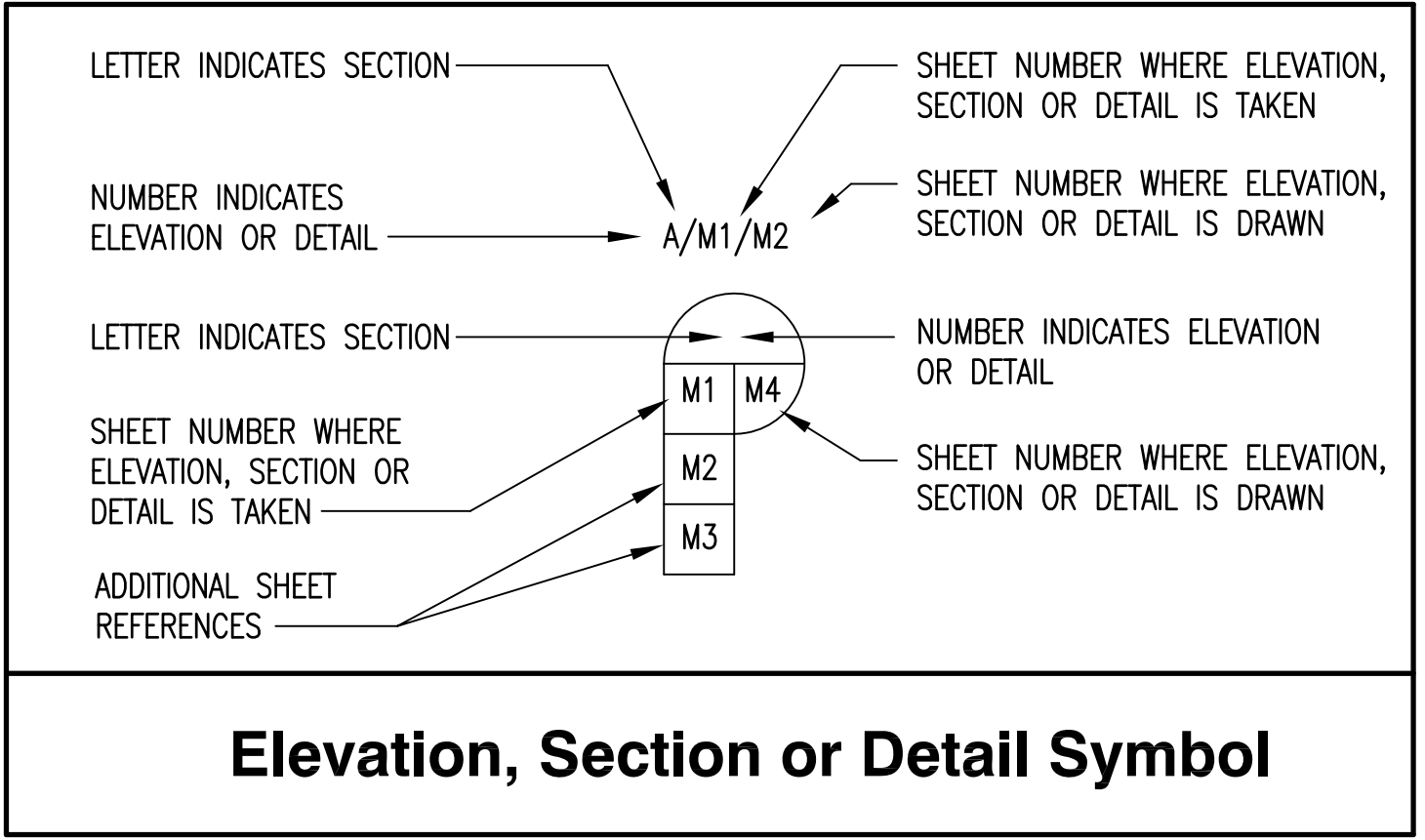
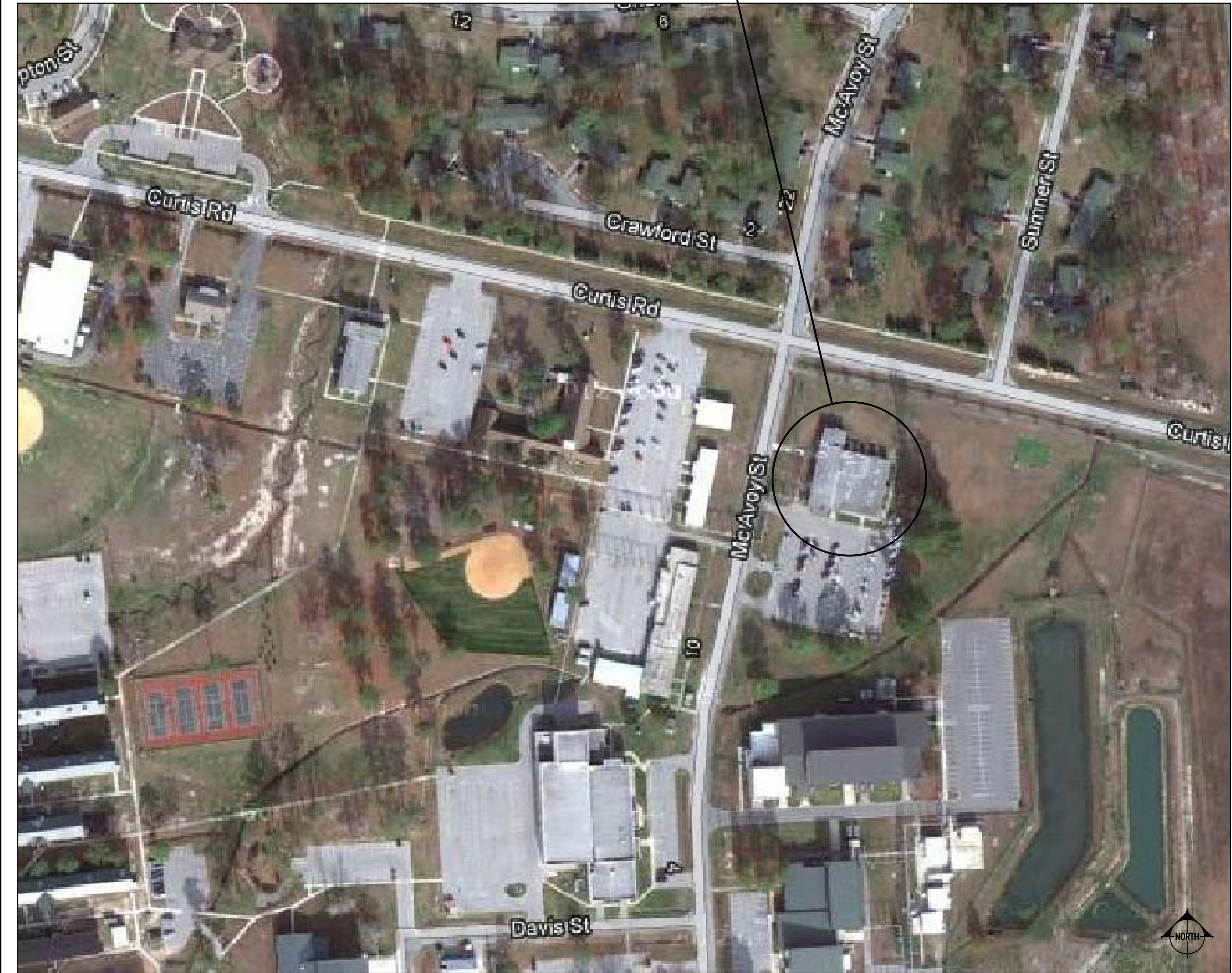


# REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302

## MARINE CORPS BASE CAMP LEJEUNE N.C.

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48 OF 48	60011857	E-602	ELECTRICAL DETAILS



MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA

DES. DLG  
DR. JGH  
CHK. WLF  
SUBMITTED BY:  
DESIGN DIR.  
APPROVED: PWO OR OICC  
SATISFACTORY TO:

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

REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302

NAVFA NO. 1203

NAVFA DRAWING NO. 60011810

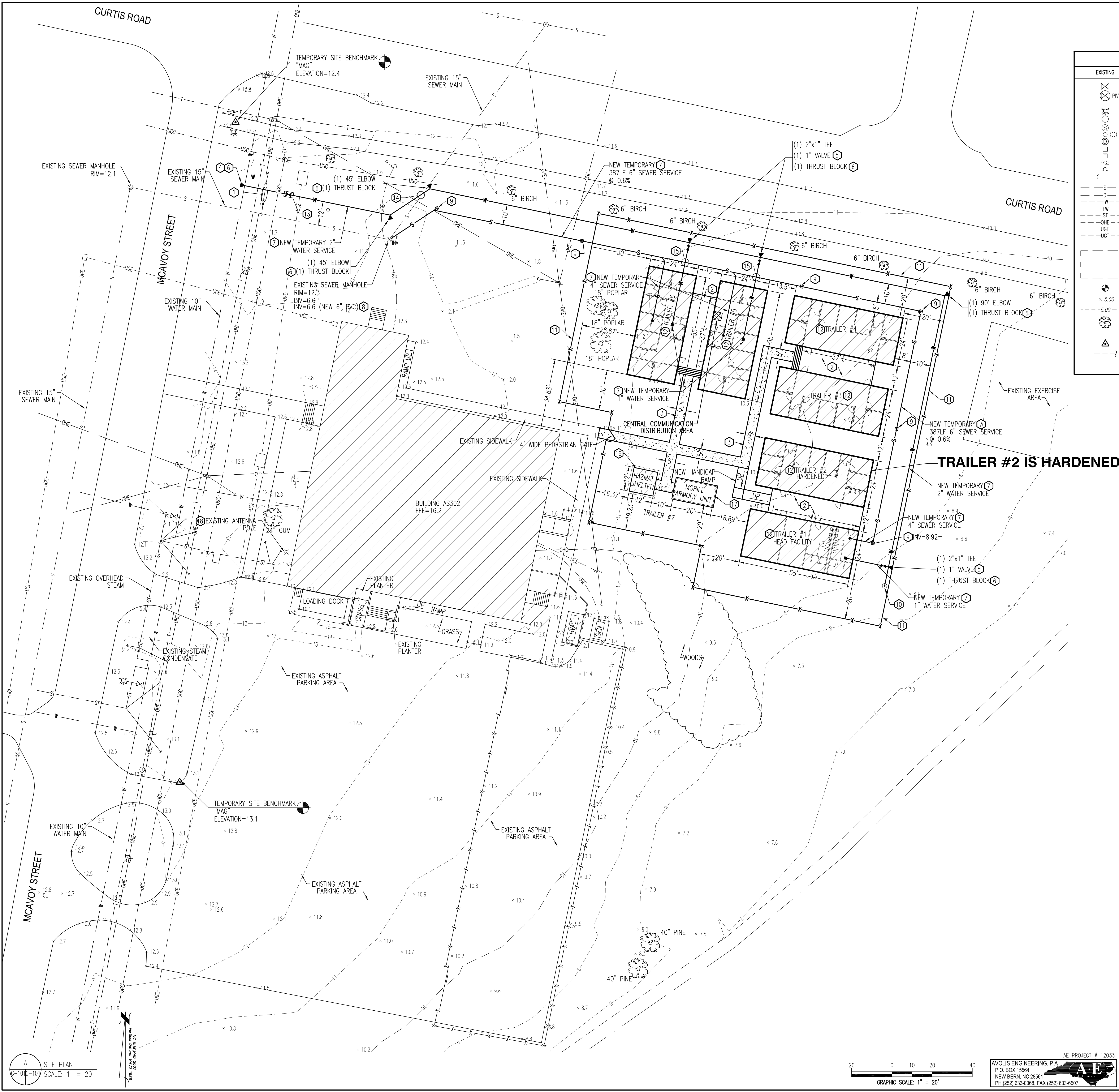
CONST. CONTR. NO. N40085-12-B-0066

SHEET 01 OF 48

G-001

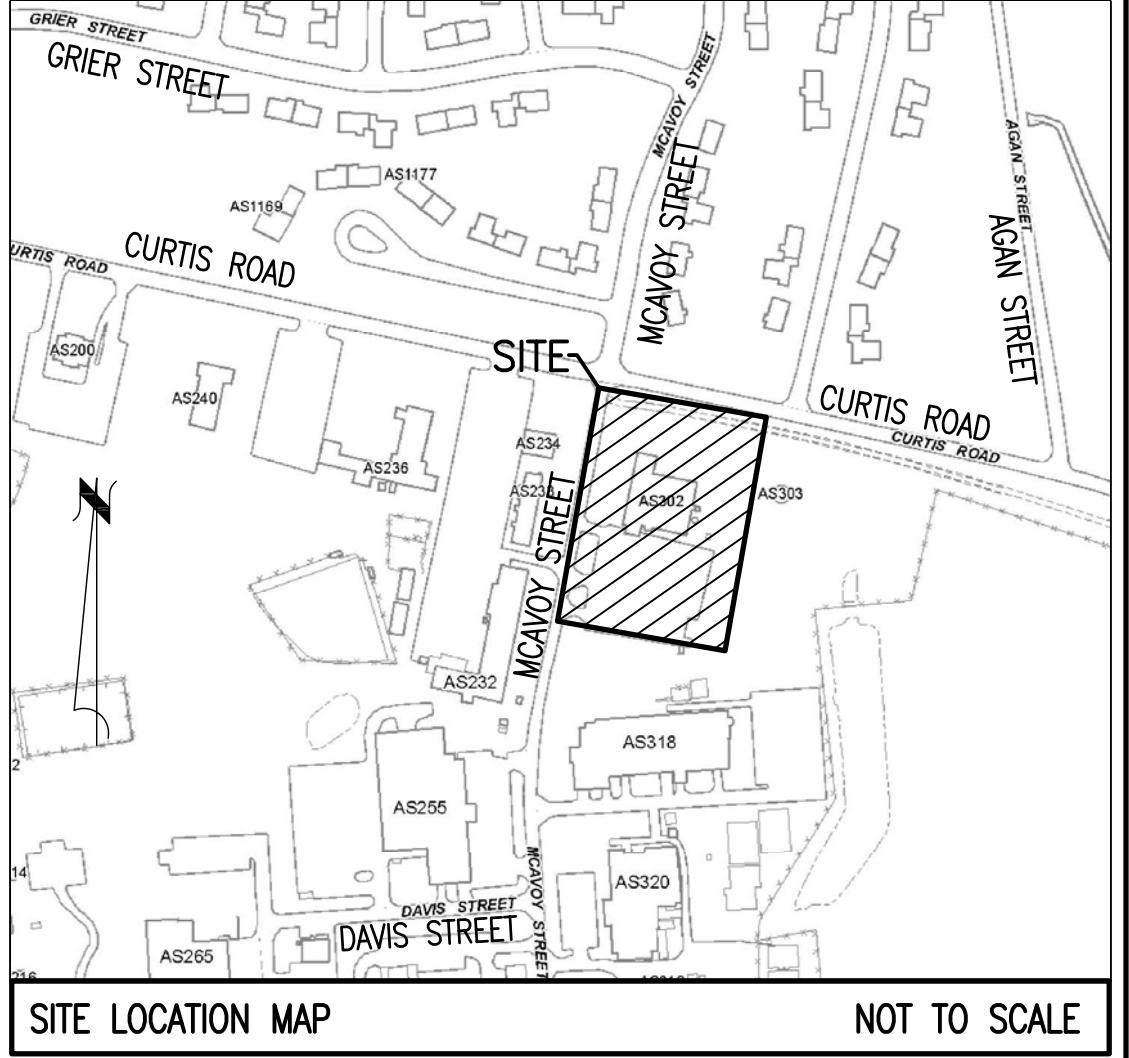
TITLE SHEET





REVISIONS		
SYM	DATE	APPROVED

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



- GENERAL CONSTRUCTION NOTES:**
1. 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.
  2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
  3. 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:**
1. REMOVE & REINSTALL EXISTING SIGN TO INSTALL WATER SERVICE.
  2. NEW STEPS & LANDING, SEE DETAIL A, SHEET C-502.
  3. NEW CONCRETE SIDEWALK, SEE DETAIL A, SHEET C-501.
  4. NEW 10" x 2" TAPPING SADDLE & VALVE - SEE DETAIL C, SHEET C-501 AND SPECIFICATIONS.
  5. NEW 1" VALVE - SEE DETAIL C, SHEET C-501.
  6. THRUST BLOCK - SEE DETAIL D, SHEET C-501.
  7. PROVIDE ALL TRENCHING IN ACCORDANCE WITH DETAIL E, SHEET C-501.
  8. CONNECT NEW 6" PVC SEWER TO EXISTING SEWER MANHOLE.
  9. NEW SEWER CLEANOUT - SEE DETAIL F, SHEET C-501.
  10. NEW 2" BLOWOFF ASSEMBLY, SEE DETAIL G, SHEET C-501.
  11. NEW CHAIN LINK FENCE - SEE DETAIL H, SHEET C-501.
  12. NEW TEMPORARY TRAILER, SIZE AS INDICATED. SEE DETAIL A, SHEET C-502.
  13. NEW BACKFLOW PREVENTER & ENCLOSURE, SEE DETAIL B, SHEET C-502 AND SPECIFICATIONS.
  14. ROUTE NEW WATER SERVICE ABOVE EXISTING SEWER MAIN. PROVIDE MINIMUM 18" VERTICAL SEPARATION.
  15. ROUTE NEW WATER SERVICE ABOVE NEW SEWER SERVICE. PROVIDE MINIMUM 12" VERTICAL SEPARATION.
  16. NEW TEMPORARY HAZMAT SHELTER, SEE DETAIL J, SHEET C-501.
  17. GOVERNMENT FURNISHED, CONTRACTOR INSTALLED TEMPORARY ARMORY UNIT. SEE PLAN, SECTION AND NOTES, SEE DETAIL C, SHEET C-502.
  18. EXISTING WOOD UTILITY POLE TO BE REMOVED.

C-101

MAUNE  
BELANGIA  
FAULKENBERRY  
ARCHITECTS PA  
317-2 POLLOCK STREET NEW HAVEN, CT

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

**REPAIR THE NEW RIVER  
POLICE STATION, BUILDING AS302**

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  
SATISFACTORY TO: DATE

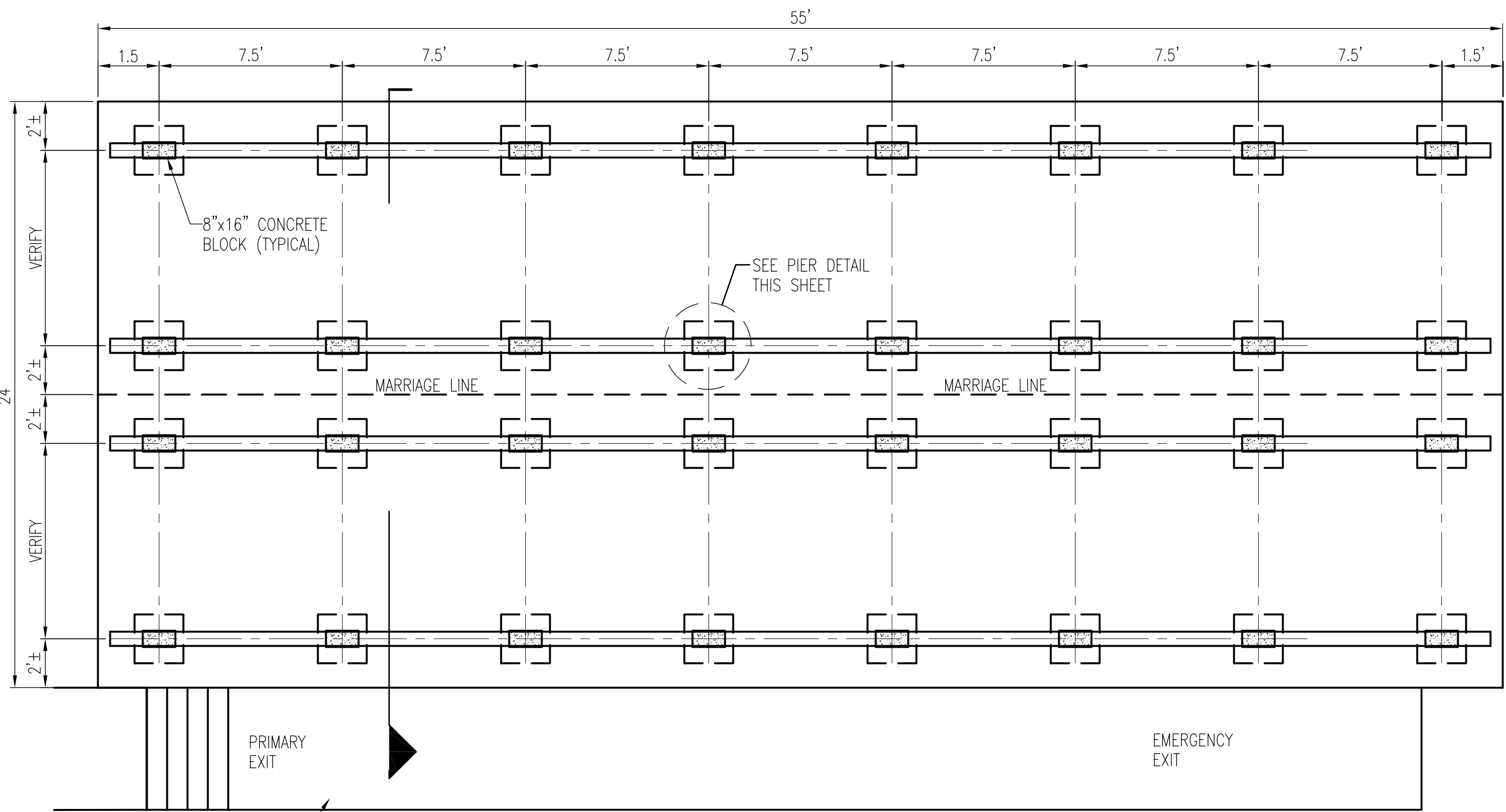
SIZE CODE IDENT NO. NAVFAC DRAWING NO.  
F 80091 60011811  
CONST. CONTR. NO. N40085-12-B-0066  
SCALE: SPEC. 05-12-0066 SHEET 02 OF 48

AE PROJECT # 12033  
AVOLIS ENGINEERING, P.A.  
P.O. BOX 15564  
NEW BERN, NC 28561  
PH (252) 533-0088 FAX (252) 633-6507

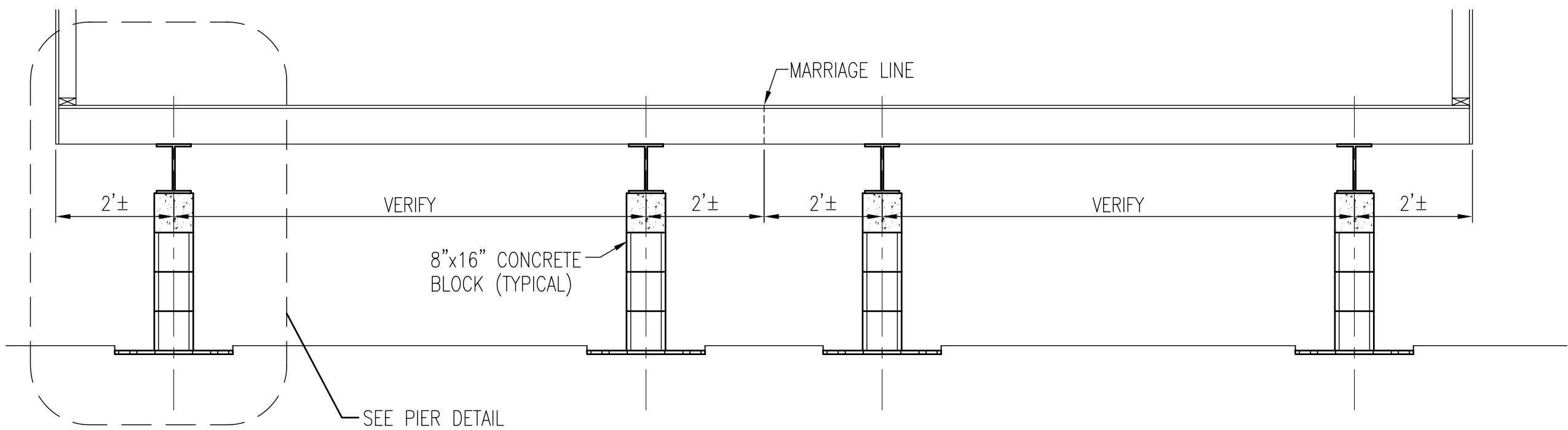




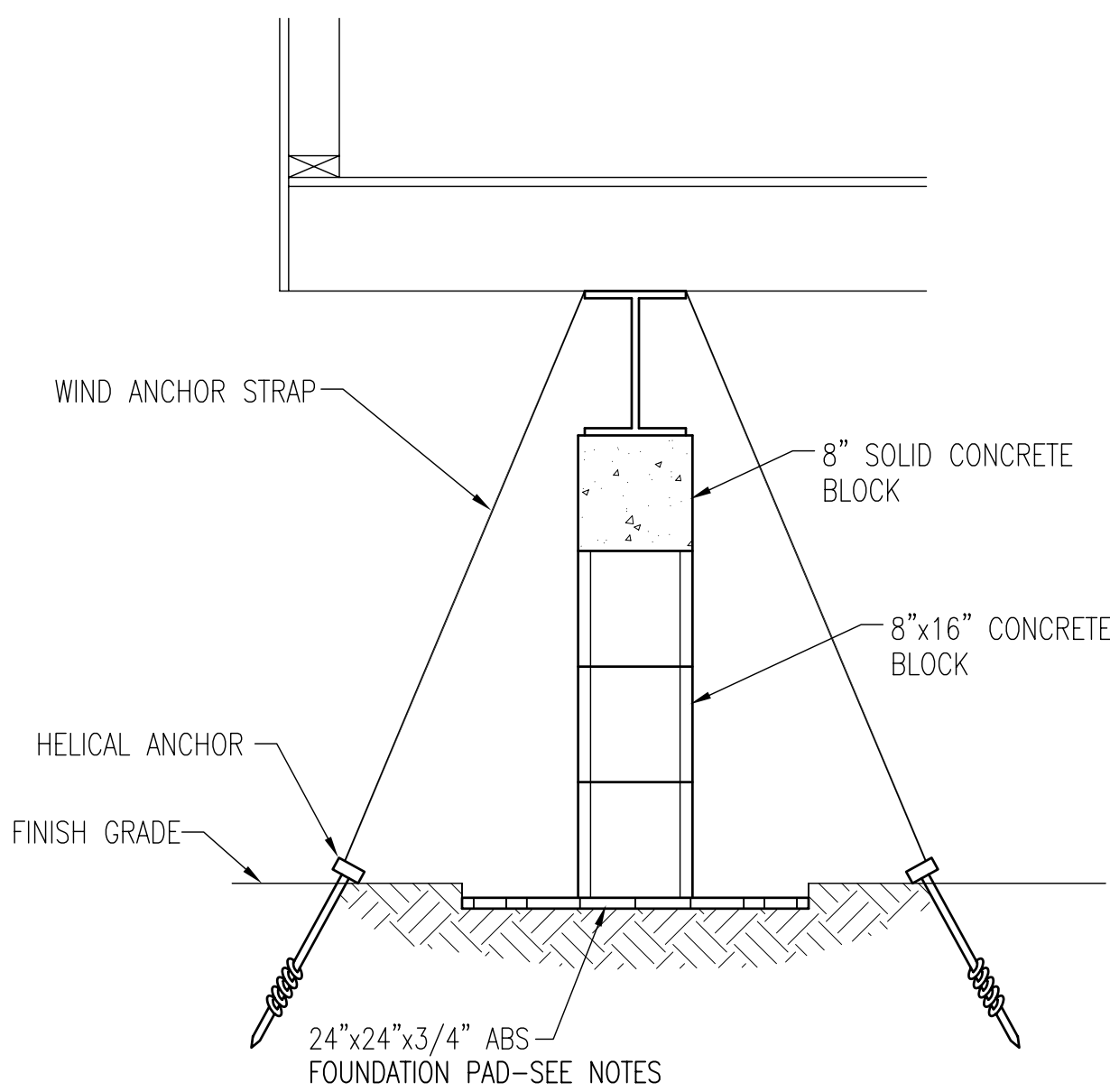




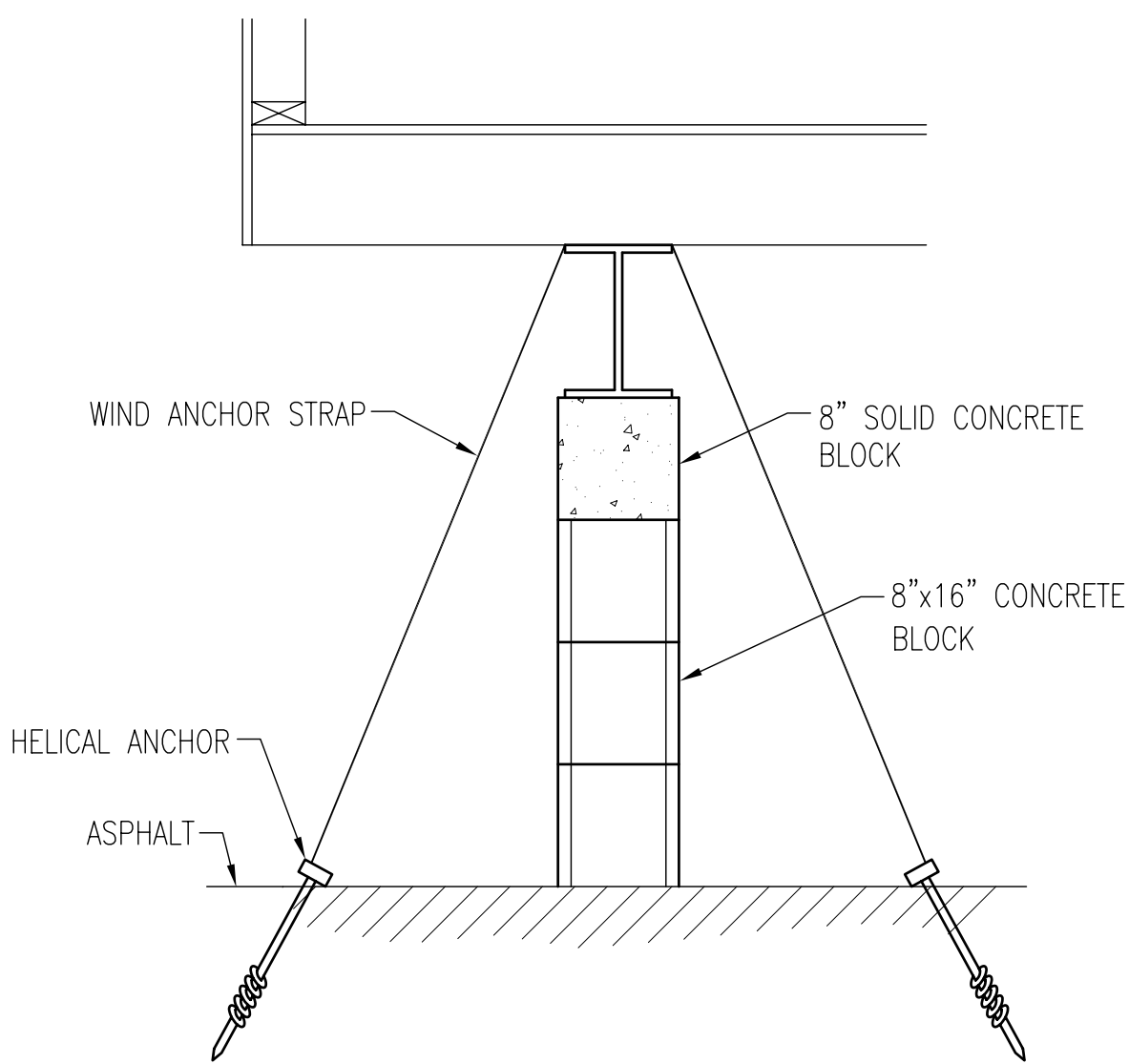
PIER PLAN  
SCALE: 1/4"=1'



FOUNDATION OFFICE CROSS-SECTION  
SCALE: 1/2"=1'



INSTALLATION IN GRASS AREA



INSTALLATION ON PAVED AREA

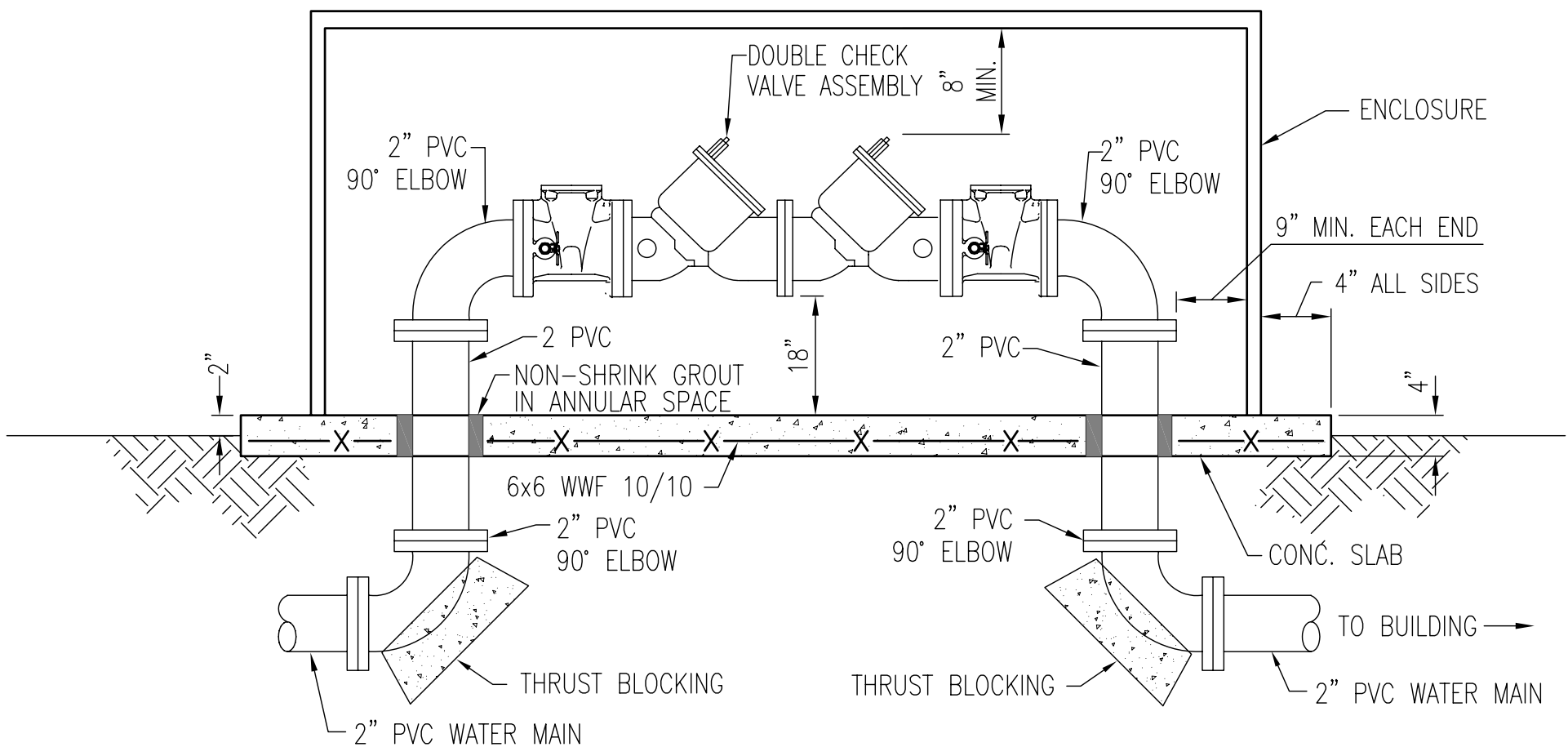
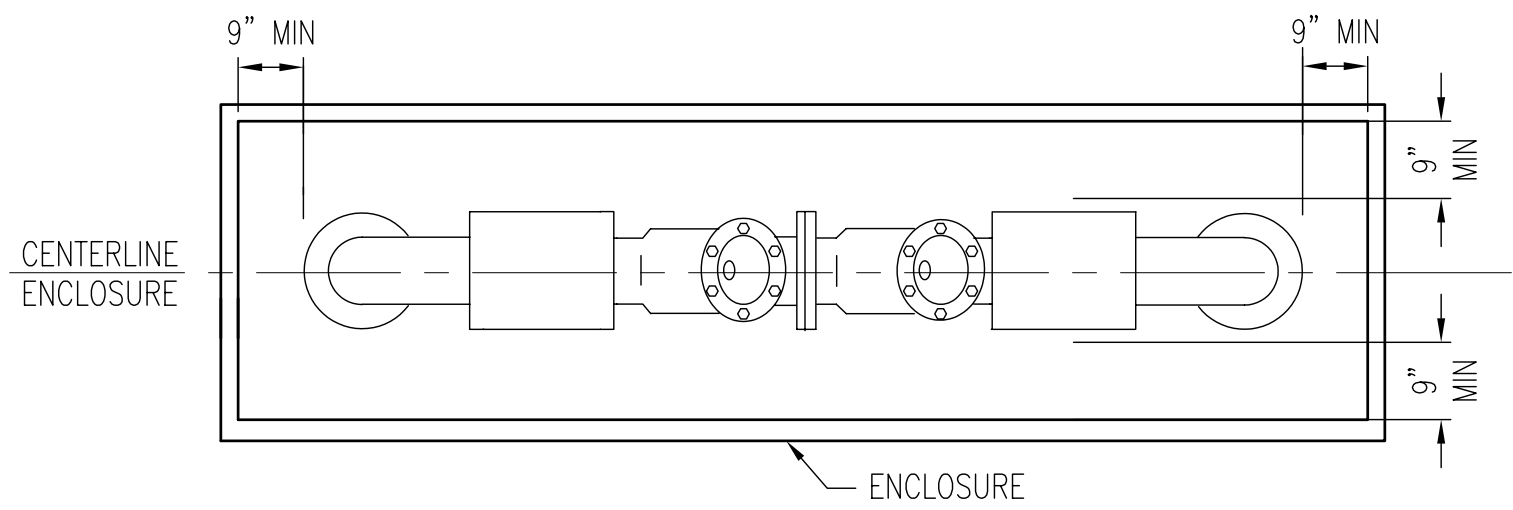
PIER INSTALLATION  
SCALE: 1"=1'

FOUNDATION PAD NOTES:  
1. REMOVE GRASS SURFACING AND TOPSOIL.  
2. LEVEL AND COMPACT SUBGRADE PRIOR TO PLACING FOUNDATION PAD.

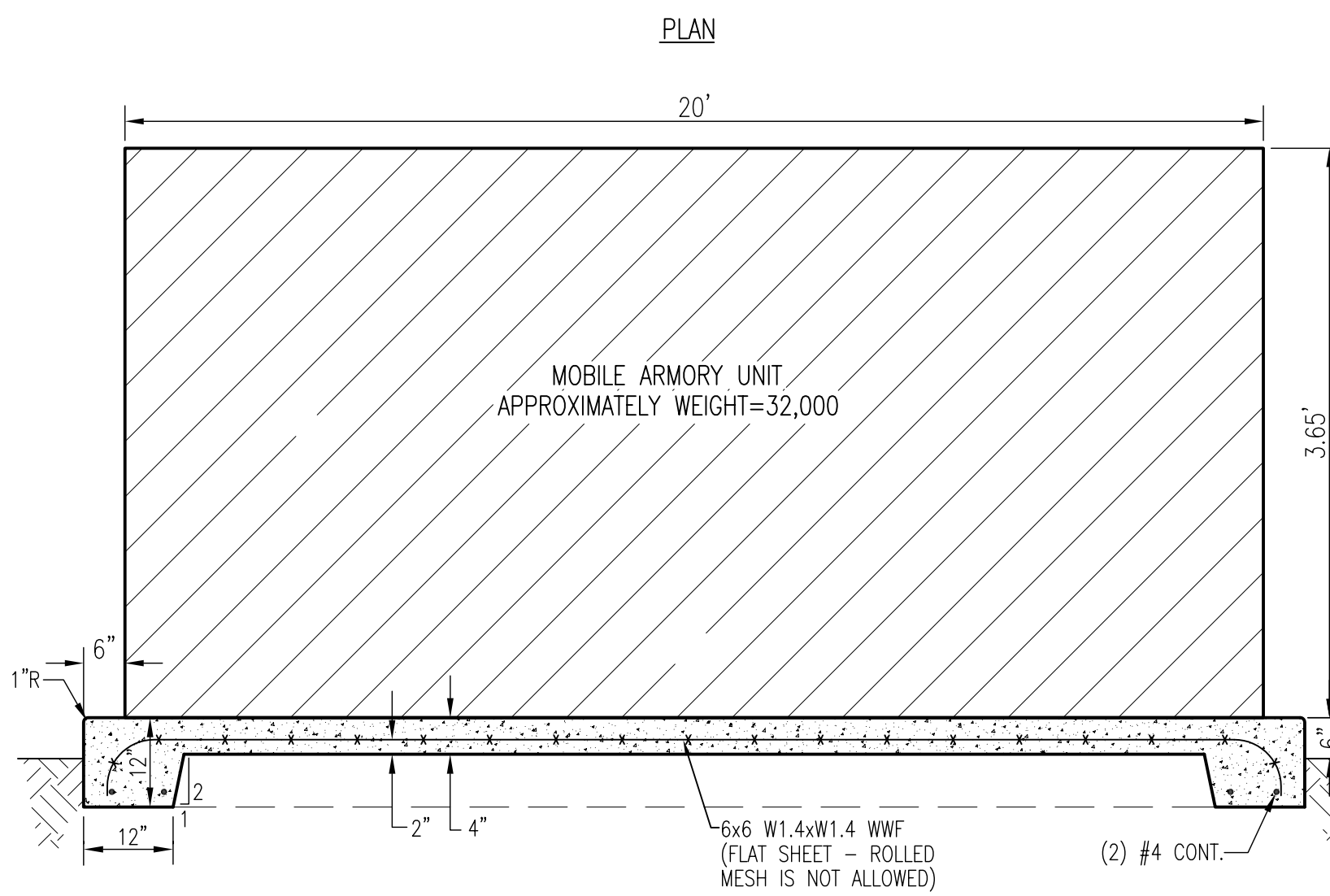
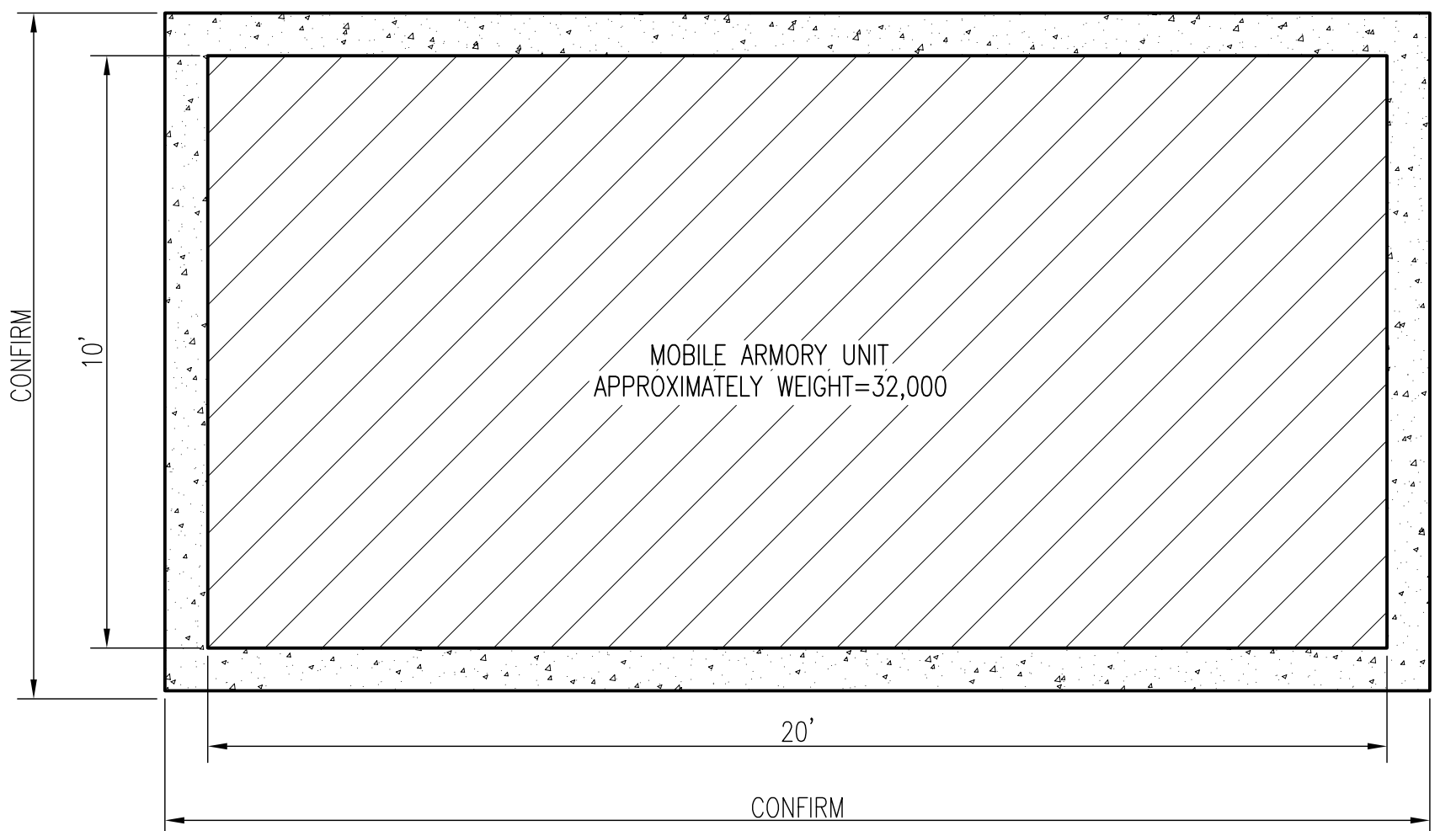
NOTES:

1. ALL TEMPORARY OFFICE TRAILERS AND BATHROOM 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 AND BATHROOM 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 LANDINGS 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 TRAILERS AND RENDER THEM FULLY FUNCTIONAL.

PIERING PLAN FOR SINGLE WIDE TRAILERS IS SIMILAR.



DOUBLE CHECK VALVE ASSEMBLY & ENCLOSURE AT TEMPORARY OFFICES  
NOT TO SCALE



SECTION

PROVIDE THICKENED SLAB ALONG ALL EDGES.

NOTES:

1. THE MOBILE ARMORY UNIT SHALL BE PROVIDED BY THE GOVERNMENT. THE UNIT SHALL BE TRANSPORTED TO THE SITE AND INSTALLED BY THE CONTRACTOR.
2. THE MOBILE ARMORY UNIT IS LOCATED WITHIN A 15 MILE RADIUS OF THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOAD AND TRANSPORT THE MOBILE ARMORY UNIT FROM THE GOVERNMENT STORAGE AREA AND INSTALL THE UNIT ON A NEW CONTRACTOR CONSTRUCTED CONCRETE FOUNDATION.
3. THE CONTRACTOR SHALL PROVIDE ALL FINAL UTILITY CONNECTION TO THE MOBILE ARMORY UNIT.
4. UPON COMPLETION, THE CONTRACTOR SHALL TRANSPORT THE MOBILE ARMORY UNIT TO THE GOVERNMENT STORAGE AREA LOCATED WITHIN 15 MILES OF THE PROJECT SITE.
5. FIELD CONFIRM ALL DIMENSIONS PRIOR TO FOUNDATION CONSTRUCTION.
6. THE CONCRETE FOUNDATION SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.

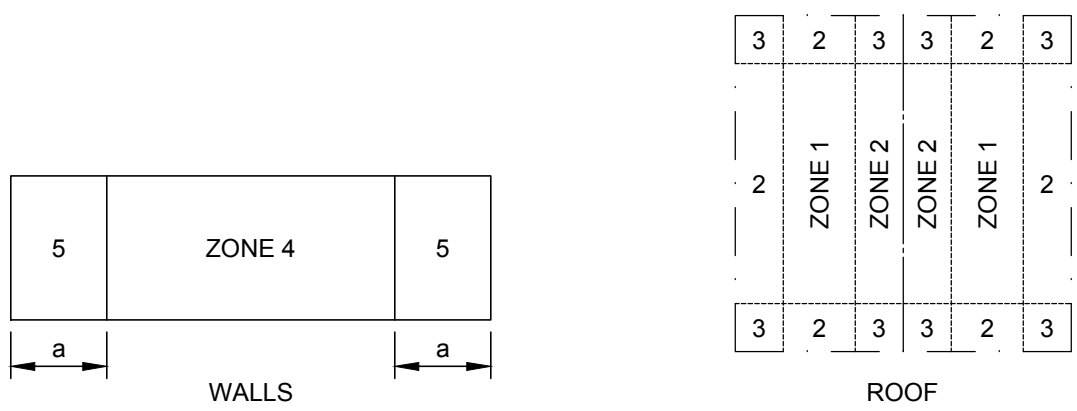
CONCRETE APRON  
NOT TO SCALE

TEMPORARY TRAILER - FOUNDATION PLAN, SECTION, AND DETAILS

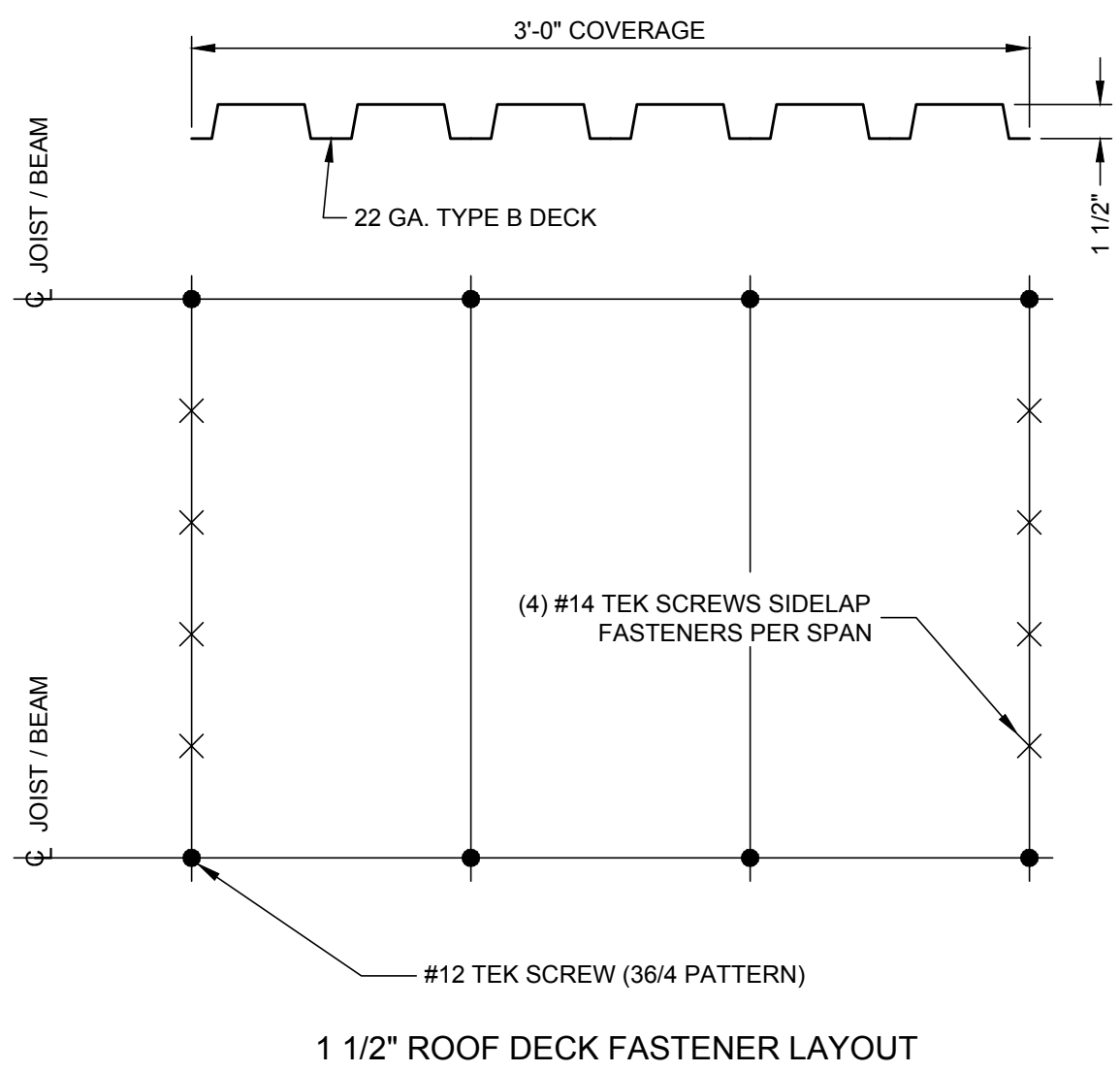
C-502	
MAUNE & BELANGIA FAULKENBERRY ARCHITECTS PA 317-C POLLOCK STREET NEW HAVEN, CT	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
REPAIR THE NEW RIVER POLICE STATION, BUILDING AS302	
DETAILS	
DES. J.K. AVOLIS, P.E. DR. MSP/WFF CHK. J.C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC DATE SIZE CODE IDENT NO. NAVFAC DRAWING NO. F 80091 60011813 SATISFACTORY TO: DATE CONST. CONTR. NO. N40085-12-B-0066 SCALE: SPEC. 05-12-0066 SHEET 04 OF 48	



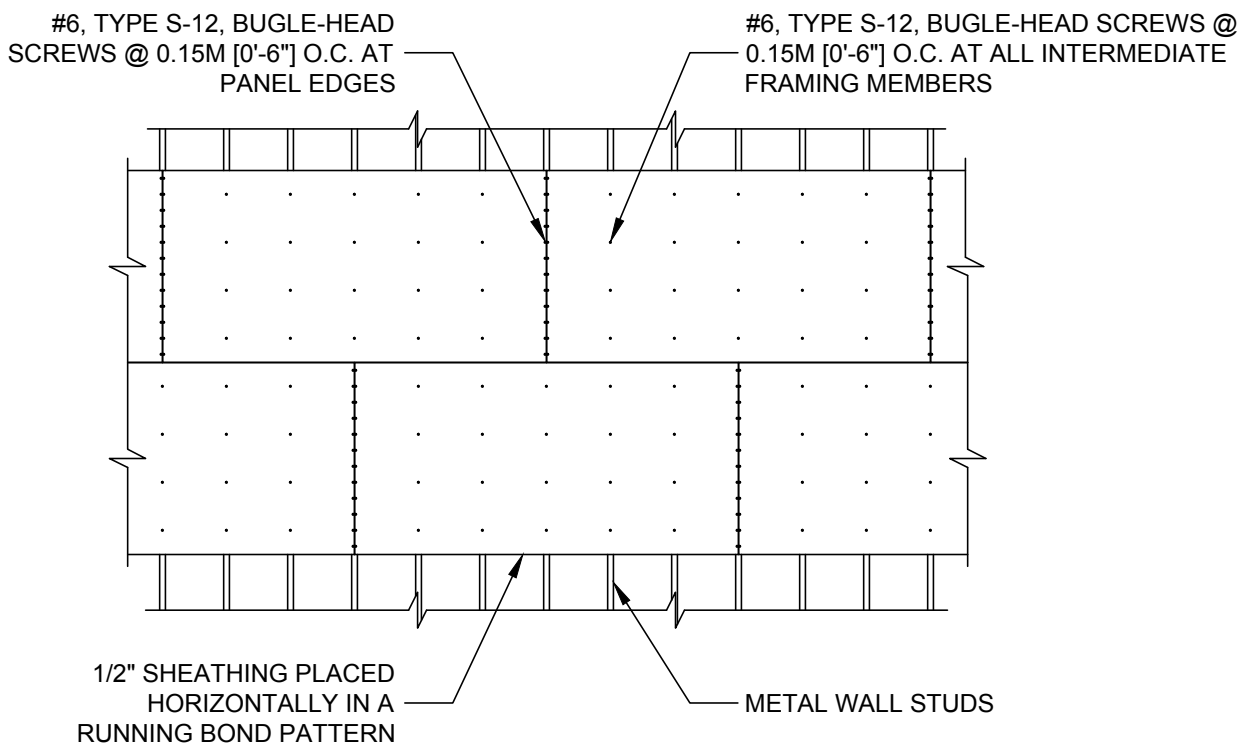
COMPONENTS & CLADDING NEW DESIGN WIND PRESSURE			
ZONE	EFFECTIVE WIND AREA	(+) PRESSURE (PSF)	(-) PRESSURE (PSF)
1	10	23	-36
1	20	21	-35
1	50	18	-34
1	100	16	-33
2	10	23	-63
2	20	21	-58
2	50	18	-51
2	100	16	-46
3	10	23	-93
3	20	21	-87
3	50	18	-79
3	100	16	-73
4	10	39	-43
4	20	38	-41
4	50	35	-39
4	100	34	-37
4	500	30	-33
5	10	39	-53
5	20	38	-49
5	50	35	-43
5	100	34	-41
5	500	30	-38



COMPONENTS & CLADDING PRESSURE (PSF)



1 1/2" ROOF DECK FASTENER LAYOUT



SHEAR PANEL FASTENING (TO BE USED @ ALL EXTERIOR WALLS)

GENERAL NOTES:


- I. DESIGN CRITERIA:
- BUILDING CODE..... 2009 IBC
  - BUILDING OCCUPANCY CATEGORY..... II
  - SUPERIMPOSED DEAD LOADS:
    - ROOF..... 10 PSF
    - MISCELLANEOUS..... 10 PSF
  - DESIGN LIVE LOADS:
    - ROOF..... 20 PSF
  - SNOW:
    - GROUND SNOW LOAD..... 10 PSF
    - FLAT ROOF SNOW LOAD..... 10 PSF
    - SNOW EXPOSURE CATEGORY..... C
    - IMPORTANCE FACTOR..... 1.0
    - THERMAL FACTOR, CT..... 1.0
  - WIND:
    - BASIC WIND SPEED (3 SECOND GUST)..... 128 MPH
    - WIND EXPOSURE CATEGORY..... C
    - IMPORTANCE FACTOR..... 1.0
    - INTERNAL PRESSURE COEFFICIENT..... +/- 0.18
    - ROOF COMPONENTS AND CLADDING..... SEE TABLE ON SHEET S-1
    - WALL COMPONENTS AND CLADDING..... SEE TABLE ON SHEET S-1
  - SEISMIC:
    - SITE CLASS..... D
    - IMPORTANCE FACTOR..... 1.0
    - SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT, Ss..... 0.30 G
    - ONE SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT, S1..... 0.19 G
    - SEISMIC DESIGN CATEGORY..... C
    - BASIC SEISMIC FORCE RESISTING SYSTEM..... BEARING WALL SYSTEM
    - ANALYSIS PROCEDURE..... EQUIVALENT LATERAL FORCE
- II. STEEL DECKING:
- FABRICATION AND ERECTION OF STEEL DECKING SHALL BE IN ACCORDANCE WITH THE LATEST SPECIFICATIONS AND CODE OF STANDARD PRACTICE OF THE STEEL DECK INSTITUTE.
  - SEE PLAN NOTES AND DETAILS FOR DECK PROFILES, GAGES, AND FINISHES.
  - CONTRACTOR SHALL FURNISH AND INSTALL WITH ROOF DECKING ALL RIDGE AND VALLEY PLATES, FLAT PLATES AT CHANGE OF DECK DIRECTION, AND SLUMP PANS, AS REQUIRED TO PROVIDE A FINISHED SURFACE FOR THE APPLICATION OF ROOF INSULATION AND ROOF COVERING.
- III. STRUCTURAL METAL STUDS:
- STRUCTURAL METAL STUDS SHALL BE COLD-FORMED, AND SHALL BE OF SIZE AND GAGE AS SHOWN ON PLANS.
  - ALL METAL STUDS SHALL HAVE 0.041M [1 5/8"] FLANGES AND 50 KSI YIELD STRESS.
  - METAL STUD MEMBERS SHALL NOT BE CUT FOR PLUMBING OR WIRING UNLESS DETAILED ON THE APPROVED SHOP DRAWINGS.
  - FABRICATION AND ERECTION OF METAL STUD TRUSSES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AISI'S "STANDARD FOR COLD-FORMED STEEL FRAMING - TRUSS DESIGN".
  - METAL STUD TRUSS MANUFACTURER SHALL FURNISH SHOP DRAWINGS AND DESIGN CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN NORTH CAROLINA. SHOP DRAWINGS SHALL INDICATE TRUSS END REACTIONS FOR CONNECTION VERIFICATION BY STRUCTURAL-ENGINEER-OF-RECORD.
- IV. MISCELLANEOUS:
- STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND PME DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
  - NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL-ENGINEER-OF-RECORD.
  - NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL-ENGINEER-OF-RECORD.
  - OPENINGS 0.41M [1'-4"] AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND PME DRAWINGS FOR SUCH OPENINGS.
  - THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOADS APPLIED TO THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE APPLIED.
  - FIRE PROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS, UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE PROOFING METHODS AND MATERIALS.
  - DO NOT SCALE THESE DRAWINGS; USE DIMENSIONS.

TYPICAL CONSTRUCTION DETAILS

NOT TO SCALE

Typical Construction Detail Notes

- Typical details shown on this sheet apply throughout the project, in all cases, unless noted otherwise.
- Typical details may not be specifically referenced on foundation plans or framing plans.

**kaydos-daniels engineers, plc**

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nc firm license #P-0279

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SEAL  
023496  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
EXPIRATION DATE 09/04/12

MAUNE  
BELANGIA  
FAULKENBERRY  
ARCHITECTS, PA

DES. LGG  
DR. LGG  
CHK. KLN  
SUBMITTED BY:  
DESIGN DIR.  
APPROVED: PWO OR OICC  
SATISFACTORY TO:

DEPT. OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS BASE  
CAMP LEJUNE, NORTH CAROLINA

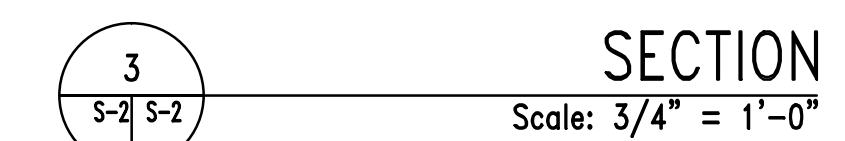
REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

TYPICAL DETAILS & GENERAL NOTES  
NAVFAC DRAWING NO.  
60011814  
CONST. CONTR. NO. N40085-12-B-0066

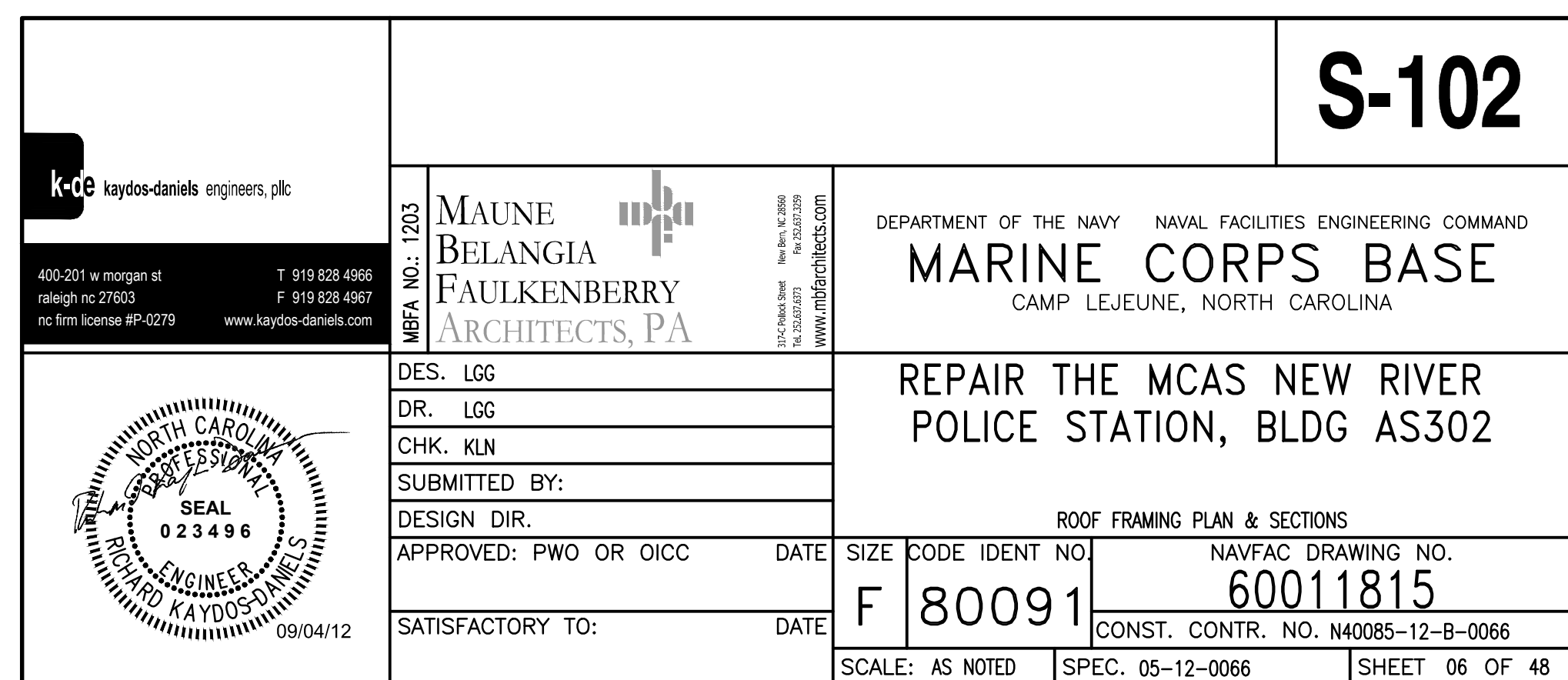
SIZE  
F 80091  
SCALE: AS NOTED  
SPEC. 05-12-0066  
SHEET 05 OF 48

S-101





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





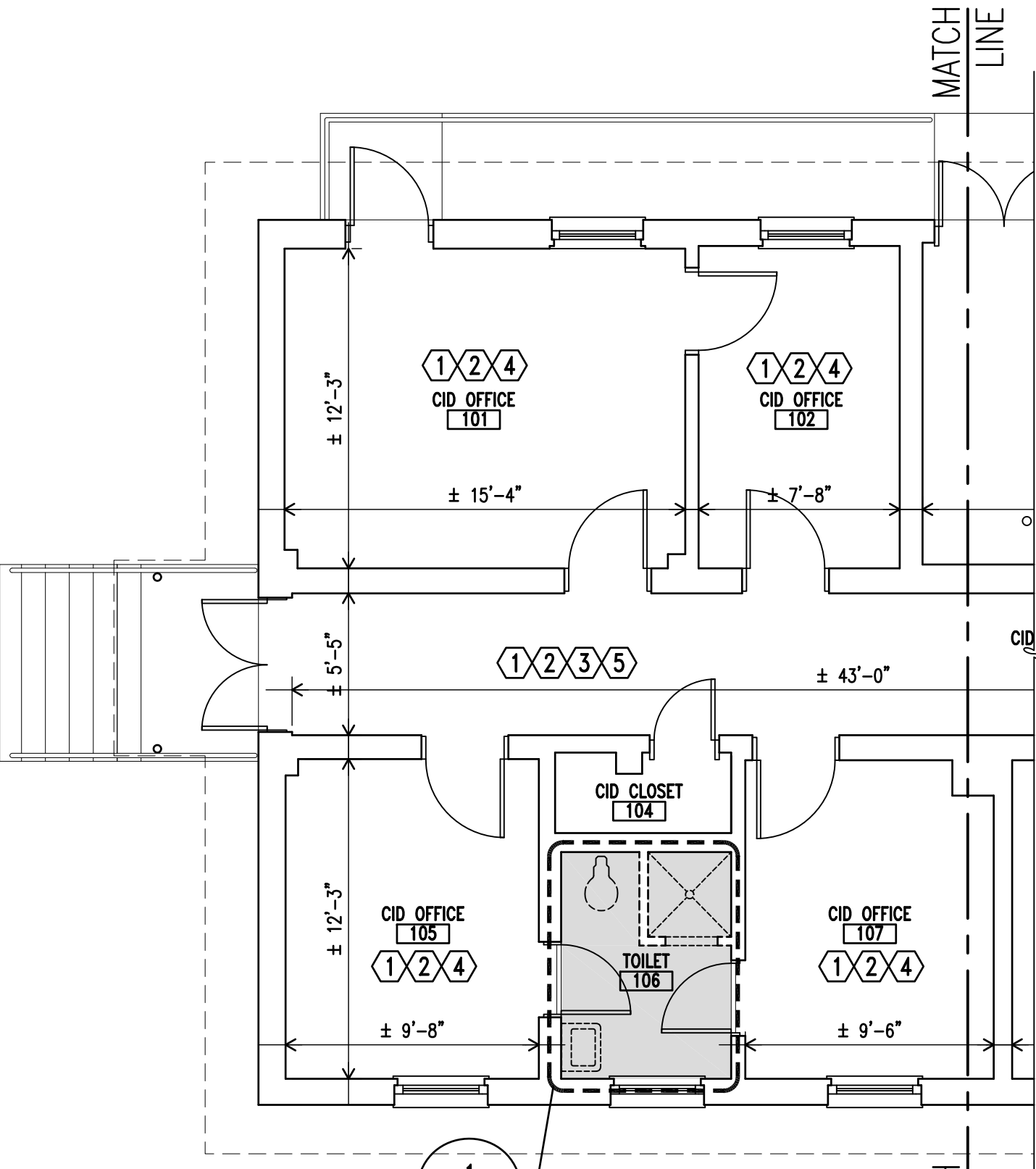
GENERAL NOTES

1. ALL ROOMS ARE SCHEDULED FOR RENOVATION WORK: SEE SPECIFIC DEMOLITION NOTES FOR EACH ROOM OR SPACE.
2.  TOILET ROOMS (SHADED IN PLAN) ARE SCHEDULED FOR FULL RENOVATION OF FIXTURES AND FINISHES. SEE SPECIFIC DEMOLITION AND CONSTRUCTION NOTES FOR ALL TOILET ROOMS AS INDICATED ON ENLARGED PLANS SHEETS A-401 AND A-402.
3. SERVER ROOM 123 SHALL REMAIN AVAILABLE TO BUILDING OCCUPANTS AND OPERATIONAL DURING THE ENTIRE SCOPE OF WORK.
4. PREPARE ALL EXISTING INTERIOR STEEL DOOR FRAMES (ALL ARE STEEL UNLESS NOTED OTHERWISE) FOR NEW PAINT FINISHES, INCLUDING ALL INTERIOR AND EXTERIOR FRAMES.

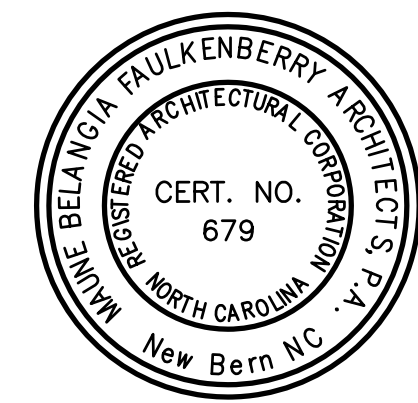
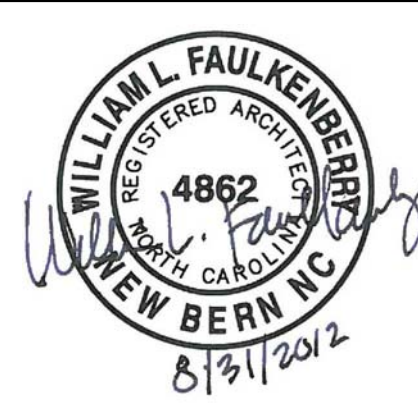
KEYED DEMOLITION NOTES

APPLY TO THIS SHEET ONLY

1. REMOVE EXISTING SUSPENDED ACOUSTICAL TILE CEILING SYSTEM INCLUDING ALL EXISTING TILES, GRID AND ALL ASSOCIATED SUPPORT HANGERS AND/OR WIRES.
2. CLEAN AND PREPARE EXISTING WALLS FOR NEW PAINT APPLICATION.
3. REMOVE EXISTING VINYL COMPOSITION TILE (VCT) FLOORING AND EXISTING RESILIENT WALL BASE. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FINISHES. CLEAN AND PREPARE EXISTING WALL SURFACE WHERE BASE HAS BEEN REMOVED FOR APPLICATION OF NEW RESILIENT WALL BASE.
4. REMOVE EXISTING CARPET OVER VINYL COMPOSITION TILE (VCT) FLOORING, AND EXISTING RESILIENT WALL BASE. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW FINISHES. CLEAN AND PREPARE EXISTING WALL SURFACE WHERE BASE HAS BEEN REMOVED FOR APPLICATION OF NEW RESILIENT WALL BASE.
5. REMOVE EXISTING WOOD paneled WAINSCOT APPLICATION INCLUDING STAINED WOOD PANELING, RESILIENT BASE AND STAINED WOOD CHAIR RAIL ELEMENT APPROXIMATELY 3'-2" HIGH. PREPARE EXISTING SUBSTRATE FOR INSTALLATION OF NEW CHAIR RAIL AND WAINSCOT.
6. REMOVE EXISTING WOOD INTERIOR DOOR AND STEEL FRAME IN PREPARATION FOR INSTALLATION OF NEW.
7. REMOVE EXISTING PAIR OF EXTERIOR STEEL DOORS AND STEEL FRAME IN PREPARATION FOR INSTALLATION OF NEW.
8. CLEAN EXISTING STEEL BAR DETENTION CELL SLIDING DOORS AND FRAME OF EXISTING PAINT, RUST, SCALE, ETC. IN PREPARATION FOR NEW PAINT APPLICATION.
9. REMOVE EXISTING DOOR AND FRAME IN PREPARATION FOR INSTALLATION OF NEW DOOR AND FRAME.



2 PARTIAL FLOOR PLAN  
DEMOLITION Scale: 3/16" = 1'-0"



MAUNELA  
BELANGA  
FAULKENBERRY  
ARCHITECTS, PA

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


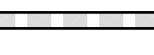
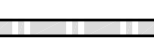
REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

DES. DLG	DR. JGH	CHK. WLF	SUBMITTED BY:	DESIGN DIR.	APPROVED: PWO OR OICC	DATE	SIZE	CODE	IDENT NO.	FLOOR PLAN: DEMOLITION	NAVFAC DRAWING NO.
							F	80091	60011816		
SATISFACTORY TO:										DATE	CONST. CONTR. NO. N40085-12-B-0066
SCALE: AS NOTED										SPEC. 05-12-0066	SHEET 07 OF 48

1 PARTIAL FLOOR PLAN  
DEMOLITION Scale: 3/16" = 1'-0"



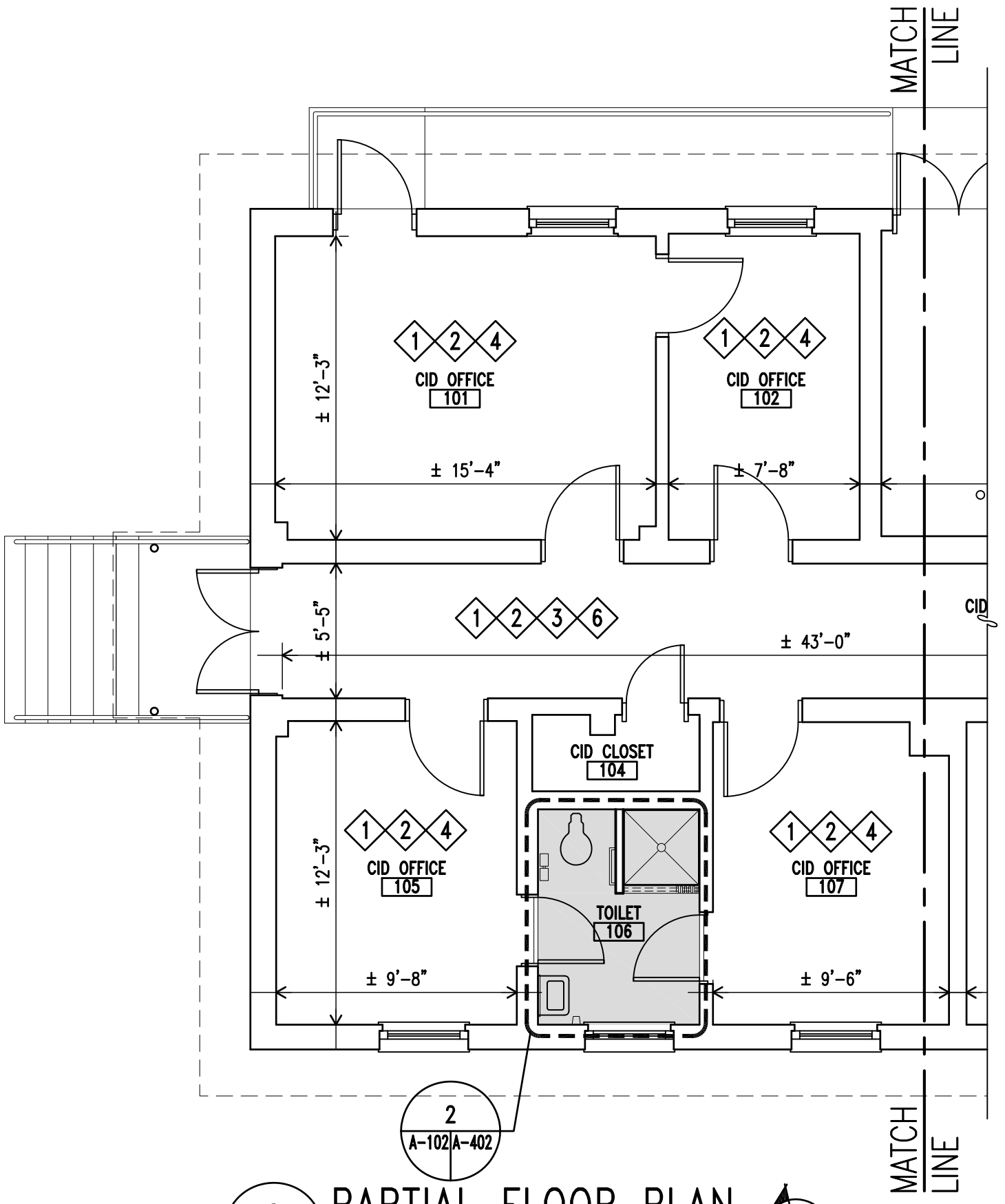
GENERAL NOTES

1. ALL ROOMS ARE SCHEDULED FOR RENOVATION WORK: SEE SPECIFIC CONSTRUCTION NOTES FOR EACH ROOM OR SPACE.
2.  TOILET ROOMS (SHADED IN PLAN) ARE SCHEDULED FOR FULL RENOVATION OF FIXTURES AND FINISHES. SEE SPECIFIC DEMOLITION AND CONSTRUCTION NOTES FOR ALL TOILET ROOMS AS INDICATED ON ENLARGED PLANS SHEETS A-401 AND A-402.
3. SERVER ROOM 123 SHALL REMAIN AVAILABLE TO BUILDING OCCUPANTS AND OPERATIONAL DURING THE ENTIRE SCOPE OF WORK.
4. PROVIDE NEW PAINT FINISH ON ALL EXISTING STEEL (ALL ARE STEEL UNLESS OTHERWISE NOTED) DOOR FRAMES, INCLUDING ALL INTERIOR AND EXTERIOR FRAMES.
5.  FOR THE WALLS INDICATED, PROVIDE 5/8" TYPE "X" GYPSUM BOARD SHEATHING EACH SIDE OF EXISTING STUD WALL (OR EXISTING FURRING STRIPS ON EXISTING CMU WALL) FROM ABOVE THE CEILING TO THE UNDERSIDE OF THE CONCRETE ROOF DECK, APPROXIMATELY 2'-2".
6.  2 HOUR FIRE RATED PARTITION: COMPRISES BOTH EXISTING AND NEW WALLS. PROVIDE FIRESTOPPING AS SPECIFIED FOR ALL PENETRATIONS.

KEYED CONSTRUCTION NOTES

APPLY TO THIS SHEET ONLY

- 1 PROVIDE NEW SUSPENDED ACOUSTICAL TILE CEILING SYSTEM: SEE REFLECTED CEILING PLAN SHEET A-103.
- 2 PROVIDE NEW PAINT APPLICATION ON EXISTING GYPSUM BOARD WALLS. PROVIDE PATCHING OF IMPERFECTIONS MADE BY REMOVAL OF EXISTING WALL MOUNTED ITEMS, ETC. PROVIDE A LEVEL 5 FINISH ON WALLS PRIOR TO PAINT APPLICATION. IN ROOMS SCHEDULED FOR NEW WOOD WAINSCOT INSTALLATION, PAINTING WORK PERTAINS ONLY TO PORTION OF WALL ABOVE WAINSCOT.
- 3 PROVIDE NEW VINYL COMPOSITION TILE (VCT) FLOORING APPLICATION OVER EXISTING CONCRETE SLAB.
- 4 PROVIDE NEW CARPET APPLICATION OVER EXISTING CONCRETE SLAB.
- 5 PROVIDE NEW PAINT APPLICATION ON EXISTING CONCRETE AND CONCRETE MASONRY WALLS (MECHANICAL ROOMS).
- 6 PROVIDE NEW WOOD WAINSCOT INSTALLATION WHERE EXISTING HAS BEEN REMOVED. PROVIDE NEW STAINED WOOD PANELING, STAINED WOOD CHAIR RAIL AND RESILIENT BASE AS DETAILED 1/A-105.
- 7 PROVIDE NEW DOOR(S) AND FRAME AS SCHEDULED.
- 8 PROVIDE NEW PAINT APPLICATION FOR EXISTING STEEL BAR TYPE DETENTION CELL SLIDING DOOR AND FRAME.
- 9 FOR THE LENGTH OF EXISTING WALL SHOWN, PROVIDE NEW 8" CONCRETE MASONRY ON TOP OF THE EXISTING 8" CONCRETE MASONRY WALL, FROM ABOVE THE CEILING TO THE UNDERSIDE OF THE EXISTING CONCRETE ROOF DECK, APPROXIMATELY 2'-2". TO PROVIDE A 2 HOUR FIRE RATED WALL.
- 10 PROVIDE NEW CONCRETE MASONRY WALL WITH DOOR AND FRAME AS SHOWN IN PLAN TO PROVIDE A 2 HOUR FIRE RATED WALL. MASONRY SHALL EXTEND TO THE UNDERSIDE OF THE EXISTING CONCRETE ROOF DECK ABOVE AND SHALL INTERFACE WITH EXISTING MASONRY WALLS ON EITHER SIDE (VAULT 124 AND DETENTION 121). CONSTRUCT CMU WALL ACCORDING TO UL ASSEMBLY U906.



2 PARTIAL FLOOR PLAN  
A-102A-102 CONSTRUCTION SCALE: 3/16"=1'-0"

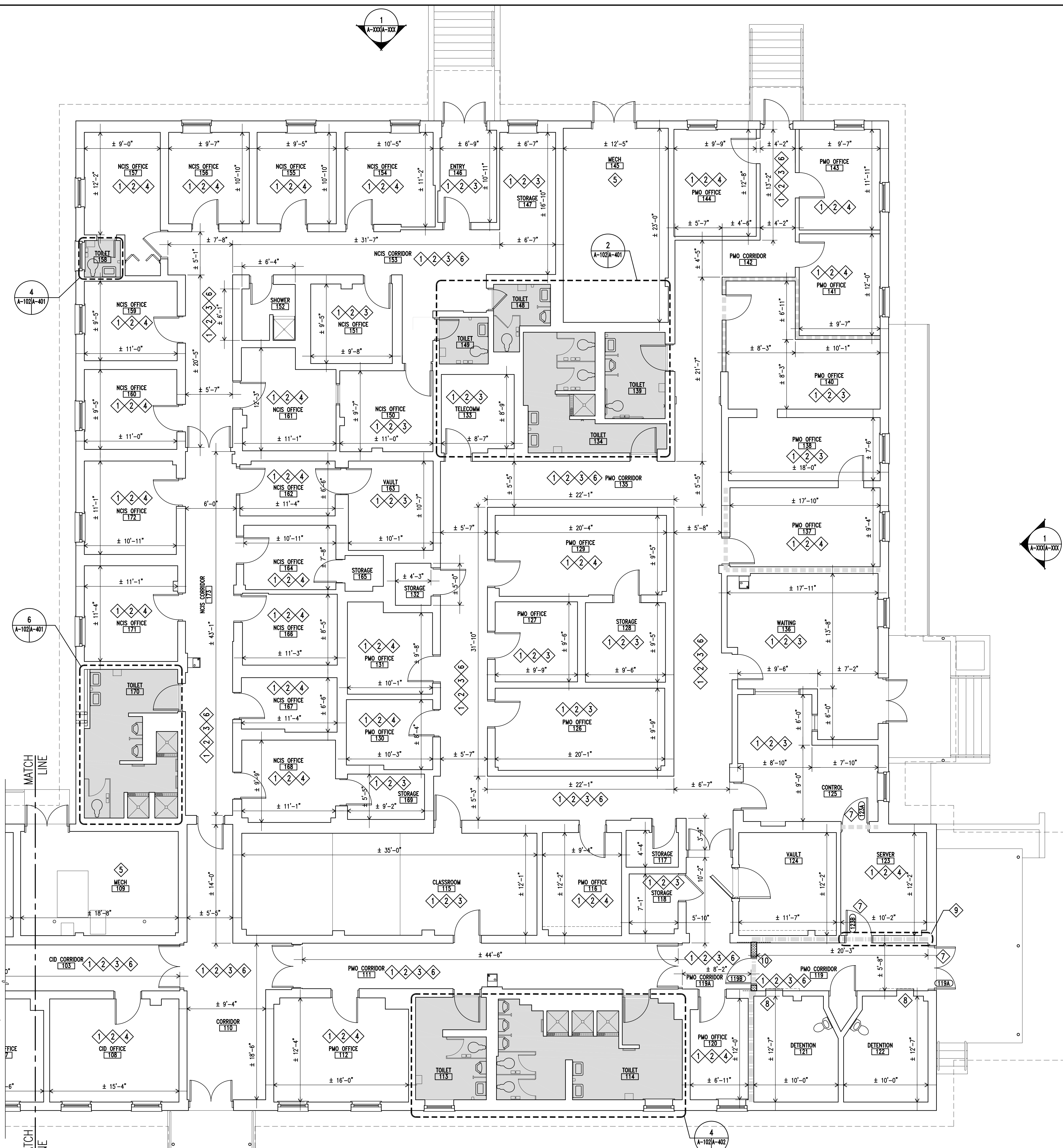


MAUNE  
BELANGA  
FAULKENBERRY  
ARCHITECTS, PA

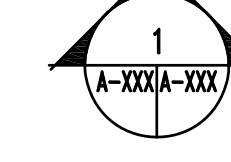
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND  
**MARINE CORPS BASE**  
CAMP LEJEUNE, NORTH CAROLINA

**REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302**

DES. DLG	DR. JGH	CHK. WLF	SUBMITTED BY:	DESIGN DIR.	APPROVED: PWO OR OICC	DATE	SIZE	CODE	IDENT NO.	NAVFAC DRAWING NO.
							F	80091	60011817	
SATISFACTORY TO:							DATE		CONST. CONTR. NO. N40085-12-B-0066	
SCALE: AS NOTED	SPEC. 05-12-0066								SHEET 08 OF 39	



1 PARTIAL FLOOR PLAN  
A-102A-102 CONSTRUCTION SCALE: 3/16"=1'-0"





CEILING CONSTRUCTION NOTES

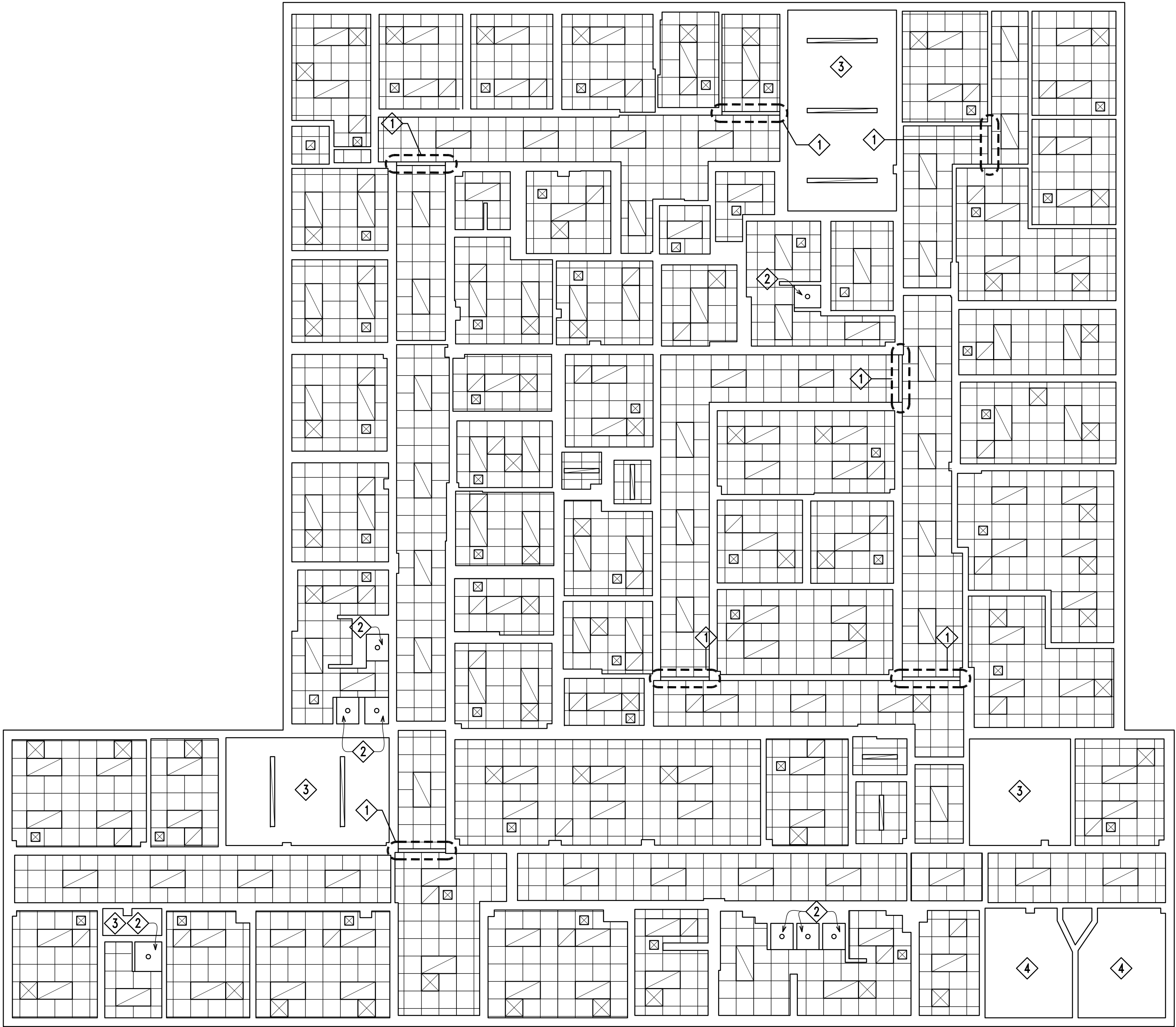
APPLY TO THIS SHEET ONLY

1. PROVIDE NEW 2'-0" x 2'-0" SUSPENDED ACOUSTICAL TILE CEILING SYSTEM INCLUDING ALL TILE, GRID, AND SUSPENSION COMPONENTS INCLUDING HANGERS, ETC. REQUIRED FOR A COMPLETE INSTALLATION.
2. COORDINATE WITH MECHANICAL AND ELECTRICAL PLANS FOR LOCATION OF ALL MECHANICAL DIFFUSERS, RETURNS, LIGHTING FIXTURES, ETC.
3. ALL NEW ACOUSTICAL TILE CEILING HEIGHTS SHALL BE 8'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

KEYED CONSTRUCTION NOTES

APPLY TO THIS SHEET ONLY

1. PROVIDE NEW 3 5/8" STEEL STUD AND GYPSUM BOARD BULKHEAD AT 7'-8" ABOVE FINISHED FLOOR AS INDICATED IN PLAN TO DIVIDE CEILING AREAS ABOVE. SUSPEND STUD FRAMING FROM EXISTING ROOF SLAB OVERHEAD AND SHEATH WITH GYPSUM BOARD TO 12" ABOVE CEILING HEIGHT ON EACH SIDE.
2. PROVIDE GYPSUM BOARD SOFFIT AND BULKHEAD AT 7'-0" ABOVE FINISHED FLOOR IN AREA ABOVE SHOWERS. SUSPEND STUD FRAMING FROM EXISTING ROOF SLAB OVERHEAD AND SHEATH BULKHEAD WITH GYPSUM BOARD TO 12" ABOVE CEILING HEIGHT ON EACH SIDE.
3. EXISTING CONCRETE CEILING (UNDERSIDE OF ROOF DECK ABOVE) TO REMAIN. PROVIDE NEW PAINT FINISH AS SCHEDULED.
4. EXISTING PLASTER CEILING TO REMAIN (DETENTION CELLS). PROVIDE NEW PAINT FINISH AS SCHEDULED.



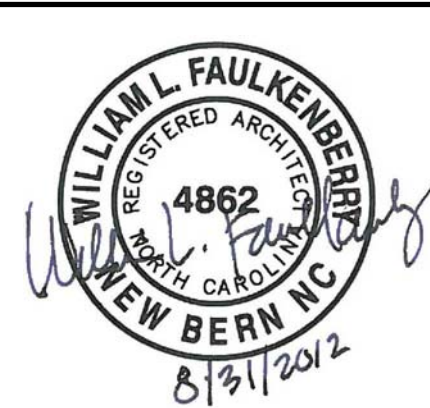
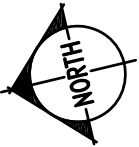
LEGEND

- OVERHEAD FIXTURE
- OVERHEAD FIXTURE
- SUPPLY DIFFUSER
- RETURN GRILLE
- RECESSED CAN LIGHT FIXTURE
- EXHAUST GRILLE
- VENTILATION SUPPLY DIFFUSER

SEE ELECTRICAL DRAWING SET  
FOR DESCRIPTIONS OF FIXTURES

1  
A-103A-103

REFLECTED CEILING PLAN  
Scale: 1/8" = 1'-0"



MAUNE  
BELANGIA  
FAULKENBERRY  
ARCHITECTS, P.A.

DES. DLG  
DR. JGH  
CHK. WLF  
SUBMITTED BY:  
DESIGN DIR.  
APPROVED: PWO OR OICC  
SATISFACTORY TO:

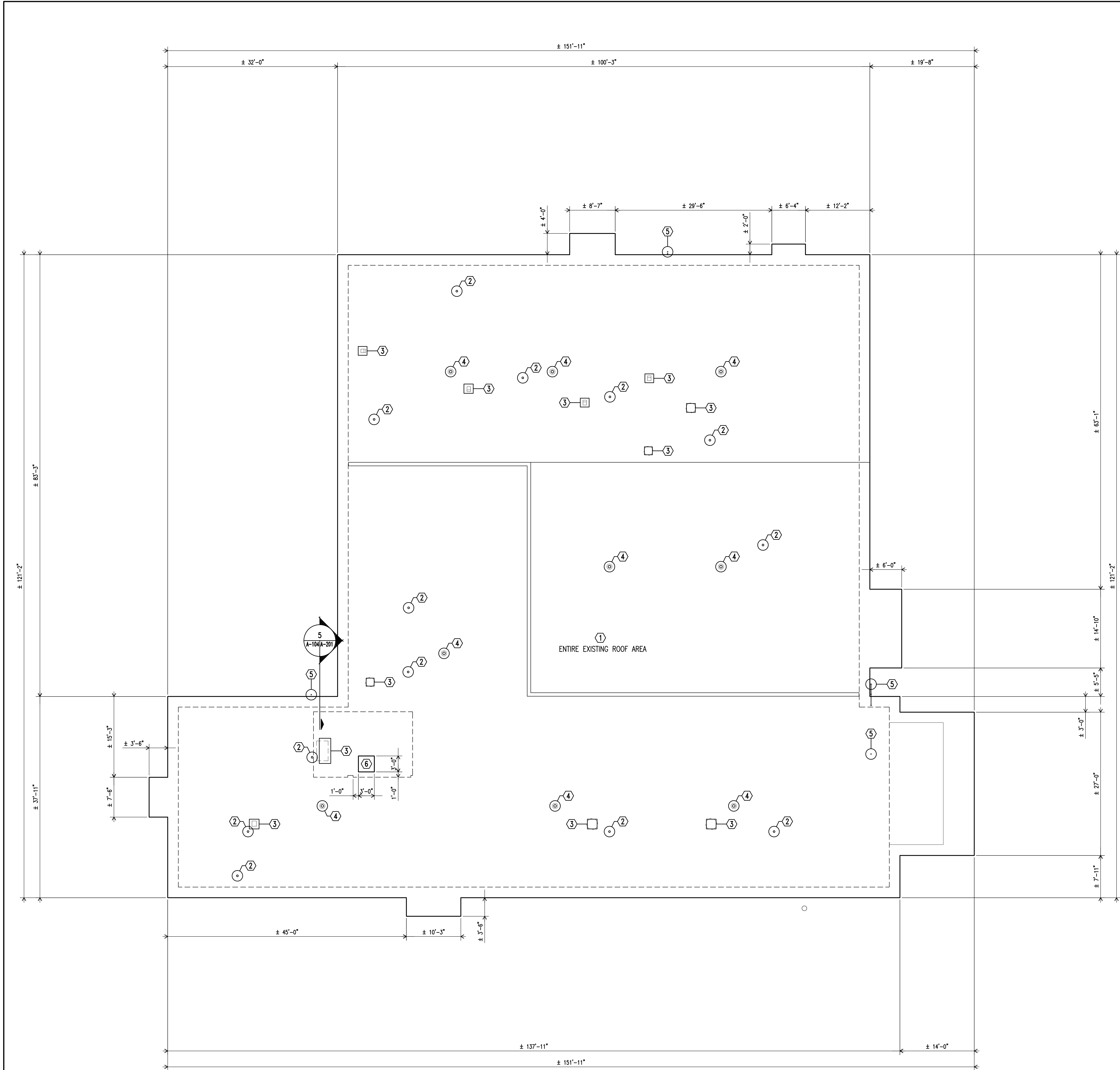
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

REFLECTED CEILING PLAN  
NAVFAC DRAWING NO.  
60011818  
CONST. CONTR. NO. N40085-12-B-0066  
SCALE: AS NOTED SPEC. 05-12-0066 SHEET 09 OF 39

A-103





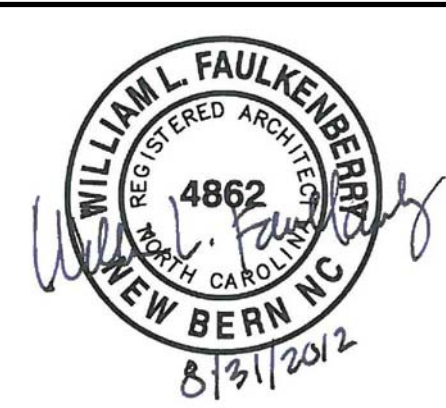
1  
A-103A-103

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

### KEYED DEMOLITION NOTES

APPLY TO THIS SHEET ONLY

- 1 REMOVE EXISTING MODIFIED BITUMINOUS ROOFING MEMBRANE SYSTEM COMPLETELY DOWN TO EXISTING CONCRETE DECK. SYSTEM IS KNOWN TO INCLUDE MULTIPLE PLY MODIFIED BITUMINOUS MEMBRANE AND TAPERED RIGID INSULATION, ENTIRE SYSTEM AS MUCH AS 8" THICK AT ROOF EDGES.
- 2 EXISTING PLUMBING VENT; SEE PLUMBING DRAWINGS FOR INFORMATION AS TO THE VENT SHALL REMAIN IN USE AND BE EXTENDED THROUGH THE NEW ROOF PLAN OR ABANDONED.
- 3 EXISTING MECHANICAL EQUIPMENT PENETRATION TO BE ABANDONED. SEE MECHANICAL DRAWING SET.
- 4 EXISTING ROOF DRAIN TO BE ABANDONED IN PLACE.
- 5 EXISTING ROOFTOP MOUNTED ANTENNA TO BE RELOCATED. COORDINATE WITH ROICC TO PROVIDE BUILDING USERS WITH TEMPORARY ANTENNA LOCATION FOR USE DURING ROOF DEMOLITION AND CONSTRUCTION WORK. SEE CONSTRUCTION PLAN SHEET A-105 FOR PERMANENT ANTENNA MOUNTING LOCATION.
- 6 DEMOLISH PORTION OF EXISTING CONCRETE ROOF DECK AS INDICATED IN PLAN TO ALLOW FOR INSTALLATION OF NEW ATTIC ACCESS HATCH.

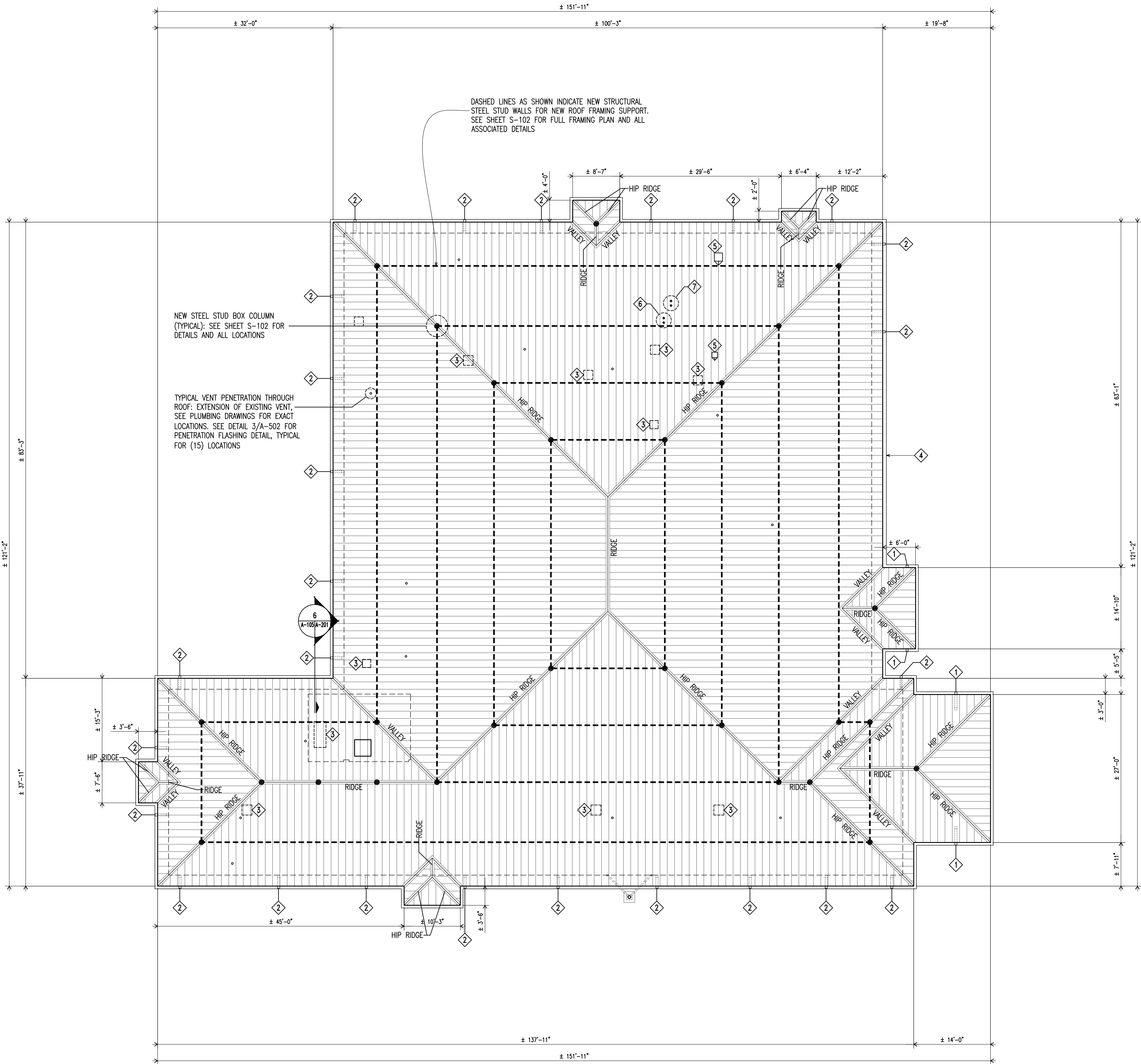


MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG	DR. JGH	CHIK. WLF	SUBMITTED BY:
DESIGN DIR.	APPROVED: PWO OR OICC	DATE	SIZE
SATISFACTORY TO:		DATE	CODE IDENT NO.
SCALE: AS NOTED		SPEC. 05-12-0066	
SHEET 10 OF 48		NAVAC DRAWING NO. 60011819	

A-104

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302



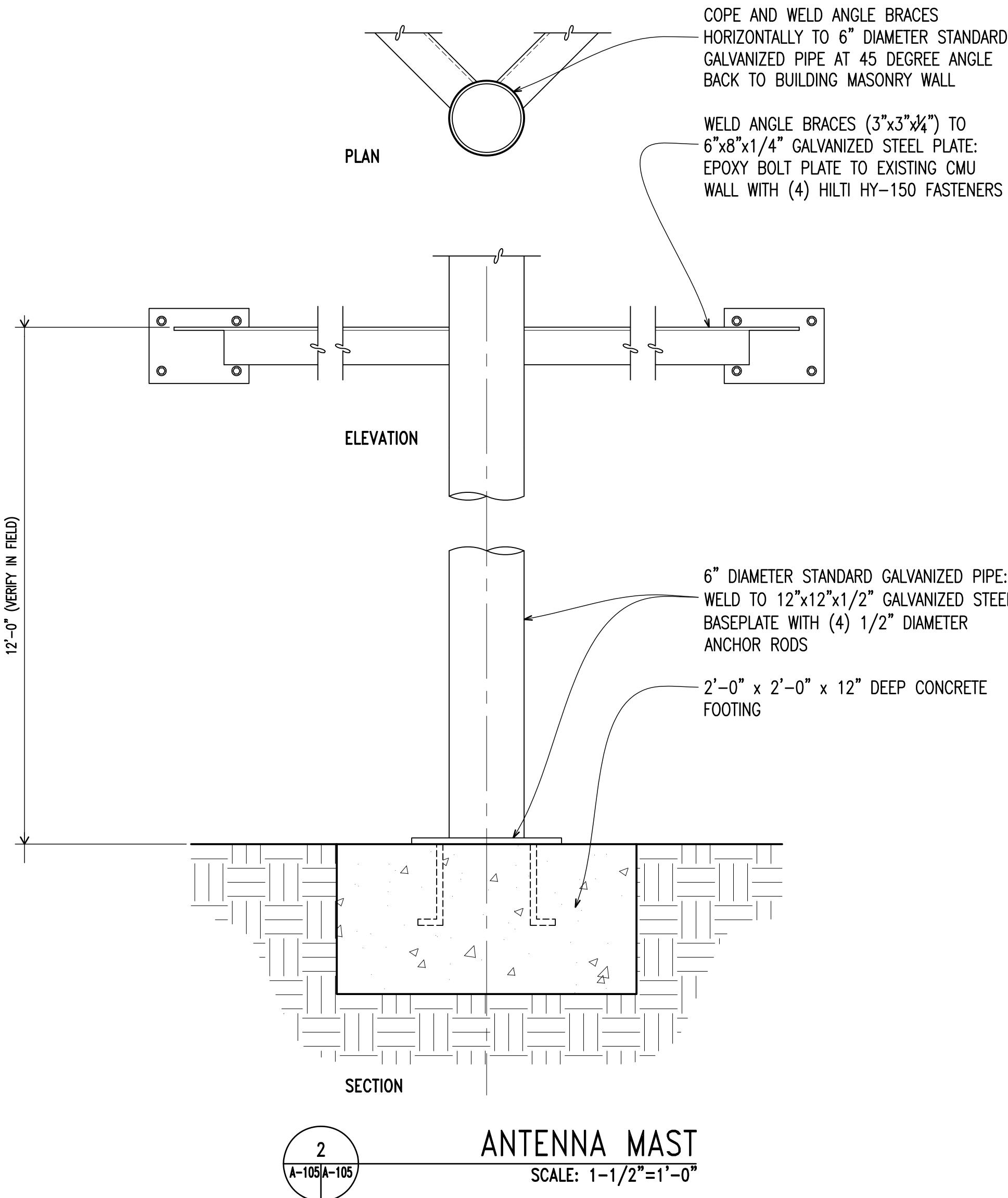


GENERAL NOTES

1. PROVIDE NEW STEEL STUD WALL FRAMING AND METAL DECKING AS SHOWN IN THE STRUCTURAL DRAWINGS TO PROVIDE NEW STANDING SEAM METAL PITCHED ROOF. PROVIDE HIPPED GEOMETRY AS SHOWN.
2. COORDINATE WITH PLUMBING AND MECHANICAL DRAWING SETS FOR LOCATIONS OF ALL NEW PLUMBING VENT PENETRATIONS AND MECHANICAL ROOFTOP PENETRATIONS.
3. SEE 1/A-502 FOR TYPICAL DETAIL AT RIDGE CAP AND/OR HIP RIDGE CAP.
4. SEE 2/A-502 FOR TYPICAL DETAIL AT VALLEY FLASHING.
5. SEE 3/A-502 FOR TYPICAL DETAIL AT PLUMBING VENT PENETRATION.
6. SEE 4/A-502 AND 5/A-502 FOR TYPICAL DETAILS AT RECTANGULAR CURB PENETRATION FLASHING.

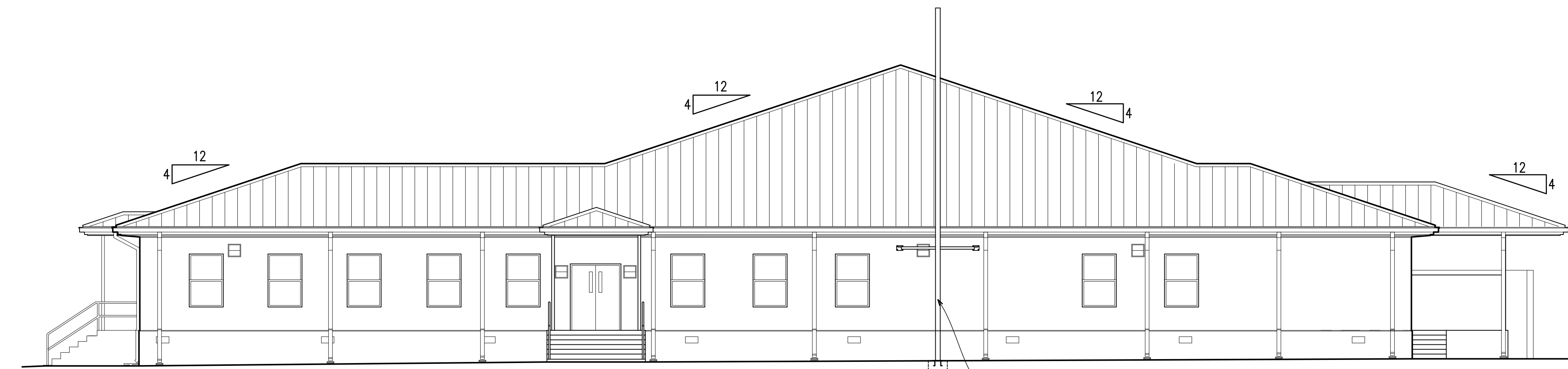
KEYED CONSTRUCTION NOTES

- APPLY TO THIS SHEET ONLY
1. DOWNSPOUT LOCATION: EXTEND BACK TO PORCH POST BEYOND AND DOWN TO GRADE. PROVIDE SPLASHBLOCK AT GRADE.
  2. DOWNSPOUT LOCATION: EXTEND BACK TO BUILDING EXTERIOR WALL BEYOND AND DOWN TO GRADE. PROVIDE SPLASHBLOCK AT GRADE.
  3. PROVIDE NEW STEEL PLATE CAP SECURED TO EXISTING CONCRETE ROOF DECK WHERE EXISTING MECHANICAL AND/OR VENTILATION EQUIPMENT HAS BEEN REMOVED. EXISTING OPENINGS ARE APPROXIMATELY 20" SQUARE EXCEPT FOR (1) THAT IS APPROXIMATELY 26" X 57". PROVIDE 1/4" STEEL PLATE 4" LARGER (ON EACH SIDE) THAN OPENING TO BE CAPPED AND SECURE TO EXISTING CONCRETE DECK WITH SELF TAPPING CONCRETE SCREWS AT 8" O.C. MAXIMUM.
  4. FOR PORTION OF GUTTER INDICATED IN PLAN, GUTTER SECTION SHALL BE 8" HIGH X 8" DEEP.
  5. NEW CURBED ROOF PENETRATION: SEE DETAIL 5/A-502 FOR FLASHING CONDITION.
  6. NEW HOT STACK PIPE PENETRATION THROUGH ROOF: SEE DETAIL 7/A-502 FOR FLASHING CONDITION.
  7. NEW COMBUSTION AIR INTAKE VENTS: SEE DETAIL 3/A-502 FOR FLASHING DETAIL, EXCEPT AIR INTAKE VENTS SHALL ALSO HAVE ROOF CAPS AS SPECIFIED.



		<b>A-105</b>	
		<b>MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA</b>	
DES. DLG DR. JGH CHK. WLF SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302</b> RENOVATION ROOF PLAN NAVFAC DRAWING NO. <b>60011820</b> CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 11 OF 48	





1  
A-104/A-201  
WEST EXTERIOR ELEVATION  
SCALE: 1/8"=1'-0"

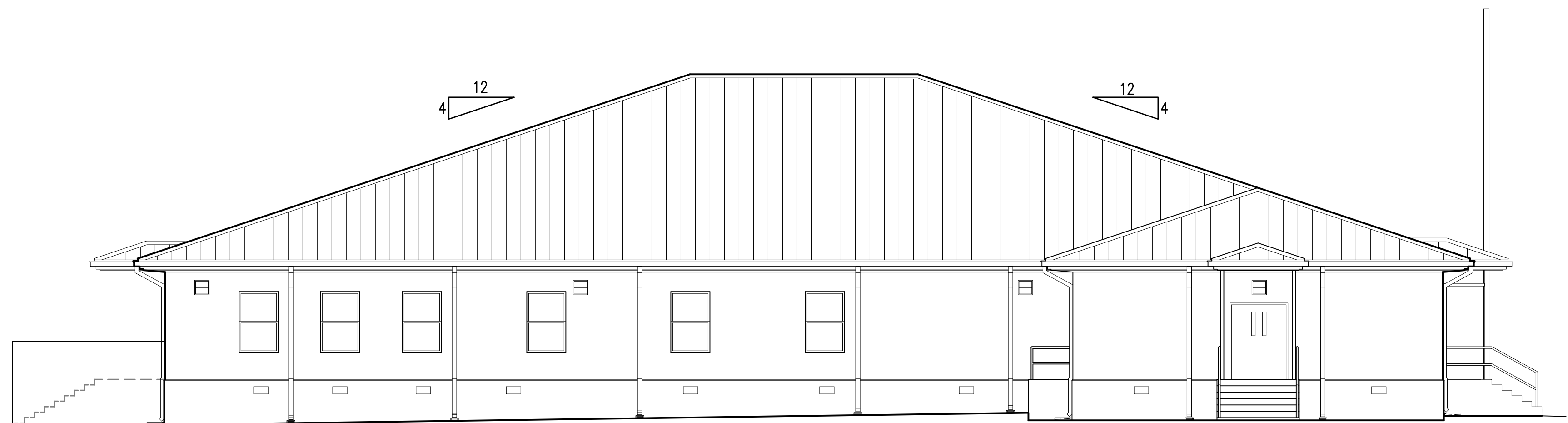
SEE ROOF PLAN 1/A-105 AND DETAIL 2/A-105 FOR  
LOCATION AND DETAILS REGARDING NEW ANTENNA MAST



2  
A-104/A-201  
SOUTH EXTERIOR ELEVATION  
SCALE: 1/8"=1'-0"



3  
A-104/A-201  
EAST EXTERIOR ELEVATION  
SCALE: 1/8"=1'-0"



4  
A-104/A-201  
NORTH EXTERIOR ELEVATION  
SCALE: 1/8"=1'-0"

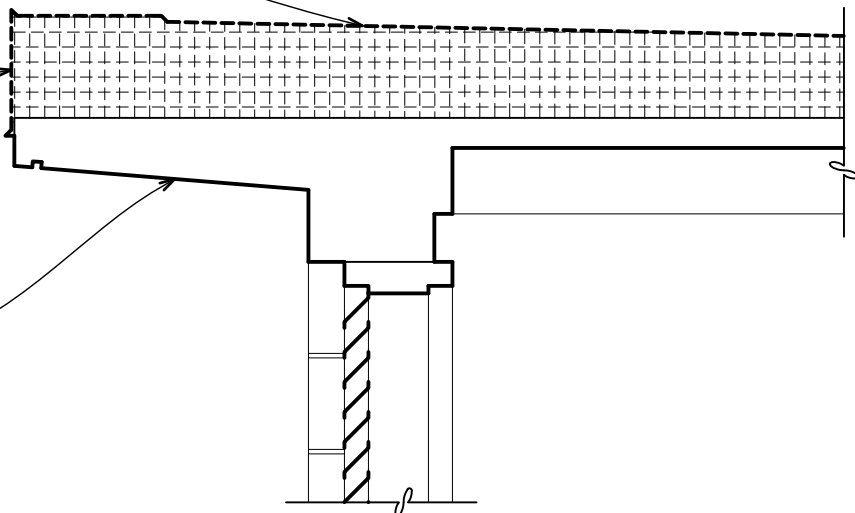
## GENERAL NOTES

1. PROVIDE NEW EXTERIOR PAINT FINISHES ON: ALL EXISTING EXTERIOR CONCRETE MASONRY WALLS, INCLUDING ALL WINDOW SILLS AND MASONRY JAMBS ADJACENT TO WINDOWS; ALL AREAS OF EXISTING CONCRETE FOUNDATION WALL ABOVE GRADE, ENTIRE PERIMETER: ALL AREAS OF EXISTING CONCRETE SOFFIT AT ROOF EDGE ( $\pm$  2'-0" DEEP, ENTIRE PERIMETER) AND THE UNDERSIDE OF ALL EXISTING CONCRETE PORCHES; FACES OF EXISTING CONCRETE ACCESS RAMPS AND STEPS (NOT INCLUDING WALKING SURFACES, ONLY SIDES AND FACES OF RISERS); ALL EXISTING PREVIOUSLY PAINTED STEEL POSTS SUPPORTING PORCHES; ALL EXISTING EXTERIOR STEEL DOOR FRAMES, INCLUDING LOUVERS; AND ALL PORTIONS OF EXISTING CONCRETE ROOF EDGE LEFT EXPOSED AFTER INSTALLATION OF NEW ROOFING FASCIA (SEE ROOF EDGE DETAILS SHEET A-201).
2. COORDINATE WITH PLUMBING AND MECHANICAL DRAWING SETS FOR LOCATIONS OF ALL NEW PLUMBING VENT PENETRATIONS AND MECHANICAL ROOFTOP PENETRATIONS.

COMPLETELY REMOVE EXISTING MULTIPLE PLY MODIFIED BITUMINOUS ROOFING MEMBRANE SYSTEM DOWN TO EXISTING CONCRETE DECK, INCLUDING ALL MEMBRANE LAYERS, TAPERED RIGID INSULATION BOARD, PERIMETER FLASHINGS, ETC. SEE DEMOLITION ROOF PLAN SHEET A-104

REMOVE EXISTING METAL FASCIA AT PERIMETER AND ALL ASSOCIATED BLOCKING, CLIPS, CLEATS, ETC. EXACT CONFIGURATION IS UNKNOWN

EXISTING CANTILEVERED CONCRETE ROOF DECK TO REMAIN



5  
A-104/A-201  
ROOF EDGE SECTION  
SCALE: 3/4"=1'-0"

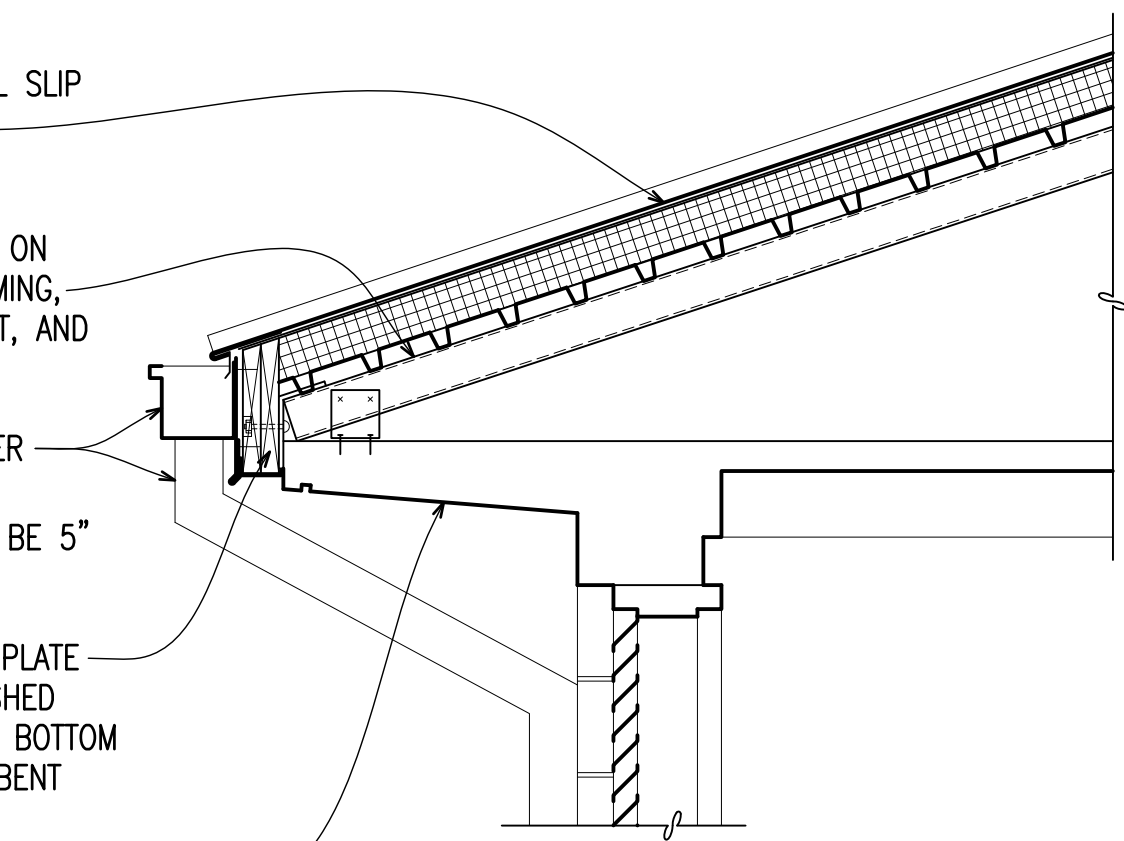
STANDING SEAM METAL ROOFING: INSTALL SLIP SHEET BETWEEN ROOFING AND 3-1/2" POLYISOCYANURATE INSULATION BOARD

SEE STRUCTURAL DRAWINGS FOR DETAIL ON METAL DECK, COLD FORMED METAL FRAMING, STEEL BENT PLATE FOR FASCIA SUPPORT, AND ALL ASSOCIATED ANCHORS

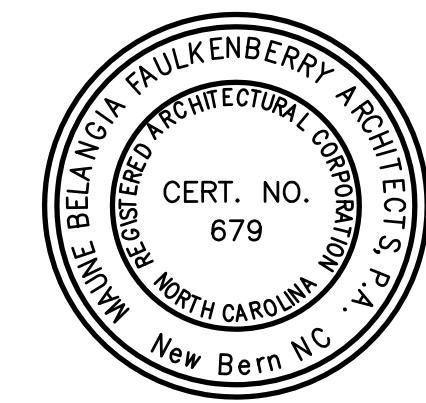
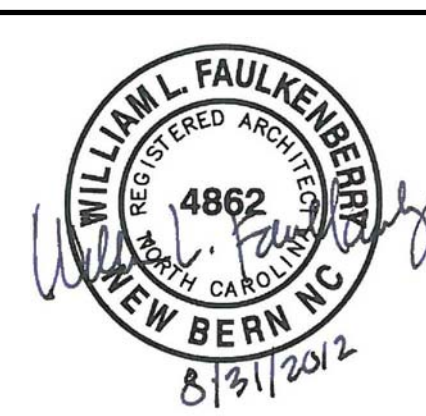
METAL GUTTER AND DOWNSPOUTS: GUTTER SHALL BE 6" WIDE x 6" DEEP UNLESS OTHERWISE NOTED: DOWNSPOUTS SHALL BE 5" SQUARE

DOUBLE 2X12 FASCIA BOLTED TO BENT PLATE AS INDICATED: WRAP FASCIA IN PREFINISHED METAL WITH FORMED DRIP EDGE AT THE BOTTOM AS SHOWN. SEE STRUCTURAL SET FOR BENT PLATE

EXISTING CANTILEVERED CONCRETE ROOF DECK TO REMAIN: PAINT



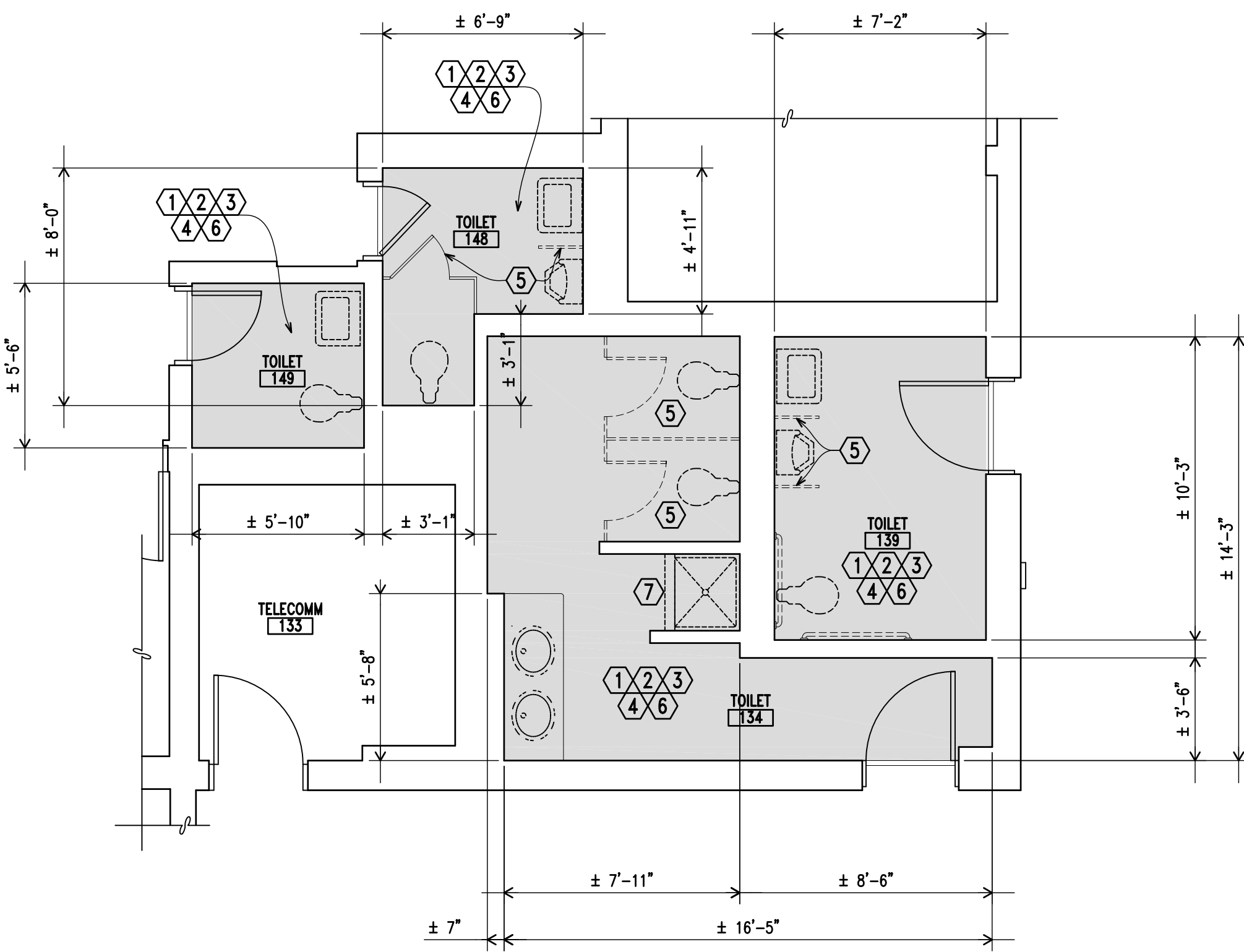
6  
A-105/A-201  
ROOF EDGE SECTION  
SCALE: 3/4"=1'-0"



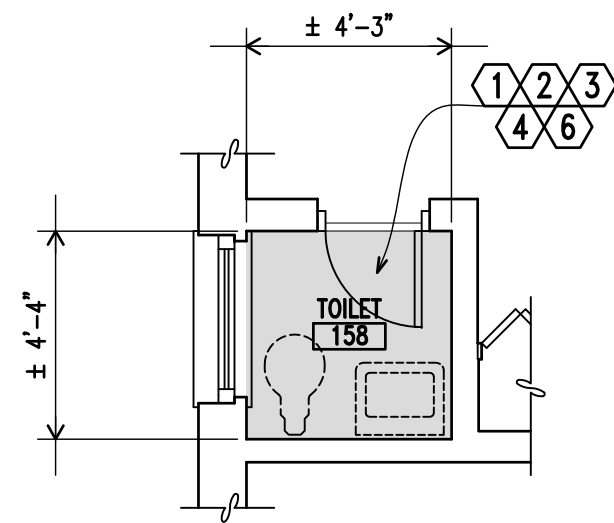
A-201			
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, P.A.	DES. DLG DR. JGH CHK. WLF SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:	DATE DATE DATE	SIZE CODE IDENT NO. NAVFAC DRAWING NO. 60011821 CONST. CONTR. NO. N40085-12-B-0066
REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302		EXTERIOR ELEVATIONS	
SCALE: AS NOTED		SPEC. 05-12-0066	

A-201

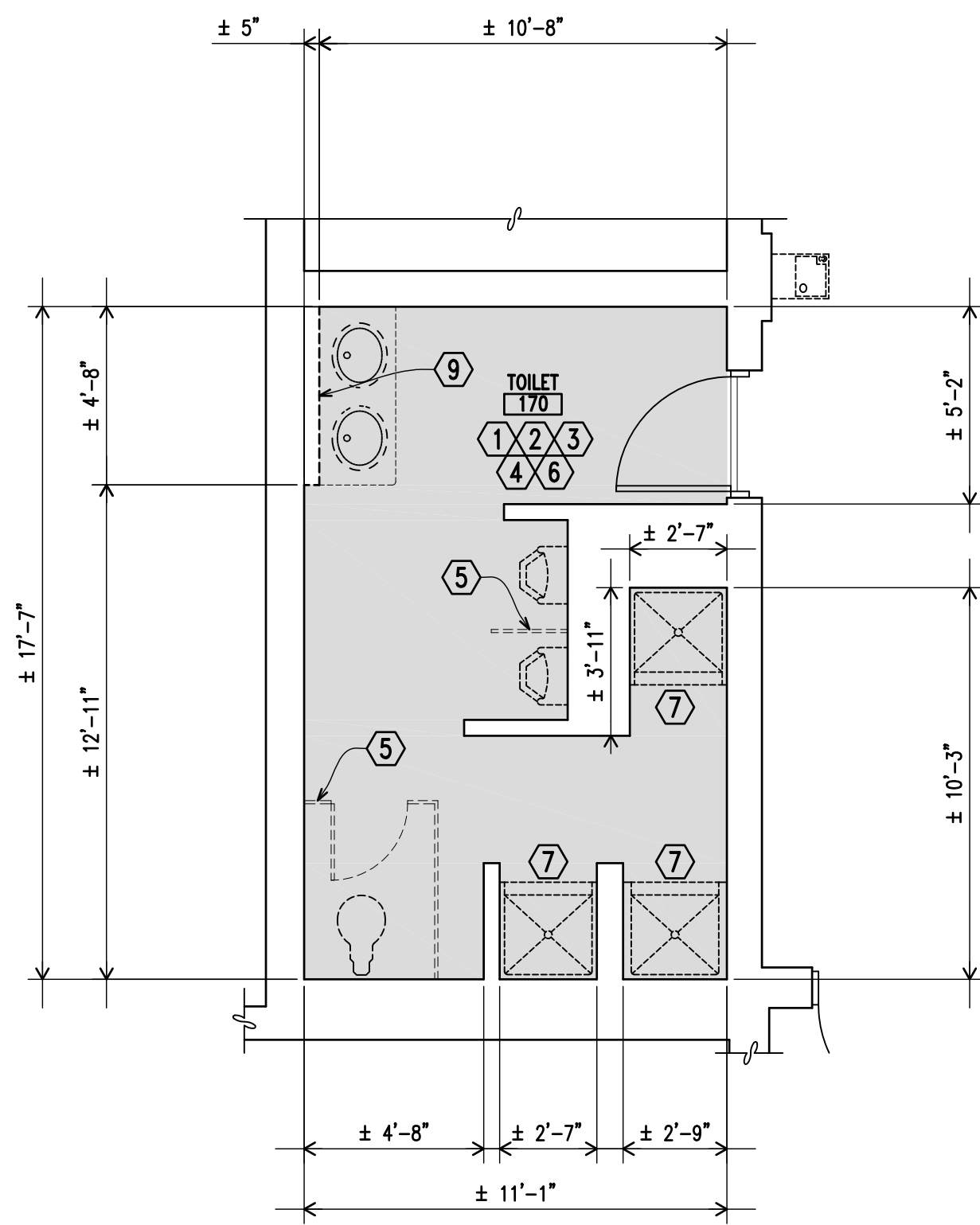




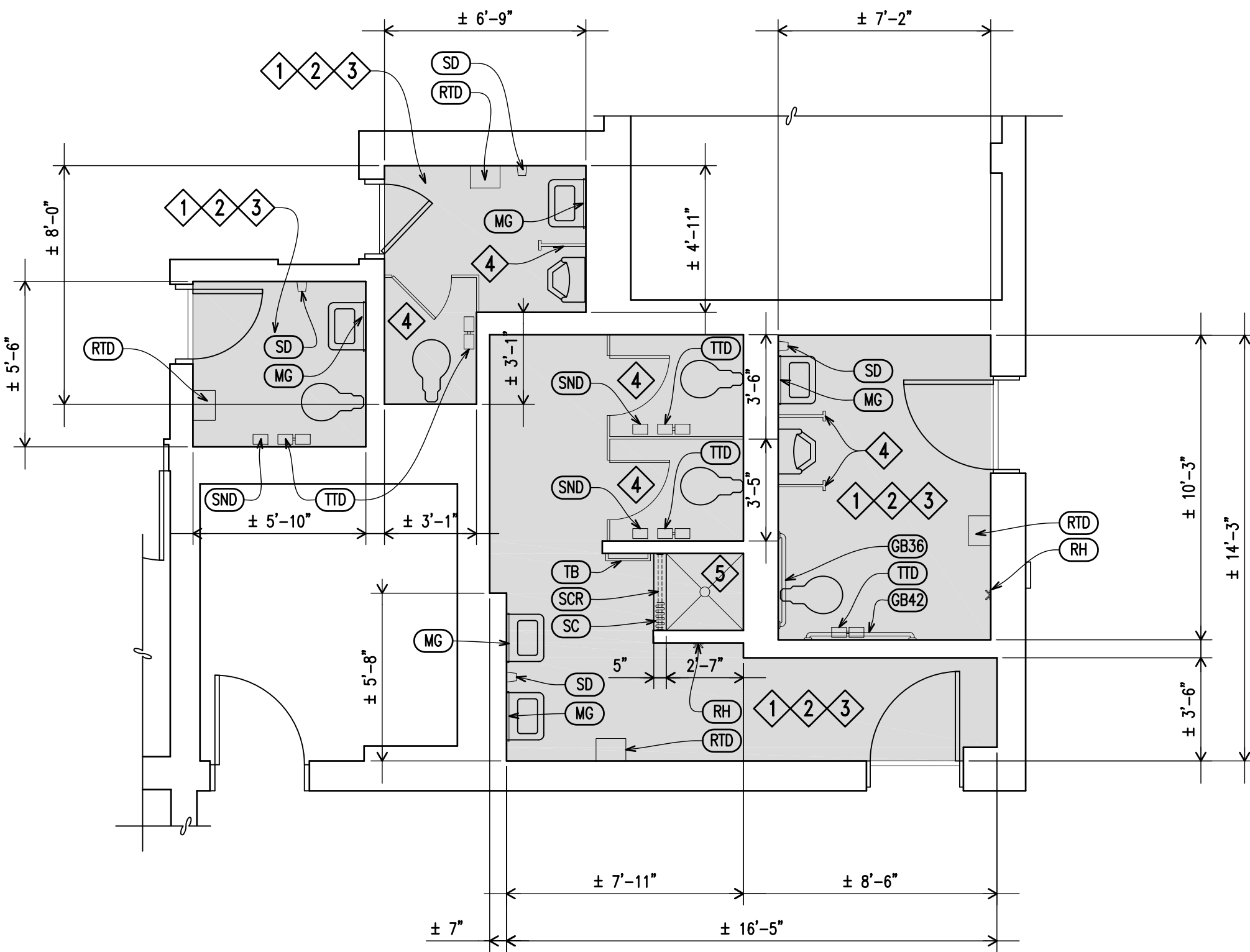
1 ENLARGED FLOOR PLAN  
A-101A-401 DEMOLITION Scale: 1/4" = 1'-0"



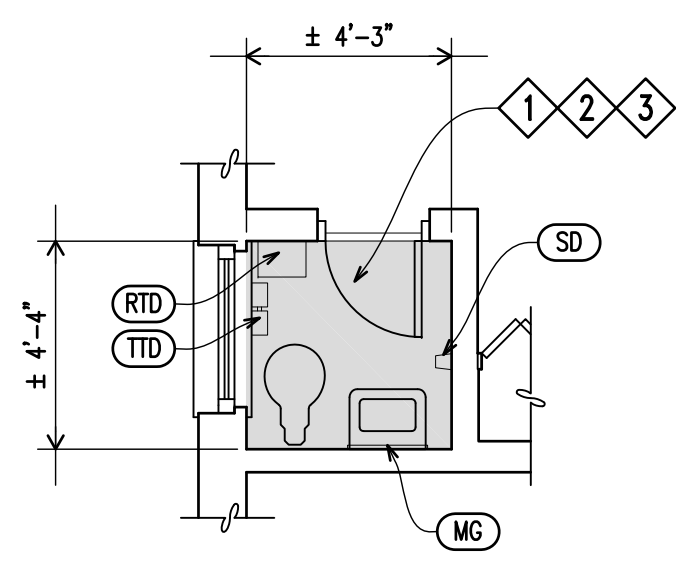
3 ENLARGED FLOOR PLAN  
A-101A-401 DEMOLITION Scale: 1/4" = 1'-0"



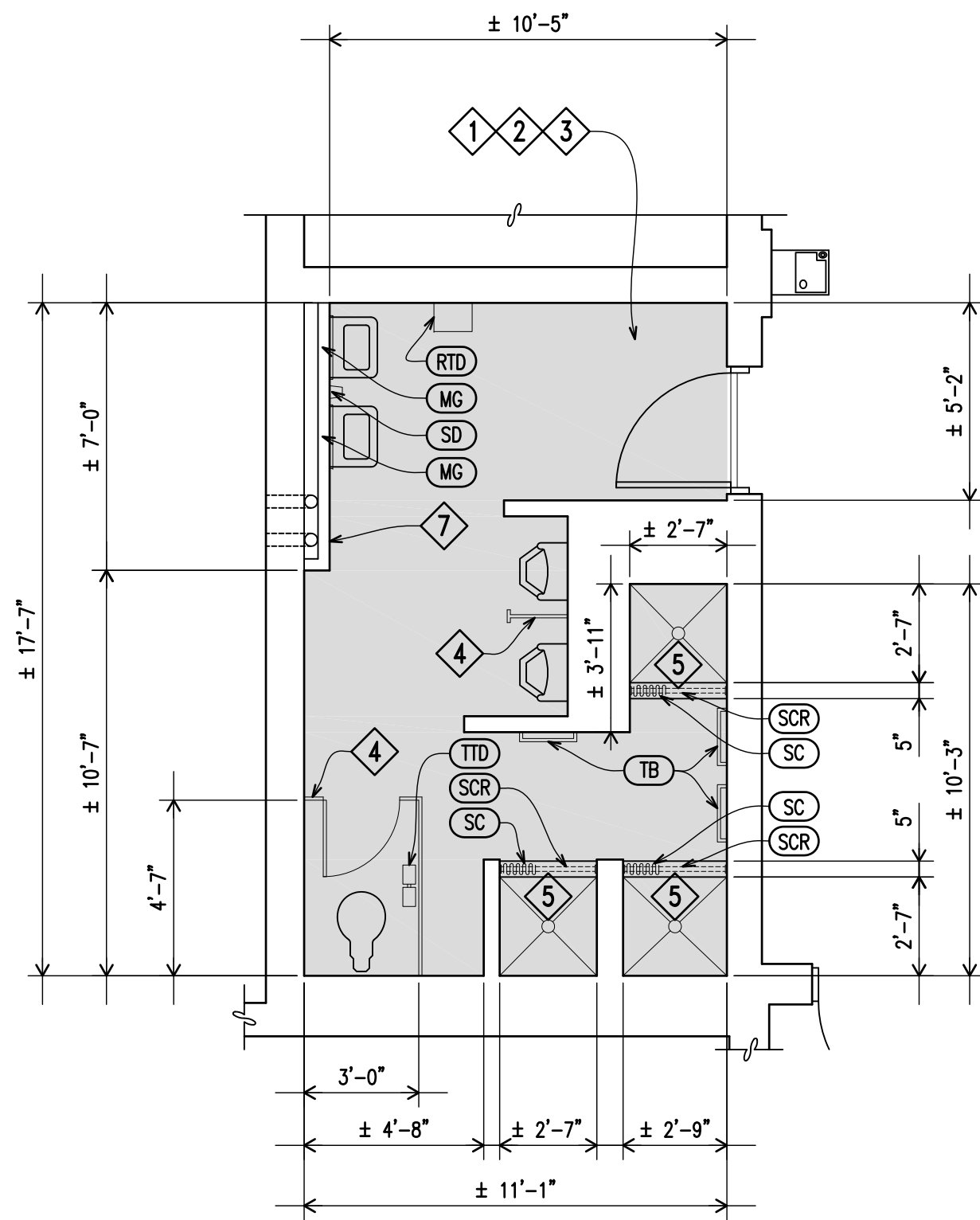
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A-101A-401 DEMOLITION Scale: 1/4" = 1'-0"



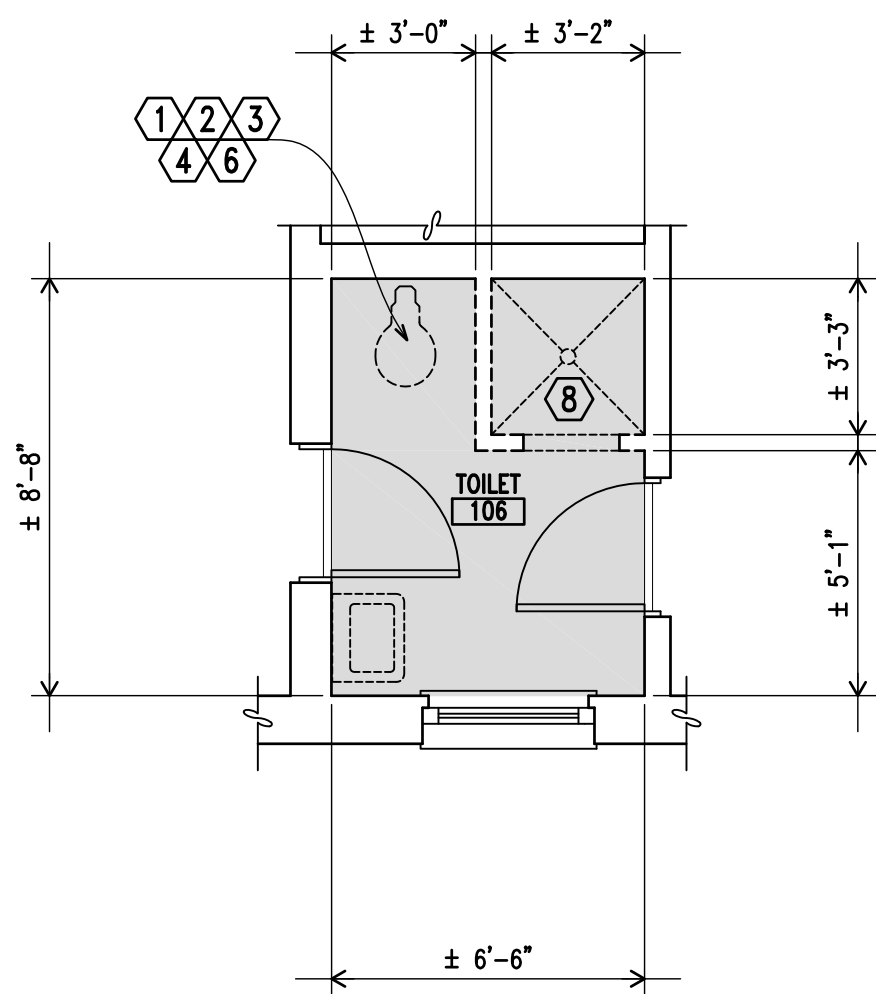
2 ENLARGED FLOOR PLAN  
A-102A-401 CONSTRUCTION Scale: 1/8" = 1'-0"



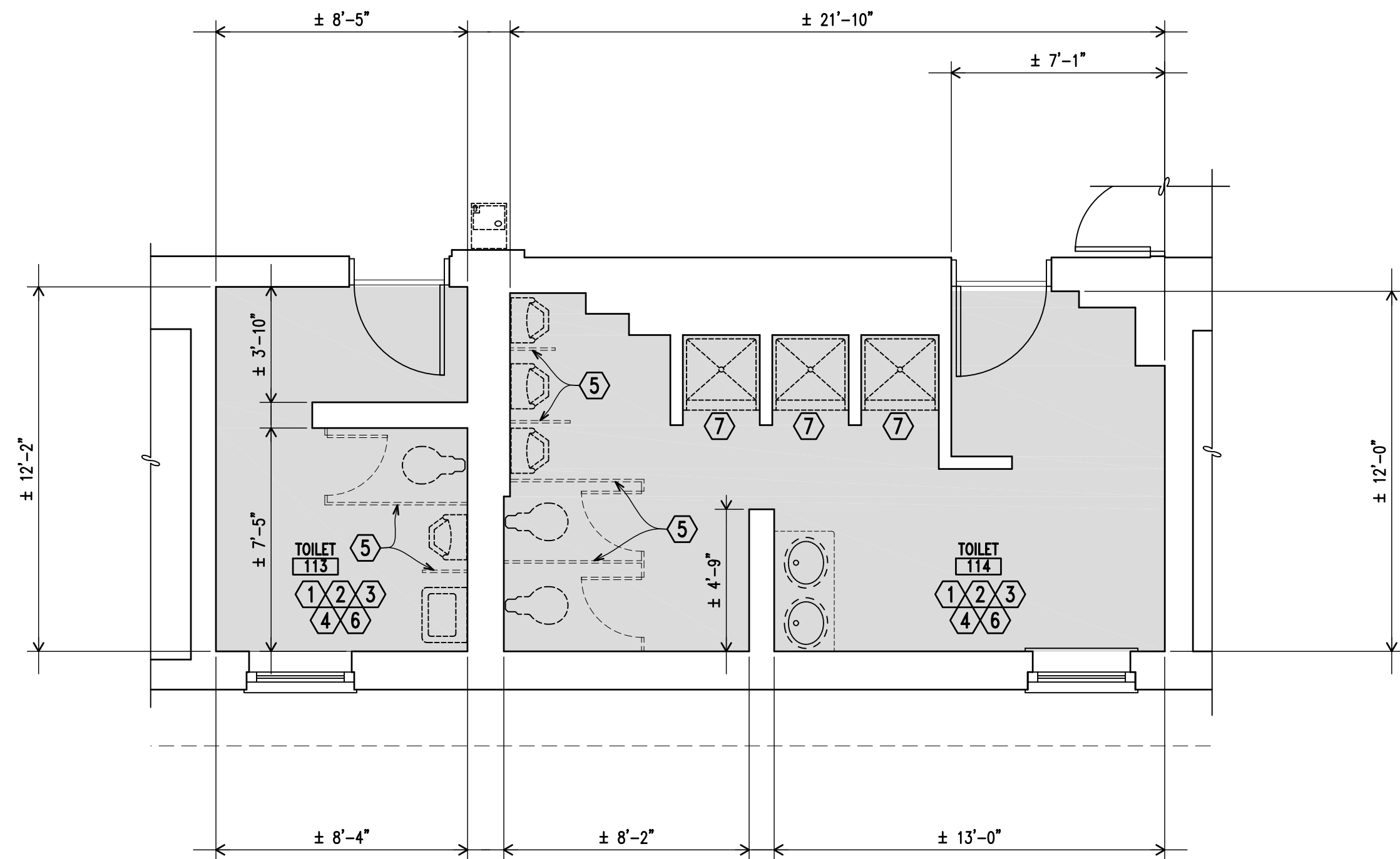
4 ENLARGED FLOOR PLAN  
A-102A-401 CONSTRUCTION Scale: 1/4" = 1'-0"



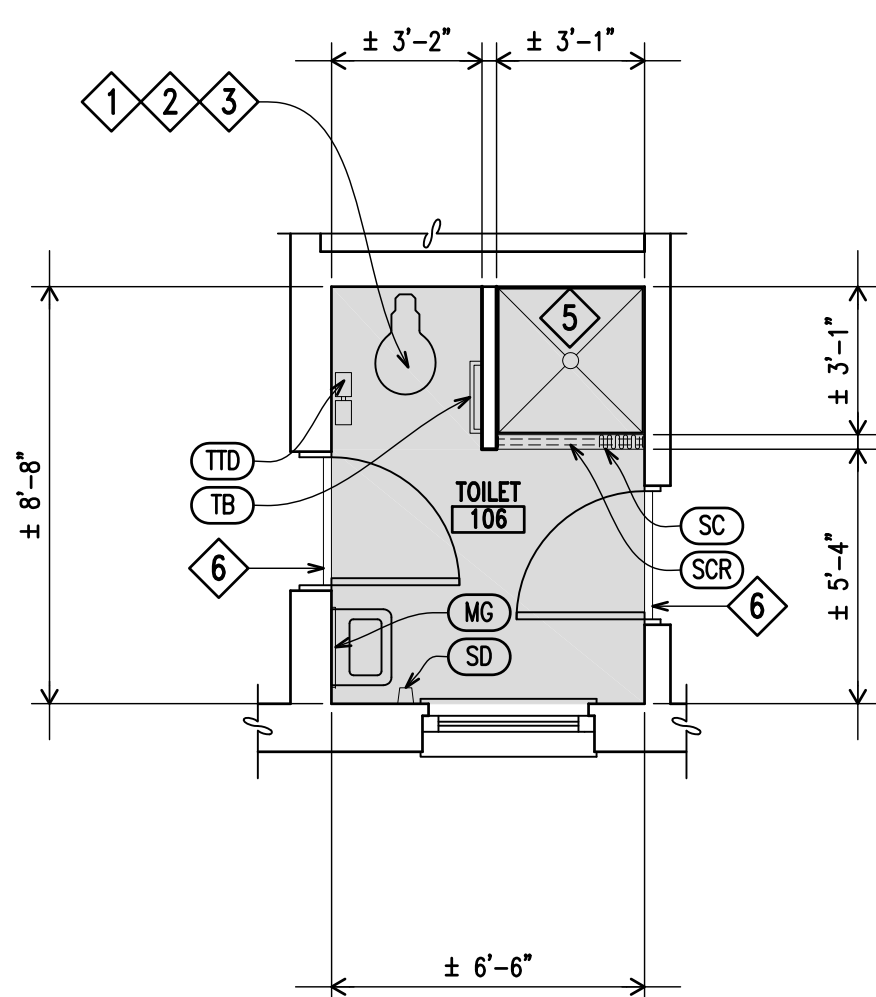




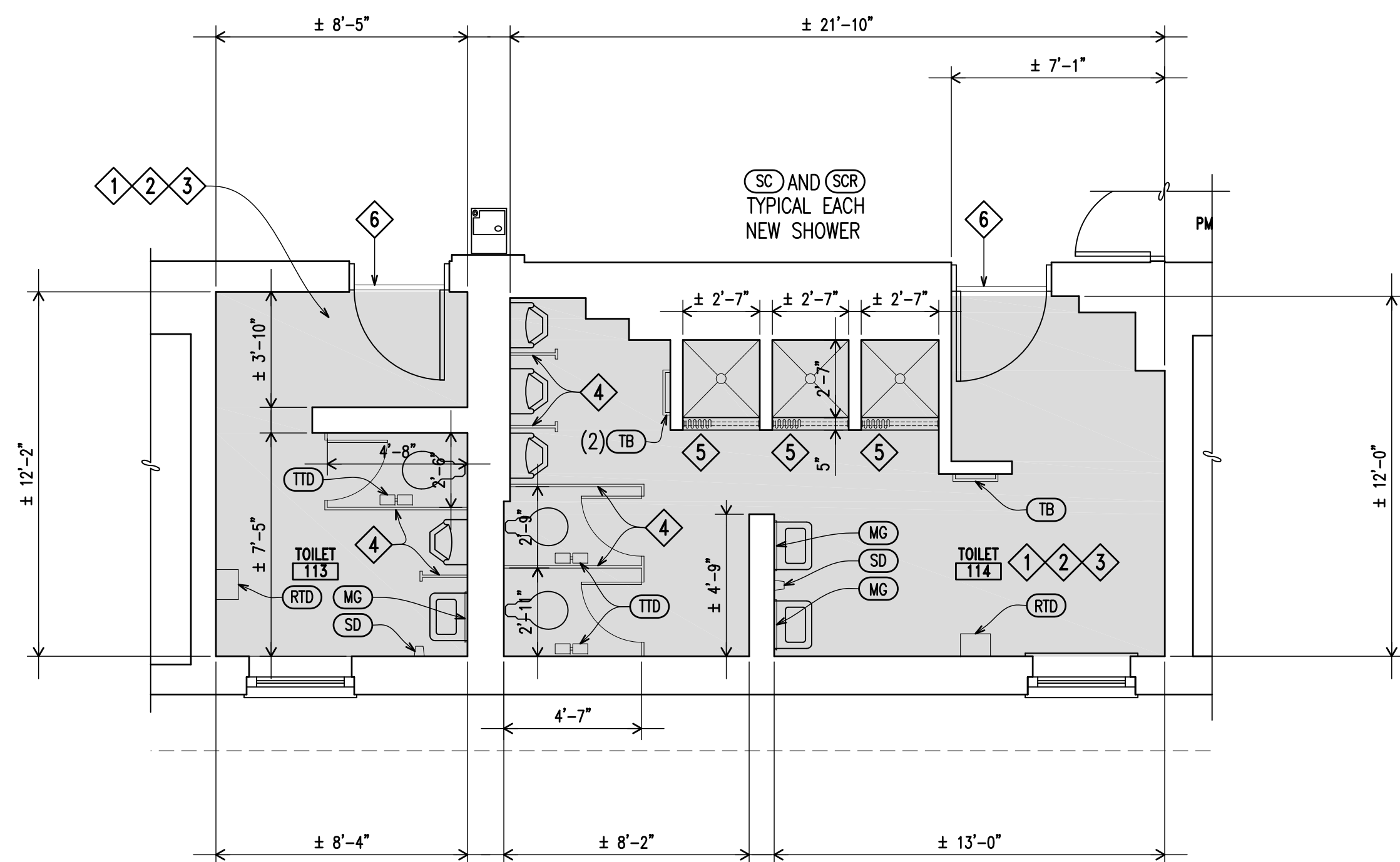
1  
A-101A-402  
DEMOLITION  
Scale: 1/4" = 1'-0"



3  
A-101A-402  
DEMOLITION  
Scale: 1/4" = 1'-0"



2  
A-102A-402  
CONSTRUCTION  
Scale: 1/4" = 1'-0"



4  
A-102A-402  
CONSTRUCTION  
Scale: 1/4" = 1'-0"

## GENERAL NOTES

- DEMOLITION AND CONSTRUCTION NOTES APPLY TO SHEETS A-401 AND A-402, WITH REGARD TO RESTROOM RENOVATIONS. NOT ALL NOTATION APPLIES TO EACH RESTROOM: SEE INDIVIDUAL RESTROOM DEMOLITION AND CONSTRUCTION PLANS FOR SPECIFIC NOTATION THAT APPLIES.
- THE SCOPE OF RESTROOM RENOVATIONS IS LIMITED TO REPLACEMENT OF FIXTURES AND FINISHES IN KIND, AND DOES NOT INCLUDE COMPLETE RE-DESIGN OF ROOM LAYOUTS FOR ACCESSIBILITY OR OTHER CONSIDERATIONS. NEW SHOWERS AND TOILET COMPARTMENTS MAY BE SLIGHTLY DIFFERENT IN FINAL SIZE THAN EXISTING, WITHIN THE LIMITS OF EXISTING WALL LOCATIONS.
- PROVIDE NEW TOILET ACCESSORIES AS INDICATED IN PLAN AND DESCRIBED IN THE TOILET ACCESSORIES SCHEDULE ON SHEET A-401.

## KEYED DEMOLITION NOTES

APPLY TO THIS SHEET ONLY

- REMOVE EXISTING SUSPENDED ACOUSTICAL TILE CEILING SYSTEM INCLUDING ALL EXISTING TILES, GRID AND ALL ASSOCIATED SUPPORT HANGERS AND/OR WIRES.
- COMPLETELY REMOVE ALL EXISTING GYPSUM WALLBOARD, ALL WALLS, ENTIRE ROOM DOWN TO EXISTING STUD WALLS IN PREPARATION FOR NEW GYPSUM BOARD APPLICATION. EXISTING WALL STRUCTURE FOR EACH WALL IS UNKNOWN AND MAY BE STEEL OR WOOD STUDS, OR EXISTING FURRING STRIPS ON EXISTING CONCRETE MASONRY WALLS. RESTROOM WALLS INCLUDE CERAMIC TILE WAINSCOT OF APPROXIMATELY 5'-4" ABOVE FINISHED FLOOR.
- REMOVE EXISTING CERAMIC MOSAIC TILE FLOORING AND EXISTING MUD BED IN PREPARATION FOR INSTALLATION OF NEW TILE FLOORING. CONTRACTOR SHALL PRESUME THE EXISTENCE OF A SLAB DEPRESSION. CLEAN AND PREPARE EXISTING CONCRETE SLAB FOR NEW TILE AND MUD BED INSTALLATION.
- REMOVE ALL EXISTING TOILET ACCESSORIES FROM RESTROOM, INCLUDING BUT NOT LIMITED TO: SOAP DISPENSERS, TOWEL DISPENSERS, TOILET TISSUE HOLDERS, GRAB BARS, TOWEL BARS, ETC. THAT EXIST IN RESTROOMS. EXISTING ACCESSORIES ARE NOT INDIVIDUALLY AND SPECIFICALLY INDICATED FOR DEMOLITION IN EACH RESTROOM PLAN.
- COMPLETELY REMOVE ALL EXISTING TOILET PARTITIONS AND URINAL SCREENS WHERE THEY EXIST (INDICATED IN PLAN).
- REMOVE ALL EXISTING PLUMBING FIXTURES IN EACH RESTROOM, INCLUDING WATER CLOSETS, WALL MOUNTED LAVATORIES OR COUNTER MOUNTED LAVATORIES (AND COUNTERS) WHERE THEY EXIST, URINALS, SHOWER FIXTURES, ETC. COORDINATE WITH PLUMBING DRAWINGS.
- REMOVE EXISTING FIBERGLASS SHOWER PAN AND SURROUND AND WALLBOARD SUBSTRATE IN ALL SHOWER STALLS.
- REMOVE EXISTING CERAMIC TILED SHOWER STALL AND ENCLOSING WALLS COMPLETELY, INCLUDING EXISTING CERAMIC MOSAIC TILED SHOWER PAN.
- REMOVE EXISTING STEEL STUD AND GYPSUM BOARD FURRED AREA BEHIND LAVATORIES IN PREPARATION FOR NEW FURRED AREA.

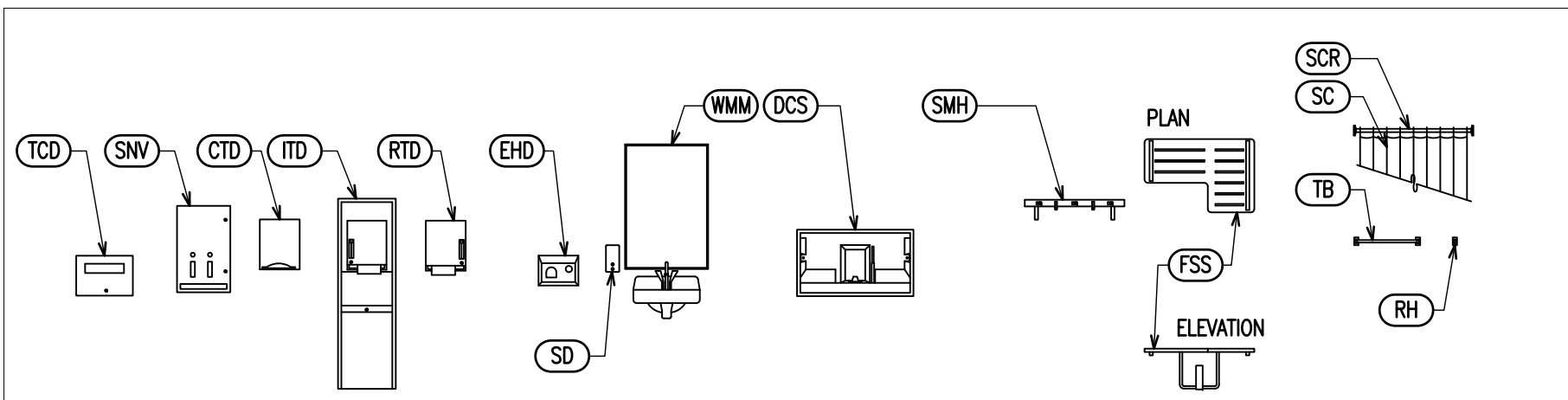
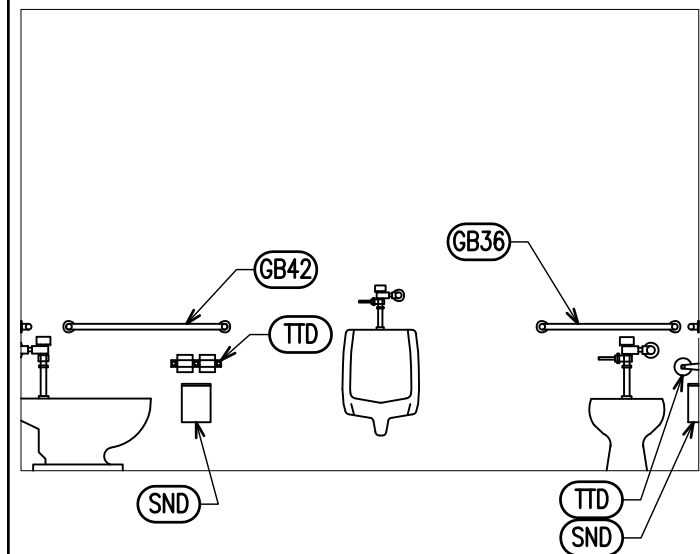
## KEYED CONSTRUCTION NOTES

APPLY TO THIS SHEET ONLY

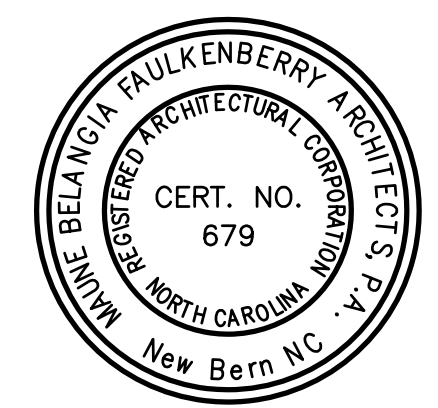
- PROVIDE NEW SUSPENDED ACOUSTICAL TILE CEILING SYSTEM: SEE REFLECTED CEILING PLAN SHEET A-103.
- PROVIDE NEW GYPSUM BOARD WITH CERAMIC TILE WALL FINISHES, ALL EXISTING RESTROOM WALLS. CERAMIC TILE APPLICATION SHALL BE FULL HEIGHT.
- PROVIDE NEW MUD BED CERAMIC TILE FLOORING IN ALL AREAS OF RESTROOM WHERE EXISTING TILE HAS BEEN PREVIOUSLY REMOVED. SHOWER STALLS SHALL RECEIVE CURBING AND CERAMIC MOSAIC MUD BED TILE INSTALLATION. SEE DETAIL 7/A-401.
- PROVIDE NEW SOLID PLASTIC FLOOR MOUNTED OVERHEAD BRACED TOILET PARTITIONS AND/OR WALL HUNG URINAL SCREENS AS INDICATED IN PLAN.
- PROVIDE NEW CERAMIC TILE SHOWER STALL AS INDICATED IN PLAN. SEE SECTION 7/A-401. AT TOILET ROOM 106, PROVIDE ALSO THE NEW SIDE WALL AS REQUIRED TO FULLY REBUILD SHOWER STALL AS SHOWN (WHERE EXISTING STALL HAS BEEN COMPLETELY DEMOLISHED).
- PROVIDE NEW 2" WIDE MARBLE THRESHOLD BENEATH DOOR AT ENTRY TO RESTROOM, ABUTTING NEW CERAMIC TILE FLOORING ON THE RESTROOM SIDE AND NEW FLOORING AS SCHEDULED AT THE OTHER SIDE.
- PROVIDE NEW 3-5/8" STEEL STUD WALL FRAMING AT 16" O.C. TO FORM NEW FURRED AREA BEHIND LAVATORIES. FURRED AREA IS LARGER THAN EXISTING IN ORDER TO ACCOMMODATE NEW SPRINKLER AND BFP PIPING: SEE FIRE PROTECTION DRAWINGS. PROVIDE NEW WALL FINISHES AS SCHEDULED.

## TOILET ACCESSORIES SCHEDULE

NOTE: ALL CLEARANCES AND HEIGHTS OF FIXTURES AND COMPONENTS SHALL BE IN COMPLIANCE WITH THE ABA ACCESSIBILITY STANDARD FOR DEPARTMENT OF DEFENSE FACILITIES, AS ADOPTED BY DOD POLICY MEMORANDUM DATED OCTOBER 21, 2008.  
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	MARK	DESCRIPTION
(TTD)	TOILET TISSUE DISPENSER	(TDMR)	INTEGRAL TOWEL DISPENSER & TRASH RECEPTACLE	(DCS)	WALL MOUNTED DIAPER CHANGING STATION
(GB36)	GRAB BAR: 36"	(CTD)	PAPER TOWEL DISPENSER: "C" FOLD INDIVIDUAL TOWEL TYPE	(SMH)	SHELF / MOP HOLDER / HOOKS
(GB42)	GRAB BAR: 42"	(RTD)	PAPER TOWEL DISPENSER: ROLL TYPE	(FSS)	WALL MOUNTED FOLDING SHOWER SEAT
(LGB)	GRAB BAR: L-SHAPED 24" X 18"	(EHD)	ELECTRIC HAND DRYER	(TB)	TOWEL BAR: 18"
(SND)	SANITARY NAPKIN DISPOSAL	(SD)	SOAP DISPENSER	(RH)	ROBE HOOK
(TCD)	TOILET SEAT COVER DISPENSER	(MG)	WALL MOUNTED MIRROR: 18" X 36"	(SCR)	SHOWER CURTAIN ROD
(SNV)	SANITARY NAPKIN VENDOR			(SC)	SHOWER CURTAIN AND HOOKS: WIDTH = WIDTH OF OPENING + 6"



MAUNE  
BELANGIA  
FAULKENBERRY  
ARCHITECTS, PA

DES. DLG  
DR. JGH  
CHK. WLF  
SUBMITTED BY:  
DESIGN DIR.  
APPROVED: PWO OR OICC  
SATISFACTORY TO:

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

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

ENLARGED PLANS & DETAILS  
APPROVED: PWO OR OICC DATE SIZE CODE IDENT NO. NAVFAC DRAWING NO.  
F 80091 60011823  
CONST. CONTR. NO. N40085-12-B-0066  
SCALE: AS NOTED SPEC. 05-12-0066 SHEET 14 OF 48



SIGNAGE SCHEDULE											
NOTE: NOT ALL ROOMS WITHIN THE BUILDING MAY BE SCHEDULED FOR SIGNAGE. SEE SIGN TYPES BELOW FOR TYPICAL MOUNTING REQUIREMENTS.			THIS PORTION TO BE COMPLETED BY ROICC DURING SIGN SUBMITTAL		REMARKS	THIS PORTION TO BE COMPLETED BY ROICC DURING SIGN SUBMITTAL			REMARKS		
ARCHITECT'S ROOM NUMBER	ARCHITECT'S ROOM NAME	ACTUAL ROOM NUMBER	ACTUAL ROOM NAME	SIGN TYPE		ARCHITECT'S ROOM NUMBER	ARCHITECT'S ROOM NAME	ACTUAL ROOM NUMBER		ACTUAL ROOM NAME	SIGN TYPE
101	CID OFFICE			G		138	PMO OFFICE			G	
102	CID OFFICE			G		139	TOILET			L	
103	CORRIDOR			F		140	PMO OFFICE			G	
104	CID CLOSET			F		141	PMO OFFICE			F	②
105	CID OFFICE			G		142	PMO CORRIDOR			F	③
106	TOILET			K	①	143	PMO OFFICE			G	
107	CID OFFICE			G		144	PMO OFFICE			F	
108	CID OFFICE			G		145	MECHANICAL			F	
109	MECHANICAL			D		146	ENTRY			F	
110	CORRIDOR			F	②	148	TOILET			L	
112	PMO OFFICE			G		149	TOILET			M	
113	TOILET			L		150	NCIS OFFICE			G	
114	TOILET			L		151	NCIS OFFICE			G	
115	CLASSROOM			H	①	152	SHOWER			F	
116	PMO OFFICE			G		154	NCIS OFFICE			G	
117	STORAGE			F		155	NCIS OFFICE			G	
118	STORAGE			F		156	NCIS OFFICE			G	
119	CORRIDOR			F	③	157	NCIS OFFICE			G	
120	PMO OFFICE			G		158	TOILET			K	
121	DETENTION			F		159	NCIS OFFICE			G	
122	DETENTION			F		160	NCIS OFFICE			G	
123	SERVER			D		161	NCIS OFFICE			G	
124	VAULT			F		162	NCIS OFFICE			G	
125	CONTROL			F		163	VAULT			F	
126	PMO OFFICE			G		164	NCIS OFFICE			G	
127	PMO OFFICE			G		165	STORAGE			F	
128	STORAGE			F		166	NCIS OFFICE			G	
129	PMO OFFICE			G		167	NCIS OFFICE			G	
130	PMO OFFICE			G		168	NCIS OFFICE			G	
131	PMO OFFICE			G		169	STORAGE			F	
132	STORAGE			F		170	TOILET			L	
133	TELECOM			D		171	NCIS OFFICE			G	
134	TOILET			M		172	NCIS OFFICE			G	
136	WAITING			F	②						
137	PMO OFFICE			G							

- ① (2) SIGNS REQUIRED
- ② ADD EXTERIOR DOOR SIGN TYPE F
- ③ EXTERIOR SIGN

**Figure 1: Signs and Symbols**

The figure illustrates 11 standard ADA-compliant signs (Types A through M) with their dimensions and Braille specifications. The signs are categorized as follows:

- TYPE A:** Restroom sign. Dimensions: 9" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE B:** Women sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE C:** Men sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE D:** Electrical sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE E:** Stair sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE F:** Numbered sign. Dimensions: 9" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE G:** Numbered sign with Chargeable Message Strip. Dimensions: 9" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE H:** Numbered sign with Available/In Use indicator. Dimensions: 9" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE J:** Numbered sign with Raised Pictogram. Dimensions: 9" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE K:** Toilet sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE L:** Toilet sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)
- TYPE M:** Toilet sign. Dimensions: 7" x 6". Pictogram field: 6" x 5". Braille: (TYP.)

1. ALL SIGNAGE SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY STANDARD FOR DEPARTMENT OF DEFENSE FACILITIES, AS ADOPTED PER THE DOD MEMORANDUM DATED OCTOBER 31, 2008 (<http://www.access-board.gov/ado-aba/dod-memorandum.htm>).
2. ALL SIGN CORNERS SHALL BE RADIUS AT  $\frac{1}{2}$ ".
3. INDIVIDUAL SIGNS MAY NEED TO BE LARGER THAN SHOWN BASED ON ACTUAL TEXT.
4. NOT ALL SIGN TYPES SHOWN ABOVE MAY BE REQUIRED IN THE FACILITY. SEE SIGNAGE SCHEDULE FOR REQUIRED TYPES.

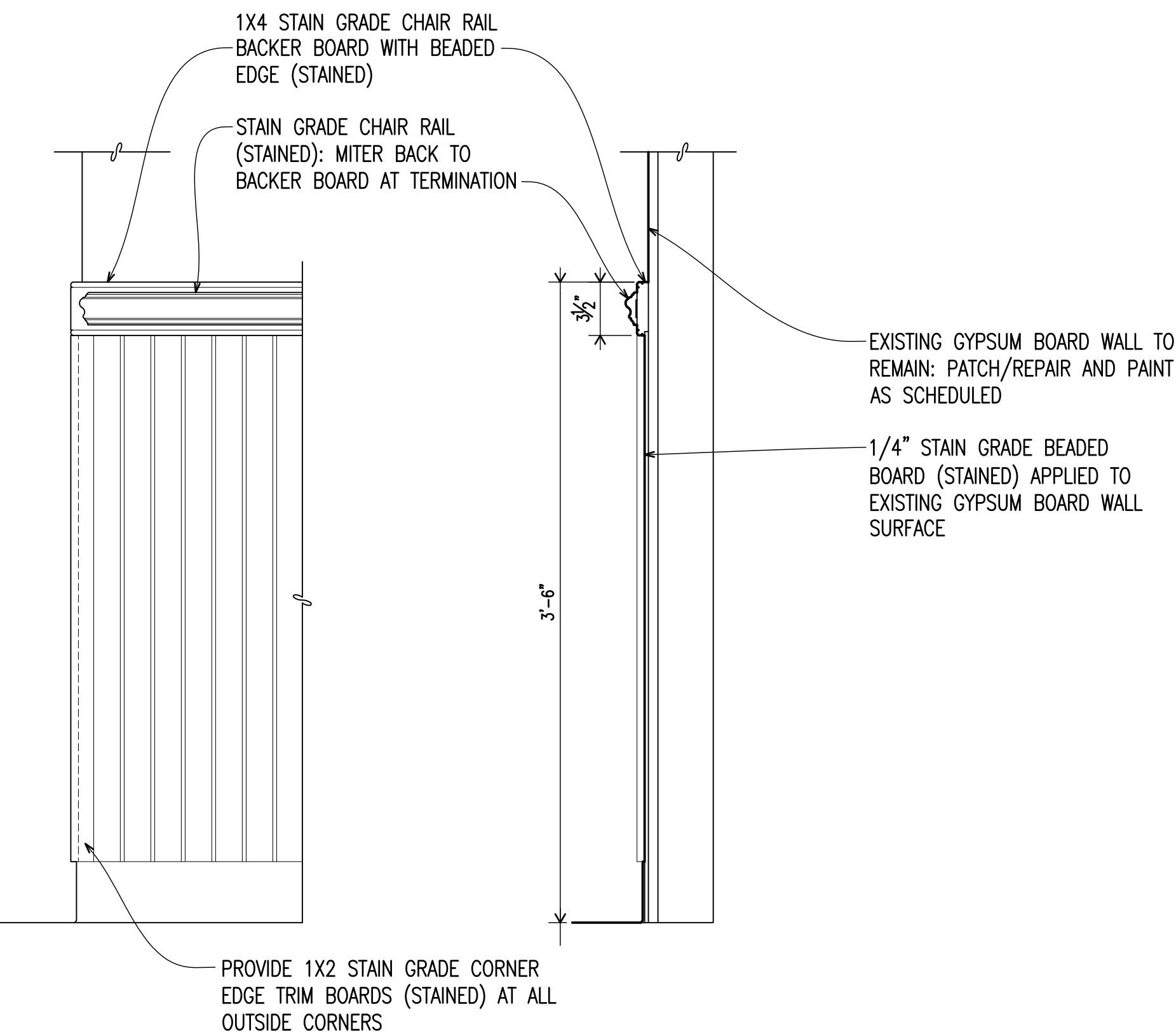
Diagram illustrating the mounting location for a tactile sign on a door. The sign is labeled "123" and "DOOR 1" with an arrow pointing to the door. Dimensions indicate the sign should be mounted 48" MINIMUM to the bottom edge of the uppermost line of text, and 60" MINIMUM to the bottom edge of the lowermost line of text. A scale is provided: 3/4" = 1'-0".

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

MOUNTING NOTES:

1. WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE.
2. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR.
3. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS SIGN SHALL BE LOCATED ON THE NEAREST ADJACENT WALL.
4. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MINIMUM BY 18" MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED AND 45 DEGREE OPEN POSITION.

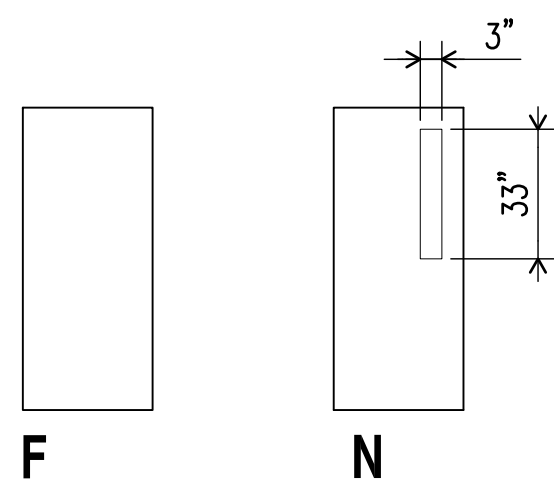
- MOUNTING NOTES:**
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  2. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR.
  3. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS SIGN SHALL BE LOCATED ON THE NEAREST ADJACENT WALL.
  4. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MINIMUM BY 18" MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED AND 45 DEGREE OPEN POSITION.



DOOR SCHEDULE										NOTE: SILL DETAIL OMITTED IF FLOORING IS CONTINUOUS ON EACH SIDE OF DOOR. NOTE: DOOR DIMENSIONS FOR EXISTING FRAMES ARE ±					
MARK	DOOR TYPE	WIDTH	HT.	THK.	MATERIAL	GLAZING		HWD SET	FRAME				REMARKS	FIRE RATING (WHERE APPLICABLE)	
									TYPE	DETAILS:					MATERIAL
									HEAD	JAMB	SILL				
123A	F	3'-0"	6'-8"	1-3/4"	WOOD		*	A	2/A-501	2/A-501		STEEL	①		
123B	F	3'-0"	6'-8"	1-3/4"	WOOD		*	A	3/A-501	3/A-501		STEEL	①	90 MINUTES	
119A	N	2'-6"	6'-10"	1-3/4"	STEEL		*	B	4/A-501	4/A-501		STEEL	②		
119B	F	3'-0"	7'-0"	1-3/4"	WOOD		*	C	5/A-501	5/A-501		STEEL		90 MINUTES	

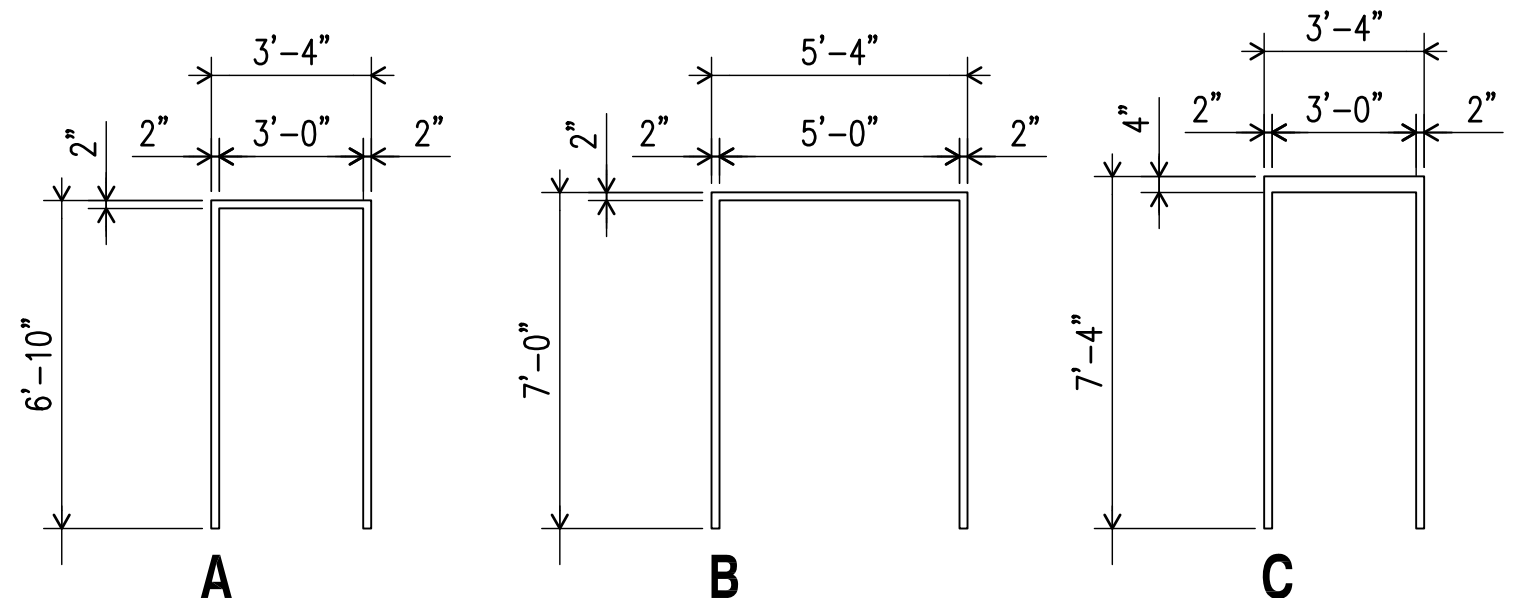
- ① PROVIDE VINYL REDUCER STRIP AT TRANSITION BETWEEN CARPETING AND VINYL COMPOSITION TILE.
- ② PROVIDE ALUMINUM SADDLE THRESHOLD, FULL DEPTH OF FRAME, FULL WIDTH OF OPENING.

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



**DOOR GLAZING:**  
AT EXTERIOR DOORS PROVIDE 1" INSULATED GLAZING  
COMPRISED OF 1/4" TEMPERED AND 1/4" LAMINATED LIGHTS

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



2  
A-501A-501

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

3  
A-501A-501

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




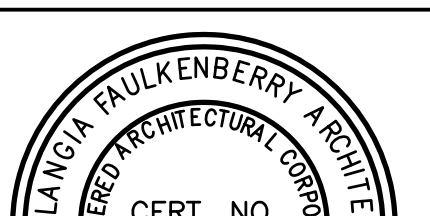

4  
A-501A-501

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

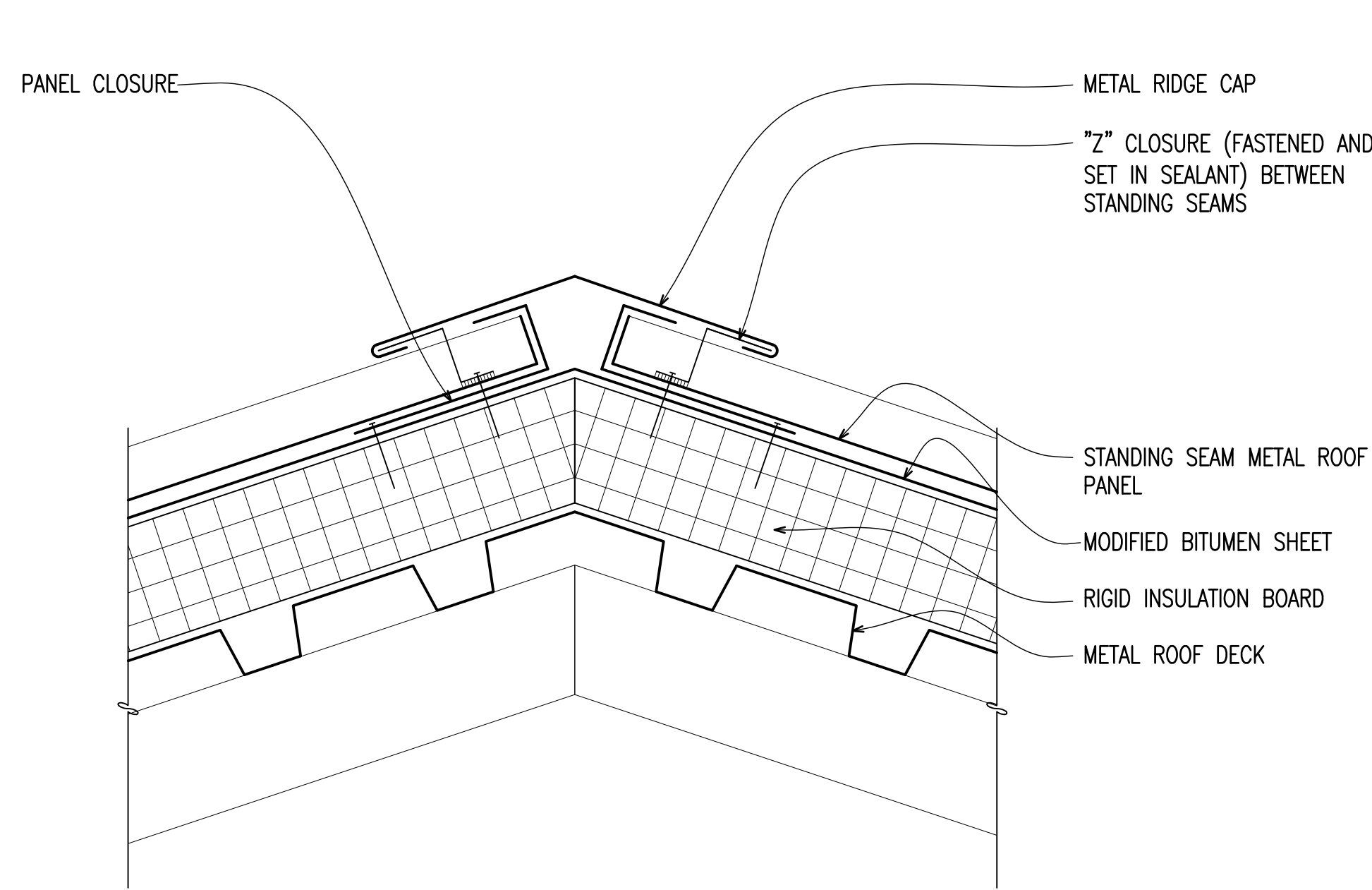
5  
A-501A-501

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

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

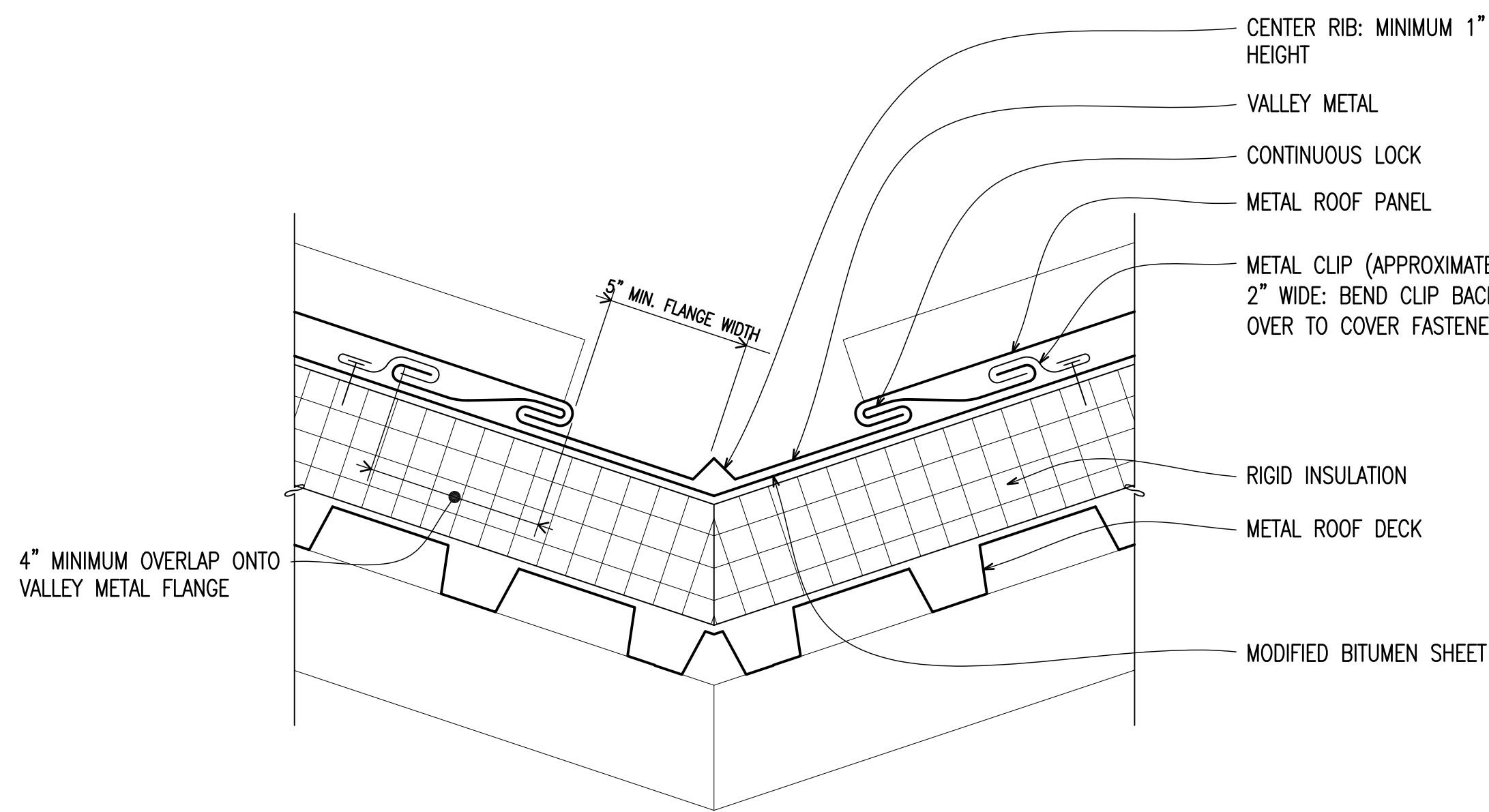
	<div style="text-align: right; font-size: 2em; font-weight: bold;">A-501</div>			
	MRSA No.: 1203  <div style="text-align: center;">   <b>MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA</b> </div> <div style="font-size: 0.8em;">             12-0-0000-0000    08/31/2012              www.mbfarchitects.com           </div>	<div style="text-align: center;">             DEPARTMENT OF THE NAVY    NAVAL FACILITIES ENGINEERING COMMAND  <div style="font-size: 1.5em; font-weight: bold;">MARINE CORPS BASE</div>             CAMP LEJEUNE, NORTH CAROLINA           </div>		
<div style="text-align: center;">               CERT. NO. 679           </div>	DES. DLG DR. JOH CHK. WLF SUBMITTED BY: DESIGN DIR.	<div style="text-align: center; font-size: 1.2em; font-weight: bold;">REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302</div>		
<div style="text-align: center;">               CERT. NO. 679           </div>	APPROVED: PWO OR OICC    DATE  SATISFACTORY TO:    DATE	SIZE    CODE IDENT NO. <div style="font-size: 1.5em; font-weight: bold;">F 80091</div>	NAVFAC DRAWING NO. <div style="font-size: 1.5em; font-weight: bold;">60011824</div> CONST. CONTR. NO. N40085-12-B-0066	
		SCALE: AS NOTED	SPEC. 05-12-0066	SHEET 15 OF 16





NOTE: THIS DETAIL SHALL BE CONSTRUCTED ACCORDING TO THE NATIONAL ROOFING CONTRACTORS ASSOCIATION DETAIL AM-4A "RIDGE CAP"

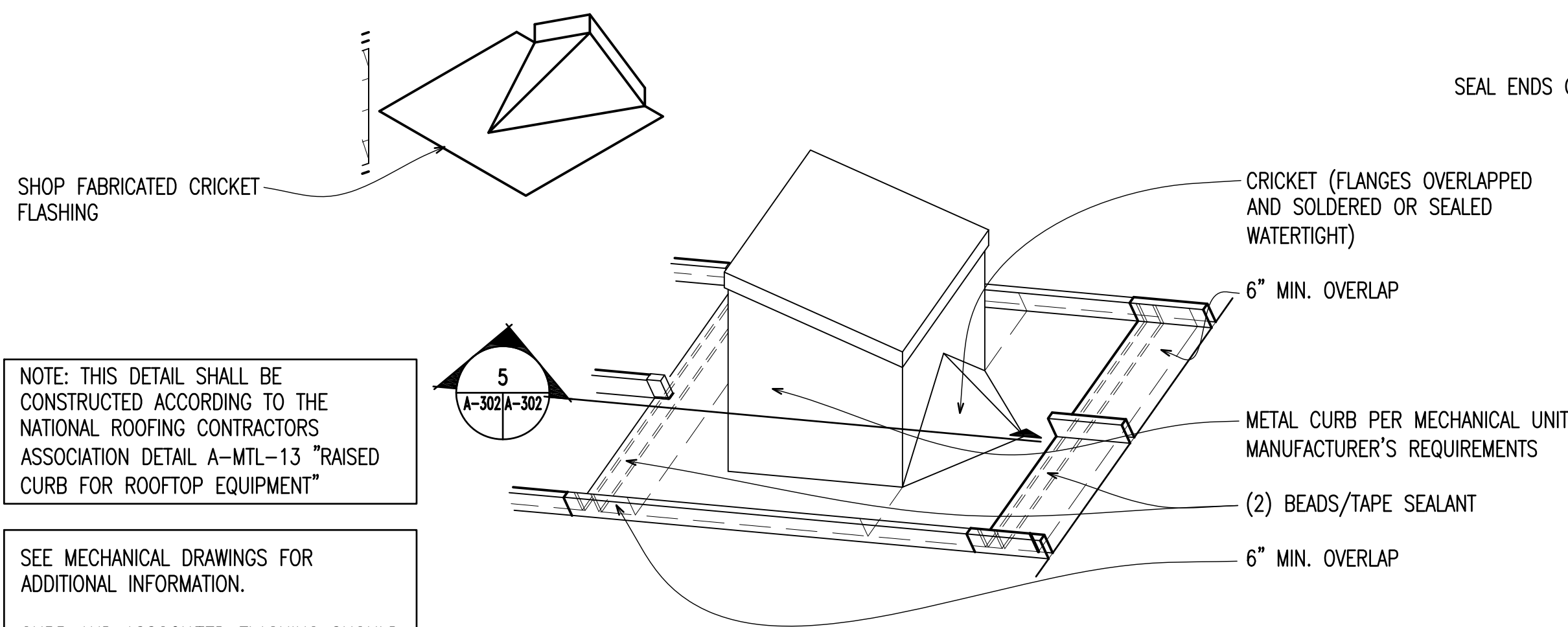
1  
A-105A-502  
RIDGE CAP  
DETAIL SECTION  
Scale: 3" = 1'-0"



NOTE: PROVIDE MINIMUM 8" OVERLAP OF VALLEY METAL AT JOINTS

NOTE: THIS DETAIL SHALL BE CONSTRUCTED ACCORDING TO THE NATIONAL ROOFING CONTRACTORS ASSOCIATION DETAIL AM-7A "OPEN METAL VALLEY"

2  
A-105A-502  
OPEN METAL VALLEY WITH SIDE LOCKS  
DETAIL SECTION  
Scale: 3" = 1'-0"

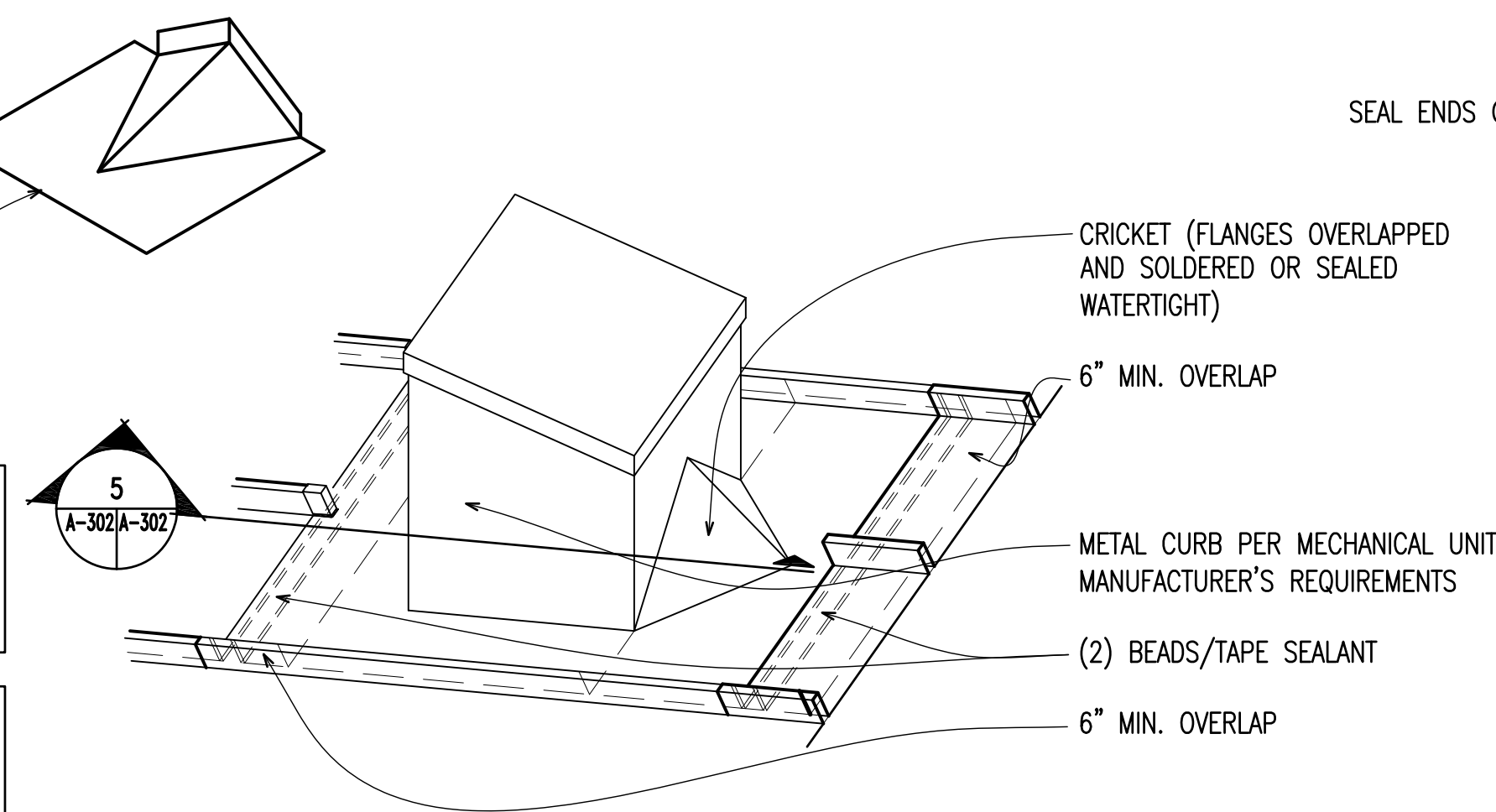


3  
A-105A-502  
PLUMBING VENT  
DETAIL SECTION  
Scale: 3" = 1'-0"

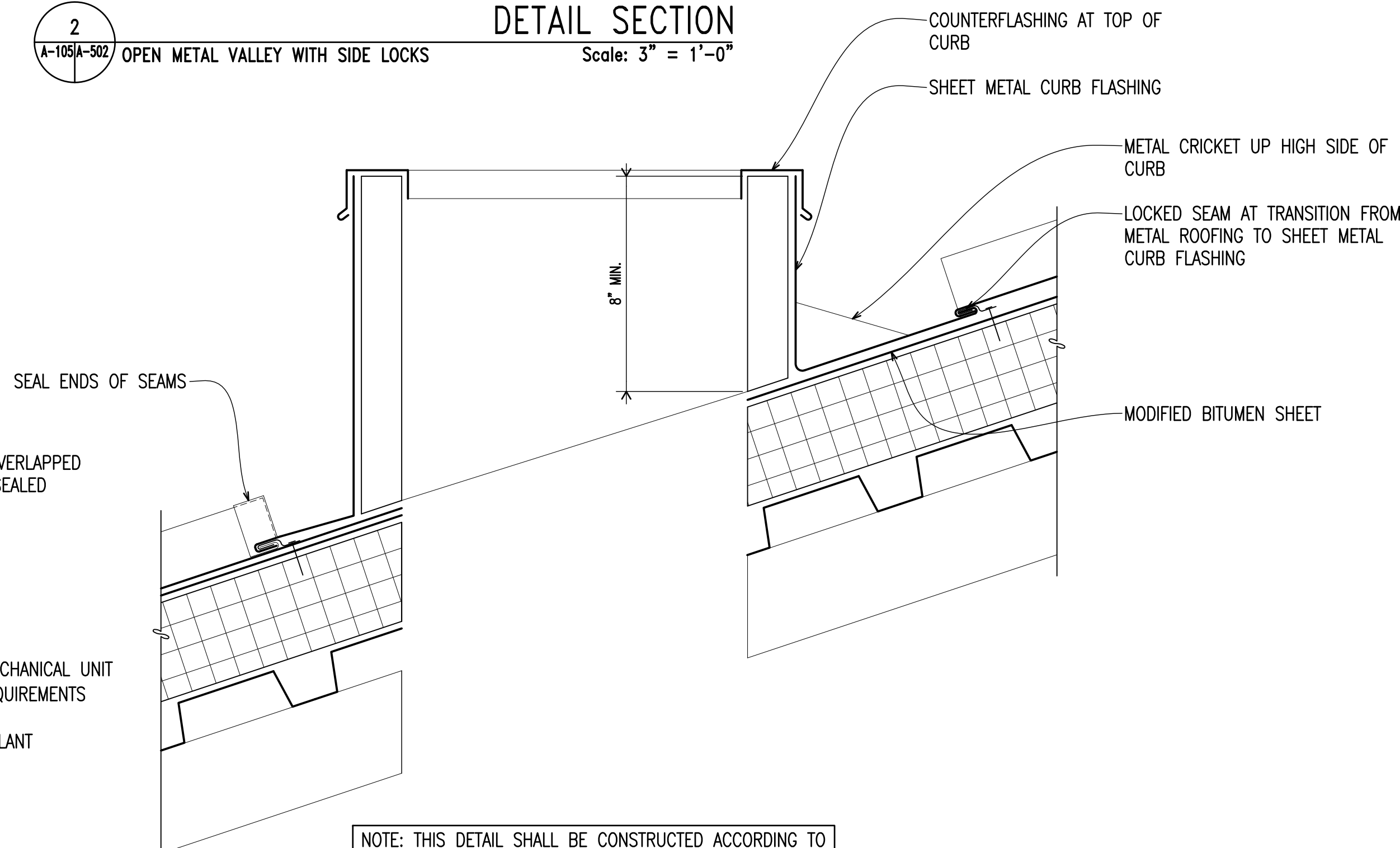
NOTE: THIS DETAIL SHALL BE CONSTRUCTED ACCORDING TO THE NATIONAL ROOFING CONTRACTORS ASSOCIATION DETAIL A-MTL-13 "RAISED CURB FOR ROOFTOP EQUIPMENT"

SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

CURB AND ASSOCIATED FLASHING SHOULD BE SUPPORTED AND SECURED TO TRANSFER LOAD TO THE BUILDING'S STRUCTURAL ASSEMBLY.

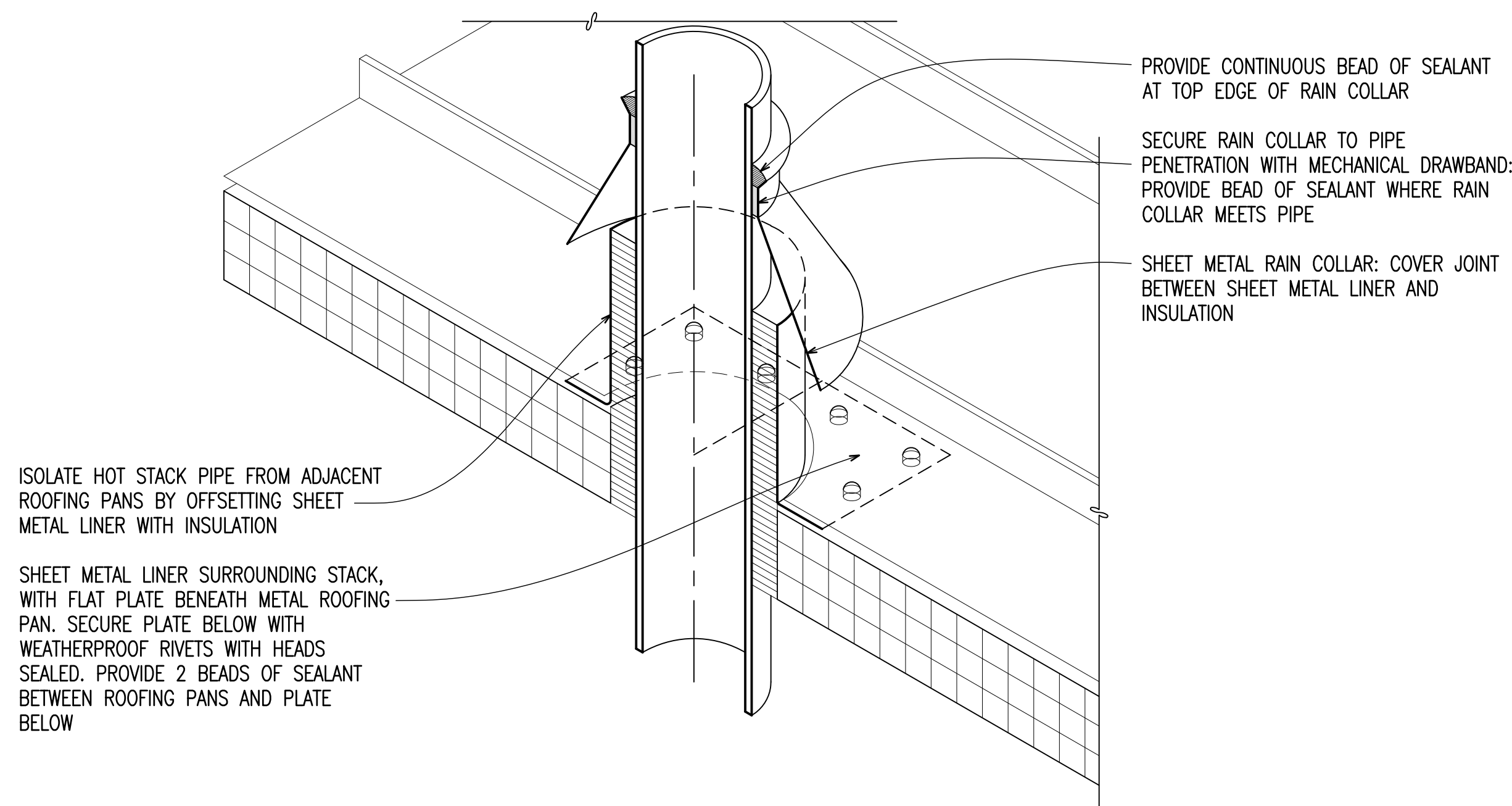


4  
A-105A-502  
EQUIPMENT CURB  
DETAIL  
Scale: 3" = 1'-0"



NOTE: THIS DETAIL SHALL BE CONSTRUCTED ACCORDING TO THE NATIONAL ROOFING CONTRACTORS ASSOCIATION DETAIL AM-15 "RAISED CURB FOR ROOFTOP EQUIPMENT"

5  
A-105A-502  
EQUIPMENT CURB  
DETAIL SECTION  
Scale: 3" = 1'-0"



6  
A-502A-502  
METAL ROOF PANEL PROFILE  
DETAIL SECTION  
Scale: 6" = 1'-0"

ISOLATE HOT STACK PIPE FROM ADJACENT ROOFING PANS BY OFFSETTING SHEET METAL LINER WITH INSULATION

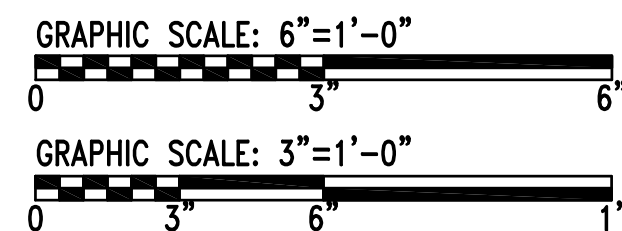
SHEET METAL LINER SURROUNDING STACK, WITH FLAT PLATE BENEATH METAL ROOFING PAN. SECURE PLATE BELOW WITH WEATHERPROOF RIVETS WITH HEADS SEALED. PROVIDE 2 BEADS OF SEALANT BETWEEN ROOFING PANS AND PLATE BELOW

PROVIDE CONTINUOUS BEAD OF SEALANT AT TOP EDGE OF RAIN COLLAR

SECURE RAIN COLLAR TO PIPE PENETRATION WITH MECHANICAL DRAWBAND; PROVIDE BEAD OF SEALANT WHERE RAIN COLLAR MEETS PIPE

SHEET METAL RAIN COLLAR: COVER JOINT BETWEEN SHEET METAL LINER AND INSULATION

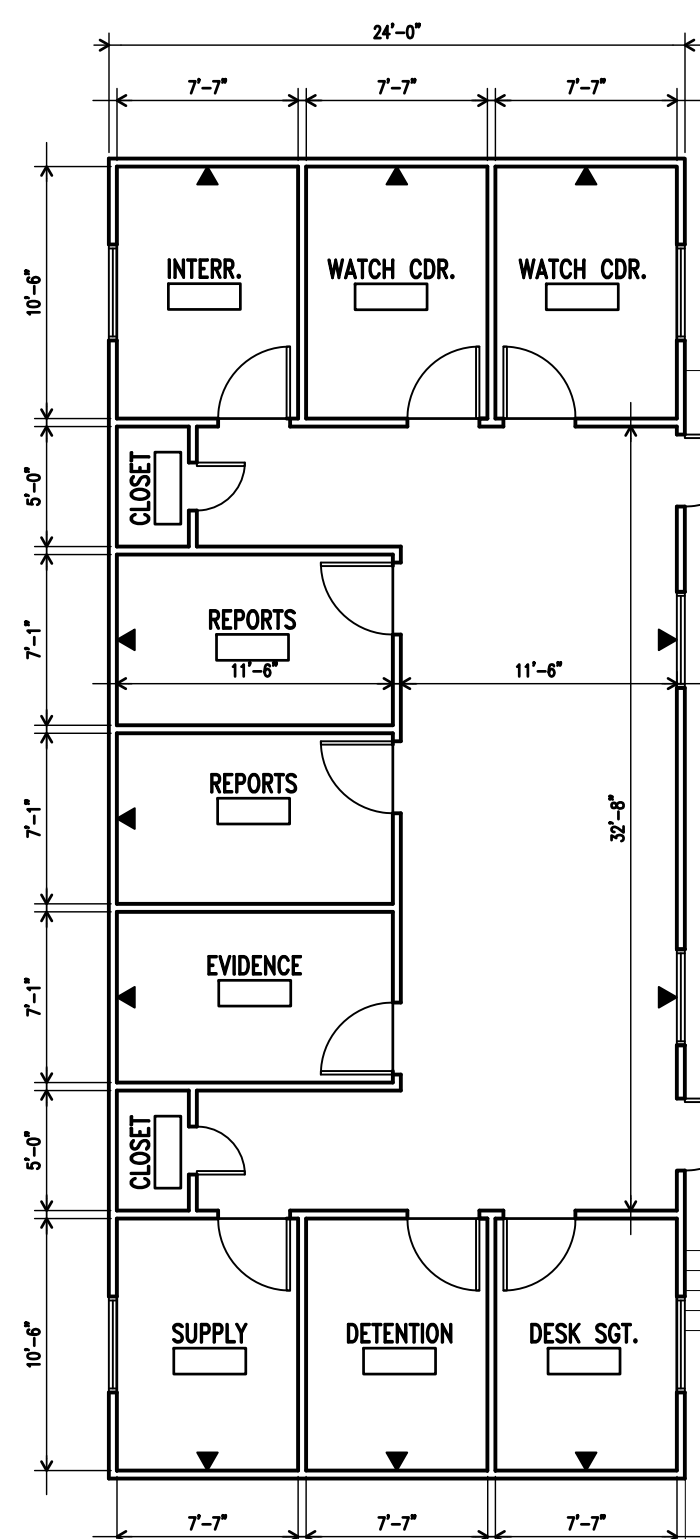
7  
A-105A-502  
HOT STACK PENETRATION  
DETAIL  
Scale: 3" = 1'-0"



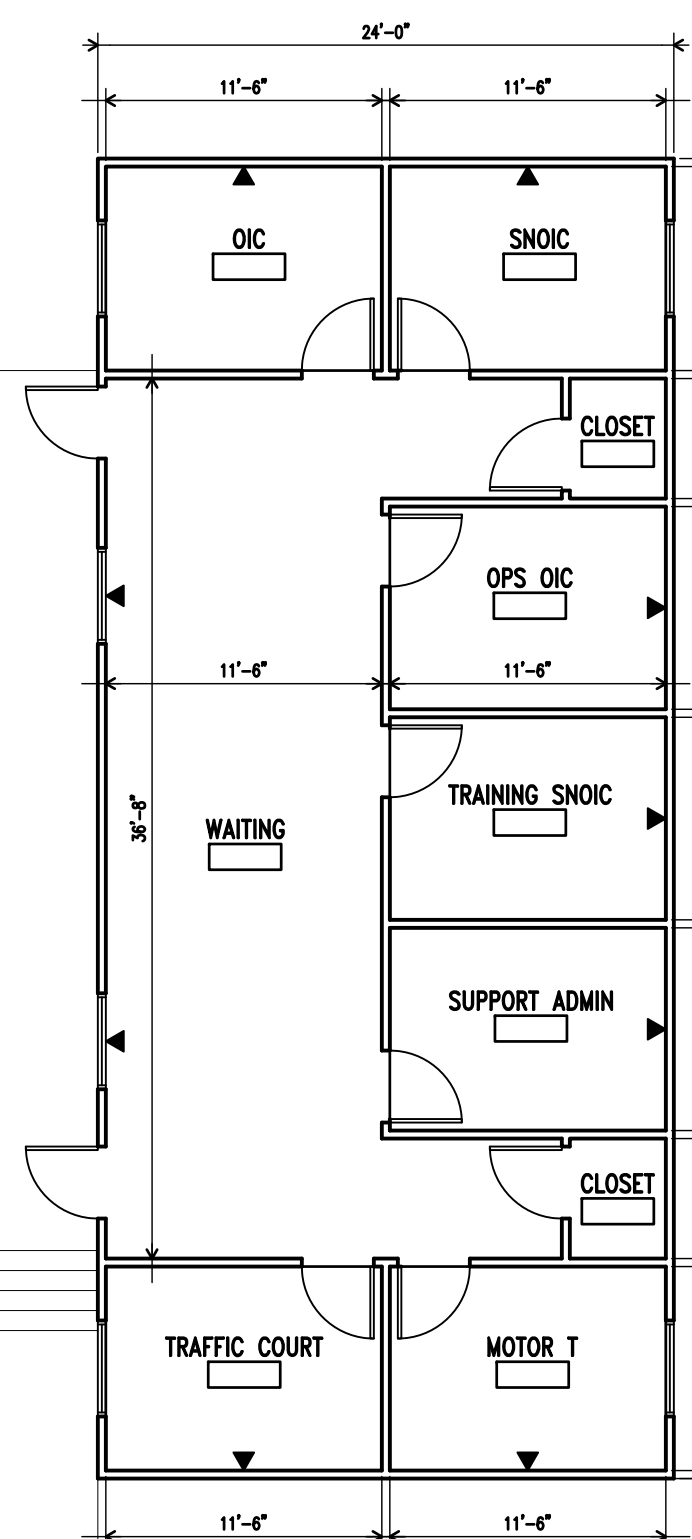
		<b>A-502</b>	
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA 11224 N. 28th Street, Suite 100, New Bern, NC 28558 Tel: 252.333.8877 Fax: 252.333.8878 WWW.BELANGIA-FAULKENBERRY.COM		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
DES. DLG DR. JGH CHK. WLF SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302 ROOFING DETAILS NAVFAC DRAWING NO. 60011825 CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 16 OF 48	



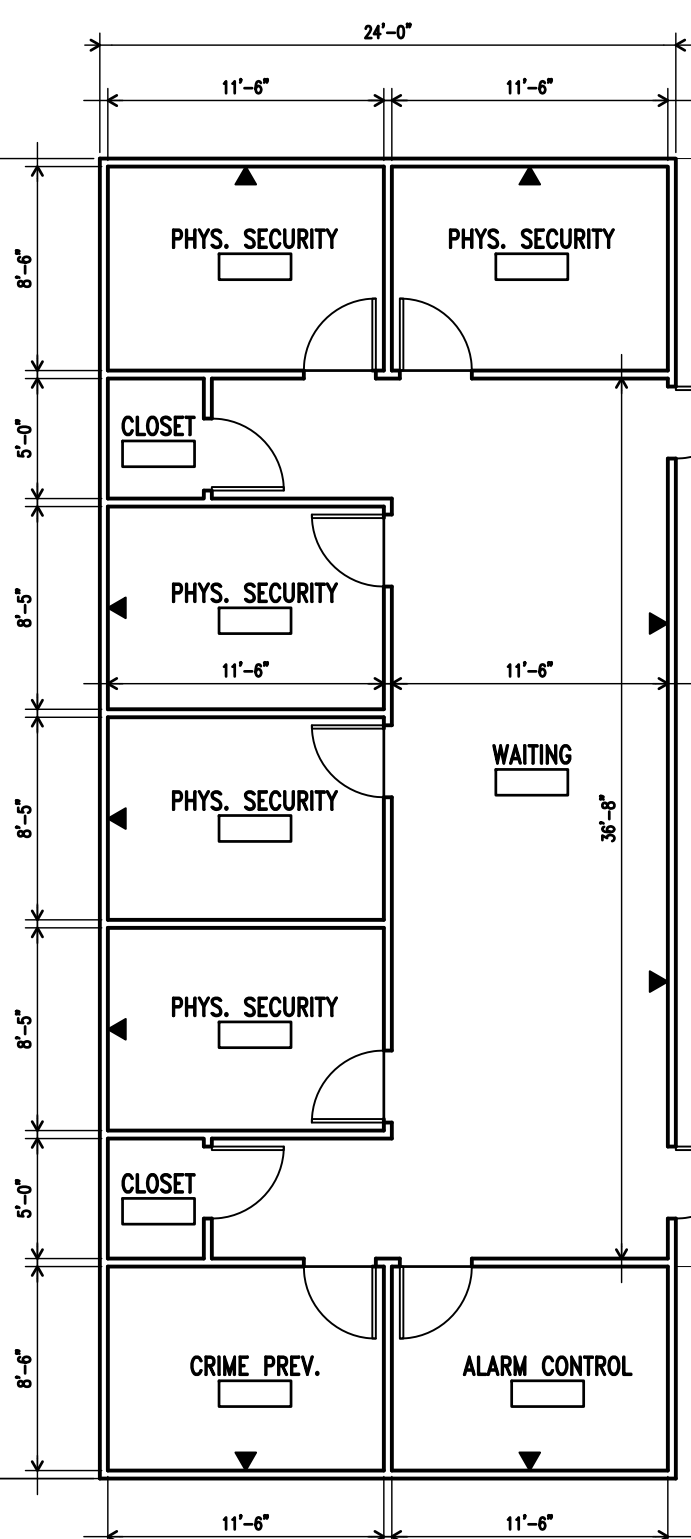
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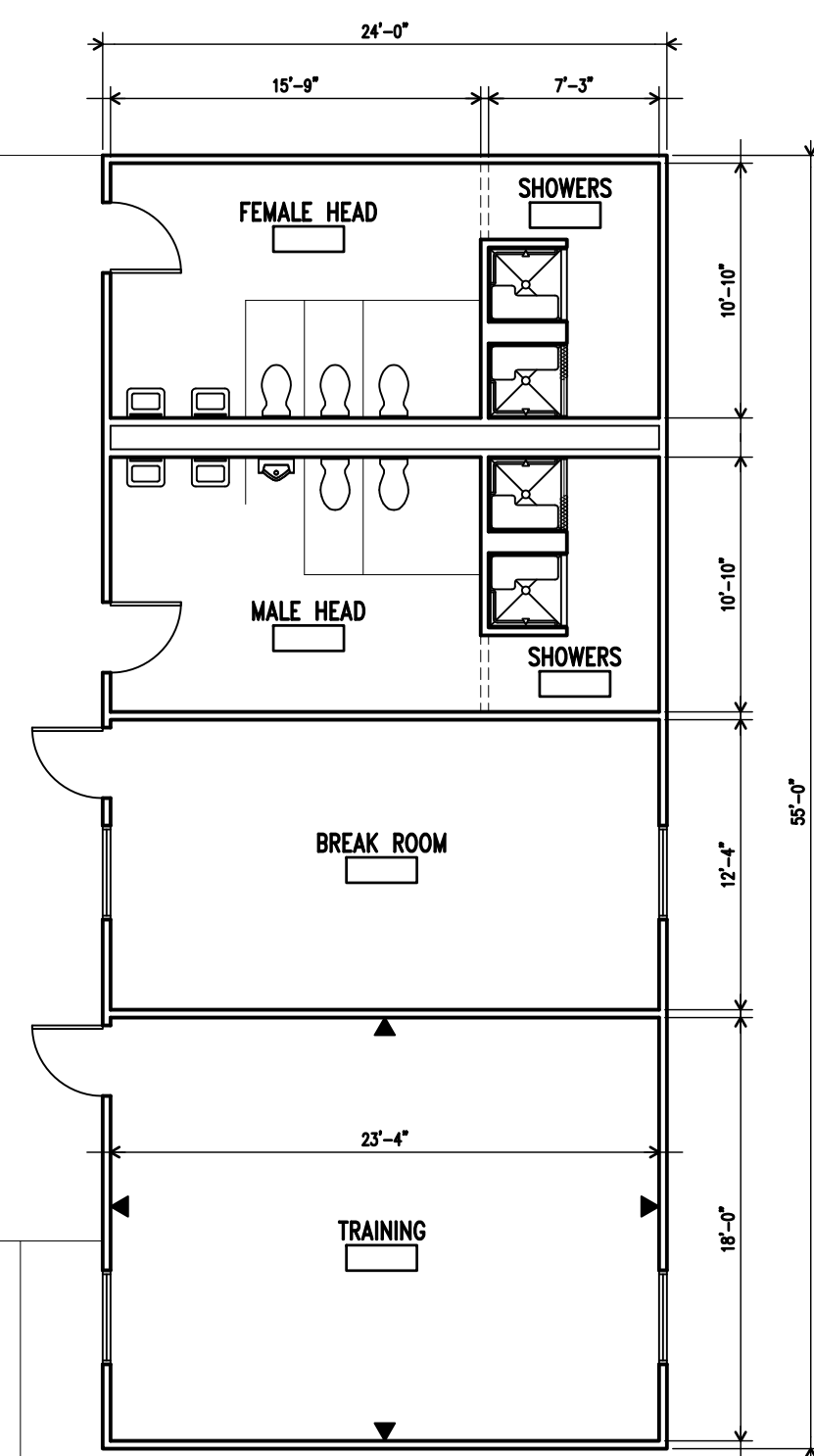
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LAW ENFORCEMENT HQ



TRAILER 2:  
SUPPORT STAFF



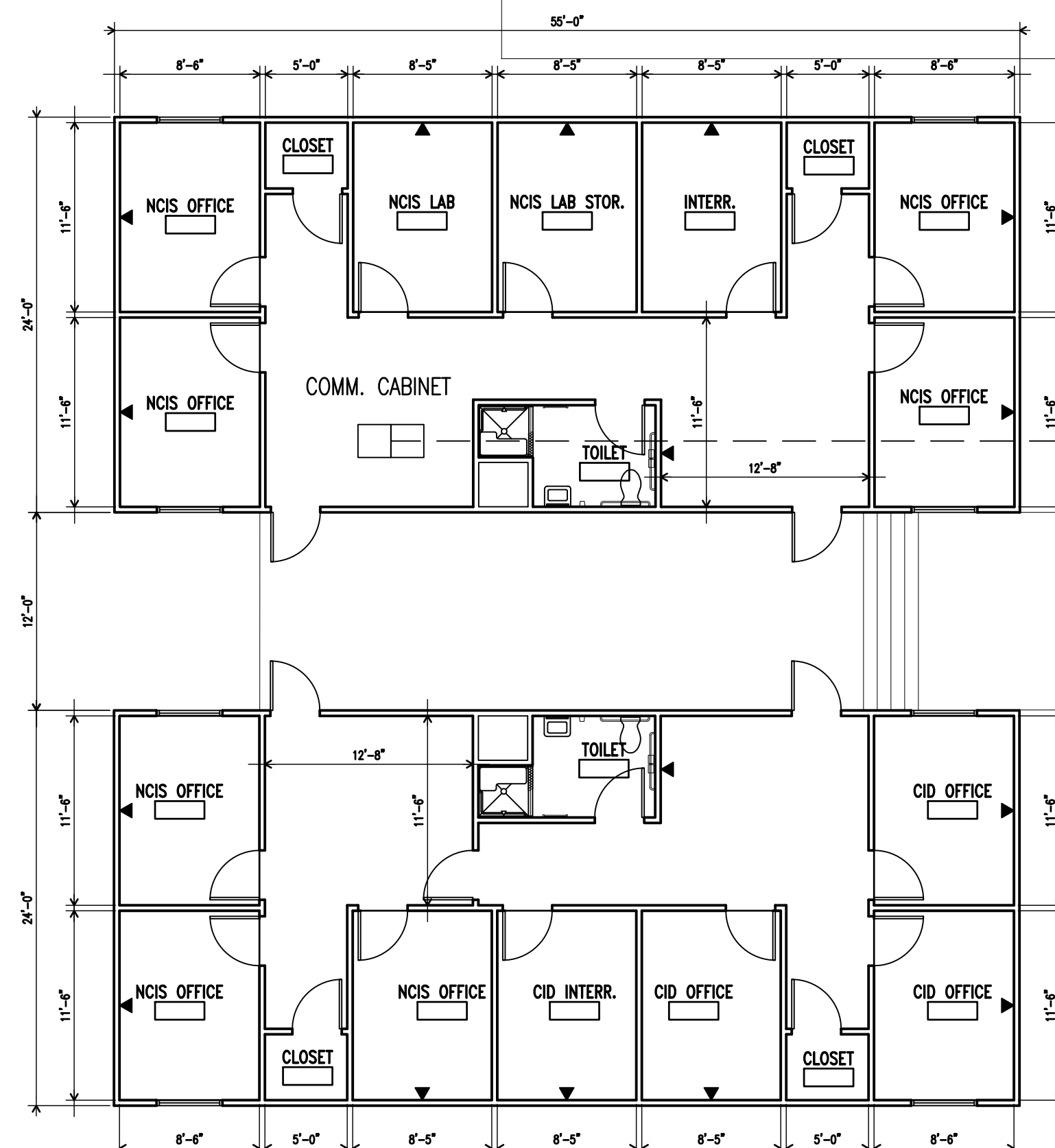
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TRAINING, HEADS &  
BREAKROOM



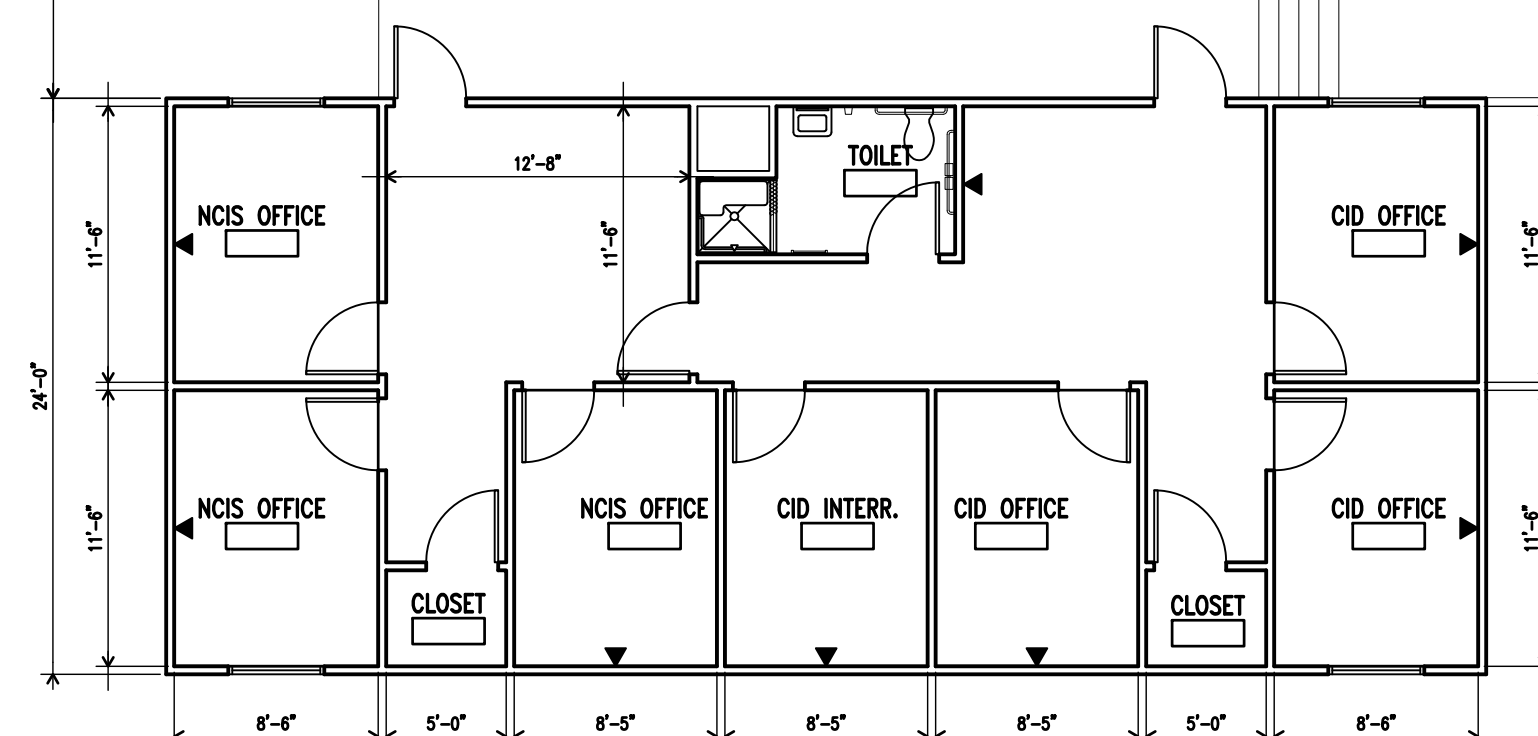
LEGEND

▲ UNCLASSIFIED NETWORK TELECOMM DROP

TRAILER 5:  
NCIS



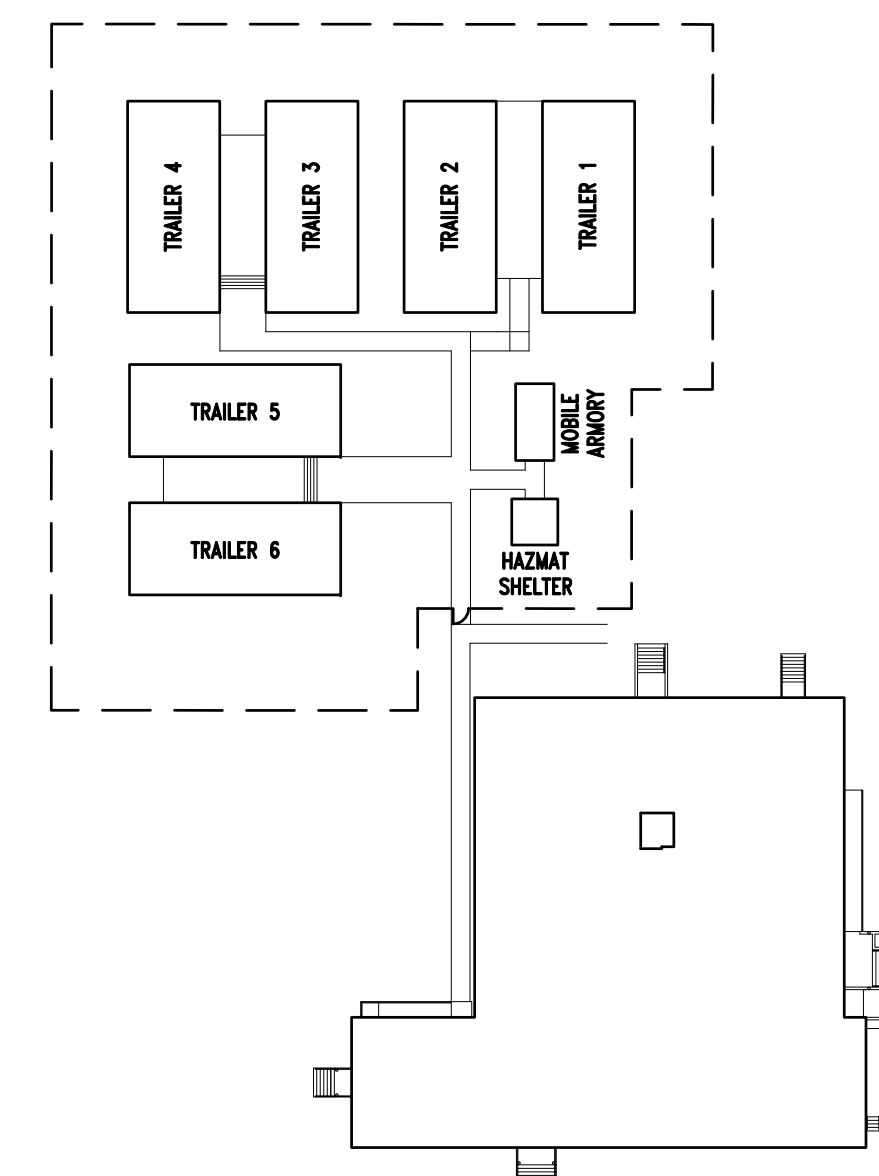
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NCIS / CID SHARED



MOBILE ARMORY

HAZMAT SHELTER

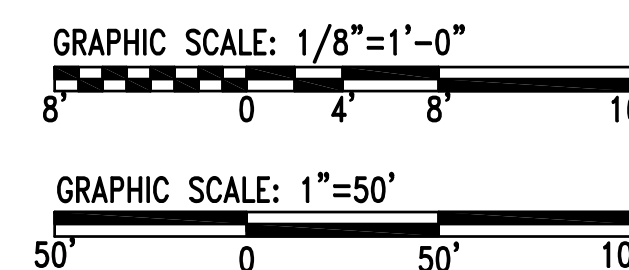
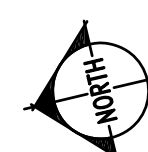
ACCESSIBLE RAMP: FINAL CONFIGURATION TO BE DETERMINED BY FINAL TRAILER FLOOR ELEVATION ABOVE GRADE



2  
A-701A-701 TEMPORARY TRAILERS Scale: 1"=50'

KEY PLAN

1  
A-701A-701 FLOOR PLANS: CONSTRUCTION Scale: 1/8" = 1'-0"



DES. DLG DR. JGH CHK. WLF SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:		MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302 FLOOR PLANS: TEMPORARY TRAILERS NAVJAG DRAWING NO. 60011826 CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 17 OF 48	



APPLICABLE BUILDING CODES

1.	IBC	INTERNATIONAL BUILDING CODE 2009
2.	UFC 3–600–01	FIRE PROTECTION ENGINEERING FOR FACILITIES, 26 SEPTEMBER 2006 INCLUDING CHANGE 1, 14 JULY 2009
3.	UFC 3–600–10N	FIRE PROTECTION REQUIREMENTS, FINAL DRAFT AUGUST 2007
4.	UFC 1–200–01	GENERAL BUILDING REQUIREMENTS, 27 NOVEMBER 2007 INCLUDING CHANGE 2, 27 JANUARY 2010
5.	NFPA 10	PORTABLE FIRE EXTINGUISHERS 2010
6.	NFPA 13	INSTALLATION OF SPRINKLER SYSTEMS 2010
7.	NFPA 70	NATIONAL ELECTRIC CODE 2011
8.	NFPA 72	NATIONAL FIRE ALARM CODE 2010
9.	NFPA 90A	INSTALLATION OF AIR–CONDITIONING AND VENTILATING SYSTEMS 2009
10.	NFPA 101	LIFESAFETY CODE 2009 (LSC)
11.	UFAS	UNIFORM FEDERAL ACCESSIBILITY STANDARDS
12.	ABA	ARCHITECTURAL BARRIERS ACT

USE GROUP/OCCUPANCY

IBC:	B	BUSINESS (IBC 304.1) – WITH ACCESSORY RESIDENTIAL OCCUPANCY
NFPA 101:	MIXED USE, DETENTION AND CORRECTIONAL, AND BUSINESS (LSC 6.1.7.1 & 6.1.11.1) – ORDINARY HAZARD (LSC 38.1.5 & 6.2)	
NFPA 101:	OCCUPANCY CLASSIFICATIONS: USE CONDITION V – CONTAINED (LSC 22.1.4.1.5)	

FIRE PROTECTION SYSTEMS

WET PIPE SPRINKLER SYSTEM.  
FIRE ALARM/MASS NOTIFICATION SYSTEM.

CONSTRUCTION TYPE

TYPE II–B

ALLOWABLE AREA & HEIGHT

BASED ON B USE GROUP	
BASIC AREA (IBC TABLE 503)	23,000 SQ. FT.
INCREASE FOR AUTOMATIC SPRINKLERS (300%) (IBC 506.3)	69,000 SQ. FT.
TOTAL ALLOWABLE AREA PER FLOOR	92,000 SQ. FT.
BASIC ALLOWABLE STORIES/HEIGHT:	3/55 FT.
INCREASE FOR AUTOMATIC SPRINKLERS (IBC 504.2)	4/75 FT.

ACTUAL AREA & HEIGHT

TOTAL FOOTPRINT FLOOR AREA	12,428 SQ. FT
TOTAL BUILDING HEIGHT	1 STOREY/12 FT

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS

(IBC TABLE 601, TYPE II–B CONSTRUCTION)

STRUCTURAL FRAME,	
INCL. COLUMNS, GIRDERS & TRUSSES	0 HR
BEARING WALLS, INTERIOR & EXTERIOR	0 HR
NON–BEARING WALLS, INTERIOR & EXTERIOR	0 HR
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR

EXTERIOR WALLS

FIRE SEPARATION DISTANCE IS GREATER THAN 10 FT FROM ALL SURROUNDING BOUNDARIES THEREFORE RATED EXTERIOR WALLS ARE NOT REQUIRED.

INTERIOR FIRE RESISTANCE REQUIREMENTS

INCIDENTAL USE AREAS/SPECIAL HAZARD (LSC 38.3.2.1)

STORAGE ROOMS	SPRINKLERS W/ SMOKE PARTITIONS (LSC 8.7.1.2)
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INTERIOR FINISH CLASSIFICATION

BASED ON BUSINESS OCCUPANCY WITH PERMITTED REDUCTION FOR SPRINKLERS:	
EXITS (TABLE A10.2.2)	MINIMUM CLASS C
EXIT ACCESS CORRIDORS (TABLE A10.2.2)	MINIMUM CLASS C
OTHER SPACES (TABLE A10.2.2)	MINIMUM CLASS C

BASED ON DETENTION AND CORRECTIONAL OCCUPANCIES: COORDIDORS AND ALL SPACES OPEN TO COORIDORS	MINIMUM CLASS B
---	-----------------

MEANS OF EGRESS

SECTIONS OF DETENTION AND CORRECTIONAL FACILITIES SHALL BE PERMITTED TO BE CLASSIFIED AS OTHER OCCUPANCIES PROVIDED THEY ARE SEPARATED BY 2–HOUR FIRE RESISTANCE RATED CONSTRUCTION.

OCCUPANT LOADS (LSC TABLE 7.3.1.2)	100 SQ. FT/PERSON
BUSINESS	

AREA	OCCUPANCY/USE	APPROX. AREA (SQ. FT.)	OCCUPANT LOAD FACTOR (SQ. FT./PERSON)	OCCUPANT LOAD (PERSONS)
FIRST FLOOR				
POLICE STATION	GROUP B, BUSINESS	12,028	100	120
DETENTION CELLS	GROUP B, DETENTION & CORRECTIONAL	400	COUNT	2
	TOTAL	12,428	–	122

TRAVEL DISTANCES

COMMON PATH OF TRAVEL (LSC TABLE A.7.6): (BUSINESS/DETENTION & CORRECTIONAL): 100/100 FT.  
TOTAL TRAVEL DISTANCE (LSC TABLE A.7.6): (BUSINESS/DETENTION & CORRECTIONAL): 300/200 FT.  
DEAD END CORRIDOR (LSC TABLE A.7.6): (BUSINESS/DETENTION & CORRECTIONAL): 50/20 FT.

CAPACITY OF EXITS




CAPACITY OF EXITS (LSC TABLE 7.3.3.1):  
LEVEL COMPONENTS (WIDTH/PERSON) 0.2 IN/PERSON  
STAIRWAYS (WIDTH/PERSON) 0.3 IN/PERSON

NUMBER OF EXITS (LSC 7.4) 2 FOR OCCUPANT LOAD < 500, 3 FOR OCCUPANT LOAD > 500 AND < 1,000

FLOOR LEVEL	REQUIRED EXIT CAPACITY	AVAILABLE EXIT CAPACITY	NUMBER OF EXITS REQUIRED	NUMBER OF EXITS PROVIDED
FIRST FLOOR	122	1,143 (STAIRS 28'–7" WIDE)	2	6

ADDITIONAL LIFE SAFETY CRITERIA

MEANS OF EGRESS SHALL BE ILLUMINATED.  
EXIT SIGNS SHALL BE PROVIDED.  
EMERGENCY LIGHTING SYSTEMS SHALL BE PROVIDED WITH BATTERY PACK AT FIXTURE IN EVENT OF LOSS OF POWER.  
PORTABLE FIRE EXTINGUISHERS LOCATED AND INSTALLED PER NFPA 10 WITH 75 FOOT MINIMUM TRAVEL DISTANCE TO AN EXTINGUISHER.

				LS001	
	MBFA NO.: 1203	MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA			DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA
	DES. A/W				
	DR. HDS		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302		
	CHK. MMW				
	SUBMITTED BY:		LIFE SAFETY GENERAL NOTES		
DESIGN DIR.					
APPROVED: PWO OR OICC	DATE	SIZE	CODE	IDENT NO.	NAVFAC DRAWING NO.
		F	80091		60011827
SATISFACTORY TO:	DATE	CONST. CONTR. NO. N40085–12–B–0066			
		SCALE: AS NOTED		SPEC. 05–12–0066	
				SHEET 18 OF 48	



LEGEND

- X

Y

X = EGRESS CAPACITY REQUIRED  
Y = EGRESS CAPACITY PROVIDED
- TD = XX FT

TRAVEL DISTANCE
- CPT = XX FT

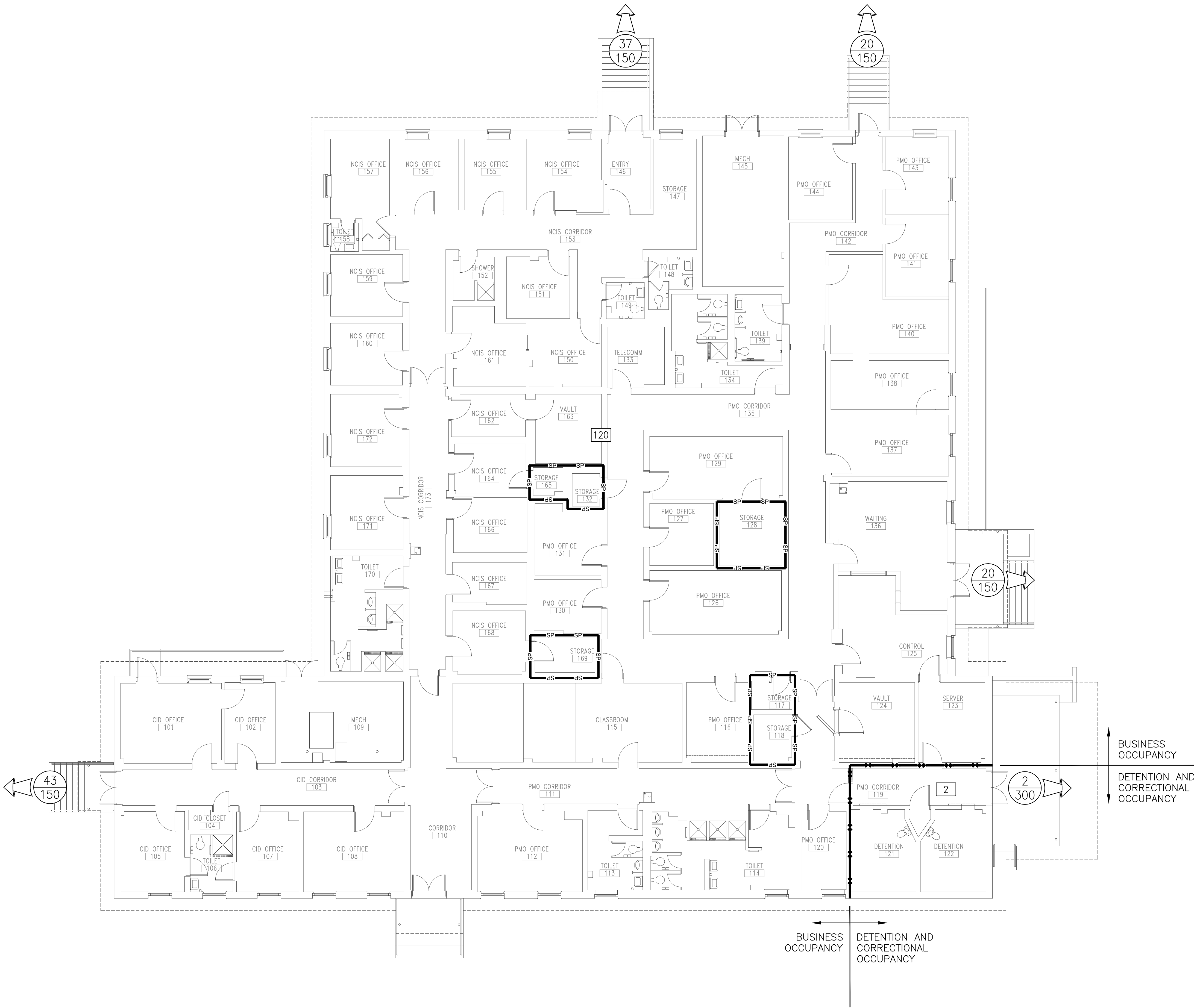
COMMON PATH OF TRAVEL
- XX

OCCUPANT LOAD
- FE

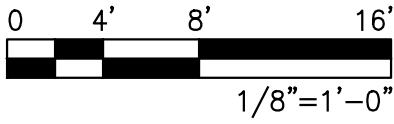
4A:80B:C FIRE EXTINGUISHER
- 2-HOUR FIRE RESISTANCE RATING

2-HOUR FIRE RESISTANCE RATING
- SP

SMOKE PARTITION



**FLOOR PLAN: LIFE SAFETY – NEW WORK**  
Scale: 1/8" = 1'



		<b>LS101</b>	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
DES. A/W DR. HDS CHK. MMW SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302  FLOOR PLAN: LIFE SAFETY – NEW WORK NAVFAC DRAWING NO. <b>60011828</b> CONST. CONTR. NO. N40085-12-B-0066	
MBFA NO.: 1203		SCALE: AS NOTED SPEC. 05-12-0066 SHEET 19 OF 48	



FIRE ALARM GENERAL NOTES:

1. GENERAL SCOPE – PROVIDE A NEW COMBINED FIRE ALARM AND MASS NOTIFICATION SYSTEM FOR THE FACILITY. EXISTING SIMPLEX 4005 FACU AND SEABOARD TRANSMITTER SHALL BE DEMOLISHED.

2. APPLICABLE CODES:

UFC 1–200–01

UNIFIED FACILITIES CRITERIA – GENERAL BUILDING REQUIREMENTS, NOVEMBER 2007 INCLUDING CHANGE 2, JANUARY 2010.

UFC 3–600–01

UNIFIED FACILITIES CRITERIA – FIRE PROTECTION ENGINEERING FOR FACILITIES, JULY 2009.

UFC 4–021–01

MASS NOTIFICATION SYSTEMS, APRIL 2008

NFPA 72

NATIONAL FIRE ALARM CODE, 2010.

NFPA 70

NATIONAL ELECTRIC CODE (NEC), 2011.

3. IF A CONFLICT OCCURS BETWEEN THE SPECIFICATIONS, THE CONTRACT DRAWINGS, AND NFPA 72, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

4. NEW DEVICES SHALL BE UL LISTED.

5. SIGNALING LINE AND NOTIFICATION APPLIANCE, AND INITIATING DEVICE CIRCUITS SHALL BE CLASS A.

6. ALL NEW CONDUIT AND BACK BOXES SHALL BE CONCEALED UNLESS OTHERWISE NOTED. ALL NEW JUNCTION BOXES SHALL HAVE RED PAINTED COVER PLATES IN UNFINISHED AREAS. ALL NEW JUNCTION BOXES SHALL HAVE A PERMANENT, MACHINE PRINTED LABEL READING "FIRE ALARM CIRCUIT" ON THE INSIDE COVER. ALL FIRE ALARM CONDUITS (CONCEALED) SHALL BE MARKED WITH ¾-IN RED BANDS EVERY 10 FEET, AT EACH SIDE OF A FLOOR, WALL, OR CEILING PENETRATION.

7. ALL SYSTEM POWER AND GROUND CIRCUITS SHALL BE TYPE "THHN" SOLID COPPER SIZED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND THE APPLICABLE CODES AND BE INSTALLED IN EMT TYPE CONDUIT.

8. WIRING, CABLES, BOXES, TROUGHS AND OTHER RELATED EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

9. PENETRATIONS OF FIRE RESISTANCE RATED BARRIERS, WALLS, AND, SHAFT/ASSEMBLIES SHALL BE DRILLED AND THEN SEALED WITH AN APPROVED UL FIRE–RATED THROUGH–PENETRATION ASSEMBLY.

10. CLASSIFICATIONS AND MATERIAL PRODUCT DATA SHEETS FOR ALL FIRE STOPPING SYSTEMS SHALL BE SUBMITTED AND APPROVED BEFORE ANY FIRE STOPPING IS INSTALLED.

11. THE CONTRACTOR SHALL PROVIDE A FIELD PROJECT MANAGER THROUGHOUT THE PROJECT WITH A MINIMUM OF NICET LEVEL IV CERTIFICATION IN FIRE ALARM SYSTEM TECHNOLOGY.

12. MANUAL FIRE ALARM STATION SHALL BE SURFACE MOUNTED IN FINISHED SPACES.

13. WALL–MOUNTED VISIBLE AND COMBINATION AUDIBLE/VISIBLE ALARM NOTIFICATION APPLIANCES SHALL BE MOUNTED 96–INCHES ABOVE THE FINISHED FLOOR MEASURED TO THE BOTTOM OF THE LENS, OR 6–INCHES BELOW THE CEILING MEASURED TO THE TOP OF THE LENS (WHICH EVER IS LOWER).

14. FIRE ALARM VISIBLE DEVICES AND VISIBLE/AUDIBLE DEVICES SHALL UTILIZE A CLEAR STROBE AND BE MARKED "ALERT" FOR COMBINED FIRE ALARM & MASS NOTIFICATION USE. SEE MNS GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

15. SOUND PRESSURE LEVEL FROM AUDIBLE ALARM APPLIANCES SHALL NOT EXCEED 110 DBA IN ANY OCCUPIED AREA.

16. ALL AUDIBLE DEVICES MUST BE INTELLIGIBLE WITH A CIS RATING GREATER THAN 0.7. AN STI RATING OF 0.5 IS CONSIDERED EQUIVALENT TO A CIS RATING OF 0.7. CIS RATINGS LESS THAN 0.7 MAY BE PERMITTED IN AREAS WITH EXCESSIVE HARD SURFACES PROVIDED A CIS RATING GREATER THAN 0.7 IS ACHIEVED WITHIN A 33 FT TRAVEL DISTANCE. NORMALLY UNOCCUPIED AREAS MAY BE PERMITTED TO HAVE A CIS SCORE LESS THAN 0.7 PROVIDED ACCEPTABLE CIS SCORE CAN BE REACHED WITHIN 50 FT TRAVEL DISTANCE.

17. 25% SPARE CAPACITY SHALL BE PROVIDED ON POWER SUPPLIES AND INDIVIDUAL CIRCUITS.

18. SECONDARY POWER SUPPLY SHALL BE VIA LEAD CALCIUM BATTERY CAPABLE OF OPERATING THE SYSTEM ON STANDBY FOR 48 HOURS FOLLOWED BY 60 MINUTES WITH THE SYSTEM AT FULL CAPACITY. CHARGING AND METERING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 72.

19. PROVIDE MONITOR MODULE TO SUPERVISE ALL SPRINKLER VALVE TAMPER SWITCHES & FLOW SWITCHES.

20. ALL DRAWINGS ARE CONCEPTUAL IN NATURE. THEY DO NOT SHOW THE EXACT LOCATIONS OF COMPONENTS NOR SHOW ALL SYSTEM COMPONENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL COMPONENTS FOR A PROPERLY INSTALLED AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES.

MASS NOTIFICATION SYSTEM (MNS) GENERAL NOTES:

1. MASS NOTIFICATION TO BE PROVIDED VIA COMBINED FIRE ALARM AND MASS NOTIFICATION SYSTEM. THE SYSTEM SHALL BE DESIGNED BY A REGISTERED FIRE PROTECTION ENGINEER OR ENGINEERING TECHNOLOGIST QUALIFIED AT NICET LEVEL IV IN FIRE ALARM SYSTEMS.

2. WHITE SPEAKER/STROBE HOUSINGS SHALL BE UTILIZED FOR FIRE ALARM AND MASS NOTIFICATION. ALL STROBE LOCATIONS SHOWN ON DRAWING INDICATE APPROXIMATE LOCATION OF REQUIRED VISUAL NOTIFICATION FOR BOTH FIRE ALARM AND MASS NOTIFICATION SYSTEMS.

3. TEXT SIGNS SHALL BE LIGHT–EMITTING DIODE SIGNS. TEXT SIGNS SHALL BE LOCATED ABOVE OR ADJACENT TO EACH SUBSTANTIAL MEANS OF EGRESS AND THE READ "EVACUATE" WHEN FIRE ALARM IS ACTIVATED OR "ATTENTION" WHEN THE MASS NOTIFICATION SYSTEM IS ACTIVATED. EXTERIOR EXIT DOORS FROM A SINGLE ROOM, SUCH AS A MECHANICAL ROOM OR ELECTRICAL ROOM, DO NOT REQUIRE TEXT SIGNS.

4. SPEAKERS MUST BE PROVIDED OUTSIDE OF THE BUILDING NEAR THE FACILITY ENTRANCES. THESE DEVICES MUST BE MULTI–TAP WITH NO MORE THAN A 15W MAXIMUM SETTING AND ARE INTENDED TO SERVE AREAS COMMONLY USED BY BUILDING OCCUPANTS FOR AREAS AT A DISTANCE UP TO 16 FT FROM THE BUILDING.

5. BUILDING MASS NOTIFICATION SYSTEM MUST BE CAPABLE OF INTERFACING WITH A WIDE AREA MASS NOTIFICATION SYSTEM REGARDLESS OF WHETHER OR NOT A WIDE AREA MASS NOTIFICATION SYSTEM IS CURRENTLY PRESENT.

6. THE MASS NOTIFICATION SYSTEM SHALL HAVE THE CAPACITY FOR A MINIMUM OF 8 PRE–RECORDED MESSAGES.

FIRE ALARM DEMOLITION NOTES:

1. THE EXISTING FIRE ALARM SYSTEM IN THE BUILDING APPEARS TO BE OPERATIONAL.

2. THE EXISTING SYSTEM SHALL REMAIN IN SERVICE WHILE NEW COMPONENTS ARE BEING INSTALLED.

3. ONCE THE NEW SYSTEM IS OPERATIONAL THE EXISTING SYSTEM SHALL BE TAKEN OUT OF SERVICE AND TAGGED "NOT IN SERVICE".

4. THE EXISTING FIRE ALARM SYSTEM, ASSOCIATED CONDUIT, WIRE, APPLIANCES, AND DEVICES SHALL BE DEMOLISHED.

5. REPAIR ANY SURFACES DAMAGED BY FIRE ALARM DEMOLITION.

LEGEND

- WALL MOUNTED COMBINATION SPEAKER/CLEAR STROBE (SUPERSCRIT INDICATES CANDELA RATING)

CEILING MOUNTED COMBINATION SPEAKER/CLEAR STROBE (SUPERSCRIT INDICATES CANDELA RATING)

WALL MOUNTED SPEAKER

CEILING MOUNTED CLEAR STROBE (SUPERSCRIT INDICATES CANDELA RATING)

CEILING MOUNTED SPEAKER

SMOKE DETECTOR

FIRE ALARM/AUTONOMOUS CONTROL UNIT

AUTONOMOUS CONTROL UNIT

LOCAL OPERATORS CONSOLE

EVACUATION/ATTENTION SIGN

RADIO ALARM ANTENNA

MONITOR MODULE

CONTROL MODULE

MANUAL PULL STATION

TAMPER SWITCH

FLOW/PRESSURE SWITCH

SUBSCRIPT DENOTES WEATHERPROOF DEVICE

RADIO TRANSMITTER

AMPLIFIER

BOOSTER POWER SUPPLY
- |   |  |  |  |
|---|--|--|--|
| <div><div><div><div>COMMONWEALTH OF VIRGINIA</div><div>ALISON WAKELIN</div><div>Lic. No. 037705</div><div>09/05/2012</div><div>PROFESSIONAL ENGINEER</div></div></div></div>                            |  | FA001  |  |
| <div><div><div>MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA</div><div>MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA</div><div>MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA</div></div></div>                   |  | <div>DEPARTMENT OF THE NAVYNAVAL FACILITIES ENGINEERING COMMAND</div> <div>MARINE CORPS BASE</div> <div>CAMP LEJEUNE, NORTH CAROLINA</div>   |  |
| <div>DES. AJW</div> <div>DR. HDS</div> <div>CHK. MMW</div> <div>SUBMITTED BY:</div> <div>DESIGN DIR.</div> <div>APPROVED: PWO OR OICC</div> <div>DATE</div> <div>SATISFACTORY TO:</div> <div>DATE</div> |  | <div>REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302</div> <div>FIRE ALARM GENERAL NOTES AND LEGEND</div> <div>NAVFAC DRAWING NO. 60011829</div> <div>CONST. CONTR. NO. N40085–12–B–0066</div> <div>SCALE: AS NOTEDSPEC. 05–12–0066</div> <div>SHEET 20 OF 48</div> |  |





Scale:  $1/8'' = 1'$

NOTES APPLY TO THIS SHEET ONLY

- 2 EXISTING SEABOARD RADIO TRANSMITTER - TO BE DEMOLISHED.

# FA101

MAUNE  
BELANGIA  
FAULKENBERRY  
ARCHITECTS, PA

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

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

DES. AJW
DR. HDS
CHK. MMW
SUBMITTED BY:

DESIGN DIR.	FLOOR PLAN: FIRE ALARM - NEW WORK		
APPROVED: PWO OR OICC	DATE	SIZE	NAVFAC DRAWING NO.
		E 80091	60011830

CONST. CONTR. NO. N40085-12-B-0066	
SCALE: AS NOTED	SHEET 21 OF



	OPERATION										
FIRE ALARM INPUT	ACTIVATE AUDIBLE AND VISUAL FA EVACUATION THROUGHOUT BUILDING	ACTIVATE AUDIO CIRCUITS AND BROADCAST MNS MESSAGE	ACTIVATE VISUAL "ALERT" STROBES THROUGHOUT BUILDING	ACTIVATE "EVACUATE" MESSAGE ON TEXT SIGNS	DISABLE "ANNOUNCEMENT" MESSAGE ON TEXT SIGNS <sup>3</sup>	ALARM CONDITION AT FACU	MNS SUPERVISORY CONDITION AT FACU	TROUBLE CONDITION AT FACU	TRANSMIT SIGNAL TO REMOTE STATION VIA RADIO TRANSMITTER	SHUT DOWN AIR HANDLING UNIT	
MANUAL PULL STATION	•	•	•			•			•		
AUTOMATIC SPRINKLER FLOW SWITCH	•	•	•						•		
AUTOMATIC SPRINKLER SYSTEM TAMPER SWITCH					•				•		
AREA SMOKE DETECTOR ACTIVATION	•	•	•			•			•		
DUCT SMOKE DETECTOR ACTIVATION					•					•	
FACU CIRCUIT FAULT (OPEN, GROUND, SHORT)								•	•		
OTHER TROUBLE CONDITION								•	•		
MASS NOTIFICATION INPUT											
ACU/LOC EMERGENCY LIVE PAGING <sup>1</sup>	•	•		•			•				
ACU/LOC EMERGENCY PRE-RECORDED MESSAGE SELECT <sup>1,2</sup>	•	•		•			•				
ACU/LOC NON-EMERGENCY PRE-RECORDED MESSAGE SELECT <sup>2</sup>	•										
ACU/LOC PRE-RECORDED "ALL CLEAR"	•			•			•				
WIDE AREA MNS NON-EMERGENCY MESSAGE BROADCAST <sup>2</sup>	•										
WIDE AREA MNS EMERGENCY MESSAGE BROADCAST <sup>1,2</sup>	•	•		•			•				
NON-EMERGENCY LIVE PAGING	•										

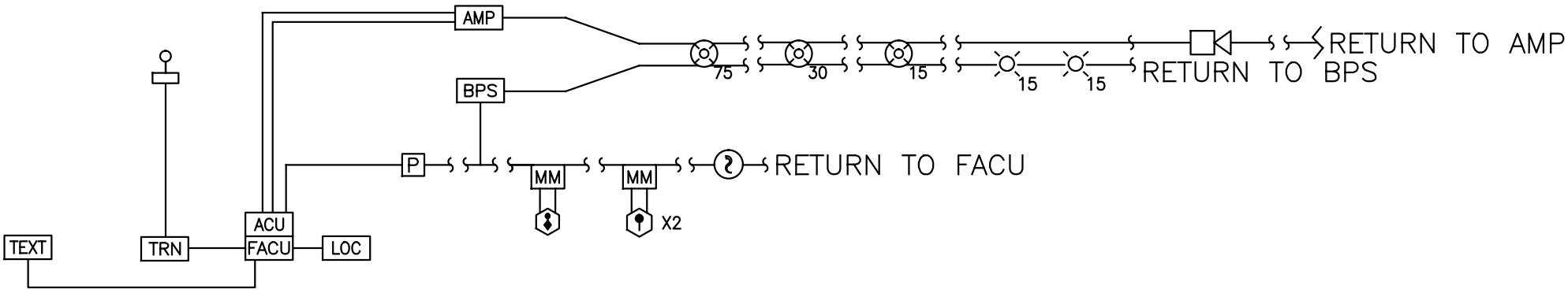
- GENERAL: CONTRACTORS SHALL BE RESPONSIBLE TO ENSURE MNS AND FA PRIORITIES ARE PROGRAMMED IN ACCORDANCE WITH UFC 4-021-01
- 1 EMERGENCY MNS MESSAGES (LIVE & PRE-RECORDED) SHALL TEMPORARILY OVERRIDE FIRE ALARM AUDIBLE EVACUATION AND DISABLE STROBES.
- 2 PRE-RECORDED MNS MESSAGES SHALL REPEAT FOR 10 MINS OR UNTIL MANUALLY RESET.
- 3 "ANNOUNCEMENT" MESSAGE ON TEXT SIGNS SHALL STAY ILLUMINATED FOR 10 SEC BEYOND THE END OF THE MESSAGE.
- 4 SUPERVISORY CONDITION ONLY OCCURS WHEN MNS SYSTEM IS OVERRIDING FIRE ALARM EVACUATION (ALARM CONDITION)

1

FA501FA501

FIRE ALARM/MNS SQUENCE OF OPERATIONS

NTS



NOTE: NOT ALL FIRE ALARM DEVICES ARE DEPICTED IN RISER DIAGRAM.

2

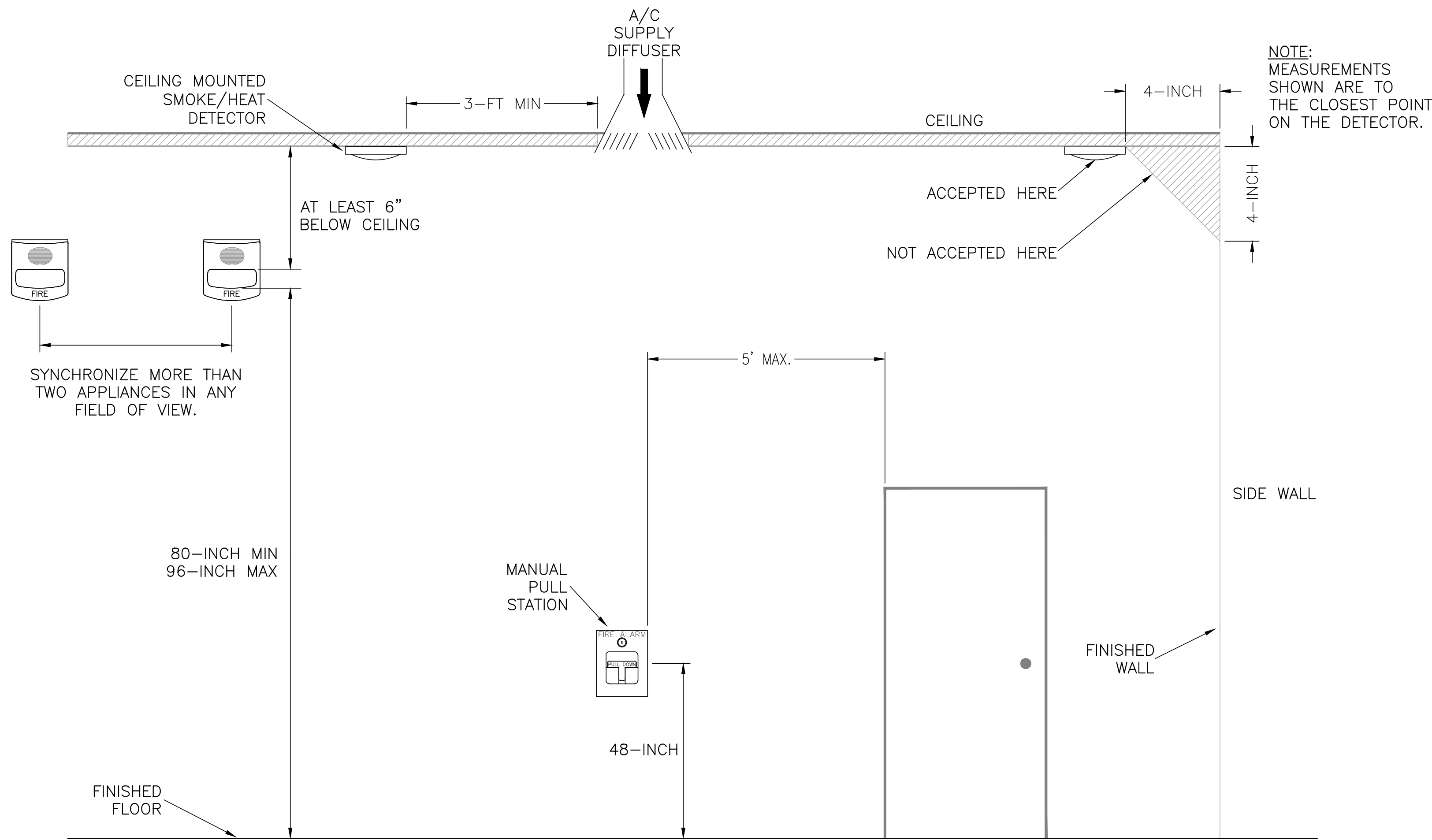
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FIRE ALARM CONTROL UNIT RISER DIAGRAM

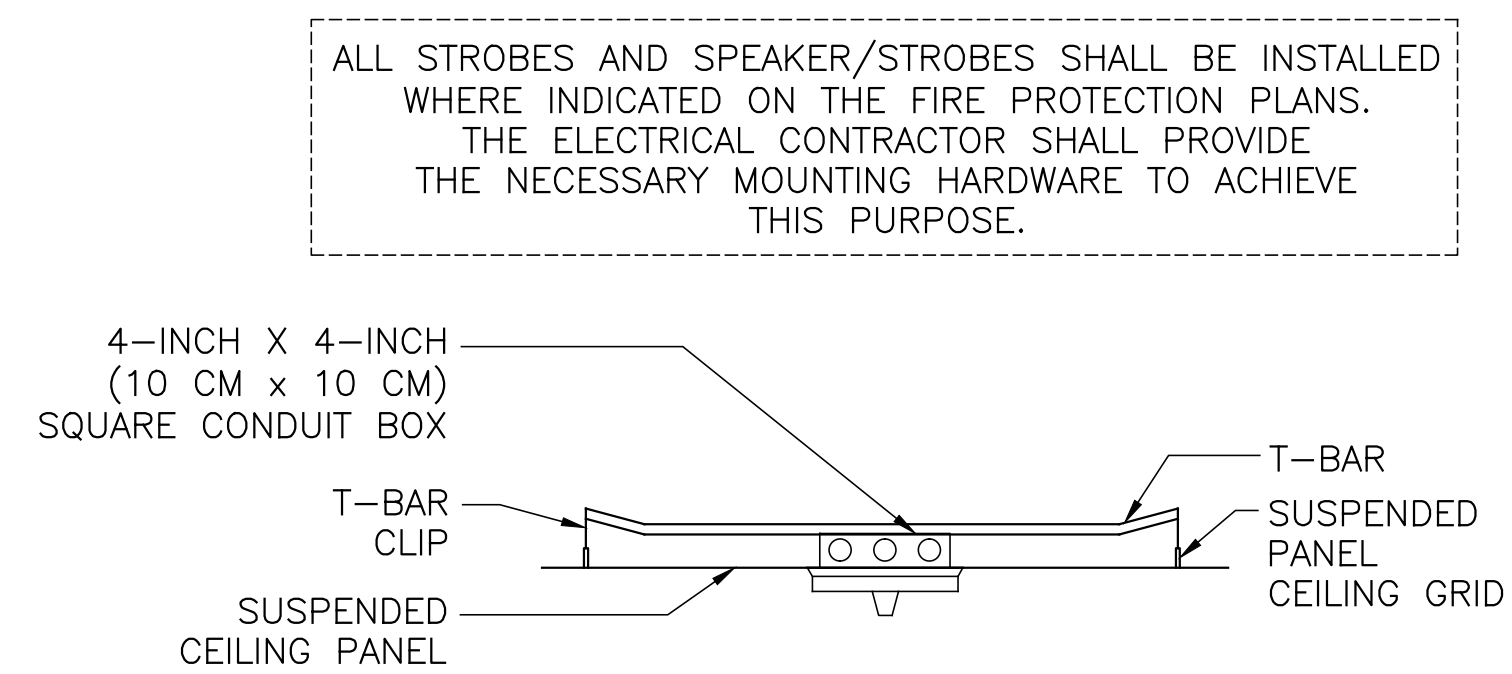
NTS

<div><div><div>COMMONWEALTH OF VIRGINIA</div><div>ALISON WAKELIN</div><div>Uc No. 037705</div><div>09/05/2012</div><div>PROFESSIONAL ENGINEER</div></div><div><div>MAINE BELANGIA FAULKENBERRY ARCHITECTS, PA</div><div>CERT. NO. 679</div><div>New Bern NC</div></div></div>		FA501	
<div>MEFA NO: 1203</div> <div>DES. AJW</div> <div>DR. HDS</div> <div>CHK. MMW</div> <div>SUBMITTED BY:</div> <div>DESIGN DIR.</div> <div>APPROVED: PWO OR OICC</div> <div>SATISFACTORY TO:</div>		<div>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND</div> <div>MARINE CORPS BASE</div> <div>CAMP LEJEUNE, NORTH CAROLINA</div> <div>REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302</div> <div>FIRE ALARM DETAILS</div> <div>NAVAFAC DRAWING NO. 60011831</div> <div>CONST. CONTR. NO. N40085-12-B-0066</div> <div>SHEET 22 OF 48</div>	
F 80091		SCALE: AS NOTED SPEC. 05-12-0066	





1  
FA502/FA502  
DEVICE MOUNTING HEIGHTS  
NTS



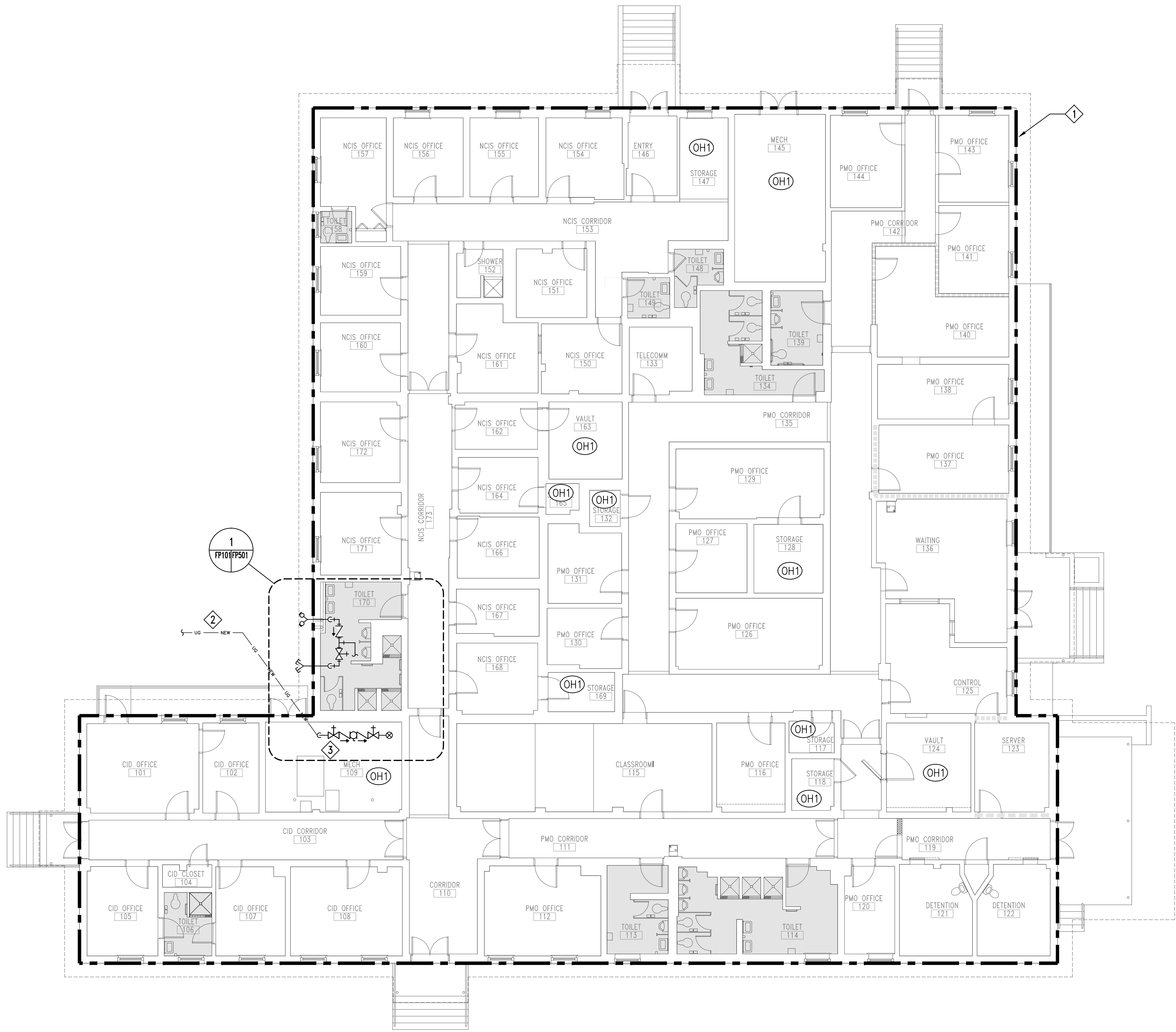
2  
FA502/FA502  
CEILING SPEAKER/STROBE MOUNTING DETAIL  
NTS

		FA502	
DES. A/W DR. HDS CHK. MMW SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302 FIRE ALARM DETAILS NAVFAC DRAWING NO. 60011832 CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 23 OF 48	







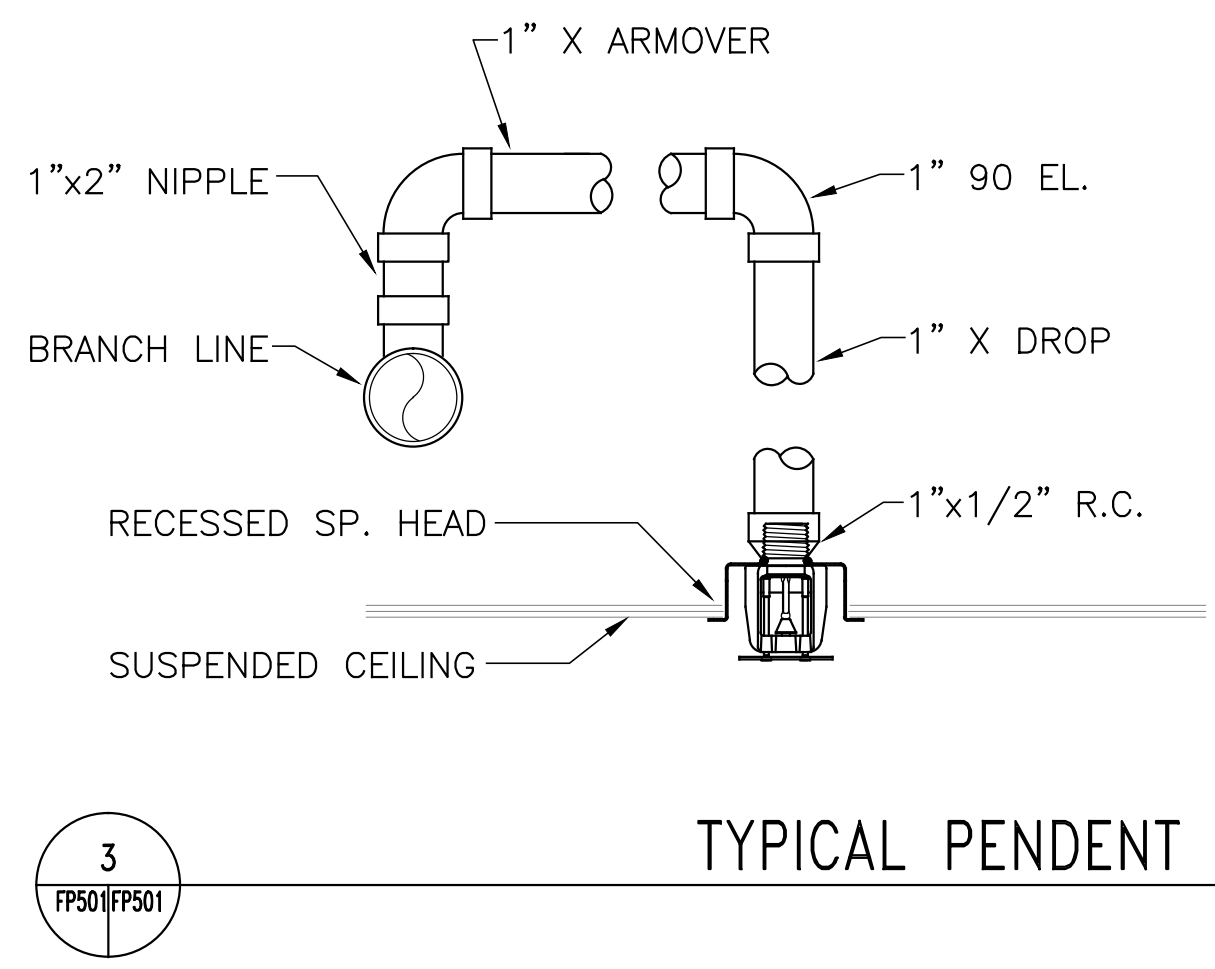
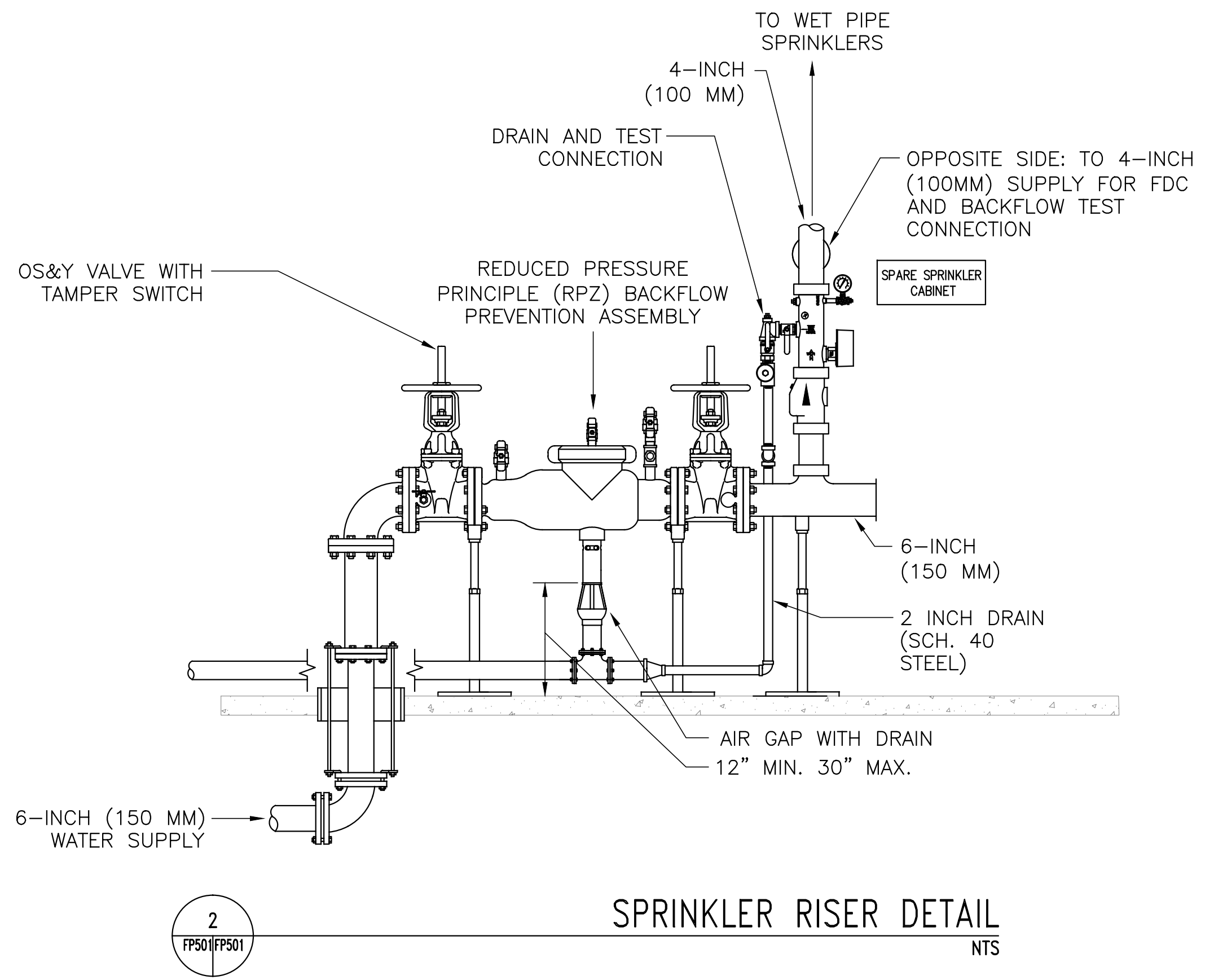
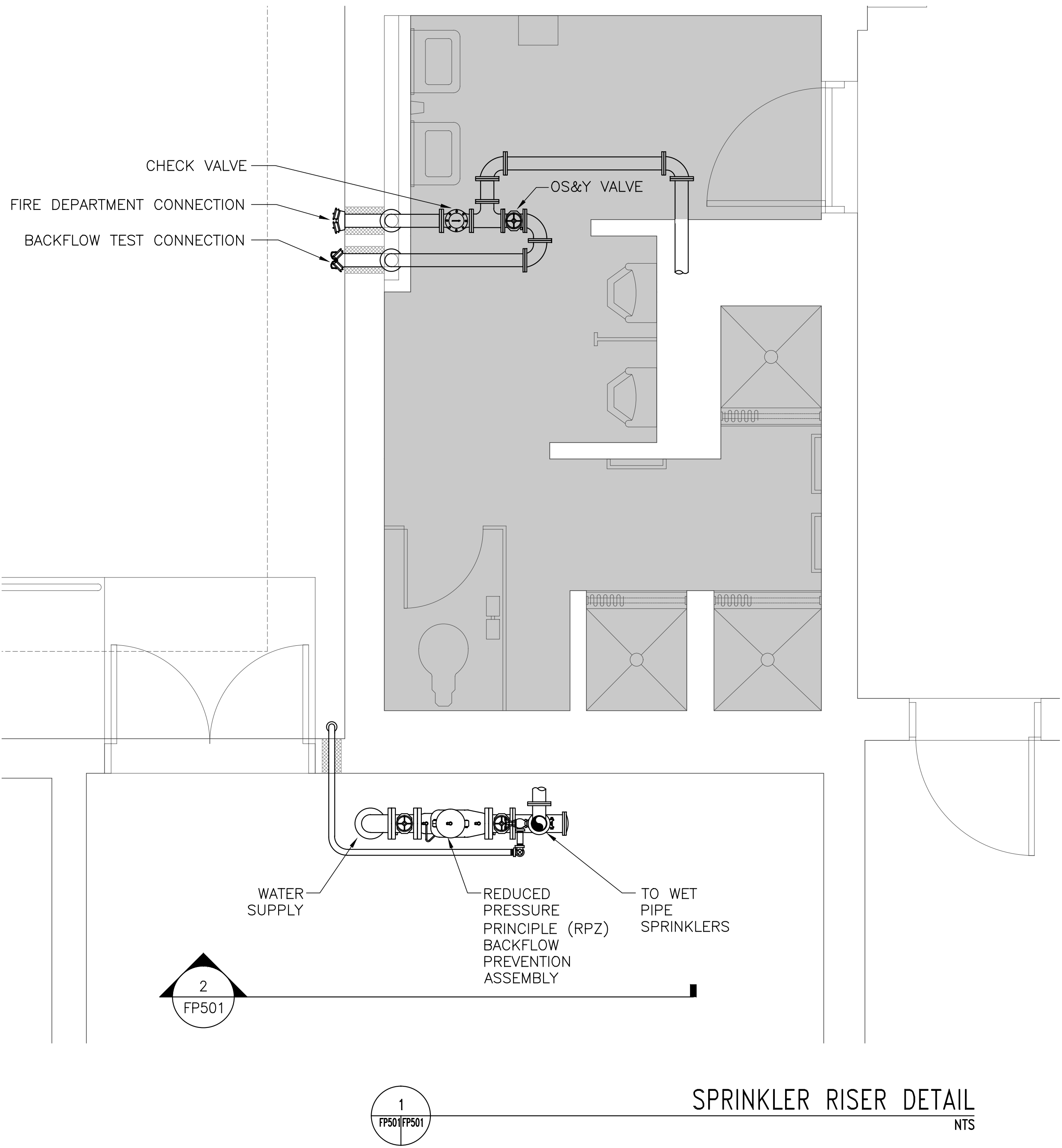


1 FLOOR PLAN: FIRE PROTECTION – NEW WORK  
Scale: 1/8" = 1'

- KEYED NOTES
- NOTES APPLY TO THIS SHEET ONLY
- 1 PROVIDE WET PIPE SPRINKLER IN OUTLINED AREA.
  - 2 NEW 6" UNDERGROUND SUPPLY.
  - 3 PROVIDE 6" SPRINKLER RISER. SEE DETAILS 1 & 2 ON SHEET FP501.

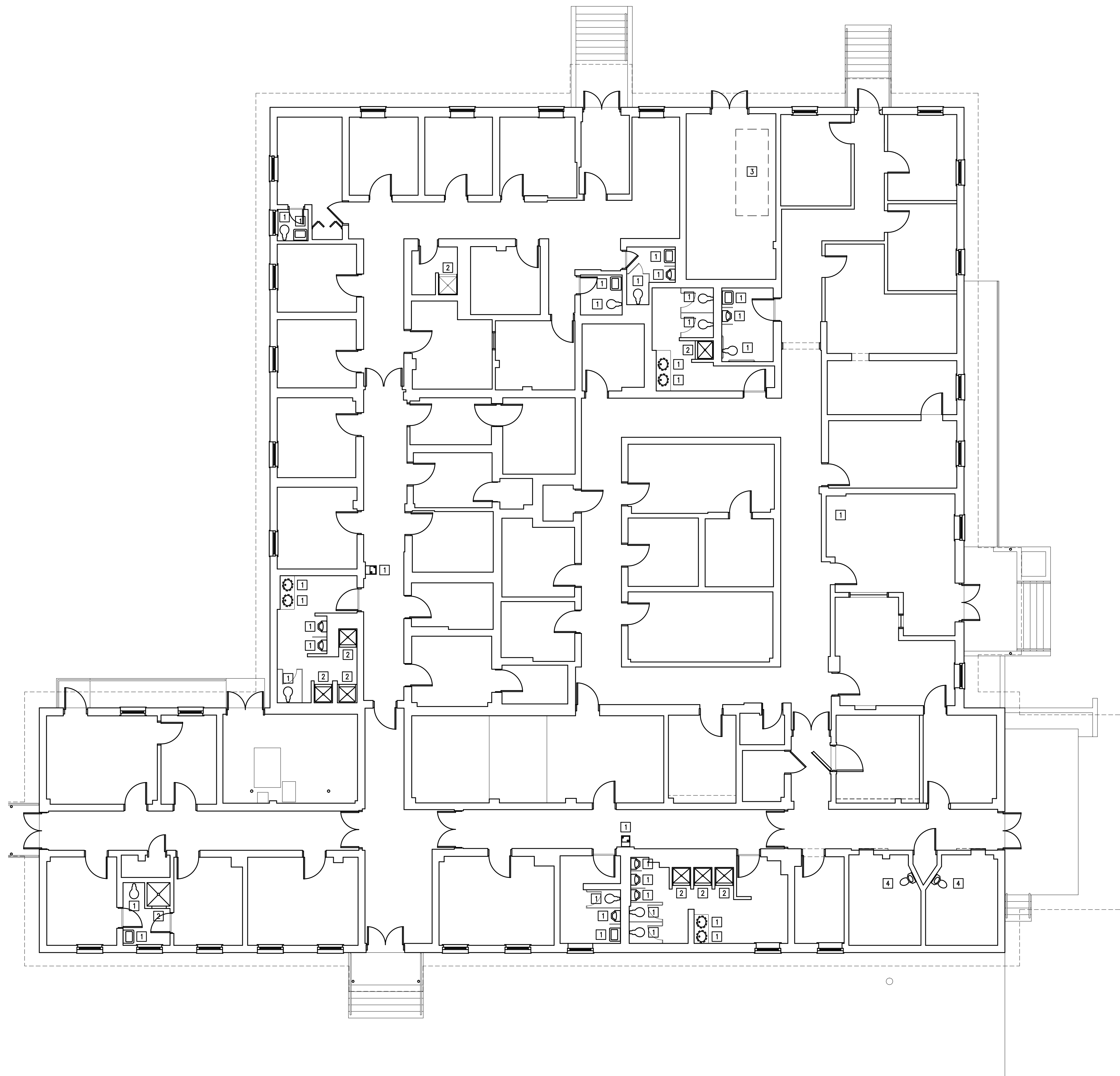
		FP101	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. AJW DR. HDS CHK. MMW SUBMITTED BY: DESIGN DIR. APPROVED: PWO OR OICC SATISFACTORY TO:		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302 FLOOR PLAN: FIRE PROTECTION – NEW WORK NAVFAC DRAWING NO. 60011834 CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 25 OF 48	





				<b>FP501</b>	
MAUNE BELANGIA FAULKENBERRY ARCHITECTS, PA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		<b>REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302</b>	
DES. A/W DR. HDS CHK. MMW SUBMITTED BY: DESIGN DIR.		APPROVED: PWO OR OICC Satisfactory To:		FIRE PROTECTION DETAILS NAVFAC DRAWING NO. <b>60011835</b> CONST. CONTR. NO. N40085-12-B-0066	
SIZE <b>F 80091</b>		DATE SCALE: AS NOTED		SHEET 26 OF 48	





1 FLOOR PLAN - PLUMBING DEMOLITION  
P-100 SCALE: 1/8" = 1' - 0"

- DEMOLITION PLAN NOTES:
- 1 REMOVE EXISTING TOILET FIXTURE
  - 2 REMOVE EXISTING TRIM ONLY. SHOWER FIXTURE TO REMAIN.
  - 3 REMOVE EXISTING WATER STORAGE TANK
  - 4 EXISTING SECURITY FIXTURE TO REMAIN



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NO LICENSE #C-1868 350 Bush Street, Suite 200  
Raleigh, North Carolina 27609  
919-871-9272 Fax 919-880-0800

DES. \_\_\_\_\_  
DR. \_\_\_\_\_  
CHK. \_\_\_\_\_  
SUBMITTED BY: \_\_\_\_\_  
DESIGN DIR. \_\_\_\_\_  
APPROVED: PWO OR OICC DATE \_\_\_\_\_  
SATISFACTORY TO: \_\_\_\_\_ DATE \_\_\_\_\_

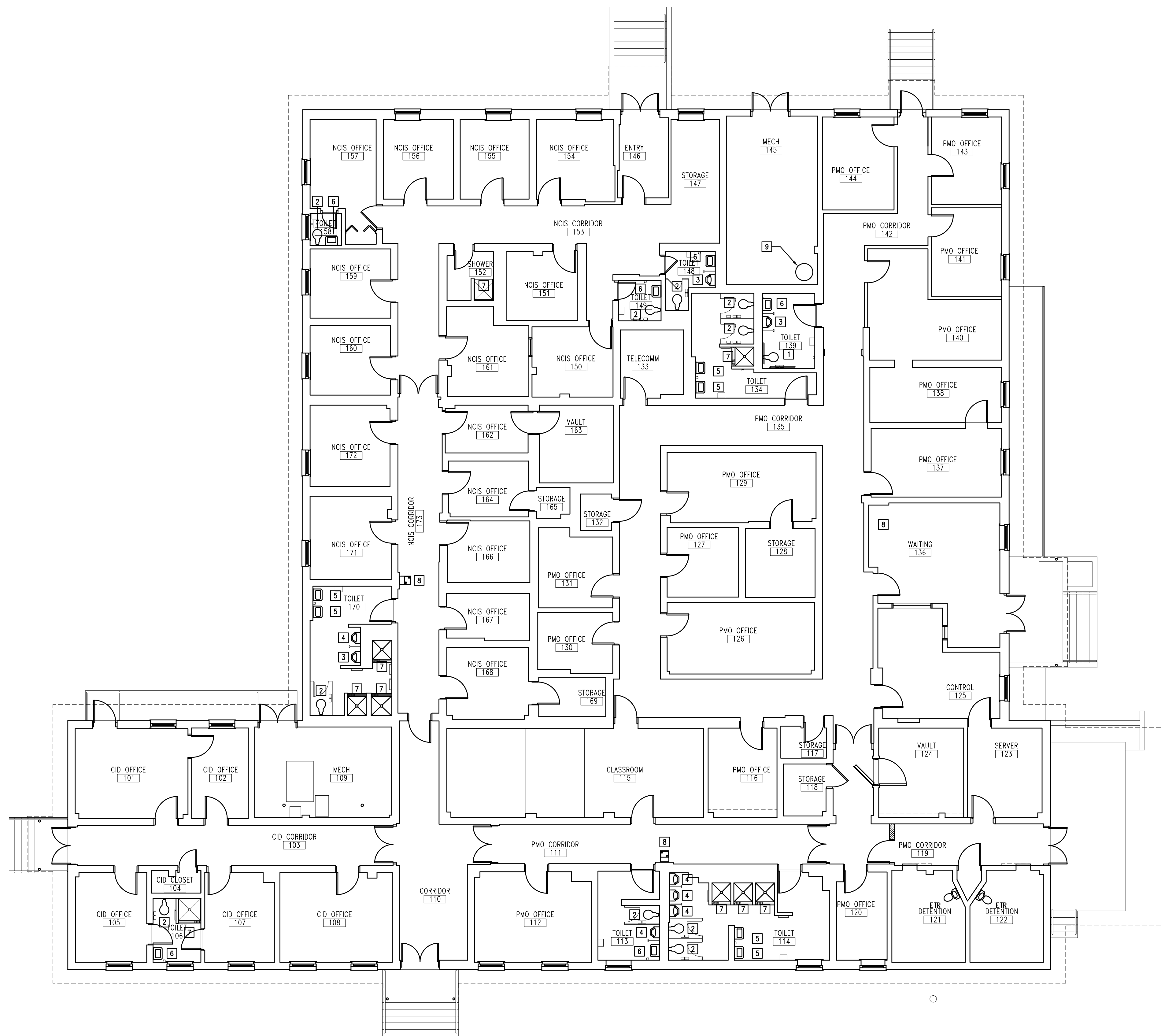
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

FLOOR PLAN: DEMOLITION  
NAVFAC DRAWING NO. 60011836  
CONST. CONTR. NO. N40085-12-B-0066  
SCALE: AS NOTED SPEC. 05-12-0066 SHEET 27 OF 48

P-100



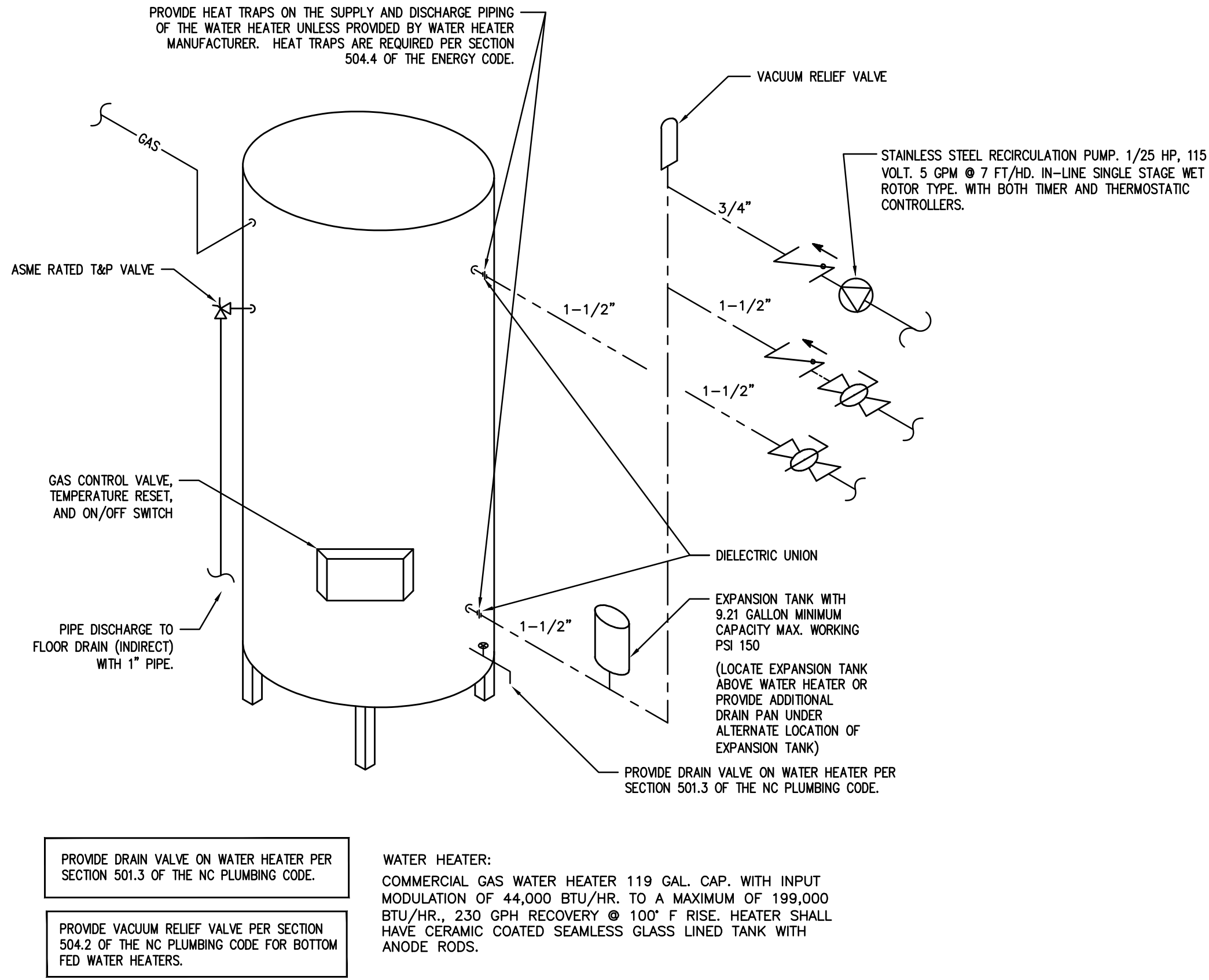


- PLAN NOTES:
1. PROVIDE NEW WATER CLOSET SPECIFIED AS "WC" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  2. PROVIDE NEW WATER CLOSET SPECIFIED AS "WC" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  3. PROVIDE NEW URINAL SPECIFIED AS "U" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  4. PROVIDE NEW URINAL SPECIFIED AS "U" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  5. PROVIDE NEW LAVATORY SPECIFIED AS "L" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  6. PROVIDE NEW LAVATORY SPECIFIED AS "L" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  7. PROVIDE NEW SHOWER TRIM SPECIFIED AS "ST" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  8. PROVIDE NEW ELECTRIC WATER COOLER SPECIFIED AS "EWC" ON PLUMBING FIXTURE SCHEDULE. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.
  9. PROVIDE NEW GAS WATER HEATER AS SPECIFIED. PROVIDE NECESSARY PIPING AND OFFSETS TO COMPLETE INSTALLATION.

1 FLOOR PLAN - PLUMBING NEW WORK  
P-101 SCALE: 1/8" = 1' - 0"

		P-101	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. _____ DR. _____ CHK. _____ SUBMITTED BY: _____ DESIGN DIR. _____ APPROVED: PWO OR OICC DATE _____ SATISFACTORY TO: _____ DATE _____		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302	
MEFA NO. 1203		FLOOR PLAN: NEW WORK	
SIZE CODE IDENT NO. F 80091		NAVFAC DRAWING NO. 60011837	
CONST. CONTR. NO. NA0085-12-B-0066		SHEET 28 OF 48	



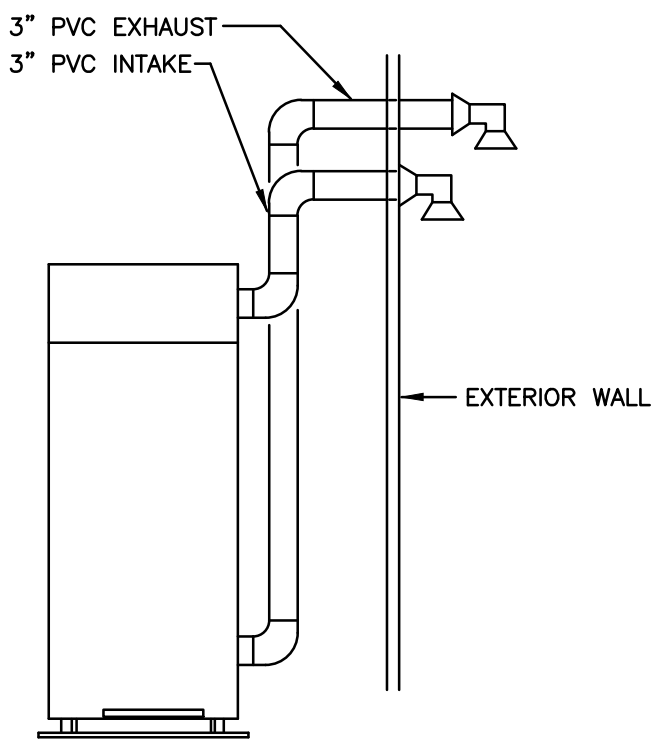


HEATER SHALL BE SUITABLE FOR SEALED COMBUSTION DIRECT VENTING USING A 3" DIAMETER PVC AIR INTAKE AND 3" DIAMETER PVC EXHAUST PIPE. THE WATER HEATER SHALL EXCEED THE RECOVERY EFFICIENCY AND STANDBY LOSS REQUIREMENTS OF ASHRAE 90.1b-1989(1992) FOR ENERGY CONSERVING APPLIANCES. TANK SHALL HAVE A WORKING PRESSURE OF 160 psi AND SHALL BE EQUIPPED WITH A BOILER TYPE HAND HOLE CLEANOUT. WATER HEATER SHALL BE COMPLETELY FACTORY ASSEMBLED, INCLUDING PRESSURE REGULATOR PROPERLY ADJUSTED FOR OPERATION ON 7-14" W.C. GAS AND STAINLESS STEEL BURNERS. CONTROLS WILL BE ARRANGED FOR SAFETY SHUTOFF IN EVENT OF PILOT FAILURE OR BLOCKAGES OF THE VENT OR INTAKE. WATER HEATER SHALL BE COVERED FOR A PERIOD OF (3) THREE YEARS AGAINST ANY LEAKS.

SEE DETAIL 2 THIS SHEET FOR DIRECT VENT/SEALED COMBUSTION DETAIL.








## 1 GAS WATER HEATER DETAIL



P-201 SCALE: NONE



## 2 GWH VENTING DETAIL

P-301 SCALE: NONE

PLUMBING FIXTURES, EQUIPMENT & ACCESSORIES						
MARK	DESCRIPTION	PIPE SERVICE AND CONN. SIZE			FIXTURE SPECIFICATIONS	
		CW	HW	WASTE		
W1	WATER CLOSET FLR. MTD. HANDICAPPED	1"	-	4"		1.6 GPF WHITE VITREOUS CHINA WATER CLOSET WITH ELONGATED BOWL, SIPHON JET FLUSHING, 1-1/2" TOP SPUD, 12" ROUGH-IN, 17-1/2" HIGH, & 2 BOLT CAPS. SEAL: EXTRA HEAVY DUTY ELONGATED BLACK OPEN FRONT SEAT. VALVE: EXPOSED DAPHRAGM TYPE, WITH DUAL-FLUSH FEATURE AND 1.6/1.1 GPF. MOUNT FLUSH VALVE HANDLE ON WIDE SIDE OF TOILET STALL.
W2	WATER CLOSET FLR. MTD.	1"	-	4"		1.6 GPF WHITE VITREOUS CHINA WATER CLOSET WITH ELONGATED BOWL, SIPHON JET FLUSHING, 1-1/2" TOP SPUD, 12" ROUGH-IN, 14-1/2" HIGH, & 2 BOLT CAPS. SEAL: EXTRA HEAVY DUTY ELONGATED BLACK OPEN FRONT SEAT. VALVE: EXPOSED DAPHRAGM TYPE, WITH DUAL-FLUSH FEATURE AND 1.6/1.1 GPF.
U1	URNAL WALL MTD. HANDICAPPED	3/4"	-	2"		1/8 GPF WHITE VITREOUS CHINA URINAL, SIPHON JET FLUSHING, AND 3/4" TOP SPUD. MOUNT URINAL 17" A.F.F. TO MEET ADA REQUIREMENTS. VALVE: EXPOSED DAPHRAGM TYPE, WITH 1/8 GPF.
U2	URNAL WALL MTD.	3/4"	-	2"		1/8 GPF WHITE VITREOUS CHINA URINAL, SIPHON JET FLUSHING, AND 3/4" TOP SPUD. MOUNT URINAL 24" A.F.F. VALVE: EXPOSED DAPHRAGM TYPE, WITH 1/8 GPF.
L1	LAVATORY CTR. MTD.	3/8"	3/8"	1-1/2"		WHITE CTR. MTD. VITREOUS CHINA 20"x17" LAVATORY WITH 4" FAUCET CENTERS. TRAP & SUPPLIES: 17 GA. 1 1/4" X 1 1/2" P-TRAP AND NIPPLE. ANGLE SUPPLY STOPS. FAUCET: SINGLE HANDLE WITH GRID WASTE ASSEMBLY AND 0.5 GPM FLOW RESTRICTOR. ACCESSORIES: 3-PIECE INTERLOCKING TRAP ASSEMBLY AND 2-PIECE INTERLOCKING HOT WATER ANGLE VALVE ASSEMBLY, AND NYLON TYPE FASTENERS. MOUNT RIM AT 34" AFF AND INSTALL P-TRAP SUCH THAT A MINIMUM OF 27" CLEAR FROM FINISHED FLOOR TO BOTTOM OF TRAP IS MAINTAINED IN ACCORDANCE TO ADA REQUIREMENTS.
L2	LAVATORY WALL MTD.	3/8"	3/8"	1-1/2"		WHITE WALL MTD. VITREOUS CHINA 20"x18" LAVATORY WITH 4" FAUCET CENTERS. TRAP & SUPPLIES: 17 GA. 1 1/4" X 1 1/2" P-TRAP AND NIPPLE. ANGLE SUPPLY STOPS. FAUCET: SINGLE HANDLE WITH GRID WASTE ASSEMBLY AND 0.5 GPM FLOW RESTRICTOR. ACCESSORIES: 3-PIECE INTERLOCKING TRAP ASSEMBLY AND 2-PIECE INTERLOCKING HOT WATER ANGLE VALVE ASSEMBLY, AND NYLON TYPE FASTENERS. MOUNT RIM AT 34" AFF AND INSTALL P-TRAP SUCH THAT A MINIMUM OF 27" CLEAR FROM FINISHED FLOOR TO BOTTOM OF TRAP IS MAINTAINED IN ACCORDANCE TO ADA REQUIREMENTS.
EW	ELECTRIC WATER COOLER	3/8"	-	1-1/2"		WHEEL CHAIR TYPE WALL MOUNTED WATER COOLER WITH HERMETICALLY SEALED AND AIR COOLED REFRIGERATING UNIT, WITH ELECTRIC PUSH BUTTON ON FRONT AND SIDE, COLORED VINYL COVERED STEEL SKIRT, AND STAINLESS STEEL HOOD-RECEPTOR. MOUNT SPOUT AT 34" A.F.F.
SH	SHOWER	1/2"	1/2"	2"		SHOWER IS EXISTING TO REMAIN. PROVIDE NEW TRIM/VALVE AS SPECIFIED. VALVE: SINGLE HANDLE PRESSURE BALANCING SHOWER VALVE WITH ADA ACCESSORIES.
SA	SHOCK ABSORBER	-	-	-		WATER HAMMER ARRESTOR TO MEET ALL REQUIREMENTS OF ASSE 1010 AS REQUIRED BY 2012 NCSBC, PLUMBING CODE, SECTION 604.9.
VB	VACUUM BREAKER	-	-	-		VACUUM BREAKER TO MEET ALL REQUIREMENTS OF ASSE 1022 AS REQUIRED BY 2012 NCSBC, PLUMBING CODE, SECTION 608.16.1.





		<b>P-201</b>	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
DES. _____ DR. _____ CHK. _____ SUBMITTED BY: _____ DESIGN DIR. _____		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302	
APPROVED: PWO OR OICC	DATE	SIZE	CODE IDENT NO.
SATISFACTORY TO: _____		DATE	CONST. CONTR. NO.
		PLUMBING DETAILS	
		NAVFAC DRAWING NO.	
		60011838	
		SPEC. 05-12-0066	
		SHEET 29 OF 48	

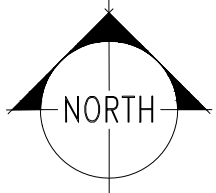


## DRAWING LEGEND

**MARKS**

## DRAWING SYMBOLS

- 
 ← DETAIL NUMBER  

 ← DRAWING NUMBER WHERE DRAWN
- 
- 
 ← SECTION NUMBER  

 ← DRAWING NUMBER WHERE SHOWN

 STRAINER WITH BLOW OFF VALVE

CFM	CUBIC FEET PER MINUTE
ESP	EXTERNAL STATIC PRESSURE
F	FAHRENHEIT
HP	HORSEPOWER
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HZ	HERTZ
KW	TOTAL POWER INPUT, KILOWATTS
LBS	POUNDS
MCA	MINIMUM CIRCUIT AMPS
MOCB	MAXIMUM OVER CURRENT PROTECTION
PH	PHASE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RPM	REVOLUTIONS PER MINUTE
TYP	TYPICAL

ACC	AIR COOLED CHILLER
AHU	AIR HANDLING UNIT
EF	EXHAUST FAN

103 <b>CRENSHAW CONSULTING</b> <i>CofA 126877</i> www.crenshawconsulting.com NC LICENSE #C-106    2010 Bush Street, Suite 250 Raleigh, North Carolina 27609 919-471-0710    Fax: 971-5850	DEPARTMENT OF THE NAVY    NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		
	REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302		
	MECHANICAL LEGENDS AND GENERAL NOTES		
	DATE SIZE F	CODE 80091	NAVFAC DRAWING NO. 60011839 CONST. CONTR. NO. N40085-12-B-0066
DES. DR. CHK. SUBMITTED BY: DESIGN APPROV. DATE	SATISFACTORY TO:    DATE		
SCALE: AS NOTED		SPEC. 05-12-0066	SHEET 30 OF 42

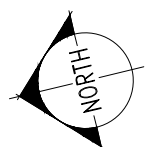
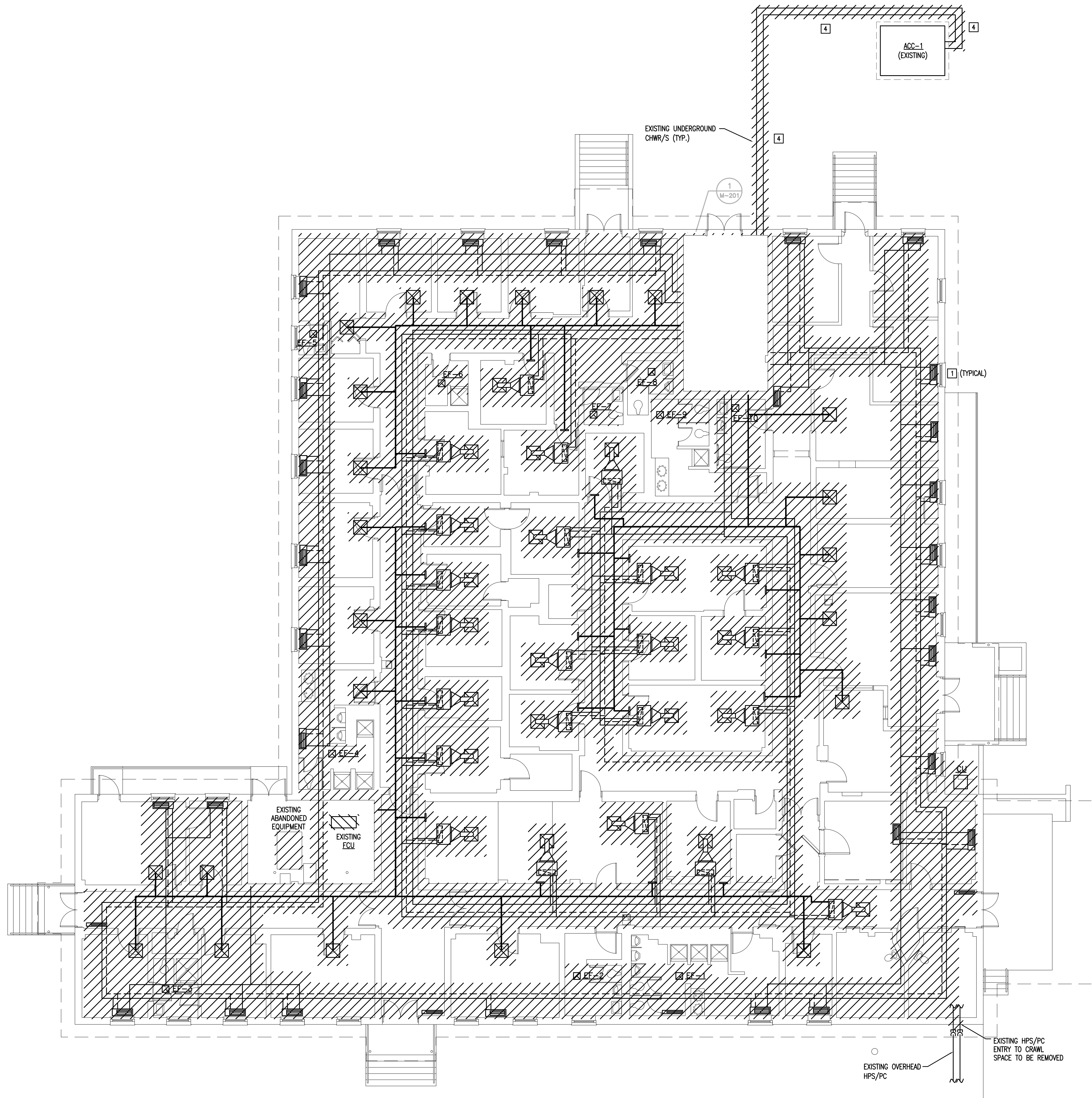


GENERAL NOTES:

1. SEE M-001 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.

DEMOLITION NOTES:

- 1 REMOVE ALL EXISTING VERTICAL FAN COIL UNITS INCLUDING ALL DUAL TEMPERATURE PIPING, CONDENSATE PIPES, AND ACCESSORIES IN CRAWL SPACE.
- 2 REMOVE ALL EXISTING HORIZONTAL FAN COIL UNITS INCLUDING ALL DUAL TEMPERATURE PIPING, CONDENSATE PIPES, AND ACCESSORIES ABOVE CEILING.
- 3 REMOVE EXISTING STEAM PIPING BACK TO BUILDING ENTRY AND CAP.
- 4 REMOVE EXISTING UNDERGROUND CHILLED WATER PIPING BACK TO EXISTING CHILLER. EXISTING CHILLER TO REMAIN. SEE NEW WORK DRAWINGS FOR NEW PIPING CONNECTIONS.



1 FLOOR PLAN - MECHANICAL DEMOLITION  
M-101 SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"  
8 0 4 8 16



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

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

DEFA NO. 1203

DES.  
DR.  
CHK.  
SUBMITTED BY:  
DESIGN DIR.  
APPROVED: PWO OR OICC DATE  
SATISFACTORY TO: DATE

FLOOR PLAN: MECHANICAL DEMOLITION  
NAVFAC DRAWING NO.  
60011840  
CONST. CONTR. NO. N40085-12-B-0066

SCALE: AS NOTED SPEC. 05-12-0066 SHEET 31 OF 48

M-101

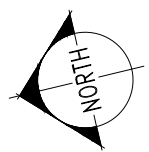
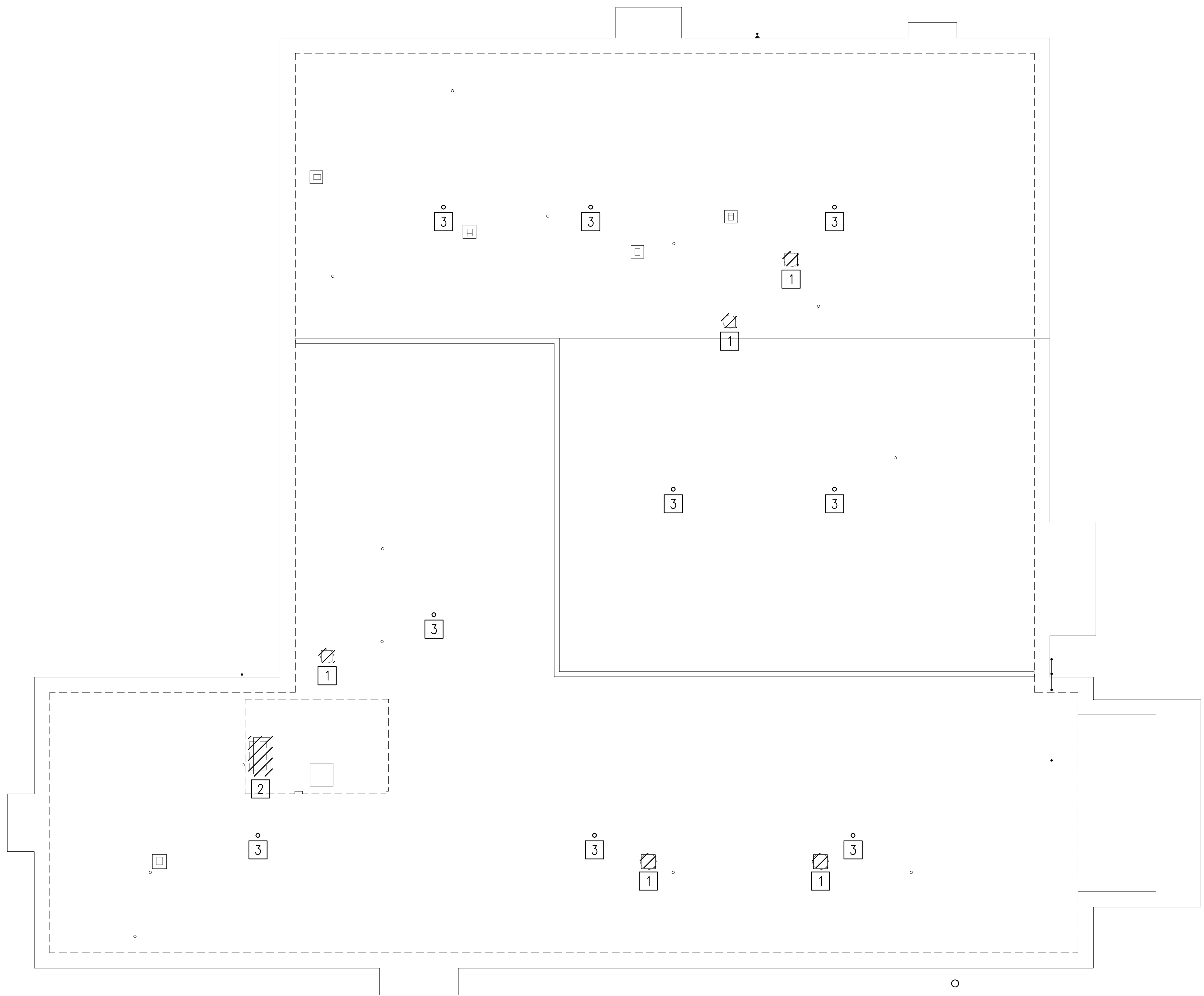


GENERAL NOTES:

1. SEE M-001 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.

DEMOLITION NOTES:

- 1 REMOVE EXISTING ROOF-MOUNTED EXHAUST FAN AND CAP EXISTING ROOF CURB.
- 2 REMOVE EXISTING ROOF-MOUNTED AIR IN-TAKE AND CAP EXISTING ROOF CURB.
- 3 REMOVE DOME STRAINER FROM EXISTING ROOF DRAIN.



1 ROOF PLAN - MECHANICAL DEMOLITION  
M-102 / SCALE: 1/8" = 1'-0"

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

	M-102	
	CRENSHAW CONSULTING www.crenshawconsulting.com NO LICENSE #C-1166 300 Bush Street, Suite 200 Raleigh, North Carolina 27609 919-871-9070 Fax 919-871-9880	
DES. _____	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
DR. _____	MARINE CORPS BASE	
CHK. _____	CAMP LEJEUNE, NORTH CAROLINA	
SUBMITTED BY: _____	REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302	
DESIGN DIR. _____	ROOF PLAN - MECHANICAL DEMOLITION	
APPROVED: PWO OR OICC _____ DATE _____	SIZE CODE IDENT NO. F 80091	NAVFAC DRAWING NO. 60011841
SATISFACTORY TO: _____ DATE _____	CONST. CONTR. NO. NA0085-12-B-0066	
SCALE: AS NOTED		SHEET 32 OF 48

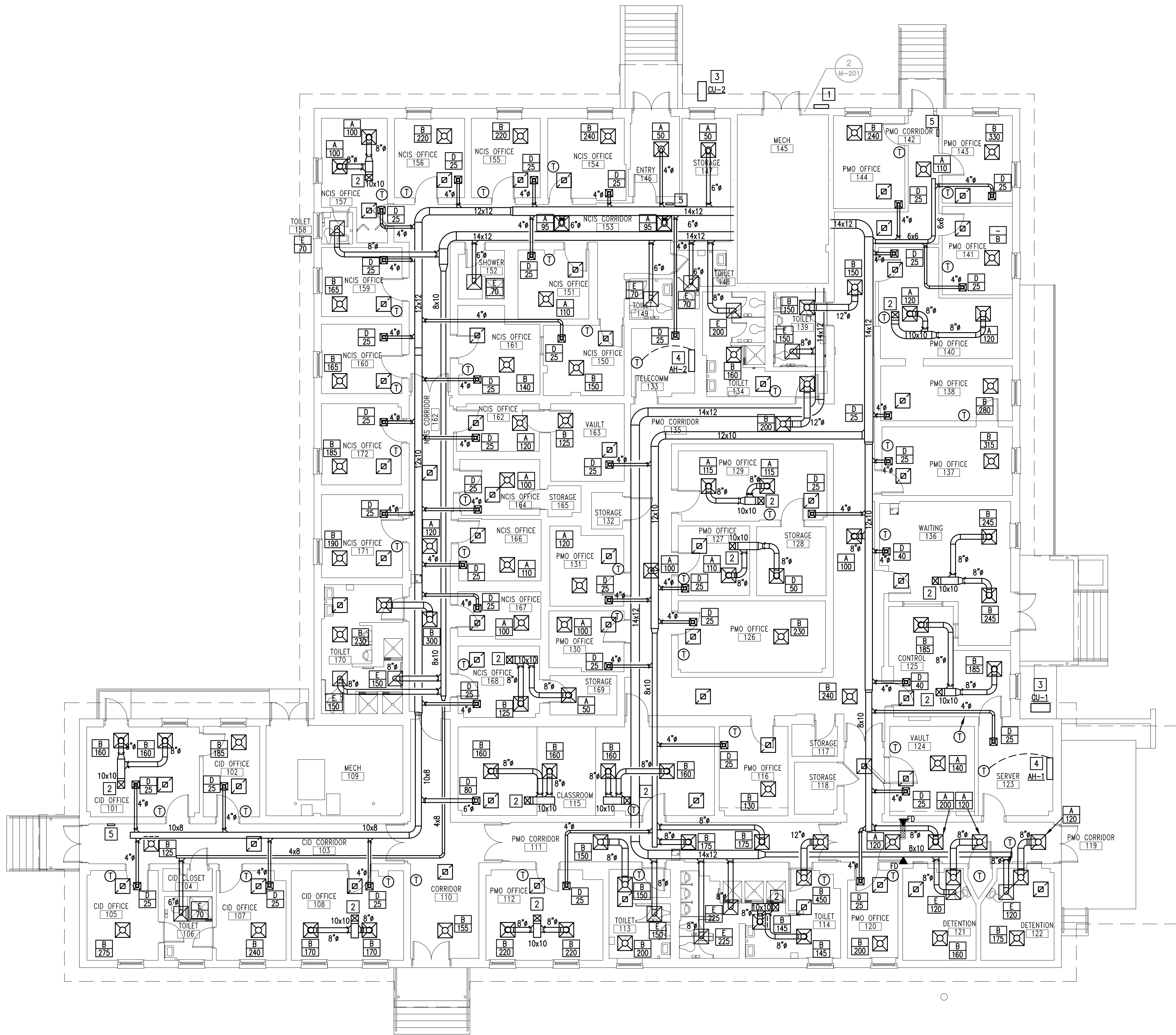


GENERAL NOTES:

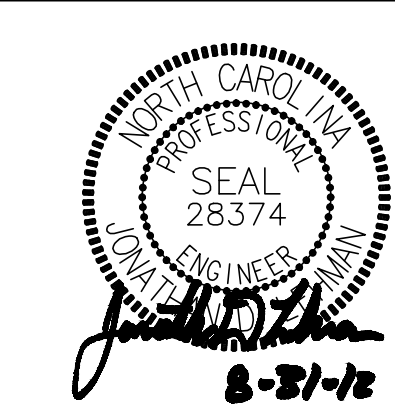
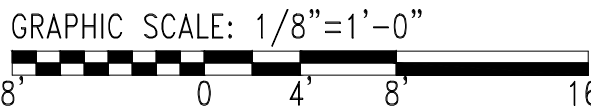
- SEE M-001 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.
- FAN COIL UNITS AND DUCTWORK INSTALLED IN ATTIC NOT SHOWN FOR CLARITY. SEE 1/M-104 FOR FAN COIL UNITS AND DUCTWORK.

PLAN NOTES:

- NEW NATURAL GAS STUB-UP, METER, AND REGULATOR (10" W.C.) BY OTHERS.
- DUCTWORK UP THROUGH ATTIC FLOOR. SEE 1/M-104 FOR CONTINUATION.
- INSTALL NEW CONDENSING UNIT PER 6/M502. PROVIDE LOCKABLE CONDENSER GUARD WITH NO OPENINGS 6" OR GREATER IN DIMENSION. CONDENSER GUARD SHALL BE INSTALLED SUCH THAT OBJECTS 6" OR GREATER CANNOT BE PLACED BETWEEN THE CONDENSER GUARD AND THE EXTERIOR WALL.
- COORDINATE LOCATION OF WALL-MOUNTED AIR HANDLER WITH TELECOM/SERVER EQUIPMENT. ROUTE CONDENSATE FROM UNIT-MOUNTED CONDENSATE PUMP TO NEAREST DRAIN IN ATTIC OR EXTERIOR.
- PROVIDE NEW PUSH-BUTTON TYPE EMERGENCY HVAC SHUTDOWN SWITCH.



1 FLOOR PLAN - HVAC NEW WORK  
M-103 SCALE: 1/8" = 1'-0"



DES. \_\_\_\_\_  
DR. \_\_\_\_\_  
CHK. \_\_\_\_\_  
SUBMITTED BY: \_\_\_\_\_  
DESIGN DIR. \_\_\_\_\_  
APPROVED: PWO OR OICC DATE \_\_\_\_\_  
SATISFACTORY TO: \_\_\_\_\_ DATE \_\_\_\_\_

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

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

FLOOR PLAN - HVAC NEW WORK  
NAVFAC DRAWING NO. 60011842  
CONST. CONTR. NO. N40085-12-B-0066  
SCALE: AS NOTED SPEC. 05-12-0066 SHEET 33 OF 48

M-103

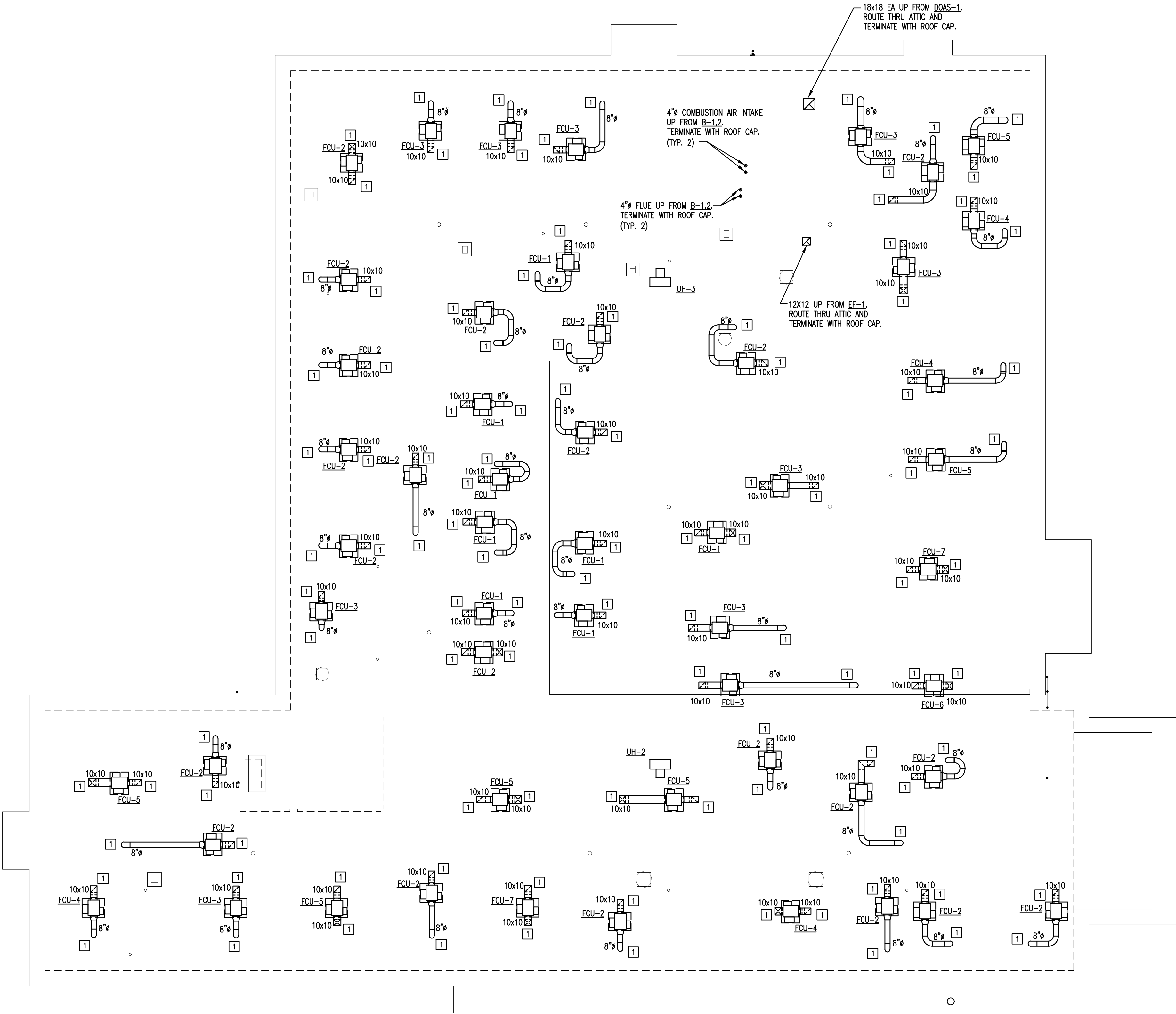


GENERAL NOTES:

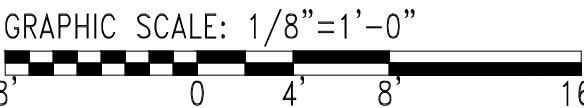
- 1. SEE M-001 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.
- 2. CEILING DIFFUSERS AND GRILLES NOT SHOWN FOR CLARITY. SEE 1/M-103 FOR CEILING DIFFUSERS AND GRILLES.

PLAN NOTES:

- 1 DUCTWORK DOWN THROUGH ATTIC FLOOR. SEE 1/M-103 FOR CONTINUATION.



1 ATTIC PLAN - HVAC NEW WORK  
M-104 SCALE: 1/8" = 1'-0"



	M-104	
	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
	REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302	
	FLOOR PLAN: HVAC NEW WORK NAVFAC DRAWING NO. 60011843 CONST. CONTR. NO. NA0085-12-B-0066	
DES. _____ DR. _____ CHK. _____ SUBMITTED BY: _____ DESIGN DIR. _____ APPROVED: PWO OR OICC _____ DATE _____ SATISFACTORY TO: _____ DATE _____	SIZE F CODE 80091 IDENT NO. 60011843	SCALE: AS NOTED SPEC. 05-12-0066 SHEET 34 OF 48

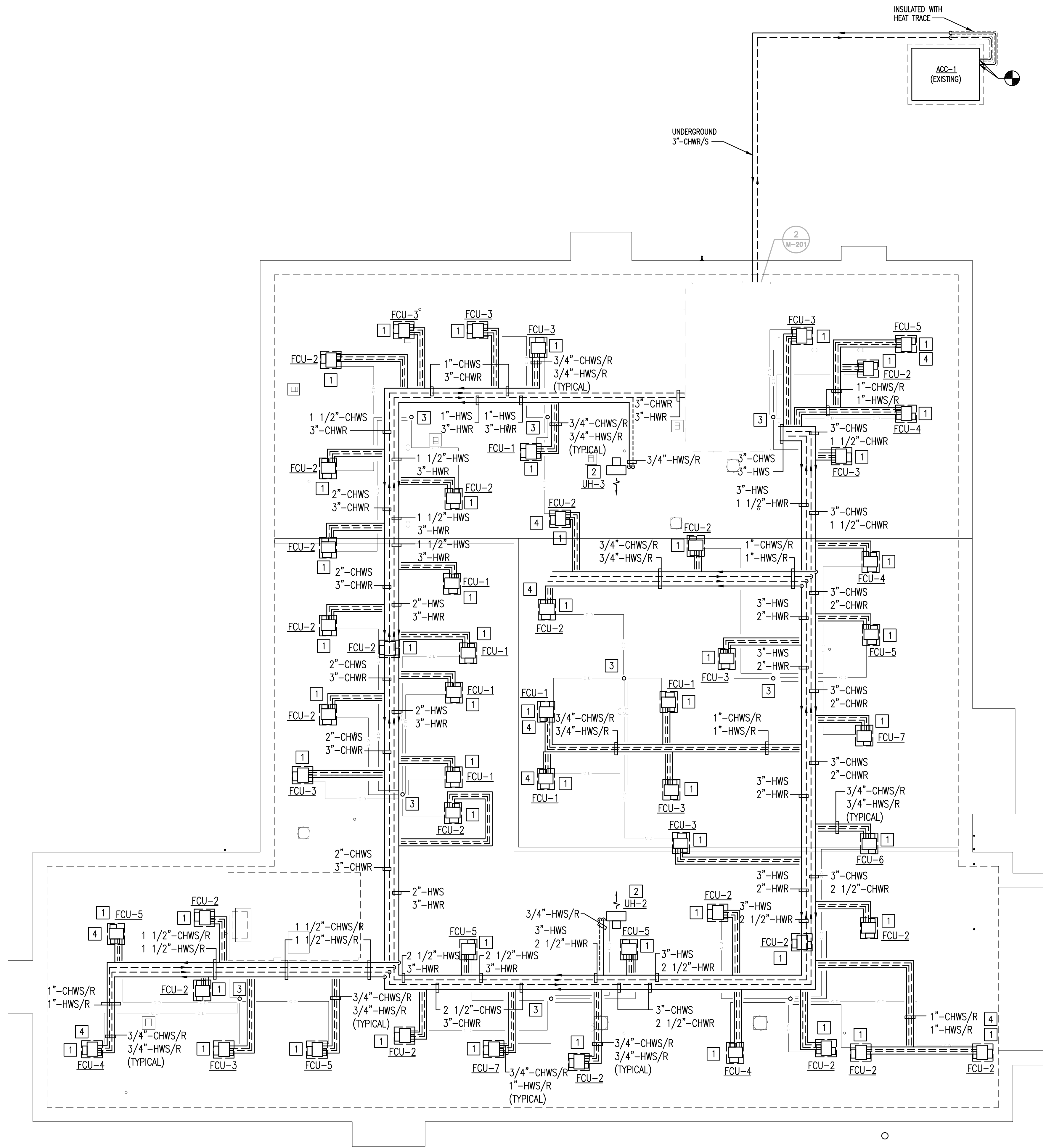


GENERAL NOTES:

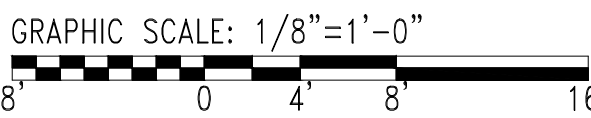
1. SEE M-001 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.

PLAN NOTES:

1. CONNECT CHWS/R AND HWS/R BRANCH PIPING FROM FAN COIL UNIT TO MAIN PIPING IN ATTIC SPACE. PROVIDE BALL-TYPE SHUTOFF VALVES AT ALL CONNECTIONS. SEE 7/M-501 FOR PIPING CONNECTION DETAILS. PROVIDE 1"(MIN.) CONDENSATE PIPING DRAIN WITH P-TRAP AT NEW FAN COIL UNIT AND ROUTE TO NEAREST EXISTING ROOF DRAIN.
2. SUSPEND HOT WATER UNIT HEATER FROM NEW ROOF STRUCTURE.
3. TERMINATE CONDENSATE PIPING FROM FAN COIL UNITS AT EXISTING ROOF DRAINS.
4. PROVIDE MODULATING 3-WAY CONTROL VALVE IN LIEU OF 2-WAY VALVE FOR HOT WATER COIL. SEE NOTE 4 UNDER FAN COIL UNIT SCHEDULE ON M-601.



1 ATTIC PLAN - HVAC PIPING NEW WORK  
M-105 SCALE: 1/8" = 1'-0"



DES.		DR.		CHK.		SUBMITTED BY:		DESIGN DIR.		APPROVED: PWO OR OICC		DATE	SIZE	CODE	IDENT NO.	NAVFAC DRAWING NO.
SATISFACTORY TO:		DATE		F		80091		60011844		CONST. CONTR. NO. N40085-12-B-0066		SCALE: AS NOTED		SPEC. 05-12-0066		SHEET 35 OF 48

M-105

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

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

ATTIC PLAN - HVAC PIPING NEW WORK

NAVFAC DRAWING NO.

60011844

CONST. CONTR. NO. N40085-12-B-0066

SCALE: AS NOTED

SPEC. 05-12-0066

SHEET 35 OF 48





1. SEE M-001 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.

- |      |  |
|------|--|
| [D1] | EXISTING DOMESTIC HOT WATER HEATER/STORAGE TANK TO BE REMOVED BY OTHERS. REMOVE EXISTING STEAM AND CONDENSATE PIPING ASSOCIATED WITH HOT WATER HEATER (TANK MOUNTED, TUBE TYPE). |
| [D2] | REMOVE EXISTING PRESSURE-POWERED CONDENSATE PUMP AND ALL ASSOCIATED PIPING, VALVES, AND FITTINGS.  |
| [D3] | REMOVE EXISTING BASE-MOUNTED PUMP AND ALL ASSOCIATED PIPING, VALVES, AND FITTINGS. REMOVE EXISTING HOUSEKEEPING PAD.   |
| [D4] | REMOVE EXISTING IN-LINE PUMP AND ALL ASSOCIATED PIPING, VALVES, AND FITTINGS.  |
| [D5] | REMOVE EXISTING AIR SEPARATOR AND ALL ASSOCIATED PIPING, VALVES, AND FITTINGS.   |
| [D6] | REMOVE EXISTING HIGH PRESSURE STEAM PRV STATION, MANIFOLD, AND ALL ASSOCIATED PIPING, VALVES, AND FITTINGS.  |
| [D7] | REMOVE EXISTING STEAM-TO-HW HEAT EXCHANGER AND ALL ASSOCIATED PIPING, VALVES, AND FITTINGS.  |
| [D8] | REMOVE EXISTING OUTSIDE AIR HANDLING UNIT AND ALL ASSOCIATED DUCTWORK, PIPING, VALVES, AND FITTINGS.   |
| [D9] | REMOVE EXISTING OUTSIDE AIR PLENUM CONNECTED TO EXISTING LOUVER. EXISTING LOUVER TO REMAIN.  |

- 1 NEW NATURAL GAS STUB-UP, METER, AND REGULATOR (997 MBH @ 10"W.C.) BY OTHERS.
- 2 FURNISH AND INSTALL NEW 56"l x 24"W x 36"H INTAKE PLENUM AND CONNECT TO EXISTING LOUVER. PROVIDE PANEL INSIDE PLENUM TO SEPARATE INTAKE AIR FOR EF-1 (18"l x 24"W x 36"H) FROM INTAKE AIR FOR DOAS-1 (38"l x 24"W x 36"H). BOTTOM OF PLENUM SHALL BE 10'-0" A.F.G. BLANK OFF EXISTING LOUVER FROM ABOVE DOOR TO BOTTOM OF NEW INTAKE PLENUM.
- 3 NEW 12"W x 24"H MOTORIZED CONTROL DAMPER. CENTER DAMPER ON INTERLOCK DAMPER DESIGNATED FOR EF-1 INTAKE AIR (18"l x 24"W x 36"H). INTERLOCK DAMPER TO OPEN WHEN EF-1 IS OPERATING.
- 4 PROVIDE NATURAL GAS SOLENOID VALVE AT GAS PIPING ENTRANCE INTO MECHANICAL ROOM. PROVIDE EMERGENCY SWITCH TO CLOSE SOLENOID VALVE. SWITCH SHALL BE LABELED "EMERGENCY GAS SHUTOFF" AND LOCATED NEAR MECHANICAL ROOM EXTERIOR DOOR.
- 5 CONNECT NATURAL GAS PIPING TO DOMESTIC WATER HEATER. DOMESTIC WATER HEATER BY OTHERS.

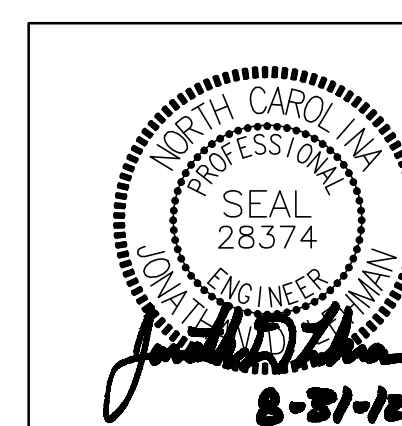
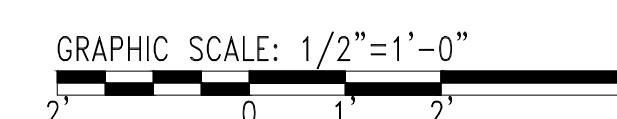


GAS PIPING SIZES BASED ON A LOW PRESSURE SYSTEM (< 2 PSI), A PRESSURE DROP OF 0.5 IN. WATER COLUMN, NATURAL GAS AND SCHEDULE 40 PIPE. SIZES BASED ON TABLE 402.4(2) OF THE 2009 INTERNATIONAL FUEL GAS CODE.

1. PROVIDE MANUAL SHUTOFF VALVE FOR EACH PIECE OF GAS EQUIPMENT.
2. CONTRACTOR SHALL VERIFY GAS REQUIREMENTS FOR EACH PIECE OF EQUIPMENT PRIOR TO INSTALLING GAS PIPING. CONFIRM EQUIPMENT WITH OWNER.
3. GAS PIPING SHALL BE SCHEDULE 40 ASTM A53 OR A120, T&C. WHERE EXPOSED TO WEATHER, PAINT TO PREVENT CORROSION. INSTALL PER NFPA 54.
4. MECHANICAL CONTRACTOR TO VERIFY METER LOCATION AND MAXIMUM LINE LENGTHS PRIOR TO INSTALLATION. IF CONDITIONS VARY FROM THOSE SHOWN ON THE DRAWINGS, CONTACT ENGINEER FOR LINE SIZING.

GAS CONNECTED LOAD			
QTY.	EQUIPMENT	BTUH INPUT EACH	BTUH INPUT TOTAL
2	HVAC BOILER	399,000	798,000
1	DOMESTIC HW HEATER	199,000	199,000
		TOTAL	997,000

EQUIVALENT LENGTH = 60'



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

REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

DES.	
DR.	
CHK.	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

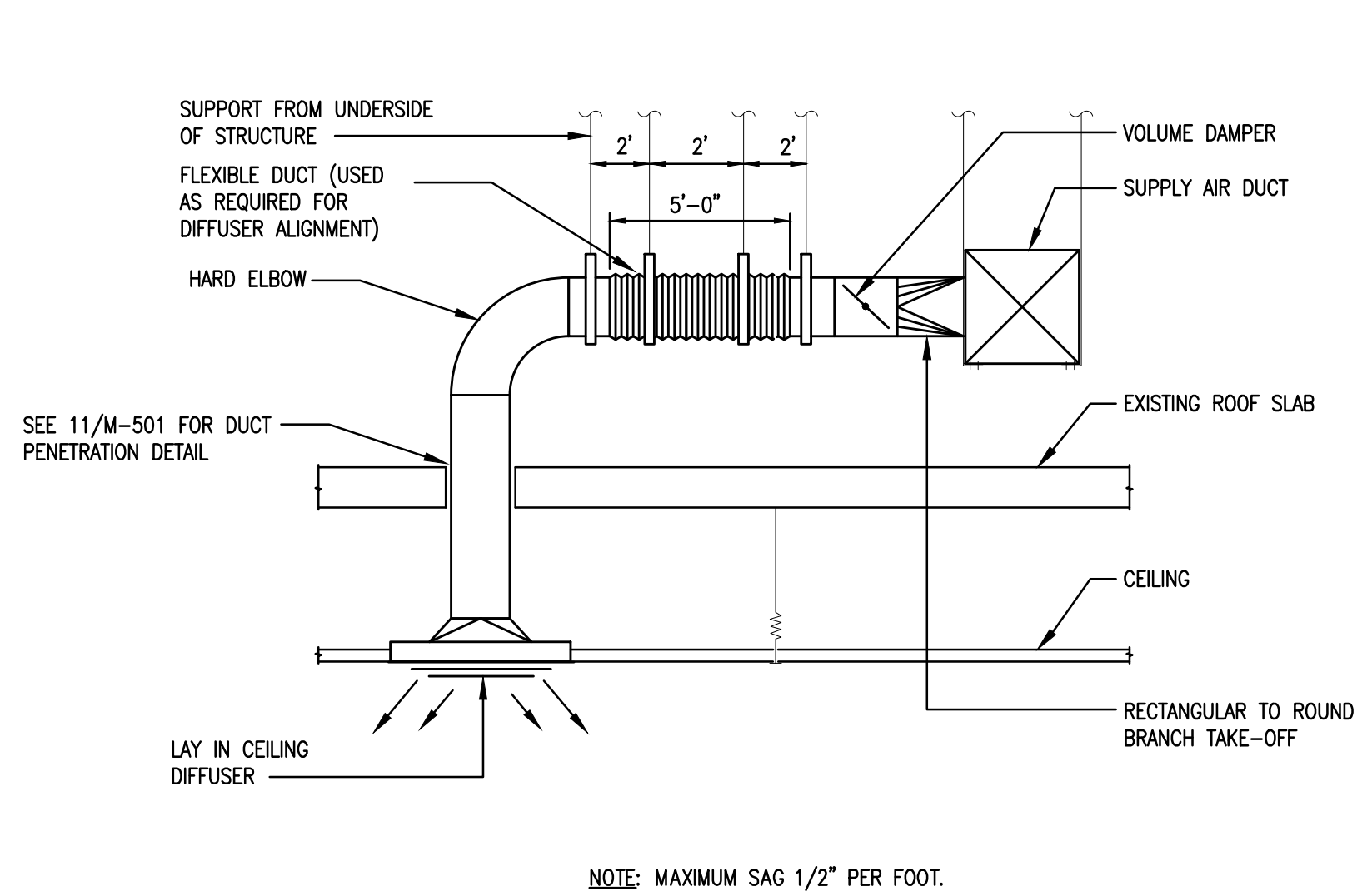
ENLARGED PLAN - MECHANICAL ROOM

E	SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
E	F	80091	60011845
			CONST. CONTR. NO. N40085-12-B-0066

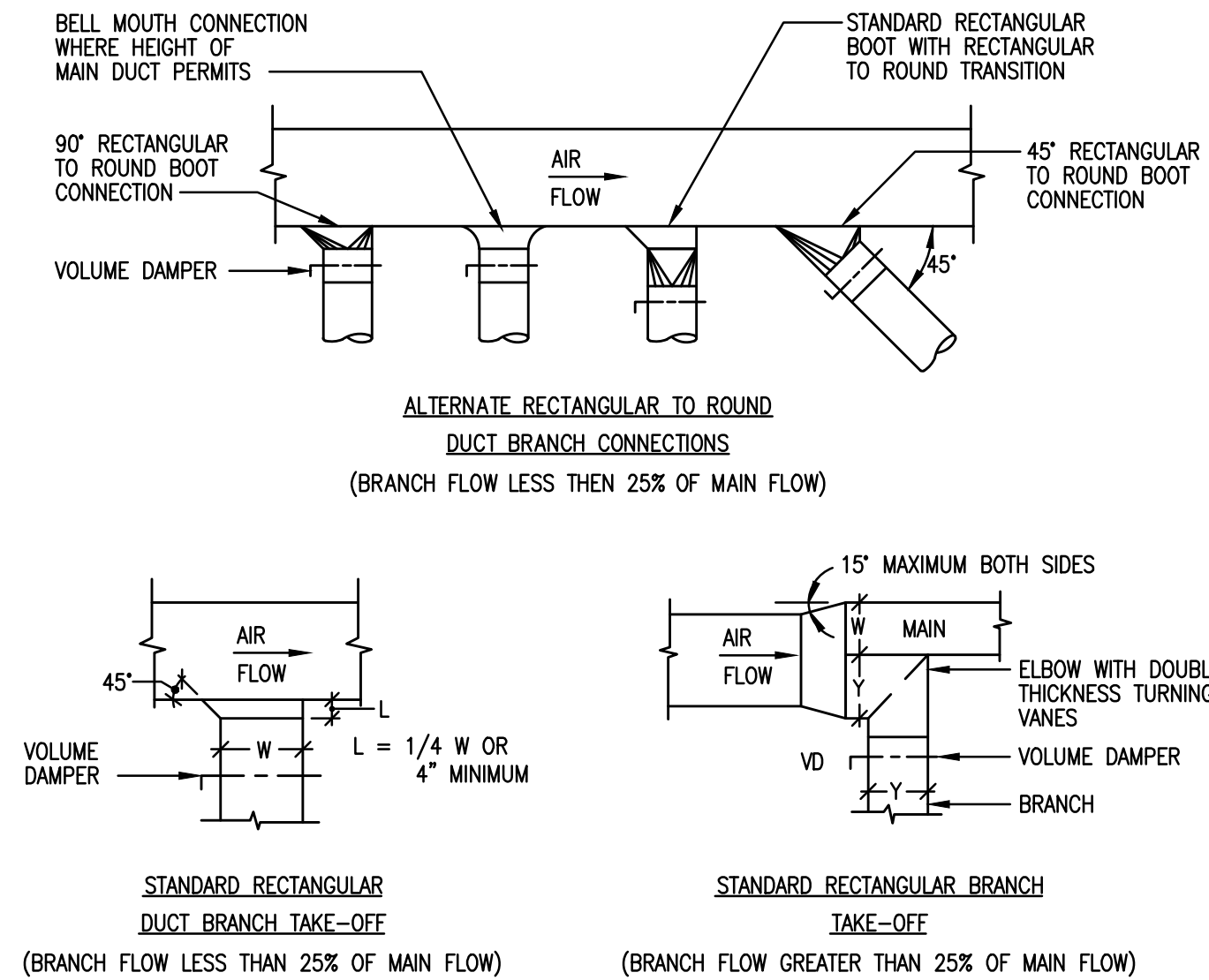
SCALE: AS NOTED	SPEC. 05-12-0066	SHEET 36 OF 48
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# M-201

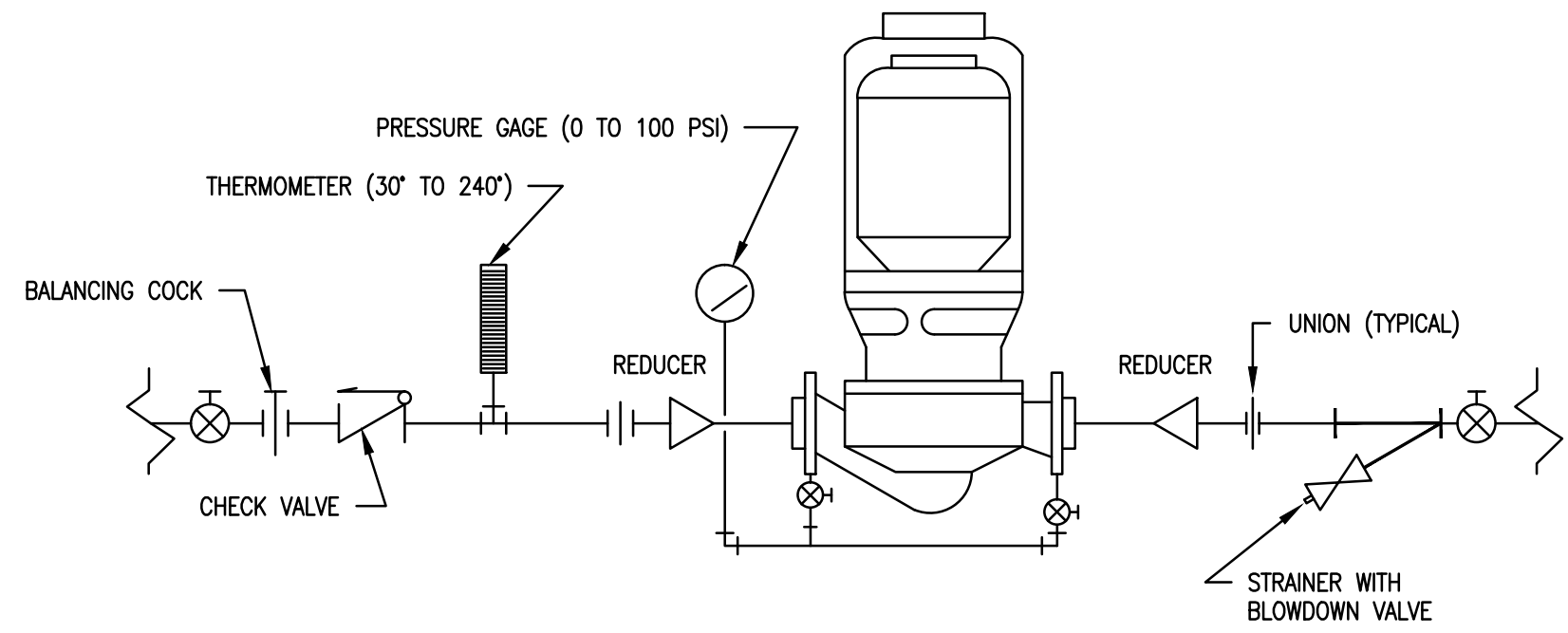




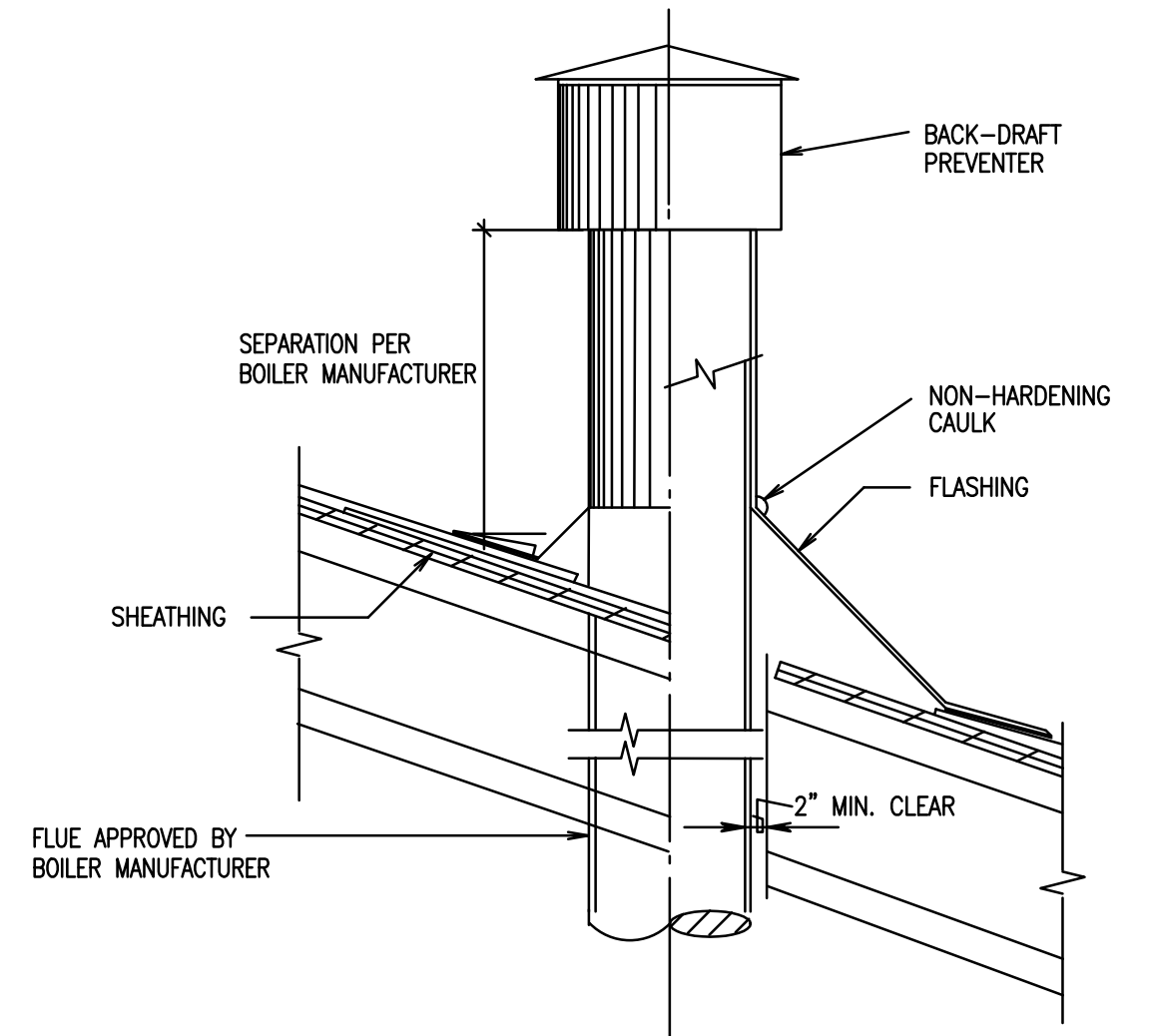
1 FLEXIBLE DUCT TAKE-OFF DETAIL  
M-501 SCALE: NONE



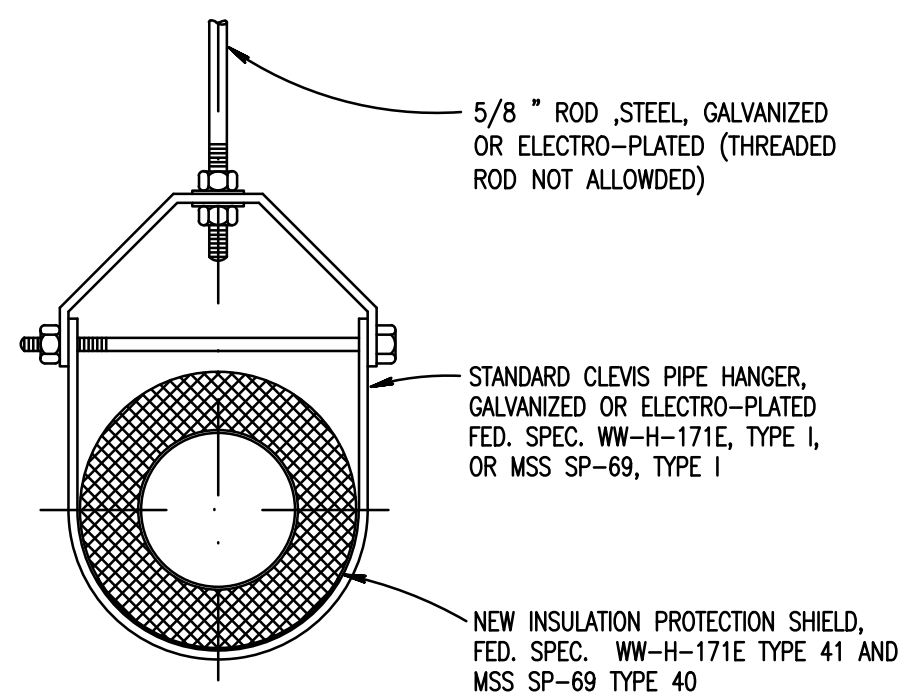
2 TYPICAL DUCTWORK CONNECTION DETAIL  
M-501 SCALE: NONE



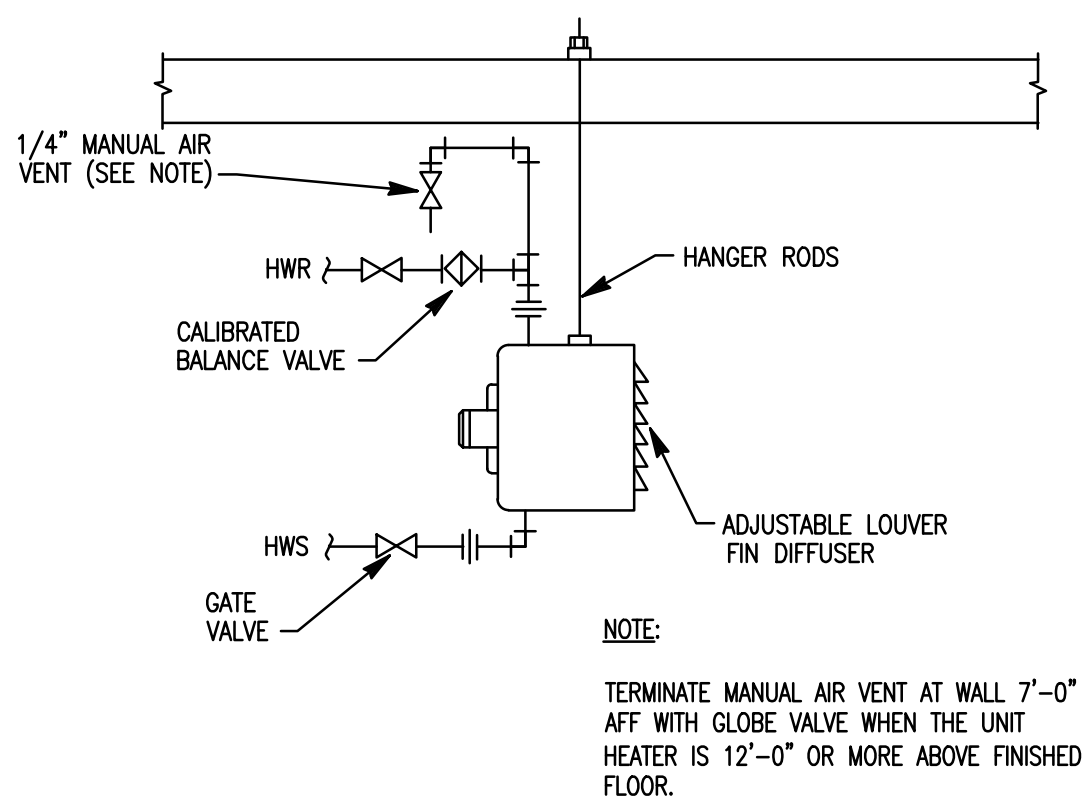
3 PIPE MOUNTED PUMP DETAIL  
M-501 SCALE: NONE



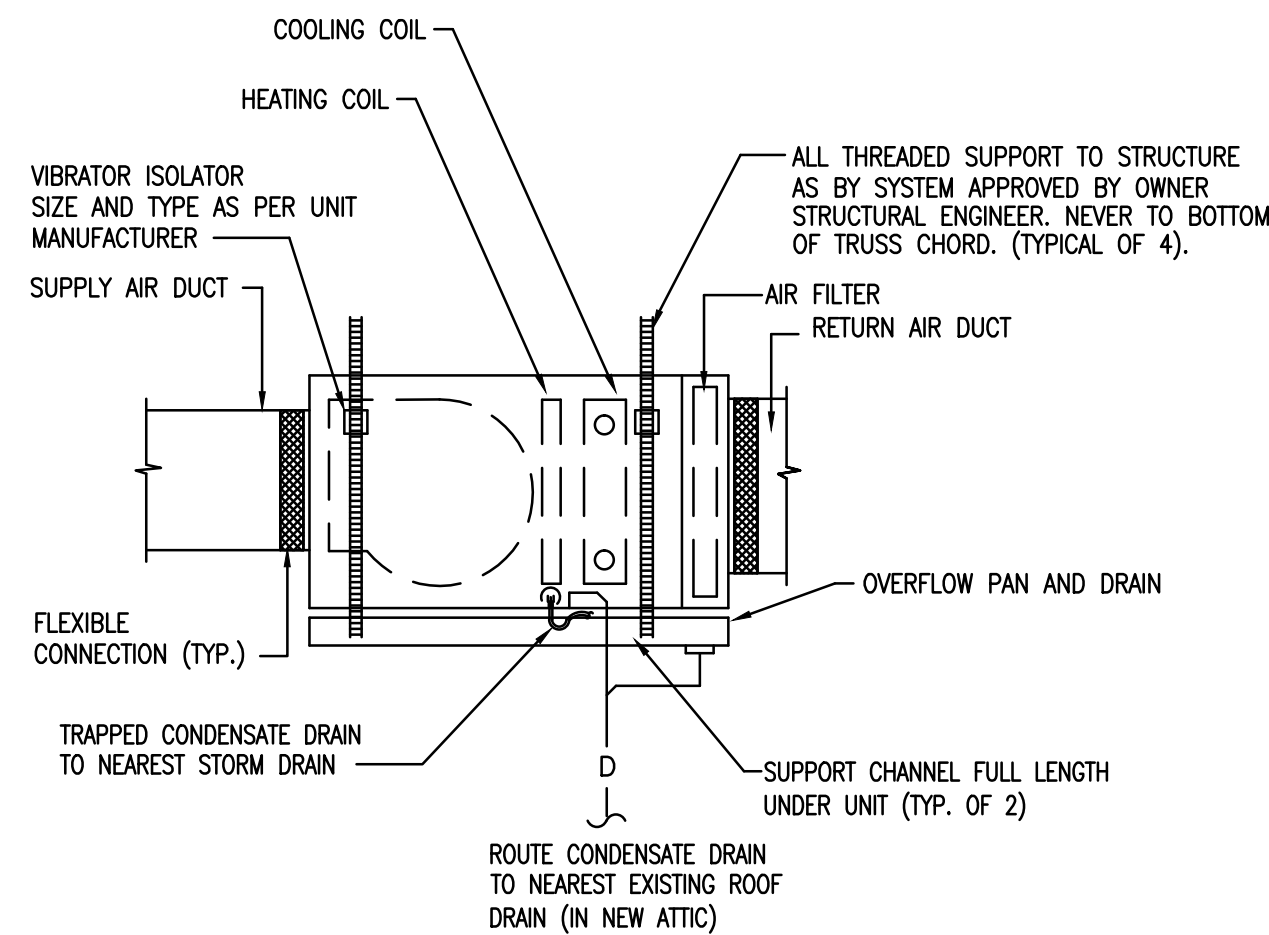
4 FLUE THRU ROOF DETAIL  
M-501 SCALE: NONE



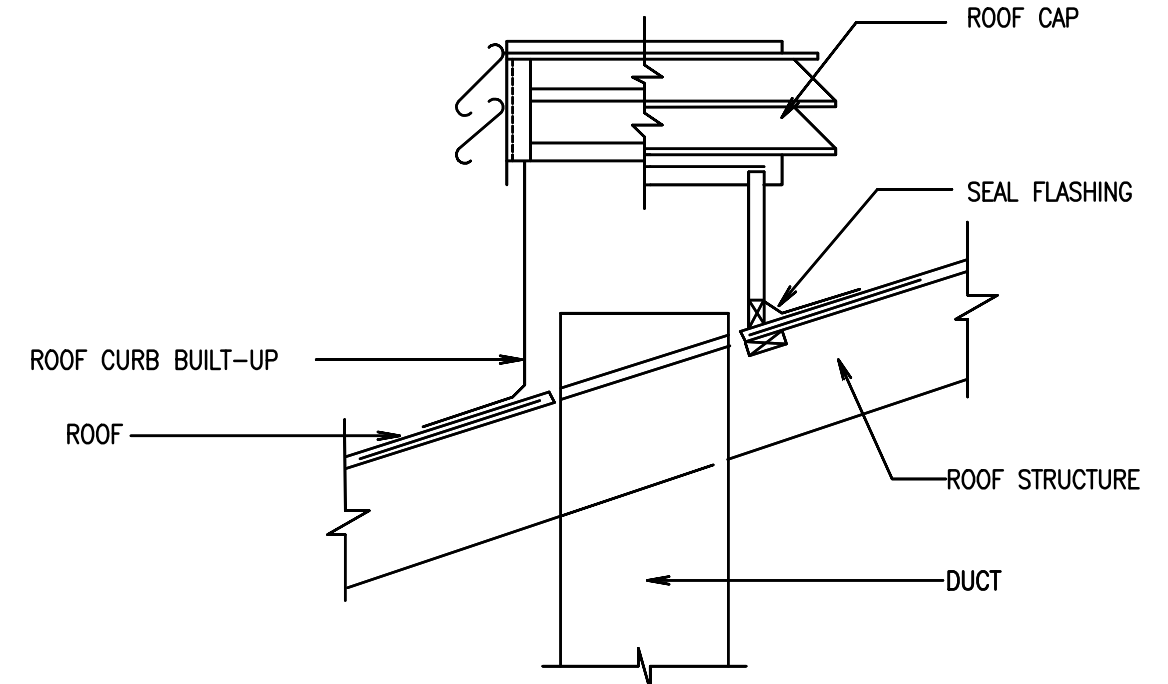
5 CEILING HUNG CLEVIS HANGER FOR INSULATED PIPE DETAIL  
M-501 SCALE: NONE



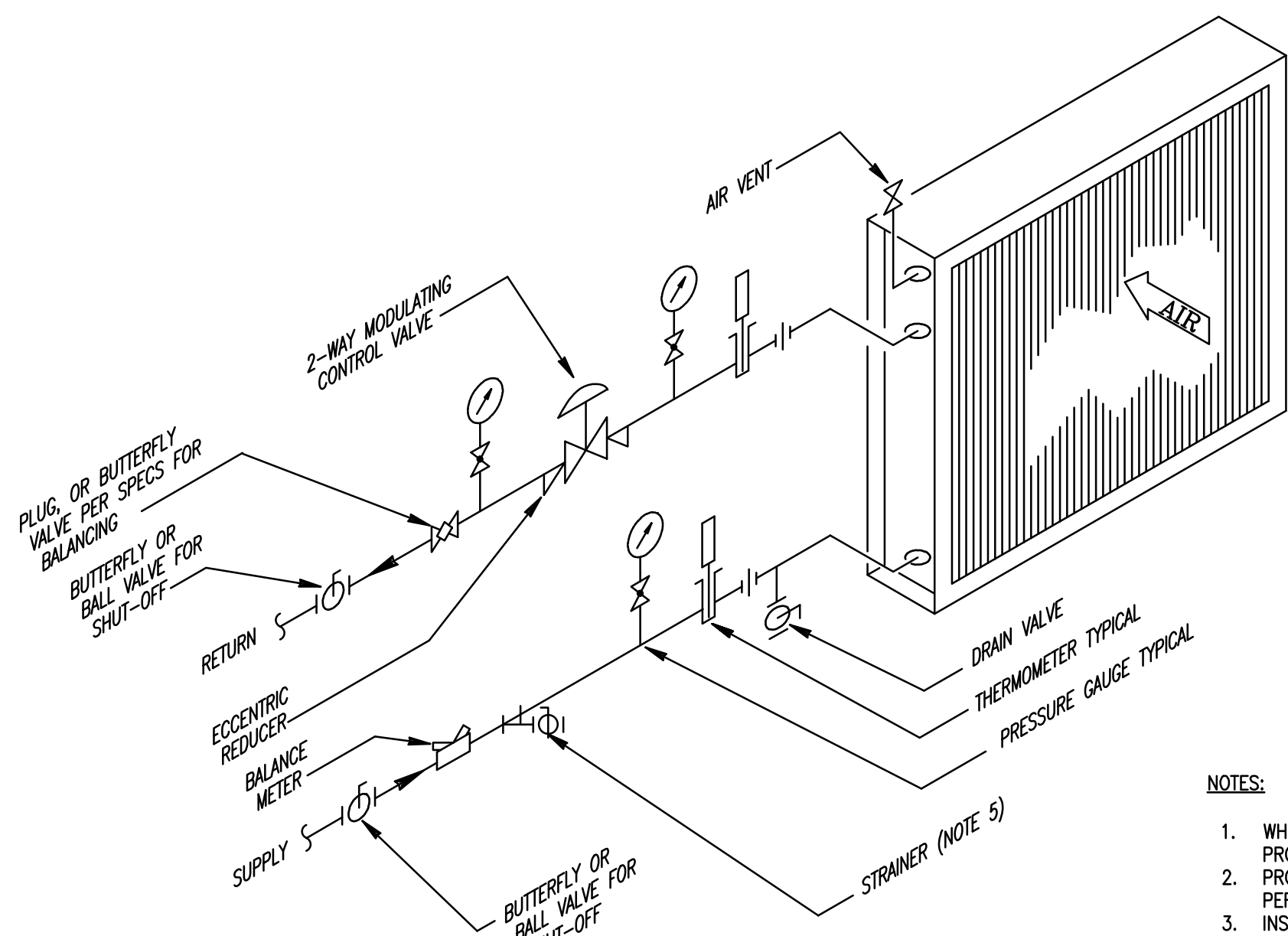
6 TYPICAL CONNECTIONS TO UNIT HEATERS DETAIL  
M-501 SCALE: NONE



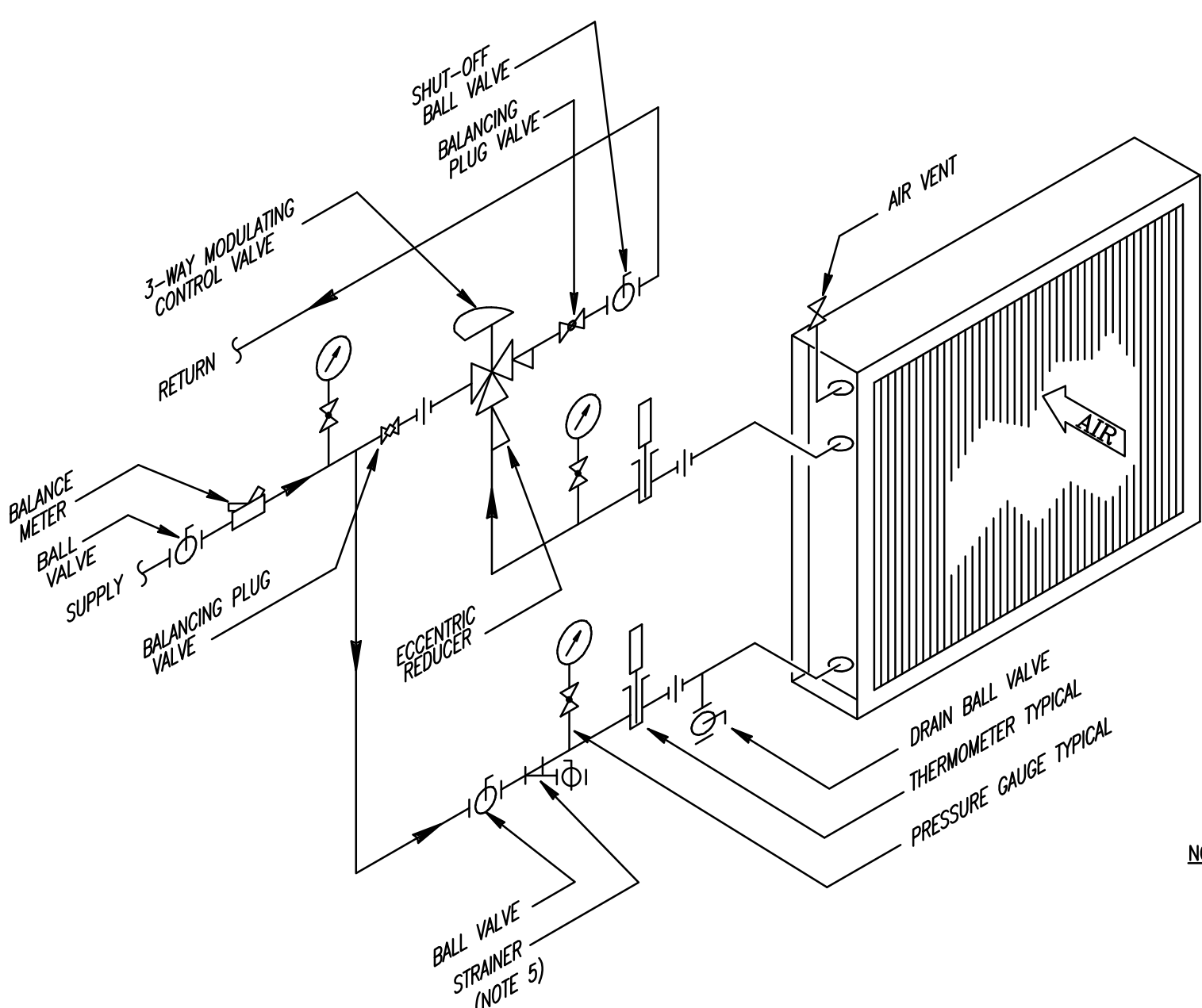
7 FCU HORIZONTAL INSTALLATION DETAIL  
M-501 SCALE: NONE



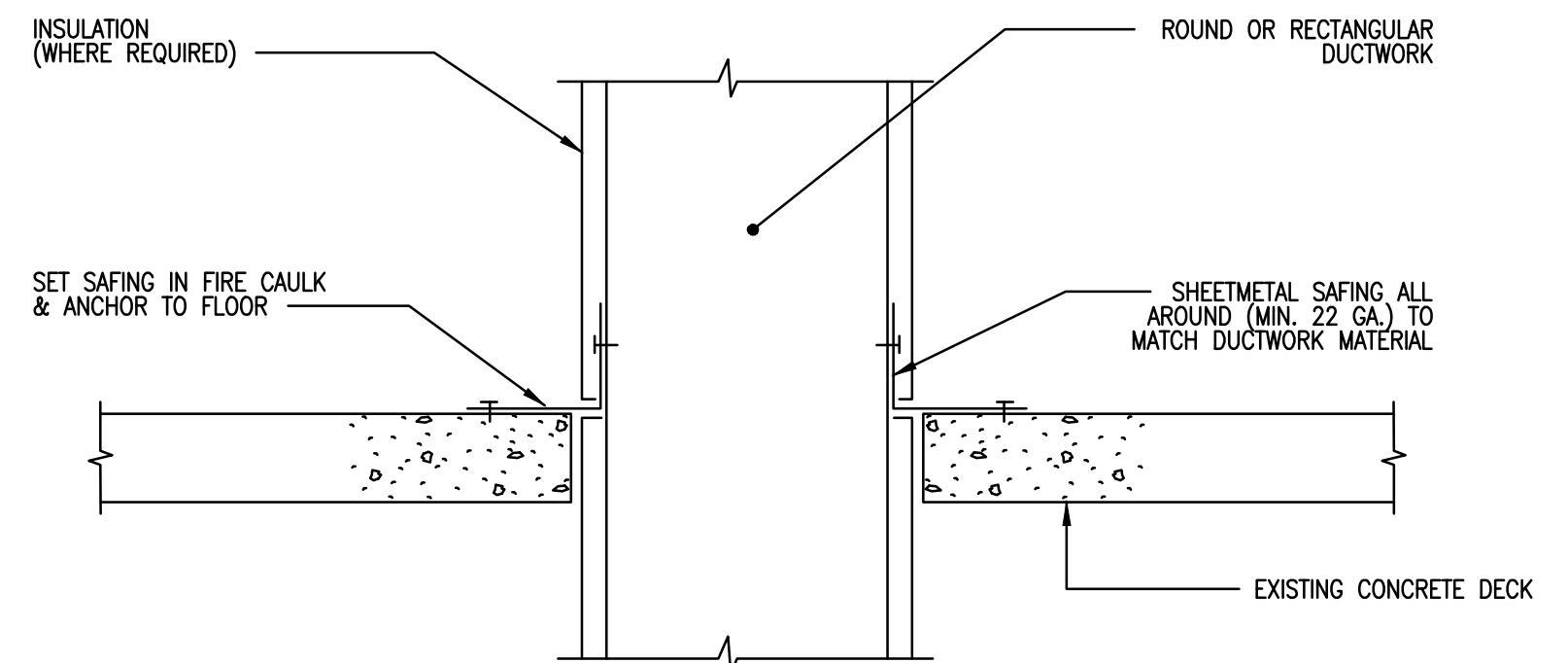
8 PENTHOUSE DETAIL  
M-501 SCALE: NONE



9 HW/CHW COIL 2-WAY VALVE PIPING DETAIL  
M-501 SCALE: NONE

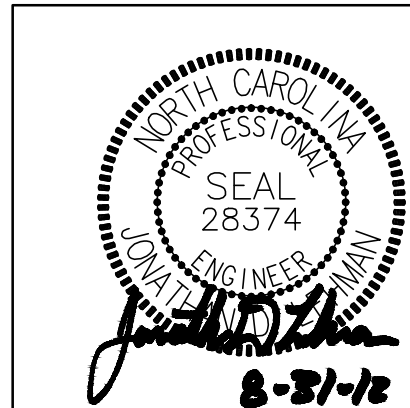


10 HW/CHW COIL 3-WAY VALVE PIPING DETAIL  
M-501 SCALE: NONE



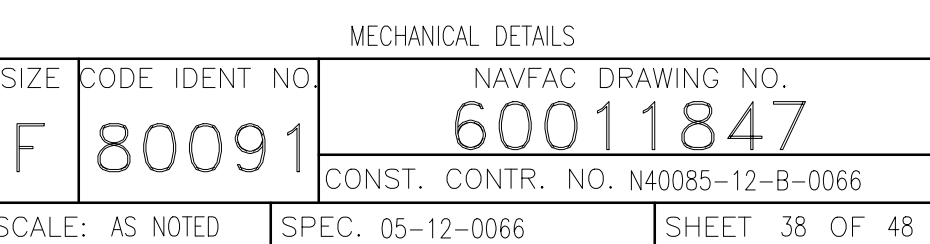
11 DUCT PENETRATION DETAIL  
M-501 SCALE: NONE

- NOTE:
- WHERE PIPE SIZE IS 2 1/2" OR SMALLER, PROVIDE BALL VALVE IN LIEU OF BUTTERFLY VALVE.
  - PROVIDE THERMOMETERS AND PRESSURE GAUGES, PER SPECS.
  - INSTALL UNIONS IN PIPE LOCATION OUT OF WAY TO PULL COIL OUT.
  - PROVIDE BALANCE METER IN THE SUPPLY PIPE FOR AHU COIL WITH 50 GPM OR MORE.
  - PROVIDE BALL VALVE DRAIN VALVE AND DRAIN LINE TO FLOOR DRAIN.
  - THIS DETAIL APPLIES TO HOT WATER AND CHILLED WATER COILS IN AIR HANDLERS.



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DES. _____ DR. _____ CHK. _____ SUBMITTED BY: _____ DESIGN DIR. _____ APPROVED: PWO OR OICC DATE _____ SATISFACTORY TO: _____ DATE _____		REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302  MECHANICAL DETAILS NAVFAC DRAWING NO. 60011846 CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 37 OF 48	





**M-502**



100% OUTSIDE AIR UNIT WITH HEAT RECOVERY																																										
MARK	LOCATION	SUPPLY FAN		EXHAUST FAN		HEATING COIL						COOLING COIL								PREHEAT COIL								HEAT RECOVERY						ELECTRICAL					NOTES			
		CFM	E.S.P. "W.C.	CFM	E.S.P. "W.C.	TOTAL MBH	EAT (°F)	EWT (°F)	LWT (°F)	GPM	ΔP	TOTAL MBH	SENSIBLE MBH	EAT (°F)		LAT (°F)		EWT (°F)	LWT (°F)	GPM	ΔP	TOTAL MBH	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	GPM	ΔP	SUMMER EAT		SUMMER LAT		WINTER EAT	WINTER LAT								
														DB	WB	DB	WB												DB	WB	DB	WB		DB	WB	DB	WB					
DOAS-1	MECH 145	2,100	1.0	1,840	0.75	56.4	56.5	160	140	6.0	0.8	112.0	56.1	80.1	70.5	54.0	53.9	45	55	22.4	5.1	46.3	57.6	78.6	160	140	5.0	0.54	90.0	79.0	79.4	68.2	23.0	57.6	48.3	208/3/60	2	2	0.08	17	20	1

NOTES:  
1. PROVIDE WITH MERV 8 PREFILTERS AND MERV 13 FINAL FILETERS.

FAN COIL UNIT SCHEDULE																									
MARK*	ARRANGEMENT	SUPPLY FAN						COOLING COIL										REHEAT COIL						NOTES	
		SUPPLY CFM	E.S.P.	HP	VOLT/PH	MCA	MOCP	TOTAL MBH	SENSIBLE MBH	EAT DB (F)	EAT WB (F)	LAT DB (F)	LAT WB (F)	EWT (F)	LWT (F)	GPM	MAX. P.D. (FT)	TOTAL MBH	EAT DB	LAT DB	EWT (F)	LWT (F)	GPM		MAX. P.D.
FCU-1	HORIZONTAL CONCEALED	120	0.25	31 W	120/1	3.9	15	4.9	3.2	77.0	65.0	53.3	52.7	45.0	55.0	0.75	2.1	5.2	65.0	97.6	160.0	148.2	0.70	0.1	1,2,3,4,5
FCU-2	HORIZONTAL CONCEALED	200	0.25	50 W	120/1	3.9	15	5.9	4.5	77.0	65.0	55.7	55.1	45.0	55.7	1.00	2.1	6.5	65.0	95.7	160.0	151.4	1.52	0.5	1,2,3,4,5
FCU-3	HORIZONTAL CONCEALED	250	0.25	50 W	120/1	3.9	15	9.5	6.2	77.0	65.0	55.0	54.1	45.0	54.5	1.83	5.4	8.5	65.0	95.2	160.0	148.6	1.49	0.5	1,2,3,4,5
FCU-4	HORIZONTAL CONCEALED	300	0.25	70 W	120/1	3.9	15	10.7	7.5	77.0	65.0	54.2	53.3	45.0	52.3	3.00	13.3	10.5	65.0	96.5	160.0	156.5	6.00	6.2	1,2,3,4,5
FCU-5	HORIZONTAL CONCEALED	350	0.25	70 W	120/1	3.9	15	11.2	8.3	77.0	65.0	56.2	55.1	45.0	54.2	2.50	9.5	11.4	65.0	93.3	160.0	156.2	6.00	6.2	1,2,3,4,5
FCU-6	HORIZONTAL CONCEALED	400	0.25	70 W	120/1	3.9	15	12.6	9.4	77.0	65.0	55.9	54.9	45.0	53.5	3.00	3.6	13.5	65.0	95.3	160.0	148.8	2.42	1.6	1,2,3,4,5
FCU-7	HORIZONTAL CONCEALED	500	0.25	100 W	120/1	3.9	15	12.9	9.8	77.0	65.0	57.8	56.1	45.0	52.5	3.50	4.3	16.5	65.0	97.3	160.0	147.4	2.63	2.2	1,2,3,4,5

\*SEE PLANS FOR FCU QUANTITIES  
NOTES:  
1. PROVIDE WITH FRONT SUPPLY AND BACK RETURN DUCT COLLARS.  
2. PROVIDE WITH INTEGRAL FILTER SECTION WITH 1" MERV 13 FILTER.  
3. PROVIDE WITH HOT WATER COIL IN REHEAT POSITION.  
4. PROVIDE WITH HW PIPING PACKAGE INCLUDING STRAINER, ISOLATION VALVES, UNION COIL CONNECTIONS, AND MODULATING 2-WAY (OR 3-WAY) CONTROL VALVE. SEE M-105 FOR FAN COIL UNITS WITH 3-WAY VALVES.  
5. PROVIDE WITH CHW PIPING PACKAGE INCLUDING STRAINER, ISOLATION VALVES, UNION COIL CONNECTIONS, AND MODULATING 3-WAY CONTROL VALVE.

SPLIT SYSTEM AIR CONDITIONING SCHEDULE													
INDOOR UNIT							OUTDOOR UNIT					COMBINED ARI RATING*	
MARK	SUPPLY AIR (CFM)	FAN MOTOR (HP)	MCA	MOCP	VOLT/PH/Hz	NOTES	MARK	MCA	MOCP	VOLT/PH/Hz	NOTES	TOTAL COOLING (MBH)	SEER (MINIMUM)
AH-1,2	230	0.76 FLA	1.0	15	208/1/60	1,2,3	CU-1,2	13	15	208/1/60	2,4	12.0	15.0

\* - COOLING CAPACITY @ 80°F DB / 67°F WB INDOOR ENTERING AIR TEMPERATURE AND 95°F DB OUTDOOR AIR TEMPERATURE.  
NOTES:  
1. PROVIDE WITH WALL-MOUNTED THERMOSTAT.  
2. PROVIDE WITH WALL MOUNTING BRACKET. INDOOR UNIT TO BE POWERED BY OUTDOOR UNIT.  
3. PROVIDE WITH CONDENSATE PUMP.  
4. PROVIDE WITH TIME-DELAY RELAY, SHORT-CYCLE PROTECTION, EVAPORATOR FREEZE PROTECTION, ISOLATION RELAY, AND LOW AMBIENT CONTROL.

NATURAL GAS-FIRED BOILER SCHEDULE													
MARK	LOCATION	TYPE	BOILER (HP)	INPUT (MBH)	OUTPUT (MBH)	FLOW GPM	MIN TEMP RISE °F	MAX TEMP RISE °F	A/FUE MIN EFF %	FLUE SIZE (IN)	INTAKE SIZE (IN)	VOLTS/φ/Hz	NOTES
B-1,2	MECH 145	CONDENSING	10.6	399	349	65	20	100	92.7	4.5	4	120/1/60	1

NOTES:  
1. PROVIDE WITH CONCENTRIC INTAKE/EXHAUST PER MANUFACTURER'S RECOMMENDATIONS.

OUTSIDE AIR CALCULATION (2009 IMC)										
UNIT MARK	FLOOR AREA (SQ. FT.)	ASHRAE CLASSIFICATION	PEOPLE PER 1000 SF	TOTAL PEOPLE	CFM PER PERSON	CFM PER SQ. FT.	REQUIRED CFM	TOTAL REQUIRED CFM	TOTAL PROVIDED CFM	NOTES
DOAS-1	422	CLASSROOM	-	6	5	0.06	55	919	2,000	1,2
	356	LOBBY/PREFUNCTION	30	4	7.5	0.06	51			1
	4,273	OFFICE SPACE	5	1	5	0.06	261			1,2
	666	STORAGE ROOMS	N/A	N/A	N/A	0.12	104			1
	2,442	CORRIDORS	N/A	N/A	N/A	0.12	293			1,2
TOTAL								919	2,000	

NOTES:  
1. PER 2009 INTERNATIONAL MECHANICAL CODE, TABLE 403.3.  
2. TOTAL PEOPLE BASED ON ARCHITECTURAL FURNITURE LAYOUT.  
3. INCREASED AIRFLOW DUE TO RESTROOM EXHAUST REQUIREMENTS.

AIR DISTRIBUTION SCHEDULE					
MARK	DESCRIPTION	PANEL SIZE	TYPE	NECK SIZE	NOTES
A	ALUMINUM REGISTER, DOUBLE DEFLECTION, ADJUSTABLE BLADES	24x24	CEILING MOUNTED SUPPLY	6"	1
B	ALUMINUM REGISTER, SINGLE DEFLECTION, ADJUSTABLE BLADES	24x24	CEILING MOUNTED SUPPLY	8"	1
D	ALUMINUM REGISTER, DOUBLE DEFLECTION, ADJUSTABLE BLADES	12x12	CEILING MOUNTED SUPPLY	6"	1
R	ALUMINUM REGISTER, FIXED HORIZONTAL BLADES WITH 45° STRAIGHT FACE DEFLECTION RETURN	24x24	CEILING MOUNTED RETURN	SEE PLAN	1
E	ALUMINUM REGISTER, FIXED HORIZONTAL BLADES WITH 45° STRAIGHT FACE DEFLECTION EXHAUST	24x24	CEILING MOUNTED EXHAUST	SEE PLAN	1

NOTES:  
1. VERIFY ALL CEILING OR WALL TYPES WITH ARCHITECTURAL PLANS. COORDINATE COLOR  
2. PROVIDE WITH VOLUME DAMPER ADJUSTABLE THROUGH FACE OF GRILLE.

EXISTING AIR COOLED CHILLER SCHEDULE											
MARK	MANUFACTURER	MODEL NO.	CAPACITY (TONS)	FLOW (GPM)	EWT (°F)	LWT (°F)	ΔP (FT)	VOLTS/PH	MCA	MOCP	NOTES
ACC-1	TRANE	CGAM040	43.8	105	55.0	45.0	8.45	208/3	224	250	1

NOTES:  
1. MECHANICAL CONTRACTOR SHALL PROVIDE FULL SERVICE CHECKOUT OF EXISTING EQUIPMENT AT BEGINNING OF CONSTRUCTION. CONTRACTOR SHALL INFORM GC OF ANY ADDITIONAL COSTS ASSOCIATED WITH NECESSARY REPAIRS. ALL NECESSARY REPAIRS AND MAINTENANCE SHALL BE COMPLETED PRIOR TO COMPLETION OF CONSTRUCTION.

HOT WATER UNIT HEATER SCHEDULE										
MARK	LOCATION	TYPE	MBH	AIRFLOW (CFM)	GPM	PRESSURE DROP (FT OF WATER)	FAN (HP)	VOLT/PH	MAXIMUM MOUNTING HEIGHT (FT)	NOTE
UH-1	MECH 145	HORIZONTAL	23.6	460	3.2	0.4	1/12	115/1	13	1,2
UH-2,3	ATTC	HORIZONTAL	23.6	460	3.2	0.4	1/12	115/1	13	1,3

NOTES:  
1. PROVIDE WITH WALL/CEILING MOUNTING BRACKET.  
2. PROVIDE WITH WALL MOUNTED, LINE VOLTAGE THERMOSTAT. E.C. TO INSTALL AND WIRE.  
3. PROVIDE WITH INTEGRAL THERMOSTAT.

CHILLED WATER BUFFER TANK SCHEDULE				
MARK	LOCATION	SERVES	GALLONS	NOTES
BT-1	MECH 145	CHILLED WATER	120	1

NOTES:  
1. PROVIDE WITH INTERNAL BAFFLE AND HIGH CAPACITY AIR VENT.

AIR SEPARATOR TANK SCHEDULE				
MARK	LOCATION	SERVES	CAPACITY (GPM)	NOTES
AS-1	MECH 145	CHILLED WATER	200	1
AS-2	MECH 145	HOT WATER	200	1

NOTES:  
1. PROVIDE WITH HIGH CAPACITY AUTOMATIC AIR VENT.

EXPANSION TANK SCHEDULE				
MARK	LOCATION	SERVES	GALLONS	NOTES
ET-1	MECH 145	CHILLED WATER	2.0	1
ET-2	MECH 145	HOT WATER	12.5	1



NOTES:  
1. PROVIDE WITH HIGH CAPACITY AIR VENT.

PUMP SCHEDULE										
MARK	TYPE	SERVICE	LOCATION	FLOW (GPM)	HEAD (FT)	HP	VOLTS/φ	RPM	NOTES	
CHP-1,2	IN-LINE	CHILLED WATER	MECH 145	105	60	5	208/3	1750	1,2	
BP-1	IN-LINE	B-1 BOILER	MECH 145	65	25	1	208/3	1750	1,3	
BP-2	IN-LINE	B-2 BOILER	MECH 145	65	25	1	208/3	1750	1,3	
HWP-1,2	IN-LINE	SECONDARY HOT WATER	MECH 145	128	40	3	208/3	1750	1,2,4	

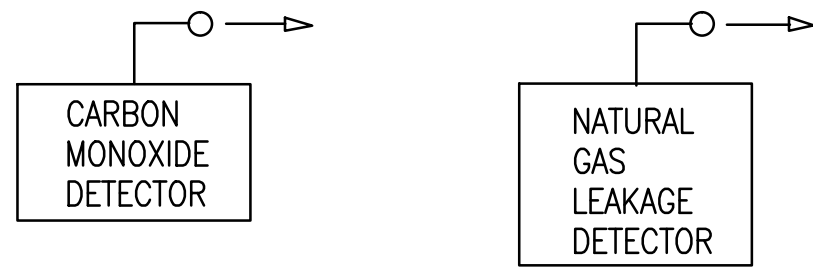
NOTES:  
1. PROVIDE WITH TRIPLE DUTY VALVE.  
2. PUMPS TO OPERATE IN PRIMARY/STANDBY.  
3. COORDINATE WITH BOILER MANUFACTURER REGARDING WIRING AND CONTROL OF BOILER PUMP.  
4. PROVIDE WITH VFD.

EXHAUST FAN SCHEDULE							
MARK	LOCATION	TYPE	CFM	ESP (IN. H2O)	MOTOR SIZE (HP)	VOLTS/φ/Hz	NOTES
EF-1	MECHANICAL 145	IN-LINE	750	0.25	1/6	120/1/60	1,2,3,4

NOTES:  
1. PROVIDE WITH BACKDRAFT DAMPER AND SUPPORT KIT.  
2. PROVIDE WITH ROOF CAP.  
3. PROVIDE WITH ELECTRONIC SPEED CONTROLLER.  
4. PROVIDE WITH WALL MOUNTED, LINE VOLTAGE THERMOSTAT. E.C. TO INSTALL AND WIRE.

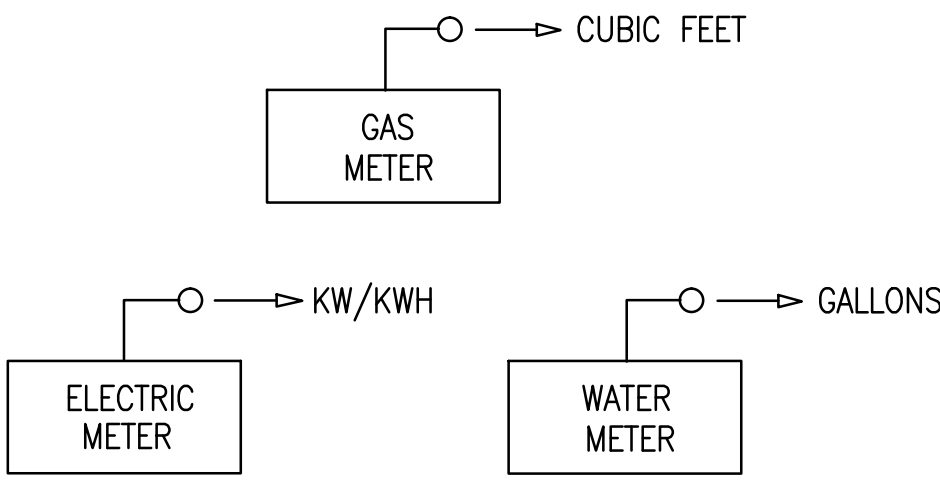
	MEFA NO. - 1203				DEPARTMENT OF THE NAVY    NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
	DES. _____ DR. _____ CHK. _____ SUBMITTED BY: _____ DESIGN DIR. _____				REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302	
	APPROVED: PWO OR OICC    DATE _____		SIZE	CODE	IDENT NO.	NAVFAC DRAWING NO.
	SATISFACTORY TO: _____    DATE _____		F	80091	60011848	
	SCALE: AS NOTED		SPEC. 05-12-0066		SHEET 39 OF 48	





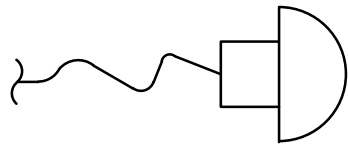
NOTE:  
DDC SYSTEM SHALL MONITOR NATURAL GAS AND CARBON MONOXIDE GAS LEAKAGE. UPON DETECTION OF NATURAL GAS OR CARBON MONOXIDE INITIATE AUTOMATIC SHUTDOWN OF BOILER AND DOMESTIC HOT WATER HEATERS. SEND AN ALARM TO THE DDC SYSTEM AND FIRE ALARM PANEL.

1  
M-602 SCALE: NONE  
TYPICAL NATURAL GAS AND CARBON MONOXIDE MONITORING SCHEMATIC



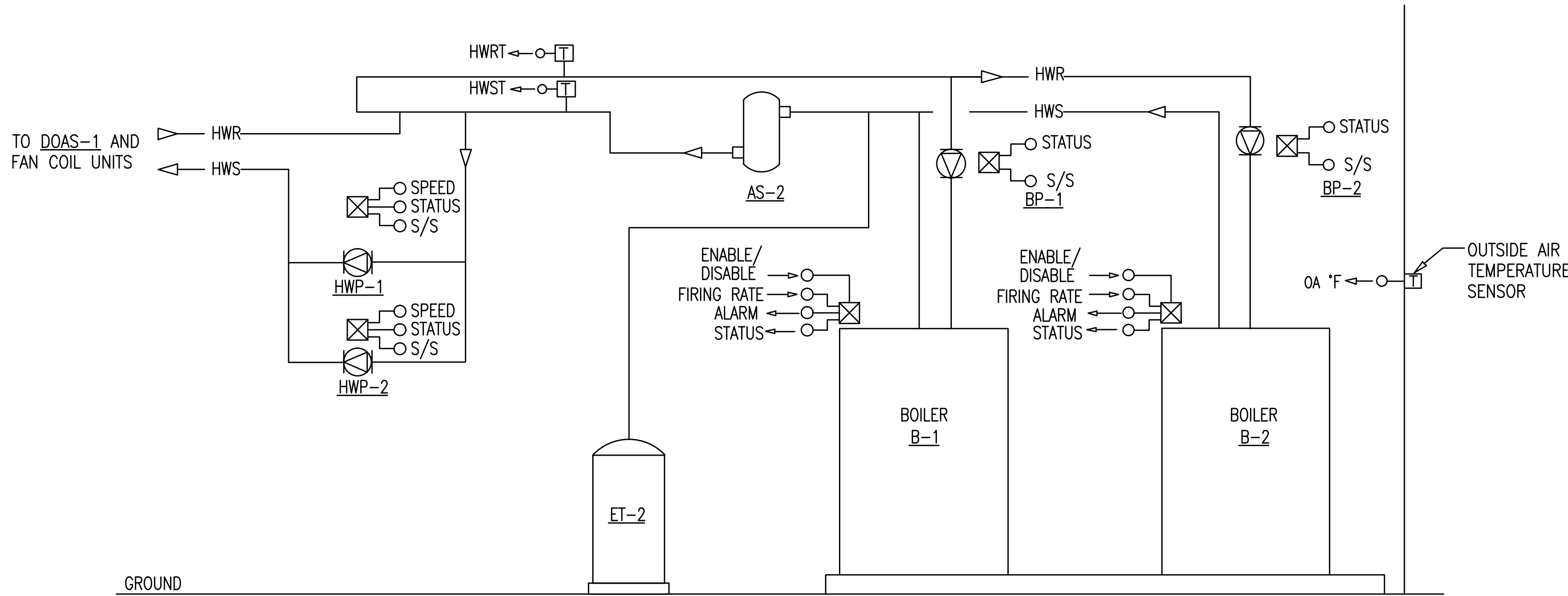
NOTE:  
MONITOR UTILITY USAGE FROM THE BUILDING CONTROL SYSTEM IN UNITS AS INDICATED, REMOTELY READ. PROVIDE ALL METERS WITH A PULSE OUTPUT.

2  
M-602 SCALE: NONE  
TYPICAL UTILITY METER MONITORING SCHEMATIC



- NOTES:
1. EMERGENCY AIR DISTRIBUTION SHUTOFF (LOCATION AS DETERMINED BY THE CONTRACTING OFFICER):
  2. UPON ACTIVATION OF EMERGENCY PUSHBUTTON, ALL AIR HANDING UNITS AND EXHAUST FANS SHALL BE DISABLED AND REMAIN OFF TILL A MANUAL RESET HAS OCCURRED.
  3. UPON ACTIVATION OF EMERGENCY PUSHBUTTON, ALL OUTSIDE AND EXHAUST AIR INTAKES SHALL CLOSE FULLY.

3  
M-602 SCALE: NONE  
TYPICAL EMERGENCY SHUTOFF SWITCH



### SEQUENCE OF OPERATION

PROVIDE THE FOLLOWING SEQUENCE OF OPERATION BY THE BUILDING CONTROL SYSTEM:

HOT WATER BOILER SYSTEM WITH SECONDARY LOOP PRESSURE CONTROL & MODULATING BOILER:

ENABLE THE SYSTEM BOILERS(B-1,2) AND THE PRIMARY LOOP BOILER PUMPS(BP-1,2), ACCORDING TO A SCHEDULE OR WHEN ANY AIR HANDLER CALLS FOR HEATING, SUBJECT TO A BOILER LEAD/LAG SEQUENCER WHEN IN BUILDING HEATING MODE. ONCE A BOILER IS ENABLED, THE BOILER FACTORY CONTROLS WILL PERFORM ALL SAFETY, PERMISSIVE, REGULATING AND LIMITING FUNCTIONS OF THE BOILER.

MODULATE THE LEAD BOILER TO MAINTAIN HEATING WATER SUPPLY TEMPERATURE AT ITS SETPOINT. IF THE LEAD BOILER FAILS TO MAINTAIN HEATING WATER SUPPLY TEMPERATURE START LAG BOILER AND MODULATE BOILERS EQUALLY AS REQUIRED TO MAINTAIN HEATING WATER SUPPLY TEMPERATURE.

ALTERNATE LEAD BOILER ON A WEEKLY BASIS AS REQUIRED TO EQUALIZE RUN TIME.

INDEX THE HEATING WATER SUPPLY TEMPERATURE WITH OUTSIDE AIR ACCORDING TO THE FOLLOWING RESET SCHEDULE:  
O.A. - 30 DEG F AND LESS: HWS = 160 DEG F  
LINEAR BETWEEN 30 DEG F & 65 DEG F OUTDOOR AIR TEMPERATURE  
O.A. = 65 DEG F: HWS = 120 DEG F

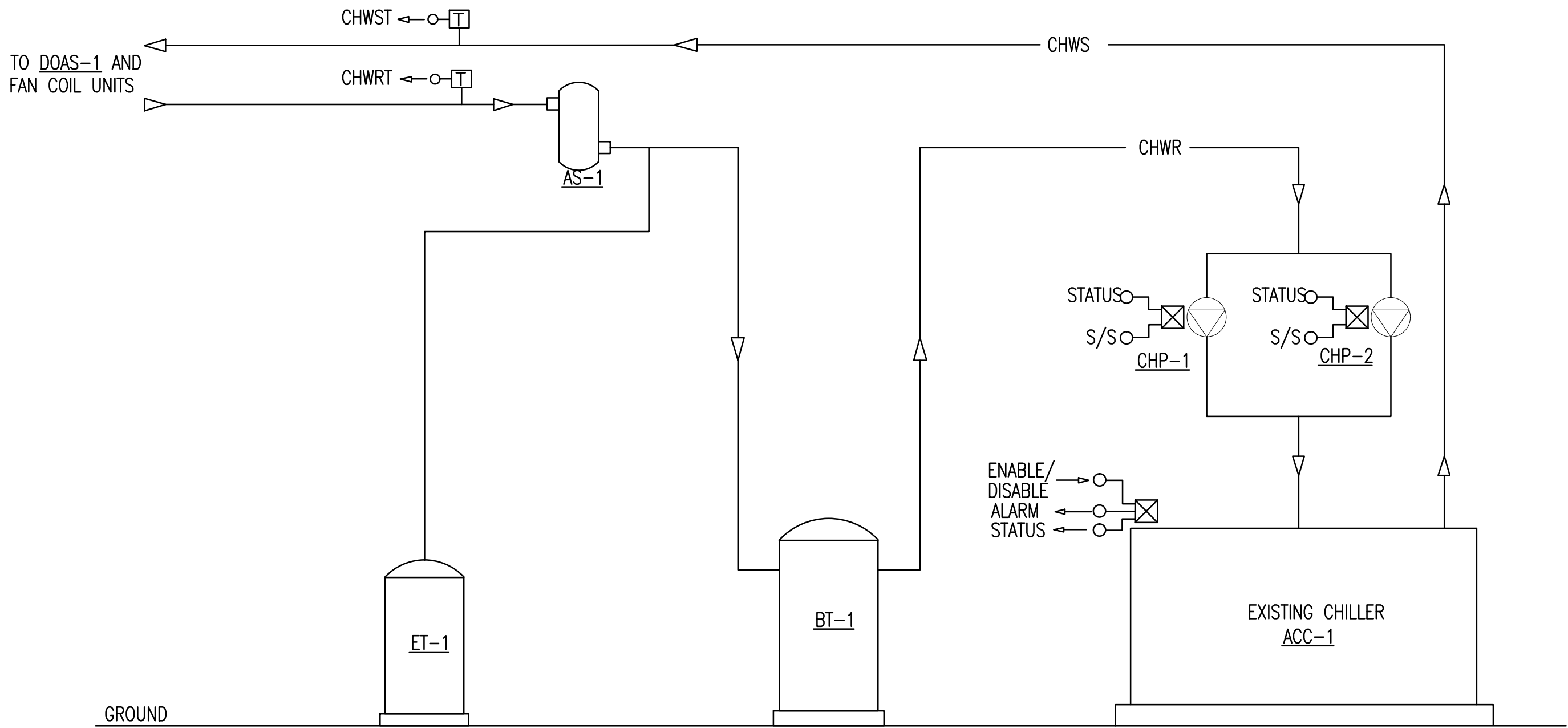
UPON FAILURE OF ANY BOILER, NOTIFY THE BASE HEAD END OF AN ALARM CONDITION.

BOILER PUMPS (BP-1,2): CONSTANT FLOW SYSTEM

SECONDARY HOT WATER PUMPS (HWP-1,2) CONTROL:  
THE UMCS BUILDING CONTROL SYSTEM WILL PERFORM THE FOLLOWING SEQUENCE OF OPERATION:  
SECONDARY HOT WATER PUMPS (HWP-1,2): UTILIZE PRIMARY/STANDBY OPERATION WITH VARIABLE FLOW FOR THE HEATING WATER SYSTEM  
-ALTERNATE THE PRIMARY PUMP ON A WEEKLY BASIS TO EQUALIZE RUN TIME.  
-UPON FAILURE OF THE PRIMARY PUMP, NOTIFY THE BASE HEAD END OF THE ALARM CONDITION AND START THE STANDBY PUMP AND OPERATE CONTINUOUSLY.  
-UPON SUBSEQUENT FAILURE OF THE STANDBY PUMP, NOTIFY THE BASE HEAD END OF THE ALARM CONDITION AND DISABLE THE HEATING WATER SYSTEM.  
-WHENEVER THE OUTSIDE AIR TEMPERATURE IS AT 35 DEG F AND BELOW, THE HOT WATER PUMPS SHALL OPERATE TO PROVIDE FREEZE PROTECTION.

UPON FAILURE OF ANY PUMP, OR HIGH/LOW LIMITS TEMPERATURE ALARMS, NOTIFY THE BASE HEAD END OF AN ALARM CONDITION.

4  
M-602 SCALE: NONE  
HOT WATER SYSTEM CONTROL SCHEMATIC



### SEQUENCE OF OPERATION

PROVIDE THE FOLLOWING SEQUENCE OF OPERATION BY THE BUILDING CONTROL SYSTEM:

CHILLED WATER SYSTEM WITH PRIMARY LOOP:

ENABLE THE SYSTEM CHILLER (CH-1) AND THE PRIMARY CHILLED WATER PUMP ACCORDING TO A SCHEDULE OR WHEN ANY AIR HANDLER CALLS FOR COOLING. ONCE THE CHILLER IS ENABLED, THE CHILLER FACTORY CONTROLS WILL PERFORM ALL SAFETY, PERMISSIVE, REGULATING AND LIMITING FUNCTIONS OF THE CHILLER.  
-STAGE CHILLER TO MAINTAIN CHILLED WATER SUPPLY TEMPERATURE AT ITS SETPOINT.  
-UPON FAILURE OF THE CHILLER, NOTIFY THE BASE HEAD END OF AN ALARM CONDITION.

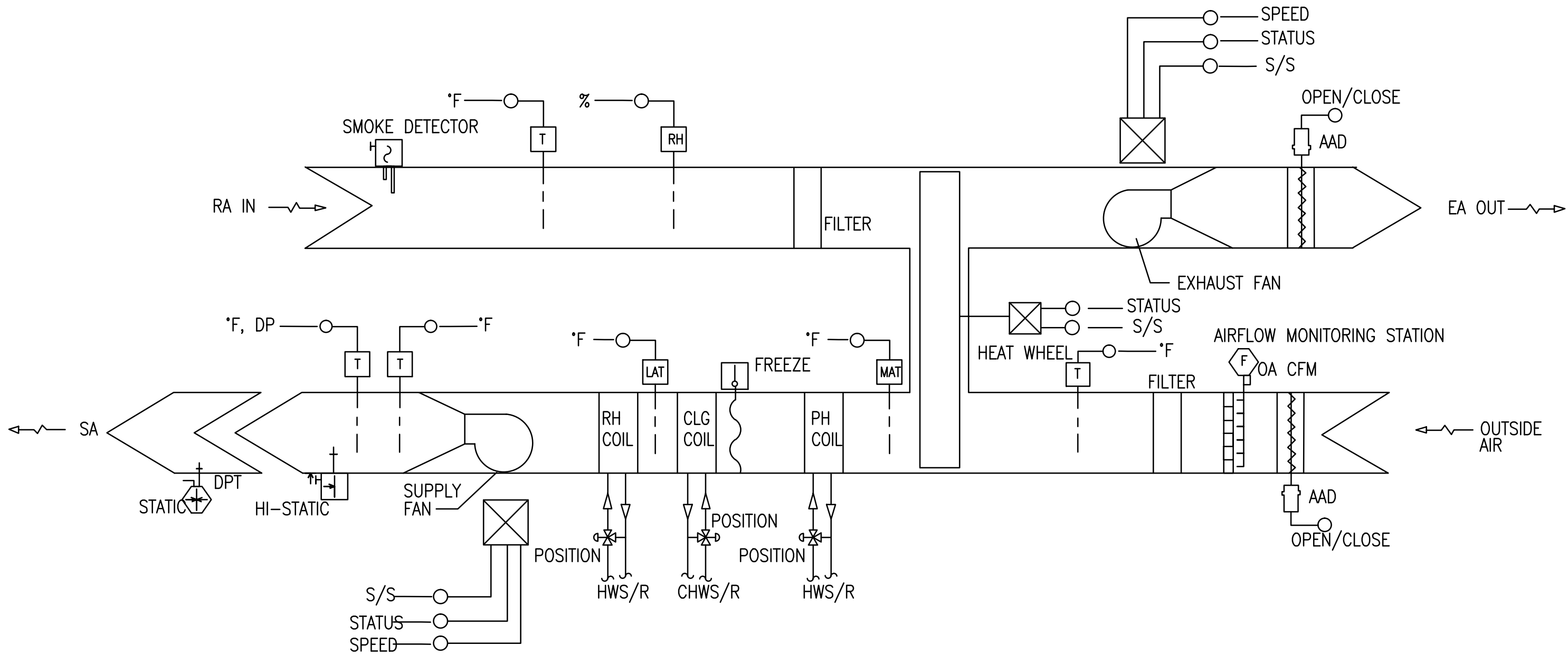
THE UMCS BUILDING CONTROL SYSTEM WILL PERFORM THE FOLLOWING SEQUENCE OF OPERATION:  
CHILLED WATER PUMPS (CHP-1,2): UTILIZE CONSTANT FLOW PRIMARY/STANDBY OPERATION FOR THE CHILLED WATER SYSTEM  
-ALTERNATE THE PRIMARY PUMP ON A WEEKLY BASIS TO EQUALIZE RUN TIME.  
-ALL CHILLED WATER COILS HAVE 3-WAY CONTROL VALVES.  
-UPON FAILURE OF ONE OF THE PRIMARY PUMP, NOTIFY THE BASE HEAD END OF THE ALARM CONDITION AND START THE STANDBY PUMP.  
-UPON SUBSEQUENT FAILURE OF THE STANDBY PUMP, NOTIFY THE BASE HEAD END OF THE ALARM CONDITION AND DISABLE THE CHILLED WATER SYSTEM.  
-WHENEVER THE OUTSIDE AIR TEMPERATURE IS AT 35 DEG F AND BELOW, THE CHILLED WATER PUMPS SHALL OPERATE TO PROVIDE FREEZE PROTECTION.

5  
M-602 SCALE: NONE  
CHILLED WATER SYSTEM CONTROL SCHEMATIC

	DES.		M-602			
	DR.					
	CHK.					
	SUBMITTED BY:					
DESIGN DIR.						
APPROVED: PWO OR OICC		DATE	SIZE	CODE	IDENT NO.	NAVJAG DRAWING NO.
SATISFACTORY TO:		DATE	F	80091	60011849	
SCALE: AS NOTED		SPEC. 05-12-0066		SHEET 40 OF 48		

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA  
REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302  
MECHANICAL CONTROLS  
NO LICENSE #C-1166 350 Bush Street, Suite 200 Raleigh, North Carolina 27609 919-871-0070 Fax 919-860-8800





SEQUENCE OF OPERATION

DEDICATED OUTSIDE AIR SYSTEMS CONTROL (DOAS-1)

RUN CONDITIONS: SCHEDULED BY THE BUILDING CONTROL SYSTEM. THE SYSTEM SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE

- CONDITIONED SUPPLY AIR TEMPERATURE CONTROL:
- THE FANS WILL OPERATE CONTINUOUSLY TO PROVIDE THE INDICATED SUPPLY AND EXHAUST AIRFLOWS.
  - THE OUTDOOR AIR INTAKE AND EXHAUST ISOLATION DAMPERS ARE ENABLED TO OPEN. UPON PROOF OF OPEN STATUS, THE FANS AND SYSTEM SHALL BE ENABLED TO OPERATE.
  - THE HEAT WHEEL SHALL BE ENABLED TO OPERATE.
  - THE PREHEAT COIL CONTROL VALVE (FREEZE PROTECTION) SHALL MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE AT 40°F.
  - THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SUPPLY AIR DEWPOINT AT 53°F.
  - THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SUPPLY AIR AT 70°F DB.

DDC UNIT SHUTDOWN ON THE FOLLOWING:

- UNIT DISCHARGE AIR FALLS BELOW 50°F WITH HOT WATER CONTROL VALVE FULLY OPEN.
- SMOKE DETECTION OR ACTIVATION OF THE FIRE ALARM SYSTEM.
- SUPPLY OR EXHAUST FAN FAILURE TO RUN ALARM.
- THE EMERGENCY HVAC SHUTDOWN SWITCH IS ACTIVATED.

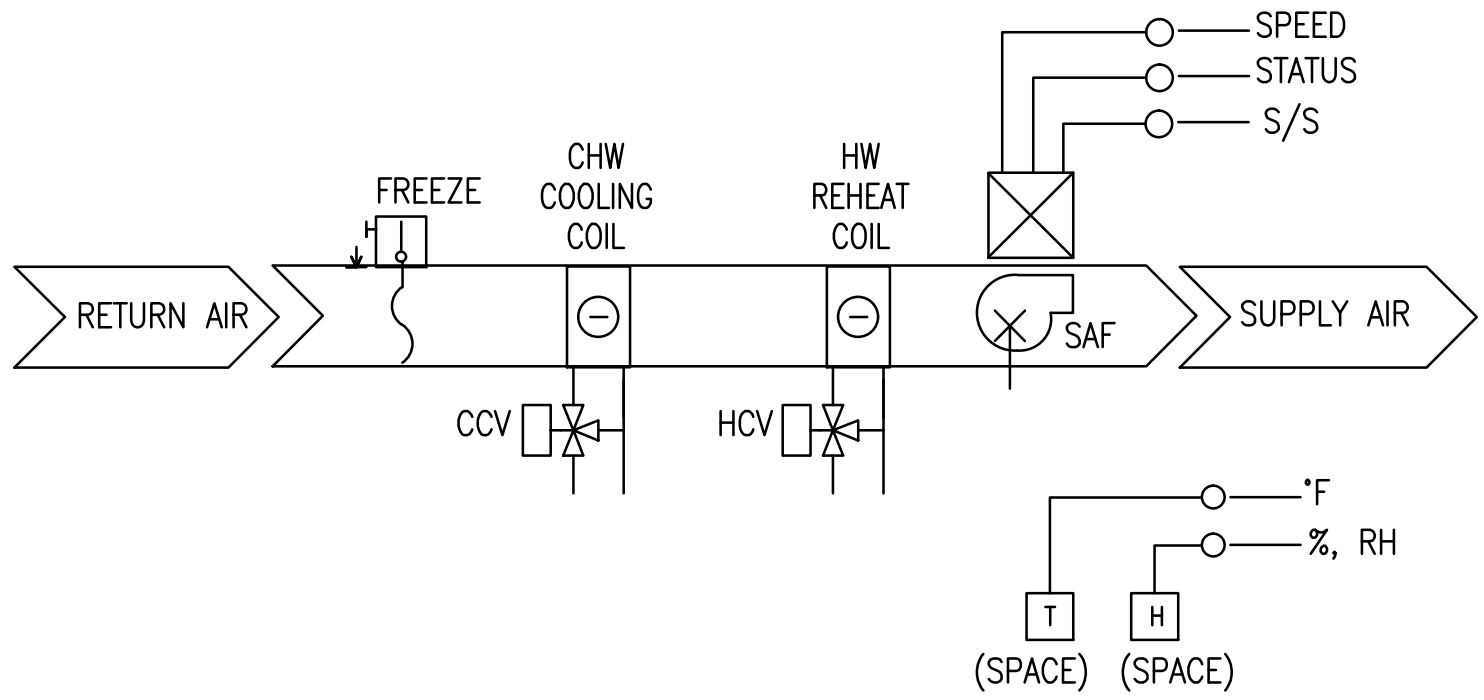
NON-DDC UNIT SHUTDOWN ON THE FOLLOWING:

- SMOKE DETECTION AND ACTIVATION OF THE FIRE ALARM SYSTEM- BY OTHERS

NOTIFY THE BASE HEAD END OF ANY ALARM OR FAILURE.

DEDICATED OUTSIDE AIR SYSTEM (DOAS-1) CONTROL SCHEMATIC

1  
M-603 SCALE: NONE



SEQUENCE OF OPERATION

FAN COIL UNITS CONTROL (FCU-X)

- OCCUPANT CONTROL: EACH FAN COIL UNIT SHALL BE PROVIDED WITH ONE (1) WALL-MOUNTED THERMOSTAT WITH THE FOLLOWING:
  - TEMPERATURE SETPOINT DISPLAY (°F).
  - TEMPERATURE ADJUSTMENT (UP/DOWN) ALLOWING OCCUPANTS +/- 2°F ADJUSTMENT IN ROOM SETPOINT TEMPERATURE.
  - FAN SWITCH (LOW/MED/HIGH/AUTO).
  - HUMIDITY SENSOR.
- SUPPLY FAN:
  - THE SUPPLY FAN WILL BE ENABLED TO RUN ACCORDING TO THE BUILDING SCHEDULE AND OPERATE IN EITHER "AUTO" OR "ON" MODE AS SELECTED BY THE USER VIA WALL-MOUNTED THERMOSTAT.
  - IN "ON" MODE, THE SUPPLY FAN SHALL RUN IN LOW, MED, OR HIGH SPEED.
  - IN "AUTO" MODE, THE SUPPLY FAN SHALL CYCLE ON AND OFF ON A CALL FOR COOLING, HEATING, OR HIGH HUMIDITY.
  - WHILE THE SUPPLY FAN IS RUNNING, THE FAN WILL CYCLE THROUGH LOW-MED-HIGH SPEED VIA INTERNAL CONTROL TO MAINTAIN TEMPERATURE AND HUMIDITY SETPOINTS.
  - IF THE SUPPLY FAN STATUS DOES NOT MATCH THE COMMANDED VALUE, AN ALARM SHALL BE GENERATED.
- DISCHARGE AIR CONTROL (COOLING MODE):
  - COOLING MODE WILL INITIATE WHENEVER THE SPACE TEMPERATURE RISES ABOVE SETPOINT (75°F, ADJ) AND CHILLED WATER IS AVAILABLE.
  - THE SUPPLY FAN SHALL MODULATE AS DESCRIBED ABOVE AND THE CHILLED WATER VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE AT SET POINT (55°F, ADJ).
- DISCHARGE AIR CONTROL (HEATING MODE):
  - HEATING MODE WILL INITIATE WHENEVER THE SPACE TEMPERATURE FALLS BELOW SETPOINT (68°F, ADJ) AND HOT WATER IS AVAILABLE.
  - THE SUPPLY FAN SHALL MODULATE AS DESCRIBED ABOVE AND THE HOT WATER VALVE WILL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE AT SET POINT (95°F, ADJ).
- DEHUMIDIFICATION MODE:
  - WHEN THE SPACE RELATIVE HUMIDITY RISES ABOVE 60% (ADJ.), THE UNIT WILL ENTER DEHUMIDIFICATION MODE.
  - THE SUPPLY FAN WILL START.
  - THE CHILLED WATER VALVE WILL BE FULLY OPEN.
  - THE HOT WATER VALVE WILL MODULATE AS NECESSARY TO MAINTAIN COOLING MODE SPACE SETPOINT TEMPERATURE (75°F, ADJ).
  - WHEN THE SPACE RELATIVE HUMIDITY FALLS BELOW 50% (ADJ.), THE UNIT WILL RETURN TO NORMAL CONTROL MODE.
- SAFETY:

THE FOLLOWING SAFETY DEVICES MUST BE MANUALLY RESET THRU THE BUILDING AUTOMATION SYSTEM IF THEY HAVE BEEN ACTIVATED TO SHUT DOWN THE SYSTEM:

  - LOW LIMIT TEMPERATURE ALARM.
  - FREEZE: IF TEMPERATURE DROPS BELOW THE ADJUSTABLE SETPOINT OF 40 DEG F, THE SYSTEM SHALL ENTER SHUTDOWN.
- SHUTDOWN MODE:

THE FOLLOWING SHALL OCCUR WHEN THE SYSTEM IS SHUT DOWN BY A STOP COMMAND OR BY A SAFETY ALARM:

  - SUPPLY FAN SHALL BE OFF.
  - COOLING VALVE SHALL CLOSE.
  - HEATING VALVE SHALL OPEN.

2 FAN COIL UNIT CONTROL SCHEMATIC

M-603 SCALE: NONE

	M-603		
	CRENSHAW CONSULTING www.crenshawconsulting.com NO LICENSE #C-1866 300 Bush Street, Suite 200 Raleigh, North Carolina 27609 919-871-9070 Fax 919-871-9880		
	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		
	REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302		
DES. _____ DR. _____ CHK. _____ SUBMITTED BY: _____ DESIGN DIR. _____ APPROVED: PWO OR OICC DATE _____ SATISFACTORY TO: _____ DATE _____		MECHANICAL CONTROLS NAVJAC DRAWING NO. 60011850 CONST. CONTR. NO. N40085-12-B-0066 SCALE: AS NOTED SPEC. 05-12-0066 SHEET 41 OF 48	

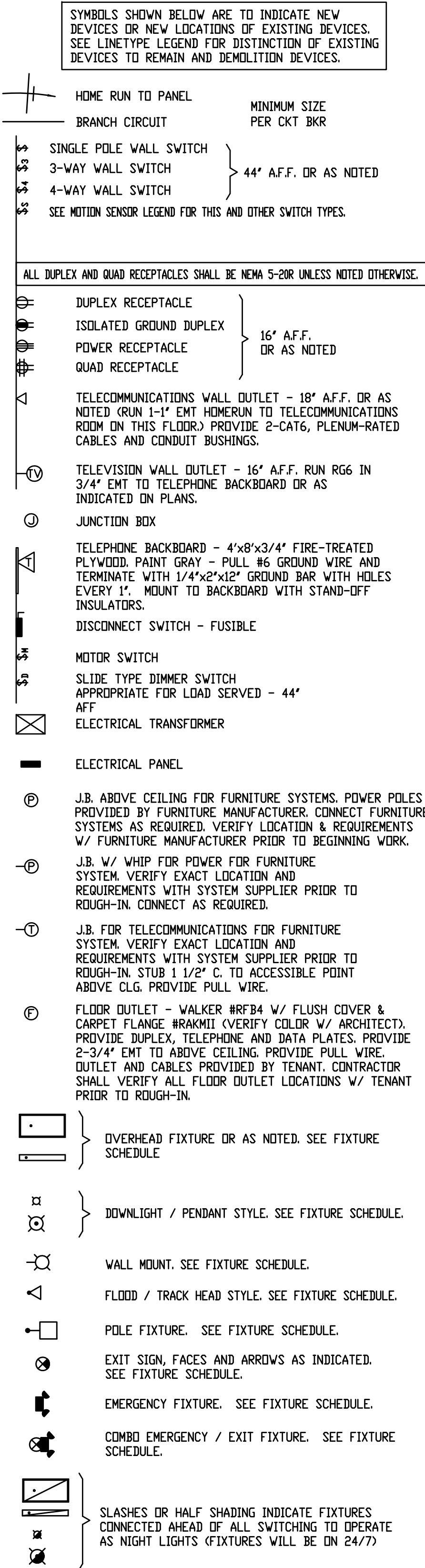


GENERAL NOTES AND REQUIREMENTS.

1. WORKMANSHIP SHALL CONFORM TO NECA PUBLICATION "STANDARDS OF INSTALLATION".
2. INSTALLATION SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, STATE BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL INSPECTOR (FURNISH INSPECTION CERTIFICATE). ALL WORK SHALL BE BY LICENSED ELECTRICAL CONTRACTOR.
3. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO INSTALLATION OF ELEC. EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE.
5. ALL BRANCH CIRCUITS SHALL BE IN ZINC-COATED EMT OR RIGID CONDUIT AS PERMITTED OR REQUIRED BY THE NATIONAL ELECTRICAL CODE. SCHEDULE 40 PVC CONDUIT MAY BE USED ONLY FOR THE SECONDARY UNDERGROUND SERVICE, THE UNDERGROUND TELEPHONE SERVICE CONDUIT, AND BRANCH CIRCUIT TELEPHONE SYSTEM CONDUITS LOCATED BELOW THE FLOOR SLAB ON GRADE OR BURIED ON THE EXTERIOR OF THE BUILDING, OR IN CONCRETE BLOCK WALLS. ALL CONDUIT SHALL BE 3/4" MINIMUM SIZE EMT FITTINGS SHALL BE STEEL COMPRESSION OR SET SCREW TYPE.
6. ALL CONDUCTORS SHALL BE COPPER TYPE THHN OR THWN, SOLID FOR #10 AWG OR #12 AWG, AND STRANDED FOR ALL LARGER SIZES. MINIMUM CONDUCTOR SIZE SHALL BE #12.
7. ALL WIRING SHALL BE CONCEALED IN WALLS, UNDER SLAB, OR ABOVE SUSPENDED CEILING SPACE.
8. ALL WIRE AND CONDUIT SIZES ARE BASED ON 75° C THHN WIRE UNLESS OTHERWISE NOTED. ALL TERMINATIONS & DEVICES SHALL BE RATED FOR 75°C.
9. CONDUITS MAY BE RUN EXPOSED IN MECHANICAL AREAS. CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS AND SHALL BE RUN IN GROUPS. SEAL ALL PENETRATIONS AIR TIGHT AROUND ALL CONDUITS WHEN PASSING INTO MECHANICAL ROOMS.
10. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING SYSTEM.
11. WHERE FIRST OUTLET ON BRANCH CIRCUIT IS GREATER THAN FIFTY (50) FEET FROM THE PANELBOARD, SEE VOLTAGE DROP SCHEDULE.
12. ALL MOUNTING HEIGHTS ARE GIVEN TO THE BOTTOM OF THE DEVICE UNLESS NOTED OTHERWISE.
13. THE LOCATION OF ALL WALL MOUNTED DEVICES, INCLUDING MOUNTING HEIGHTS, SHALL BE FIELD VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION.
14. ALL FUSES, DISCONNECT SWITCHES, AND BREAKER SIZES, SHOWN FOR MECHANICAL EQUIPMENT, SHALL BE VERIFIED BEFORE THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND THE MECHANICAL CONTRACTOR.
15. ALL DISCONNECT SWITCHES ARE TO BE FUSIBLE TYPE. FUSE IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES.
16. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, AND RECEPTACLES UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS TO AND FINAL CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES. COORDINATE CLOSELY.
17. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED SO THAT ALL CODE-REQUIRED AND MANUFACTURER-RECOMMENDED SERVICING CLEARANCES ARE MAINTAINED. INSTALLATIONS SHALL FULLY COMPLY WITH NEC 110.26 AND NEC 408.10 FOR CLEARANCE REQUIREMENTS.
18. COORDINATE LOCATIONS OF ALL LIGHT FIXTURES WITH THE REFLECTED CEILING PLANS. LIGHT FIXTURES INSTALLED IN MECHANICAL AREAS SHALL AVOID MECHANICAL PIPING, EQUIPMENT, DUCTWORK, ETC.
19. PROVIDE GROUNDING CONDUCTOR FOR ALL CIRCUITS PER NEC. AND BUILDING GROUND SHALL MEET ALL REQUIREMENTS OF NEC 250.
20. GROUND TELEPHONE EQUIPMENT PER J-607 STD.
21. THE ELECTRICAL CONTRACTOR SHALL PATCH ANY WALL, CEILING, OR FLOOR OPENINGS AND PENETRATIONS RESULTING FROM DEMOLITION OR NEW WORK IN EXISTING AREAS.
22. ALL MULTIWIRE BRANCH CIRCUITS SHALL HAVE MULTIPOLE BREAKERS AS REQUIRED BY NEC 210.4(B).
23. ALL CIRCUITS SHALL BE TESTED WITH 500 VOLT TESTER PRIOR TO ENERGIZING.
24. NOT USED.
25. RECEPTACLES, SWITCHES, COVERPLATES, ETC. SHALL VERIFY COLOR PRIOR TO PURCHASE.
26. PROVIDE PULL WIRE IN ALL EMPTY CONDUIT FOR FUTURE SYSTEMS.
27. CONDUIT SHALL BE LABELED EVERY TEN FEET.
28. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL WASTE MATERIALS, DEMO MATERIALS AND OTHER TRASH. THIS INCLUDES BUT IS NOT LIMITED TO PROPER DISPOSAL OF MERCURY CONTAINING LAMPS, RECYCLABLE MATERIALS ETC.
29. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 3 COPIES OF SHOP DRAWINGS FOR LIGHTS, SWITCHGEAR, PANELS, ETC.
30. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE W/ ALL OTHER TRADES REGARDING VOLTAGES, LOADS, CIRCUIT BREAKERS, ETC. PRIOR TO BEGINNING ANY WORK.
31. AS USED IN THESE DOCUMENTS, THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL THE ITEM OR EQUIPMENT AND MAKE THE FINAL CONNECTION AS REQUIRED.
32. NOT USED.
33. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL REQUIREMENTS OF THE 2012 NORTH CAROLINA BUILDING CODE, ACCESSIBILITY CODE WHICH ARE APPLICABLE TO THIS PROJECT REGARDLESS OF WHETHER ALL DETAILS ARE INDICATED ON PLANS.
34. IF FIRE ALARM SYSTEM IS PROVIDED FOR BUILDING, ALL PULL STATIONS SHALL COMPLY WITH ALL REQUIREMENTS OF NFPA 101, NFPA 72, ETC.
35. IT IS NOTED THAT IF TELEPHONE SERVICE IS NOT LOCATED WITHIN 20' OF ELECTRICAL SERVICE, THEN PROVIDE SEPARATE GROUNDING ELECTRODE AS REQUIRED PER NEC 800.
36. CONTRACTOR SHALL VERIFY ALL AREAS THAT ARE USED AS A RETURN PLENUM WITH MECHANICAL CONTRACTOR AND PROVIDE PLENUM RATED CABLE FOR ALL CABLES. ALL CABLES IN A PLENUM SHALL BE RUN IN METAL CONDUIT. THIS INCLUDES ALL TELECOMMUNICATIONS, FIRE ALARM, OR CONTROL WIRING ABOVE CEILING.
37. CONTRACTOR SHALL COMPLY WITH SECTION 1613 OF THE NORTH CAROLINA GENERAL CONSTRUCTION BUILDING CODE.

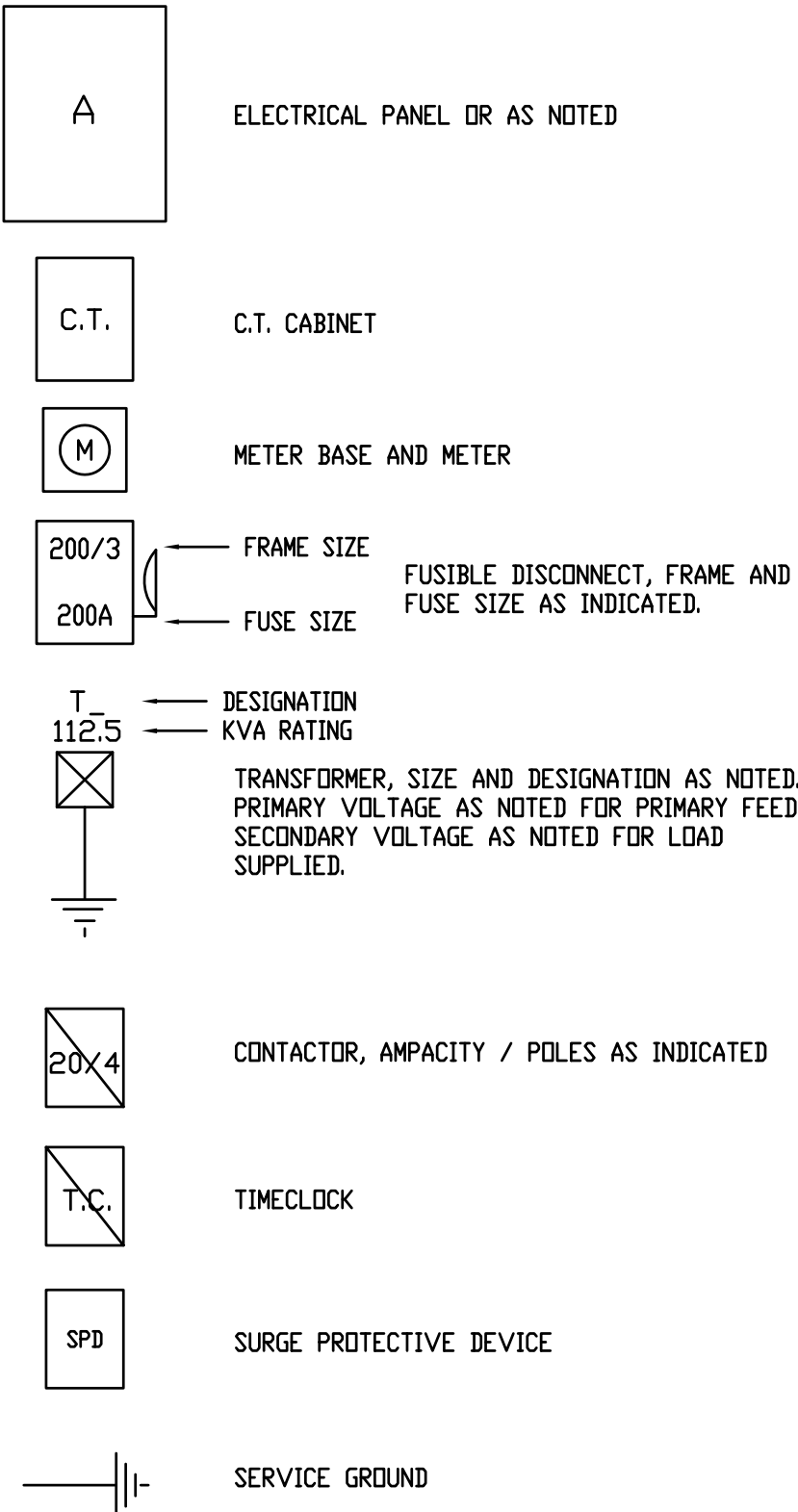
ELECTRICAL LEGEND

PLANS



SEE FIRE ALARM LEGEND FOR FIRE ALARM SYMBOLS

DETAILS



LINETYPES

- NEW DEVICE OR RELOCATED EXISTING DEVICE.
- - - EXISTING DEVICE TO REMAIN.
- ..... EXISTING DEVICE TO BE DEMOLISHED OR RELOCATED.
- - - NEW UNDERGROUND OR UNDERSLAB CONNECTION. EXISTING AND DEMO UNDERGROUND IS NOTED WITH EXISTING OR DEMO LINETYPE. NEW CONNECTIONS NOT SPECIFICALLY SHOWN WITH UNDERGROUND LINETYPE ARE NOT NECESSARILY REQUIRED TO BE RUN OVERHEAD UNLESS NOTED AS SUCH.
- — — LOW VOLTAGE WIRING

SEE WALL RATING LEGEND FOR WALL TYPES AND SYMBOLS.

EXAMPLES OF EXISTING AND DEMO SYMBOLS USING LINETYPES ABOVE

- EXISTING DUPLEX RECEPTACLE TO REMAIN.
- EXISTING PANEL TO REMAIN.
- EXISTING FLUORESCENT FIXTURE TO REMAIN.
- EXISTING SWITCH TO REMAIN.
- EXISTING DUPLEX RECEPTACLE TO BE DEMOLISHED OR RELOCATED.
- EXISTING PANEL TO BE DEMOLISHED OR RELOCATED.
- EXISTING FLUORESCENT FIXTURE TO BE DEMOLISHED OR RELOCATED.
- EXISTING SWITCH TO BE DEMOLISHED OR RELOCATED.

ELECTRICAL ABBREVIATIONS

- A INDICATES A DEVICE IS TO BE MOUNTED WITH BOTTOM OF BOX 1 1/2" ABOVE BACKSPASH UNLESS NOTED OTHERWISE.
- AFF ABOVE FINISHED FLOOR
- AG COMBINATION OF 'A' AND 'G'
- ARCH ARCHITECT
- C INDICATES A DEVICE IS TO BE FLUSH MOUNTED IN CEILING TILE.
- EC ELECTRICAL CONTRACTOR
- EX. EXISTING
- EXT. EXTERIOR
- FA FIRE ALARM
- FAH FAHRENHEIT
- FURN FURNITURE
- G INDICATES A DEVICE WITH INTEGRAL GROUND FAULT INTERRUPTER (GFI) PROTECTION.
- GFI SAME AS 'G'
- IG DEVICE SHALL HAVE ISOLATED GROUND AND WILL REQUIRE ISOLATED GROUND CIRCUITRY.
- J.B. JUNCTION BOX
- MC MC CABLE (WHEN REFERENCING NEC WIRING METHODS OR TYPE.)
- MECH MECHANICAL CONTRACTOR
- NTS NOT TO SCALE
- DC ON CENTER
- PC PLUMBING CONTRACTOR
- PLUMB PLUMBING CONTRACTOR
- PROV PROVIDED BY
- S INDICATES DEVICE IS TO BE SURFACE MOUNTED.
- TP TAMPER PROOF DEVICE. DEVICE SHALL BE APPROVED FOR USE IN AREA SHOWN (CHILD CARE ETC.)
- W/ WITH
- VP INDICATES A DEVICE THAT IS WEATHER-PROOF AND RATED FOR EXTERIOR TEMPERATURES.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

SYMBOL	REMARKS	FURN. BY	KVA	HP	VOLTS	FLA.	MCA.	SIZE	DISC. SW.	OR. BKR OR FUSE SIZE	AWG SIZE	GND. WIRE SIZE	CONDUIT SIZE
FCU-1	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
FCU-2	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
FCU-3	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
FCU-4	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
FCU-5	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
FCU-6	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
FCU-7	FAN COIL UNIT	MECH.	0.5	-	120/1	-	3.9	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
B-1,2	BOILER	MECH.	0.5	-	120/1	4.2	-	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
UH-1	UNIT HEATER	MECH.	0.1	-	120/1	1.7	-	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
UH-2	UNIT HEATER	MECH.	0.1	-	120/1	1.7	-	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
UH-3	UNIT HEATER	MECH.	0.1	-	120/1	1.7	-	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
CHP-1,2	CHILLED WATER PUMP	MECH.	6.1	5	208/3	16.9	-	30/3	1	ELEC.	30/3	4-#10	#10 3/4"
BP-1,2	PUMP	MECH.	1.4	1	208/3	3.9	-	30/3	1	ELEC.	15/3	4-#12	#12 3/4"
HWP-1,2	HOT WATER PUMP	MECH.	3.8	3	208/3	10.5	-	30/3	1	ELEC.	20/3	4-#12	#12 3/4"
DOAS-1	OUTSIDE AIR UNIT	MECH.	6.1	-	208/3	-	17.0	30/3	1	ELEC.	20/3	4-#12	#12 3/4"
GVH	GAS WTR. HTR.	PLUMB.	0.7	-	120/1	6.0	-	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
EF-1	EXHAUST FAN	MECH.	0.5	-	120/1	4.4	-	\$M	1	ELEC.	15/1	2-#12	#12 3/4"
CU-1	CONDENSING UNIT	MECH.	2.7	-	208/1	4.4	13.0	30/2	3R	ELEC.	15/2	3-#12	#12 3/4"
AH-1 ##	AIR HANDLER	MECH.	##	-	208/1	1.0	-	30/2	1	ELEC.	15/2	3-#12	#12 3/4"
CU-2	CONDENSING UNIT	MECH.	2.7	-	208/1	4.4	13.0	30/2	3R	ELEC.	15/2	3-#12	#12 3/4"
AH-2 ##	AIR HANDLER	MECH.	##	-	208/1	1.0	-	30/2	1	ELEC.	15/2	3-#12	#12 3/4"

BREAKER SIZES FOR ALL EQUIPMENT SIZED AT MDOP WHERE APPLICABLE.  
ALL DISCONNECTS FOR EQUIPMENT SHALL BE OF FUSIBLE TYPE AND SHALL BE FUSED AS INDICATED.  
## INDOOR UNIT IS POWERED BY OUTDOOR UNIT. CONNECT AS REQUIRED.



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

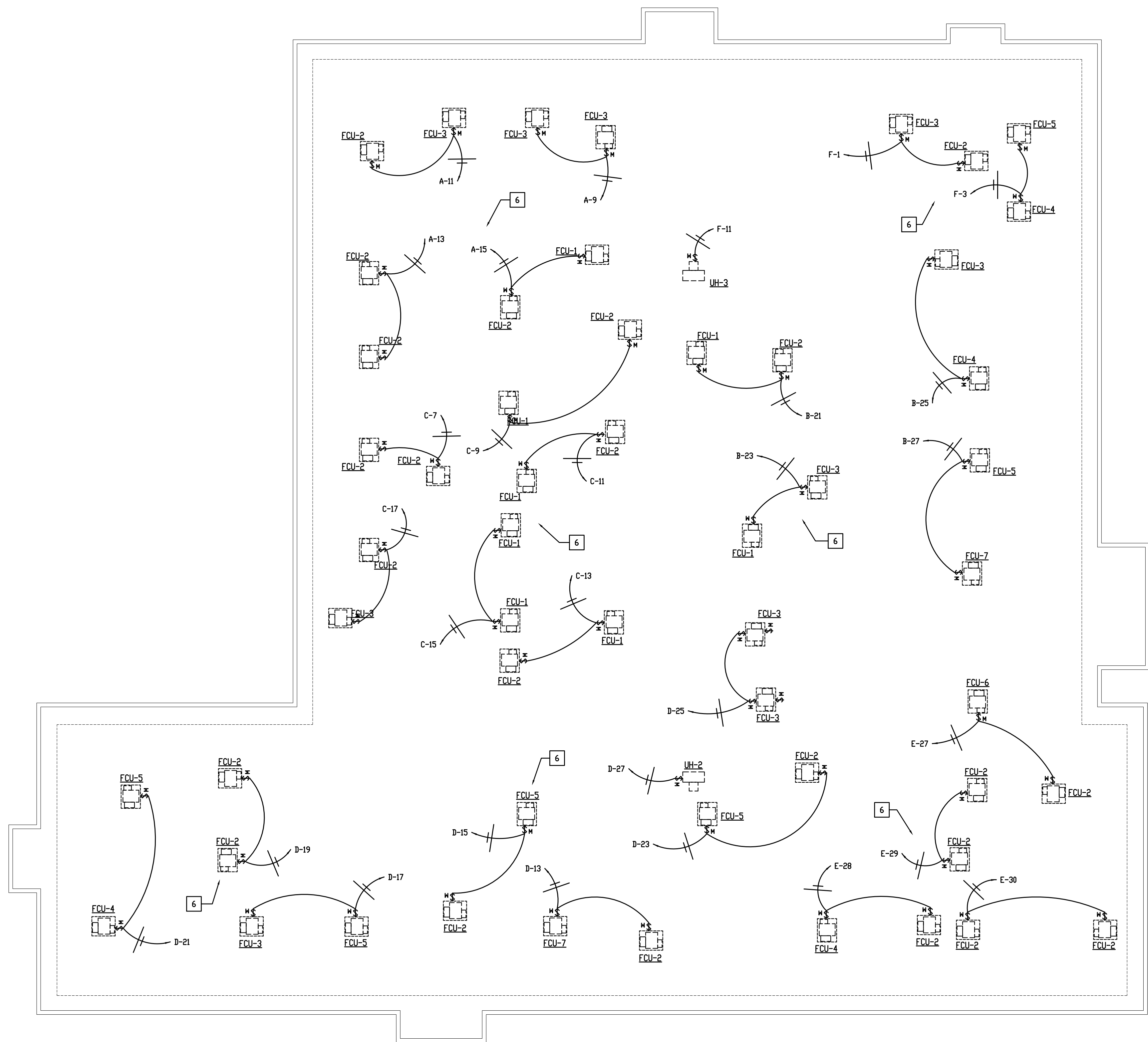
**REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302**

DES. \_\_\_\_\_  
DR. \_\_\_\_\_  
CHK. \_\_\_\_\_  
SUBMITTED BY: \_\_\_\_\_  
DESIGN DIR. \_\_\_\_\_  
APPROVED: PWO OR OICC DATE \_\_\_\_\_  
SATISFACTORY TO: \_\_\_\_\_ DATE \_\_\_\_\_

ELECTRICAL LEGENDS  
NAVFAC DRAWING NO. **60011851**  
F 80091  
CONST. CONTR. NO. N40085-12-B-0066  
SCALE: AS NOTED SPEC. 05-12-0066 SHEET 42 OF 48

**E-001**





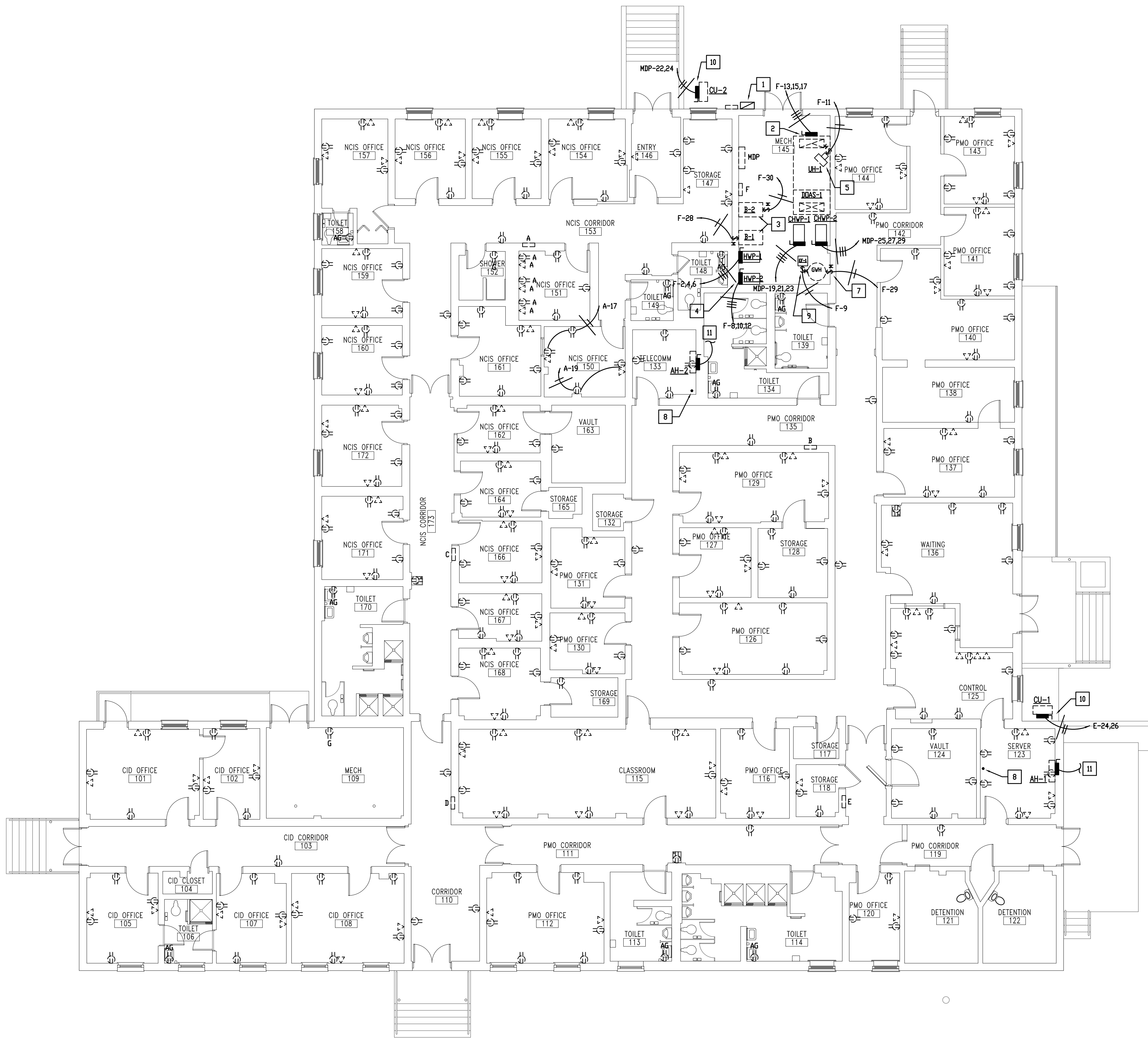
1 ATTIC PLAN - POWER  
E-101/SCALE: 1/8" = 1' - 0"

PLAN NOTES:

- 1 REPLACE EXISTING ATS WITH NEW AUTOMATIC TRANSFER SWITCH. SEE RISER DIAGRAM FOR MORE INFORMATION.
- 2 CONNECT DDAS UNIT AS REQUIRED. COORDINATE WITH MECHANICAL.
- 3 CONNECT BOILER AS REQUIRED. COORDINATE WITH MECHANICAL.
- 4 CONNECT PUMP AS REQUIRED. COORDINATE WITH MECHANICAL.
- 5 CONNECT UNIT HEATER AS REQUIRED. COORDINATE WITH MECHANICAL.
- 6 CONNECT FAN COIL UNIT AS REQUIRED. COORDINATE WITH MECHANICAL. TYPICAL.
- 7 CONNECT GAS WATER HEATER AS REQUIRED. COORDINATE WITH PLUMBING.
- 8 STUB 1-4" CONDUIT FROM TELEPHONE ROOM THROUGH CRAWL SPACE TO SERVER ROOM. PROVIDE PULL WIRE AND BUSHINGS. VERIFY EXACT TERMINATION POINTS WITH CONTRACTING OFFICER PRIOR TO BEGINNING WORK.
- 9 CONNECT EXHAUST FAN AS REQUIRED. COORDINATE WITH MECHANICAL.
- 10 CONNECT CONDENSING UNIT AS REQUIRED. COORDINATE WITH MECHANICAL.
- 11 AIR HANDLER IS POWERED BY CONDENSING UNIT. CONNECT AS REQUIRED. COORDINATE WITH MECHANICAL.

NOTES

1. CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING TELECOMMUNICATION SYSTEMS CABLING AND COMPONENTS IN THE BUILDINGS FROM DAMAGE DURING THE RENOVATION. THIS SHALL PARTICULARLY APPLY TO WORK BEING DONE ABOVE CEILINGS.



1 FLOOR PLAN - POWER  
E-101/SCALE: 1/8" = 1' - 0"



**CRENSHAW CONSULTING**  
www.crenshawconsulting.com  
NO LICENSE #C-1055 300 Bush Street, Suite 200  
Raleigh, North Carolina 27609  
919-871-0070 Fax 919-871-0080

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

**REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302**

DES. \_\_\_\_\_  
DR. \_\_\_\_\_  
CHK. \_\_\_\_\_  
SUBMITTED BY: \_\_\_\_\_  
DESIGN DIR. \_\_\_\_\_  
APPROVED: PWO OR OICC DATE \_\_\_\_\_  
SATISFACTORY TO: \_\_\_\_\_ DATE \_\_\_\_\_

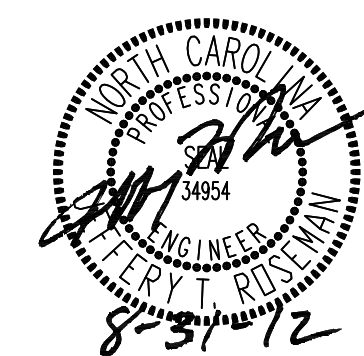
FLOOR PLAN - POWER  
NAVFAC DRAWING NO. 60011852  
CONST. CONTR. NO. N40085-12-B-0066

SCALE: AS NOTED SPEC. 05-12-0066 SHEET 43 OF 48





- ### PLAN NOTES:
1. CONNECT EMERGENCY AND EXIT LIGHTS AHEAD OF LOCAL SWITCH AS REQUIRED. (TOTAL FIXTURE UNVISITED)
  2. LOW VOLTAGE CEILING MOUNTED MOTION SENSOR SHALL BE AT LEAST 6' FROM ANY DIFFUSER. CONNECT TO ALL LIGHTS IN THIS AREA AS REQUIRED. SEE NOTED FOR DETAILS.
  3. CONTRACTOR SHALL CONNECT BATTERY IN LIGHT FIXTURE AREA OF CONTACTOR SO THAT EMERGENCY BALLAST COULD BE ONLY IN THE EVENT OF POWER LOSS. BATTERY IS NORMALLY CONTROLLED BY EXTERIOR LIGHTING CONTACTOR.
  4. REMOTE BATTERY INSIDE ABOVE CEILING AND EXTERIOR EMERGENCY LAMPS INTEGRAL. TO EXTERIOR LIGHT MOUNTED ON BUILDING. EMERGENCY LAMPS SHALL WIRE ON TO EXISTING EMERGENCY POWER LOSS. CONTRACTOR SHALL CONNECT BATTERY HEAD LOSS. EXISTING LIGHTING AND EXISTING (TOTAL FIXTURE UNVISITED). COORDINATE EXACT LOCATION AND MOUNTING HEIGHT.
  5. CONTRACTOR SHALL CONNECT NEW LIGHTS TO EXISTING CIRCUIT CURRENTLY SERVING EXISTING LIGHTS. CONTRACTOR SHALL VERIFY THAT TOTAL AMPERAGE ON ANY CIRCUIT DOES NOT EXCEED 1920 WATTS.



MBFA NO.: 1203

**CRENSHAW CONSULTING**  
*engineers*

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

REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302
---

DES.	
DR.	
CHK.	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE
SATISFACTORY TO:	DATE

FLOOR PLAN - LIGHTING			
TE	SIZE	CODE IDENT NO	NAVFAC DRAWING NO.
TE	F	80091	60011853
		CONST. CONTR. NO. N40085-12-B-0066	
SCALE: AS NOTED		SPEC. 05-12-0066	SHEET 44 OF

**E-102**



TRAILER 4:  
PATROL OPS

TRAILER 3:  
LAW ENFORCEMENT HQ

TRAILER 2:  
SUPPORT STAFF

TRAILER 1:  
TRAINING, HEADS &  
BREAKROOM

ELECTRICAL SERVICE PHASING NOTES:

1. INSTALL INFRASTRUCTURE FOR TEMPORARY ELECTRICAL SERVICE. THIS SHALL INCLUDE CONDUIT AND CONDUCTORS FROM POLE-MOUNTED TRANSFORMERS TO TEMPORARY POWER POLE, CONDUIT AND CONDUCTORS FROM GENERATOR TO TEMPORARY POWER POLE, DISCONNECT, NEW AUTOMATIC TRANSFER SWITCH, CONDUIT AND CONDUCTORS FROM ATS TO TEMPORARY POWER PANEL, AND TEMPORARY POWER PANEL TO SERVE EXISTING SERVER ROOM. SEE RISER DIAGRAM FOR MORE INFORMATION.
2. CONDUCT A TEMPORARY SHUTDOWN OF BUILDING ELECTRICAL SERVICE. CONTRACTOR SHALL CHANGE OUT CONNECTIONS FOR NORMAL AND GENERATOR POWER TO INFRASTRUCTURE PUT IN PLACE AS INDICATED IN NOTE 1. ALSO, CONNECT ALL SERVER ROOM CIRCUITS TO TEMPORARY POWER PANEL.
3. AFTER RENOVATION OF BUILDING IS NEARLY COMPLETE AND ELECTRICAL SERVICE IS READY TO BE TRANSITIONED BACK OVER, THEN ANOTHER TEMPORARY SHUTDOWN WILL NEED TO TAKE PLACE. AT THIS TIME, THE NEW AUTOMATIC TRANSFER SWITCH THAT WAS USED FOR THE TEMPORARY SERVICE NEEDS TO BE TAKEN DOWN AND REUSED IN PLACE OF THE EXISTING ATS IN THE BUILDING. AFTER SWITCHING OUT ATS, CONTRACTOR SHALL RECONNECT NORMAL AND GENERATOR CONNECTIONS TO BUILDING SERVICE. EXISTING CONDUCTORS CURRENTLY SERVING BUILDING SHALL BE REUSED.

TELECOMMUNICATION NOTES:

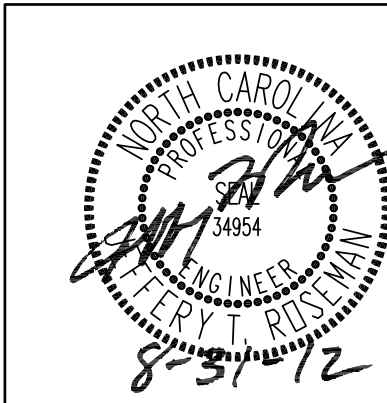
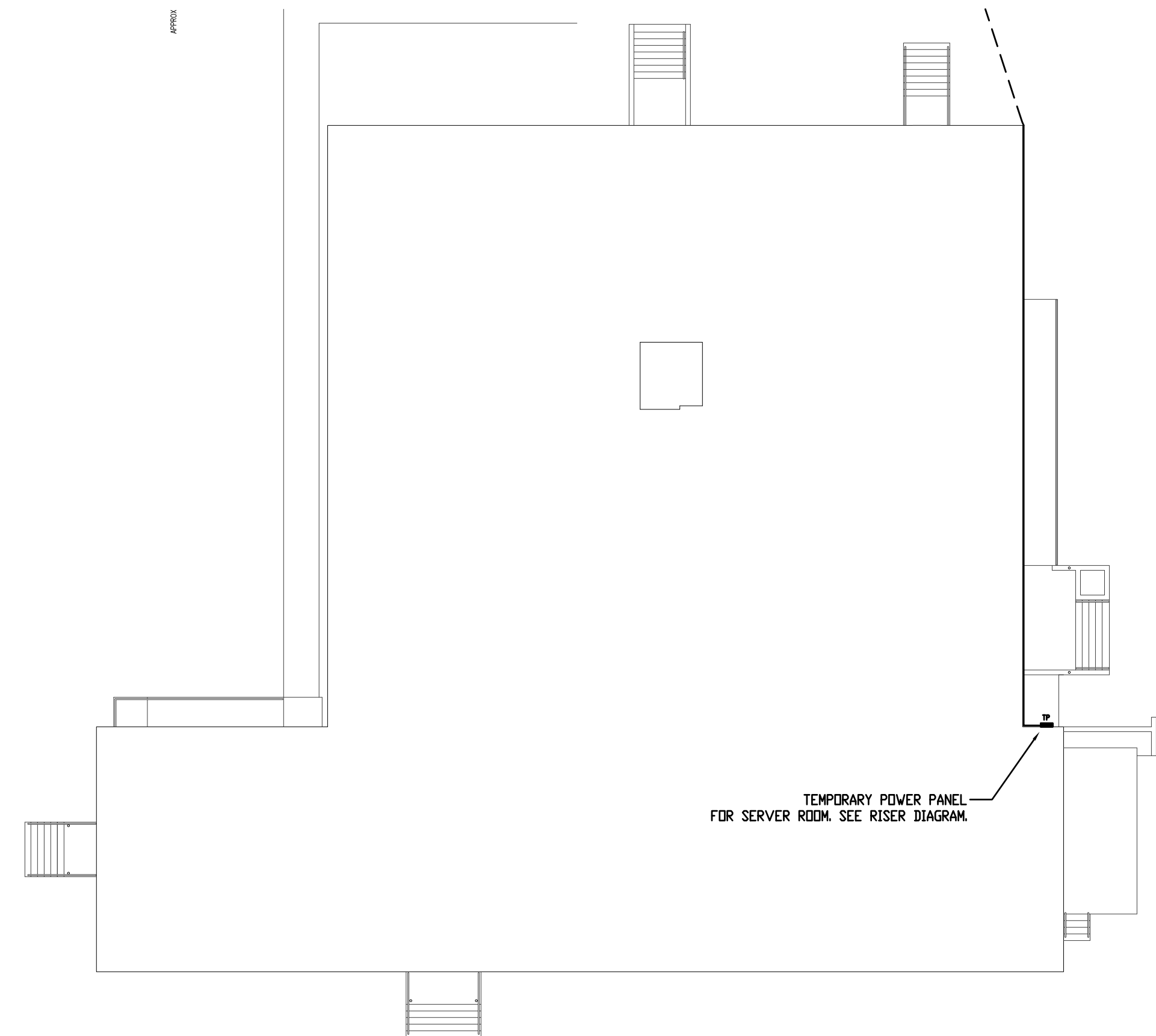
1. ALL COMMUNICATION CABLES USED FOR TRAILERS SHALL BE CMX OUTDOOR-RATED CAT 5 CABLEING.
2. STUB CONDUITS AS INDICATED ON PLAN. CONDUITS FROM MAIN COMMUNICATIONS TRAILER SHALL BE STUBBED UP 12" IN AN UNDISTURBED AREA APPROXIMATELY 12-18" WITHIN THE TRAILER'S OUTER EDGE.
3. STUB CONDUITS AS INDICATED ON PLAN. CONDUITS SHALL TERMINATE 3" ON THE BACKBOARD AND 3" BELOW THE WEATHER BARRIER UNDER THE TRAILER. ALL TURNS IN THE CONDUIT SHALL BE LARGE SWEEPS; NO CONDUIT LETS OR 90 DEGREE TURNS ARE ALLOWED. IF THERE ARE MORE THAN TWO 90 DEGREE SWEEPS OR A TOTAL OF MORE THAN 180 DEGREES OF CHANGE, THEN A WEATHER-PROOF PULL BOX IS REQUIRED.
4. COORDINATE WITH CONTRACTING OFFICER FOR ADDITIONAL COMMUNICATIONS REQUIREMENTS OF SECONDARY TRAILERS.

PLAN NOTES:

1. APPROXIMATE ROUTING OF UNDERGROUND ELECTRICAL SERVICE FOR TEMPORARY TRAILERS. TRAILERS SHALL BE EVENLY DISTRIBUTED ACROSS ELECTRICAL PHASES. SEE RISER DIAGRAM.
2. EXISTING ELECTRICAL POLE WITH PRIMARY ELECTRICAL SERVICE CONDUCTORS. CONNECT 2-100 KVA POLE-MOUNTED TRANSFORMERS WITH 208/3 SECONDARY VOLTAGE. SEE RISER DIAGRAM.
3. NEW TEMPORARY ELECTRICAL SERVICE POLE WITH DISCONNECT FOR TRAILER. CONNECT FROM DISCONNECT TO ELECTRICAL PANEL IN TRAILER. VERIFY EXACT TERMINATION POINT WITH EQUIPMENT SUPPLIER. SEE RISER DIAGRAM.
4. STUB 1-4" CONDUIT WITH 3-CELL MAXWELL INNERDUCT FROM BUILDING TELEPHONE ROOM, THROUGH CRAWL SPACE, AND TO HANDLE HOLE OUTSIDE OF BUILDING. PROVIDE 100 PAIR VOICE GRADE COPPER AND 24 STRAND SINGLE MODE FIBER FOR DATA.
5. STUB 1-4" CONDUIT FROM MAIN COMMUNICATIONS AREA IN TRAILER TO SECONDARY TRAILER. PROVIDE 10 PAIR VOICE GRADE COPPER AND 24 STRAND SINGLE MODE FIBER FOR DATA. VERIFY EXACT TERMINATION POINT WITH CONTRACTING OFFICER.
6. STUB 1-4" CONDUIT WITH 3-CELL MAXWELL INNERDUCT FROM HAND HOLE TO MAIN COMMUNICATIONS CABINETS IN TRAILER 5. PROVIDE 100 PAIR VOICE GRADE COPPER AND 24 STRAND SINGLE MODE FIBER FOR DATA. VERIFY EXACT TERMINATION POINT WITH CONTRACTING OFFICER.
7. PROVIDE HAND HOLE OUTSIDE OF BUILDING FOR COMMUNICATIONS. COORDINATE WITH SITE FOR EXACT LOCATION.
8. STUB 1-2" CONDUIT WITH PULL STRING FROM MAIN COMMUNICATIONS AREA IN TRAILER TO MOBILE ARMORY. VERIFY EXACT TERMINATION POINT WITH CONTRACTING OFFICER.
9. EXISTING 3-50KVA POLE-MOUNTED TRANSFORMERS TO REMAIN.
10. PROVIDE TEMPORARY KENDRICK RACKING FOR NEW DISCONNECT, ATS, AND PANEL. SEE RISER DIAGRAM FOR MORE INFORMATION.

1 TRAILER PLANS - POWER  
E-103/SCALE: 1/8" = 1' - 0"

2 BUILDING KEY PLAN  
E-103/SCALE: 1/16" = 1' - 0"



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

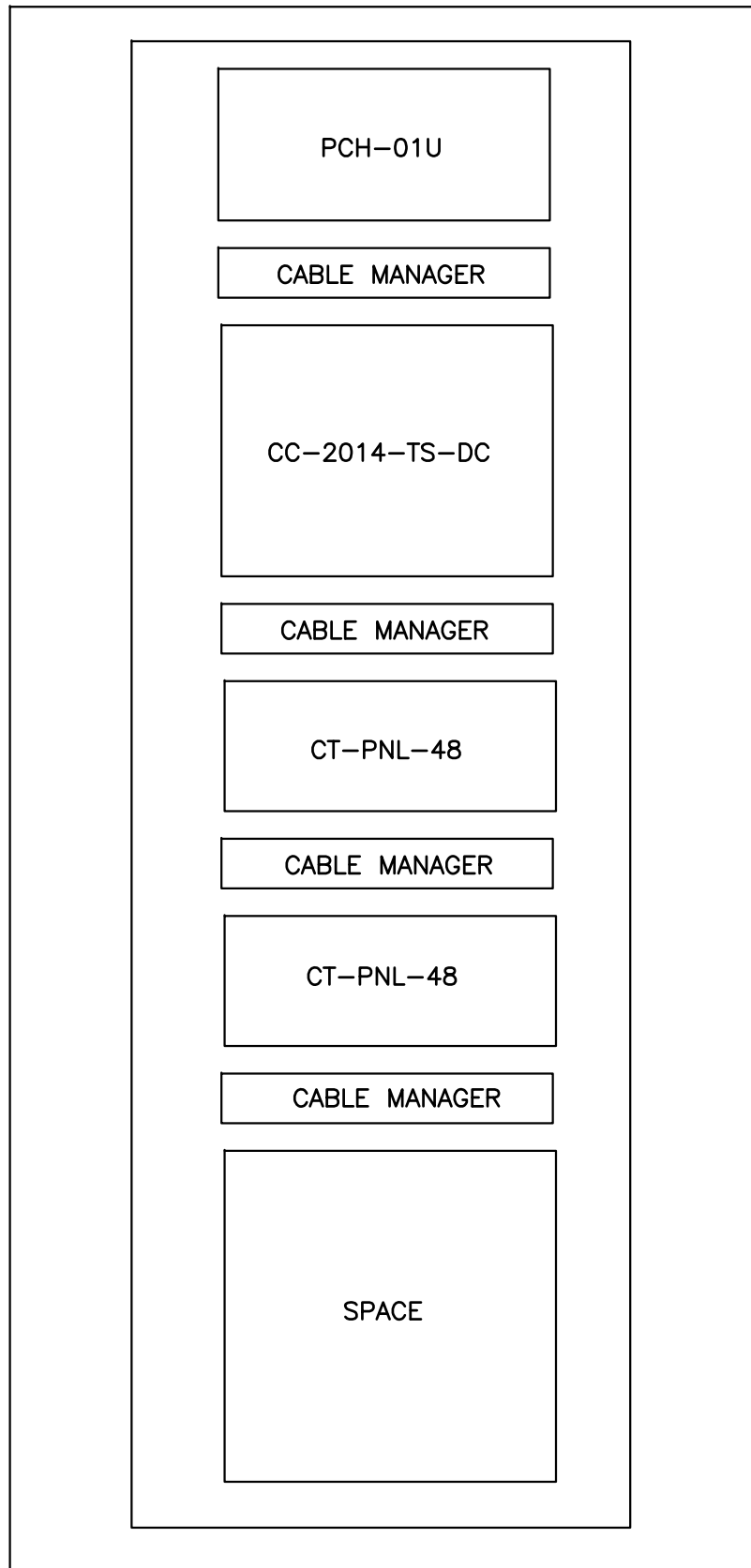
REPAIR THE MCAS NEW RIVER  
POLICE STATION, BLDG AS302

TRAILER PLANS - POWER  
NAVFAC DRAWING NO.  
**60011854**  
CONST. CONTR. NO. NA0085-12-B-0066

SCALE: AS NOTED SPEC. 05-12-0066 SHEET 45 OF 48

DES. \_\_\_\_\_  
DR. \_\_\_\_\_  
CHK. \_\_\_\_\_  
SUBMITTED BY: \_\_\_\_\_  
DESIGN DIR. \_\_\_\_\_  
APPROVED: PWO OR OICC DATE \_\_\_\_\_  
SATISFACTORY TO: \_\_\_\_\_ DATE \_\_\_\_\_

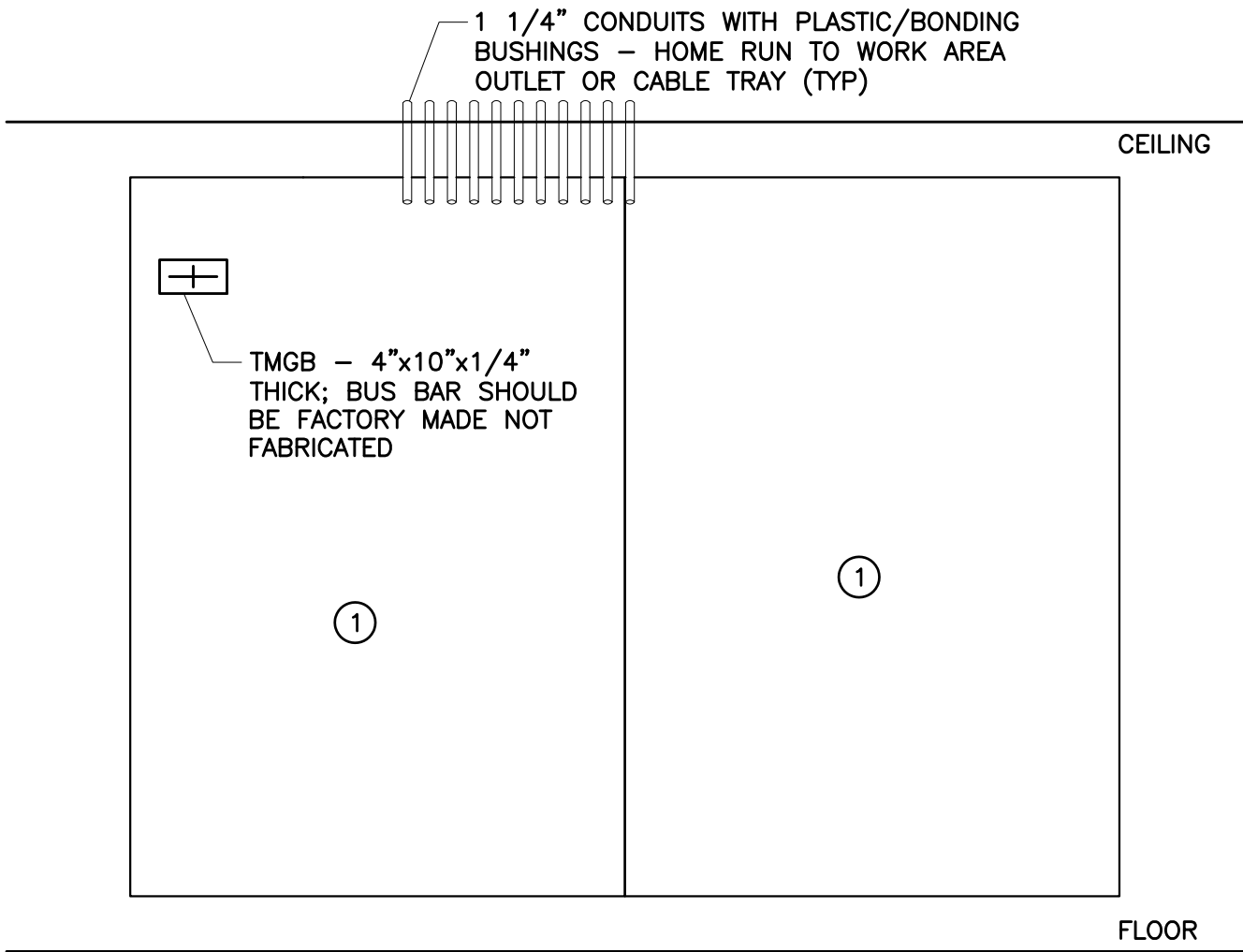




- NOTES:
1. PROVIDE TELEPHONE EQUIPMENT RACK PER CAMP LEJEUNE SPECIFICATIONS. COORDINATE WITH BASE TELEPHONE OFFICE.
  2. CONTRACTOR TO TERMINATE WIRING AT OUTLETS AND PATCH PANEL.
  3. ALL WORK SHOULD BE IN ACCORDANCE WITH TELECOMM SPECS 27 10 00 AND 33 82 00.

## CAMP LEJEUNE

### 6 TELEPHONE SERVICE EQUIPMENT RACK EXAMPLE E501 SCALE: NONE



#### KEYNOTES:

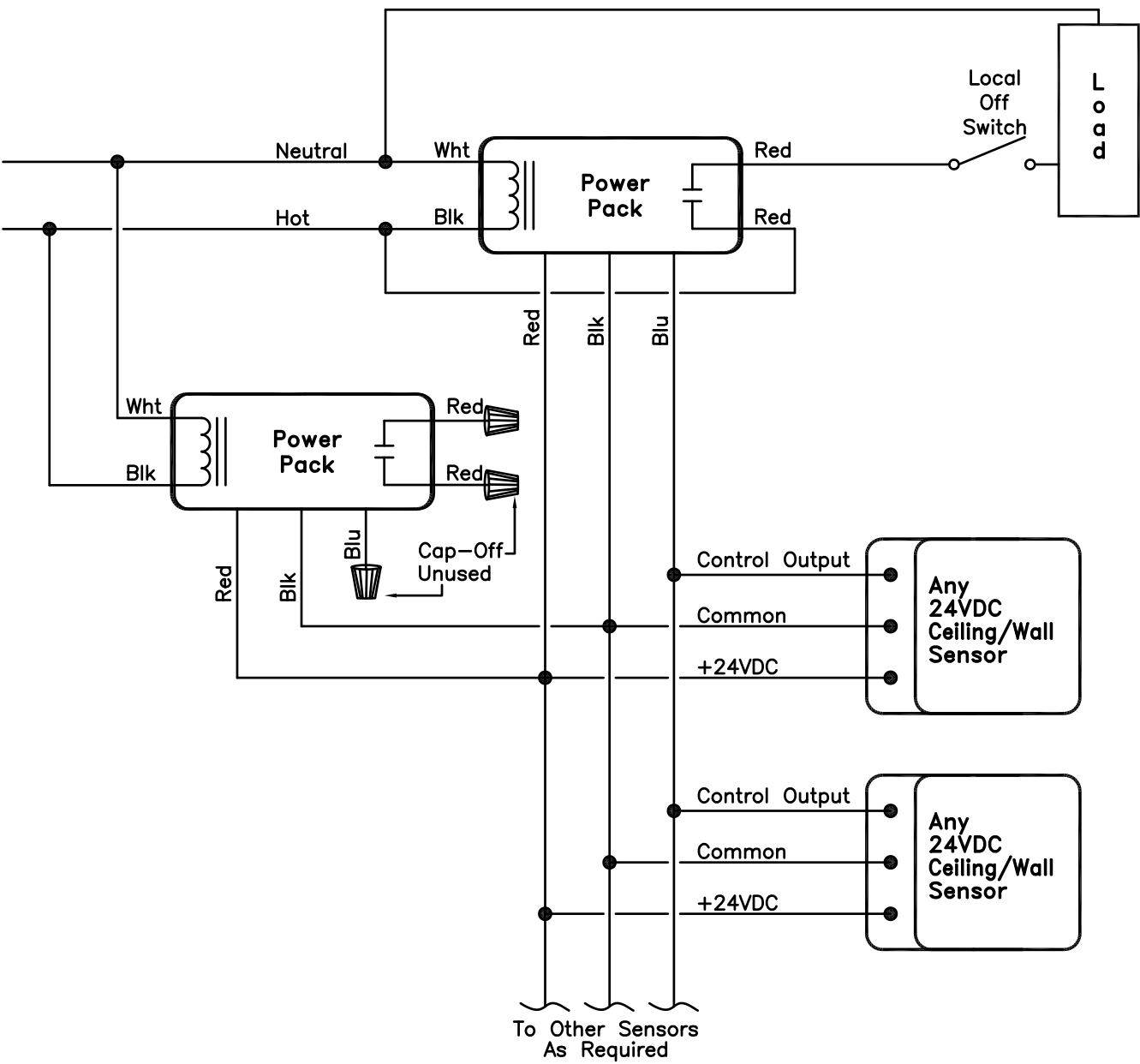
1. 4'x8' TELEPHONE BACKBOARD - PROVIDE MIN. TWO VOID-FREE, INTERIOR GRADE PLYWOOD 3/4" THICK. BACKBOARDS SHALL BE FIRE RETARDANT TREATED PLYWOOD, WITH THE FIRE STAMP VISIBLE. BOARDS SHOULD BE INSTALLED 4" WIDTH BY 8" HEIGHT SECURELY FASTENED TO THE WALL ANYWHERE EQUIPMENT IS TO BE MOUNTED.

#### 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 CAT6 CABLES IN EACH 1 1/4" 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 SERVED BY BASE TELEPHONE SYSTEM PER CAMP LEJEUNE COMMUNICATIONS SPECIFICATION 27 10 00. ALL WORK SHALL BE DONE BY A QUALIFIED COMMUNICATIONS SUBCONTRACTOR. CONTACT CONSTRUCTION MANAGER REGARDING ANY COMMUNICATIONS QUESTIONS.

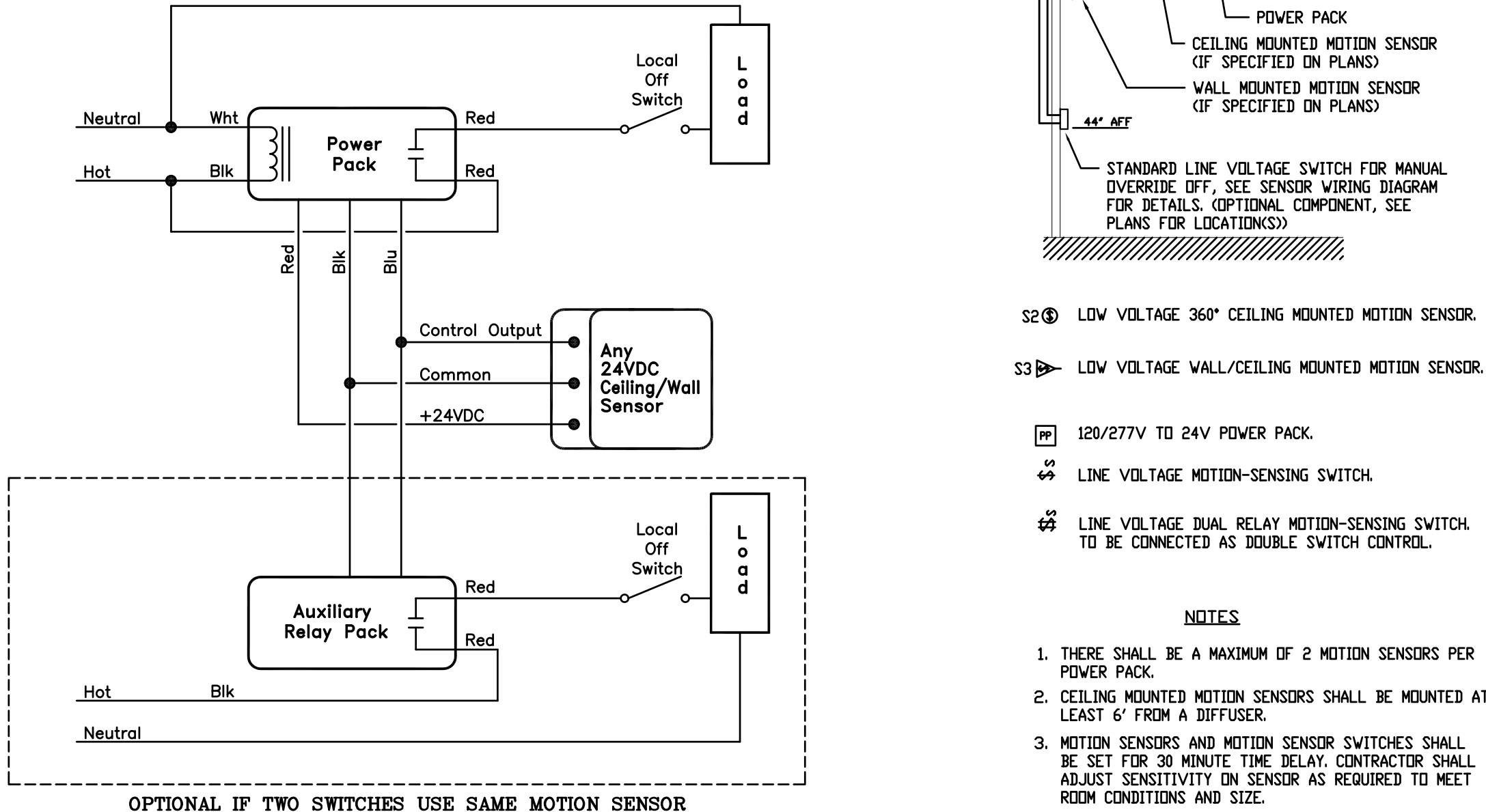
## CAMP LEJEUNE

### 7 TELECOMMUNICATIONS BACKBOARD EXAMPLE E501 SCALE: NONE

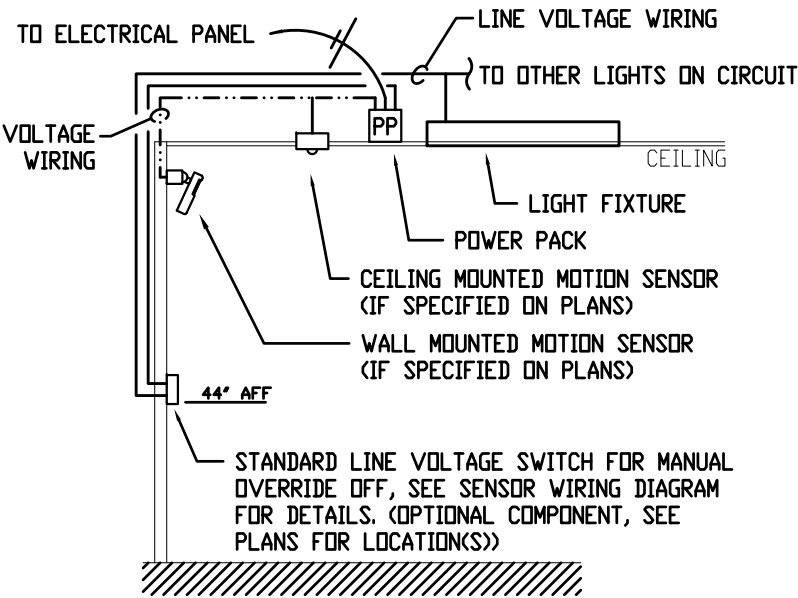


MULTIPLE OCCUPANCY SENSORS WITH MULTIPLE POWER PACKS

### 5 MOTION SENSOR WIRING DIAGRAM E501 SCALE: NONE



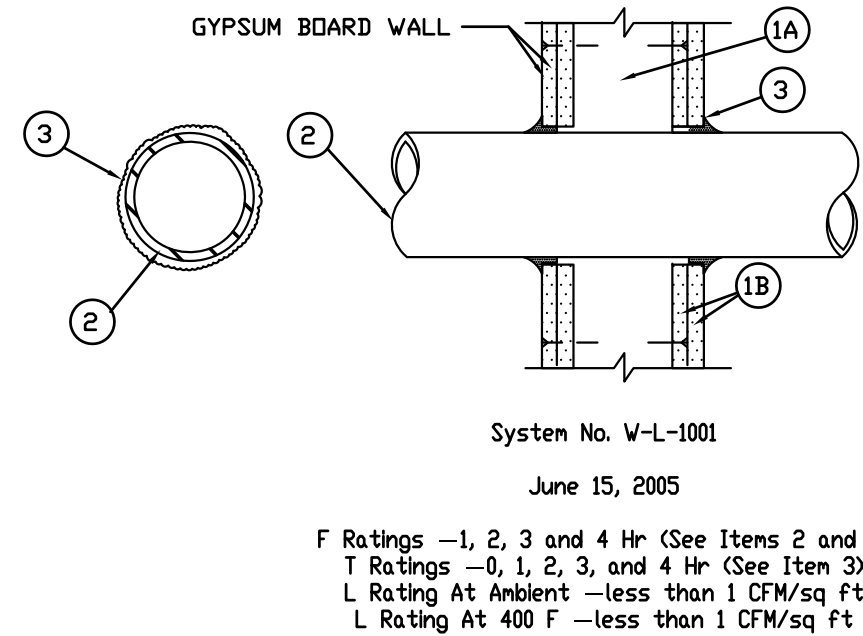
### 4 MOTION SENSOR WIRING DIAGRAM E501 SCALE: NONE



#### NOTES:

1. THERE SHALL BE A MAXIMUM OF 2 MOTION SENSORS PER POWER PACK.
2. CEILING MOUNTED MOTION SENSORS SHALL BE MOUNTED AT LEAST 6' FROM A DIFFUSER.
3. MOTION SENSORS AND MOTION SENSOR SWITCHES SHALL BE SET FOR 30 MINUTE TIME DELAY. CONTRACTOR SHALL ADJUST SENSITIVITY ON SENSOR AS REQUIRED TO MEET ROOM CONDITIONS AND SIZE.
4. CONTRACTOR SHALL PROVIDE THE PROPER QUANTITY OF POWER PACKS FOR THE DESIGN. IN ROOMS THAT UTILIZE 277 AND 120 VOLT LIGHTING, A MINIMUM OF 2 POWER PACKS WILL BE REQUIRED (1 FOR EACH VOLTAGE).

### TYPICAL MOTION SENSOR W/ LINE VOLTAGE SWITCH DETAIL E501 SCALE: NONE



1. Wall Assembly - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs - Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to consist of non 2 by 4 in. (31 by 102 mm) lumber spaced 16 in. (406 mm) OC with non 2 by 4 in. (31 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

- B. Gypsum Board - Non 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max dian of opening is 26 in. (660 mm).

2. Through-Penetrant - One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. Steel Pipe - Non 24 in. (610 mm) dian (or smaller) Schedule 10 (or heavier) steel pipe.  
B. Iron Pipe - Non 24 in. (610 mm) dian (or smaller) service weight (or heavier) cast iron soil pipe, non 12 in. (305 mm) dian (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.  
C. Conduit - Non 6 in. (152 mm) dian (or smaller) steel conduit or non 4 in. (102 mm) dian (or smaller) steel electrical metallic tubing.  
D. Copper Tubing - Non 6 in. (152 mm) dian (or smaller) Type L (or heavier) copper tubing.  
E. Copper Pipe - Non 6 in. (152 mm) dian (or smaller) Regular (or heavier) copper pipe.  
F. Through Penetrating Products® - Flexible Metal Piping. The following types of steel flexible metal gas piping may be used:

1. Non 2 in. (51 mm) dian (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Non 1 in. (25 mm) dian (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITELFLEX

3. Non 1 in. (25 mm) dian (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG L L C

3. Fill, Void or Cavity Material® - Caulk or Sealant - Min 5/8, 1-1/4, 1-1/2, 2 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus. Flush with both surfaces of wall. Min 1/4 in. (6 mm) dian bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

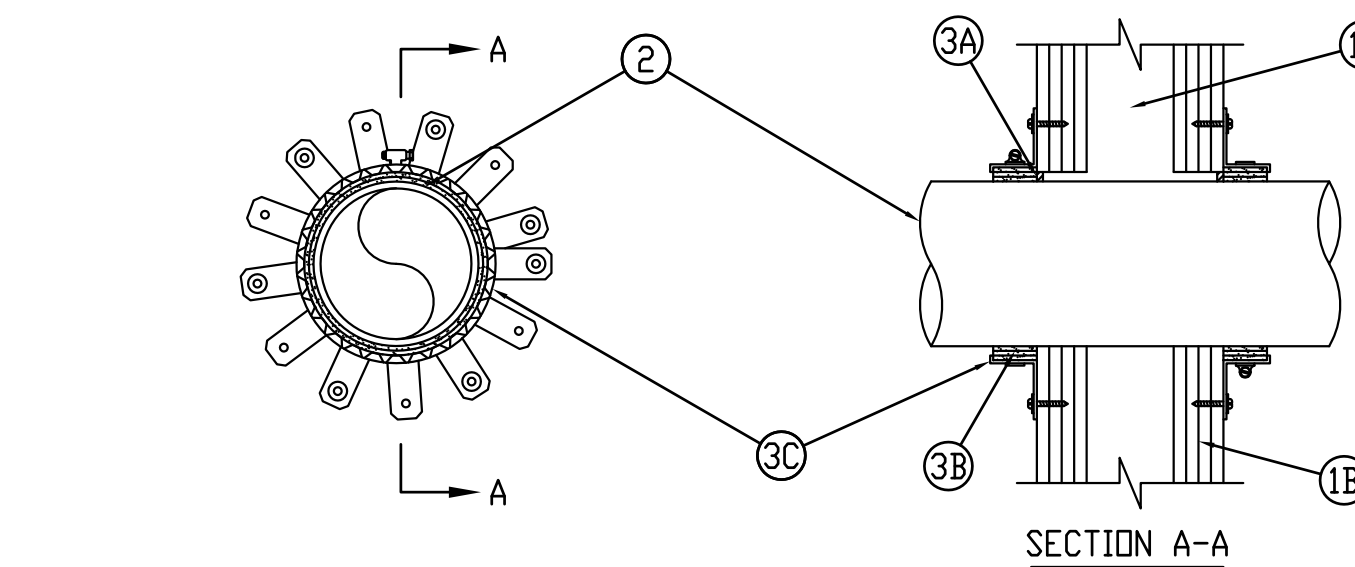
Max Pipe or Conduit Dian, In (mm)	F Rating, Hr	T Rating, Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

\*When copper pipe is used, T Rating is 0 hr.

3M COMPANY - CP 25VB+ or FB-3000 VT.

®Bearing the UL Classification Mark

### FOR FRAMED WALLS ONLY 1,2,3, OR 4 HOUR PENETRATION FIRESTOP FOR METALLIC PIPE, CONDUIT, OR TUBING E501 SCALE: NONE



### System No. W-L-2447 F Rating - 1, 2, 3 and 4 Hr (See Item 1) T Rating - 1, 2, 3 and 4 Hr (See Item 2) L Rating At Ambient - 3 CFM/sq ft L Rating At 400 F - Less Than 1 CFM/sq ft

1. Wall Assembly - The 1, 2, 3 or 4 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs - Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC.

- B. Gypsum Board - Min 1/2 in. (13 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max dian of opening is 26 in. (660 mm). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrants - One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening to be min 0 in. (point contact) and max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:

- A. Polyvinyl Chloride (PVC) Pipe - Non 6 in. (152 mm) dian (or smaller) Schedule 40 solid or cellular core PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.  
B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Non 6 in. (152 mm) dian (or smaller) SDR35 CPVC for use in closed (process or supply) piping systems.  
C. Acrylonitrile Butadiene Styrene (ABS) Pipe - Non 6 in. (152 mm) dian (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.  
The hourly T Rating of the firestop system is 1 hr except that for non 2 in. (51 mm) dian (or smaller) penetrants, the hourly T Rating is equal to the hourly fire rating of the wall assembly in which it is installed.

3. Firestop System - The firestop system shall consist of the following:

- A. Fill, Void or Cavity Material® - Sealant - Min 1/4 in. (6 mm) thickness of fill material applied within the annulus. Flush with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-DNE Sealant

- B. Fill, Void or Cavity Material® - Wrap Strip - Non 3/16 in. (5 mm) thick by 1-3/4 in. (45 mm) wide intumescent wrap strip continuously wrapped around the pipe. Wrap strip butted tightly against both surfaces of wall. The number of layers of wrap strip required depends on penetrant size as specified in the table below.

Non Pipe Dian, in.	No. of Layers of Wrap Strip Required
6 (or smaller)	3
4 (or smaller)	2
2 (or smaller)	1

- C. Steel Collar - Collar fabricated from coils of precut min 0.017 in. (0.43 mm) thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be non 1-3/4 in. (45 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchors tabs on 2 in. (51 mm) centers for securement to wall assembly. The anchor tabs shall be bent 90 degree outward for securement to the wall assembly. The opposite side incorporates retention tabs, 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam. A non 1/2 in. (13 mm) wide stainless steel band clamp shall be secured to the collar at its mid-height. Anchor tabs of collar secured to surface of wall by means of non 3/16 in. dian by 2-1/2 in. long steel toggle bolts in conjunction with 1-1/4 in. (32 mm) dian steel fender washers at every other anchor tab. As an alternate, in 1 and 2 hr rated walls, every anchor tab of collar may be secured to surface of wall by means of non 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with 1-1/4 in. (32 mm) dian steel fender washers. A collar is used on both sides of wall.

®Bearing the UL Classification Mark

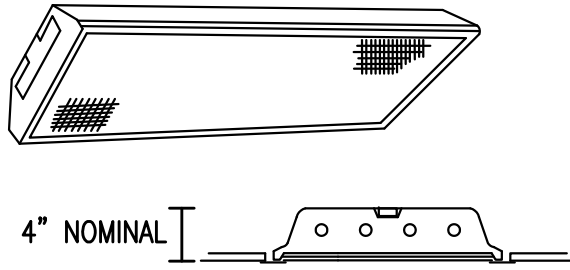
### FOR FRAMED WALLS ONLY 1,2,3 OR 4 HOUR PENETRATION FIRESTOP FOR NONMETALLIC PIPE E501 SCALE: NONE

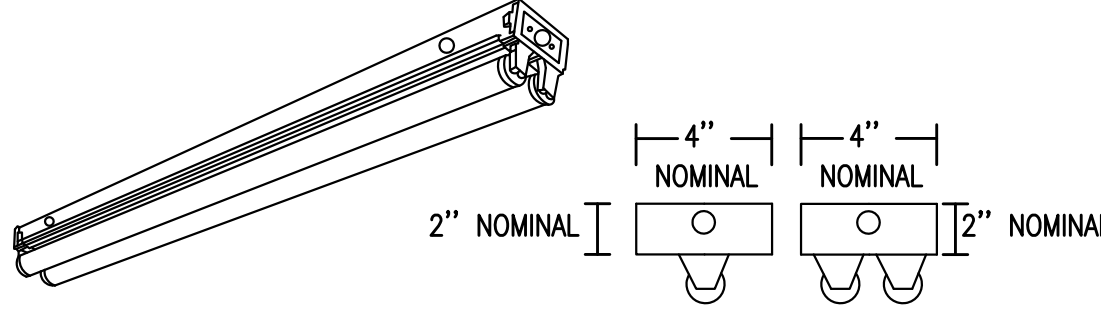
		<b>E-501</b>	
DEPT. OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA			
REPAIR THE MCAS NEW RIVER POLICE STATION, BLDG AS302			
DES. DR. CHK. SUBMITTED BY: DESIGN DIR.		ELECTRICAL DETAILS NAVFAC DRAWING NO. 60011855	
APPROVED: PWO OR OICC DATE		F 80091 CONST. CONTR. NO. NA0085-12-B-0066	
SATISFACTORY TO: DATE		SCALE: AS NOTED SPEC. 05-12-0066 SHEET 46 OF 48	

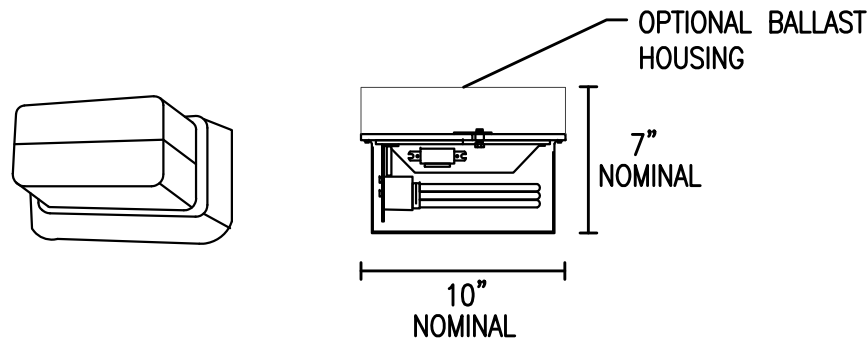


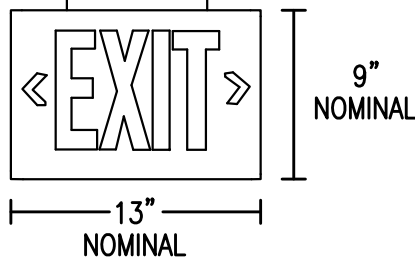


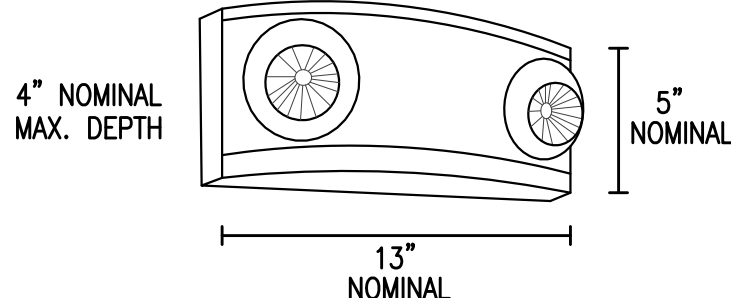


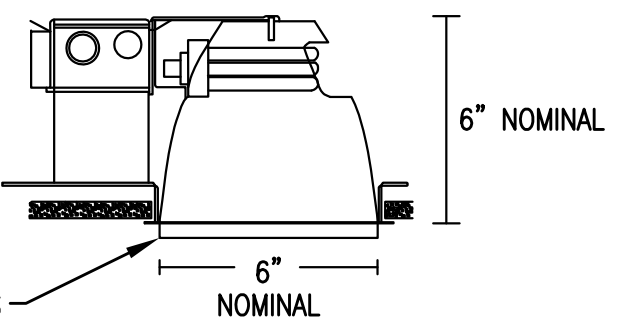
			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. DEPTH AS INDICATED UNLESS SPECIFICALLY MANUFACTURED FOR OPTIMAL USE WITH T8 LAMPS. 2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. 3. LENS – 100% ACRYLIC, CLEAR PRISMATIC, PATTERN #12 WITH MINIMUM 0.125" THICKNESS. 4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. 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. 6. CERTIFICATION – UL LISTED AND LABELED. 7. 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%	
8. SEE NL-7 FOR OPTIONAL REQUIREMENTS ASSOCIATED WITH THIS FIXTURE. INCLUDE ALL INFORMATION IN LIGHTING FIXTURE SCHEDULE.			
PRISMATIC LENS RECESSED 2' X 4' FLUORESCENT TROFFER			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-1

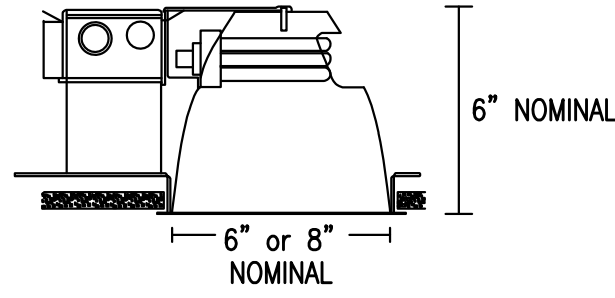
			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS AND USED FOR JOINERS WHEN CONNECTING FIXTURES IN ROWS. 2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. 3. CHANNEL COVER – DIE-FORMED, COLD-ROLLED STEEL; SECURED WITH QUARTER-TURN LATCH. 4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. 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. 6. CERTIFICATION – UL LISTED AND LABELED. 7. ACCESSORIES – WIRE GUARD AND ASYMMETRICAL OR SYMMETRICAL REFLECTOR OPTIONAL, AS NOTED IN FIXTURE SCHEDULE 8. FIXTURE TYPES – TYPE A – 2' IN LENGTH WITH 1 OR 2 LAMPS. TYPE B – 3' IN LENGTH WITH 1 OR 2 LAMPS. TYPE C – 4' IN LENGTH WITH 1 OR 2 LAMPS. TYPE D – 8' IN LENGTH WITH 1 OR 2 LAMPS.			
STRIP FLUORESCENT			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-14

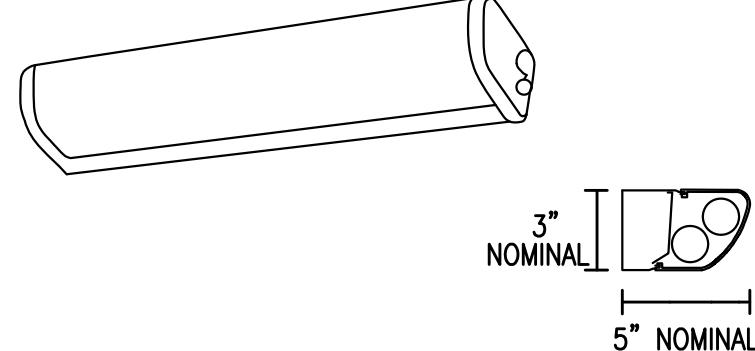
			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. HOUSING/BACKPLATE – ONE-PIECE, DIE-CAST ALUMINUM WITH BAKED-ON POLYESTER POWDER COAT FINISH IN DARK BRONZE. 2. DIFFUSER – CLEAR PRISMATIC, UV-STABILIZED, INJECTION-MOLDED ACRYLIC LENS PROVIDED WITH SILICON GASKET TO CREATE WEATHERPROOF ENCLOSURE. STAINLESS STEEL SCREWS FASTEN LENS TO HOUSING. POLISHED INTERNAL ALUMINUM SHROUD OVER TOP HALF OF SIDES AND FRONT ALONG WITH TOP OF FIXTURE PROVIDE LOW PROJECTION OF LIGHT OUTPUT. 3. LAMP SOCKET – INTEGRAL, PRE-WIRED PORCELAIN LAMP SOCKET WITH NICKEL-PLATED SCREW AND CENTER CONTACT (HID OPTION). 4-PIN THERMOPLASTIC (COMPACT FLUORESCENT OPTION). 4. BALLAST – CLASS P, HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION FOR COMPACT FLUORESCENT LAMPS, OR PREWIRED, ENCASED AND POTTED (ENCAPSULATED), CONSTANT-WATTAGE AUTOTRANSFORMER, HIGH POWER FACTOR (≥.90), CORE AND COIL TYPE FOR USE WITH HID LAMP OPTION. 5. LAMPS – COMPACT FLUORESCENT WITH 4-PIN BASE OR METAL HALIDE, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 6. CERTIFICATION – UL LISTED AND LABELED FOR WET LOCATIONS. 7. OPTIONS – LENS OPTIONS INCLUDE FULL FACE SHIELD WITH UP OR DOWN LIGHTING OR FULL FACE SHIELD WITH SIDES CLEAR. PHOTOCELL ALSO OPTIONAL. 8. OTHER – LOW-WATTAGE COMPACT FLUORESCENT FIXTURES DO NOT REQUIRE BALLAST HOUSING AS SHOWN.			
WALL-MOUNTED HALF-SHIELDED CUTOFF FIXTURE			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-57

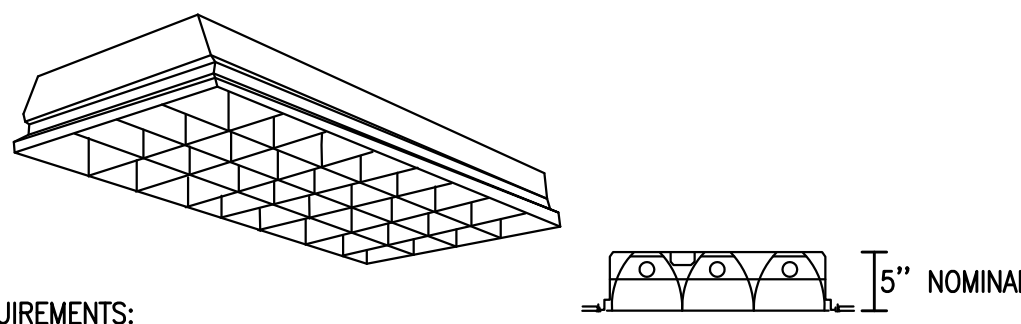
			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. HOUSING – DIE-CAST ALUMINUM OR HIGH-IMPACT, UV-STABILIZED, INJECTION-MOLDED THERMOPLASTIC. SINGLE OR DOUBLE-FACED AS INDICATED. 2. FINISH (ON CAST ALUMINUM HOUSING ONLY) – TEXTURED POWDER COAT FINISH OPTIONS INCLUDE WHITE, WHITE WITH BRUSHED ALUMINUM FACE, BLACK, OR BLACK WITH BRUSHED ALUMINUM FACE. 3. LETTERS/CHEVRONS – MINIMUM 6" HIGH WITH 3/4" STROKE. RED OR GREEN LETTERS AS INDICATED. PROVIDE CHEVRONS AS INDICATED EITHER LEFT, RIGHT OR BOTH DIRECTIONS AS INDICATED. CHEVRONS PUNCHED OUT THROUGH HOUSING AS REQUIRED. 4. EMERGENCY PACK – SOLID-STATE, CONSTANT-CURRENT TYPE BATTERY CHARGER WITH MAINTENANCE-FREE, NICKEL-CADMIUM BATTERY, AC-ON INDICATOR LAMP AND TEST SWITCH. 5. MOUNTING – UNIVERSAL MOUNTING KIT FOR CEILING, WALL OR END-OF-FIXTURE MOUNTING. 6. ILLUMINATION – PROVIDED BY RED, GREEN OR WHITE HIGH-OUTPUT LEDS INSIDE OF FIXTURE HOUSING. PROVIDE POLYSTYRENE DIFFUSER IN COLOR INDICATED WITH FREQUENCY-MATCHED SILKSREEN COATING FOR MAXIMUM LED LIGHT OUTPUT. 7. CERTIFICATION – UL LISTED AND CERTIFIED FOR DAMP LOCATIONS.			
LED EXIT SIGN			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-63

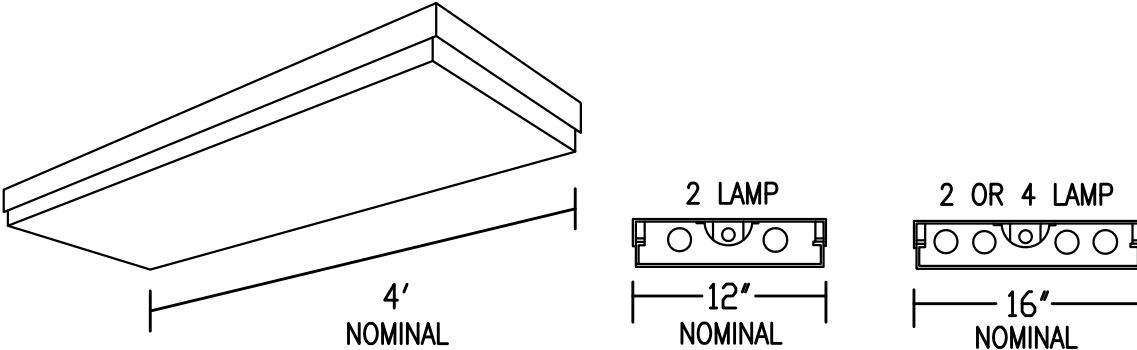
			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. HOUSING – UV STABLE, FLAME-RATED, HIGH-IMPACT THERMOPLASTIC IN WHITE OR BLACK TEXTURED FINISH. 2. INTERNAL COMPONENTS – FULLY AUTOMATIC, SOLID STATE, CONSTANT VOLTAGE, CURRENT-LIMITED BATTERY CHARGER; MAINTENANCE-FREE LEAD-ACID BATTERY; AND BUILT-IN OVERLOAD AND LOW-VOLTAGE BATTERY PROTECTION. 3. EXTERIOR HOUSING INDICATORS – LED AC-ON INDICATOR AND INTEGRAL TEST SWITCH. 4. LAMP HEADS – UV STABLE, FLAME RATED POLYCARBONATE THERMOPLASTIC. MR16 HALOGEN LAMPS SHALL BE 5 WATTS, HIGH-OUTPUT OR AS INDICATED IN LIGHTING FIXTURE SCHEDULE. 5. MOUNTING – DIRECTLY TO 4" OCTAGONAL OR SQUARE OUTLET BOX. 6. CERTIFICATION – UL LISTED AND LABELED. COMPLIES WITH UL 924 AND NFPA 101 REQUIREMENTS. LISTED FOR DAMP LOCATIONS. 7. OPTIONS – VOLTMETER, VANDER-RESISTANT SHIELD, SELF-DIAGNOSTIC/TESTING ELECTRONICS AND WIRE GUARD.			
DECORATIVE EMERGENCY LIGHTING UNIT			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-67

			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. 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. 2. REFLECTOR – ONE-PIECE, CLEAR, SPUN ALUMINUM, IRIDESCENCE-SUPPRESSED. 3. 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. 4. LAMPS – MULTI-TUBE, COMPACT FLUORESCENT WITH 4-PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. LENS/TRIM – * OPTIONS INCLUDE DROPPED OR FLAT OPAL LEXAN; DROPPED OR FLAT OPAL GLASS; OR FRESNEL GLASS. SEE LIGHTING FIXTURE SCHEDULE. 6. CERTIFICATION – UL LISTED AND LABELED FOR DAMP LOCATIONS.			
RECESSED COMPACT FLUORESCENT SHOWER LIGHT			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-38

			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. 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. 2. REFLECTOR AND TRIM – ONE-PIECE, CLEAR, SPUN ALUMINUM, IRIDESCENCE-SUPPRESSED, WITH PAINTED WHITE SELF TRIM. OTHER FINISHES AND TYPES AVAILABLE. SEE LIGHTING FIXTURE SCHEDULE. 3. 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, 32W, OR 42 WATT LAMPS. 4. LAMPS – MULTI-TUBE, COMPACT FLUORESCENT WITH 4-PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. CERTIFICATION – UL LISTED AND LABELED. 6. FIXTURE TYPES – TYPE A – 6" NOMINAL APERTURE TYPE B – 8" NOMINAL APERTURE 7. OPTIONS – REFLECTOR TYPE – DIRECT DOWNLIGHT OR WALL WASH; SEMI-SPECULAR OR SPECULAR. REFLECTOR COLOR – CLEAR, CHAMPAGNE, PEWTER, WHEAT, GOLD OR BRONZE. TRIM – OPEN REFLECTOR, STEPPED WHITE OR BLACK BAFFLE.			
RECESSED COMPACT FLUORESCENT DOWNLIGHT			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-31

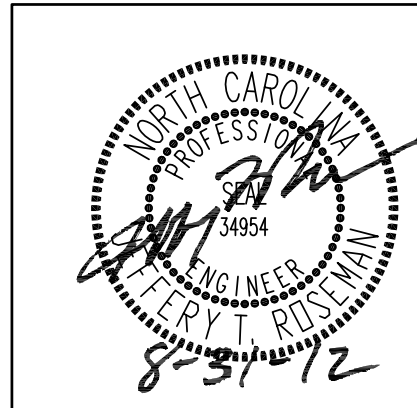
			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL. ENDCAPS WHEN USED SHALL BE MADE FROM SAME MATERIAL AS HOUSING EXCEPT WHEN OPTIONAL FINISH SUCH AS CHROME IS SPECIFIED. 2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. 3. DIFFUSER – 100% ACRYLIC, CLEAR PRISMATIC, OR WHITE OPAL ACRYLIC. DECORATIVE TREATMENTS ON DIFFUSER ENDS OPTIONAL. 4. LAMPS – LINEAR FLUORESCENT T8 TYPICALLY, WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. 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. 6. CERTIFICATION – UL LISTED AND LABELED. 7. FIXTURE TYPES – TYPE A – 2' LENGTH WITH 1 OR 2 T8 FLUORESCENT LAMPS. TYPE B – 3' LENGTH WITH 1 OR 2 T8 FLUORESCENT LAMPS. TYPE C – 4' LENGTH WITH 1 OR 2 T8 FLUORESCENT LAMPS.			
FLUORESCENT VANITY LIGHT			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-24

			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. 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. INSIDE EDGE OF HOUSING SHALL HAVE FULL FLAT BLACK REVEAL FOR "FLOATING" EFFECT. 2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. 3. LOUVERS – LOW-IRIDESCENT, SEMI-SPECULAR, SILVER ANODIZED ALUMINUM. 3" MINIMUM DEPTH UNLESS MANUFACTURED SPECIFICALLY FOR USE WITH T8 FLUORESCENT LAMPS. 4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. 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. 6. CERTIFICATION – UL LISTED AND LABELED. 7. 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 82	1 81	1 72	
2 72	2 72	2 65	
3 64	3 65	3 58	
4 57	4 58	4 52	
EFFICIENCY – 75%	EFFICIENCY – 76%	EFFICIENCY – 65%	
8. SEE NL-7 FOR OPTIONAL REQUIREMENTS ASSOCIATED WITH THIS FIXTURE. INCLUDE ALL INFORMATION IN LIGHTING FIXTURE SCHEDULE.			
PARABOLIC RECESSED 2' X 4' FLUORESCENT TROFFER			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-4

			
<b>LUMINAIRE REQUIREMENTS:</b>			
1. 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. 2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH. 3. LENS – 100% ACRYLIC, CLEAR PRISMATIC. LENS SHALL BE ONE-PIECE INJECTION MOLDED, FULL 5-SIDED UNIT WITH LUMINOUS ENDS. PROVIDE EXTRUDED LENS AS OPTION IN LIEU OF INJECTION MOLDED LENS. PROVIDE SPRING-LOADED LATCHING SYSTEM TO SECURE LENS TO BASE HOUSING. 4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. 5. 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. 6. CERTIFICATION – UL LISTED AND LABELED. 7. 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 74			
2 65			
3 57			
4 51			
EFFICIENCY – 83%			
FLUORESCENT WRAPAROUND – OFFICE/CLASSROOM AREAS			
REVISED:	AUGUST 2004	LIGHTING PLATE:	NL-10

VOLTAGE DROP SCHEDULE			
120 VOLT BRANCH CIRCUITS UP TO 8 AMPS (<1.0 KVA)			
RUN DISTANCE IN FEET	WIRE SIZE	AWG	
121' – 120'	#12		
121' – 190'	#10		
191' – 300'	#8		
301' – 470'	#6		
120 VOLT BRANCH CIRCUITS 9 AMPS TO 14 AMPS (1- 1.7 KVA)			
RUN DISTANCE IN FEET	WIRE SIZE	AWG	
1' – 65'	#12		
66' – 110'	#10		
111' – 170'	#8		
171' – 270'	#6		
277 VOLT BRANCH CIRCUITS UP TO 14 AMPS (<3.9 KVA)			
RUN DISTANCE IN FEET	WIRE SIZE	AWG	
1' – 160'	#12		
161' – 250'	#10		
251' – 390'	#8		
391' – 620'	#6		
WIRE SIZES INDICATED IN GENERAL NOTES AND CONNECTIONS SCHEDULES ARE MINIMUM WIRE SIZES. CONTRACTOR SHALL UPSIZE WIRES BASED ON LOAD AND LENGTH OF RUN AS INDICATED IN SCHEDULE ABOVE.			

LIGHT FIXTURE SCHEDULE						
DESIGNATION	TEMPLATE	DESCRIPTION	VOLTAGE	BALLAST TYPE/ QUANTITY	NUMBER/TYPE LAMPS	TOTAL WATTS
A	NL-4	2X4 FLUOR. PARABOLIC	120/1	1-ELECTRONIC	2-F28T5/35K	58
B	NL-10	1X4 FLUOR. WRAPAROUND	120/1	1-ELECTRONIC	2-F28T5/35K	58
C	NL-1	2X4 FLUOR. PRISMATIC	120/1	1-ELECTRONIC	2-F28T5/35K	58
D	-	2X4 FLUOR. DAMP LOCATION	120/1	1-ELECTRONIC	2-F28T5/35K	58
F	NL-24	4' FLUOR. VANITY STRIP	120/1	1-ELECTRONIC	1-F28T5/35K	30
G	NL-57	EXT. CUT-OFF WALLPACK	120/1	1-ELECTRONIC (0° F)	1-42W TT	45
GE	NL-57 (W/ INTEGRAL 2-LAMP BATTERY BACKUP)	EXT. CUT-OFF WALLPACK	120/1	1-ELECTRONIC (0° F)	1-42W TT	45
J	NL-14	4' FLUOR. STRIP LIGHT	120/1	1-ELECTRONIC	1-F28T5/35K	30
K	NL-31	EXTERIOR DOWN LIGHT	120/1	1-ELECTRONIC (0° F)	1-42W TT	45
KE	SAME AS 'K' WITH BATTERY BACKUP	EXTERIOR DOWN LIGHT	120/1	1-ELECTRONIC (0° F)	1-42W TT	45
S	NL-38	SHOWER LIGHT	120/1	1-ELECTRONIC	1-26W TT	28
#	EM	NL-67	EMERGENCY WALLPACK (BATTERY)	120/277/1	-	-
⊙	NL-63 (1 FACE)	EMERGENCY EXIT LIGHT (BATTERY)	120/277/1	-	-	-
⊙	NL-63 (2 FACE)	EMERGENCY EXIT LIGHT (BATTERY)	120/277/1	-	-	-
<b>NOTES:</b> 1. ALL BALLASTS SHALL COMPLY WITH N.C. BUILDING CODE, 2002 NORTH CAROLINA ENERGY CONSERVATION CODE AND SHALL BE UL LISTED. ALL T8 BALLASTS SHALL BE INSTANT START, HIGH-PERFORMANCE ELECTRONIC WITH NORMAL BALLAST FACTOR (0.88) UNLESS OTHERWISE NOTED. 2. ALL FIXTURES NOTED AS EMERGENCY SHALL HAVE EMERGENCY ILLUMINATION FUNCTIONALITY AS DESCRIBED BELOW. IN ALL CASES, BATTERIES MUST BE RATED FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. • INTERIOR FLUORESCENT FIXTURES SHALL HAVE 1,100 LUMEN MINIMUM OUTPUT, 90 MINUTE BATTERY PACK. • EXTERIOR EMERGENCY LIGHTS SHALL HAVE AN INTEGRAL EXTERIOR RATED (0° F) OR REMOTE MOUNTED 1,100 LUMEN OUTPUT 90 MINUTE BATTERY. • TEST SWITCHES FOR EMERGENCY BATTERIES SHALL BE INTEGRAL TO THE FIXTURE SERVED BY THE BATTERY. • EMERGENCY FIXTURES SHALL OPERATE ONE LAMP WHERE MULTIPLE EMERGENCY FIXTURES ARE TO BE INSTALLED IN AN AREA, AND SHALL OPERATE TWO LAMPS WHERE THE LOSS OF A SINGLE LAMP WOULD RENDER THE SPACE IN TOTAL DARKNESS DURING EMERGENCY OPERATION. • WHERE EMERGENCY LIGHTS PROVIDE EMERGENCY ILLUMINATION IN AREAS NORMALLY LIT BY METAL HALIDE FIXTURES (OR SIMILAR SOURCES) WITH RESTRIKE DELAY, THE EMERGENCY BATTERY SHALL BE PROVIDED WITH A TIME DELAY TO MAINTAIN BATTERY ILLUMINATION FOR 15 MINUTES AFTER THE RESTORATION OF NORMAL POWER. • EMERGENCY LIGHTING DESIGN IS BASED ON EXISTING FIXTURES WITH 1,100 LUMEN OUTPUT BATTERIES. CONTRACTOR SHALL VERIFY ANY EXISTING EMERGENCY FIXTURE BATTERIES ARE 1,100 LUMEN OUTPUT MINIMUM AND SHALL REPLACE ANY BATTERIES RATED LESS THAN 1,100 LUMENS. • EMERGENCY LIGHTING UNITS WITH DEDICATED EMERGENCY HEADS SHALL PROVIDE 1 F.C. FOR AT LEAST 25' FOR A MINIMUM OF 90 MINUTES.						



NAVFAC NO. 1203		E-602			
<div>CRENSHAW CONSULTING <i>engineers</i> www.crenshawconsulting.com NO LICENSE #C-1056 3516 Bush Street, Suite 200 Raleigh, North Carolina 27609 919-871-0770 Fax 919-880-0000</div>		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA			
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