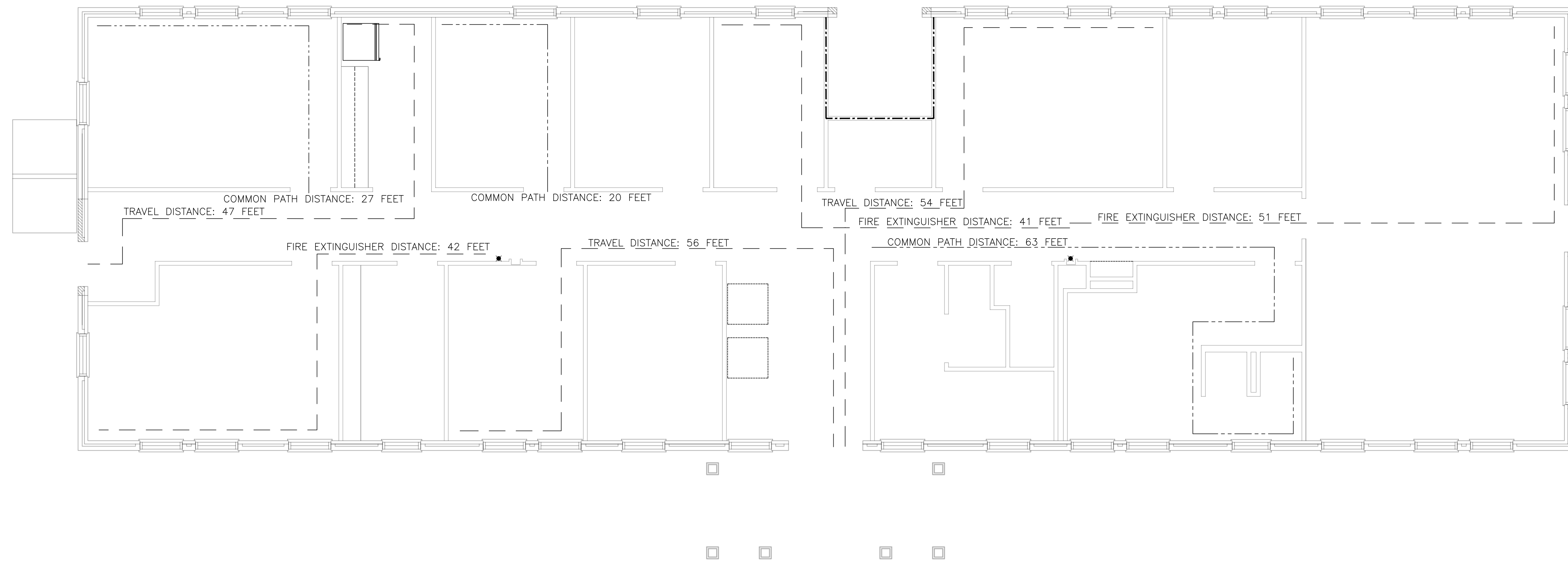


8 PHOTOGRAPH
A-201A-901 EXISTING EXTERIOR BRICK N.T.S.



9 PHOTOGRAPH
A-201A-901 EXISTING EXTERIOR BRICK N.T.S.

		A-901	
		MAUNE BELANGIA FAULKENBERRY ARCHITECTS PA 317-C POLLOCK STREET NEW BERN, NC	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		REPAIR LARGE UNIT HQs BUILDING 421	
DES. DLG/MPO DR. MPO CHK. RTB SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE:		PHOTOGRAPHS NAVFAC DRAWING NO. 60008607 CONST. CONTR. NO. N40085-11-B-0127	
SATISFACTORY TO: DATE:		F 80091	SCALE: AS NOTED SPEC. 05-11-0127 SHEET 16 OF 42



LIFE SAFETY PLAN

SCALE 1/4" = 1'-0"

LEGEND

- ✱ 2-A "ABC" DRY CHEMICAL FIRE EXTINGUISHER (MAXIMUM TRAVEL DISTANCE: 75')
- COMMON PATH OF TRAVEL DISTANCE
- - - - FIRE EXTINGUISHER DISTANCE
- - - - TRAVEL DISTANCE
- - - - 1 HOUR FIRE RATED WALL

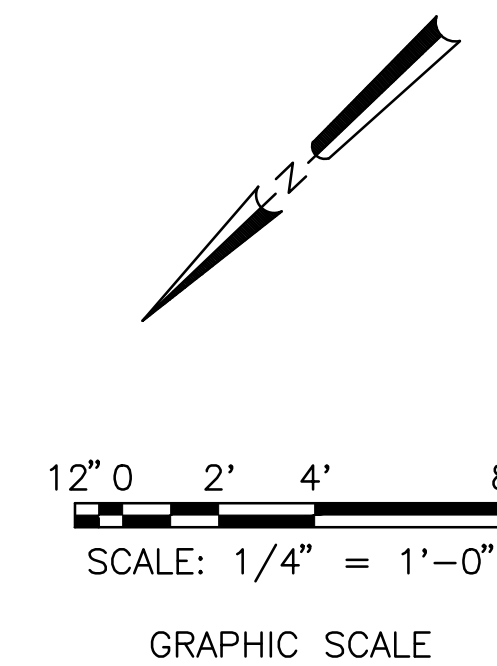
BUILDING CONSTRUCTION SUMMARY:

THIS BUILDING IS A RENOVATED CONCRETE MASONRY UNIT STRUCTURE WITH BRICK VENEER EXTERIOR, METAL STUD WALLS OVER CRAWL SPACE, AND STEEL TRUSS ROOF.

CODE & LIFE SAFETY ANALYSIS




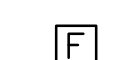
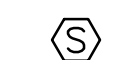
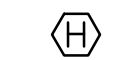


IBC 2009, NFPA 101-2009

BUILDING: OFFICE BUILDING
 OCCUPANCY: B - BUSINESS
 TYPE OF CONSTRUCTION: TYPE III-B, UN-SPRINKLERED
 BUILDING AREA: 3,600 SF
 ALLOWABLE AREA INCREASE: NOT APPLICABLE
 BUILDING HEIGHT: 20' (1 STORY)
 MAX. PERMITTED BUILDING HEIGHT: 55'
 ALLOWABLE BUILDING HEIGHT INCREASE: NOT APPLICABLE
 REQUIRED EXITS: 2
 PROVIDED EXITS: 4
 OCCUPANT LOAD FACTOR(BUSINESS): 100 SQ.FT PER PERSON
 TOTAL PERMITTED OCCUPANT LOAD: 36 PERSONS
 CAPACITY WIDTH PER PERSON: 1.05"
 TOTAL CAPACITY WIDTH REQUIRED: 0.2"
 CLEAR WIDTH OF DOORS: 34 1/4" PER DOOR
 CAPACITY OF DOORS: 171 PERSONS PER DOOR
 COMMON PATH OF TRAVEL: NONE EXCEED THIS LIMIT
 COMMON PATH OF TRAVEL LIMIT: 75 FEET
 DEAD END DISTANCE: NOT APPLICABLE
 DEAD-END LIMIT: 50 FEET
 MAXIMUM TRAVEL DISTANCE: NONE EXCEED THIS LIMIT
 MAXIMUM TRAVEL DISTANCE LIMIT: 200 FEET



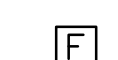
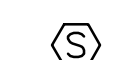



		LS101	
 CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (781)433-8753 (781)433-8754 www.cemsgroup.com CEMS Project #0115000 Project Manager: R. Alvar		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
		REPAIR LARGE UNIT HQs BUILDING 421	
DES. F. GALLETTA DR. C. COOPER CHK. H. BONGIORNO SUBMITTED BY: DESIGN DIR.		LIFE SAFETY PLAN NAVFAC DRAWING NO. 60008608	
APPROVED: PWO OR OICC	DATE	SIZE	CODE IDENT NO.
SATISFACTORY TO:	DATE	F 80091	60008608
SCALE: AS NOTED		SPEC. 05-11-0127	SHEET 17 OF 42

LEGEND

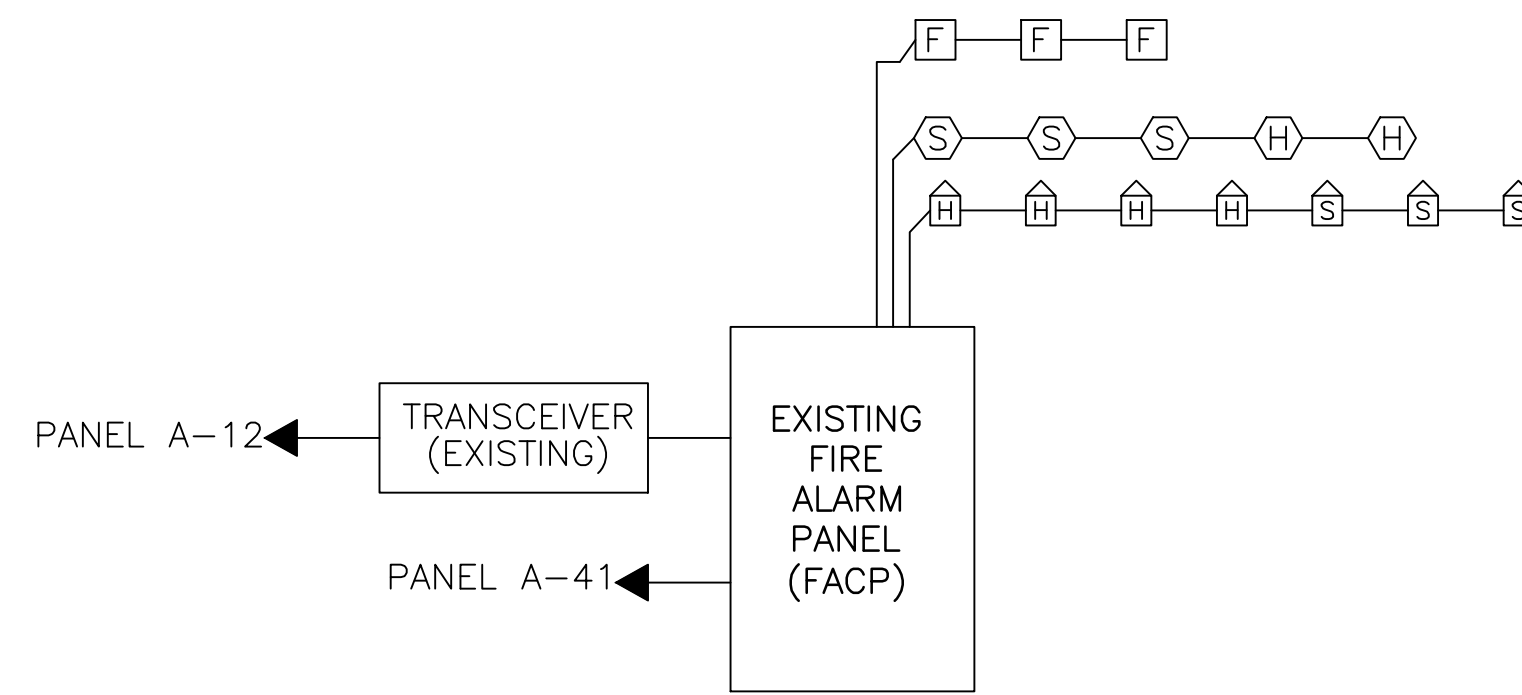
-  EXISTING FIRELITE MS-2 FIRE ALARM PANEL
-  EXISTING SEABOARD SYSTEMS TRANSCIVER
-  REMOTE ANNUNCIATOR
-  FIRE ALARM PULL STATION
-  SMOKE DETECTOR
-  135 DEGREE FIXED TEMP. HEAT DETECTOR
-  FIRE ALARM HORN/STROBE
-  FIRE ALARM STROBE
- R INDICATES RELOCATED, EXISTING DEVICE
- CM INDICATES CEILING MOUNTED DEVICE

DEMOLITION LEGEND

-  EXISTING FIRELITE MS-2 FIRE ALARM PANEL
-  EXISTING SEABOARD SYSTEMS TRANSMITTER
-  EXISTING FIRE ALARM PULL STATION
-  EXISTING SMOKE DETECTOR
-  EXISTING FIRE ALARM HORN/STROBE
- ER INDICATES EXISTING DEVICE TO BE RELOCATED

FIRE ALARM SYSTEM NOTES:


- 1) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE DEPARTMENT OF DEFENSE UNIFIED FACILITIES CRITERIA NFPA 72 (2010 EDITION).
- 2) THE AUTHORITY HAVING JURISDICTION (AHJ) SHALL APPROVE THE PLANS PRIOR TO START OF ANY WORK.
- 3) LOCATIONS OF ALL FIRE ALARM EQUIPMENT SHALL BE SUBJECT TO AHJ APPROVAL. NO CHANGE OR MODIFICATION TO THE SYSTEM OR PLANS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. IF ANY SUBSTANTIAL CHANGES ARE MADE TO THE DRAWINGS PRIOR TO OR DURING INSTALLATION, AS BUILT PLANS SHALL BE PREPARED BY THE ENGINEER AND FILED WITH THE APPROPRIATE AGENCIES FOR FINAL ACCEPTANCE.
- 4) DO NOT RUN FIRE ALARM CABLE IN THE SAME RACEWAY WITH NON FIRE ALARM CABLE.
- 5) ALL POWER LIMITED AND NON POWER LIMITED WIRING SHALL BE RUN IN EMT.
- 6) AVOID INSTALLING FIRE ALARM CABLES NEAR SOURCES OF ALTERNATING CURRENT (LIGHTING, POWER, ETC).
- 7) ALL JUNCTION BOX COVERS, CONDUITS, ETC. SHALL BE PAINTED "FIRE DEPARTMENT RED".
- 8) ALL WIRING, EXCEPT AS NOTED OTHERWISE, SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 760 OF THE NATIONAL ELECTRICAL CODE.
- 9) ALL FIRE ALARM WIRE SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. FURTHERMORE CONDUCTORS IN CABINETS SHALL BE FORMED SO THAT THEY DROP OFF DIRECTLY OPPOSITE TO ITS TERMINAL CONNECTION. ALL TERMINALS SHALL BE NUMBERED AND LABELED IN EVERY CABINET.
- 10) ANY REQUIREMENTS FOR SHIELDING CONDUCTORS OR RUNNING THEM IN SEPARATE RACEWAYS SHALL BE AS RECOMMENDED BY THE MANUFACTURER'S DOCUMENTATION.
- 11) ALL WIRING TO BE CHECKED TO INSURE THAT THEY ARE FREE OF ANY OPENS, SHORTS OR GROUNDS.
- 12) OBSERVE ALL POLARITY ON ALL FIRE ALARM CIRCUITS. TEE TAPPING IS NOT PERMITTED ON CLASS A SIGNALING LINE CIRCUITS (SLC), INITIATING DEVICE CIRCUITS (IDC), AND NOTIFICATION APPLIANCE CIRCUITS (NAC).
- 13) MANUAL PULL STATIONS SHALL BE MOUNTED 48 INCHES ABOVE THE FINISHED FLOOR (AFF) TO THE CENTER OF THE HANDLE.
- 14) MANUAL PULL STATIONS SHALL BE PAINTED "FIRE DEPARTMENT RED". THEY SHALL BE INSTALLED SO THAT THEY ARE KEPT UNOBSTRUCTED AT ALL TIMES.
- 15) ALL CEILING MOUNTED DEVICES MUST BE SECURELY FASTENED TO THE BUILDING STRUCTURE AND NOT TO THE CEILING GRID. FURTHERMORE, ALL WALL MOUNTED DEVICES SHALL BE SECURELY MOUNTED IN PLACE. PLASTIC ANCHORS ARE NOT ACCEPTABLE.
- 16) DEVICE LOCATIONS SHALL BE READILY ACCESSIBLE TO ALLOW FOR MAINTENANCE AND REPAIR.
- 17) WALL MOUNTED FIRE ALARM HORN/STROBES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS AT 80" AFF. WHERE LOW CEILING HEIGHTS DO NOT PERMIT MOUNTING AT A MINIMUM OF 80", VISIBLE APPLIANCES SHALL BE MOUNTED WITHIN 6" OF THE CEILING.
- 18) NEW INITIATING DEVICES AND NOTIFICATION APPLIANCES SHALL BE COMPATIBLE WITH EXISTING FIRE ALARM CONTROL PANEL.

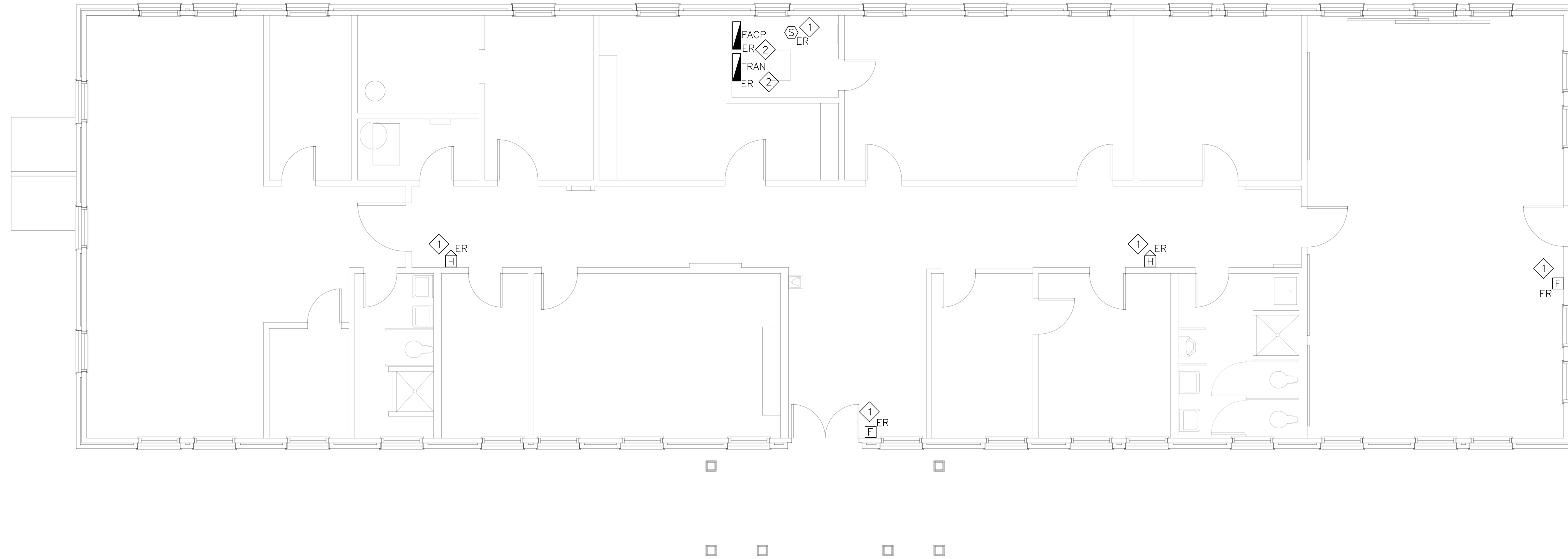


FIRE ALARM RISER DIAGRAM
NOT TO SCALE

	CONTROL UNIT ANNUNCIATION										NOTIFICATION				REQUIRED FIRE SAFETY CONTROL					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P				
1	●	●						●	●	●										
2	●	●						●	●	●										
3	●	●						●	●	●										
4						●	●	●			●									
5						●	●	●			●									
6						●	●	●			●									
7						●	●	●			●									
8						●	●	●			●									




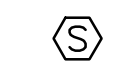


FIRE ALARM SEQUENCE OF OPERATIONS
NOT TO SCALE

FA001	
 <p>CEMS Engineering, Inc. P.O. Box 1688 3509 Iron Horse Drive Ladson, SC 29456 (714) 875-3637 (714) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager: R. Alvar</p>	<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA</p> <p style="text-align: center;">REPAIR LARGE UNIT HQs BUILDING 421</p> <p style="text-align: center;">FIRE ALARM LEGENDS, NOTES, AND DIAGRAMS</p>
<p>DES. F. GALLETTA DR. C. COOPER CHK. H. BONGIORNO SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE SATISFACTORY TO: DATE</p>	<p>NAVAC DRAWING NO. 60008609</p> <p>CONSTR. CONTR. NO. N40085-11-B-0127</p> <p>SCALE: AS NOTED SPEC. 05-11-0127 SHEET 18 OF 42</p>



FIRE ALARM DEMOLITION PLAN
SCALE 1/4" = 1'-0"

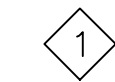

LEGEND

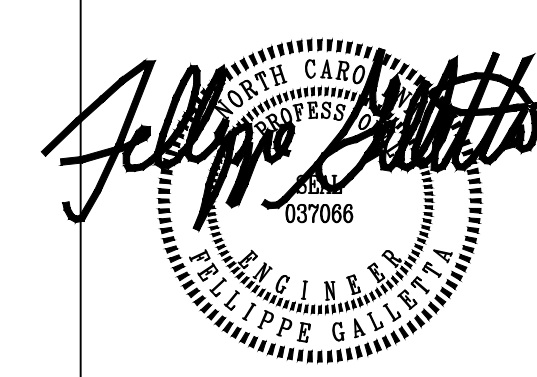
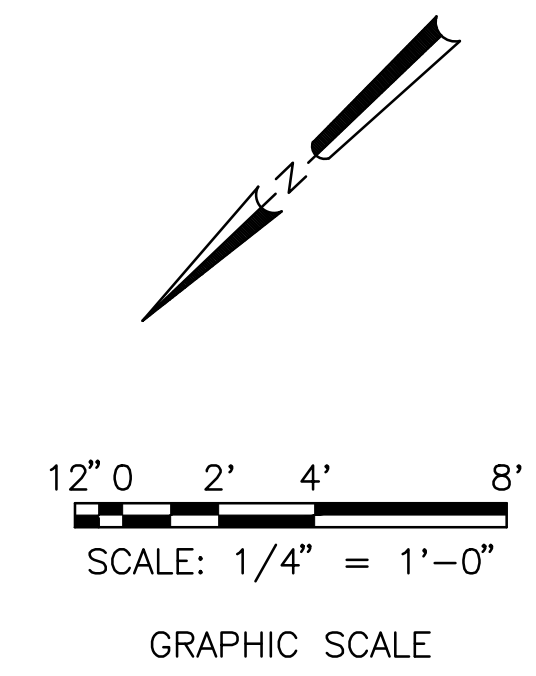
-  FIRELITE MS-2 FIRE ALARM PANEL
-  SEABOARD SYSTEMS TRANSCIEVER
-  FIRE ALARM PULL STATION
-  SMOKE DETECTOR
-  FIRE ALARM HORN/STROBE
-  INDICATES EXISTING DEVICE TO BE RELOCATED

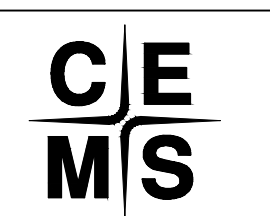
DEMOLITION NOTES

1. ALL DEVICES, FIRE ALARM CONTROL PANEL, AND TRANSCIEVER SHALL BE REUSED. SEE DRAWING FA102 FOR NEW LOCATIONS.

DEMOLITION KEY NOTES:

-  REMOVE ALL DEVICES, CONDUIT, AND CONDUCTORS BACK TO PANEL.
-  REMOVE EXISTING FIRE ALARM CONTROL PANEL, AND TRANSCIEVER.







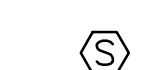
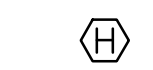



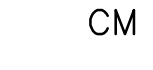
 <p style="font-size: 8px; margin: 0;">CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (714) 433-8753 (714) 433-8754 www.cemsgroup.com CEMS Project #0115000 Project Manager, R. Alvar</p>		<p style="font-size: 10px; margin: 0;">DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA</p>	FA101
DES. F. GALLETTA DR. C. COOPER CHK. H. BONGIORNO SUBMITTED BY: DESIGN DIR.		<p style="margin: 0;">REPAIR LARGE UNIT HQs BUILDING 421</p>	
APPROVED: PWO OR OICC SATISFACTORY TO:		DATE: _____ DATE: _____	SIZE: F CODE: 80091 IDENT NO.: 60008610 NAVFAC DRAWING NO. CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127
		SHEET 19 OF 42	

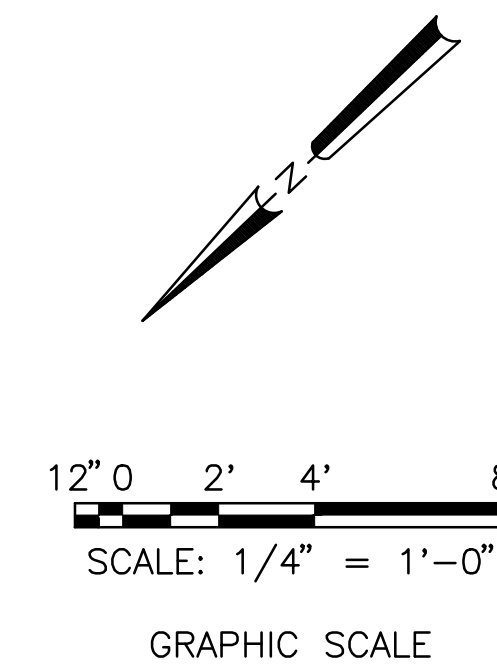



FIRE ALARM NEW WORK PLAN

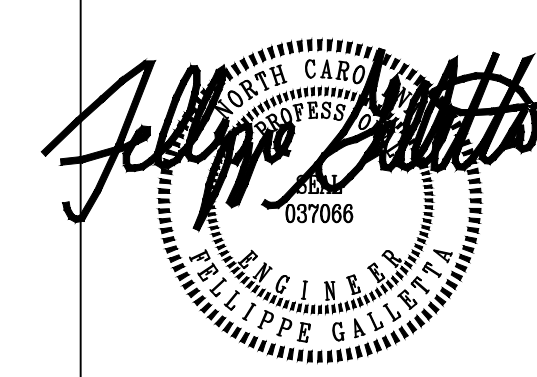
SCALE 1/4" = 1'-0"

LEGEND

-  EXISTING FIRELITE MS-2 FIRE ALARM PANEL
-  EXISTING SEABOARD SYSTEMS TRANSCIVER
-  REMOTE ANNUNCIATOR
-  FIRE ALARM PULL STATION
-  PHOTOELECTRIC SMOKE DETECTOR
-  1.35 DEGREE FIXED TEMP. HEAT DETECTOR
-  FIRE ALARM HORN/STROBE
-  FIRE ALARM STROBE
-  INDICATES RELOCATED, EXISTING DEVICE
-  INDICATES CEILING MOUNTED STROBE



 <p style="font-size: 8px; margin: 0;"> CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (P) 843.875.3637 (F) 843.875.4559 www.cemsgroup.com CEMS Project #0115000 Project Manager, R. Alvar </p>		<p style="font-size: 12px; margin: 0;"> DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA </p>	FA102
<p style="font-size: 8px; margin: 0;"> DES. F. GALLETTA DR. C. COOPER CHK. H. BONGIORNO SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE SATISFACTORY TO: DATE </p>		<p style="font-size: 10px; margin: 0;"> REPAIR LARGE UNIT HQS BUILDING 421 FIRE ALARM NEW WORK PLAN NAVFAC DRAWING NO. 60008611 CONST. CONTR. NO. N40085-11-B-0127 </p>	
<p style="margin: 0;"> APPROVED: PWO OR OICC DATE SATISFACTORY TO: DATE </p>		<p style="margin: 0;"> SIZE CODE IDENT NO. F 80091 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 20 OF 42 </p>	



LEGEND

	MECHANICAL TO BE REMOVED/DEMOLISHED
	EXISTING STEAM PIPING
	EXISTING SANITARY SEWER PIPING
	EXISTING CONDENSATE PIPING
	CONDENSATE DRAIN PIPING
	SANITARY SEWER (GRAVITY)
	SANITARY SEWER (FORCE MAIN)
	STORM SEWER
	DOMESTIC WATER
	FIRE WATER
	DUAL TEMPERATURE WATER
	UNDERGROUND STEAM
	OVERHEAD ELECTRICAL
	UNDERGROUND ELECTRICAL
	UNDERGROUND CABLE
	UNDERGROUND COMMUNICATIONS
	SUPPLY DUCT/DIFFUSER
	EXHAUST DUCT/GRILLE/FAN
	RETURN DUCT/GRILLE
	45° TAKE OFF
	TURNING VANES
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	MOTOR OPERATED DAMPER
	UNIT START/STOP
	SUPPLY AIR TEMPERATURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	THERMOSTAT
	TEMPERATURE SENSOR
	PIPE TURNING DOWN
	FLOOR DRAIN
	FIRE DAMPER
	DIRECTION OF AIR FLOW
	THERMOSTAT
	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
VRHP	VARIABLE REFRIGERANT HEAT PUMP
EMCS	ENERGY MANAGEMENT AND CONTROL SYSTEM
ERV	ENERGY RECOVERY VENTILATOR
DSM	DOMESTIC SMART WATER METER
HPWH	HEAT PUMP WATER HEATER
ROC	REMOTE CONDENSING UNIT
DDC	DIRECT DIGITAL CONTROL
SBC	SUPERVISORY BUILDING CONTROLLER
AHU	AIR HANDLING UNIT
OAU	OUTSIDE AIR UNIT
TCU	TERMINAL CONTROL UNIT
OAT	OUTDOOR AIR TEMPERATURE SENSOR
JCI	JOHNSON CONTROLS INTERFACE
IWH	INSTANTANEOUS WATER HEATER
DX	DIRECT EXPANSION
S.P.	STATIC PRESSURE
ES	EMERGENCY SHUTDOWN SWITCH
TYP.	TYPICAL
OBD	OPPOSED BLADE DAMPER
O/A	OUTDOOR AIR
E/A	EXHAUST AIR
S/A	SUPPLY AIR
R/A	RETURN AIR

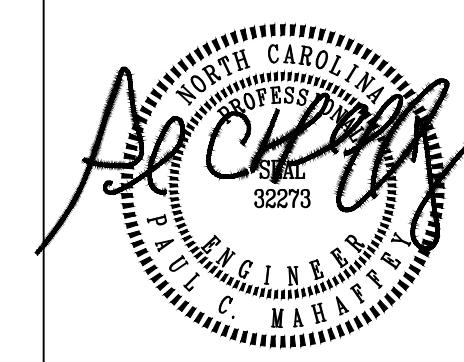
GENERAL NEW WORK NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT TO BE SCALED FOR DIMENSIONS, UNLESS DIMENSIONED.
2. COORDINATE LOCATION OF MECHANICAL WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
3. ALL EQUIPMENT, PIPE AND DUCTWORK SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNLESS OTHERWISE NOTED.
4. DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
5. DUCT SIZES INDICATED ARE NET FREE INSIDE DIMENSIONS.
6. ALL CONDENSATE PIPING TO BE 3/4" DIAMETER UNLESS NOTED OTHERWISE.

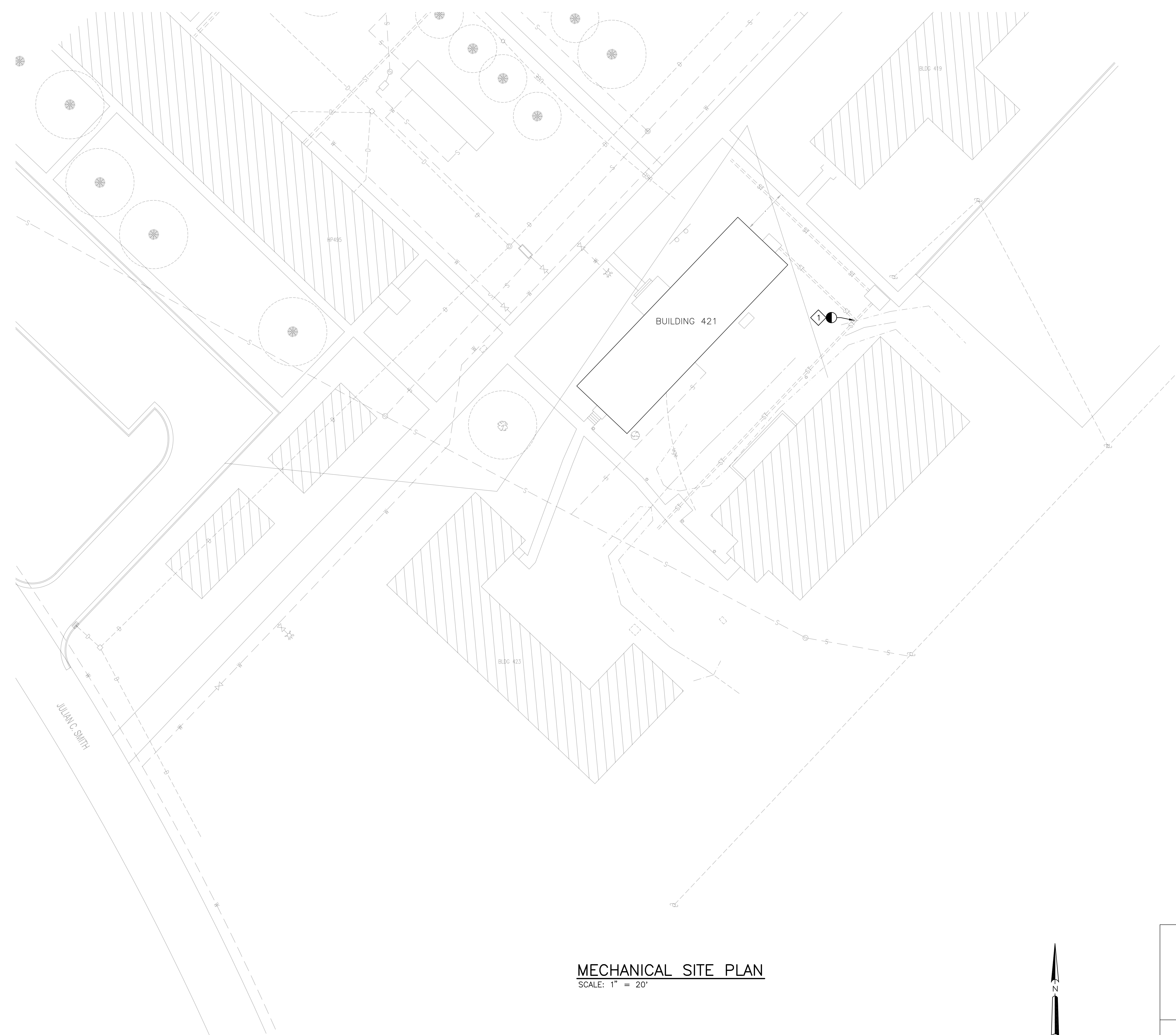
GENERAL DEMOLITION NOTES:

1. REMOVAL OF EQUIPMENT, DUCTWORK, PIPING, ETC. IS TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, BRACKETS, CONTROLS, AIR DEVICES, EQUIPMENT FOUNDATION/MOUNTING PADS AND APPURTENANCES PHYSICALLY ATTACHED AT THE COMMENCEMENT OF DEMOLITION, UNLESS NOTED OTHERWISE.
2. CONCEALED/BURIED PIPING MAY BE ABANDONED IN PLACE SO LONG AS IT DOES NOT INTERFERE WITH NEW WORK, UNLESS NOTED OTHERWISE.
3. ALL EQUIPMENT REMOVED, NOT INDICATED TO BE REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS NOTED OTHERWISE, AND SHALL BE TRANSPORTED BY THE CONTRACTOR OFF SITE.
4. EXISTING EQUIPMENT INDICATED TO BE REUSED SHALL BE CLEANED AND SERVICED PRIOR TO REUSE.
5. WHERE EQUIPMENT, DUCTWORK OR PIPING IS REMOVED AND NOT REPLACED, PATCH AND FINISH AREAS TO MATCH ADJACENT SURFACES.
6. SEE PLANS FOR EQUIPMENT REMOVAL.

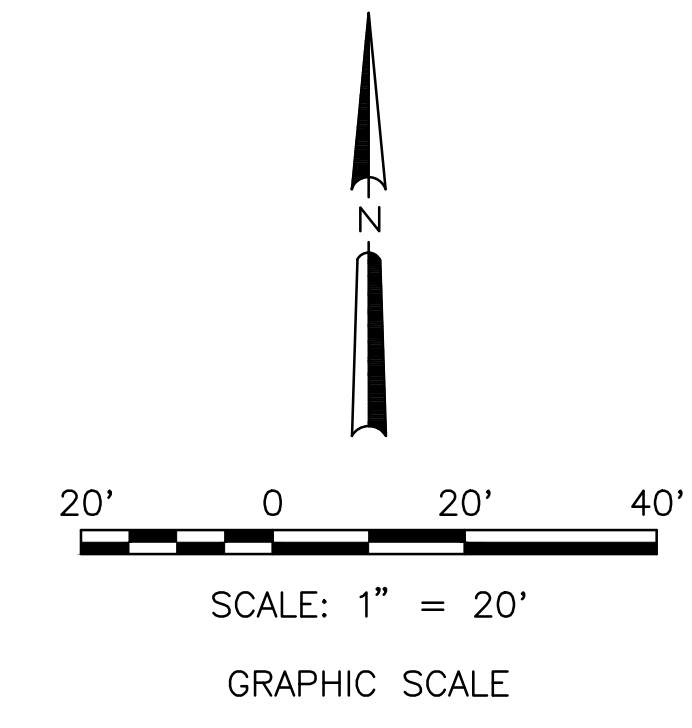
		M-001	
 CEMS Engineering, Inc. P.O. Box 1685 3509 Iron Horse Drive Ladsen, SC 29456 (P) 843.875.3637 (F) 843.875.4559 www.cjemsengineering.com CEMS Project #01150CC Project Manager: R. Alvar		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC SATISFACTORY TO:		MECHANICAL LEGEND AND GENERAL NOTES NAVFAC DRAWING NO. 60008612 CONST. CONTR. NO. N40085-11-B-0127	
		SCALE: AS NOTED SPEC. 05-11-0127	SHEET 21 OF 42



DEMOLITION KEYNOTES:
 ⬠ CONTRACTOR SHALL LOCATE AND DIG DOWN TO STEAM AND CONDENSATE PIPING SERVING BUILDING 421. CONTRACTOR SHALL BLANK AND CAP STEAM AND CONDENSATE PIPING BRANCH SERVING BUILDING 421 OFF OF MAIN STEAM RUN. MAIN STEAM RUN SHALL REMAIN IN SERVICE.

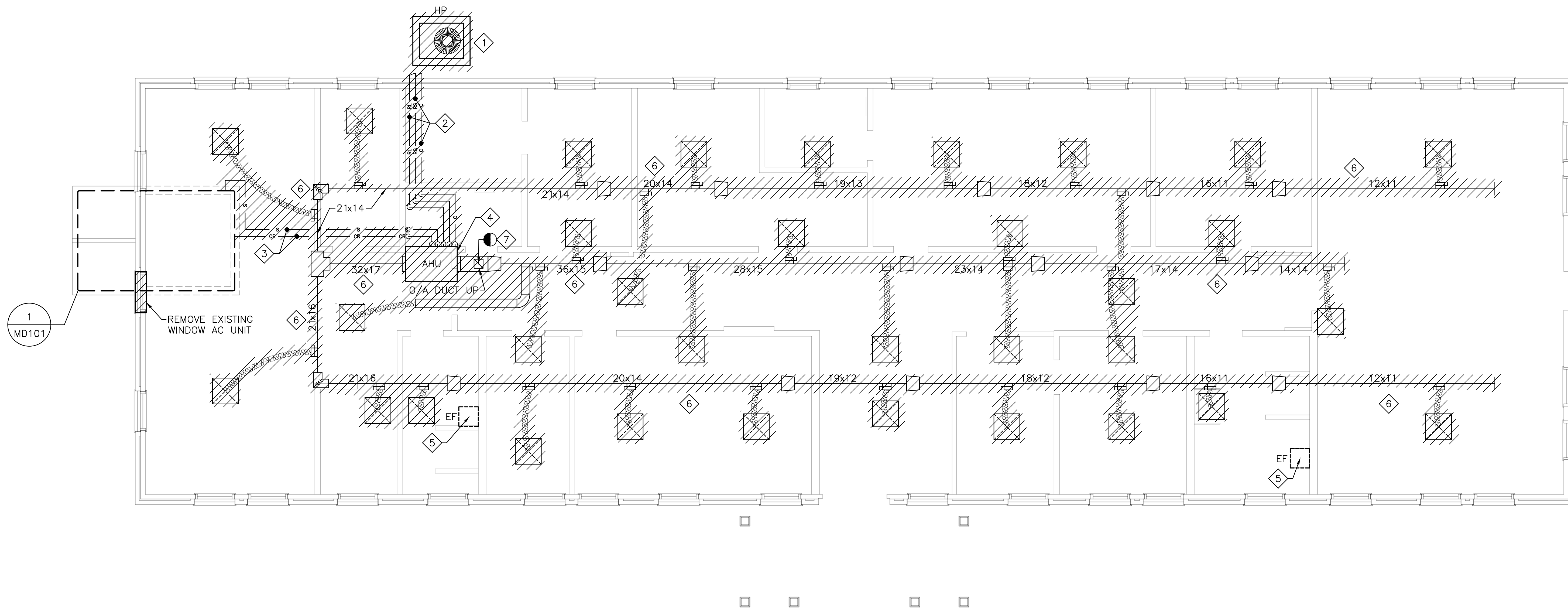


MECHANICAL SITE PLAN
 SCALE: 1" = 20'



		MS101	
 CJEMS ENGINEERING	<small>CEMS Engineering, Inc. P.O. Box 1685 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsengineering.com CEMS Project #01150CC Project Manager: R. Alvar</small>		
	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC SATISFACTORY TO:		DATE:	SIZE CODE IDENT NO. 60008613 CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 22 OF 42



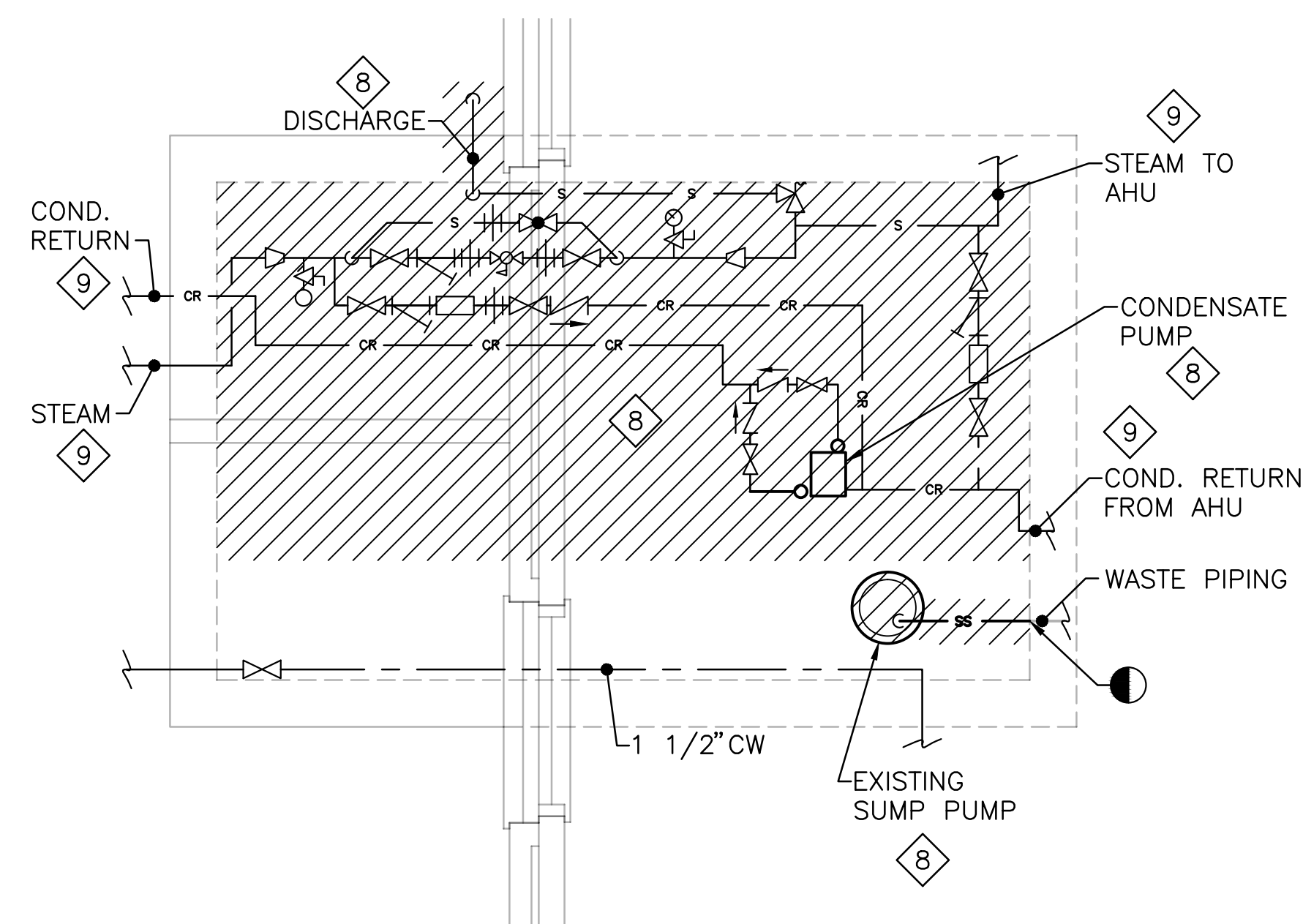


MECHANICAL DEMOLITION PLAN

SCALE 1/4" = 1'-0"

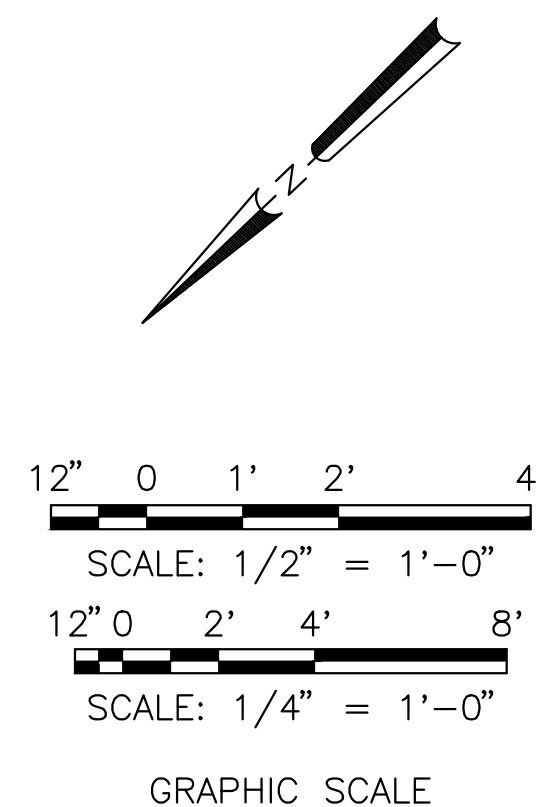
DEMOLITION KEYNOTES:

- 1 REMOVE EXISTING OUTDOOR UNIT (HP) AND CONCRETE PAD IN THEIR ENTIRETY.
- 2 REMOVE EXISTING REFRIGERANT PIPING AND CONDENSATE DRAIN PIPING.
- 3 REMOVE EXISTING STEAM AND CONDENSATE RETURN PIPING.
- 4 REMOVE EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED CONTROLS IN THEIR ENTIRETY.
- 5 REMOVE EXISTING EXHAUST FAN (EF) AND ALL ASSOCIATED DUCTWORK AND CONTROLS. EXHAUST ROOF VENTS TO REMAIN. CAP DUCTWORK IN ATTIC FLUSH TO ROOFLINE.
- 6 REMOVE EXISTING SUPPLY/RETURN DUCTWORK AND ALL ASSOCIATED DUCTWORK AND GRILLES.
- 7 REMOVE OUTSIDE AIR DUCT UP TO 1'-0" BEFORE INTERFACE WITH OUTSIDE AIR INTAKE. OUTSIDE AIR INTAKE TO REMAIN AND BE PREPARED FOR ATTACHMENT TO NEW DUCTWORK.
- 8 REMOVE ALL STEAM AND CONDENSATE PIPING, CONTROLS, VALVES, STEAM APPURTENANCES, WASTE AND COLD WATER (CW) PIPING, SUMP PUMP AND ALL VALVES IN THEIR ENTIRETY.
- 9 STEAM SUPPLY AND CONDENSATE RETURN LINES ENTERING PIT TO BE CAPPED FLUSH TO WALL.

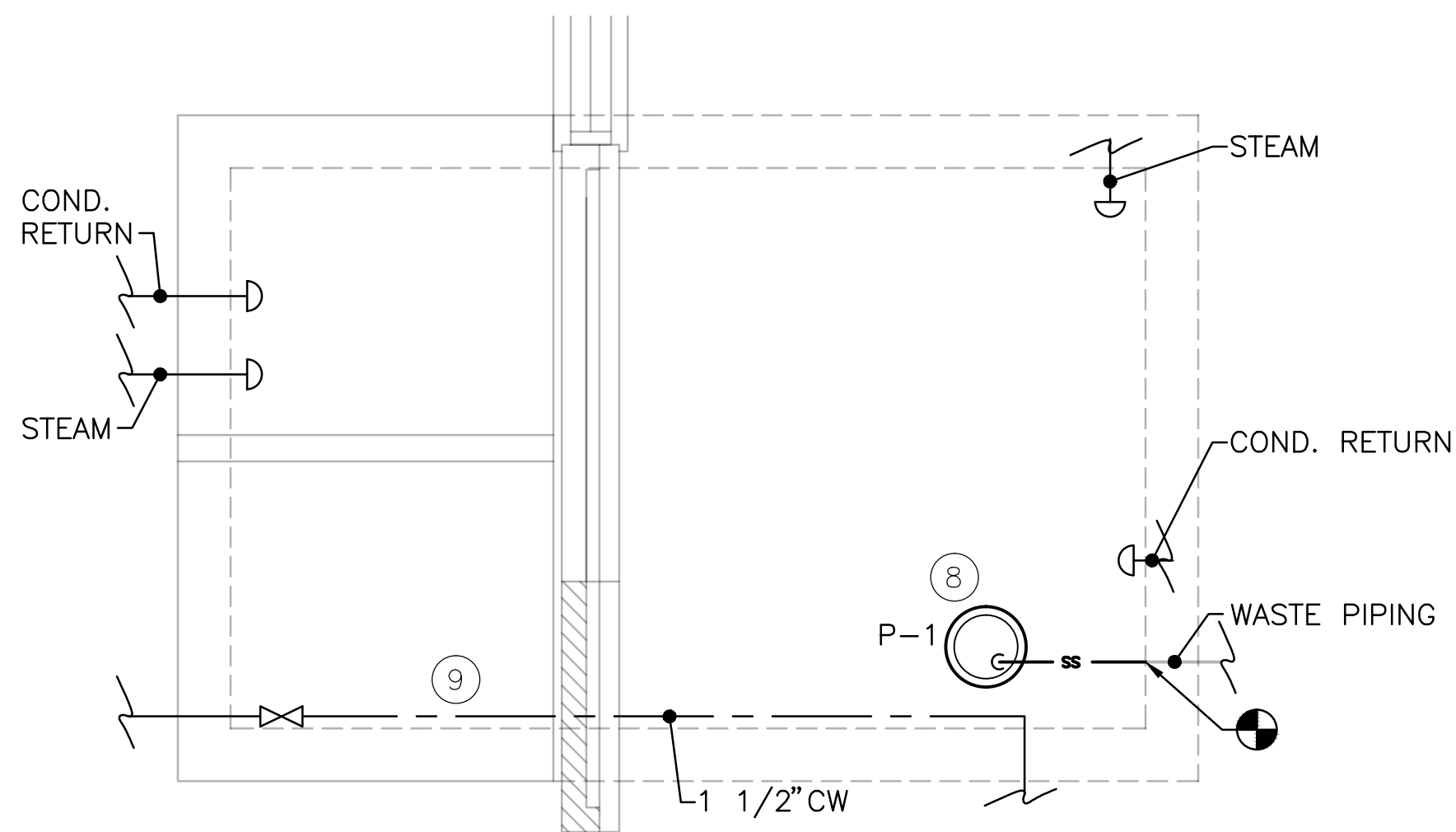
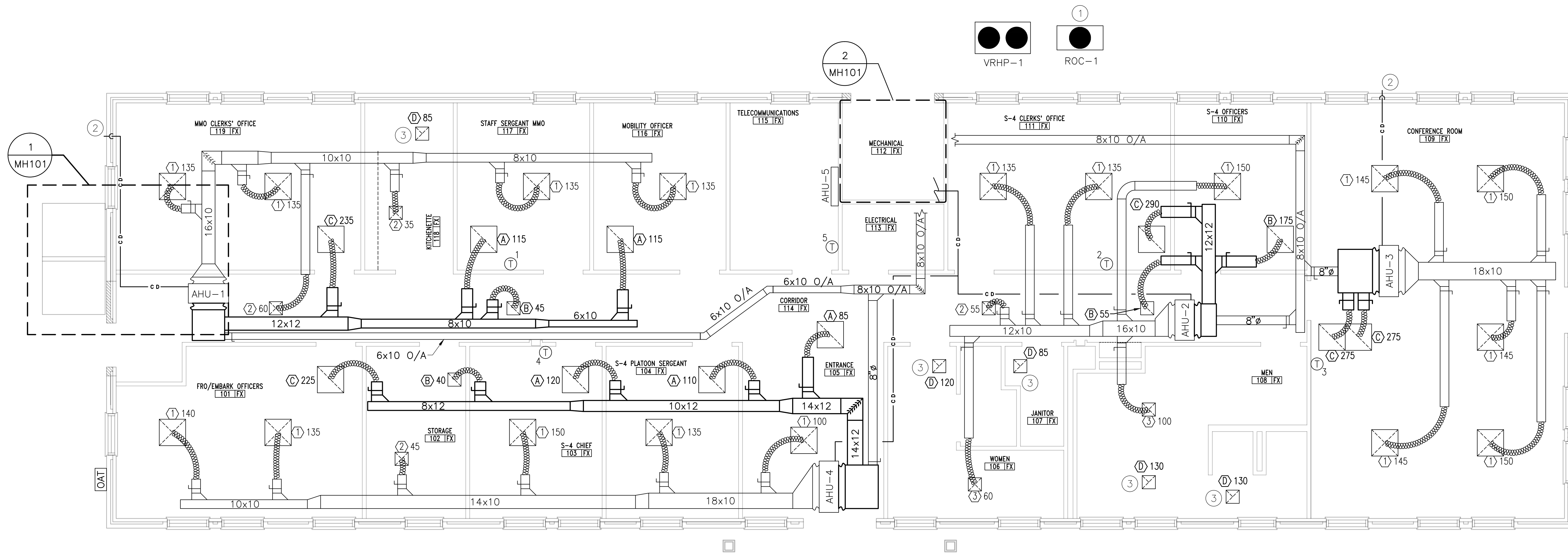


1 STEAM PIT MECHANICAL DEMOLITION PLAN

SCALE 1/2" = 1'-0"



		MD101	
 <small>CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager: R. Alvar</small>	<small>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND</small> MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>		
	REPAIR LARGE UNIT HQs BUILDING 421		
<small>DES. J. CARR</small> <small>DR. J. BARNES</small> <small>CHK. P. MAHAFFEY</small> <small>SUBMITTED BY:</small> <small>DESIGN DIR.</small> <small>APPROVED: PWO OR OICC</small>		<small>MECHANICAL DEMOLITION PLAN</small> <small>NAVFAC DRAWING NO.</small> 60008614	
<small>SATISFACTORY TO:</small>		<small>DATE</small> F 80091 <small>CONST. CONTR. NO. N40085-11-B-0127</small>	
<small>SCALE: AS NOTED</small>		<small>SPEC. 05-11-0127</small> <small>SHEET 23 OF 42</small>	

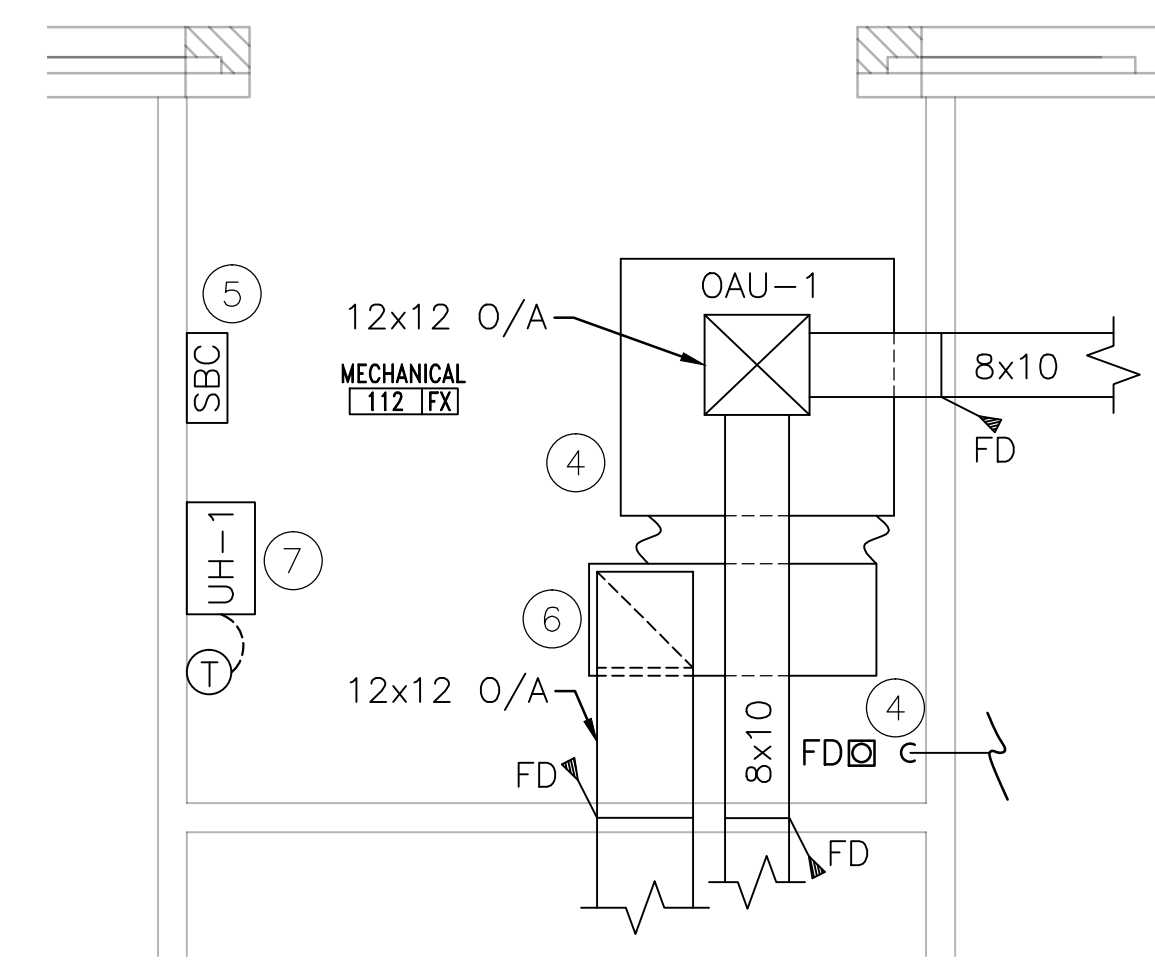
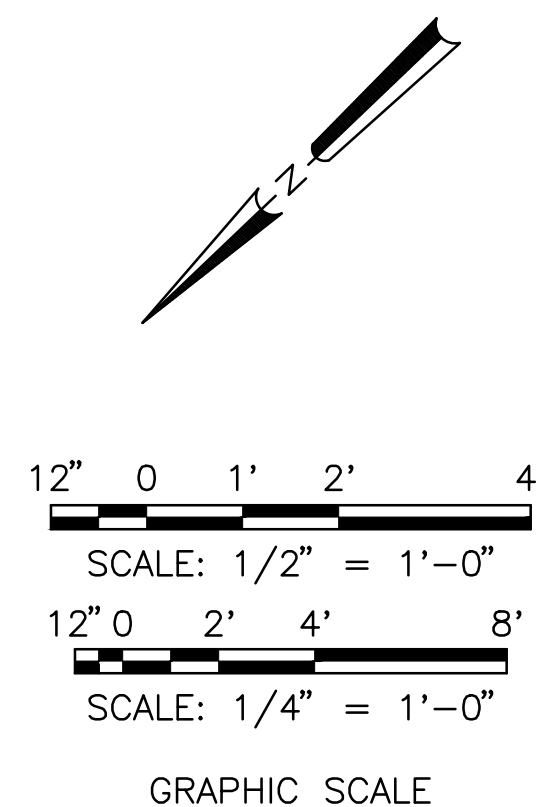


1 STEAM PIT MECHANICAL NEW WORK PLAN
SCALE 1/2" = 1'-0"

MECHANICAL NEW WORK PLAN
SCALE 1/4" = 1'-0"

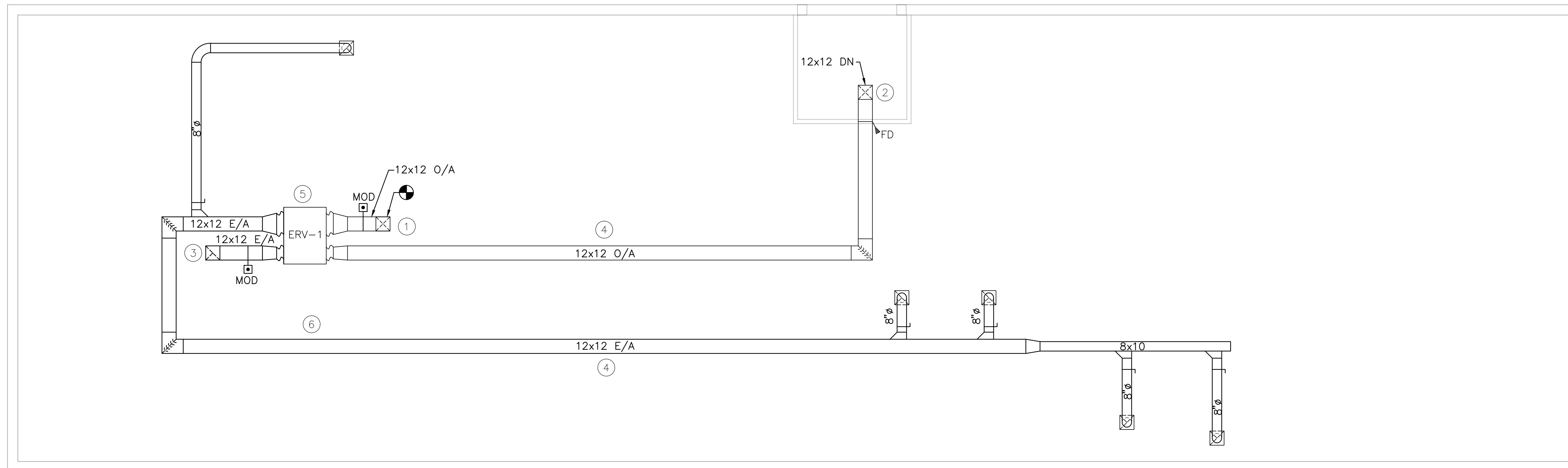
- GENERAL NEW WORK NOTES:**
- REFRIGERANT PIPING TO BE SIZED AND ROUTED PER MANUFACTURER'S RECOMMENDATIONS FOR A COMPLETE OPERABLE SYSTEM INCLUDING ALL NECESSARY CONTROLLERS AND HEAT RECOVERY APPURTENANCES REQUIRED WHICH MAY NOT BE SHOWN BUT IS UNDERSTOOD TO BE REQUIRED FOR A COMPLETE OPERABLE SYSTEM.
 - ALL WORK SHOWN ON SHEET TO BE INSTALLED BELOW TRUSSES IN BUILDING.

- NEW WORK KEYNOTES:**
- PROVIDE AND INSTALL REMOTE CONDENSER SERVING OAU-1.
 - ROUTE CONDENSATE PIPING DOWN IN WALL. CONDENSATE PIPING TO TERMINATE 6" ABOVE SPLASH BLOCK.
 - 8"Ø UP TO ATTIC. SEE MH102 FOR CONTINUATION.
 - ROUTE CONDENSATE TO FLOOR DRAIN.
 - PROVIDE AND INSTALL NEW SUPERVISORY BUILDING CONTROLLER.
 - 12x12 O/A DOWN FROM ATTIC.
 - PROVIDE AND INSTALL NEW STAND ALONE 5 KW UNIT HEATER, 208/3/60. UNIT HEATER TO BE THERMOSTATICALLY CONTROLLED TO ENERGIZE UPON DETECTION OF 40°F CONDITIONS IN MECHANICAL ROOM.
 - PROVIDE AND INSTALL NEW SUMP PUMP P-1.
 - EXISTING DOMESTIC WATER PIPE TO HAVE HEAT TAPE APPLIED AND WRAPPED IN 2" OF INSULATION.



2 MECHANICAL ROOM ENLARGED NEW WORK PLAN
SCALE 1/2" = 1'-0"

		MH101	
CJEMS ENGINEERING	<small>CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsgroup.com CEMS Project #0115000 Project Manager: R. Alvar</small>		<small>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA</small>
	<small>DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE</small>	<small>REPAIR LARGE UNIT HQs BUILDING 421</small>	
<small>SATISFACTORY TO: DATE</small>	<small>DATE</small>	<small>SIZE CODE IDENT NO. F 80091</small>	<small>SCALE: AS NOTED SPEC. 05-11-0127 SHEET 24 OF 42</small>



MECHANICAL ATTIC NEW WORK PLAN

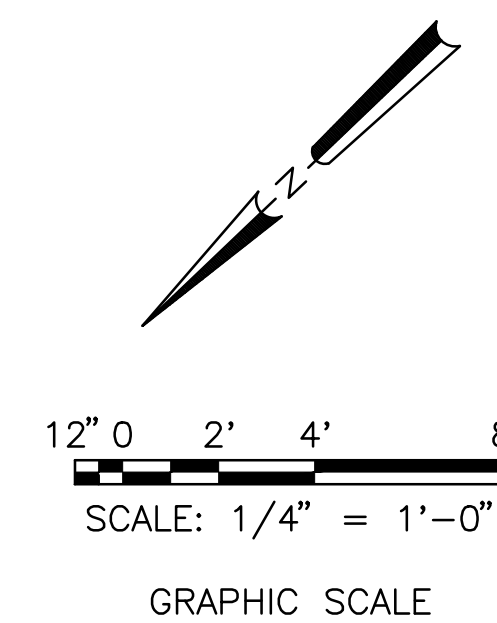
SCALE 1/4" = 1'-0"

GENERAL NEW WORK NOTES:

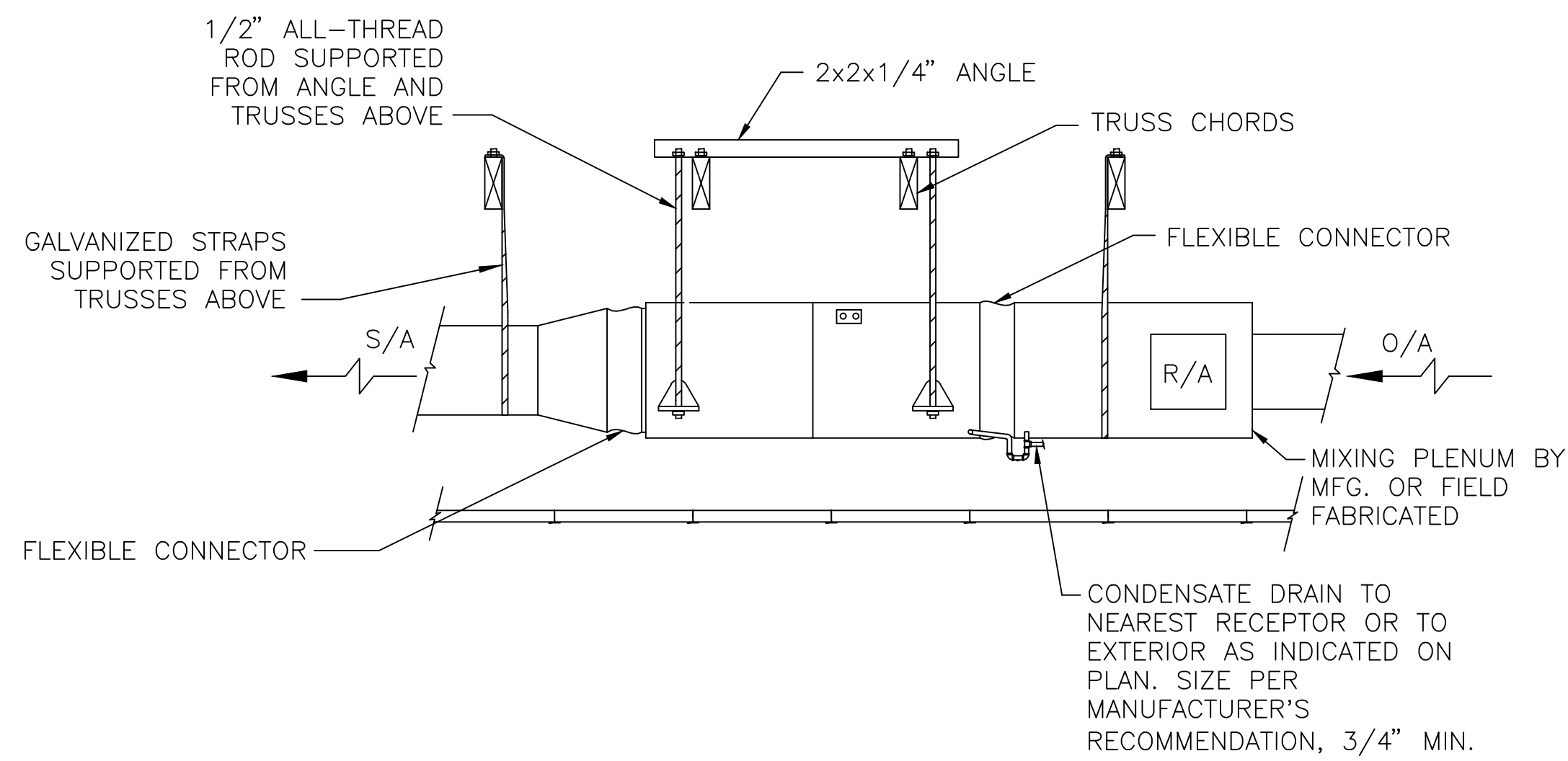
1. ALL WORK SHOWN ON SHEET TO BE INSTALLED ABOVE TRUSS CHORDS IN BUILDING.

NEW WORK KEYNOTES:

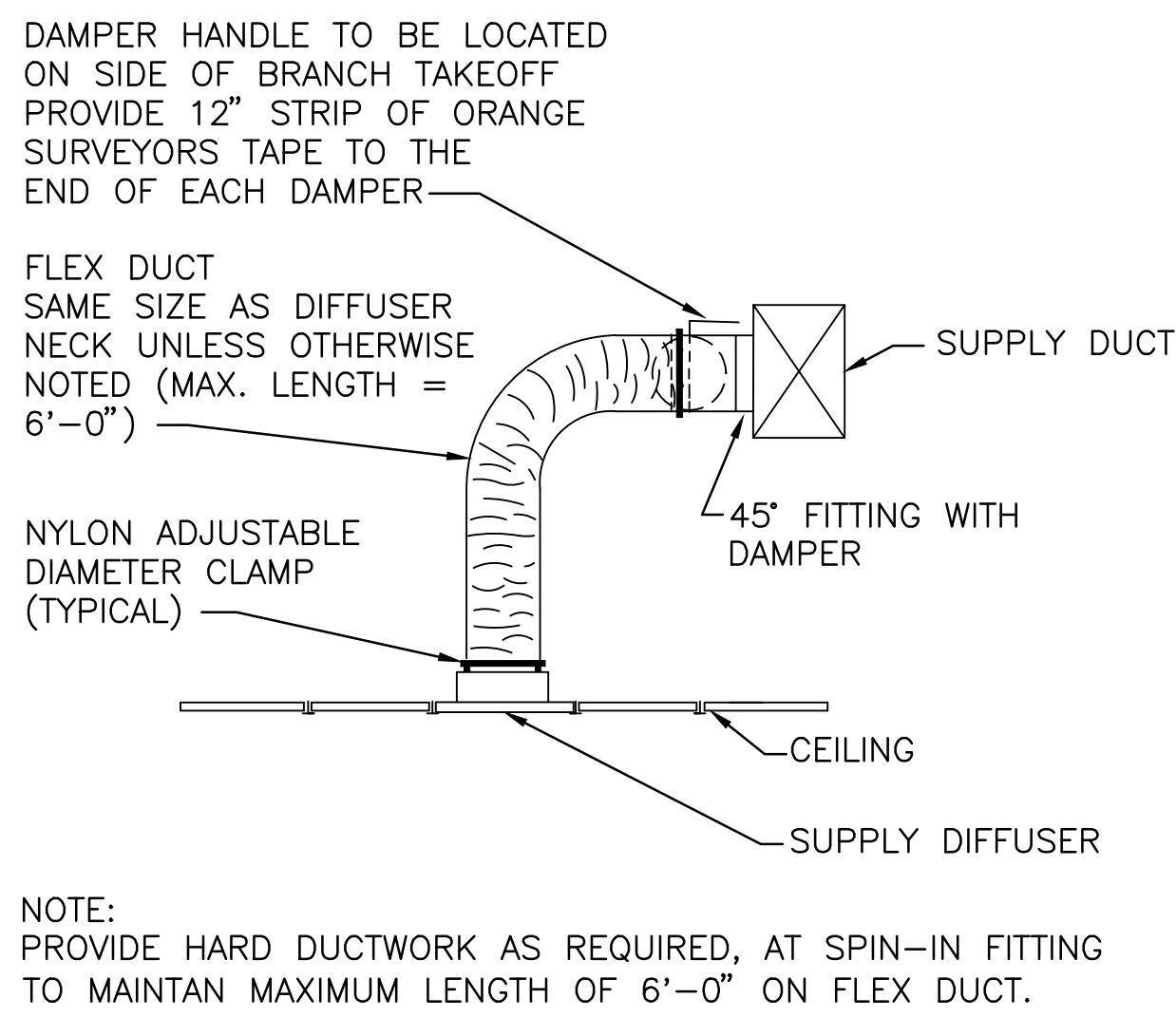
- 1 12x12 O/A DUCT UP TO EXISTING OUTSIDE AIR INTAKE.
- 2 12x12 O/A DUCT DOWN TO OAU-1 IN MECHANICAL ROOM. SEE SHEET MH101 FOR CONTINUATION.
- 3 12x12 E/A DUCT UP TO NEW ROOF MOUNTED RELIEF HOOD.
- 4 ALL DUCTWORK TO BE RUN THROUGH EXISTING TRUSSES.
- 5 LOCATE ERV ON NEW ELEVATED LOAD BEARING PLATFORM IN AREA PREVIOUSLY MODIFIED FOR EXISTING AHU INSTALLATION.
- 6 ATTIC ACCESS HATCH TO BE INSTALLED AT THIS LOCATION. SEE ARCHITECTURAL SHEETS FOR LOCATION AND DETAILS. CONTRACTOR TO COORDINATE ATTIC ACCESS HATCH AND DUCTWORK.



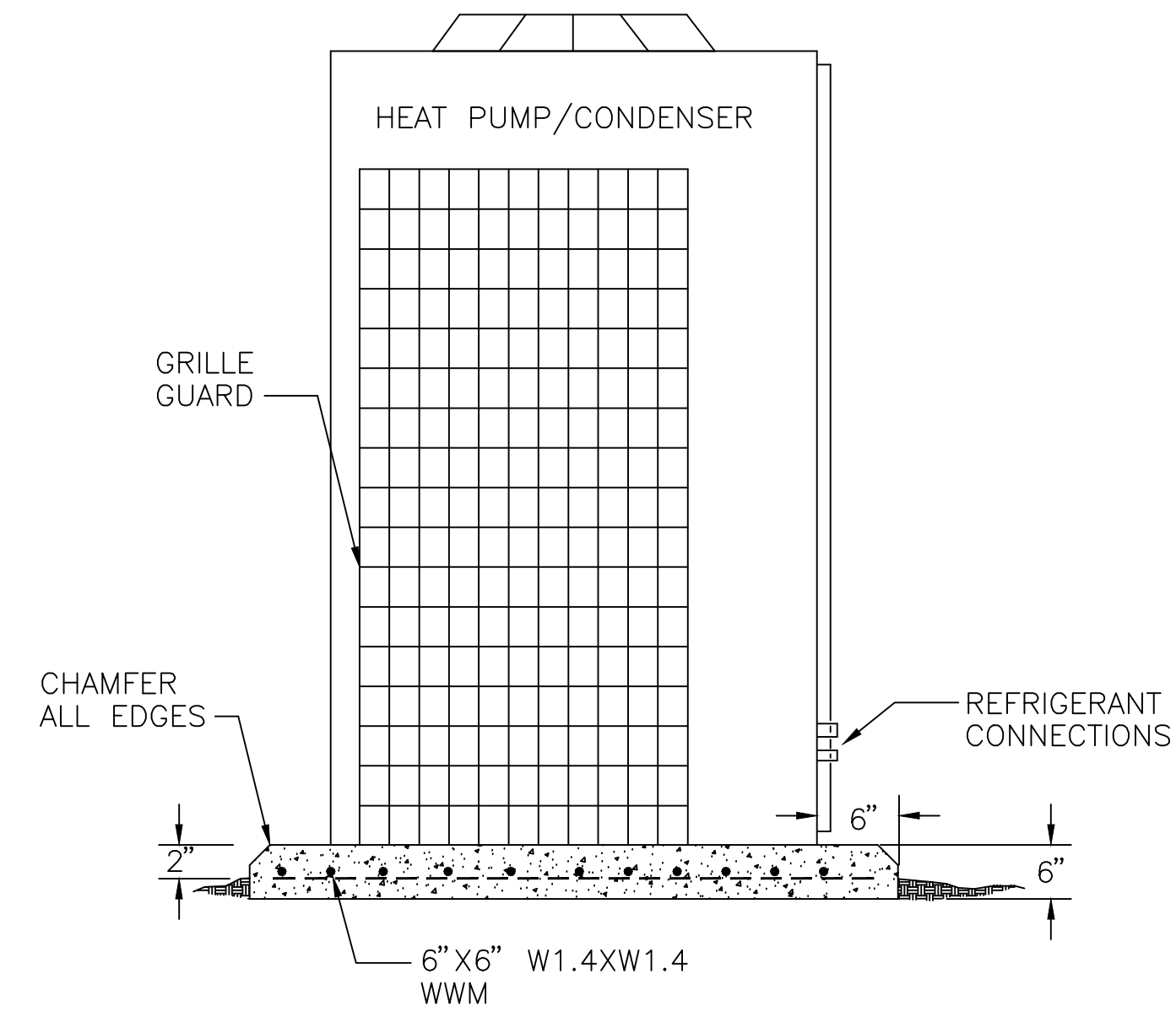
		MH102	
 <small>CEMS Engineering, Inc. P.O. Box 1685 3509 Iron Horse Drive Ladson, SC 29456 (704) 875-3637 (704) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager: R. Alvar</small>	<small>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND</small> MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>		
	REPAIR LARGE UNIT HQs BUILDING 421		
<small>DES. J. CARR</small> <small>DR. J. BARNES</small> <small>CHK. P. MAHAFFEY</small> <small>SUBMITTED BY:</small> <small>DESIGN DIR.</small>		<small>MECHANICAL ATTIC NEW WORK PLAN</small> <small>APPROVED: PWO OR OICC</small> DATE: _____ NAVFAC DRAWING NO. 60008616 <small>SATISFACTORY TO:</small> DATE: _____ CONST. CONTR. NO. N40085-11-B-0127	
		<small>SCALE: AS NOTED</small> <small>SPEC. 05-11-0127</small> <small>SHEET 25 OF 42</small>	



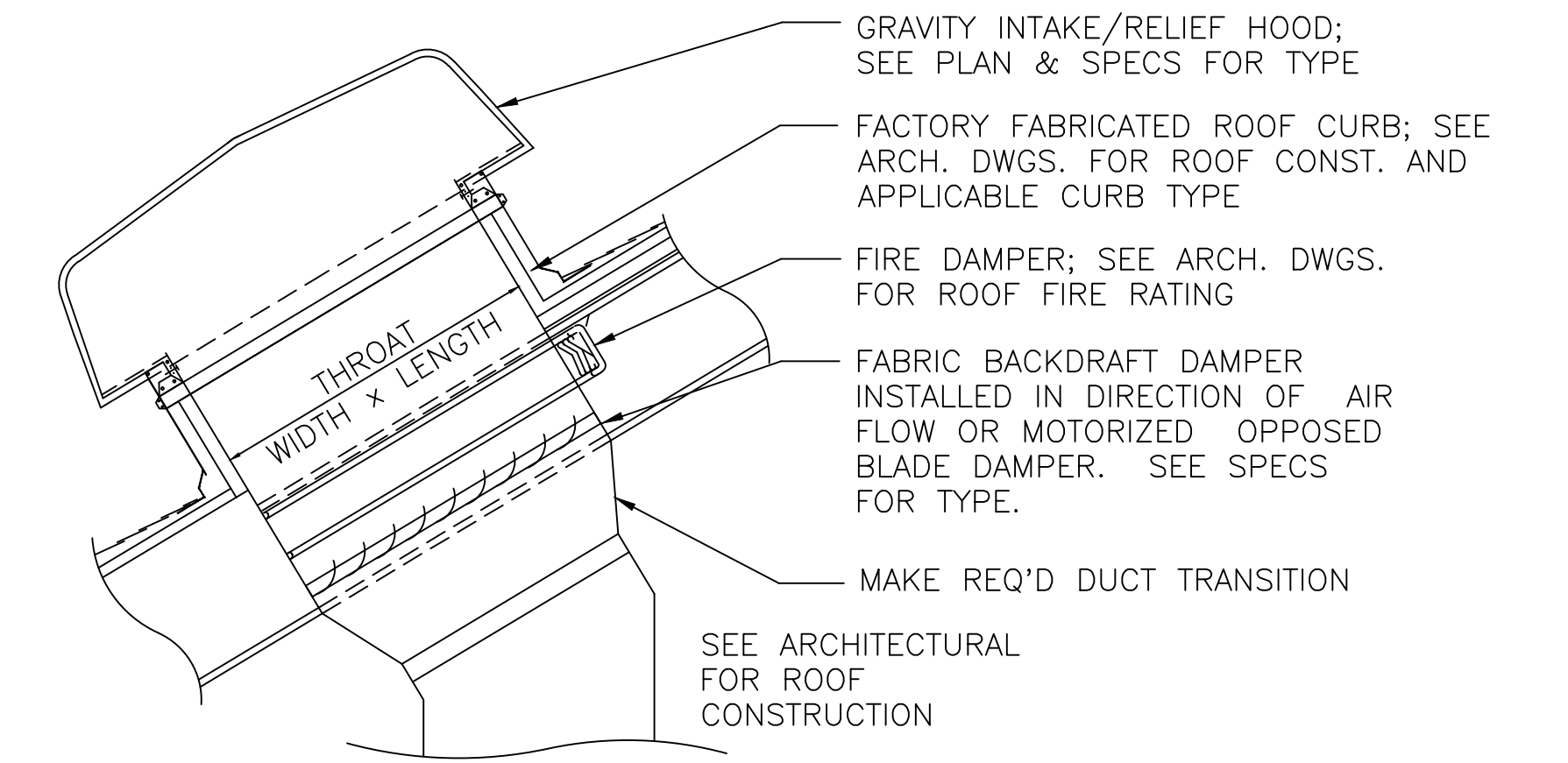
AIR HANDLING UNIT DETAIL
SCALE: NOT TO SCALE



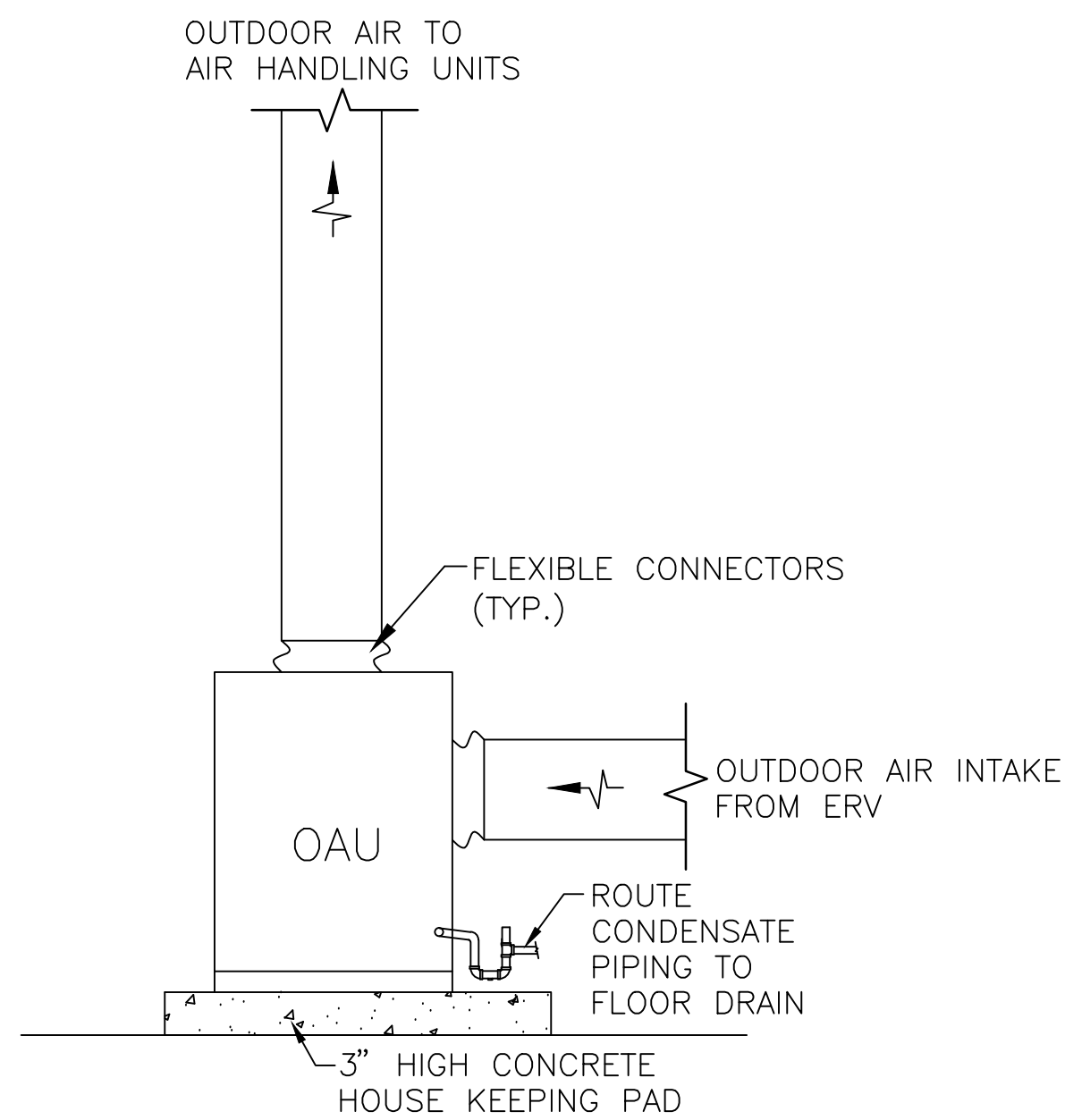
TYPICAL DIFFUSER DETAIL
SCALE: NOT TO SCALE



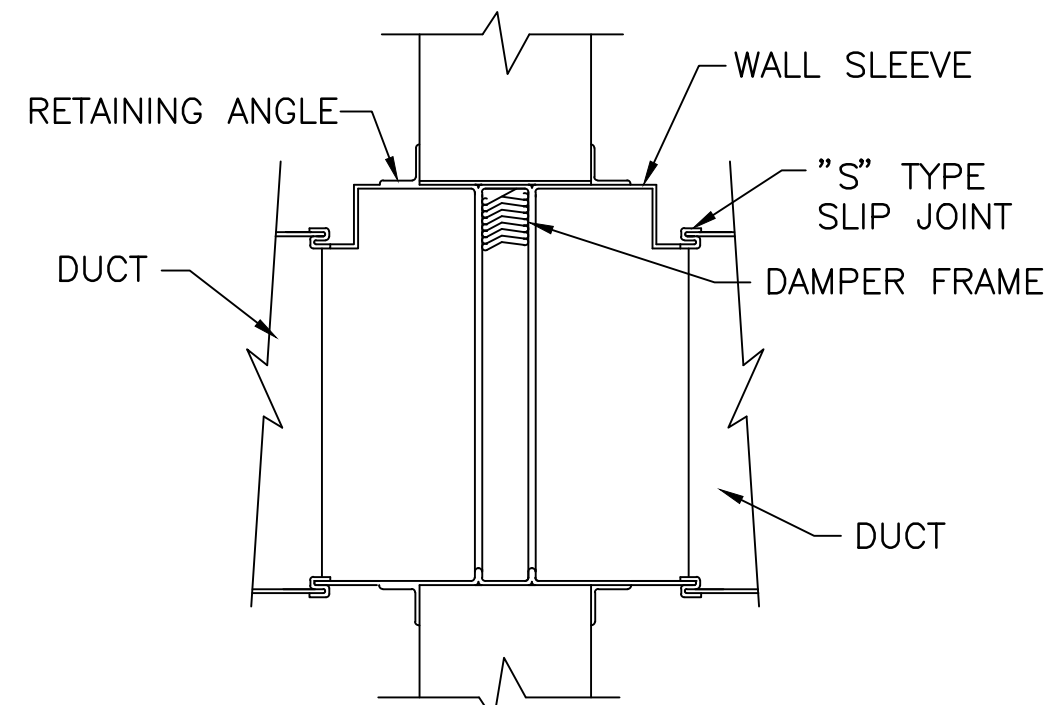
HEAT PUMP/CONDENSER PAD DETAIL
SCALE: NOT TO SCALE



GRAVITY INTAKE/RELIEF HOOD DETAIL
SCALE: NOT TO SCALE



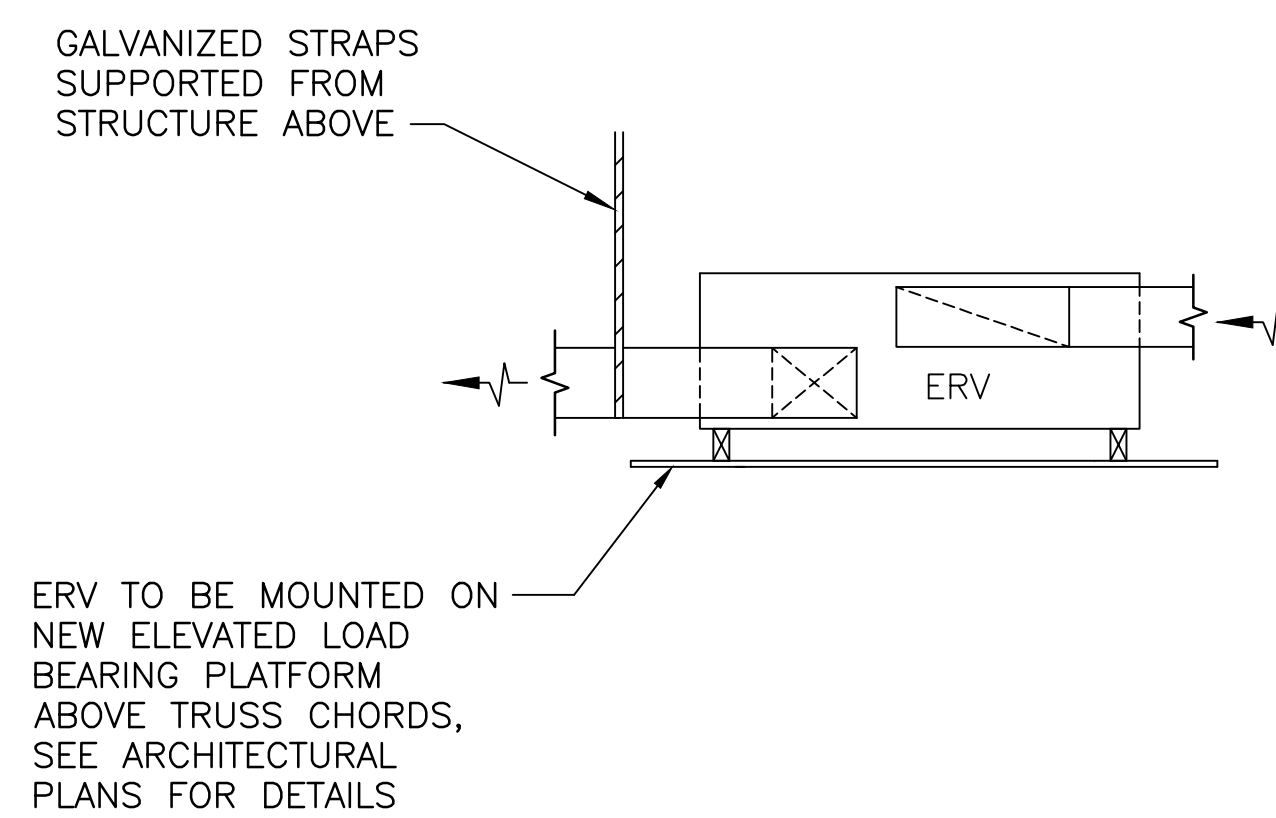
OUTSIDE AIR UNIT DETAIL
SCALE: NOT TO SCALE



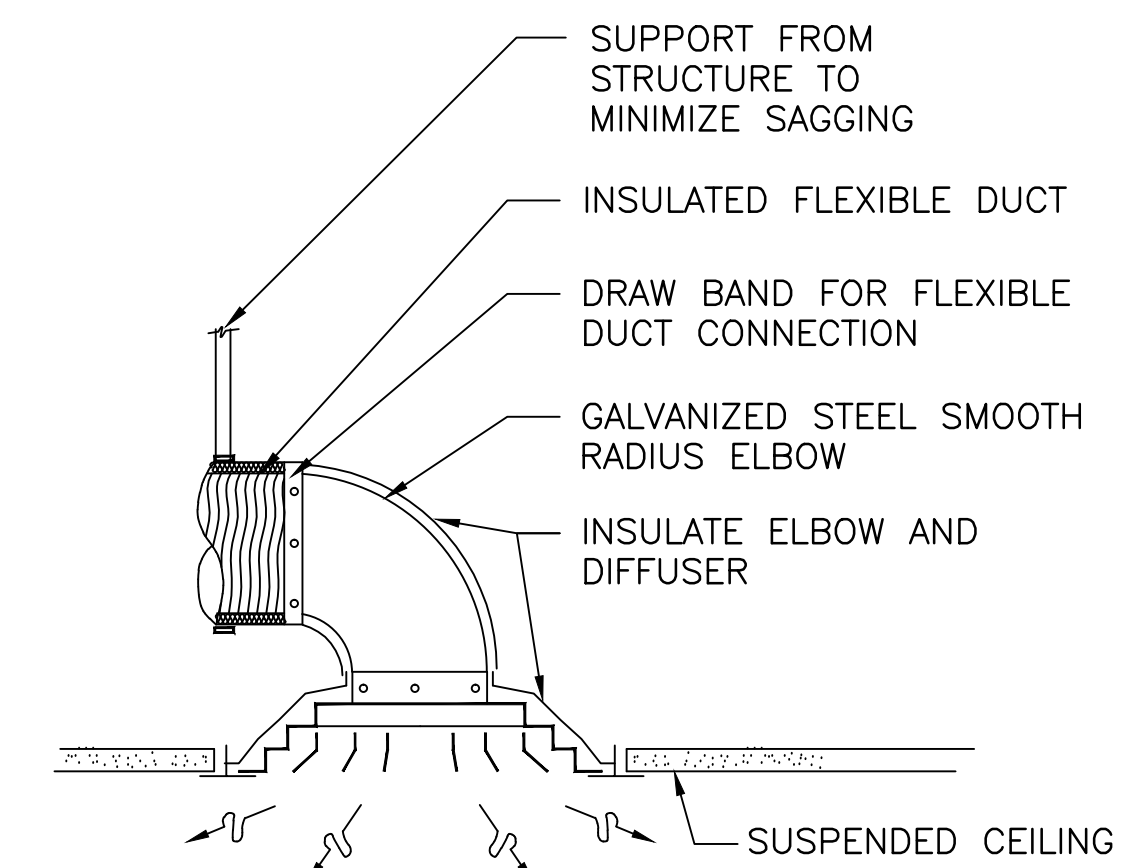
NOTE: MOUNTING ANGLES SHALL BE A MINIMUM OF 1-1/2\"/>

CLEARANCE OF THE DAMPER SLEEVE FROM THE WALL OPENING SHALL BE A MINIMUM OF 1/8\"/>

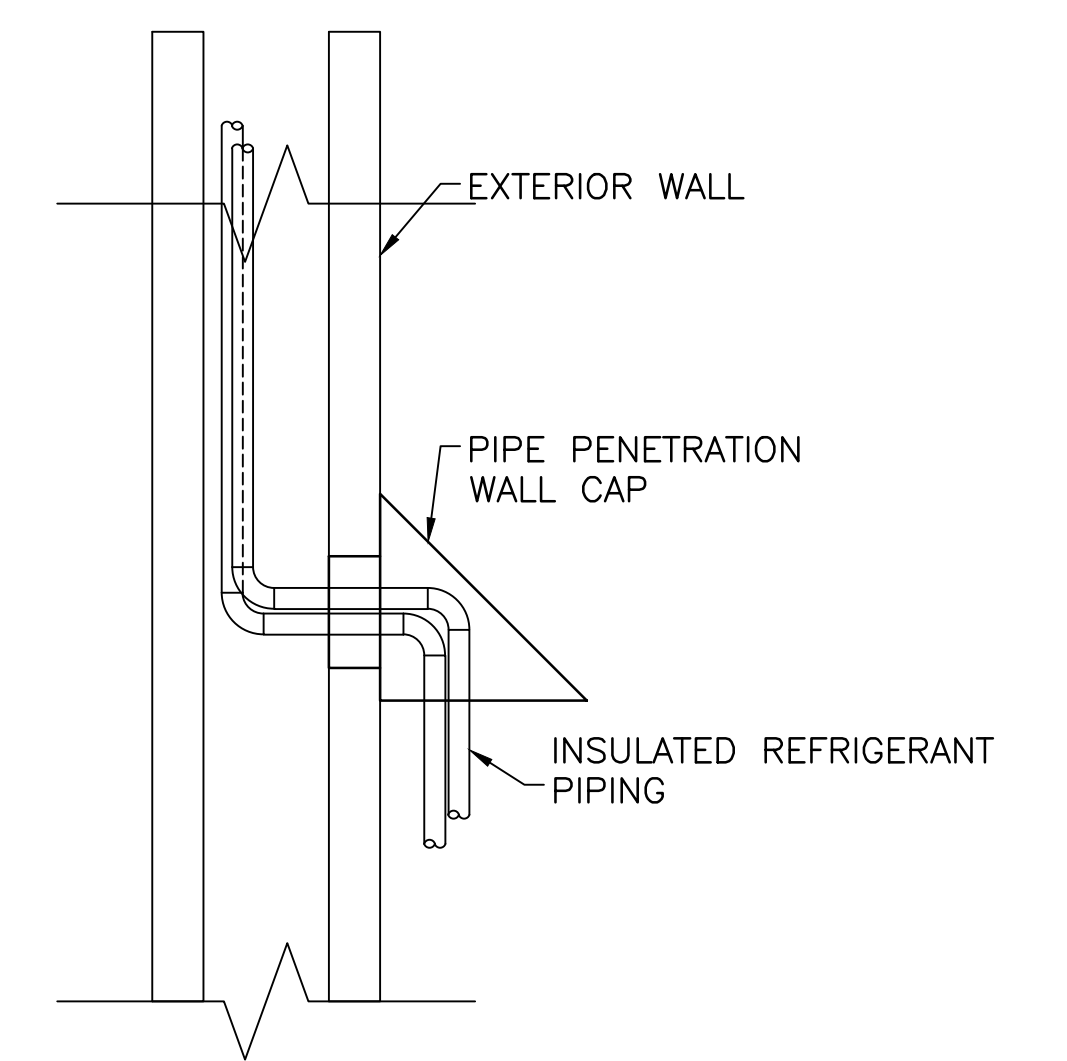
VERTICAL FIRE DAMPER DETAIL
SCALE: NOT TO SCALE



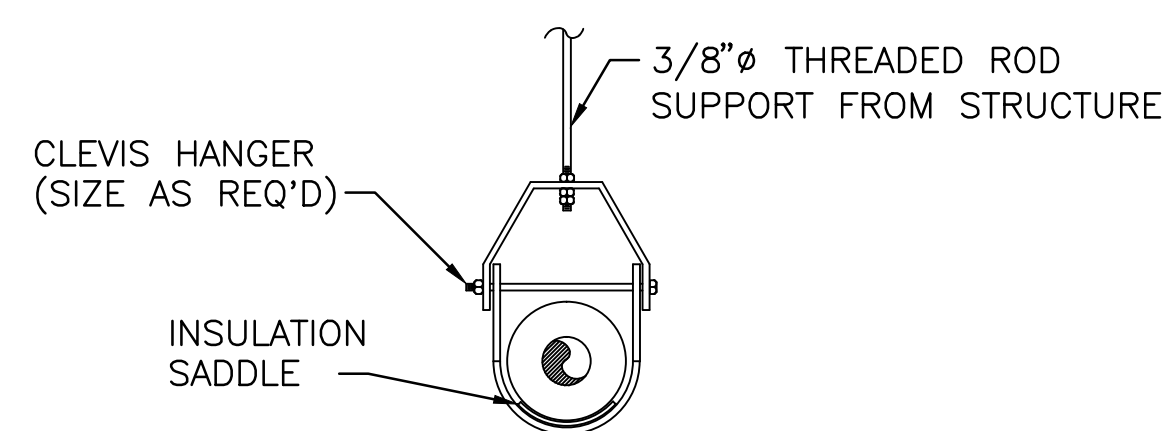
ENERGY RECOVERY VENTILATOR DETAIL
SCALE: NOT TO SCALE



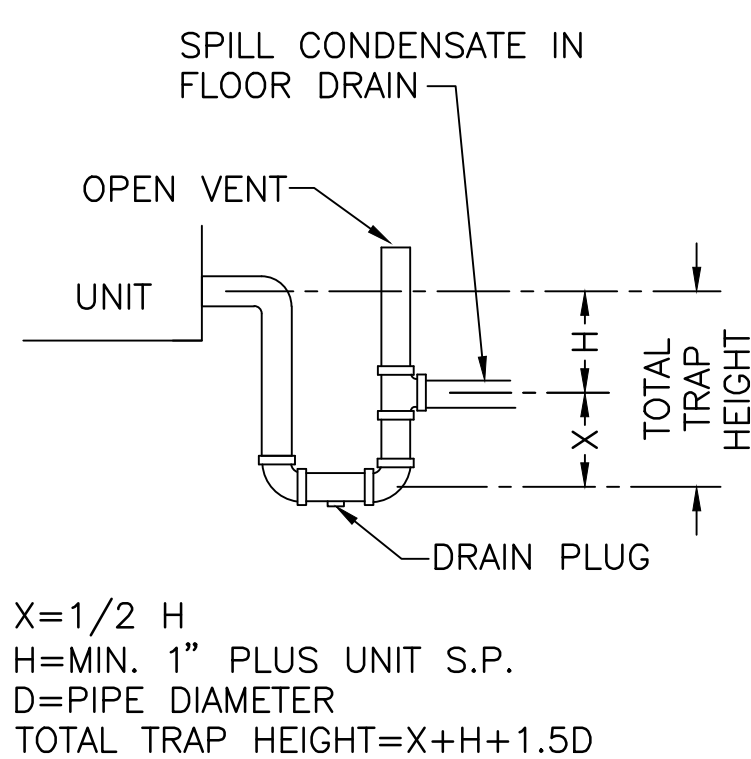
TYPICAL DIFFUSER DETAIL
SCALE: NOT TO SCALE



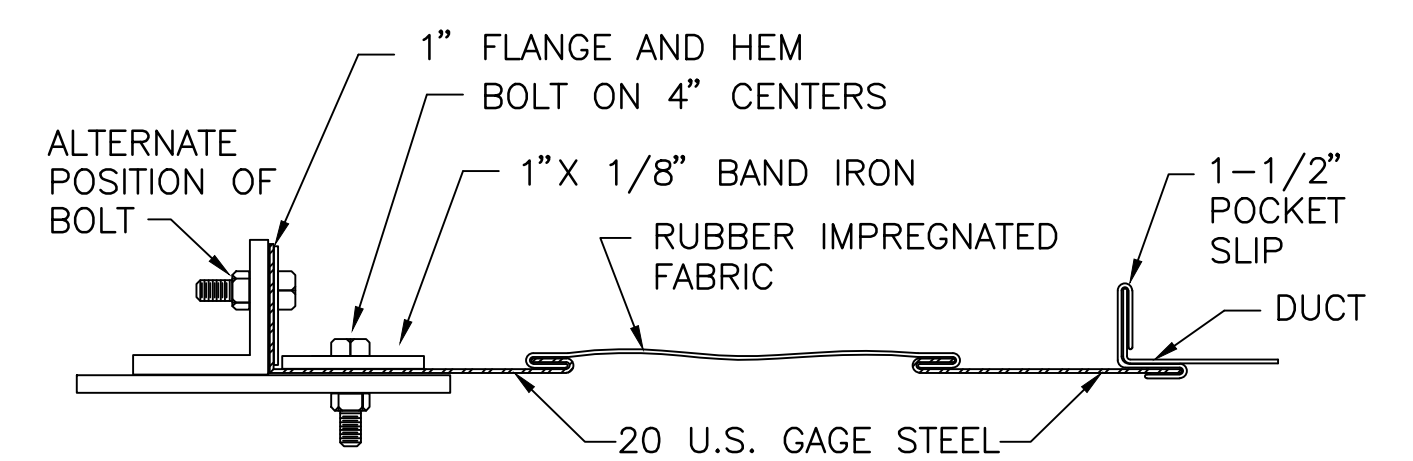
TYPICAL REFRIGERANT PIPING DETAIL
SCALE: NOT TO SCALE



TYPICAL PIPE SUPPORT DETAIL
SCALE: NOT TO SCALE

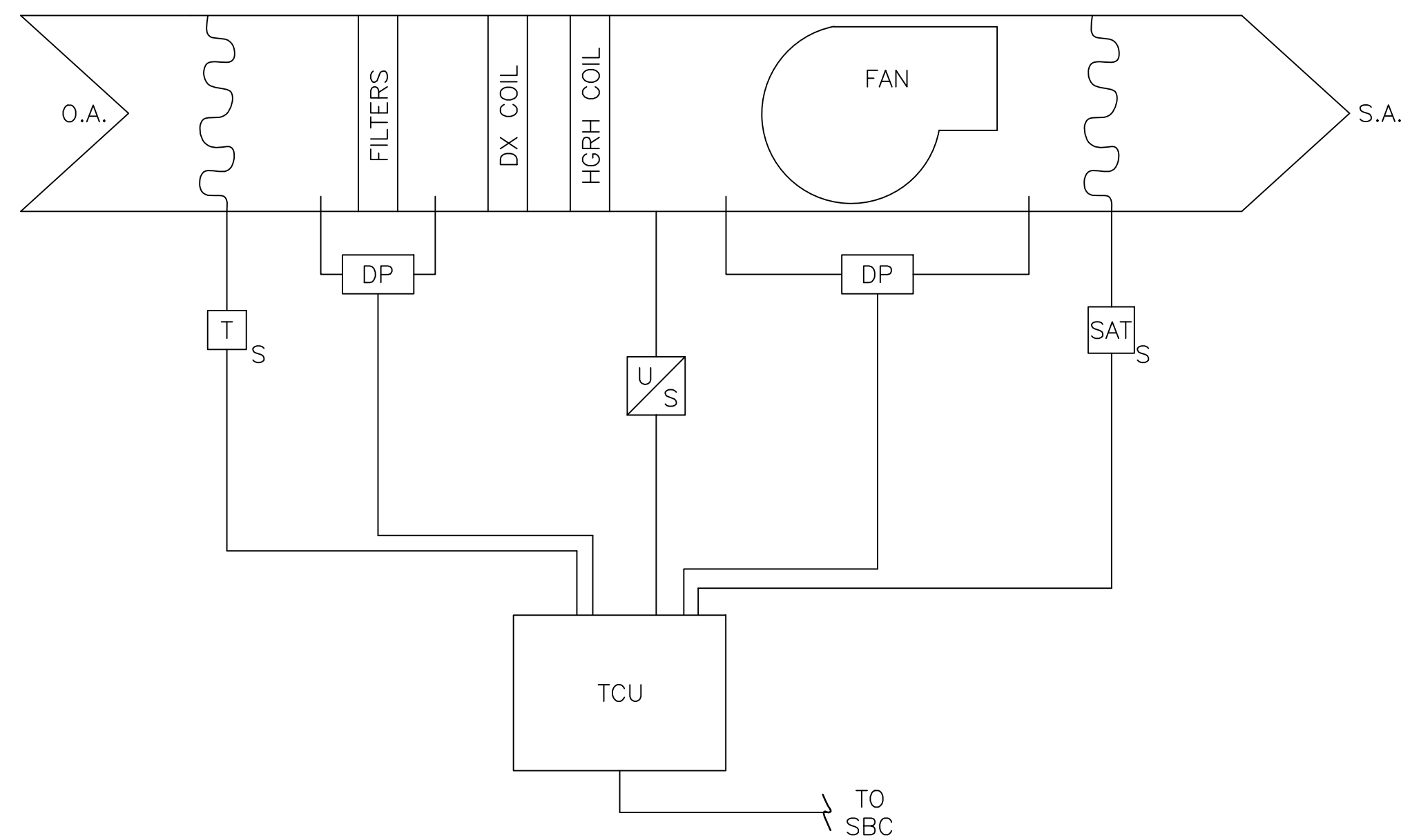


TYPICAL CONDENSATE DRAIN DETAIL
SCALE: NOT TO SCALE

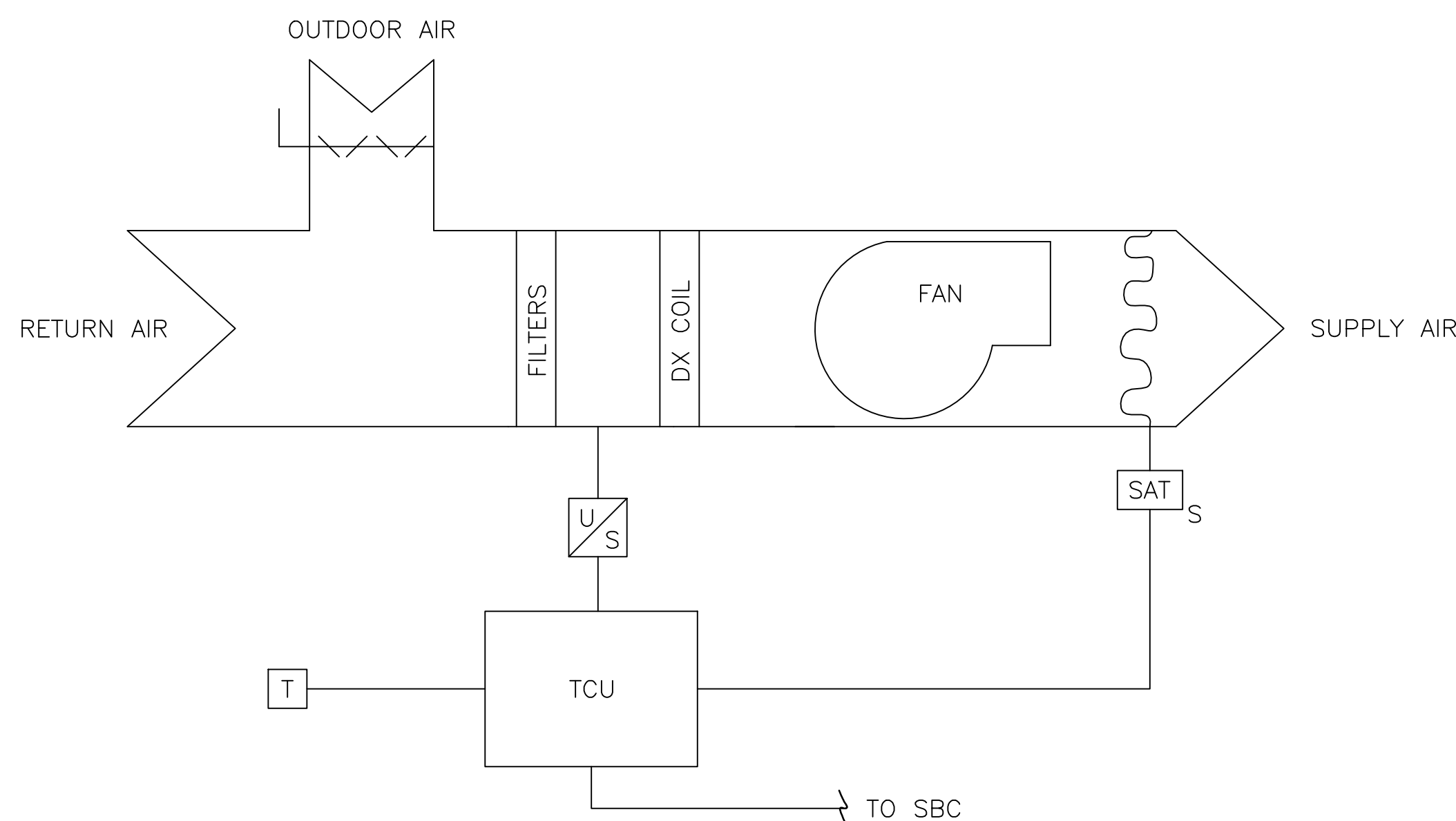


TYPICAL FLEXIBLE CONNECTION DETAIL
SCALE: NOT TO SCALE

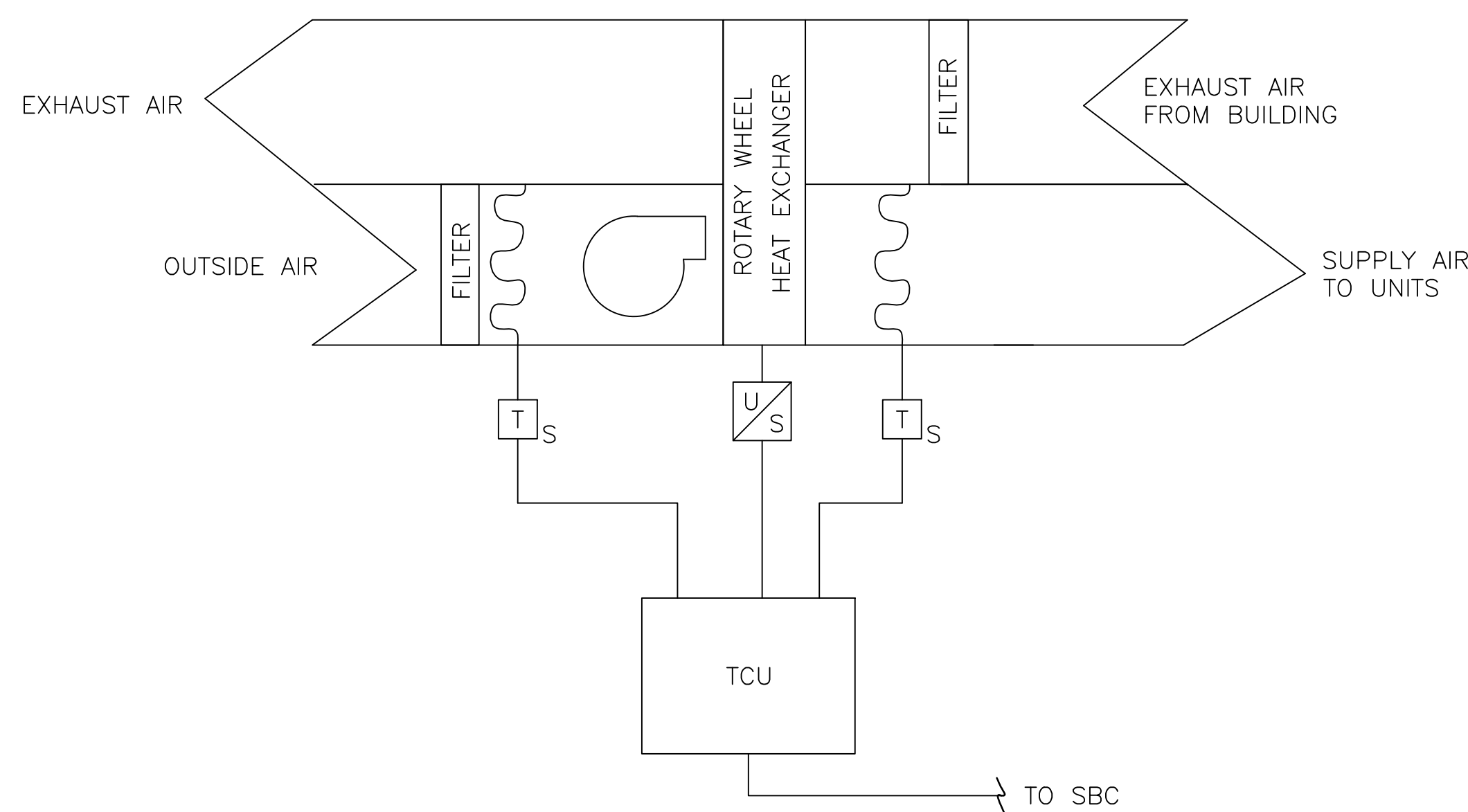
		M-501	
 CEMS ENGINEERING	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		
	REPAIR LARGE UNIT HQs BUILDING 421		
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:	DATE DATE DATE	SIZE F 80091	NAVFAC DRAWING NO. 60008617 CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127
		SHEET 26 OF 42	



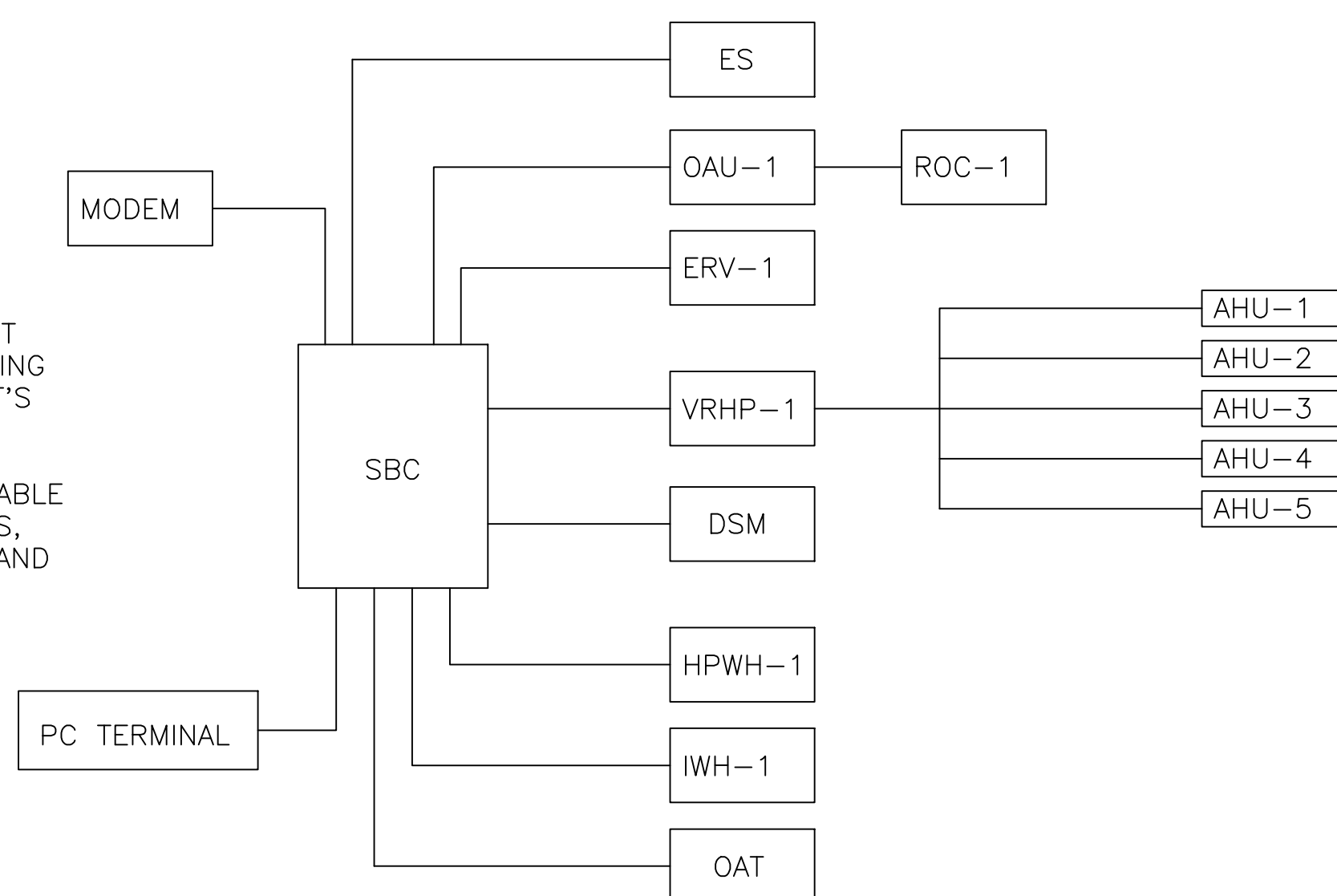
OUTDOOR AIR UNIT CONTROL DIAGRAM
SCALE: NOT TO SCALE



AIR HANDLING UNIT CONTROL DIAGRAM (AHU TYPICAL)
SCALE: NOT TO SCALE



ENERGY RECOVERY VENTILATOR CONTROL DIAGRAM
SCALE: NOT TO SCALE



SYSTEM NETWORK
SCALE: NOT TO SCALE

SEQUENCE OF OPERATION:

BUILDING CONSISTS OF A DIRECT EXPANSION VARIABLE REFRIGERANT VOLUME COOLING/HEATING SYSTEM UTILIZING HEAT RECOVERY FROM ADJACENT SPACES. NEW CONTROL SYSTEM SHALL COMMUNICATE WITH BASE WIDE JOHNSON CONTROLS INTERFACE (JCI).

OUTDOOR AIR UNIT (OAU-1 & ROC-1):

A PROGRAMMABLE CONTROLLER CAPABLE OF STANDALONE OPERATION WILL CONTROL THE OUTDOOR AIR UNIT (OAU), SUBJECT TO OCCUPANCY SCHEDULES AND OCCUPANCY OVERRIDES THROUGH THE SUPERVISORY BUILDING CONTROLLER (SBC).

GENERAL: THE OAU CONSISTS OF A BUILT-UP FAN HOUSING, A COOLING COIL WITH MODULATING HOT GAS REHEAT, AN ELECTRIC AUXILIARY STRIP, AND A COMPRESSOR CONTROLLED THROUGH THE DDC SYSTEM. THE REMOTE CONDENSER COUPLED WITH THE OAU CONSISTS OF A CONDENSING COIL AND FAN.

THE SEQUENCE OF OPERATION SHALL BE INITIATED BY THE DDC SYSTEM SCHEDULE.

IN THE OCCUPIED MODE, THE UNIT FAN SHALL RUN CONTINUOUSLY, THE COOLING COIL AND COMPRESSOR SHALL MODULATE AS NEEDED.

IN THE UNOCCUPIED MODE THE UNIT SHALL BE DE-ENERGIZED.

HEATING MODE: UNIT SHALL HEAT AIR TO 50°F. UNIT SHALL BE IN HEATING MODE WHEN OUTDOOR AIR IS 50°F OR BELOW.

COOLING MODE: UNIT SHALL COOL AIR TO 53°F TO DEHUMIDIFY, FOLLOWED BY HOT GAS REHEAT TO DISCHARGE OUTDOOR AIR AT 60°F. UNIT SHALL BE IN COOLING MODE WHEN OUTDOOR AIR IS 55°F OR ABOVE.

SAFETIES: UPON AN ALARM SIGNAL FROM THE SUPERVISORY BUILDING CONTROLLER (SBC) THE UNIT SHALL DE-ENERGIZE AND ALL ASSOCIATED MOTOR OPERATED DAMPERS IN THE OUTDOOR AIR AND EXHAUST AIR STREAMS SHALL CLOSE. THIS SHALL REQUIRE A RESET AT THE SUPERVISORY CONTROLLER OR A REMOTE RESET FROM THE EMCS (EMERGENCY MONITORING AND CONTROLS SYSTEM).

WHEN OPERATING STATUS OF UNIT IS NOT PROVEN THE CONTROLLER SHALL DE-ENERGIZE THE UNIT AND AN ALARM SHALL BE DISPLAYED AT THE OPERATOR'S WORKSTATION.

VARIABLE REFRIGERANT HEAT PUMP (VRHP-1):

GENERAL: THIS UNIT IS A VARIABLE REFRIGERANT VOLUME DIRECT EXPANSION SPLIT SYSTEM HEAT PUMP OPERATING IN CONJUNCTION WITH AHU-1 THRU AHU-5. THE VRHP SHALL MODULATE REFRIGERANT FLOW TO THE BUILDING AS NEEDED. THE VRHP SHALL WORK IN CONJUNCTION WITH A HEAT RECOVERY BOX IN THE BUILDING TO CONTROL REFRIGERANT FLOW AND RECOVER HEAT FROM ADJACENT SPACES. UNIT CONTROLS TO BE PROVIDED BY UNIT MANUFACTURER.

AIR HANDLING UNIT (AHU-1 THRU 5):

GENERAL: THIS UNIT IS A DIRECT EXPANSION SPLIT SYSTEM AIR HANDLER TIED INTO THE VARIABLE REFRIGERANT HEAT PUMP SYSTEM. UNIT CONTROLS TO BE PROVIDED BY AHU MANUFACTURER AND OPERATE IN CONJUNCTION WITH UNITS RESPECTIVE VRHP AND HEAT RECOVERY BOXES.

TEMPERATURE CONTROL: SPACE TEMPERATURE WILL BE CONTROLLED THROUGH THE SBC. IN COOLING MODE THE UNIT SHALL DISCHARGE 53°F AIR. IN HEATING MODE THE UNIT SHALL DISCHARGE 85°F AIR. THERMOSTATS LOCATED WITHIN THE OCCUPIED SPACE SHALL ALLOW FOR A 2 HOUR TEMPERATURE OVERRIDE, AT THE END OF 2 HOURS THE THERMOSTAT SHALL RETURN TO THE SCHEDULED OCCUPANCY MODE AND TEMPERATURES.

OCCUPIED MODE: IN OCCUPIED MODE THE UNIT SHALL MAINTAIN 75°F IN COOLING MODE AND 70°F IN HEATING MODE.

UNOCCUPIED MODE: IN UNOCCUPIED MODE THE UNIT SHALL MAINTAIN 85°F IN COOLING MODE AND 60°F IN HEATING MODE.

MORNING START-UP: IN MORNING START UP THE UNIT SHALL BE SET TO THE DEFAULT COOLING AND HEATING SET POINTS DURING OCCUPIED MODE. MORNING START-UP SHALL BE IN EFFECT ONE HOUR PRIOR TO THE SCHEDULED OCCUPIED TIMES.

ENERGY RECOVERY VENTILATOR (ERV-1):

GENERAL: THE ERV CONSISTS OF A BUILT-UP FAN HOUSING WITH EXHAUST FAN, SUPPLY FAN, AND HEAT RECOVERY WHEEL FOR ENERGY TRANSFER BETWEEN THE BUILDING EXHAUST AIR TO THE INCOMING VENTILATION AIR CONTROLLED THROUGH THE SBC.

OCCUPIED MODE: IN OCCUPIED MODE, THE SUPPLY FAN, EXHAUST FAN AND HEAT RECOVERY WHEEL SHALL START AND RUN CONTINUOUSLY.

UNOCCUPIED MODE: IN UNOCCUPIED MODE THE UNIT SHALL BE DE-ENERGIZED.

WHEN OPERATING STATUS OF EITHER SUPPLY FAN OR EXHAUST FAN IS NOT PROVEN, THE CONTROLLER SHALL DE-ENERGIZE BOTH FANS AND AN ALARM SHOULD BE ACTIVATED.

EMERGENCY SHUTDOWN:

UPON AN EMERGENCY SHUTDOWN CALL FROM THE SUPERVISORY BUILDING CONTROLLER OR BUILDING MASS NOTIFICATION SYSTEM, ALL UNITS SHALL BE DE-ENERGIZED AND ALL MOTOR OPERATED DAMPERS SHALL BE CLOSED. THIS SHALL REQUIRE A RESET AT THE SUPERVISORY CONTROLLER OR A REMOTE RESET FROM THE EMCS (ENERGY MANAGEMENT AND CONTROLS SYSTEM).

SUPERVISORY BUILDING CONTROLLER:

SUPERVISORY BUILDING CONTROLLER SHALL COMMUNICATE WITH JCI BASE WIDE MONITORING SYSTEM.

NOTES:
MANUFACTURER TO SUBMIT SYSTEM REFRIGERANT PIPING LAYOUT FOR GOVERNMENT'S APPROVAL. REFRIGERANT PIPING LAYOUT TO BE COMPLETE WITH ALL VARIABLE REFRIGERANT HEAT PUMPS, HEAT RECOVERY BOXES, AND AHUS SHOWN.

		M-601	
 CJEMS Engineering, Inc. P.O. Box 1688 3509 Iron Horse Drive Ladson, SC 29456 (714) 433-8775 (714) 433-8775 www.cjemsengineering.com CEMS Project #0115000 Project Manager: R. Alvar		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
		REPAIR LARGE UNIT HQs BUILDING 421	
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		MECHANICAL CONTROL DIAGRAMS NAVFAC DRAWING NO.	
APPROVED: PWO OR OICC		DATE:	SIZE: F CODE: 80091 IDENT NO.: 60008618
SATISFACTORY TO:		DATE:	CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127 SHEET 27 OF 42

OUTDOOR AIR UNIT SCHEDULE																
TAG	SUPPLY FAN			COOLING CAPACITY @ 95°F AMBIENT AIR (MBTUH)					HEATING CAPACITY			SYS. VOLTS	FILTER	NOTES	DESIGN BASIS	
	O/A CFM	HP	ESP IN WG	O/A ENTR. *FDB/*FWB	MAX COIL FACE VELOCITY (FPM)	COIL LEAVING AIR *FDB/*FWB	REHEAT LEAVING AIR *F	TOTAL	SENS.	O/A ENTR. *FDB	LEAVING AIR					CAP.
OAU-1	550	3/4	1.0	90/79.0	400	53/53	60.0	50.5	22.1	45.5	50.0 *F	8KW	208/60/3	2" PLEATED	①③④⑤⑥⑦⑧⑩	DESERT AIRE - QV4
ROC-1	--	--	--	--	--	--	--	74.5	--	--	--	--	208/60/1	--	①②④⑧⑨	DESERT AIRE - ROCF2-1501B

NOTES:

- ① PROVIDE WITH SINGLE POINT POWER CONNECTION.
- ② EER REQUIREMENTS ARE MINIMUM ARI STANDARDS.
- ③ FAN SECTIONS SHALL BE FACTORY PROVIDED WITH INTERNAL VIBRATION ISOLATION.
- ④ UNIT TO COME WITH SEA COAST CORROSION RESISTANT COATING.
- ⑤ PROVIDE WITH FACTORY INSTALLED DRAIN PAN AND FLOAT SWITCH FOR AUTOMATIC SHUT DOWN OF UNIT UPON HIGH CONDENSATE LEVELS.
- ⑥ UNIT SHALL BE FURNISHED WITH PREMIUM EFFICIENCY MOTORS.
- ⑦ UNIT SHALL BE FACTORY TESTED COMPLETE WITH ALL APPURTENANCES INTEGRAL. UNIT SHALL INCLUDE OUTSIDE AIR DAMPER WITH ACTUATOR. UNIT CASING SHALL BE INTERNALLY INSULATED WITH A MINIMUM R VALUE OF 7 AND SHALL HAVE AN INTERNAL METAL LINER. COORDINATE SERVICE ACCESS OPENINGS WITH PLAN LAYOUTS.
- ⑧ PROVIDE UNIT WITH MODULATING HOT GAS REHEAT.
- ⑨ PROVIDE UNIT WITH LOW AMBIENT KIT (0° F). COMPRESSOR TO COME WITH 5 YEAR MANUFACTURER WARRANTY.
- ⑩ PROVIDE ELECTRIC HEAT WITH SCR CONTROLS TO MODULATE HEAT AS NEEDED.

VARIABLE REFRIGERANT SPLIT SYSTEM HEAT PUMP SCHEDULE																
SYMBOL	INDOOR SECTION				COOLING CAPACITIES @95°F AMBIENT AIR (MBTUH)				HEATING @17°F AMBIENT AIR		SYS. VOLTS	FILTER	PARENT HEAT PUMP	COMPRESSOR TYPE	NOTES	DESIGN BASIS
	TOTAL CFM	O.A. CFM	AIR ENTR.	E.S.P. I.W.G.	TOTAL	SENS.	EER	TYPE	CAP.	TYPE						
AHU-1	635	125	80.0 *FDB/67.0*FWB	0.30	16.9	15.0	--	R-410A	4.2	R-410A	208/60/1	THROWAWAY	VRHP-1	--	①③④⑥⑧⑩	LG - ARNU243BHA2
AHU-2	635	115	80.0 *FDB/67.0*FWB	0.30	15.9	14.4	--	R-410A	5.1	R-410A	208/60/1	THROWAWAY	VRHP-1	--	①③④⑥⑧⑩	LG - ARNU243BHA2
AHU-3	735	185	80.0 *FDB/67.0*FWB	0.30	23.4	17.5	--	R-410A	5.1	R-410A	208/60/1	THROWAWAY	VRHP-1	--	①③④⑥⑧⑩	LG - ARNU283BHA2
AHU-4	705	125	80.0 *FDB/67.0*FWB	0.30	18.7	16.8	--	R-410A	5.4	R-410A	208/60/1	THROWAWAY	VRHP-1	--	①③④⑥⑧⑩	LG - ARNU283BHA2
AHU-5	185	0	80.0 *FDB/67.0*FWB	0.30	4.4	4.4	--	R-410A	0.7	R-410A	208/60/1	THROWAWAY	VRHP-1	--	①③④⑥⑧⑩	LG - ARNU073SEL2
VRHP-1	--	--	--	--	95.9	--	12.3	R-410A	107.5 MBH	R-410A	208/60/3	--	--	DC INVERTER	①②⑤⑥⑦⑧	LG - ARUB096BT2

NOTES:

- ① PROVIDE WITH SINGLE POINT POWER CONNECTION.
- ② FAN SECTIONS SHALL BE FACTORY PROVIDED WITH INTERNAL VIBRATION ISOLATION.
- ③ INSTALL PVC DRIP PAN LINE FROM UNIT PIPED TO DESIGNATED LOCATION AND ROUTING TERMINATION AS SHOWN ON PLANS. PROVIDE UNITS WITH INTERNAL FLOAT SWITCH CONTROLLING CONDENSATE PUMP OPERATION AND UNIT SHUTDOWN UPON HIGH CONDENSATE LEVELS FOUND IN INTERNAL DRIP PAN.
- ④ CAPACITIES SHOWN ARE NOMINAL VALUES.
- ⑤ PROVIDE UNIT WITH SEA COAST PROTECTION.
- ⑥ PROVIDE WITH R-410A REFRIGERANT.
- ⑦ PROVIDE UNIT WITH LOW AMBIENT KIT FOR OPERATION AT MINIMUM 5°F OUTDOOR TEMPERATURE.
- ⑧ LISTED EER AT 100% COOLING OUTPUT AND 100% ELECTRICAL INPUT. UNIT TO BE CAPABLE OF VARIABLE REFRIGERANT VOLUME AS NEED AT INDOOR UNITS.
- ⑨ CONTRACTOR TO COORDINATE SERVICE ACCESSIBILITY OF UNITS BEFORE INSTALLATION, PROVIDING ADEQUATE ACCESS HATCHES WHEN NEEDED.
- ⑩ UNITS TO HAVE A MAXIMUM DEPTH OF 12".

ENERGY RECOVERY UNIT												
MARK	CFM		SUPPLY FAN		EXHAUST FAN		ROTARY HEAT WHEEL		SYSTEM VOLTS	FILTERS	REMARKS	DESIGN BASIS
	SUPPLY	EXHAUST	HP	ESP IN WG	HP	ESP IN WG	EFFECTIVENESS	TYPE				
ERV-1	550	550	1/3	0.5	1/3	0.5	80%	SENSIBLE/LATENT	115/1/60	1" PLEATED THROWAWAY	SEE NOTES BELOW	GREENHECK MINIVENT - 750

NOTES:

- 1. PROVIDE SINGLE POINT POWER CONNECTION.
- 2. UNIT SHALL BE FURNISHED WITH PREMIUM EFFICIENCY MOTORS.
- 3. UNIT SHALL BE FACTORY ASSEMBLED COMPLETE WITH ALL APPURTENANCES INTEGRAL.
- 4. UNIT SHALL INCLUDE INTERNAL BACKDRAFT DAMPERS.
- 5. UNIT CASING SHALL BE INTERNALLY INSULATED WITH A MINIMUM R VALUE OF 7 AND SHALL HAVE AN INTERNAL METAL LINER.

PUMP SCHEDULE										
TAG	SERVICE	TYPE	FLOW (GPM)	HEAD (FT)	RPM	MOTOR DATA				
						DRIVES	HP	VOLTS	PHASE	HZ
P-1	STEAM PIT	SUBMERSIBLE SUMP PUMP	34	10	1550	CONSTANT SPEED	0.3	115	1	60

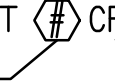
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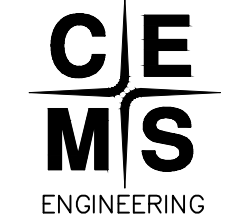

- 1. PROVIDE PUMP WITH 115/1/60 WALL PLUG.
- 2. PUMP SHALL BE FACTORY ASSEMBLED COMPLETE WITH FLOAT SWITCH AND ALL APPURTENANCES.

DESIGN CONDITIONS		
	OUTDOOR	INDOOR
SUMMER	90°DB/79°WB	75°DB/50%RH
WINTER	23°DB	68°DB


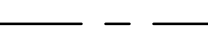
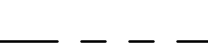





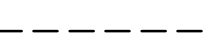
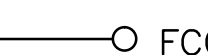
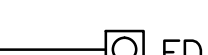


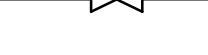
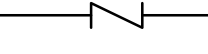
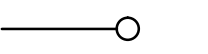
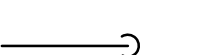
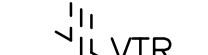
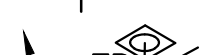
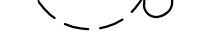






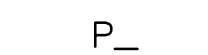
AIR DISTRIBUTION SCHEDULE								
MARK	1	2	3		A	B	C	D
DESCRIPTION	LOUVER FACE DIFFUSER	LOUVER FACE DIFFUSER	LOUVER FACE DIFFUSER		RETURN GRILLE	RETURN GRILLE	RETURN GRILLE	EXHAUST GRILLE
MATERIAL	ALUM.	ALUM.	ALUM.		ALUM.	ALUM.	ALUM.	ALUM.
FINISH	WHITE	WHITE	WHITE		WHITE	WHITE	WHITE	WHITE
FLEX CONNECTION SIZE	8"ø	6"ø	6"ø		8"ø	6"ø	10"ø	8"ø
DUCT CONNECTION SIZE	10x10	6x6	6x6		8x8	6x6	10x10	6x6
FACE SIZE	24x24	12x12	12x12		24x24	12x12	24x24	12x12
MAXIMUM NC	30	30	30		30	30	30	30
FACE STYLE	SQUARE	SQUARE	SQUARE		SQUARE	SQUARE	SQUARE	SQUARE
FACE BLADE ARRANGEMENT (grilles & registers only)	N/A	N/A	N/A		PERF-ORATED	PERF-ORATED	PERF-ORATED	0' HORIZ.
MOUNTING	LAY-IN	LAY-IN	SURFACE		LAY-IN	LAY-IN	LAY-IN	SURFACE
PATTERN (diffusers only)	FOUR WAY	FOUR WAY	FOUR WAY		N/A	N/A	N/A	N/A
DAMPERS	N/A	N/A	N/A		N/A	N/A	N/A	OBD

NOTES:

- 1. A LIMITED AMOUNT OF AVAILABLE CEILING AREA MAY REQUIRE THE CEILING BE CUT TO ACCOMMODATE A SMALL GRILLE FACE IN LAY-IN AS WELL AS SURFACE MOUNT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING CEILING TYPE AND AVAILABLE SPACE WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
- 2. AIR DISTRIBUTION CALL-OUT  CFM
MARK --- CFM
- 3. MARK 2 TO BE OF SAME DIFFUSER STYLE AS NAILOR 6200 - TYPE L OR AN APPROVED EQUIVALENT.

		M-602	
		<small>CEMS Engineering, Inc. P.O. Box 1688 3509 Iron Horse Drive Ladson, SC 29456 (984) 875-3637 (984) 875-4559 www.cemsengineering.com CEMS Project #01150CC Project Manager: R. Alvar</small>	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC		MECHANICAL SCHEDULES NAVFAC DRAWING NO. 60008619	
SATISFACTORY TO:		DATE: F 80091 CONST. CONTR. NO. N40085-11-B-0127	
SCALE: AS NOTED		SPEC. 05-11-0127	
		SHEET 28 OF 42	

LEGEND

-  TO BE REMOVED
-  COLD WATER, CW
-  HOT WATER, HW
-  HOT WATER RECIRCULATING, HWR
-  EXISTING WASTE, W
-  WASTE, W
-  EXISTING VENT, V
-  VENT, V
-  FLOOR CLEANOUT
-  FLOOR DRAIN
-  WALL FAUCET
-  BRANCH ISOLATION VALVE
-  CHECK VALVE
-  PIPE TURNING UP
-  PIPE TURNING DOWN
-  VENT THROUGH ROOF
-  FLOOR DRAIN W/ TRAP PRIMER
-  FLOOR CLEANOUT
-  WATER HAMMER ARRESTOR
-  POINT OF CONNECTION BETWEEN NEW AND EXISTING
-  POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
-  PLUMBING FIXTURE DESIGNATION
-  TYPICAL
-  EXISTING
-  DRAIN WASTE VENT
-  RECIRCULATION
-  DOMESTIC SMART WATER METER

GENERAL NEW WORK NOTES:

1. LABOR, EQUIPMENT AND MATERIALS ARE TO BE PROVIDED TO COMPLETE THE PLUMBING WORK INDICATED ON THESE DRAWINGS AS REQUIRED BY LOCAL CODE AND ORDINANCES.
2. THE WORK SHALL INCLUDE WASTE, VENT, DOMESTIC COLD & HOT WATER PIPING, AS INDICATED ON THESE DRAWINGS. ALSO, THE HOOKUP OF FIXTURES SCHEDULED AND INSULATION OF PIPING SHALL BE INCLUDED.
3. ITEMS, SUCH AS FITTINGS, ETC. NOT MENTIONED BUT UNDERSTOOD TO BE NECESSARY TO COMPLETE THE PLUMBING SYSTEM SHALL BE INCLUDED.
4. SOIL, WASTE, VENT AND WATER PIPING MATERIALS MUST MEET OR EXCEED LOCAL CODES.
5. CLEAN OUTS FOR SOIL AND WASTE LINES AS SHOWN ON THE DRAWING MUST BE PROVIDED AND MEET OR EXCEED LOCAL CODES.
6. STUBS FOR THE DRAINAGE SYSTEM MUST BE CAPPED UNTIL FINISHED WORK IS INSTALLED.
7. WATER HAMMER ARRESTERS MUST BE PROVIDED IN ACCORDANCE WITH INTERNATIONAL PLUMBING CODES AND LOCAL ORDINANCES.
8. TRAP PRIMER VALVES SHALL BE LOCATED BELOW THE FIXTURE INDICATED. PRIMER LINES TO FLOOR DRAINS SHALL BE ROUTED DOWN INSIDE WALL AND BELOW SLAB. SEE FLOOR PLANS AND RISER DIAGRAMS.
9. LOCATE PLUMBING FIXTURES PER ARCHITECTURAL DRAWINGS. PIPING IS SHOWN IN GENERAL LOCATION. EXACT LOCATION WILL BE DETERMINED BY JOB CONDITIONS.
10. INSTALLATION SHALL BE PER PLANS AND SPECIFICATIONS AND NORTH CAROLINA PLUMBING CODE. SEE SPECIFICATIONS FOR PRODUCT AND INSTALLATION REQUIREMENTS.
11. COORDINATE LOCATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
12. ALL EQUIPMENT, AND PIPE ABOVE CEILING SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNLESS OTHERWISE NOTED.
13. FLOOR DRAINS SHALL BE DEEP SEAL TRAP TYPE WITH 3/8" TRAP PRIMER CONNECTION TO NEAREST CW SOURCE.

GENERAL DEMOLITION NOTES:

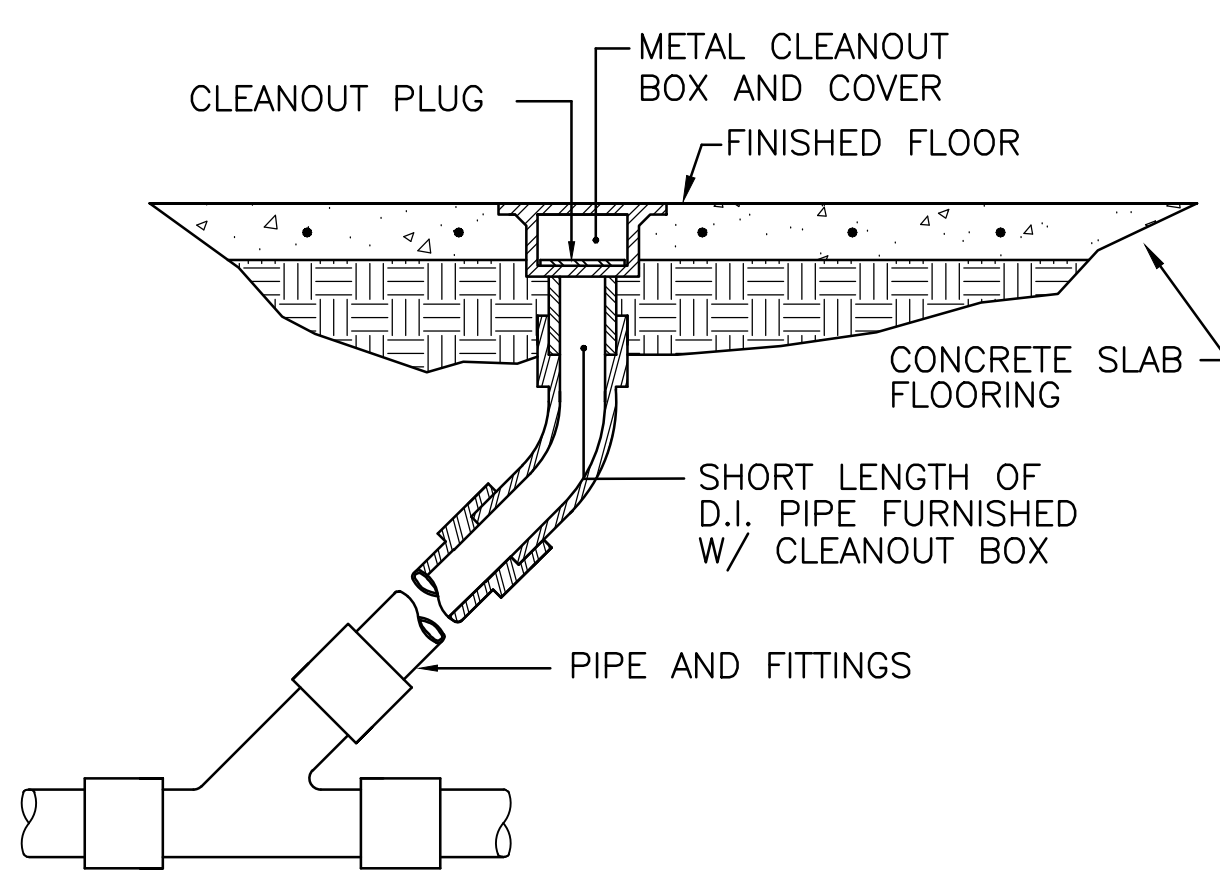
1. REMOVAL OF FIXTURES, PIPING, ETC. IS TO INCLUDE ALL ASSOCIATED HANGERS, SUPPORTS, BRACKETS, AND APPURTENANCES PHYSICALLY ATTACHED AT THE COMMENCEMENT OF DEMOLITION, UNLESS NOTED OTHERWISE.
2. ALL PIPING NOT INDICATED TO BE REUSED SHALL BE REMOVED.
3. LOCATIONS OF FIXTURES, PIPING, ETC. IS DIAGRAMMATIC ONLY AND IS NOT INTENDED TO SHOW EXACT LOCATION.
4. WHERE FIXTURES OR PIPING IS REMOVED AND NOT REPLACED, PATCH AND FINISH AREAS TO MATCH ADJACENT SURFACES.

PLUMBING FIXTURE SCHEDULE						
SYMBOL	FIXTURE	PIPE SIZES				REMARKS
		C W	H W	DRAIN	VENT	
P1	WATER CLOSET	1"	--	3"	2"	SEE SPECIFICATIONS
P1A	WATER CLOSET (ADA)	1"	--	3"	2"	SEE SPECIFICATIONS
P2	LAVATORY (WALL HUNG)	1/2"	1/2"	1 1/4"	1 1/2"	SEE SPECIFICATIONS
P3	URINAL	3/4"	--	2"	2"	SEE SPECIFICATIONS
P4	SHOWER	1/2"	1/2"	2"	2"	SEE SPECIFICATIONS
P4A	SHOWER (ADA)	1/2"	1/2"	2"	2"	SEE SPECIFICATIONS
P5	MOP SINK	1/2"	1/2"	2"	2"	SEE SPECIFICATIONS
P6	RECESSED WATER COOLER (DOUBLE)	1/2"	--	1 1/4"	2"	SEE SPECIFICATIONS
P7	KITCHEN SINK (SINGLE BOWL)	1/2"	1/2"	1 1/4"	2"	SEE SPECIFICATIONS
WF	WALL FAUCET	3/4"	--	--	--	SEE SPECIFICATIONS
FD	FLOOR DRAIN	1/2"	--	2"	2"	SEE SPECIFICATIONS
FCO	FLOOR CLEANOUT	--	--	SEE PLAN	--	SEE SPECIFICATIONS

WATER HEATER SCHEDULE									
SYMBOL	DESCRIPTION	CAPACITY GAL	RATING (WATTS) UPPER/LOWER	CONNECTION SIZES				VOLTS	DESIGN BASIS
				C W	H W	DRAIN	VENT		
HPWH-1	HEAT PUMP WATER HEATER	50	4500/4500	3/4"	3/4"	3/4"	--	208/1/60	GE - GEH50NDRSA

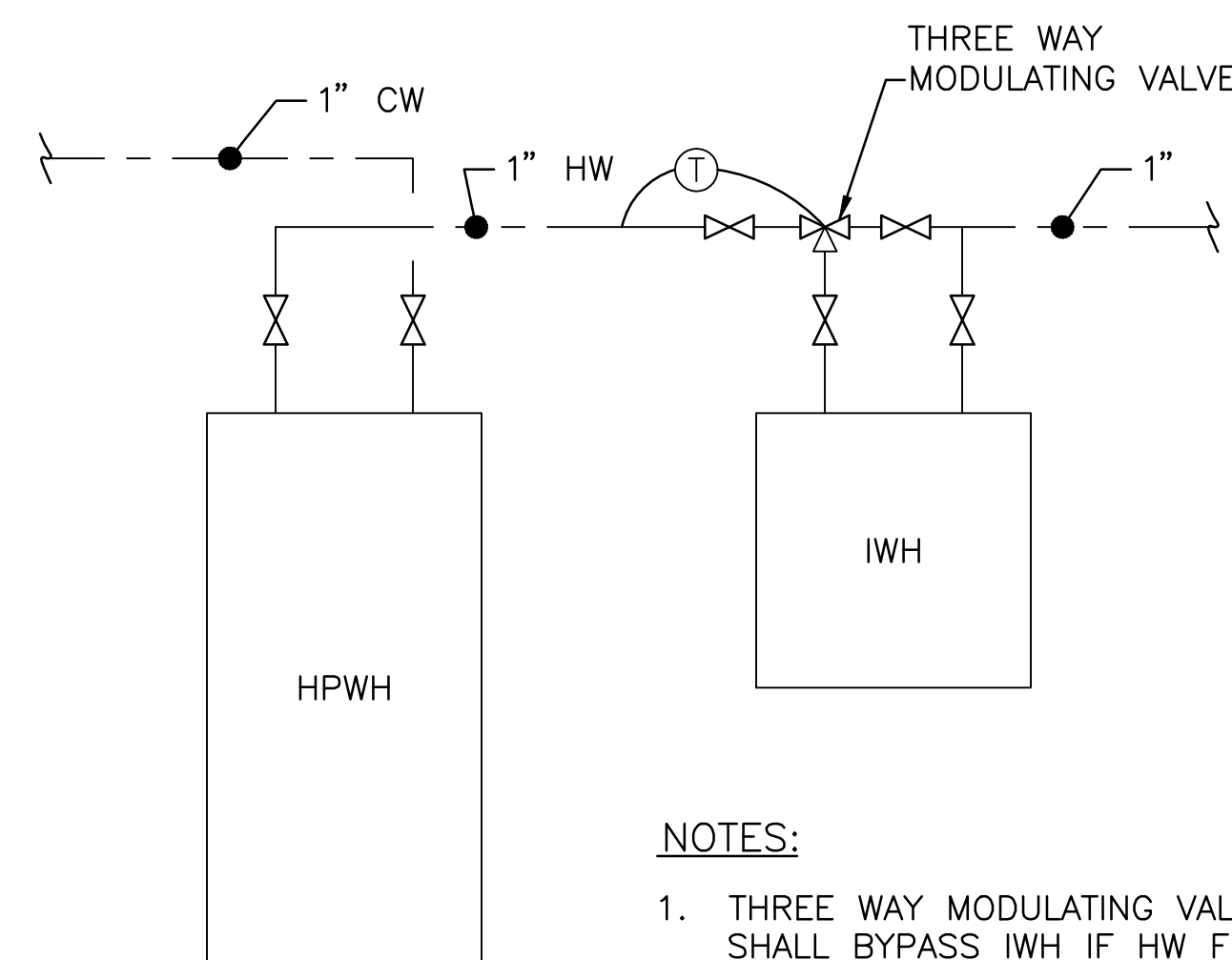
INSTANTANEOUS WATER HEATER SCHEDULE									
SYMBOL	DESCRIPTION	RECOVERY GPH @ 50'	RATING	CONNECTION SIZES				VOLTS	DESIGN BASIS
				C W	H W	DRAIN	VENT		
IWH-1	INSTANTANEOUS WATER HEATER	3.69	27 KW	1/2"	1/2"	--	--	208/1/60	RHEEM - RTE27

HAMMER ARRESTOR SCHEDULE			
ITEM	PDI UNIT	FIXTURE UNIT	MANUFACTURER
HA	A	1-11	JOSAM 75000 OR EQUIVALENT ZURN, SMITH
HA	B	12-32	JOSAM 75000 OR EQUIVALENT ZURN, SMITH
HA	C	33-60	JOSAM 75000 OR EQUIVALENT ZURN, SMITH



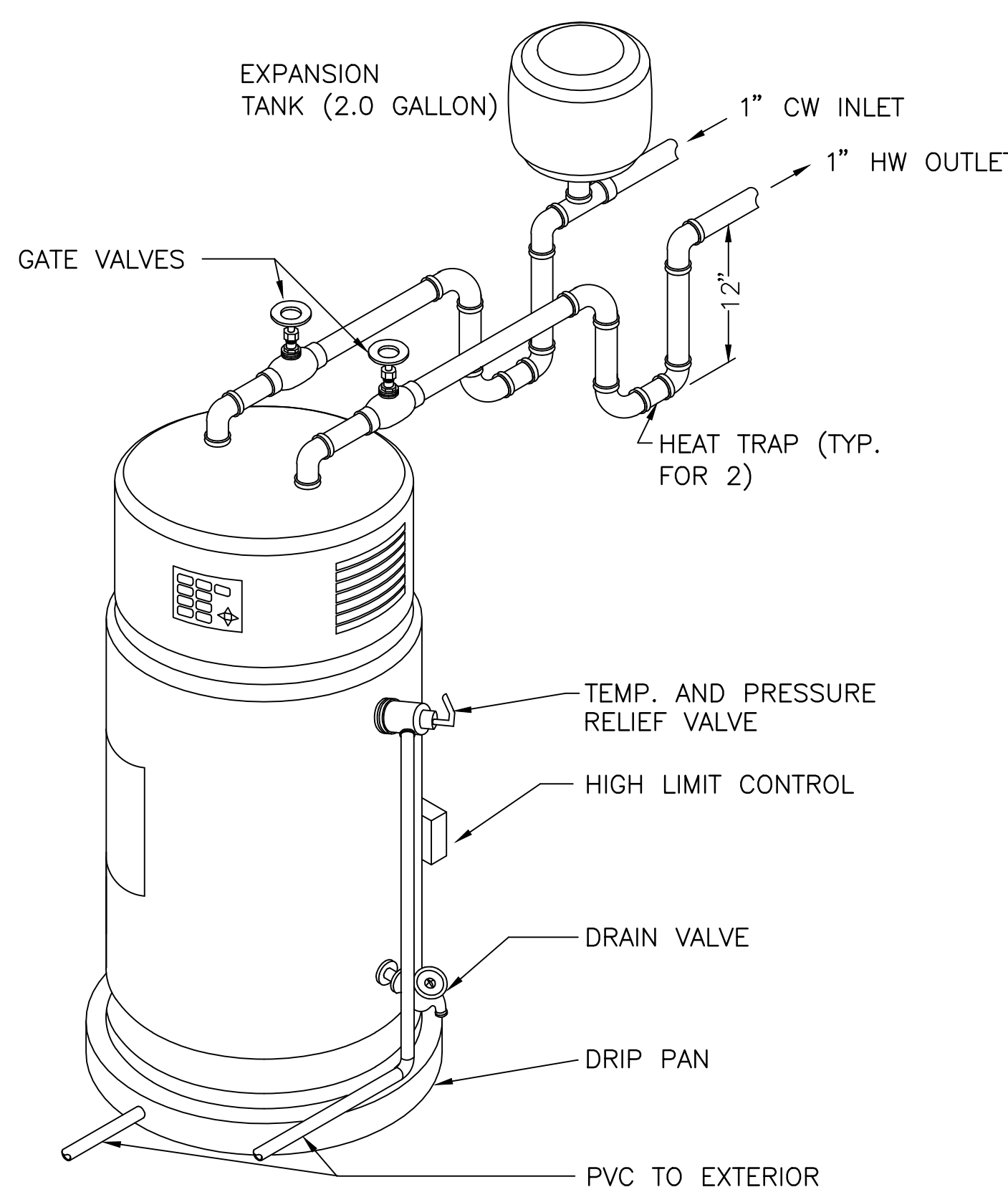
FLOOR CLEANOUT DETAIL

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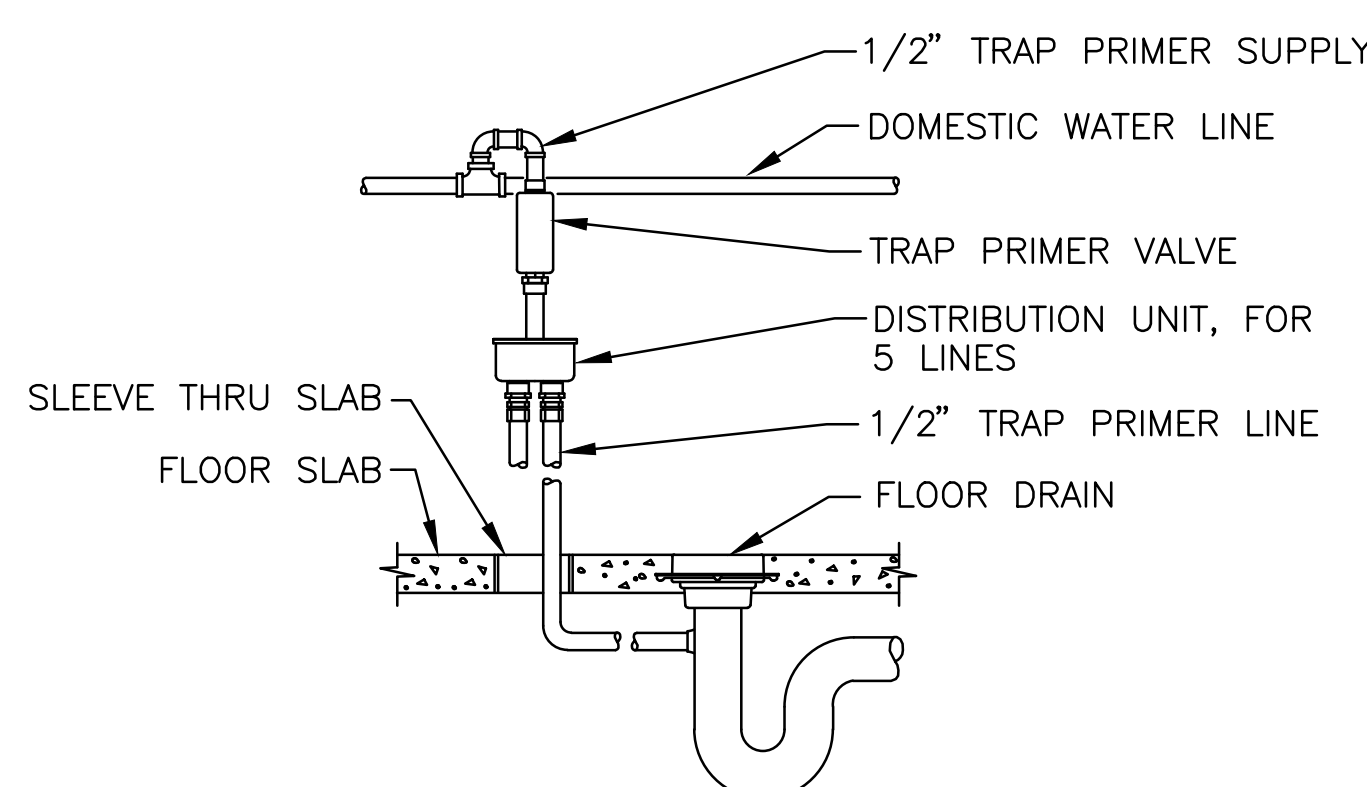
HOT WATER SYSTEM DIAGRAM

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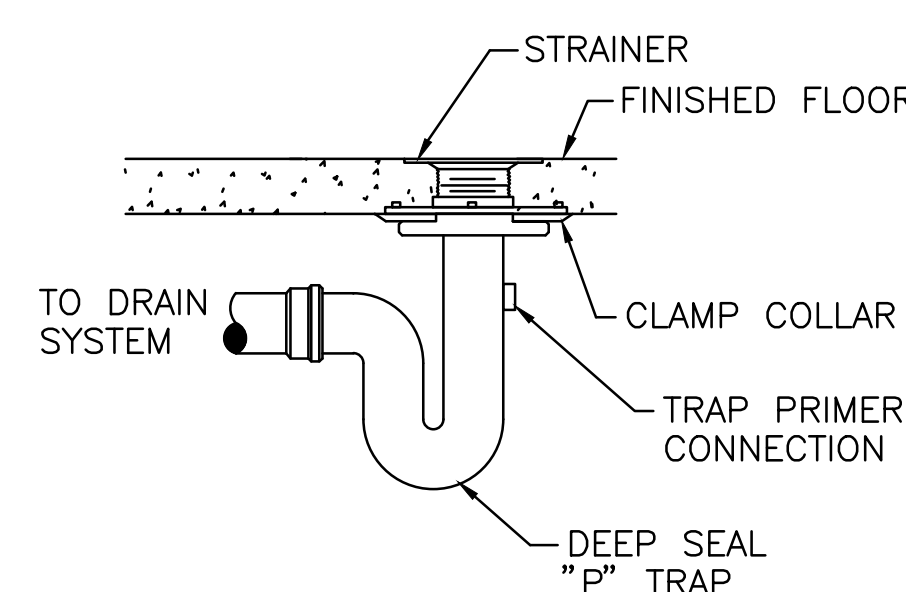
HEAT PUMP WATER HEATER DETAIL

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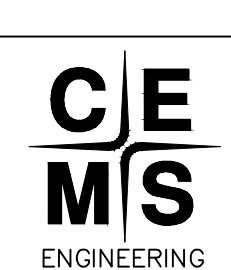
TRAP SEAL PRIMER DETAIL

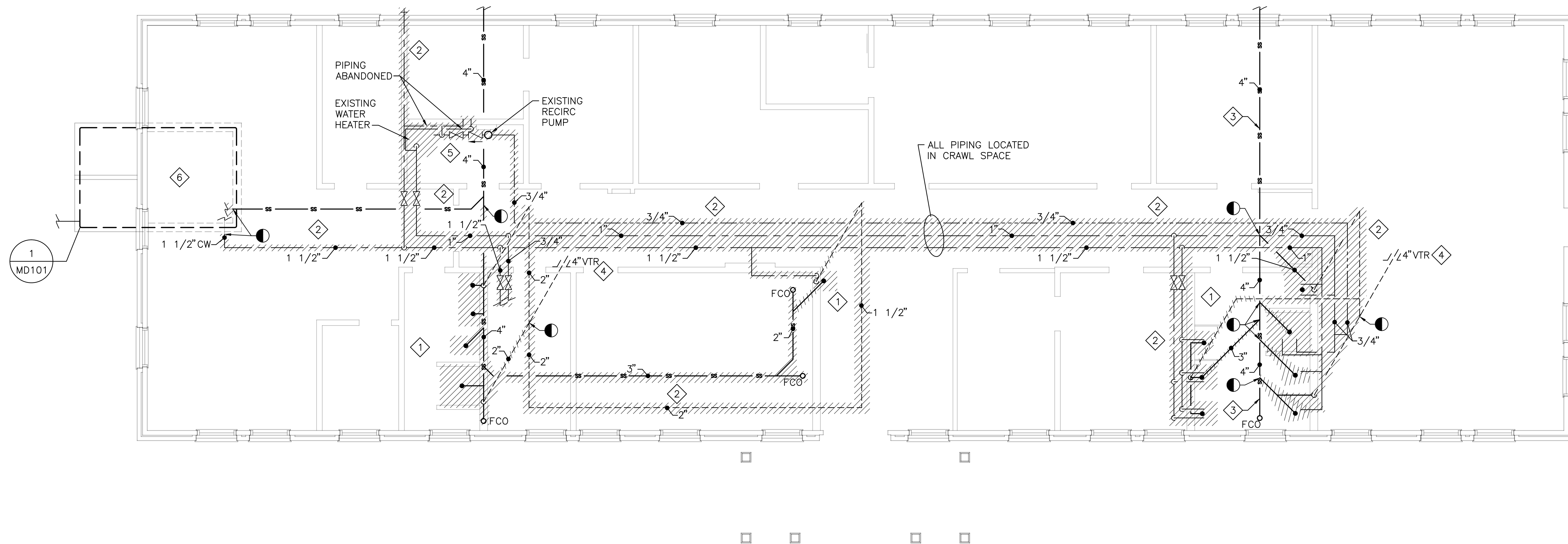
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TYPICAL FLOOR DRAIN DETAIL

SCALE: NOT TO SCALE

 <p>CEMS Engineering, Inc. P.O. Box 1688 3509 Iron Horse Drive Ladson, SC 29456 (914) 875-3637 (914) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager: R. Alvar</p>		P-001	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY:		REPAIR LARGE UNIT HQs BUILDING 421	
DESIGN DIR. APPROVED: PWO OR OICC DATE		PLUMBING LEGEND, DETAILS, AND SCHEDULES NAVFAC DRAWING NO.	
SATISFACTORY TO: DATE		F 80091 60008620 CONST. CONTR. NO. N40085-11-B-0127	
SCALE: AS NOTED		SHEET 29 OF 42	

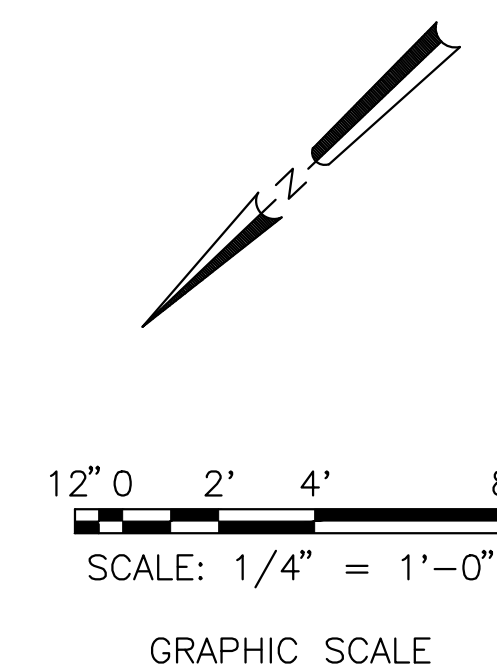


PLUMBING DEMOLITION PLAN

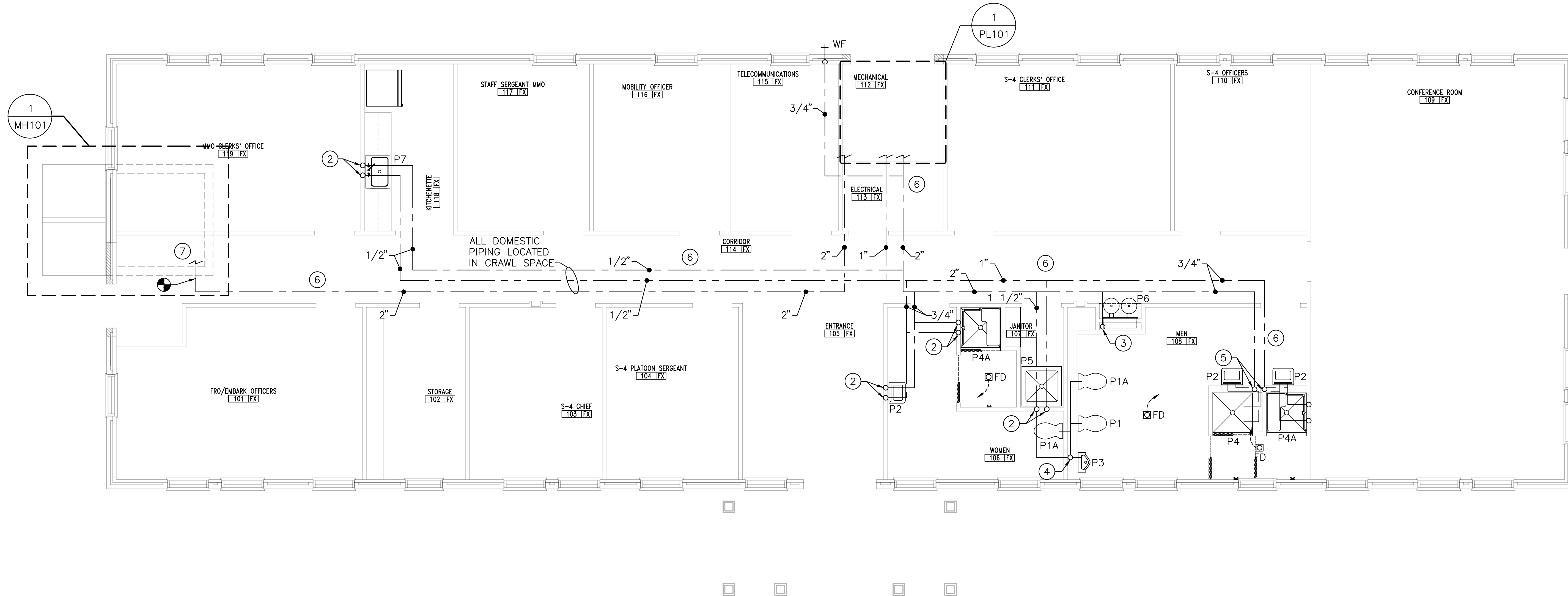
SCALE 1/4" = 1'-0"

DEMOLITION KEYNOTES:

- 1 REMOVE ALL PLUMBING FIXTURES AND ASSOCIATED SUPPLY AND DWV PIPING IN THEIR ENTIRETY.
- 2 REMOVE SUPPLY/DWV PIPING AS INDICATED.
- 3 4" SANITARY SEWER PIPE TO REMAIN.
- 4 4" VTR TO REMAIN.
- 5 REMOVE WATER HEATER, RECIRCULATION PUMP AND ASSOCIATED PIPING IN THEIR ENTIRETY.
- 6 SEE MECHANICAL PLANS FOR PIT DEMOLITION AND NEW WORK.



		PD101	
 <small>CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager: R. Alvar</small>		<small>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND</small> MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>	
		REPAIR LARGE UNIT HQs BUILDING 421	
<small>DES. J. CARR</small> <small>DR. J. BARNES</small> <small>CHK. P. MAHAFFEY</small> <small>SUBMITTED BY:</small> <small>DESIGN DIR.</small> <small>APPROVED: PWO OR OICC</small>	<small>DATE</small> <small>DATE</small>	<small>SIZE</small> F 80091	<small>IDENT NO.</small> 60008621 <small>NAVFAC DRAWING NO.</small> <small>CONST. CONTR. NO. N40085-11-B-0127</small>
<small>SATISFACTORY TO:</small>		<small>SCALE: AS NOTED</small> <small>SPEC. 05-11-0127</small> <small>SHEET 30 OF 42</small>	

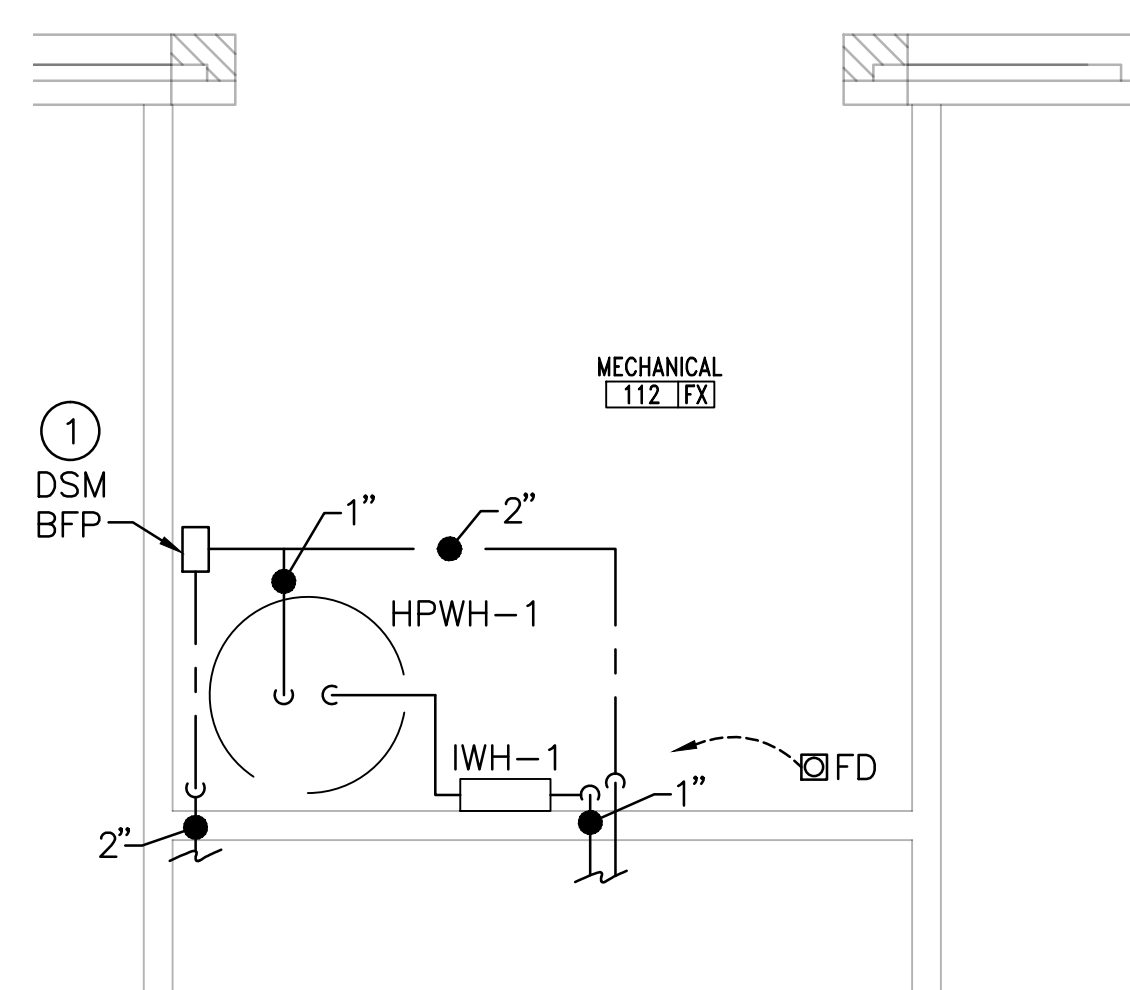


PLUMBING SUPPLY NEW WORK PLAN

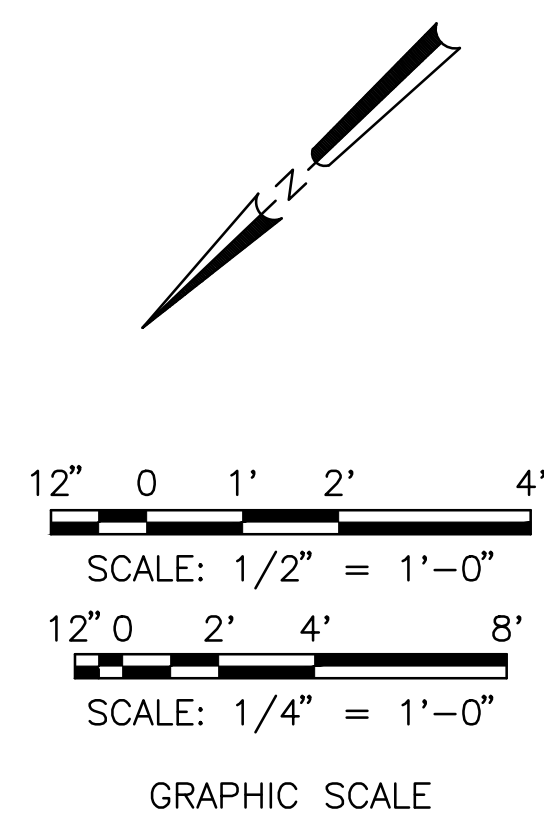
SCALE 1/4" = 1'-0"

NEW WORK KEYNOTES:

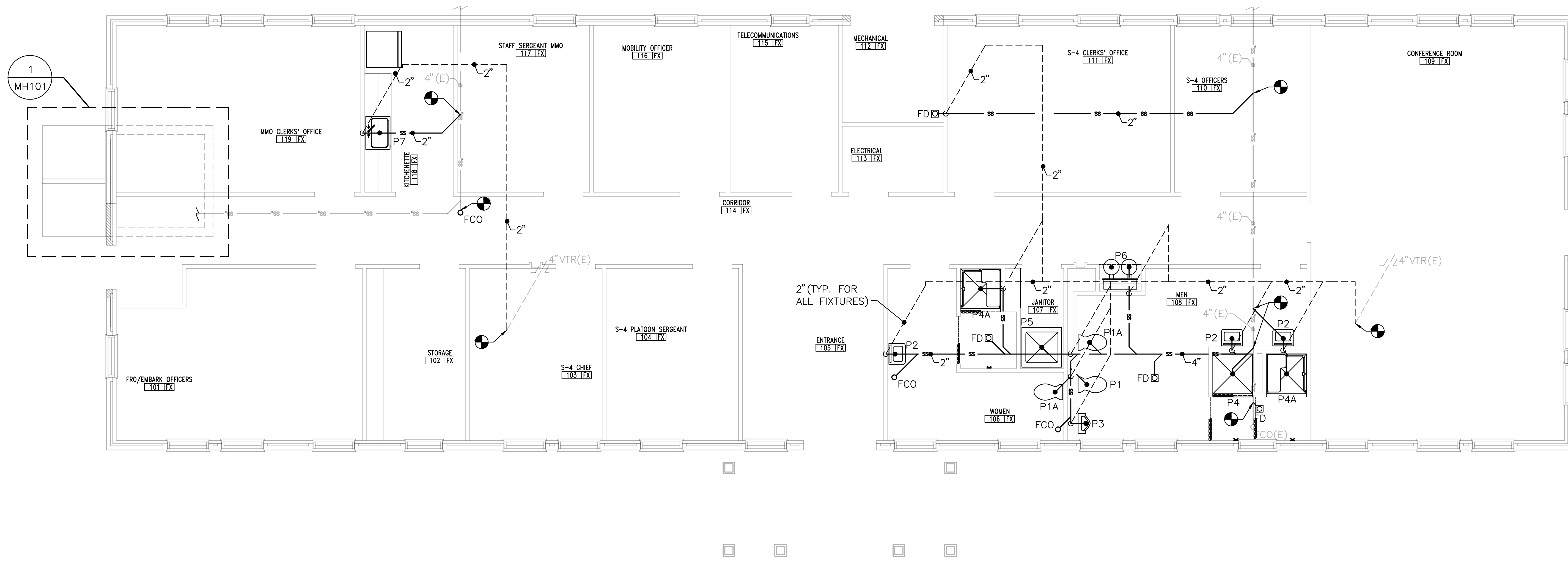
- ① PROVIDE AND INSTALL VERTICAL BACKFLOW PREVENTER (BFP) AND DOMESTIC SMART WATER METER (DSM). DSM TO REPORT BACK TO SUPERVISORY BUILDING CONTROLLER.
- ② 1/2" CW AND HW UP.
- ③ 1/2" CW UP.
- ④ 1 1/2" CW UP.
- ⑤ 3/4" CW AND HW UP.
- ⑥ ALL CW AND HW PIPING IN CRAWLSPACE TO BE INSULATED.
- ⑦ DOMESTIC WATER PIPING FROM STEAM PIT.



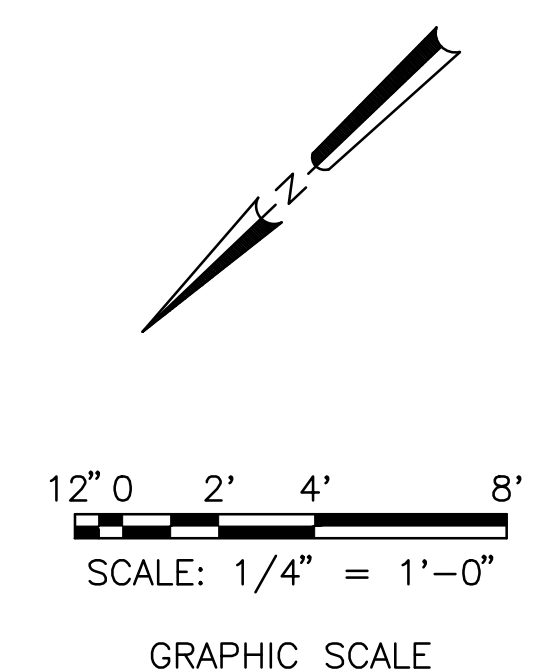
① MECHANICAL ROOM ENLARGED NEW WORK PLAN
SCALE 1/2" = 1'-0"



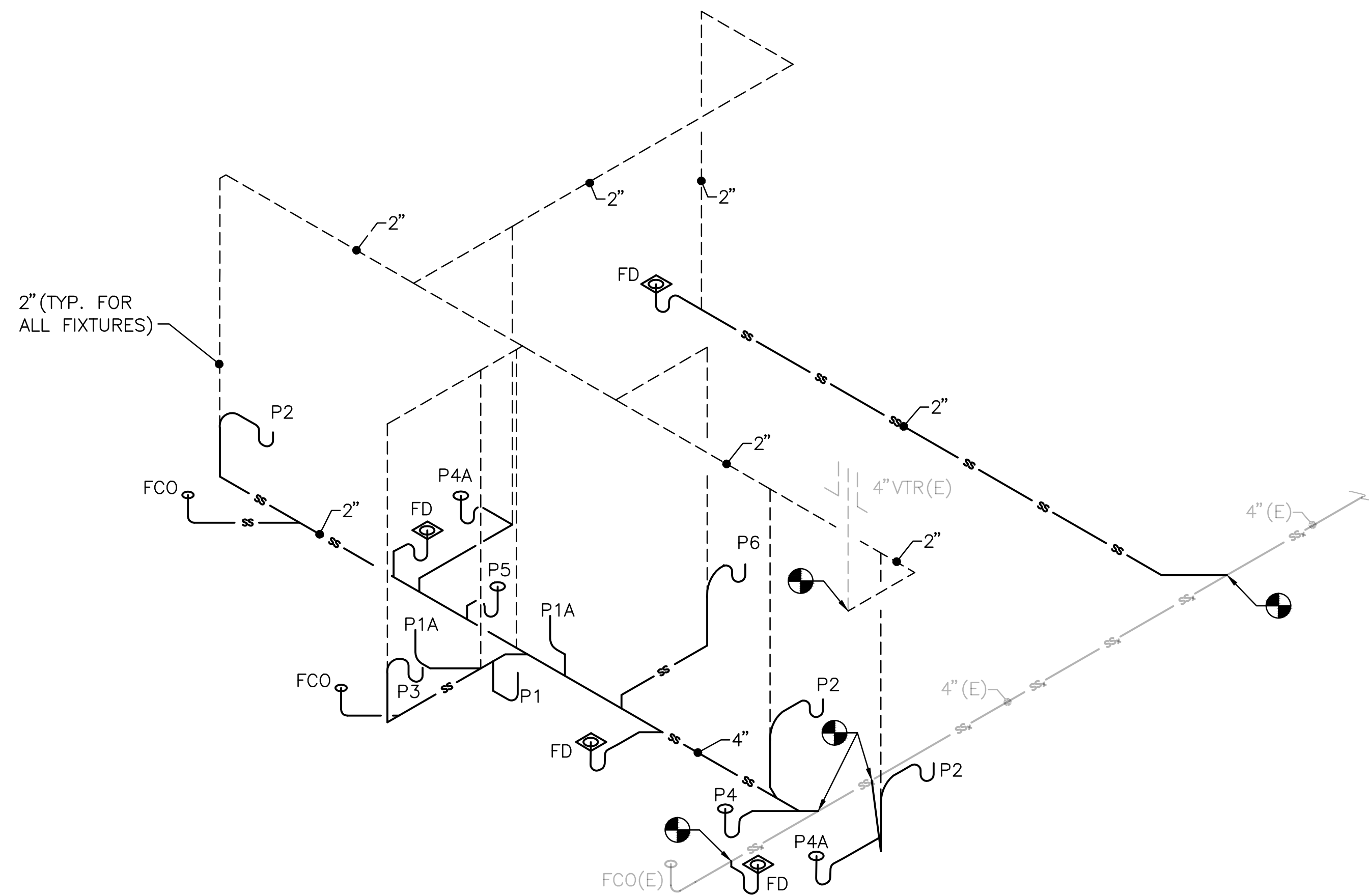
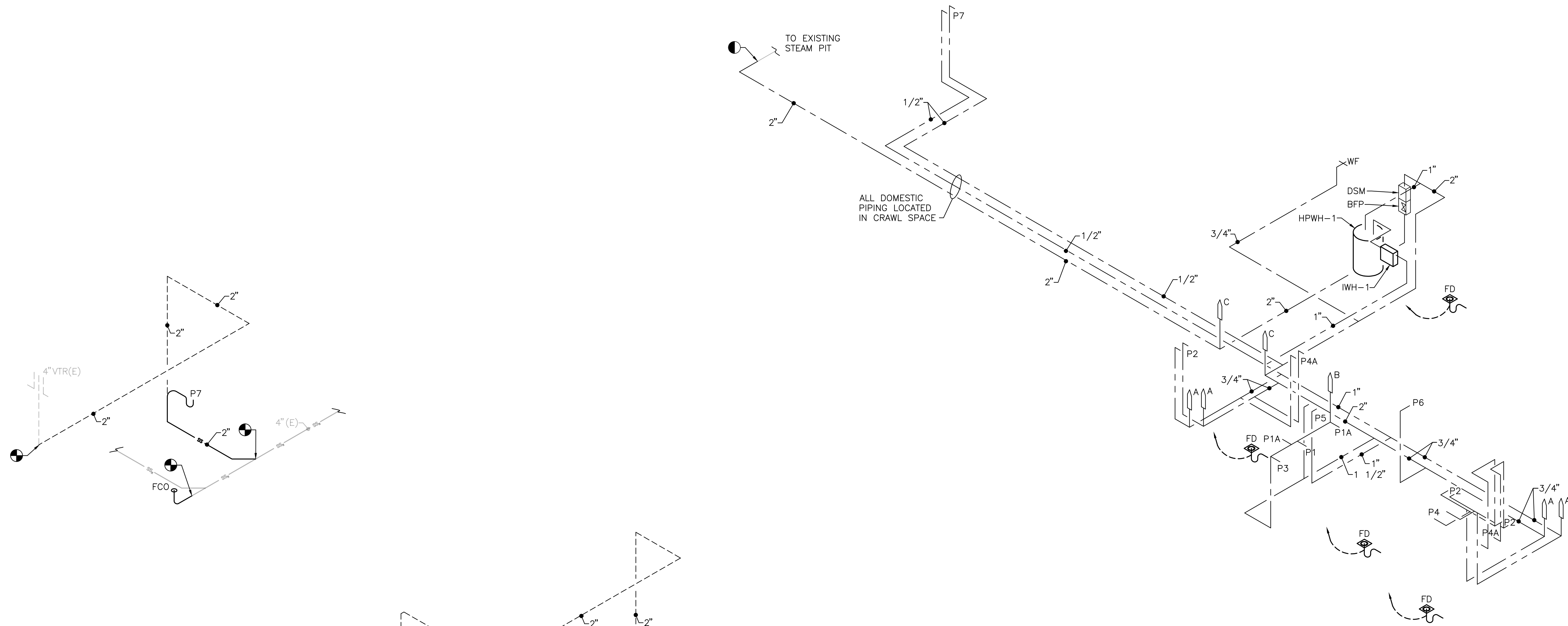
		PL101	
 CEMS ENGINEERING	<small>CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (914) 875-3637 (914) 875-4559 www.cemsengineering.com CEMS Project #01150CC Project Manager: R. Alvar</small>		
	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC SATISFACTORY TO:		PLUMBING SUPPLY NEW WORK PLAN NAVFAC DRAWING NO. 60008622 CONSTRUCTION NO. N40085-11-B-0127 DATE: _____ DATE: _____	
SCALE: AS NOTED SPEC. 05-11-0127		SHEET 31 OF 42	



PLUMBING DWV NEW WORK PLAN
SCALE 1/4" = 1'-0"



		PL102	
 <small>CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager: R. Alvar</small>	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		
	DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		
	REPAIR LARGE UNIT HQS BUILDING 421		
	PLUMBING DWV NEW WORK PLAN APPROVED: PWO OR OICC DATE SIZE CODE IDENT NO. NAVFAC DRAWING NO. SATISFACTORY TO: DATE F 80091 60008623 <small>CONST. CONTR. NO. N40085-11-B-0127</small>		
SCALE: AS NOTED		SPEC. 05-11-0127	SHEET 32 OF 42



PLUMBING SUPPLY ISOMETRIC
SCALE NOT TO SCALE

PLUMBING DWV ISOMETRIC
SCALE NOT TO SCALE


		P-601	
 <small>CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsgroup.com CEMS Project #01150CC Project Manager, R. Alvar</small>	<small>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND</small> MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>		
	REPAIR LARGE UNIT HQs BUILDING 421		
	<small>PLUMBING DWV/SUPPLY ISOMETRICS</small>		
	<small>DES. J. CARR</small> <small>DR. J. BARNES</small> <small>CHK. P. MAHAFFEY</small> <small>SUBMITTED BY:</small> <small>DESIGN DIR.</small> <small>APPROVED: PWO OR OICC</small>	<small>DATE</small> <small>DATE</small>	<small>SIZE</small> F 80091
<small>SATISFACTORY TO:</small>		<small>DATE</small>	<small>SCALE: AS NOTED</small> <small>SPEC. 05-11-0127</small> <small>SHEET 33 OF 42</small>

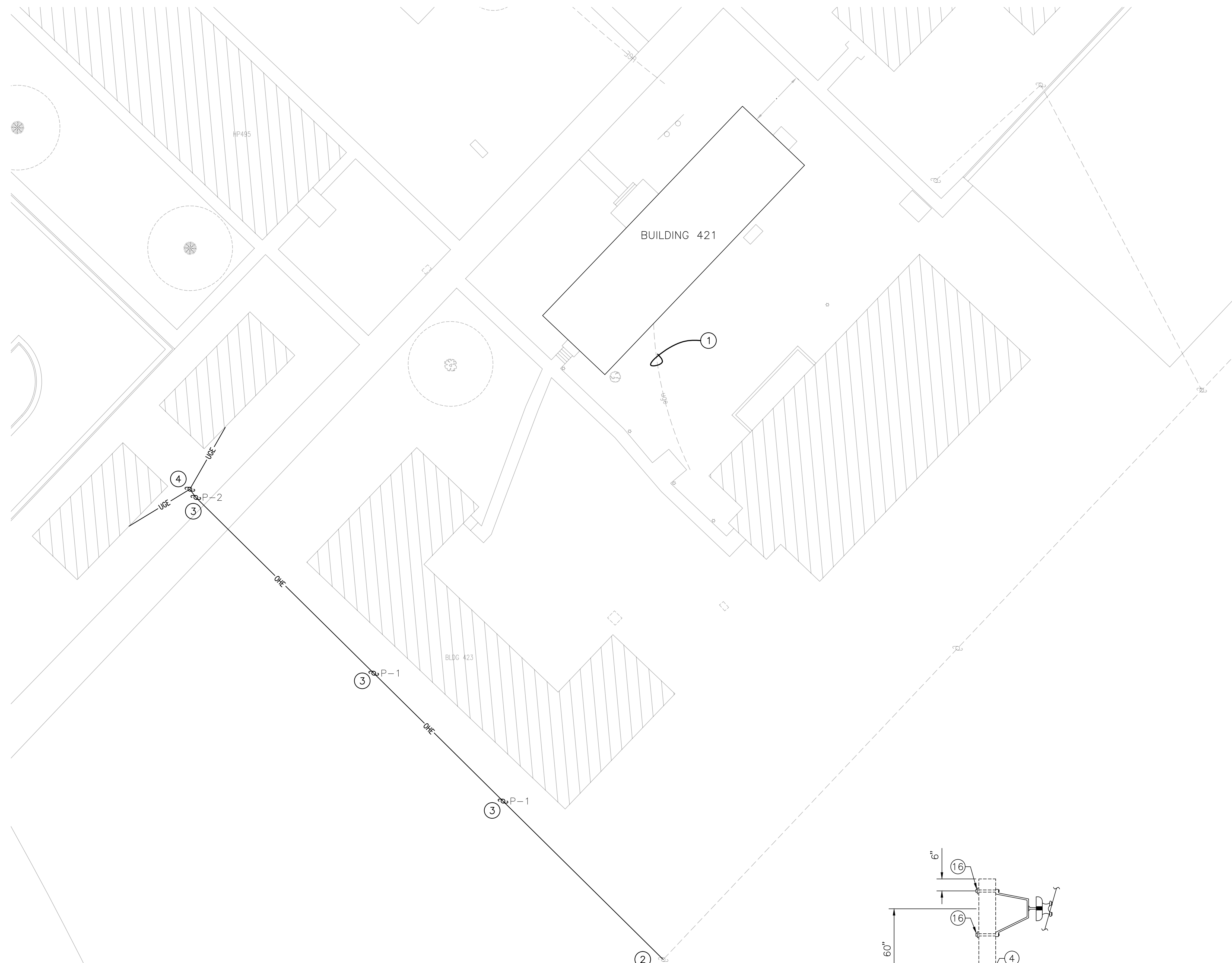
LEGEND

⊕	RECEPTACLE, 20A, 120 VOLT ('G' - INDICATES A GROUND FAULT RECEPTACLE; 'W' - INDICATES A WEATHER PROOF WHILE IN USE RECEPTACLE)
⊕	RECEPTACLE, 20A, 120 VOLT MOUNTED AT 48" AFF. ('G' - INDICATES A GROUND FAULT RECEPTACLE)
⊕	QUADRAPLEX 20A, 120V RECEPTACLE, 18" AFF
\$	SWITCH, 20A ('3'-DENOTES THREEWAY, '4'-DENOTES FOURWAY, 'm'-DENOTES MOTOR RATED)
□	DISCONNECT, NON-FUSED
□	DISCONNECT, FUSED
⊗	COMBINATION MOTOR STARTER
▼	PHONE/DATA OUTLET
⊕	JUNCTION BOX
○	RECESSED FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE
○	SURFACE FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE
▬	VANITY FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE
▬	WALL MOUNTED FIXTURE, SEE FIXTURE SCHEDULE
○	RECESSED DOWN LIGHT, SEE FIXTURE SCHEDULE
⊗	EXIT LIGHT, LED, BATTERY BACK-UP, SEE FIXTURE SCHEDULE (DARKENED SECTION IS FACE SIDE)
♀	WALL MOUNTED FIXTURE
⊕	OCCUPANCY SENSOR
⊕	EXHAUST FAN
↑	TWO HEAD EMERGENCY LIGHT FIXTURE, SEE FIXTURE SCHEDULE
▬	PANELBOARD, SURFACE MOUNTED
▬	RECESSED PANELBOARD
TBB	TELEPHONE BACKBOARD
—UGE—	UNDERGROUND ELECTRICAL
—OHE—	OVERHEAD ELECTRICAL
⊕	CLOCK RECEPTACLE
[RACK]	TELEPHONE EQUIPMENT RACK

GENERAL ELECTRICAL NOTES (APPLIES TO ALL DRAWINGS):

- DEMOLITION PLANS ARE DIAGRAMMATIC AND MAY NOT REPRESENT ALL ITEMS TO BE REMOVED.
- REGARDING PHONE LINES, ALL WORK/REPAIRS SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE FOR ANY QUESTIONS AT 910-451-9439 OR 910-451-4760.
- ALL ELECTRICAL WORK IS TO BE DONE IN ACCORDANCE WITH THE CURRENT EDITION OF NFPA 70: NATIONAL ELECTRICAL CODE.
- MATERIALS ARE TO BE NEW AND CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC. (U.L.) AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA).
- CONTRACTOR SHALL CONSIDER VOLTAGE DROP WHEN DETERMINING THE EXACT ROUTING OF BRANCH CIRCUIT AND FEEDER WIRING. ADJUST WIRE AND CONDUIT SIZE AS NECESSARY TO PREVENT A VOLTAGE DROP EXCEEDING 3% AT THE FURTHEST DEVICE LOCATION.
- ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS AND SMOKE PARTITIONS SHALL BE SEALED WITH AN APPROVED FIRE PROOFING SEALANT OR U.L. LISTED PENETRATION DEVICE.
- ELECTRICAL DRAWING IS GENERALLY DIAGRAMMATIC. COORDINATE WORK WITH ALL TRADES PRIOR TO START OF CONSTRUCTION. BRANCH CIRCUIT CONDUIT ROUTING SHALL BE COORDINATED IN THE FIELD BY THE CONTRACTOR TO MEET SPECIFICATIONS, CODE REQUIREMENTS, AND TO PROVIDE A NEAT, WORKMAN LIKE, FULLY OPERATIONAL SYSTEM.
- PROVIDE A TYPED SCHEDULE IN PANELBOARDS CLEARLY DESCRIBING THE LOCATION AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS.
- CONTRACTOR IS TO BE AWARE OF ALL RULES, REGULATIONS, AND CODES REQUIRED FOR SUCCESSFUL COMPLETION OF CONSTRUCTION.
- PROVIDE NECESSARY ACCESSORIES WITH LIGHT FIXTURES TO MATCH CEILING FINISH TYPE.
- FIXTURE MOUNTING REQUIREMENTS TO BE COORDINATED WITH ARCHITECTURAL CEILING PLAN.
- UNLESS NOTED OTHERWISE ALL ITEMS SHOWN ON NEW WORK SHEETS IS TO BE NEW AND INSTALLED.
- CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK.
- COORDINATE WITH THE MECHANICAL PLANS FOR THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT BEFORE ROUGHING IN. ALL MECHANICAL EQUIPMENT SHALL BE ROUGHED IN AND WIRED ACCORDING TO THE SHOP DRAWINGS.

E-001																					
 CEMS Engineering, Inc. P.O. Box 1685 3509 Iron Horse Drive Ladson, SC 29456 (714) 433-8753 (714) 433-8754 www.cemsgroup.com CEMS Project #0115000 Project Manager: R. Alvar	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA																				
DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.	REPAIR LARGE UNIT HQs BUILDING 421 ELECTRICAL LEGEND AND GENERAL NOTES																				
APPROVED: PWO OR OICC SATISFACTORY TO:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">DATE</td> <td style="width: 10%;">SIZE</td> <td style="width: 10%;">CODE</td> <td style="width: 10%;">IDENT NO.</td> <td style="width: 10%;">NAVFAC DRAWING NO.</td> </tr> <tr> <td></td> <td style="text-align: center;">F</td> <td style="text-align: center;">80091</td> <td></td> <td style="text-align: center;">60008625</td> </tr> <tr> <td>DATE</td> <td colspan="2">SCALE: NONE</td> <td colspan="2">CONST. CONTR. NO. N40085-11-B-0127</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">SPEC. 05-11-0127</td> <td style="text-align: right;">SHEET 34 OF 42</td> </tr> </table>	DATE	SIZE	CODE	IDENT NO.	NAVFAC DRAWING NO.		F	80091		60008625	DATE	SCALE: NONE		CONST. CONTR. NO. N40085-11-B-0127				SPEC. 05-11-0127		SHEET 34 OF 42
DATE	SIZE	CODE	IDENT NO.	NAVFAC DRAWING NO.																	
	F	80091		60008625																	
DATE	SCALE: NONE		CONST. CONTR. NO. N40085-11-B-0127																		
		SPEC. 05-11-0127		SHEET 34 OF 42																	

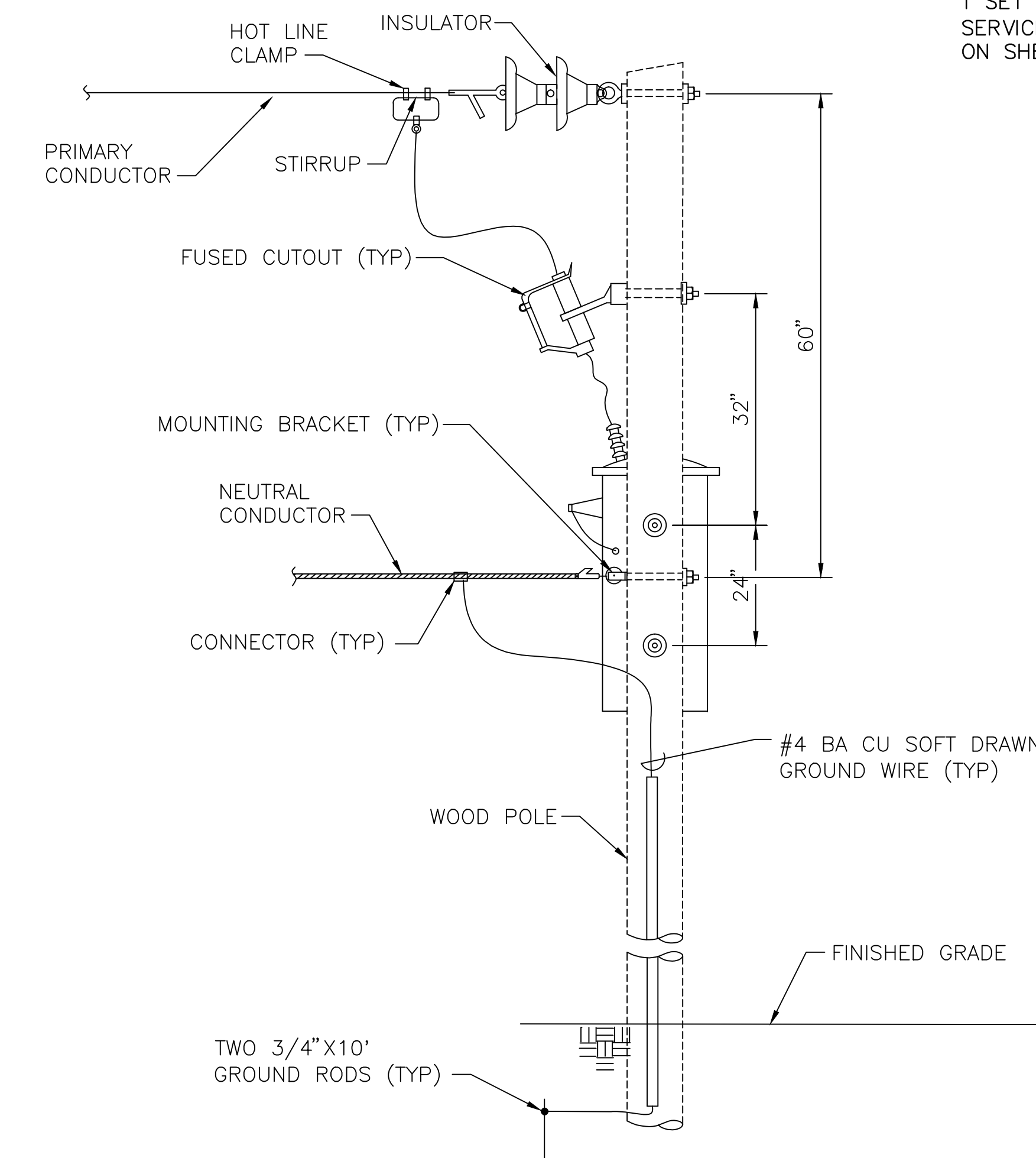


GENERAL NOTES:

1. PROVIDE ONE HARDENED TRAILER WITH A SECURED COMMUNICATIONS/DATA LINE. COORDINATE TRAILER COMMUNICATION REQUIREMENTS, TO INCLUDE BUT NOT LIMITED TO NUMBER OF CONDUITS AND DROPS, WITH BASE TELEPHONE COMMUNICATIONS DIVISION AT (910) 451-9439.

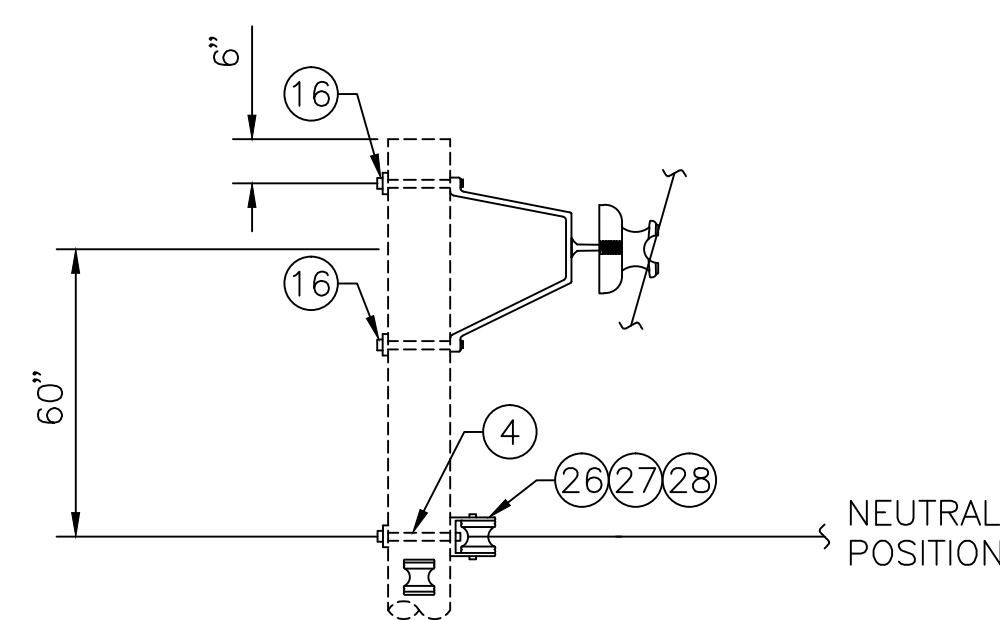
NEW WORK KEYNOTES

1. EXISTING UNDERGROUND SERVICE TO REMAIN FOR RE-USE.
2. INSTALL NEW OVERHEAD SPAN OF ONE #1/0 ACSR (CONTRACTOR TO CONFIRM) PRIMARY CONDUCTOR AND ONE #1/0 NEUTRAL. NEW CONDUCTORS TO MATCH EXISTING CONDUCTOR TENSION. MAKE SPLICE WITH NEW CONDUCTORS TO EXISTING CONDUCTORS AT EXISTING POLE.
3. INSTALL NEW 40' CLASS 2 WOOD POLE WITH DOUBLE SUSPENSION INSULATORS, TWO MOUNTING BRACKETS, DEAD END CLAMPS, TWO STEEL PINS, ONE POLE TOP PIN, THREE PIN INSULATORS, AND TWO EXTENSION STRAPS. TAMP HOLE IN 8" LIFTS. SEE POLE DETAILS ON THIS SHEET.
4. PROVIDE (1) 6"x6"x16' PRESSURE TREATED WOOD POST, (1) 400A MDP PANEL BOARD, CONDUIT RISER, OVERHEAD SERVICE LATERAL CONSISTING OF 1 SET OF #4/0 TRIPLEX AAC PER OVERHEAD SERVICE. SEE (TYPICAL) 400A OH RISER DIAGRAM ON SHEET E-601 FOR DETAILS.



NOTES

1. WHEN TRANSFORMER SECONDARY LEADS CONNECT TO OPEN WIRE OR TRIPLEX SECONDARY, CONDUCTOR SHALL HAVE 600 VOLT INSULATION RATING AND MINIMUM AMPACITY OF 125% OF TRANSFORMER FULL LOAD SECONDARY CURRENT.
2. WHEN TRANSFORMER PROVIDES UNDERGROUND SERVICE, SIZE SECONDARY OR SERVICE CONDUCTORS AS INDICATED.
3. CONNECT TWO 10' GROUND RODS TO NEUTRAL AT BASE OF POLE.
4. SIZE FUSED CUTOUT IN ACCORDANCE WITH TRANSFORMER FULL LOAD RATING.
5. ALL HARDWARE SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL.



NOTES

1. FOR NEUTRAL CONDUCTORS LARGER THAN #1/0 AWG, PROVIDE (15) AND (19) IN LIEU OF (26) (27) AND (28). TWO INSULATOR ASSEMBLIES REQUIRED FOR NEUTRAL.

POLE LINE MATERIAL LIST

- (4) MACHINE BOLT, 3/8" X LENGTH NEEDED WITH WASHER, NUT AND LOCKWASHER
- (15) 5/8" EYE NUT
- (16) 5/8" EYE BOLT, LENGTH AS NEEDED, WITH WASHER, NUT & LOCKWASHER
- (19) STRAIN CLAMP
- (26) CLEVIS BRACKET FOR SPOOL INSULATOR
- (27) SPOOL INSULATOR
- (28) U BOLT CLAMP

ELECTRICAL SITE PLAN

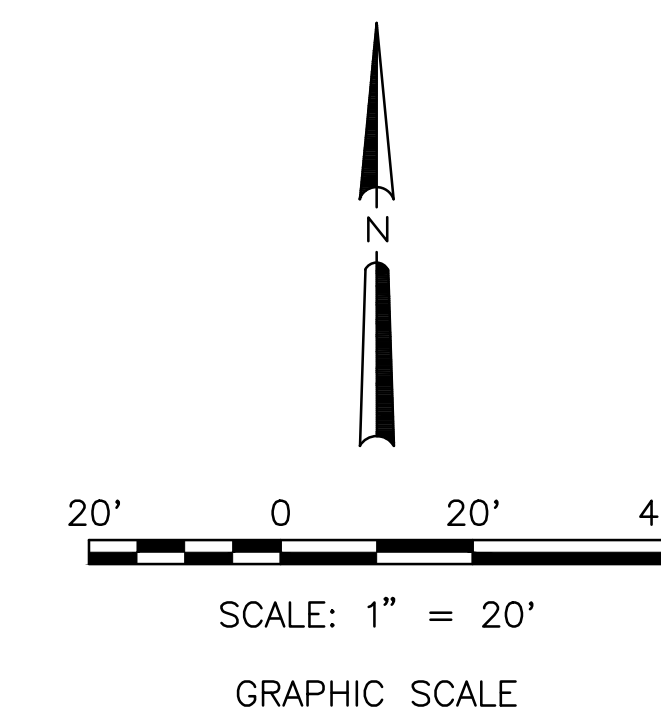
SCALE: 1" = 20'

SINGLE PHASE POLE DETAIL (P-1)

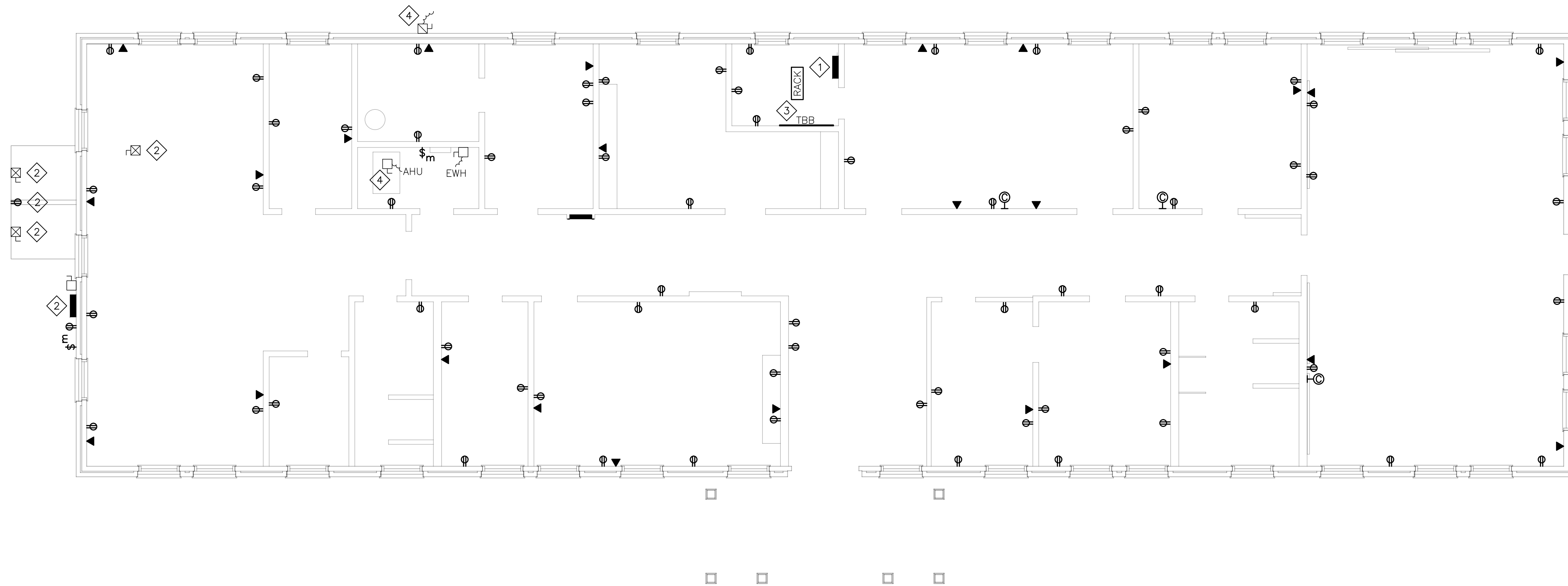
SCALE: NOT TO SCALE

SINGLE PHASE POLE DETAIL (P-2)

SCALE: NOT TO SCALE



		ES101	
 <small>CEMS Engineering, Inc. P.O. Box 1685 3509 Iron Horse Drive Ladson, SC 29456 (914) 875-3637 (914) 875-4559 www.cemsgroup.com CEMS Project #0115000 Project Manager, R. Alvar</small>		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
		REPAIR LARGE UNIT HQs BUILDING 421	
DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.	APPROVED: PWO OR OICC SATISFACTORY TO:	DATE:	SIZE: F 80091 CODE IDENT NO.: 60008626 CONST. CONTR. NO. N40085-11-B-0127 SCALE: AS NOTED SPEC. 05-11-0127
		ELECTRICAL SITE PLAN NAVFAC DRAWING NO.	
		SHEET 35 OF 42	



ELECTRICAL POWER DEMOLITION PLAN

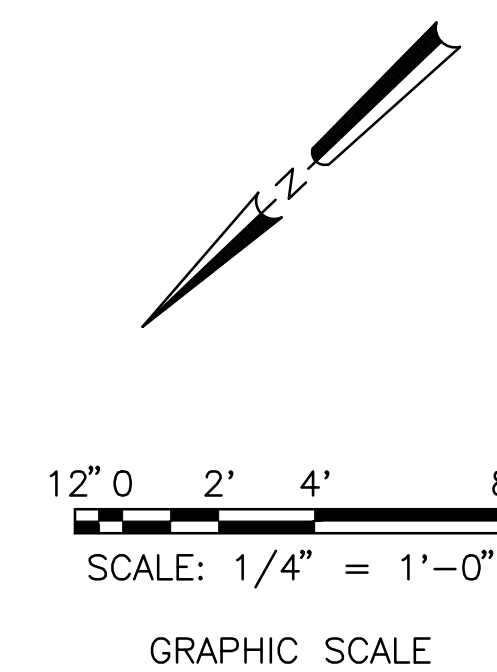
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GENERAL NOTES:

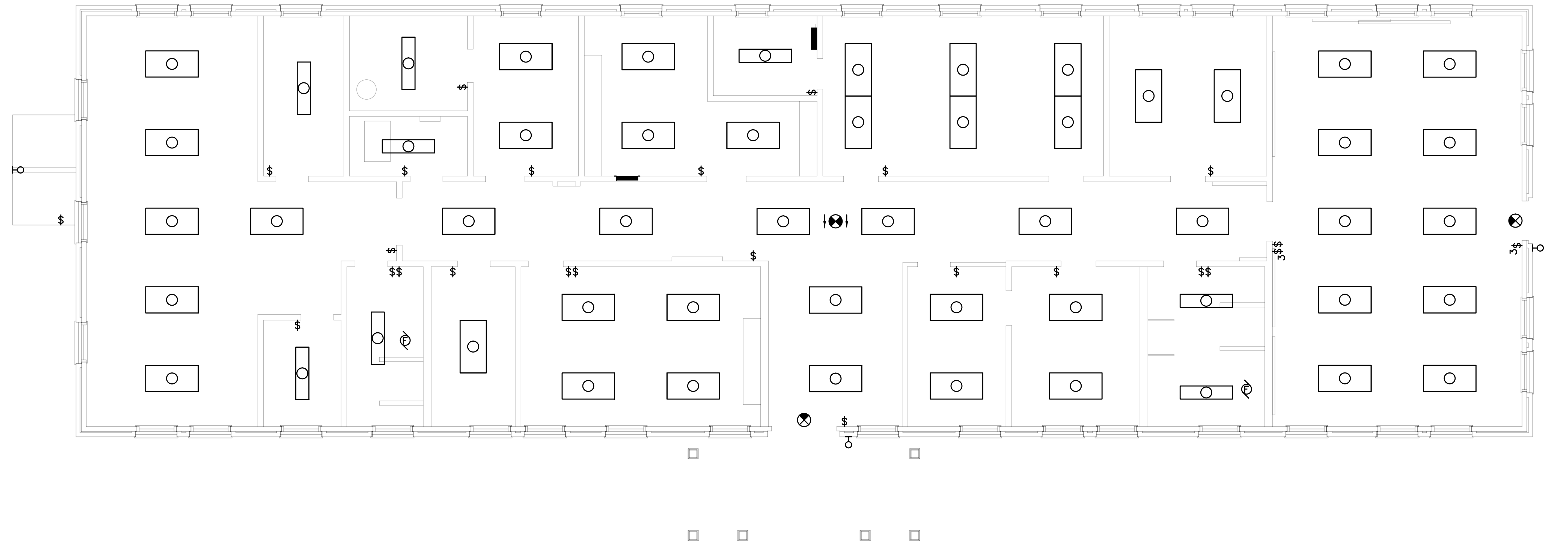
1. DEMOLITION PLAN IS DIAGRAMMATIC AND MAY NOT REPRESENT ALL ITEMS TO BE REMOVED.
2. ALL EXISTING ELECTRICAL SYSTEMS TO BE REMOVED COMPLETE UNLESS NOTED OTHERWISE. REMOVE PANELBOARDS, PANEL FEEDERS, LIGHT FIXTURES, WIRING DEVICES, TELEPHONE/DATA JACKS AND CABLING, CONDUIT, AND WIRING.

DEMOLITION KEYNOTES:

1. REMOVE PANEL A COMPLETE. PRESERVE EXISTING SECONDARY SERVICE FOR RE-USE.
2. REMOVE ALL RECEPTACLES, DISCONNECTS, AND PANELBOARDS ASSOCIATED WITH STEAM PIT EQUIPMENT COMPLETE.
3. REMOVE TELEPHONE AND RACK. REMOVE TELEPHONE SERVICE CABLE. COORDINATE WITH BASE TELEPHONE OFFICE. REMOVE CONDUIT.
4. DISCONNECT POWER TO HVAC UNIT. REMOVE ASSOCIATED DISCONNECT, CONDUIT AND WIRING COMPLETE.



		ED101	
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		REPAIR LARGE UNIT HQs BUILDING 421	
<small>DES. R. ALVAR</small> <small>DR. C. COOPER</small> <small>CHK. J. BONGIORNO</small> <small>SUBMITTED BY:</small> <small>DESIGN DIR.</small>		<small>ELECTRICAL POWER DEMOLITION PLAN</small> <small>APPROVED: PWO OR OICC</small> DATE <small>NAVFAC DRAWING NO.</small> F 80091 60008627	
<small>SATISFACTORY TO:</small> DATE		<small>CONST. CONTR. NO. N40085-11-B-0127</small> <small>SCALE: AS NOTED</small> <small>SPEC. 05-11-0127</small> <small>SHEET 36 OF 42</small>	

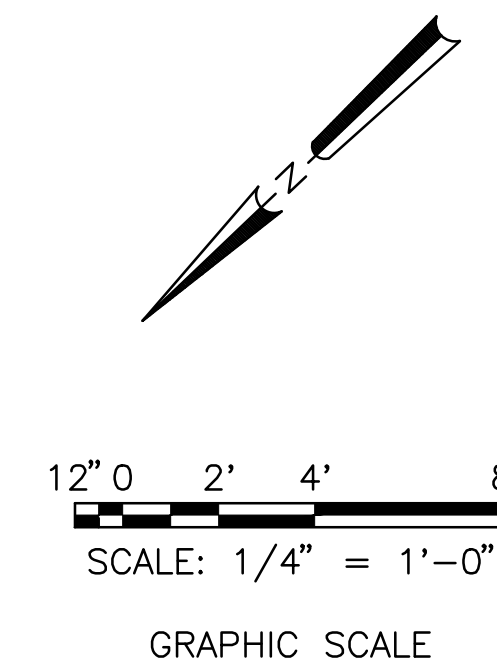


ELECTRICAL LIGHTING DEMOLITION PLAN

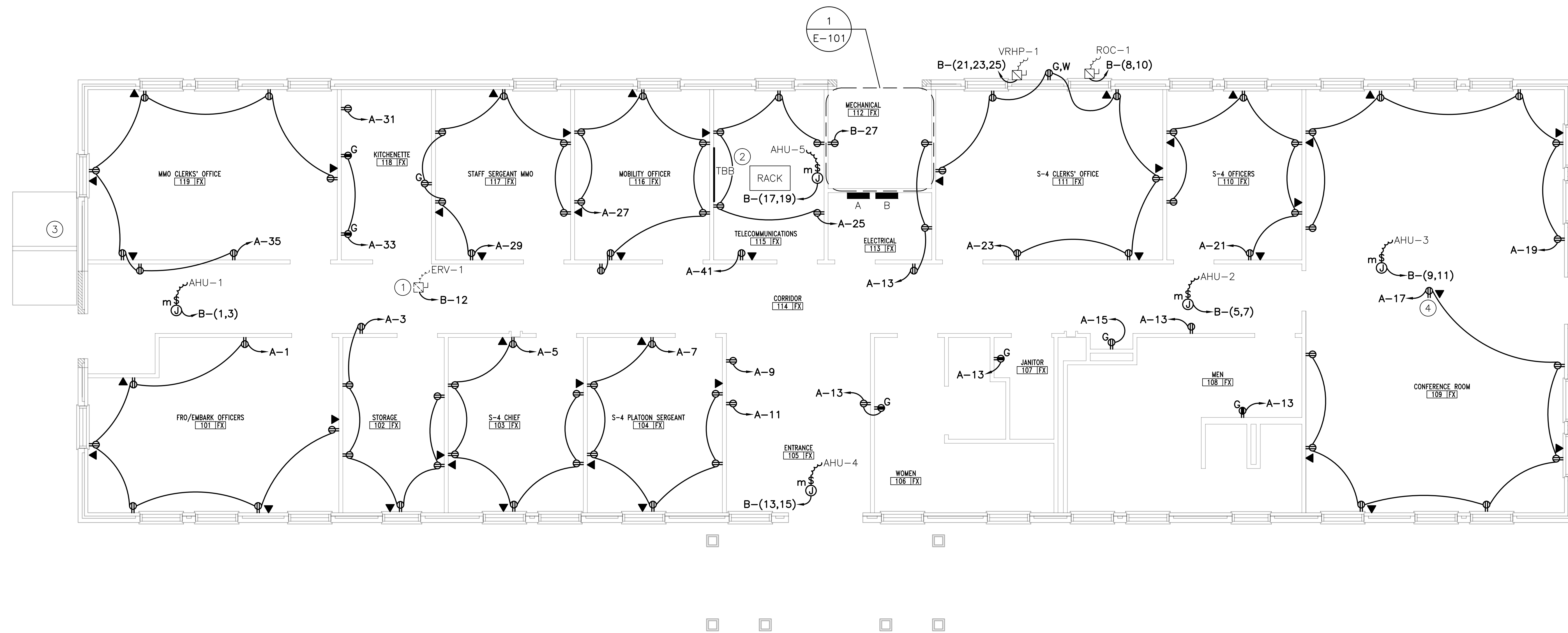
SCALE 1/4" = 1'-0"

GENERAL NOTES:

1. DEMOLITION PLAN IS DIAGRAMMATIC AND MAY NOT REPRESENT ALL ITEMS TO BE REMOVED.
2. ALL EXISTING ELECTRICAL SYSTEMS TO BE REMOVED COMPLETE UNLESS NOTED OTHERWISE. REMOVE PANELBOARDS, PANEL FEEDERS, LIGHT FIXTURES, WIRING DEVICES, TELEPHONE/DATA JACKS AND CABLING, CONDUIT, AND WIRING.



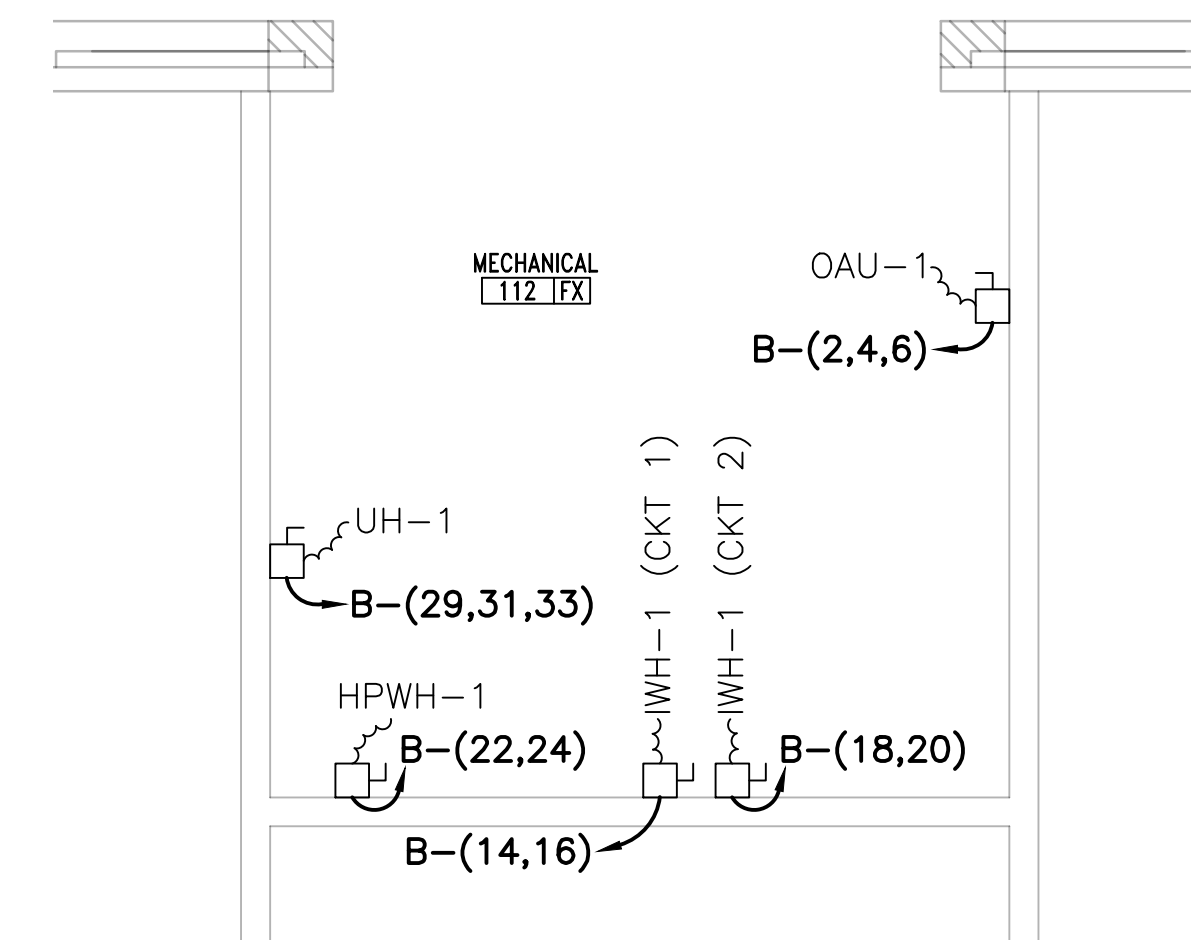
		ED102	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
		REPAIR LARGE UNIT HQs BUILDING 421	
DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.		ELECTRICAL LIGHTING DEMOLITION PLAN	
APPROVED: PWO OR OICC	DATE	SIZE	CODE IDENT NO.
SATISFACTORY TO:	DATE	F 80091	60008628
SCALE: AS NOTED		SPEC. 05-11-0127	SHEET 37 OF 42



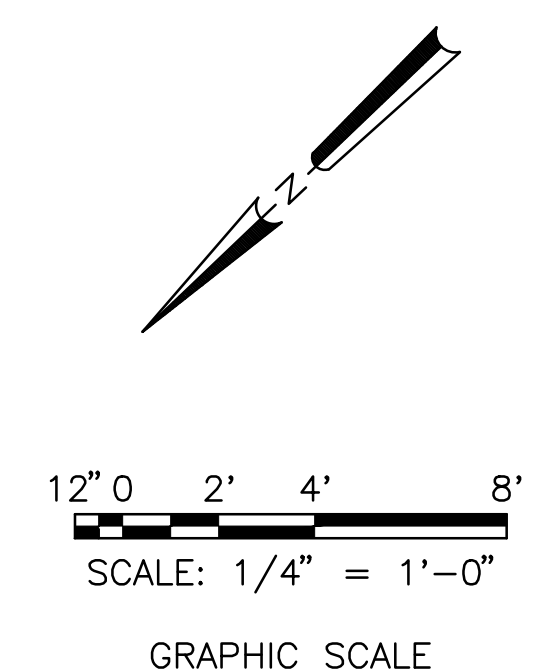
ELECTRICAL POWER NEW WORK PLAN
SCALE 1/4" = 1'-0"

NEW WORK KEYNOTES:

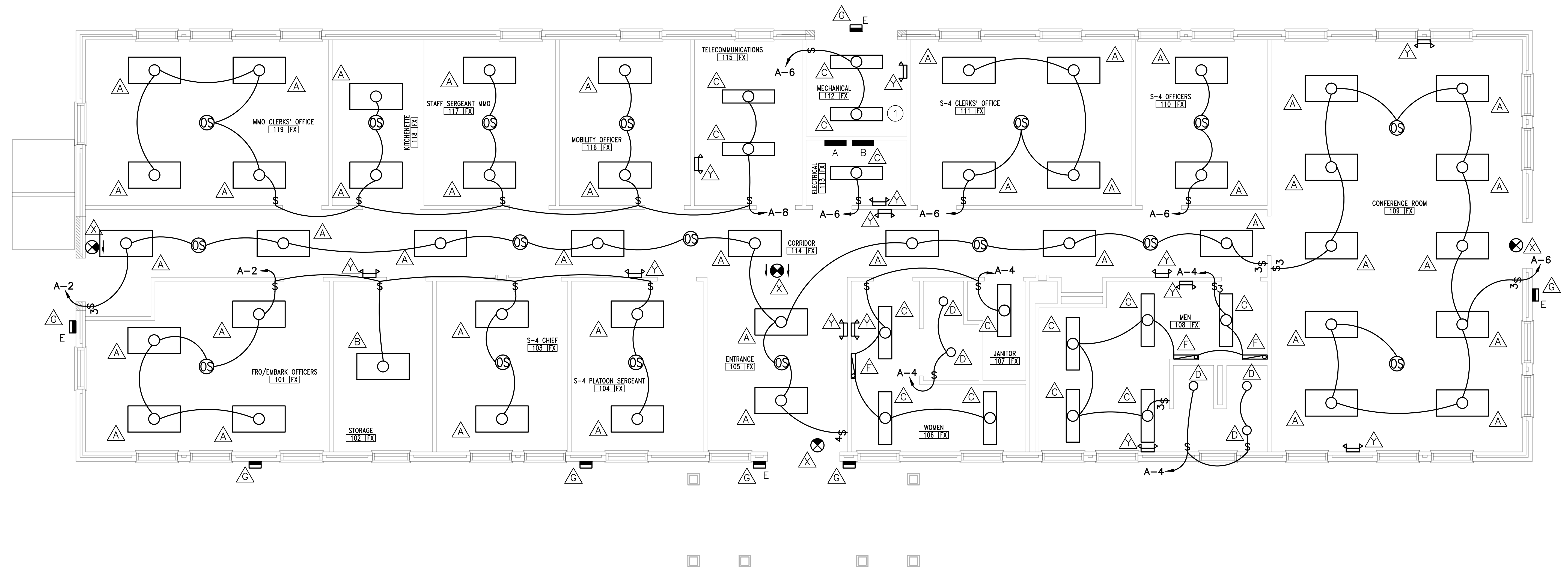
- ① PROVIDE ERV-1 DISCONNECT IN ATTIC SPACE.
- ② SEE SHEET E-502 FOR VOICE/DATA SYSTEM RISER AND POWER REQUIREMENTS.
- ③ PROVIDE TWO GFCI RECEPTACLES IN THE EXISTING ABANDONED STEAM PIT. ONE RECEPTACLE ON CIRCUIT B-35, PROVIDED FOR MAINTENANCE AND ONE RECEPTACLE ON CIRCUIT B-39 FOR SUMP PUMP. PROVIDE ONE JUNCTION BOX ON GFCI BREAKER, CIRCUIT B-37, FOR HEAT TRACE.
- ④ PROVIDE RECEPTACLE AND PHONE/DATA OUTLET IN CEILING FOR PROJECTOR.



① **ENLARGED ELECTRICAL POWER NEW WORK PLAN**
SCALE 1/2" = 1'-0"



 CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (843) 875-3637 (843) 875-4559 www.cemsgroup.com CEMS Project #0115000 Project Manager: R. Alvar		E-101	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.		REPAIR LARGE UNIT HQs BUILDING 421	
APPROVED: PWO OR OICC SATISFACTORY TO:		DATE:	SIZE: F CODE: 80091 IDENT NO.: 60008629 CONST. CONTR. NO. N40085-11-B-0127 SPEC. 05-11-0127
		ELECTRICAL POWER NEW WORK PLAN NAVFAC DRAWING NO. 60008629 SHEET 38 OF 42	



ELECTRICAL LIGHTING NEW WORK PLAN

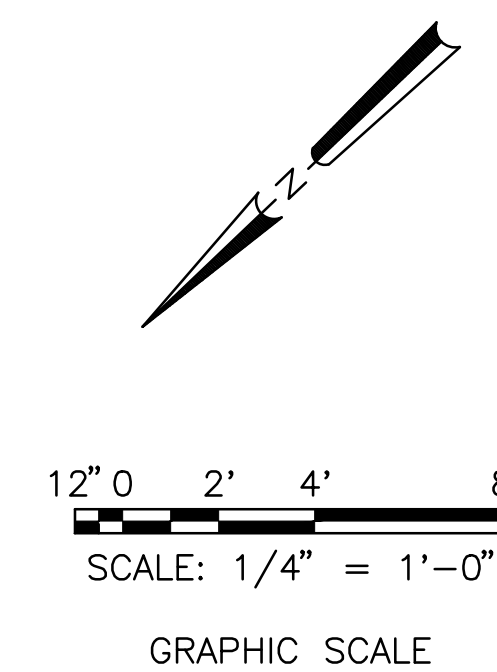
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GENERAL NOTES:

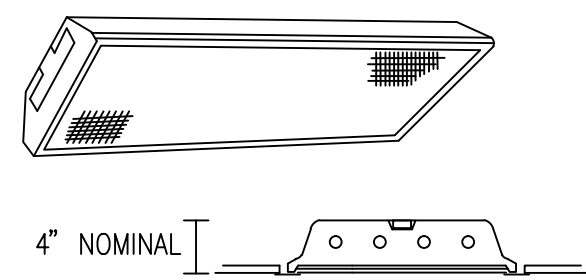
1. SEE SHEET E-501 FOR LIGHTING FIXTURE SCHEDULE.
2. ALL TYPE 'G' FIXTURES TO BE FED FROM CIRCUIT A-10 VIA INTEGRAL PHOTOCELL.
3. ALL TYPE 'Y' AND 'X' FIXTURES TO BE FED FROM UNSWITCHED LEG OF NEAREST LIGHTING CIRCUIT.
4. INSTALL TYPE 'C' FIXTURE, SWITCH, CONDUIT AND 2#12, 1#12G, 1/2" C CIRCUIT IN ATTIC. ATTACH FIXTURE TO TRUSSES ABOVE ERV-1 LOCATION. ATTACH SWITCH TO ROOF FRAME ADJACENT TO ERV-1. FIXTURE TO BE FED FROM CIRCUIT A-2.

NEW WORK KEYNOTES:

- 1 "C" TYPE FIXTURES IN THIS SPACE TO BE PENDANT MOUNTED.



		E-102	
 CEMS Engineering, Inc. P.O. Box 1680 3509 Iron Horse Drive Ladson, SC 29456 (716)433-8753 (716)433-8754 www.cemsengineering.com CEMS Project #0115000 Project Manager: R. Alvar		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
		REPAIR LARGE UNIT HQs BUILDING 421	
DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.		ELECTRICAL LIGHTING NEW WORK PLAN	
APPROVED: PWO OR OICC SATISFACTORY TO:		DATE:	SIZE: F CODE: 80091 IDENT NO.: 60008630 CONST. CONTR. NO. N40085-11-B-0127
		DATE:	SCALE: AS NOTED SPEC. 05-11-0127 SHEET 39 OF 42



LUMINAIRE REQUIREMENTS:

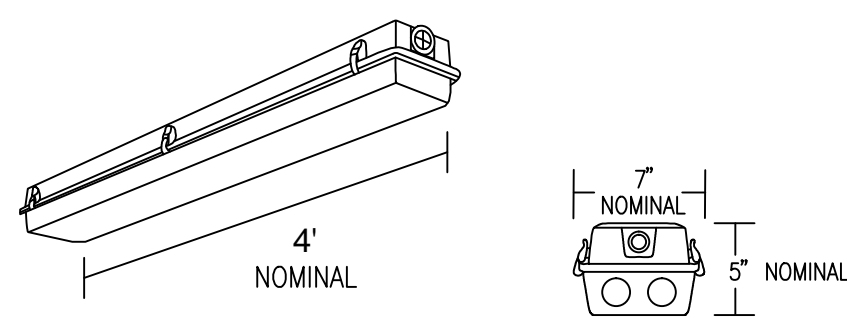
- HOUSING - DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. DEPTH AS INDICATED UNLESS SPECIFICALLY MANUFACTURED FOR OPTIMAL USE WITH T8 LAMPS.
- FINISH - MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- LENS - 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS.
- LAMPS - LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- BALLAST - CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥ .95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
- CERTIFICATION - UL LISTED AND LABELED.
- PHOTOMETRICS - MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F32/T8)		3 LAMP (F32/T8)		4 LAMP (F32/T8)	
RCR	CU	RCR	CU	RCR	CU
1	80	1	79	1	76
2	71	2	70	2	68
3	64	3	63	3	61
4	57	4	56	4	54

EFFICIENCY - 77% EFFICIENCY - 75% EFFICIENCY - 71%

PRISMATIC LENS RECESSED 2' X 4' FLUORESCENT TROFFER

REVISED: AUGUST 2004 LIGHTING PLATE: NL-1



LUMINAIRE REQUIREMENTS:

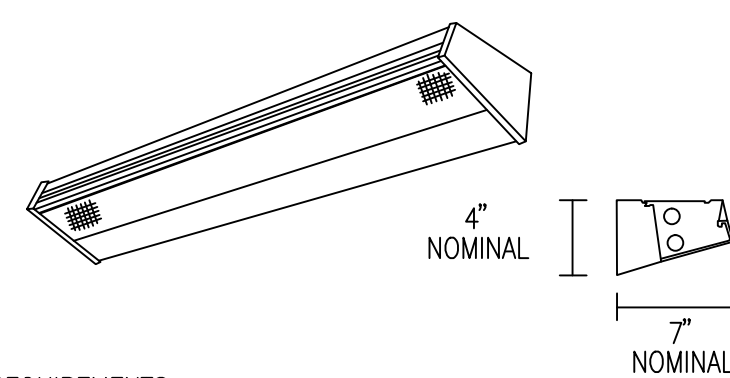
- HOUSING - ONE-PIECE, IMPACT-RESISTANT, FIBERGLASS REINFORCED POLYESTER WITH ENCLOSED COLD-ROLLED STEEL WIREWAY.
- FINISH - STEEL REFLECTOR WITH MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
- LENS - 100% CLEAR ACRYLIC/DR OPTICAL DIFFUSER. STIPPLED INTERIOR SURFACES AND SMOOTH EXTERIOR. CLOSED CELL NEOPRENE GASKET WITH CAPTIVE NONMETALLIC, SNAP ACTION CAM LATCHES TO SECURE LENS TO HOUSING.
- LAMPS - LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- BALLAST - CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥ .95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
- CERTIFICATION - UL LISTED AND LABELED. SUITABLE FOR DAMP OR WET LOCATION AS DESIGNATED IN LIGHTING FIXTURE SCHEDULE.
- PHOTOMETRICS - MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F32/T8)	
RCR	CU
1	78
2	67
3	58
4	51

EFFICIENCY - 76%

FIBERGLASS HOUSING DAMP/WET LOCATION FLUORESCENT

REVISED: AUGUST 2004 LIGHTING PLATE: NL-19

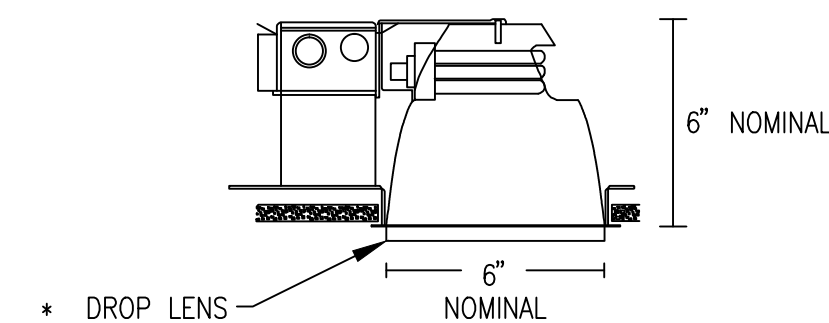


LUMINAIRE REQUIREMENTS:

- HOUSING - DIE-FORMED, HEAVY-GAUGE, COLD-ROLLED STEEL WITH ENDCAPS MADE FROM THE SAME MATERIAL AS HOUSING.
- FINISH - MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. DARK BRONZE OR BLACK FINISH AVAILABLE. SEE LIGHTING FIXTURE SCHEDULE.
- LENS - 100% ACRYLIC, HIGH-IMPACT, CLEAR PRISMATIC DIFFUSER.
- LAMPS - LINEAR FLUORESCENT T8 TYPICALLY, WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- BALLAST - CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥ .95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
- CERTIFICATION - UL LISTED AND LABELED.
- FIXTURE TYPES -
TYPE A - 2' LENGTH W/ 2-T8 FLUORESCENT LAMPS
TYPE B - 3' LENGTH W/ 2-T8 FLUORESCENT LAMPS
TYPE C - 4' LENGTH W/ 2-T8 FLUORESCENT LAMPS
- OPTIONS -
FIXED UP AND DOWN LIGHT
SWITCHED UP AND/OR DOWN LIGHT
DOWN LIGHT ONLY WITH SOLID TOP

WALL-MOUNTED FLUORESCENT

REVISED: AUGUST 2004 LIGHTING PLATE: NL-21

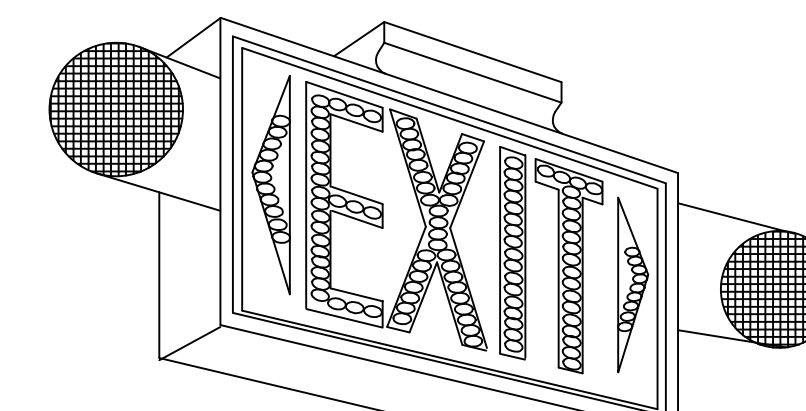


LUMINAIRE REQUIREMENTS:

- HOUSING - ONE-PIECE, DIE-STAMPED, COLD ROLLED STEEL OR ACRYLIC-ENAMELED ALUMINUM. PROVIDE WITH PRE-WIRED JUNCTION BOX HAVING SNAP-ON ACCESS COVER. ACCESS TO JUNCTION BOX FROM BELOW CEILING SHALL BE PROVIDED THROUGH FIXTURE AFTER REMOVAL OF REFLECTOR.
- REFLECTOR - ONE-PIECE, CLEAR, SPUN ALUMINUM, IRIDESCENCE-SUPPRESSED.
- BALLAST - CLASS P, MULTI-VOLT (120V-277V INPUT), HIGH POWER FACTOR (≥ .95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION. BALLAST SHALL BE CAPABLE OF UNIVERSALLY OPERATING 26W OR 32 WATT LAMPS.
- LAMPS - MULTI-TUBE, COMPACT FLUORESCENT WITH 4-PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- LENS/TRIM - * OPTIONS INCLUDE DROPPED OR FLAT OPAL LEXAN; DROPPED OR FLAT OPAL GLASS; OR FRESNEL GLASS. SEE LIGHTING FIXTURE SCHEDULE.
- CERTIFICATION - UL LISTED AND LABELED FOR DAMP LOCATIONS.

RECESSED COMPACT FLUORESCENT SHOWER LIGHT

REVISED: AUGUST 2004 LIGHTING PLATE: NL-38



LUMINAIRE REQUIREMENTS:

- ALUMINUM, STEEL, THERMOPLASTIC OR POLYCARBONATE HOUSING.
- BRUSHED ALUMINUM, THERMOPLASTIC OR STEEL STENCIL WITH LETTERS 6 INCHES TALL & 3/4 INCH WIDE STROKES AND PUNCH-OUT FACE FOR LED'S OR INTERNAL LED ILLUMINATION.
- RED ILLUMINATION PROVIDED BY LIGHT EMITTING DIODES (LED). APPROXIMATELY 120 LED'S PER FACE. (NOT REQUIRED FOR INTERNALLY ILLUMINATED SIGNS.)
- CLEAR PROTECTIVE NON-BREAKABLE LENS TO PROTECT LED'S. (NOT REQUIRED FOR INTERNALLY ILLUMINATED SIGNS.)
- PROVIDE FAILURE, BROWN OUT PROTECTION & SURGE PROTECTION. PROVIDE NI-CAD BATTERY POWER & SOLID STATE TYPE CHARGER.
- PROVIDE UNIVERSAL ARROWS & BLANK-OFF PLATES.
- PROVIDE SINGLE OR DOUBLE FACE AS INDICATED ON PLANS.
- PROVIDE UNIVERSAL MOUNTING.
- UNITS MOUNTED EXPOSED TO THE ELEMENTS OR IN CLASSIFIED AREAS SHALL HAVE UL LABEL AS INDICATED.
- PROVIDE INTERNAL GREEN GROUNDING SCREW.
- PROVIDE TEST BUTTON IN BOTTOM OF HOUSING.
- PROVIDE INDICATOR LIGHTS IN FACE TO INDICATE WHEN UNIT IS ON NORMAL POWER OR ON BATTERY POWER.
- HOUSING SHALL HAVE A MATTED WHITE FINISHED, EXCEPT AS SPECIFIED OTHERWISE.
- LAMP HEADS (ROUND OR RECTANGULAR) AND SHALL BE FULLY ADJUSTABLE.
- SWITCHING AND CONTROLS-FULLY AUTOMATIC, 90 MINUTE OPERATION. COMPLETELY SOLID STATE WITH AUTO TRANSFER AND LOW VOLTAGE CUTOFF. TEST SWITCH AND HIGH RATE INDICATING LIGHT.

NOTES:

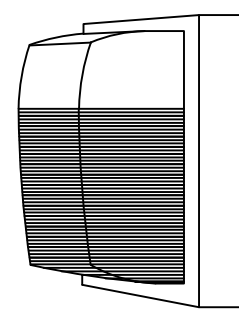
- UNIT NOT AVAILABLE WITH WET LABEL.
- UNIT IS AVAILABLE WITH DAMP LABEL.

LED EXIT SIGN

SKETCH DATE NOV 1996 CLNC STYLE NL-61A

LUMINAIRE REQUIREMENTS:

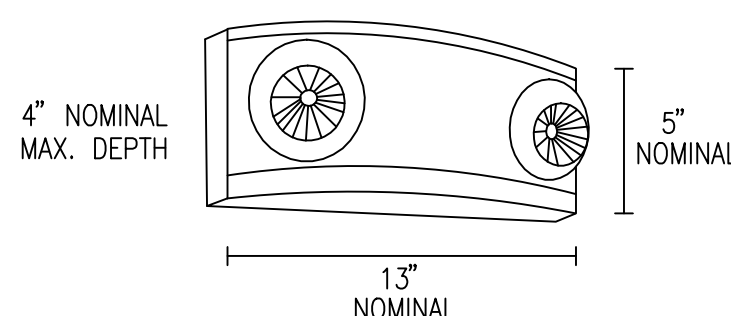
- HOUSING SHALL BE ULTRA-VIOLET & IMPACT RESISTANT POLYCARBONATE DARK BRONZE. APPROX. 10" H X 5" W X 5" D.
- PROVIDE WITH ALUMINUM OR POLYCARBONATE BACK PLATE.
- PROVIDE POLYCARBONATE ULTRA-VIOLET RESISTANT PRISMATIC LENS.
- PROVIDE HIGH POWER FACTOR ELECTRONIC BALLAST.
- PROVIDE INTERNAL GREEN GROUNDING SCREW.
- PROVIDE UL WET LABELED.
- PROVIDE MAINTENANCE FREE, SEALED NICKEL CADMIUM BATTERY. BATTERIES SUPPLIED SHALL HAVE A 5 YEAR FULL WARRANTY. BATTERY CHARGER SHALL MEET UL 924 STANDARD.
- POWER REQUIREMENTS: 120 VOLT, 0.15 AMPS, & 17 WATTS.
- PROVIDE FIXTURE WITH INTEGRAL BATTERY BACKUP CAPABLE OF 90 MINUTE MINIMUM EMERGENCY ILLUMINATION.



LAMP REQUIREMENTS:
NORMAL ILLUMINATION: 1-13 WATT COMPACT FLUORESCENT,
EMERGENCY ILLUMINATION: 2-4 VOLT, 4 WATT DC INCANDESCENT

EXTERIOR WALL MOUNT FLUORESCENT COMBINATION EMERGENCY LUMINAIRE

SKETCH DATE STYLE NL-26A



LUMINAIRE REQUIREMENTS:

- HOUSING - UV STABLE, FLAME-RATED, HIGH-IMPACT THERMOPLASTIC IN WHITE OR BLACK TEXTURED FINISH.
- INTERNAL COMPONENTS - FULLY AUTOMATIC, SOLID STATE, CONSTANT VOLTAGE, CURRENT-LIMITED BATTERY CHARGER; MAINTENANCE-FREE LEAD-ACID BATTERY; AND BUILT-IN OVERLOAD AND LOW-VOLTAGE BATTERY PROTECTION.
- EXTERIOR HOUSING INDICATORS - LED AC-ON INDICATOR AND INTEGRAL TEST SWITCH.
- LAMP HEADS - UV STABLE, FLAME RATED POLYCARBONATE THERMOPLASTIC. MR16 HALOGEN LAMPS SHALL BE 5 WATTS, HIGH-OUTPUT OR AS INDICATED IN LIGHTING FIXTURE SCHEDULE.
- MOUNTING - DIRECTLY TO 4" OCTAGONAL OR SQUARE OUTLET BOX.
- CERTIFICATION - UL LISTED AND LABELED. COMPLIES WITH UL 924 AND NFPA 101 REQUIREMENTS. LISTED FOR DAMP LOCATIONS.
- OPTIONS - VOLTMETER, VANDEL-RESISTANT SHIELD, SELF-DIAGNOSTIC/TESTING ELECTRONICS AND WIRE GUARD.

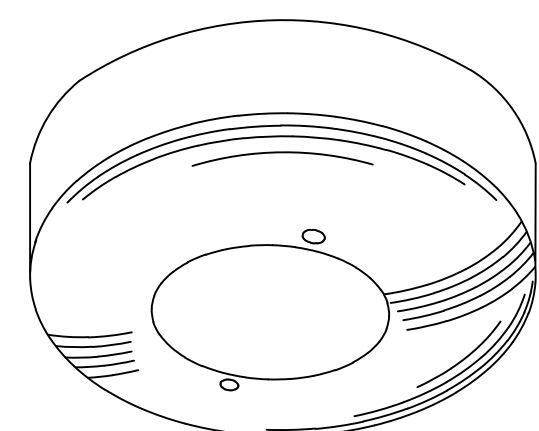
DECORATIVE EMERGENCY LIGHTING UNIT

REVISED: AUGUST 2004 LIGHTING PLATE: NL-67

LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	SKETCH NO. & TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
A	NL-1	2-F32/T8	120	RECESSED CEILING	
B	NL-1	4-F32/T8	120	RECESSED CEILING	
C	NL-19	2-F32/T8	120	SURFACE CEILING	①
D	NL-38	1-F26/TRT	120	RECESSED CEILING	③
E	NL-21 TYPE A	2-F17/T8	120	WALL MTD.	②
F	NL-26A	NORM 1-F13 EMRG 2-4W INCAN	120	WALL MTD.	
G	NL-67	2-12W HALOGEN	120	WALL MTD. 8'-0" AFF	
H	NL-61A	LED	120	SURFACE CEILING	

- PROVIDE FIXTURE LISTED FOR DAMP LOCATIONS.
- PROVIDE DOWN LIGHT ONLY.
- PROVIDE SHOWER RATED FIXTURE WITH 30 MINUTE (MIN.) FIRE RATED ENCLOSURE.



GENERAL NOTE:

- 360 DEGREE PATTERN, 20 FOOT COVERAGE, 4.5" X 1.5" NOMINAL DIMENSION, CEILING MOUNTED, PUSH-BUTTON FIELD PROGRAMMABLE 30 SECONDS TO 20 MINUTES TIME DELAY, SELF CONTAINED RELAY, UL LISTED, 120 VOLT, 800W MAX LOAD, COMPARABLE TO SENSOR SWITCH MODEL "CMR-PDT". CONTINUED OCCUPANCY DETECTED FROM EITHER SOUND AND/OR MOTION ACTIVITY. SENSES IN PARTITIONED SPACES. SOUND REACTIVATION FOR SAFETY.

CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR

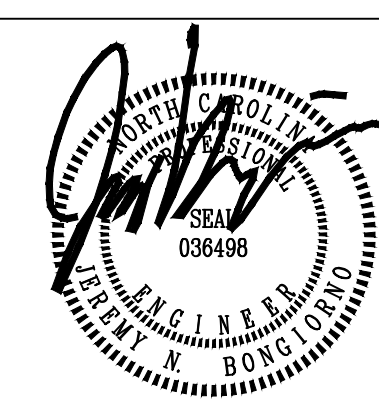
NOT TO SCALE

E-501



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CEMS Project #0115000
Project Manager: R. Alvar

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA



DES. R. ALVAR

DR. C. COOPER

CHK. J. BONGIORNO

SUBMITTED BY:

DESIGN DIR.

APPROVED: PWO OR OICC

SATISFACTORY TO:

REPAIR LARGE UNIT HQs
BUILDING 421

ELECTRICAL DETAILS

NAVFAC DRAWING NO.

60008631

CONST. CONTR. NO. N40085-11-B-0127

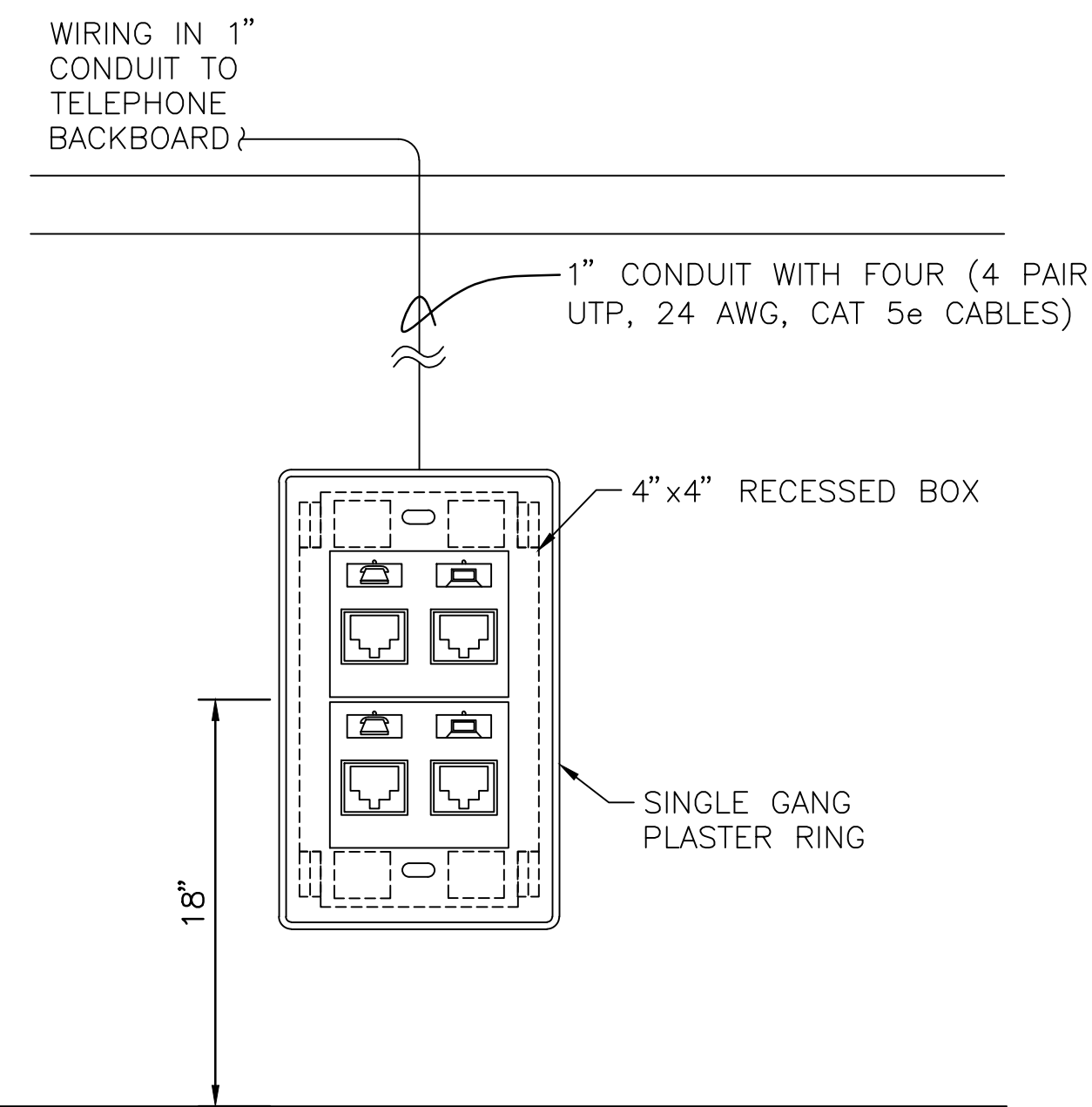
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SCALE: NONE

SPEC. 05-11-0127

SHEET 40 OF 42

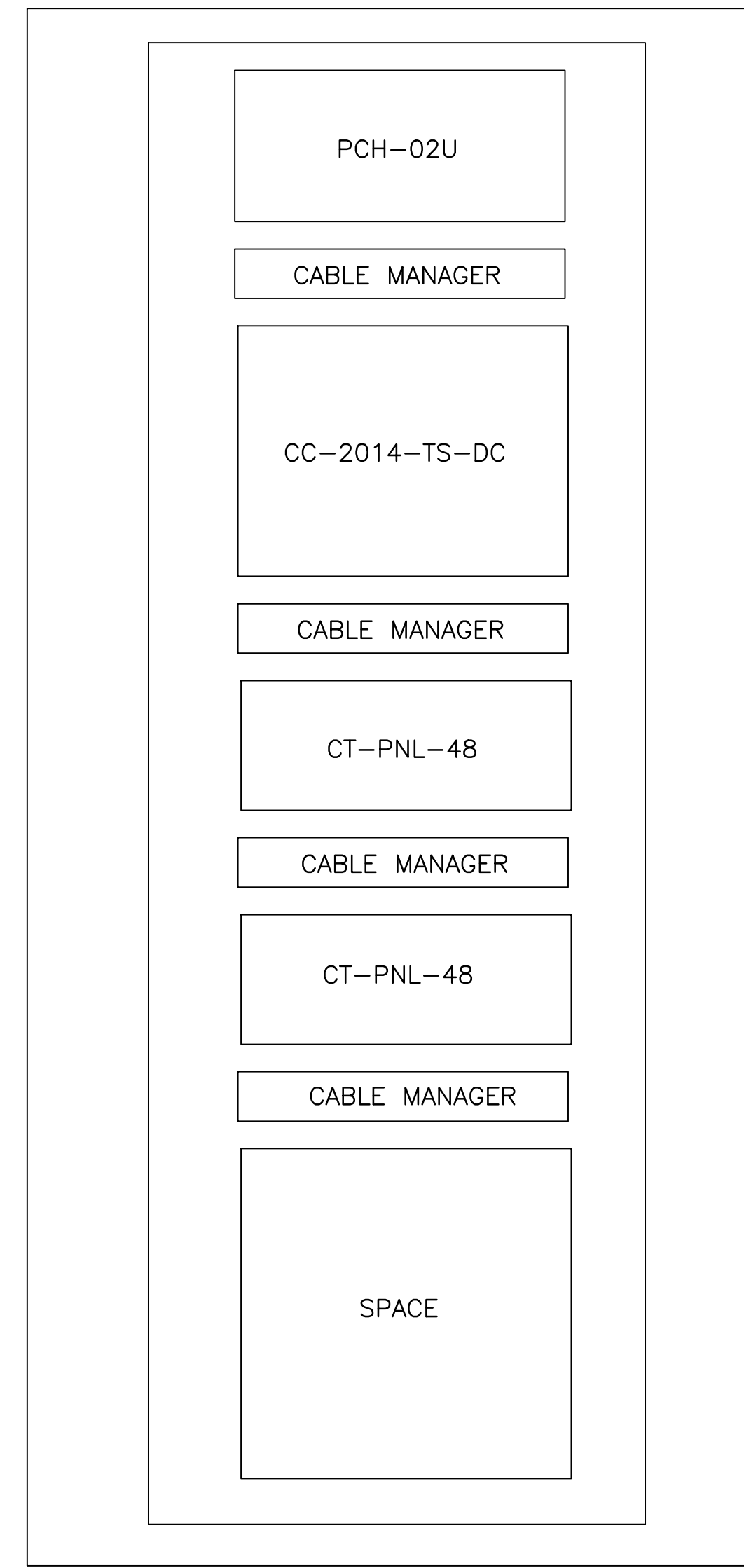


GENERAL NOTE:

1. ALL OF THE TELEPHONE/DATA WIRING IS TO BE HOMERUN FROM THE OUTLET BACK TO THE BACKBOARD. TO BE DONE WITH 1" CONDUIT THE ENTIRE LENGTH.
2. PROVIDE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH OFFICE AREAS AND AREAS SERVICED BY BASE TELEPHONE SYSTEM PER CAMP LEJEUNE COMMUNICATIONS SPECIFICATION 27 10 00. ALL WORK SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.

TELEPHONE/DATA OUTLET DETAIL (TYPICAL)

SCALE: NOT TO SCALE

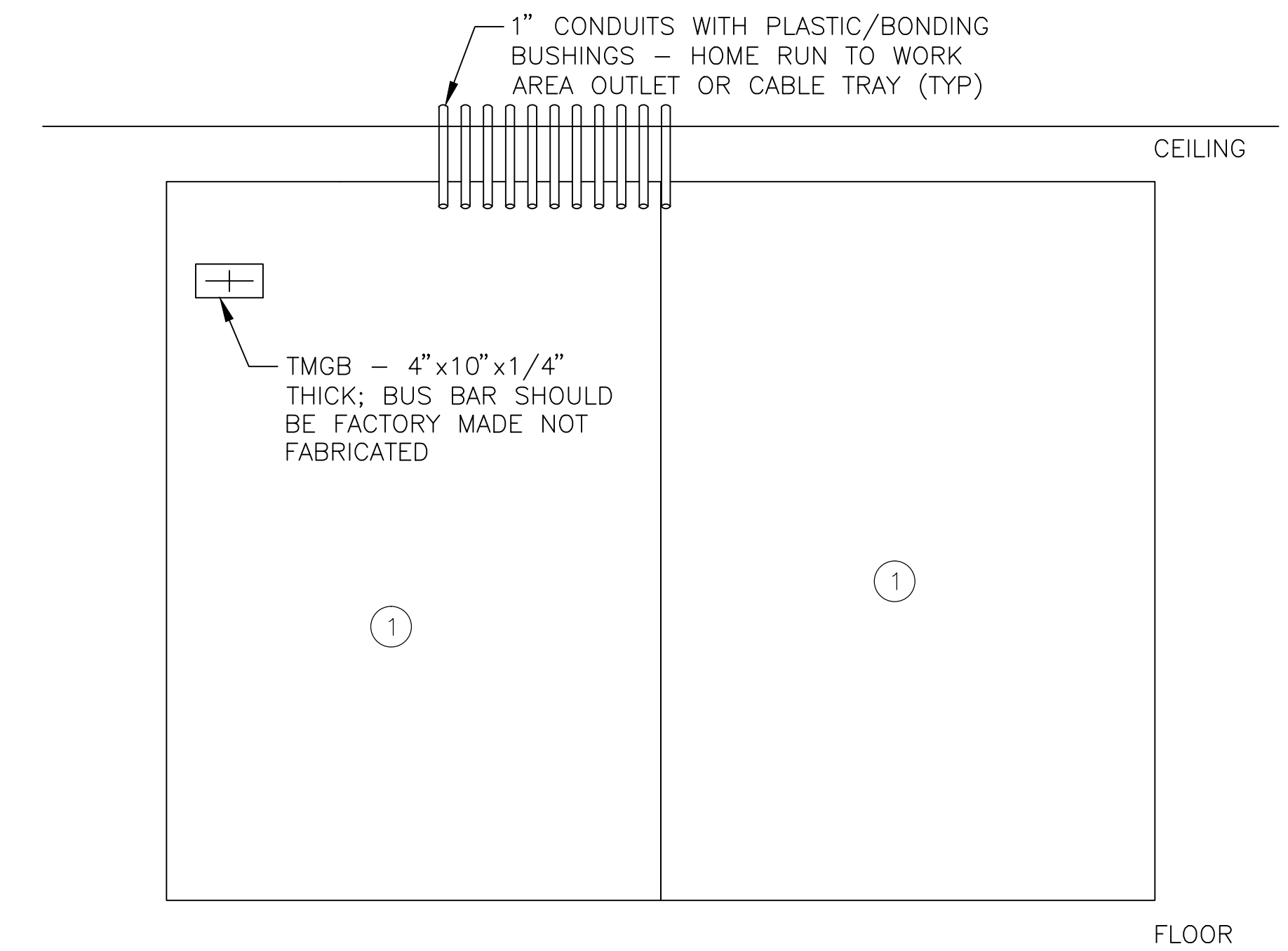


NOTES:

1. PROVIDE TELEPHONE EQUIPMENT RACK PER CAMP LEJEUNE SPECIFICATIONS. COORDINATE WITH BASE TELEPHONE OFFICE.
2. CONTRACTOR TO TERMINATE WIRING AT OUTLETS AND PATCH PANEL.
3. ALL WORK SHOULD BE IN ACCORDANCE WITH TELECOMM SPECS 27 10 00 AND 33 82 00.
4. PROVIDE 1" CONDUIT WITH TWO CAT 5E CABLES FROM TELECOMMUNICATIONS RACK TO FACP. COORDINATE WITH LOCATION OF RACK AND LOCATION OF FACP.

LEJEUNE TELEPHONE SERVICE EQUIPMENT RACK EXAMPLE

SCALE: NOT TO SCALE



KEYNOTES:

1. 4'x8' TELEPHONE BACKBOARD - PROVIDE MIN. TWO VOID-FREE, INTERIOR GRADE PLYWOOD 3/4" THICK. BACKBOARDS SHALL BE FIRE RATED, WITH THE FIRE STAMP VISIBLE OR COVERED WITH TWO COATS OF GRAY OR A LIGHTER COLOR NONCONDUCTIVE FIRE-RETARDANT PAINT ON ALL SIDES. BOARDS SHOULD BE INSTALLED 4' WIDTH BY 8' HEIGHT SECURELY FASTENED TO THE WALL ANYWHERE EQUIPMENT IS TO BE MOUNTED.

GENERAL NOTES:

1. ALL METALLIC CONDUIT AND EQUIPMENT MUST BE BONDED TO THE TMGB AND BUILDING GROUND PER TIA J-STD-607-A WITH MINIMUM #6 STRANDED GREEN SHEATH CONDUCTOR.
2. ALL CONDUITS NEED TO BE SECURELY MOUNTED, FIRE STOPPED, AND OVER LAP THE BACKBOARD BY 3-6".
3. INSTALL FOUR CAT5E/6A CABLES IN EACH 1" CONDUIT TO TYPICAL WORK AREA OUTLET; ALSO INSTALL ALL LADDER RACKS, PATCH PANELS, CABINETS, BUILDING PROTECTORS, OSP CABLE, RISER CABLE, AND EQUIPMENT IAW BASE TELE 27 10 00.
4. COORDINATE BACKBOARD LOCATION WITH BASE TELEPHONE.
5. PROVIDE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH OFFICE AREAS AND AREAS SERVICED BY BASE TELEPHONE SYSTEM PER CAMP LEJEUNE COMMUNICATIONS SPECIFICATION 27 10 00. ALL WORK SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.

LEJEUNE TELECOMMUNICATIONS BACKBOARD EXAMPLE

SCALE: NOT TO SCALE

KEYNOTES:

1. GROUND FOR BACKBOARD TO BE MADE WITH #6 STRANDED COPPER IN 3/4" C TO COPPER BUS BAR.
2. PROVIDE TWO 4" EMPTY CONDUITS WITH PULLSTRING FOR CONNECTION TO EXISTING TELEPHONE SYSTEM. CAP AND MARK FOR USE BY BASE TELEPHONE OFFICE. COORDINATE WITH BASE TELEPHONE OFFICE.
3. PROVIDE 1/4" X 4" X 10" COPPER BUS BAR WITH INSULATING BRACKETS AT TELEPHONE BACKBOARD.

NOTES:

1. COORDINATE BACKBOARD LOCATION WITH BASE TELEPHONE.
2. PROVIDE ALL COMMUNICATIONS CABLING, EQUIPMENT, AND JACK SET ASSEMBLIES ASSOCIATED WITH OFFICE AREAS AND AREAS SERVICED BY BASE TELEPHONE SYSTEM PER CAMP LEJEUNE COMMUNICATIONS SPECIFICATION 27 10 00. ALL WORK SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT BASE TELEPHONE REGARDING ANY COMMUNICATIONS QUESTIONS AT 910-451-9439 OR 910-451-4760.
3. PROVIDE 1" CONDUIT WITH TWO CAT 5E CABLES FROM TELECOMMUNICATIONS RACK TO FACP. COORDINATE WITH LOCATION OF RACK AND FINAL LOCATION OF FACP.

VOICE/DATA SYSTEM RISER

SCALE: NOT TO SCALE

		E-502	
	<small>CEMS Engineering, Inc. P.O. Box 1688 3509 Iron Horse Drive Ladson, SC 29456 (914) 875-3637 (914) 875-4559 www.cemsgroup.com CEMS Project #0115000 Project Manager, R. Alvar</small>		<small>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND</small> MARINE CORPS BASE <small>CAMP LEJEUNE, NORTH CAROLINA</small>
	<small>DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.</small>		REPAIR LARGE UNIT HQs BUILDING 421
		<small>APPROVED: PWO OR OICC</small> DATE: _____	<small>NAVFAC DRAWING NO.</small> 60008632
		<small>SATISFACTORY TO:</small> DATE: _____	<small>CONST. CONTR. NO. N40085-11-B-0127</small> <small>SCALE: NONE</small> <small>SPEC. 05-11-0127</small> <small>SHEET 41 OF 42</small>

PANEL NO. A							
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA
1	20	RCPT-101	1320	A 2	20	LGTS-101-104,114	1140
3	20	RCPT-102	1200	B 4	20	LGTS-106-108	900
5	20	RCPT-103	1200	C 6	20	LGTS-109-113	1080
7	20	RCPT-104	1200	A 8	20	LGTS-115-119	630
9	20	RCPT-VENDING	600	B 10	20	LGTS-EXTERIOR	300
11	20	RCPT-VENDING	600	C 12	20	TRANSCEIVER	300
13	20	RCPT-105-108,112,113	1620	A 14	20	SPARE	
15	20	EWC	600	B 16	20	SPARE	
17	20	RCPT-109	1260	C 18	20	SPARE	
19	20	RCPT-109	1080	A 20	20	SPARE	
21	20	RCPT-110	1200	B 22			
23	20	RCPT-111	1320	C 24			
25	20	RCPT-115	1140	A 26			
27	20	RCPT-116	1380	B 28			
29	20	RCPT-117,118	1380	C 30			
31	20	RCPT-118 REFRIGERATOR	600	A 32			
33	20	RCPT-118 COUNTER TOP	1500	B 34	30	TVSS	
35	20	RCPT-119	1500	C 36			
37	20	RCPT-TBB	360	A 38			
39	20	RCPT-TBB	360	B 40	200	PANEL B	61628
41	20	FACP	300	C 42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 18,000 A. RMS SYM. TOTAL CONNECTED 85,778 VA TOTAL DEMAND 85,778 VA 238 AMPS

* - PROVIDE LOCKABLE CIRCUIT BREAKER, CIRCUIT BREAKER HANDLE TO BE RED IN COLOR

PANEL NO. B							
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA
1	15	AHU-1	230	A 2	35	OAU-1	9720
3				B 4			
5	15	AHU-2	230	C 6			
7				A 8	20	ROC-1	416
9				B 10			
11	15	AHU-3	560	C 12	25	ERV-1	2200
13				A 14			
15	15	AHU-4	560	B 16	60	IWH-1 (CKT #1)	11650
17				C 18			
19	15	AHU-5	42	A 20	60	IWH-1 (CKT #2)	11650
21				B 22			
23	45	VRHP-1	13360	C 24	30	HPWH-1	4500
25				A 26	20	SPARE	
27	20	SBC	180	B 28	20	SPARE	
29				C 30	20	SPARE	
31	20	UH-1	5000	A 32	20	SPARE	
33				B 34			
35	20	RCPT-STEAM PIT	180	C 36			
37	20	HEAT TRACE	180	A 38			
39	20	RCPT-SUMP PUMP	1150	B 40			
41				C 42			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM. TOTAL CONNECTED 61,628 VA TOTAL DEMAND 61,628 VA 171 AMPS

G - PROVIDE LOCKABLE, GFCI TYPE CIRCUIT BREAKER

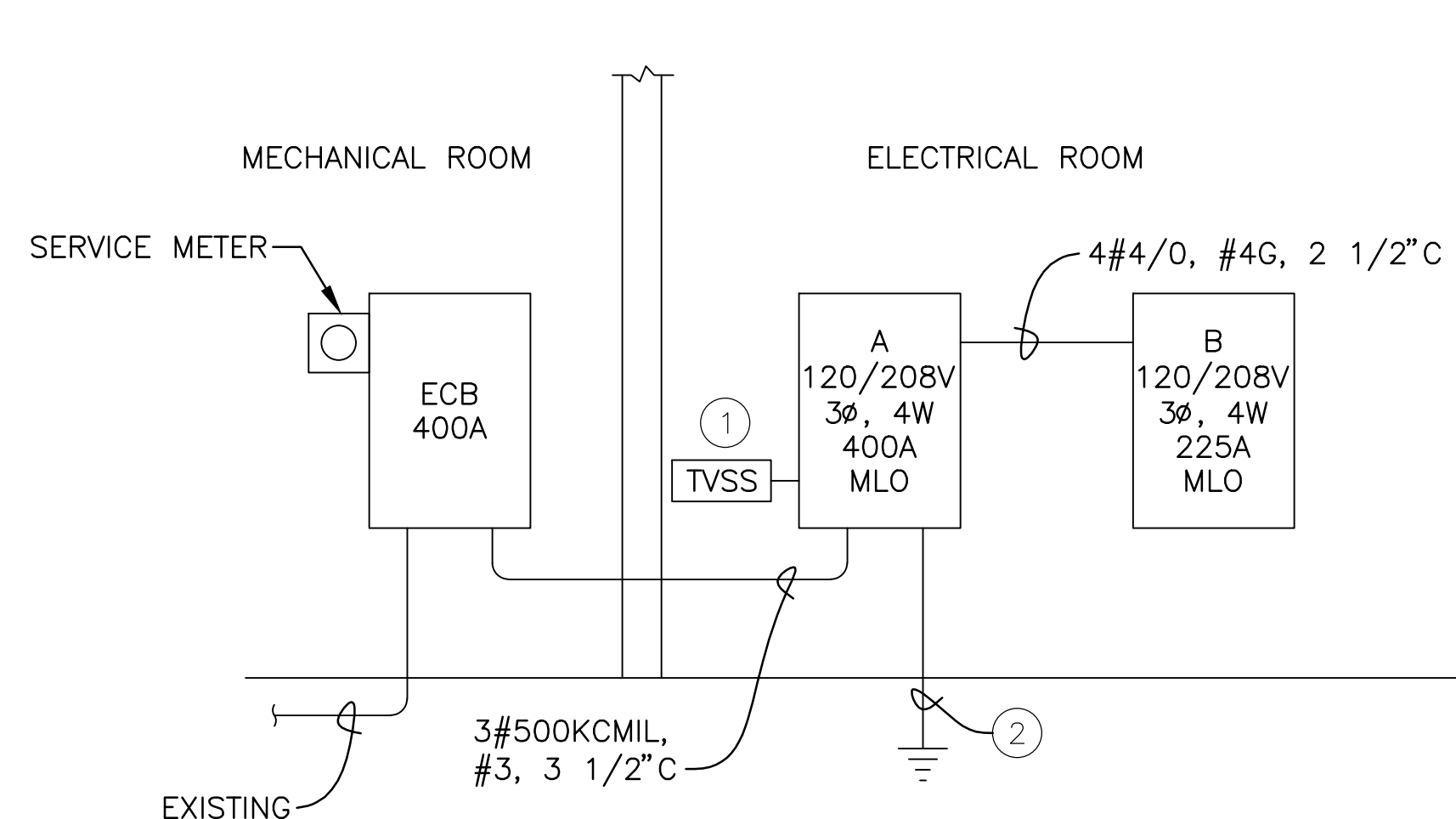
PANEL NO. TEMPORARY POWER NEMA 3R							
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA
1	200	TRAILER	25000	A 2	200	TRAILER	25000
3				B 4			
5				A 6	20	GFCI RCPT	180
7				B 8			
9				A 10			
11				B 12			
13				A 14			
15				B 16			
17				A 18			
19				B 20			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 18,000 A. RMS SYM. TOTAL CONNECTED 50,180 VA TOTAL DEMAND 50,180 VA 209 AMPS

ELECTRICAL ONE-LINE RISER DIAGRAM GENERAL NOTES:

- INSTALL NEW METER AT SERVICE DISCONNECT LOCATION. PROVIDE A SOCKET-MOUNTED ELECTRONIC PROGRAMMABLE OUTDOOR WATTHOUR METER. SURFACE MOUNTED. METER SHALL EITHER BE PROGRAMMED AT THE FACTORY OR SHALL BE PROGRAMMED IN THE FIELD. WHEN FIELD PROGRAMMING IS PERFORMED, TURN FIELD PROGRAMMING DEVICE OVER TO THE CONTRACTING OFFICER AT COMPLETION OF PROJECT. METER SHALL BE COORDINATED TO SYSTEM REQUIREMENTS.
 - DESIGN: PROVIDE METER DESIGNED FOR USE ON A 3-PHASE, 4-WIRE, 208Y/120 VOLT SYSTEM 3 CURRENT TRANSFORMERS. INCLUDE NECESSARY KYZ PULSE INITIATION HARDWARE FOR ENERGY MONITORING AND CONTROL SYSTEM (EMCS).
 - COORDINATION: PROVIDE METER COORDINATED WITH RATIOS OF CURRENT TRANSFORMERS AND TRANSFORMER SECONDARY VOLTAGE.
 - CLASS: 20; FORM: 9S; ACCURACY: +/- 1.0 PERCENT; FINISH: CLASS III.
 - COVER: POLYCARBONATE AND LOCKABLE TO PREVENT TAMPERING AND UNAUTHORIZED REMOVAL.
 - KILOWATT-HOUR REGISTER: 5 DIGIT ELECTRONIC PROGRAMMABLE TYPE.
 - DEMAND REGISTER
 - PROVIDE SOLID STATE
 - METER READING MULTIPLIER
 - INDICATE MULTIPLIER ON THE METER FACE.
 - DEMAND INTERVAL LENGTH: SHALL BE PROGRAMMED FOR 15 MINUTES WITH ROLLING DEMAND UP TO SIX SUBINTERVALS PER INTERVAL.
 - METER FUSING: PROVIDE A FUSE BLOCK MOUNTED IN THE SECONDARY COMPARTMENT CONTAINING ONE FUSE PER PHASE TO PROTECT THE VOLTAGE INPUT TO THE WATTHOUR METER. SIZE FUSES AS RECOMMENDED BY THE METER MANUFACTURER.
 - SOCKET: IEEE C12.7. PROVIDE NEMA TYPE 3R, BOX-MOUNTED SOCKET HAVING AUTOMATIC CIRCUIT-CLOSING BYPASS AND HAVING JAWS COMPATIBLE WITH REQUIREMENTS OF THE METER. COVER UNUSED HUB OPENINGS WITH BLANK HUB PLATES.

EQUIPMENT SCHEDULE		
EQUIPMENT	FEEDER	DISCONNECT
AHU-1 THRU 5	2#12, #12G, 1/2"C	208V MOTOR RATED SWITCH
VRHP-1	3#8, #10G, 3/4"C	60/3/250V/45AF/3R
OAU-1	3#8, #10G, 3/4"C	60/3/250V/NF/N1
ROC-1	2#12, #12G, 1/2"C	30/2/250V/15AF/3R
ERV-1	#10, #10N, #10G 1/2"C	30/1/250V/NF/N1
IWH-1 (CKT#1)	2#6, #10G, 3/4"C	60/2/250V/NF/N1
IWH-1 (CKT#2)	2#6, #10G, 3/4"C	60/2/250V/NF/N1
HPWH-1	2#10, #10G, 1/2"C	30/2/250V/NF/N1
UH-1	3#12, #12G, 1/2"C	30/3/250V/NF/N1

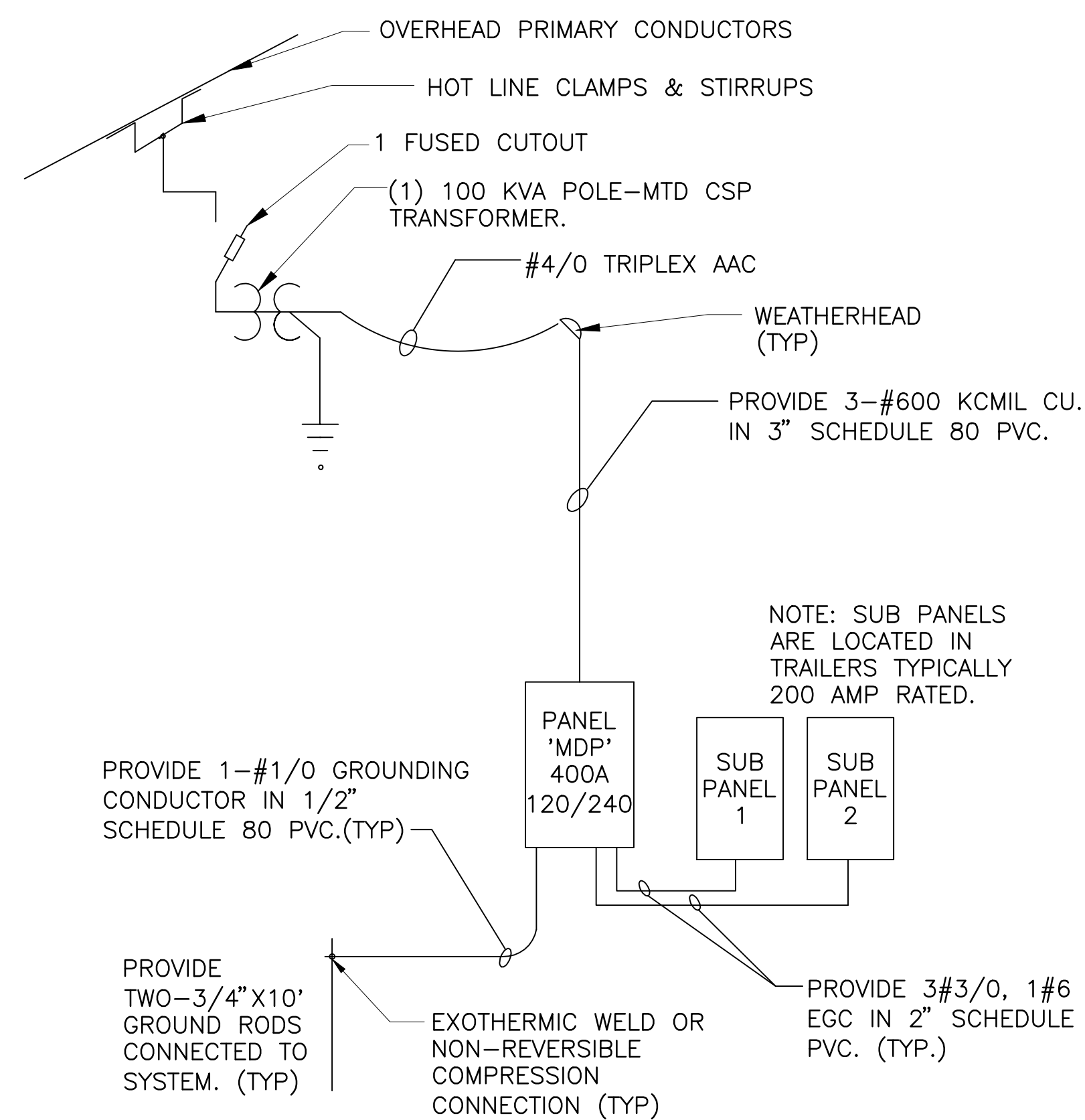


KEYNOTES:

- TVSS (TRANSIENT VOLTAGE SUPPRESSION SYSTEM) PROVIDE A MINIMUM OF A 75,000 AMP PER PHASE TVSS SYSTEM FOR L-N, L-L AND L-G PROTECTION (MEETS ANSI/IEEE C 62.45). MOUNT AS CLOSE AS POSSIBLE TO PANELBOARD.
- PROVIDE NEW GROUND CONDUCTOR, #1/0 BARE COPPER IN 3/4"C TO 3/4"x10' COPPER CLAD GROUND ROD.
- PROVIDE NEW 400A ENCLOSED CIRCUIT BREAKER (ECB). ECB TO BE LOCKABLE. SERVICE ENTRANCE RATED AND LABELED AS "MAIN SERVICE DISCONNECT".

ELECTRICAL RISER DIAGRAM

NO SCALE



(TYPICAL) 400 AMP OH TRAILER RISER DIAGRAM

SCALE: NOT TO SCALE

		E-601	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY:		REPAIR LARGE UNIT HQs BUILDING 421	
DESIGN DIR. APPROVED: PWO OR OICC DATE:		ELECTRICAL PANEL SCHEDULES NAVFAC DRAWING NO.	
SATISFACTORY TO: DATE:		F 80091	60008633
SCALE: NONE		SPEC. 05-11-0127	SHEET 42 OF 42