

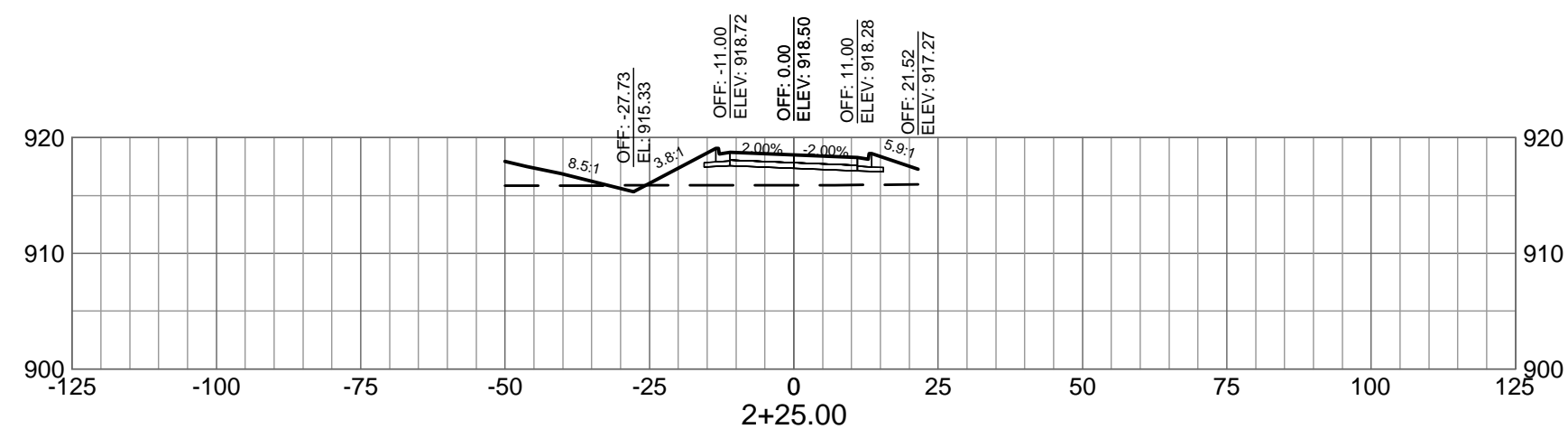
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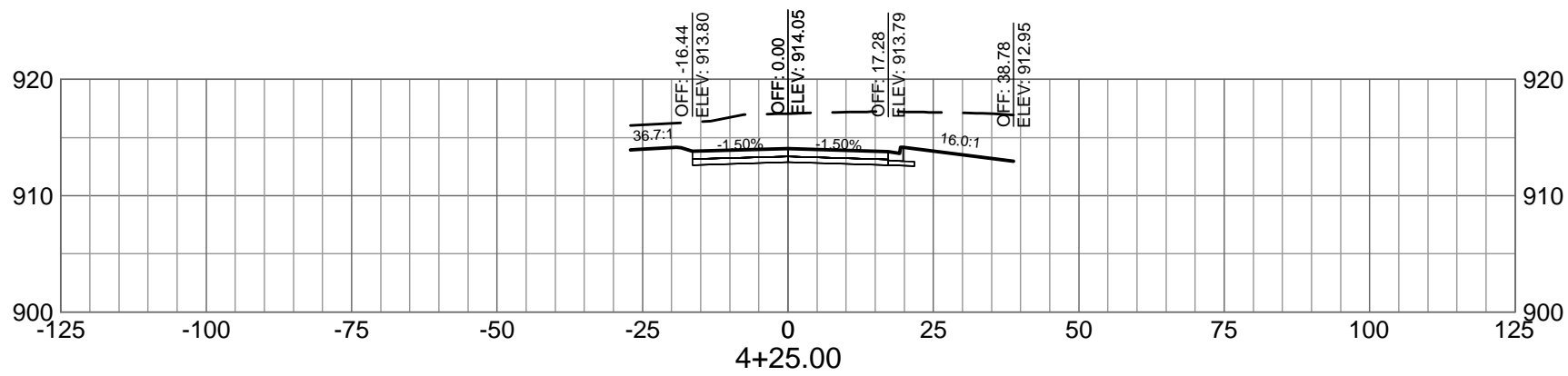
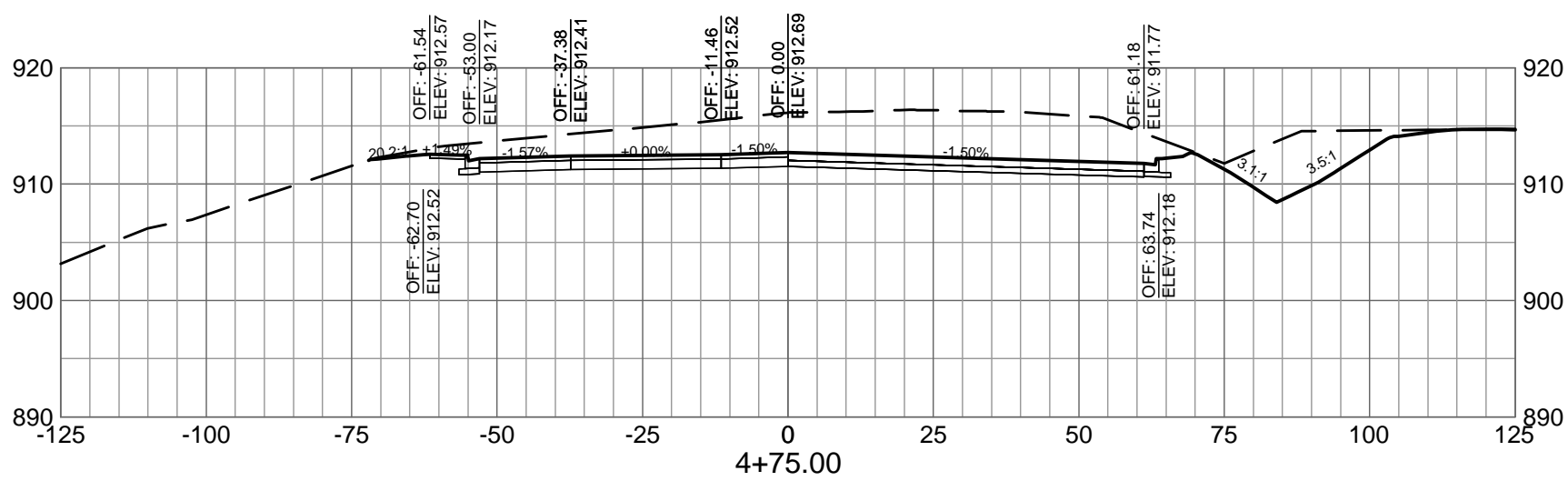
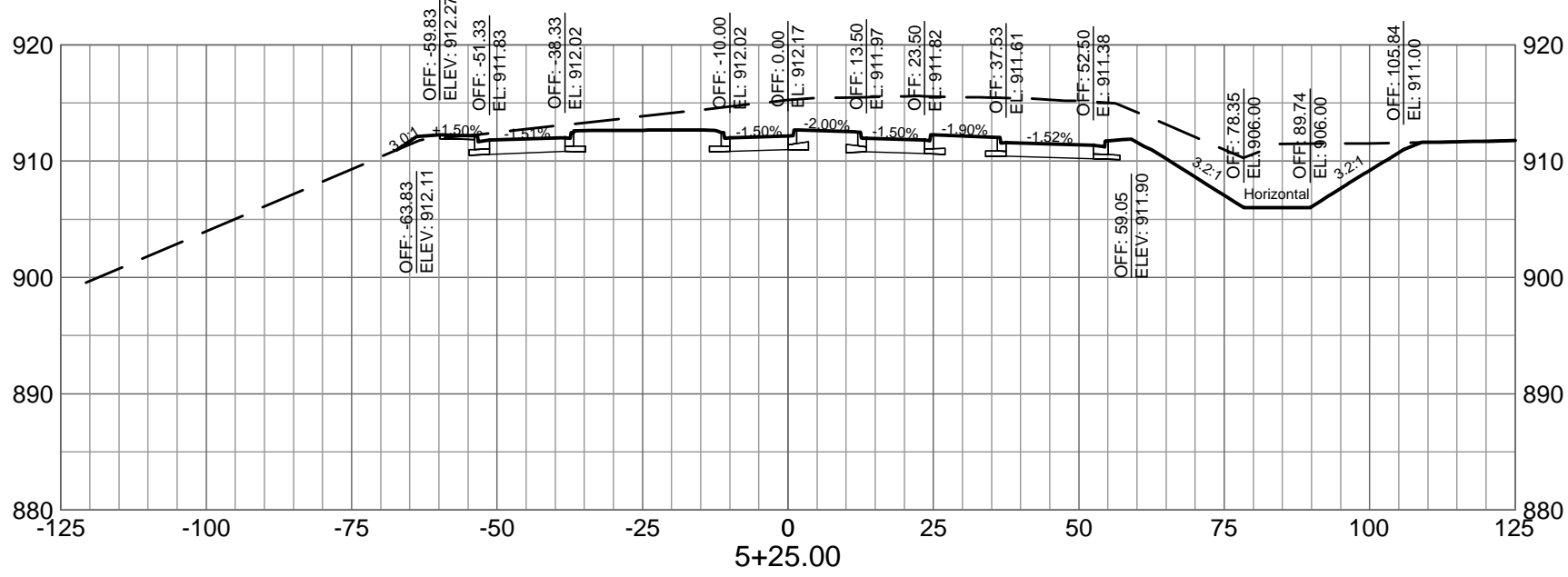
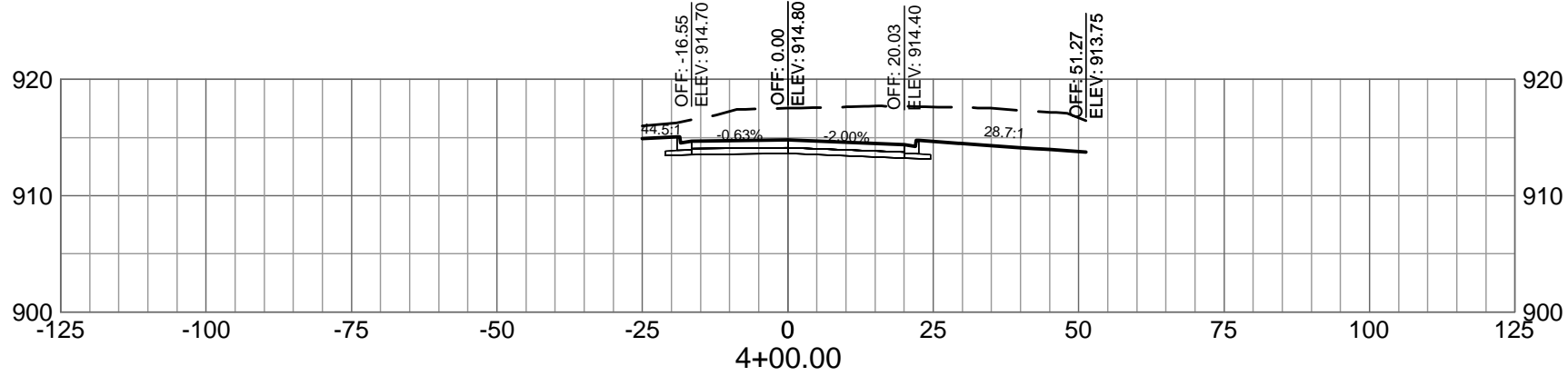
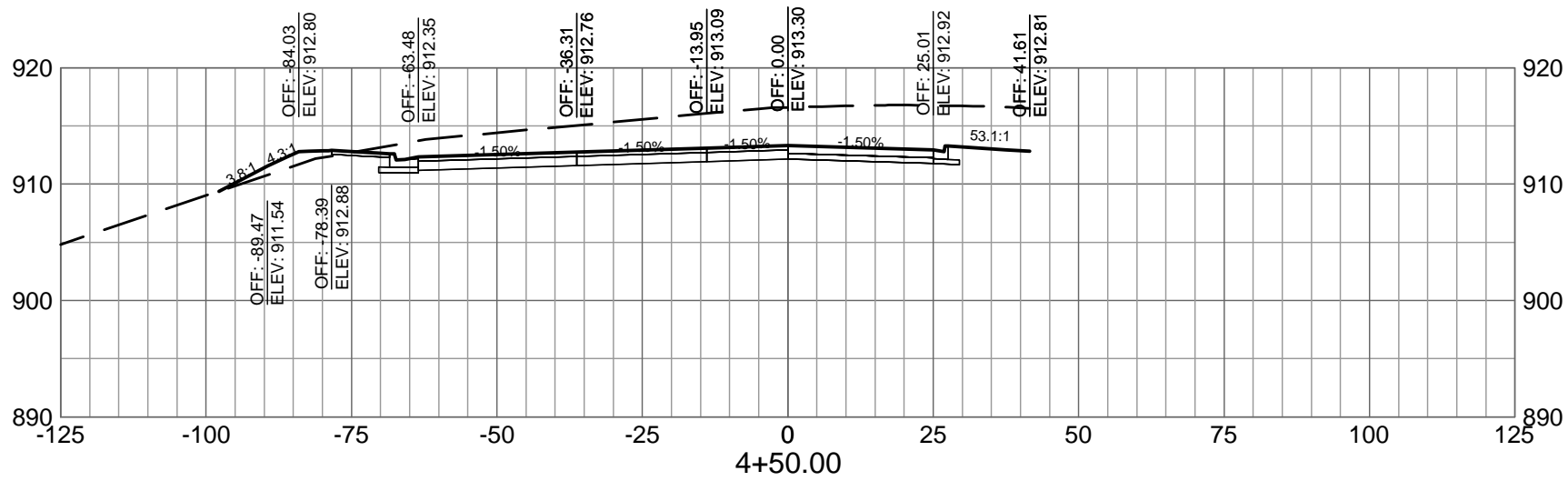
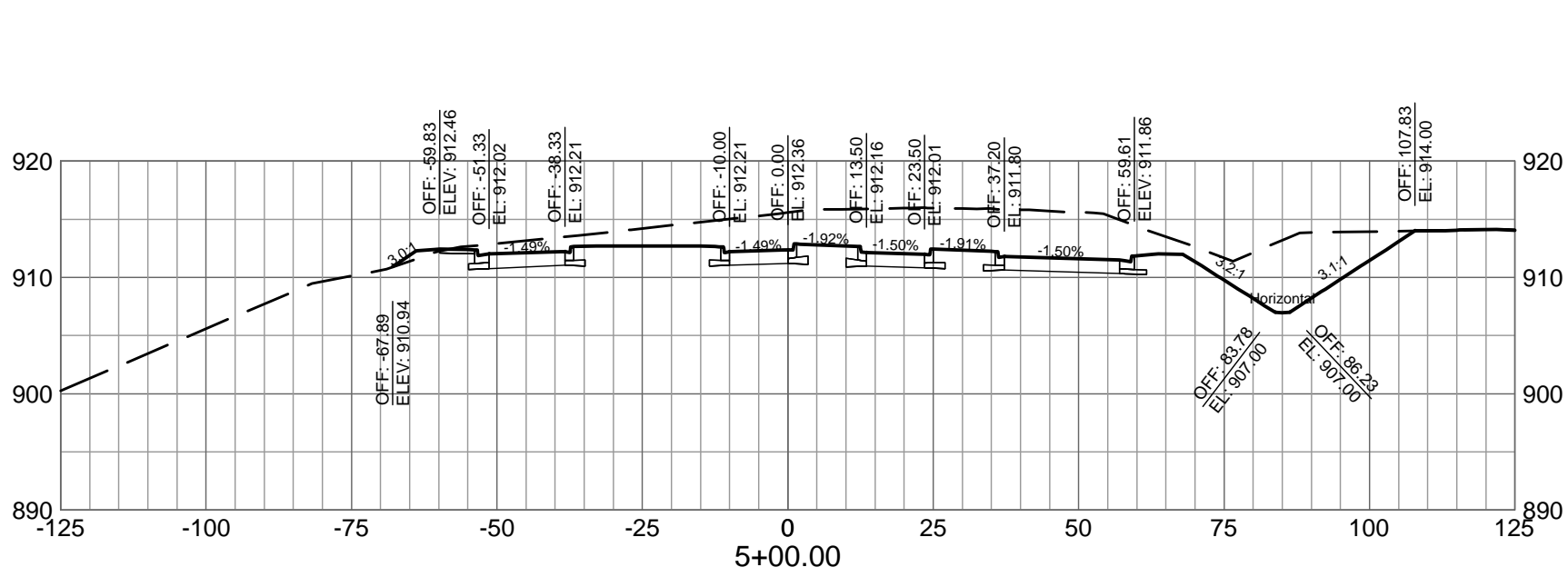
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BATTLE CREEK, MICHIGAN

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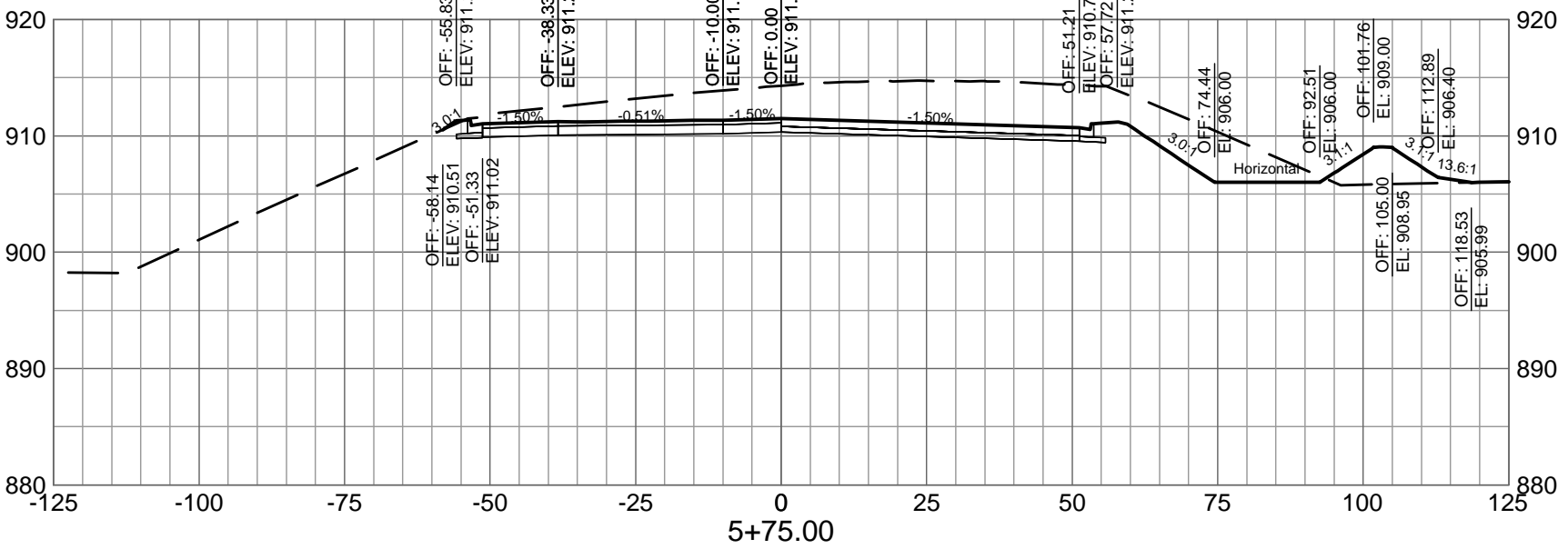
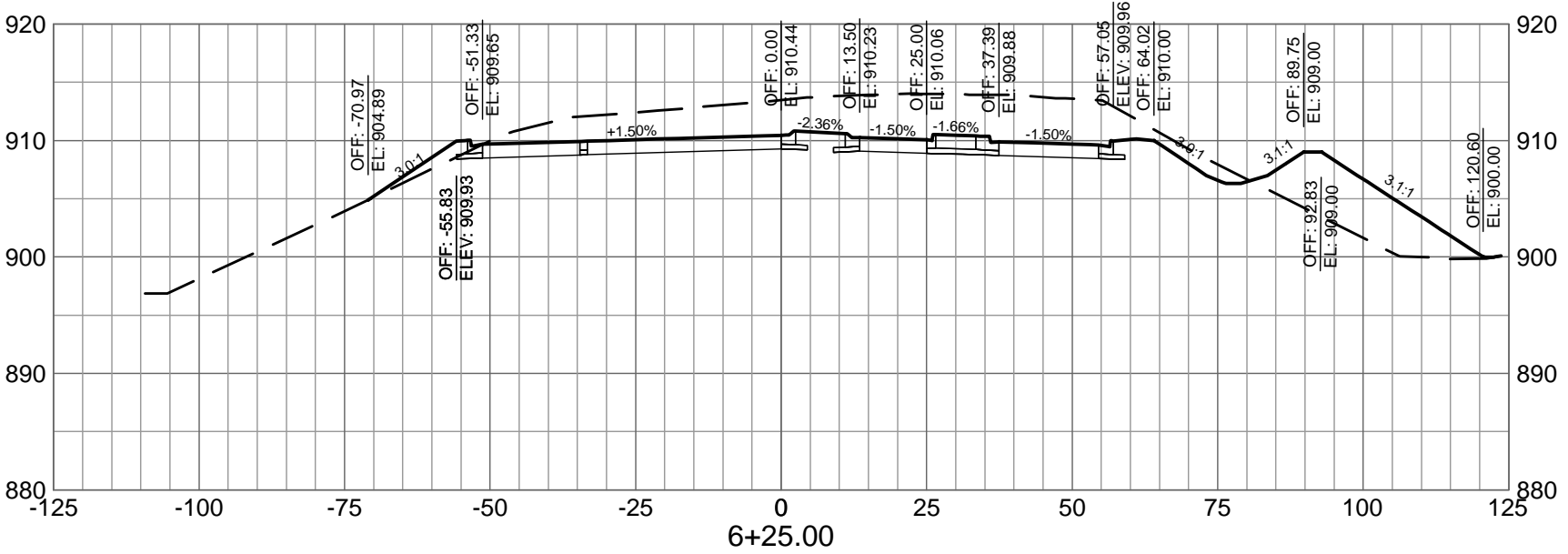
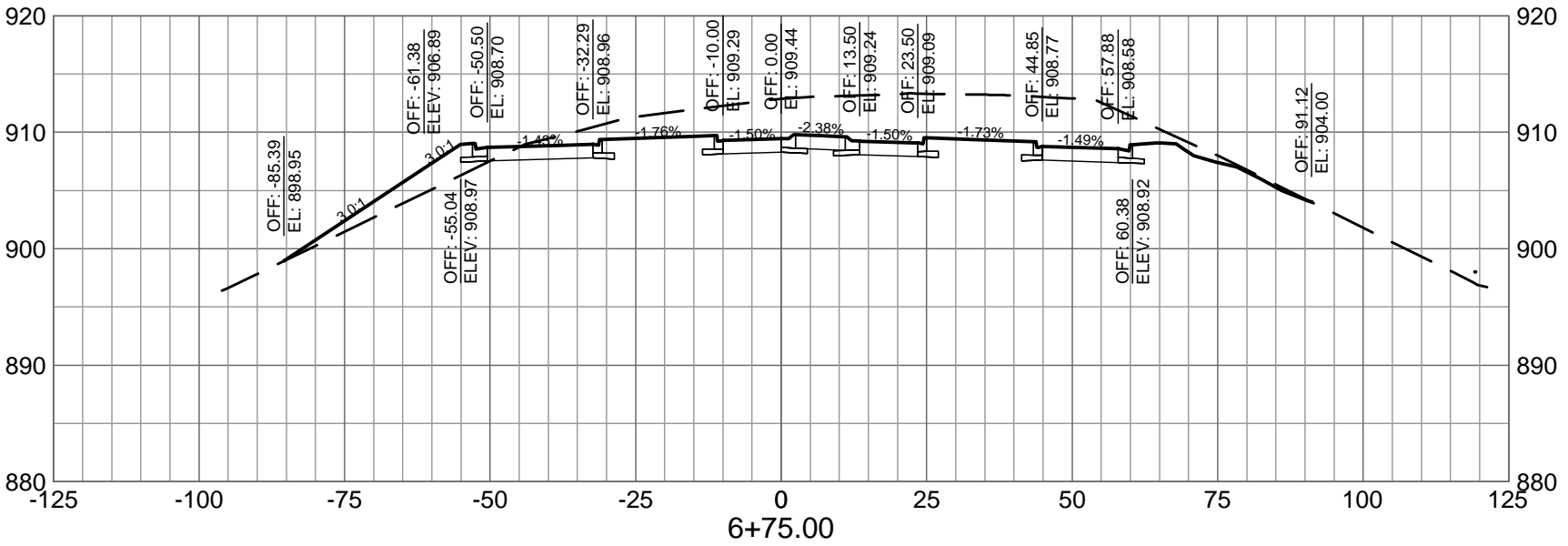
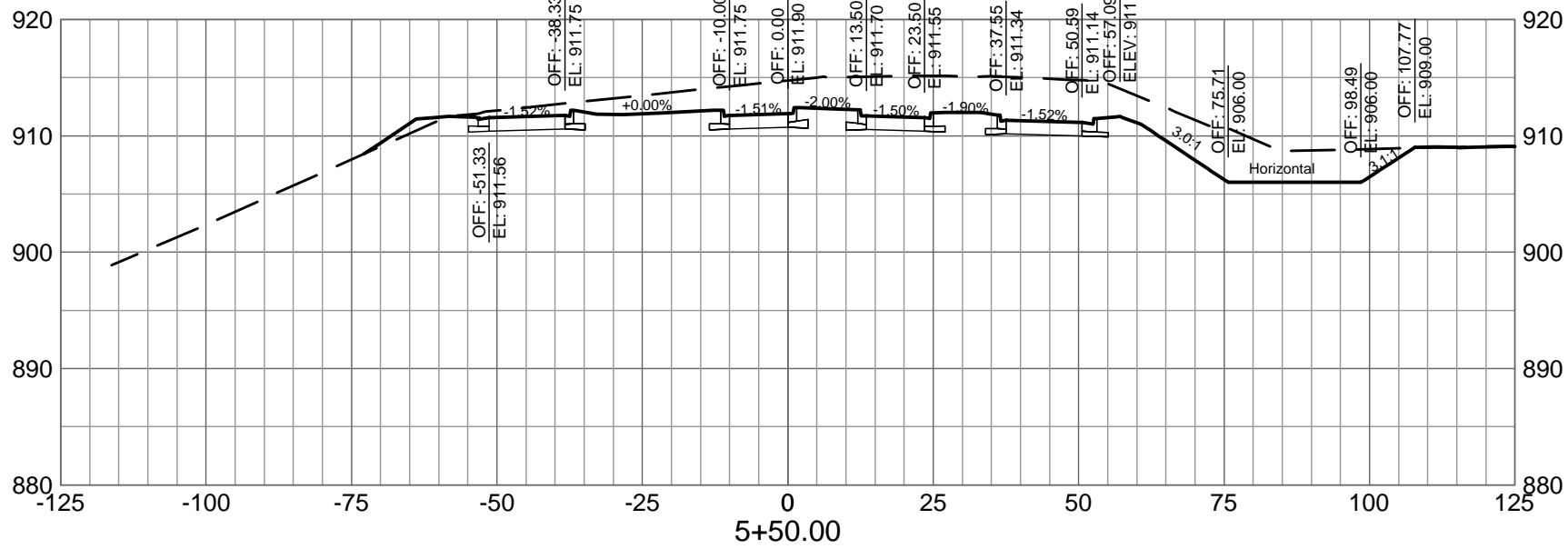
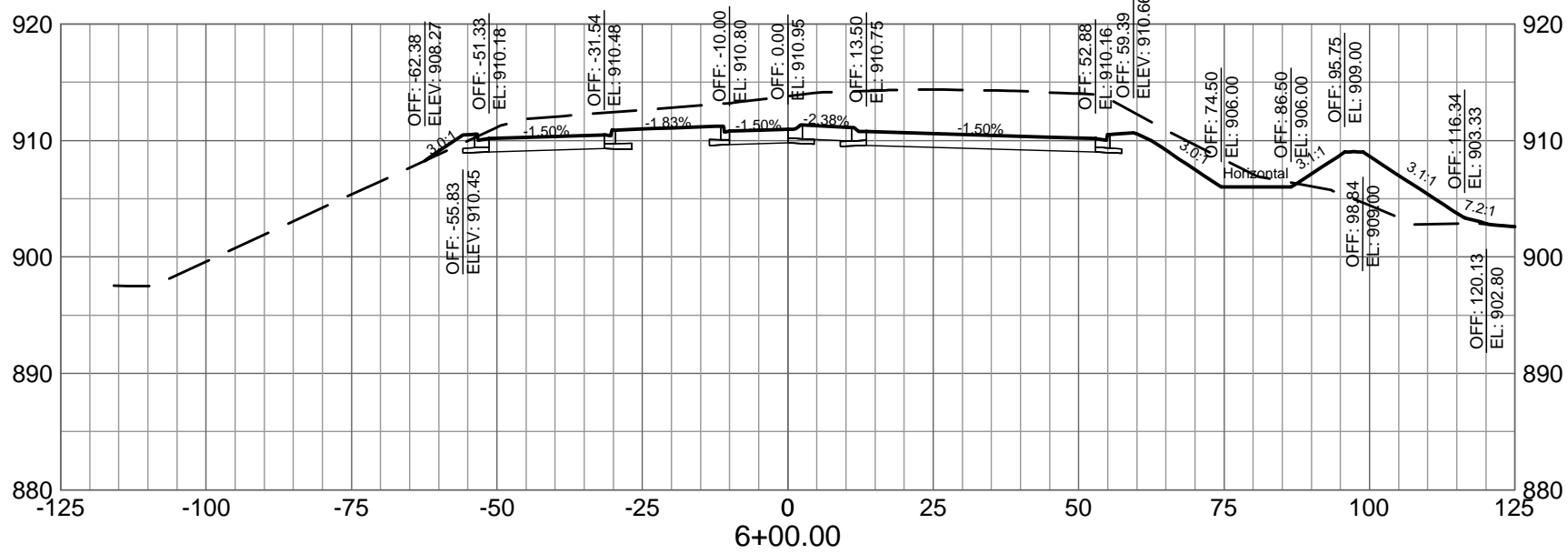
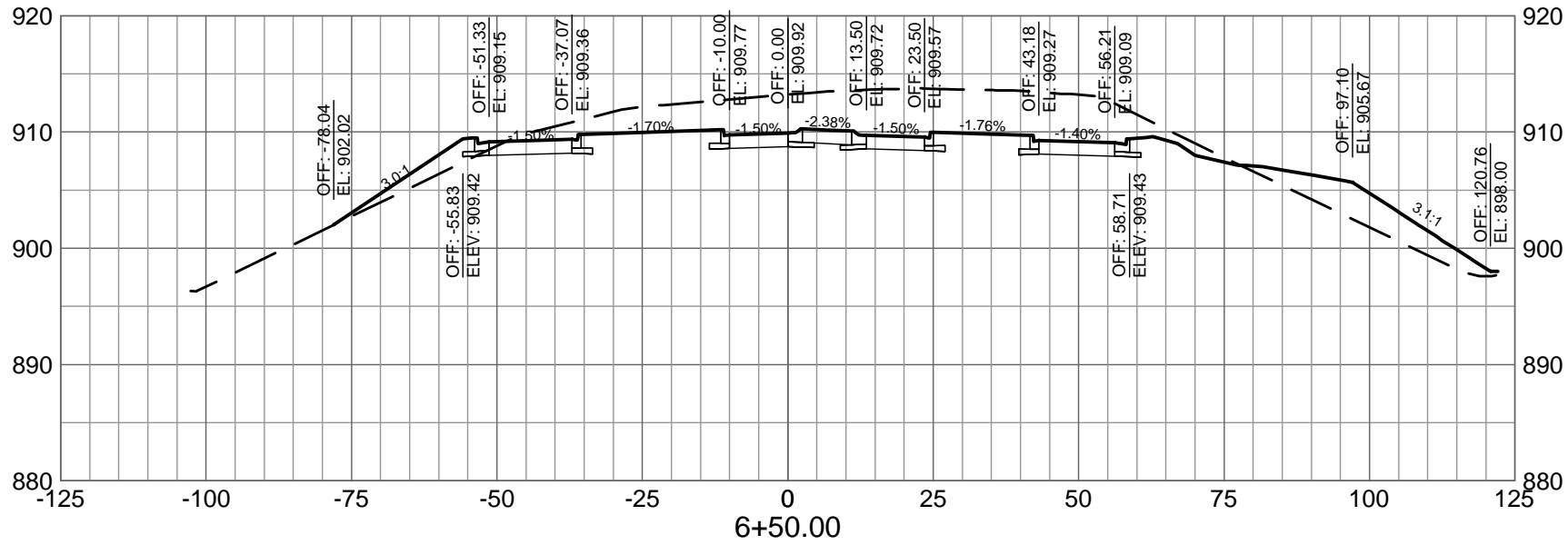
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M&H NO.: 3141900-113782.01  
DATE: FEBRUARY 17, 2021  
DESIGNED BY: JAK  
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CONSTRUCT MAIN BASE ENTRANCE

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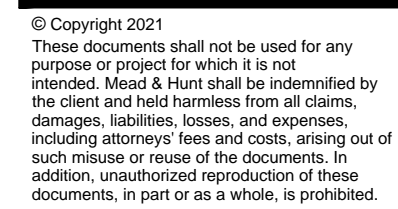
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M&H NO.: 3141900-113782.01  
DATE: FEBRUARY 17, 2021  
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ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: FEBRUARY 17, 2021  
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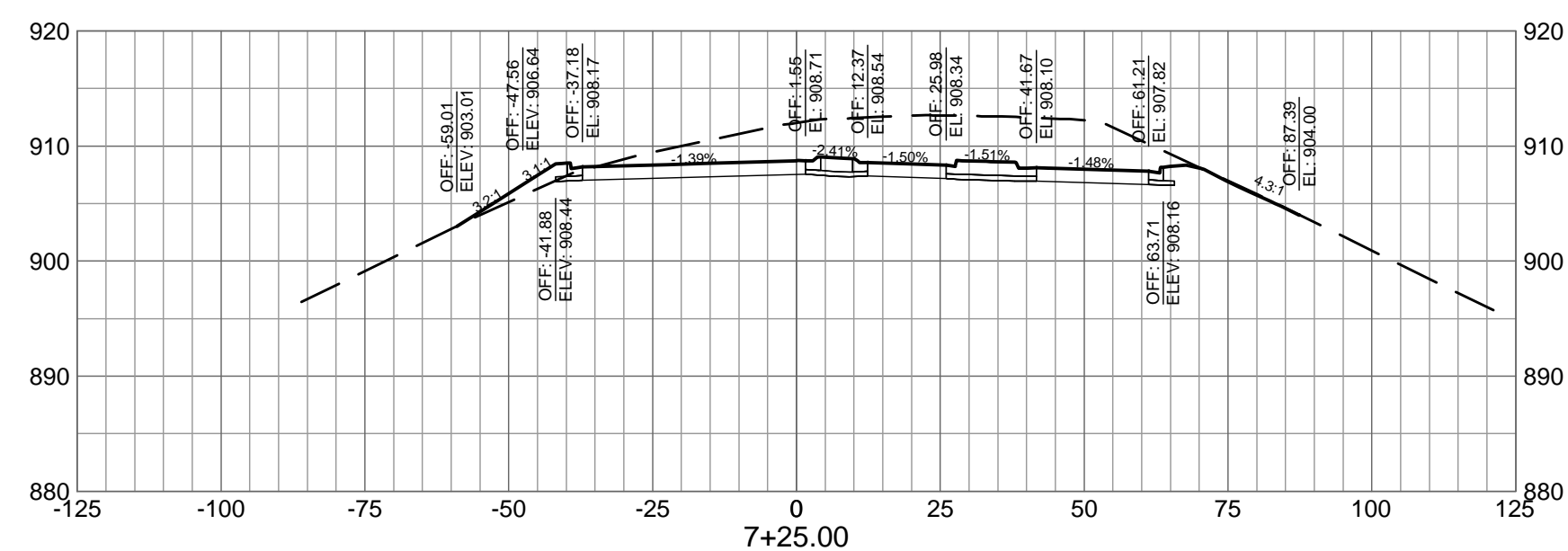
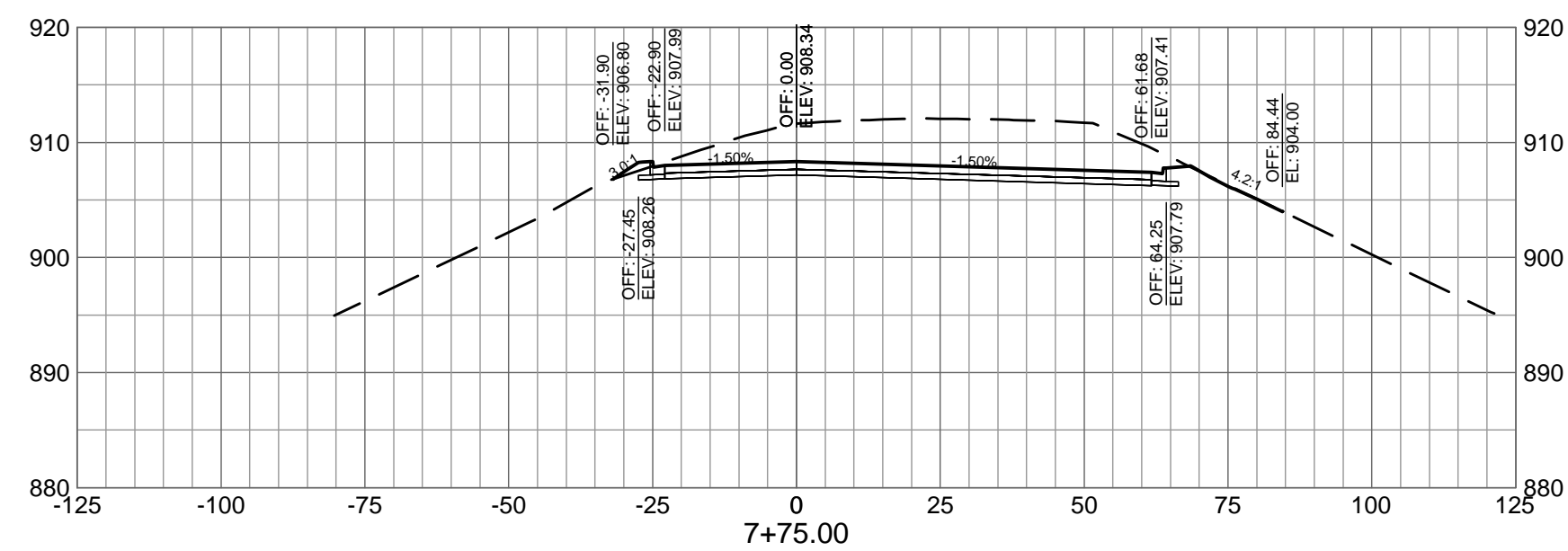
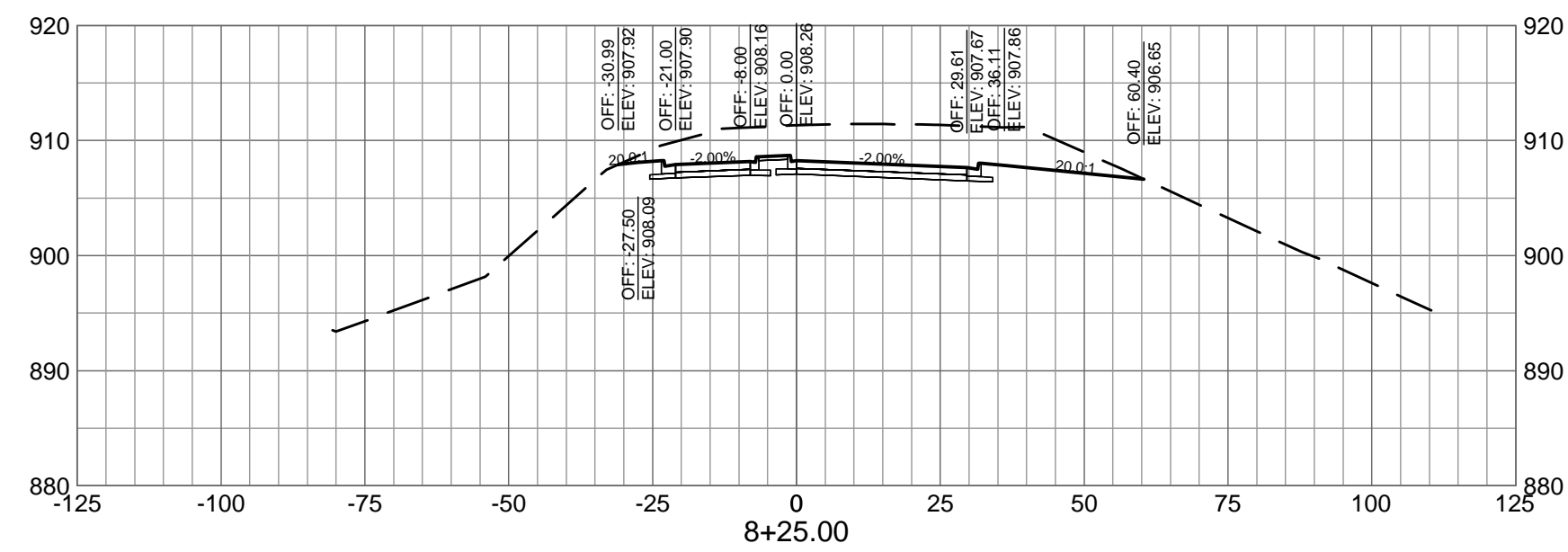
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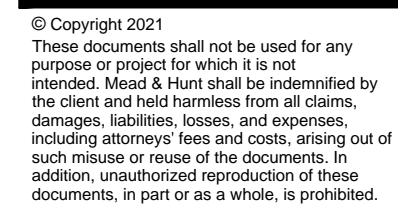
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C-935





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BATTLE CREEK, MICHIGAN

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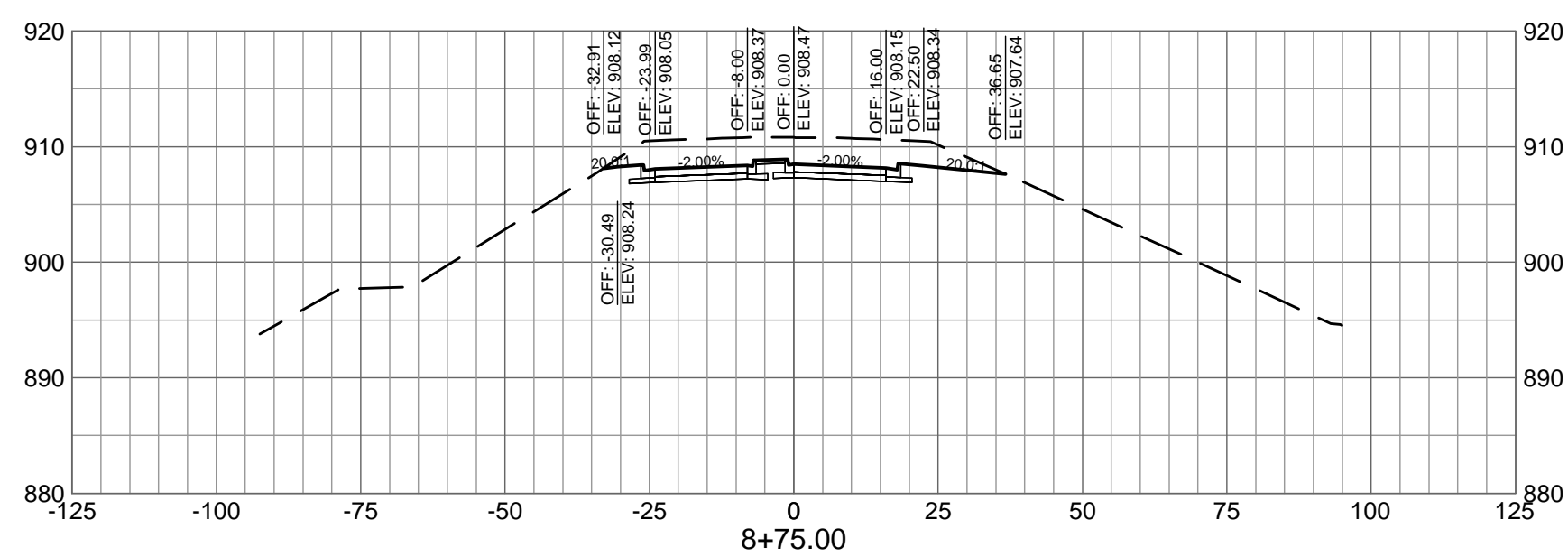
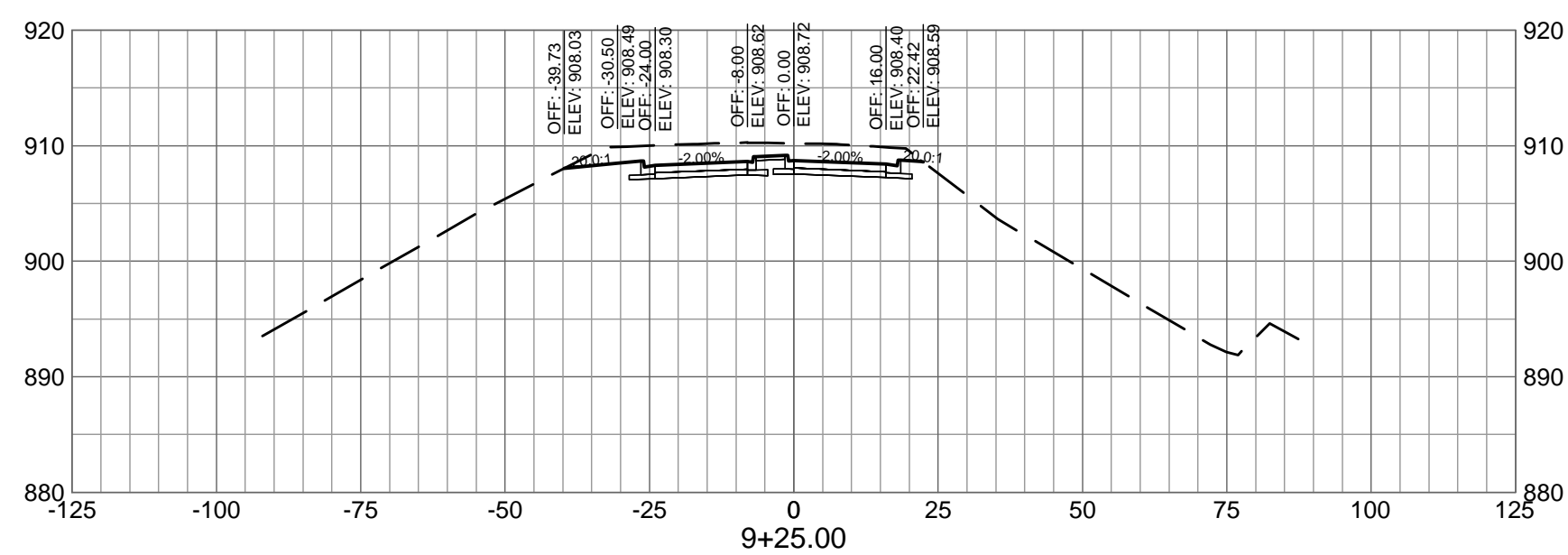
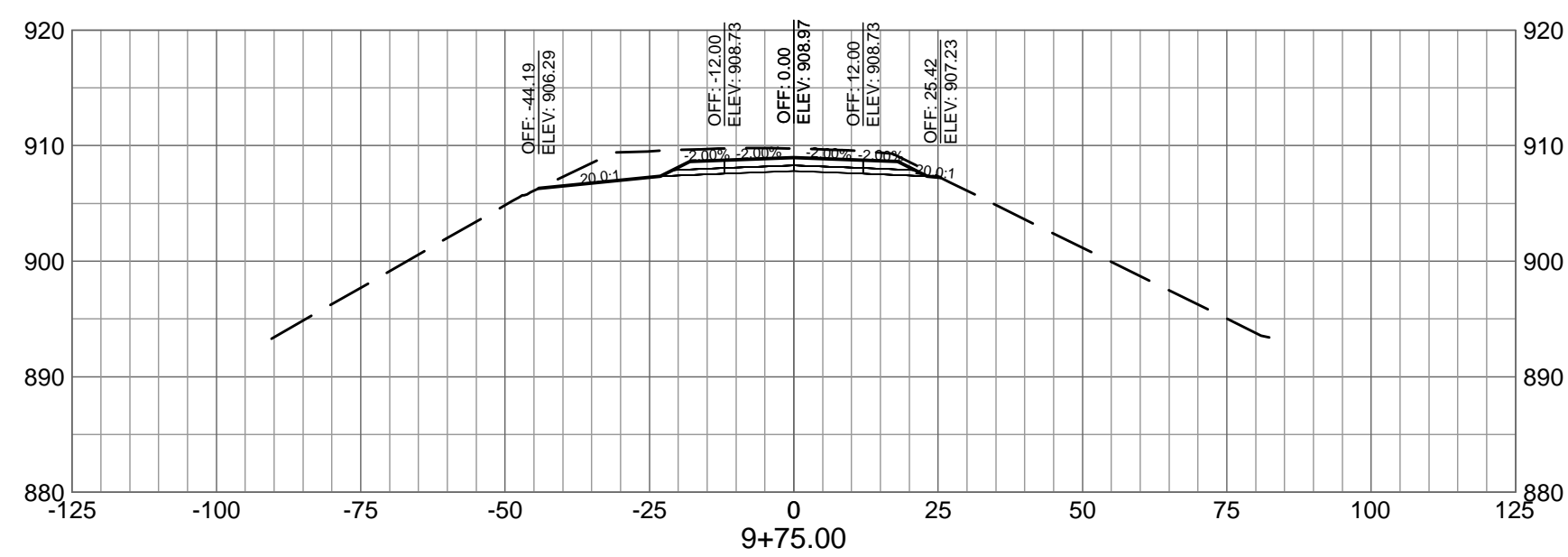
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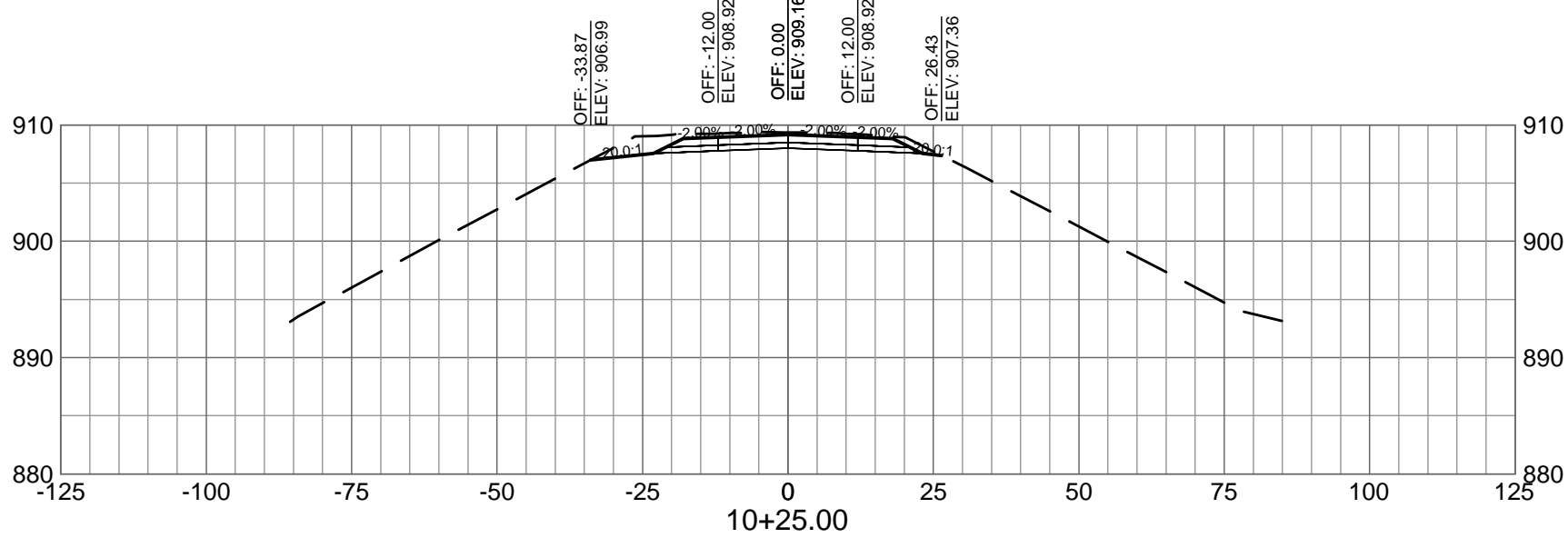
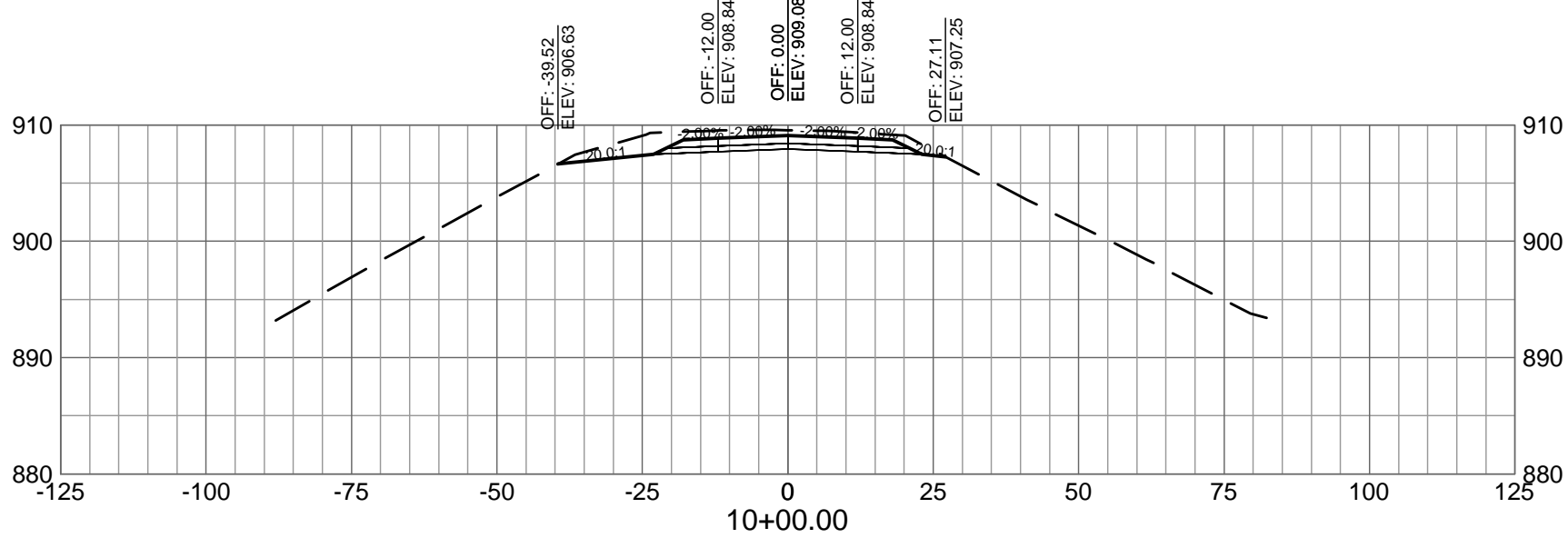
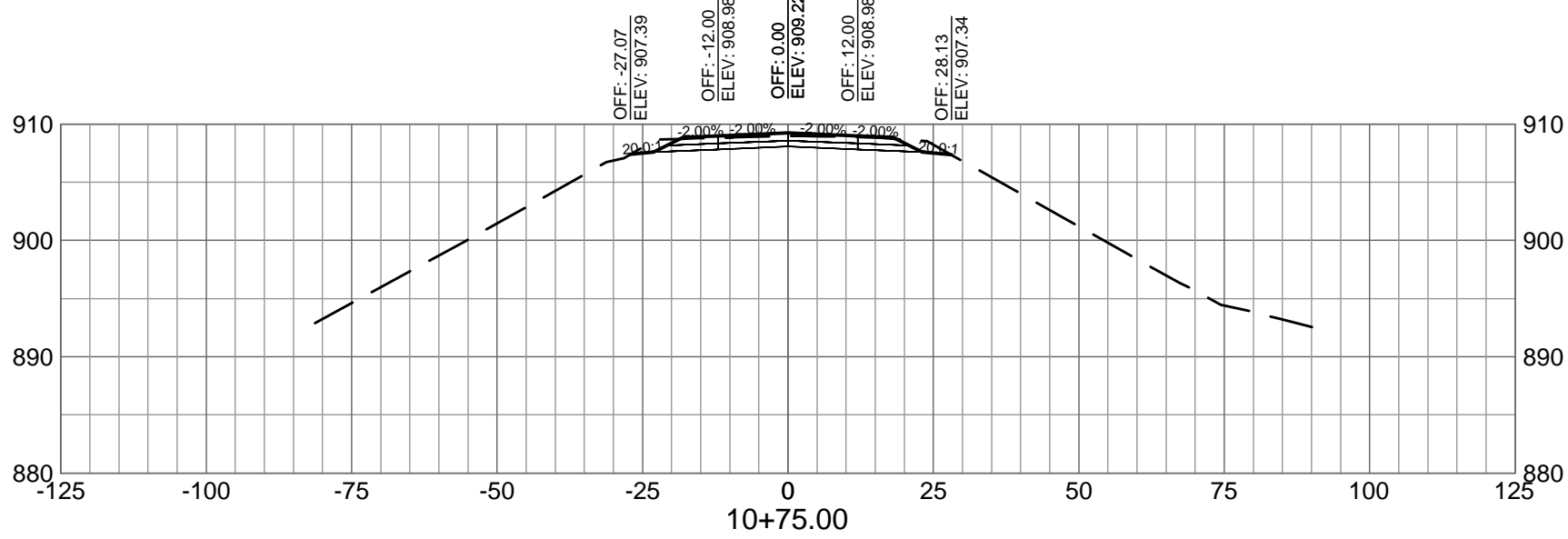
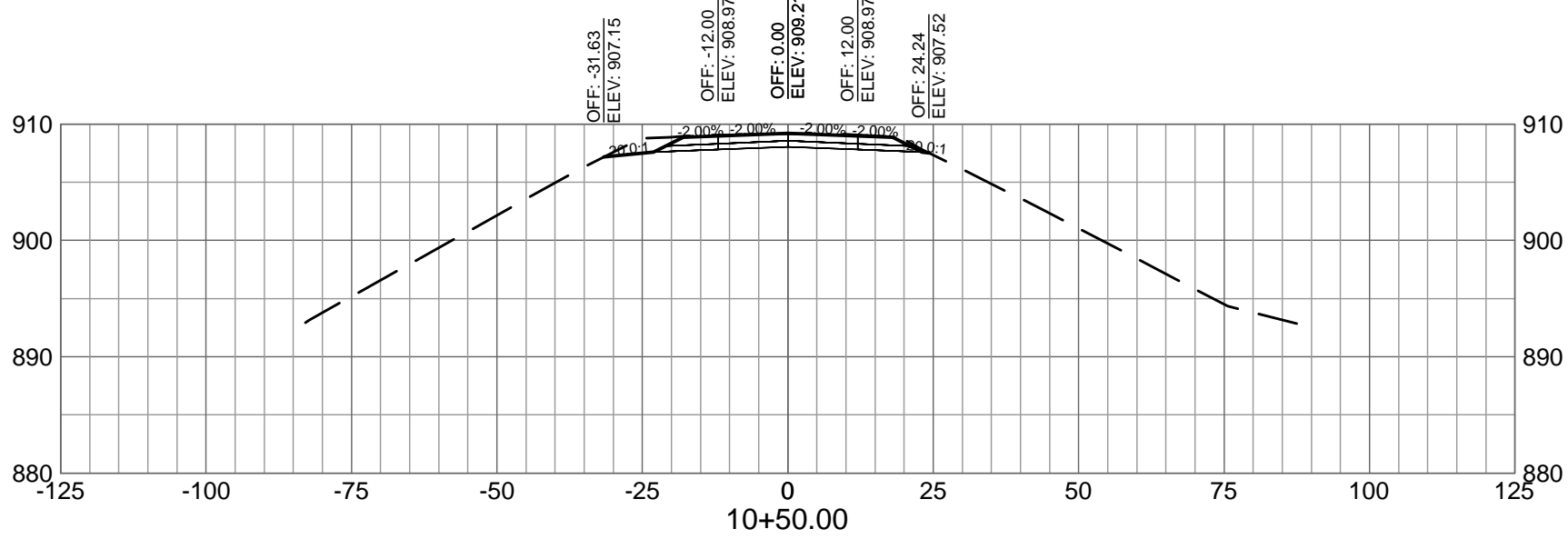
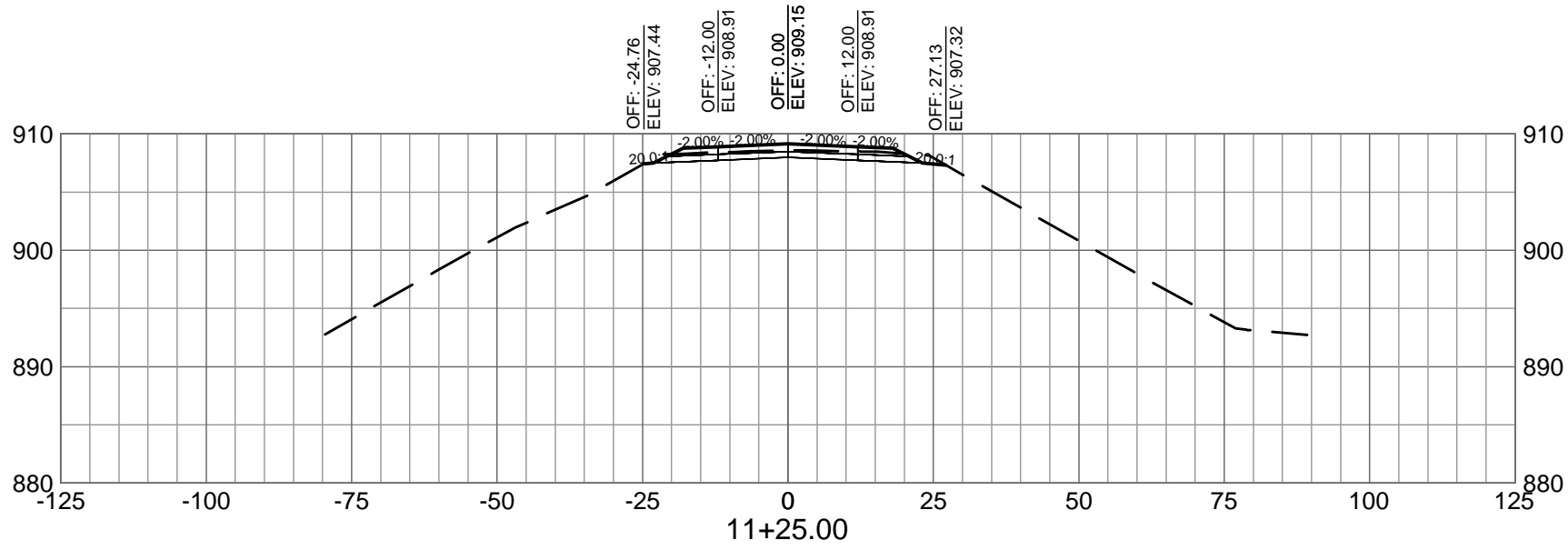
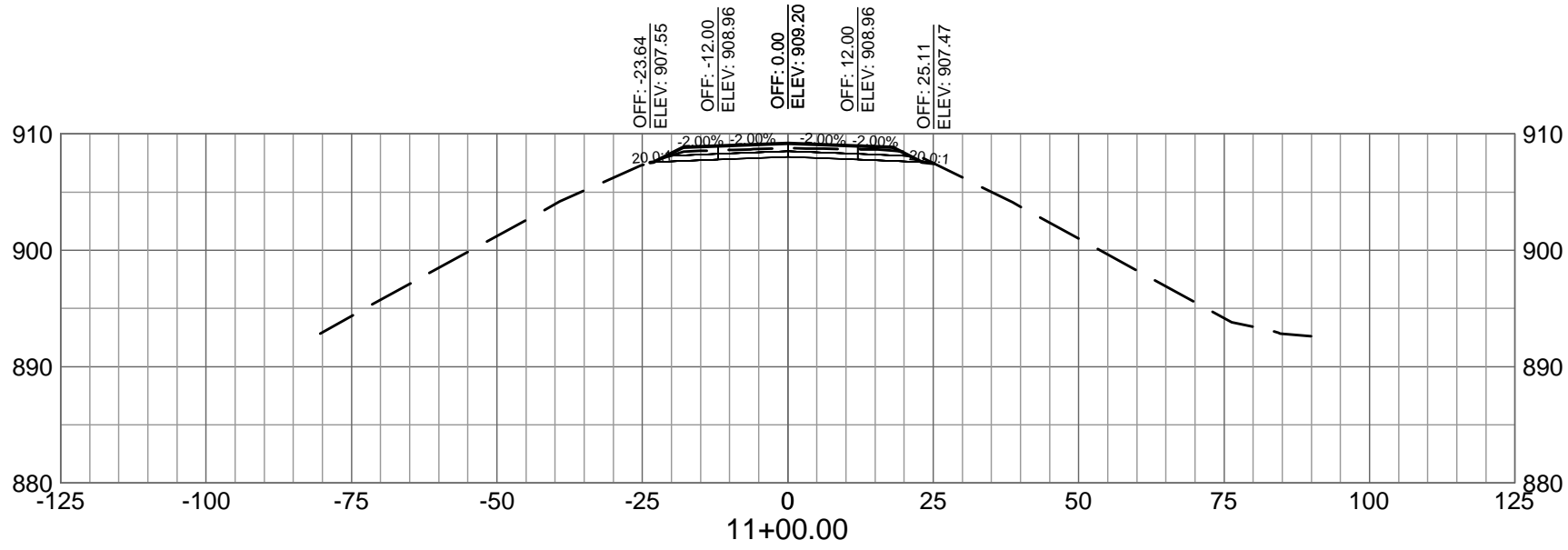
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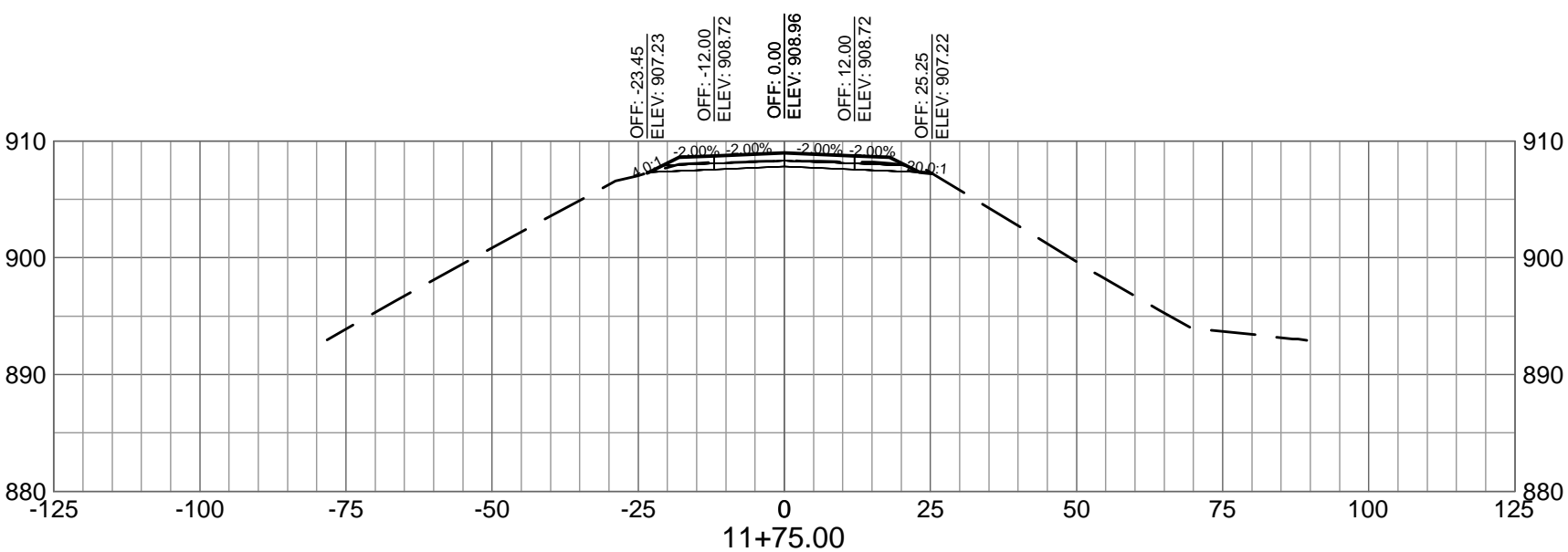
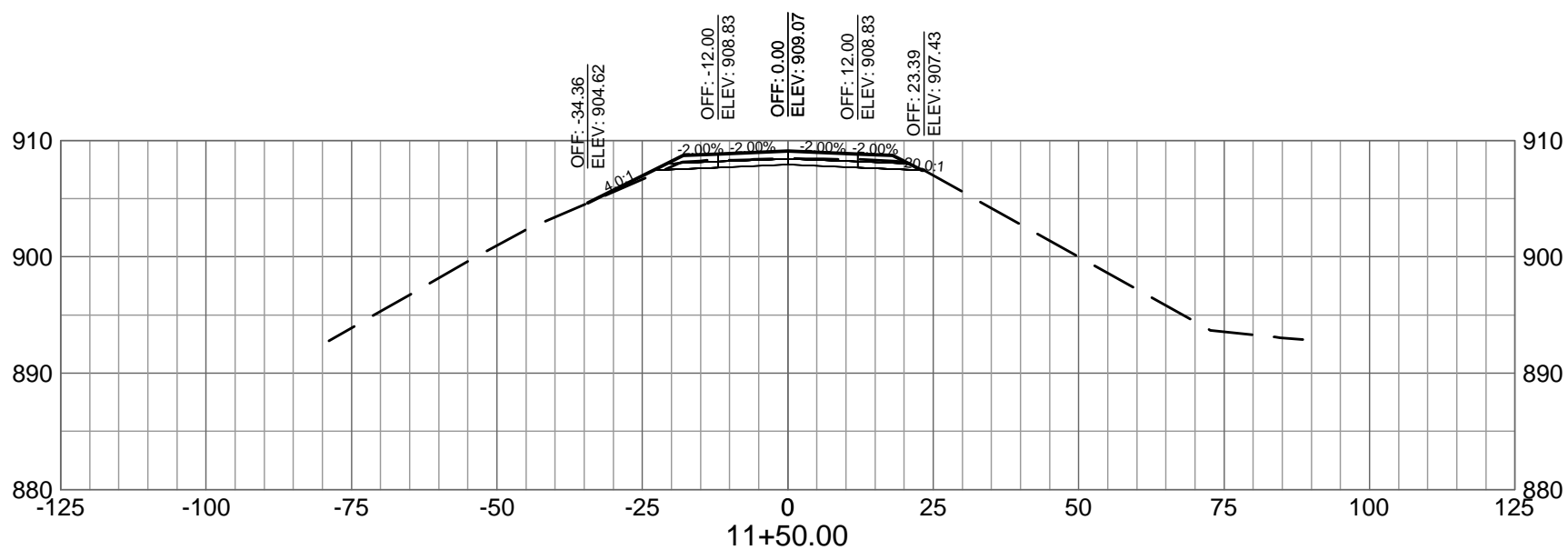
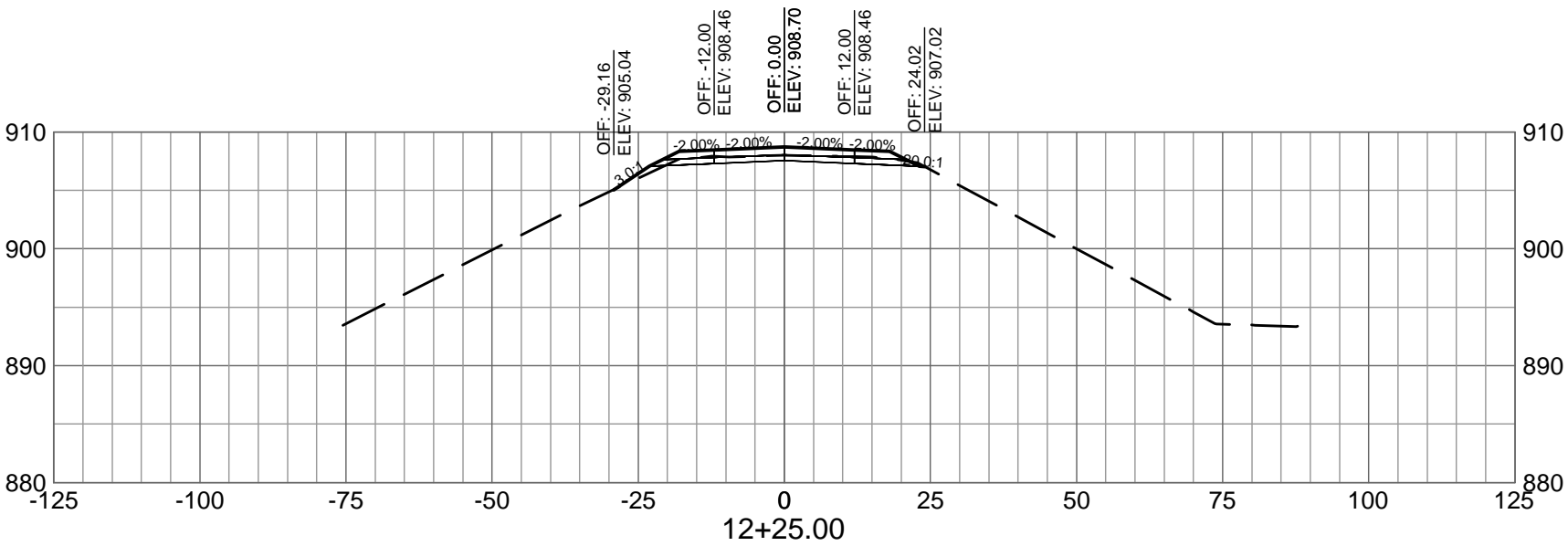
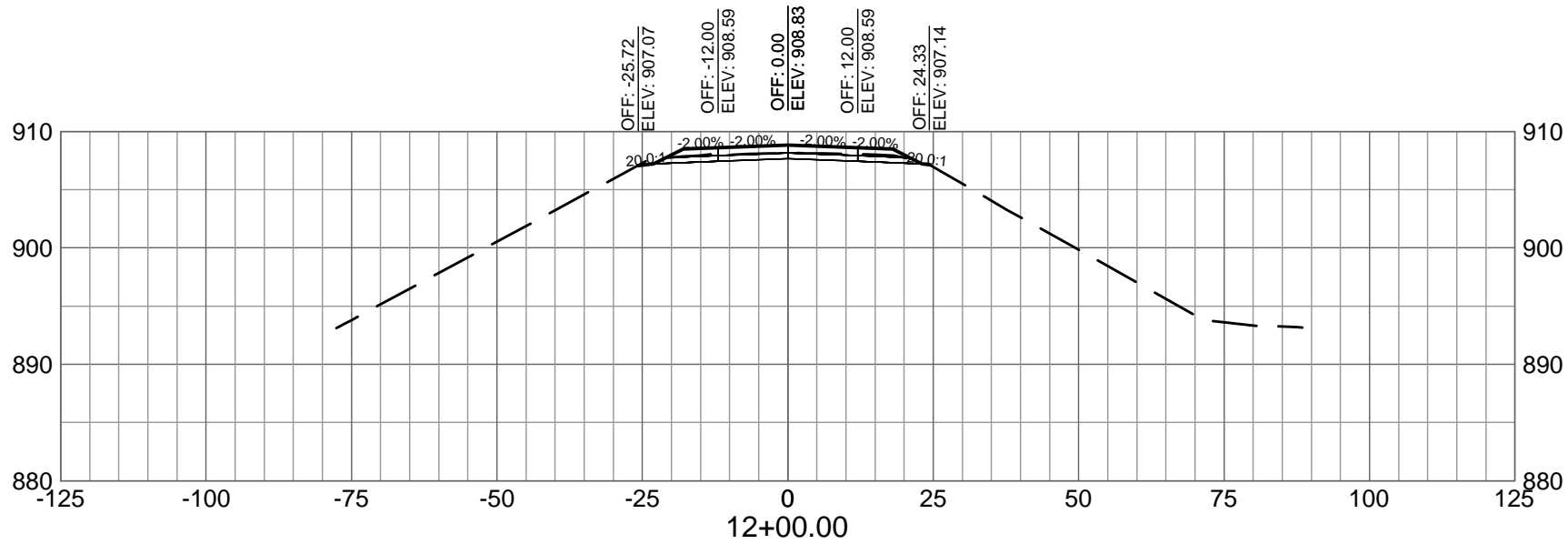
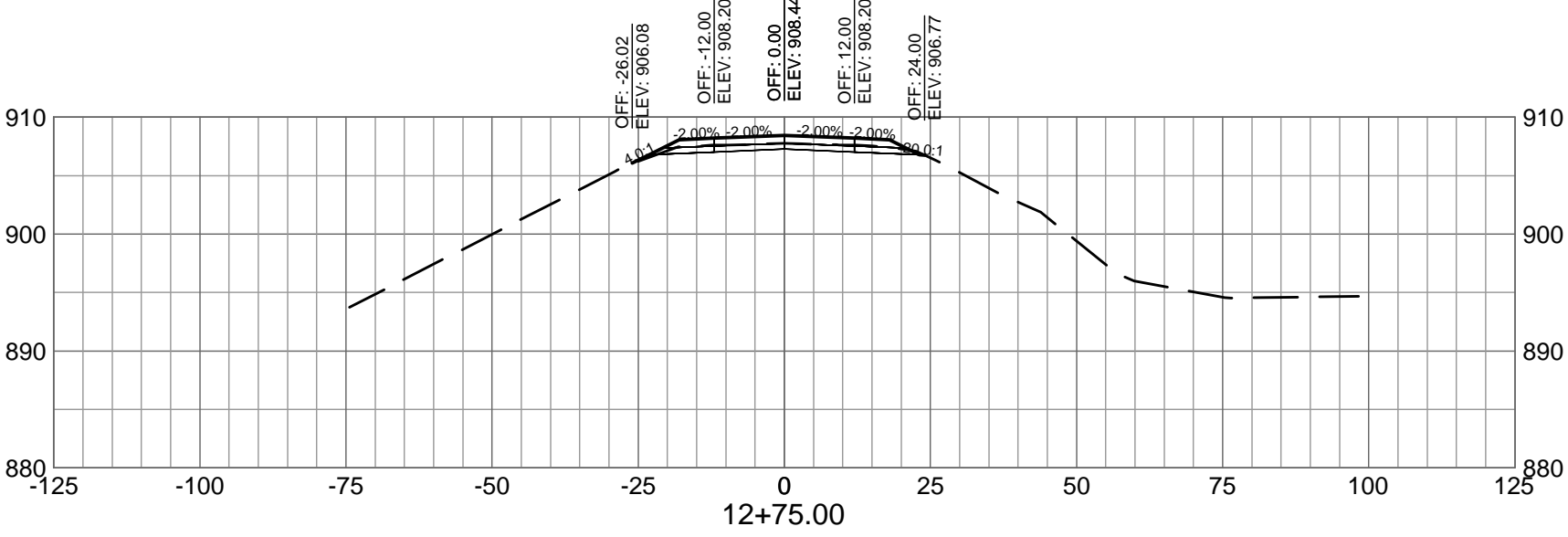
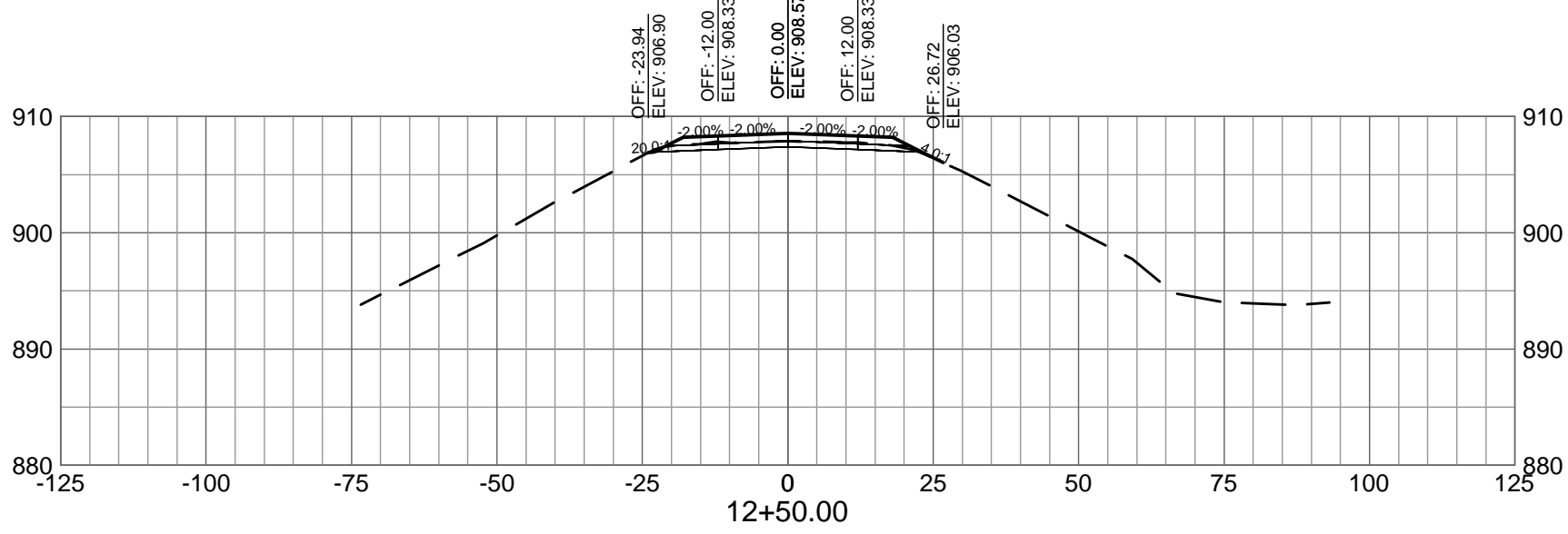
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M&H NO.: 3141900-113782.01  
DATE: FEBRUARY 17, 2021  
DESIGNED BY: JAK  
DRAWN BY: DAY  
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ANG Project No: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: FEBRUARY 17, 2021  
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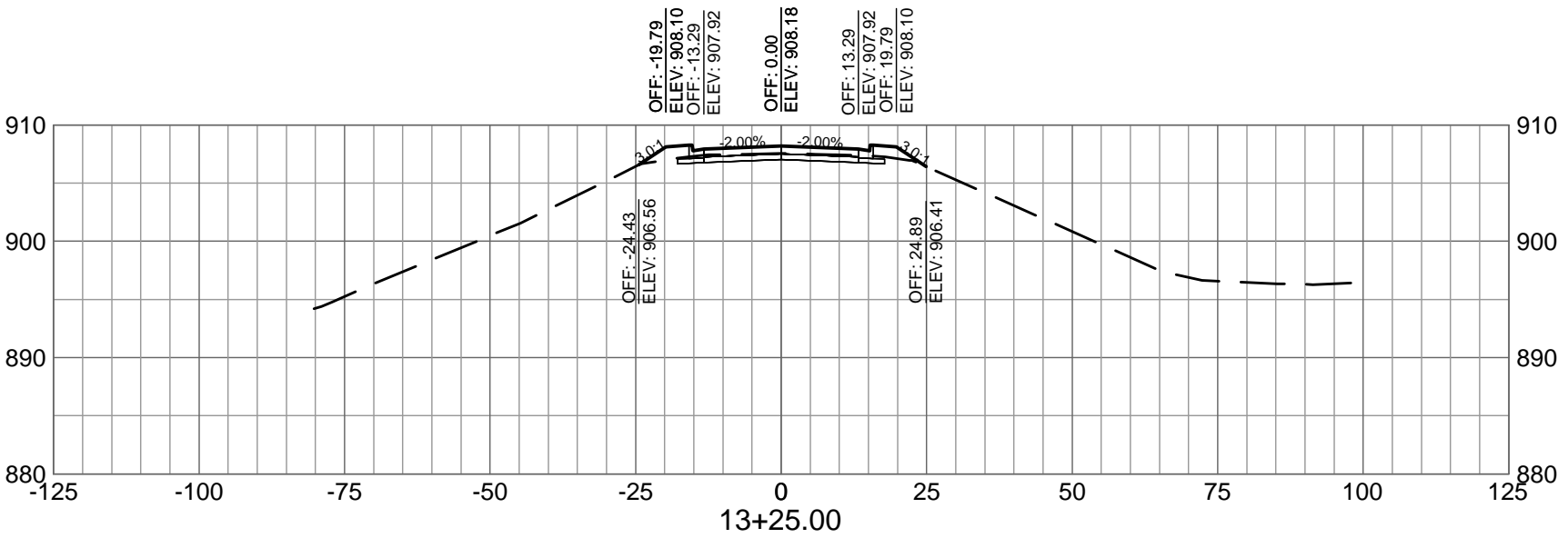
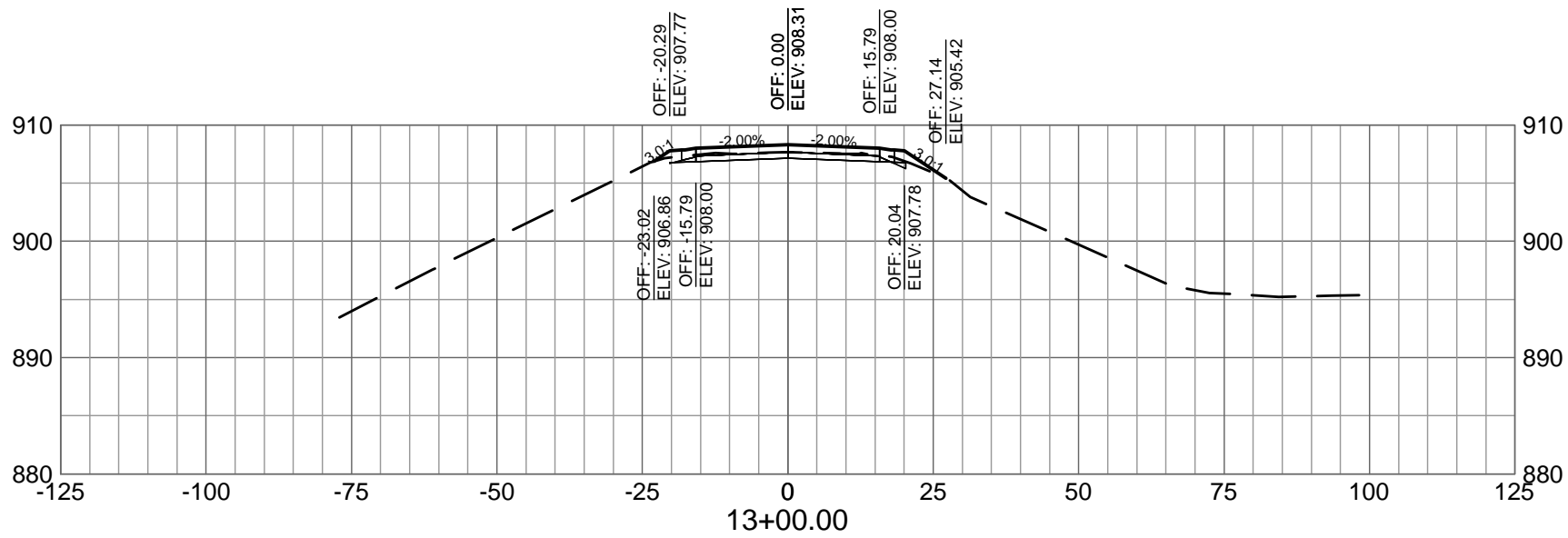
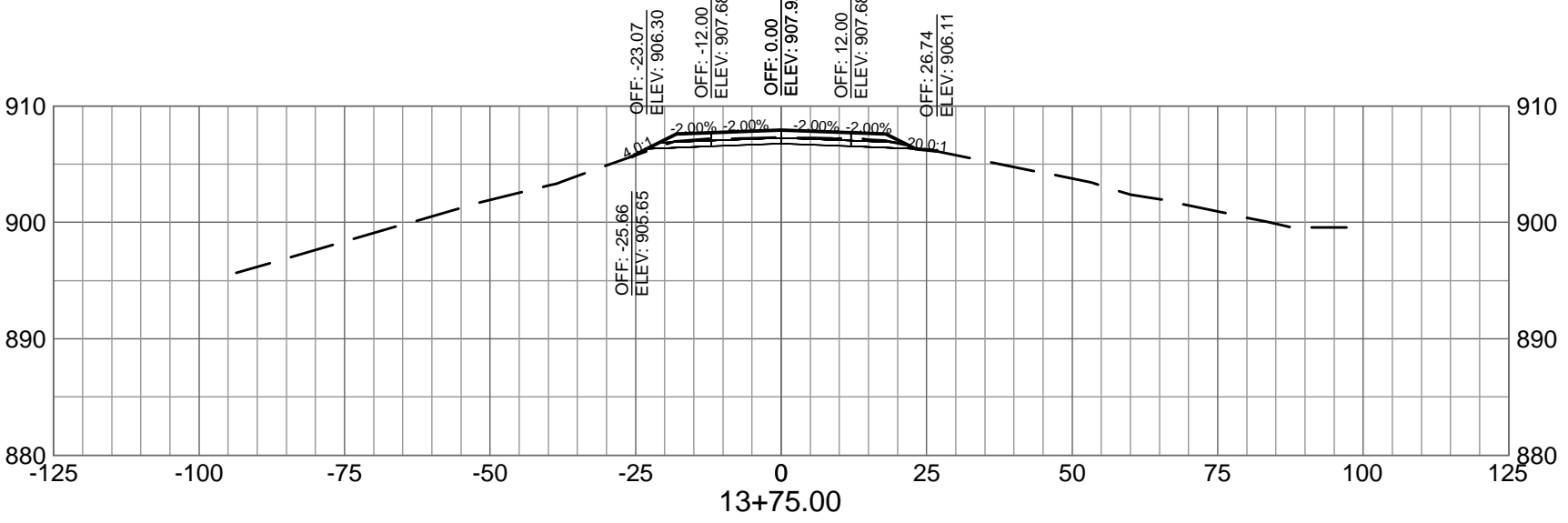
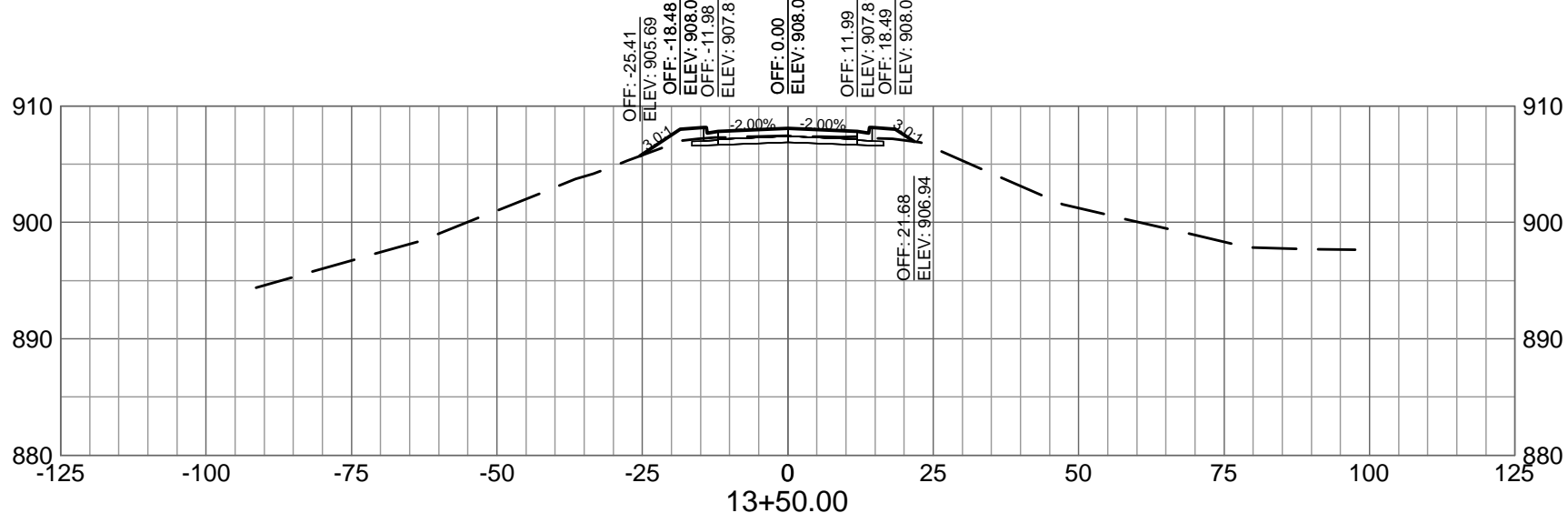
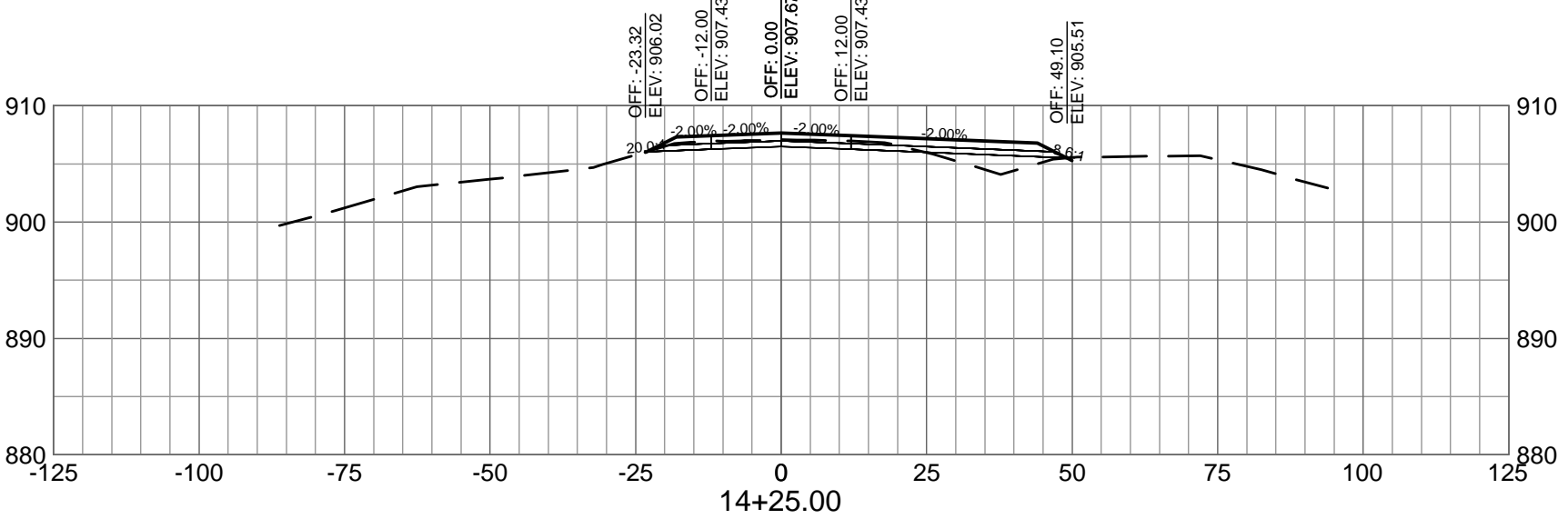
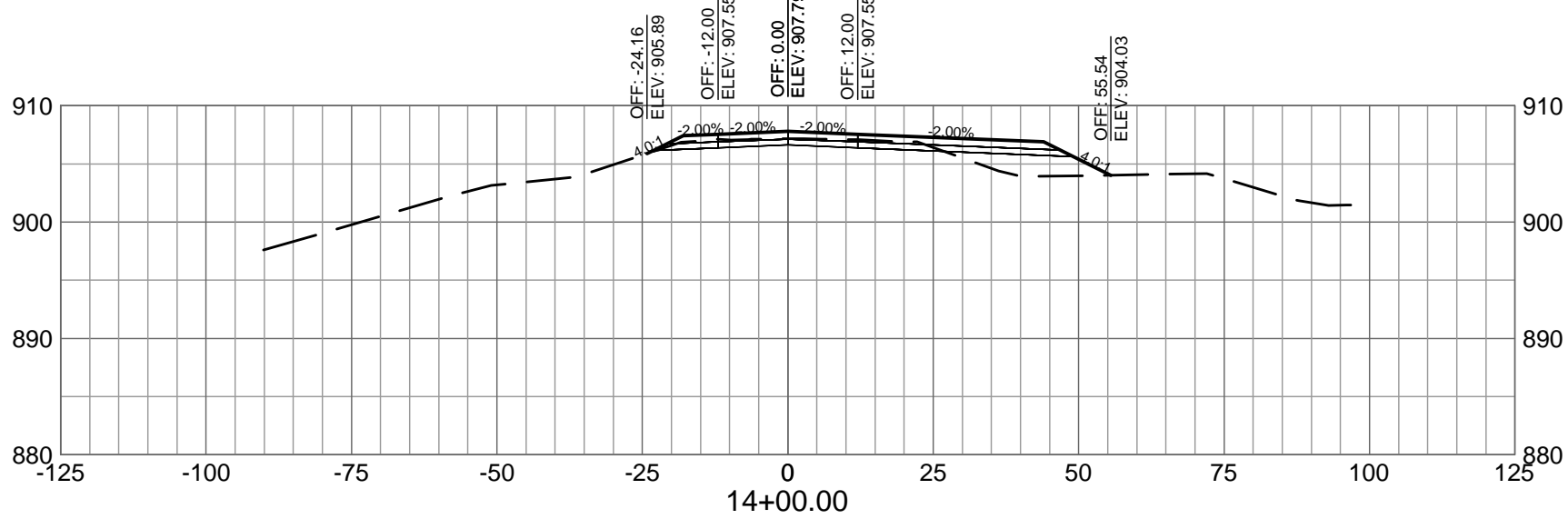
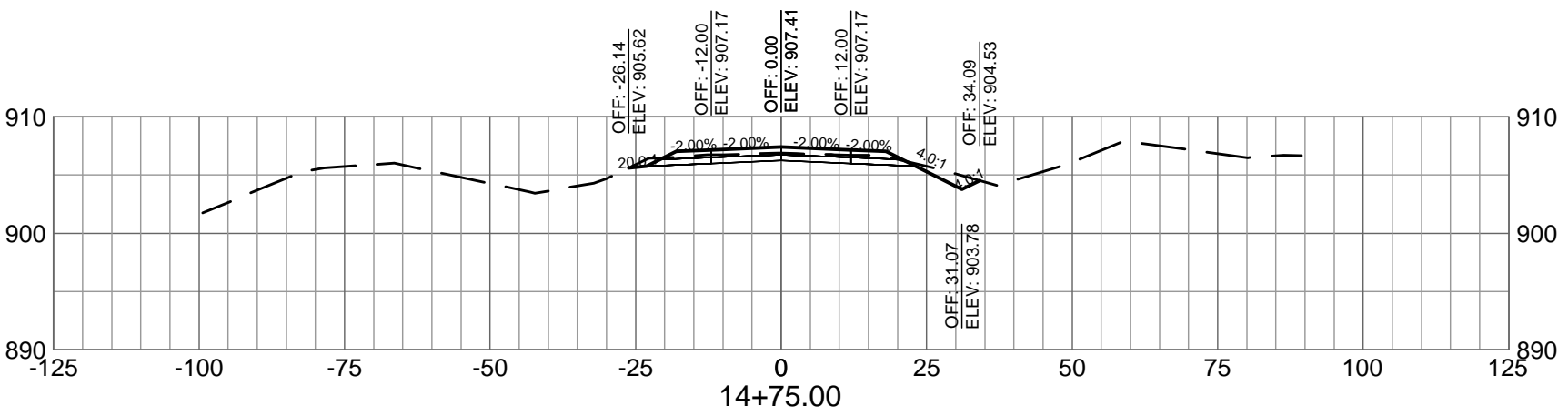
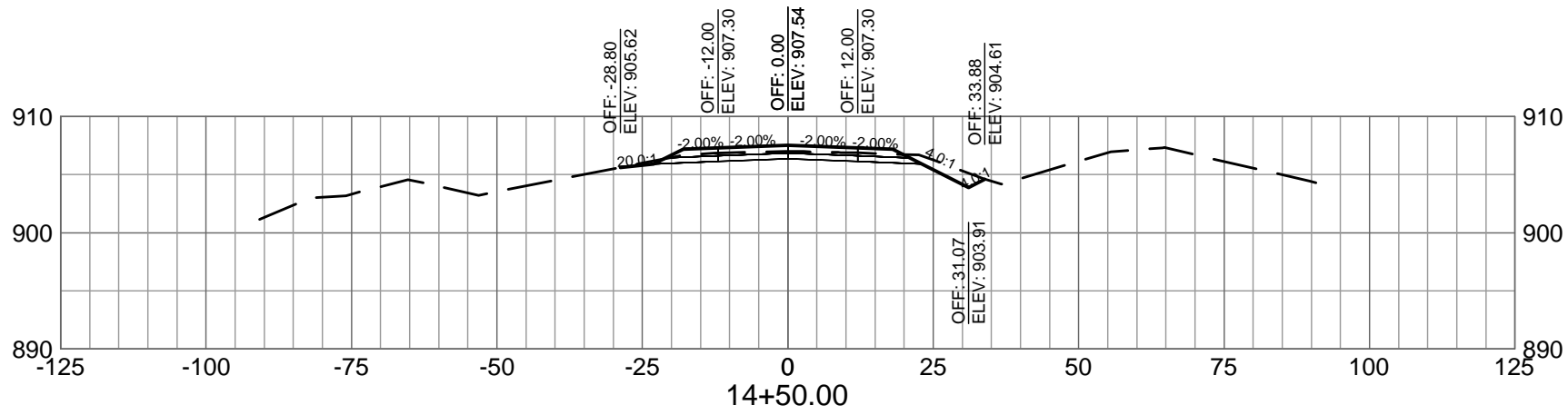
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CONSTRUCT MAIN BASE ENTRANCE

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ANG Project No: MBMV099170  
MAH NO.: 3141900-113782.01  
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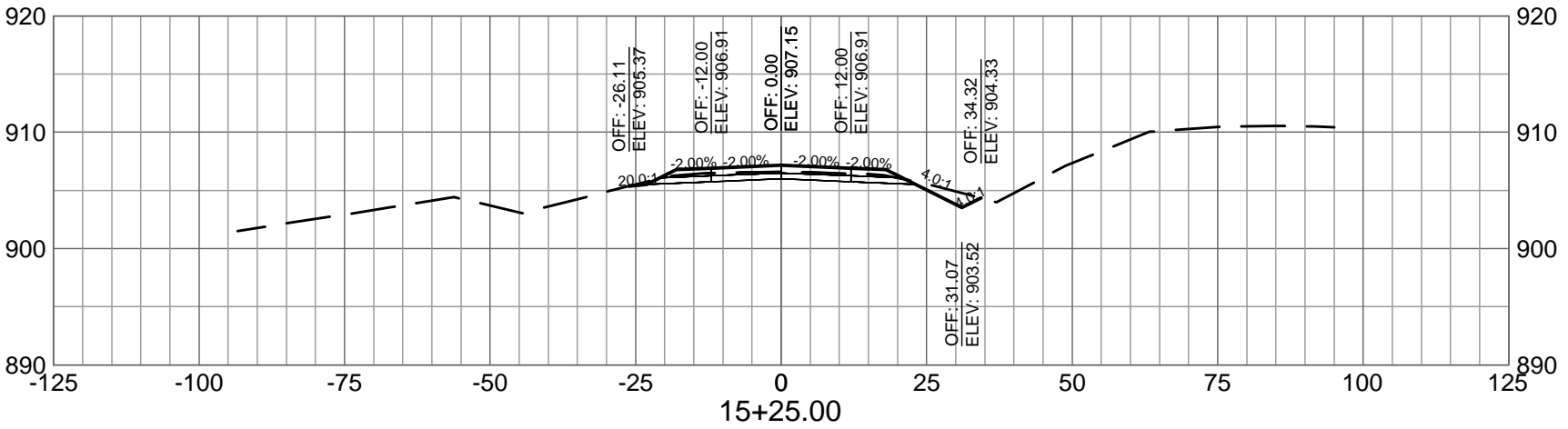
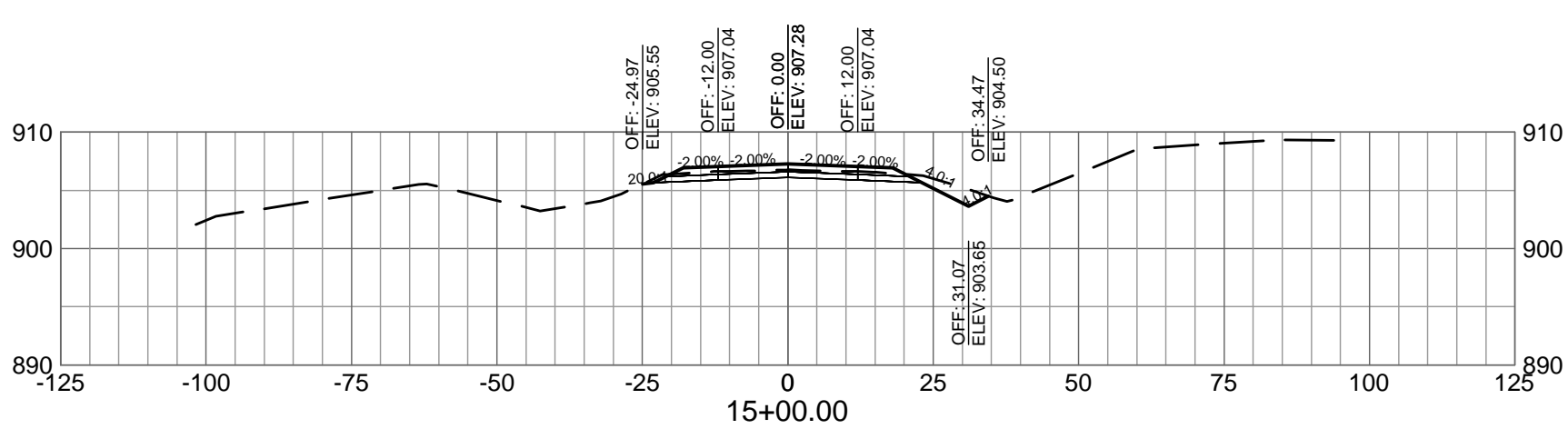
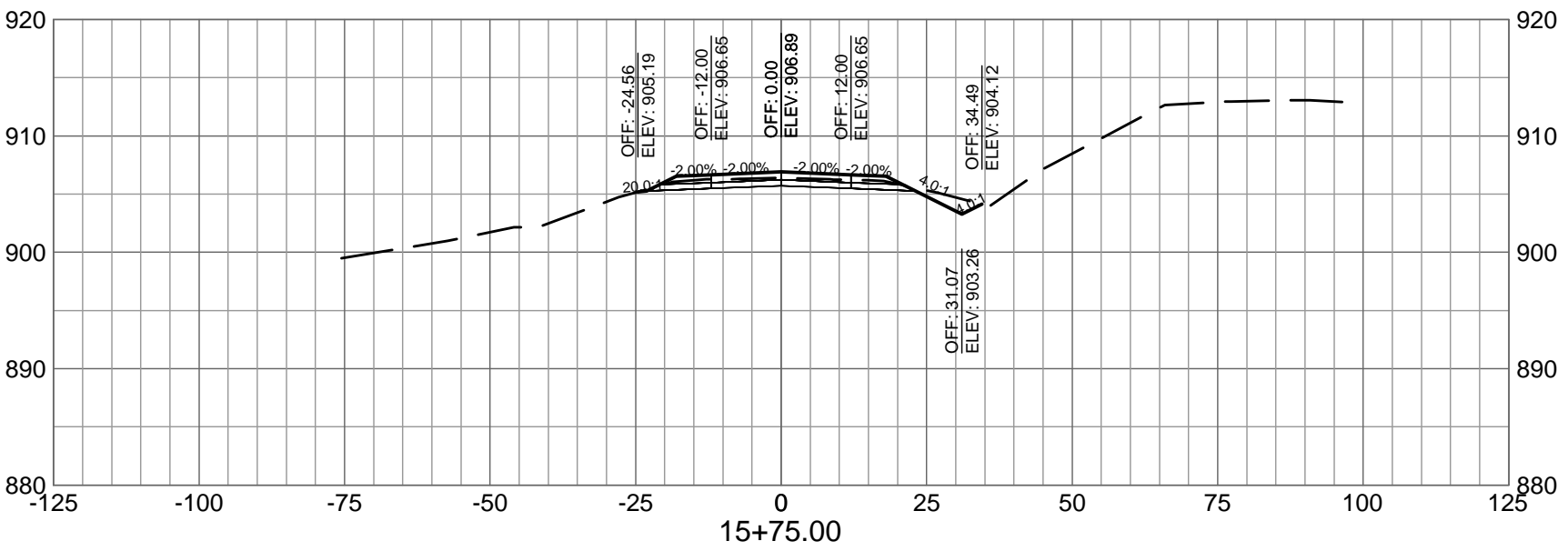
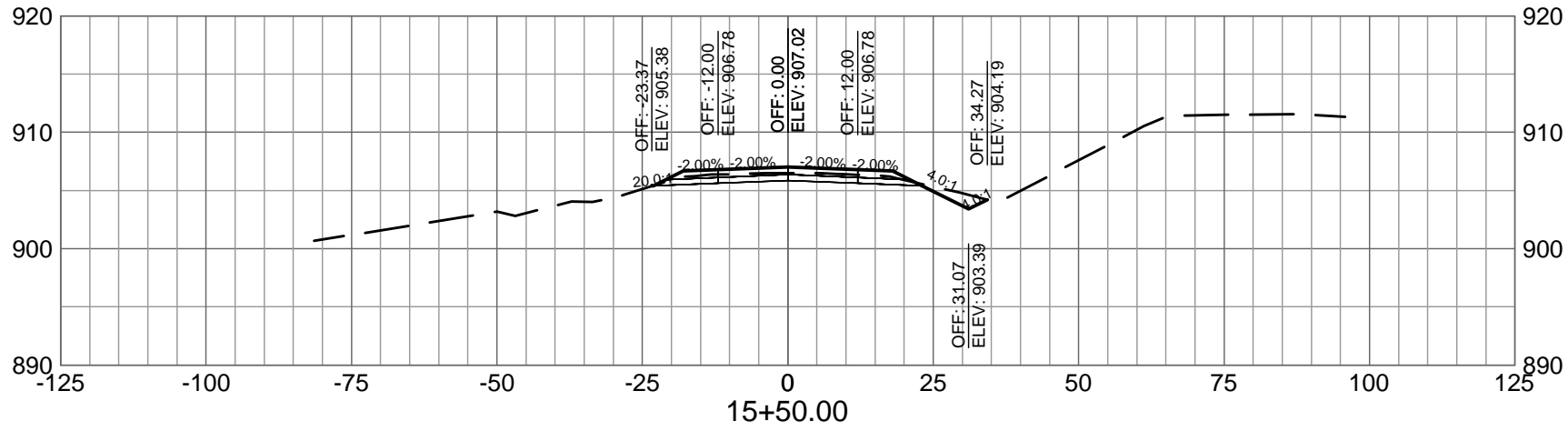
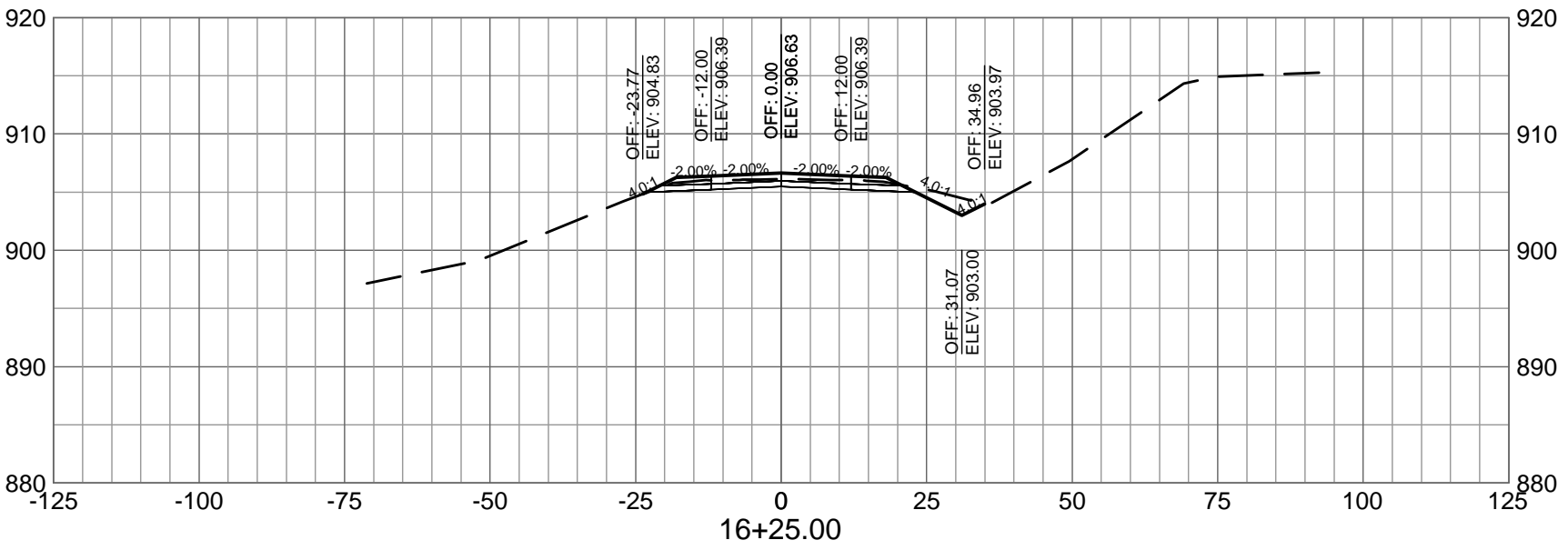
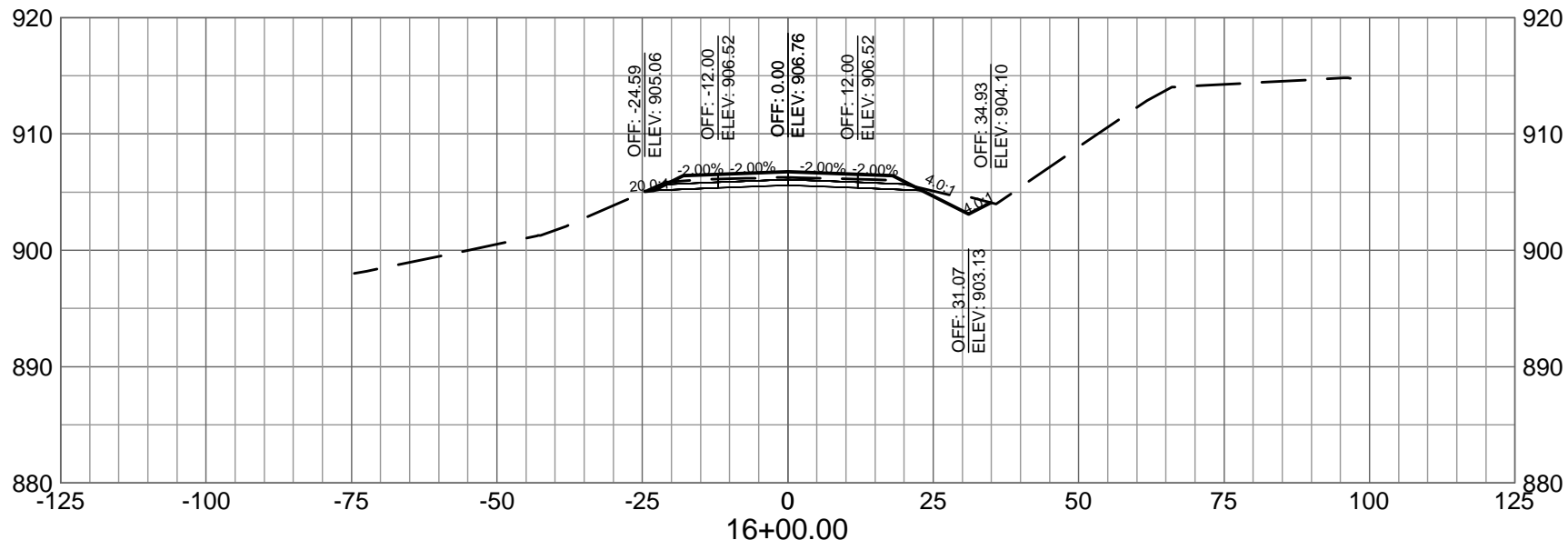
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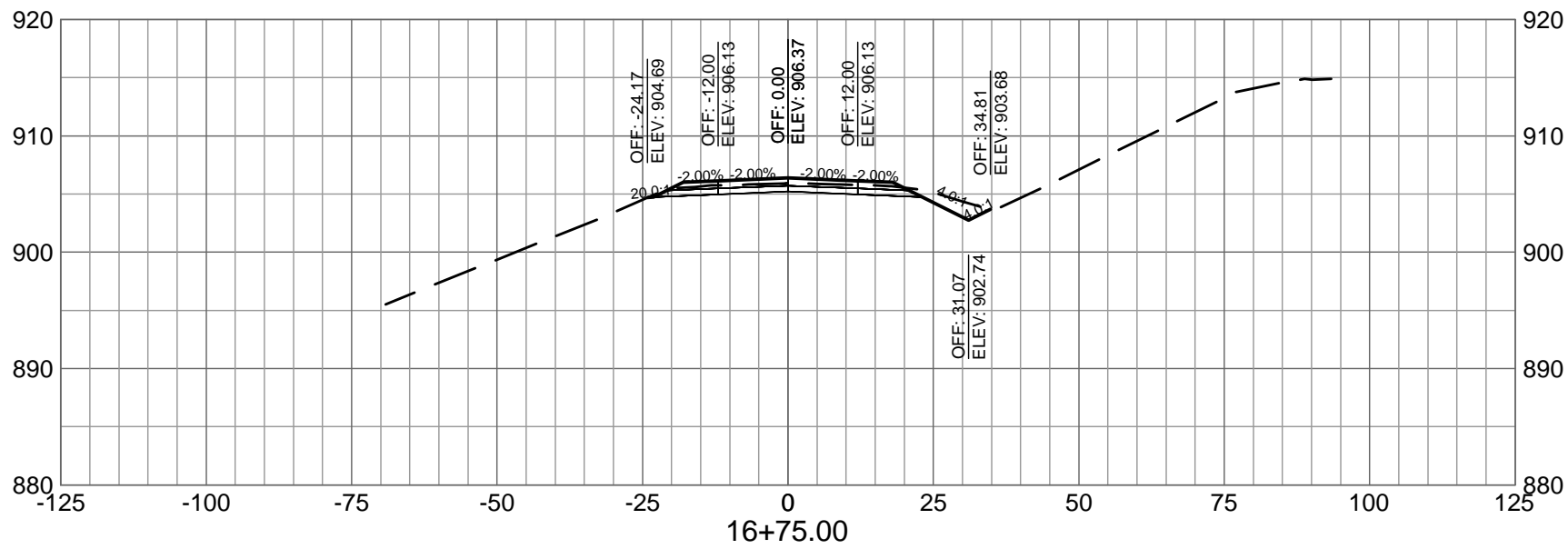
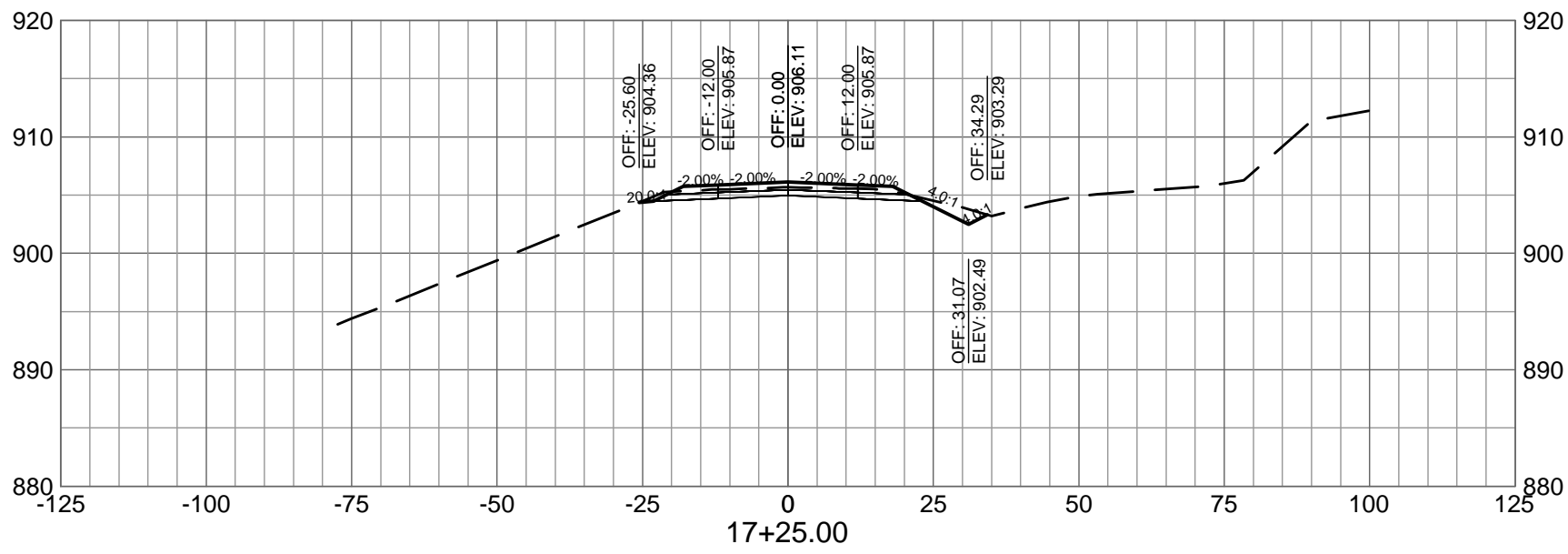
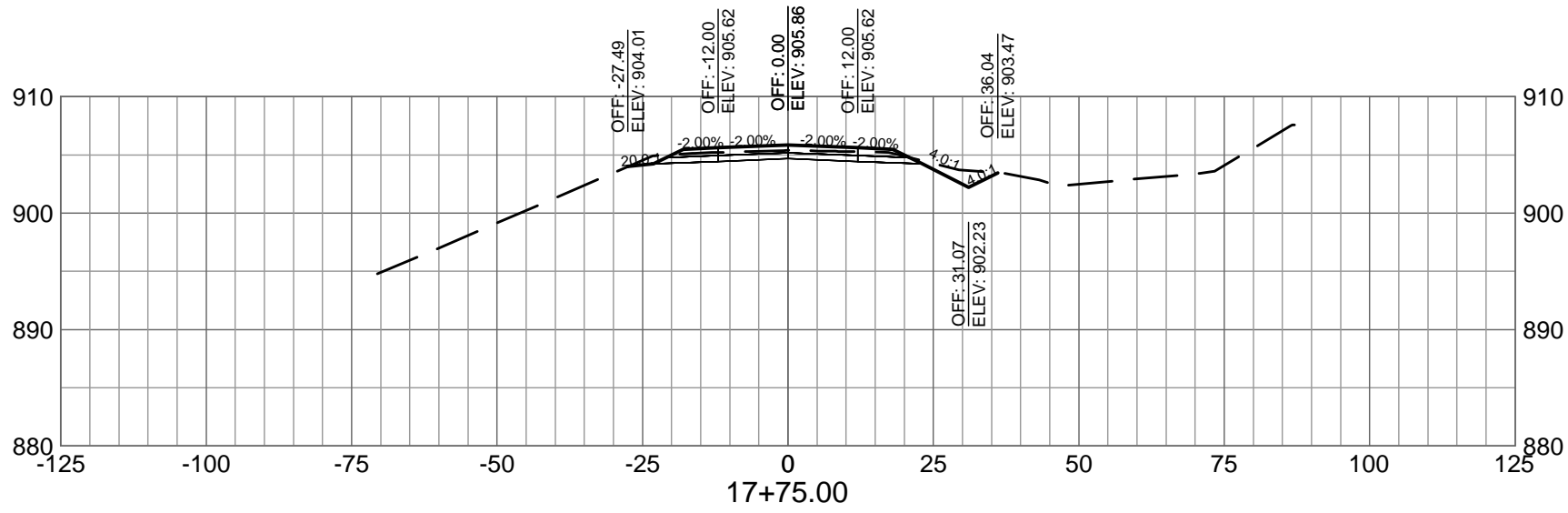
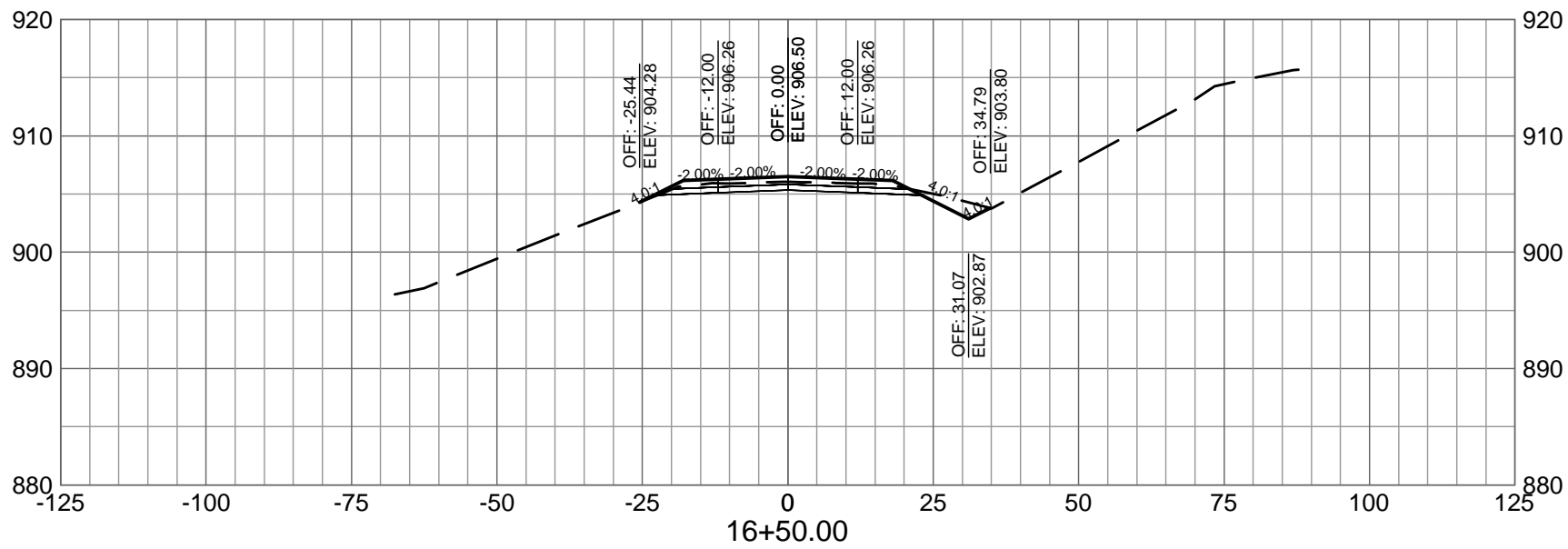
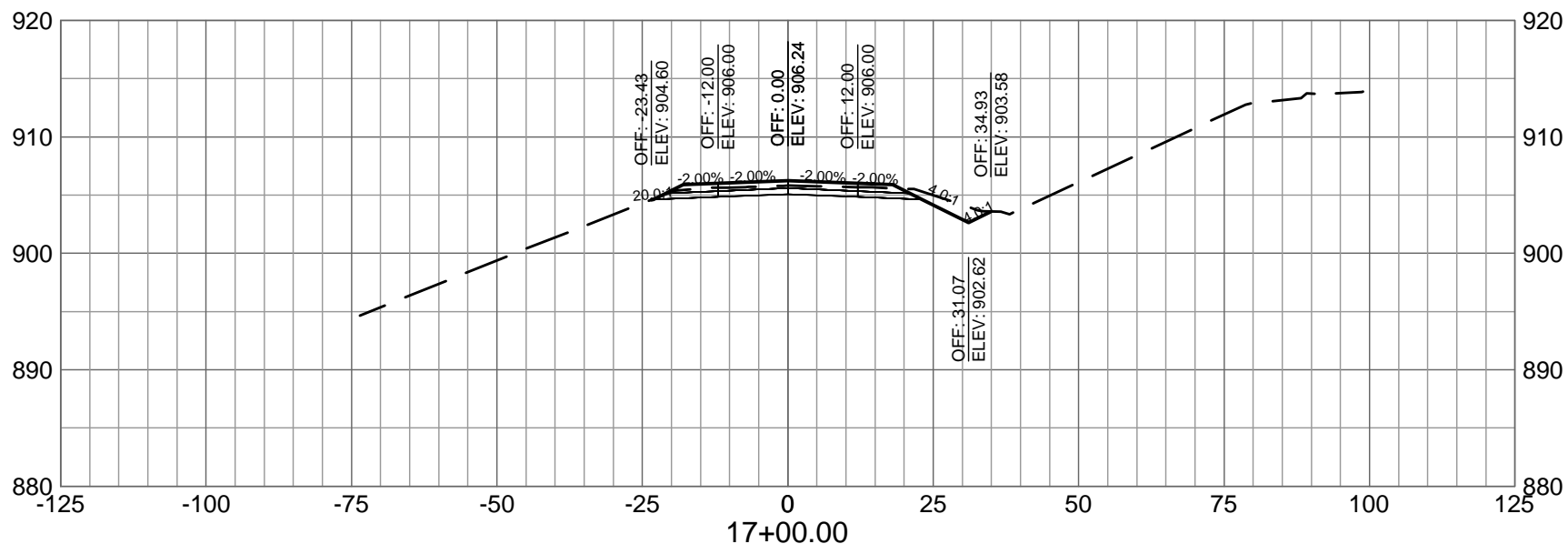
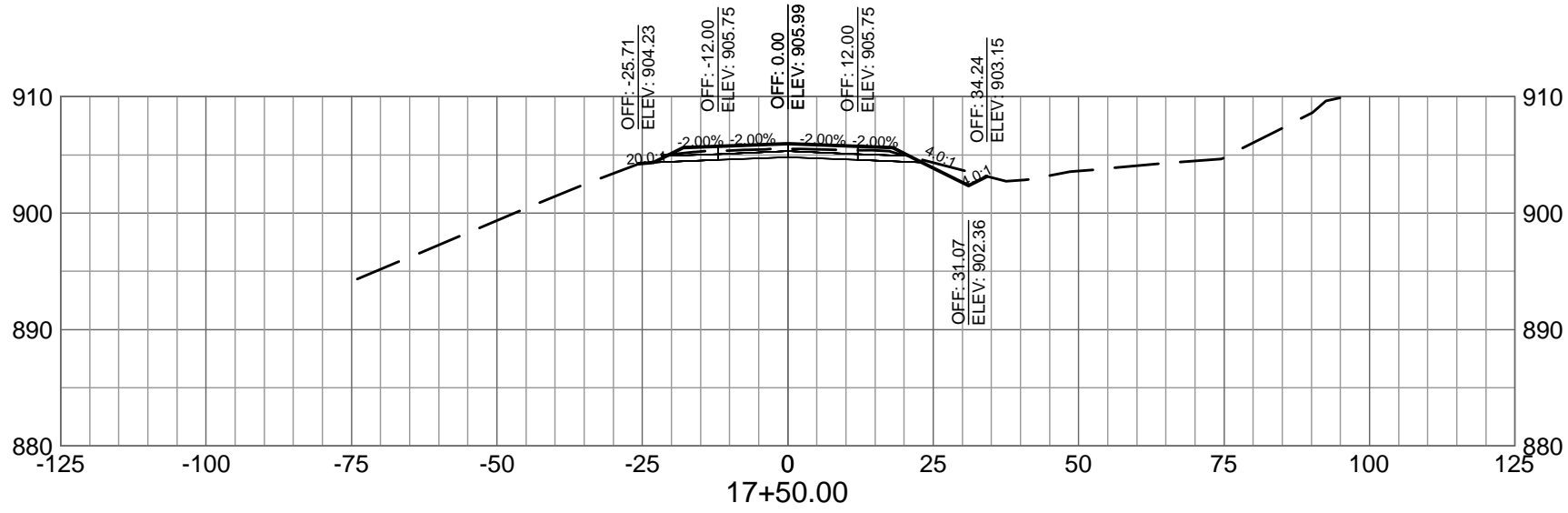
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BATTLE CREEK ANGB  
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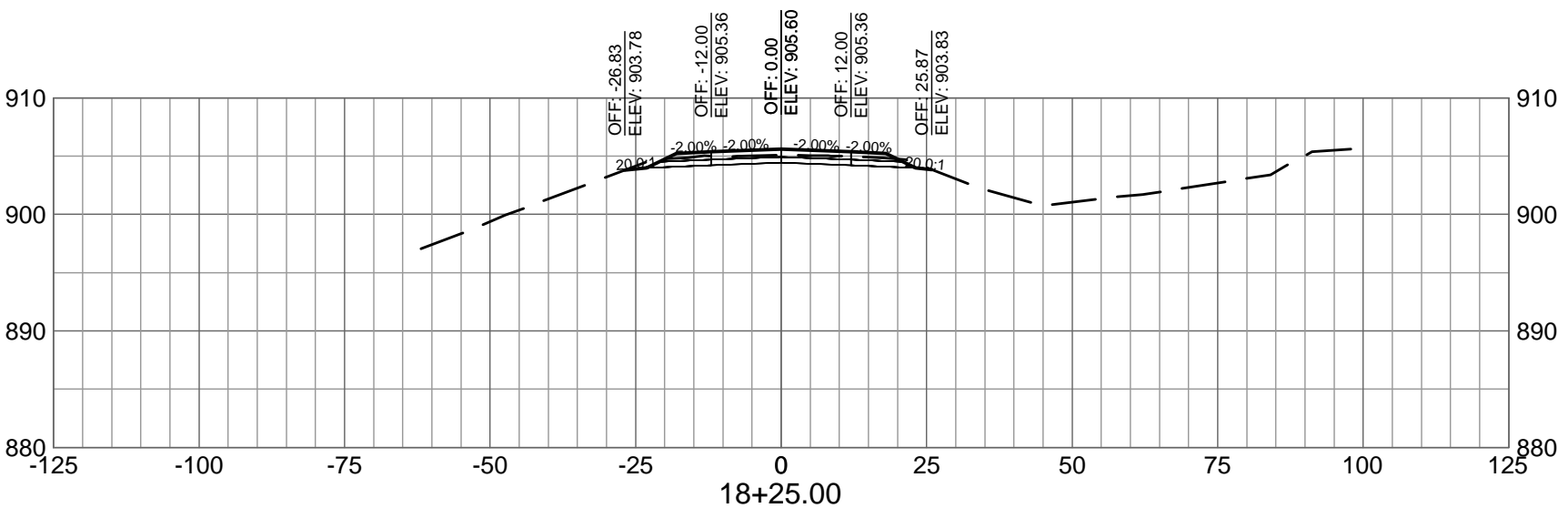
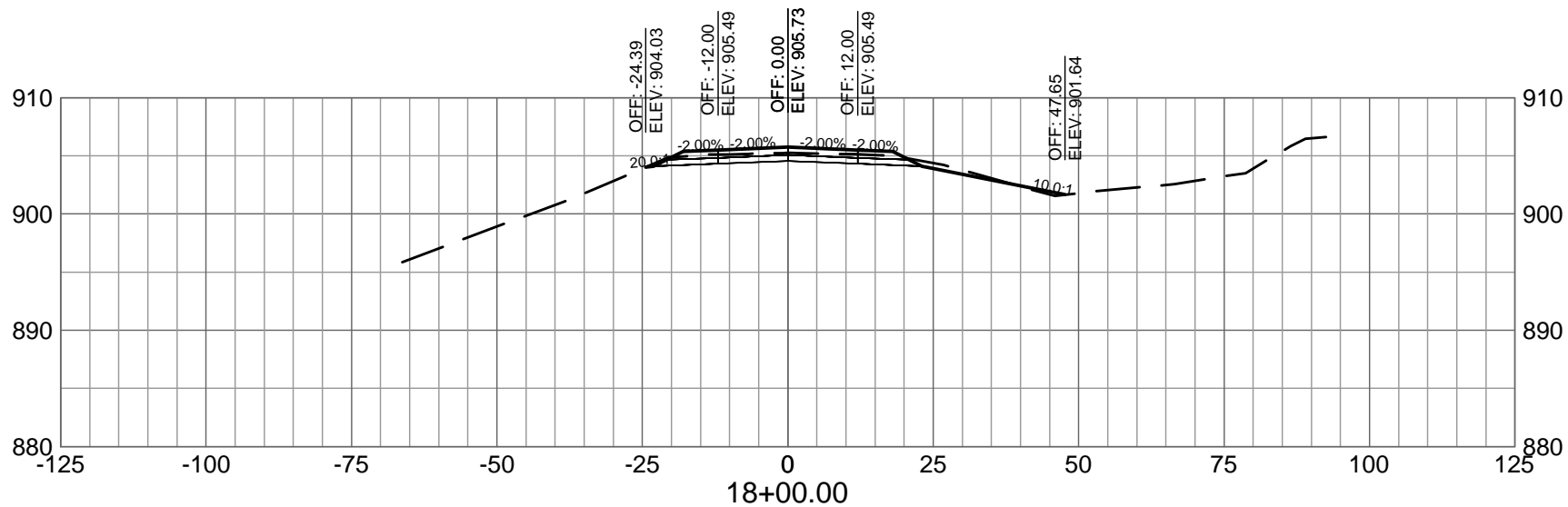
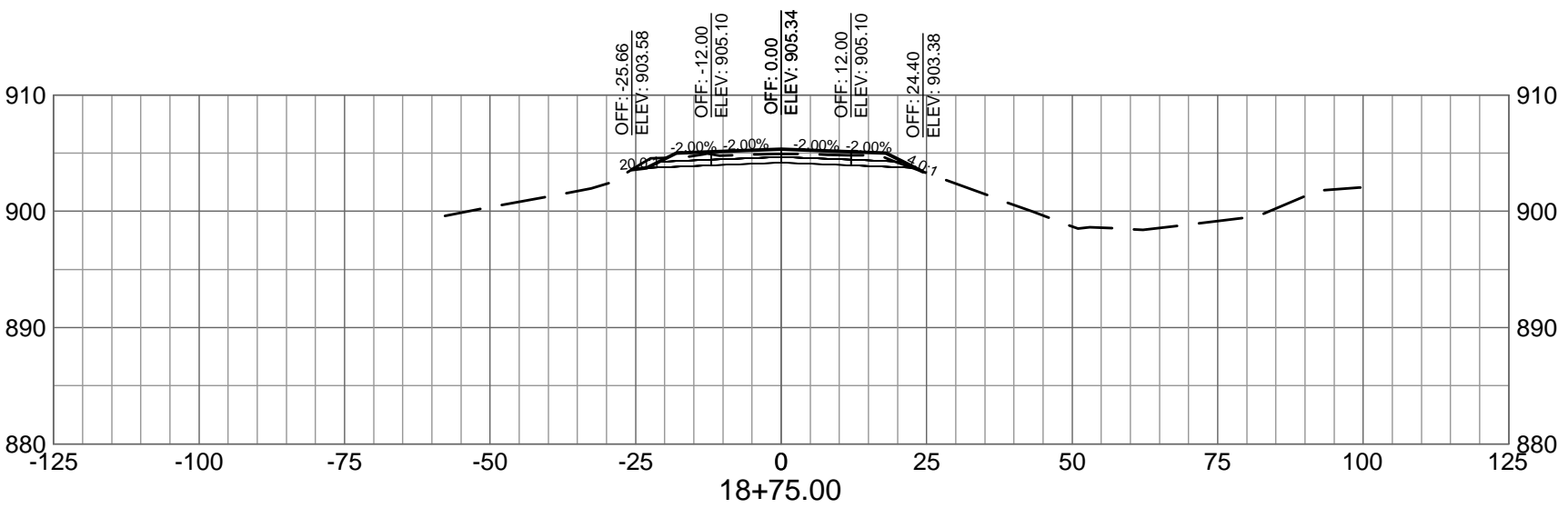
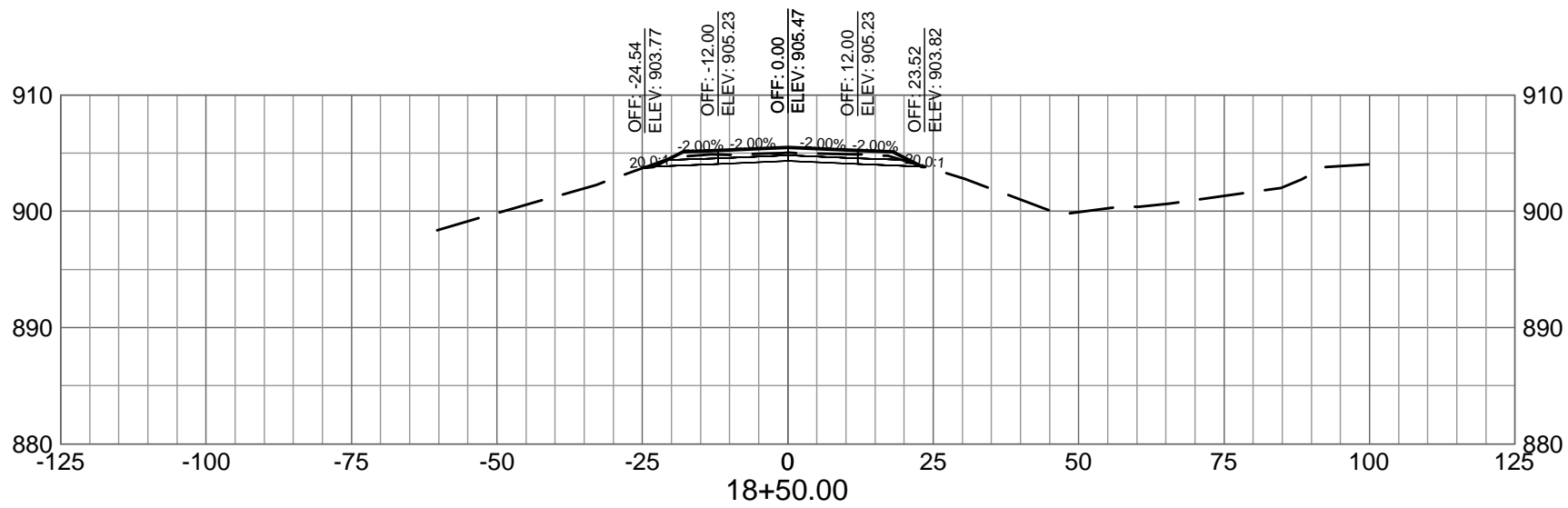
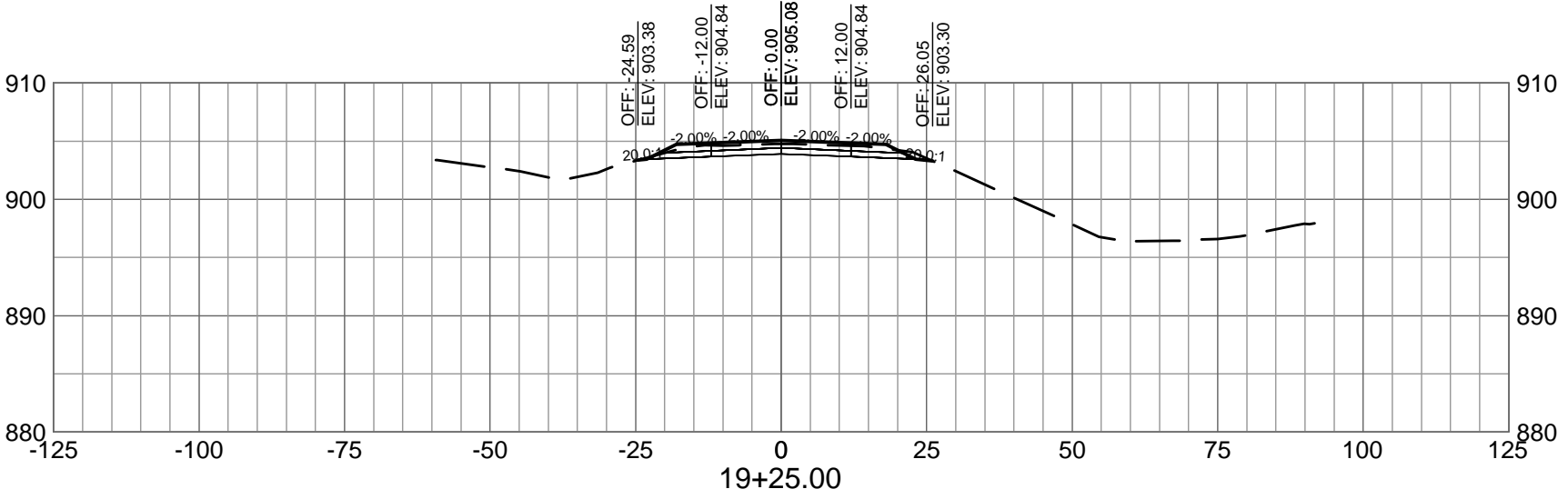
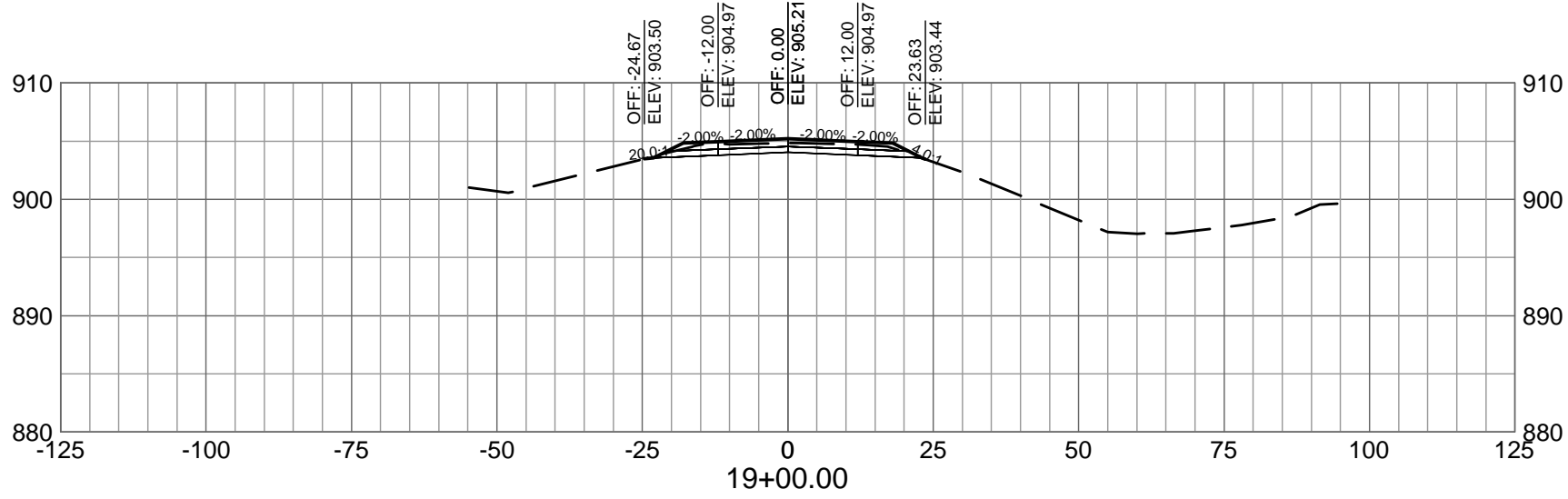
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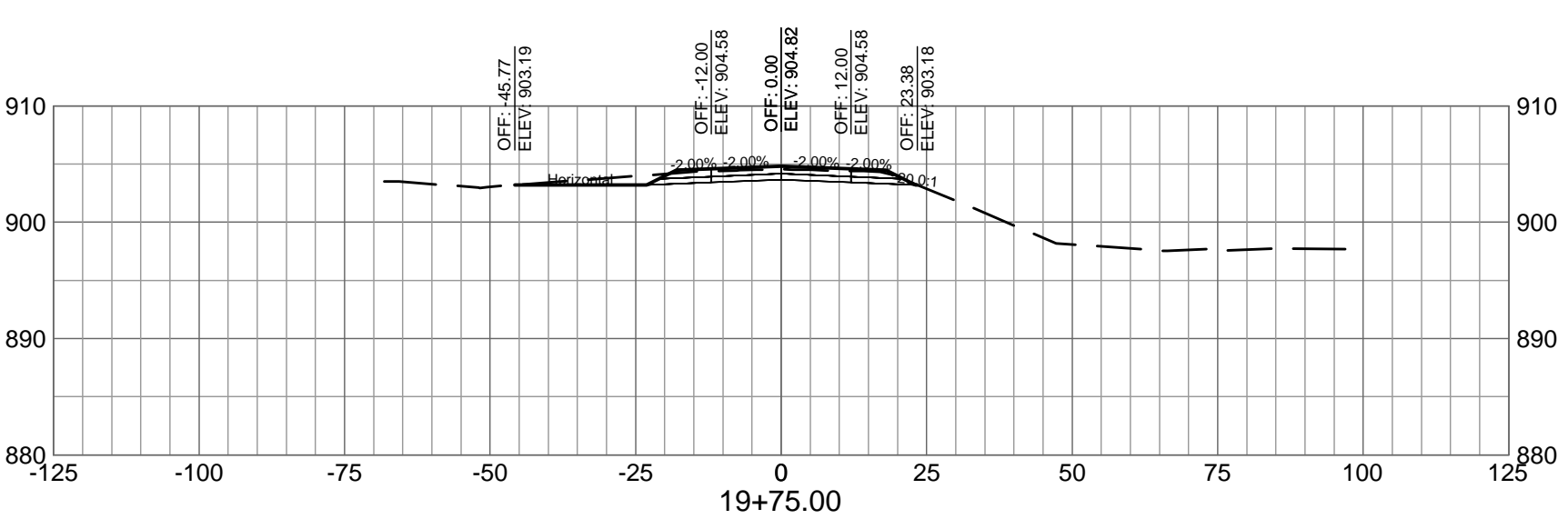
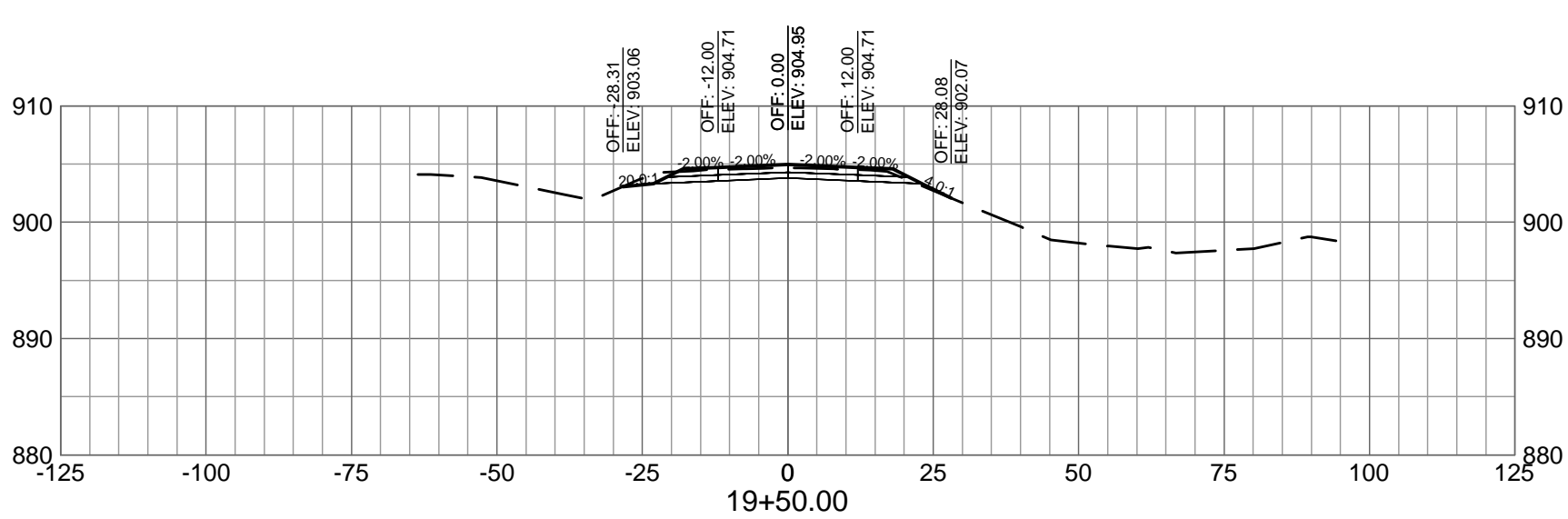
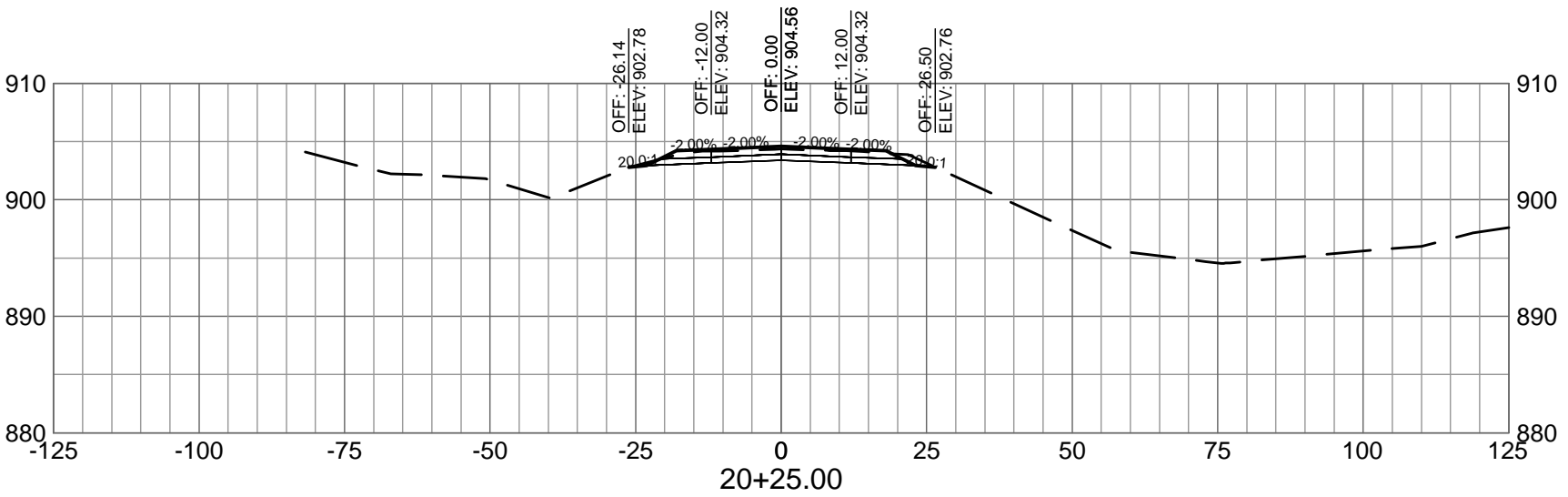
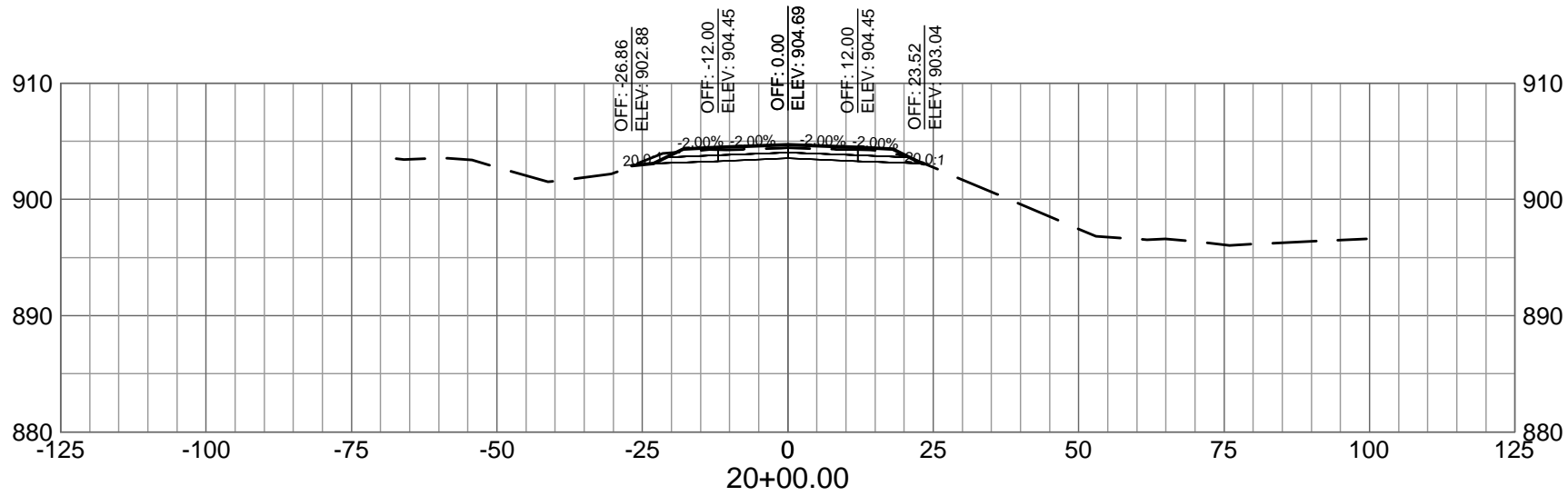
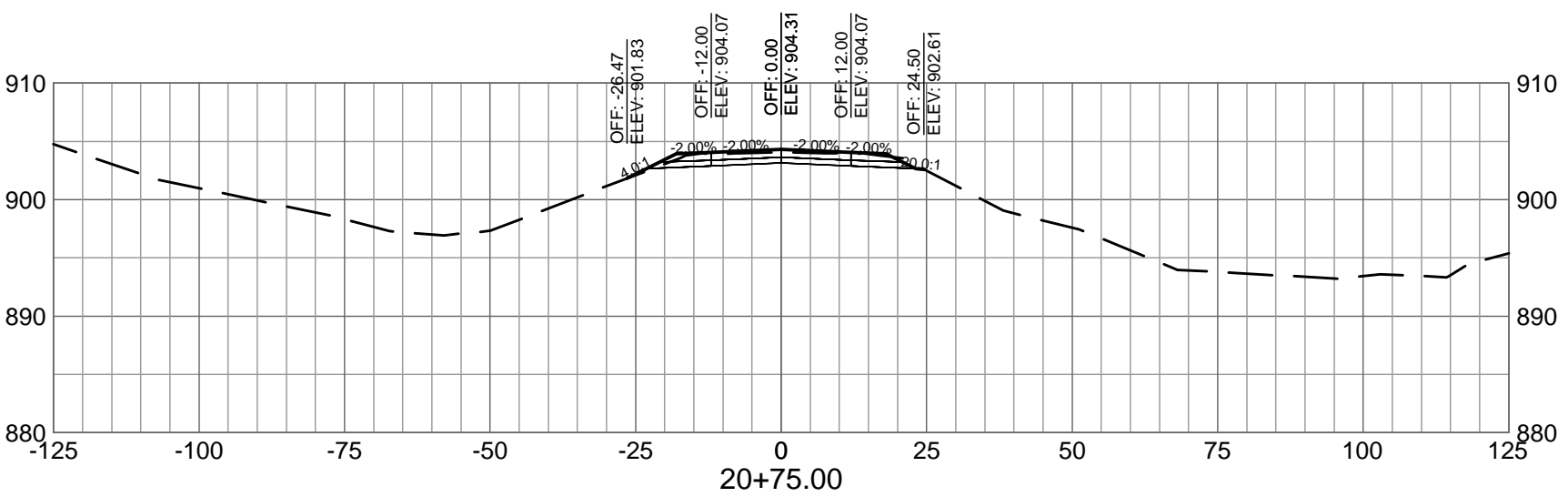
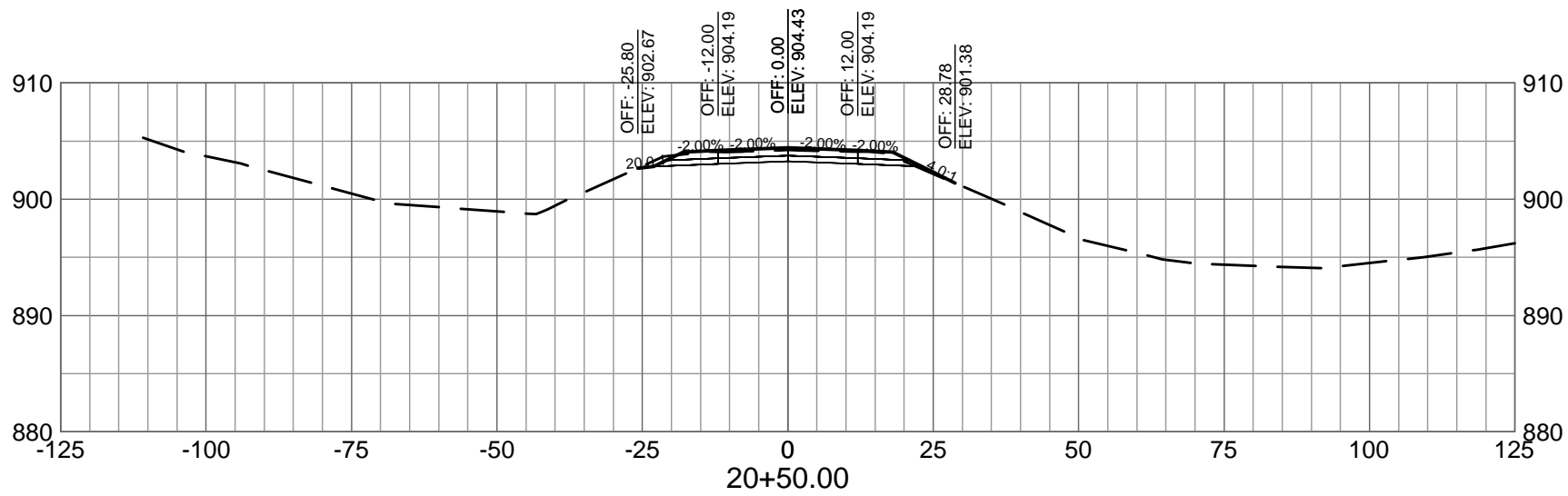
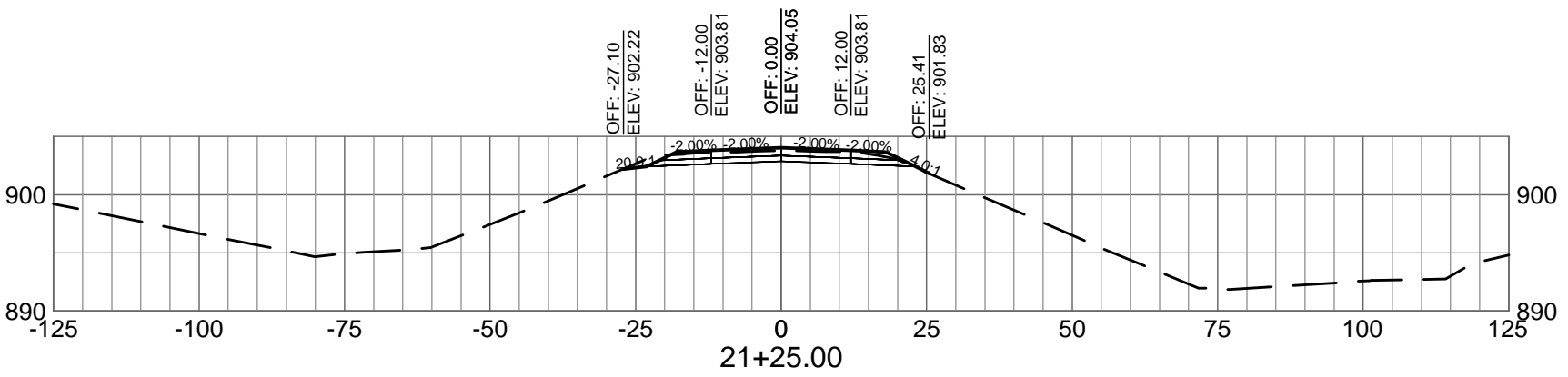
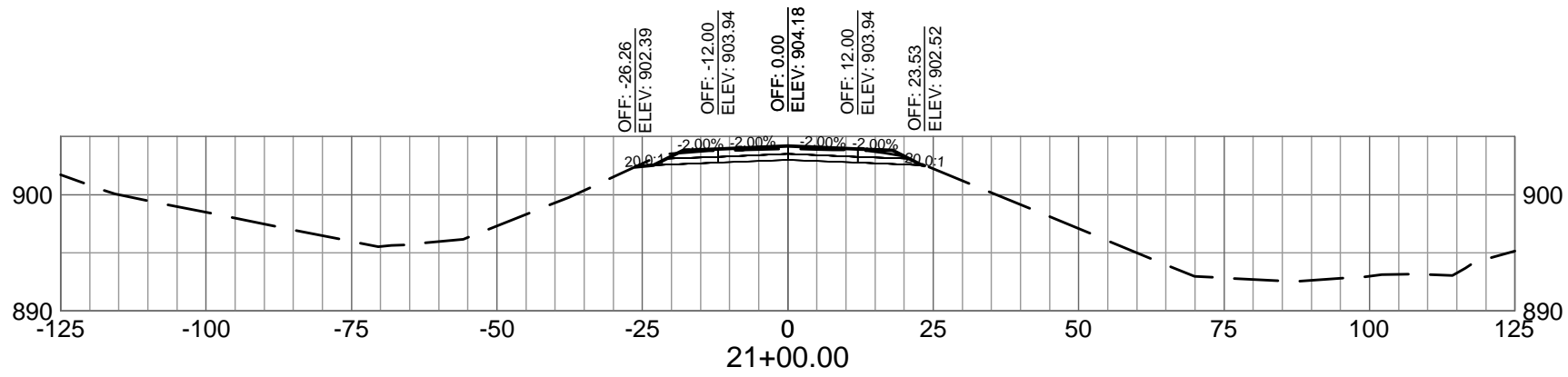
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ALIGNMENT H

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

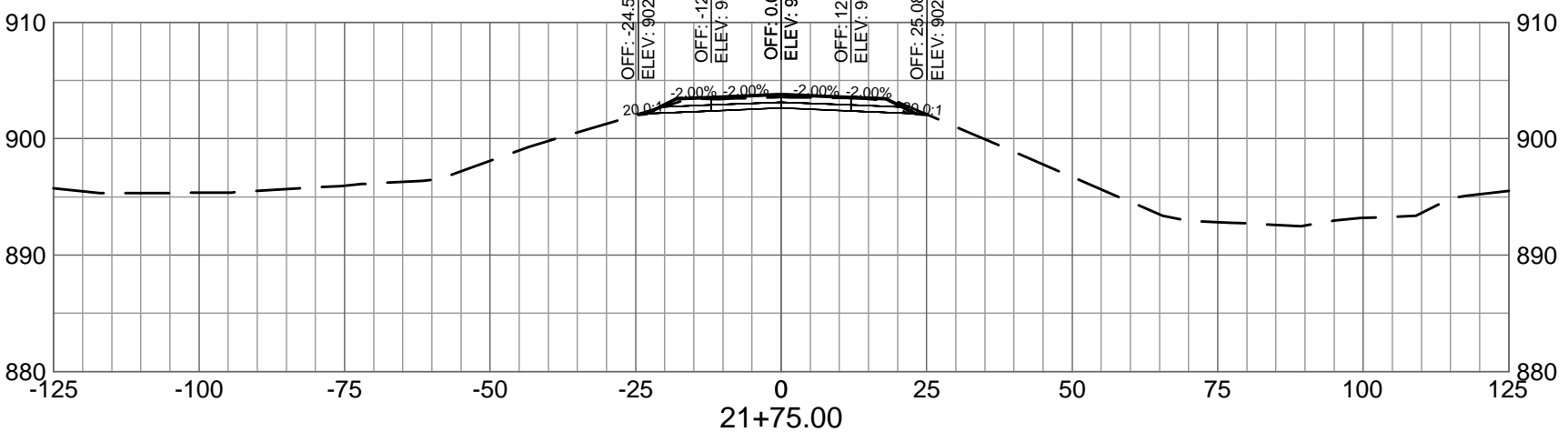
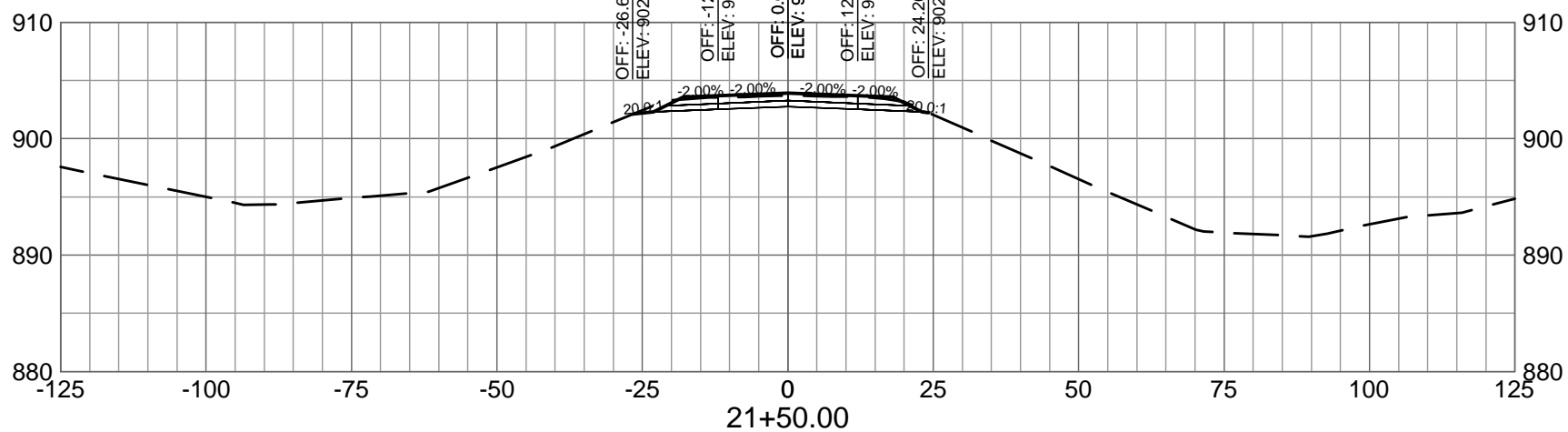
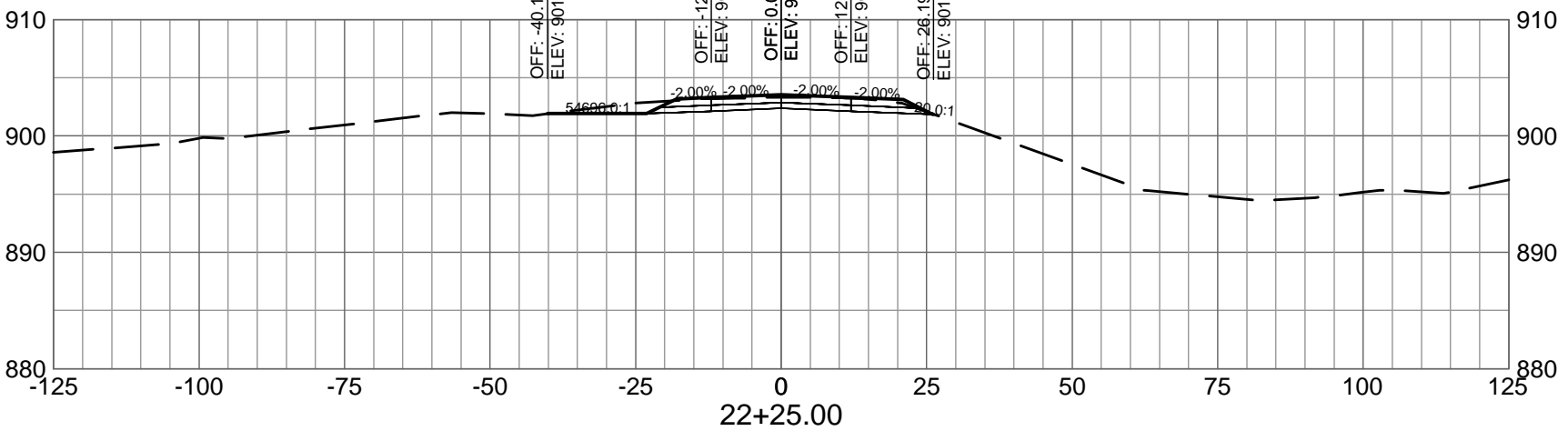
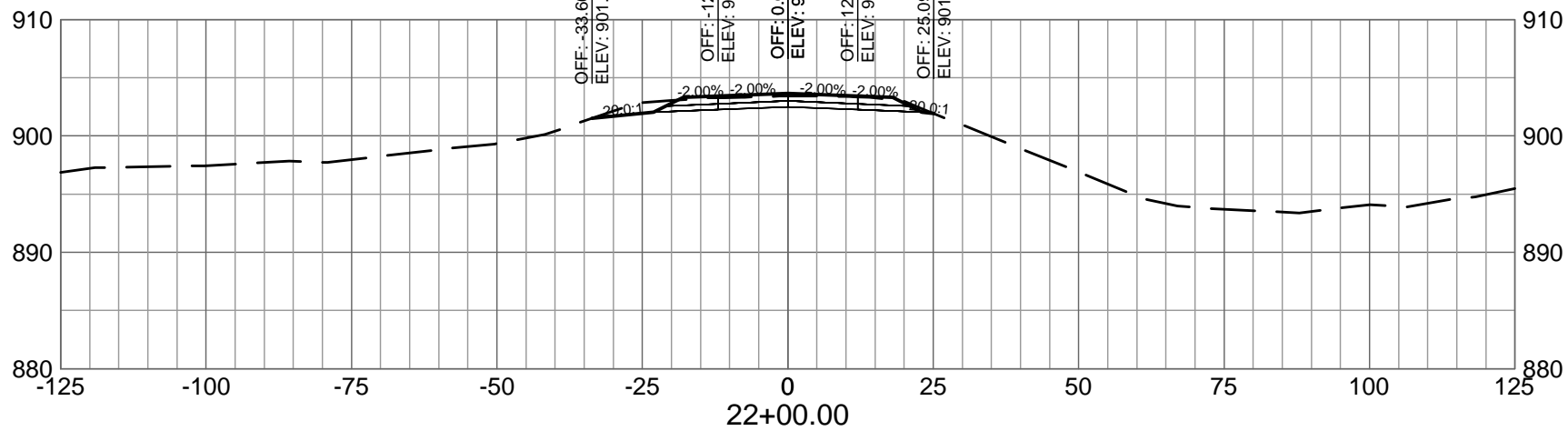
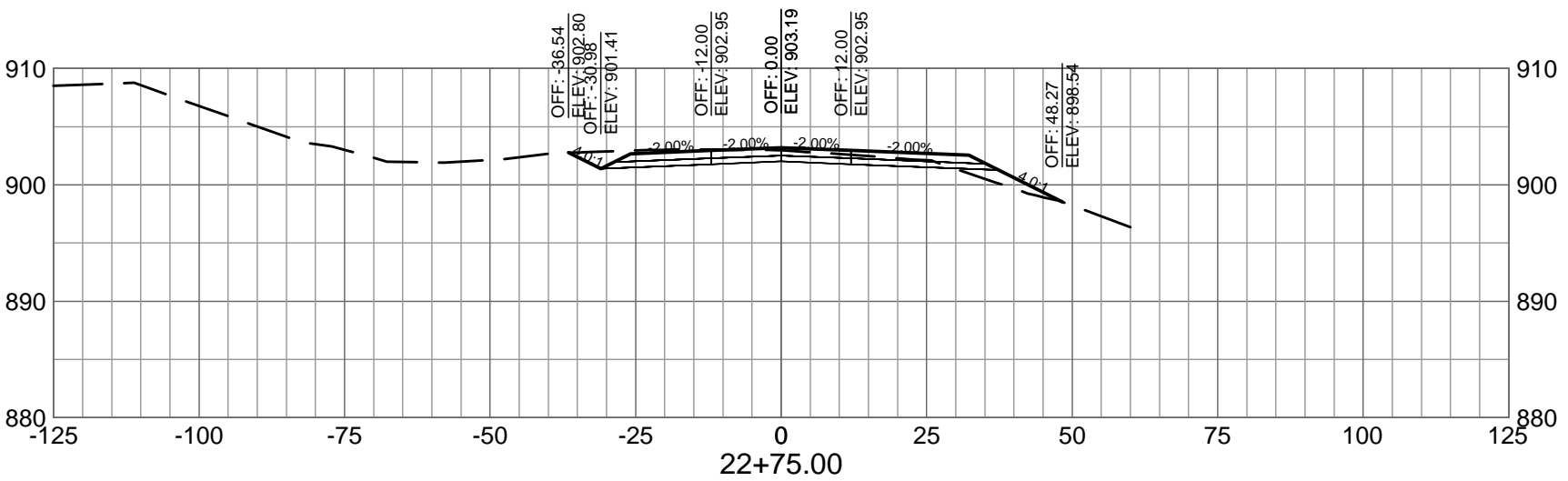
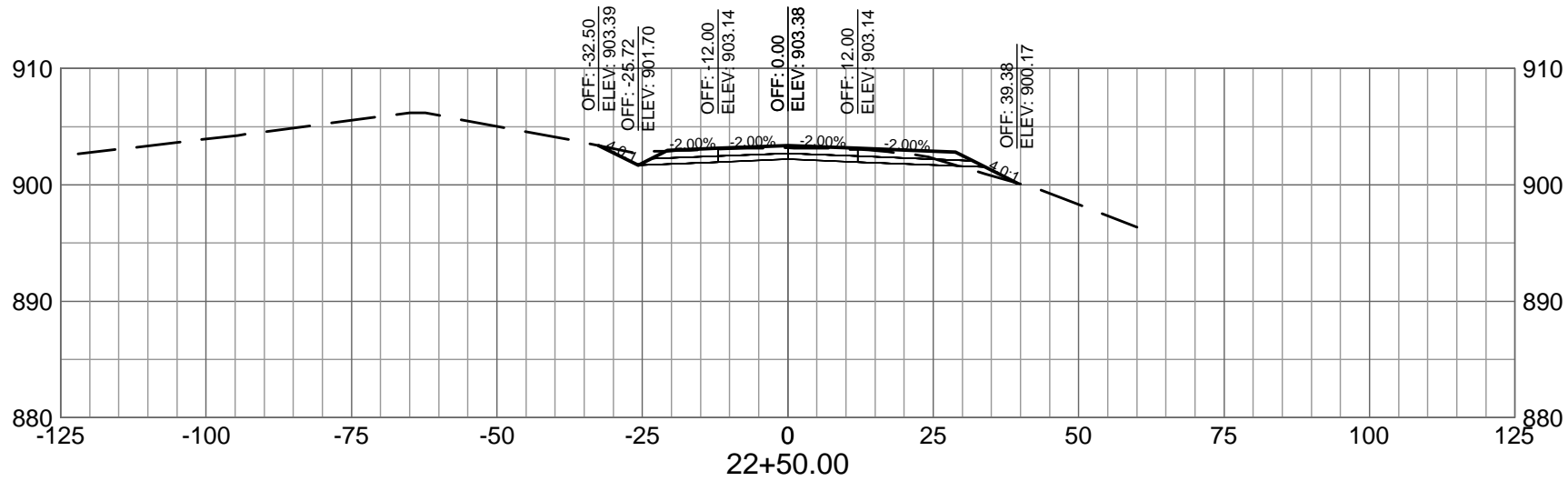
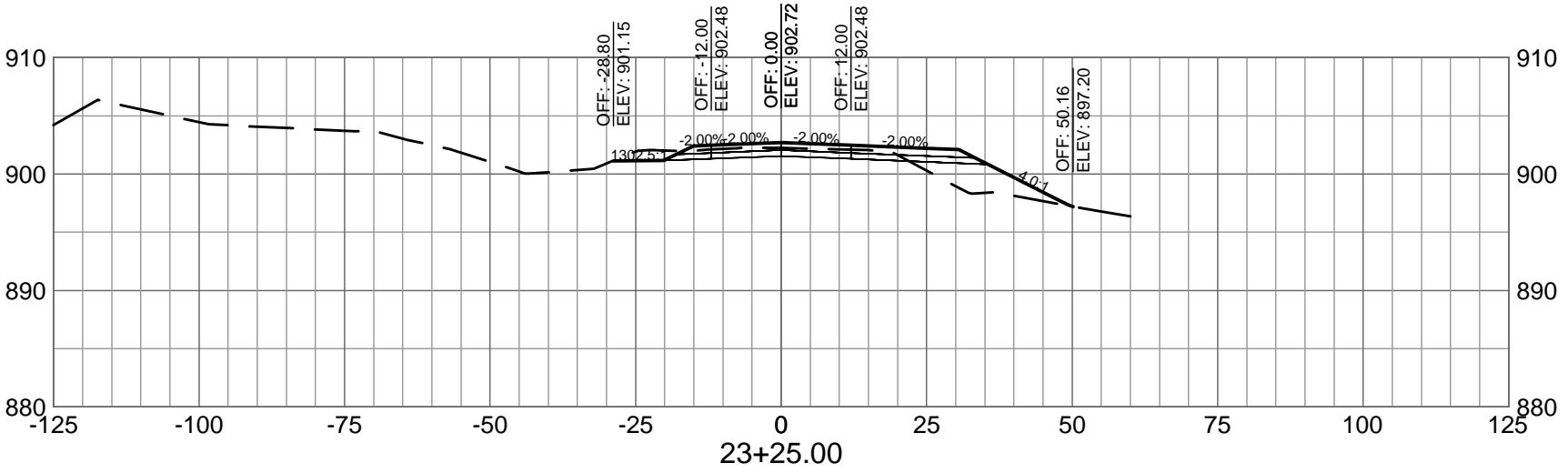
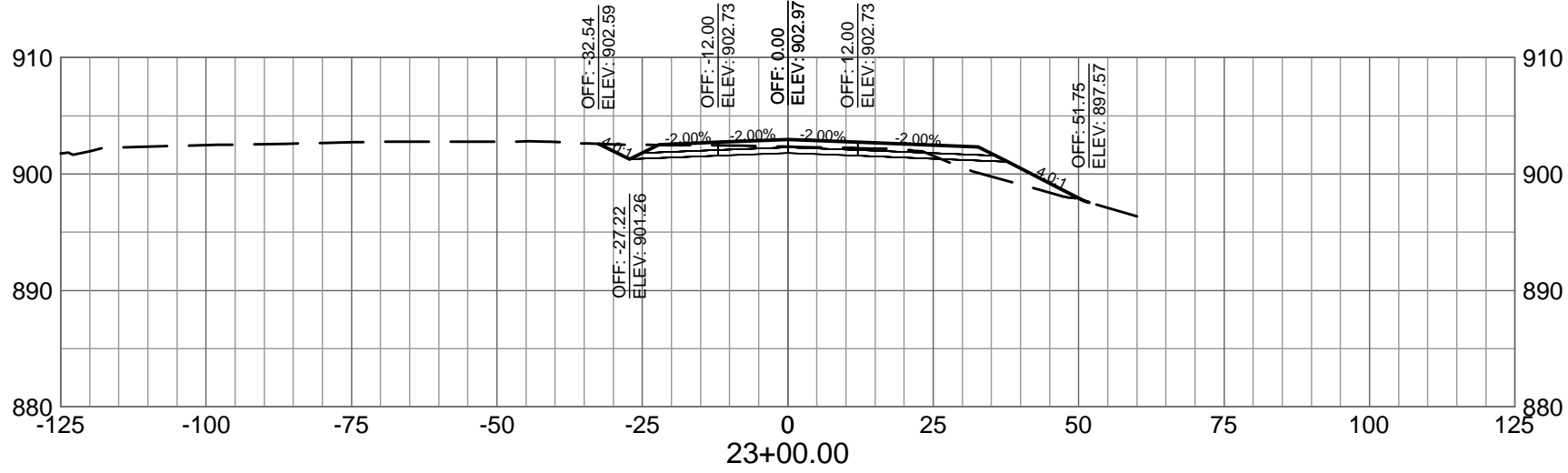
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M&H NO.: 3141900-113782.01  
DATE: FEBRUARY 17, 2021  
DESIGNED BY: JAK  
DRAWN BY: DAY  
CHECKED BY: SAH  
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SHEET CONTENTS  
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ALIGNMENT H

SHEET NO.

C-943

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# MICHIGAN AIR NATIONAL GUARD CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

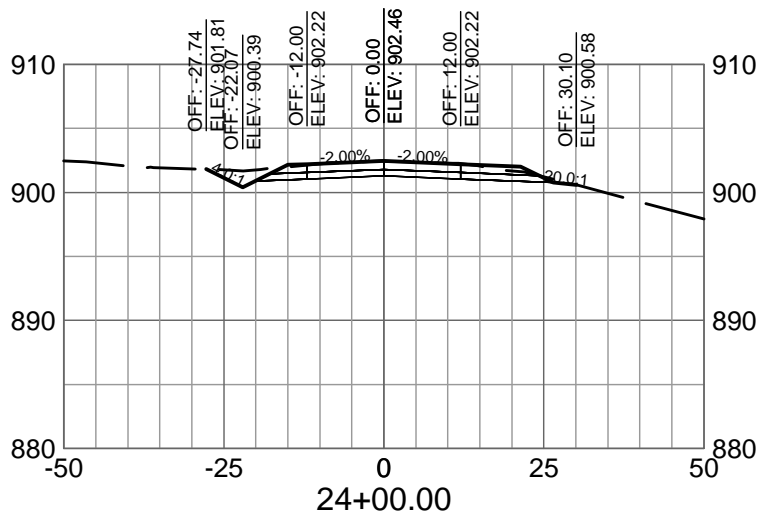
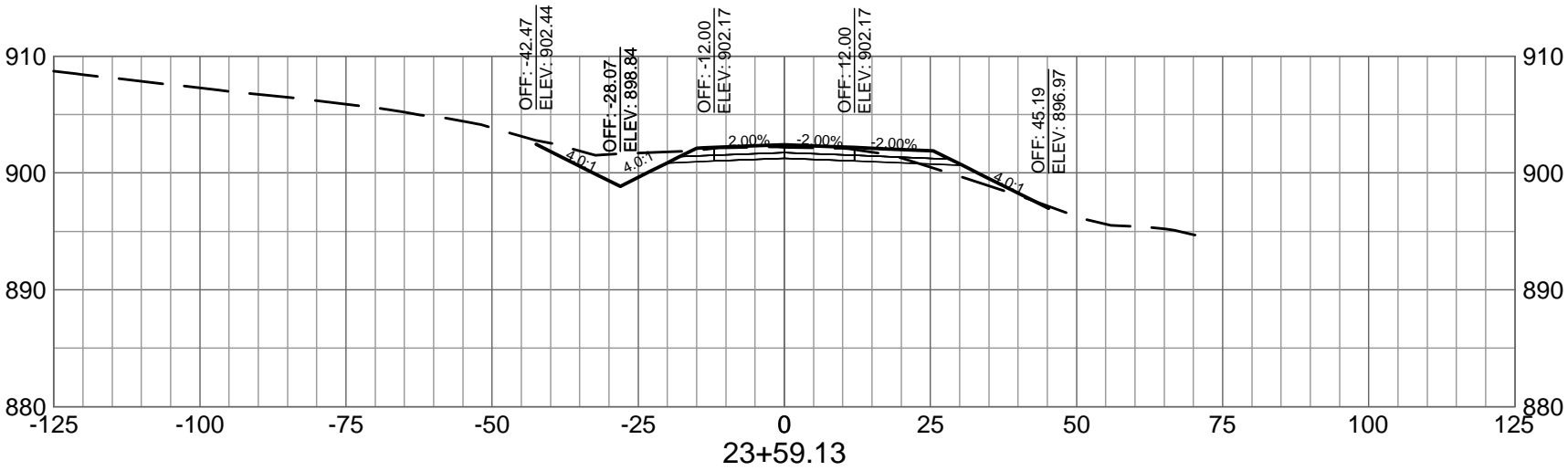
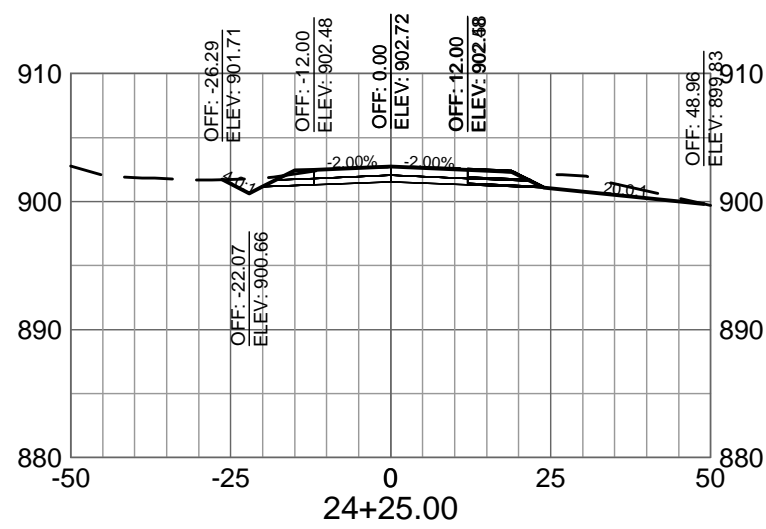
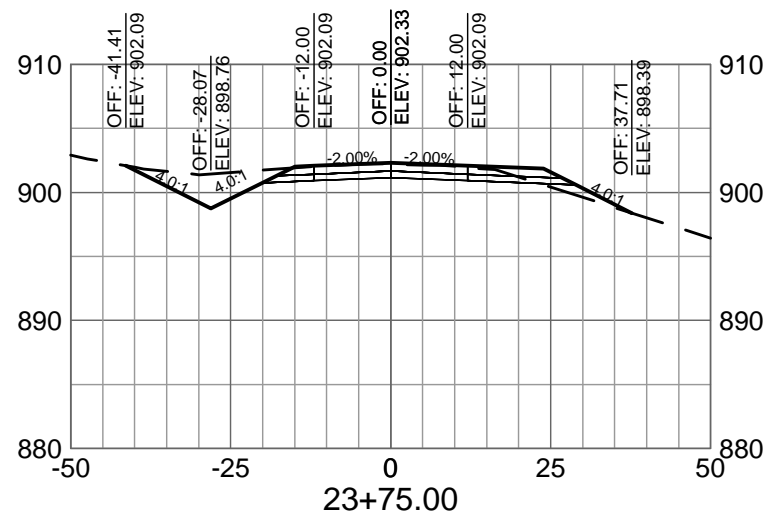
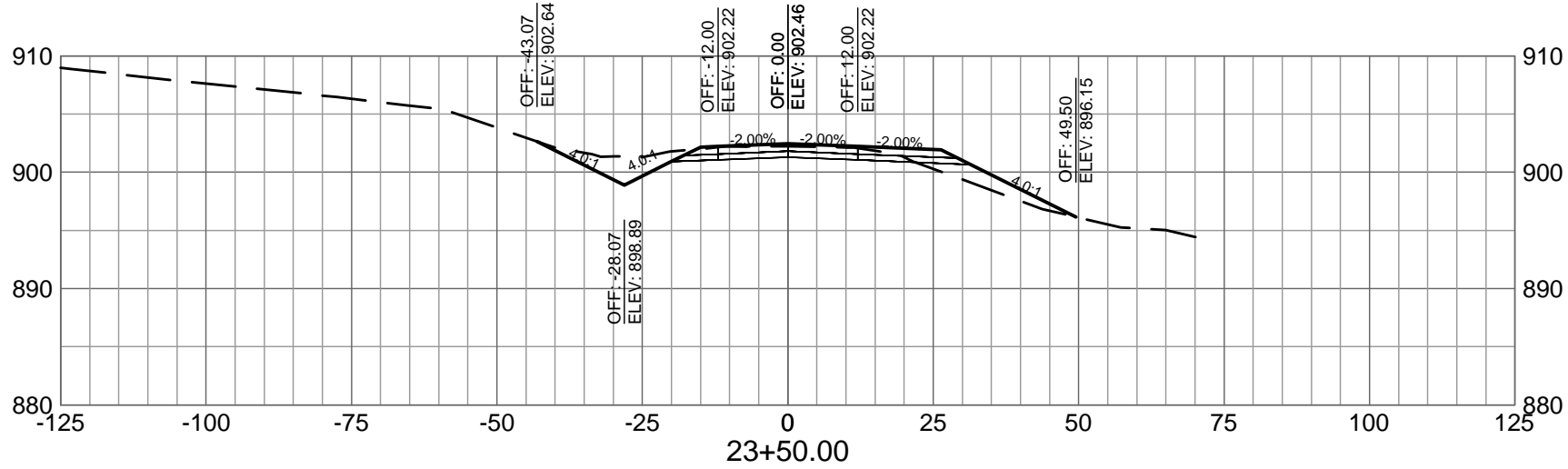
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## MICHIGAN AIR NATIONAL GUARD CONSTRUCT MAIN BASE ENTRANCE

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SHEET CONTENTS  
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ALIGNMENT H

SHEET NO.

C-945



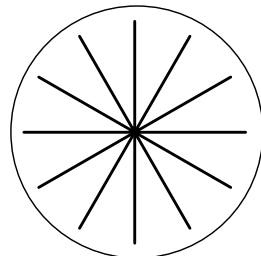
NOTE:  
IMPROVEMENTS TO THE INTERSECTION OF SKYLINE DRIVE AND HILL BRADY ROAD ARE CURRENTLY BEING PLANNED BY THE CITY OF BATTLE CREEK. THE CONCEPT SHOWN IS FAVORED BY THE CITY AND DESIGN OF THE PUBLIC IMPROVEMENTS WILL POSSIBLY BEGIN DURING PHASE B2 OF THE ENTRY CONTROL FACILITY DESIGN. THE DESIGN OF THE ENTRY CONTROL FACILITY CONNECTION TO THE PUBLIC ROAD WILL BE MODIFIED TO COORDINATE WITH THE IMPROVEMENTS PLANNED BY THE CITY.

SKYLINE DR.

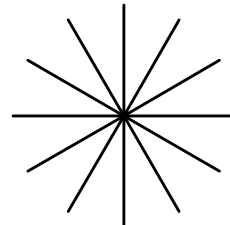
HILL BRADY RD.

PLACE LANDSCAPE-FABRIC  
W/ 3-INCH WOOD CHIP MULCH  
(RED) (320533)

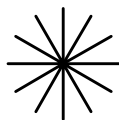
- NOTE:
- 1) PLANTINGS LISTED MAY BE CHANGED WITH APPROVAL BY THE COR.
  - 2) WOOD MULCH SHALL NOT ADVERSELY AFFECT PLANTS.
  - 3) PLACE LANDSCAPE-FABRIC W/ 3-INCH WOOD CHIP MULCH (RED) (320533) AROUND PLANTINGS



THUJA NORTH POLE  
ARBORVITAE (3')  
(TALLER EVERGREEN)



GREEN VELVET BOXWOOD  
BUXUS (MEDIUM HEIGHT  
EVERGREEN)



BERBERIS - SUNJOY GOLD  
BERET BARBERRY  
(LOW GROWING EVERGREEN)

PLACE LANDSCAPE-FABRIC  
W/ 3-INCH WOOD CHIP MULCH  
(RED) (320533)

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CONSTRUCT MAIN BASE ENTRANCE

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SHEET CONTENTS  
LANDSCAPING PLAN

SHEET NO.

L-101

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## STRUCTURAL DESIGN CRITERIA

1. GOVERNING CODE: UFC 1-200-01 - 1 NOVEMBER 2018
2. RISK CATEGORY: II
3. FLOOR LIVE LOAD (1603.1.1) N/A
4. ROOF LIVE LOAD (1603.1.2)
- ROOF LIVE LOAD: 30 PSF NONREDUCIBLE
5. ROOF SNOW LOAD (1603.1.3)
- GROUND SNOW LOAD:  $P_g = 30$  PSF  
FLAT-ROOF SNOW LOAD:  $P_f = 25$  PSF  
SNOW EXPOSURE FACTOR:  $C_e = 1$   
SNOW LOAD IMPORTANCE FACTOR:  $I_s = 1$   
THERMAL FACTOR:  $C_T = 1.2$
6. WIND DESIGN DATA (1603.1.4)
- ULTIMATE WIND SPEED (3-SECOND GUST):  $V_{ult} = 115$  MPH  
WIND EXPOSURE: C  
WIND ENCLOSURE: CVIF: DESIGN PEMB FOR ENCLOSED WITH ALL SIDES ENCLOSED IN FUTURE, PARTIALLY ENCLOSED WITH ANY ONE WALL OPEN, AND OPEN. GATEHOUSE: ENCLOSED
7. EARTHQUAKE DESIGN DATA (1603.1.5)
- IMPORTANCE FACTOR:  $I_e = 1$
- MAPPED, MCE, 5% DAMPED, SPECTRAL ACCELERATIONS:  
AT SHORT PERIODS:  $S_s = .12$  G  
AT A PERIOD OF 1 SECOND:  $S_1 = .05$  G
- SITE CLASS: D
- DESIGN EARTHQUAKE SPECTRAL ACCELERATIONS  
AT SHORT PERIODS:  $S_{os} = .12$  G  
AT A PERIOD OF 1 SECOND:  $S_{o1} = .08$  G
- SEISMIC DESIGN CATEGORY: SDC = B
8. GEOTECHNICAL DESIGN DATA (1603.1.6)
- NET ALLOWABLE SOIL BEARING PRESSURE 4000 PSF
- REFERENCE GEOTECHNICAL REPORT SOMAT 2019036A
9. FLOOD DESIGN DATA (1603.1.7)
- BUILDING IS NOT LOCATED IN FLOOD HAZARD AREA; THEREFORE FLOOD DESIGN DATA IS NOT REQUIRED
10. SPECIAL LOADS (1603.1.8) N/A
11. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE (1603.1.9)
- BUILDING IS DESIGNATED SEISMIC DESIGN CATEGORY B; THEREFORE SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE ARE NOT REQUIRED.
12. STRUCTURAL OBSERVATIONS FOR SEISMIC AND/OR WIND RESISTANCE
- N/A

## GENERAL NOTES

- G-1. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION - RESOLVE ANY DISCREPANCY WITH ARCHITECT/ENGINEER.
- DO NOT SCALE DRAWINGS!!!!**
- G-2. FOR CLARITY, ALL EXTERIOR SLABS AND SIDEWALKS MAY NOT BE SHOWN. FOR EXACT DIMENSIONS, LOCATIONS, JOINTS AND SCORE LINES, SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS.
- G-3. VERIFY ALL SIZES, WEIGHTS AND LOCATIONS OF MECHANICAL AND ELECTRICAL EQUIPMENT, ROOF PENETRATIONS, DUCTS, ETC. WITH MECHANICAL AND ELECTRICAL CONTRACTORS AND FIELD CONDITIONS.
- G-4. DETAILS MARKED "TYPICAL" MAY OR MAY NOT BE CUT ON PLANS, BUT SHALL APPLY UNLESS NOTED OTHERWISE.
- G-5. STRUCTURAL SYSTEM IS DESIGNED TO WORK AS A COMPLETED SYSTEM, ANY SHORING OR BRACING NECESSARY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- G-6. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING PLANS FOR SLEEVES, INSERTS, ETC. NOT SHOWN ON STRUCTURAL PLANS.
- G-7. NO PIPES OR SLEEVES FOR MECHANICAL TRADES SHALL PASS THROUGH STEEL MEMBERS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.
- G-8. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SITE SAFETY AND ALL ACCIDENTS WHICH RESULT IN DEATH, PERSONAL INJURY, OR DAMAGE TO PROPERTY ARISING OUT OF OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK.
- G-9. NOT USED
- G-10. SECTIONS, DETAILS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.

## FOUNDATION NOTES

- F-1. FOOTING SUBGRADES SHALL BE CLEAN AND FREE OF DEBRIS, STANDING WATER, AND LOOSE SOIL.
- F-2. ALL COLUMN FOOTINGS ARE TO BE CENTERED UNDER COLUMN CENTERLINES, UNLESS INDICATED OTHERWISE.
- F-3. THE FOUNDATION CONTRACTOR SHALL FULLY REVIEW UNDER-GROUND PLUMBING DRAWINGS AND SHALL COORDINATE WITH THE UNDER-GROUND PLUMBING CONTRACTOR TO DEPRESS FOOTINGS AND PROVIDE PIPE SLEEVES THROUGH FOUNDATION WALLS AS NECESSARY TO ACCOMMODATE PLUMBING LINES OR TRAPS WHICH PENETRATE CONCRETE FOOTINGS OR FOUNDATIONS.
- F-4. PROVIDE PVC SLEEVES THROUGH FOUNDATION WALLS/FOOTINGS FOR PIPE, CONDUIT, AND CABLE PENETRATIONS, INCLUDING ELECTRICAL GROUNDING SYSTEM CABLES. SEE APPROPRIATE DRAWINGS FOR LOCATIONS/SIZES. PLACE SLEEVES IN LOCATIONS TO AVOID DISPLACING REINFORCING STEEL.
- F-5. REFER TO ELECTRICAL DRAWING SITE LIGHTING FOR POLE BASES. SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR.
- F-6. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS FOR MISCELLANEOUS FOUNDATIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
- F-7. NOT USED
- F-8. NOT USED
- F-9. COORDINATE GROUNDING REQUIREMENTS FOR FOUNDATION/FOOTING REINFORCING STEEL WITH ELECTRICAL DRAWINGS. COORDINATE INSTALLATION OF GROUNDING WIRES/EQUIPMENT WITH ELECTRICAL CONTRACTOR PRIOR TO CASTING CONCRETE. REFER TO NOTE CR-1 FOR ADDITIONAL INFORMATION.
- F-10. SEE TYPICAL SLAB-ON-GRADE DETAILS FOR SLAB AND SUB-BASE REQUIREMENTS. THESE WILL BE TYPICAL THROUGHOUT UNLESS NOTED OTHERWISE.

## MASONRY NOTES

- MATERIAL PROPERTIES (U.N.O.)  
COMPRESSIVE STRENGTH -  $F'_m = 1500$  PSI  
MASONRY REINFORCEMENT -  $F_y = 60$  KSI (A615 GR 60)  
MORTAR - TYPE S (ASTM C270)  
GROUT @ 28-DAYS - 2500 PSI (ASTM C476)
- M-1. PROVIDE HOT AND COLD WEATHER PROCEDURES AND TEMPORARY MOISTURE PROTECTION IN ACCORDANCE WITH ACI RECOMMENDATIONS AND PROJECT SPECIFICATIONS.
- M-2. MASONRY SHALL BE PLACED IN ONE-HALF RUNNING BOND U.N.O.
- M-3. HOLLOW MASONRY UNITS SHALL BE LAID WITH FULL HEAD JOINTS AND FULL BED JOINTS OF THE FACE SHELLS AND UNDER WEBS WHERE THE ADJACENT CELLS ARE TO BE FILLED WITH GROUT AND AT THE BOTTOM COURSE.
- M-4. WHERE MASONRY IS APPLIED ADJACENT TO STEEL MEMBERS (BEAMS AND COLUMNS) PROVIDE ANCHORING DEVICES PER SPECIFICATIONS.
- M-5. REFER TO ARCHITECTURAL PLANS AND DOOR/FRAME SCHEDULES FOR INTEL ROUGH OPENING LOCATIONS, SIZES, AND ELEVATIONS.
- M-6. ALL MASONRY WALLS ARE TO HAVE 9 GAUGE HORIZONTAL JOINT REINFORCEMENT WHICH DOES NOT EXCEED 16 INCHES ON CENTER VERTICALLY.
- M-7. ALL LAPS SHALL BE 48 BAR DIAMETERS UNLESS INDICATED OTHERWISE.
- M-8. NOT USED
- M-9. PROVIDE CORNER SPLICE BARS FOR ALL BOND BEAMS OCCURRING AT CORNERS OR WALL INTERSECTIONS. SPLICE BAR TO BE THE SAME SIZE AS BARS IN THE BOND BEAM.

## DELEGATED DESIGN SUBMITTALS

DOCUMENTS FOR DELEGATED DESIGN SUBMITTAL ITEMS SHALL BE REVIEWED BY THE ENGINEER OF RECORD IN RESPONSIBLE CHARGE WHO SHALL FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THEY HAVE BEEN REVIEWED AND ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING.

- DS-1. COLD FORMED STEEL ROOF FRAMING
- DS-2. SCHEDULE OF INSPECTIONS AND TESTING.
- DS-3. COLD FORMED STEEL WALL FRAMING

## CONCRETE & REINFORCING STEEL NOTES

- MATERIAL PROPERTIES (U.N.O.)  
COMPRESSIVE STRENGTH -  $F'_c = 4$  KSI  
CONCRETE REINFORCEMENT -  $F_y = 60$  KSI (A615 GR 60)
- CR-1. PROVIDE HOT/COLD WEATHER PROCEDURES AND PROTECTION IN ACCORDANCE WITH ACI RECOMMENDATIONS AND PROJECT SPECIFICATIONS.
- CR-2. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM WITH THE LOCAL BUILDING CODE REQUIREMENTS AND THOSE OF THE FOLLOWING STANDARDS (LATEST EDITION):
- "ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONC."  
"ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"  
"ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BLDGS."  
"ACI 307, RECOMMENDED PRACTICE FOR CONCRETE FORM WORK"
- CR-3. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 315.
- CR-4. ALL REINFORCEMENT BARS SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST CRSI MANUAL OF STANDARD PRACTICE AND SHALL BE CLEAN AND FREE OF GREASE AND SCALING RUST.
- CR-5. SEE SECTION 033000 OF SPECIFICATIONS FOR INFORMATION REGARDING CONCRETE MIX DESIGN, TESTING, MATERIALS, AND ADMIXTURES.
- CR-6. CONCRETE REINFORCEMENT PROTECTION/CLEAR COVER, U.N.O.:
- FOOTINGS:  
BOTTOM 3"  
TOP 2"
- WALLS:  
EXTERIOR EXPOSURE 2"
- CR-7. ALL BAR LAPS SHALL CONFORM TO ACI 318 CLASS "B" SPLICE CRITERIA. USE TOP BAR LAP LENGTHS FOR TOP BARS IN SLABS AND BEAMS OVER 14" DEEP. MINIMUM BAR LAPS AS FOLLOWS U.N.O.:
- #3 = 1'-4" #4 = 1'-4" #5 = 1'-10" #6 = 2'-7" #7 = 4'-2"  
#8 = 5'-2" #9 = 6'-4" #10 = 7'-8" #11 = 9'-0"
- FOR EPOXY COATED BARS, PROVIDE 1.5 TIMES THE INDICATED LAP LENGTH. FOR TOP BARS PROVIDE 1.3 TIMES THE INDICATED LAP LENGTH.
- CR-8. LAP LENGTH SHALL BE SPECIFICALLY NOTED ON SHOP DRAWINGS WHERE MORE THAN ONE BAR MAKES UP A CONTINUOUS STRING.
- CR-9. HORIZONTAL BARS SHALL BE DETAILED TO SHOW THE DISTANCE FROM AT LEAST ONE END OF THE BAR TO THE NEAREST BUILDING GRID LINE OR WALL.
- CR-10. CONTINUOUS TOP AND BOTTOM BARS, WHEN SHOWN IN TRANSVERSE SECTION ONLY, SHALL BE LAPPED AS FOLLOWS:
- TOP BARS NEAR MID-SPANS; BOTTOM BARS DIRECTLY OVER SUPPORTS, U.N.O.
- CR-11. PROVIDE ONE (1) HOOKED REINFORCING BAR IN CONCRETE FOOTING TO SERVE AS A "CONCRETE ENCASED ELECTRODE" IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT LOCATION. HOOKED REINFORCING BAR SHALL CONFORM TO THE FOLLOWING:
- A. UNCOATED, LOW-ALLOY STEEL, CONFORMING TO ASTM A706.  
B. BAR SIZE NUMBER 4 HOOKED AT ONE END ONLY.  
C. MINIMUM HORIZONTAL LENGTH OF REINFORCING BAR ENCASED IN CONCRETE FOOTING SHALL BE 20'-0" AS DEFINED IN NEC, ARTICLE 250.  
D. MINIMUM VERTICAL PROJECTION OF REINFORCING BAR ABOVE CONCRETE SLAB SHALL BE 0'-6".  
E. MINIMUM COVER ALL AROUND REINFORCING BAR SHALL BE 2".
- CR-12. ALL CONCRETE FOUNDATION WALLS SHALL HAVE A MINIMUM OF (2) #5 BARS CONTINUOUS TOP AND BOTTOM, UNLESS INDICATED OTHERWISE.
- CR-13. ALL OPENINGS IN CONCRETE FOUNDATION WALLS ARE TO HAVE (4) #5 DIAGONAL BARS EACH FACE OF THE WALL AND SHALL EXTEND 2 FEET BEYOND OPENING ON EACH SIDE, UNLESS INDICATED OTHERWISE.
- CR-14. PROVIDE FOOTING DOWELS TO MATCH VERTICAL WALL REINFORCING. WHERE WALL REINFORCING IS NOT INDICATED, DOWEL FOOTING TO FOUNDATION WALLS WITH #5 REBAR AT 16" O.C. BY 3'-0" LONG, WITH STANDARD HOOKS EMBEDDED A MINIMUM OF 9" INTO FOOTING.
- CR-15. ALL PIER FOOTINGS TO HAVE DOWELS WITH STANDARD HOOKS OF SAME SIZE AND QUANTITY AS PIER STEEL. DOWELS TO LAP PIER STEEL AS REQUIRED FOR A CLASS "B" TENSION SPLICE. HOOK UNDER FOOTING REINFORCEMENT, UNLESS INDICATED OTHERWISE.
- CR-16. HOOK HORIZONTAL WALL AND BEAM REINFORCING BARS AT DISCONTINUOUS ENDS, TYPICAL UNLESS INDICATED OTHERWISE. EXTEND REINFORCEMENT TO FAR FACE OF PIERS/PEDESTALS AND/OR COLUMNS UNLESS INDICATED OTHERWISE.
- CR-17. WATER STOPS SHALL BE PROVIDED IN HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS WHERE FINISHED FLOOR IS BELOW EXTERIOR GRADE UNLESS OMISSION IS APPROVED BY THE ENGINEER.
- CR-18. PROVIDE ADDITIONAL #4 BARS AT 4'-0" LONG 1" BELOW TOP OF SLAB AT 45° TO ALL RE-ENTRANT CORNERS, OPENINGS IN CONCRETE SLABS AND AS INDICATED ON DRAWINGS.
- CR-19. REFER TO FLATWORK DRAWINGS AND/OR SPECIFICATIONS FOR SLAB-ON-GRADE FINISH TYPES AND DEPRESSIONS REQUIRED FOR MATS, TILE, AND OTHER FINISH MATERIALS.
- CR-20. NOT USED
- CR-21. PITCH CONCRETE TO FLOOR DRAINS. COORDINATE WITH PLUMBING AND ARCHITECTURAL DRAWINGS.
- CR-22. NOT USED
- CR-23. NOT USED
- CR-24. ALUMINUM CONDUIT IS NOT PERMITTED TO BE EMBEDDED IN CONCRETE.

## EARTHWORK NOTES

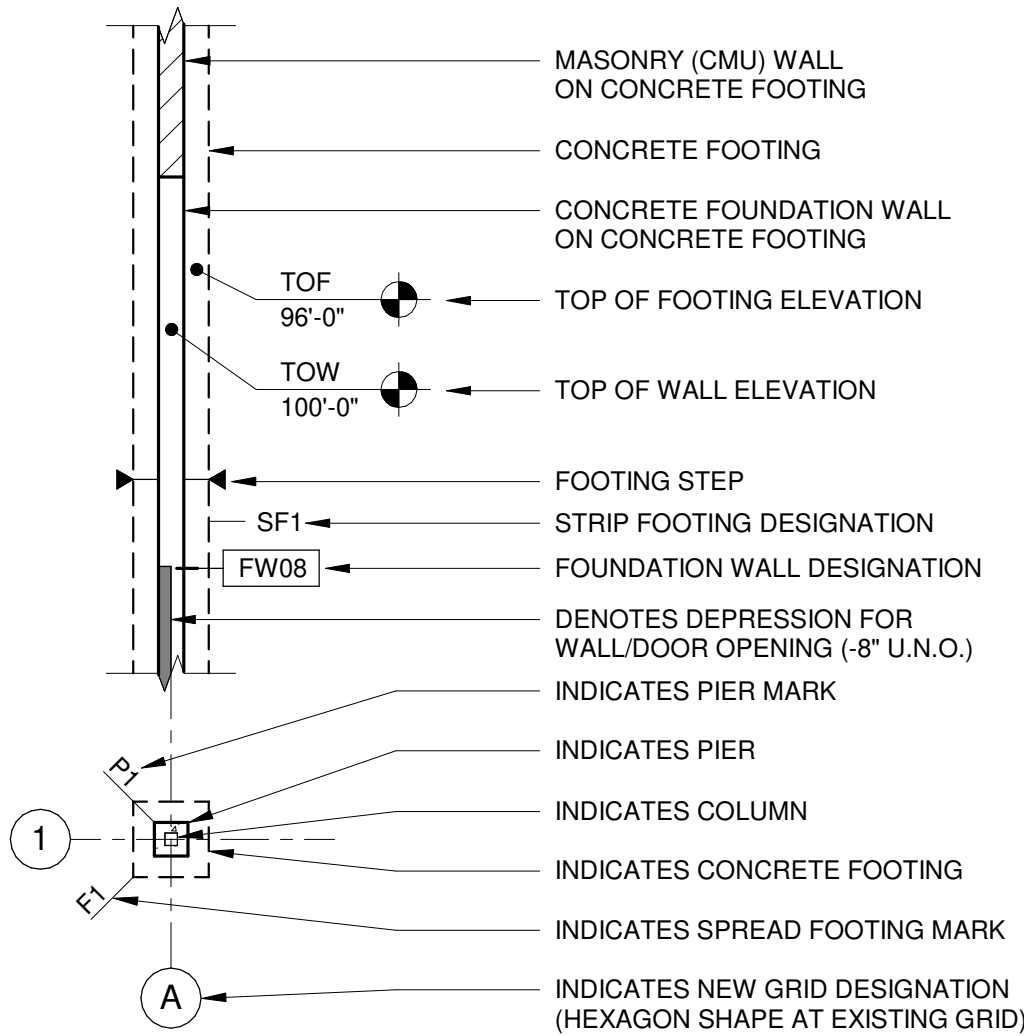
- EW-1. NOT USED
- EW-2. NOT USED
- EW-3. UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL RETAIN AN INDEPENDENT, QUALIFIED GEOTECHNICAL ENGINEERING FIRM/TESTING AGENCY TO IDENTIFY AREAS OF POOR SOILS, TO MONITOR PROPER SUBGRADE PREPARATIONS AND TO OVERSEE AND TEST THE PLACEMENT OF COMPACTED FILL MATERIAL.
- EW-4. ALL SUBTERRANEAN STRUCTURES, UTILITIES, PIPING, ETC. IN THE AREA OF EXCAVATIONS SHALL BE LOCATED AND MARKED BY CONTRACTOR PRIOR TO EARTH REMOVAL WORK. CONTRACTOR SHALL MAINTAIN MARKERS UNTIL EXCAVATION ACTIVITIES HAVE CEASED. IF UNDERGROUND UTILITY CONFLICTS ARE DISCOVERED BEFORE OR ENCOUNTERED DURING EXCAVATION, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY.
- EW-5. BEFORE PLACING FOOTINGS, FOUNDATIONS OR SLAB-ON-GRADE, THE SUB-GRADE SHALL BE PREPARED AND INSPECTED AS REQUIRED BY THE SPECIFICATIONS.
- EW-6. DO NOT BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST AND/OR ICE.
- EW-7. PLACE BACKFILL AND FILL SOIL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.

## ABBREVIATIONS

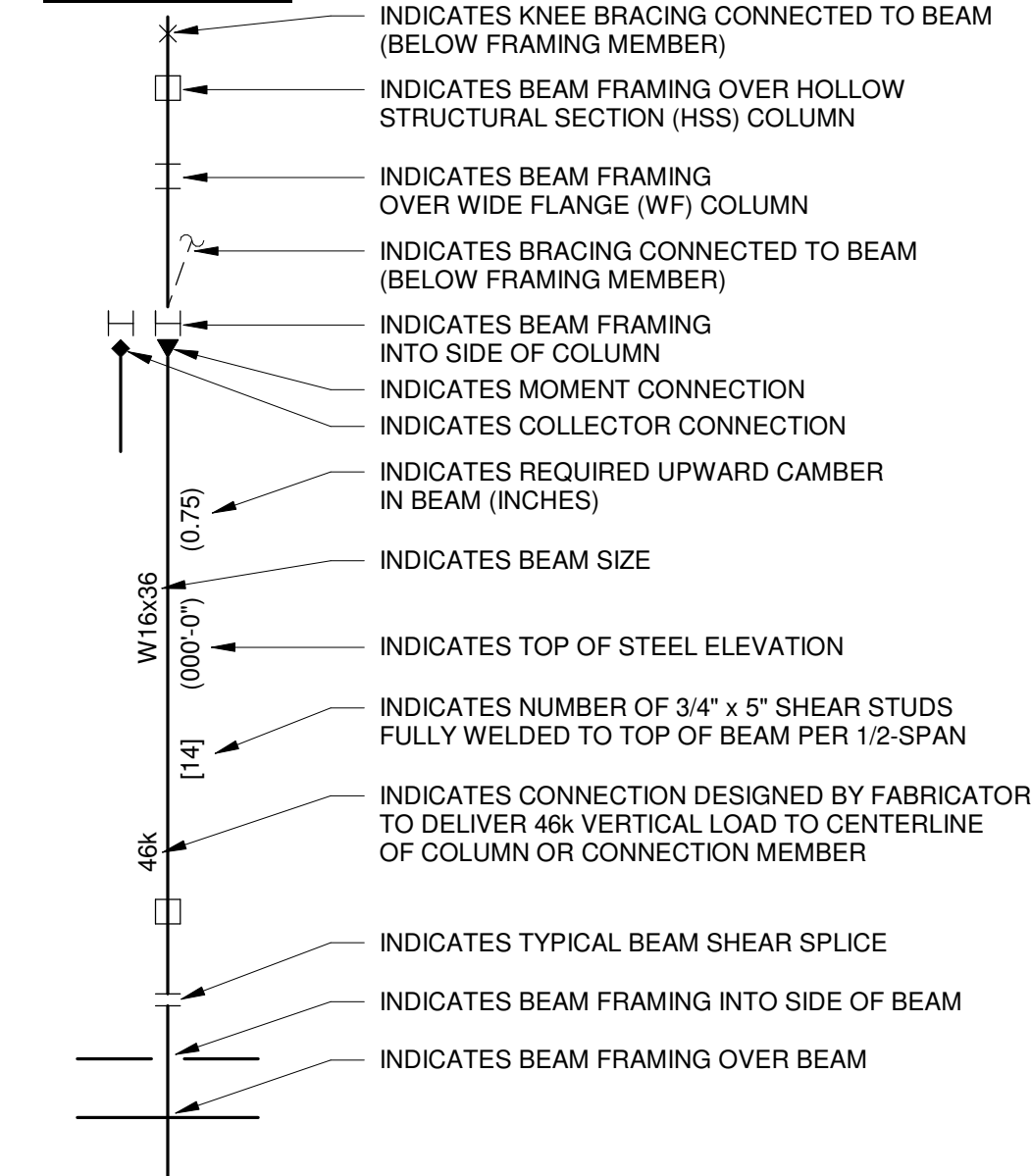
- B.O. = BOTTOM OF \_\_\_\_\_  
BP# = BASE PLATE TYPE  
BRG = BEARING  
C TO C = CENTER TO CENTER  
CCJ = CONSTRUCTION CONTROL JOINT  
CJ = CONTROL JOINT  
CLSM = CONTROLLED LOW STRENGTH MATERIAL ("FLOWABLE FILL")  
CONT = CONTINUOUS  
DBLT = DOUBLE-TEE  
DIA = DIAMETER  
DTB = DOUBLE-TEE BEARING  
EF = EACH FACE  
EL = ELEVATION  
EW = EACH WAY  
F# = SPREAD FOOTING TYPE  
FDTN = FOUNDATION  
FV = FIELD VERIFY  
GALV = GALVANIZED  
HPC = HIGH PERFORMANCE COATING  
JB = JOIST BEARING  
LLH = LONG LEG HORIZONTAL  
LLV = LONG LEG VERTICAL  
NIC = NOT IN CONTRACT  
NTS = NOT TO SCALE  
OC = ON CENTER  
P# = PIER TYPE  
PCB = PRECAST BEARING (ELEVATION)  
PRCST = PRECAST  
Rxn = REACTION  
SF# = STRIP FOOTING TYPE  
SIM = SIMILAR  
SST = STAINLESS STEEL  
STL = STEEL  
T.O. = TOP OF \_\_\_\_\_  
TBD = TO BE DETERMINED  
TOC = TOP OF COLUMN  
TOF = TOP OF FOOTING  
TOL = TOP OF LEDGE  
TOP = TOP OF PIER  
TOS = TOP OF STEEL  
TOW = TOP OF WALL  
TPC = TOP OF PRECAST  
TSL = TOP OF SLAB  
TYP = TYPICAL  
UNO = UNLESS NOTED OTHERWISE  
WWF = WELDED WIRE FABRIC/REINFORCEMENT

## STRUCTURAL SYMBOLOGY

### FOUNDATION PLAN



### FRAMING PLAN



## GENERAL SYMBOLS

- #.### KEYED NOTE
- SW# STRUCTURAL WALL TYPE
- ELEVATION
- DECK SPAN
- SLAB X STRUCTURAL SLAB TYPE
- S-201 # STRUCTURAL ELEVATION
- # S-501 DETAIL OR SECTION
- L# LINTEL DESIGNATION

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
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DRAWN BY: MAB  
CHECKED BY: DRM  
**DO NOT SCALE DRAWINGS**

SHEET CONTENTS  
STRUCTURAL NOTES

SHEET NO.:

S-001

STRUCTURAL STEEL NOTES

- MATERIAL PROPERTIES (U.N.O.)  
W-SHAPES - Fy = 50 KSI (A992 OR A572 Gr 50)  
C-SHAPES & ANGLES - Fy = 36 KSI (A36)  
PLATES & BARS - Fy = 36 KSI (A36)  
RECTANGULAR HSS - Fy = 46 KSI (A500 Gr B)  
ROUND HSS - Fy = 42 KSI (A500 Gr B)  
PIPE - Fy = 35 KSI (A53 Gr B)  
RODS - Fy = 36 KSI (A36)
- S-1. STEEL BEAMS WITH RESIDUAL CAMBER RESULTING FROM MILL FABRICATION OR ROLLING SHALL BE SHOP FABRICATED AND ERECTED SUCH THAT THIS RESIDUAL CAMBER COUNTERACTS GRAVITY LOAD DEFLECTION.
- S-2. ALL BOLTED CONNECTIONS SHALL UTILIZE 3/4 INCH DIAMETER A325 BOLTS TIGHTENED TO THE SNUG-TIGHT CONDITION UNO. THE SNUG-TIGHT CONDITION IS DEFINED BY THE RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", UNLESS INDICATED OTHERWISE.
- S-3. NOT USED
- S-4. NOT USED
- S-5. NOT USED
- S-6. NOT USED
- S-7. NOT USED
- S-8. NOT USED
- S-9. BEAM AND LINTEL PLATES SHALL BE FULLY GROUTED WITH A MINIMUM 1/2" NON-SHRINK GROUT.
- S-10. ALL WELDING OF NEW STEEL IS TO BE WITH E70XX ELECTRODES, U.N.O. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST AWS SPECIFICATIONS BY CERTIFIED WELDERS.
- S-11. WHEN FIELD WELDING TO EXISTING STEEL, ADJUST WELDING PROCEDURES AS REQUIRED TO BE COMPATIBLE WITH THE NEW AND EXISTING STEEL.
- S-12. THE CONTRACTOR SHALL FURNISH AND INSTALL MISCELLANEOUS STEEL (CURBS, HANGERS, BRACING, ETC.) AS INDICATED AND AS NECESSARY PER ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
- S-13. ALL EXTERIOR STEEL SHALL BE HOT DIPPED GALVANIZED ACCORDING TO ASTM A123.

METAL DECK

- MATERIAL PROPERTIES (U.N.O.)  
ROOF DECK: GALVANIZED, Fy = 33 KSI
- MD-1. SEE PLAN FOR DEPTH AND GAUGE.
- MD-2. METAL DECKING SHALL BE CONTINUOUS OVER 3 SPANS AND HAVE JOINTS OVER SUPPORTING MEMBERS, UNLESS INDICATED OTHERWISE.
- MD-3. BUTTON PUNCHING ROOF DECK IS NOT PERMITTED. REFERENCE DRAWINGS FOR ROOF DECK ATTACHMENT REQUIREMENTS. STRUCTURAL DIAPHRAGM ACTION IS PROVIDED BY THE ROOF DECK AND ITS ATTACHMENT.
- MD-4. ALL MISCELLANEOUS OPENINGS IN METAL ROOF DECK ARE TO BE FRAMED BY L5x3x3/8 ANGLES. LONG LEG OF ANGLES SHALL BE VERTICAL. ANGLES SHALL BE WELDED TO THE TOP CHORD/FLANGE OF ROOF FRAMING AND EACH OTHER, UNLESS INDICATED OTHERWISE.

COLD FORMED STEEL FRAMING NOTES

- CF-1. COLD FORMED STEEL WORK SHALL CONFORM TO THE BUILDING CODED REFERENCED EDITION OF AISI'S "NORTH AMERICAN SPECIFICATION OF FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"
- CF-2. COLD FORMED STEEL SHALL BE GALVANIZED G-60 U.N.O.
- CF-3. STUD, TRACK, AND OTHER APPLICABLE ROLLED SHAPES SHALL CONFORM TO THE NOMENCLATURE AND DIMENSIONS SET FORTH BY THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA). REFER TO SSMA'S "PRODUCT TECHNICAL INFORMATION" CATALOG AND ICC ER 4943P FOR MINIMUM SECTION PROPERTIES AND DIMENSIONS.
- CF-4. SCREWS FOR ATTACHING COLD FORMED STEEL TO COLD FORMED STEEL SHALL BE CORROSION RESISTANT, SELF DRILLING, SELF TAPPING, #10 OR #10 AS INDICATED, PAN OR HEX HEAD, WITH LENGTH, POINT STYLE AND INSTALLATION METHOD IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE 3/4" MINIMUM SPACING BETWEEN SCREWS AND 3/4" MINIMUM EDGE DISTANCE U.N.O.
- CF-5. ALL CONNECTIONS SHALL HAVE AT LEAST (2) #10 SCREWS U.N.O.
- CF-6. FASTENERS FROM COLD FORMED STEEL TO STRUCTURAL STEEL OR CONCRETE SHALL BE 0.157" DIAMETER POWDER DRIVEN FASTENERS "SHOT PINS" UNLESS OTHERWISE NOTED. USE HILTI "X-U" FASTENERS WITH 1" EMBEDMENT INTO CONCRETE WITH WASHERS PER MANUFACTURER, U.N.O. SIZE LENGTH OF SHOT PINS AS REQUIRED BY MANUFACTURER'S ICC ES REPORT FOR ATTACHMENT TO STRUCTURAL STEEL. MANUFACTURER'S EDGE DISTANCE AND SPACING REQUIREMENTS SHALL BE MET AND VERIFIED BY THE CONTRACTOR IN THE FIELD.
- CF-7. WALL TRACKS AND ACCESSORIES SHALL BE THE SAME GAUGE AND WIDTH AS THE STUDS, U.N.O.
- CF-8. PROVIDE SUFFICIENT STUDS AND BLOCKING/BACKING AT ALL GRAB BARS AND WALL HUNG EQUIPMENT, MONITORS, CABINETS, TOILET ACCESSORIES, ETC.

COLD FORMED TRUSS FRAMING

- CT-1. PROVIDE BLOCKING BETWEEN TRUSSES LOCATED OVER MASONRY SHEAR WALLS, DESIGN OF STRAP BLOCKING PER TRUSS MANUFACTURER AND SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DESIGN CRITERIA LISTED ON SHEET S-001, REFER TO ROOF FRAMING DETAILS FOR CHORD/COLLECTOR REQUIRED OVER ALL EXTERIOR WALLS.
- CT-2. ALL COLD FORMED STEEL TRUSS AND FRAMING SHALL BE DESIGNED BY MANUFACTURER. SEE MANUFACTURER'S CALCULATIONS FOR INFORMATION NOT INCLUDED IN THE DRAWINGS.
- CT-3. STEEL TRUSS MANUFACTURER TO VERIFY ALL DIMENSIONS FROM FLOOR PLANS AND FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF TRUSSES.
- CT-4. TRUSS MANUFACTURER SHALL PROVIDE A COMPLETE SYSTEM, INCLUDING ALL MISCELLANEOUS ITEMS REQUIRED TO COMPLETE THE SYSTEM. THIS INCLUDES PROVIDING DOUBLE, TRIPLE, OR GREATER NUMBER OF COMBINED TRUSSES AS REQUIRED TO SUPPORT ALL REQUIRED LOADING.
- CT-5. TRUSS MANUFACTURE TO PROVIDE ALL TEMPORARY AND PERMANENT BRIDGING, BRACING, SPECIAL TRUSS CLIPS, ALL TRUSS BEARING CONNECTIONS, AND ALL TRUSS TO TRUSS/GIRDER CONNECTIONS.
- CT-6. PERMANENT BRACING TO BE DESIGNED BY TRUSS MANUFACTURER.
- CT-7. ALL TRUSS TOP CHORDS SHALL BE 20 GAGE MINIMUM.
- CT-8. DESIGN TOP CHORDS FOR 10PSF DEAD LOAD.

STRUCTURAL TESTING AND INSPECTION


- TI-1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT ALL STRUCTURAL WORK FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY STRUCTURAL INSPECTION PROVIDED BY OTHERS DOES NOT RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY. ANY STRUCTURAL DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE CORRECTED BY THE CONTRACTOR AND ARE DECLARED TO BE SIGNIFICANT BY THE STRUCTURAL ENGINEER SHALL BE CORRECTED BY THE CONTRACTOR WITHOUT COST OR ANY DELAY TO THE PROJECT SCHEDULE.
- TI-2. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING AGENCY TO PROVIDE FIELD AND LAB TESTING OF CONSTRUCTION MATERIALS. A MINIMUM OF 24 HOURS NOTIFICATION SHALL BE GIVEN TO THE TESTING AGENCY AND ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF WORK REQUIRING TESTING OR INSPECTION.
- TI-3. THE CONTRACTOR SHALL PROVIDE THE TESTING AND INSPECTING AGENCY ACCESS TO ALL PLACES WHERE THE WORK IS BEING PERFORMED. A MINIMUM OF 24 HOURS NOTIFICATION SHALL BE GIVEN TO THE TESTING AGENCY AND ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF WORK REQUIRING TESTING OR INSPECTION.
- TI-4. THE TESTING AGENCY IS NOT AUTHORIZED TO DIRECT OR APPROVE ANY CHANGES FROM THE CONTRACT DOCUMENTS. IF THE CONTRACTOR WISHES TO QUESTION THE TESTING AGENCY'S INTERPRETATION OF THE CONTRACT DOCUMENTS, HE MAY DO SO DIRECTLY WITH THE ARCHITECT OR STRUCTURAL ENGINEER.
- TI-5. THE TESTING AGENCY IS NOT AUTHORIZED TO STOP OR DELAY THE WORK. IF THE CONTRACTOR ELECTS TO CONTINUE WITH A CERTAIN PORTION OF WORK AFTER BEING NOTIFIED BY THE TESTING AGENCY THAT SUCH WORK IS NOT IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR DOES SO AT THEIR OWN RISK AND MAY BE REQUIRED TO CORRECT THE WORK AT A LATER DATE.
- TI-6. THE TESTING AND INSPECTING AGENCY IS NOT INSPECTING FOR O.S.H.A. COMPLIANCE OR REQUIRED TO INSPECT TEMPORARY CONSTRUCTION, SUCH AS TEMPORARY BRACING. TEMPORARY CONSTRUCTION IS THE CONTRACTOR'S SOLE RESPONSIBILITY.
- TI-8. TESTING AND INSPECTION IS NOT REQUIRED FOR WORK PERFORMED AT AN OFF-SITE FABRICATION SHOP, UNLESS SPECIFICALLY NOTED OR SPECIFIED OTHERWISE.
- TI-9. THE TESTING AGENCY SHALL SUBMIT A PROPOSAL OF INSPECTION INTERVALS TO THE ARCHITECT/ENGINEER. THIS PROPOSAL SHALL BE SUBMITTED BEFORE ANY OTHER STRUCTURAL SUBMITTALS.
- TI-10. ALL FAILED TESTS AND DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN IF UNCORRECTED, TO THE ENGINEER AND ARCHITECT OF RECORD.
- TI-11. INSPECTION AGENCY SHALL INSPECT FOR CONFORMANCE TO SPECIFIED REQUIREMENTS FOR PROTECTING NEW CONCRETE AND MASONRY FROM THE ADVERSE EFFECTS OF WEATHER, HEATING EQUIPMENT AND OTHER POTENTIALLY HARMFUL CONDITIONS.
- TI-12. CONSTRUCTION TESTING AND INSPECTION BY THE TESTING AND INSPECTING AGENCY IS REQUIRED AS FOLLOWS:
- A. CONCRETE TESTING PER THE SPECIFICATIONS.
- B. CONCRETE INSPECTION SHALL INCLUDE THE PLACEMENT OF REINFORCEMENT. REINFORCING BAR SIZES, SPACING, TIES, LAPS, AND COVER.
- C. MASONRY TESTING PER THE SPECIFICATIONS.
- D. MASONRY INSPECTION SHALL INCLUDE THE PLACEMENT OF REINFORCEMENT. REINFORCING BAR SIZES, SPACING, AND LAPS.
- E. FIELD WELDING INSPECTIONS SHALL INCLUDE VISUAL INSPECTION. FIELD WELDS SHALL BE CONTINUOUSLY VISUALLY INSPECTED.
- F. FIELD BOLTING INSPECTIONS SHALL INCLUDE VISUAL INSPECTION OF ALL THE CONNECTIONS RELATED TO STRUCTURAL STEEL. THE SIZE, TYPE, AND QUANTITY OF BOLTS AND THEIR INSTALLATION SHALL BE INSPECTED. WHERE SLIP-CRITICAL OR PRE-TENSIONED BOLTS ARE SPECIFIED, PRE-TENSIONING OF BOLTS SHALL BE VERIFIED BY BOLT TORQUE TESTING.
- G. SOIL TESTING PER THE SPECIFICATIONS.

SHOP DRAWINGS

- SD-1. SHOP DRAWINGS SHALL BE SUBMITTED FOR STRUCTURAL ITEMS AS REQUIRED BY THE SPECIFICATIONS. CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.
- SD-2. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMITTAL. REVIEWED SUBMITTALS SHALL BE STAMPED BY THE CONTRACTOR. ANY SHOP DRAWING OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE REJECTED. GENERAL CONTRACTOR SHALL CLOUD OR FLAG ALL ITEMS NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHALL VERIFY ALL DIMENSIONS.
- SD-3. ANY CHANGES, SUBSTITUTIONS OR DEVIATIONS FROM THE ORIGINAL CONTRACT DRAWINGS SHALL BE CLOUDED BY THE MANUFACTURER OR FABRICATOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS WHICH ARE CLOUDED OR FLAGGED BY SUBMITTING PARTIES SHALL NOT BE CONSIDERED APPROVED AFTER THE ENGINEER'S REVIEW, UNLESS SPECIFICALLY NOTED ACCORDINGLY BY THE ENGINEER.
- SD-4. THE APPROVED SHOP DRAWINGS DO NOT REPLACE THE ORIGINAL CONTRACT DRAWINGS. ITEMS OMITTED OR SHOWN INCORRECTLY ARE NOT TO BE CONSIDERED CHANGES TO THE ORIGINAL CONTRACT DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ITEMS OMITTED OR SHOWN INCORRECTLY ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.
- SD-5. SHOP DRAWING REVIEW IS INTENDED ONLY FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT AND CONSTRUCTION DOCUMENTS.
- SD-6. SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF MAJOR ERRORS ARE FOUND DURING REVIEW.
- SD-7. ALLOW A MINIMUM OF (15) WORKING DAYS FOR REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.
- SD-8. TRUSS SHOP DRAWINGS WILL NOT BE REVIEWED BEFORE REVIEW OF STRUCTURAL CALCULATIONS.

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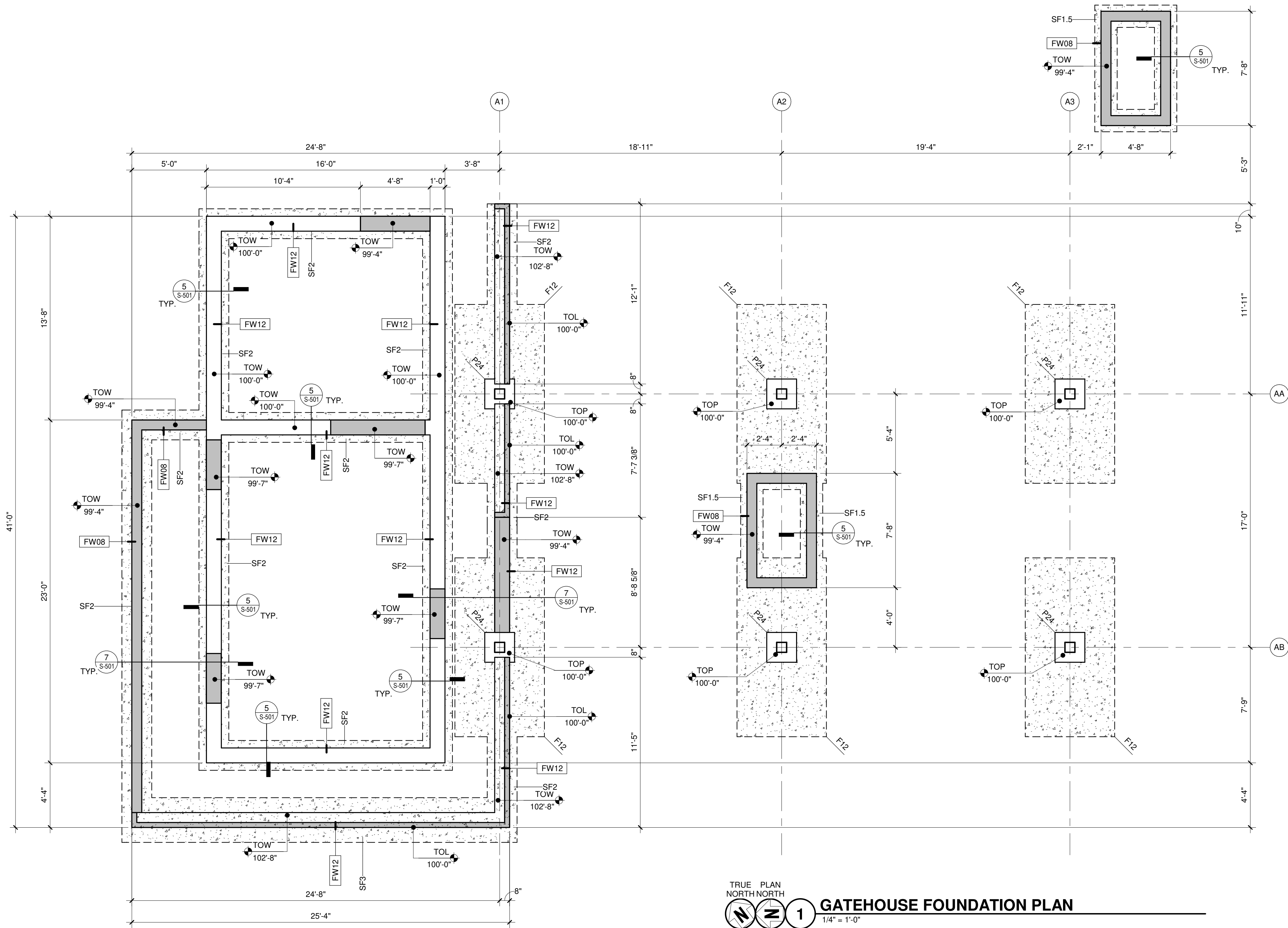
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DRAWN BY: MAB  
CHECKED BY: DRM  
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SHEET CONTENTS  
STRUCTURAL NOTES

SHEET NO.:



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### FOUNDATION PLAN GENERAL NOTES:

1. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
2. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
3. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOLOGY.
4. REFER TO SHEET S-501 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
5. REFER TO SHEET S-601 FOR STRUCTURAL SCHEDULES.
6. TOP OF FOOTING ELEVATION = 96'-0", UNO.
7. TOP OF PIER ELEVATION = 100'-0", UNO.
8. STRIP FOOTINGS SHALL BE CENTERED UNDER FOUNDATION AND/OR MASONRY WALLS UNLESS NOTED OTHERWISE.

### KEYED NOTES

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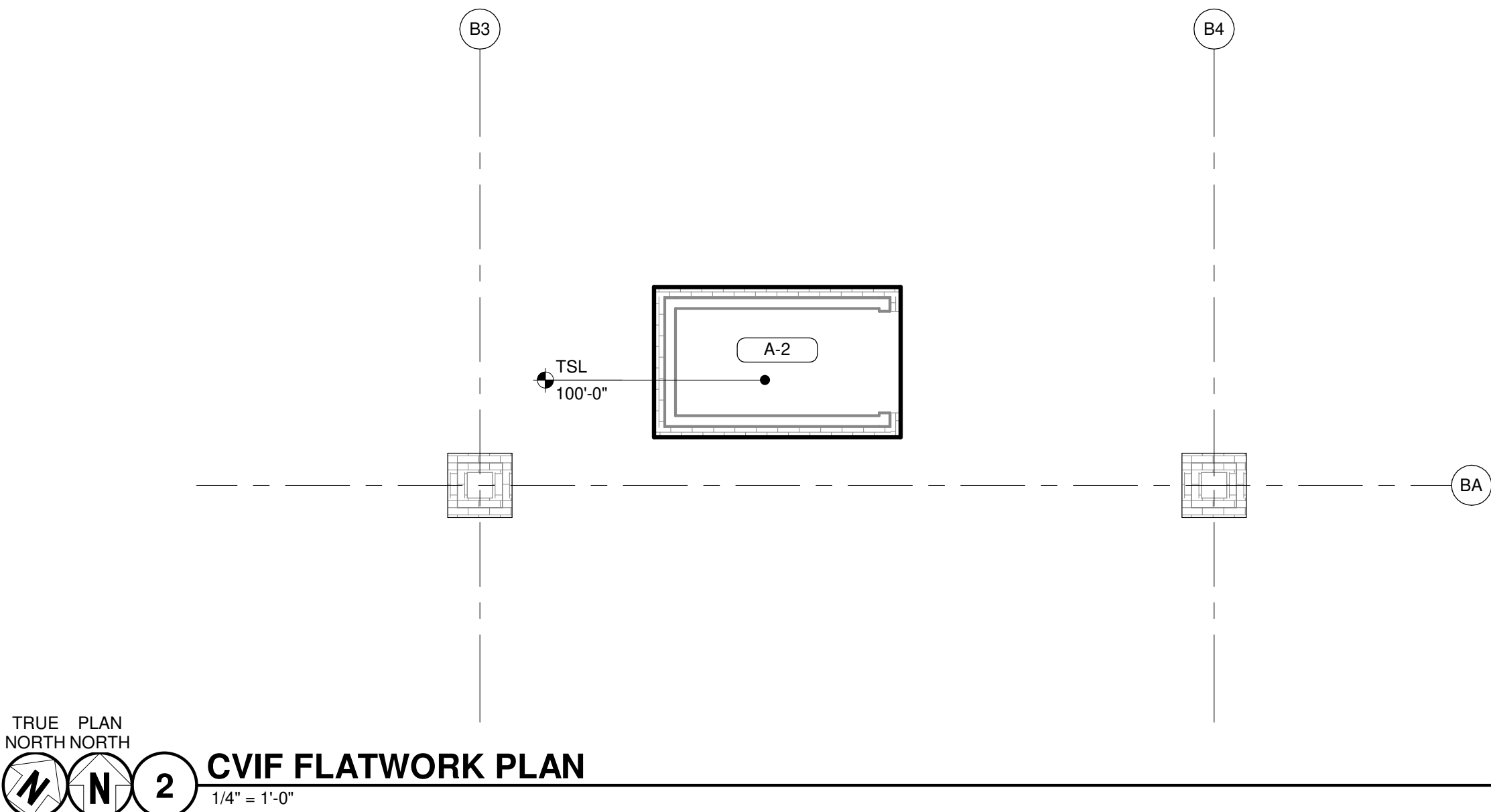
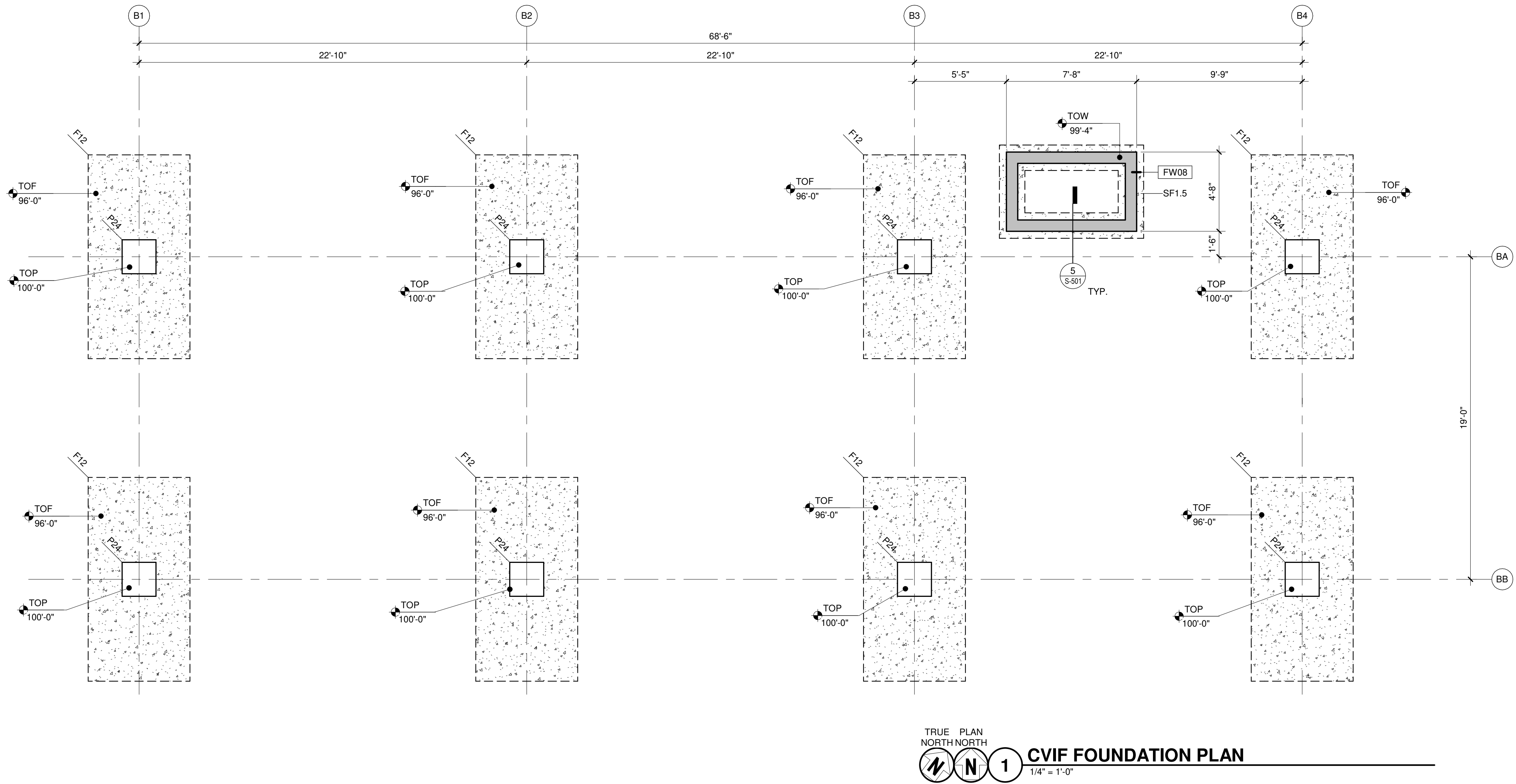
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GATEHOUSE  
FOUNDATION PLAN

SHEET NO:

S-101

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#### FOUNDATION PLAN GENERAL NOTES:

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7. TOP OF PIER ELEVATION = 100'-0", UNO.
8. STRIP FOOTINGS SHALL BE CENTERED UNDER FOUNDATION AND/OR MASONRY WALLS UNLESS NOTED OTHERWISE.

#### KEYED NOTES

#### FLATWORK PLAN GENERAL NOTES:

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2. FIELD VERIFY ALL DIMENSIONS. BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
3. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOLOGY.
4. REFER TO SHEET S-511 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
5. REFER TO DETAIL 1/S-511 FOR STRUCTURAL SLAB TYPES.
6. REFER TO SHEET S-601 FOR STRUCTURAL SCHEDULES.
7. FOR INTERIOR SLAB ON GRADE SCHEDULED TO BE SEALED CONCRETE APPLY TROWEL FINISH.
8. FOR INTERIOR SLAB ON GRADE SCHEDULED TO RECEIVE OTHER ARCHITECTURAL TREATMENT APPLY FINISH RECOMMENDED BY PRODUCT MANUFACTURER.
9. FOR EXTERIOR SLAB ON GRADE APPLY BROOM FINISH.
10. (2) DASHED LINES == == INDICATE (2) ADDITIONAL #4 BARS (5'-0" LONG) DIAGONAL 6" FROM CORNER IN SLAB, 2" CLEAR FROM TOP OF SLAB.

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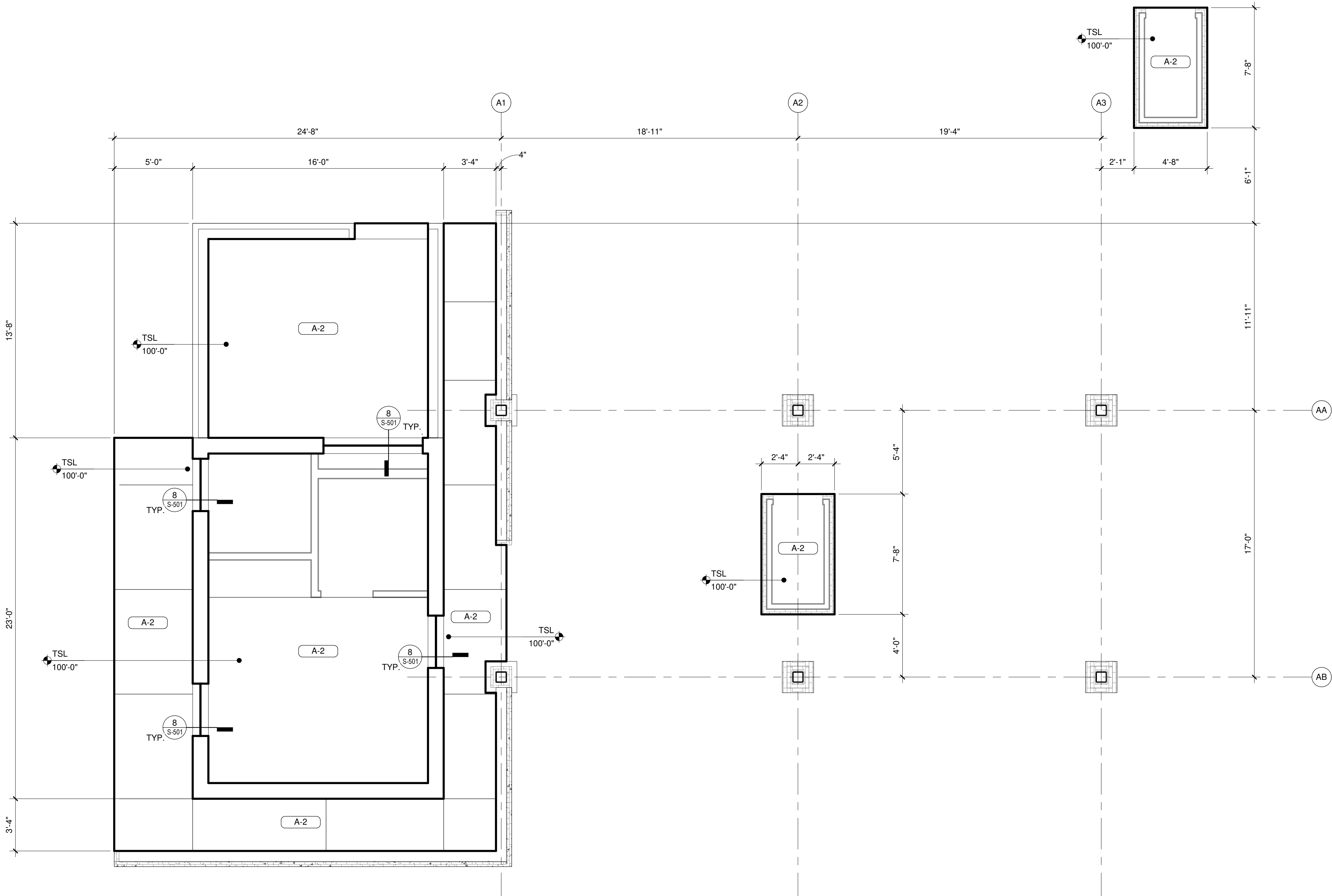
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SHEET CONTENTS  
CVIF FOUNDATION  
PLAN

SHEET NO.:

S-102



1

### GATEHOUSE FLATWORK PLAN

1/4" = 1'-0"

### FLATWORK PLAN GENERAL NOTES:

1. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
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4. REFER TO SHEET S-511 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
5. REFER TO DETAIL 1/S-511 FOR STRUCTURAL SLAB TYPES.
6. REFER TO SHEET S-601 FOR STRUCTURAL SCHEDULES.
7. FOR INTERIOR SLAB ON GRADE SCHEDULED TO BE SEALED CONCRETE APPLY TROWEL FINISH.
8. FOR INTERIOR SLAB ON GRADE SCHEDULED TO RECEIVE OTHER ARCHITECTURAL TREATMENT APPLY FINISH RECOMMENDED BY PRODUCT MANUFACTURER.
9. FOR EXTERIOR SLAB ON GRADE APPLY BROOM FINISH.
10. (2) DASHED LINES == == INDICATE (2) ADDITIONAL #4 BARS (5'-0" LONG) DIAGONAL 6" FROM CORNER IN SLAB, 2" CLEAR FROM TOP OF SLAB.

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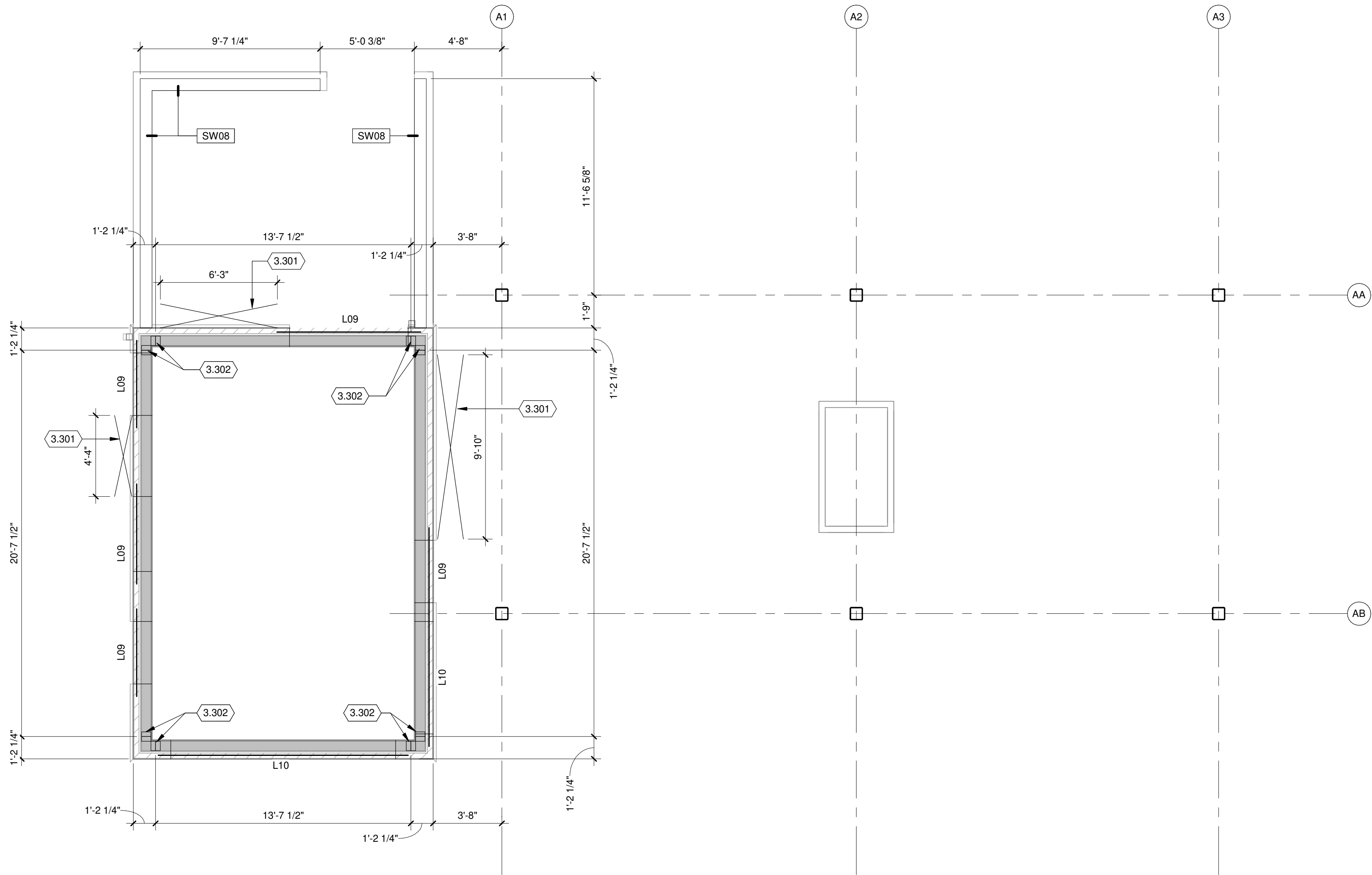
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SHEET CONTENTS  
GATEHOUSE  
FLATWORK PLAN

SHEET NO.:

S-111





## STRUCTURAL WALL PLAN

## STRUCTURAL FLOOR PLAN GENERAL NOTES:

1. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
2. FIELD VERIFY ALL DIMENSIONS. BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
3. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS AND SYMBOLOLOGY.
4. REFER TO SHEET S-521 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
5. REFER TO SHEET S-601 FOR STRUCTURAL SCHEDULES.
6. TYPICAL STUD WALL FRAMING (1) 600S200-43 AT 16" O.C.
7. BOX HEADER AND SILLS AT ALL OPENING SEE DETAILS ON S-521.
8. 18 GAUGE MINIMUM FRAMING FOR EXTERIOR MASONRY VENEER.
9. PROVIDE WALL STUDS IN LINE WITH ROOF TRUSSES.
10. WALL FRAMING SHALL BE CONNECTED WITH PAN HEAD SCREWS

## KEYED NOTES

- 3.301 SHEARWALL CROSS BRACING. SEE DETAIL 4/S-521.
- 3.302 JAMB COMPRISED OF DOUBLE STUD (2) 600S200-43 OR APPROVED EQUIVALENT DESIGNED BY MANUFACTURER.

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

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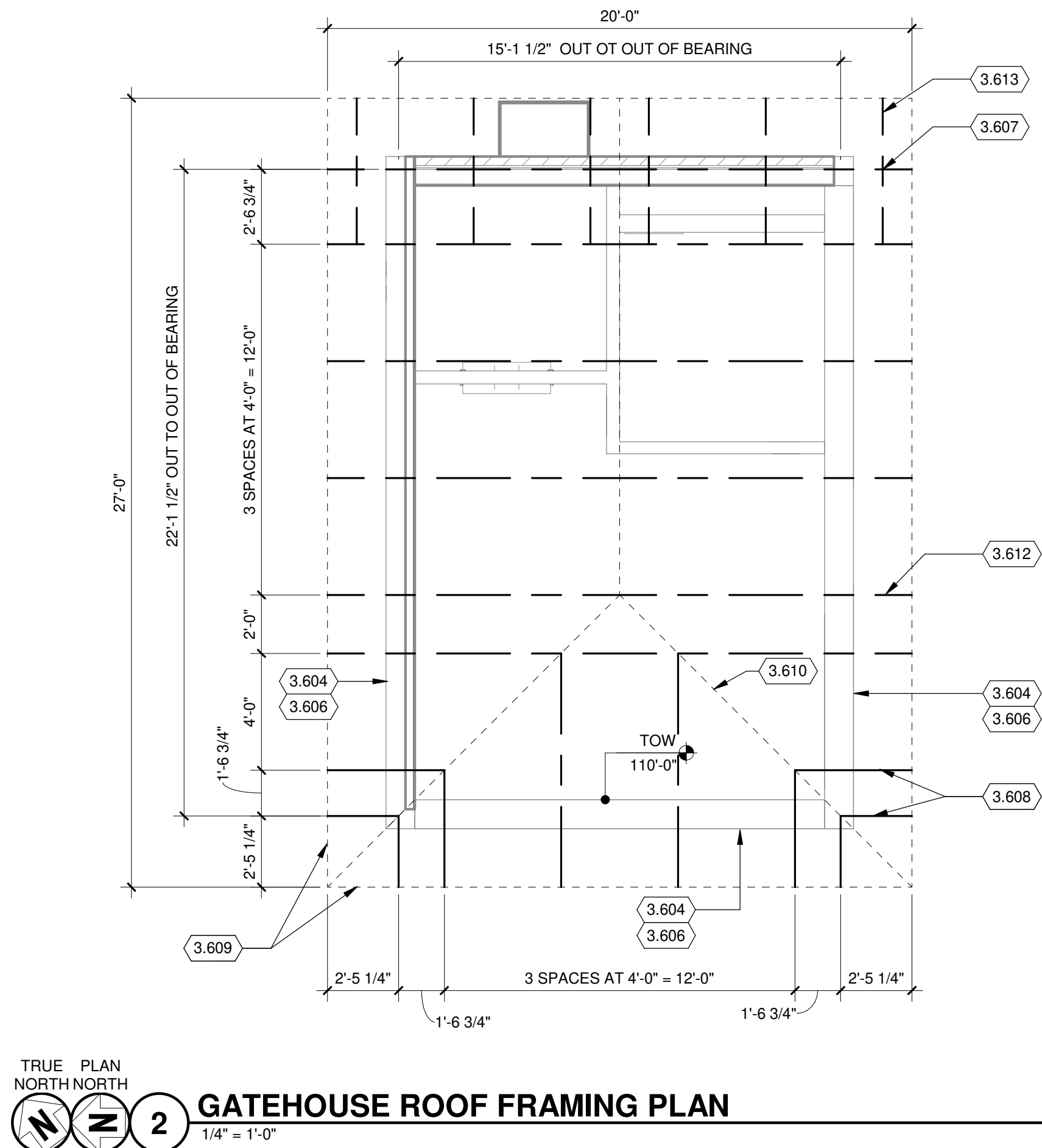
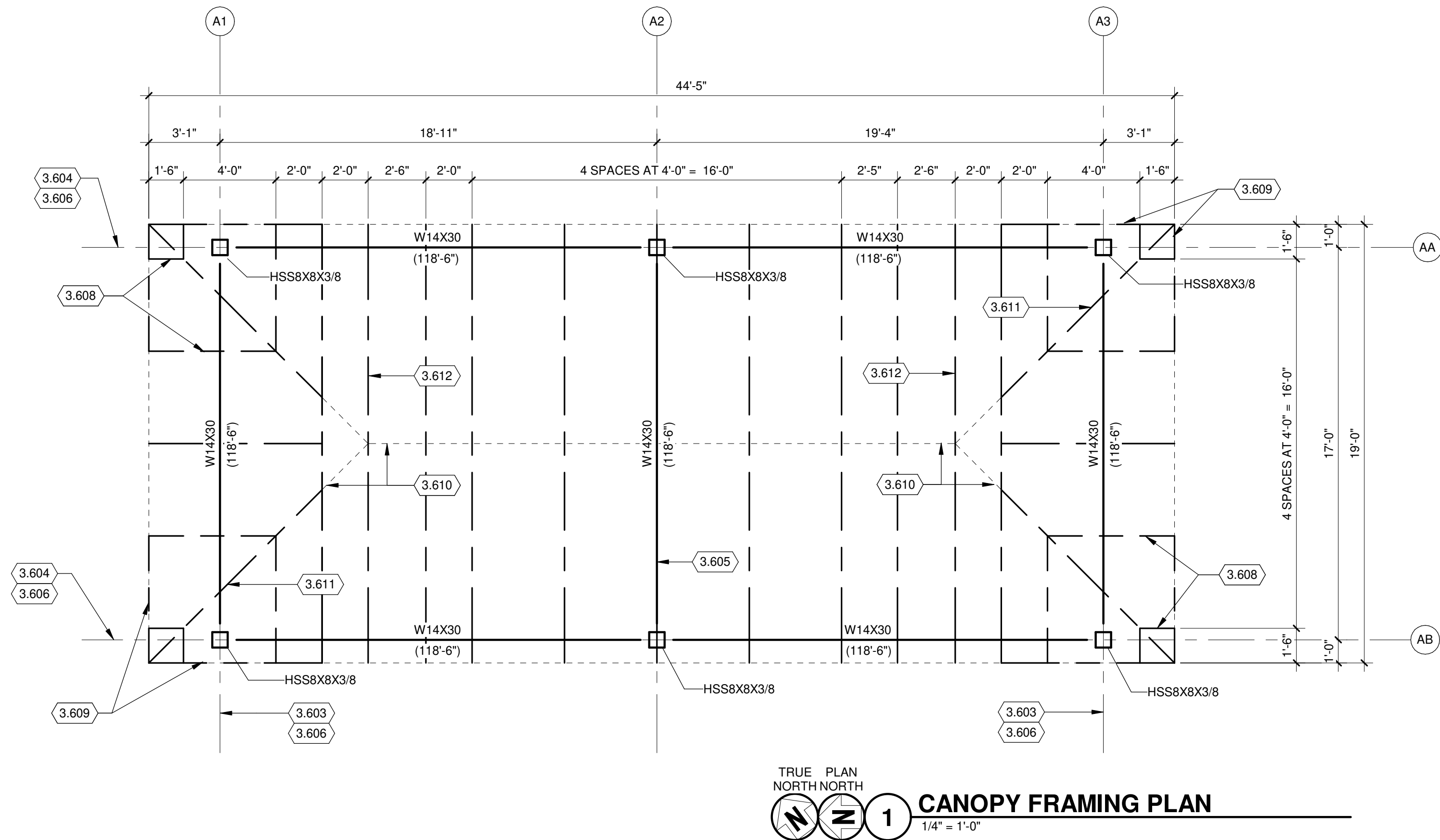
ANG Project No.: MBMV099170  
MSH NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: DKC  
DRAWN BY: MAB  
CHECKED BY: DRM

DO NOT SCALE DRAWINGS

SHEET CONTENTS  
GATEHOUSE  
STRUCTURAL FLOOR  
PLAN

SHEET NO.:

S-131



## ROOF FRAMING PLAN GENERAL NOTES:

1. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
2. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
3. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
4. ROOF DECK IS 1 1/2" WIDE RIB, 20 GAUGE.
5. FASTEN ROOF DECK WITH #12 SCREWS AT 1'-0" ON CENTER OVER SUPPORTS.
6. REFER TO SHEET S-541 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
7. REFER TO SHEET S-601 FOR STRUCTURAL SCHEDULES.
8. TRUSS DESIGNER TO DESIGN STRAP BLOCKING PER FORCES NOTED AND STRAP BLOCKING STANDARD DETAIL.
9. FOR GATE HOUSE; TRUSS DESIGNER TO DESIGN STRAP BLOCKING PER FORCES NOTED AND STRAP BLOCKING STANDARD DETAIL.
10. COLD FORMED WALL AND ROOF TRUSS FRAMING AND CONNECTIONS SHALL BE DESIGNED FOR 10 PSF WIND UPLIFT.

## KEYED NOTES

- 3.603 PROVIDE STRAP BLOCKING WITH 2,000 LB CAPACITY THIS LINE OR WALL
- 3.604 PROVIDE STRAP BLOCKING WITH 2,500 LB CAPACITY THIS LINE OR WALL
- 3.605 PROVIDE TRUSS ON TOP OF THIS BEAM. TRUSS TRANSFERS SHEAR FROM ROOF DECK TO BEAM. DESIGN TRUSS FOR 4,000 LB SHEAR FORCE.
- 3.606 PROVIDE DIAPHRAGM CHORD PER 3/S-541 FULL LENGTH OF THIS GRID LINE OR WALL.
- 3.607 DESIGN END WALL TRUSS FOR 2500 LB DIAPHRAGM CHORD FORCE. DESIGN ENDWALL TRUSS FOR 2500 LB IN PLANE SHEAR FORCE. PROVIDE FRAMED OPENING IN ENDWALL TRUSS FOR DUCT. COORDINATE OPENING SIZE WITH MECHANICAL. PROVIDE FULL HEIGHT END WALL STUDS OR TRUSS ON TOP WALL WITH TOP OF WALL BRACING.
- 3.608 HIP INFILL RAFTER, TYPICAL.
- 3.609 EAVE - CORNER BEAM PER COLD FORMED TRUSS DESIGNER, TYPICAL. EAVE BEAM SHALL BE CAPABLE OF SPANNING BETWEEN CORNER HIP GIRDER AND FIRST JACK TRUSSES THAT HAS A BACK SPN EQUAL TO TWO TIMES THE OVERHANG.
- 3.610 20 GAUGE X 20" WIDE HIP AND RIDGE PLATES TYPICAL. FASTEN TO ROOF DECK WITH SAME FASTENER PATTERN AS ROOF DECK TO SUPPORTS. TYPICAL ALL RIDGES AND HIPs.
- 3.611 HIP GIRDER TYP
- 3.612 TRUSS GIRDER TYP
- 3.613 GABLE ENDWALL OUTRIGGER FOR OVERHANG BY METAL TRUSS DESIGNER/CONTRACTOR.

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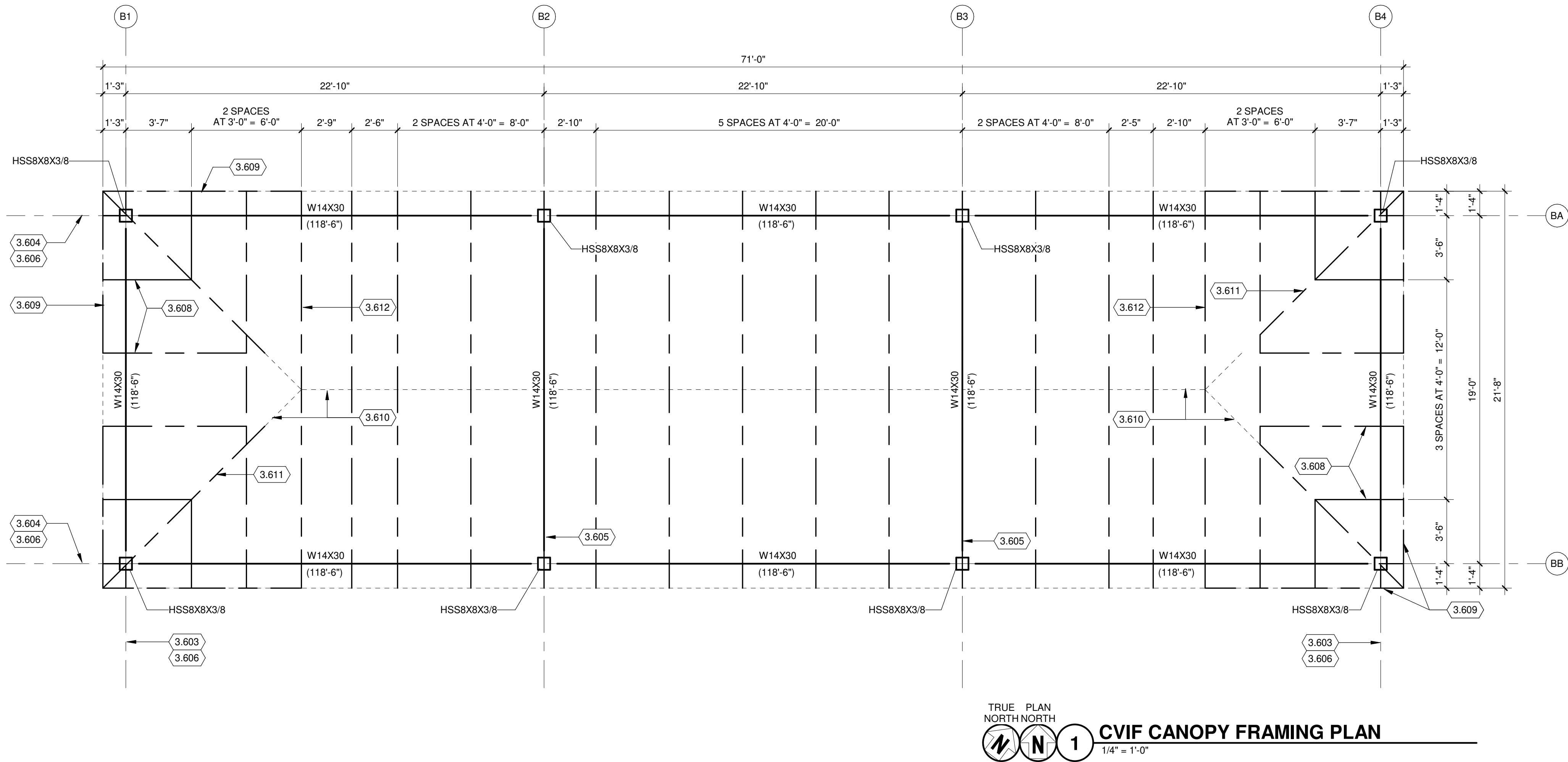
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SHEET CONTENTS  
ROOF FRAMING  
PLAN

SHEET NO.:

S-151

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ROOF FRAMING PLAN GENERAL NOTES:

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- 3.605 PROVIDE TRUSS ON TOP OF THIS BEAM. TRUSS TRANSFERS SHEAR FROM ROOF DECK TO BEAM. DESIGN TRUSS FOR 4,000 LB SHEAR FORCE.
- 3.606 PROVIDE DIAPHRAGM CHORD PER 3/S-541 FULL LENGTH OF THIS GRID LINE OR WALL.
- 3.608 HIP INFILL RAFTER, TYPICAL.
- 3.609 EAVE - CORNER BEAM PER COLD FORMED TRUSS DESIGNER, TYPICAL. EAVE BEAM SHALL BE CAPABLE OF SPANNING BETWEEN CORNER HIP GIRDER AND FIRST JACK TRUSSES THAT HAS A BACK SPN EQUAL TO TWO TIMES THE OVERHANG.
- 3.610 20 GAUGE X 20" WIDE HIP AND RIDGE PLATES TYPICAL. FASTEN TO ROOF DECK WITH SAME FASTENER PATTERN AS ROOF DECK TO SUPPORTS. TYPICAL ALL RIDGES AND HIPS.
- 3.611 HIP GIRDER TYP
- 3.612 TRUSS GIRDER TYP

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SHEET CONTENTS  
CVIF ROOF FRAMING  
PLAN

SHEET NO.:

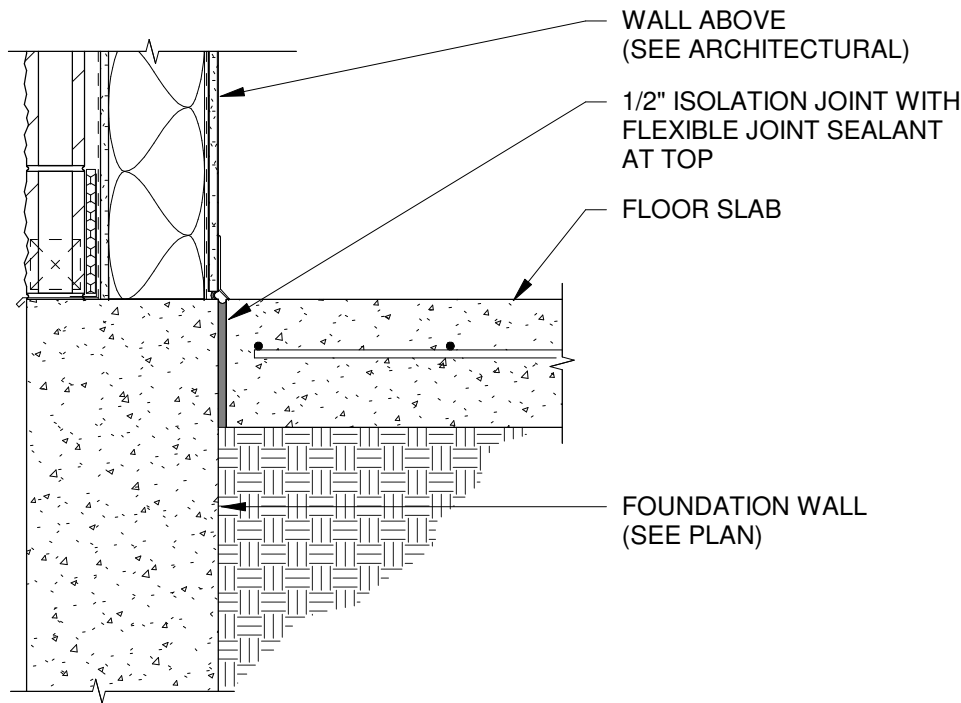
S-152



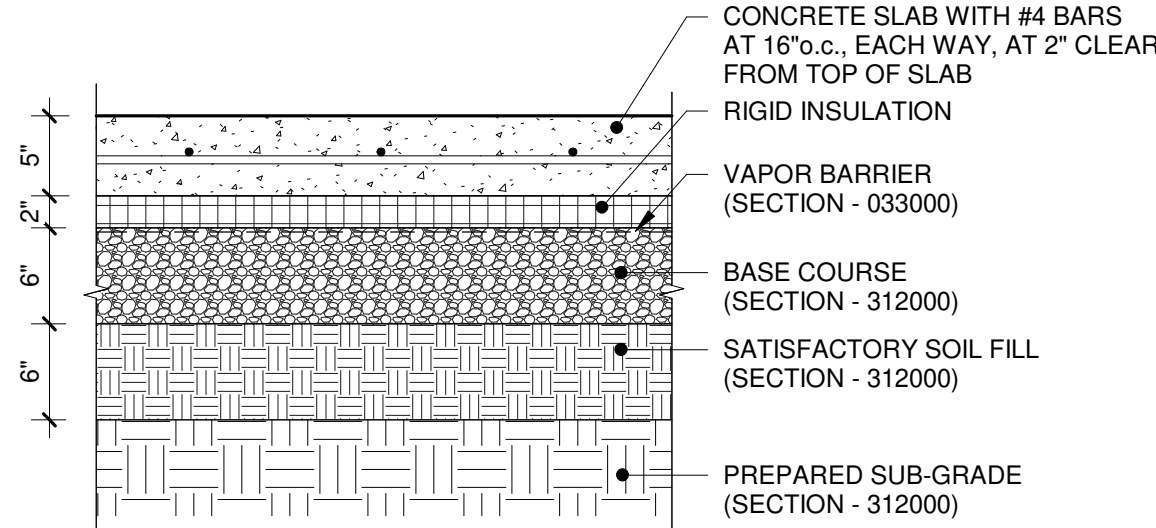
### 3 TYPICAL FOUNDATION WALL INTERSECTIONS



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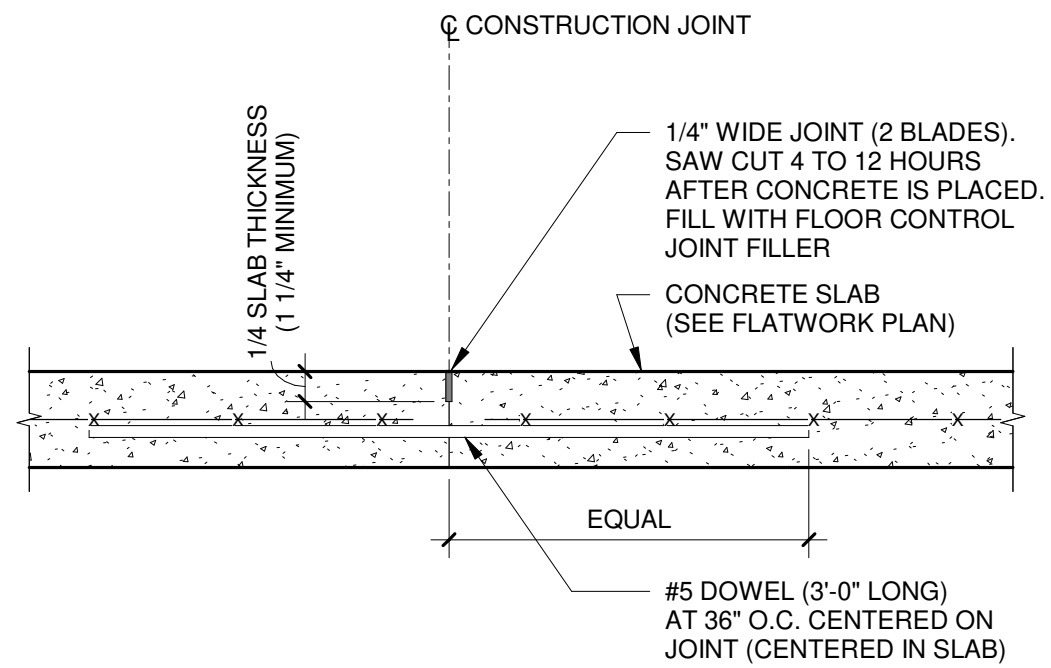


5 SLAB AT EXTERIOR FOUNDATION WALL  
1" = 1'-0"

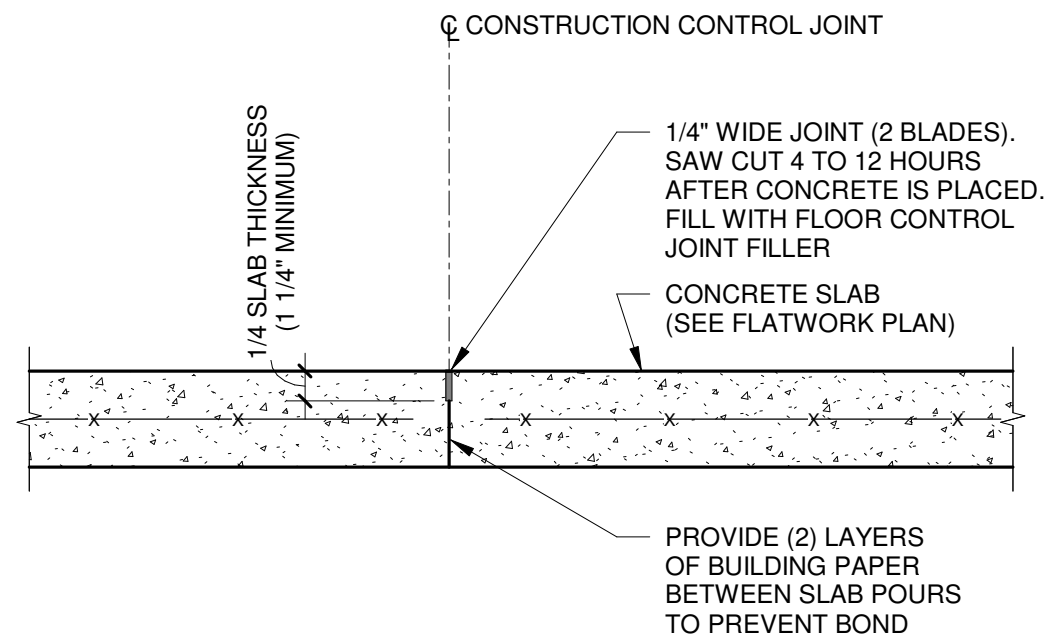


TYPE A-2

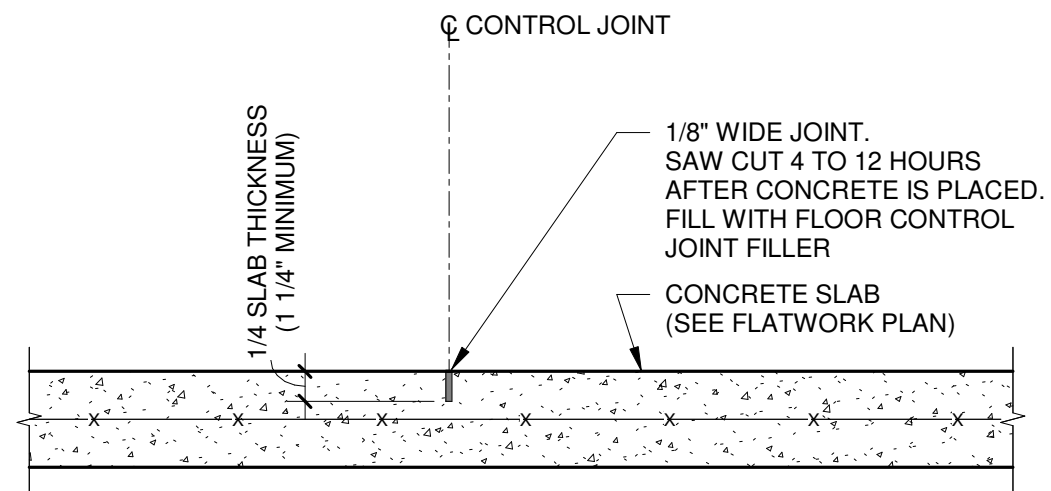
1 INTERIOR SLAB ON GRADE SLB05  
1" = 1'-0"



2 CONCRETE SLAB CONSTRUCTION JOINT (TYPICAL)  
1 1/2" = 1'-0"



3 CONCRETE SLAB CONSTRUCTION CONTROL JOINT "CCJ" (TYPICAL)  
1 1/2" = 1'-0"



4 CONCRETE SLAB CONTROL JOINT "CJ" (TYPICAL)  
1 1/2" = 1'-0"

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SHEET CONTENTS  
FLATWORK DETAILS

SHEET NO.:

S-511



**10**  $1\frac{1}{2}" = 1'-0"$


$$1'' = 1'-0''$$

$$1'' = 1' - 0'$$

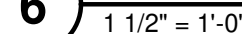

9



## 1 METAL STUD SHEARWALL CROSS BRACING



## 5 HSS COLUMN BASE PLATE



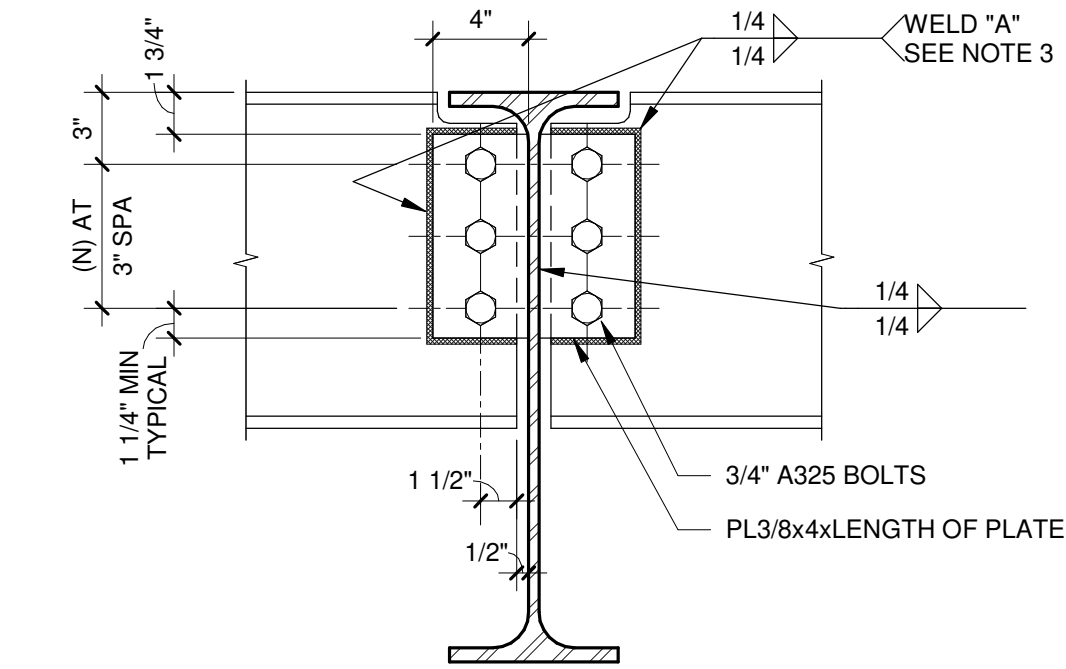
## 1 STUD WALL BRIDGING



## 2 METAL STUD CORNER FRAMING



### 3 METAL STUD WINDOW OPENING (DOOR SIM.)



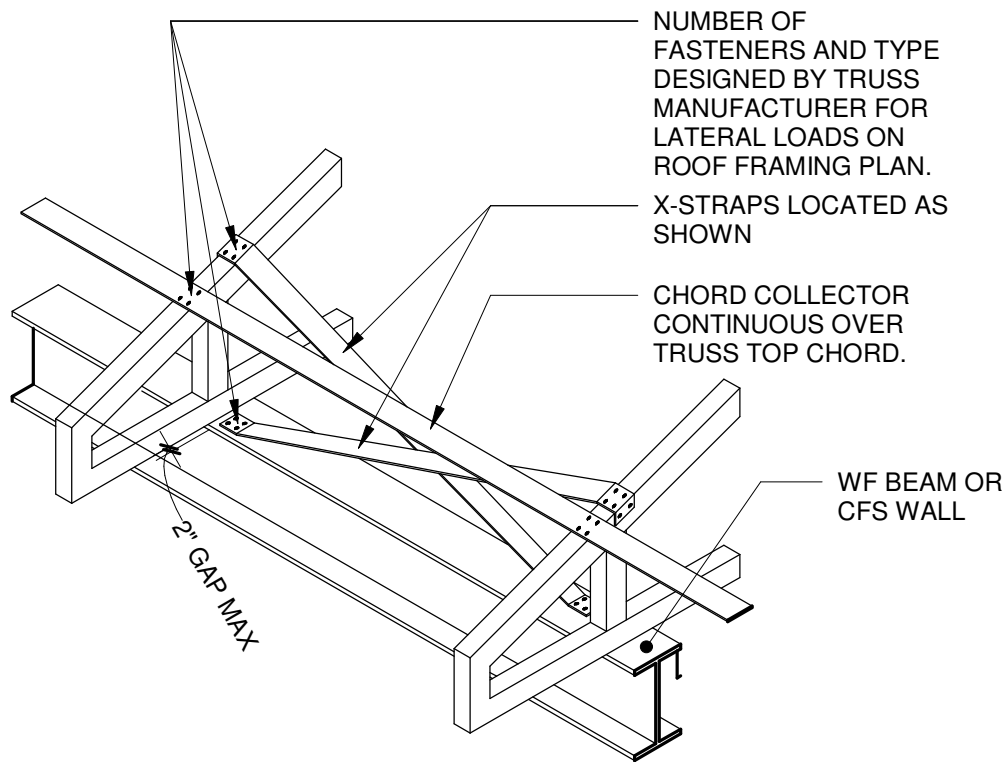
SINGLE PLATE SHEAR CONNECTION		
NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS (N)	LENGTH OF PLATE
W36	10	29 1/2"
W33	9	26 1/2"
W30	8	23 1/2"
W24 - W27	7	20 1/2"
W21	6	17 1/2"
W18	5	14 1/2"
W16	4	11 1/2"
W12 - W14	3	8 1/2"
W8 - W10	2	5 1/2"

**SINGLE PLATE SHEAR CONNECTION NOTES**

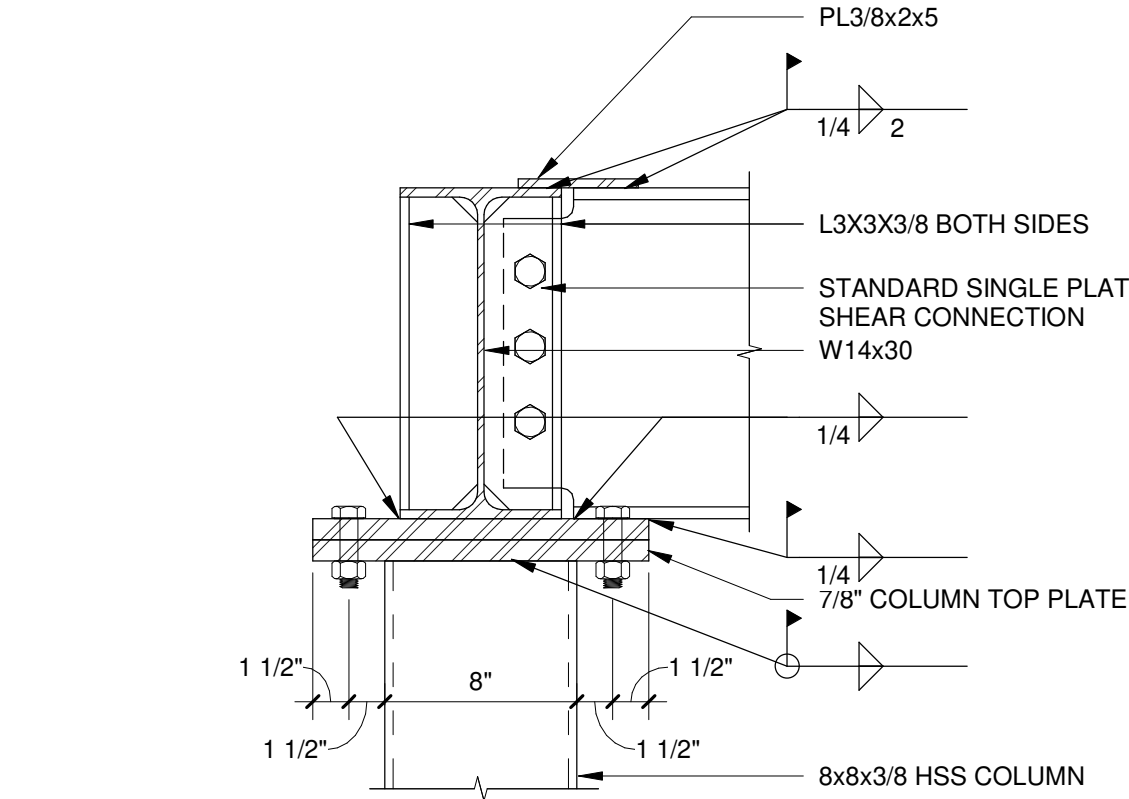
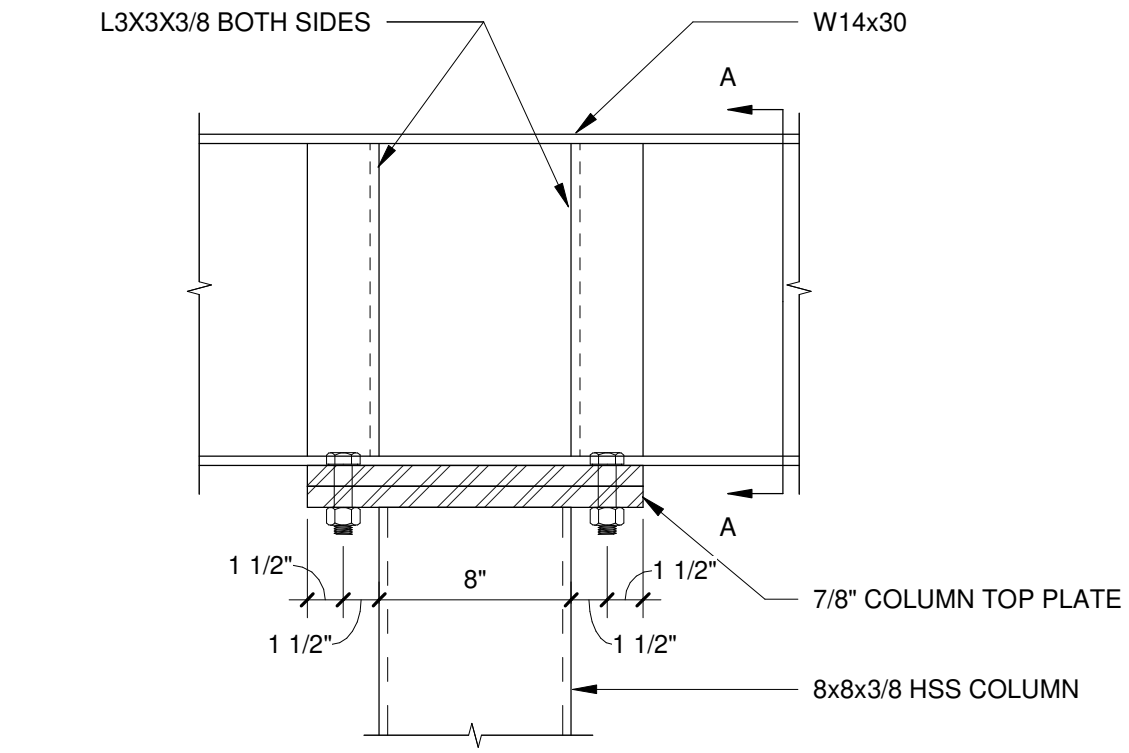
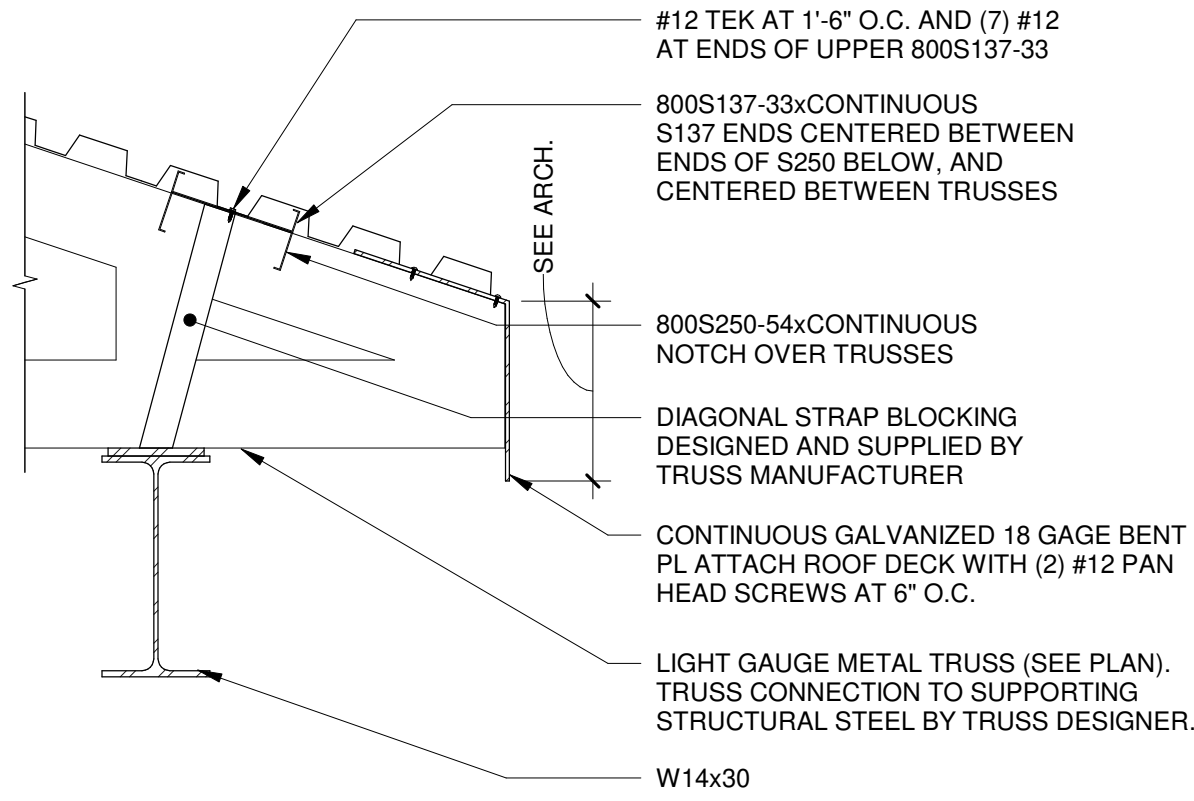
- ALL FRAMING CONNECTIONS SHALL CONFORM TO SCHEDULE UNLESS DETAILED OR NOTED OTHERWISE.
- STANDARD HOLES OR HORIZONTAL SHORT SLOT HOLES MAY BE UTILIZED AT CONTRACTORS OPTION IN EITHER THE CONNECTION ANGLE OR THE FRAMING MEMBERS.
- WELD "A" MAY BE USED IN LIEU OF "A" SIDE BOLTS AT CONTRACTORS OPTION. WELD SHALL BE ON ALL 3 SIDES.
- FOR MISS-ALIGNED BOLT HOLES, PROVIDE FIELD WELDS. NOTIFY THE ARCHITECT/ENGINEER OF LOCATIONS USING FIELD WELDED CONNECTION.
- REFER TO TYPICAL COPING DETAIL 5/S-541 FOR CONNECTIONS WHERE COPING IS REQUIRED.
- THIS DETAIL IS NOT INTENDED FOR EVERY WF SECTION. CHECK RIDING THE FILLET AND COPE DEPTH PRIOR TO FABRICATION.

5 TYPICAL SINGLE PLATE SHEAR FRAMING CONNECTION  
1 1/2" = 1'-0"

3 CHORD COLLECTOR  
1" = 1'-0"

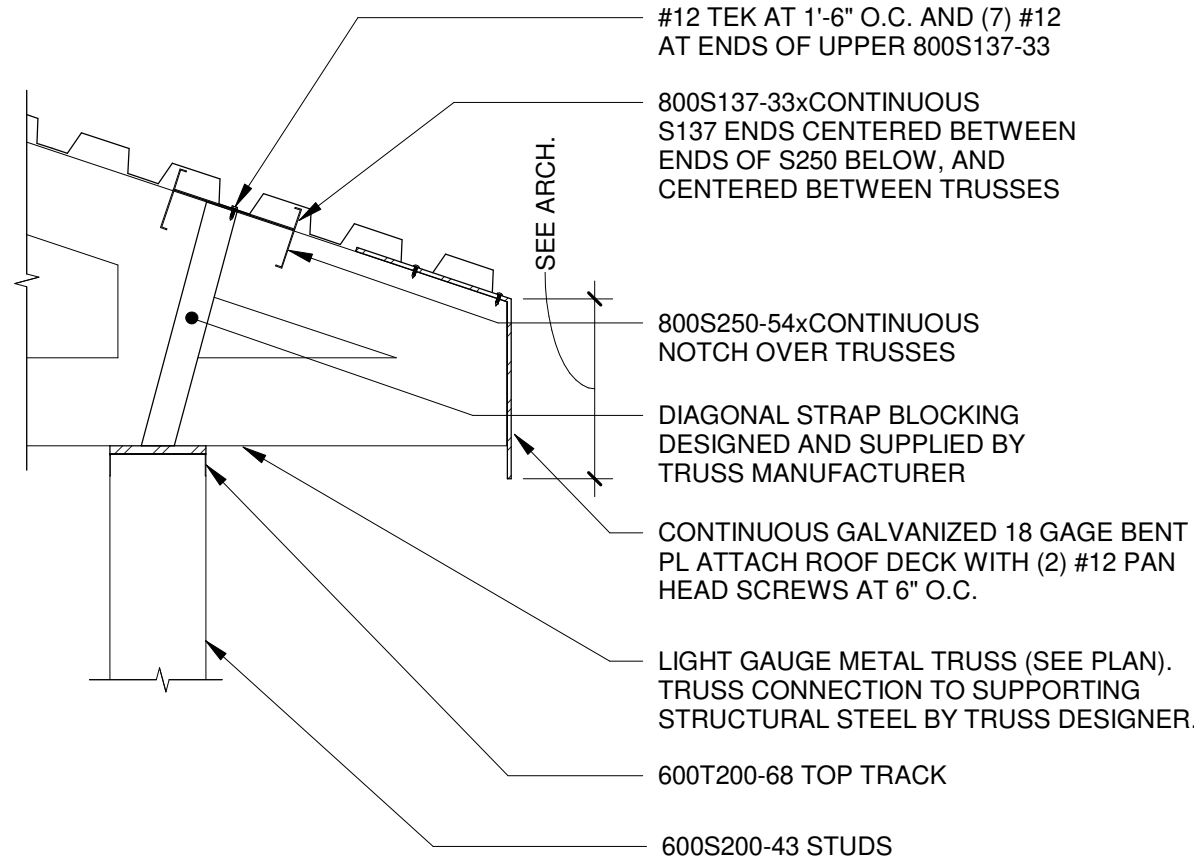


4 TRUSS BLOCKING DETAIL  
1/8" = 1'-0"



NOTE: ALL BOLTS ARE 3/4" DIAMETER A325 FULLY PRETENSION

1 TYPICAL BEAM OVER HSS COLUMN  
1 1/2" = 1'-0"



2 TRUSS BEARING AT STUD WALL  
1" = 1'-0"



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SHEET CONTENTS  
FRAMING DETAILS

SHEET NO.:

S-541



CONCRETE STRIP FOOTING SCHEDULE							
MARK	SIZE		TOP REINFORCEMENT		BOTTOM REINFORCEMENT		REMARKS
	WIDTH "W"	HEIGHT "H"	LONG.	TRANS.	LONG.	TRANS.	
SF1.5	1'-6"	1'-0"			(2) #5		
SF2	2'-0"	1'-0"			(2) #5		
SF3	3'-0"	1'-6"			(3) #5		

CONCRETE STRIP FOOTING SCHEDULE NOTES

1. SEE NOTE SHEET S-001 FOR BEARING SOILS PREPARATION REQUIREMENTS.  
2. SEE 1/S-501 FOR TYPICAL FOOTING INTERSECTION REINFORCING.  
3. EMBED DOWELS INTO FOOTING, 3" CLEAR COVER FROM BOTTOM OF FOOTING.  
4. EXCEPT WHERE SPECIFICALLY NOTED, TYPE "A" FOOTING DOWELS SHALL BE TIED IN PLACE PRIOR TO CONCRETE PLACEMENT.

CONCRETE SPREAD FOOTING SCHEDULE								
MARK	SIZE		THICKNESS	BOTTOM REINFORCEMENT		TOP REINFORCEMENT		REMARKS
	WIDTH	LENGTH		LONG.	TRANS.	LONG.	TRANS.	
F12	12'-0"	6'-0"	1'-2"	(6) #6	#6 AT 16"o.c.	(6) #6	#6 AT 16"o.c.	

CONCRETE SPREAD FOOTING SCHEDULE GENERAL NOTES

1. SEE NOTE SHEET S-001 FOR BEARING SOILS PREPARATION REQUIREMENTS.

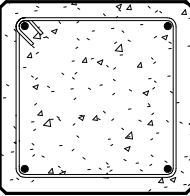
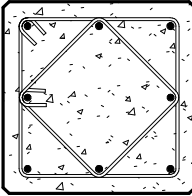
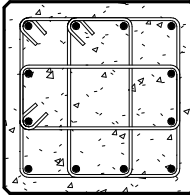
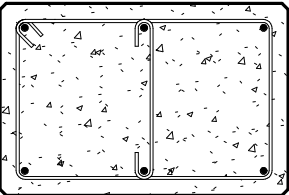
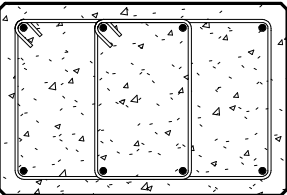
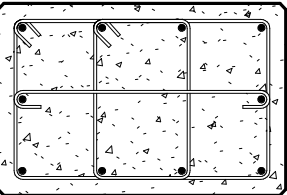
2.

CONCRETE SPREAD FOOTING SCHEDULE REMARKS
<div>1. LOCATE LONGITUDINALBOTTOM BARS BELOW TRANSVERSE BOTTOM BARS.</div> <div>2. LOCATION LONGITUDINAL TOP BARS ABOVE TRANSVERS TOP BARS.</div> <div>3</div>

CONCRETE PIER SCHEDULE					
MARK	SIZE	VERTICAL REINFORCEMENT	TIES		REMARKS
			TYPE	# AND SPACING	
P24	24"x24"	(12) #6	C	#3 @ 12" O.C.	DOUBLE TOP TIE

CONCRETE PIER SCHEDULE GENERAL NOTES

1. SEE FOUNDATION PLANS FOR TOP OF PIER ELEVATIONS.  
2. REFERENCE TYPICAL TIE DETAILS FOR CROSS-TIE REQUIREMENTS.  
3. WHEN PIERS ARE INTEGRAL WITH WALLS, PIER DIMENSIONS ARE INDICATED FOR THE PURPOSE OF DIMENSIONING PIER TIES, SETTING VERTICAL REINFORCING, DEFINING EXTENT OF TOP OF PIER RECESS OR PROJECTION FROM TOP OF WALL. CENTER PIER REINFORCING CAGE BELOW COLUMN AND ORIENT LONG DIMENSION OF PIER WITH AXIS OF WALL UNLESS NOTED OR DETAILED OTHERWISE. CONTINUE WALL REINFORCING THROUGH PIERS WITH LAPS AS REQUIRED.  
4. SEE DETAIL 6/S-501 FOR TYPICAL PIER CONSTRUCTION.

TYPICAL TIE DETAILS		
		
TYPE - A	TYPE - B	TYPE - C
		
TYPE - D	TYPE - E	TYPE - F

FOUNDATION WALL SCHEDULE				
MARK	WIDTH	REINFORCEMENT		REMARKS
		HORIZONTAL	VERTICAL	
FW08	8"	#5 BARS @ 18"o.c., CENTERED	#5 BARS @ 18"o.c., CENTERED	
FW12	1'-0"	#5 BARS @ 18"o.c., EACH FACE	#5 BARS @ 18"o.c., EACH FACE	

LINTEL SCHEDULE				
MARK	DESCRIPTION	BEARING	DETAIL	REMARKS
L09	L5x5x5/16	8" E.E.	1	
L10	L5x5x1/2	8" E.E.	1	

LINTEL SCHEDULE GENERAL NOTES

1. HOT DIPPED GALVANIZED.

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SHEET CONTENTS  
SCHEDULES

SHEET NO.:

S-601

ABBREVIATIONS

∠	ANGLE	FA	FIELD ADJUSTABLE
@	AT	FV	FIELD VERIFY
AB	ANCHOR BOLT	FD	FLOOR DRAIN
AC	ACOUSTIC	FDN	FOUNDATION
ACC	ACCESS	FE	FIRE EXTINGUISHER
ACT	ACOUSTIC CEILING TILE	FEC	FIRE EXTINGUISHER CABINET
ACP	ACOUSTIC CEILING PANEL	FHC	FIRE HOSE CABINET
AD	AREA DRAIN	FIN	FINISH
ADD	ADDITIONAL	FIX	FIXTURE
ADJ	ADJUSTABLE	FLEX	FLEXIBLE
AFF	ABOVE FINISH FLOOR	FLR	FLOOR
AHU	AIR HANDLING UNIT	FLRG	FLOORING
AL	ALUMINUM	FP	FIREPROOF/FIRE PROTECTION
ALT	ALTERNATE	FR	FIRE RETARDANT
AP	ACCESS PANEL	FS	FULL SIZE/FULL SCALE
APPROX	APPROXIMATE	FT	FEET
ARCH	ARCHITECTURAL	FTG	FOOTING
ASPH	ASPHALT	FURG	FURRING
BB	BOND BEAM	GA	GAUGE
BD	BOARD	GAL	GALLON
BF	BOTH FACES	GALV	GALVANIZED
BFC	BELOW FINISH CEILING	GB	GRAB BAR
BG	BUMPER GUARD	GC	GENERAL CONTRACTOR
BIT	BITUMINOUS	GEN	GENERAL
BLDG	BUILDING	GFCI	GOVERNMENT FURNISHED, CONTRACTOR INSTALLED
BLKG	BLOCKING	GFGI	GOVERNMENT FURNISHED, GOVERNMENT INSTALLED
BLKT	BLANKET	GFRG	GLASS FIBER REINFORCED CONCRETE
BM	BEAM/BENCH MARK	GFRG	GLASS FIBER REINFORCED GYPSUM
BLK	BLOCK	GL	GLASS
BOT	BOTTOM	GMU	GLAZED MASONRY UNIT
BRG	BEARING	GWB	GYPSUM WALL BOARD
BRKR	BREAKER	GYP	GYPSUM
BRK	BRICK		
BRKT	BRACKET		
BS	BACK SPLASH	H	HEIGHT
BSMT	BASEMENT	HDBD	HARDBOARD
BTWN	BETWEEN	HDCP	HANDICAPPED
		HDWD	HARDWOOD
		HDWE	HARDWARE
		HK	HOOK
		HM	HOLLOW METAL
		HP	HIGH POINT
		HR	HANDRAIL
		HT	HEIGHT
		HVAC	HEATING VENTILATION AND AIR CONDITIONING
		HWS	HEAD WELDED STUDS
		ID	INSIDE DIAMETER
		IMP	INSULATED METAL PANEL
		IN	INCHES
		INFO	INFORMATION
		INSUL	INSULATION
		INT	INTERIOR
		IPW	INSULATED PLENUM WALL
		IRF	INSULATED ROOF FILL
		JAN	JANITOR
		JS	JANITOR SINK
		JST	JOIST
		JT	JOINT
		KD	KNOCKED DOWN
		KO	KNOCK-OUT / KNEE OPENING
		L	LENGTH
		LAB	LABORATORY
		LAM	LAMINATED
		LB	POUND
		LBS	POUNDS
		LD	LINEAR DIFFUSER
		LDG	LANDING
		LF	LINEAR FOOT
		LG	LONG
		LGT	LIGHT
		LKR	LOCKER
		LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
		LONG	LONGITUDINAL
		LP	LOW POINT
		LSH	LONG SLOTTED HOLE
		LTG	LIGHTING
		LVR	LOUVER
		LWC	LIGHTWEIGHT CONCRETE
		MACH	MACHINE
		MAN	MANUAL
		MAR	MARBLE
		MAS	MASONRY
		MATL	MATERIAL
		MAX	MAXIMUM
		MB	MACHINE BOLT
		MBW	MASONRY BEARING WALL
		MC	MECHANICAL CONTRACTOR
		MDO	MEDIUM DENSITY OVERLAY
		MECH	MECHANICAL
		MEMB	MEMBRANE
		MET	METAL
		MEZZ	MEZZANINE
		MFR	MANUFACTURER
		MIN	MINIMUM
		MIR	MIRROR
		MISC	MISCELLANEOUS
		MISC	MARK
		ML	METAL LATH
		MLDG	MOLDING
		MO	MASONRY OPENING
		MP	METAL PARTITION
		MS	MACHINE SCREW
		MTD	MOUNTED
		MTG	MOUNTING
		NA	NOT APPLICABLE
		NIC	NOT IN CONTRACT
		NO	NUMBER
		NOM	NOMINAL
		NS	NONSHRINK
		NTS	NOT TO SCALE
		NWC	NORMAL WEIGHT CONCRETE
		OA	OVERALL
		OC	ON CENTER
		OD	OUTSIDE DIAMETER/OVERFLOW DRAIN
		OFF	OFFICE
		OPNG	OPENING
		OPP	OPPOSITE
		OZ	OUNCE
		PART	PARTITION
		PC	PIECE
		PCC	PRECAST CONCRETE
		PCPL	PORTLAND CEMENT PLASTER
		PDWR	PAPER TOWEL DISPENSER & WASTE RECEPTACLE
		PH	PHILLIPS HEAD/PHASE
		PL	PLASTIC LAMINATE/PLATE/PROPERTY LINE
		PLAS	PLASTER
		PLBG	PLUMBING
		PLYWD	PLYWOOD
		PM	PROTECTED METAL
		PNL	PANEL
		PNLG	PANELING
		POL	POLISHED
		PR	PAIR
		PREF FAB	PREFABRICATED
		PREF FIN	PREFINISHED
		PBF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
		PT	POINT/PAINT
		PTM	PAINT TO MATCH
		PVC	POLYVINYL CHLORIDE
		QT	QUARRY TILE
		QTY	QUANTITY
		RAD	RADIUS
		RAH	ROOFTOP AIR HANDLING UNIT
		RB	RUBBER BASE
		RC	REINFORCED CONCRETE
		RCP	RADIANT CEILING PANEL
			/ REFLECTED CEILING PLAN
		RD	ROOF DRAIN
		REC	RECESSED
		REF	REFERENCE
		REINF	REINFORCING
		REL	RELOCATE
		REM	REMAINDER
		REQD	REQUIRED
		RES	RESILIENT
		RET	RETURN
		RI	ROUGH IN
		RM	ROOM
		RO	ROUGH OPENING
		RT	RUBBER TILE
		RUB	RUBBER
		SAT	STANDARD AGGREGATE TOPPING
		SB	SOIL BEARING
		SC	SEAMLESS COATING
		SCF	SPECIAL CONCRETE FINISH
		SCHD	SCHEDULE
		SD	SOAP DISPENSER
		SE	SHELF EDGE
		SECT	SECTION
		SF	SAND FLOAT
		SG	SUPPLY AIR GRILLE
		SGL	SINGLE
		SH	SHELF
		SHD	SHOWER DOOR
		SHT	SHEET
		SIM	SIMILAR
		SJ	STEEL JOIST
		SLV	SHORT LEG VERTICAL
		SM	SMOOTH
		SND	SANITARY NAPKIN DISPENSER
		SNV	SANITARY NAPKIN VENDER
		SOG	SLAB ON GRADE
		SPEC	SPECIFICATION
		SPR	SPRINKLER
		SQ	SQUARE
		SR	SHOWER ROD
		SS	STAINLESS STEEL
		ST	STREET
		STD	STANDARD
		STL	STEEL
		STO	STORAGE
		STRU	STRUCTURAL/STRUCTURE
		SUSP	SUSPENDED
		SV	SHEET VINYL
		SYM	SYMMETRICAL

ABBREVIATIONS ABOVE ARE FOR ARCHITECTURAL SHEETS ONLY.

HATCH SYMBOLS

	EARTHWORK		PLYWOOD
	GRAVEL		FINISH LUMBER
	PLASTER, SAND, GROUT		WOOD STUDS, BLOCKING
	CONCRETE		STEEL STUDS
	CONCRETE MASONRY		GYPSUM WALLBOARD
	CLAY MASONRY		ACOUSTICAL TILE
	PRECAST CONCRETE		BATT INSULATION
	METAL		RIGID INSULATION

LEGEND - PLAN SYMBOLS

	BUILDING SECTION SYMBOL
	WALL SECTION SYMBOL
	DETAIL SYMBOL
	ENLARGED PLAN SYMBOL
	EXTERIOR ELEVATION SYMBOL
	INTERIOR ELEVATION SYMBOL
	KEYED NOTE IDENTIFICATION
	ROOM NAME AND NUMBER
	WALL TYPE IDENTIFICATION
	WINDOW IDENTIFICATION
	DOOR IDENTIFICATION
	1 HOUR FIRE RATED WALL
	FIRE EXTINGUISHER - SURFACE MOUNT
	FIRE EXTINGUISHER CABINET AND FIRE EXTINGUISHER - SEMI-RECESSED
	FLOOR DRAIN
	EXISTING GRID LINES
	NEW GRID LINES
	LEVEL OR SPOT ELEVATIONS
	CEILING HEIGHT & FINISH

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE  
BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
MSH NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: PJC  
DRAWN BY: MAB  
CHECKED BY: GAM

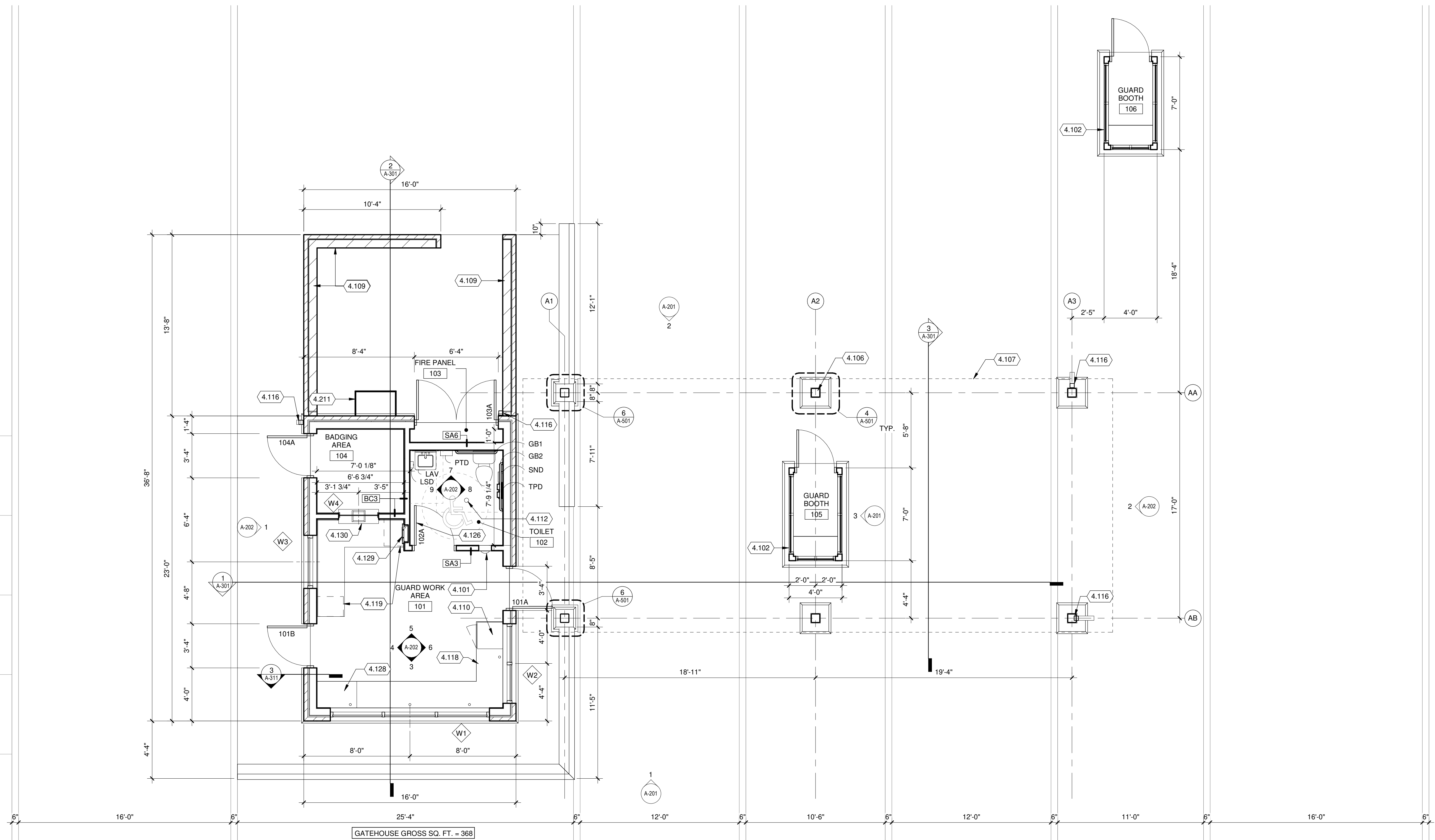
DO NOT SCALE DRAWINGS

SHEET CONTENTS  
NOTES & SYMBOLS

SHEET NO.:

A-001

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### KEYED NOTES

- 4.101 SEMI-RECESSED FIRE EXTINGUISHER CABINET.
- 4.102 PREFABRICATED GUARD SHACK, SEE SPECIFICATIONS.
- 4.106 PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
- 4.107 EDGE OF CANOPY ABOVE.
- 4.109 4" NOMINAL BRICK VENEER ON 8" CMU BACK UP WITH 4" HIGH PRECAST CAP, GROUT CORES SOLID, TOP COURSE OF WALL TO BE A BOND BEAM.
- 4.110 UNDER COUNTER REFRIGERATOR, GFCI.
- 4.112 FLOOR DRAIN, SEE PLUMBING DRAWINGS.
- 4.116 4" X 4" PREFINISHED METAL DOWNSPOUTS CONNECT TO STORM PIPE, SEE DETAIL 4/A-103 AND CIVIL DRAWINGS.

### KEYED NOTES

- 4.118 SOLID SURFACE WORK SURFACE.
- 4.119 PLASTIC LAMINATE CABINETRY WITH SOLID SURFACE COUNTERTOP.
- 4.126 INSTALL TOILET SIGNAGE ON DOOR, SEE DETAIL 4/A-141 AND 5/A-141.
- 4.128 COUNTERTOP SHALL BE REMOVABLE IN THIS LOCATION TO ACCESS EQUIPMENT MOUNTED UNDER COUNTER. COORDINATE WITH GOVERNMENT ON EXACT LENGTH OF REMOVABLE SECTION .
- 4.129 BOTTLE FILLING STATION, SEE SPECIFICATIONS.
- 4.130 CUT SOLID SURFACE COUNTERTOP FOR TRANSACTION WINDOW SHELF.
- 4.211 PREFINISHED METAL DUCT ENCLOSURE.

### ARCHITECTURAL PLAN GENERAL NOTES:

1. GUARD STATION 101 BUILDING SLAB ELEVATION 100'-00" = CIVIL 912.72.
2. GUARD SHACK 105 SLAB ELEVATION 100'-00" = CIVIL 912.74.
3. GUARD SHACK 106 SLAB ELEVATION 100'-00" = CIVIL 912.01.
4. CVIF SUPPORT SHACK 107 SLAB ELEVATION 100'-00" = CIVIL 908.99.
3. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
4. ALL DIMENSIONS ARE FROM FACE OF WALL (I.E. GYPSUM WALLBOARD), UNLESS NOTED OTHERWISE.
5. INSTALL WOOD BLOCKING REINFORCEMENT AT ALL CASEWORK, WALL MOUNTED ACCESSORIES AND GOVERNMENT SUPPLIED EQUIPMENT. SEE A-202 FOR ACCESSORY MOUNTING HEIGHTS.

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## MICHIGAN AIR NATIONAL GUARD CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

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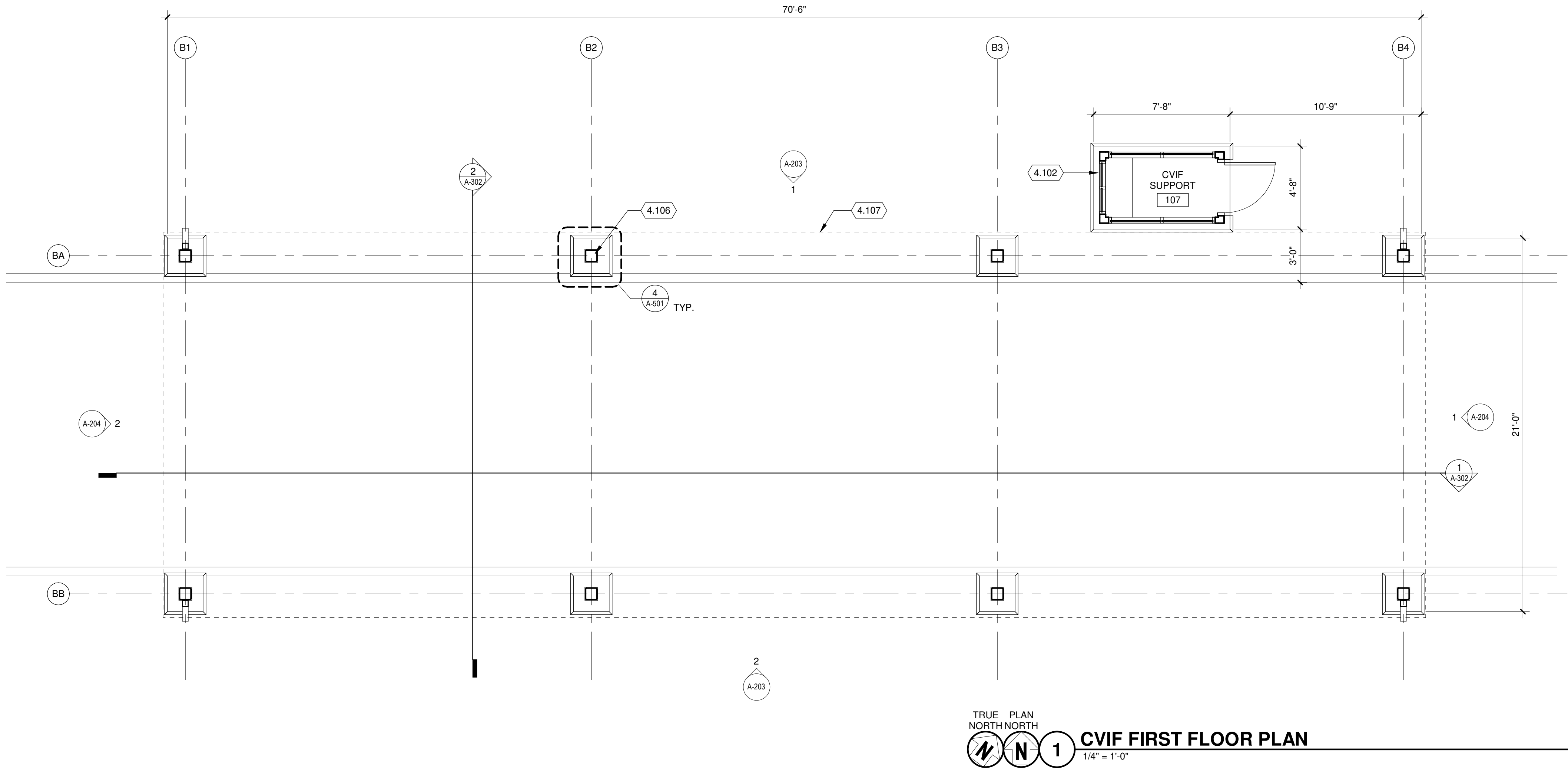
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SHEET CONTENTS  
GATEHOUSE FIRST  
FLOOR PLAN

SHEET NO.:

**A-101**





ARCHITECTURAL PLAN GENERAL NOTES:

1. GUARD STATION 101 BUILDING SLAB ELEVATION 100'-00" = CIVIL 912.72.
2. GUARD SHACK 105 SLAB ELEVATION 100'-00" = CIVIL 912.74.
3. GUARD SHACK 106 SLAB ELEVATION 100'-00" = CIVIL 912.01.
4. CVIF SUPPORT SHACK 107 SLAB ELEVATION 100'-00" = CIVIL 908.99.
3. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
4. ALL DIMENSIONS ARE FROM FACE OF WALL (I.E. GYPSUM WALLBOARD), UNLESS NOTED OTHERWISE.
5. INSTALL WOOD BLOCKING REINFORCEMENT AT ALL CASEWORK, WALL MOUNTED ACCESSORIES AND GOVERNMENT SUPPLIED EQUIPMENT. SEE A-202 FOR ACCESSORY MOUNTING HEIGHTS.

KEYED NOTES

- 4.102    PREFABRICATED GUARD SHACK, SEE SPECIFICATIONS.
- 4.106    PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
- 4.107    EDGE OF CANOPY ABOVE.

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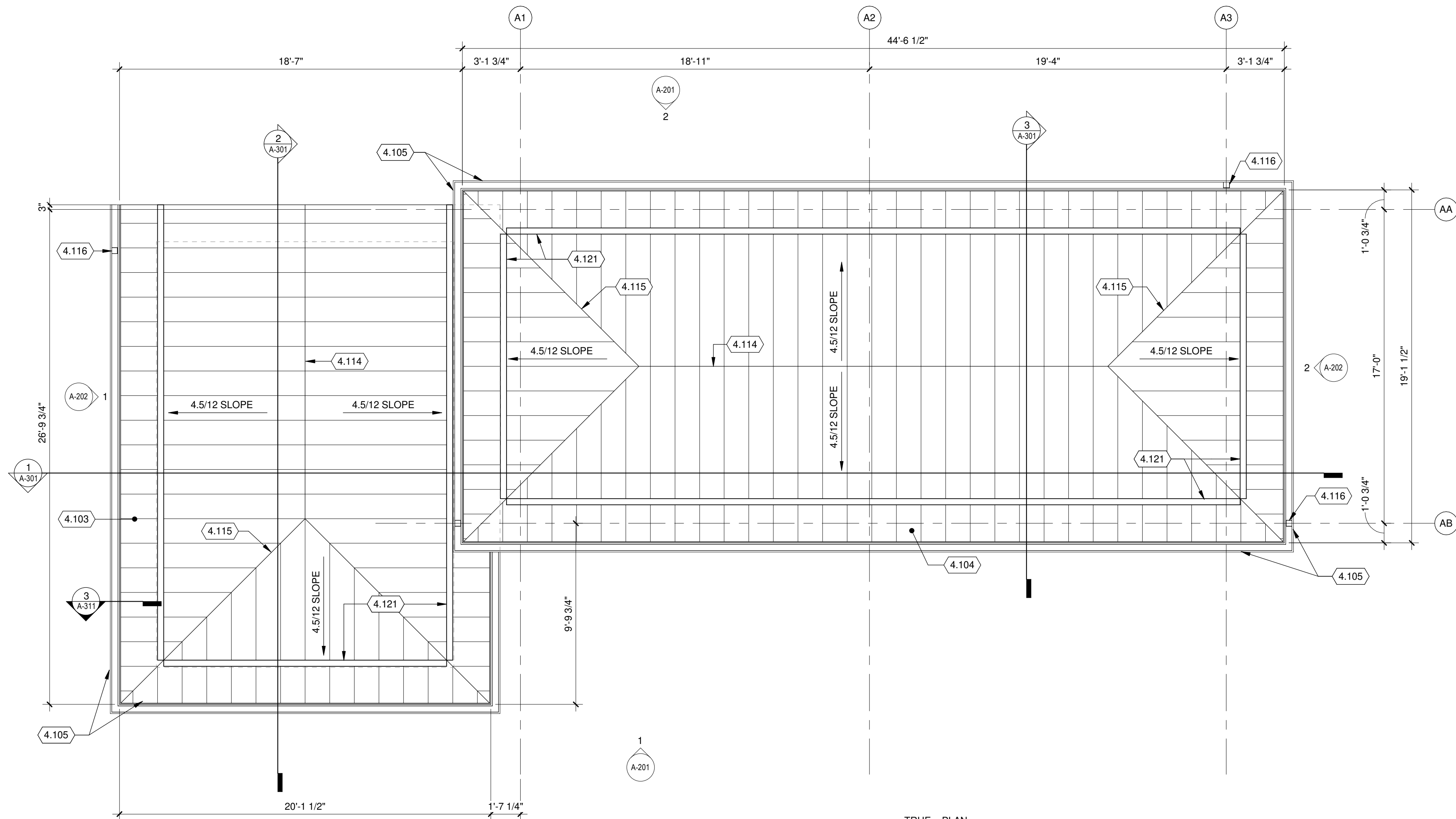
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SHEET CONTENTS  
CVIF FIRST FLOOR  
PLAN

SHEET NO.:

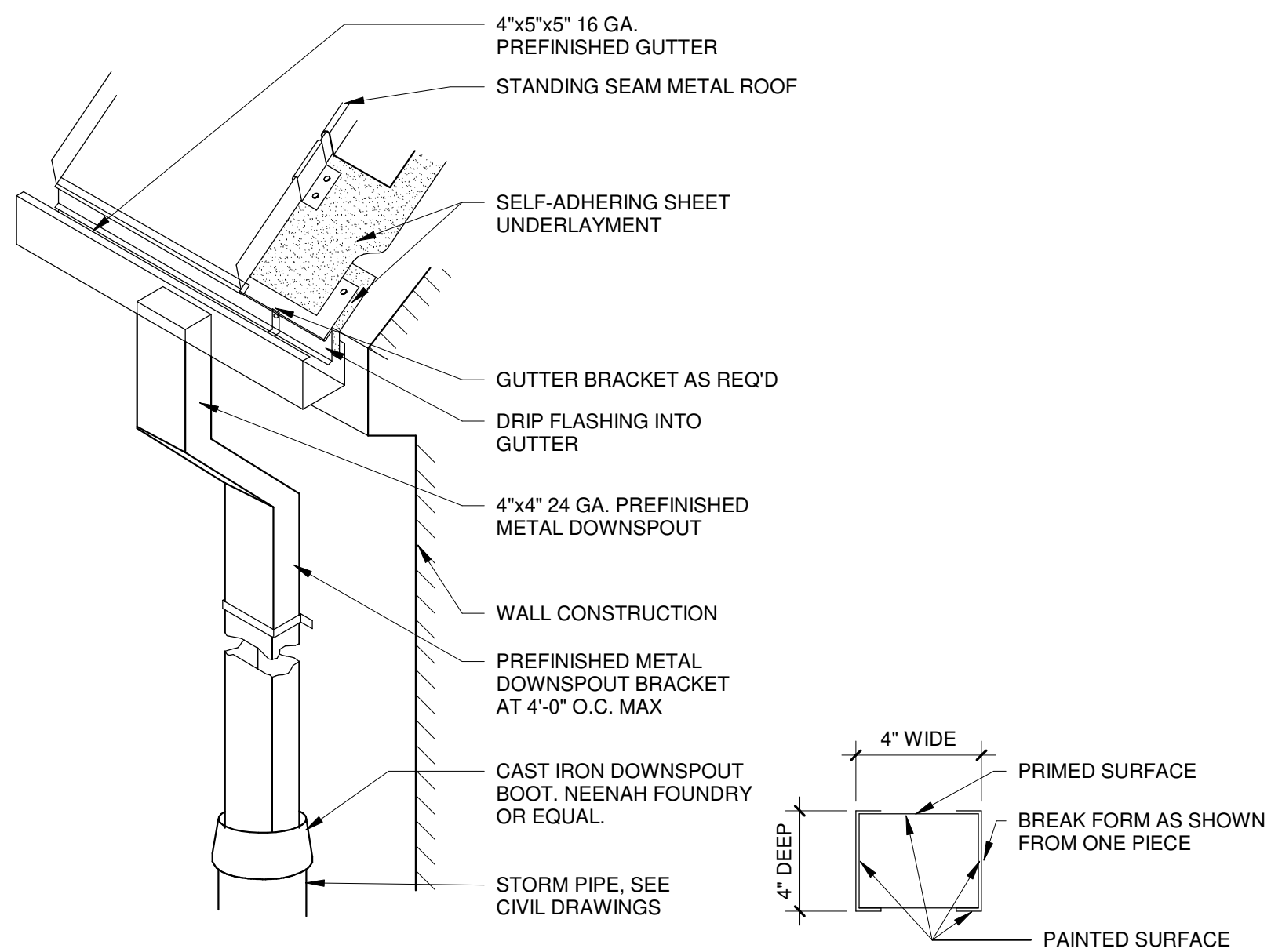
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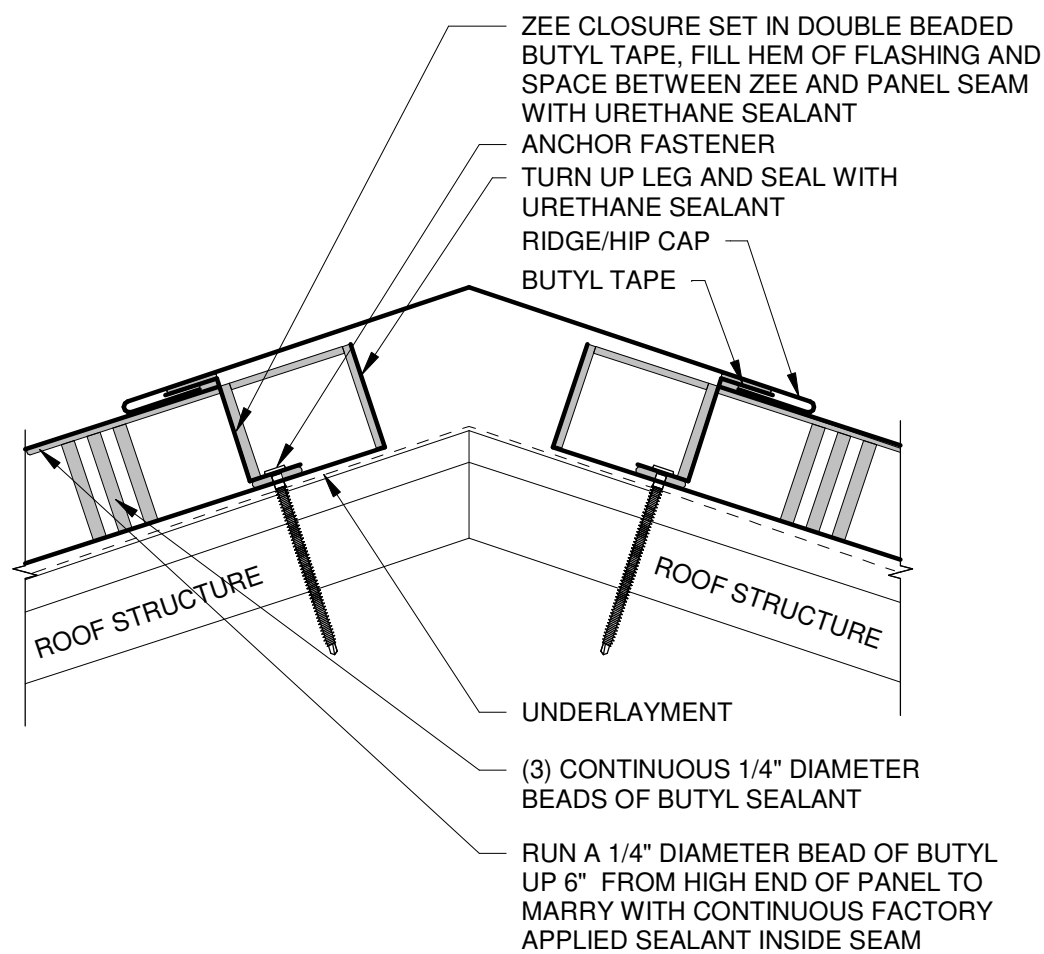
TRUE PLAN NORTH NORTH  
1  
1/4" = 1'-0"

GATEHOUSE ROOF PLAN



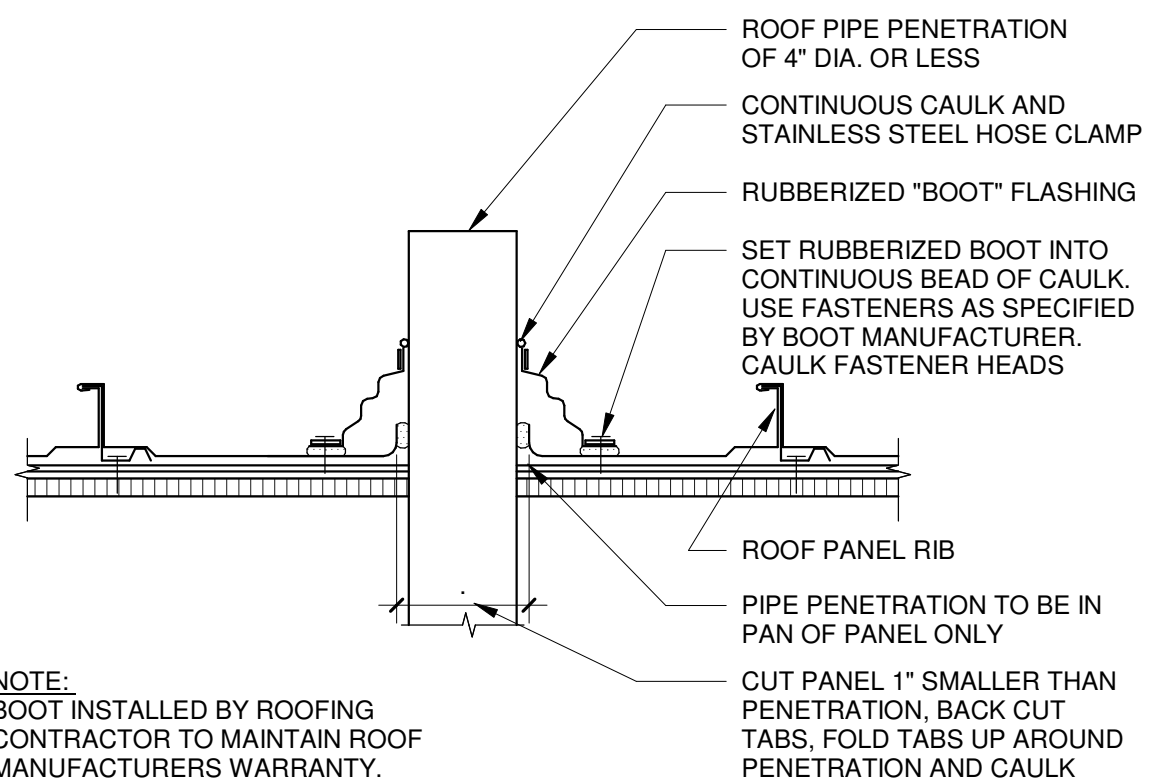
4 TYPICAL DOWNSPOUT ISO

1" = 1'-0"



3 NON VENTED RIDGE

1" = 1'-0"



2 ROOF PENTRATION - STANDING SEAM ROOF

1 1/2" = 1'-0"

ROOF PLAN GENERAL NOTES:

1. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
2. ALL DETAILS, SECTIONS AND NOTES SHOWN ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.

KEYED NOTES

- 4.103 STANDING SEAM METAL ROOF OVER PROTECTION BOARD OVER MINIMUM 4" RIGID INSULATION OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.104 STANDING SEAM METAL ROOF OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.114 ROOF RIDGE, SEE DETAIL 3/A-103.
- 4.115 ROOF HIP.
- 4.116 4" X 4" PREFINISHED METAL DOWNSPOUTS CONNECT TO STORM PIPE, SEE DETAIL 4/A-103 AND CIVIL DRAWINGS.
- 4.121 CONTINUOUS SNOW RETENTION SYSTEM CLAMPED TO VERTICAL SEAM OF ROOF PANELS AS SPECIFIED IN THE STANDING SEAM METAL ROOF SYSTEM SECTION. SINGLE LINE OF SNOW RETENTION SYSTEM SHOWN TO PROVIDE LOCATION OF PROTECTION ONLY. QUANTITY AND LOCATION OF BARRIERS INCLUDING SPACING ROOF CLAMPS AND SNOW CLIPS TO BE DESIGNED BY SNOW RETENTION SYSTEM MANUFACTURER AS SPECIFIED.



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CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

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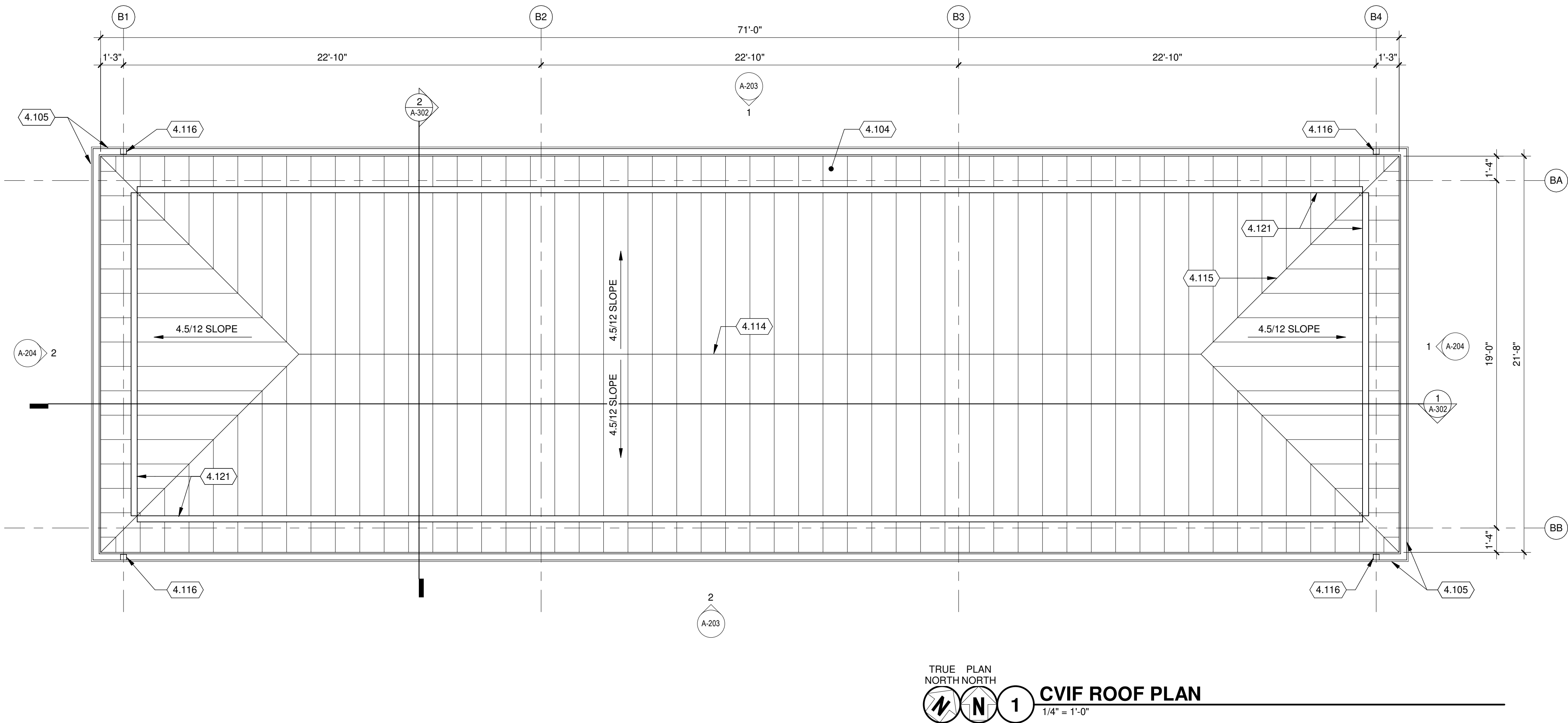
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GATEHOUSE ROOF PLAN

SHEET NO.:

A-103

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ROOF PLAN GENERAL NOTES:

1. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
2. ALL DETAILS, SECTIONS AND NOTES SHOWN ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE. FIELD VERIFY ALL DIMENSIONS. BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.

KEYED NOTES

- 4.104 STANDING SEAM METAL ROOF OVER SELF-ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.114 ROOF RIDGE, SEE DETAIL 3/A-103.
- 4.115 ROOF HIP.
- 4.116 4" X 4" PREFINISHED METAL DOWNSPOUTS CONNECT TO STORM PIPE, SEE DETAIL 4/A-103 AND CIVIL DRAWINGS.
- 4.121 CONTINUOUS SNOW RETENTION SYSTEM CLAMPED TO VERTICAL SEAM OF ROOF PANELS AS SPECIFIED IN THE STANDING SEAM METAL ROOF SYSTEM SECTION. SINGLE LINE OF SNOW RETENTION SYSTEM SHOWN TO PROVIDE LOCATION OF PROTECTION ONLY. QUANTITY AND LOCATION OF BARRIERS INCLUDING SPACING ROOF CLAMPS AND SNOW CLIPS TO BE DESIGNED BY SNOW RETENTION SYSTEM MANUFACTURER AS SPECIFIED.

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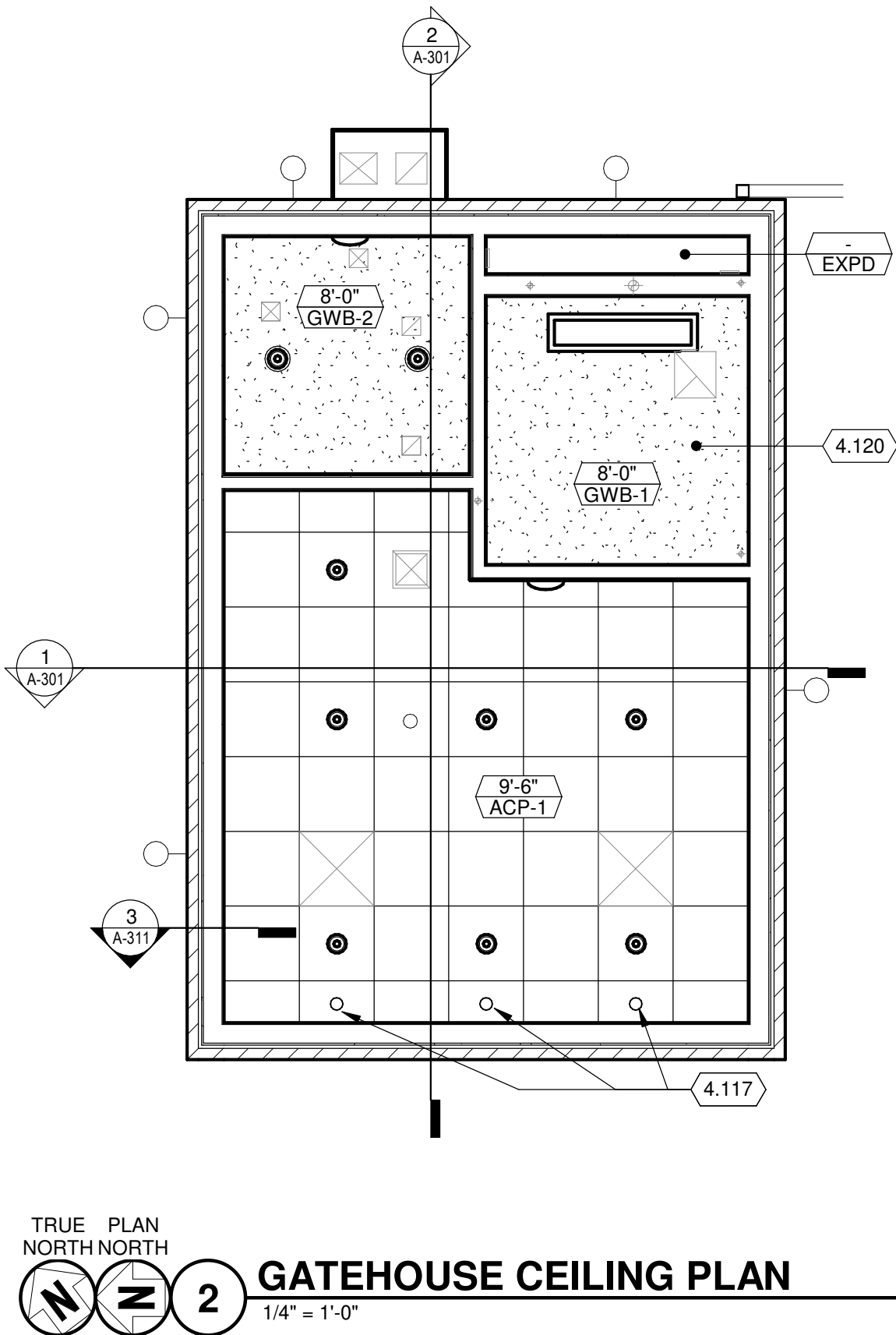
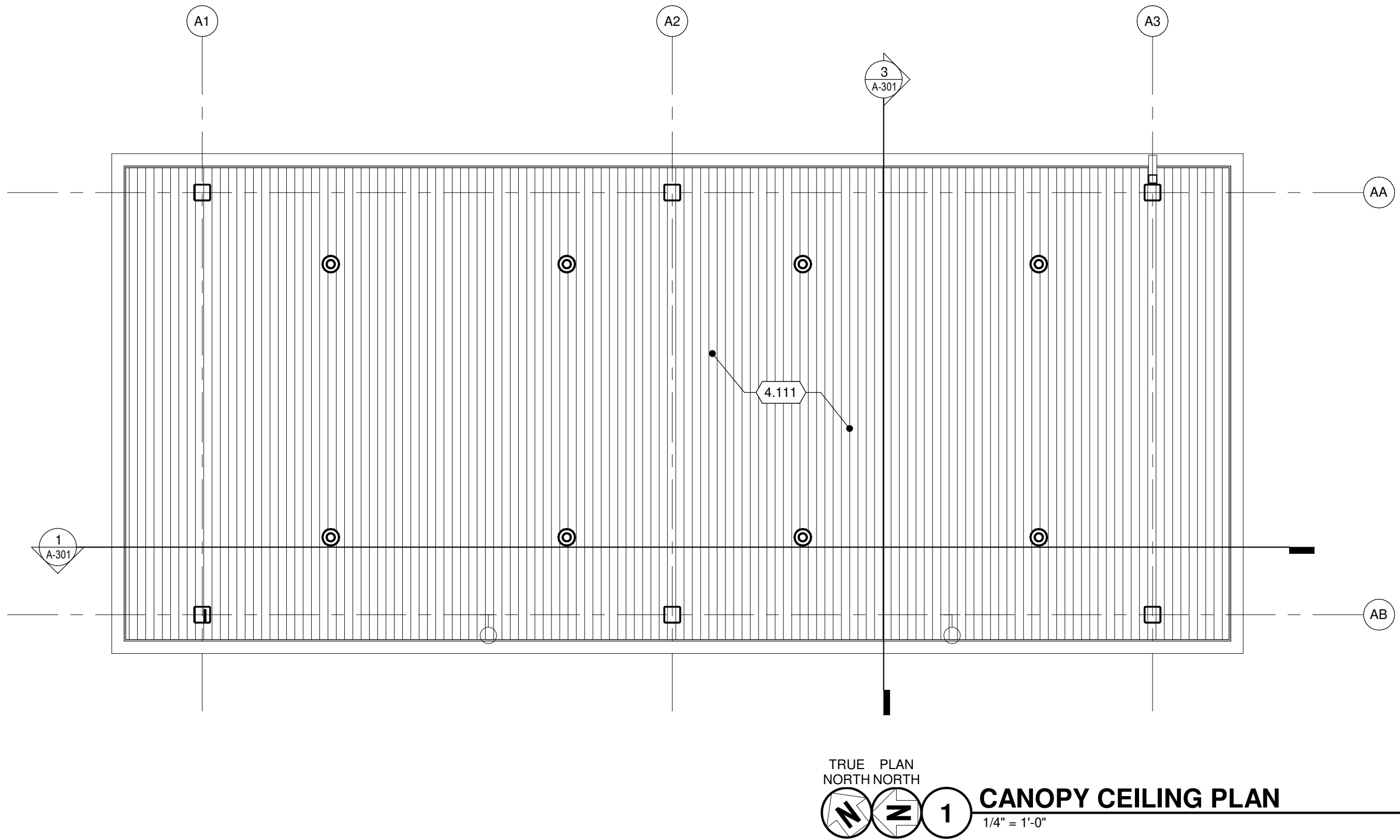
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SHEET CONTENTS  
CVIF ROOF PLAN

SHEET NO.:

A-104





### CEILING PLAN GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE FOR FLOOR, WALL AND CEILING FINISHES AND ROOM HEIGHTS.
2. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT FOR FINAL DECISION.
3. ALL RECESSED LIGHTS, SPRINKLERS, FIRE DETECTION EQUIPMENT, OCCUPANCY SENSORS, ETC. SHALL BE CENTERED IN THE TILES UNLESS NOTED OTHERWISE.
4. CENTER ALL CEILING GRIDS IN SPACE UNLESS NOTED OTHERWISE.
5. ALL METAL LINEAR DIFFUSERS SHALL BE PAINTED TO MATCH SURROUNDING WALL OR CEILING SURFACE.

### CEILING LEGEND:

SEE ELECTRICAL FOR EXACT FIXTURE MODEL

- 2' x 2' SUSPENDED CEILING GRID
- GYPSUM BOARD CEILING/ PORTLAND CEMENT PLASTER (PAINTED)
- LIGHT FIXTURE (RECESSED MOUNTED)
- LIGHT FIXTURE (RECESSED MOUNTED 4" WIDE OR LESS)
- LIGHT FIXTURE (RECESSED MOUNTED)
- LIGHT FIXTURE (RECESSED CAN)
- LIGHT FIXTURE (SURFACE MOUNTED)
- LIGHT FIXTURE (SURFACE MOUNTED)
- LIGHT FIXTURE (SUSPENDED)
- LIGHT FIXTURE (SUSPENDED)
- CEILING RECEPTACLES
- CEILING OCCUPANCY SENSOR
- CEILING FIRE ALARM DEVICES
- CEILING MASS NOTIFICATION DEVICE
- CEILING SPEAKER
- CEILING SECURITY STRODE
- CEILING CAMERA
- OCCUPANCY SENSOR
- SPRINKLER HEADS
- SUPPLY AIR DIFFUSER
- RETURN AIR DIFFUSER / EXHAUST GRILL
- EXHAUST FAN

### KEYED NOTES

- 4.111 PREFINISHED METAL ROOF SOFFIT.
- 4.117 MONITOR BRACKET MOUNTED TO WALL SUPPLIED BY GOVERNMENT. CONFIRM SIZE AND LOCATION WITH GOVERNMENT. CONTRACTOR TO PROVIDE BLOCKING ABOVE ALL WINDOWS FOR BRACKET MOUNTS.
- 4.120 PROVIDE SOUND BATT. INSULATION BETWEEN JOISTS ABOVE GYP. BD. CEILING.



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SHEET CONTENTS  
GATEHOUSE FIRST  
FLOOR CEILING  
PLAN

SHEET NO.:



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SHEET CONTENTS  
CVIF FIRST FLOOR  
CEILING PLAN

SHEET NO.:

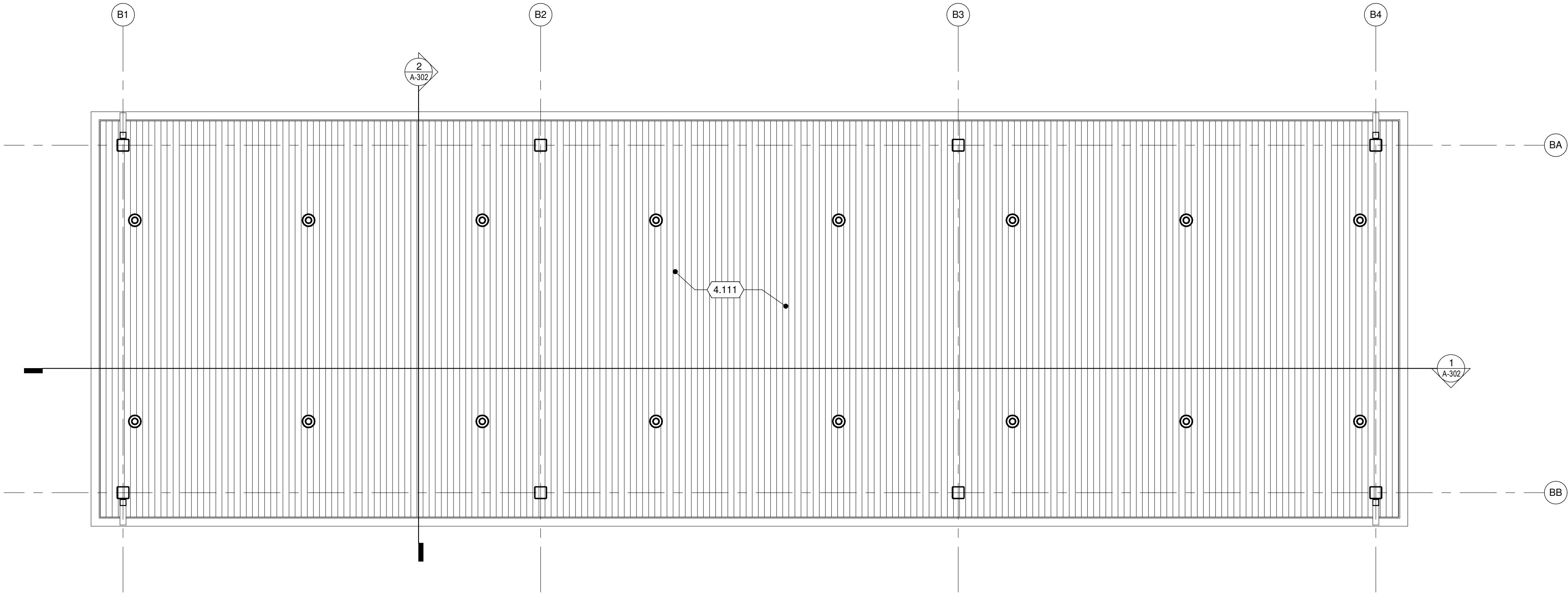
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CEILING PLAN GENERAL NOTES:

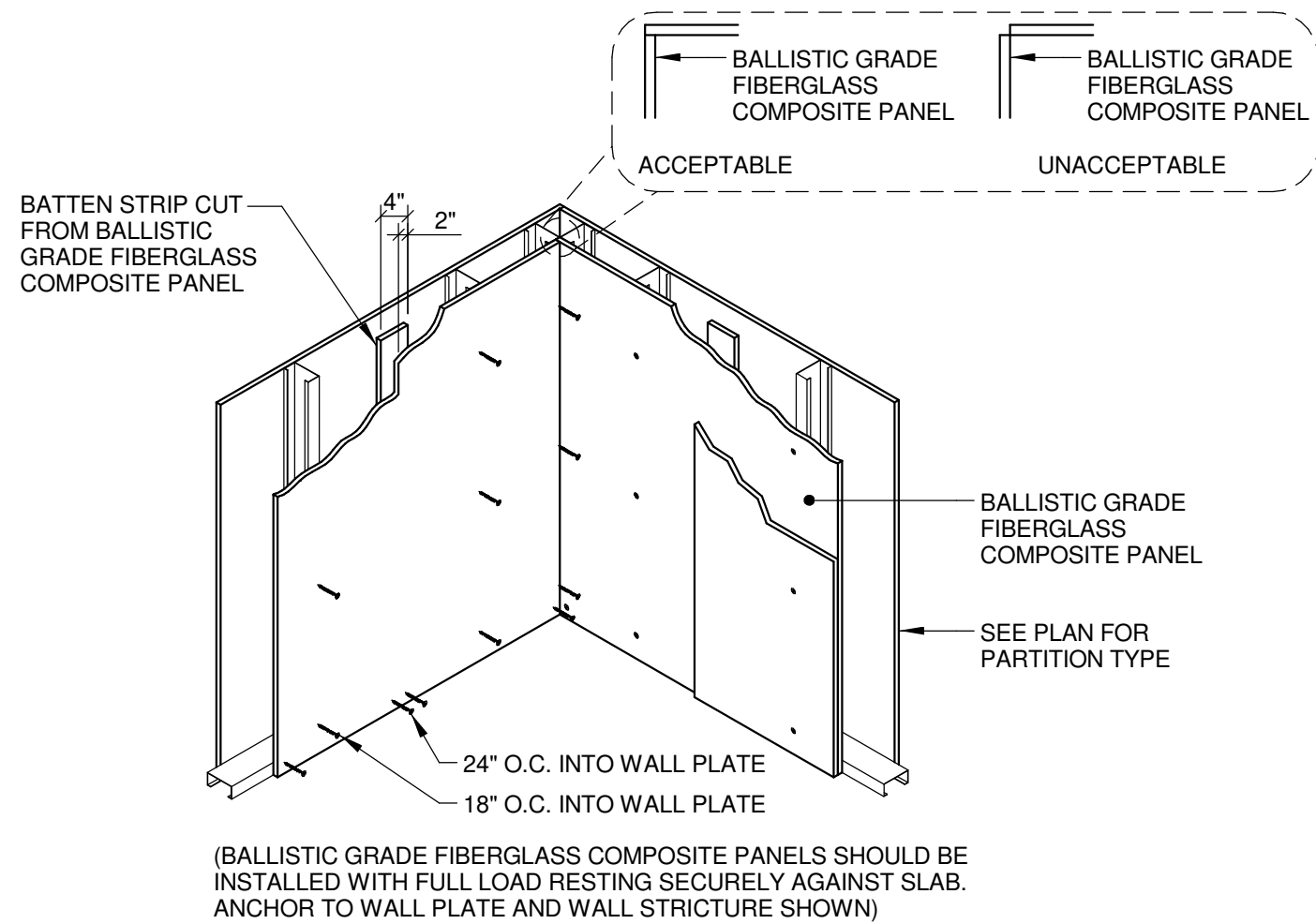
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2. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT FOR FINAL DECISION.
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4. CENTER ALL CEILING GRIDS IN SPACE UNLESS NOTED OTHERWISE.
5. ALL METAL LINEAR DIFFUSERS SHALL BE PAINTED TO MATCH SURROUNDING WALL OR CEILING SURFACE.

KEYED NOTES

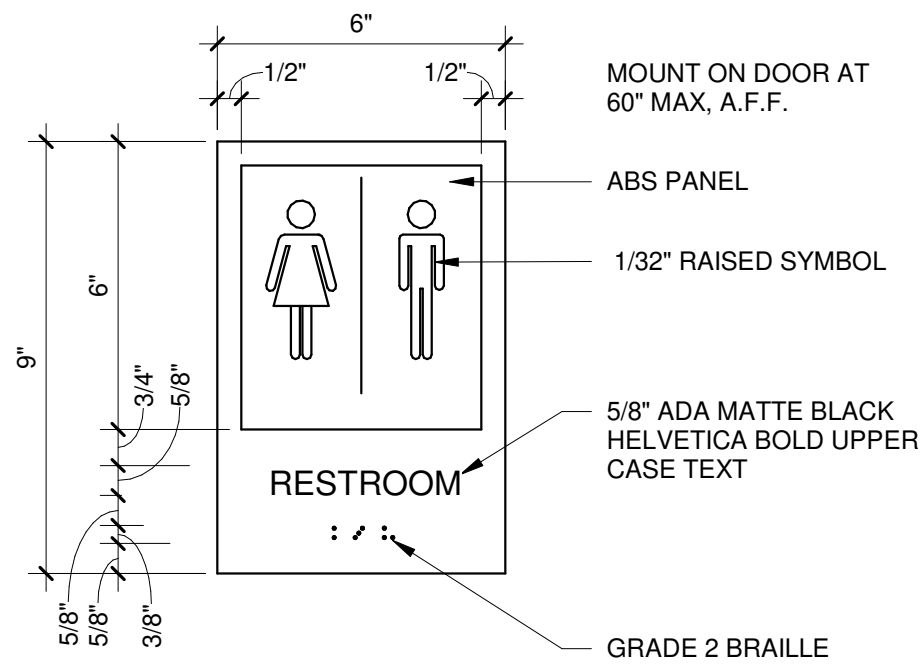
- 4.111 PREFINISHED METAL ROOF SOFFIT.



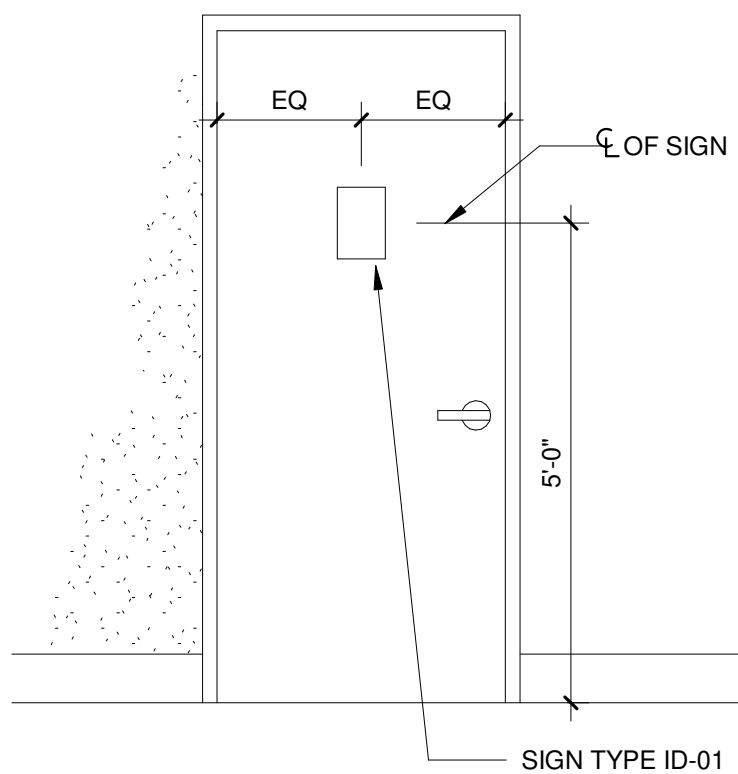
TRUE PLAN  
NORTH NORTH  
CVIF CEILING PLAN  
1/4" = 1'-0"



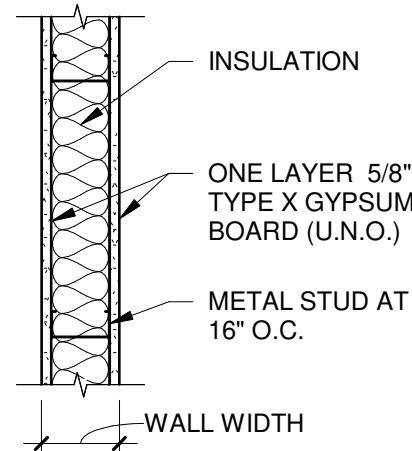
3 BALLISTIC PANEL JOINT  
1/2" = 1'-0"



4 SIGNAGE DETAIL  
3" = 1'-0"



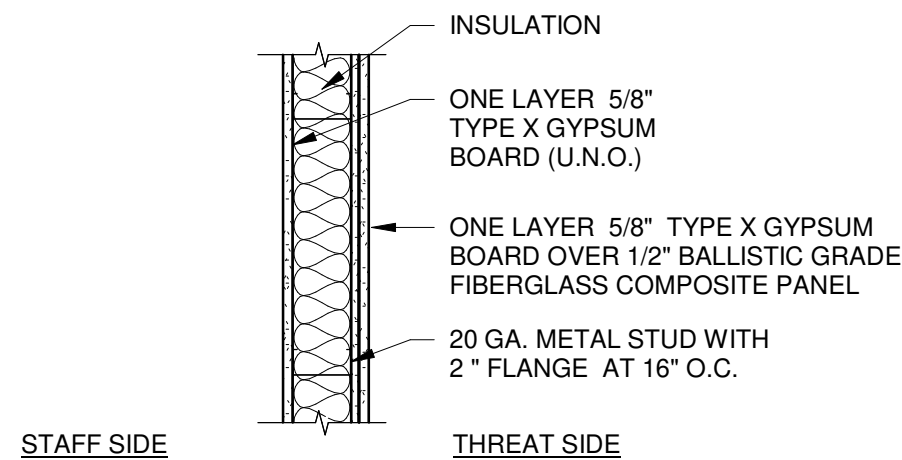
5 SIGN MOUNTING  
1/2" = 1'-0"



"SA" SERIES

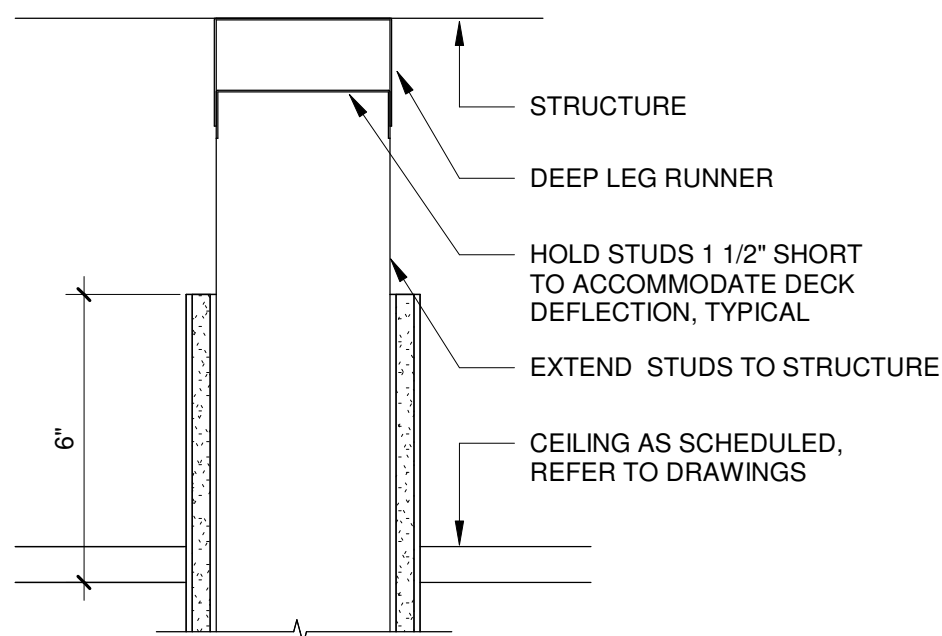
PTN TYPE	STUD WIDTH	WALL WIDTH	NOTES
SA3	3 5/8"	4 7/8"	
SA6	6"	7 1/4"	

PARTITION TYPES  
NO SCALE

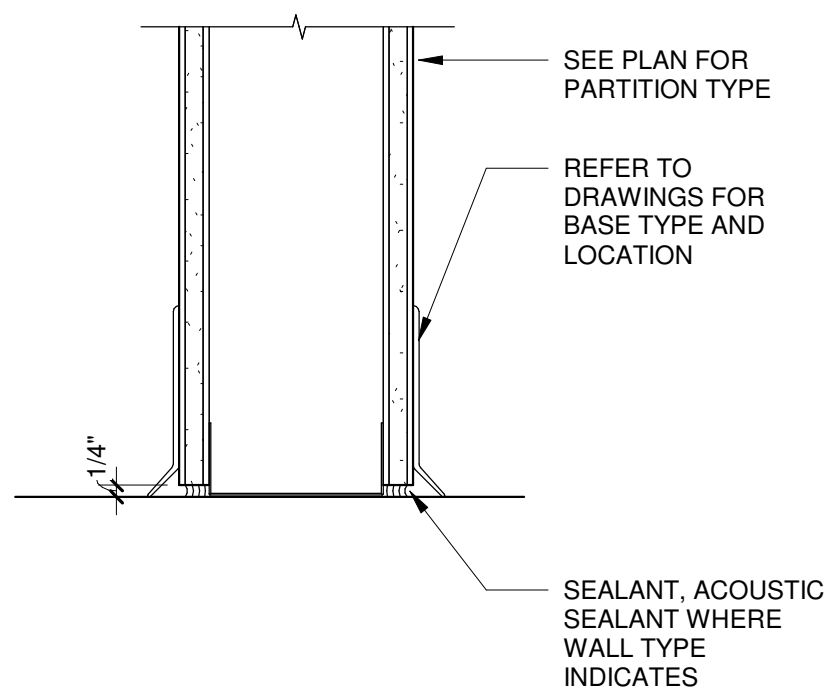


"BC" SERIES

PTN TYPE	STUD WIDTH	WALL WIDTH	NOTES
BC3	3 5/8"	5 3/8"	UL 752 LEVEL III



1 PARTITION HEAD  
3" = 1'-0"

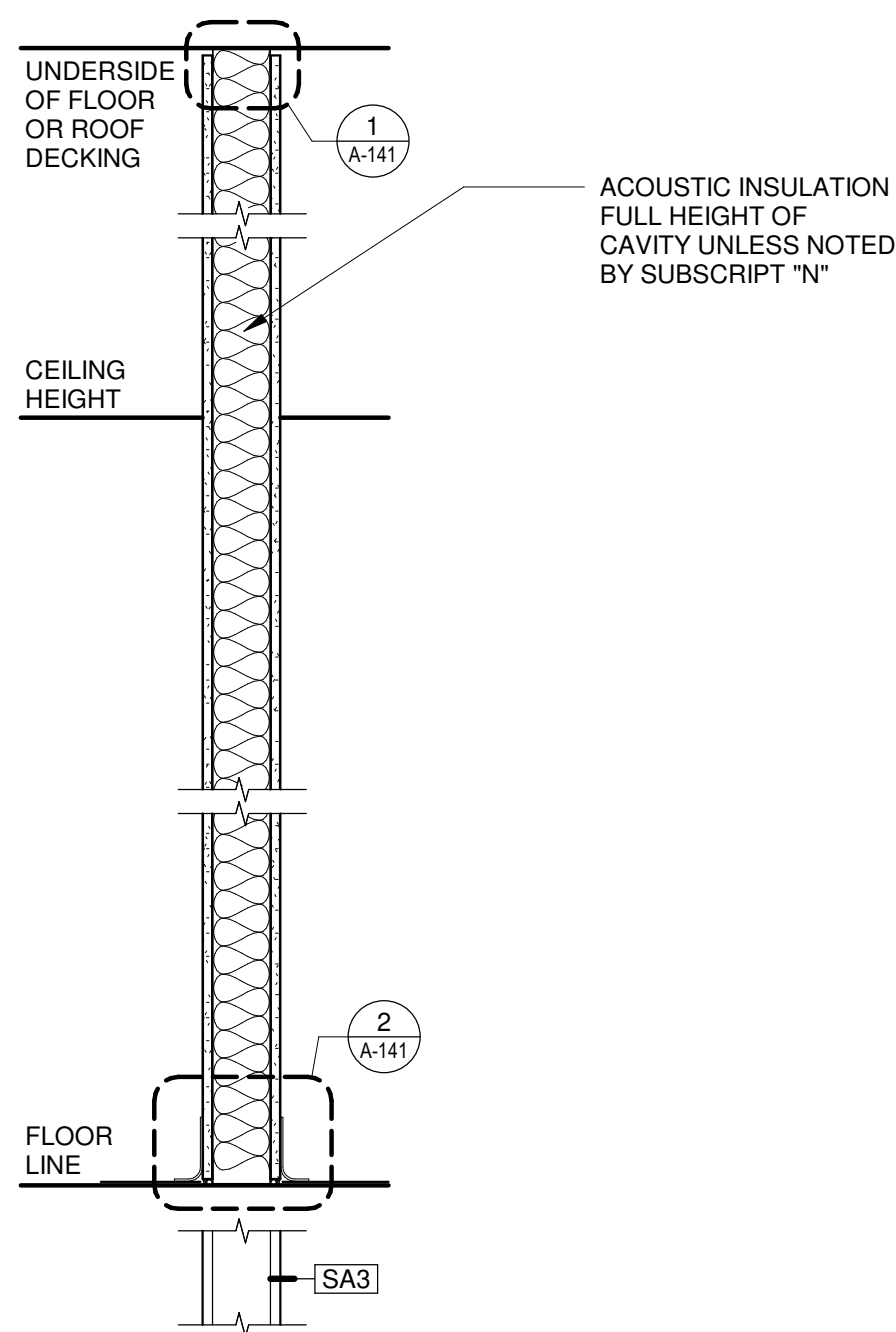


2 GYP WALL BASE  
3" = 1'-0"

## PARTITION GENERAL NOTES:

- PARTITIONS SHALL BE TYPE "SA3" UNLESS OTHERWISE NOTED.
- ALL ELEMENTS OF ACOUSTIC PARTITIONS SHALL EXTEND TO ROOF OR FLOOR DECK ABOVE AND ALL JOINTS AND PENETRATIONS OF ACOUSTIC RATED PARTITIONS SHALL BE FILLED AND SEALED.
- REFER TO "INTERIOR PARTITION TYPE MODIFIERS" FOR SYMBOLS USED TO IDENTIFY ADDITIONAL REQUIREMENTS OR MODIFICATIONS TO BASIC PARTITION TYPES.
- PARTITION TYPES DESCRIBE GENERAL REQUIREMENTS FOR PARTITIONS. REFER TO PRODUCT MANUFACTURERS' SPECIFICATIONS AND REQUIREMENTS FOR APPLICABLE TESTING AGENCIES FOR SPECIFICS OF PARTITION CONSTRUCTION.
- PARTITION REQUIREMENTS SHOWN ARE CONSIDERED MINIMUM STANDARDS. WHERE CONDITIONS OF THE WORK CAUSE PARTITION(S) TO EXCEED LIMITS RECOMMENDED BY MANUFACTURER, REINFORCE PARTITION(S).
- PENETRATIONS IN RATED PARTITIONS AND CONNECTIONS OF THE PARTITIONS TO OTHER PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED DETAILS AND IN COMPLIANCE WITH APPLICABLE TESTING AGENCY REQUIREMENTS.
- WHERE A CLEAR DIMENSION OR OPENING IS REQUIRED OR NOTED, MEASURE DIMENSION TO FACE OF PARTITION FINISH.
- REFER TO STRUCTURAL DRAWINGS FOR EXTENT AND DESCRIPTION OF INTERIOR STRUCTURAL WALLS NOT IDENTIFIED BY PARTITION TYPES.
- INSTALL BLOCKING OR BACKER MATERIAL FOR ATTACHMENT/MOUNTING OF WALL HUNG ITEMS OR EQUIPMENT DESCRIBED IN THE DOCUMENTS.
- FIRE RATED PARTITIONS: GA AND UL TEST NUMBERS MAY VARY DEPENDING ON THE MANUFACTURER OF COMPONENTS ACTUALLY USED.
- PROVIDE 5/8" TYPE "X" GYPSUM BOARD (UNLESS NOTED OTHERWISE)
- PROVIDE TYPE "X" GYPSUM BOARD AT FIRE RATED PARTITIONS.
- INSTALLATION OF GYPSUM BOARD, BACKER BOARD AND BASE BOARD SHALL CONFORM TO REQUIREMENTS FOR FIRE RATINGS AND ACOUSTICAL RATINGS.
- TYPICAL FLOOR PLAN DIMENSIONS OF PARTITIONS ARE TO THE NOMINAL FINISH FACE OF GYPSUM BOARD UNLESS NOTED TO THE CENTERLINE OF THE PARTITION.
- WHERE PARTITIONS AND/OR FURRING MEET, MAINTAIN A FLUSH SURFACE ON THE SIDE WHERE THE FINISH IS STRAIGHT OR CONTINUOUS UNLESS OTHERWISE NOTED.

## PARTITION TYPE SYMBOL AND SUBSCRIPT DEFINITIONS:



NO SUBSCRIPT  
EXTEND TOTAL PARTITION TO STRUCTURE



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# MICHIGAN AIR NATIONAL GUARD CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
MSH NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: PJC  
DRAWN BY: MAB  
CHECKED BY: GAM

DO NOT SCALE DRAWINGS

SHEET CONTENTS  
INTERIOR PARTITION  
TYPES

SHEET NO.:

A-141





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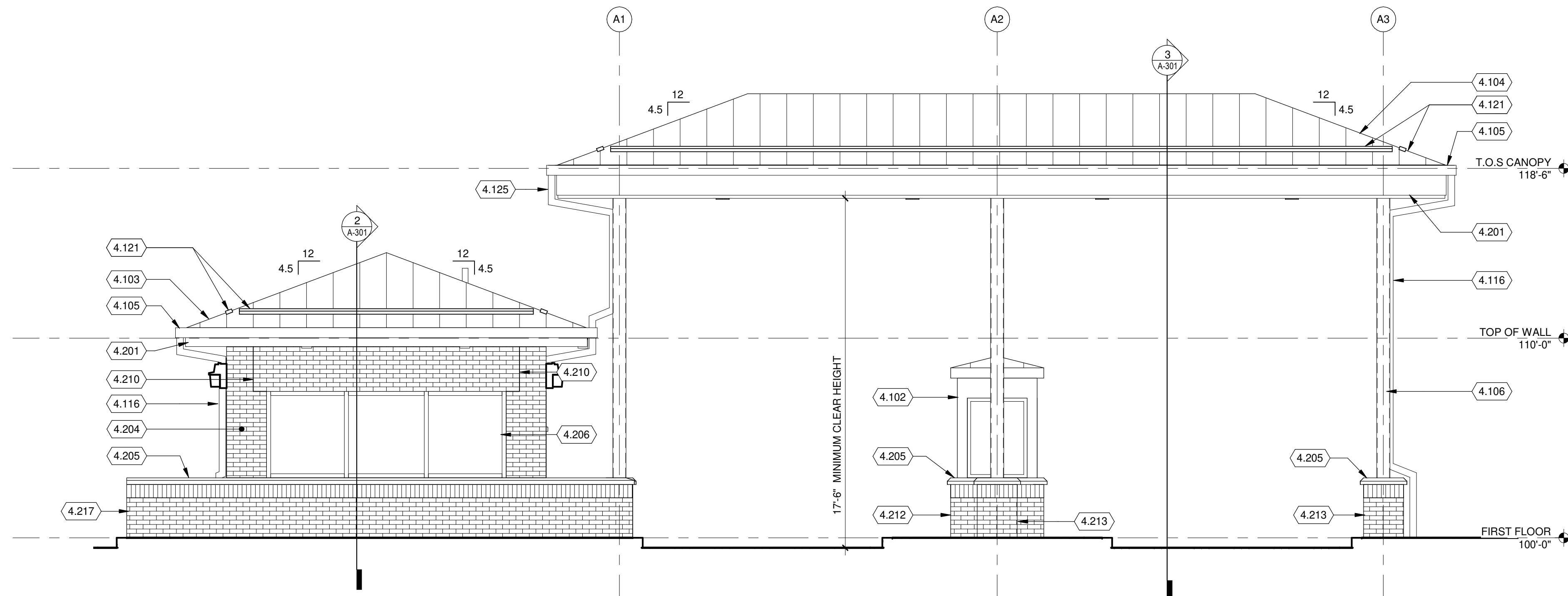
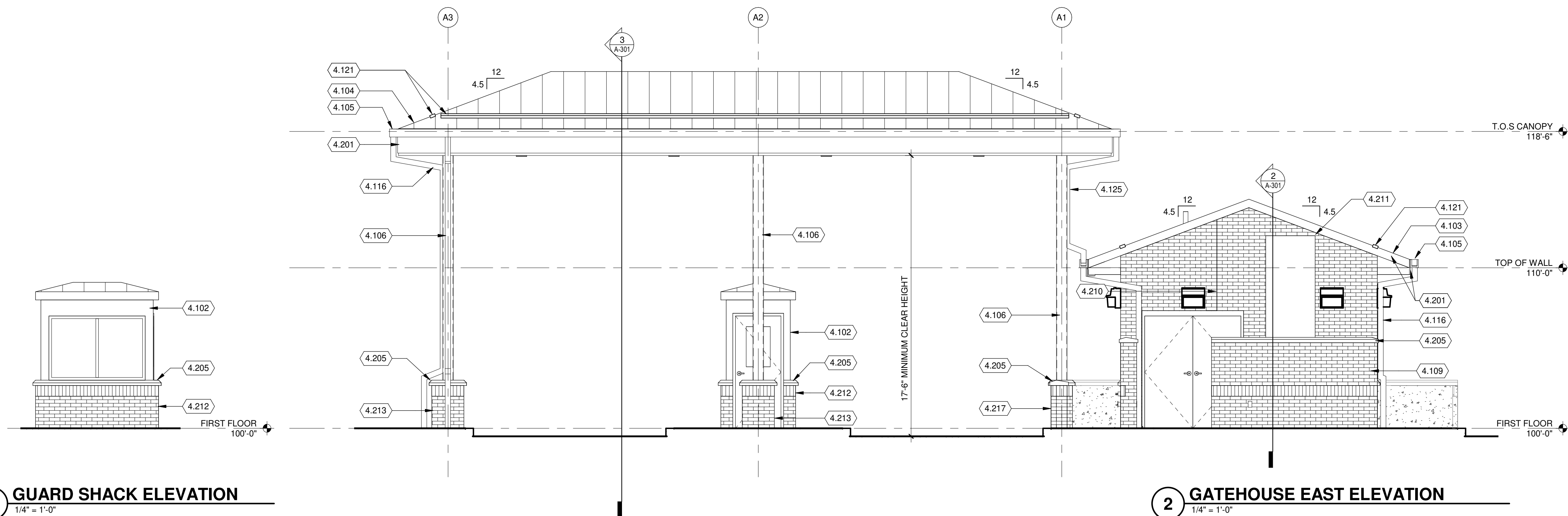
MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCEBATTLE CREEK ANGB  
BATTLE CREEK, MICHIGANISSUED  
02/17/21 B3 FINALANG Project No.: MBMV099170  
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DO NOT SCALE DRAWINGSSHEET CONTENTS  
GATEHOUSE  
EXTERIOR  
ELEVATIONS

SHEET NO.:

A-201

## KEYED NOTES

- 4.102 PREFABRICATED GUARD SHACK, SEE SPECIFICATIONS.
- 4.103 STANDING SEAM METAL ROOF OVER PROTECTION BOARD OVER MINIMUM 4" RIGID INSULATION OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.104 STANDING SEAM METAL ROOF OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.106 PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
- 4.109 4" NOMINAL BRICK VENEER ON 8" CMU BACK UP WITH 4" HIGH PRECAST CAP, GROUT CORES SOLID, TOP COURSE OF WALL TO BE A BOND BEAM.
- 4.116 4" X 4" PREFINISHED METAL DOWNSPOUTS CONNECT TO STORM PIPE, SEE DETAIL 4/A-103 AND CIVIL DRAWINGS.
- 4.121 CONTINUOUS SNOW RETENTION SYSTEM CLAMPED TO VERTICAL SEAM OF ROOF PANELS AS SPECIFIED IN THE STANDING SEAM METAL ROOF SYSTEM SECTION. SINGLE LINE OF SNOW RETENTION SYSTEM SHOWN TO PROVIDE LOCATION OF PROTECTION ONLY. QUANTITY AND LOCATION OF BARRIERS INCLUDING SPACING ROOF CLAMPS AND SNOW CLIPS TO BE DESIGNED BY SNOW RETENTION SYSTEM MANUFACTURER AS SPECIFIED.
- 4.125 4" X 4" PREFINISHED METAL DOWNSPOUT DISCHARGING ONTO ROOF GUTTER BELOW.
- 4.201 PREFINISHED METAL FASCIA.
- 4.204 4" NOMINAL BRICK VENEER OVER 1" AIRSPACE OVER AIR BARRIER OVER 5/8" EXTERIOR GRADE GYP SHEATHING ON 6" METAL STUD.
- 4.205 PRECAST WALL CAP.
- 4.206 ALUMINUM WINDOW.
- 4.210 MASONRY CONTROL JOINT.
- 4.211 PREFINISHED METAL DUCT ENCLOSURE.
- 4.212 4" NOMINAL BRICK VENEER, SEE SPECIFICATION AND DETAIL 2/A-501.
- 4.213 4" NOMINAL BRICK VENEER ON 4" CMU BACK UP, SEE SPECIFICATION AND DETAIL 4/A-501.
- 4.217 4" NOMINAL BRICK VENEER ON CONCRETE FOUNDATION WALL.

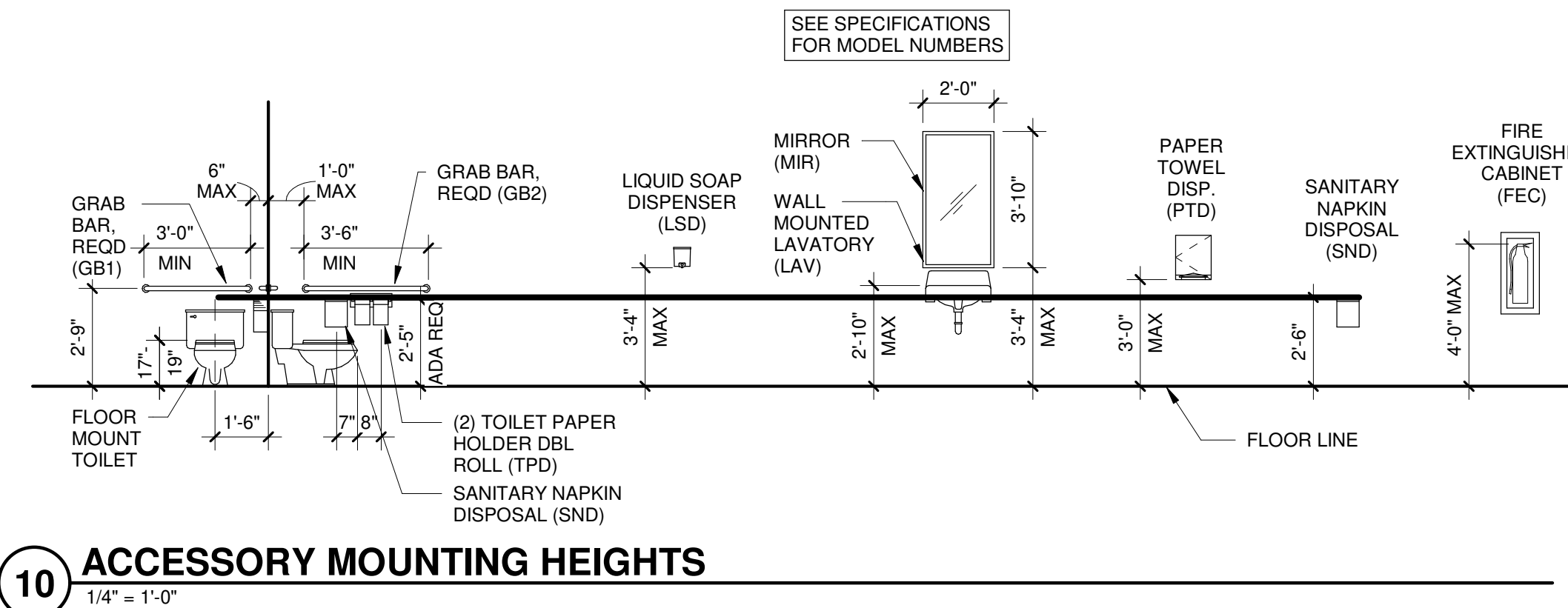
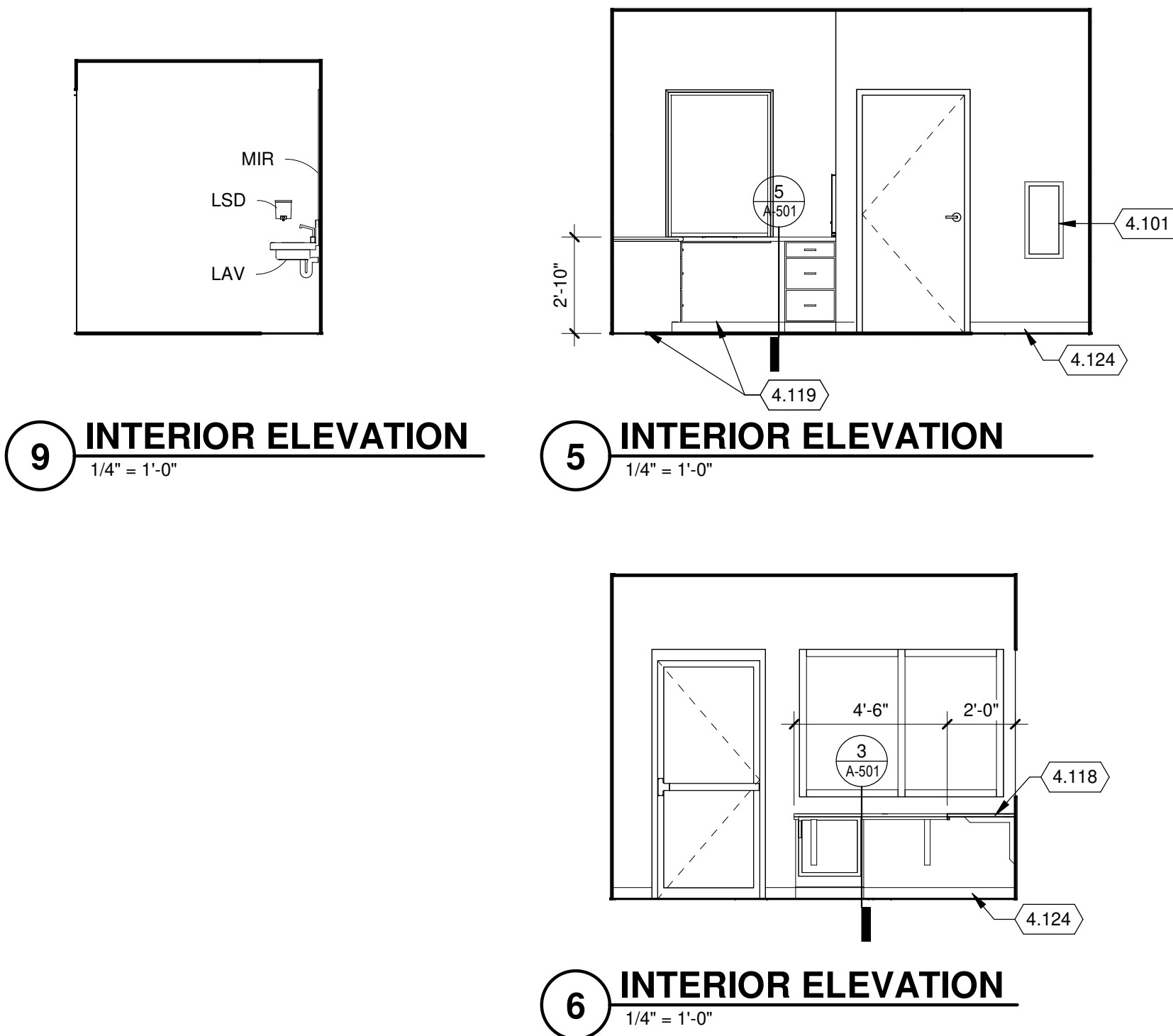
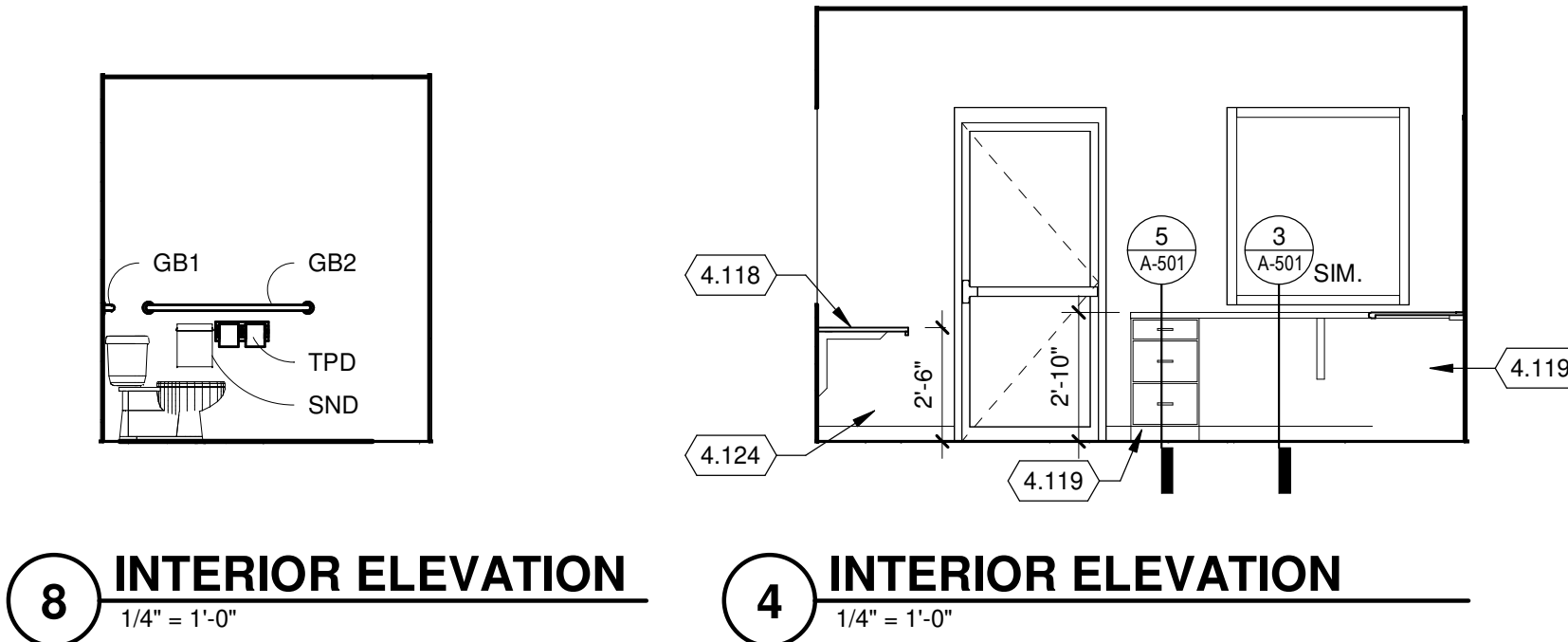
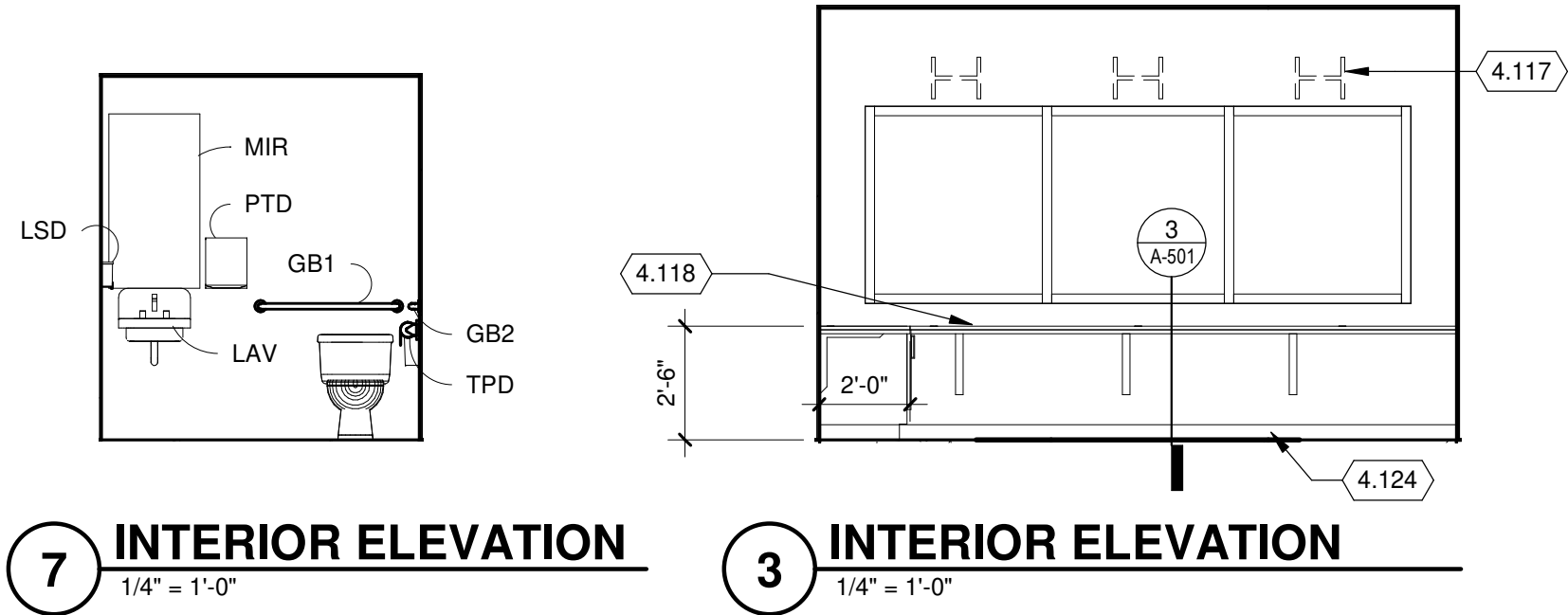
**1 GATEHOUSE WEST ELEVATION**  
1/4" = 1'-0"**3 GUARD SHACK ELEVATION**  
1/4" = 1'-0"**2 GATEHOUSE EAST ELEVATION**  
1/4" = 1'-0"

TOILET ROOM ACCESSORY GENERAL NOTES:

1. PROVIDE BLOCKING IN WALLS FOR ALL WALL MOUNTED ACCESSORIES.
2. ALL EXPOSED SURFACES OF MILLWORK TO BE P. LAMINATE ON 3/4" PART. BD., TYPICAL, UNLESS NOTED OTHERWISE.
3. PROVIDE WATER RESISTANT GYPSUM WALLBOARD AT ALL WET AREAS AND/OR AREAS TO RECEIVE WALL TILE.
4. SEE "ARCHITECTURAL FINISH LIST" IN SPECIFICATIONS FOR MATERIAL INFORMATION.
5. SEE DETAIL 10/A-201 FOR ALL TOILET ACCESSORY MOUNTING HEIGHTS.

TOILET ACCESSORY KEY

GB1 = GRAB BAR  
GB2 = GRAB BAR  
LAV = WALL MOUNTED LAVATORY  
LSD = LIQUID SOAP DISPENSER  
MIR = MIRROR (2'-0" w. x 3'-10"h.) - ALUMINUM FRAMED  
PTD = PAPER TOWEL DISPENSER  
SND = SANITARY NAPKIN DISPOSAL  
TPD = TOILET PAPER DISPENSER



KEYED NOTES

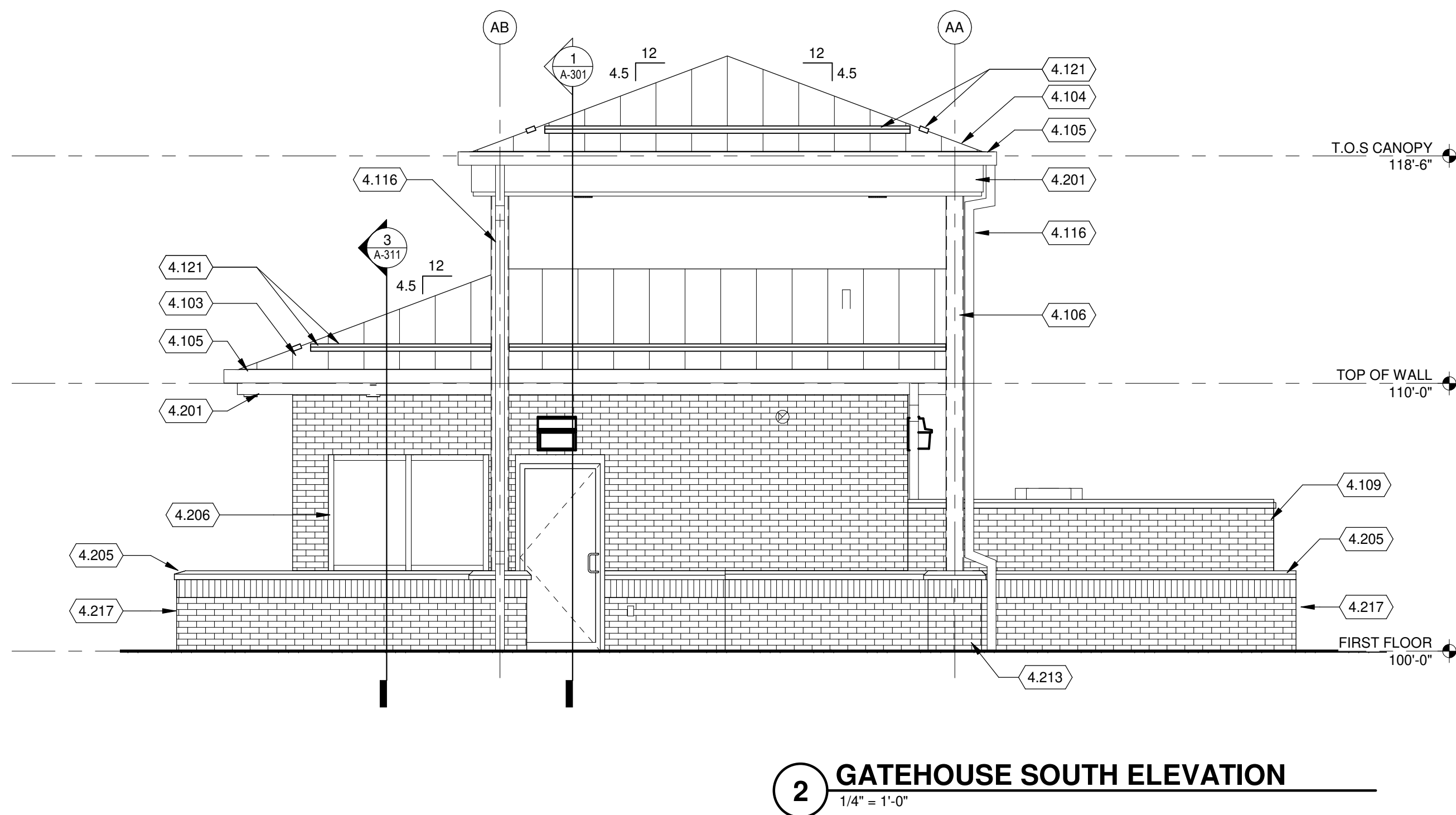
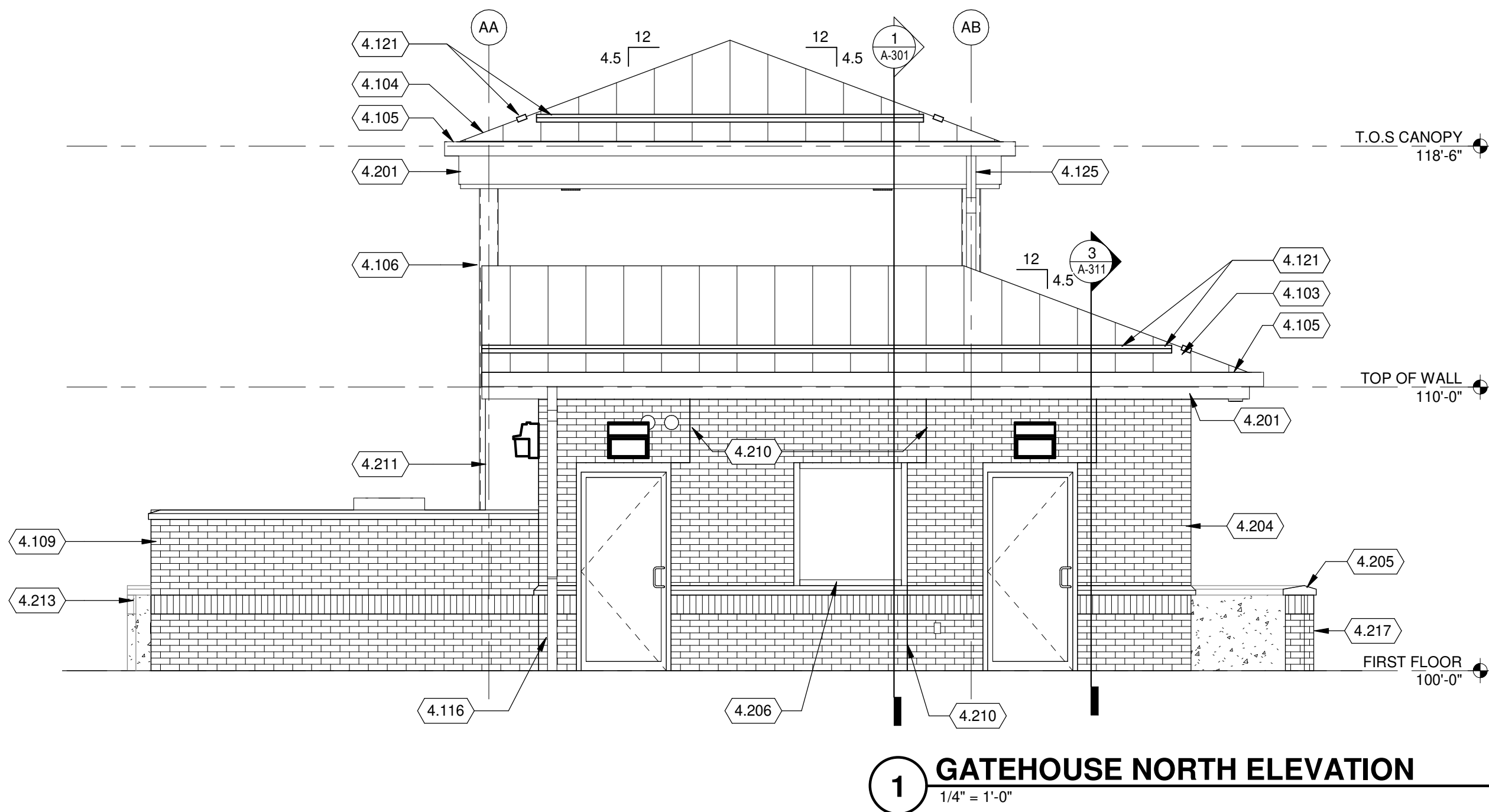
- 4.101 SEMI-RECESSED FIRE EXTINGUISHER CABINET.
- 4.103 STANDING SEAM METAL ROOF OVER PROTECTION BOARD OVER MINIMUM 4" RIGID INSULATION OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.104 STANDING SEAM METAL ROOF OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.106 PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
- 4.109 4" NOMINAL BRICK VENEER ON 8" CMU BACK UP WITH 4" HIGH PRECAST CAP, GROUT CORES SOLID, TOP COURSE OF WALL TO BE A BOND BEAM.
- 4.116 4" X 4" PREFINISHED METAL DOWNSPOUTS CONNECT TO STORM PIPE, SEE DETAIL 4/A-103 AND CIVIL DRAWINGS.
- 4.117 MONITOR BRACKET MOUNTED TO WALL SUPPLIED BY GOVERNMENT. CONFIRM SIZE AND LOCATION WITH GOVERNMENT. CONTRACTOR TO PROVIDE BLOCKING ABOVE ALL WINDOWS FOR BRACKET MOUNTS.

KEYED NOTES

- 4.118 SOLID SURFACE WORK SURFACE.
- 4.119 PLASTIC LAMINATE CABINETRY WITH SOLID SURFACE COUNTERTOP.
- 4.121 CONTINUOUS SNOW RETENTION SYSTEM CLAMPED TO VERTICAL SEAM OF ROOF PANELS AS SPECIFIED IN THE STANDING SEAM METAL ROOF SYSTEM SECTION. SINGLE LINE OF SNOW RETENTION SYSTEM SHOWN TO PROVIDE LOCATION OF PROTECTION ONLY. QUANTITY AND LOCATION OF BARRIERS INCLUDING SPACING ROOF CLAMPS AND SNOW CLIPS TO BE DESIGNED BY SNOW RETENTION SYSTEM MANUFACTURER AS SPECIFIED.
- 4.124 RUBBER WALL BASE.
- 4.125 4" X 4" PREFINISHED METAL DOWNSPOUT DISCHARGING ONTO ROOF GUTTER BELOW.
- 4.201 PREFINISHED METAL FASCIA.
- 4.204 4" NOMINAL BRICK VENEER OVER 1" AIRSPACE OVER AIR BARRIER OVER 5/8" EXTERIOR GRADE GYP SHEATHING ON 6" METAL STUD.
- 4.205 PRECAST WALL CAP.

KEYED NOTES

- 4.206 ALUMINUM WINDOW.
- 4.210 MASONRY CONTROL JOINT.
- 4.211 PREFINISHED METAL DUCT ENCLOSURE.
- 4.213 4" NOMINAL BRICK VENEER ON 4" CMU BACK UP, SEE SPECIFICATION AND DETAIL 4/A-501.
- 4.217 4" NOMINAL BRICK VENEER ON CONCRETE FOUNDATION WALL.



Mead & Hunt

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

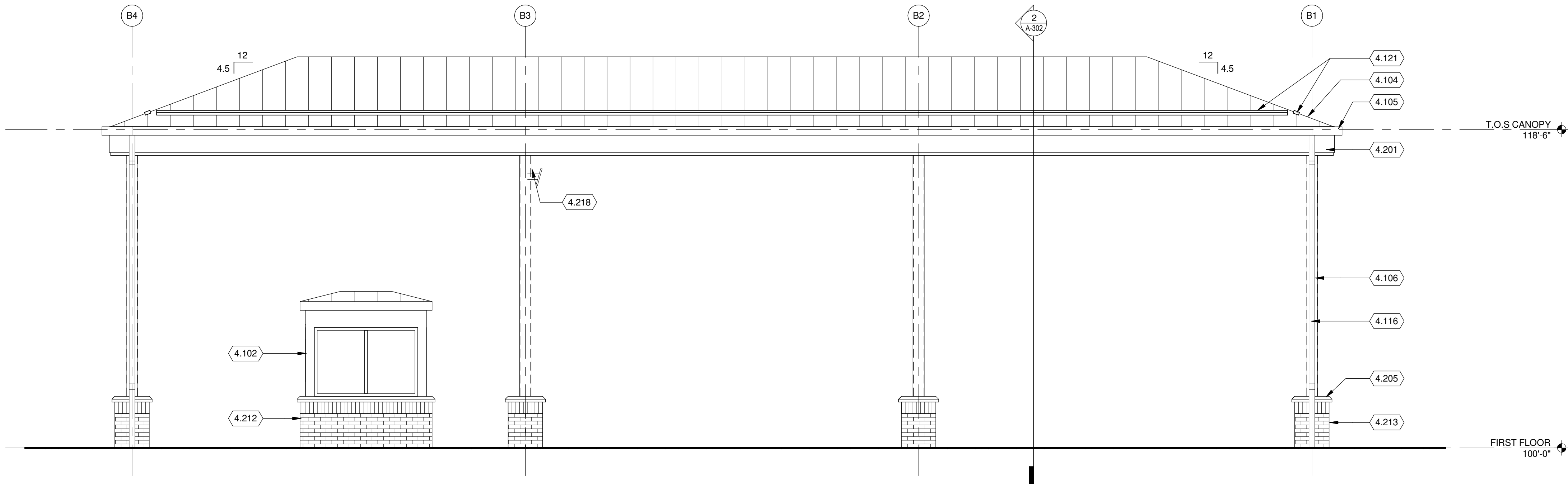
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02/17/21 B3 FINAL

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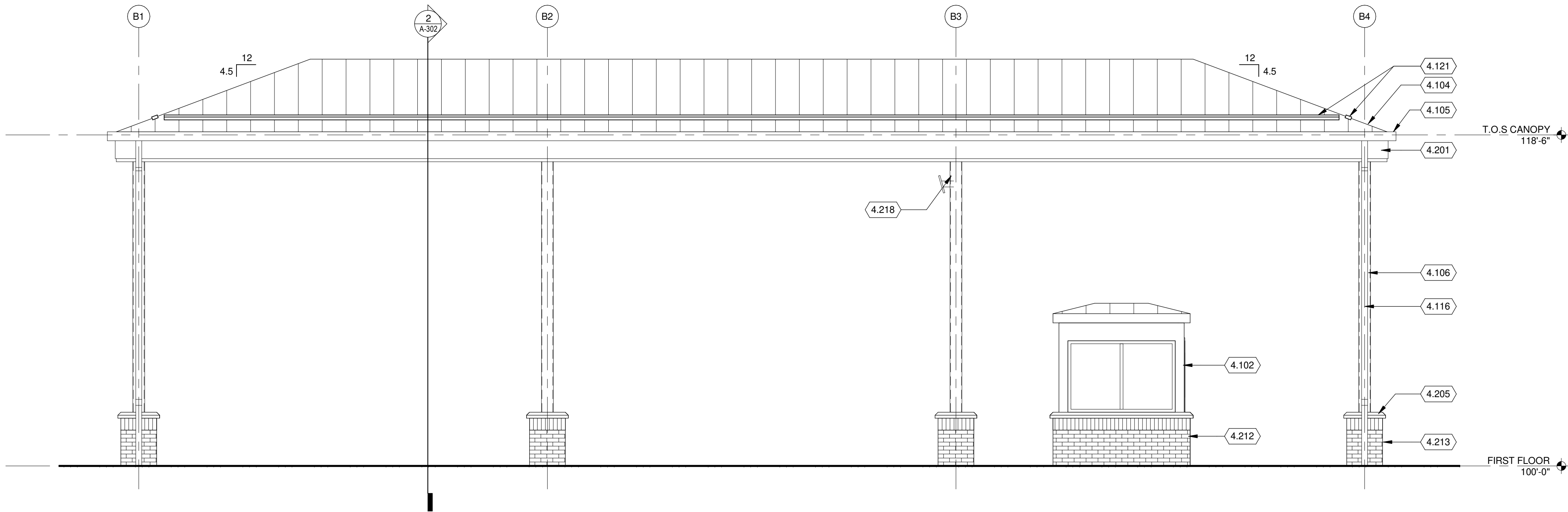
SHEET CONTENTS  
GATEHOUSE  
EXTERIOR  
ELEVATIONS

SHEET NO.:

A-202



1 CVIF NORTH ELEVATION  
1/4" = 1'-0"



2 CVIF SOUTH ELEVATION  
1/4" = 1'-0"

KEYED NOTES

- 4.102 PREFABRICATED GUARD SHACK, SEE SPECIFICATIONS.
- 4.104 STANDING SEAM METAL ROOF OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.106 PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
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- 4.201 PREFINISHED METAL FASCIA.
- 4.205 PRECAST WALL CAP.
- 4.212 4" NOMINAL BRICK VENEER, SEE SPECIFICATION AND DETAIL 2/A-501.
- 4.213 4" NOMINAL BRICK VENEER ON 4" CMU BACK UP, SEE SPECIFICATION AND DETAIL 4/A-501.
- 4.218 BRACKET MOUNTED TO COLUMN FOR INSPECTION MIRROR.

Mead & Hunt

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MICHIGAN AIR NATIONAL GUARD  
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BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
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SHEET CONTENTS  
CVIF EXTERIOR  
ELEVATIONS

SHEET NO.:

A-203

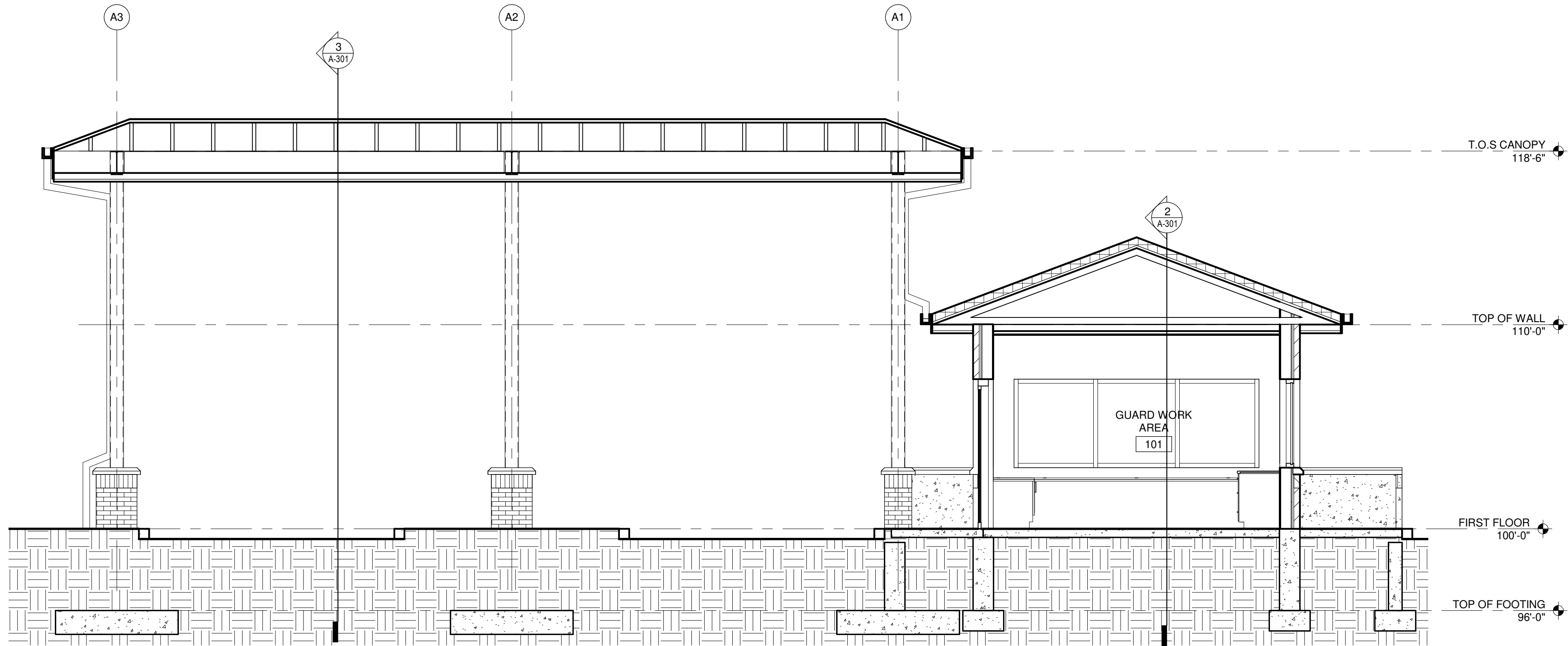


4.213 4" NOMINAL BRICK VENEER ON 4" CMU BACK UP, SEE SPECIFICATION AND DETAIL 4/A-501.

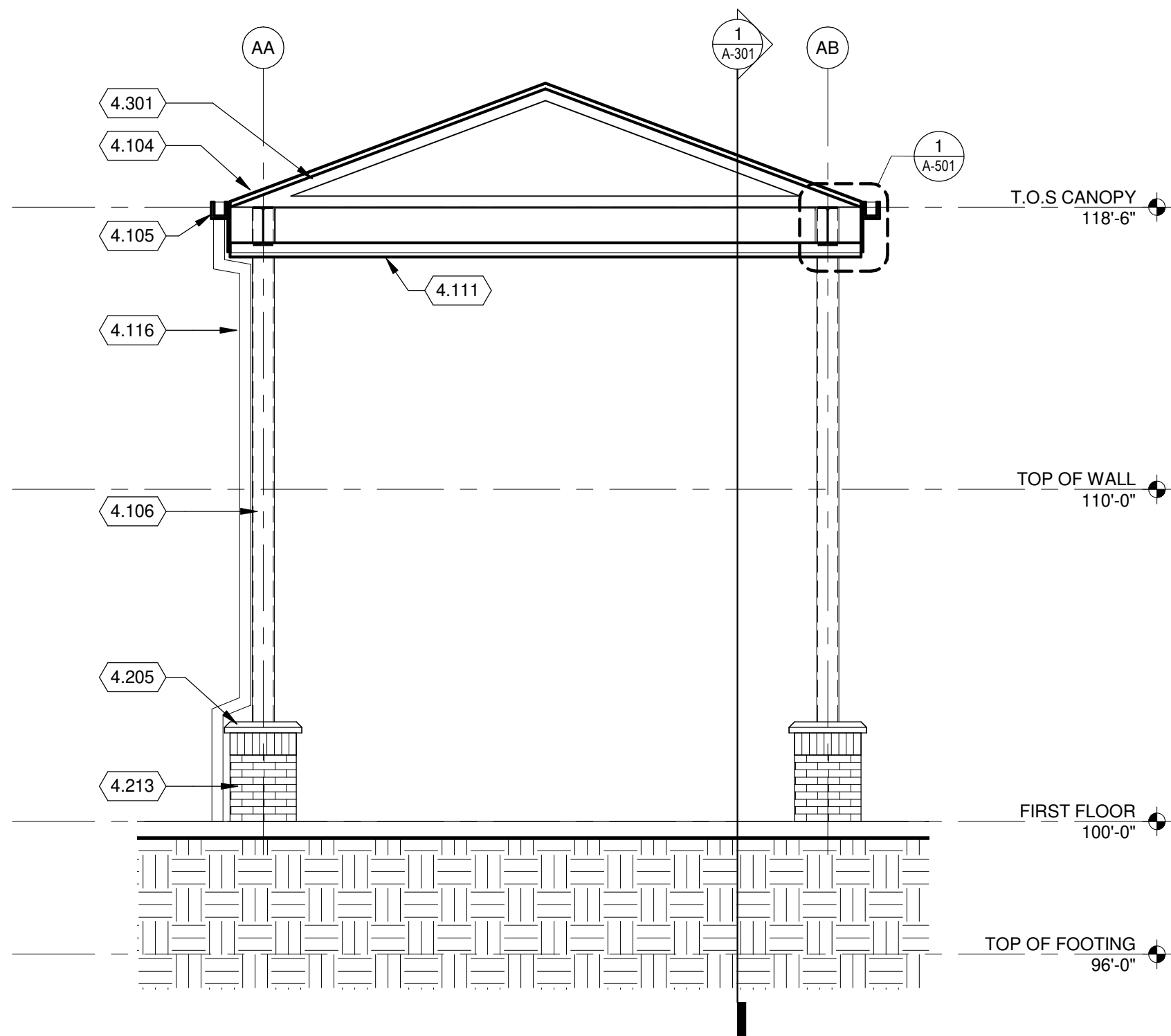
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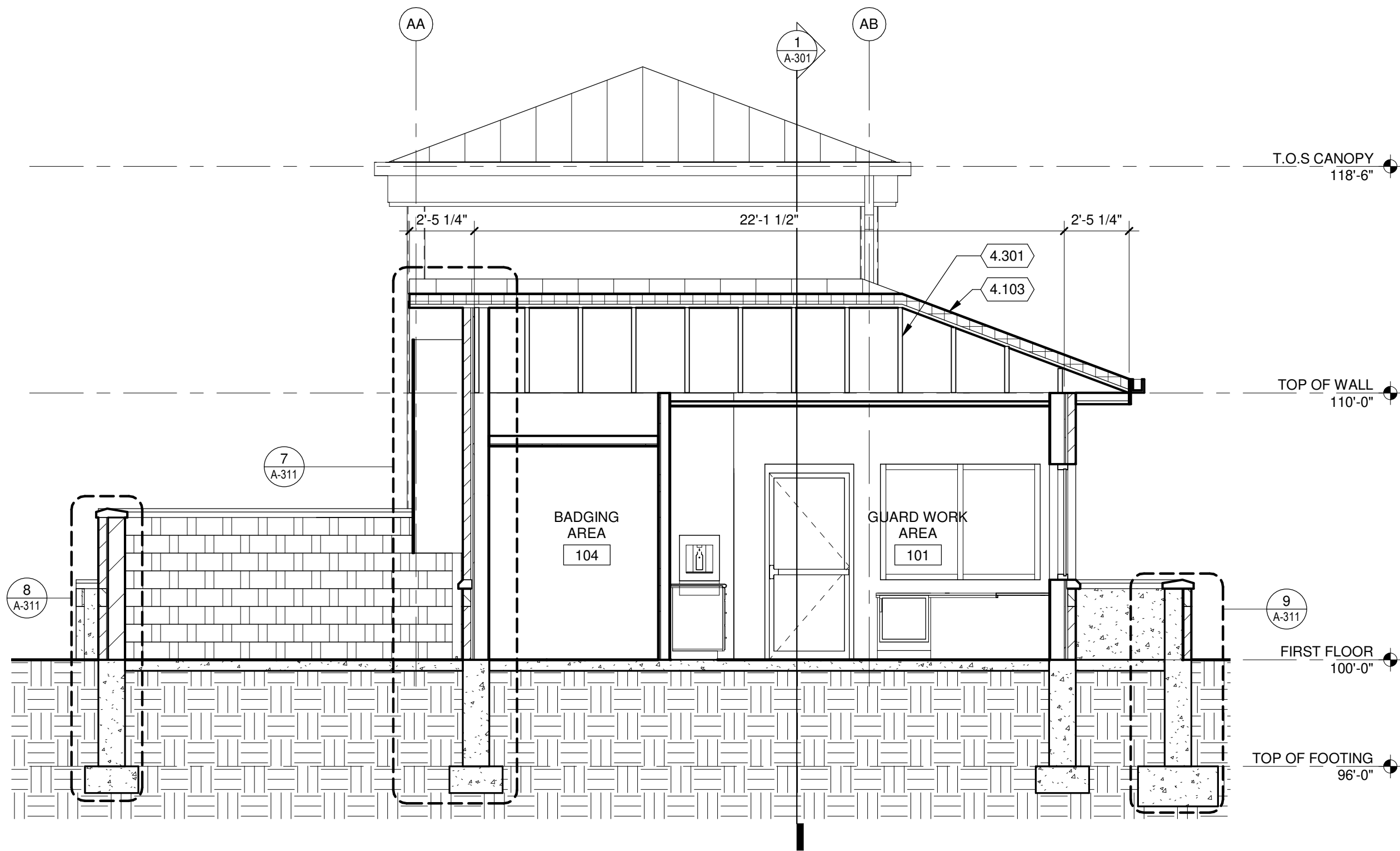
2/18/2021 9:31:54 AM C:\Revit Local\3141900-113782.01-A-Central-2020 mark.brathwaite.rvt



1 GATEHOUSE BUILDING SECTION  
1/4" = 1'-0"



3 CANOPY SECTION  
1/4" = 1'-0"



2 GATEHOUSE BUILDING SECTION  
1/4" = 1'-0"

## KEYED NOTES

- 4.103 STANDING SEAM METAL ROOF OVER PROTECTION BOARD OVER MINIMUM 4" RIGID INSULATION OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.104 STANDING SEAM METAL ROOF OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.106 PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
- 4.111 PREFINISHED METAL ROOF SOFFIT.
- 4.116 4" X 4" PREFINISHED METAL DOWNSPOUTS CONNECT TO STORM PIPE. SEE DETAIL 4/A-103 AND CIVIL DRAWINGS.
- 4.205 PRECAST WALL CAP.
- 4.213 4" NOMINAL BRICK VENEER ON 4" CMU BACK UP, SEE SPECIFICATION AND DETAIL 4/A-501.
- 4.301 ROOF FRAMING, SEE STRUCTURAL.

**Mead & Hunt**

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

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SHEET CONTENTS  
GATEHOUSE  
BUILDING SECTIONS

SHEET NO.:

A-301



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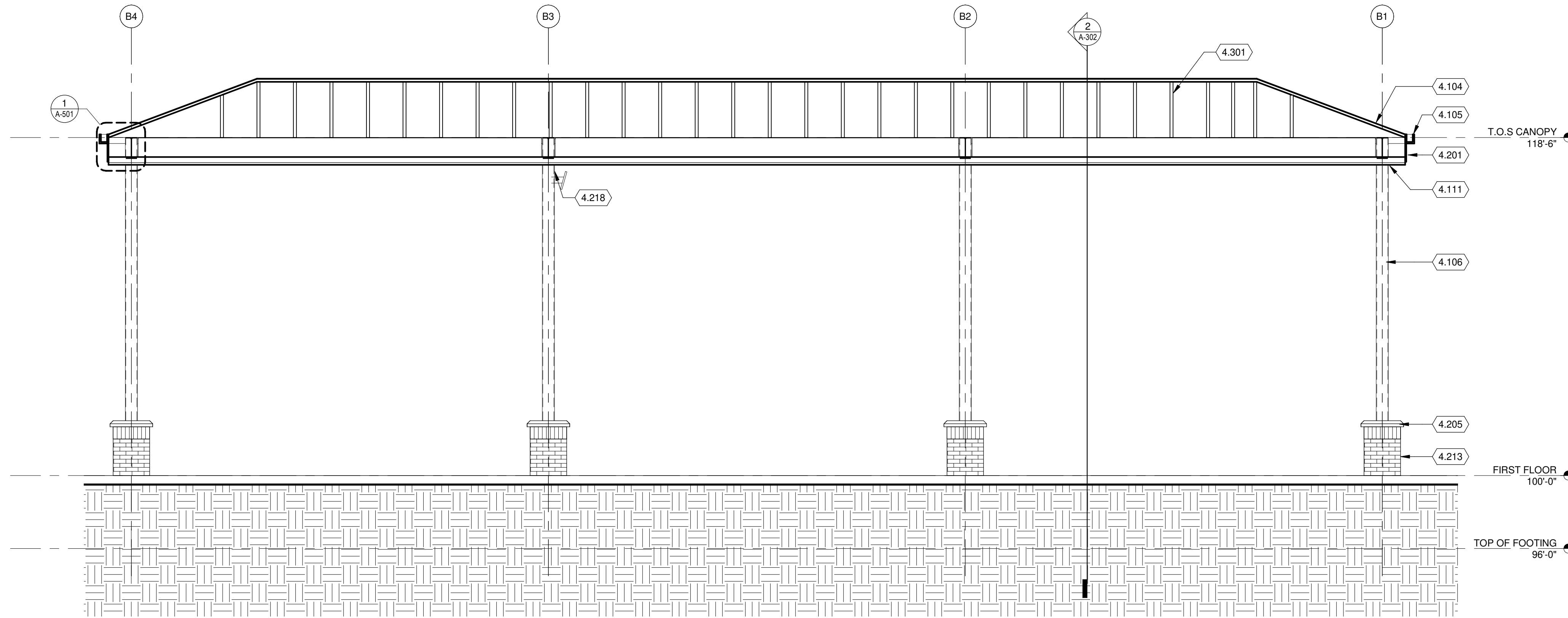
SHEET CONTENTS  
CVIF BUILDING  
SECTIONS

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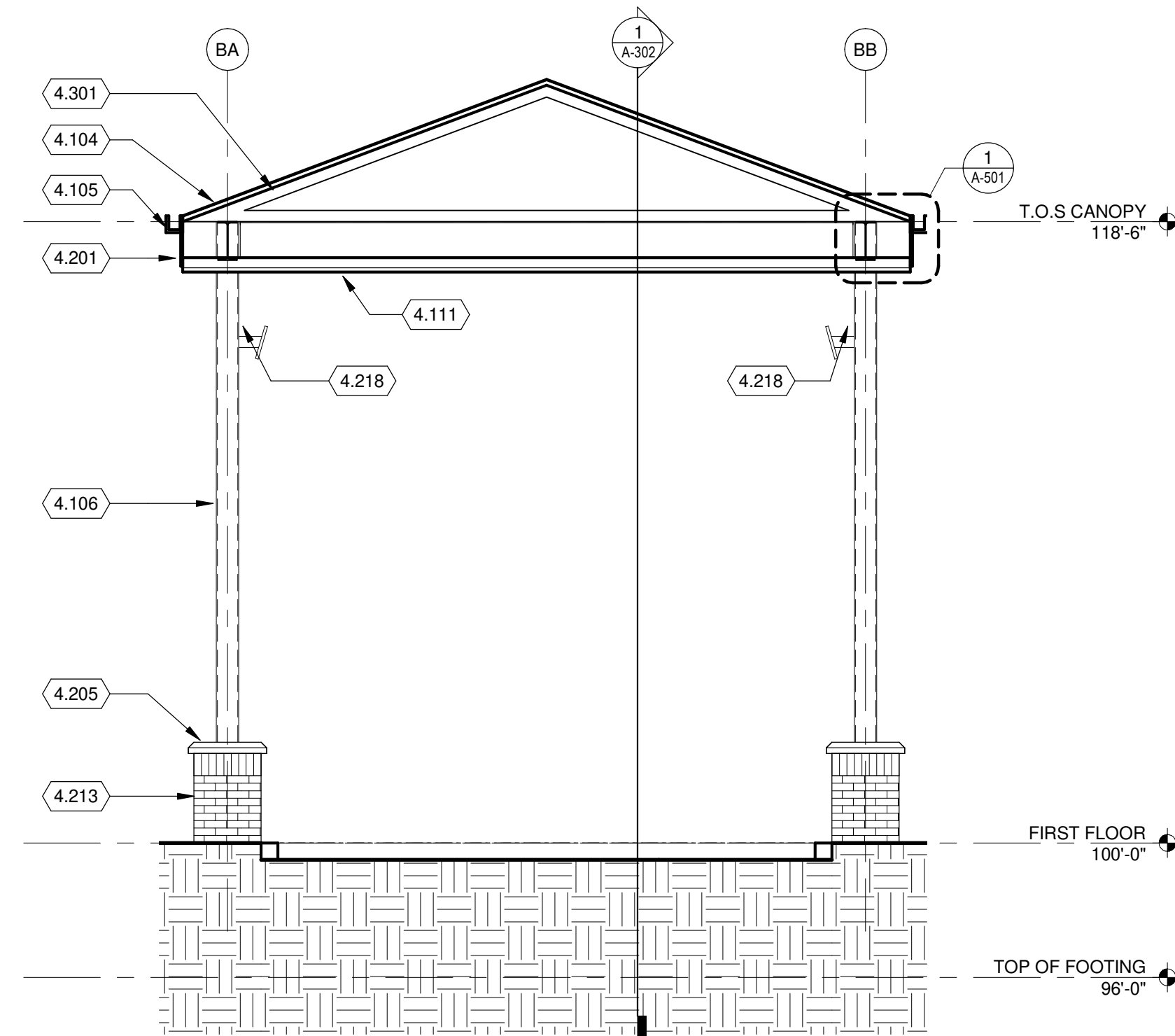
A-302

KEYED NOTES

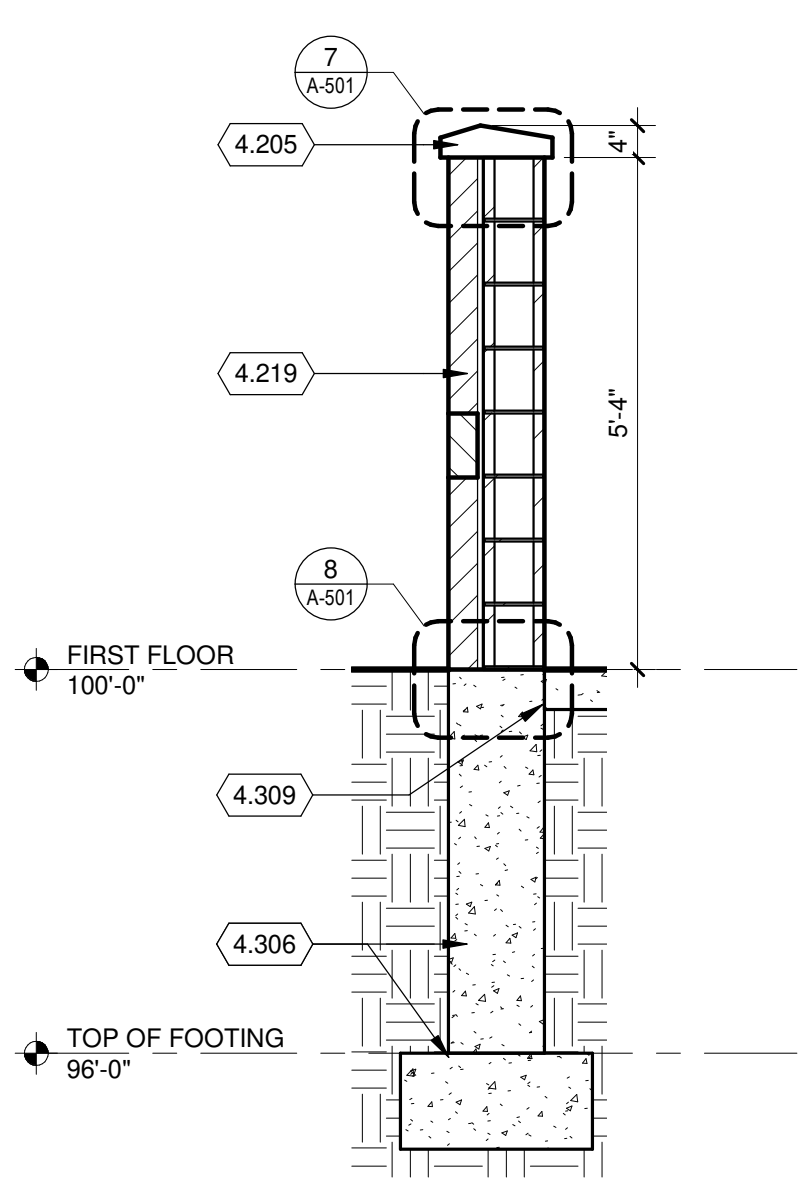
- 4.104 STANDING SEAM METAL ROOF OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.106 PAINTED CANOPY COLUMN, TYPICAL. SEE STRUCTURAL.
- 4.111 PREFINISHED METAL ROOF SOFFIT.
- 4.201 PREFINISHED METAL FASCIA.
- 4.205 PRECAST WALL CAP.
- 4.213 4" NOMINAL BRICK VENEER ON 4" CMU BACK UP, SEE SPECIFICATION AND DETAIL 4/A-501.
- 4.218 BRACKET MOUNTED TO COLUMN FOR INSPECTION MIRROR.
- 4.301 ROOF FRAMING, SEE STRUCTURAL.



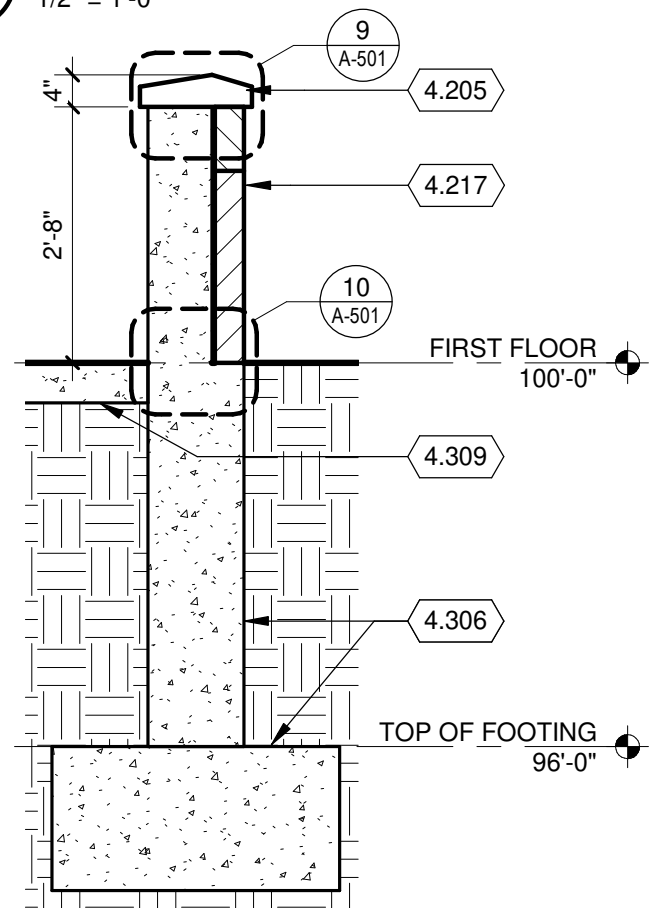
1 CVIF BUILDING SECTION  
1/4" = 1'-0"



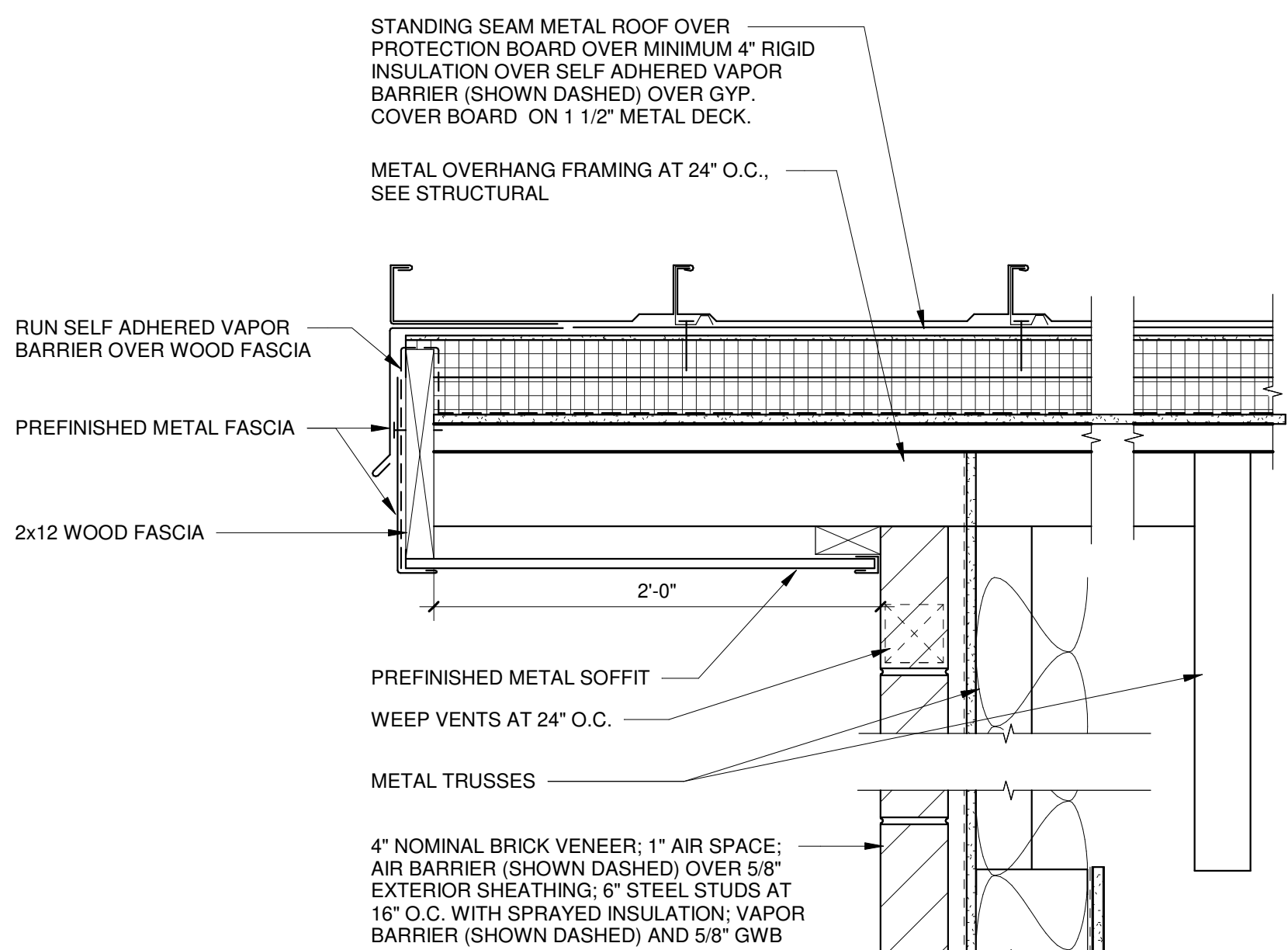
2 CVIF BUILDING SECTION  
1/4" = 1'-0"



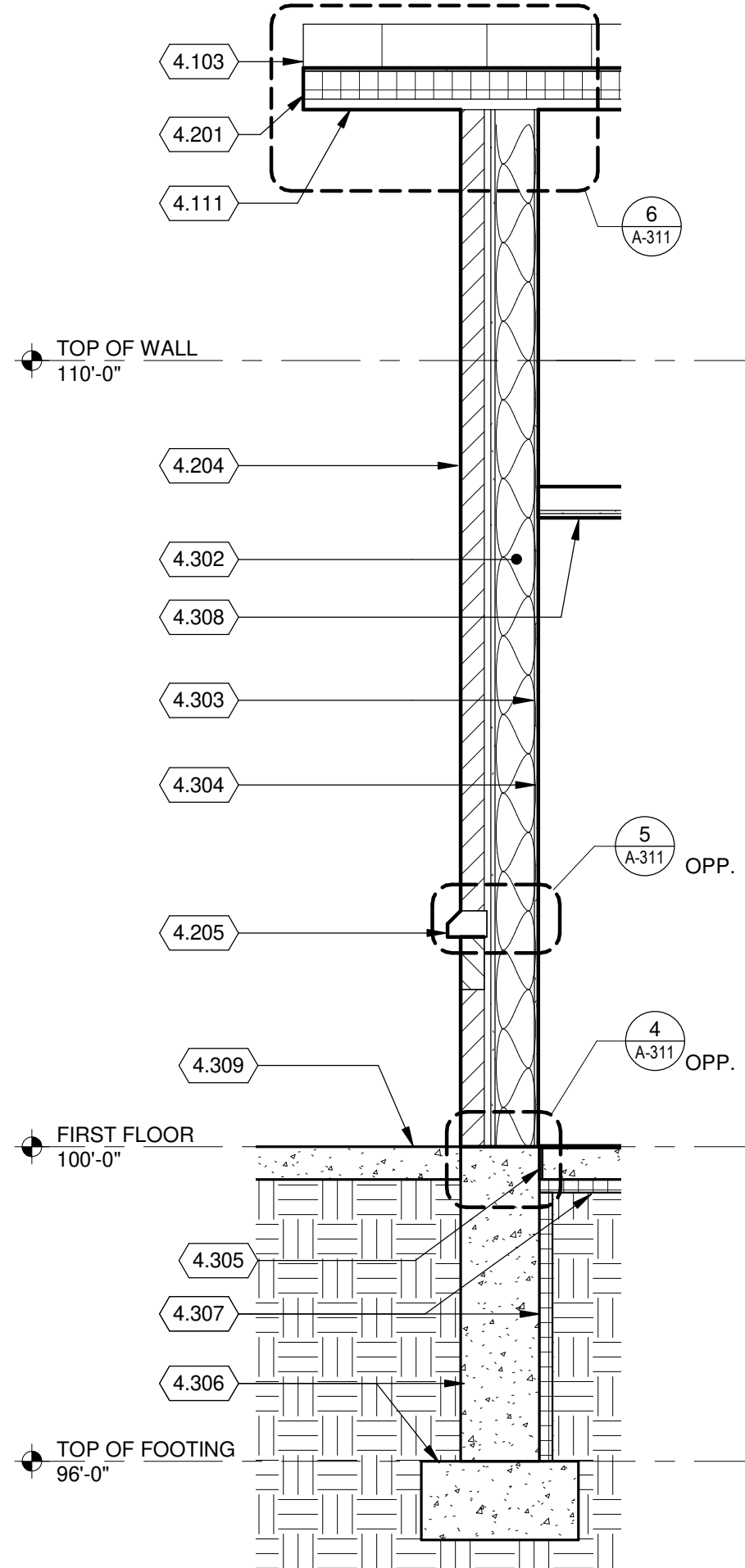
**8 GATEHOUSE WALL SECTION**  
1/2" = 1'-0"



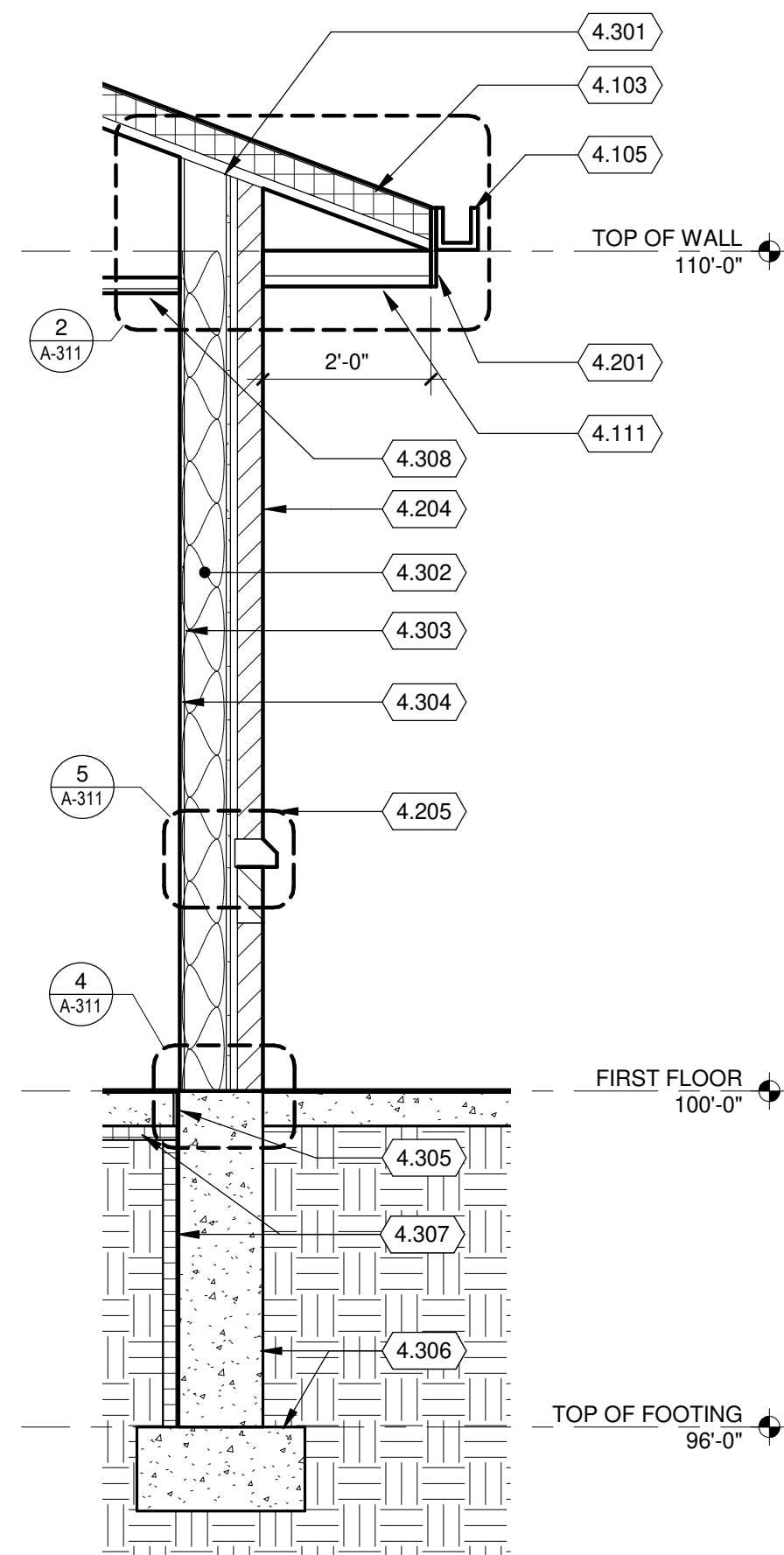
**9 GATEHOUSE WALL SECTION**  
1/2" = 1'-0"



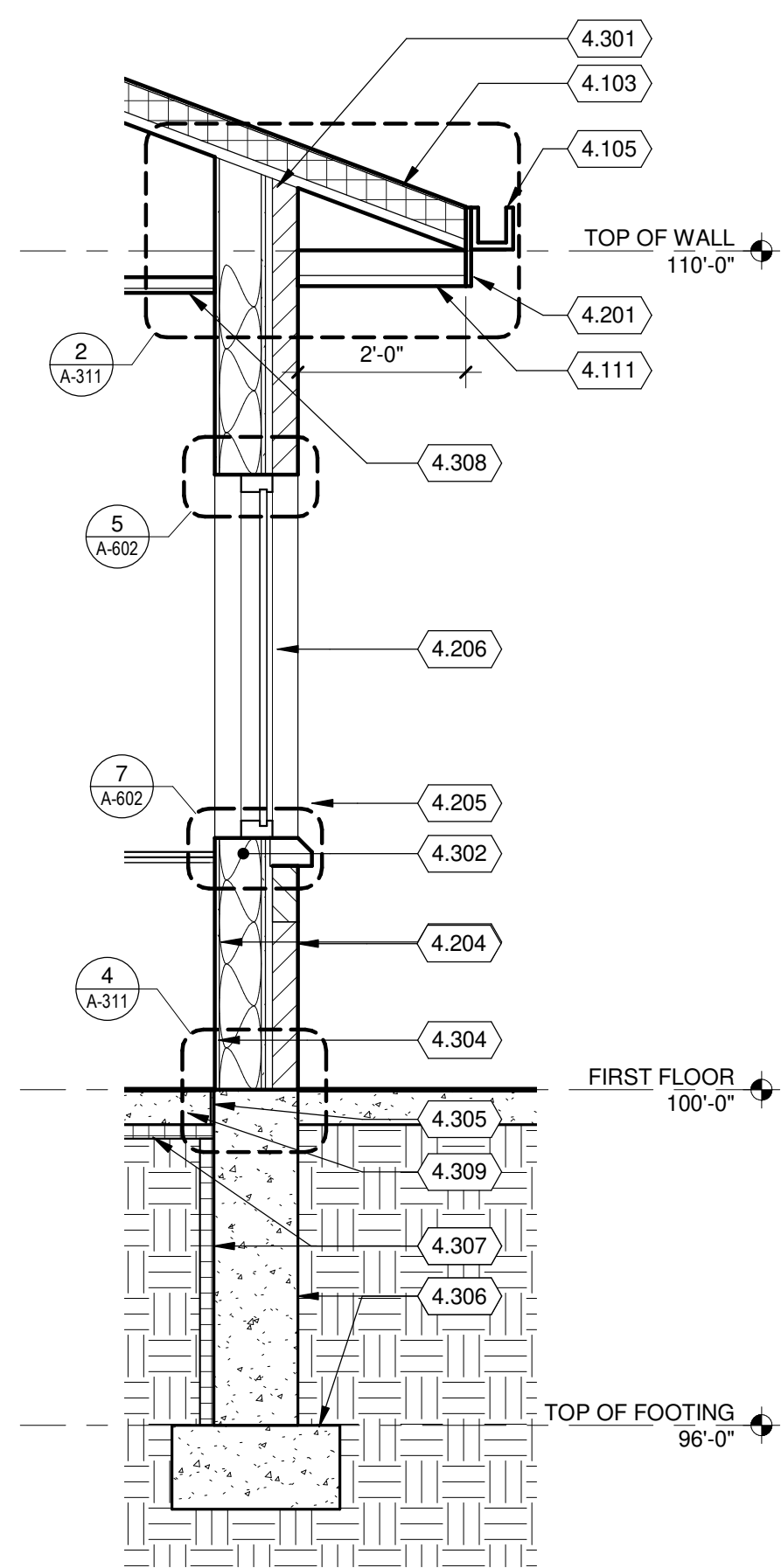
**6 GABLE OVERHANG**  
1 1/2" = 1'-0"



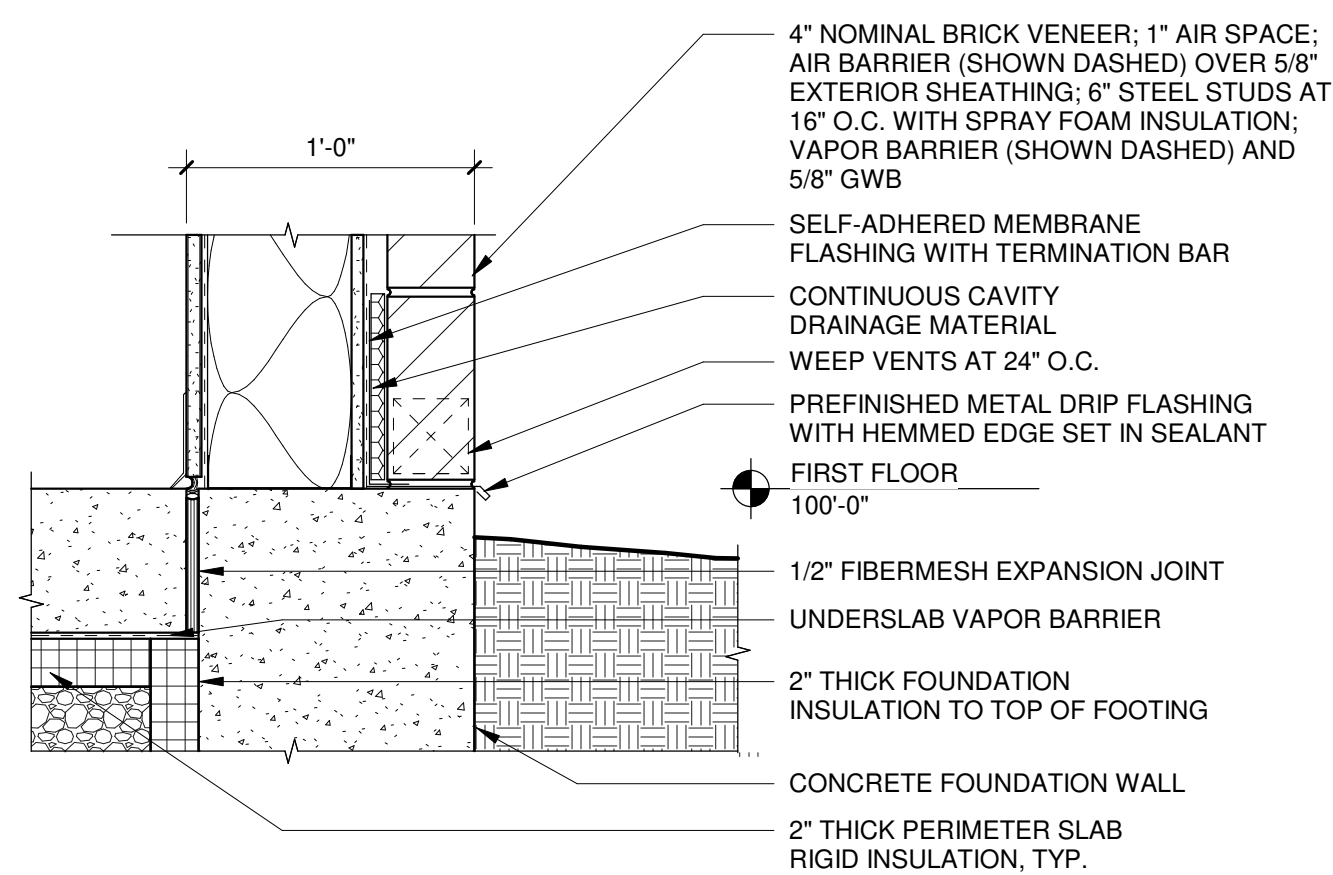
**7 GATEHOUSE WALL SECTION**  
1/2" = 1'-0"



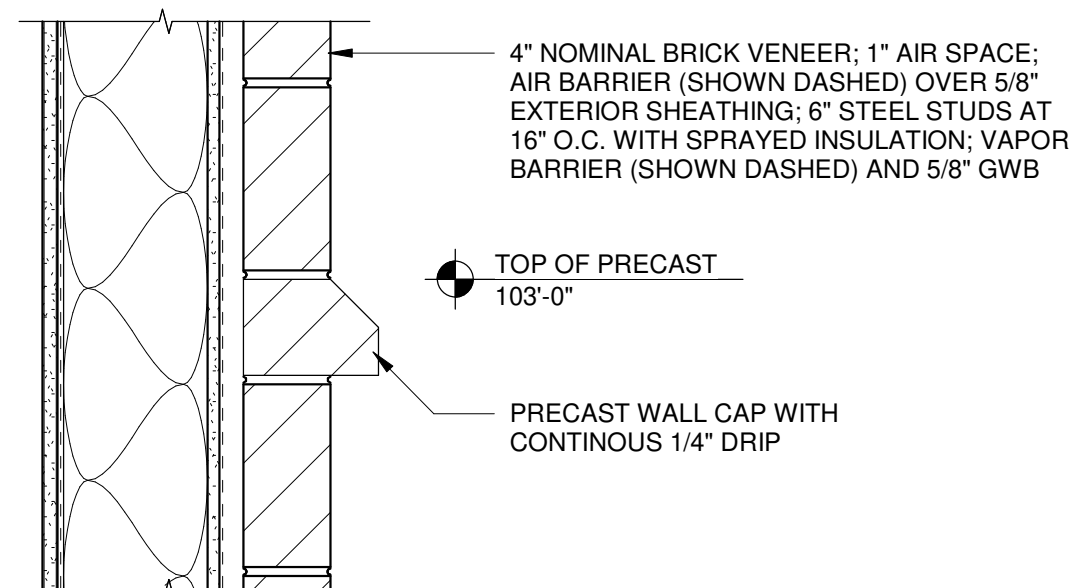
**3 GATEHOUSE WALL SECTION**  
1/2" = 1'-0"



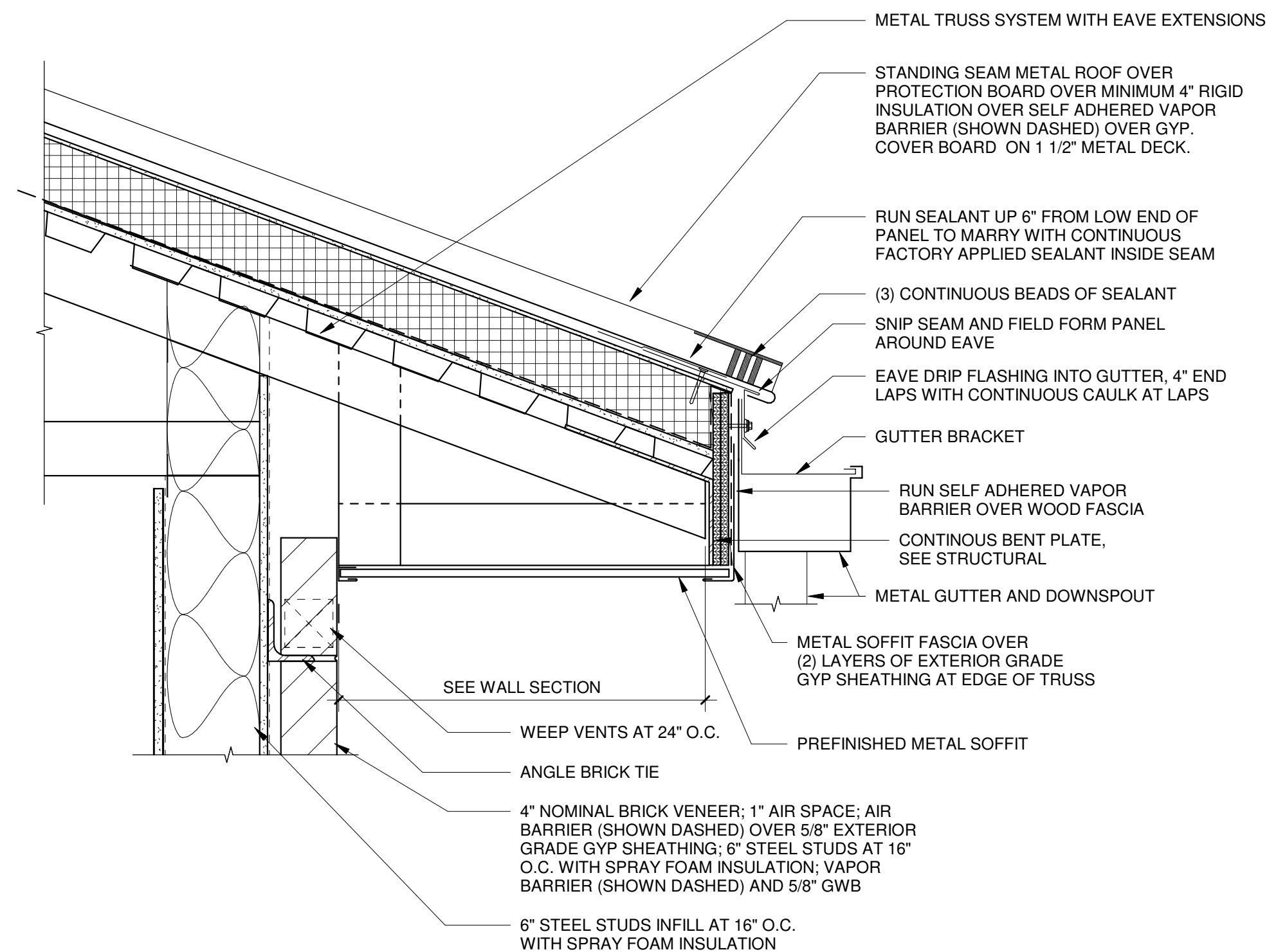
**1 GATEHOUSE WALL SECTION**  
1/2" = 1'-0"



**4 WALL BASE**  
1 1/2" = 1'-0"



**5 PRECAST TRANSITION**  
1 1/2" = 1'-0"



**2 EAVE OVERHANG**  
1 1/2" = 1'-0"

## KEYED NOTES

- 4.103 STANDING SEAM METAL ROOF OVER PROTECTION BOARD OVER MINIMUM 4" RIGID INSULATION OVER SELF ADHERED VAPOR BARRIER OVER GYP. COVER BOARD ON 1 1/2" METAL DECK.
- 4.105 PREFINISHED METAL GUTTER.
- 4.111 PREFINISHED METAL ROOF SOFFIT.
- 4.201 PREFINISHED METAL FASCIA.
- 4.204 4" NOMINAL BRICK VENEER OVER 1" AIRSPACE OVER AIR BARRIER OVER 5/8" EXTERIOR GRADE GYP SHEATHING ON 6" METAL STUD.
- 4.205 PRECAST WALL CAP.
- 4.206 ALUMINUM WINDOW.
- 4.217 4" NOMINAL BRICK VENEER ON CONCRETE FOUNDATION WALL.
- 4.219 4" NOMINAL BRICK VENEER ON 8" CMU BACK UP, SEE SPECIFICATION.
- 4.301 ROOF FRAMING, SEE STRUCTURAL.
- 4.302 SPRAY FOAM INSULATION.
- 4.303 VAPOR BARRIER.
- 4.304 5/8" GYP. BD.
- 4.305 1/2" ISOLATION JOINT.
- 4.306 CONCRETE FOOTING AND FOUNDATION, SEE STRUCTURAL.
- 4.307 2" THICK FOUNDATION AND PERIMETER UNDER SLAB INSULATION. UNDER SLAB INSULATION TO BE A MINIMUM 4" WIDE.
- 4.308 CEILING SYSTEM, SEE CEILING PLAN.
- 4.309 CONCRETE SLAB ON GRADE, SEE STRUCTURAL.

**Mead & Hunt**

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meadhunt.com



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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
MSH NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: PJC  
DRAWN BY: MAB  
CHECKED BY: GAM  
DO NOT SCALE DRAWINGS

SHEET CONTENTS  
GATEHOUSE WALL SECTIONS

SHEET NO.:

A-311



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**MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE**

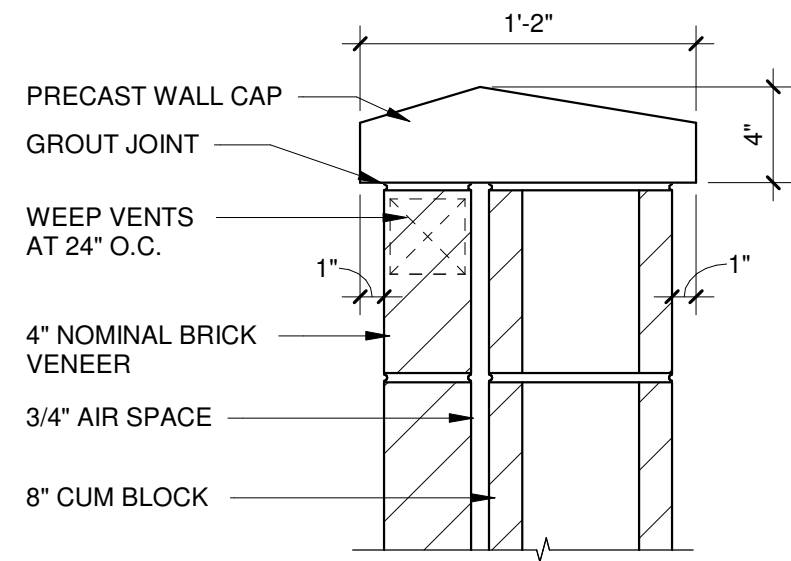
BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

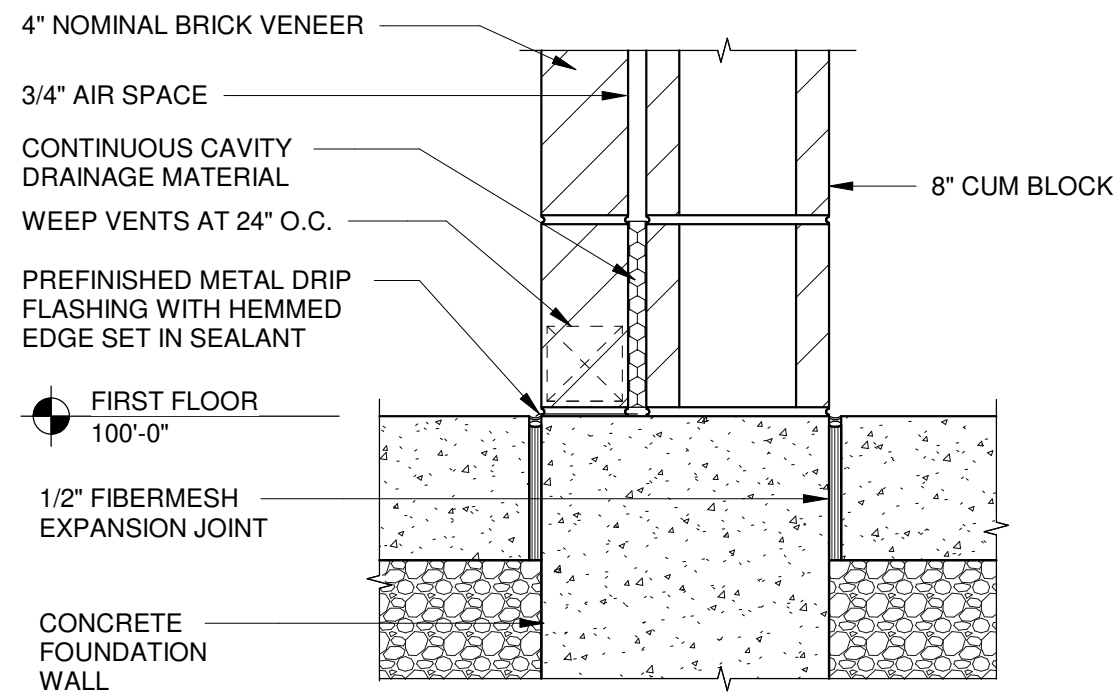
ANG Project No.: MBMV099170  
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SHEET CONTENTS  
DETAILS

SHEET NO.:

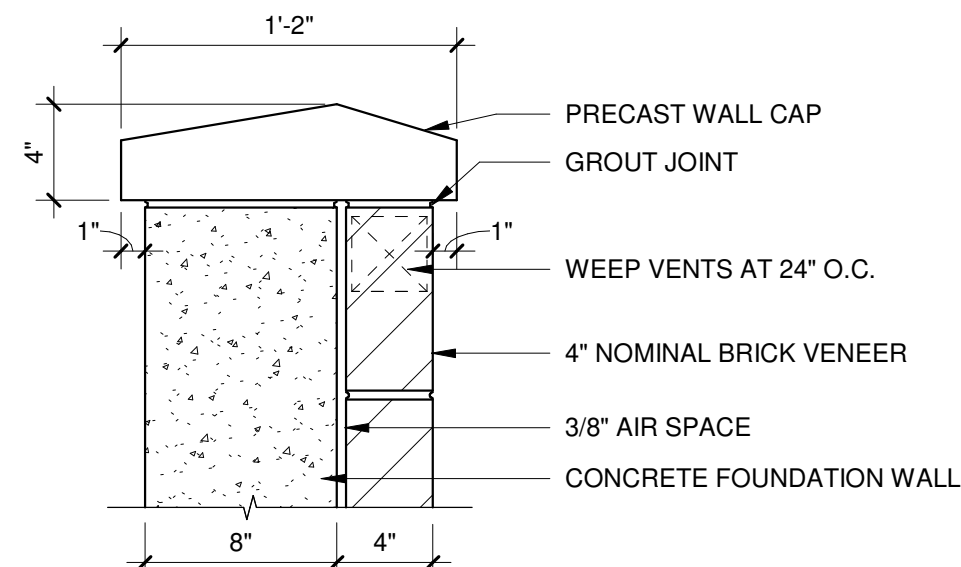
**A-501**



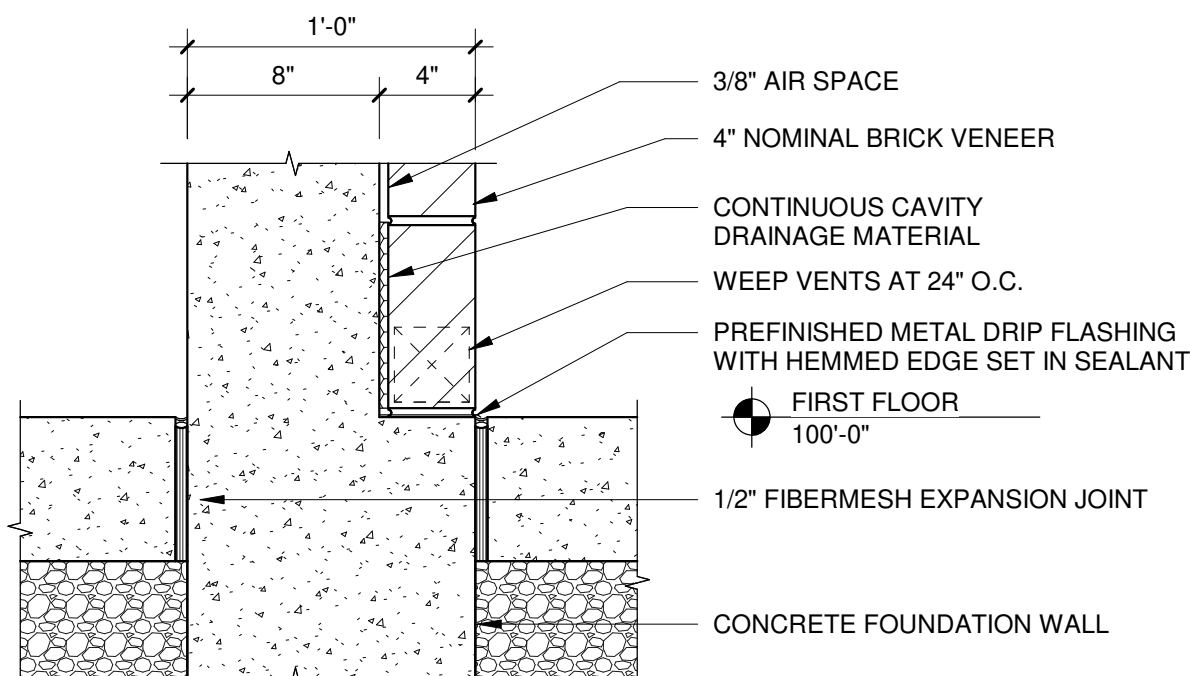
**7 WALL CAP**  
1 1/2" = 1'-0"



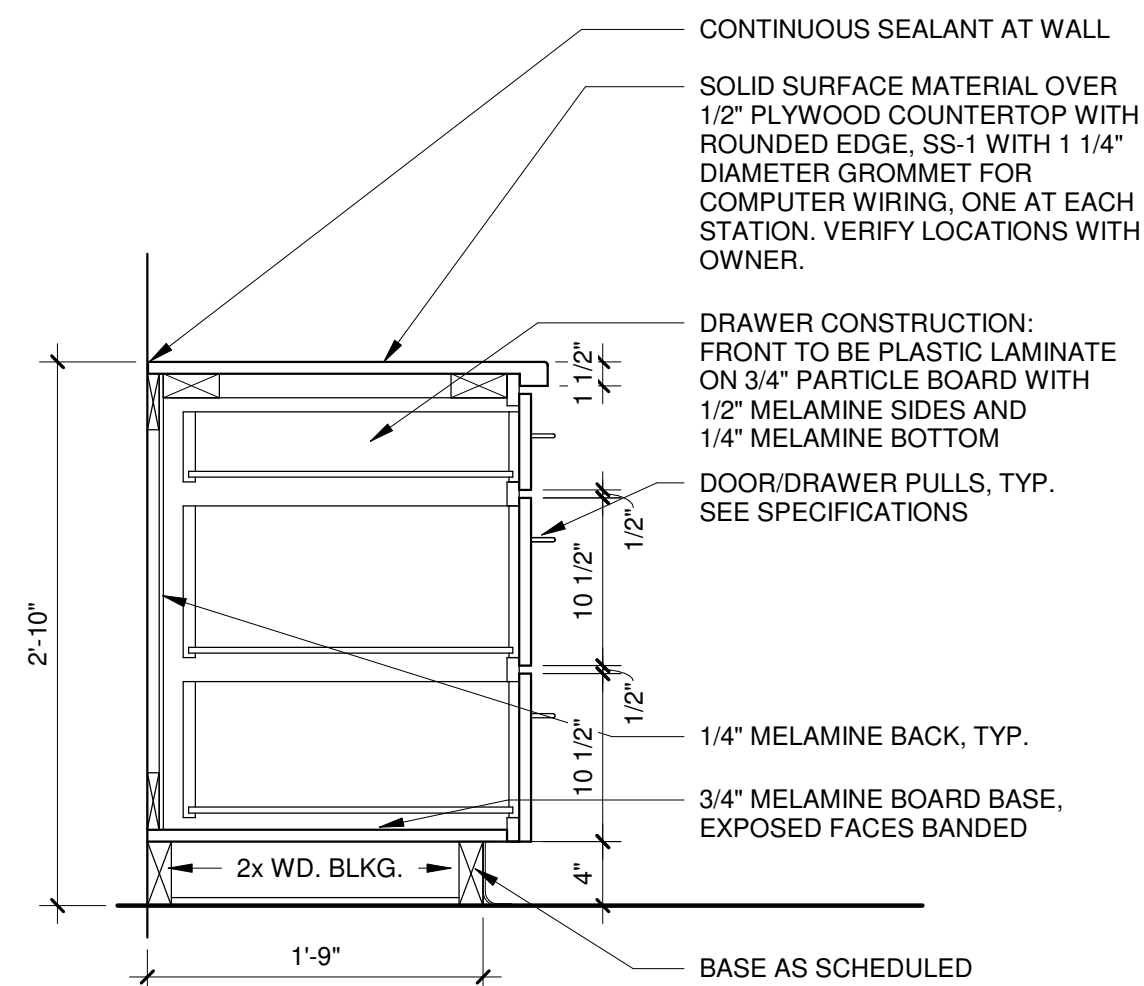
**8 WALL BASE**  
1 1/2" = 1'-0"



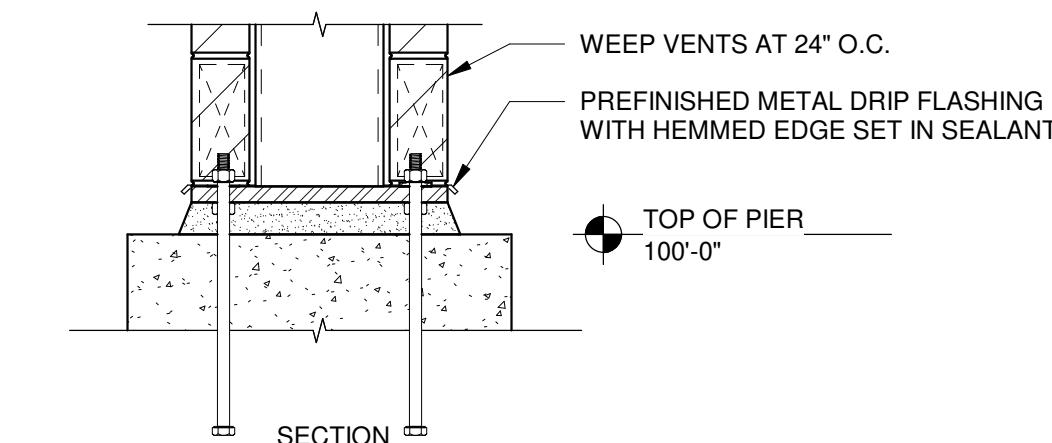
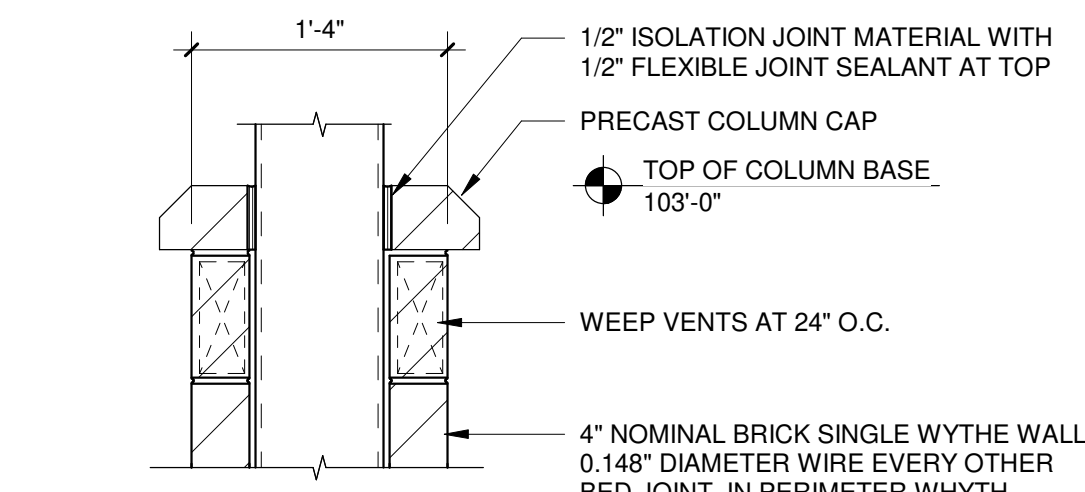
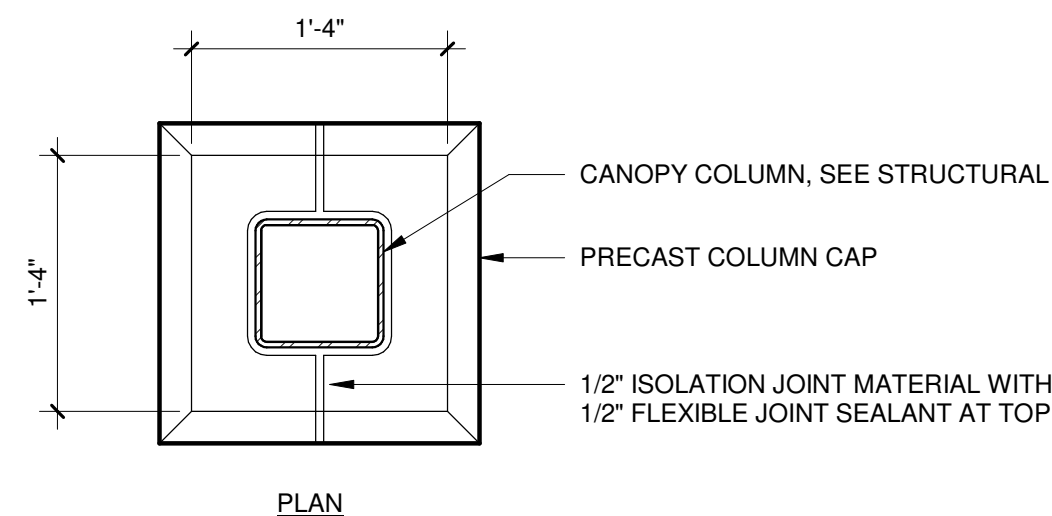
**9 WALL CAP**  
1 1/2" = 1'-0"



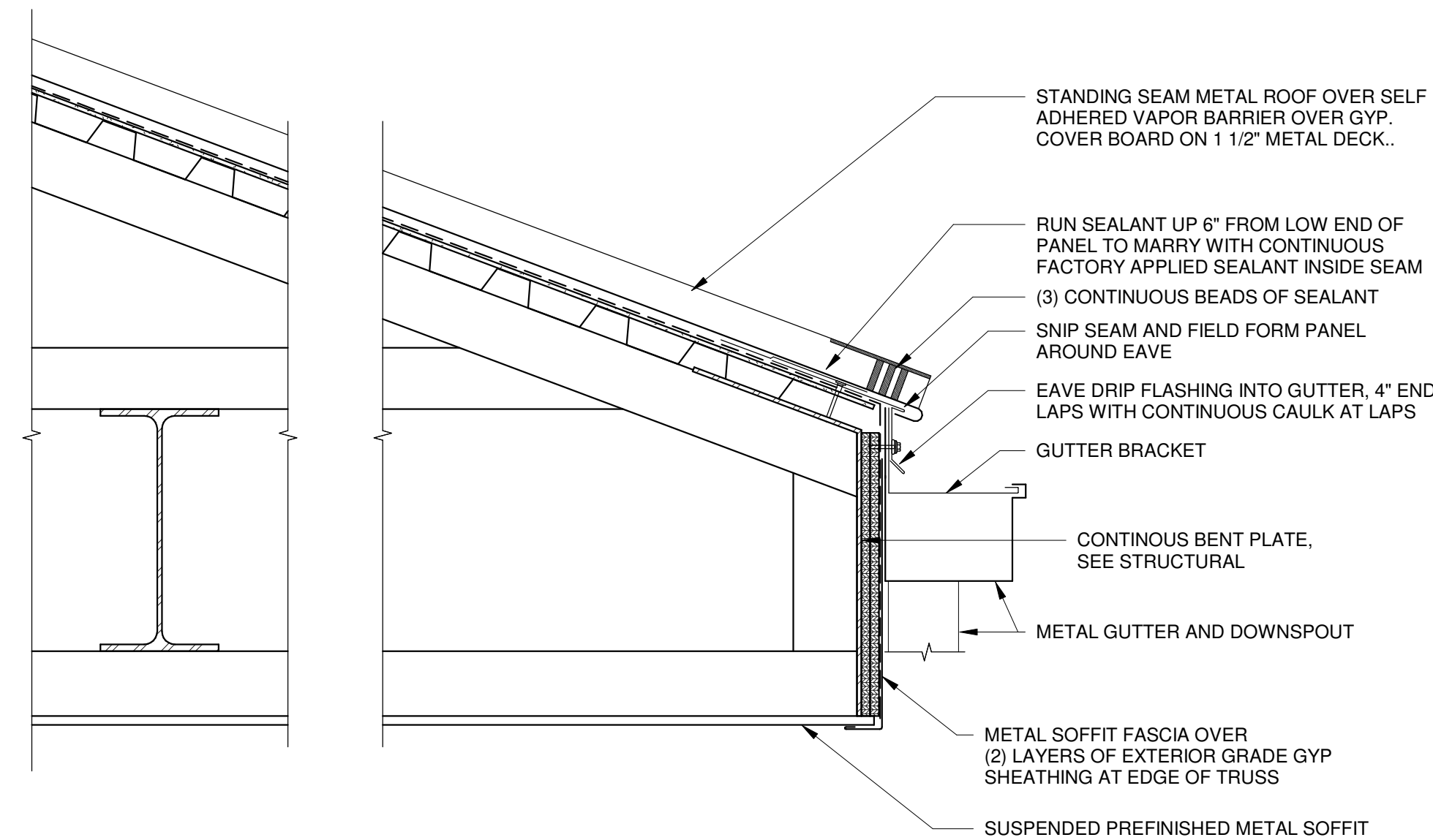
**10 WALL BASE**  
1 1/2" = 1'-0"



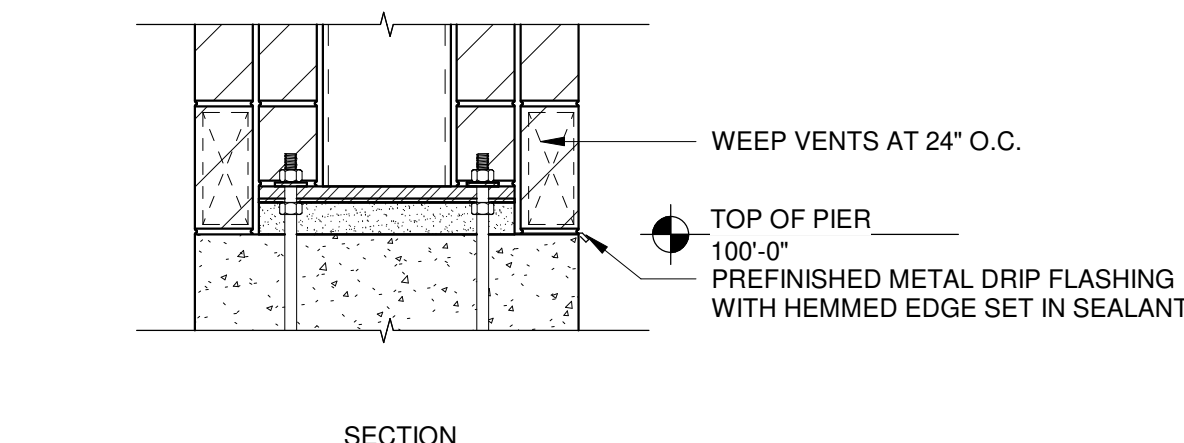
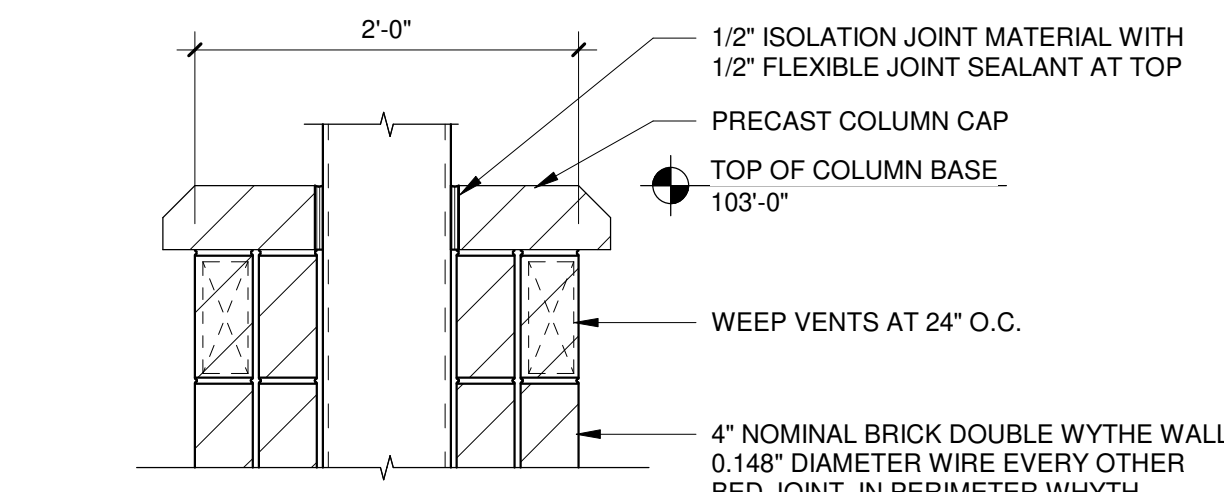
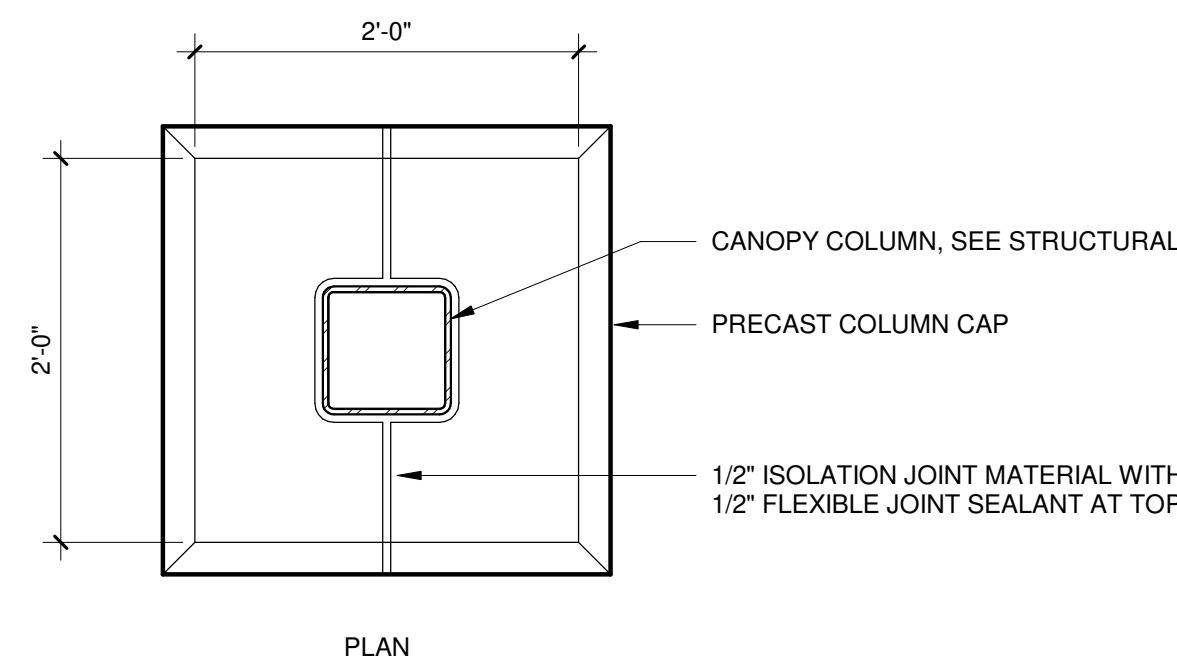
**5 CABINETRY SECTION**  
1" = 1'-0"



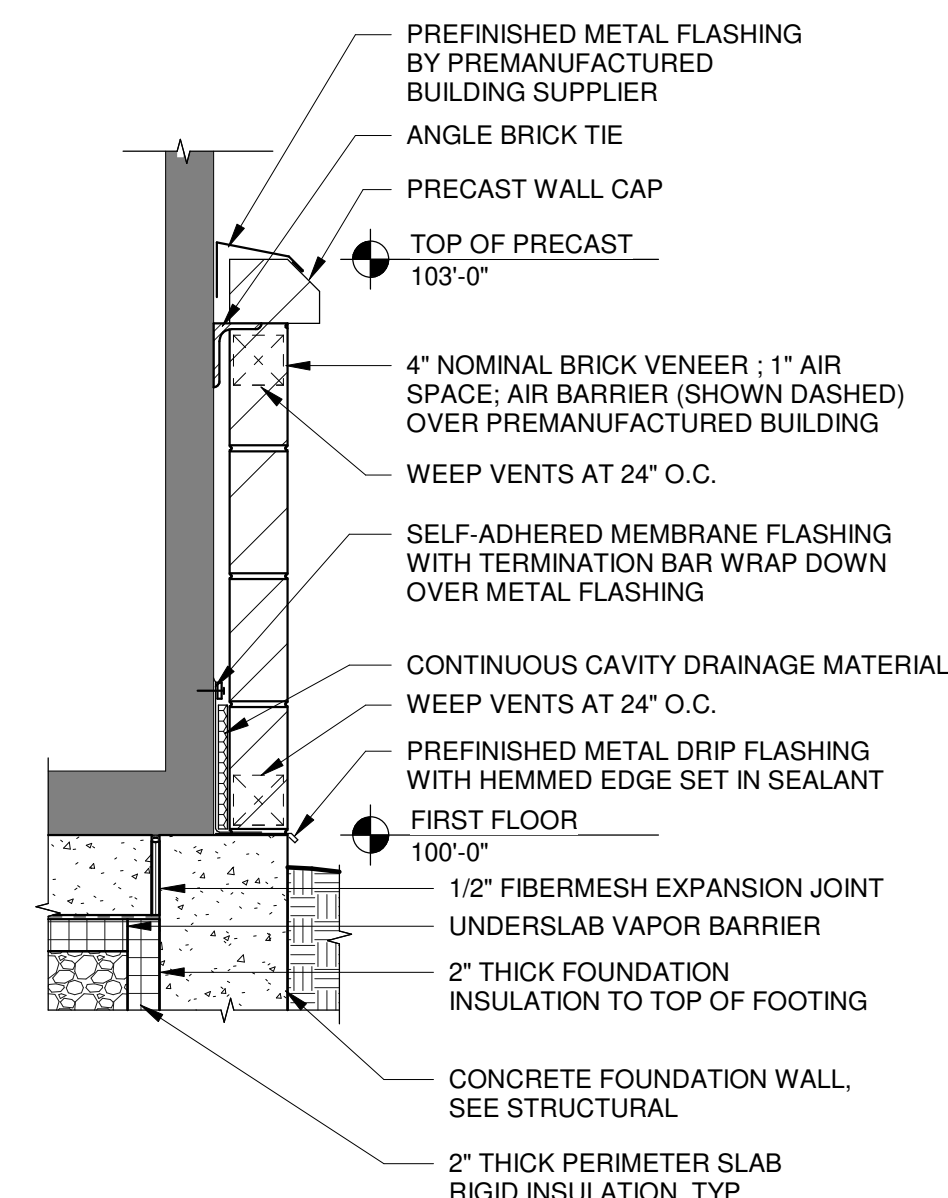
**6 CANOPY COLUMN BASE**  
1" = 1'-0"



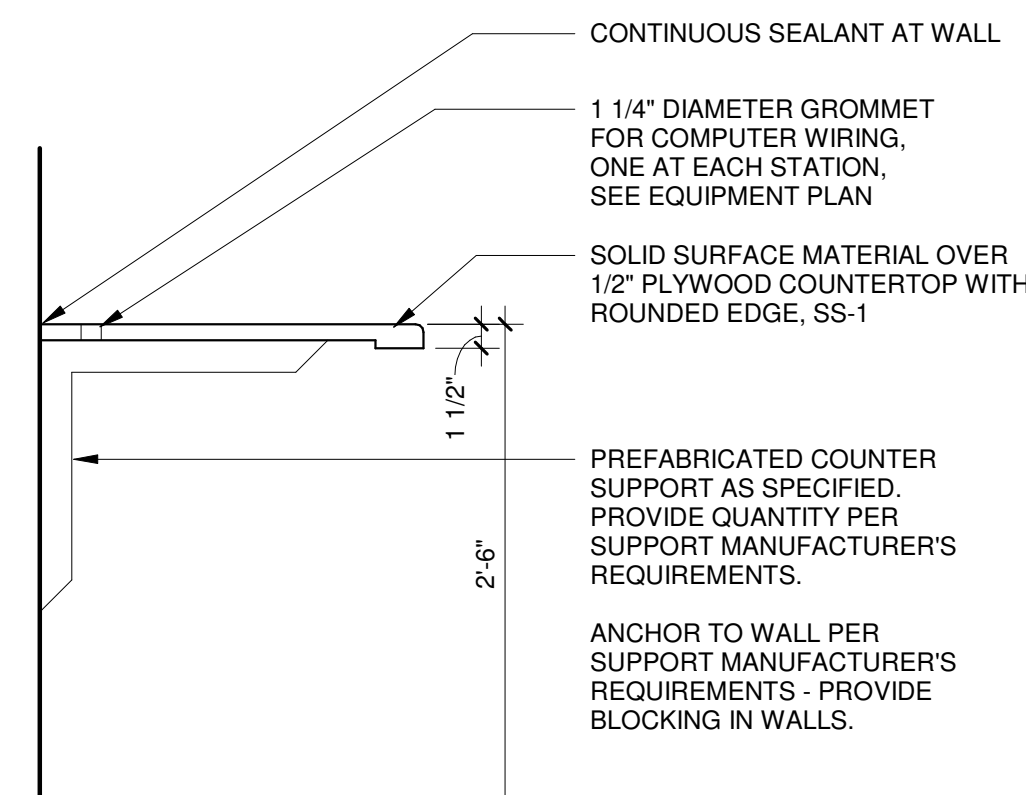
**1 CANOPY EAVE**  
1 1/2" = 1'-0"



**4 CANOPY COLUMN BASE**  
1" = 1'-0"

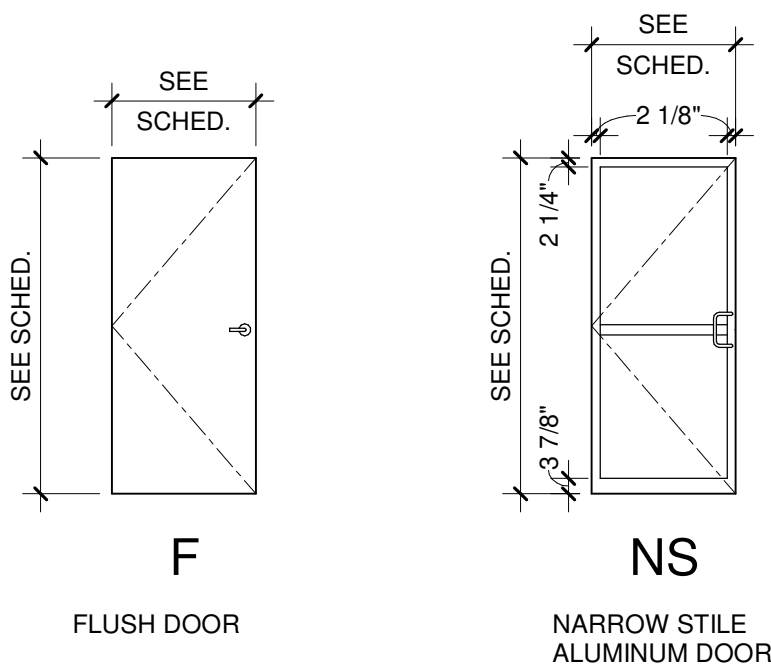


**2 BRICK VENEER AT GUARD BOOTH**  
1" = 1'-0"

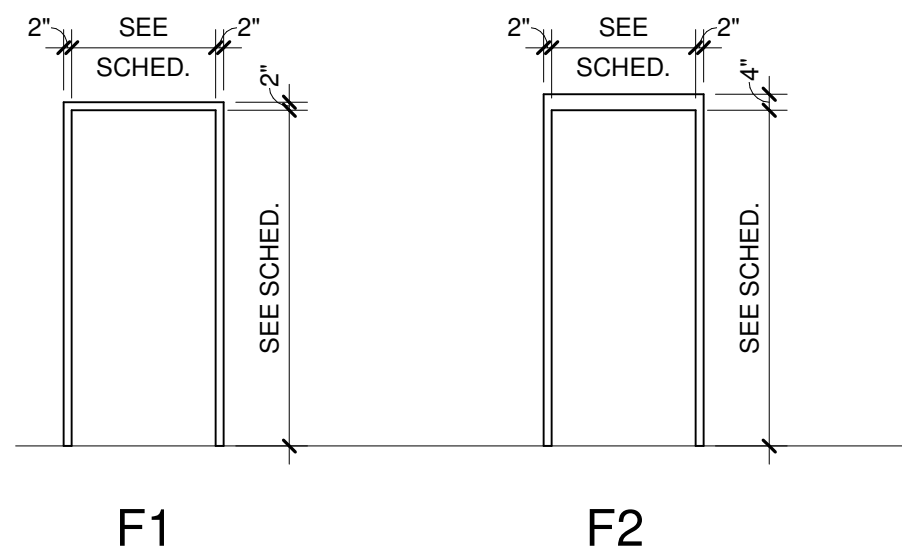


**3 WORK SURFACE**  
1" = 1'-0"





**DOOR TYPES**  
NO SCALE



**FRAME TYPES**  
NO SCALE

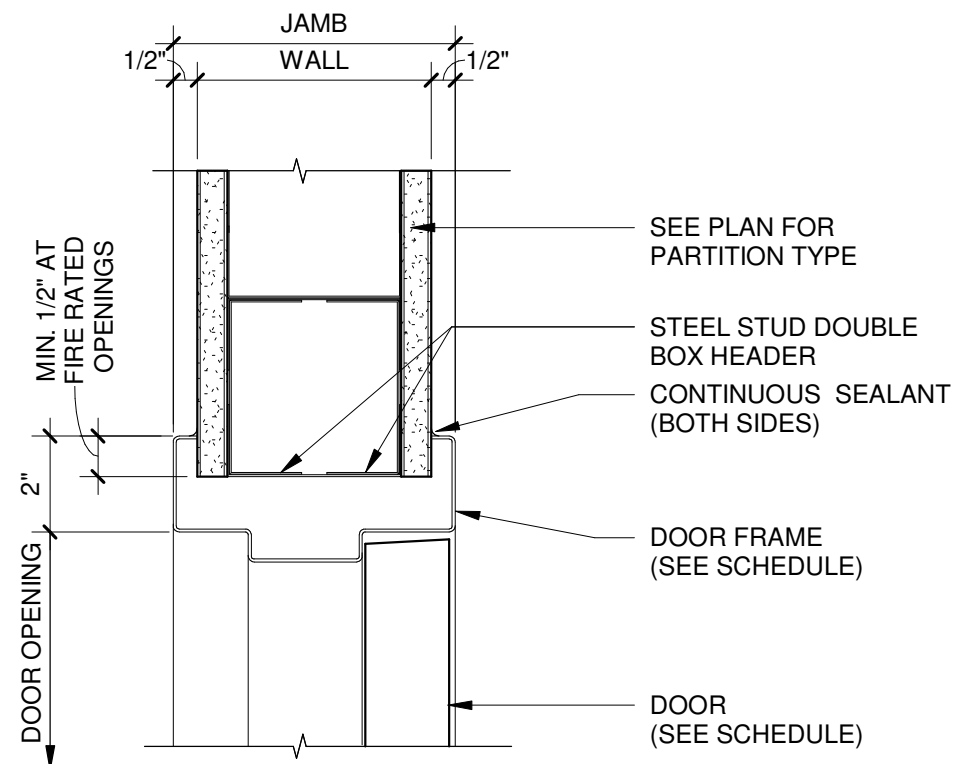
DOOR AND HARDWARE SCHEDULE																	
DOOR NUMBER	DOOR							FRAME							MISCELLANEOUS		
	QTY.	WIDTH	HEIGHT	TYPE	MAT'L	GLAZING TYPE	FINISH	TYPE	MAT'L	DETAILS			FINISH	LABEL	HDWR SET	LINTEL	REMARKS
101A	(1)	3'-0"	7'-0"	NS	AL	GL-1	AL	F2	AL	1/A-601	2/A-601	3/A-601	AL	-	1.0		
101B	(1)	3'-0"	7'-0"	NS	AL	GL-1	AL	F2	AL	1/A-601	2/A-601	3/A-601	AL	-	1.0		
102A	(1)	3'-0"	7'-0"	F	HM	-	PT-2	F1	HM	6/A-601	7/A-601	-	PT-2	-	3.0		
103A	(2)	3'-0"	7'-0"	F	HM	-	PT-2	F2	HM	4/A-601	5/A-601	3/A-601	PT-2	-	2.0		
104A	(1)	3'-0"	7'-0"	NS	AL	GL-1	AL	F2	AL	1/A-601	2/A-601	3/A-601	AL	-	1.0		

**DOOR AND HARDWARE SCHEDULE ABBREVIATIONS**

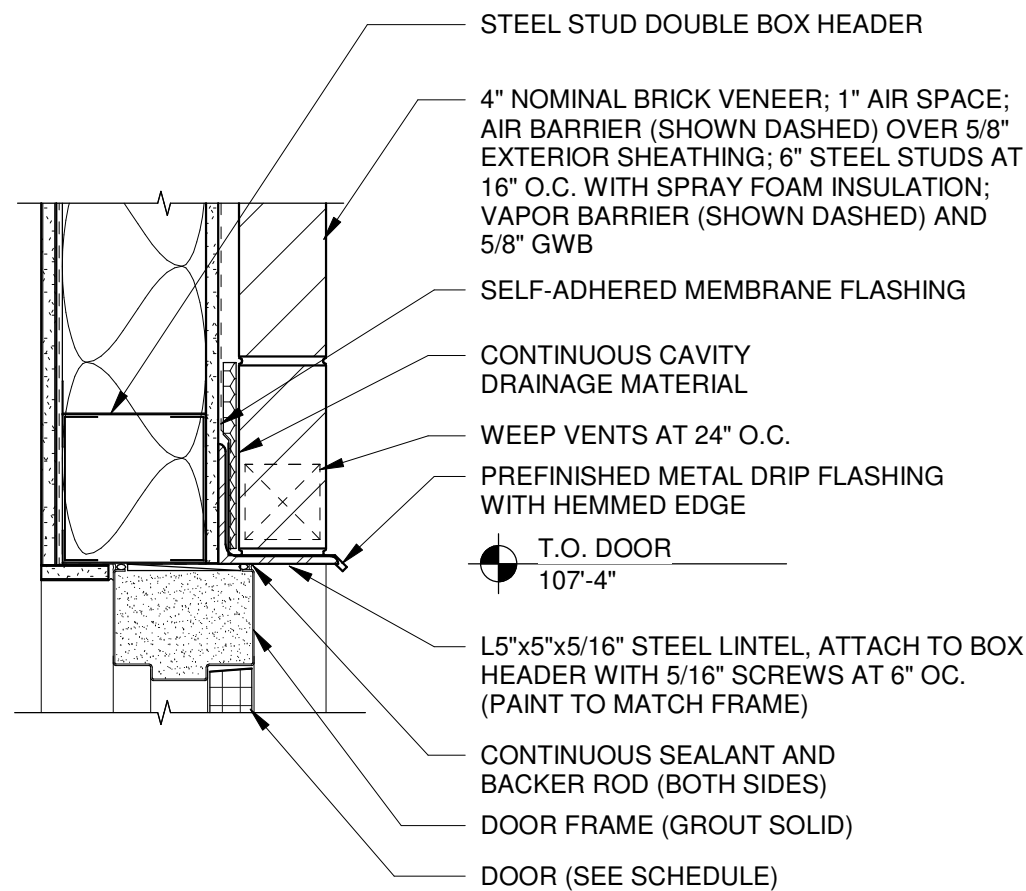
DOOR/FRAME MATERIALS

AL = ALUMINUM

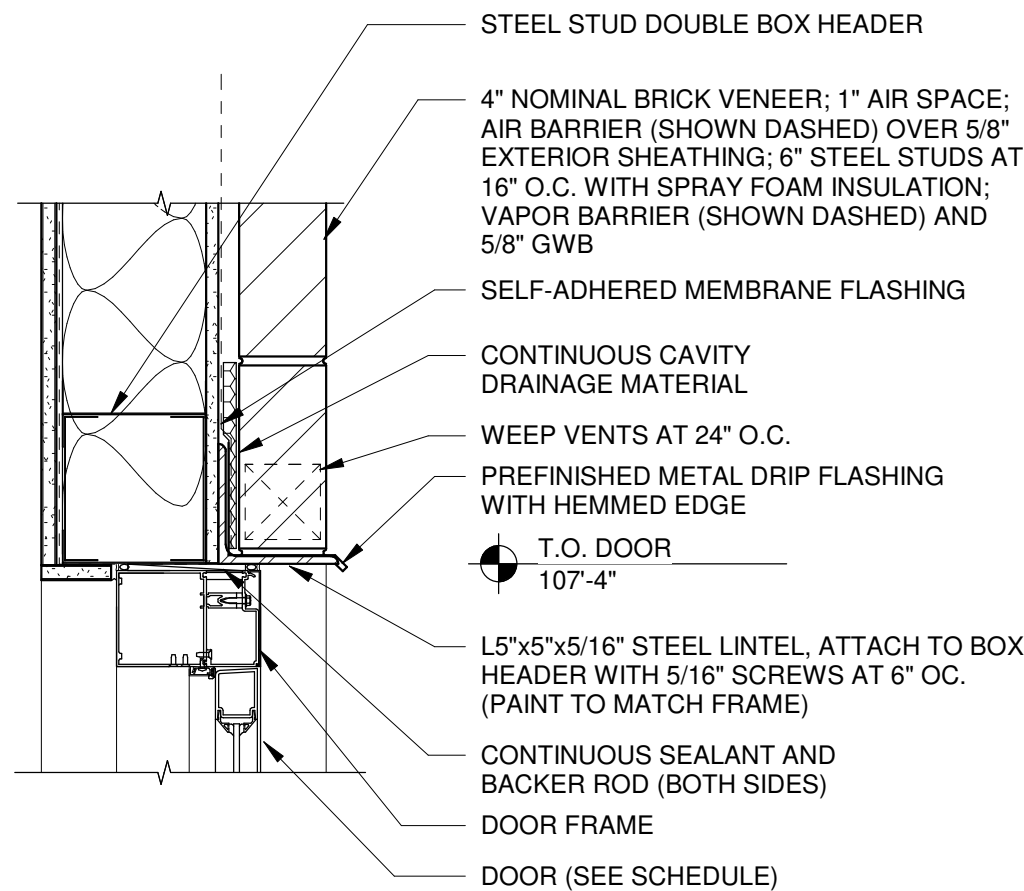
HM = HOLLOW METAL



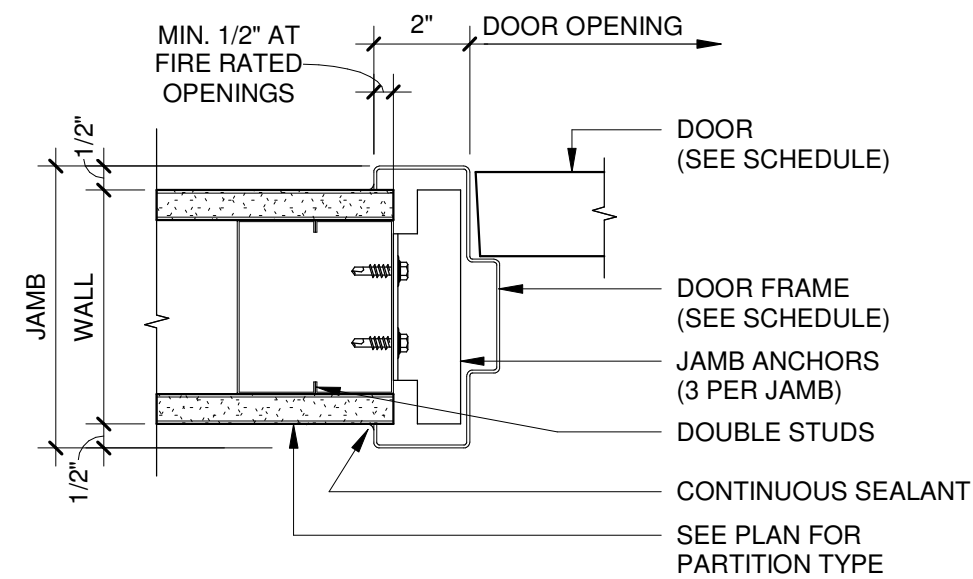
**6 INTERIOR DOOR HEAD**  
3" = 1'-0"



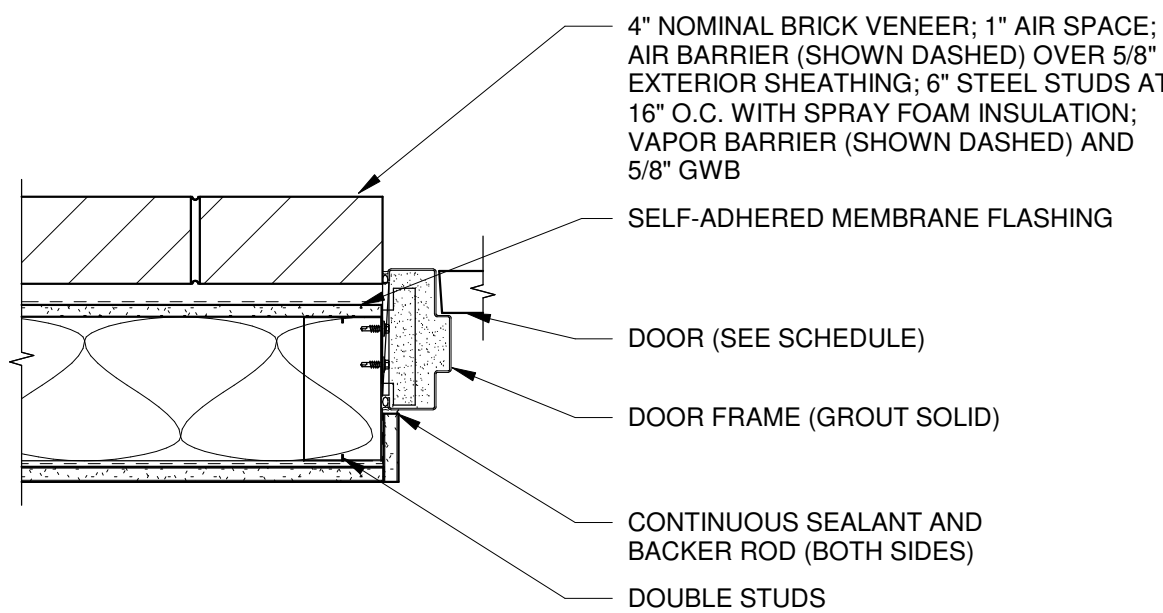
**4 EXTERIOR DOOR HEAD**  
1 1/2" = 1'-0"



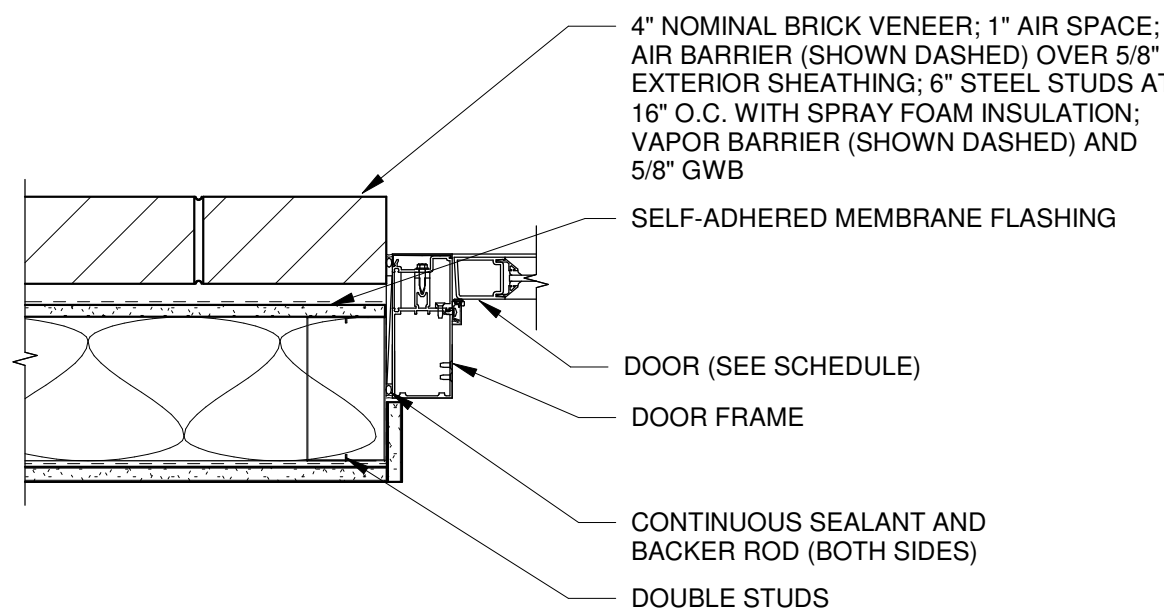
**1 EXTERIOR DOOR HEAD**  
1 1/2" = 1'-0"



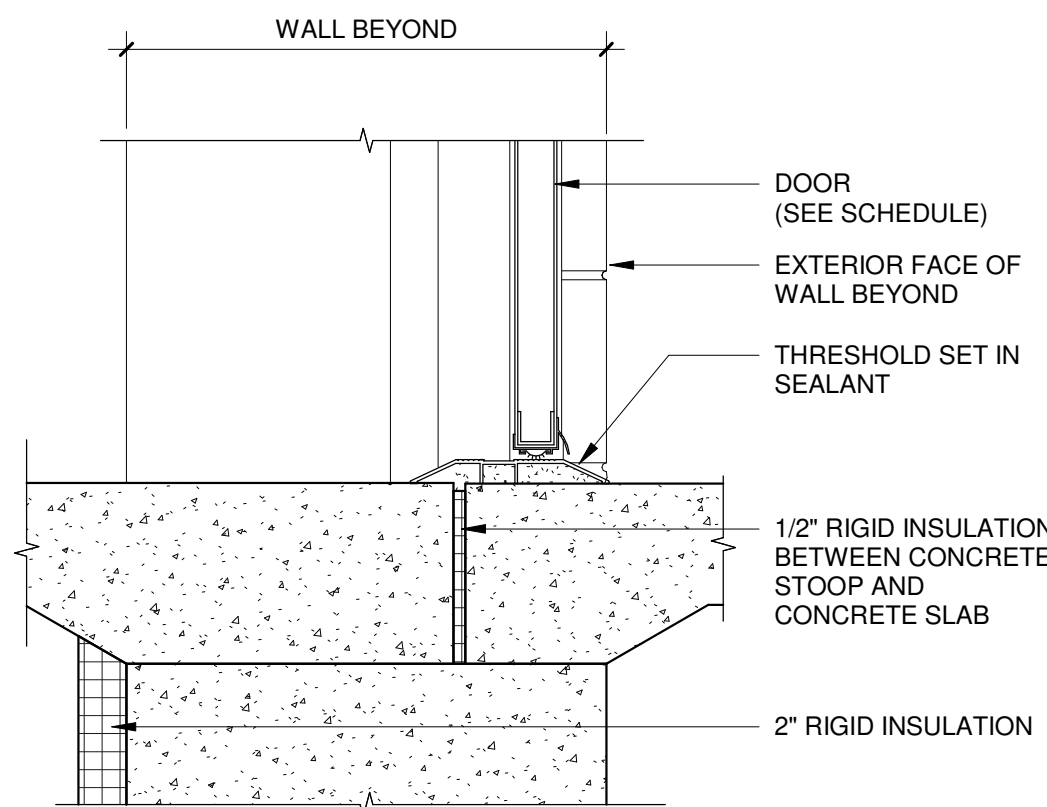
**7 INTERIOR DOOR JAMB**  
3" = 1'-0"



**5 EXTERIOR DOOR JAMB**  
1 1/2" = 1'-0"



**2 EXTERIOR DOOR JAMB**  
1 1/2" = 1'-0"



**3 DOOR SILL**  
1 1/2" = 1'-0"



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ISSUED  
02/17/21 B3 FINAL

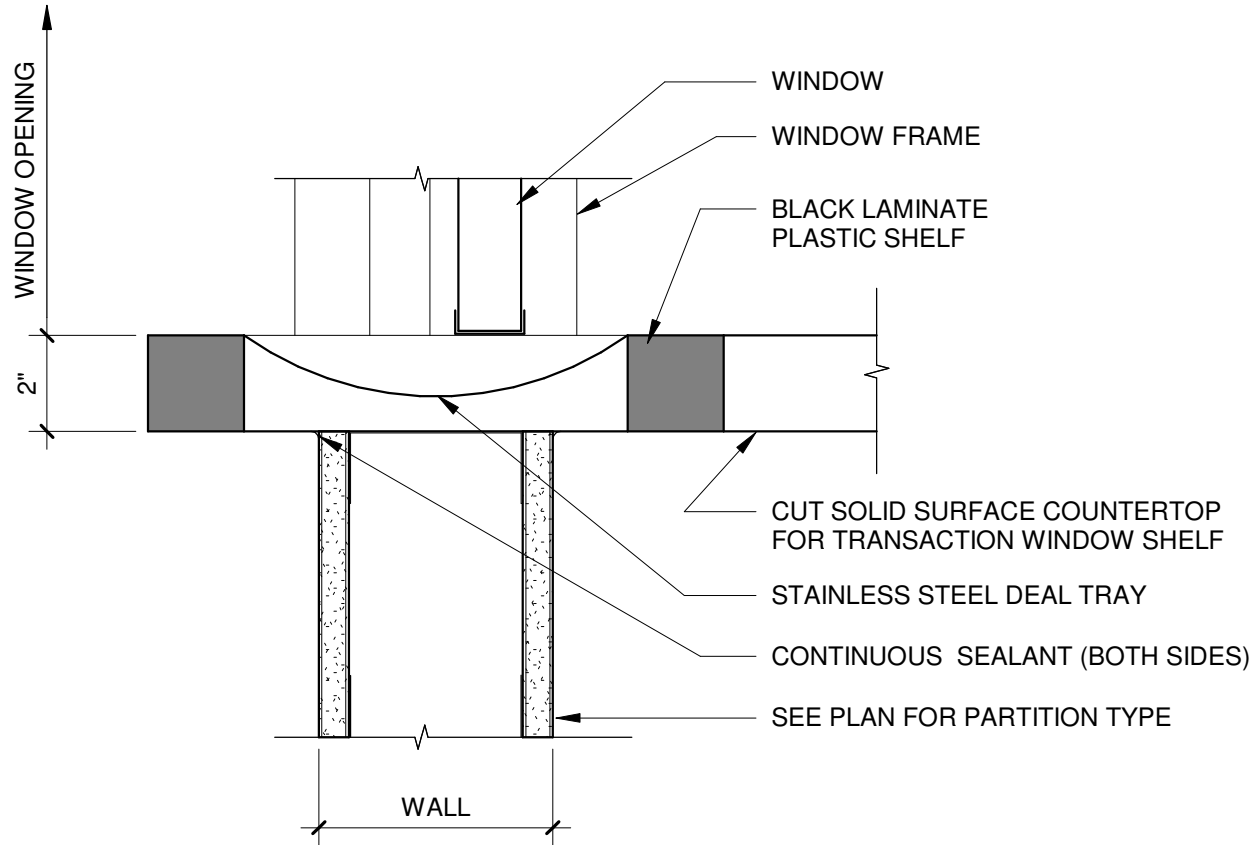
ANG Project No.: MBMV099170  
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DATE: February 17, 2021  
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DRAWN BY: MAB  
CHECKED BY: GAM  
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SHEET CONTENTS  
DOOR SCHEDULE  
AND DETAILS

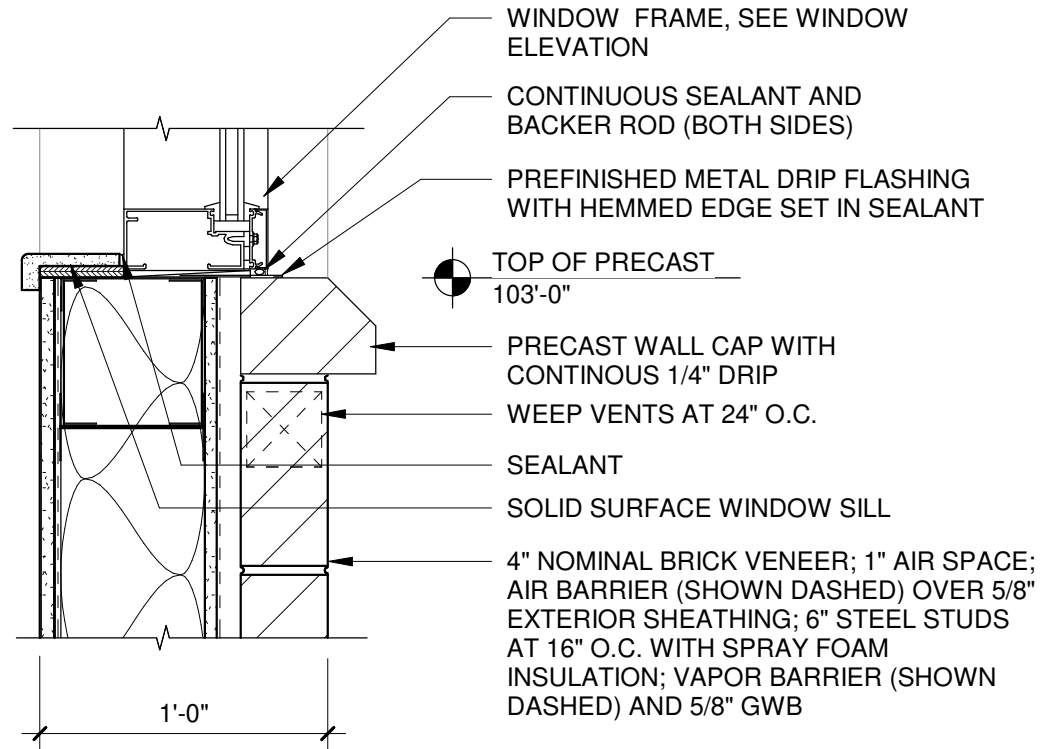
SHEET NO.:

ROOM FINISH SCHEDULE										
ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING		REMARKS
				NORTH	EAST	SOUTH	WEST	MTL	HEIGHT	
101	GUARD WORK AREA	RF-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACP-1	9'-6"	
102	TOILET	RF-1	RB-1	PT-1	PT-1	PT-1	PT-1	PT-1	8'-0"	
103	FIRE PANEL	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	EXPD	-	
104	BADGING AREA	RF-1	RB-1	PT-1	PT-1	PT-1	PT-1	PT-1	8'-0"	
105	GUARD BOOTH	-	-	-	-	-	-	-	-	
106	GUARD BOOTH	-	-	-	-	-	-	-	-	
107	CVIF SUPPORT	-	-	-	-	-	-	-	-	

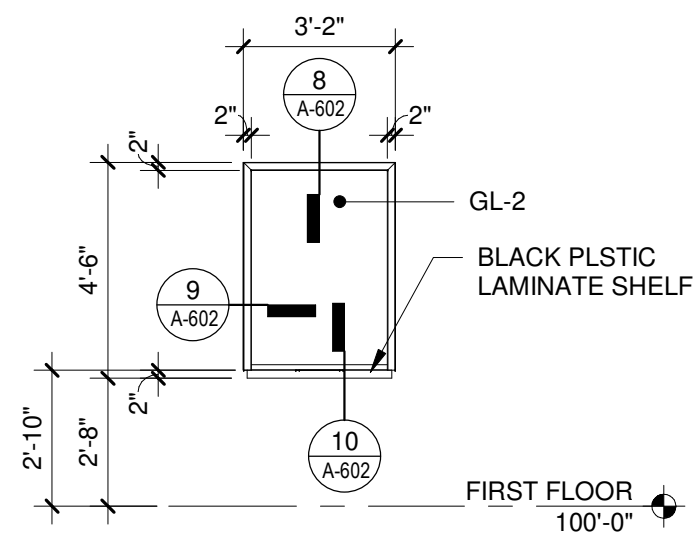
ARCHITECTURAL FINISHES SCHEDULE						
FINISH DESCRIPTION	MANUFACTURER	MODEL NUMBER	PRODUCT DESCRIPTION			REMARKS
			STYLE	COLOR	SIZE	
ACOUSTIC CEILING PANEL - TYPE 1	ARMSTRONG	556	CIRRUS BEVELED TEGULAR	WHITE	24" x 24"	
RUBBER WALL BASE - TYPE 1				ARCHITECTURAL BROWN	6"	
RUBBER FLOOR TILE - TYPE 1	NORA		GRANO	5310 HELICHRYSUM	24" x 24"	
SEALED CONCRETE - TYPE 1						
PAINT COLOR - TYPE 1	SHERWIN WILLIAMS			2134-70 GENESSE WHITE		
PAINT COLOR - TYPE 2	SHERWIN WILLIAMS			AIR GUARD ARCHITECTURAL BROWN		
PLASTIC LAMINATE - TYPE 1	WILSONART	D92-60		DOVE GREY		
POLISHED CONCRETE						
SOLID SURFACE - TYPE 1	CORIAN			SONORA		



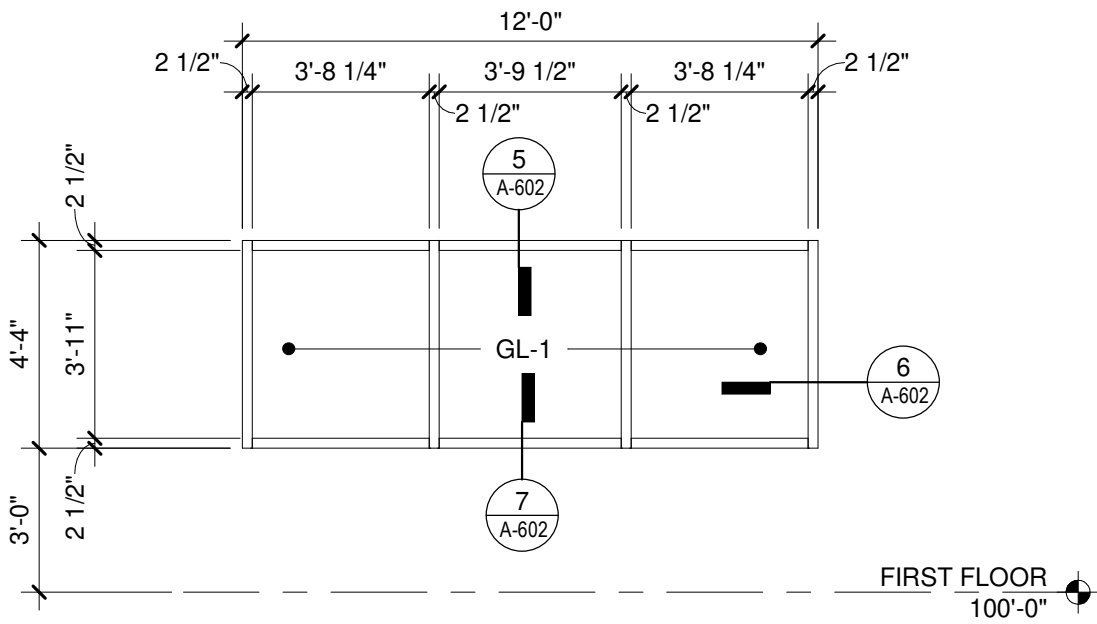
10 INTERIOR WINDOW SILL  
3" = 1'-0"



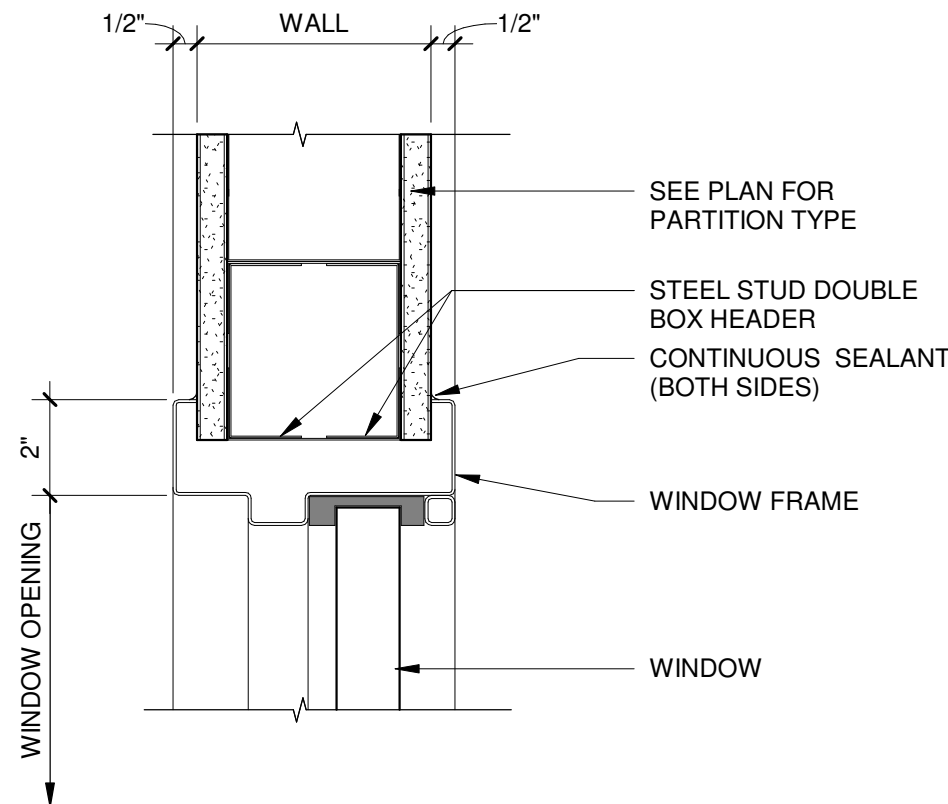
7 WINDOW SILL  
1 1/2" = 1'-0"



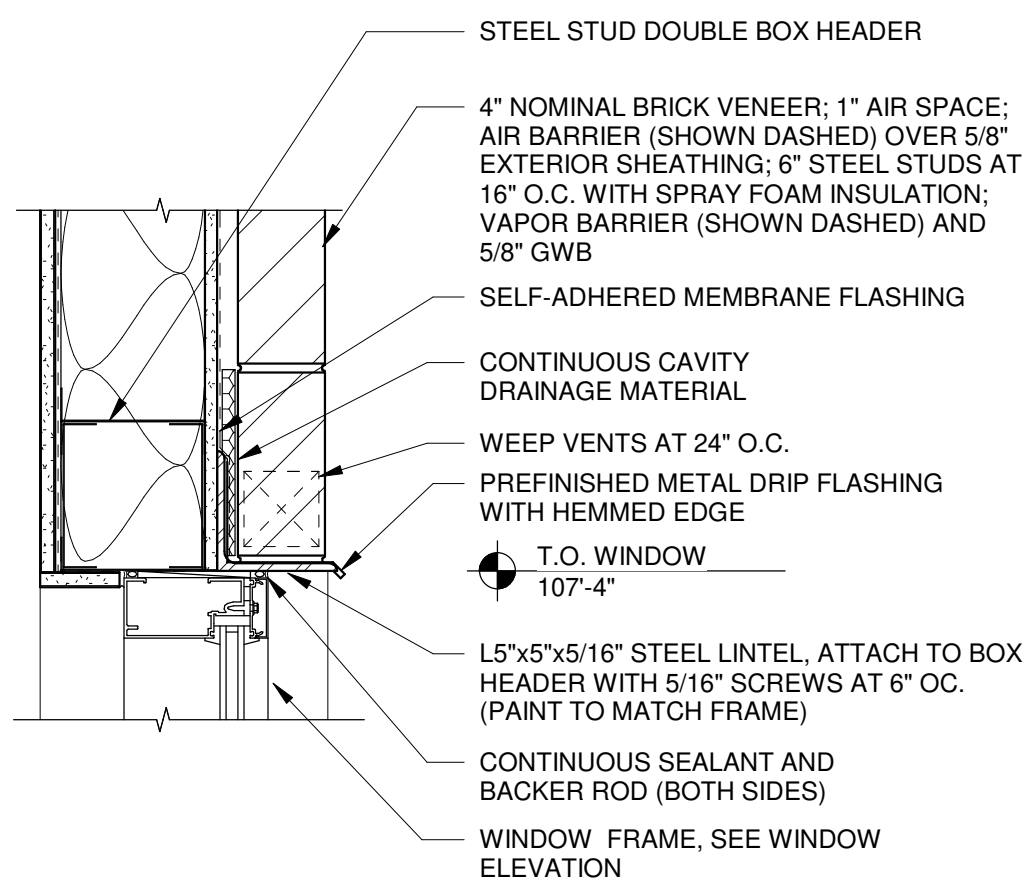
4 BULLET RESISTANT WINDOW SYSTEM - W4  
1/4" = 1'-0"



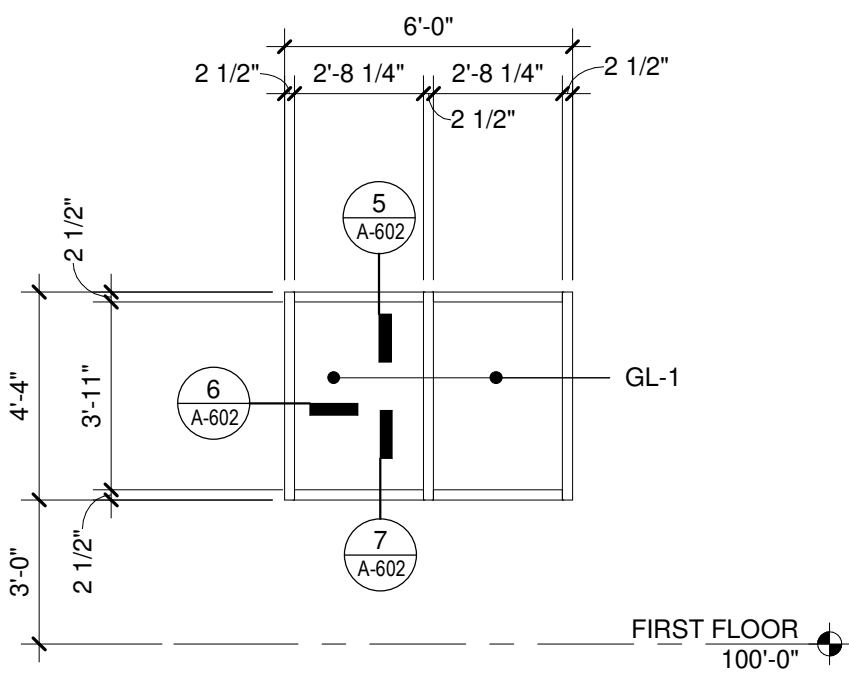
1 BULLET RESISTANT WINDOW SYSTEM - W1  
1/4" = 1'-0"



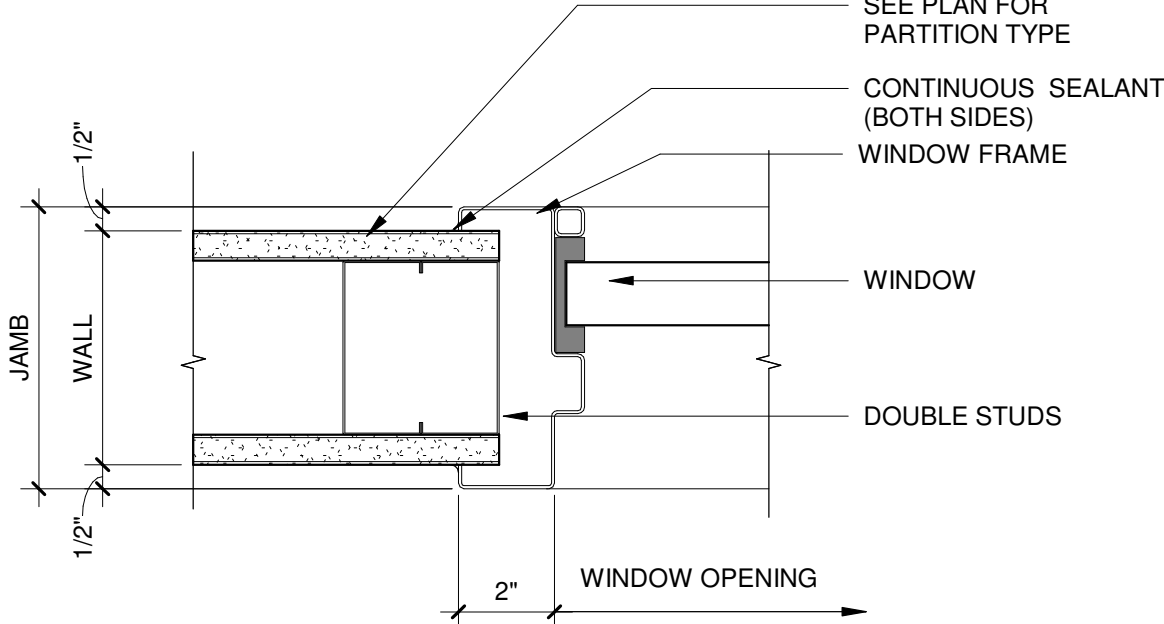
8 INTERIOR WINDOW HEAD  
3" = 1'-0"



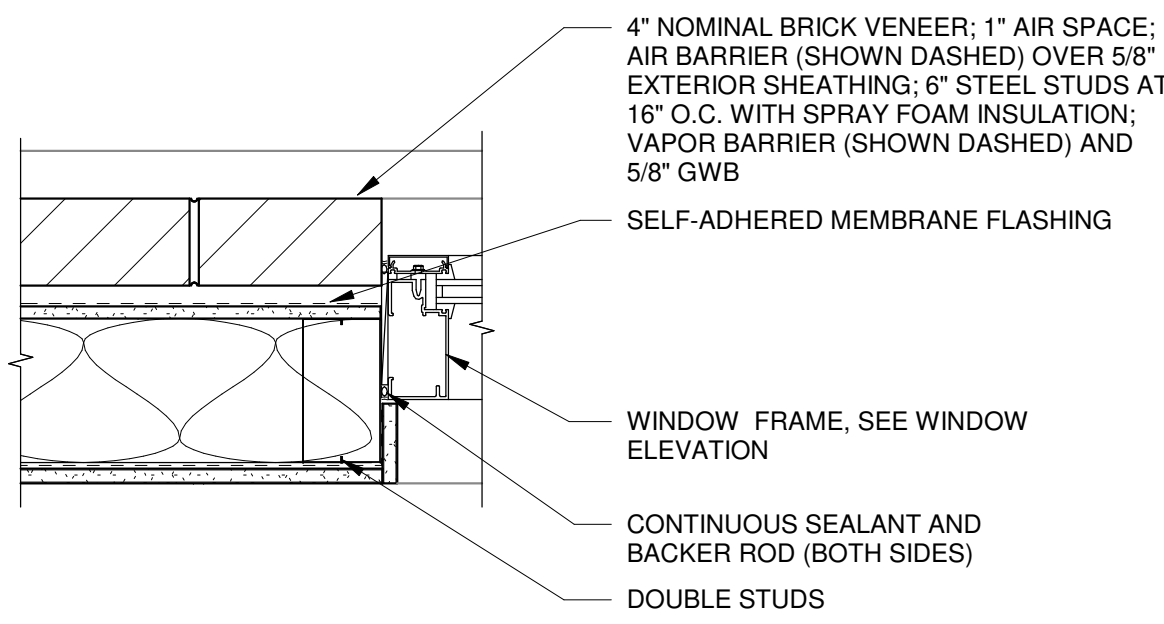
5 WINDOW HEAD  
1 1/2" = 1'-0"



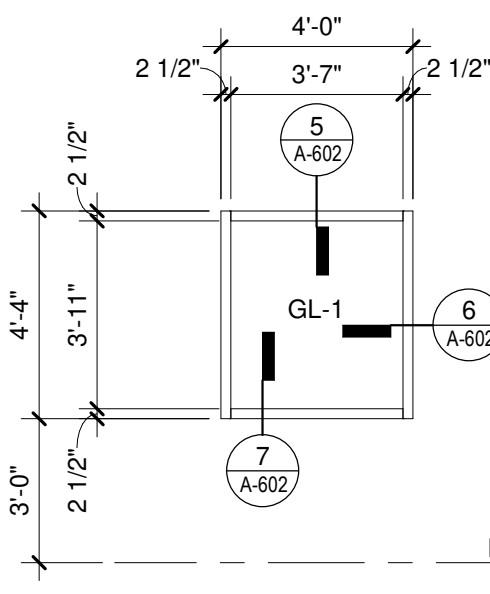
2 BULLET RESISTANT WINDOW SYSTEM - W2  
1/4" = 1'-0"



9 INTERIOR WINDOW JAMB  
3" = 1'-0"



6 WINDOW JAMB  
1 1/2" = 1'-0"



3 BULLET RESISTANT WINDOW SYSTEM - W3  
1/4" = 1'-0"



2/15/2021 7:34:12 PM C:\Revit Local\3141900-113782.01-P-Central-2020 mark.brathwaite.rvt

PLUMBING ABBREVIATIONS \_

A	AMPS	E	EXISTING
ABI	ALTERNATE BID ITEM	EEW	EMERGENCY EYE/FACE WASH
AFF	ABOVE FINISHED FLOOR	EFF	EFFICIENCY
AGD	ABOVE GROUND	EL	ELEVATION
AHJ	AUTHORITY HAVING JURISDICTION	ELEC	ELECTRIC
ALUM	ALUMINUM	EQPT	EQUIPMENT
ANG	AIR NATIONAL GUARD	ESEW	EMERGENCY SHOWER/EYE WASH
APPROX	APPROXIMATELY	ET	EXPANSION TANK
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	ETR	EXISTING TO REMAIN
ASL	ABOVE SEA LEVEL	EWC	ELECTRIC WATER COOLER
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	F	FAHRENHEIT
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERS	FCO	FLOOR CLEANOUT
ASTM	AMERICAN SOCIETY FOR TESSTING AND MATERIALS	FD	FLOOR DRAIN
BHF	BUTT HEAT FUSION	FLA	FULL LOAD AMPS
BLDG	BUILDING	FLOW	FLOW OR FLOWRATE
BO	BID OPTION	FPM	FEET PER MINUTE
BPD	BACKFLOW PREVENTION DEVICE	FS	FLOOR SINK
BR	BRAZE	FT	FEET
BRS	BRASS	FTWC	FEET WATER COLUMN PRESSURE
BRZ	BRONZE	GAL	GALLON OR GAUGE
BS	BLACK (MILD) STEEL	GBS	GASKETED BELL AND SPIGOT
BTU	BRITISH THERMAL UNIT	GPM	GALLONS PER MINUTE
BW	BUTT WELD	GR	GROOVED
BZ	BRONZE	GS	GALVANIZED STEEL
CI	CAST IRON	H	HEIGHT
CISPI	CAST IRON SOIL PIPE INSTITUTE	HC	HOSE CONNECTION
CL	CENTERLINE	HDB	HYDROSTATIC DESIGN BASIS
COMP	COMPRESSOR	HOA	HAND-OFF-AUTO
COR	CONTRACTING OFFICER'S REPRESENTATIVE	HP	HORSE POWER
CRA	CONCRETE REACTION ANCHOR	HX	HEAT EXCHANGER
CS	CARBON STEEL	HZ	HERTZ
CTCLG	CLOSE TO CEILING	IAW	IN ACCORDANCE WITH
CTCLM	CLOSE TO COLUMN	IBNLT	INCLUDED BUT NOT LIMITED TO
CTW	CLOSE TO WALL	ID	INSIDE DIAMETER
CU	COPPER OR CUBIC	IE	INVERT ELEVATION
DBA	DECIBELS, BAND A	IN	INCH
DCVA	DOUBLE CHECK VALVE ASSEMBLY BPD	INHG	INCHES MERCURY PRESSURE
DEG	DEGREE	INWC	INCHES WATER COLUMN PRESSURE
DEMO	DEMOLISH OR DEMOLITION	IPC	INTERNATIONAL PLUMBING CODE
DFD	DEPARTMENT OF DEFENSE	L	LENGTH OR LAVATORY
DI	DUCTILE IRON	LB	POUNDS
DIA	DIAMETER	LCO	LINE CLEAN OUT
DIM	DIMENSION	LIN	LINEAR
DISCH	DISCHARGE	LPG	LIQUIFIED PETROLEUM GAS
DN	DOWN	MADP	MAXIMUM ALLOWABLE DIFFERENTIAL PRESSURE
DWG	DRAWING	MAWP	MAXIMUM ALLOWABLE WORKING PRESSURE
DWV	DRAIN, WASTE AND VENT	MAX	MAXIMUM
		MBH	THOUSAND BTU PER HOUR

MC	MECHANICAL COUPLING	SD	SOLDER
MCA	MINIMUM CIRCUIT AMPACITY	SDR	STANDARD DIMENSION RATIO
MCC	MOTOR CONTROL CENTER	SH	SHOWER
MFR	MANUFACTURER	SHR	SOCKET HEAT FUSION
MIN	MINIMUM	SHT	SHEET
MMBH	MILLION BTU PER HOUR	SMLS	SEAMLESS
MOCP	MINIMUM OVER CURRENT PROTECTION	SP	STATIC PRESSURE
MSS	MANUFACTURERS STANDARDIZATION SOCIETY	SQ	SQUARE
		SPEC	SPECIFICATIONS
MTL	MATERIAL	SS	STAINLESS STEEL
NA	NOT APPLICABLE	STD	STANDARD
NC	NORMALLY CLOSED	STL	STEEL
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	SV	SOLVENT WELD
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	SW	SOCKET WELD
NG	NATURAL GAS	TDH	TOTAL DEVELOPED HEAD
NH	NO-HUB	TDS	TOTAL DISSOLVED SOLIDS
NHC	NO-HUB COUPLING	TEMP	TEMPERATURE
NIC	NOT IN CONTRACT	TFA	TO FLOOR ABOVE
NO	NORMALLY OPEN	TFB	TO FLOOR BELOW
NOM	NOMINAL	TH	THREADED
NPSH	NET POSITIVE SUCTION HEAD	TYP	TYPICAL
NPSHA	NPSH AVAILABLE	UFC	UNIFIED FACILITIES CRITERIA
NPSHR	NPSH REQUIRED	UGD	UNDERGROUND
OD	OUTSIDE DIAMETER	UNO	UNLESS NOTED OTHERWISE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	UR	URINAL
OFOI	OWNER FURNISHED, OWNER INSTALLED	UV	ULTRAVIOLET
P	PRESSURE	V	VOLTS OR VENT
PCN	PLANT CONTROL NETWORK	VFD	VARIABLE FREQUENCY DRIVE
PD	PRESSURE DROP/DIFFERENTIAL	VLV	VALVE
PDI	PLUMBING DEVELOPMENT INSTITUTE	VTR	VENT THROUGH ROOF
PE	POLYETHYLENE	W	WATTS OR WIDTH
PH	PHASE	WC	WATER CLOSET
PL	PLACES	WCO	WALL CLEANOUT
PP	POLYPROPYLENE	YCO	YARD CLEANOUT
PPH	POUND PER HOUR		
PREDV	PRESSURE REDUCING VALVE		
PSI	POUNDS PER SQUARE INCH		
PSIA	PSI ABSOLUTE		
PSID	PSI DIFFERENTIAL		
PSIG	PSI GAGE		
PVC	POLYVINYL CHLORIDE		
QTY	QUANTITY		
RCP	REINFORCED CONCRETE PIPE		
REF	REFERENCE		
RPM	REVOLUTIONS PER MINUTE		
RPZ	REDUCED PRESSURE ZONE BPD		
SCH	SCHEDULE		
SCO	STACK CLEANOUT		

SD	SOLDER
SDR	STANDARD DIMENSION RATIO
SH	SHOWER
SHR	SOCKET HEAT FUSION
SHT	SHEET
SMLS	SEAMLESS
SP	STATIC PRESSURE
SQ	SQUARE
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
SV	SOLVENT WELD
SW	SOCKET WELD
TDH	TOTAL DEVELOPED HEAD
TDS	TOTAL DISSOLVED SOLIDS
TEMP	TEMPERATURE
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TH	THREADED
TYP	TYPICAL
UFC	UNIFIED FACILITIES CRITERIA
UGD	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UV	ULTRAVIOLET
V	VOLTS OR VENT
VFD	VARIABLE FREQUENCY DRIVE
VLV	VALVE
VTR	VENT THROUGH ROOF
W	WATTS OR WIDTH
WC	WATER CLOSET
WCO	WALL CLEANOUT
YCO	YARD CLEANOUT

PIPING SYMBOLS

	PIPE TURNED TOWARD
	PIPE TURNED AWAY
	PIPE TURNED AWAY
	PIPE TURNED TOWARD
	FLEXIBLE CONNECTOR
	UNION
	FLANGES
	REDUCER (CONCENTRIC)
	REDUCER (ECCENTRIC)
	PIPE CAP
	PIPE PLUG
	FLUID FLOW DIRECTION
	PIPE GUIDE
	PIPE ANCHOR
	PIPE PITCH DIRECTION
	NEW CONNECTION TO EXISTING
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	NEW TO BE INSTALLED
	PRESSURE GAUGE
	TEMPERATURE GAUGE
	WATER HAMMER ARRESTOR
	AIR VENT (AUTO)
	AIR VENT (MANUAL)
	AUTOMATIC CONTROL VALVE (2-WAY)
	AUTOMATIC CONTROL VALVE (3-WAY)
	BALL VALVE

	BALANCING VALVE
	BUTTERFLY VALVE
	BACKFLOW PREVENTION VALVE
	CHECK VALVE
	FILTER
	FLOW MEASUREMENT STATION
	GATE VALVE
	GAUGE CONNECTION
	GLOBE ANGLE VALVE
	GLOBE VALVE
	ISOLATION/SHUT-OFF/ MANUAL VALVE
	PLUG VALVE
	PRESSURE REDUCING VALVE
	PRESSURE REGULATING VALVE
	RELIEF VALVE
	SOLENOID VALVE ONE-WAY (ELECTRIC)
	STRAINER
	THROTTLING VALVE
	VACUUM BREAKER
	FLOW SENSOR
	LEVEL SENSOR
	PRESSURE SENSOR
	TEMPERATURE SENSOR

PLUMBING PIPING:

	A	COMPRESSOR AIR
	CD	CONDENSATE
	CW	DOMESTIC COLD WATER
	SCW	DOMESTIC SOFT COLD WATER
	HW	DOMESTIC HOT WATER
	SHW	DOMESTIC SOFT HOT WATER
	HWR	DOMESTIC HOT WATER RETURN
	SHWR	DOMESTIC SOFT HOT WATER RETURN
	MW	DOMESTIC MIXED WATER
	G	NATURAL GAS
	SAN	SANITARY DRAIN
	V	VENT FOR SANITARY DRAIN
	ST	STORM DRAIN

GENERAL NOTES:

- ABBREVIATIONS INDICATED HERE AND NOT USED IN THE CONTRACT DOCUMENTS DO NOT APPLY TO THIS PROJECT. ADDITIONAL ABBREVIATIONS MAY BE INDICATED IN THE CONTRACT DOCUMENTS.
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- VERIFY ALL EQUIPMENT LOCATIONS AND PIPE ROUTING WITH OWNER PRIOR TO INSTALLATION.
- SEQUENCE OF WORK AND/OR PLACE OF COMMENCEMENT OF WORK SHALL BE APPROVED PRIOR TO WORK BEING STARTED. SCHEDULED SHUTDOWNS SHALL BE CLOSELY COORDINATED WITH EXISTING OPERATIONS.
- THE PLUMBING CONTRACTOR SHALL EXAMINE ALL CONTRACT DOCUMENTS AND IS REQUIRED TO DO ALL WORK WHICH IS SHOWN ON THE DRAWINGS, STATED IN THE SPECIFICATIONS, OR REASONABLY IMPLIED AS NECESSARY TO COMPLETE THEIR DIVISION OF WORK FOR THIS PROJECT REGARDLESS OF WHERE IN THE CONTRACT DOCUMENTS THE WORK IS REPRESENTED. PLUMBING CONTRACTOR TO COORDINATE WORK WITH ALL OTHER TRADES. ALL OTHER TRADE DOCUMENTS ARE TO BE CONSIDERED PART OF THIS CONTRACTORS DOCUMENTS WITH RESPECT TO COORDINATION OF WORK BETWEEN TRADES OF WORK.

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

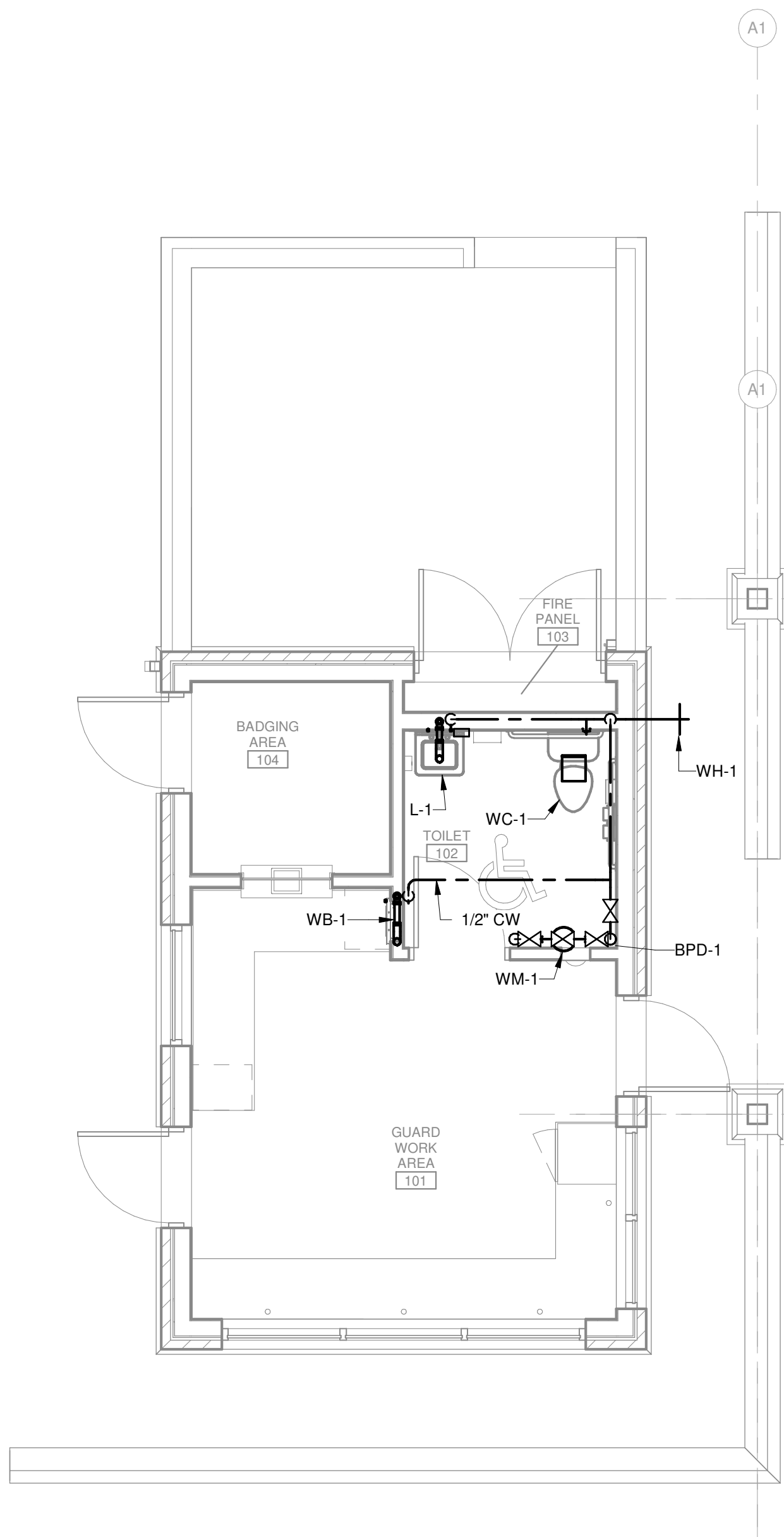
ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
MSH NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: RMM  
DRAWN BY: RMM  
CHECKED BY: JR  
DO NOT SCALE DRAWINGS

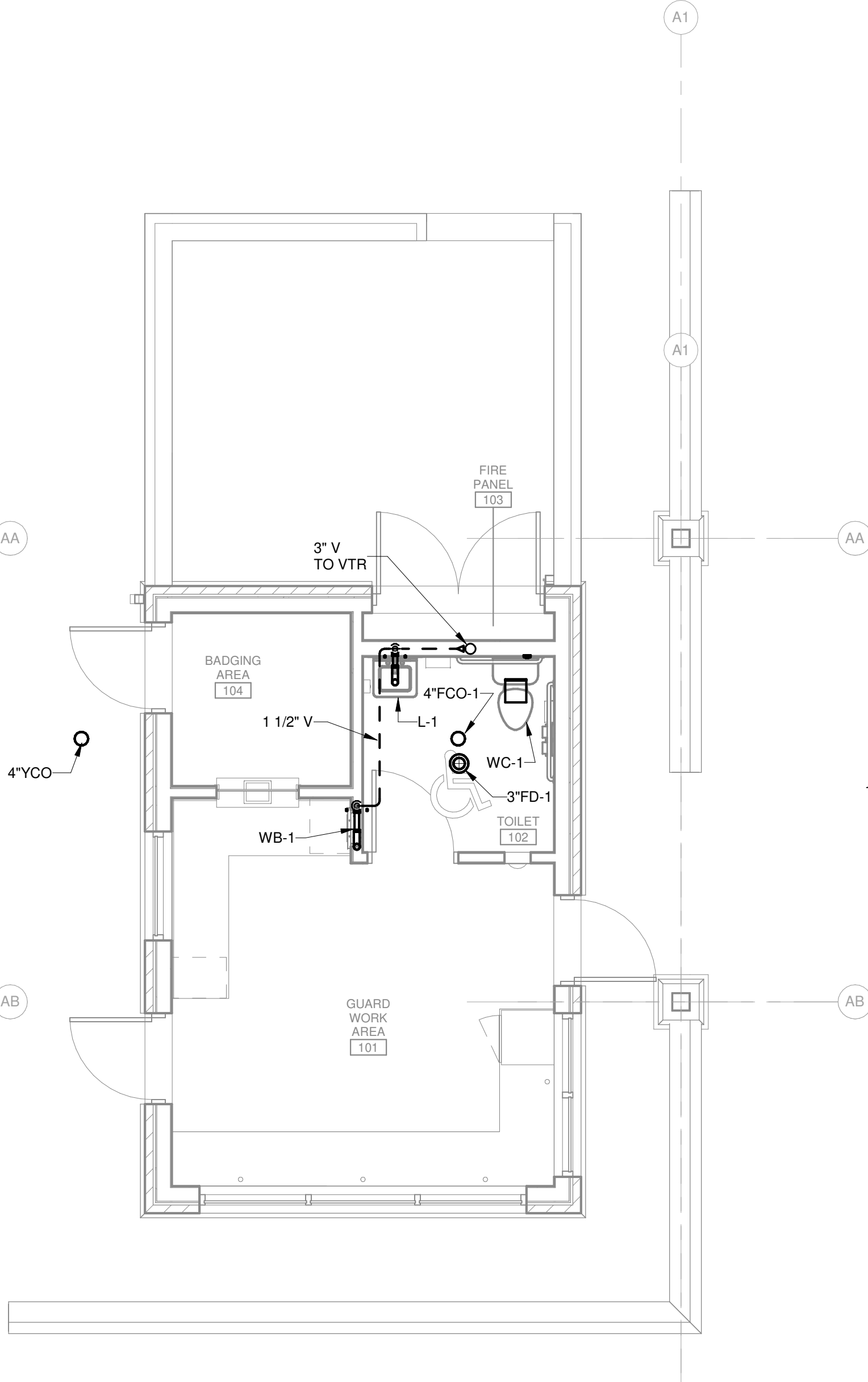
SHEET CONTENTS  
NOTES, SYMBOLS  
AND ABBREVIATIONS

SHEET NO.:

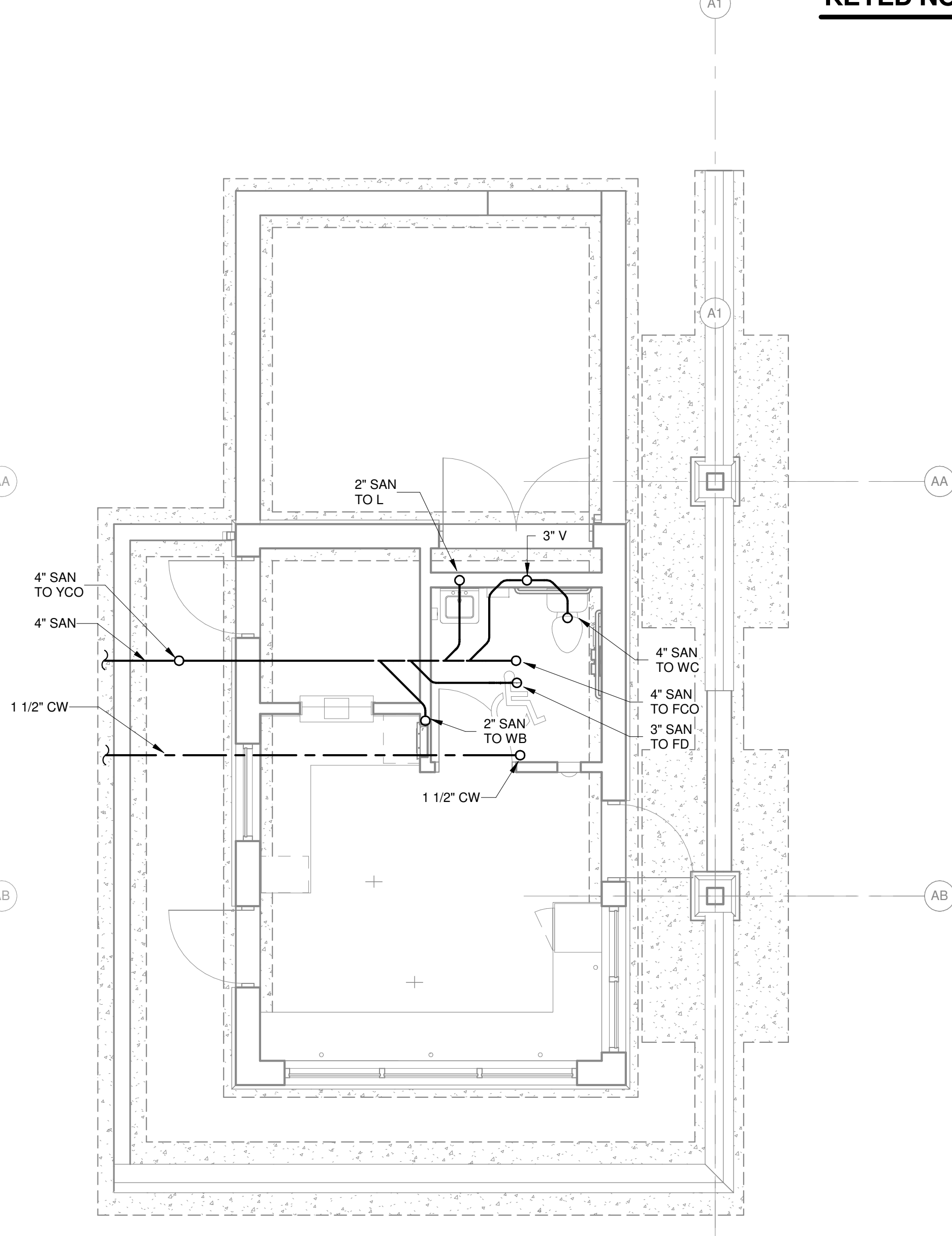
P-001



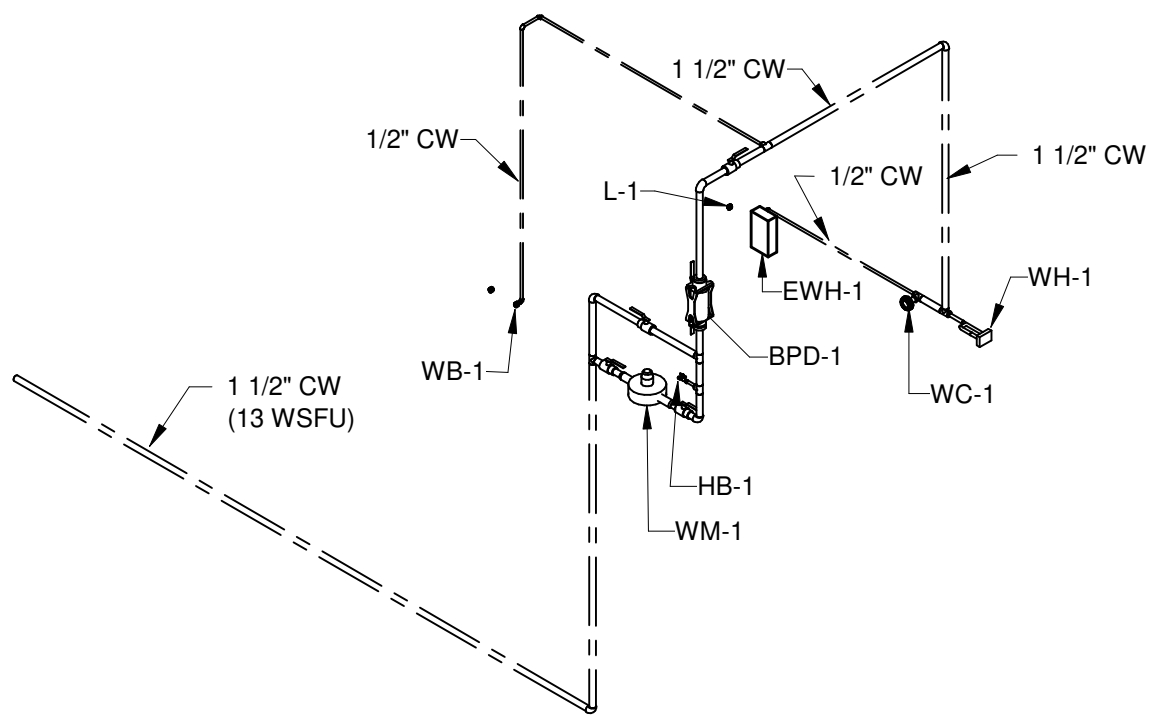
**3 FIRST FLOOR SUPPLY PLAN**  
1/4" = 1'-0"



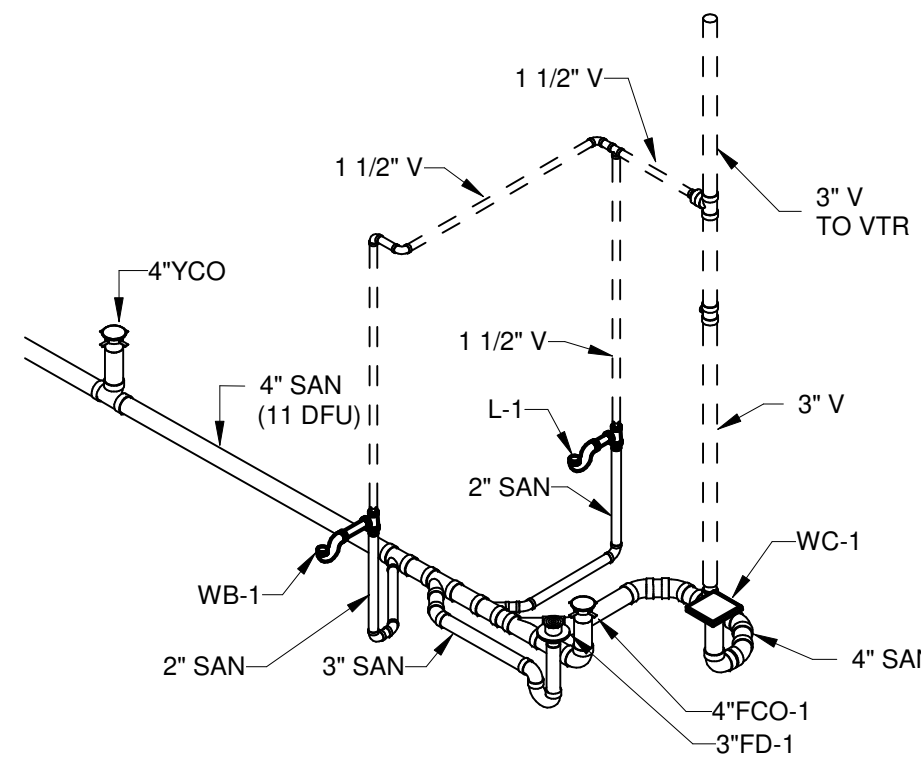
**2 FIRST FLOOR DRAIN AND VENT PLAN**  
1/4" = 1'-0"



**1 UNDERGROUND PLAN**  
1/4" = 1'-0"



**5 SUPPLY RISER DIAGRAM**  
NO SCALE



**4 DRAIN AND VENT RISER DIAGRAM**  
NO SCALE

**KEYED NOTES**

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BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

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DATE: February 17, 2021  
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DRAWN BY: RMM  
CHECKED BY: JR

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SHEET CONTENTS  
PLUMBING FLOOR  
PLANS AND RISER  
DIAGRAMS

SHEET NO.:

**P-101**



PIPE SIZE SCHEDULE (1)				
SUPPLY, TRAP, DRAIN, AND VENT PIPE SIZES FOR SINGLE FIXTURES (4) (5)				
FIXTURE	DCW (IN)	DHW (IN)	DRAIN (IN)	VENT (IN)
L	1/2	1/2	1 1/2 (2)	1 1/2
FD/HD			(3)	1 1/2
WC	1	0	3	1 1/2
L	1/2	1/2	1 1/2 (2)	1 1/2
MINIMUM PIPE SIZES FOR CIRCUITS				
SERVICE	MINIMUM PIPE SIZE (IN)			
SANITARY DRAIN	1 1/2			
VENT	1 1/2			
VTR	3			
SUPPLY	3/4			
PIPE SIZE CHANGES				
PIPE SIZES ARE INDICATED ON THIS SCHEDULE AND ON PLANS FROM WHERE PIPE SIZE IS...				
DRAIN PIPE SIZE SHALL NOT DIMINISH IN DOWNSTREAM DIRECTION.				
DRAIN PIPE SIZE SHALL NOT DIMINISH IN UPSTREAM DIRECTION TO NEXT BRANCH.				
VENT PIPE SIZE SHALL NOT DIMINISH IN DIRECTION AWAY FROM CONNECTION TO DRAIN.				

REMARKS:

- (1) SEE GENERAL SCHEDULE NOTES.  
(2) 2" UNDERGROUND.  
(3) MATCH FIXTURE PIPE SIZE.  
(4) CONNECT EACH FIXTURE WITH PIPE SIZES INDICATED.  
(5) UNLESS NOTED OTHERWISE, PROVIDE TRAPS ON ALL FIXTURES WITH DRAINS.

PLUMBING FIXTURE SCHEDULE (1)								
MARK	EQUIPMENT TYPE	MANUFACTURER, MODEL NUMBER	DESCRIPTION SUMMARY (SEE SPECIFICATIONS)	ELECTRICAL				REMARKS
				VOLTS/PHASE	AMPS	HP	WATTS	
L- 1	LAVATORY BOWL	KOHLER, K-2005	WALL-MOUNT, VITREOUS CHINA, 21" x 18". TWO FAUCET HOLES. ADA. PROVIDE CONCEALED ARM SUPPORT, GRID DRAIN WITH OFFSET P-TRAP, AND TRAP WRAP KIT.	120/1			25	
	LAVATORY FAUCET	CHICAGO, 802-317XKCP-0.5	DECK MOUNT, 4" CENTERS. DUAL WRIST BLADE HANDLES. SHAPED SPOUT. CERAMIC DISK VALVE CARTRIDGES. 0.5 GPM AT 60 PSI. ADA. INSTALL WITH HEAVY DUTY LOOSE KEY STOPS AND TMV-2 ON HOT CIRCUIT.					
WB- 1	WATER DISPENSER	ELKAY, LBWDC00	IN-WALL, FILTERED WATER DISPENSER, NON-REFRIGERATED. INSTALL WITH NON-METALLIC BALL VALVE (FURNISHED WITH UNIT) AND PVC P-TRAP (FURNISHED BY PC) OR DIELECTRIC COUPLINGS ON SUPPLY AND DRAIN SYSTEMS.					
WC- 1	WATER CLOSET BOWL	KOHLER, K-96057	FLOOR SET, 1.28 GPF, VITREOUS CHINA, SIPHON JET FLUSHOMETER. ADA.	120/1				
	FLUSHOMETER	SLOAN ROYAL 111-1.28	MANUAL FLUSHOMETER, 1.28 GALLONS PER FLUSH. LOCATE HANDLE ON THE WIDE SIDE OF THE STALL.					
	WATER CLOSET SEAT	BEMIS, 9400SSCT	OPEN FRONT. STAINLESS STEEL SELF-SUSTAINING CHECK.					

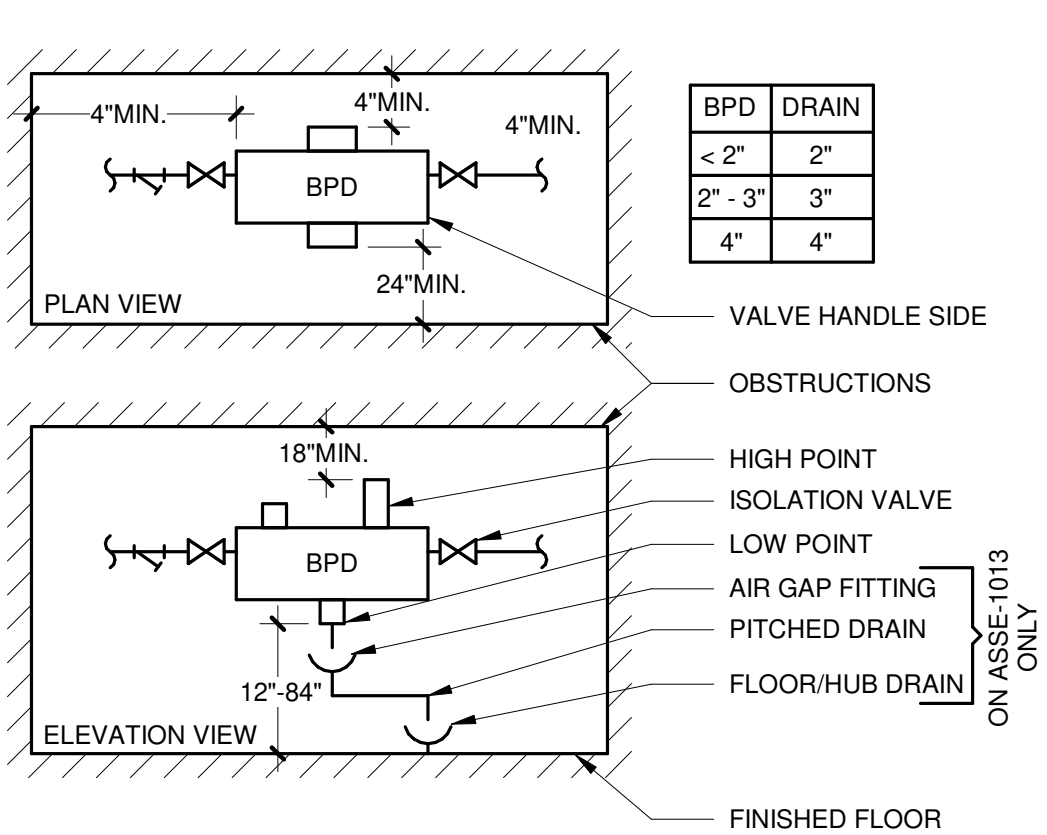
REMARKS

- (1) SEE GENERAL SCHEDULE NOTES

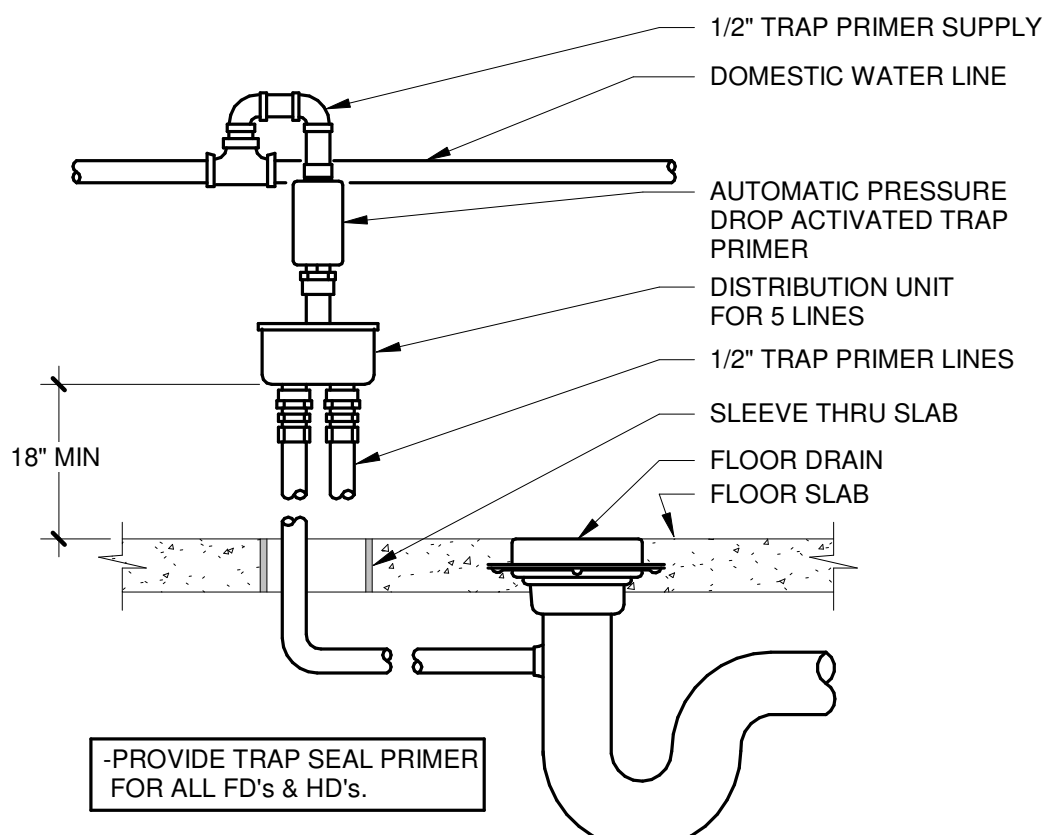
PLUMBING EQUIPMENT SCHEDULE (1)								
MARK	EQUIPMENT TYPE	MANUFACTURER, MODEL NUMBER	DESCRIPTION SUMMARY (SEE SPECIFICATIONS)	ELECTRICAL				REMARKS
				VOLTS/PHASE	AMPS	HP	WATTS	
BPD- 1	BACKFLOW PREVENTION DEVICE	WATTS, LF909	REDUCED PRESSURE ZONE, VERTICAL ORIENTATION, ASSE 1013, 1-1/2". BRONZE.	208/1	24		4900	3
EWH- 1	ELECTRIC WATER HEATER	EEMAX, SPEX65T	INSTANTANEOUS TYPE WITH THERMOSTATIC CONTROL. 0.5 GPM AT 67 F RISE. SET AT 105 F...					
FCO- 1	FLOOR CLEANOUT	JR SMITH, Z4020	CAST IRON, MEDIUM DUTY NICKEL-BRONZE COVER					
FD- 1	FLOOR DRAIN	ZURN, Z415	CAST IRON, MEDIUM DUTY NICKEL-BRONZE GRATE					
HB- 1	HOSE BIBB	WOODFORD, 24	ASSE-1011, BRONZE.					
WH- 1	WALL HYDRANT	SMITH, 5619	ASSE-1019, BRONZE. FREEZEPROOF. QUARTER-TURN OPERATION. EXPOSED WHEEL HANDLE AND HOSE CONNECTION.	120/1			15	3
TP- 1	TRAP PRIMER	PPP, PR-500SS	ASSE-1018. STAINLESS STEEL. SUPPLY FROM SINK CW SUPPLY.					
WM- 1	WATER METER	OFCI	20 GPM PEAK FLOWRATE. NSF-61. PROVIDE AUXILIARY OUTPUT FOR BUILDING AUTOMATION SYSTEM.					

REMARKS

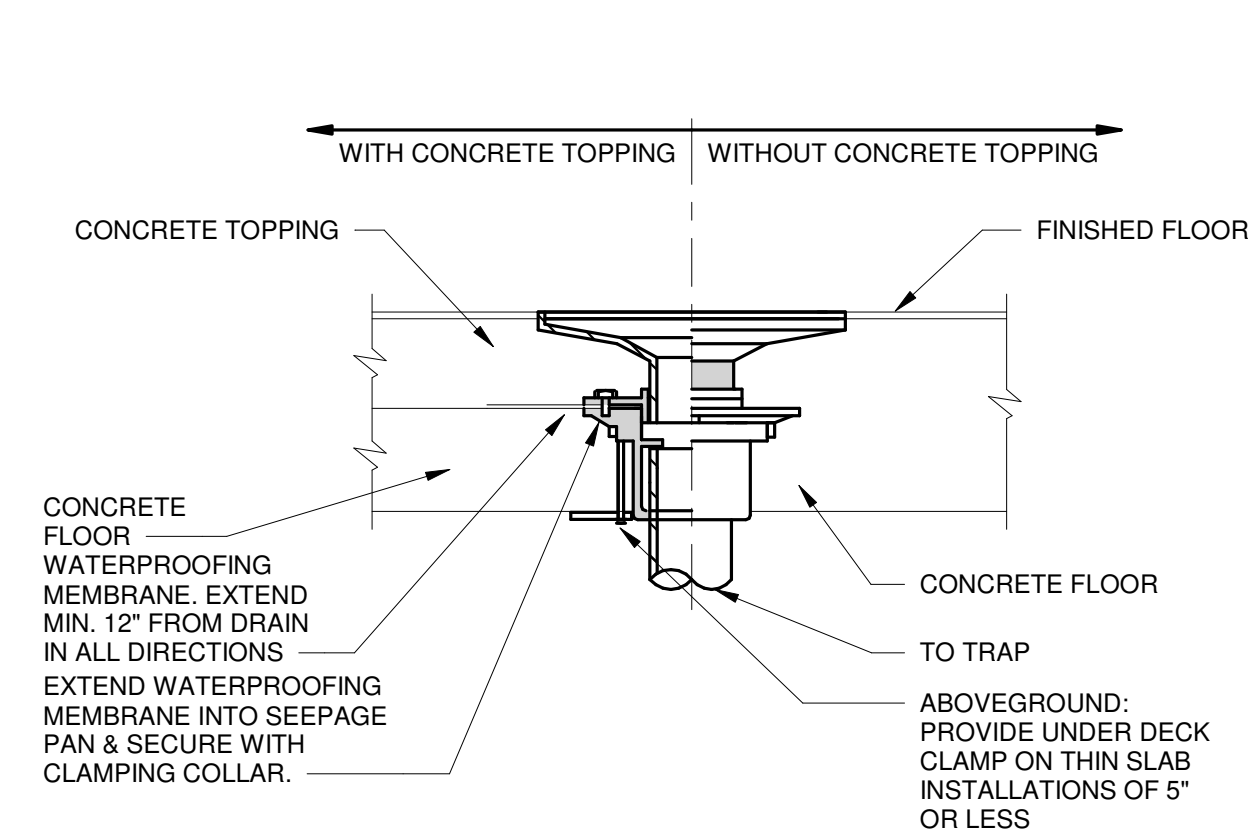
- (1) SEE GENERAL SCHEDULE NOTES  
(2) DISCONNECT INCLUDED  
(3) EXTERNAL DISCONNECT REQUIRED (BY ELECTRICAL CONTRACTOR)



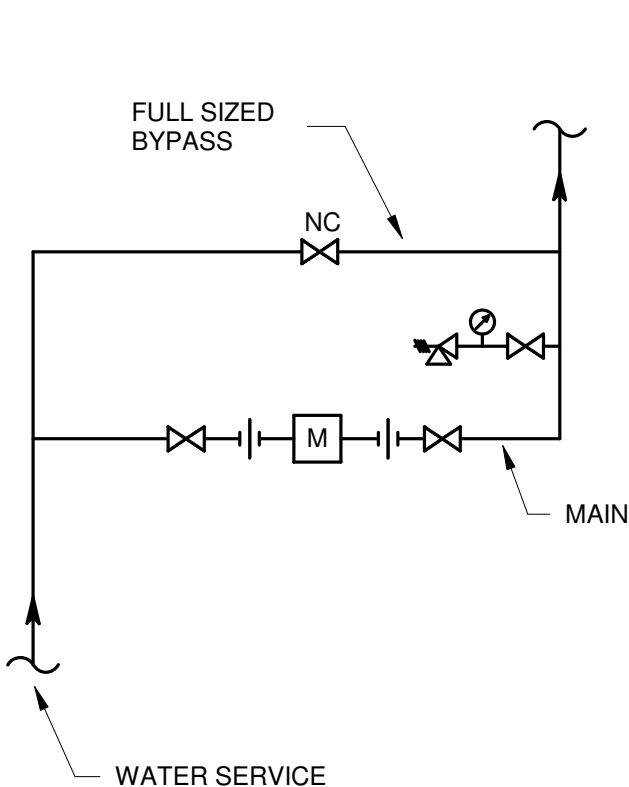
6 ASSE-1013 & ASSE-1015  
NO SCALE



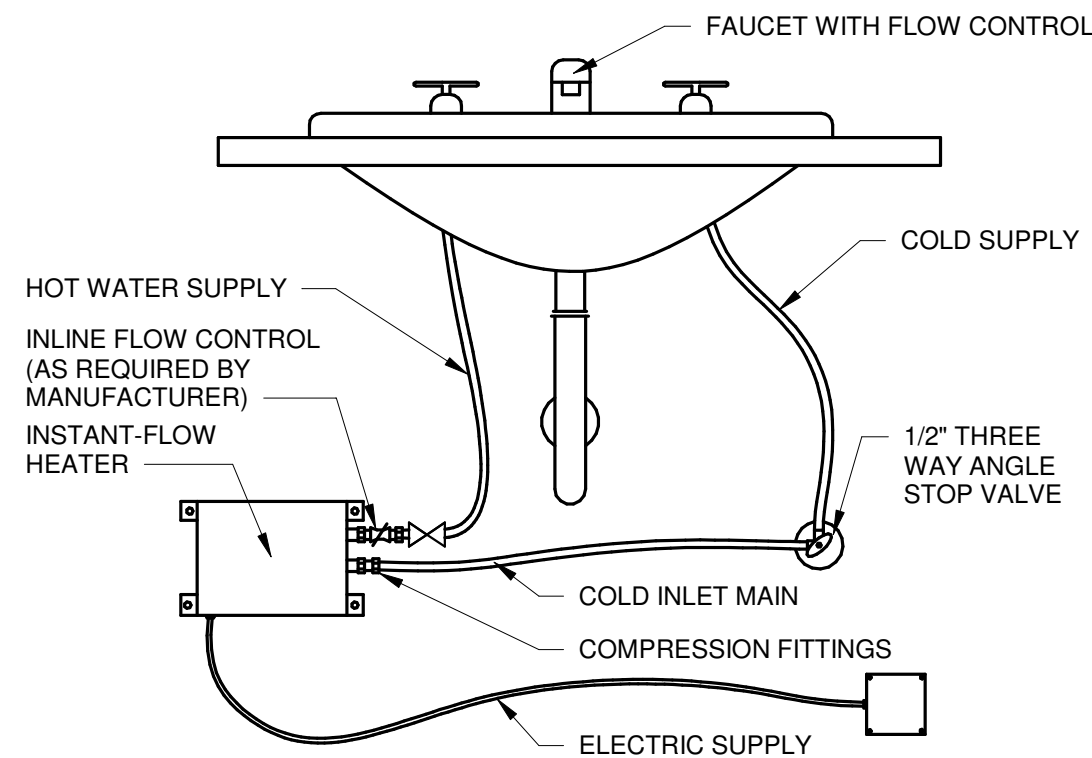
4 TRAP SEAL PRIMER  
NO SCALE



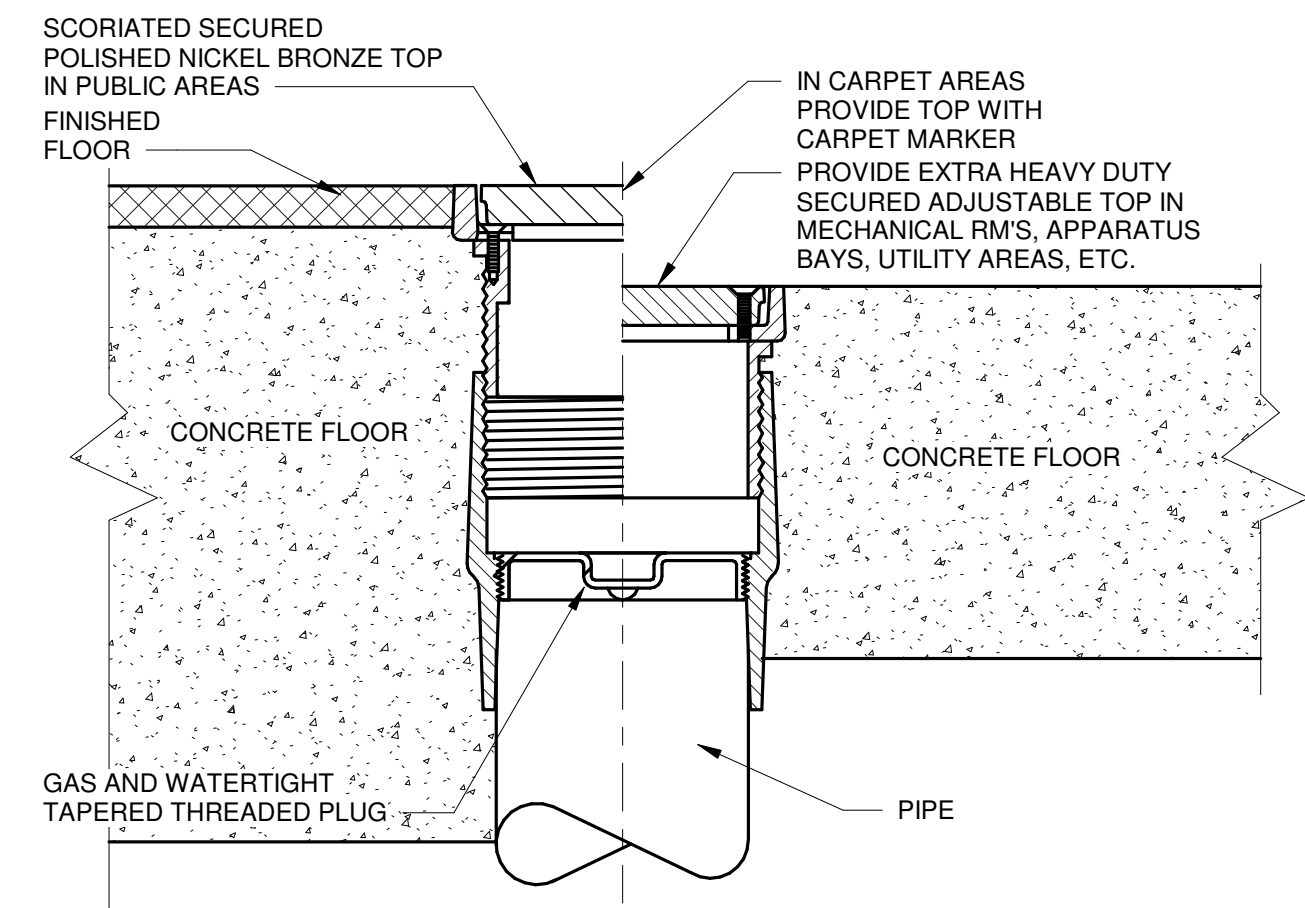
2 FLOOR DRAIN - CAST IN PLACE  
NO SCALE



7 WATER METER PIPING  
NO SCALE



5 INSTANTANEOUS TANKLESS  
ELECTRIC WATER HEATER  
NO SCALE

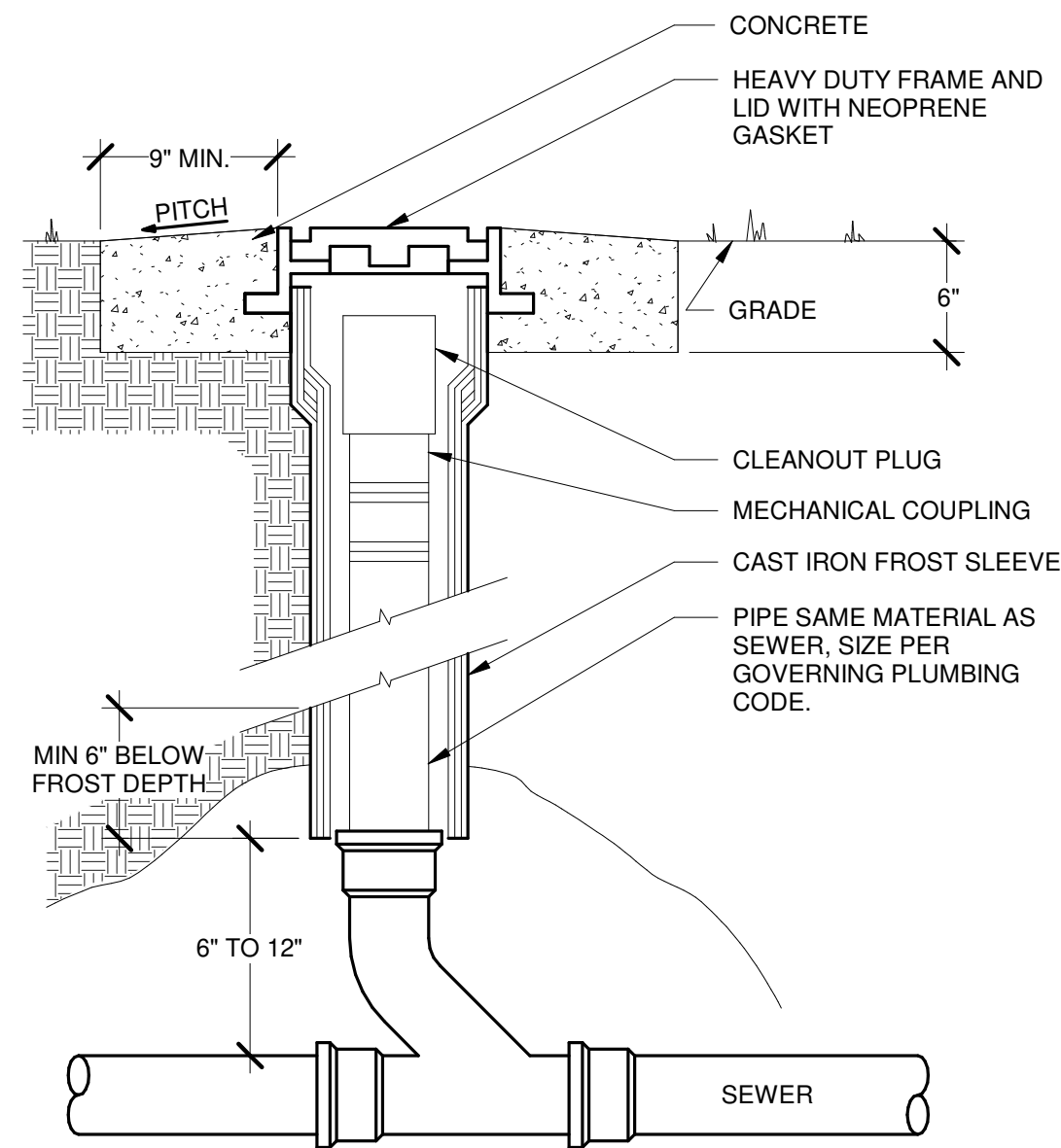


3 FLOOR CLEANOUT (FCO)  
NO SCALE

WATER HAMMER ARRESTOR SCHEDULE		
PIPE SIZE	FIXTURE UNIT	CROSS REFERENCE (PDI)
1/2"	1-11	A
3/4"	12-32	B
1"	33-60	C
1 1/4"	60-113	D
1 1/2"	114-154	E
2"	155-330	F
2 1/2"	331-554	G

NOTES:

PROVIDE WATER HAMMER ARRESTORS AT ALL AUTO/SELF CLOSING FIXTURES. (WATERCLOSETS, URINALS, CLOTHES WASHERS, DISHWASHERS, ETC)



1 YARD CLEANOUT (YCO)  
NO SCALE

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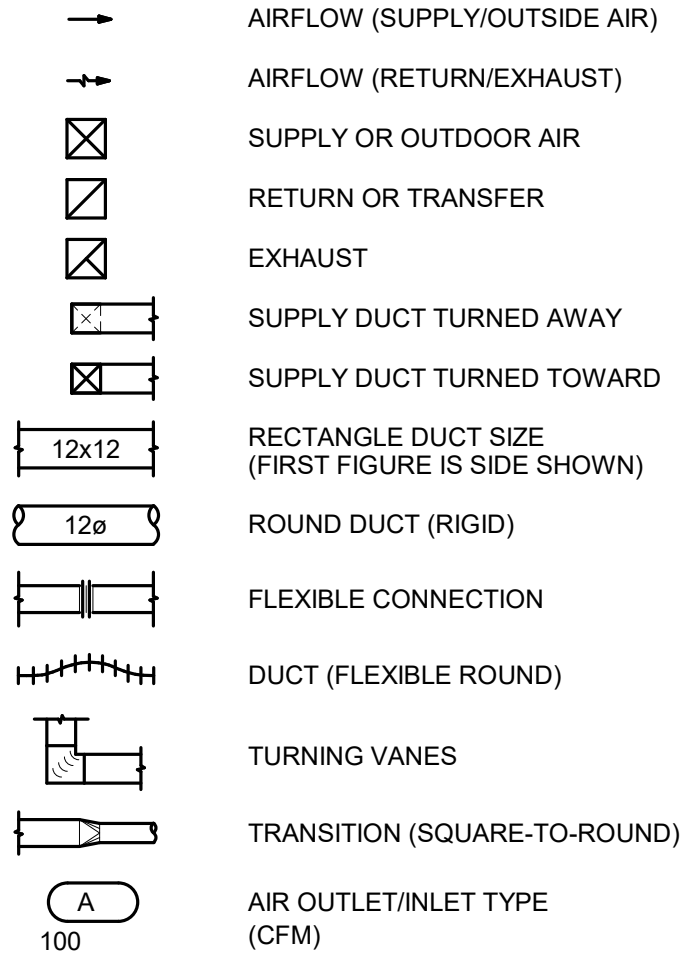
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SHEET CONTENTS  
DETAILS AND  
SCHEDULES

SHEET NO.:

P-601

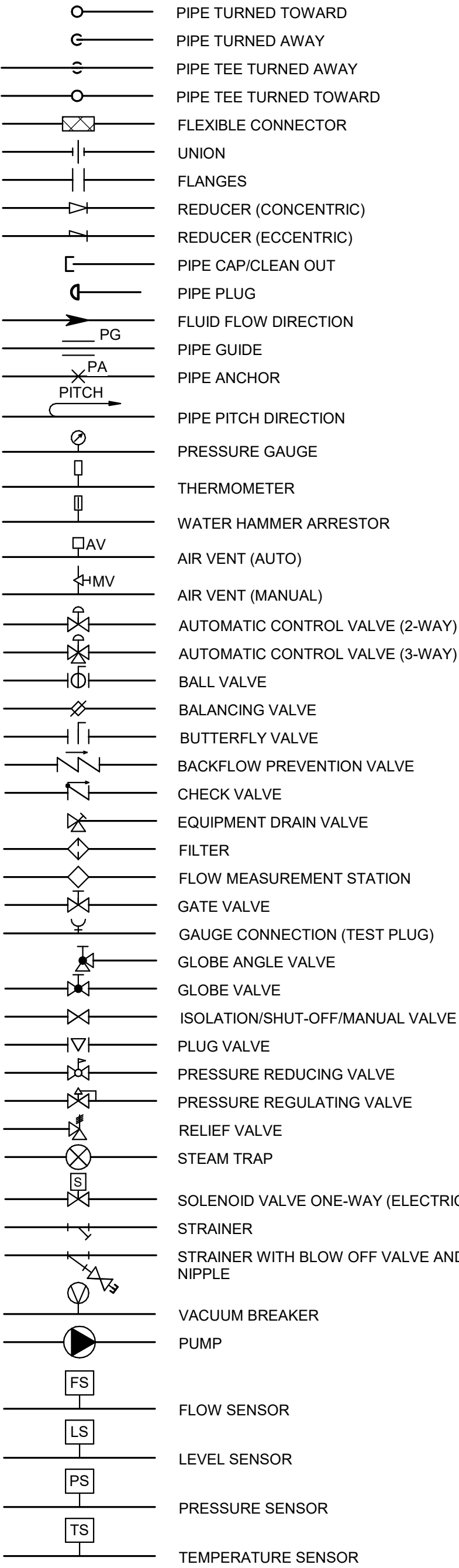
HVAC SYMBOLS



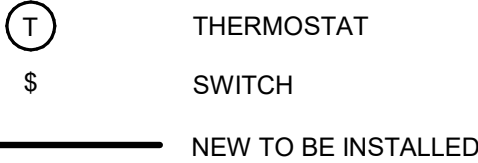
MECHANICAL PIPING



PIPING SYMBOLS



GENERAL SYMBOLS



GENERAL MECHANICAL NOTES

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8. TEMPORARILY PATCH ALL ROOF OPENINGS WATERTIGHT UNTIL FINAL CLOSURE CAN BE MADE.
9. VERIFY ALL EQUIPMENT LOCATIONS AND PIPE AND DUCT ROUTING WITH OWNER PRIOR TO INSTALLATION.
10. SEQUENCE OF WORK AND/OR PLACE OF COMMENCEMENT OF WORK SHALL BE APPROVED PRIOR TO WORK BEING STARTED. SCHEDULED SHUTDOWNS SHALL BE CLOSELY COORDINATED WITH EXISTING OPERATIONS.
11. MAINTAIN 3'-0" CLEAR HORIZONTALLY IN FRONT OF ALL ELECTRICAL EQUIPMENT.
12. COORDINATE POWER REQUIREMENTS FOR ALL POWER TO MECHANICAL EQUIPMENT INCLUDING CONTROL SYSTEM WITH ELECTRICAL CONTRACTOR AND INSURE ALL COSTS ASSOCIATED WITH SUCH ARE INCLUDED IN THE PROJECT BID COST. PROVIDE ELECTRICAL POWER, TRANSFORMERS, RELAYS, ETC. AS NECESSARY TO ALL HVAC AND MECHANICAL CONTROLS.
13. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES ON ALL EQUIPMENT.

ABBREVIATIONS

AMPS	DISCH	DISCHARGE	IR	INFRARED HEATER	SG	SUPPLY GRILLE
AIR BLOWDOWN	DMPR	DAMPER	KH	KITCHEN HOOD	SHT	SHEET
ALTERNATE BID ITEM	DN	DOWN	KW	KILOWATT	SMLS	SEAMLESS
DUCTLESS SPLIT SYSTEM	DOD	DEPARTMENT OF DEFENSE	L	LOUVER OR LENGTH	SMS	SNOW MELTING SYSTEM DISTRIBUTION
AIR COOLED CONDENSER	DRG	DRY COOLER	LAT	LEAVING AIR TEMPERATURE		MANIFOLD
AIR COOLED CONDENSING UNIT	DWG	DRAWING	LB	POUNDS	SP	STATIC PRESSURE
AIR COOLED CHILLER	DX	DIRECT EXPANSION	LD	LINEAR DIFFUSER	SPEC	SPECIFICATIONS
AIR COMPRESSOR	E	EXISTING	LFT	LEAVING FLUID TEMPERATURE	SQ	SQUARE
AIR CONDITIONING UNIT	EA	EXHAUST AIR	LPG	LIQUIFIED PETROLEUM GAS	SRV	SAFETY RELIEF VALVE
AUTOMATIC CONTROL VALVE	EAT	ENTERING AIR TEMPERATURE	LS	LEVEL SWITCH	SS	STAINLESS STEEL
AIR DROP	EBH	ELECTRIC BASEBOARD HEATER	LWT	LEAVING WATER TEMPERATURE	ST	STEAM TRAP
AIR FILTER OR AIR FOIL	EC	EVAPORATIVE COOLER OR ELECTRICAL CONTRACTOR	MADP	MAXIMUM ALLOWABLE DIFFERENTIAL PRESSURE	STD	STANDARD
ACOUSTICAL FLEXIBLE CONNECTOR	EDH	ELECTRIC DUCT HEATER	MAU	MAKE-UP AIR UNIT	STL	STEEL
ABOVE FINISHED FLOOR	EF	EXHAUST FAN	MAWP	MAXIMUM ALLOWABLE WORKING PRESSURE	SV	SOLVENT WELD
AUTHORITY HAVING JURISDICTION	EFF	EFFICIENCY	MAX	MAXIMUM	SW	SOCKET WELD
AIR HANDLING UNIT	EFT	ENTERING FLUID TEMPERATURE	MBH	THOUSANDS BTU'S PER HOUR	T	TEMPERATURE
ALUMINUM	EGLY	ETHYLENE GLYCOL	MC	MECHANICAL CONTRACTOR OR MECHANICAL COUPLING	TA	TRANSFER AIR
AIR MIXING DEVICE	EHC	ELECTRIC HEATING COIL	MCC	MOTOR CONTROL CENTER	TCP	TEMPERATURE CONTROL PANEL
AIR NATIONAL GUARD	EJ	EXPANSION JOINT	MCA	MINIMUM CIRCUIT AMPACITY	TDH	TOTAL DEVELOPED HEAD
APPROXIMATELY	EL	ELEVATION	MCC	MOTOR CONTROL CENTER	TDS	TOTAL DISSOLVED SOLIDS
AIR SEPARATOR	ELEC	ELECTRIC	MFR	MANUFACTURER	TEMP	TEMPERATURE
AMERICAN SOCIETY FOR TESTING AND MATERIALS	EOM	END OF MAIN	MIN	MINIMUM	TG	TRANSFER GRILLE
ABSORPTION CHILLER	EPDM	ETHYLENE PROPYLENE DIENE MONOMER	MMB	MILLION BTU PER HOUR	TH	THREADED
BUILDING AUTOMATION SYSTEM	ERV	AIR-TO-AIR HEAT EXCHANGER	MOC	MINIMUM OVER CURRENT PROTECTION	TMC	TECHNOLOGY MANAGEMENT CENTER
BOOSTER COIL	ESP	EXTERNAL STATIC PRESSURE	MSS	MANUFACTURERS STANDARDIZATION SOCIETY	TMV	THERMOSTATIC MIXING VALVE
BOOSTER HUMIDIFIER	ET	EXPANSION TANK	MTL	MATERIAL	TONR	TONS COOLING
BRAKE HORSEPOWER	ETR	EXISTING TO REMAIN	NA	NOT APPLICABLE	TYP	TYPICAL
CONTINUOUS BLOWDOWN HEAT RECOVERY SYSTEM	EWH	ELECTRIC WALL HEATER	NC	NORMALLY CLOSED	UC	UNIT COOLER
BACKWARD INCLINED	EWI	ENTERING WATER TEMPERATURE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	UFC	UNIFIED FACILITIES CRITERIA
BOILER BLOWDOWN SEPARATOR	EXH	EXHAUST	NH	NO-HUB	UGD	UNDERGROUND
BACKFLOW PREVENTION DEVICE	FAF	FORCED AIR FURNACE	NIC	NOT IN CONTRACT	UH	UNIT HEATER
BRASS	FC	FLUID COOLER	NO	NORMALLY OPEN	UNO	UNLESS NOTED OTHERWISE
BRONZE	FCU	FAN COIL UNIT	NOM	NOMINAL	UV	UNIT VENTILATOR OR ULTRAVIOLET
BLACK (MILD) STEEL	FE	FUME EXTRACTOR	NPSH	NET POSITIVE SUCTION HEAD	V	VOLTS
BRANCH SELECTOR BOX	FCU	FAN COIL UNIT	NPSHA	NPSH AVAILABLE	VA	VENT AIR
BUFFER TANK	FLA	FULL LOAD AMPS	NPSHR	NPSH REQUIRED	VER	VEHICLE EXHAUST REEL
BRITISH THERMAL UNIT	FLR	FLOOR	OA	OUTSIDE AIR	VFD	VARIABLE FREQUENCY DRIVE
BRITISH THERMAL UNIT PER HOUR	FM	FLOW METER	OC	ON CENTER	VI	VIBRATION ISOLATORS
BUTTWELD	FPM	FUEL OIL PUMP	OD	OUTSIDE DIAMETER	VLV	VALVE
CONVECTOR	FOI	FEET PER MINUTE	OED	OPEN ENDED DUCT	VRF	VARIABLE REFRIGERANT FLOW
COMBUSTION AIR	FRP	FIBERGLASS REINFORCED PLASTIC	P	HYDRONIC PUMP OR PRESSURE	W	WATTS OR WIDTH
COMPRESSED AIR DRYER	FT	FLASH TANK OR FEET	PC	PRESSURE	WC	WATER COLUMN
COMPRESSED AIR FILTER	FTC	FINNET TUBE CONVECTOR	PCP	PRESSURE POWERED CONDENSATE PUMP	WCC	WATER COOLED CONDENSER
COOLING COIL OR CONTROLS CONTRACTOR	FTWC	FEET WATER COLUMN PRESSURE	PD	PRESSURE DROP/DIFFERENTIAL	WCH	WATER COOLED CHILLER
CEILING DIFFUSER	GAL	GALLON	PG	PROPYLENE GLYCOL	WF	WATER FILTER
CUBIC FEET PER MINUTE	GA	GAUGE	PH	PHASE	WIV	WATER INLET VALVE
CAST IRON	GAL	GALLON	PPH	POUND PER HOUR	WHA	WATER HAMMER ARRESTOR
COMPRESSOR	GEN	GENERAL CONTRACTOR	PROP	PROPELLER		
CONDENSATE	GFT	GLYCOL FILL TANK	PRV	PRESSURE REDUCING VALVE		
CONTRACTING OFFICER'S REPRESENTATIVE	GMS	GALLONS PER MINUTE	PSI	POUNDS PER SQUARE INCH		
COMPUTER ROOM AIR CONDITIONING UNIT	H	HEIGHT	PSIA	PSI ABSOLUTE		
CONDENSATE RETURN PUMP	HB	HUMIDIFICATION BOILER	PSID	PSI DIFFERENTIAL		
CENTRIFUGAL SEPARATOR	HC	HEATING COIL	PSIG	PSI GAGE		
COOLING TOWER	HD	HEAD (FT)	PTAC	PACKAGED TERMINAL AIR CONDITIONER		
CLOSE TO CEILING	HDB	HYDROSTATIC DESIGN BASIS	PTHP	PACKAGED TERMINAL HEAT PUMP		
CLOSE TO COLUMN	HP	HEAT PUMP OR HORSEPOWER	PVC	POLYVINYL CHLORIDE		
CLOSE TO WALL	HPC	ERV HEAT PUMP COIL	RA	RETURN AIR		
COPPER	HR	HOSE REEL	RCP	RADIANT CEILING PANEL		
CABINET UNIT HEATER	HRW	ROTARY AIR-TO-AIR EXCHANGER	RH	REFRIGERATED DEHUMIDIFIER		
DOOR AIR CURTAIN	HUM	HUMIDIFIER	RG	RETURN GRILLE		
DECIBELS, BAND A	HWB	HOT WATER BOILER	REL	RELIEF HOOD		
DUST COLLECTOR	HX	FLUID HEAT EXCHANGER	RPM	REVOLUTIONS PER MINUTE		
DOUBLE CHECK VALVE ASSEMBLY BPD	HZ	HERTZ	RTD	RESISTIVE THERMAL DEVICE		
DIRECT DIGITAL CONTROL	IAW	IN ACCORDANCE WITH	RTU	ROOF TOP UNIT		
DESICCANT DEHUMIDIFIER	ID	INSIDE DIAMETER	RZ	RADIANT FLOOR HEATING ZONE		
DEMOLISH	IE	INVERT ELEVATION	SA	SUPPLY AIR		
DESTRATIFICATION FAN	IFGC	INTERNATIONAL FUEL GAS CODE	SAD	SOUND ATTENUATING DEVICE		
DIVISION OF FACILITIES DEVELOPMENT	IN	INTAKE HOOD	SB	SECURITY BARRIER		
DIAMETER	INCH	INCH	SCFM	STANDARD CFM		
DIMENSION	INHG	INCHES MERCURY PRESSURE	SCH	SCHEDULE		
	INWC	INCHES WATER COLUMN PRESSURE	SD	SLOT DIFFUSER/SOLDER		
			SF	STEAM FILTER OR SUPPLY FAN		



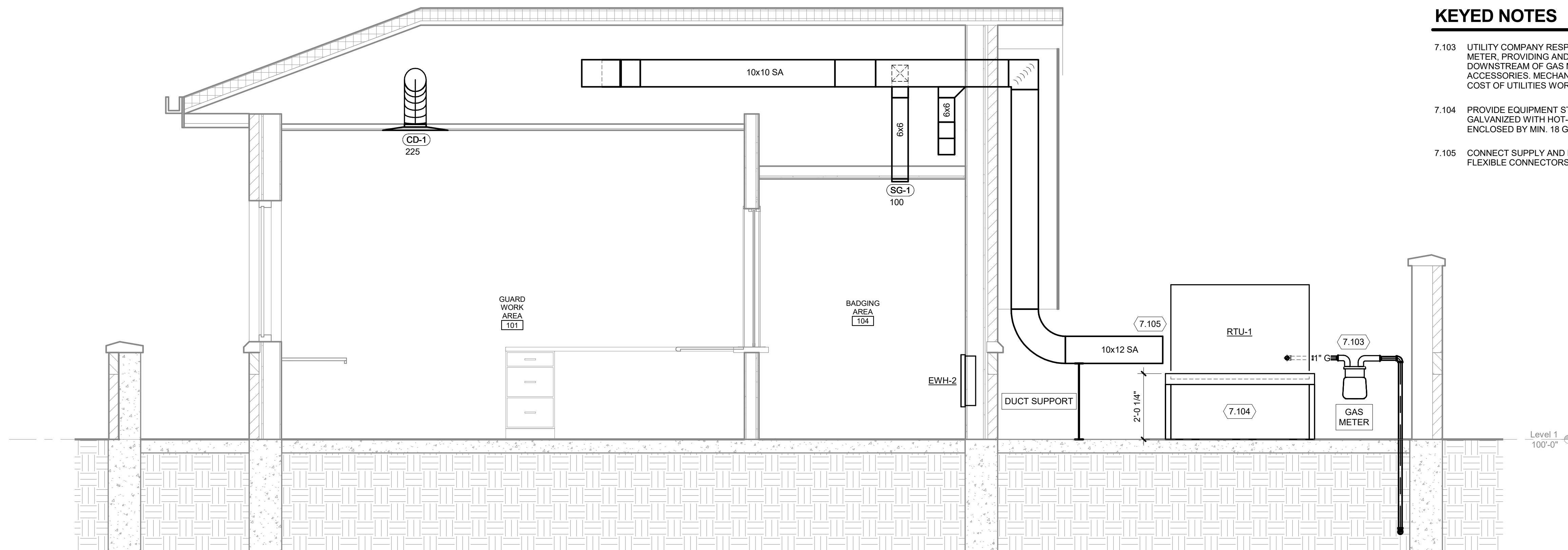
1. PROVIDE MANUAL BALANCE DAMPER AT EACH DIFFUSER, GRILLE, AND BRANCH TAKE-OFF IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK EXCEPT KITCHEN GREASE EXHAUST DUCT. LOCATE BALANCE DAMPER AS CLOSE TO BRANCH TAKE-OFF AS POSSIBLE.
2. DUCT SIZE TO DIFFUSERS, REGISTERS, AND GRILLES SHALL BE SAME AS NECK SIZE UNLESS NOTED OR DETAILED OTHERWISE.
3. COORDINATE DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH REFLECTED CEILING PLAN.
4. PROVIDE FLEXIBLE DUCTWORK FOR FINAL CONNECTIONS TO SUPPLY AIR DIFFUSERS UNLESS NOTED OTHERWISE ON DRAWINGS OR IN SPECIFICATIONS. FLEXIBLE DUCT SIZE SHALL BE SAME AS NECK SIZE OF DIFFUSER AND SHALL NOT EXCEED 5 FEET IN LENGTH.

1. WELD-O-LETS AND THREAD-O-LETS MAY BE USED FOR BRANCH TAKE-OFFS UP TO ONE-HALF THE DIAMETER OF THE MAIN.
2. INSTALL DIELECTRIC FITTINGS WHERE PIPING OF DIFFERENT MATERIALS IS JOINED.
3. INSTALL PIPING FREE OF SAGS AND BENDS.
4. LOCATE ALL VALVES FOR EASY ACCESS. INSTALL VALVES WITH STEM UP OR HORIZONTAL.

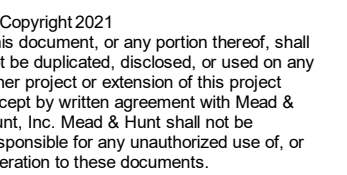
7.103 UTILITY COMPANY RESPONSIBLE FOR UNDERGROUND PIPING TO GAS METER, PROVIDING AND SETTING THE GAS METER, SHUT-OFF VALVE DOWNSTREAM OF GAS METER, AND ANY NECESSARY PIPING AND VALVE ACCESSORIES. MECHANICAL CONTRACTOR RESPONSIBLE FOR INCLUDING COST OF UTILITIES WORK IN BID.

7.104 PROVIDE EQUIPMENT STAND FOR RTU-1. STAND SHALL BE HOT-DIP GALVANIZED WITH HOT-DIP GALVANIZED ANCHORS AND BE COMPLETELY ENCLOSED BY MIN. 18 GAUGE SHEET METAL.

7.105 CONNECT SUPPLY AND RETURN DUCT MAINS TO RTU-1 WITH ACOUSTICAL FLEXIBLE CONNECTORS (AFC).



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BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

02/17/21 B3 FINAL

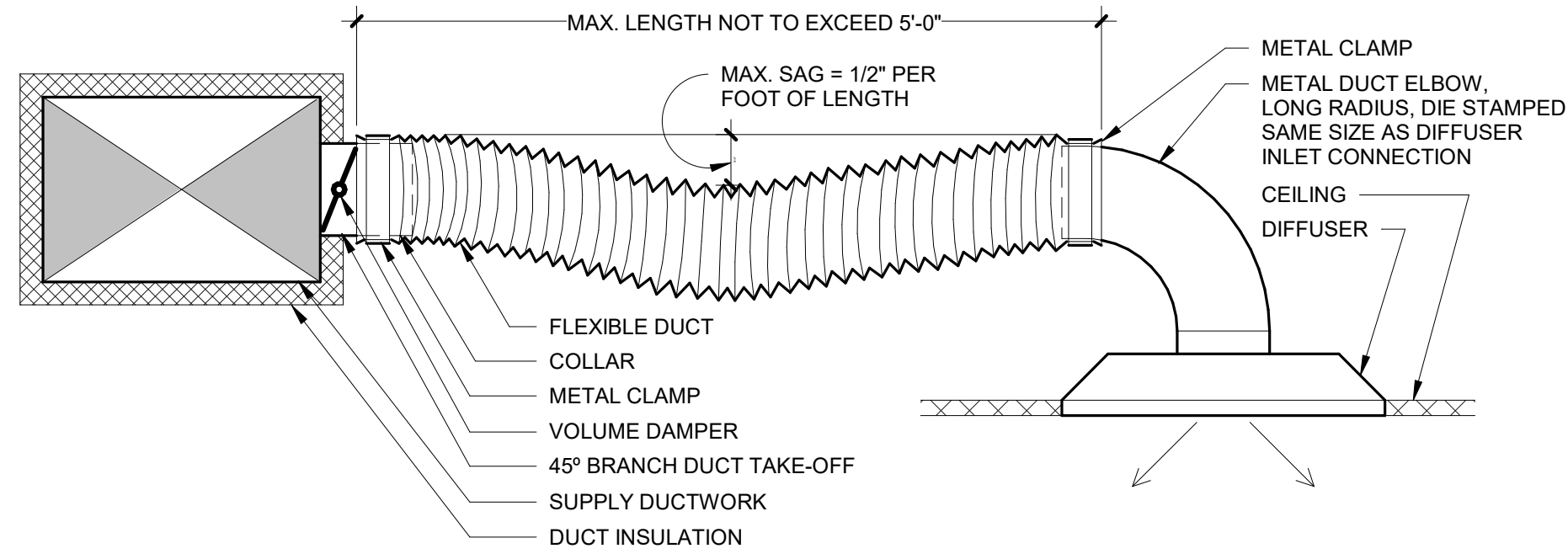
Project No.: **MBMV099170**  
 H NO.: **3141900-113782.01**  
 TE: **February 17, 2021**  
 SIGNED BY: **AR**  
 AWN BY: **AR**  
 ECKED BY: **KML**  
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## ENLARGED PLANS AND SECTIONS

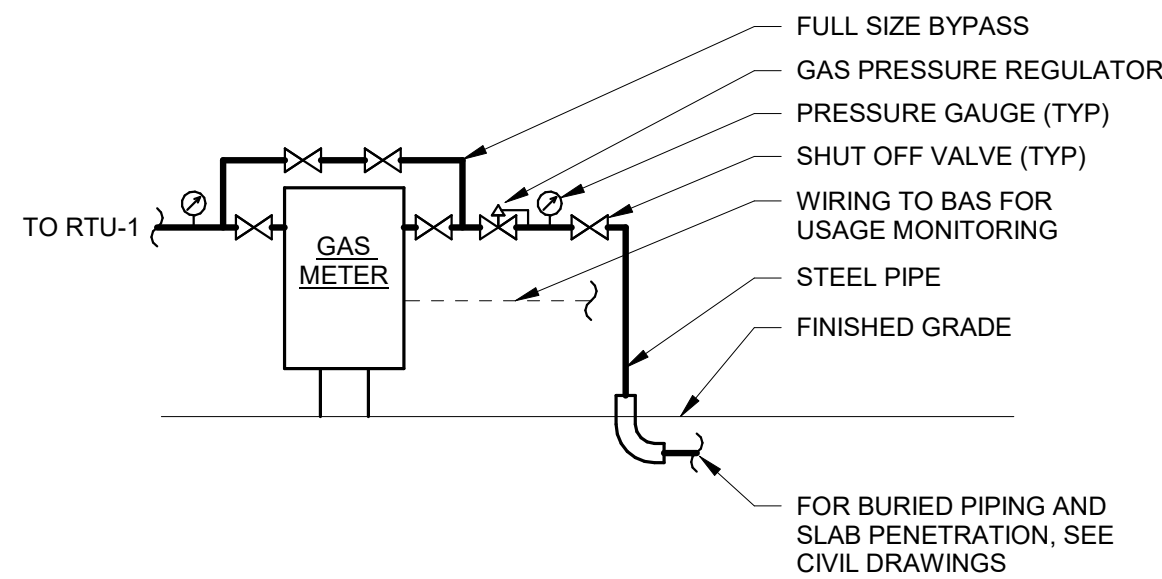
SHEET NO.:

M-401

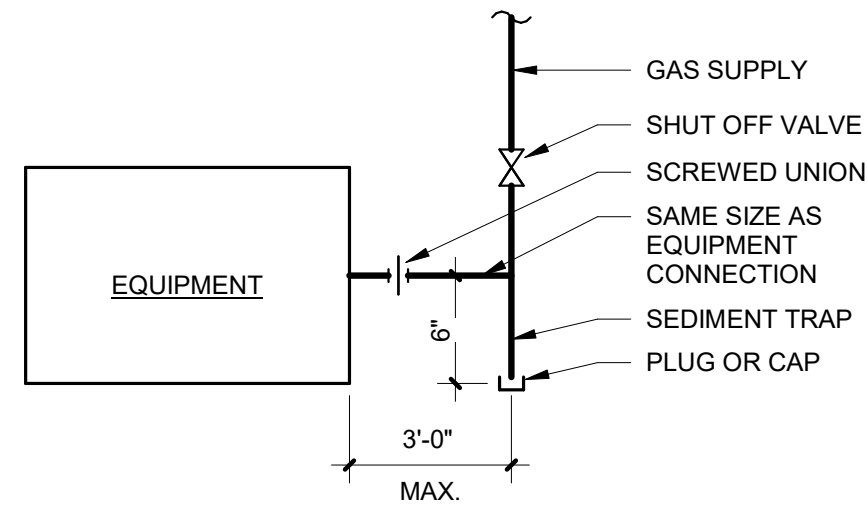




**7 FLEXIBLE DUCT TO CEILING DIFFUSER**  
NO SCALE

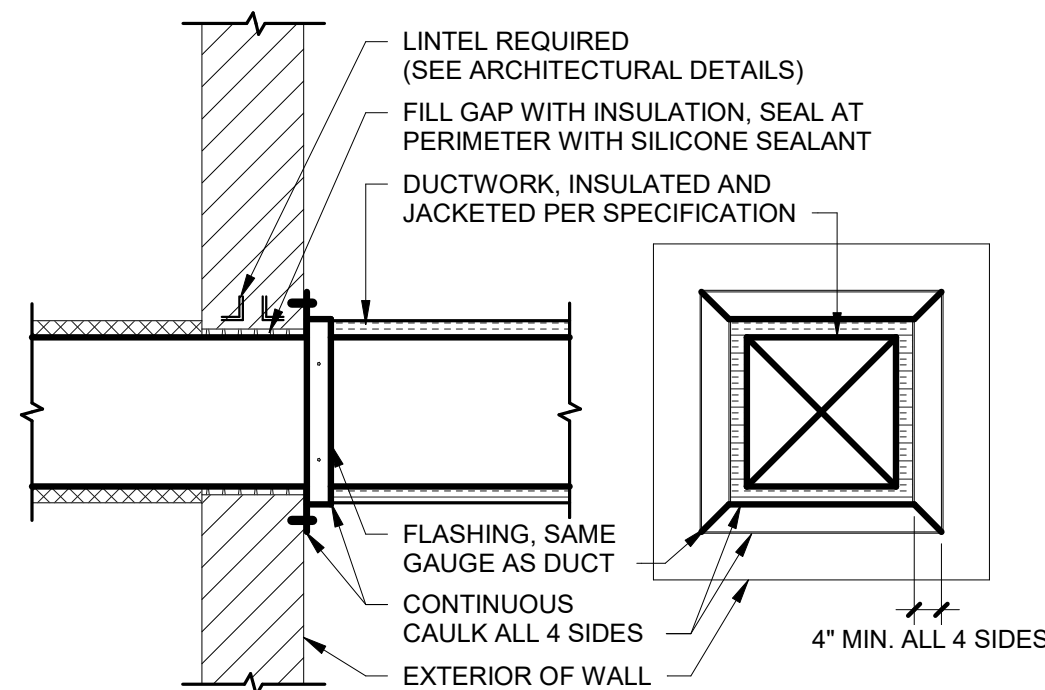


**8 NATURAL GAS SERVICE ENTRANCE**  
NO SCALE



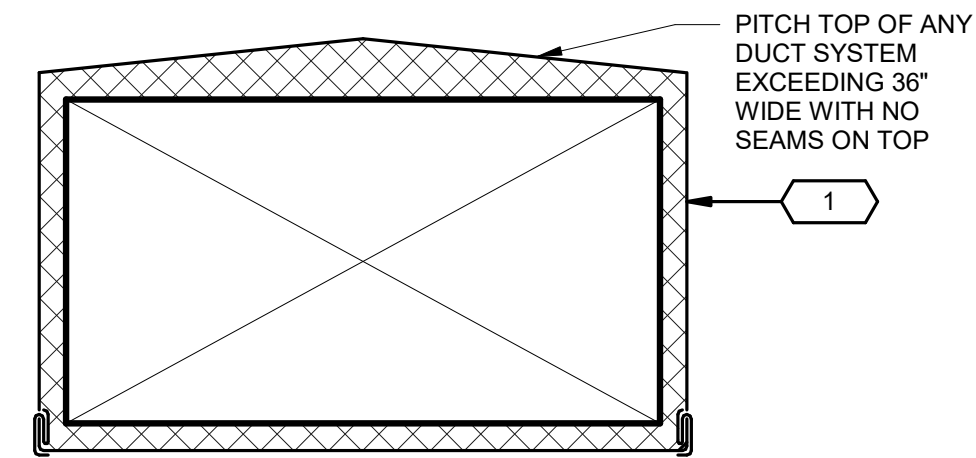
**NOTE:**  
UNLESS OTHERWISE INDICATED, SEE PLANS AND SPECIFICATIONS FOR PIPE SIZE AND MATERIAL.

**9 EQUIPMENT GAS CONNECTION (TYP)**  
NO SCALE

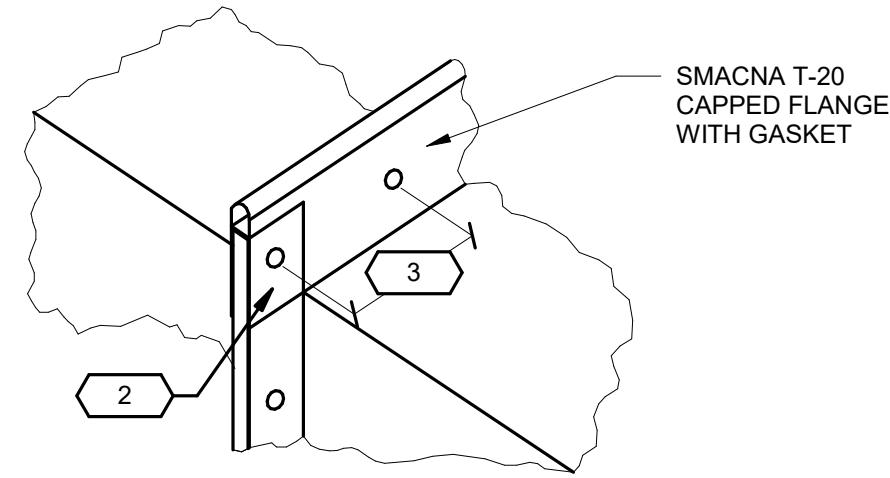


**NOTE:**  
SECURE FLASHING TO BOTH DUCTWORK AND BUILDING STRUCTURE BY MEANS OF SUITABLE MECHANICAL FASTENERS. CAULK HEADS OF ALL MECHANICAL FASTENERS.

**10 EXTERIOR WALL DUCT PENETRATION AND WEATHERPROOFING**  
NO SCALE



**DUCT SECTION**

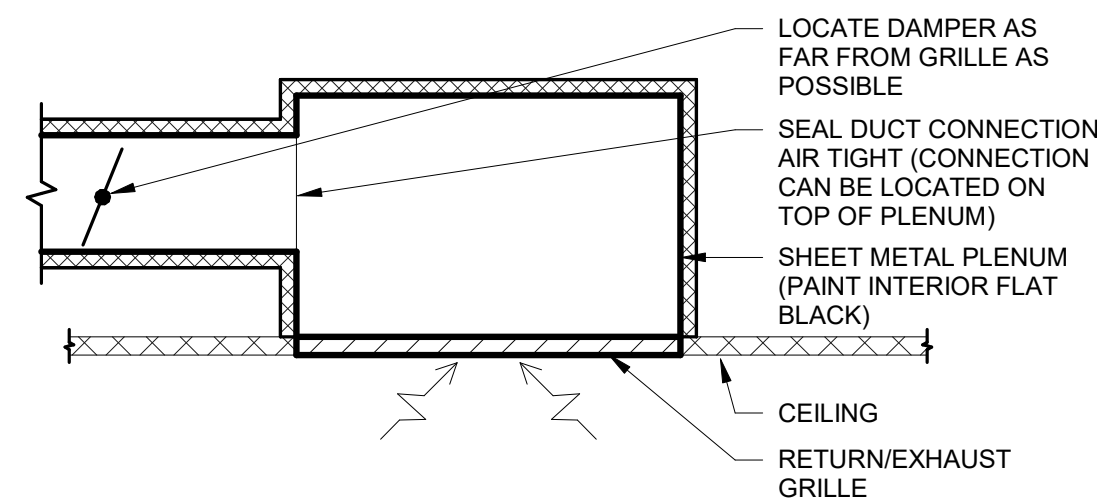


**TRANSVERSE JOINT**

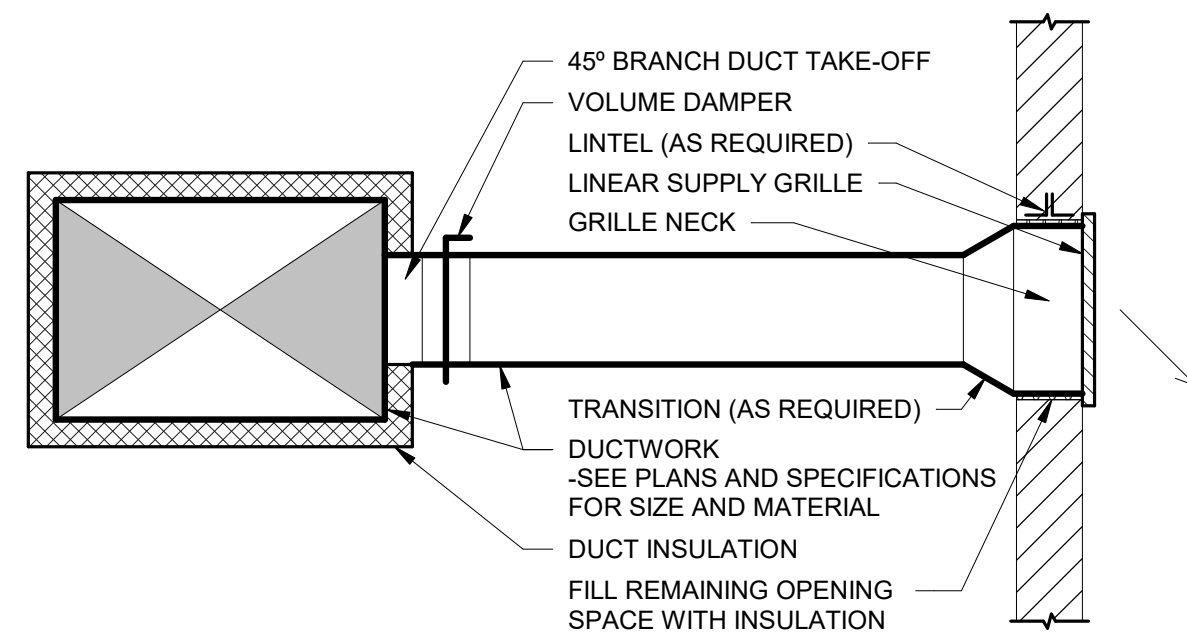
**KEYED NOTES:**

- 1 DUCT INSULATION SHOWN. REFER TO SPECIFICATION SECTION 230700 AND DUCT INSULATION SCHEDULE FOR ACTUAL REQUIREMENTS.
- 2 TOP CORNER SHOWN WITH SIDE CAP INSIDE AND TOP CAP OUTSIDE. FOR BOTTOM CORNERS, MAKE SIDE CAP OUTSIDE AND BOTTOM CAP INSIDE.
- 3 FASTEN WITHIN 2" OF CORNERS AT 8" INTERVALS. FASTEN AND SEAL WATER TIGHT AT OVERLAPPED CORNERS.

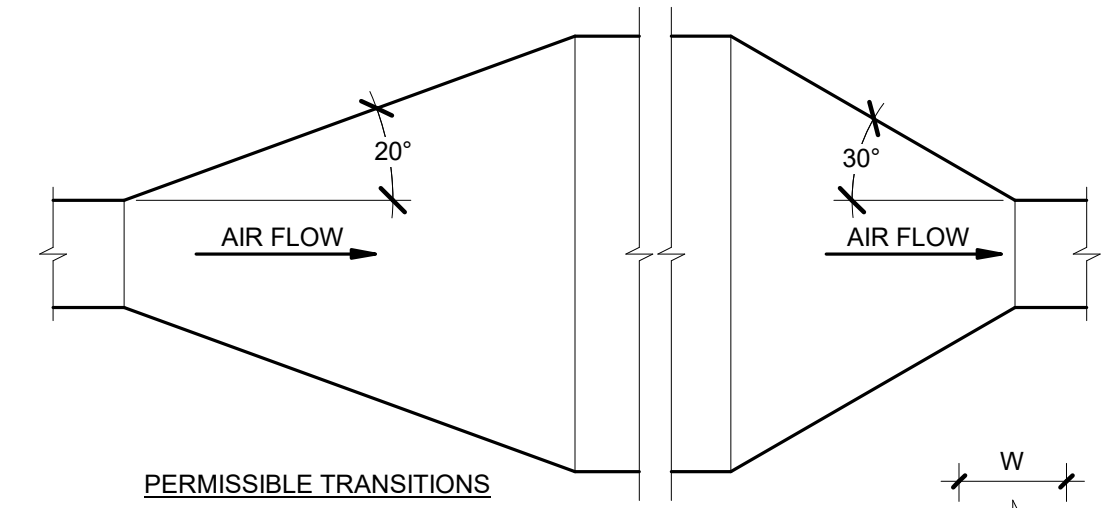
**4 RECTANGULAR DUCT CONSTRUCTION FOR OUTDOOR INSTALLATION**  
NO SCALE



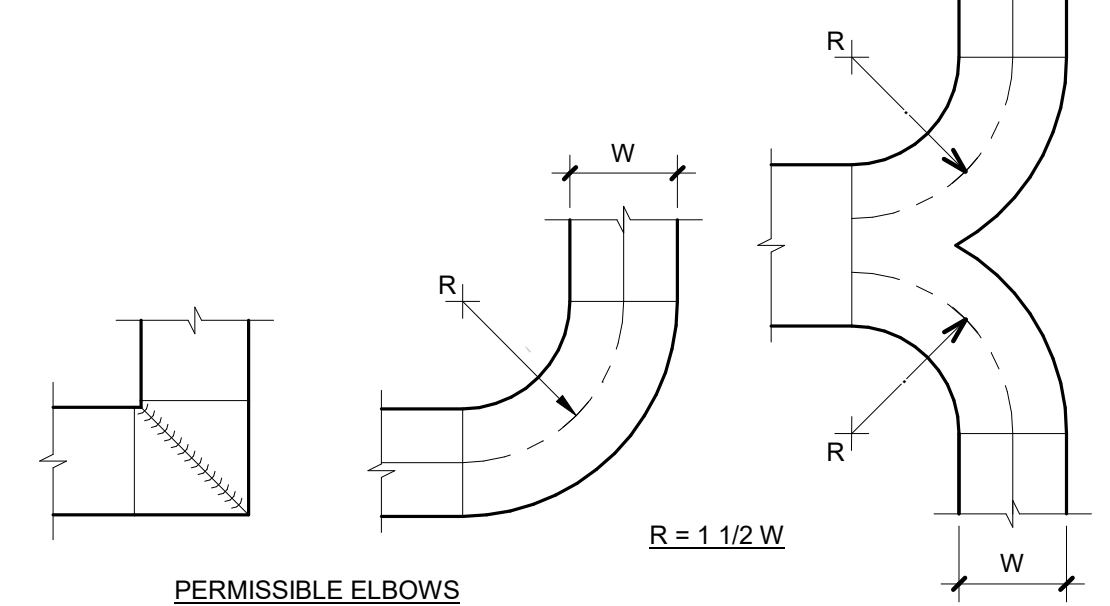
**5 RETURN/EXHAUST GRILLE DUCT CONNECTION**  
NO SCALE



**6 RIGID DUCT TO WALL GRILLE**  
NO SCALE

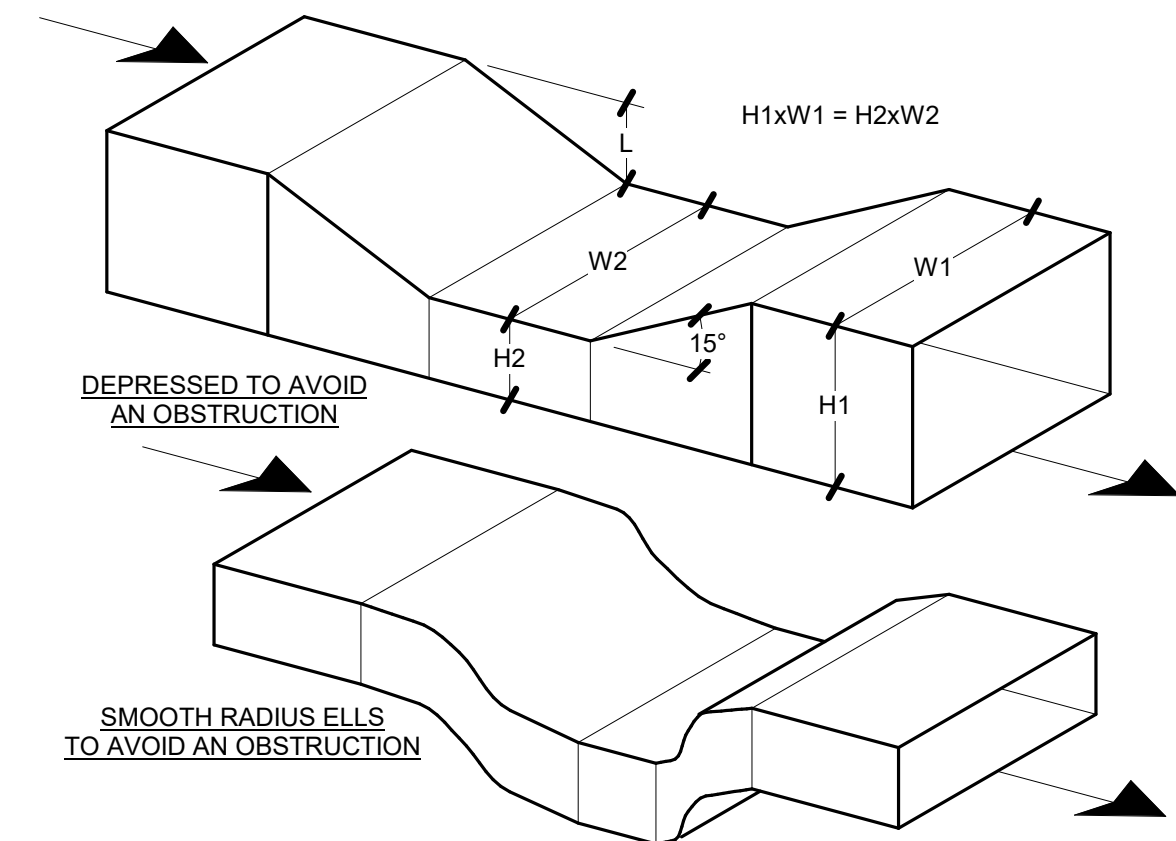


**PERMISSIBLE TRANSITIONS**

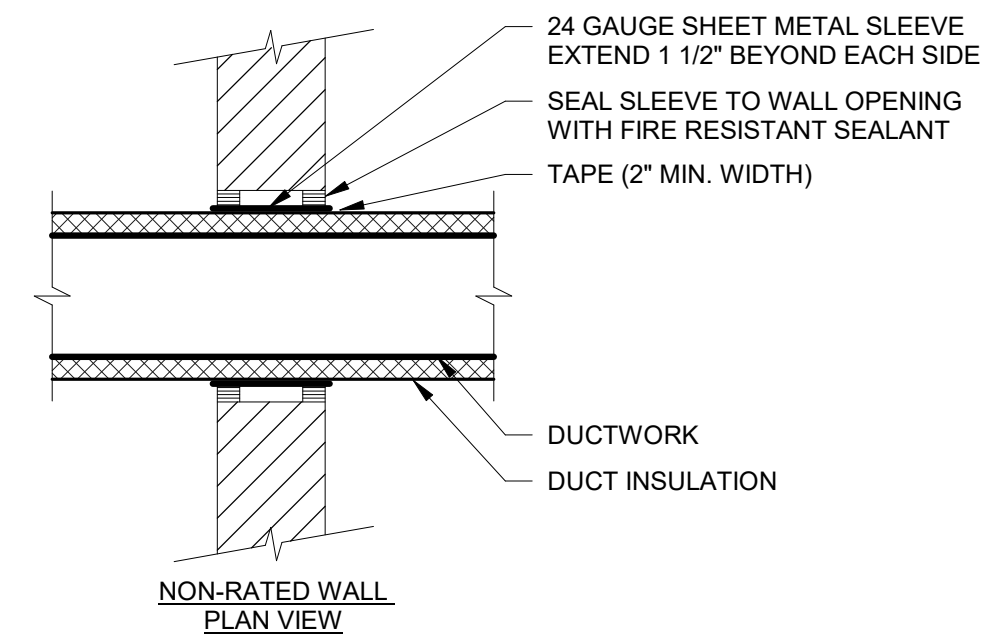


**PERMISSIBLE ELBOWS**

**1 TYPICAL DUCT TRANSITIONS**  
NO SCALE



**2 TYPICAL DUCT OFFSET**  
NO SCALE



**NOTE:**  
THIS DETAIL APPLIES ONLY FOR INSULATED DUCTS REQUIRING CONTINUOUS INSULATION THROUGH WALL, AND DUCTS NOT REQUIRING FIRE DAMPERS.

**3 DUCT PENETRATION THROUGH INTERIOR WALL**  
NO SCALE

**Mead & Hunt**

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE  
BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: AR  
DRAWN BY: AR  
CHECKED BY: KML  
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SHEET CONTENTS  
MECHANICAL  
DETAILS

SHEET NO.:

**M-501**

EXHAUST FAN (EF) SCHEDULE																				
MARK	MANUFACTURER, MODEL NUMBER	FAN TYPE	AIR FLOW RATE (CFM)	ESP (IN WC)	MOTOR		FAN SPEED (RPM)	DRIVE TYPE	ELECTRICAL (VOLTS/PH)	(2) MTG. HEIGHT (FT)	MAXIMUM SOUND			(1) INTERLOCK WITH	OPENING (IN)		ACCESSORIES	WEIGHT (LB)	LOCATION	REMARKS
					WATTS	TYPE					(3) (DB)	(4) SONES	INSTALL. TYPE		LENGTH	WIDTH				
EF-1	GREENHECK, SP-A110	4	75	0.30	16	TEAO	950	DIRECT	120 / 1	CEILING	32.0	0.9	B	RTU-1	8	6	1,8,14,24,26	20	RM. 102	(5)(6)
FAN TYPE							MOTOR TYPE					INSTALLATION TYPE				<div>REMARKS:</div> <div>(1) SEE SPECIFICATION SECTION 230993 - HVAC SEQUENCE OF OPERATION.</div> <div>(2) MOUNTING HEIGHT IS FROM FINISHED FLOOR LEVEL OF INDICATED ROOM, TO TOP OF FAN OR WALL OPENING.</div> <div>(3) SOUND POWER LEVEL RATING PER AMCA 301.</div> <div>(4) LOUDNESS VALUES AT 5 FT IN A HEMISPHERICAL FREE FIELD PER AMCA 301.</div> <div>(5) SINGLE SPEED FAN.</div> <div>(6) PROVIDE COMBINATION STARTER.</div>				
CENTRIFUGAL			AXIAL			ODP	OPEN DRIP PROOF				A	FREE INLET, FREE OUTLET								
1	SIDEWALL	8	ROOFTOP DOWNBLAST	TEFC	TOTALLY ENCLOSED FAN COOLED				B	FREE INLET, DUCTED OUTLET										
2	INLINE	9	SIDEWALL PROPELLER	XPL	EXPLOSION PROOF				C	DUCTED INLET, FREE OUTLET										
3	UTILITY	10	TUBE AXIAL	INV	INVERTER DUTY				D	DUCTED INLET, DUCTED OUTLET										
4	CEILING	11	VANE AXIAL	TEAO	TOTALLY ENCLOSED AIR OVER															
5	ROOFTOP UPBLAST	12	MIXED FLOW																	
6	ROOFTOP HOODED	13	ROOFTOP FRP UPBLAST																	
7	ROOFTOP FILTERED SUPPLY																			
ACCESSORIES																				
1	GRAVITY BACKDRAFT DAMPER	11	OUTLET WIRE GUARD	21	HOODED WALL CAP															
2	MOTORIZED BACKDRAFT DAMPER	12	INLET FILTER GUARD	22	HOODED ROOF CAP															
3	WEATHERHOOD	13	MOTOR COVER	23	HINGED ROOF CURB															
4	WALL COLLAR	14	HOUSING INSULATION	24	INLET GRILLE															
5	MOTOR WIRE GUARD	15	BELT (OSHA) WIRE GUARD	25	BASE MOUNTED VIBRATION ISOLATORS															
6	MOTOR (OSHA) WIRE GUARD	16	INLET BELL	26	DUCT ADAPTOR															
7	SHUTTER GUARD	17	INLET/OUTLET FLANGES	27	HANGING SPRING ISOLATORS															
8	FAN SPEED CONTROLLER	18	INLET VANE DAMPER	28	HANGING NEOPRENE ISOLATORS															
9	NON-FUSED DISCONNECT SWITCH	19	EXTENDED LUBE LINES	29	FACTORY INSULATED ANGLED FILTER BOX															
10	INLET WIRE GUARD	20	MFR. ROOF CURB																	

**REMARKS:**  
(1) SEE SPECIFICATION SECTION 230993 - HVAC SEQUENCE OF OPERATION.  
(2) MOUNTING HEIGHT IS FROM FINISHED FLOOR LEVEL OF INDICATED ROOM, TO TOP OF FAN OR WALL OPENING.  
(3) SOUND POWER LEVEL RATING PER AMCA 301.  
(4) LOUDNESS VALUES AT 5 FT IN A HEMISPHERICAL FREE FIELD PER AMCA 301.  
(5) SINGLE SPEED FAN.  
(6) PROVIDE COMBINATION STARTER.

PACKAGED ROOFTOP UNIT (RTU) SCHEDULE																					
MARK	MANUFACTURER, MODEL NUMBER	NOM. CAP. (TON)	SUPPLY FAN			MIN. OUTDOOR AIR FLOW (CFM)	COOLING COIL					GAS HEATER									
			AIR FLOW (CFM)	ESP (IN WC)	TSP (IN WC)		EAT (°F)		LAT (°F)		NO. OF STAGES	TOTAL CAP. (MBH)	SENS. CAP. (MBH)	EAT (°F)	LAT (°F)	NO. OF STAGES	CAPACITY (MBH)		GAS PRESS. (IN WC)	MIN. AFUE (%)	
							DB	WB	DB	WB							INPUT	OUTPUT			
RTU-1	DAIKIN, DP16GM2406041	2	600	0.5	1.5	85	76.6	64.3	55.0	54.5	2	22.8	18.2	62	134	2	60	47	7	81	
MARK	ELECTRIC HEATER			REFRIG. TYPE	CONDENSER		RETURN/EXHAUST FAN			ELECTRICAL				ACCESSORIES	WEIGHT WITH CURB (LB)	LOCATION	REMARKS				
	CAP. (KW)	NO. OF STAGES	FILTER TAG		AMB. TEMP. (°F)	MIN. EER	AIR FLOW (CFM)	ESP (IN WC)	TSP (IN WC)	VOLTS	PHASE	MCA	MOCP								
RTU-1	-	-	-	R-410A	65	87	12.0	-	-	-	208	1	20.0	30	1,3,4,5,12	386	SEE PLANS	(1)			
ACCESSORIES																					
1	DRY BULB ECONOMIZER CONTROL				7	STANDARD ROOF CURB															
2	ENTHALPY ECONOMIZER CONTROL				8	VIBRATION ISOLATION ROOF CURB															
3	POWER EXHAUST				9	SEISMIC ROOF CURB															
4	DISCONNECT SWITCH				10	SUPPLY AIR SMOKE DETECTOR															
5	CONDENSER COIL GUARDS				11	RETURN AIR SMOKE DETECTOR															
6	15A GFI CONVENIENCE OUTLET				12	BAROMETRIC RELIEF															

**REMARKS:**  
(1) RTU SHALL BE FURNISHED WITH A BACNET COMPATIBLE COMMUNICATIONS CARD.

ELECTRIC WALL HEATER (EWH) SCHEDULE															
MARK	MANUFACTURER, MODEL NUMBER	TYPE	MOUNTING HEIGHT (1) (IN)	CAPACITY		ELECTRICAL		HOUSING DIMENSIONS (IN)			CONTROL	ACCESSORIES	LOCATION	REMARKS	
				MBH	KW	VOLT / PHASE	AMPS	HEIGHT	DEPTH	WIDTH					
EWH-1	QMARK, AWH3150F	2	RECESSED	5.1	1.5	120 / 1	12.5	19	4	16	I	1,3	RM. 102	(1)	
EWH-2	QMARK, AWH3180F	2	RECESSED	6.1	1.8	120 / 1	15	19	4	16	I	1,3	RM. 104	(1)	
TYPE		CONTROL				ACCESSORIES									
1	COMMERCIAL	I	INTEGRAL THERMOSTAT				1	DISCONNECT SWITCH				4	TAMPER PROOF THERMOSTAT		
2	HEAVY DUTY COMMERCIAL	RT	REMOTE THERMOSTAT				2	BLANK AND CORNER SECTIONS				5	RELAY FOR REMOTE THERMOSTAT		
							3	THERMOSTAT (NON-TAMPER PROOF)							

**REMARKS:**  
(1) MANUFACTURER'S ARCHITECTURAL SERIES DESIGN.



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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
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DRAWN BY: AR  
CHECKED BY: KML  
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SHEET CONTENTS  
MECHANICAL  
SCHEDULES

SHEET NO:

M-601

MECHANICAL PIPING & VALVE SCHEDULE																									
SYSTEM MARK	SERVICE	ROOM TYPE	PIPING SIZE (IN)		PIPING									VALVE							VALVE EQUAL TO: [MANUFACTURER, MODEL]	REMARKS			
					MATERIAL TYPE	WALL THICKNESS	ASME PIPING			PRESS. CLASS	FITTING TYPE	ENDS	JOINT TYPE	TYPE	CHECK VALVES	PRESS. CLASS	CONNECTION TYPE	BODY MATERIAL	TRIM MATERIAL						
STD	GRADE	TYPE																							
G	NATURAL GAS - LOW PRESSURE (2 PSIG OR <)	OUTDOORS	1/2	TO 2	BS	SCH 40	A 53	B	E or S	150#	MI	PLAIN	TH	2BV	-	125#	THREADED	BRONZE	BRONZE	APOLLO, 77-100	PAINT PIPE				
CD	HVAC CONDENSATE DRAIN	OUTDOORS	3/4	TO 2	PVC	SCH 40	D 1785	-	-	-	PS	PLAIN	SV	-	-	-	-	-	-	-	-				
MATERIAL TYPE		JOINT TYPE			FITTING TYPE										ASME PIPING TYPE				VALVE TYPE						
BS	BLACK STEEL	BW	BUTT WELD			CI	CAST IRON (THREADED) (ASME B16.4 FOR IRON, ASME A 351 FOR SS) (FLANGED) (ASME B16.1)										WC	WROUGHT CAST (FLANGES, ASME B16.5)				S	SEAMLESS	1BV	ONE PIECE FULL PORT BALL VALVE
SS	STAINLESS STEEL	SW	SOCKET WELD			MI	MALLEABLE IRON (THREADED) (ASME B16.3)										FS	FORGED STEEL (FLANGES, ASME B16.5)				E	ELECTRIC RESISTANCE WELDED	2BV	TWO PIECE FULL PORT BALL VALVE
GS	GALVANIZED STEEL	TH	THREADED			WS	WROUGHT STEEL (ASTM A 234 FOR STEEL, ASTM A 403 FOR SS)										PS	PVC SOCKET				F	FURNACE BUTT WELDED	3BV	THREE PIECE FULL PORT BALL VALVE
PE	POLYETHYLENE	FL	FLANGED			PE	POLYETHYLENE (ASTM D 2683 (SOCKET) OR ASTM D 3261 (BUTT))										WCu	WROUGHT COPPER (ASME B 16.22)						SBV	STEEL BODY BALL VALVE
CU	COPPER	SF	SOCKET FUSION			WW	WELDED WROUGHT STEEL (ASTM A 774 FOR SS)																	NGV	NON-RISING STEM GATE VALVE
PVC	PVC	BF	BUTT FUSION																					RGV	RIISING STEM GATE VALVE
		SD	SOLDERED																					OGV	OSY GATE VALVE
		BZ	BRAZED																					BFV	BUTTERFLY VALVE
		SV	SOLVENT WELD																					PV	PLUG VALVE
PIPING SYSTEM JOINING MATERIALS													REMARKS:												
1. PIPE-FLANGE GASKET MATERIALS: SUITABLE FOR CHEMICAL AND THERMAL CONDITIONS OF PIPING SYSTEM CONTENTS.													(1) FITTING MATERIAL SHALL MATCH PIPING MATERIAL (EXCEPTION: MI FITTINGS SHALL BE USED FOR BS PIPING WHERE INDICATED).												
2. PIPE FLANGE GASKETS: ASME B16.21, NONMETALLIC, FLAT, ASBESTOS-FREE, 1/8IN MAXIMUM THICKNESS UNLESS SPECIFIED OTHERWISE. A. FULL-FACE TYPE: FOR FLAT-FACE, CLASS 125, CAST-IRON AND CAST-BRONZE FLANGES. B. NARROW-FACE TYPE: FOR RAISED-FACE, CLASS 250, CAST-IRON AND STEEL FLANGES.													(2) PRESS. CLASS LISTED IS MIN. REQUIRED. PROVIDE GREATER PRESS. CLASS VALVE AND PIPE SYSTEM IF PRESS. CLASS INDICATED IS NOT AVAILABLE FOR GIVEN VALVE AND PIPE TYPE.												
3. FLANGE BOLTS AND NUTS: ASME B18.2.1, CARBON STEEL, UNLESS OTHERWISE INDICATED.																									
4. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER, UNLESS OTHERWISE INDICATED.																									
5. SOLDER FILLER METALS: ASTM B 32, LEAD-FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX ACCORDING TO ASTM B 813.																									
6. GENERAL DUTY BRAZING FILLER METALS: AWS A5.8, BCUP SERIES, COPPER-PHOSPHORUS ALLOYS UNLESS OTHERWISE INDICATED.																									
7. REFRIGERANT PIPING BRAZING FILLER METALS: AWS A5.8, BAG1, SILVER ALLOY UNLESS OTHERWISE INDICATED.																									
8. WELDING FILLER METALS: AWS D10.12 FOR WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS AND CHEMICAL ANALYSIS OF STEEL PIPE.																									
9. SOLVENT CEMENTS FOR JOINING PLASTIC PIPING: CPVC PIPING: ASTM F 493, PVC PIPING: ASTM D 2564. INCLUDE PRIMER ACCORDING TO ASTM F 656.																									

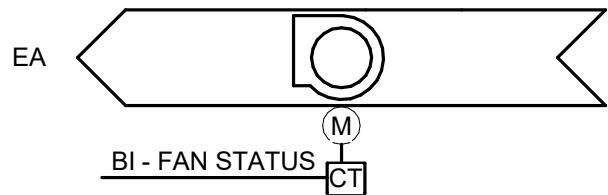
AIR OUTLET AND INLET SCHEDULE																			
MARK	MANUFACTURER, MODEL NUMBER	APPLICATION	(1) MAX AIRFLOW (CFM)	OUTLET / INLET	TYPE	MOUNTING SYSTEM	(2) DAMPER	(3) FACE SIZE (IN)	NECK SIZE (IN)	(4) MAX NOISE LEVEL (NC)	PATTERN	MAX SP (IN WG)	FINISH	MATERIAL	(5) MOUNTING HEIGHT (IN)	ACCESSORIES	LOCATION	REMARKS	
CD-1	TITUS, TMS	SUPPLY	225	1	9	1	NONE	24x24	8	24	4-WAY	0.1	W	STEEL	CEILING	24x24 LAY-IN PANEL	RM. 101		
SG-1	TITUS, 272RS	SUPPLY	100	3	2	2	OB	9x9	6x6	20	-	0.1	W	STEEL	CEILING		RM. 103 & 104	(6)	
RG-1	TITUS, 23RL	RETURN	100	3	3	2	OB	8x8	6x6	20	-	0.1	W	STEEL	CEILING		RM. 103 / 104	(7)	
RG-2	TITUS, 50F	RETURN	375	3	8	1	NONE	12x12	10x10	20	-	0.1	W	ALUMINUM	CEILING	24x24 LAY-IN PANEL	RM. 101		
OUTLET/INLET		TYPE						MOUNTING SYSTEM						DAMPER				FINISH	
1	DIFFUSER	1	SINGLE DEFLECTION		9		LOUVERED		1		T-BAR CEILING		N		NONE		M	MILL	
2	REGISTER	2	DOUBLE DEFLECTION		10		HOODED		2		PLASTER/CONCRETE CEILING		BF		BUTTERFLY		W	MFR. STANDARD WHITE	
3	GRILLE	3	FIXED BLADE		11		DOOR TRANSFER		3		PLASTER/MASONRY WALL		G		GRAVITY		S	MFR. SPECIAL COLOR	
4	LOUVER	4	PERFORATED		12		BRICK		4		EXPOSED DUCTWORK		MP		MOTORIZED PNEUMATIC		A	ANODIZED ALUMINUM	
5	PENTHOUSE	5	LINEAR		13		PUNKAH		5		METAL PANEL WALL		ME		MOTORIZED ELECTRIC		P	PRIME COAT (FINAL COAT BY GC)	
6	VENT	6	PLENUM SLOT		14		LAMINAR		6		FLOOR		OB		OPPOSED BLADE		O	OTHER (SEE SPECIFICATIONS)	
		7	PLAQUE		15		DRUM		7		ROOF		PB		PARALLEL BLADE				
		8	EGGCRATE						8		EXTERIOR STUD WALL		LL		LOW LEAKAGE, INSUL.				

- REMARKS:
- (1) SEE PLANS FOR ACTUAL INDIVIDUAL AIR QUANTITIES OF EACH DEVICE.
- (2) IF DAMPER IS SCHEDULED 'NONE', EACH SUPPLY, RETURN, AND EXHAUST DEVICE TO HAVE A BALANCE DAMPER IN THE DUCT BRANCH TAKE-OFF UNLESS AN ASSOCIATED VAV BOX SERVES A SINGLE DEVICE.
- (3) BORDER TYPES SHALL BE COMPATIBLE WITH CEILING OR WALL TYPES WHERE AIR DEVICE IS LOCATED. REFER TO ARCHITECTURAL PLANS AND ALL OTHER TRADES.
- (4) ALL GRILLES AND DIFFUSERS SHALL NOT EXCEED NOISE CRITERIA LISTED (BASED ON 10 DB ROOM ATTENUATION) AND AT THE SCHEDULED MAXIMUM STATIC PRESSURE DROP.
- (5) MOUNTING HEIGHT SHALL BE FROM FINISHED FLOOR TO BOTTOM OF OPENING.
- (6) INDIVIDUALLY ADJUSTABLE AIRFOIL BLADE WITH 3/4" SPACING. FRONT BLADES PARALLEL TO THE SHORT DIMENSION. INITIALLY SET BLADES FOR APPROXIMATELY 30 DEGREE THROW.
- (7) AIRFOIL BLADES PARALLEL TO THE LONG DIMENSION WITH FIXED 45 DEGREE DEFLECTION AND 3/4" SPACING.

HVAC DUCT SCHEDULE											
SYSTEM		DUCT MATERIAL			PRESS. CLASS (IN WC)	SEAL CLASS	LEAKAGE CLASS		REMARKS		
		TYPE	REFERENCE STANDARD	FINISH			RECT.	ROUND			
SUPPLY AIR	DUCT CONNECTED TO CONSTANT VOLUME AIR HANDLING UNITS		G90 GALV.	ASTM A 653	MILL PHOSPHATIZED	3	A	12	6		
RETURN AIR	DUCT CONNECTED TO CONSTANT VOLUME AIR HANDLING UNITS		G90 GALV.	ASTM A 653	MILL PHOSPHATIZED	3	A	12	6		
EXHAUST AIR	DUCT CONNECTED TO EXHAUST FANS		G90 GALV.	ASTM A 653	MILL PHOSPHATIZED	3	A	12	6		
FITTINGS											
RECTANGULAR DUCT ELBOWS (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-2, "RECTANGULAR ELBOWS.")											
RADIUS TYPE RE 1 WITH MINIMUM 1.5 RADIUS-TO-DIAMETER RATIO.											
RADIUS TYPE RE 3 WITH MINIMUM 1.0 RADIUS-TO-DIAMETER RATIO AND TWO VANES.											
MITERED TYPE RE 2 WITH VANES COMPLYING WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-3, "VANES AND VANE RUNNERS," AND FIGURE 2-4, "VANE SUPPORT IN ELBOWS."											
ROUND DUCT ELBOWS (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-3, "ROUND DUCT ELBOWS.")											
RADIUS TO DIAMETER RATIO: 1.5											
ROUND ELBOWS, 12 INCHES AND SMALLER IN DIAMETER: STAMPED OR PLEATED											
RECTANGULAR BRANCH DUCT CONFIGURATION (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-6, "BRANCH CONNECTIONS.")											
RECTANGULAR MAIN TO RECTANGULAR BRANCH: 45° ENTRY											
RECTANGULAR MAIN TO ROUND BRANCH: SPIN IN											
ROUND BRANCH DUCT CONFIGURATION (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-4, "90 DEGREE TEES AND LATERALS," AND FIGURE 3-5, "CONICAL TEES." SADDLE TAPS ARE PERMITTED IN...											
VELOCITY 1500 FT/MIN AND LOWER: CONICAL TAP											
VELOCITY GREATER THAN 1500 FT/MIN: 45° LATERAL											

- REMARKS:
- (1) PROVIDE PAINT GRIP TYPE DUCT WHERE DUCT IS EXPOSED AND INDICATED TO BE PAINTED.
- (2) INSTALL DUCT ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.
- (3) INTERMEDIATE REINFORCEMENT MATERIAL SHALL MATCH DUCT MATERIAL.
- (4) SUPPLY AIR DUCTS PASSING THROUGH UNCONDITIONED OR OUTDOOR SPACES SHALL BE SEAL CLASS A (ASHRAE 90.1 - 2007).
- (5) RETURN AIR DUCTS PASSING THROUGH OUTDOOR SPACES SHALL BE SEAL CLASS A (ASHRAE 90.1 - 2007).
- (6) SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
- (7) LINED DUCTWORK MUST STILL BE WRAPPED TO MEET TOTAL INSULATING VALUE PER INSULATION SPECIFICATION AND

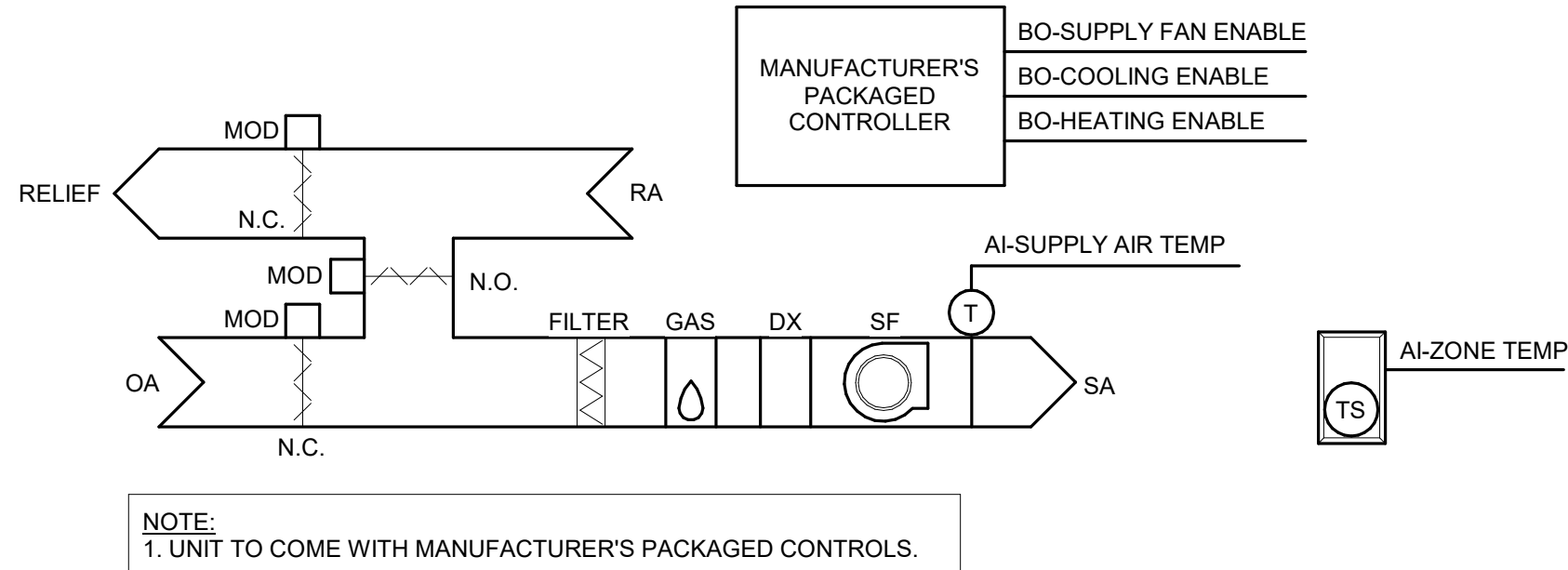
Exhaust Fan Points List	Hardware Points				Software Points						Show On Graphic	
	Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend		Alarm
Fan Status			1							1		1
Occupied/Unoccupied Mode									1			
Fan Failure											1	
Fan Runtime Exceeded											1	
Emergency Shutdown							1				1	1
Totals	0	0	1	0	0	1	0	1	1	1	3	2



## 7 EXHAUST FAN - ON/OFF

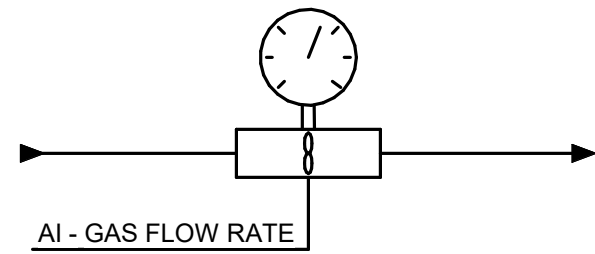
NO SCALE

RTU-1 Points List		Hardware Points				Software Points						Show On Graphic
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm		
Supply Air Temp	1								1		1	
Zone Temp	1								1		1	
Supply Fan Enable			1						1		1	
Cooling Enable			1						1		1	
Heating Enable			1						1		1	
Occupied/Unoccupied Mode								1			1	
Emergency Shutdown Alarm						1				1	1	
Totals	2	0	3	0	0	1	0	1	5	1	7	
Total Hardware		5				Total Software 8						



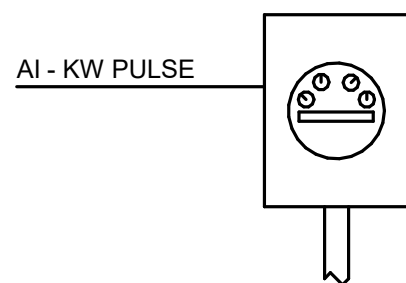
## 1 CONSTANT VOLUME RTU-1

NO SCALE



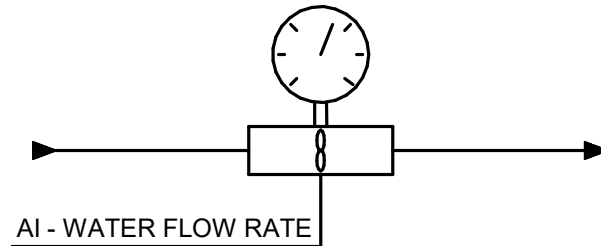
## 2 GAS METER

NO SCALE



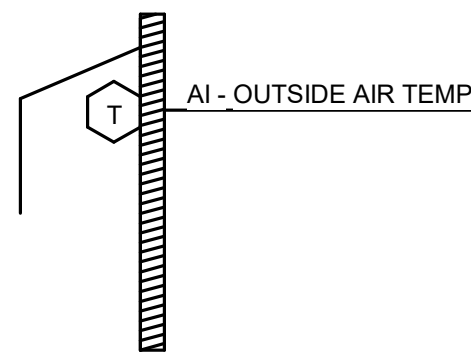
## 3 ELECTRIC METER

NO SCALE



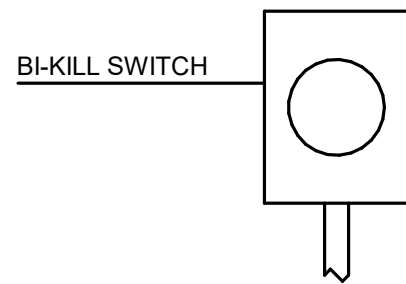
## 4 WATER FLOW METER

NO SCALE



## 5 OUTSIDE AIR CONDITION

NO SCALE



## 6 EMERGENCY VENTILATION KILL SWITCH

NO SCALE

Gas Meter Points List		Hardware Points				Software Points						Show On Graphic
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm		
Gas Flow Rate	1											
Usage Today									1		1	
Usage Month-to-Date									1		1	
Usage Year-to-Date									1		1	
Meter Failure										1		
Totals	1	0	0	0	0	0	0	0	3	1	3	
Total Hardware		1				Total Software		4				

Electric Meter Points List	Hardware Points				Software Points						Show On Graphic
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm	
KW Pulse	1										
KW Demand									1		1
KW Peak Today									1		1
KW Peak Month-to-Date									1		1
KW Peak Year-to-Date									1		1
KWH Usage Today									1		1
MWH Usage Month-to-Date									1		1
MWH Usage Year-to-Date									1		1
Meter Failure										1	
Totals	1	0	0	0	0	0	0	0	7	1	7
Total Hardware	1				Total Software				8		

Water Meter Points List		Hardware Points				Software Points						Show On Graphic
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm		
Water Flow Rate	1											
Usage Today									1		1	
Usage Month-to-Date									1		1	
Usage Year-to-Date									1		1	
Meter Failure										1		
Totals	1	0	0	0	0	0	0	0	3	1	3	
Total Hardware		1				Total Software 4						

Outside Air Points List	Hardware Points				Software Points							Show On Graphic
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm		
Outside Air Temperature	1								1		1	
Low Temp Today									1		1	
Low Temp Month-to-Date									1		1	
Low Temp Year-to-Date									1		1	
High Temp Today									1		1	
High Temp Month-to-Date									1		1	
High Temp Year-to-Date									1		1	
Sensor Failure - Temperature										1		
Totals	1	0	0	0	0	0	0	0	7	1	7	
Total Hardware	1				Total Software			8				

Kill Switch Points List	Hardware Points				Software Points						Show On Graphic
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm	
Emergency Kill Switch			1							1	1
Totals	0	0	1	0	0	0	0	0	0	1	1
Total Hardware	1				Total Software 1						

Mead & Hunt

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: AR  
DRAWN BY: AR  
CHECKED BY: KML  
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SHEET CONTENTS  
CONTROL  
SCHEMATICS

SHEET NO.:

M-801



LUMINAIRE SYMBOLS

	RECESSED LUMINAIRE
	RECESSED LINEAR
	WALL SURFACE BRACKET
	EMERGENCY BATTERY UNIT - MOUNT AT 7'-6" AFF
LUMINAIRE CIRCUITRY & CONTROL KEY:	
	LUMINAIRE TYPE
	LOWER CASE LETTER INDICATES SWITCHLEG CONTROL NUMBER INDICATES BRANCH PANEL CIRCUIT NUMBER

LUMINAIRE CONTROL SYMBOLS

	OCCUPANCY SENSOR CEILING MOUNT (X REPRESENTS OCCUPANCY SENSOR DESIGNATION)
	PHOTO ELECTRIC CONTROL
	LIGHTING CONTACTOR

S SINGLE POLE SWITCH

SWITCH NOTATIONS:

- 3 DENOTES 3-WAY SWITCH
- D DENOTES WALL BOX DIMMER SWITCH
- OSX DENOTES OCCUPANCY SENSOR (X REPRESENTS SCHEDULE DESIGNATION)
- PB PUSH BUTTON
- VSX DENOTES VACANCY SENSOR (X REPRESENTS SCHEDULE DESIGNATION)

SERVICE & DISTRIBUTION SYMBOLS

	GROUND ROD
	GROUNDING CONDUCTOR
	PANELBOARD
	CONTACTOR

SITE SYMBOLS

	ELECTRIC HANDHOLE
	ELECTRIC METER
	ELECTRIC TRANSFORMER
	FLOOD LIGHT
	DOUBLE LIGHT POLE
	LIGHT POLE

GENERAL SYMBOLS

#E-###	DETAIL NUMBER / SHEET NUMBER
9.###	KEYED NOTE. USED TO DESCRIBE ADDITIONAL INFORMATION OF WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL IT IS SHOWN WITH.

LINE TYPE KEY

	NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)
	ONE-LINE EQUIPMENT ENCLOSURE
	SITE UNDERGROUND CONDUIT
	SITE UNDERGROUND ELECTRIC

FIRE ALARM SYMBOLS

	FIRE ALARM MASS NOTIFICATION CONTROL PANEL
	FIRE ALARM PULL STATION
	FIRE ALARM SPEAKER/STROBE, (##) IS CANDELA RATING
	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR

RECEPTACLE SYMBOLS

	DUPLEX RECEPTACLE TEXT INDICATES MOUNTING HEIGHT 60"
	DOUBLE DUPLEX RECEPTACLE
	ABOVE COUNTER DUPLEX RECEPTACLE
	SPECIFIC USE RECEPTACLE. NEMA CONFIGURATIONAS NOTED ON DRAWINGS AND/OR SCHEDULE.

RECEPTACLE NOTATIONS:	
GFCI	DENOTES GROUND FAULT INTERRUPTER OUTLETS
WP	DENOTES WEATHER PROOF OUTLETS

RACEWAY SYMBOLS

	JUNCTION BOX - CEILING MOUNTED
	JUNCTION BOX - WALL MOUNTED
	HANDHOLE

MOTOR & EQUIPMENT CONNECTION SYMBOLS

	ELECTRICAL CONNECTION TO EQUIPMENT AND MOTORS, SIZED PER NEC. COORDINATE REQUIREMENTS WITH CONTRACTOR FURNISHING MOTOR OR EQUIPMENT. REFER TO SPECIFICATIONS AND EQUIPMENT WIRING SCHEDULE FOR ADDITIONALWORK ASSOCIATED WITH MOTOR OR EQUIPMENT.
	VARIABLE FREQUENCY MOTOR CONTROLLER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	MOTOR STARTING SWITCH WITH OVERLOADS
	MOTOR STARTING SWITCH WITHOUT OVERLOADS
	MANUAL TRANSFER SWITCH

ELECTRICAL ABBREVIATIONS

3R	NEMA 3R RATING
A	AMPERES
A/E	ARCHITECT / ENGINEER
AAC	ABOVE ACCESSIBLE CEILING
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
BLDG	BUILDING
BRKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CP	CIRCULATION PUMP
CRAC	COMPUTER ROOM AIR CONDITIONER
CRP	CONDENSATION RETURN
CUH	CABINET UNIT HEATER
DDC	DIGITAL CONTROL PANEL
DH	DUCT HEATER
DISC	DISCONNECT
DO	DOOR OPERATOR
DWG	DRAWING
E/O	ELECTRICAL-TO-OPTICAL CONVERTER
EC	ELECTRICAL CONTRACTOR
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ERLD	EXISTING - RELOCATED LOCATION
F	FUSED
FA	FIRE ALARM
FAF	FORCED AIR FURNACE
FCU	FAN COIL UNIT
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GWH	GAS WATER HEATER
HP	HORSEPOWER
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HWB	HOT WATER BOILER
HWP	HOT WATER PUMP
IEWH	INSTANTANEOUS ELECTRIC WATER HEATER
IMC	INTERMEDIATE METALLIC CONDUIT
IWH	INSTANTANEOUS WATER HEATER
J-BOX	JUNCTION BOX
LBS	POUNDS
LFS	LIGHTING FIXTURE SCHEDULE
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MIN	MINIMUM
MNS	MASS NOTIFICATION SYSTEM
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NL/EL	NIGHT LIGHT AND EMERGENCY LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PH	PHASE
PNL	PANEL
PVC	POLYVINYL CHLORIDE
RCP	RADIANT CEILING PANEL
RECPT	RECEPTACLE
REF	REFRIGERATOR
REQ'D	REQUIRED
RF	RETURN FAN
RGS	RIGID GALVANIZED STEEL CONDUIT MAY ALSO BE REFERENCED AS RMC OR GRC
RMC	RIGID METAL CONDUIT
S/N	SOLID NEUTRAL
SE	SERVICE ENTRANCE
SEC-P	SECURITY PANEL
SP	SUMP PUMP
SS	STAINLESS STEEL
SW	SWITCH
TBR	TO BE REMOVED
TCP	TEMPERATURE CONTROL PANEL
TYP	TYPICAL
UC	UNIT COOLER
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VS	VERSUS
W	WATTS
WCC	WATER COOLED CONDENSER
WH	WATER HEATER
WL	WET LOCATION LISTED
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL NOTES:

- REFER TO THE G SERIES DRAWINGS FOR CODE ANALYSIS PLANS, INFORMATION AND NOTES.
- SEE CIVIL DRAWINGS C-700 SERIES FOR ADDITIONAL WORK. ADDITIONAL WORK INCLUDES, BUT IS NOT LIMITED TO POLE AREA LIGHTING, MOTORIZED GATES, VEHICLE BARRIER, SIGN LIGHTING AND ALL ASSOCIATED HANDHOLES AND RACEWAYS.
- THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DETAILS OF WORK, VERIFY DIMENSIONS IN THE FIELD, AND ADVISE THE ARCHITECT/ENGINEER OF ANY DISCREPANCY BEFORE PERFORMING ANY WORK.
- THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADAAG (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES) AND ABA (ARCHITECTURAL BARRIERS ACT).
- REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALLS AND FLOORS. MAKE RATED PENETRATIONS AS REQUIRED. SEAL ALL RATED PENETRATIONS AS IDENTIFIED IN DIVISION 1 REQUIREMENTS.
- FLUSH MOUNT ALL TOGGLE SWITCHES, RECEPTACLE , FIRE ALARM PULL STATIONS AND FIRE ALARM NOTIFICATION DEVICES AT HEIGHTS ABOVE FINISHED FLOOR AS SHOWN IN THE DEVICE MOUNTING HEIGHT DETAIL, EXCEPT WHERE OTHERWISE NOTED. DEVICES MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
- CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL SCHEDULES PROVIDED. BALANCE THE LOAD ON PANELS AS EVENLY AS POSSIBLE BETWEEN EACH PHASE. COMMON NEUTRALS MAY **NOT** BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
- A #12 GREEN INSULATED GROUND CONDUCTOR SHALL BE INSTALLED WITH CIRCUIT CONDUCTORS TO ALL RECEPTACLES.
- CONCEAL ALL CONDUIT IN WALLS,AND/OR ABOVE CEILING, UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN FIRE PANEL ROOM 103 MAY BE EXPOSED ON BUILDING STRUCTURE.
- COORDINATE AND CO-LOCATE WALL MOUNTED RECEPTACLE LOCATIONS WITH TECHNOLOGY (VOICE/DATA,CATV,FIDS, ETC) OUTLETS SHOWN ON THE T-SERIES DRAWINGS UNLESS OTHERWISE NOTED, EACH TECHNOLOGY OUTLET SHALL BE LOCATED WITHIN 24"OF ITS ASSOCIATED RECEPTACLE. ASSOCIATED RECEPTACLE SHALL BE DEFINED AS THE RECEPTACLE NEAREST THE LOCATION OF, AND AT THE SAME HEIGHT AS,THE TECHNOLOGY OUTLET WHEN MULTIPLE RECEPTACLES ARE SHOWN ON A WALL.
- CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL DETECTORS WITH LUMINAIRES, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
- CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO ELECTRICAL INSTALLATION THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- CONTRACTOR TO PROVIDE SUITABLE MECHANICAL PROTECTION AROUND ALL CONDUITS STUBBED OUT FROM FLOORS, WALLS OR CEILINGS DURING CONSTRUCTION TO PREVENT BENDING OR DAMAGING OF STUB OUTS DUE TO CARELESSNESS WITH CONSTRUCTION EQUIPMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- SCCR RATINGS LISTED FOR EQUIPMENT ARE MINIMUM REQUIREMENTS FOR BUS BRACING AND DEVICE RATING. ALL EQUIPMENT SHALL BE FULLY RATED UNLESS SPECIFICALLY NOTED AS SERIES RATED.

Mead & Hunt

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

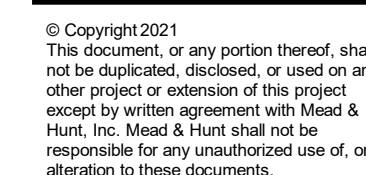
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M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: ARG  
DRAWN BY: KLU  
CHECKED BY: JRH

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SHEET CONTENTS  
NOTES, SYMBOLS &  
ABBREVIATIONS

SHEET NO.:

E-001



BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

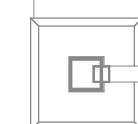
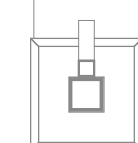
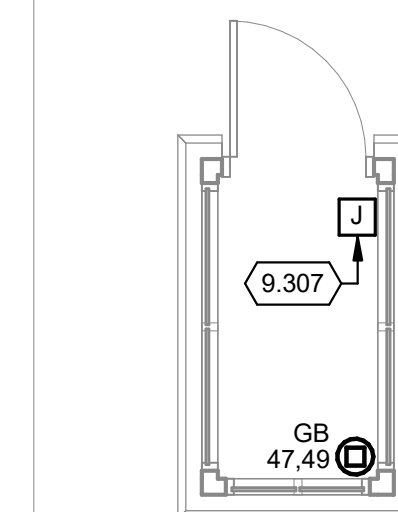
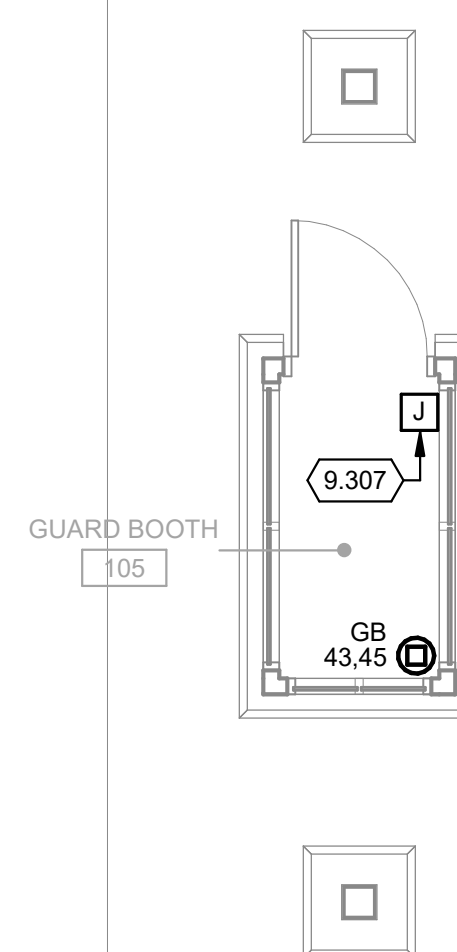
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SHEET CONTENTS

GATEHOUSE POWER  
AND FIRE ALARM  
PLAN

SHEET NO.

E-101



1. ALL DEVICES SHOWN SHALL BE FED FROM GATEHOUSE PANEL. CIRCUIT NUMBERS ARE INDICATED ADJACENT TO DEVICES/CONNECTIONS.
2. SEE CIVIL C-400 SERIES DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.

9.301 WALL MOUNT SMOKE DETECTOR DIRECTLY ABOVE FIRE ALARM MASS NOTIFICATION PANEL.

9.307 ACTIVE VEHICLE BARRIER ACTIVATION BUTTON. PROVIDE ALL RACEWAYS AND WIRING AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH SUBMITTED AND APPROVED ACTIVE VEHICLE BARRIER EQUIPMENT.

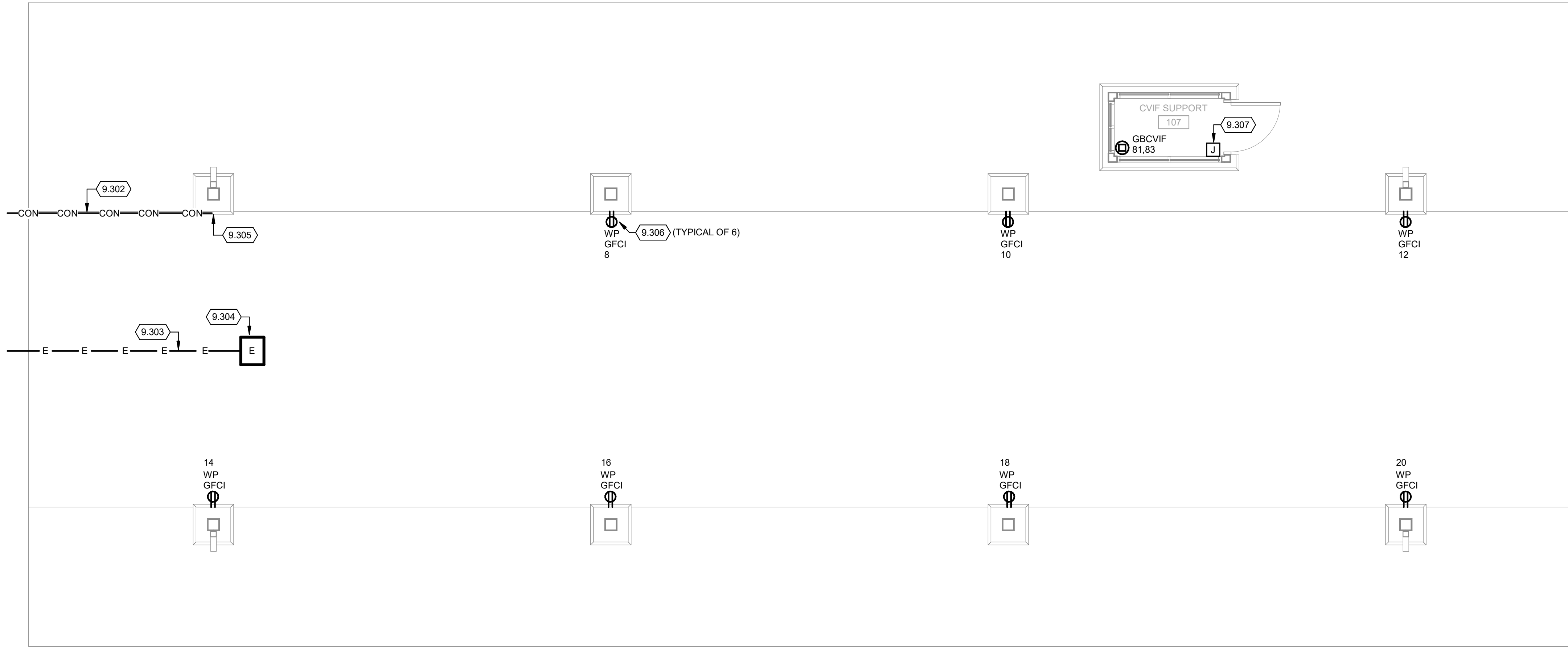
TRUE PLAN  
NORTH NORTH



## GATEHOUSE FIRST FLOOR POWER AND FIRE ALARM PLAN

1/4" = 1'-0"

2/15/2021 11:19:15 AM C:\Revit Local\3141900-113782.01-E-Central-2020 Aaron Guderyon.rvt



TRUE PLAN  
NORTH NORTH  
**1** **CVIF POWER PLAN**  
1/4" = 1'-0"

#### POWER GENERAL NOTES:

- ALL DEVICES SHOWN SHALL BE FED FROM GATEHOUSE PANEL. CIRCUIT NUMBERS ARE INDICATED ADJACENT TO DEVICES/CONNECTIONS.
- SEE CIVIL C-400 SERIES DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.

#### KEYED NOTES

- 9.302 (1) 2" CONDUIT. ROUTE UNDERGROUND BACK TO GATEHOUSE PANEL.
- 9.303 (2) 1" CONDUITS. ROUTE UNDERGROUND BACK TO GATEHOUSE. ROUTE ONE CONDUIT TO TELECOM RACK LOCATION AND ONE CONDUIT TO GATEHOUSE PANEL.
- 9.304 PROVIDE 13"x24" POLYMER CONCRETE HANDHOLE WITH INTERIOR DIVIDER. HANDHOLE SHALL BE 24" DEEP, TIER 22 RATING (ENCLOSURE AND COVER), AND GRAY. ONE CONDUIT SHALL ENTER INTO EACH HANDHOLE PARTITION. PROVIDE WEATHERPROOF RECEPTACLE IN ONE PARTITION, MOUNTED TO HANDHOLE SIDE WALL AND (2)#8 AND #8 GROUND BACK TO THE GATEHOUSE PANEL, CIRCUIT #67. FEED RECEPTACLE FROM GFCI TYPE CIRCUIT BREAKER.
- 9.305 SURFACE MOUNT CONDUIT TO BRICK WRAPPING AND COLUMN BASE. STUB CONDUIT UP TO 12" ABOVE FINISHED PAVEMENT. CAP AND SEAL END OF CONDUIT.
- 9.306 MOUNT AT 24" ABOVE FINISHED PAVEMENT. RECESS RECEPTACLE BOX WITHIN MASONRY COLUMN BASE. RECEPTACLE FEED SHALL ENTER INTO COLUMN HOLLOW TUBE CENTER AND BE COMPLETELY CONCEALED.
- 9.307 ACTIVE VEHICLE BARRIER ACTIVATION BUTTON. PROVIDE ALL RACEWAYS AND WIRING AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH SUBMITTED AND APPROVED ACTIVE VEHICLE BARRIER EQUIPMENT.



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## MICHIGAN AIR NATIONAL GUARD CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

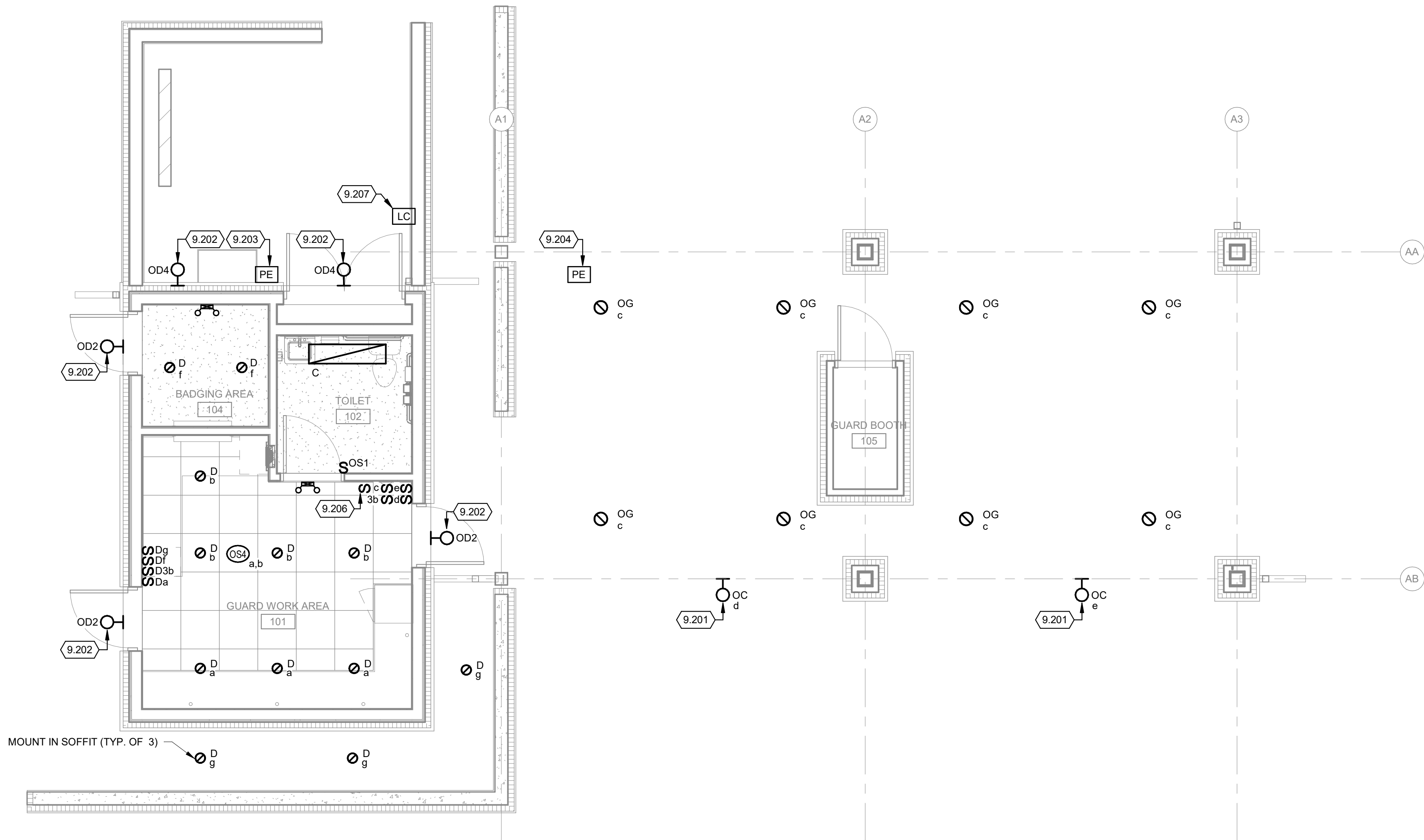
ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: ARG  
DRAWN BY: KLU  
CHECKED BY: JRH

DO NOT SCALE DRAWINGS  
SHEET CONTENTS  
**CVIF POWER PLAN**

SHEET NO.:

**E-102**

2/15/2021 11:19:16 AM C:\Revit Local\3141900-113782.01-E-Central-2020 Aaron.Gudleyon.rvt



1

### GATEHOUSE FIRST FLOOR LIGHTING PLAN

1/4" = 1'-0"

#### LIGHTING GENERAL NOTES:

- ALL LIGHTING SHOWN ON THIS SHEET SHALL BE CIRCUITED TO GATEHOUSE PANEL, CIRCUIT #21.
- EMERGENCY BATTERY UNITS SHALL BE FED FROM UN-SWITCHED PORTION OF GATEHOUSE PANEL, CIRCUIT #21.

#### KEYED NOTES

- 9.201 SURFACE MOUNT FIXTURE TO UNDERSIDE OF CANOPY.
- 9.202 MOUNT FIXTURE AT 8'-0" ABOVE FINISHED PAVEMENT TO BOTTOM OF FIXTURE HOUSING.
- 9.203 MOUNT PHOTOCELL TO UNDERSIDE OF SOFFIT AND AIM NORTH. PHOTOCELL SHALL SERVE SITE POLE FIXTURES. SEE DETAIL 5/E501 FOR MORE INFORMATION.
- 9.204 MOUNT PHOTOCELL TO UNDERSIDE OF SOFFIT AND AIM NORTH. WIRE SWITCH LEGS 'C' AND 'G' THROUGH PHOTOCELL.
- 9.206 SWITCH SHALL CONTROL TYPE 'OG' FIXTURES IN COMMERCIAL VEHICLE INSPECTION CANOPY SHOWN ON SHEET E-122.
- 9.207 CONTACTOR SHALL SERVE SITE POLE FIXTURES. SEE DETAIL 5/E-501 FOR MORE INFORMATION.

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SHEET CONTENTS  
GATEHOUSE  
LIGHTING PLAN

SHEET NO.:

E-121



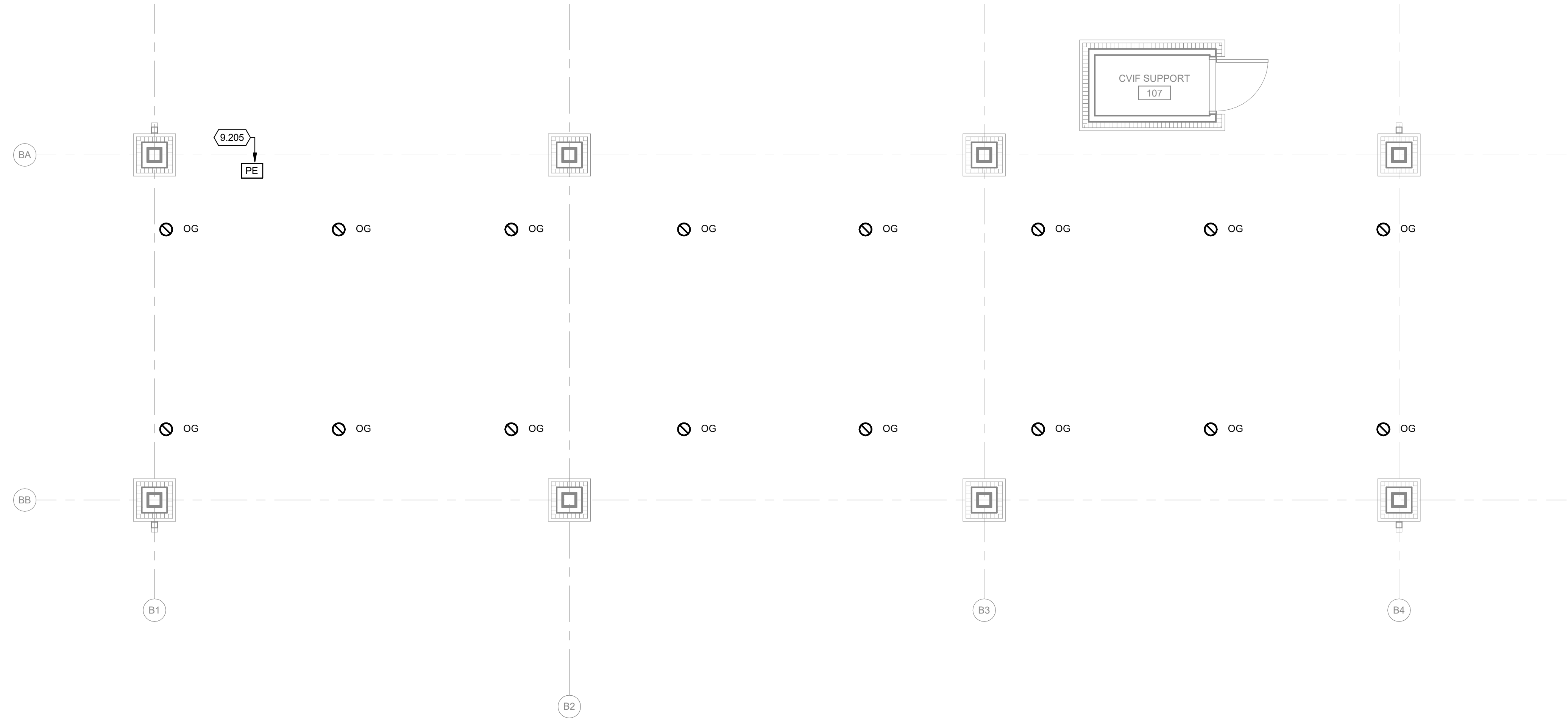
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TRUE PLAN  
NORTH NORTH

## CVIF FIRST FLOOR LIGHTING PLAN

1/4" = 1'-0"



### LIGHTING GENERAL NOTES:

- ALL LIGHTING SHOWN ON THIS SHEET SHALL BE CIRCUITED TO GATEHOUSE PANEL, CIRCUIT #23. LIGHTING CIRCUIT SHALL BE ROUTED THROUGH SWITCH LOCATED IN GATEHOUSE, SHOWN ON SHEET E-121 AND PHOTOCELL MOUNTED AT THE CVIF CANOPY.

### KEYED NOTES

- 9.205 MOUNT PHOTOCELL TO UNDERSIDE OF SOFFIT AND AIM NORTH. PHOTOCELL SHALL SERVE COMMERCIAL VEHICLE INSPECTION CANOPY TYPE 'OG' FIXTURES.

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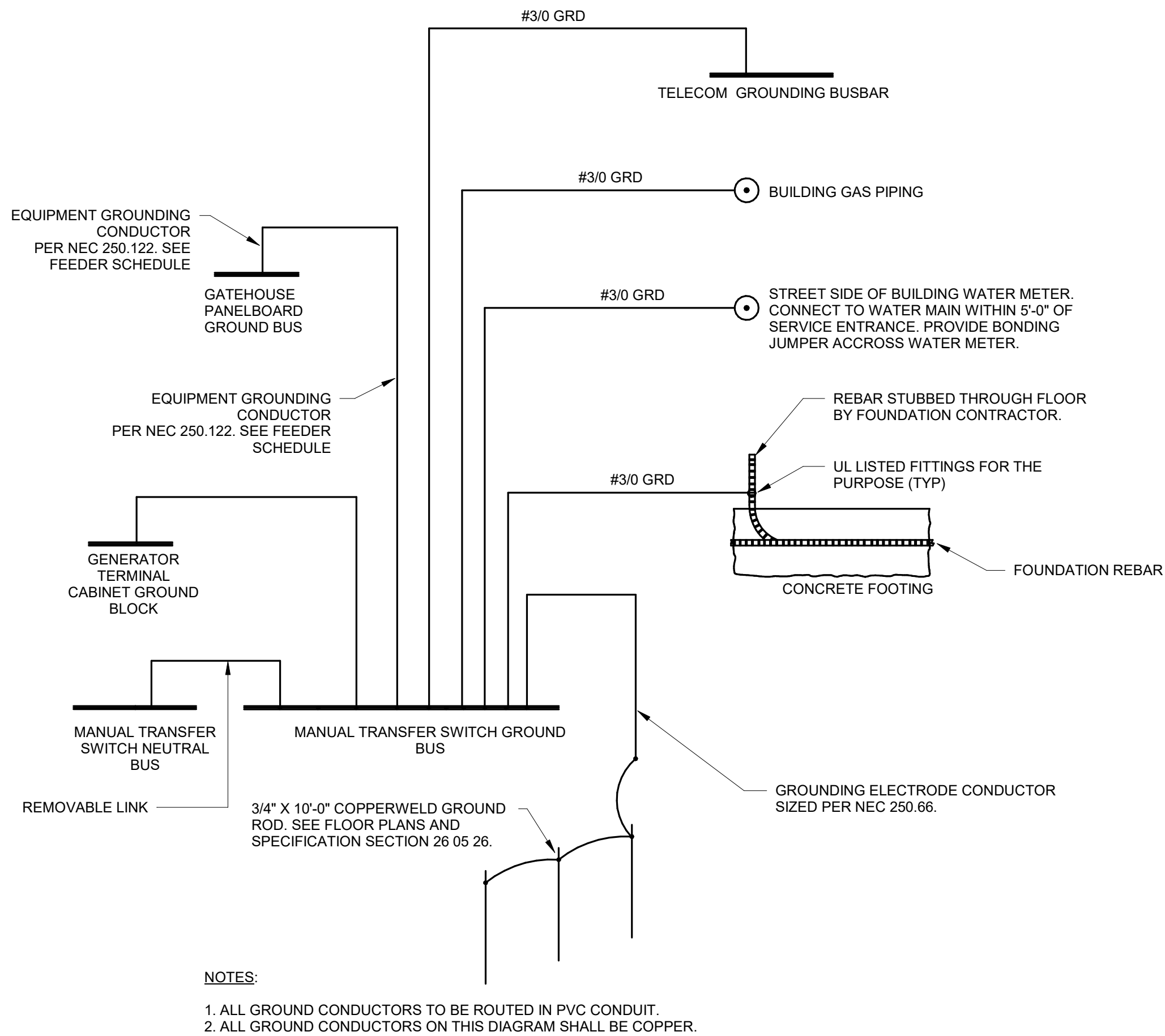
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SHEET CONTENTS  
CVIF LIGHTNG PLAN

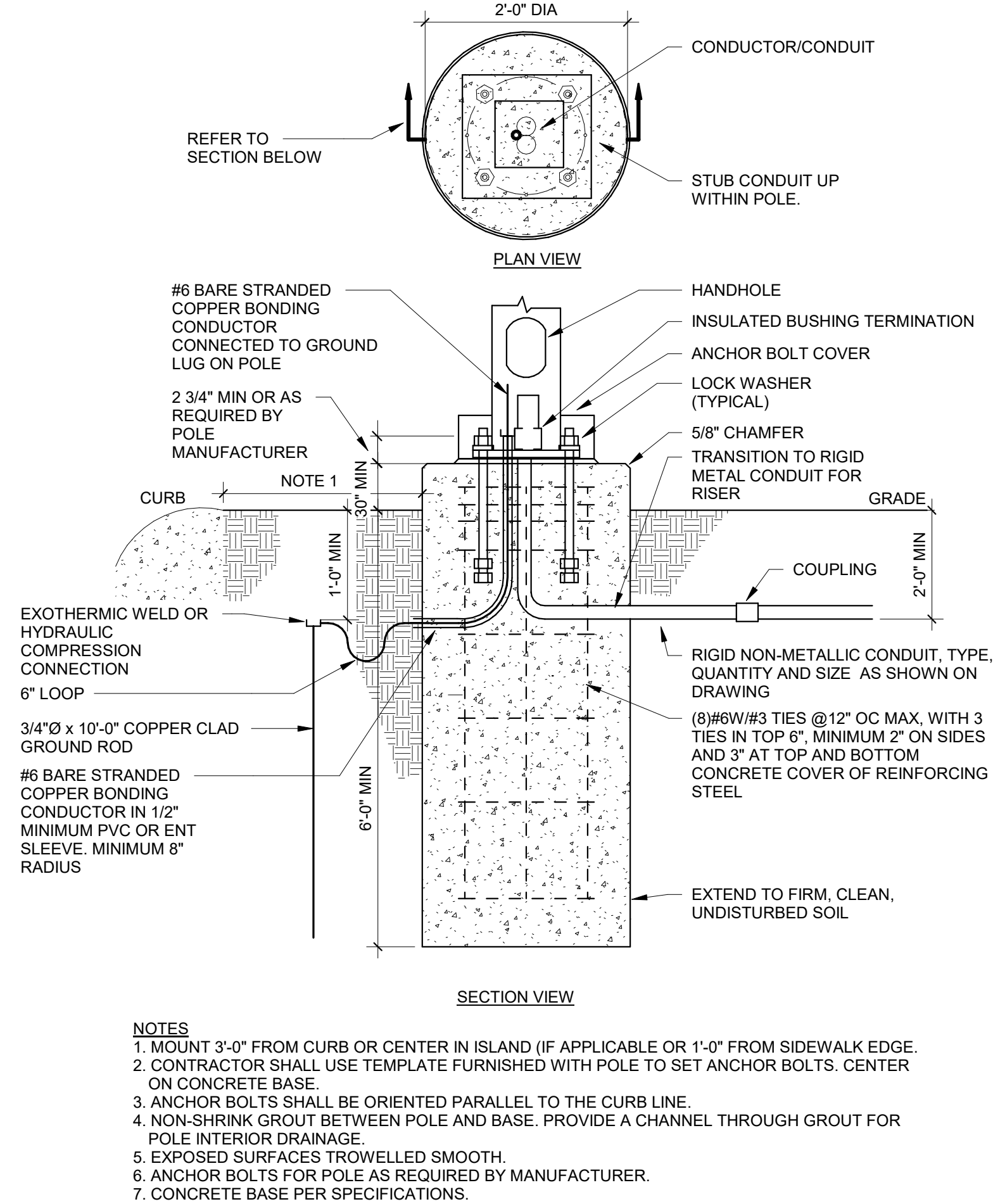
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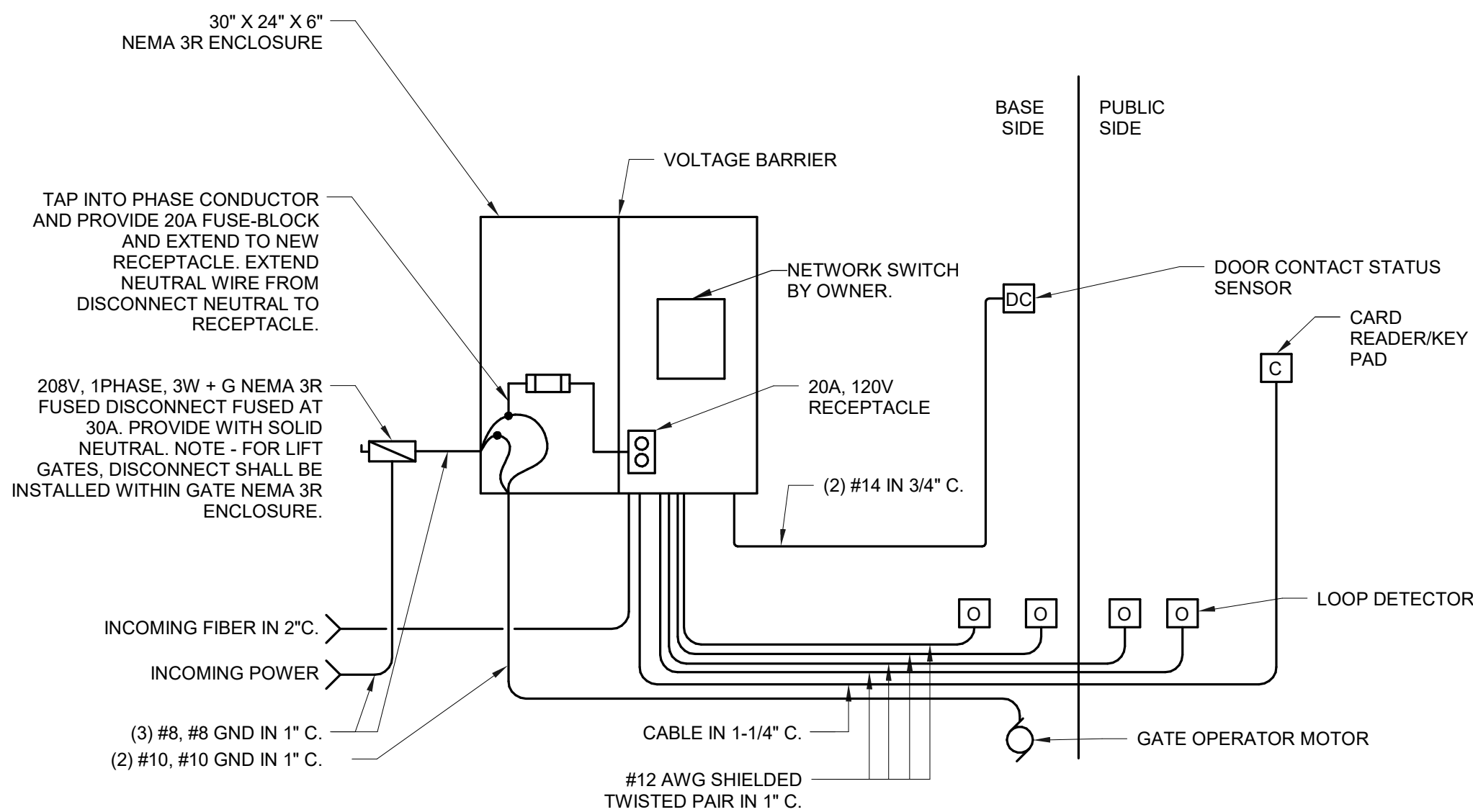
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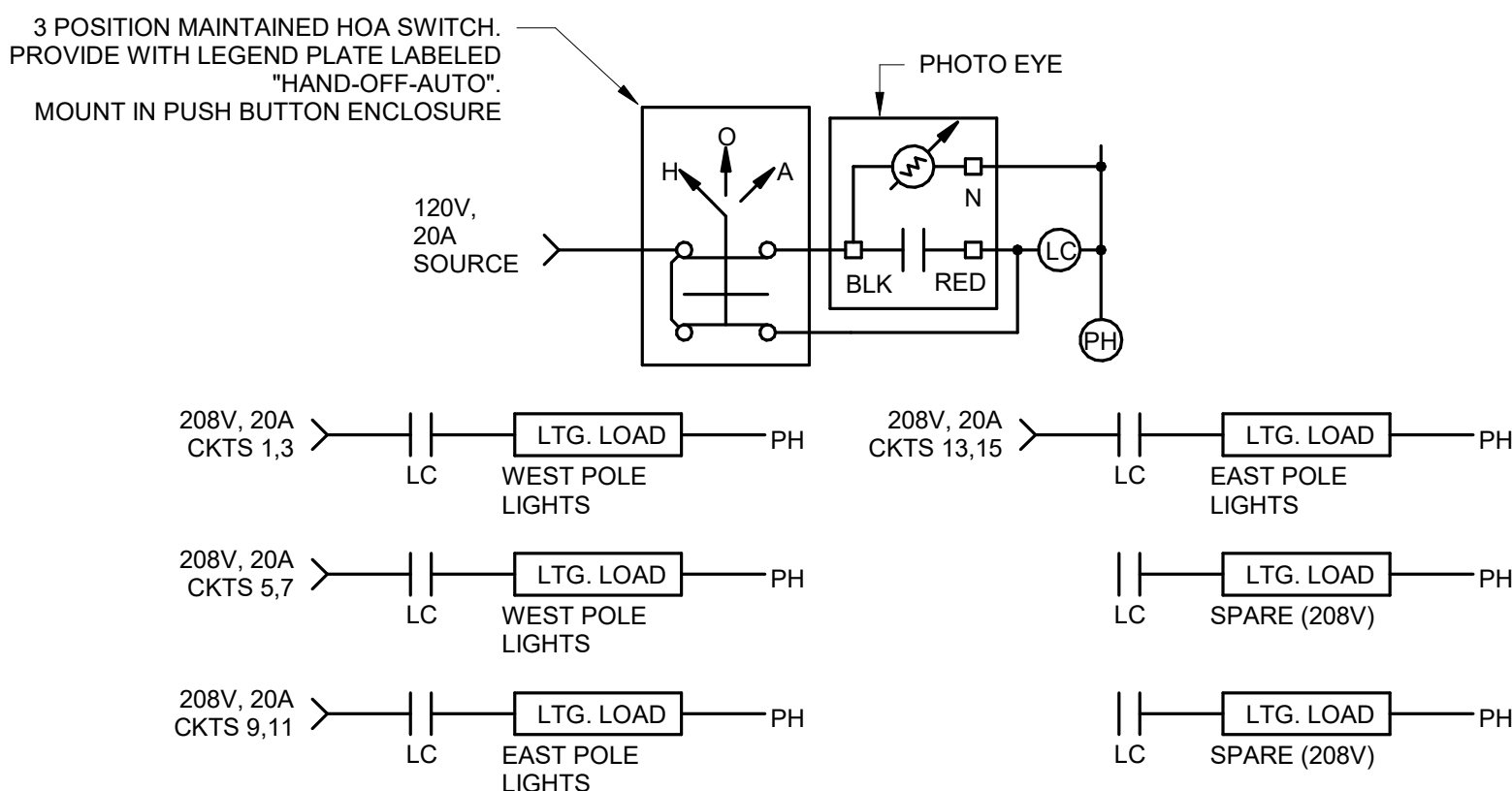
6 GROUNDING SYSTEM DETAIL  
NO SCALE



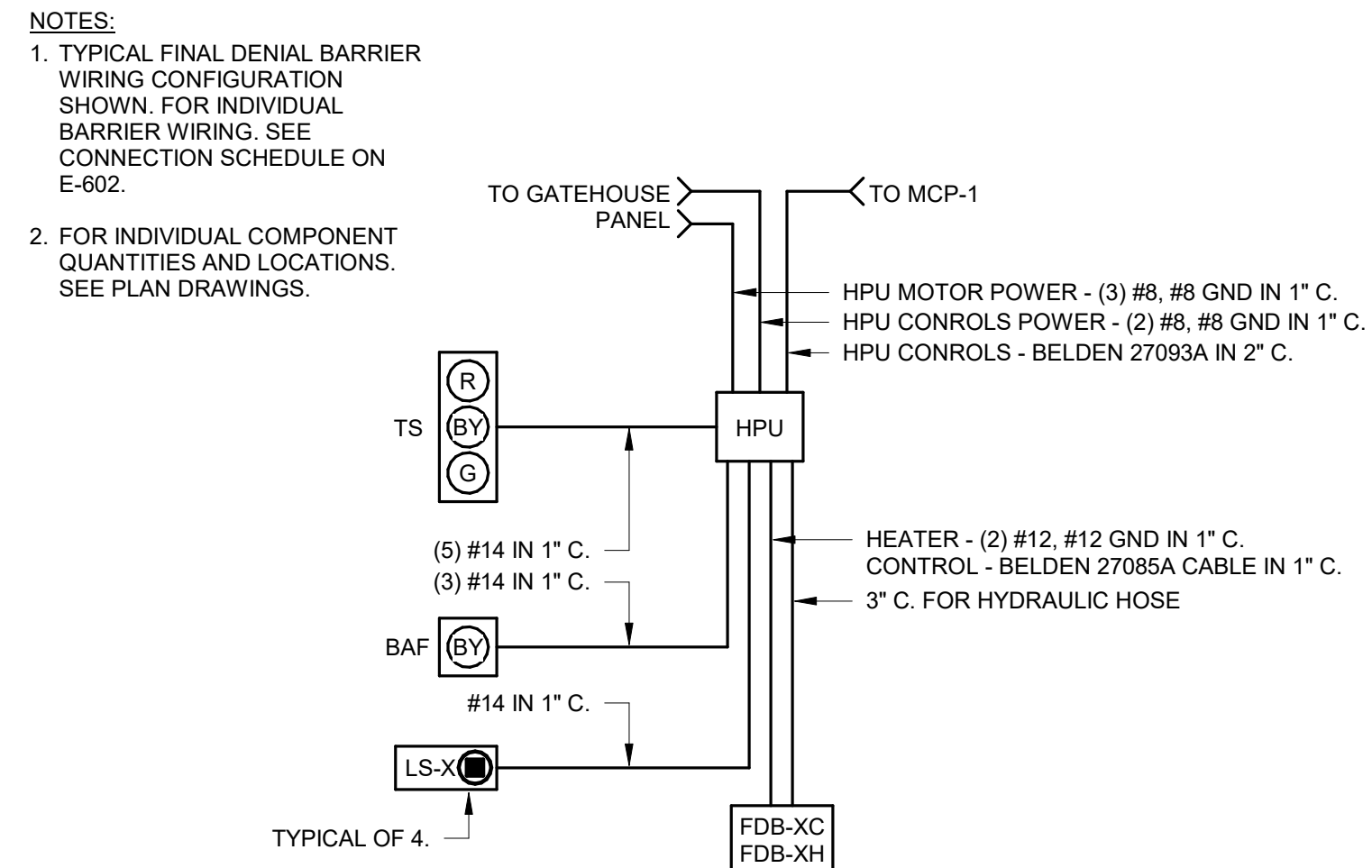
4 POLE BASE DETAIL  
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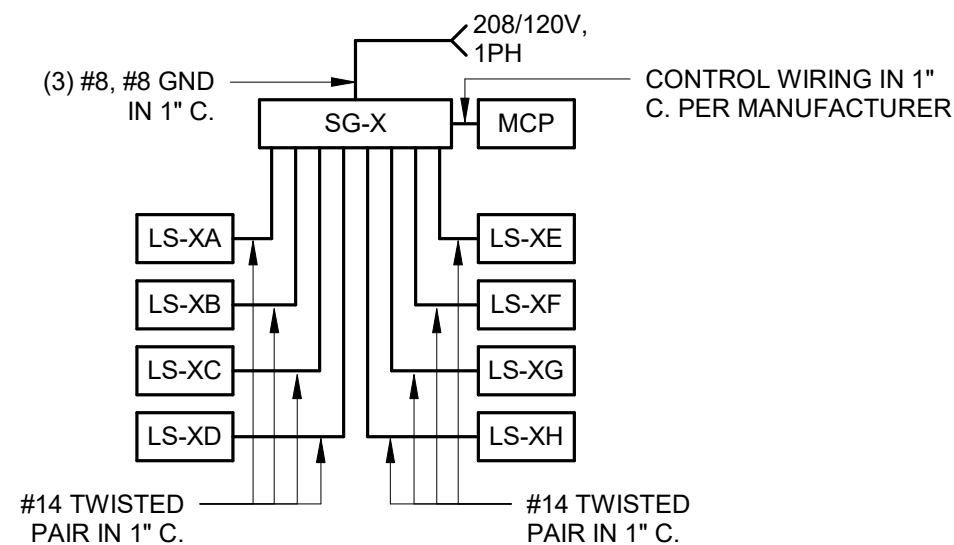
7 GATE OPERATOR DETAIL  
NO SCALE



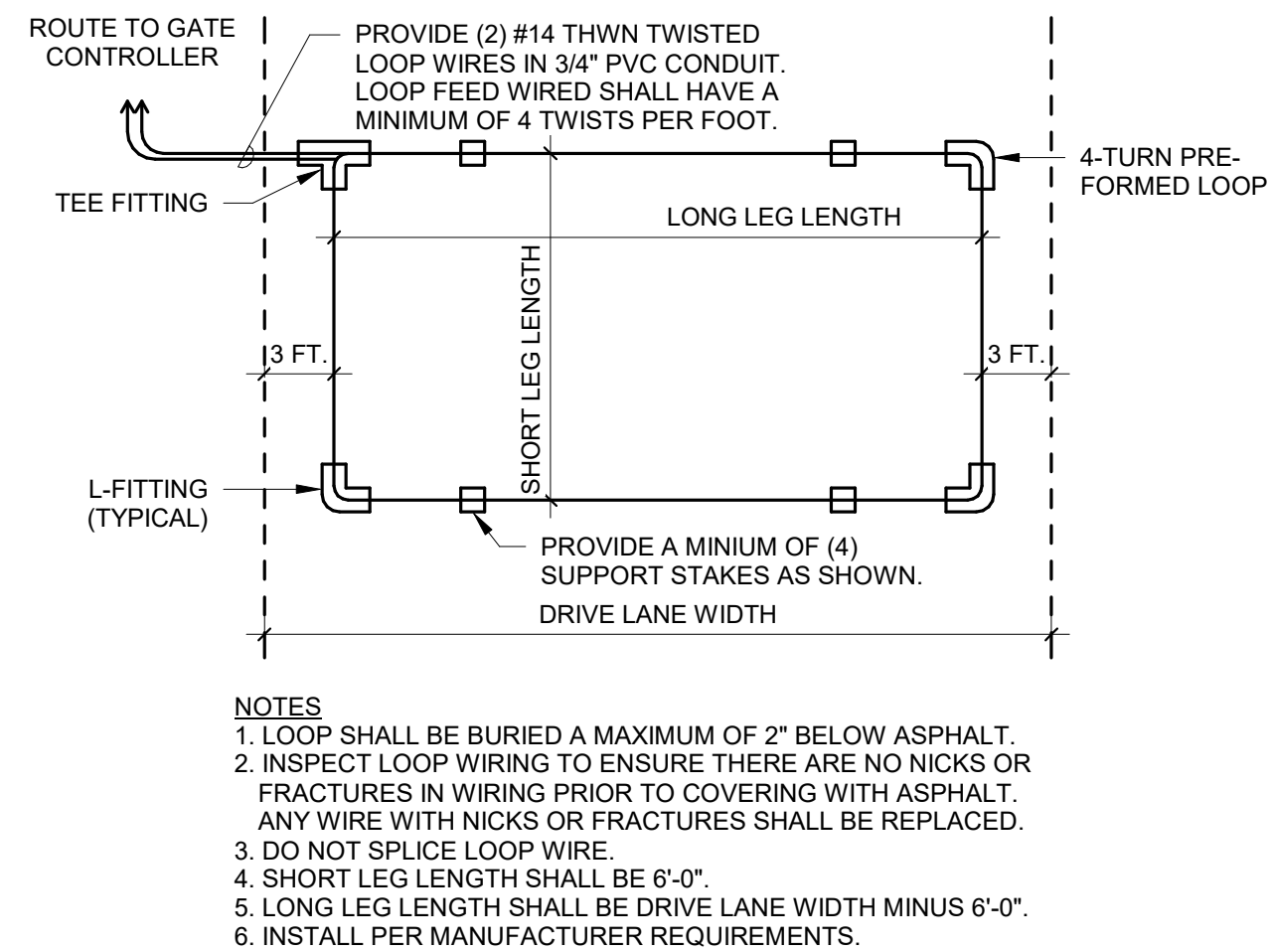
5 LIGHTING CONTACTOR WITH HOA AND PHOTO EYE  
NO SCALE



1 HYDRAULIC BARRIER CONNECTION DIAGRAM  
NO SCALE



2 SLIDING GATE CONNECTION DIAGRAM  
NO SCALE



3 LOOP DETECTOR DETAIL  
NO SCALE



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SHEET CONTENTS  
DETAILS

SHEET NO.:



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MICHIGAN AIR NATIONAL GUARD  
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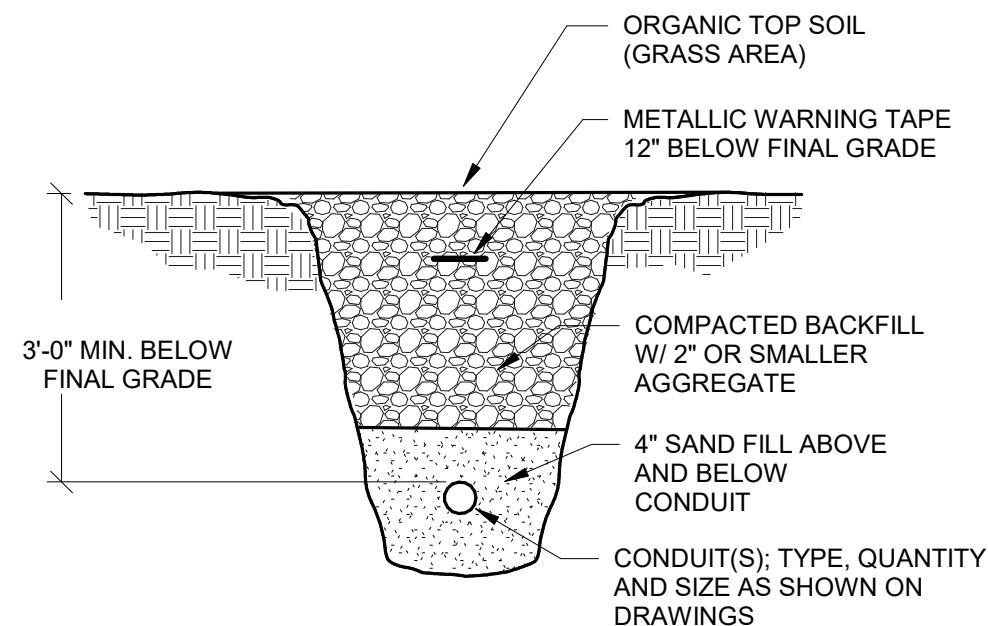
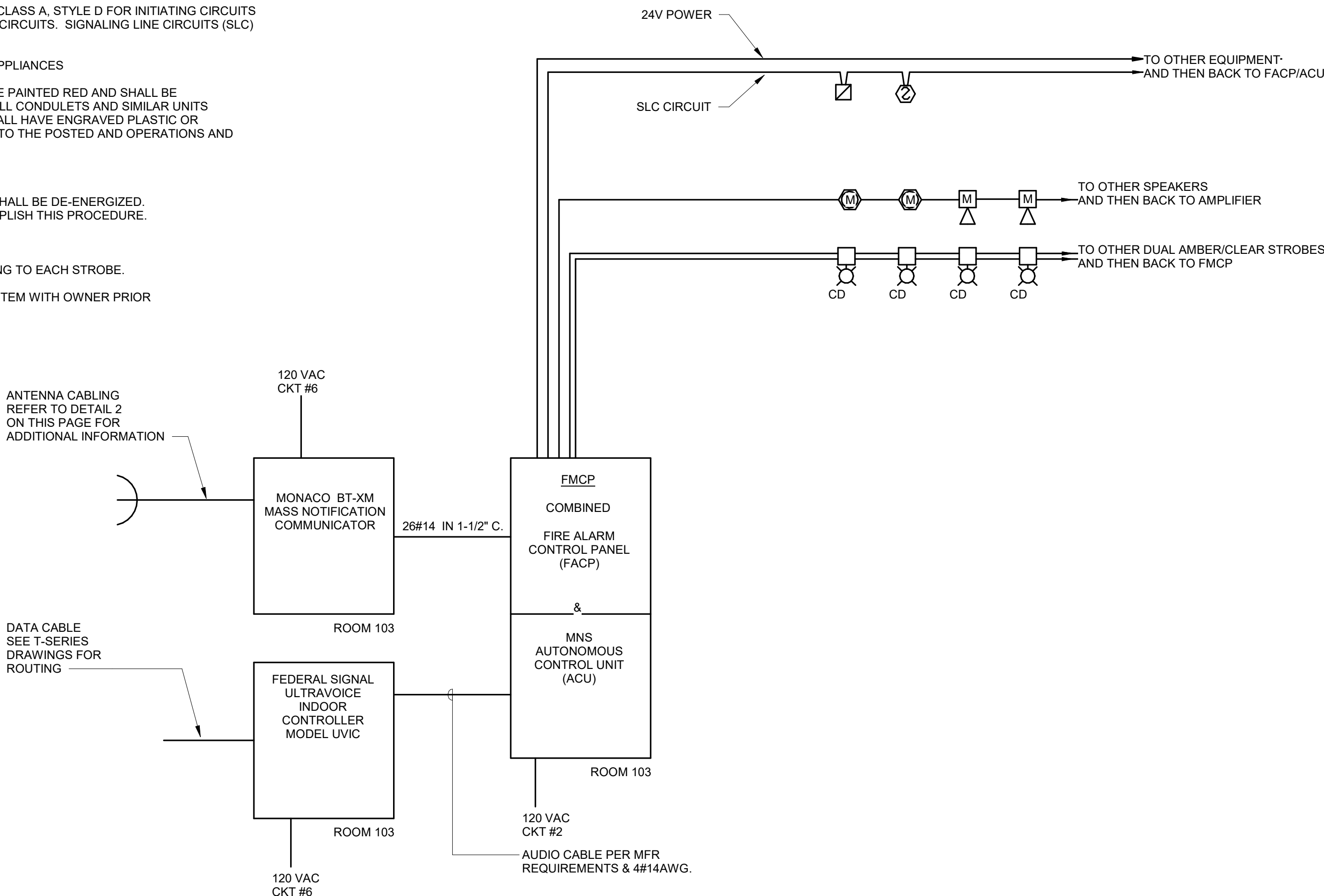
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SHEET CONTENTS  
DETAILS

SHEET NO.:

E-502

FIRE ALARM & MASS NOTIFICATION SYSTEM NOTES:

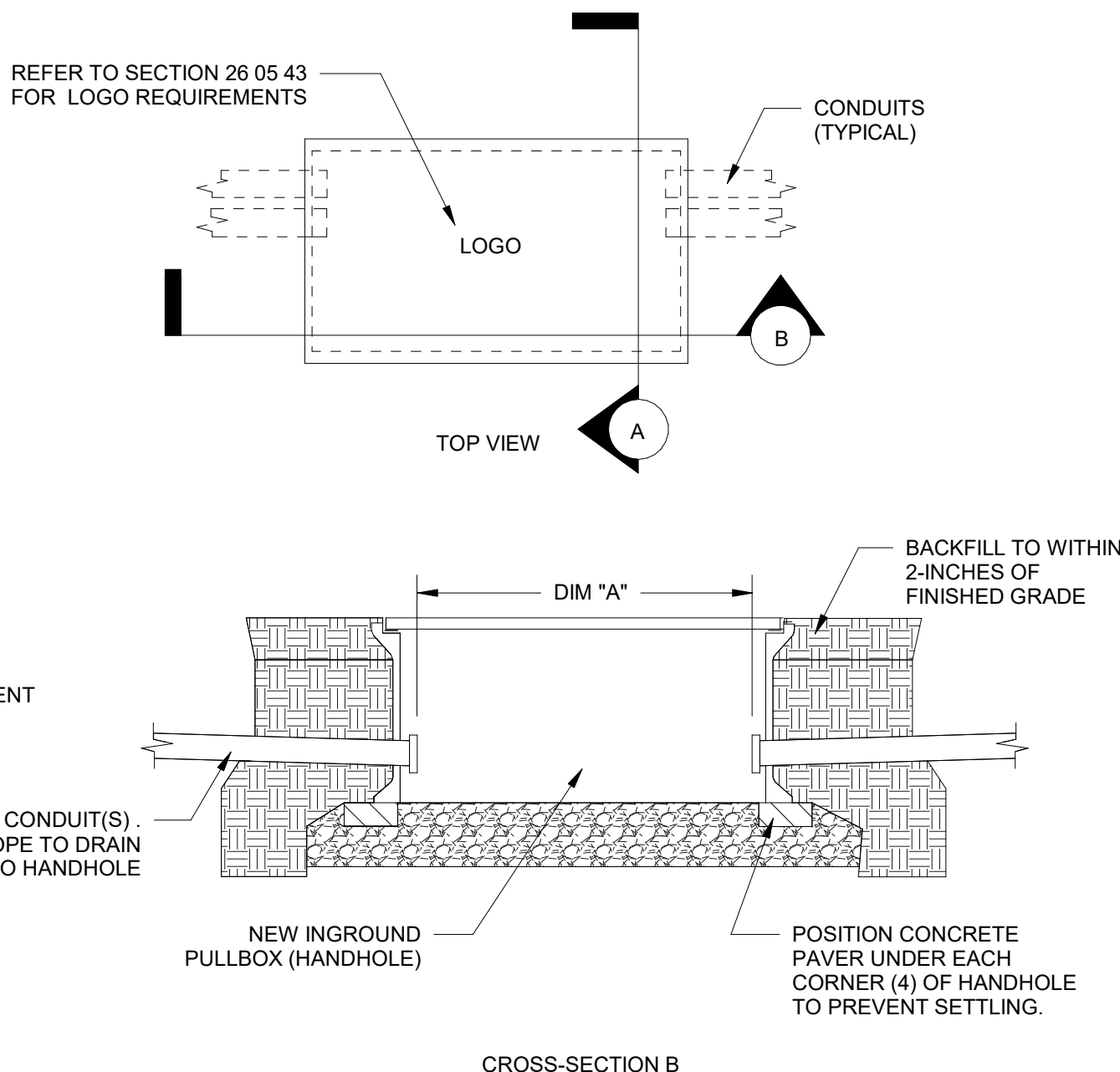
1. FIRE ALARM CONTROL UNIT AND MASS NOTIFICATION AUTONOMOUS CONTROL UNIT (FMCP) IS A COMBINED UNIT OF THE FIRE ALARM CONTROL PANEL (FACP) AND THE MNS AUTONOMOUS CONTROL UNIT (ACU). THE UNIT COULD USE ONE OR MORE ENCLOSURES.
2. ALL DETECTION AND ALARM CIRCUITS SHALL BE OF THE SUPERVISED CLASS A, STYLE D FOR INITIATING CIRCUITS AND A SUPERVISED CLASS A, STYLE Z FOR NOTIFICATION APPLIANCE CIRCUITS. SIGNALING LINE CIRCUITS (SLC) SHALL BE CLASS A, STYLE 2a.
3. SEE PLANS FOR SPECIFIC CANDELA (CD) RATINGS ON NOTIFICATION APPLIANCES
4. ALL JUNCTION, TERMINAL, AND PULLING BOXES AND COVERS SHALL BE PAINTED RED AND SHALL BE IDENTIFIED WITH ENGRAVED LABELS BY CIRCUIT THAT IT CONTAINS. ALL CONDULETS AND SIMILAR UNITS SHALL BE PAINTED RED. ALL DETECTION AND TERMINAL DEVICES SHALL HAVE ENGRAVED PLASTIC OR METALLIC ALPHANUMERIC IDENTIFICATION, WHICH SHALL BE KEYED TO THE POSTED AND OPERATIONS AND MAINTENANCE INSTRUCTIONS.
5. ALL WIRING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
6. WHEN THE MNS IS ANNOUNCING, AUDIBLE AND VISUAL FIRE ALARMS SHALL BE DE-ENERGIZED. CONTRACTOR SHALL SUPPLY ALL NECESSARY EQUIPMENT TO ACCOMPLISH THIS PROCEDURE.
7. ALL SPEAKER AND STROBE CIRCUITS SHALL BE SUPERVISED.
8. STROBES SHALL BE DUAL AMBER/CLEAR TYPE WITH SEPARATE CABLING TO EACH STROBE.
9. COORDINATE REQUIRED ALARMS MONITORED AT BASE HEAD END SYSTEM WITH OWNER PRIOR TO PROGRAMMING.



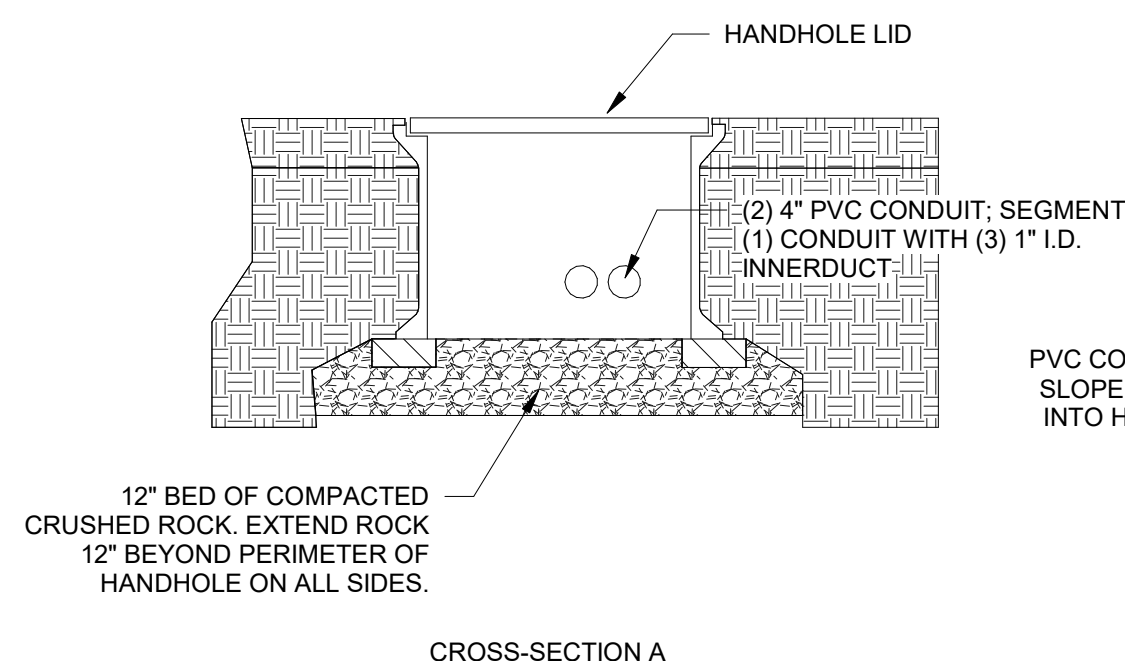
5 UNDERGROUND CONDUIT  
NO SCALE

DETAIL NOTES:

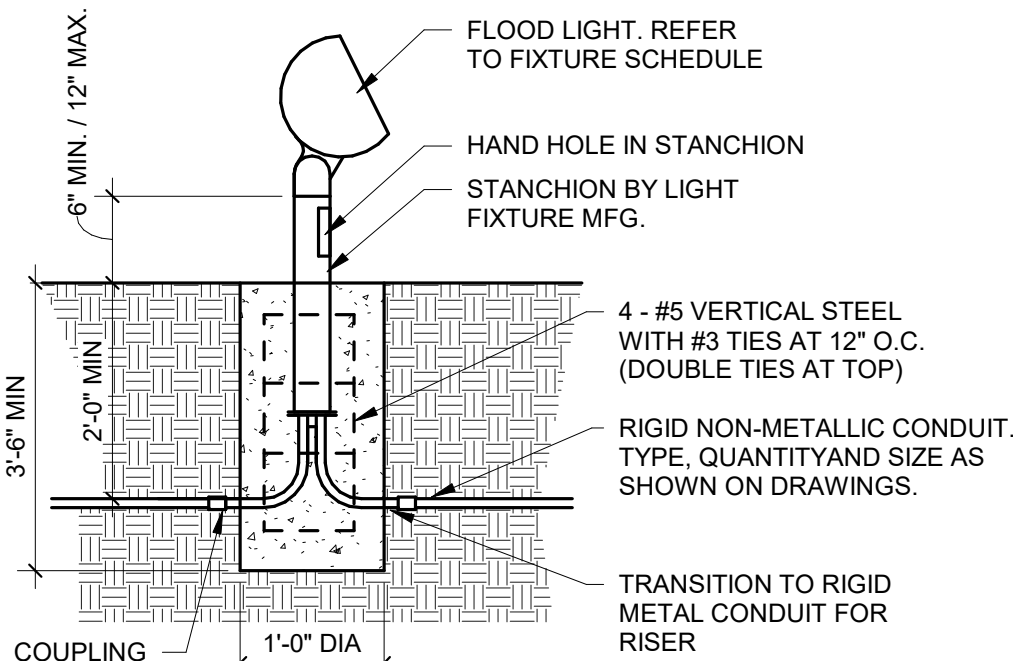
1. REFER TO SECTION 26 05 43 FOR HANDHOLE SPECIFICATION.
2. PROVIDE BUSHING ON ALL CONDUIT ENDS
3. PROVIDE MOUSE HOLE AS BOTTOMIN BASE (IN BOTTOM SECTION IF STACKED)
4. CONDUIT DEPTH SHOWN IS APPROXIMATE. FIELD VERIFY TO PROVIDE SLOPE IN CONDUIT AWAY FROM BUILDING.
5. SEAL DUCTS/CONDUIT WITH 3M SCOTCHCAST 4416 TO PREVENT ENTRY OF WATER INTO THE DUCTS. SEAL OCCUPIED DUCTS FOLLOWING CABLE INSTALLATION.



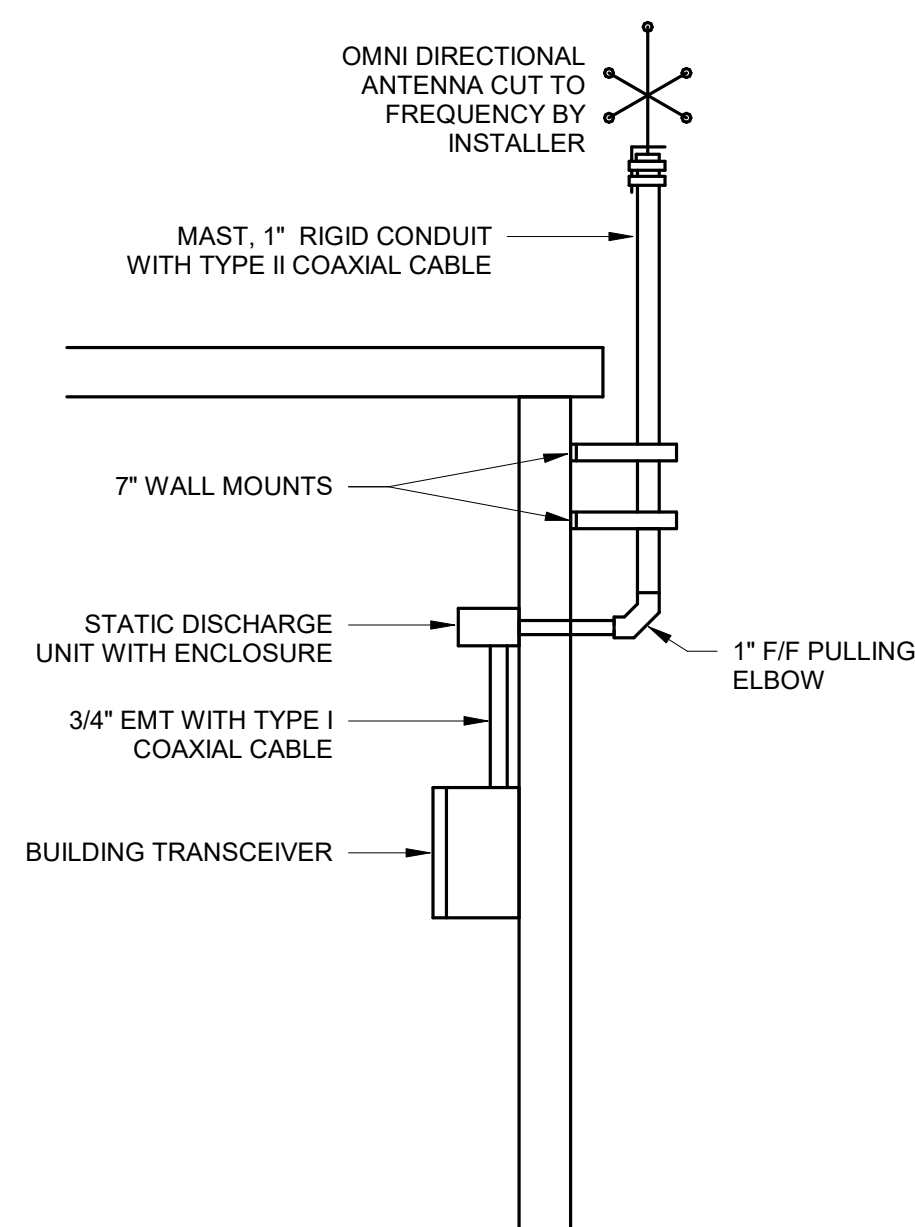
1 FIRE ALARM RISER DIAGRAM  
NO SCALE



4 UNDERGROUND BOX (HANDHOLE) DETAIL  
NO SCALE



3 FLOOD LIGHT BASE DETAIL STANCHION  
NO SCALE



2 TYPICAL ANTENNA INSTALLATION DETAIL  
NO SCALE

OPTIONS/ACCESSORIES CODE LISTING:

- 01WET LOCATION LISTED
- 02BUTTON TYPE PHOTOCONTROL
- 03TOP AND SIDE VISORS

BALLAST/DRIVER CODE LISTING: (SEE SPECIFICATIONS)

- ALED DIMMABLE POWER SUPPLY (0-10V).
- BLED DIMMABLE POWER SUPPLY (TRAILING EDGE).
- CLED DIMMABLE POWER SUPPLY 0-10V, 0% TO 100%.
- DLED NON-DIMMABLE POWER SUPPLY

GENERAL NOTES:

- 1.ONLY BALLAST SERIES IS INDICATED ON THIS SCHEDULE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. EACH FIXTURE SUBMITTAL SHALL BE PROVIDED WITH FULL BALLAST AND LAMP INFORMATION.
- 2.EC SHALL VERIFY AND COORDINATE ALL LUMINAIRE TRIMS/FLANGES WITH RESPECTIVE CEILING TYPES SCHEDULED AND/OR SUBMITTED BY THE GC PRIOR TO ORDERING OF THE LUMINAIRES. SCHEDULE INDICATES TRIM TYPES BASED ON THE GENERIC CEILING INFORMATION AVAILABLE AT THE TIME BIDDING DOCUMENTS WERE ISSUED AND DOES NOT REFLECT ACTUAL THICKNESS OF GYPSUM WALL BOARD OR PLASTER CEILING OR EXACT GRID TYPE SPECIFIED BY THE ARCHITECT.


KEYED NOTES:

- 1.PROVIDE FIXTURE WITH INTEGRAL, INTERNAL SURGE PROTECTION. SURGE PROTECTION SHALL BE 10kV LINE-TO-GROUND AND 10kV LINE-TO-LINE PROTECTION.
- 2.PROVIDE WITH 25'-0" TALL, BRONZE, 5" DIAMETER SQUARE STEEL POLE WITH INTEGRAL HANDHOLE AND VIBRATION DAMPER. POLE SHALL BE RATED FOR 100MPH WINDS AND 30% GUST FACTOR WITH LUMINAIRE TYPE/CONFIGURATION AS SHOWN ON PLANS. SEE DETAIL 4/E-501 FOR POLE BASE INFORMATION.
- 3.PROVIDE WITH BRONZE DIRECT ARM MOUNTING BRACKET. COORDINATE MOUNTING BRACKET WITH POLE.
- 4.SEE DETAIL 3/E-502 FOR MOUNTING INFORMATION.
- 5.SEE DETAIL 4/E-502 FOR POLE BASE INFORMATION.
- 6.PROVIDE COMPLETE ASSEMBLY OF 30' BONZE POLE, INTEGRAL LED ROTATING FIXTURE AND INTERNAL WINCH SYSTEM TO RAISE/LOWER FLAG. SEE CIVIL PLANS FOR POLE BASE INFORMATION.

LUMINAIRE SCHEDULE														
NOTE:		SEE SPECIFICATION FOR ADDITIONAL INFORMATION REGARDING LUMINAIRE AND INSTALLATION REQUIREMENTS. PROVIDE OPTIONS AND ACCESSORIES REFERENCED BY THE COLUMN TITLED " OPTIONS/ACCESSORIES". MANUFACTURERS LISTED ACCEPTABLE SHALL MEET ALL REQUIREMENTS AND FEATURES INDICATED. ACCEPTABLE MANUFACTURERS MUST MEET THE PHOTOMETRIC PERFORMANCE OF THE LISTED UNIT.												
ABBREVIATIONS:		GWB = GYPSUM WALL BOARD P = PENDANT R = RECESSED V = VARIES ES = EXPOSED STRUCTURE PLAS = PLASTER S = SURFACE W = WALL MOUNTED LG = LAY-IN GRID PL = POLE MOUNTED UNV = UNIVERSAL VOLTAGE												
DES.	MANUFACTURER	CATALOG SERIES	DESCRIPTION	LAMP DATA	VOLTAGE	BALLAST/ DRIVER	MOUNT	CEILING TYPE	FIXTURE DEPTH	LED SYSTEM INPUT WATTAGE	LED DELIVERED LUMENS	OPTIONS / ACCESSORIES	ACCEPTABLE MANUFACTURERS	KEYED NOTE
OA2L	CREE	OSQA-2ME-Z-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE II DISTRIBUTION	4000K LED	208	A	PL	-	25"	53	6,900	01	HUBBELL	1,2,3,5
OA2M	CREE	OSQA-2ME-B-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE II DISTRIBUTION	4000K LED	208	A	PL	-	25"	86	11,400	01	HUBBELL	1,2,3,5
OA2H	CREE	OSQA-2ME-K-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE II DISTRIBUTION	4000K LED	208	A	PL	-	25"	130	17,000	01	HUBBELL	1,2,3,5
OA3L	CREE	OSQA-3ME-Z-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE III DISTRIBUTION	4000K LED	208	A	PL	-	25"	53	6,900	01	HUBBELL	1,2,3,5
OA3M	CREE	OSQA-3ME-B-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE III DISTRIBUTION	4000K LED	208	A	PL	-	25"	86	11,400	01	HUBBELL	1,2,3,5
OA3H	CREE	OSQA-3ME-K-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE III DISTRIBUTION	4000K LED	208	A	PL	-	25"	130	17,000	01	HUBBELL	1,2,3,5
OA4L	CREE	OSQA-4ME-Z-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE IV DISTRIBUTION	4000K LED	208	A	PL	-	25"	53	6,900	01	HUBBELL	1,2,3,5
OA2H	CREE	OSQA-4ME-K-40K-UL-BZ	LED AREA/ROADWAY LUMINAIRE (SINGLE HEAD) - TYPE IV DISTRIBUTION	4000K LED	208	A	PL	-	25"	130	17,000	01	HUBBELL	1,2,3,5
OB1	CREE	SAME AS TYPE 'OA2L'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II / TYPE II DISTRIBUTION (OA2L/OA2L) - FIXTURE HEADS MOUNTED AT 90 DEGREES	4000K LED	208	A	PL	-	25"	53 53	6,900 6,900	01	HUBBELL	1,2,3,5
OB2	CREE	SAME AS TYPE 'OA4L'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE IV/TYPE IV DISTRIBUTION (OA4L/OA4L) - FIXTURE HEADS MOUNTED AT 90 DEGREES	4000K LED	208	A	PL	-	25"	53 53	6,900 6,900	01	HUBBELL	1,2,3,5
OB3	CREE	SAME AS TYPE 'OA2L'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II/TYPE II DISTRIBUTION (OA2L/OA2L) - FIXTURE HEADS MOUNTED AT 180 DEGREES	4000K LED	208	A	PL	-	25"	53 53	6,900 6,900	01	HUBBELL	1,2,3,5
OB4	CREE	SAME AS TYPE 'OA2L' AND 'OA4L'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II/TYPE IV DISTRIBUTION (OA2L/OA4L) - FIXTURE HEADS MOUNTED AT 180 DEGREES	4000K LED	208	A	PL	-	25"	53 53	6,900 6,900	01	HUBBELL	1,2,3,5
OB5	CREE	SAME AS TYPE 'OA2M'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II/TYPE II DISTRIBUTION (OA2M/OA2M) - FIXTURE HEADS MOUNTED AT 180 DEGREES	4000K LED	208	A	PL	-	25"	86 86	11,400 11,400	01	HUBBELL	1,2,3,5
OB6	CREE	SAME AS TYPE 'OA2H' AND 'OA2M'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II/TYPE II DISTRIBUTION (OA2H/OA2M) - FIXTURE HEADS MOUNTED AT 180 DEGREES	4000K LED	208	A	PL	-	25"	130 86	17,000 11,400	01	HUBBELL	1,2,3,5
OB7	CREE	SAME AS TYPE 'OA2M' AND 'OA3M'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II/TYPE III DISTRIBUTION (OA2M/OA3M) - FIXTURE HEADS MOUNTED AT 180 DEGREES	4000K LED	208	A	PL	-	25"	86 86	11,400 11,400	01	HUBBELL	1,2,3,5
OB8	CREE	SAME AS TYPE 'OA2H' AND 'OA2H'	LED AREA/ROADWAY LUMINAIRE (TWIN HEAD) - TYPE II/TYPE II DISTRIBUTION (OA2H/OA2H) - FIXTURE HEADS MOUNTED AT 180 DEGREES	4000K LED	208	A	PL	-	25"	130 130	17,000 17,000	01	HUBBELL	1,2,3,5
OC	SIGNAL-TECH	TCL2222RG-175	OPEN/CLOSE, GREEN/RED LED TRAFFIC CONTROL IGHTING	INTEGRAL LED	120	D	S	ES	2-1/2"	25	-		TAPCO	
													APPROVED EQUAL	
OD2	INVUE	ENC-E01-LED-E1-BL2-BZ-BBB(120)	LED WALL MOUNTED FIXTURE WITH ROUND DIE CAST ALUMINUM HOUSING, FULLY SHIELDED LIGHT SOURCE WITH CLEAR TEMPERED GLASS LENS. TYPE II DISTRIBUTION.	4000K LED	120	D	W	-	8-1/8"	25	2,613	01	LITHONIA	
													MCGRAW EDISON	
OD4	INVUE	ENC-E01-LED-E1-BL4-BZ-BBB(120)	LED WALL MOUNTED FIXTURE WITH ROUND DIE CAST ALUMINUM HOUSING, FULLY SHIELDED LIGHT SOURCE WITH CLEAR TEMPERED GLASS LENS. TYPE IV DISTRIBUTION.	4000K LED	120	D	W	-	8-1/8"	25	2,613	01	LITHONIA	
													MCGRAW EDISON	
OF	ILLUMINATOR	ILH30IH	30' FLAG POLE WITH INTEGRAL, ROTATING LED FLAG LIGHT	4000K LED	120	D	PL	-	-	-	-	02	APPROVED EQUAL	6
OG	PORTFOLIO	LD6B-20-D010 EU6B-1020-80-40 6LB-W-1-H	6" LED ROUND RECESSED, OPEN DOWNLIGHT WITH SELF-FLANGED TRIM. WIDE BEAM DISTRIBUTION, 75 DEGREE BEAM	4000K LED	120	D	R	GWB	5-1/2"	22	2,000	01	GOTHAM	
													PRESCOLITE	
OH	LUMARK	NFFLD-S-C70-D-UNV-66-S-CB-10MSP-PC2-TS2LW-NFFLD	MONUMENT SIGN LED FLOOD LIGHT	4000K LED	208	A	PL	-	7-1/2"	20	2,700	01, 02, 03	BEGA	4
													HUBBELL	
C	METALUX	14GR-LD4-20-F1-UNV-L8 40-CD-1	1'x4', LED FLANGED LENSED TROFFER WITH COLD ROLLED STEEL HOUSING, ACRYLIC LENS, ALUMINUM DOOR FRAME AND MATTE WHITE FINISH.	4000K LED	120	C	R	DW	5-5/8"	20.1	2,084		LITHONIA	
													DAYBRITE	
D	PORTFOLIO	LD4B-15-DE010 EU4B-1020-80-40 4LB-M-1-H	4" LED ROUND RECESSED, OPEN DOWNLIGHT WITH SELF-FLANGED TRIM. MEDIUM BEAM DISTRIBUTION, 50 DEGREE BEAM	4000K LED	120	E	R	VARIES	5-1/2"	15.5	1,500	01	GOTHAM	
													PRESCOLITE	

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SHEET CONTENTS  
SCHEDULES

SHEET NO:

E-601



ELECTRICAL EQUIPMENT WIRING SCHEDULE																						
STARTER/DISCONNECT TYPE:													KEY:									
MX - MANUAL MOTOR SWITCH			2SP - 2 SPEED, 2 WINDING					ECB - ENCLOSED CIRCUIT BREAKER					MFR - MANUFACTURER									
MS - MANUAL MOTOR STARTER (W/OVERLOAD RELAYS)			SW - 2 SPEED, 1 WINDING										F- FUSED									
YD - WYE- DELTA			CS - COMBINATION MAGNETIC CONTROLLER										NF - NON-FUSED									
FV - FULL VOLTAGE			FS - FUSED SWITCH										EC - ELECTRICAL CONTRACTOR									
SS - REDUCED VOLTAGE, SOLID STATE			VFD - VARIABLE FREQUENCY DRIVE										MC - MECHANICAL CONTRACTOR									
RE - REVERSING			RVS - REDUCED VOLTAGE (MAGNETIC)										PC - PLUMBING CONTRACTOR									
EQUIPMENT	EQUIPMENT DESCRIPTION	LOCATION	LOAD					EQUIPMENT		BRANCH WIRING				STARTER			DISCONNECT TYPE AND RATING				KEYED NOTE	
			KW	HP	FLA (AMPS)	MCA (AMPS)	MOCP (AMPS)	VOLTS	PHASE	NO.	SIZE	GND.	C	TYPE	NEMA SIZE	FURNISHED/ INSTALLED BY	TYPE	SIZE / FUSE	NEMA ENCLOSURE	FURNISHED/ INSTALLED BY		
BAF	BARRIER AHEAD FLASHING SIGN	SITE						120	1	2	10	10	1"	-	-	-	-	-	-	-	3	
EF-1	EXHAUST FAN	102	.016					120	1	2	12	12	3/4"	-	-	-	-	-	-	-	6	
EW-H-1	ELECTRICAL WALL HEATER	102	1.5					120	1	2	12	12	3/4"	INTEGRAL			INTEGRAL					
EW-H-2	ELECTRICAL WALL HEATER	104	1.8					120	1	2	12	12	3/4"	INTEGRAL			INTEGRAL					
FDB-1C	FINAL DENIAL BARRIER CONTROLS	SITE						BELDEN PER MANUFACTURE					1"	-	-	-	-	-	-	-	2	
FDB-1H	FINAL DENIAL BARRIER HOSE	SITE						HOSE FURNISHED BY MANUFACTURER					3"	-	-	-	-	-	-	-		
FDB-2C	FINAL DENIAL BARRIER CONTROLS	SITE						BELDEN PER MANUFACTURE					1"	-	-	-	-	-	-	-	2	
FDB-2H	FINAL DENIAL BARRIER HOSE	SITE						HOSE FURNISHED BY MANUFACTURER					3"	-	-	-	-	-	-	-		
FMCP	FIRE ALARM MASS NOTIFICATION CONTROL PANEL	103	1.0					120	1	2	12	12	3/4"	-	-	-	-	-	-	-		
GB	GUARD BOOTH	SITE	7.4					208/120	1	3	6	10	1"	-	-	-	-	-	-	-	5	
GBCVIF	GUARD BOOTH CVIF SUPPORT	107	6.0					208/120	1	3	6	10	1"	-	-	-	-	-	-	-	5	
HPU-1C	HYDRAULIC POWER UNIT CONTROLS	SITE	3					208/120	1	3	6	6	2"	-	-	-	INTEGRAL					
HPU-1M	HYDRAULIC POWER UNIT MOTOR	SITE		3				208	3	3	8	8	2"	INTEGRAL			INTEGRAL					
LS	LOOP SENSOR	SITE	-	-	-	-	-	-	-	-	-	-	1"	-	-	-	-	-	-	-	1,2	
MCP	MAIN CONTROL PANEL	101	0.5					120	1	2	12	12	3/4"	-	-	-	DIRECT CONNECTION					
MTSH	MANUAL TRANSFER SWITCH HEATER	YARD	0.05	-	-	-	-	120	1	2	12	12	3/4"	-	-	-	-	-	-	-		
RTU-1	ROOFTOP UNIT	YARD				20	30	208	1	2	10	10	3/4"	INTEGRAL			INTEGRAL					
SG	SLIDING GATE OPERATOR	SITE		1				208/120	3	4	8	8	2"	INTEGRAL			F	30A/15A	3R	EC/EC	4	
SIGN	SCROLLING SIGN	SITE	1	-	-	-	-	208/120	1	3	8	8	2"	-	-	-	NF	30A/15A	3R	EC/EC		
TS	TRAFFIC SIGNAL	SITE						120	1	2	10	10	1"	-	-	-	-	-	-	-	3	
WBF	WATER BOTTLE FILLER SENSOR	101	.010					101	1	2	12	12	3/4"	-	-	-	DIRECT CONNECTION					
WH	WATER HEATER	102	4.9					208	1	2	10	10	3/4"	INTEGRAL			NF	30A	3R	EC/EC		
WM-1	WATER METER	102	.015	-	-	-	-	120	1	2	12	12	3/4"	-	-	-	DIRECT CONNECTION					
EQUIPMENT SCHEDULE GENERAL NOTES:																						
<div>1. ALL WORK BY THIS CONTRACTOR TO COMPLY WITH ALL LOCAL, STATE AND NATIONAL ELECTRICAL CODES.</div> <div>2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO AVOID CONFLICTS AND TO VERIFY ALL EQUIPMENT CONNECTIONS AND FOR COMPLETE INSTALLATION.</div> <div>3. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE ELECTRICAL SYSTEM PER CONTRACT DRAWINGS AND ENSURING THAT THE SYSTEM IS OPERATIONAL UPON JOB COMPLETION.</div> <div>4. PROVIDE ALL POWER WIRING INCLUDING ALL CIRCUITRY CARRYING ELECTRICAL ENERGY FROM PANELBOARD OR OTHER SOURCE THROUGH STARTERS AND DISCONNECTS TO MOTORS, PACKAGED EQUIPMENT OR PACKAGED CONTROL PANELS. PROVIDE ALL WIRING BETWEEN CONTROL PANELS AND MOTORS. INCLUDE STARTERS, DISCONNECTS AND OVERLOAD PROTECTION IF NOT INCLUDED HVAC SPECIFICATION. COORDINATE WITH HVAC SPECIFICATIONS.</div> <div>5. MOTORS CONNECTED TO EMERGENCY SYSTEMS CIRCUITRY SHALL HAVE CIRCUITRY INSTALLED IN SEPARATE RACEWAY PER NEC ARTICLE 700.</div> <div>6. THIS CONTRACTOR SHALL VERIFY WITH MECHANICAL CONTRACTOR, ELECTRICAL REQUIREMENTS INCLUDING VOLTAGES, HORSE POWER, DISCONNECTING MEANS, STARTERS FOR MOTORS AND EQUIPMENT PRIOR TO ORDERING CIRCUIT BREAKERS, FUSIBLE SWITCHES AND STARTERS.</div> <div>7. ALL INTERLOCKING REQUIRED BY THE DRIVE MANUFACTURER BETWEEN THE VARIABLE FREQUENCY DRIVE AND THE DISCONNECT SWITCHES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.</div>																						
EQUIPMENT SCHEDULE KEYED NOTES:																						
<div>1. CABLE FURNISHED BY MANUFACTURER, INSTALLED AND TERMINATED BY EC. SEE DETAILS 3/E-501 FOR MORE INFORMATION.</div> <div>2. ROUTE POWER/CONTROL FROM LOCATION SHOWN ON PLANS BACK TO RESPECTIVE HYDRAULIC POWER UNIT (HPU).</div> <div>3. POWER SOURCED FROM RESPECTIVE HYDRAULIC POWER UNIT CONTROLS. VERIFY EXACT REQUIREMENTS WITH VEHICLE BARRIER APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN.</div> <div>4. SEE DETAIL 7/E-501 FOR MORE INFORMATION.</div> <div>5. EQUIPMENT FURNISHED BY GOVERNMENT WITH INTEGRAL LOAD CENTER WITH MAIN DISCONNECT. COORDINATE EXACT CONNECTION WITH ACTUAL SUPPLIED EQUIPMENT.</div> <div>6. ON/OFF CONTROL SHALL BE THROUGH LOCAL ROOM OCCUPANCY SENSOR THAT IS ALSO CONTROLLING ROOM LIGHTING.</div>																						

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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170

M&H NO.: 3141900-113782.01

DATE: February 17, 2021

DESIGNED BY: ARG

DRAWN BY: KLU

CHECKED BY: JRH

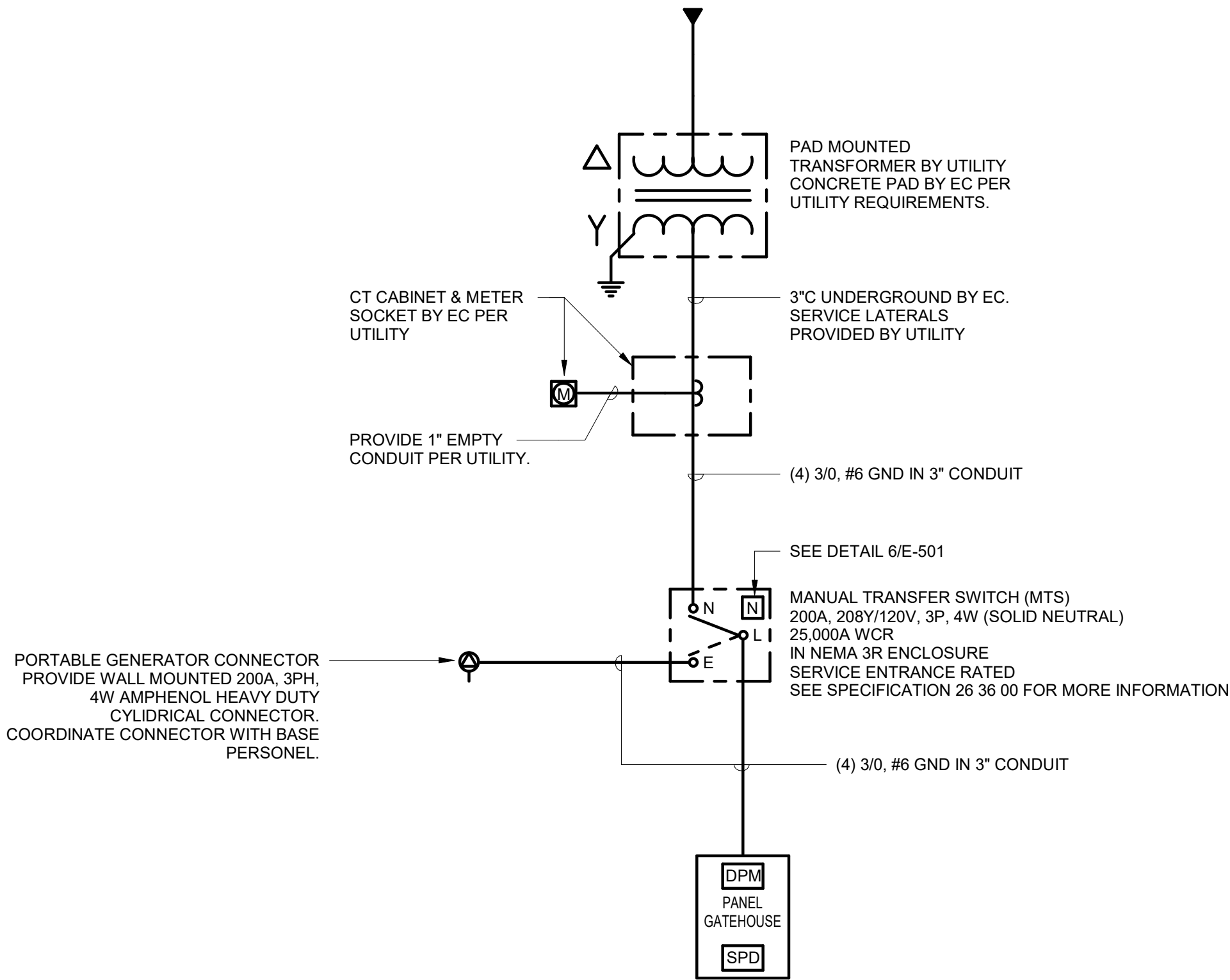
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SHEET CONTENTS  
SCHEDULES

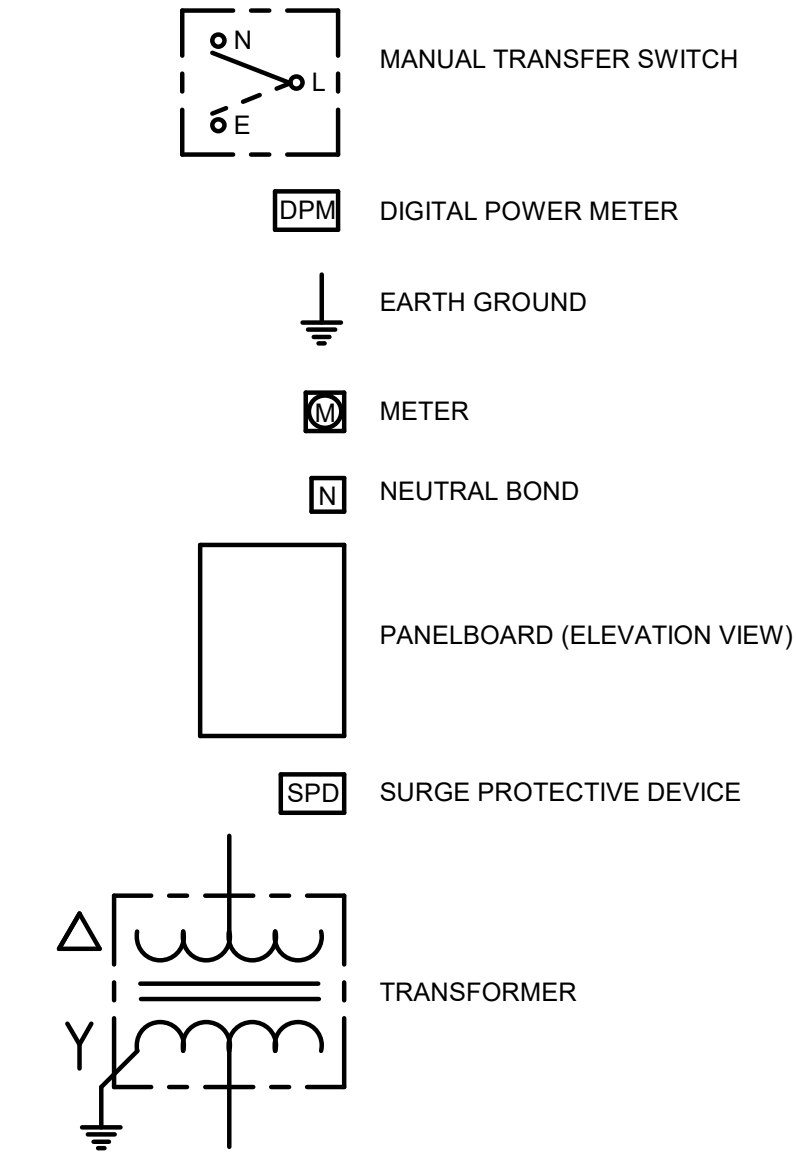
SHEET NO:

E-602

Panelboard:				Panel GATEHOUSE				Panel Source:				UTILITY			
Bus Ampacity				225 Volts		208Y/120		Feed-Thru Lugs		None					
Branch Brkr Space				84 Poles		Phase		4		Sub-Feed Lugs		None			
Main Type				MCB		Wires		Wye Surface		Sub-Feed Brkr #1		None			
MCB Amps				200		Delta/Wye		NEMA 3R		Sub-Feed Brkr #2		None			
						Mounting		22 KA							
						Enclosure		No							
						SE Rated		No							
						Pnl MCA		171 A							
Comments:								SPD		100 kA					
								Iso Grd		No					
Key Note	Load Description	Cct No	Brkr A/P	Left Side			Right Side			Brkr A/P	Cct No	Load Description	Key Note		
	SITE LIGHTS	1	20/2	360			1,000			20/1	2	FACP			
		3			360			500		20/1	4	MCP			
	SITE LIGHTS	5	20/2			470			500	20/1	6	XMITTER AND CNTRLER			
		7		470			180			20/1	8	CVIF RECEPT.			
	SITE LIGHTS	9	20/2		875			180		20/1	10	CVIF RECEPT.			
		11				875			180	20/1	12	CVIF RECEPT.			
	SITE LIGHTS	13	20/2	585			180		180	20/1	14	CVIF RECEPT.			
		15			585			180		20/1	16	CVIF RECEPT.			
	SPARE	17	20/2			0			180	20/1	18	CVIF RECEPT.			
		19		0			180			20/1	20	CVIF RECEPT.			
	GATEHOUSE AND CANOPY LIGHTS	21	20/1		750			0		20/1	22	SPARE			
	CVIF CANOPY LIGHTS	23	20/1			400			0	20/1	24	SPARE			
	RTU-1	25	30/2	2,080			552			20/3	26	SG - ENTRY LANE			
		27			2,080			552			28				
	YARD AND #103 RECEPT.	29	20/1			360			552		30				
	#104, #102, #101 RECEPT.	31	20/1	540			552			20/3	32	SG - EXIT LANE			
	EW-H-1	33	20/1		1,500			552			34				
	EW-H-2	35	20/1			1,800			552		36				
	WH-1	37	30/2	2,450			0			20/3	38	SPARE			
		39			2,450			0			40				
		41				0			0		42				
	GB	43	60/2	3,700			1,272			20/3	44	HPU-1M			
		45			3,700			1,272			46				
	GB	47	60/2			3,700			1,272		48				
		49		3,700			1,500			20/2	50	HPU-1C			
	RECEPT BADG. COUNTER	51	20/1		1,080			1,500			52				
	RECEPT WEST COUNTER	53	20/1			720			0	20/2	54	SPARE			
	TELECOM RECEPT	55	30/1	1,000			0				56				
	TELECOM RECEPT	57	20/1		1,000			0		20/1	58	SPARE			
	RECEPT. SOUTH	59	20/1			720			0	20/1	60	SPARE			
	RECEPT. SOUTH	61	20/1	720			0			20/1	62	SPARE			
	RECEPT. MONITORS	63	20/1		540			0		20/1	64	SPARE			
	RECEPT UCR	65	20/1			500			0	20/1	66	SPARE			
G	RECEPT HANDHOLE	67	20/1	180			0			20/1	68	SPARE			
	MTSH	69	20/1		50			0		20/1	70	SPARE			
	RECEPT. EXT.	71	20/1			360			0	20/1	72	SPARE			
		73		0			0				74				
		75			0			0			76				
		77				0			0		78				
		79		0			0				80				
	GBCVIF	81	60/2		3,000			0			82				
		83				3,000			0		84				
Key Notes: A=HACR G=GFI H=HANDLE LOCK C=THRU CONTACTOR I=ISOLATED GRD S=SHUNT TRIP P=PADLOCK HASP D=HID LIGHTING E=EXISTING															



## ONE-LINE SYMBOLS



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## MICHIGAN AIR NATIONAL GUARD CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL



ANG Project No.: MBMV099170  
M&H NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: ARG  
DRAWN BY: KLU  
CHECKED BY: JRH

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SHEET CONTENTS  
ONE-LINE DIAGRAM

SHEET NO.:

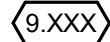
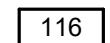


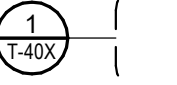

E-701

TECHNOLOGY OUTLET SCHEDULE			
SYMBOL	DESCRIPTION	MOUNTING	COMMENTS
	<b>TWO-PORT TECHNOLOGY OUTLET:</b> - (1) 1" CONDUIT - (1) 4-11/16" SQUARE x 2-5/8" DEEP BACKBOX WITH SINGLE GANG TRIM - (1) SINGLE-GANG, TWO-PORT FACEPLATE - (2) CATEGORY 6 CABLES - (2) CATEGORY 6 JACKS	18" AFF TO CENTER OF BOX U.N.O.	
	<b>FLAT-PANEL DISPLAY TECHNOLOGY OUTLET:</b> - (1) 1" CONDUIT STUB - (1) 4-11/16" SQUARE x 2-5/8" DEEP BACKBOX WITH SINGLE GANG TRIM RING - (1) SINGLEGANG, TWO-PORT FACEPLATE - (2) CATEGORY 6 JACKS - (2) CATEGORY 6 CABLES		

TECHNOLOGY OUTLET SCHEDULE NOTES:

- REFER TO DIVISION 26 SPECIFICATIONS FOR BOX AND CONDUIT SPECIFICATIONS AND EXECUTION REQUIREMENTS.




GENERAL SYMBOLS

X/T-XXX	DETAIL NUMBER / SHEET NUMBER
	KEYED NOTE, USED TO DESCRIBE ADDITIONAL INFORMATION OF WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DEAIL IT IS SHOWN WITH
IT ROOM 	ROOM NAME AND NUMBER
	DOOR IDENTIFICATION
	BUILDING SECTION
	ENLARGED PLAN
	INTERIOR ELEVATION





SITE SYMBOLS

	HANDHOLE, GENERIC
---	-------------------


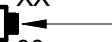
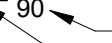





LINE TYPE KEY

	NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)
	EXISTING TO BE REMOVED BY THIS CONTRACTOR (DARK DASHED LINE)
	NEW WORK UNDER FLOOR BY THIS CONTRACTOR



SECURITY SYSTEM SYMBOLS

	CARDREADER
	STATUS SENSOR / MONITOR
	ELECTRIC STRIKE
	ACCESS CONTROL PANEL

VIDEO SURVEILLANCE SYMBOLS

VIDEO SURVEILLANCE CAMERA:	
	CAMERA ID
	APPROXIMATE VIEWING DIRECTION
	HORIZONTAL VIEWING ANGLE
CAMERA TYPE:	
C: DETENTION CORNER	
F: FIXED W/ VARIFOCAL LENS	
M: MULTISENSOR	
O: FISHEYE	
P: PAN-TILT-ZOOM	
MOUNTING MODIFIERS:	
	CEILING MOUNT
	WALL MOUNT
	POLE MOUNT
	EXTERIOR CORNER MOUNT (MOUNTING HEIGHT 84" AFF, UNO)
	INTERIOR CORNER MOUNT

COMMUNICATIONS SYMBOLS

	COMMUNICATIONS CABINET
	TELECOMMUNICATIONS GROUNDING BUS BAR

TECHNOLOGY ABBREVIATIONS

&	AND
3R	NEMA 3R RATED
4X	NEMA 4X RATED
@	AT
A/E	ARCHITECT / ENGINEER
ACS	ACCESS CONTROL SYSTEM
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISH GRADE
ALT	ALTERNATE
ANT	ANTENNA
AP	(WIRELESS) ACCESS POINT
AV	AUDIO VISUAL
BET	BUILDING ENTRANCE TERMINAL
BID	BAGGAGE INFORMATION DISPLAY
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CATV	COMMUNITY ANTENNA TELEVISION
CL	CENTERLINE
CLG	CEILING
COAX	COAXIAL
COMM	COMMUNICATIONS
DO	DOOR OPERATOR
DSS	DIGITAL SATELLITE SERVICE
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
ETR	EXISTING TO REMAIN
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FID	FLIGHT INFORMATION DISPLAY
FO	FIBER OPTIC
FPD	FLAT-PANEL DISPLAY
GC	GENERAL CONTRACTOR
GID	GATE INFORMATION DISPLAY
GND	GROUND
GRG	GALVANIZED RIGID CONDUIT
GRS	GALVANIZED RIGID STEEL
HH	HAND HOLE
HPC	HIGH PAIR COUNT
HVAC	HEATING, VENTILATION, AIR CONDITIONING
IDF	INTERMEDIATE DISTRIBUTION FRAME
IDS	INTRUSION DETECTION SYSTEM
IMC	INTERMEDIATE METALLIC CONDUIT
IT	INFORMATION TECHNOLOGY
ITS	INFORMATION TRANSPORT SYSTEMS
JB	JUNCTION BOX
MAX	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME
MH	MAN HOLE
MIN	MINIMUM
MMFO	MULTIMODE FIBER OPTIC
MNS	MASS NOTIFICATION SYSTEM
MON	MONITOR
MTD	MOUNTED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NTWK	NETWORK (DATA)
OC	ON CENTER
PA	PUBLIC ADDRESS
PROJ	PROJECTOR
PTZ	PAN - TILT - ZOOM
PVC	POLYVINYL CHLORIDE
RCV	RECEIVER
REQ'D	REQUIRED
SCHED	SCHEDULE
SE	SERVICE ENTRANCE
SMFO	SINGLEMODE FIBER OPTIC
SS	STAINLESS STEEL
SYS	SYSTEM
TBR	TO BE REMOVED
TC	TECHNOLOGY CONTRACTOR
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TO	TELECOMMUNICATIONS OUTLET
TSE	TELEPHONE SERVICE EQUIPMENT
TV	TELEVISION
TYP	TYPICAL
UF	UNDER FLOOR
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UTP	UNSHIELDED TWISTED PAIR
VSS	VIDEO SURVEILLANCE SYSTEM
WL	WET LOCATION LISTED
WP	WEATHERPROOF
WS	WORKSTATION

GENERAL NOTES

- PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO INSTALL COMPLETE TECHNOLOGY SYSTEMS AS INDICATED ON THESE DRAWINGS AND AS SPECIFIED.
- THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DETAILS OF WORK, VERIFY DIMENSIONS IN THE FIELD, AND ADVISE THE ARCHITECT/ENGINEER OF ANY DISCREPANCY BEFORE PERFORMING ANY WORK.
- COORDINATE LOCATION AND MOUNTING REQUIREMENTS OF ALL CEILING-MOUNTED OR ABOVE-CEILING-MOUNTED DEVICES WITH REFLECTED CEILING PLAN, LIGHTING LAYOUT, SIGNAGE, AND OTHER CEILING OR ABOVE-CEILING-MOUNTED EQUIPMENT.
- MOUNT ALL TECHNOLOGY OUTLETS AT HEIGHTS ABOVE FINISHED FLOOR AS SHOWN IN THE TECHNOLOGY OUTLET SCHEDULE U.N.O.
- MOUNT TECHNOLOGY SYSTEMS EQUIPMENT/DEVICES SO AS TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TECHNOLOGY SYSTEMS EQUIPMENT/DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE COORDINATED WITH AND APPROVED BY THAT CONTRACTOR IN ADVANCE OF INSTALLATION.
- PROVIDE ALL OPENINGS REQUIRED IN WALLS. REPAIR ALL OPENINGS TO MATCH EXISTING USING A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. GROUT OR SEAL ALL CONDUITS THROUGH WALLS INTO OPENINGS. FIRESTOP ALL PENETRATIONS THROUGH FLOORS AND FIRE-RATED WALLS IN A MANNER THAT MAINTAINS THE RATING OF THE FLOOR OR WALL PENETRATED.
- PROVIDE ALL TRENCHING AND BACKFILL FOR BURIED TECHNOLOGY SYSTEMS CONDUITS UNLESS NOTED OTHERWISE.
- PROVIDE METALLIC TAPE ABOVE BURIED PVC CONDUIT FOR FUTURE LOCATING.
- CONDUIT ROUTED UNDER THE BUILDING SHALL BE MINIMUM 18" BELOW SLAB.

Mead & Hunt

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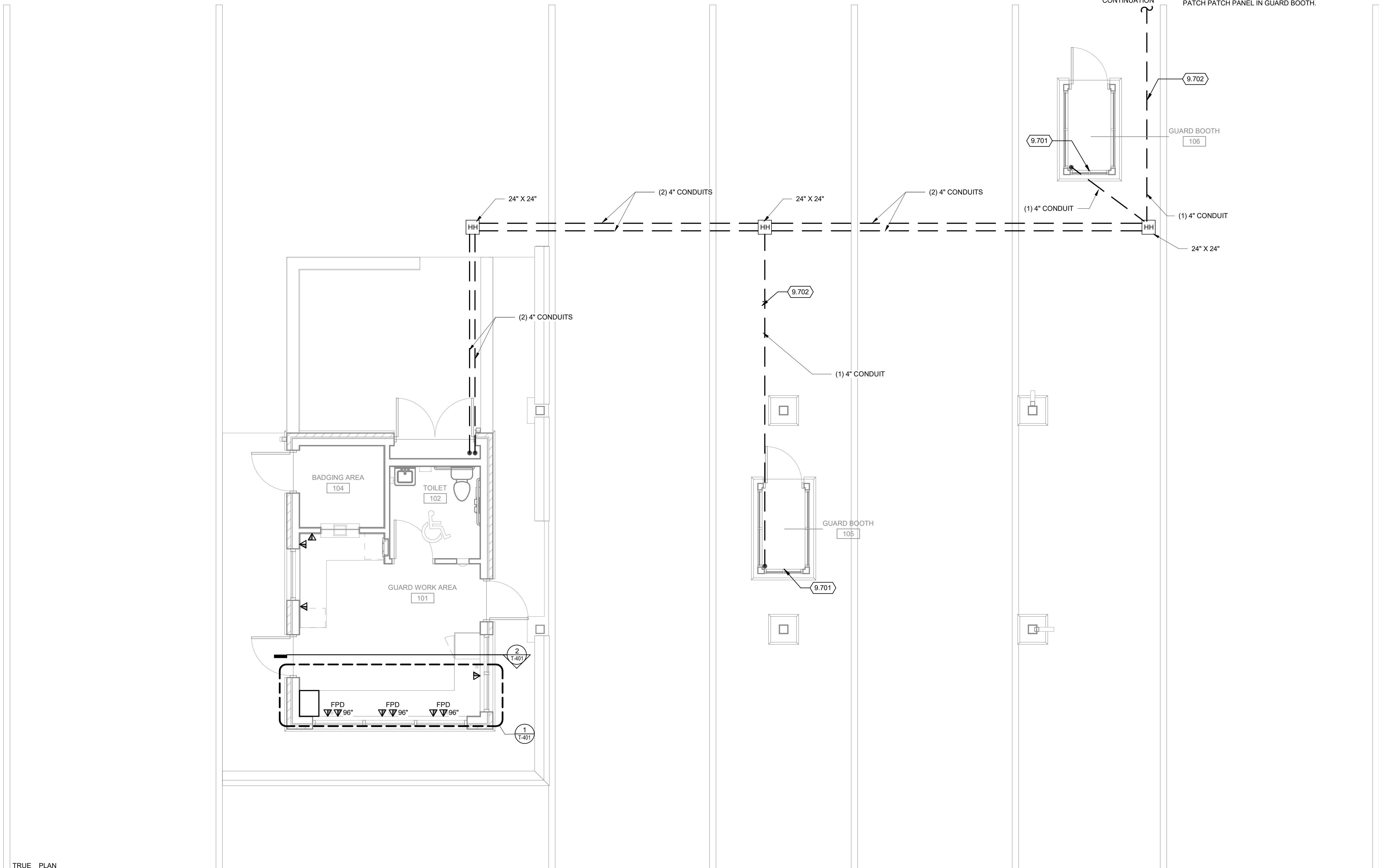
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SHEET CONTENTS  
NOTES, SYMBOLS &  
ABBREVIATIONS

SHEET NO.:

T-001

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COMMUNICATIONS GENERAL NOTES

1. REFER TO T-001 FOR NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO T-500 SERIES FOR DETAILS.
3. REFER TO C-400 SERIES SHEETS FOR ADDITIONAL TELECOMMUNICATION REQUIREMENTS.

KEYED NOTES

- 9.701 12-PORT MINI PATCH PANEL
- 9.702 PROVIDE (6) CATEGORY 6 COPPER CABLES BETWEEN GATEHOUSE AND GUARD BOOTH. TERMINATE ON PATCH PANEL IN GATEHOUSE AND MINI PATCH PATCH PANEL IN GUARD BOOTH.

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SHEET CONTENTS  
GATEHOUSE FIRST  
FLOOR  
COMMUNICATIONS  
PLAN

SHEET NO.:

T-101



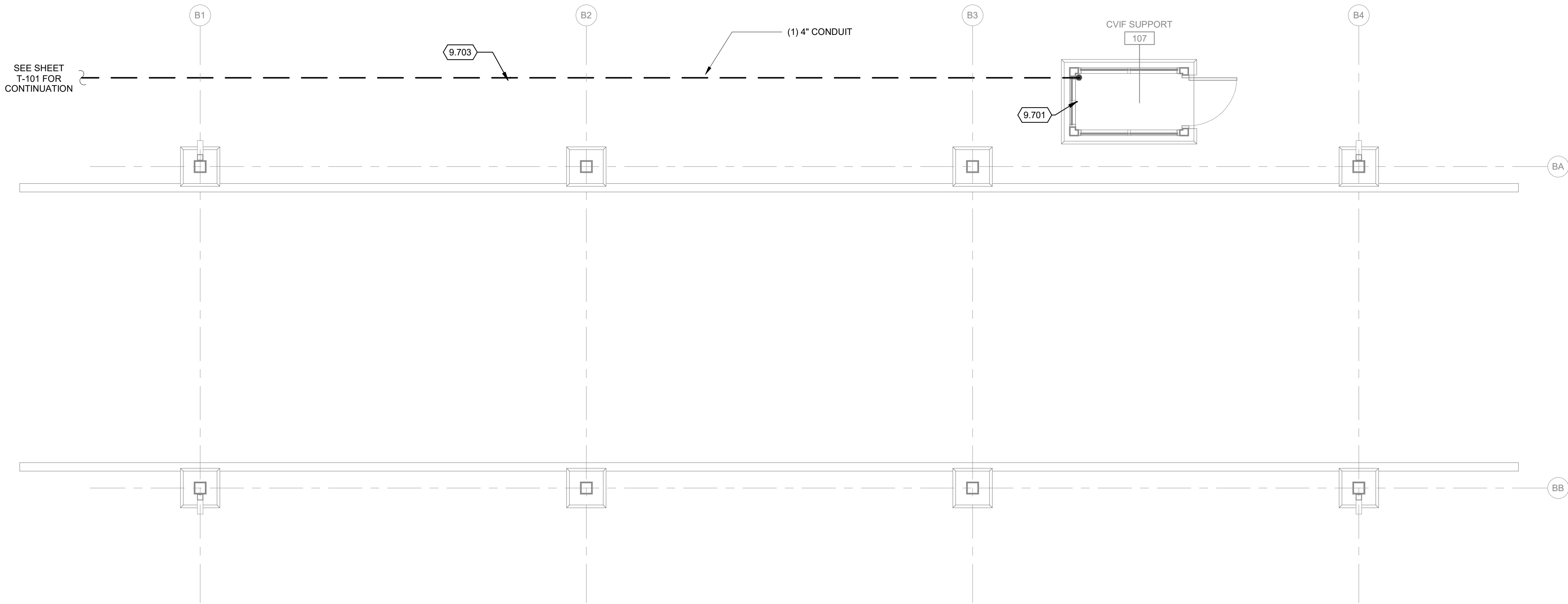
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TRUE PLAN  
NORTH NORTH

CVIF FIRST FLOOR COMMUNICATIONS PLAN

1/4" = 1'-0"



COMMUNICATIONS GENERAL NOTES

1. REFER TO T-001 FOR NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO T-500 SERIES FOR DETAILS.
3. REFER TO C-400 SERIES SHEETS FOR ADDITIONAL TELECOMMUNICATION REQUIREMENTS.

KEYED NOTES

- 9.701 12-PORT MINI PATCH PANEL
- 9.703 PROVIDE (6) CATEGORY 6 COPPER CABLES BETWEEN GATEHOUSE AND CVIF SUPPORT. TERMINATE ON PATCH PANEL IN GATEHOUSE AND MINI PATCH PATCH PANEL IN CVIF SUPPORT.

Mead  
& Hunt

Mead & Hunt, Inc.  
2440 Deming Way  
Middleton, WI 53562  
phone: 608-273-6380  
meadhunt.com



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MICHIGAN AIR NATIONAL GUARD  
CONSTRUCT MAIN BASE ENTRANCE

BATTLE CREEK ANGB  
BATTLE CREEK, MICHIGAN

ISSUED  
02/17/21 B3 FINAL

ANG Project No.: MBMV099170  
MSH NO.: 3141900-113782.01  
DATE: February 17, 2021  
DESIGNED BY: MJR  
DRAWN BY: RKK  
CHECKED BY: JRM

DO NOT SCALE DRAWINGS

SHEET CONTENTS  
CVIF FIRST FLOOR  
COMMUNICATIONS  
PLAN

SHEET NO.:

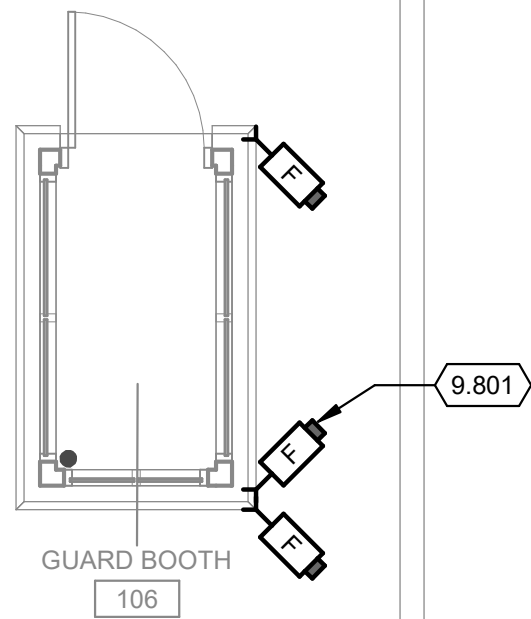
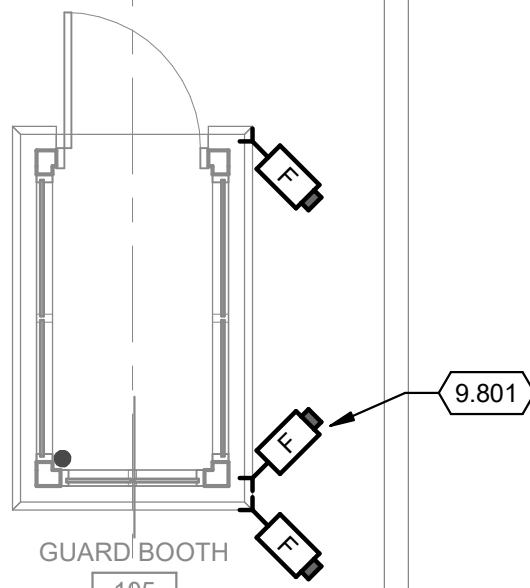
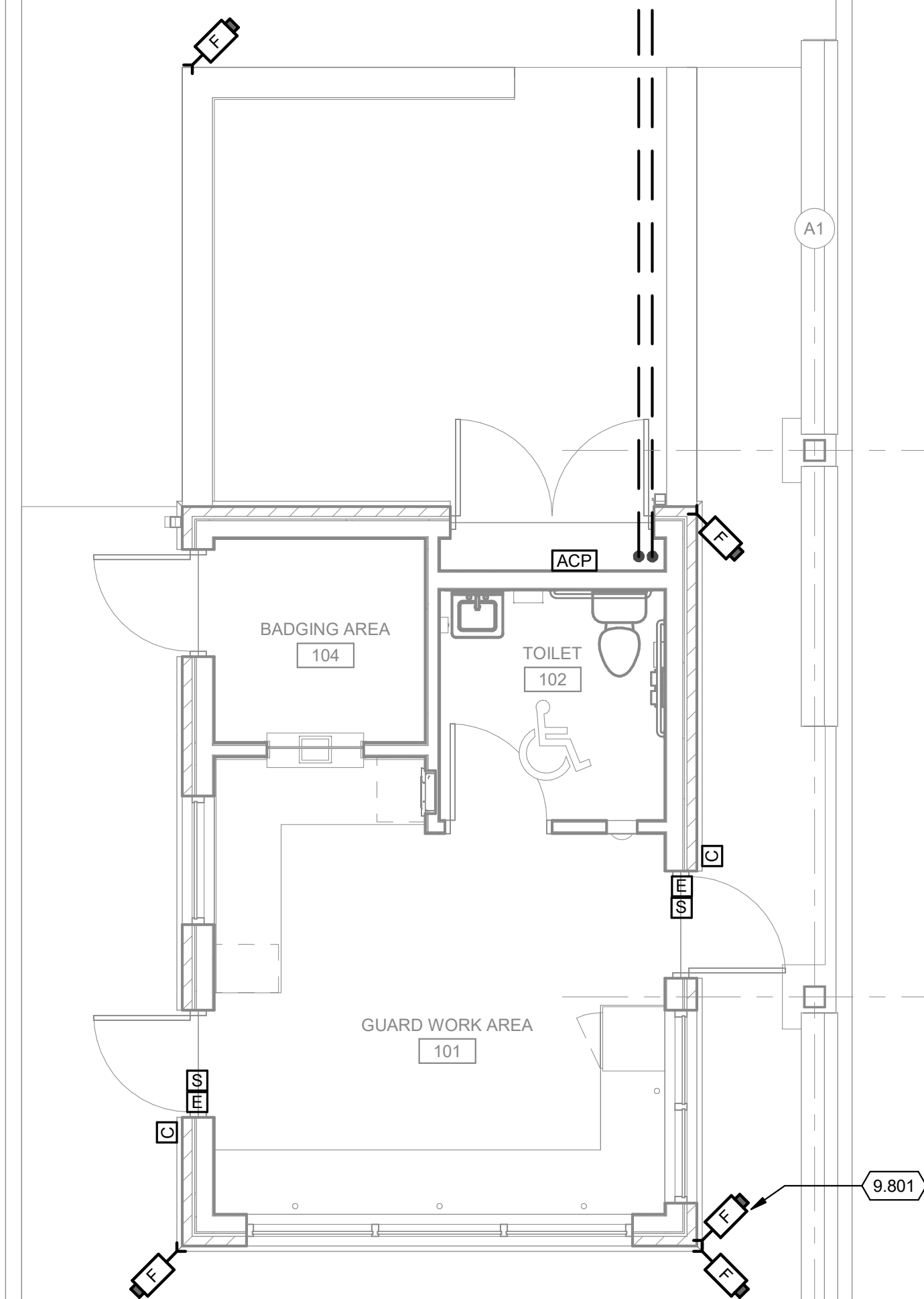
T-102

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GATEHOUSE FIRST FLOOR SECURITY PLAN

1/4" = 1'-0"



9.801 32" AFF MOUNTING HEIGHT.

SECURITY GENERAL NOTES

1. REFER TO T-001 FOR NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO T-500 SERIES FOR DETAILS.
3. ALL CAMERAS TERMINATE ON MINI-PATCH PANEL IN GUARD BOOTH.

KEYED NOTES

**Mead & Hunt**  
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SHEET CONTENTS  
GATEHOUSE FIRST  
FLOOR SECURITY  
PLAN

SHEET NO.:

T-121

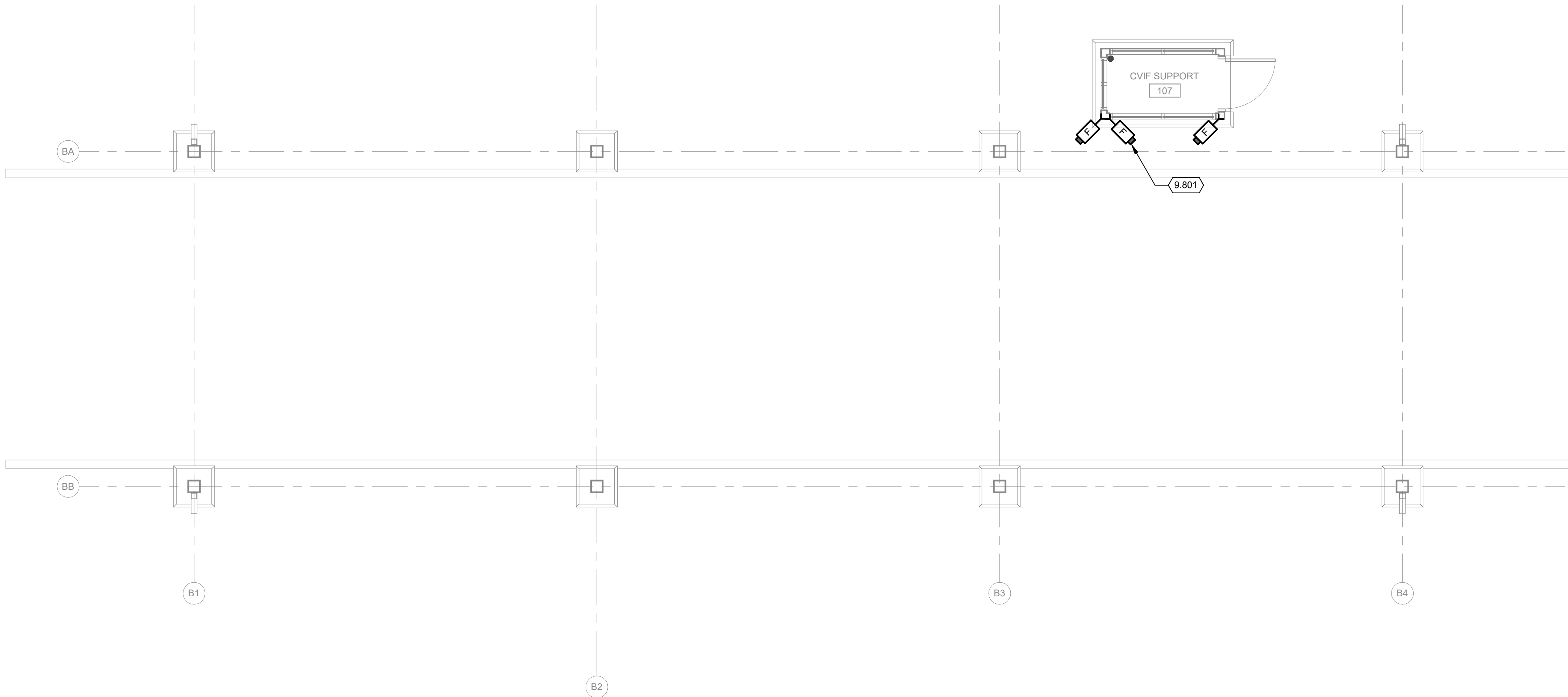
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1

CVIF FIRST FLOOR SECURITY PLAN

1/4" = 1'-0"



SECURITY GENERAL NOTES

1. REFER TO T-001 FOR NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO T-500 SERIES FOR DETAILS.
3. ALL CAMERAS TERMINATE ON MINI-PATCH PANEL IN CVIF SUPPORT.

KEYED NOTES

9.801 32" AFF MOUNTING HEIGHT.

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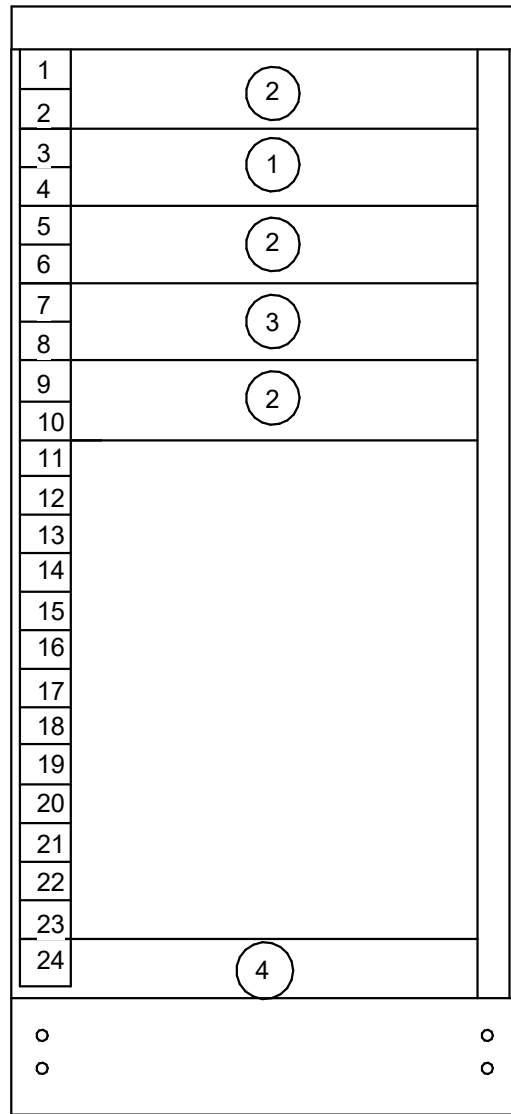
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SHEET CONTENTS  
CVIF FIRST FLOOR  
SECURITY PLAN

SHEET NO.:

T-122

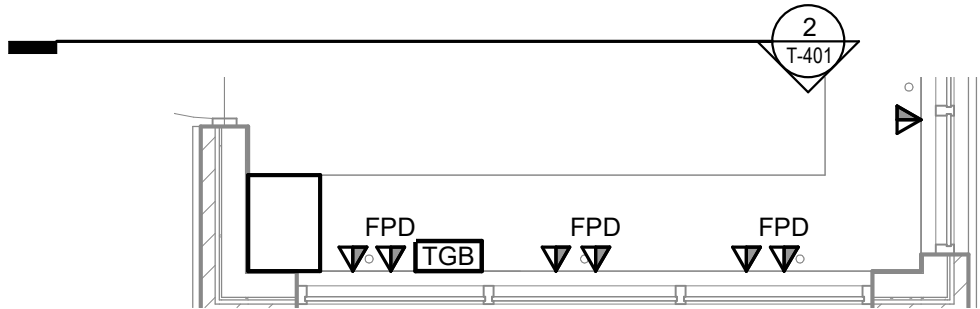
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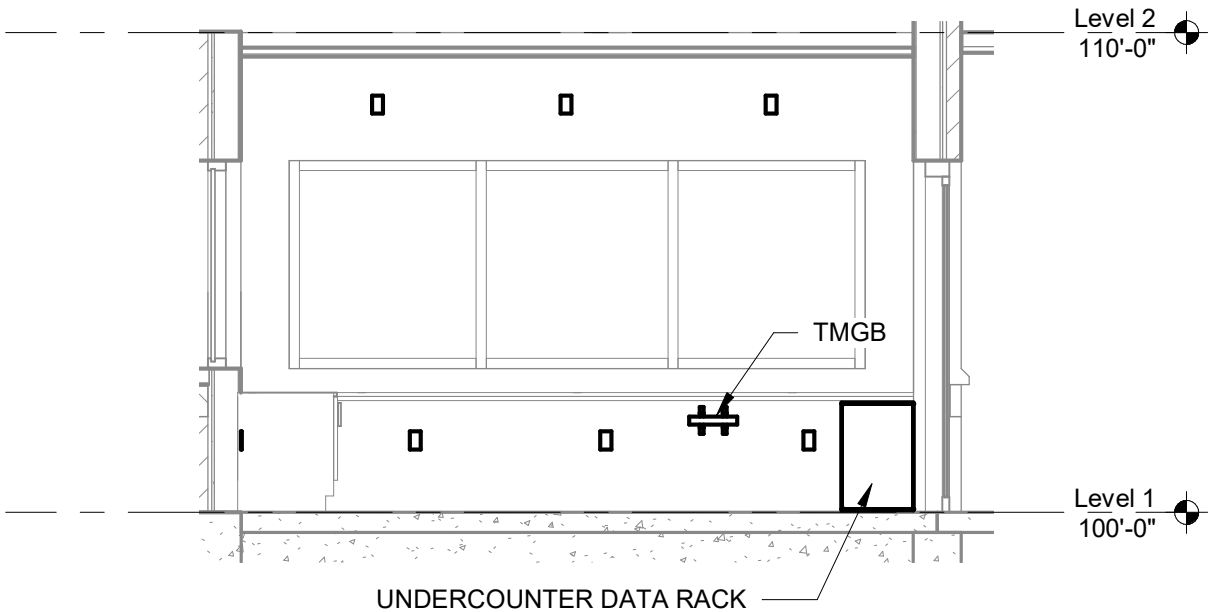
3 CABINET - WALL  
NO SCALE

EQUIPMENT SCHEDULE	
1	FIBER OPTIC PATCH PANEL
2	WIRE MANAGER
3	48 - PORT COPPER PATCH PANEL CAT6
4	RACK MOUNT GROUNDING-BAR

NOTES:  
1. EQUIPMENT LOCATION IS SHOWN TO ILLUSTRATE INTENT, ACTUAL LOCATION WITHIN RACK SHALL BE DETERMINED BY CONTRACTOR.



1 ENLARGED GUARD WORK AREA 101  
1/4" = 1'-0"



2 GUARD WORK AREA 101 ELEVATION  
1/4" = 1'-0"



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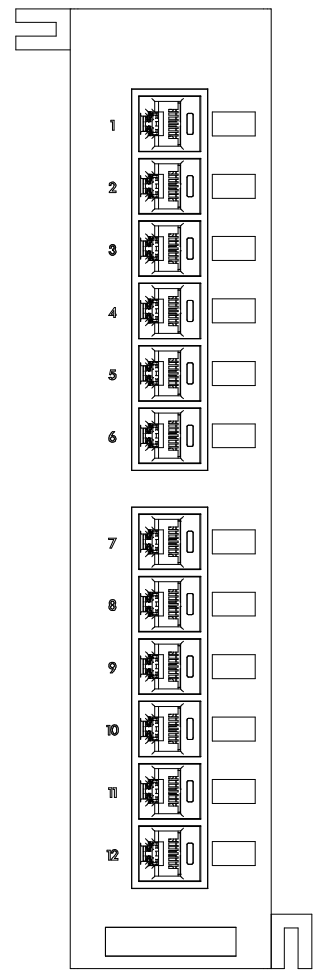
DO NOT SCALE DRAWINGS  
SHEET CONTENTS  
ENLARGED PLANS,  
ELEVATIONS &  
SECTIONS

SHEET NO.:

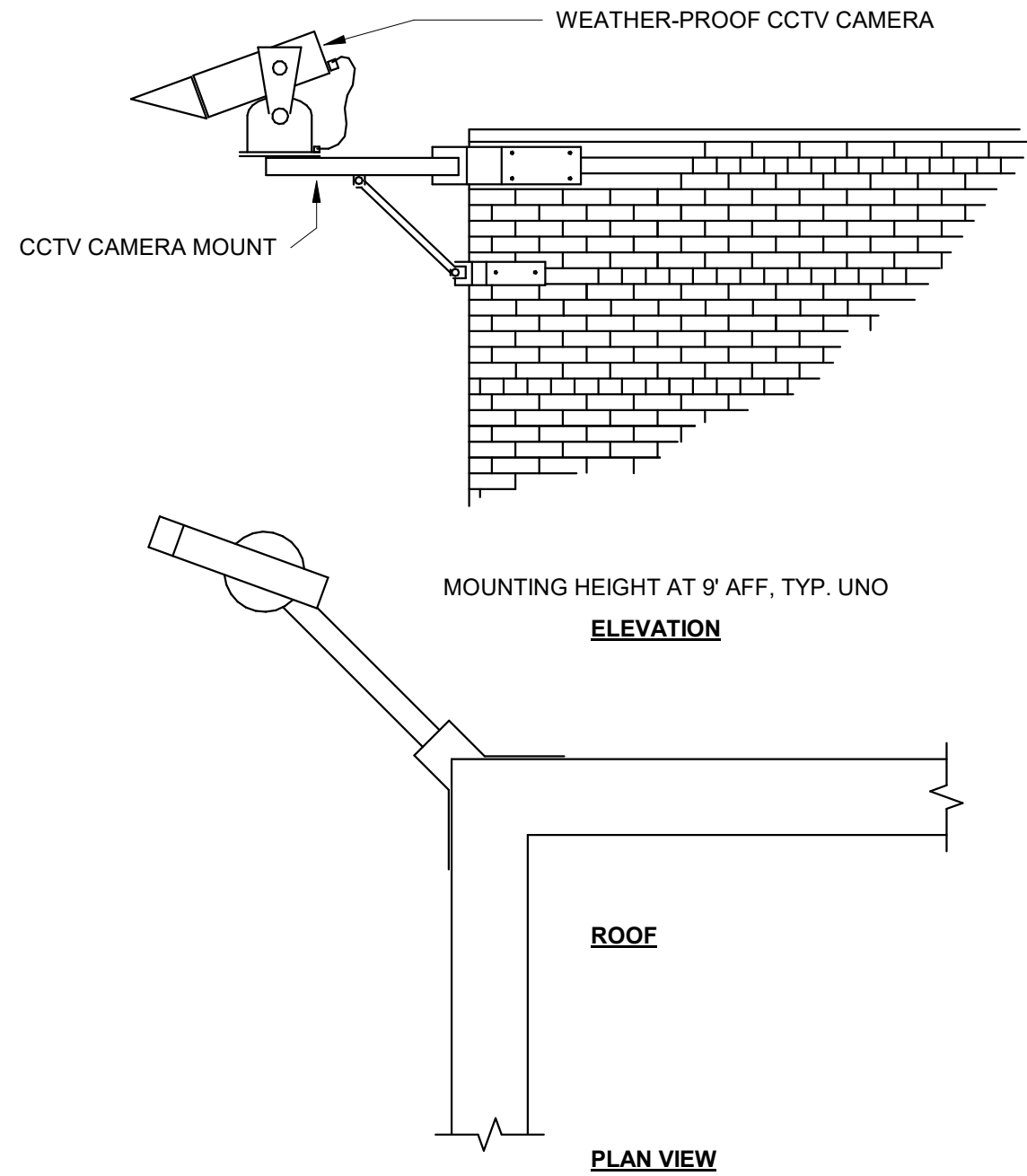
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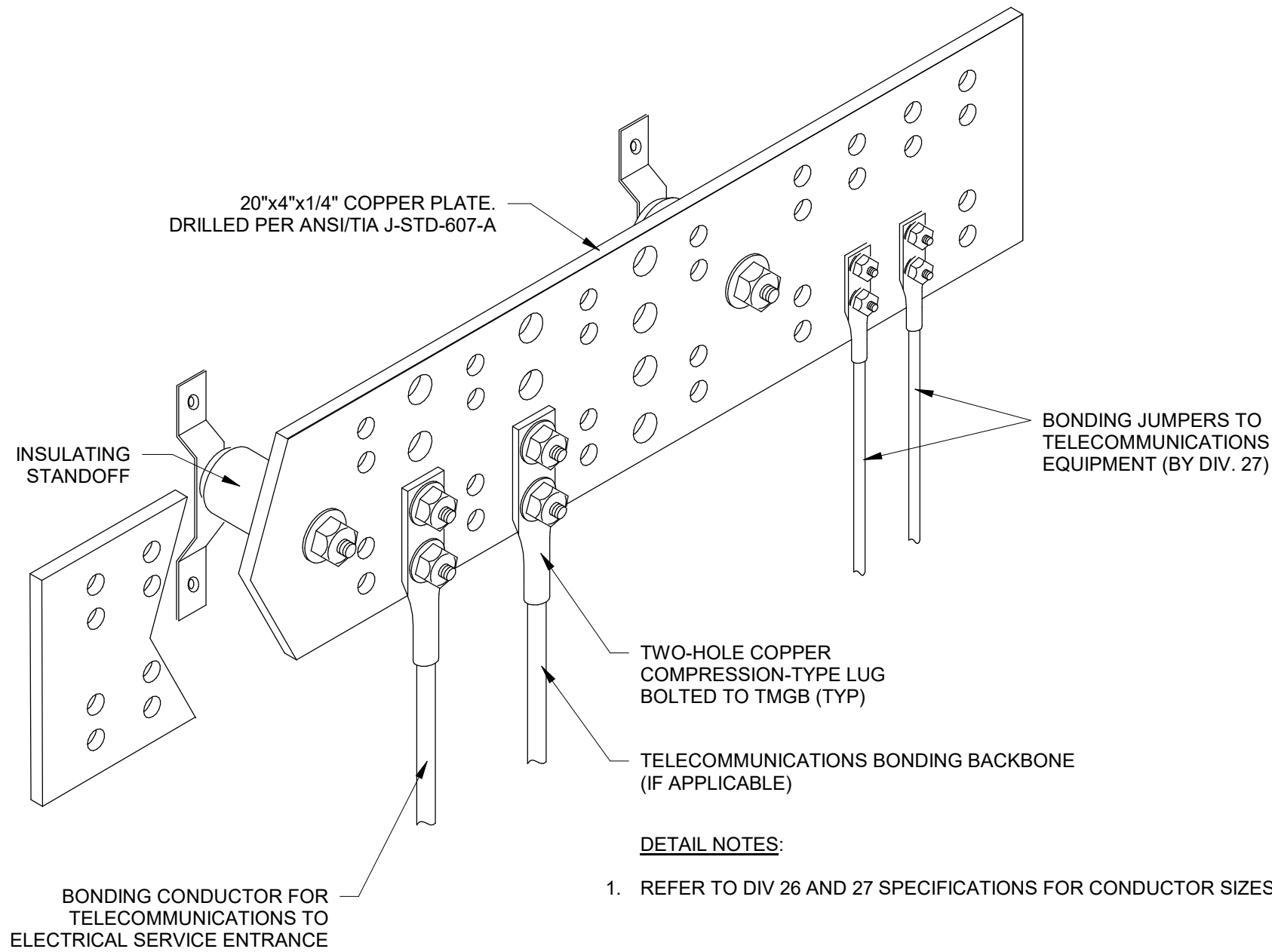
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**3 12-PORT MINI PATCH PANEL**  
NO SCALE



**1 CAMERA MOUNT DETAIL - CORNER**  
NO SCALE



**DETAIL NOTES:**  
1. REFER TO DIV 26 AND 27 SPECIFICATIONS FOR CONDUCTOR SIZES.

**2 GROUND BUSBAR DETAIL**  
NO SCALE



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SHEET CONTENTS  
DETAILS

SHEET NO.:

**T-501**