

INSTALL AIR COMPRESSOR SYSTEM

IKE SKELTON TRAINING SITE

JEFFERSON CITY, MISSOURI

SHEET INDEX

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CASCO

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CASCO DIVERSIFIED CORPORATION
MISSOURI STATE CERTIFICATE OF AUTHORITY #000613 (ENG)
MISSOURI STATE CERTIFICATE OF AUTHORITY #000329 (ARCH)

OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DEPARTMENT OF
MISSOURI NATIONAL GUARD

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

ADDRESS:
2302 MILITIA DRIVE
JEFFERSON CITY, MO 65101



VICINITY MAP

DESIGNER: CASCO DIVERSIFIED CORP.

PROJECT NUMBER: T2336-01

SITE NUMBER: 6300
FACILITY NUMBER: 8136300007



MICHAEL S. SUNDERMEYER
License Number: 2014026855
Expiration Date: 12/31/24

G-001

BUILDING DESIGN DATA:

GOVERNING BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE (IBC)

1. ROOF DEAD LOADS, D
 - STANDING SEAM METAL ROOF UNDERLAYMENT INSULATION ROOF SHEATHING PURLINS MECHANICAL, ELECTRICAL, & FIRE PROTECTION
2. MINIMUM ROOF LIVE LOADS, Lr
 - A. METAL DECK = 20 PSF
 - B. JOISTS, JOIST GIRDERS, BEAMS, COLUMNS, & FOOTINGS
 - 1- TRIBUTARY LOADED AREA (A1): 0 TO 200 SF. = 20 PSF
 - 2- TRIBUTARY LOADED AREA (A1): 201 TO 599 SF. = 20(1.2-0.001'A1) PSF
 - 3- TRIBUTARY LOADED AREA (A1): 600 SF. AND GREATER = 12 PSF
4. ROOF SNOW LOADS, S
 - A. GROUND SNOW LOAD, Pg = 20 PSF
 - B. SNOW EXPOSURE FACTOR, Ce = 1.0
 - C. SNOW LOAD IMPORTANCE FACTOR, Is = 1.0
 - D. THERMAL FACTOR, Ct = 1.0
 - E. MINIMUM ROOF SNOW LOAD*, Pm = 20 PSF (GOVERNS)
4. WIND LOADS, W
 - A. BASIC WIND SPEED (S SECOND GUST), V = 115 MPH
 - B. WIND LOAD IMPORTANCE FACTOR, Iw = 1.0
 - C. BUILDING CATEGORY: ENCLOSED, SIMPLE DIAPHRAGM
 - D. OVERALL EXPOSURE CATEGORY: C
 - E. HEIGHT AND EXPOSURE ADJUSTMENT COEFFICIENT = 1.26 (Kzt=1.0)
 - F. MAIN-WIND-FORCE-RESISTING-SYSTEM WIND DESIGN (ULTIMATE) PRESSURES, W:

MFWRS WIND DESIGN PRESSURES			
LOCATION			DESIGN PRESSURE (PSF)
HORIZONTAL	-INTERIOR ZONE		17.5
	-END ZONE **		26.4
	* THE TOTAL HORIZONTAL LOAD EFFECT ON THE BUILDING SHALL NOT BE LESS THAN THAT BY ASSUMING THAT THE WIND PRESSURES IN ALL ZONES IS EQUAL TO 16.0 PSF		
VERTICAL	MAXIMUM WINDWARD ROOF PRESSURE		
	-INTERIOR ZONE		-22.0
	-END ZONE **		-31.7
	MAXIMUM LEEWARD ROOF PRESSURE		
-INTERIOR ZONE		-14.0	
-END ZONE **		-18.0	

G. COMPONENTS AND CLADDING WIND DESIGN (SERVICE LOAD) PRESSURES: PER TABLE BELOW.

COMPONENTS AND CLADDING WIND DESIGN PRESSURES (PSF)				
ZONE*	EFFECTIVE WIND AREA (SF)	WINDWARD PRESSURE	LEEWARD PRESSURE	
			ROOF	WALLS
1	10	10.0	-18.0	
	20	10.0	-17.5	
	50	10.0	-16.9	
	100	10.0	-16.5	
	500	10.0	-16.5	
2	10	10.0	-30.1	
	20	10.0	-26.9	
	50	10.0	-22.7	
	100	10.0	-19.5	
	500	10.0	-19.5	
3	10	10.0	-45.4	
	20	10.0	-37.6	
	50	10.0	-27.2	
	100	10.0	-19.5	
	500	10.0	-19.5	
4	10	18.0	-19.5	
	20	17.1	-18.6	
	50	16.1	-17.6	
	100	15.2	-16.8	
	500	13.4	-14.9	
5	10	18.0	-24.1	
	20	17.1	-22.4	
	50	16.1	-20.3	
	100	15.2	-18.6	
	500	13.4	-14.9	

- * ZONE 1 INCLUDES THOSE ROOF ELEMENTS LOCATED OUTSIDE OF 8 FEET OF A ROOF EDGE.
- ZONE 2 INCLUDES THOSE ROOF ELEMENTS LOCATED WITHIN 8 FEET OF A ROOF EDGE.
- ZONE 3 INCLUDES THOSE ROOF ELEMENTS LOCATED WITHIN 8 FEET OF A ROOF EDGE AND WITHIN 12 FEET OF A BUILDING CORNER.
- ZONE 4 INCLUDES THOSE WALL ELEMENTS LOCATED OUTSIDE OF 8 FEET OF A BUILDING CORNER.
- ZONE 5 INCLUDES THOSE WALL ELEMENTS LOCATED WITHIN 8 FEET OF A BUILDING CORNER.

6. SEISMIC DESIGN DATA
 - A. SEISMIC USE GROUP = I
 - B. MAPPED SPECTRAL RESPONSE COEFFICIENTS
 - 1- Ss = 0.207
 - 2- S1 = 0.108
 - C. SITE CLASS = E
 - D. SPECTRAL RESPONSE COEFFICIENTS
 - 1- Sps = 0.322
 - 2- Ss1 = 0.305
 - E. SEISMIC DESIGN CATEGORY = D
 - F. BASIC SEISMIC-FORCE-RESISTING SYSTEM: BEARING WALL SPECIAL REINFORCED MASONRY SHEAR WALLS
 - G. RESPONSE MODIFICATION COEFFICIENT = 5.0
 - H. DEFLECTION AMPLIFICATION FACTOR = 3.5
 - I. SYSTEM OVERSTRENGTH FACTOR = 2.5
 - J. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
 - K. BASE SHEAR: V = 11.6 kips

FOUNDATIONS:

1. THE CONCRETE SHALLOW SPREAD FOOTINGS HAVE BEEN DESIGNED TO BEAR ON SOIL CAPABLE OF SUPPORTING A NET ALLOWABLE BEARING PRESSURE OF 1500 PSF. THE GENERAL CONTRACTOR SHALL HIRE A QUALIFIED INSPECTION/TESTING AGENCY TO PERFORM AND DOCUMENT ALL APPLICABLE FIELD INSPECTIONS AND TESTS IN ACCORDANCE WITH THE SPECIAL INSPECTIONS SCHEDULE (THIS SHEET) PRIOR TO CONCRETE PLACEMENT.
2. FOOTINGS MAY BE POURED INTO AN EARTH-FORMED TRENCH IF SOIL CONDITIONS PERMIT.
3. WHERE FOUNDATION WALLS ARE TO HAVE EARTH PLACED ON EACH SIDE, PLACE FILL SIMULTANEOUSLY SO AS TO MAINTAIN A COMMON ELEVATION ON EACH SIDE OF THE WALL.
4. THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL UNDERGROUND PIPING, CONDUIT, ETC. WITH THE FOUNDATIONS.

CONCRETE:

- CONCRETE MIXTURES SHALL STRICTLY COMPLY WITH SECTION 4 OF ACI 301-20 AND CHAPTER 19 OF ACI 318-14.
1. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR REVIEW A MINIMUM OF ONE WEEK PRIOR TO THE CONCRETE PLACEMENT.
 2. ALL CONCRETE SHALL BE NORMAL-WEIGHT (DENSITY=145 PCF).
 3. THE COARSE AGGREGATE GRADATION SHALL BE #57 OR LARGER UNLESS RESTRICTED BY ACI 301-20.
 4. EXPOSURE CATEGORY - F (FREEZING AND THAWING):
 - INTERIOR FLOOR SLAB..... F0 (fc = 3,000 PSI)
 - ALL EXTERIOR CONCRETE INCLUDING FOOTINGS..... F2
 - ALL EXTERIOR FLAT WORK..... F3
 5. EXPOSURE CATEGORY - S (SULFATE):
 - ALL CONCRETE IN CONTACT WITH SOIL..... S0
 6. EXPOSURE CATEGORY - W (IN CONTACT WITH WATER):
 - ALL EXTERIOR CONCRETE..... W0
 7. EXPOSURE CATEGORY - C (CORROSION PROTECTION OF REINFORCEMENT):
 - ALL EXTERIOR CONCRETE..... C1
 8. FORMWORK AND FORMWORK ACCESSORIES SHALL STRICTLY COMPLY WITH SECTION 2 OF ACI 301-20.
 9. REINFORCEMENT AND REINFORCEMENT SUPPORTS SHALL STRICTLY COMPLY WITH SECTION 3 OF ACI 301-20.
 10. HANDLING, PLACING, AND CONSTRUCTING SHALL STRICTLY COMPLY WITH SECTION 5 OF ACI 301-20.
 11. CONCRETE REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
 12. CONCRETE REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706.
 13. THE MINIMUM CONCRETE CLEAR COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE:
 - UNFORMED SURFACE IN CONTACT WITH THE GROUND..... 3 IN.
 - FORMED SURFACES EXPOSED TO EARTH OR WEATHER:
 - #6 BARS AND LARGER..... 2 IN.
 - #5 BARS AND SMALLER..... 1 1/2 IN.
 - FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:
 - BEAMS, GIRDERS, AND COLUMNS..... 1 1/2 IN.
 - SLABS, WALLS, AND JOISTS:
 - #11 BARS AND SMALLER..... 3/4 IN.
 - #14 AND #18 BARS..... 1 1/2 IN.
 14. ALL BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES, ETC., WHICH ARE BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 3" OF CONCRETE.
 15. ALL LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. WHERE CLASSES ARE NOT CALLED OUT ON DRAWINGS, USE CLASS "B" SPLICES.

CONCRETE REINFORCING LAP SPICE SCHEDULE						
BAR SIZE	TENSION SPLICES (IN.)				COMPRESSION SPLICES (IN.)	
	TOP BARS		OTHER BARS			
	A	B	A	B		
#3	22	28	17	22	12	
#4	29	37	22	29	15	
#5	36	47	28	36	19	
#6	43	56	33	43	23	
#7	63	81	48	63	27	
#8	72	93	55	72	30	

- COMPRESSION DOWEL EMBEDMENT: 22 BAR DIAMETERS LAP
- WELDED WIRE FABRIC: ONE SPACING OF CROSS WIRES PLUS 2" LAP

REINFORCED MASONRY:

1. THE REINFORCED CONCRETE MASONRY FOR THIS PROJECT HAS BEEN DESIGNED AND DETAILED IN ACCORDANCE WITH THE ALLOWABLE STRESS DESIGN METHOD OF THE BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES.
2. REINFORCED MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, fm, OF 2000 PSI. MASONRY UNITS SHALL BE NORMAL WEIGHT BLOCK CONFORMING TO ASTM C90 AND SHALL HAVE A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 2000 PSI. MORTAR SHALL CONFORM TO ASTM C270, TYPE S. GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706.
4. CONTINUOUS WIRE REINFORCING (JOINT REINFORCING) SHALL BE GALVANIZED TRUSS OR LADDER TYPE FORMED FROM 9 GAUGE COLD -DRAWN STEEL WIRE COMPLYING WITH ASTM A82. JOINT REINFORCING SHALL BE SPACED AT 16" O.C. VERTICALLY IN ALL MASONRY WALLS.
5. ALL REINFORCED CELLS, ALL CELLS BELOW GRADE AND ALL CELLS BELOW FINISH FLOOR SHALL BE GROUDED SOLID.
6. WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL BLOCK CORE, IT SHALL NOT BE SLOPED MORE THAN ONE HORIZONTAL IN 6 VERTICAL. DOWELS MAY BE GROUDED INTO A CELL IN VERTICAL ALIGNMENT, EVEN THOUGH IT IS IN AN ADJACENT CELL TO THE VERTICAL WALL REINFORCING. GROUT THE CELL FOR THE FULL HEIGHT OF THE DOWEL.
7. REINFORCING STEEL SHALL BE CENTERED IN THE MASONRY UNIT CELL, UNLESS NOTED OTHERWISE.
8. VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM GROUT COVER OF 1/2 OF AN INCH TO THE INSIDE FACE OF MASONRY UNIT AND A MINIMUM TOTAL MASONRY COVER NOT LESS THAN TWO INCHES.
9. PARALLEL ADJACENT VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEAR DISTANCE NOT LESS THAN 1 1/2 BAR DIAMETERS NOR 1 1/2 INCHES.
10. VERTICAL CELLS THAT WILL BE GROUDED SHALL HAVE A VERTICAL ALIGNMENT TO MAINTAIN A CONTINUOUS UNOBSTRUCTED CELL AREA NOT LESS THAN 3"x4".
11. GROUING SHALL BE STOPPED 1-1/2" BELOW THE TOP OF A COURSE SO AS TO FORM A KEY AT THE POUR JOINT.
12. GROUING OF MASONRY BEAMS OVER OPENINGS SHALL BE DONE IN ONE CONTINUOUS OPERATION.
13. ALL BOLTS, ANCHORS, ETC., INSERTED IN THE WALLS, SHALL BE GROUDED SOLID INTO POSITION.
14. SPLICED REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 72 BAR DIAMETERS.

STRUCTURAL STEEL:

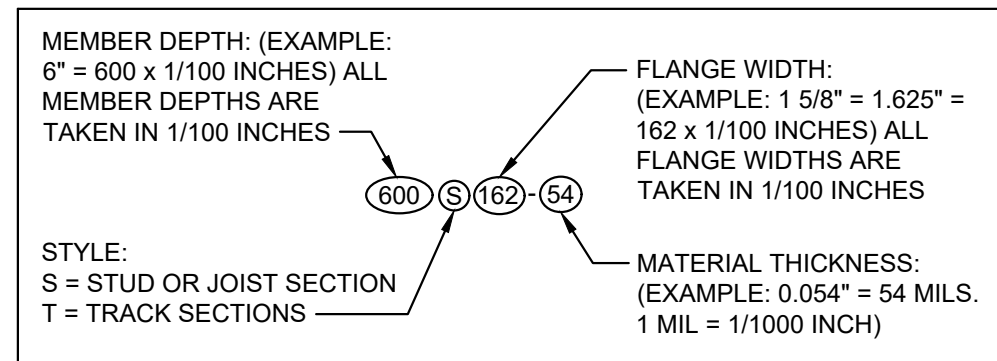
1. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
 - WIDE FLANGE SHAPES..... A992 OR A572 GR. 50 (Fy = 50 KSI)
 - CHANNELS, ANGLES, PLATES, ETC. (UNO)..... A36 (Fy = 36 KSI)
 - STRUCTURAL TUBE..... A500 (Fy = 46 KSI)
 - STEEL PIPE..... A53 (Fy = 35 KSI)
 - THREADED RODS..... F1554, A36 OR A307
 - BOLTS..... A325
 - WELDING ELECTRODES..... E70XX
2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (AISC 303-16), EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
3. ALL STRUCTURAL STEEL TO HAVE A SHOP GRADE PRIMER UNLESS NOTED OTHERWISE.

WOOD CONSTRUCTION NOTES

1. SHEATHING SHALL CONFORM TO THE 'NATIONAL DESIGNS SPECIFICATION (NDS) FOR WOOD CONSTRUCTION USING ALLOWABLE STRESS DESIGN (ASD).
2. GRADE LOSS RESULTING FROM WEATHERING, HANDLING, STORAGE, RESAWING, OR DIVIDING LENGTHS WILL BE CAUSE FOR REJECTION.
3. ROOF SHEATHING SHALL BE 19/32" APA RATED 40/20 C-D EXPOSURE I, FASTENED AS DESIGNATED ON CONSTRUCTION DOCUMENTS.
4. SHEATHING SHALL BE CONTINUOUS OVER THREE OR MORE SUPPORTS AND SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS WITH JOINTS STAGGERED.
5. SHEATHING SHALL NOT BE LESS THAN 4" X 8", EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING.

COLD FORMED STEEL:

1. ALL SIZING BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (ICBO ER-494P3) PRODUCT TECHNICAL INFORMATION.
2. ALL GALVANIZED STUDS AND JOISTS 12, 14 AND 16 GAUGE SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF ASTM A653 SS, GRADE 50, CLASS 1 OR 3 WITH A MINIMUM YIELD OF 50,000 PSI.
3. ALL GALVANIZED STUDS, JOISTS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A525.
4. ALL STEEL SHEETING SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF ASTM A1003 STRUCTURAL GRADE 33 TYPE H, OF A MINIMUM THICKNESS AS DESIGNATED ON CONSTRUCTION DOCUMENTS.
5. THE PHYSICAL AND STRUCTURAL PROPERTIES LISTED BY THE STEEL STUD MANUFACTURER ASSOCIATION AND AISI DESIGN MANUAL SHALL BE CONSIDERED THE MINIMUM PERMITTED FOR ALL FRAMING MEMBERS. SPECIFICALLY, THE FOLLOWING MINIMUM PROPERTIES, CALCULATED IN ACCORDANCE WITH THE LATEST AISI SPECIFICATION SHALL BE PROVIDED: IX (IN.4), SX (IN.3), AREA (IN.2), RX (IN.), FY (KSI), RESISTING MOMENT (IN.-LB.).
6. ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING PRIOR TO DELIVERY, BY THE ARCHITECT AND/OR ENGINEER OF RECORD.
7. INSTALLATION OF STUDS SHALL BE AS PER ASTM C1007-00 "INSTALLATION OF LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS AND ACCESSORIES", ASTM C955-00a "SPECIFICATION FOR LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS, RUNNERS (TRACK), AND BRACING OR BRIDGING FOR SCREW APPLICATION OF GYPSUM BOARD AND METAL PLASTER BASES", AND ASTM C754-00 "SPECIFICATION FOR INSTALLATION OF STEEL FRAMING MEMBERS TO RECEIVE SCREW ATTACHED GYPSUM BOARD".
8. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS, OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
9. TEMPORARY BRACING SHALL BE PROVIDED UNTIL ERECTION IS COMPLETED.
10. PROVIDE WEB STIFFENERS AT REACTION POINT WHERE INDICATED BY PLANS.
11. JOIST SHALL BE BRIDGED AT MAXIMUM 4'-0" SPACING.
12. END BLOCKING SHALL BE PROVIDED WHERE JOIST ENDS ARE NOT OTHERWISE RESTRAINED FROM ROTATION.
13. JOISTS MUST HAVE A MINIMUM OF 10" UNPUNCHED STEEL AT BEARING POINTS. STUDS MUST HAVE A MINIMUM OF 10" OF UNPUNCHED STEEL AT EACH END.
14. COLD-FORMED STEEL IDENTIFICATION LEGEND:



MISCELLANEOUS:

1. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.
2. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
3. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.
4. DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS.
5. THE CONTRACTOR SHALL INFORM THE PROFESSIONAL OF RECORD IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE PROFESSIONAL OF RECORD REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE PROFESSIONAL OF RECORD OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE PROFESSIONAL OF RECORD HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
6. ANY DETAIL TITLED AS A TYPICAL DETAIL IS APPLICABLE THROUGHOUT THE DESIGN DRAWINGS. THESE DETAILS ARE DEFINED AS GENERAL STANDARDS THAT ARE USUALLY NOT IDENTIFIED BY SPECIFIC REFERENCE WITHIN THE DRAWINGS. THESE DETAILS MAY BE MODIFIED OR SUPERSEDED BY SPECIFIC DETAILS THAT ARE REFERENCED WITHIN THE DRAWINGS.
7. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.

EXISTING CONSTRUCTION:

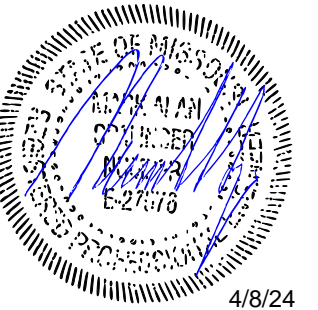
1. WORK SHOWN IS NEW UNLESS INDICATED AS EXISTING.
2. EXISTING CONSTRUCTION SHOWN IS BASED UPON ASSUMED EXISTING CONDITIONS AND CAN BE USED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING JOB CONDITIONS, REVIEW ALL DRAWINGS AND VERIFY DIMENSIONS, ELEVATIONS, AND MEMBER SIZES PRIOR TO CONSTRUCTION OR MATERIAL PURCHASE. THE CONTRACTOR SHALL NOTIFY THE PROFESSIONAL OF RECORD IN WRITING OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH THE WORK.
3. THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING CONSTRUCTION SHALL BE PERFORMED WITH GREAT CARE IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL FEATURES NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE PROFESSIONAL OF RECORD SHALL BE IMMEDIATELY NOTIFIED AND PRIOR WRITTEN APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OR MODIFICATION OF MEMBERS.
4. THE CONTRACTOR SHALL RESTORE ALL EXISTING INCIDENTAL CONSTRUCTION REQUIRED TO BE REMOVED TO ACCOMMODATE THE ERECTION OF THE NEW JOIST CONSTRUCTION TO ITS ORIGINAL WORKING CONDITION.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS & METHOD OF ALL DEMOLITION WORK & FOR PROVIDING ALL NECESSARY TEMPORARY SHORING, BRACING & PROTECTION AS NECESSARY FOR SAFETY, STABILITY & PROTECTION OF ALL BUILDING ELEMENTS & STRUCTURE DURING CONSTRUCTION & DEMOLITION.

SPECIAL INSPECTIONS:

1. THE GENERAL CONTRACTOR SHALL EMPLOY THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS (ACCEPTABLE TO THE STATE OF MISSOURI) TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE REQUIRED SPECIAL INSPECTION ITEMS.
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE STATE OF MISSOURI AND THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN OF THE STRUCTURE, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
3. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
 - A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
 - B. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE STATE OF MISSOURI AND THE PROFESSIONAL OF RECORD. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY. A COMPLETE LIST OF ALL OUTSTANDING DISCREPANCIES SHALL BE SUBMITTED ON A WEEKLY BASIS TO THE STATE OF MISSOURI AND THE PROFESSIONAL OF RECORD. DOCUMENTATION OF ALL CORRECTIONS SHALL BE SUBMITTED.
 - C. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE BUILDING CODE.
4. WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF OTHER SPECIFIED TESTING, DUPLICATE INSPECTIONS SHALL NOT BE REQUIRED.
5. STRUCTURAL OBSERVATION (AS DEFINED IN CHAPTER 17 OF THE BUILDING CODE) IS NOT REQUIRED, UNLESS SPECIFICALLY REQUIRED BY THE STATE OF MISSOURI.
6. SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING TABLE:

SPECIAL INSPECTIONS SCHEDULE			
SPECIAL INSPECTION	FREQ.	REFERENCED STANDARD	
SOILS:			
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC	APPROVED CONSTRUCTION DOCUMENTS	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC		
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	PERIODIC		
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONT.		
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC		

**STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR**



MARK A. SPALINGER
License Number: E-27576
Expiration Date: 12/31/25

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**OFFICE OF
ADMINISTRATION
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MANAGEMENT,
DESIGN AND
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**MISSOURI NATIONAL
GUARD**

**INSTALL AIR
COMPRESSOR SYSTEM &
BUILDING ADDITION
COMBINED SUPPORT
MAINTENANCE SHOP (CSMS)
2302 MILITIA DRIVE
JEFFERSON CITY, MO**

PROJECT # T2336-01
SITE # 6300
FACILITY # 8136300007

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: _____

CAD DWG FILE: _____
DRAWN BY: RCK
CHECKED BY: MAS
DESIGNED BY: RCK

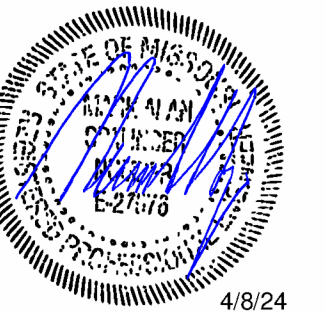
SHEET TITLE:

STRUCTURAL
GENERAL NOTES

SHEET NUMBER:

S-001

2 OF 13 SHEETS
04/08/24



MARK A. SPALINGER
License Number: E-27576
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COMPRESSOR SYSTEM &
BUILDING ADDITION

COMBINED SUPPORT
MAINTENANCE SHOP (CSMS)
2302 MILITIA DRIVE
JEFFERSON CITY, MO

PROJECT # T2336-01
SITE # 6300
FACILITY # 8136300007

REVISION: _____
DATE: _____
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ISSUE DATE: _____

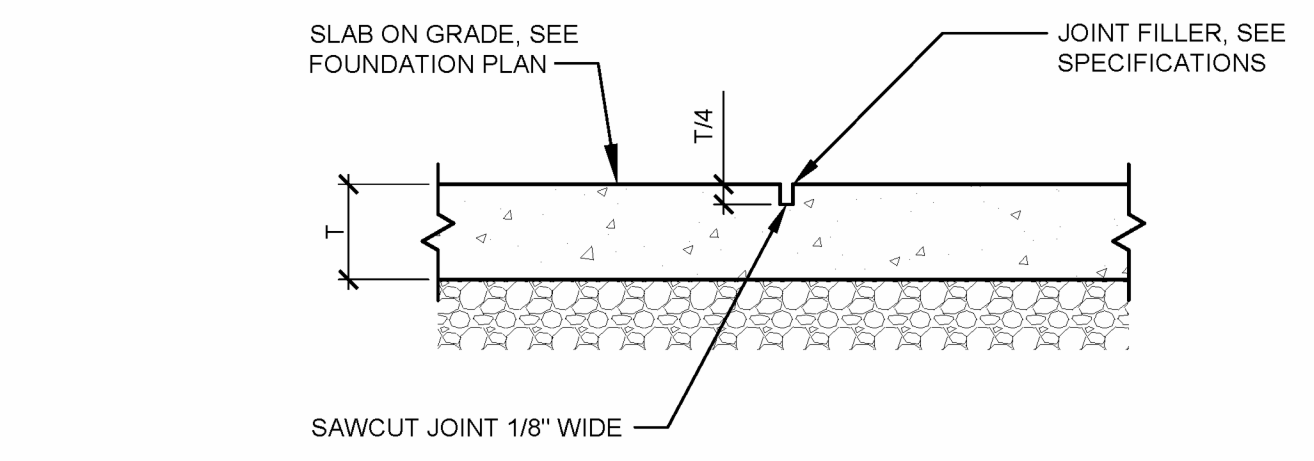
CAD DWG FILE: _____
DRAWN BY: RCK
CHECKED BY: MAS
DESIGNED BY: RCK

SHEET TITLE:
FOUNDATION PLAN

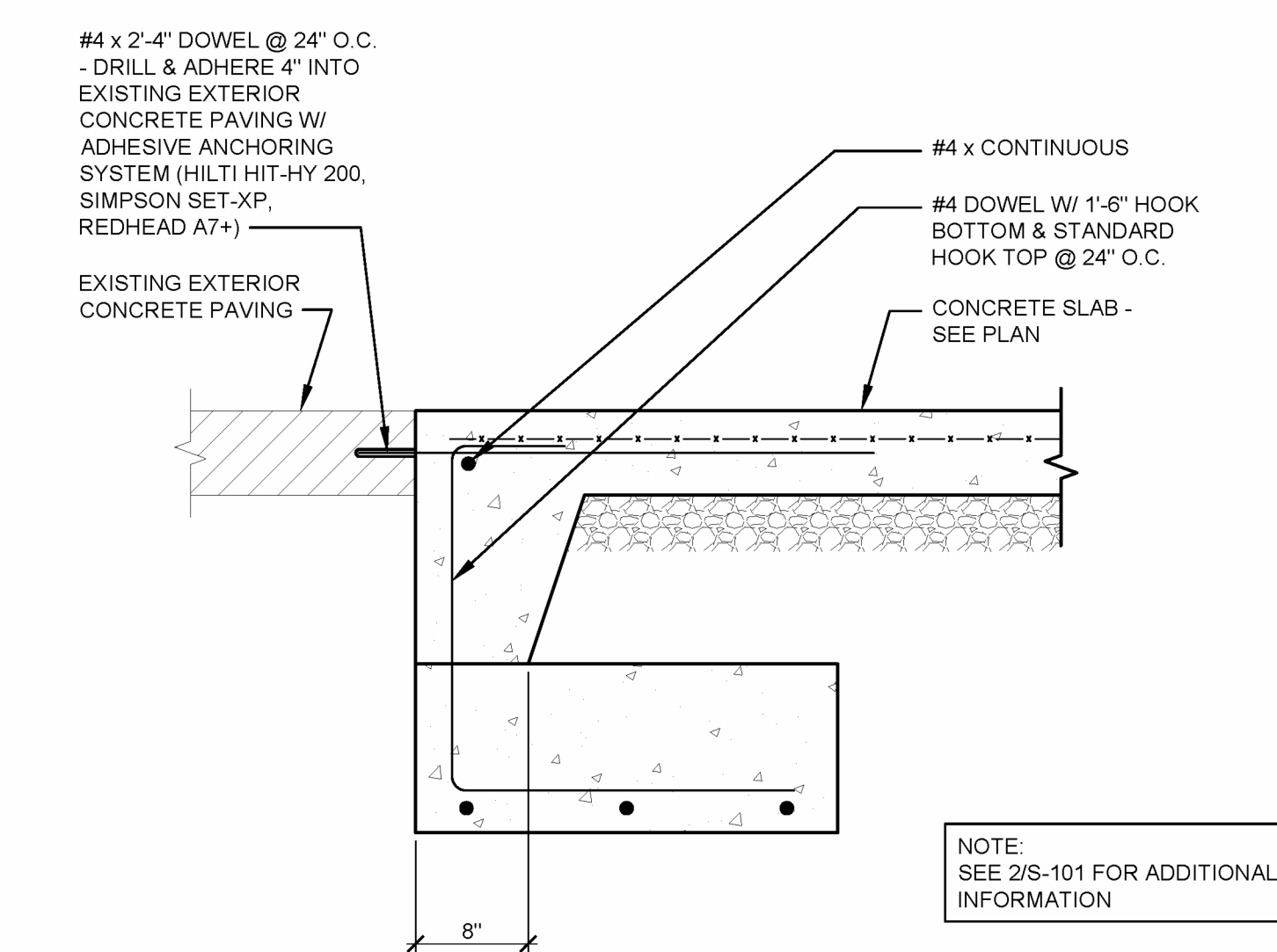
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S-101

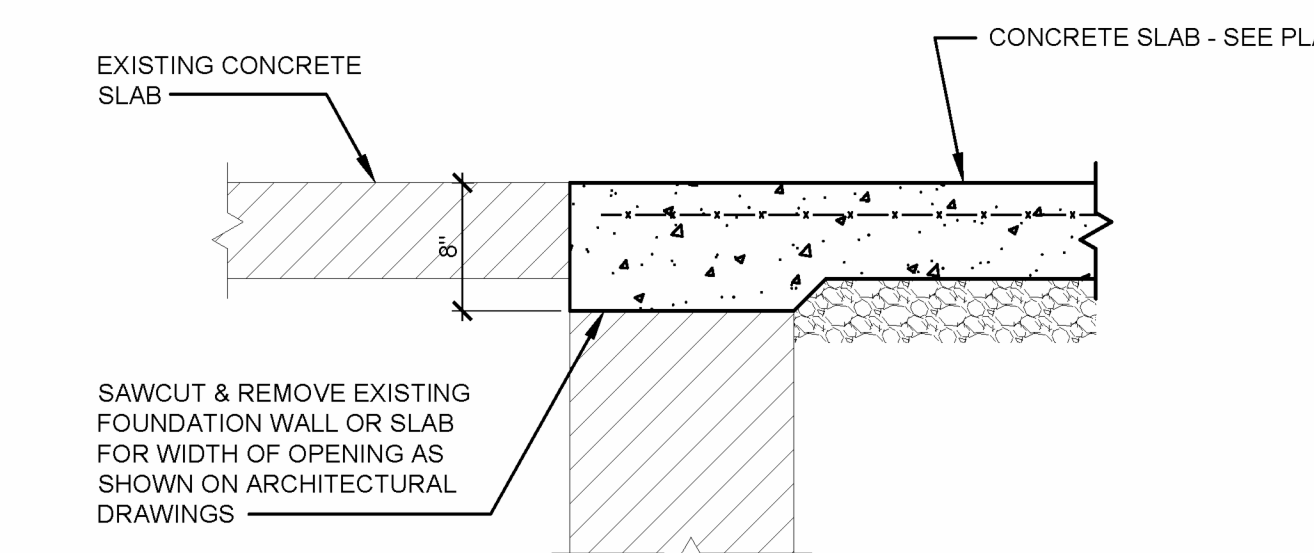
3 OF 13 SHEETS
04/08/24



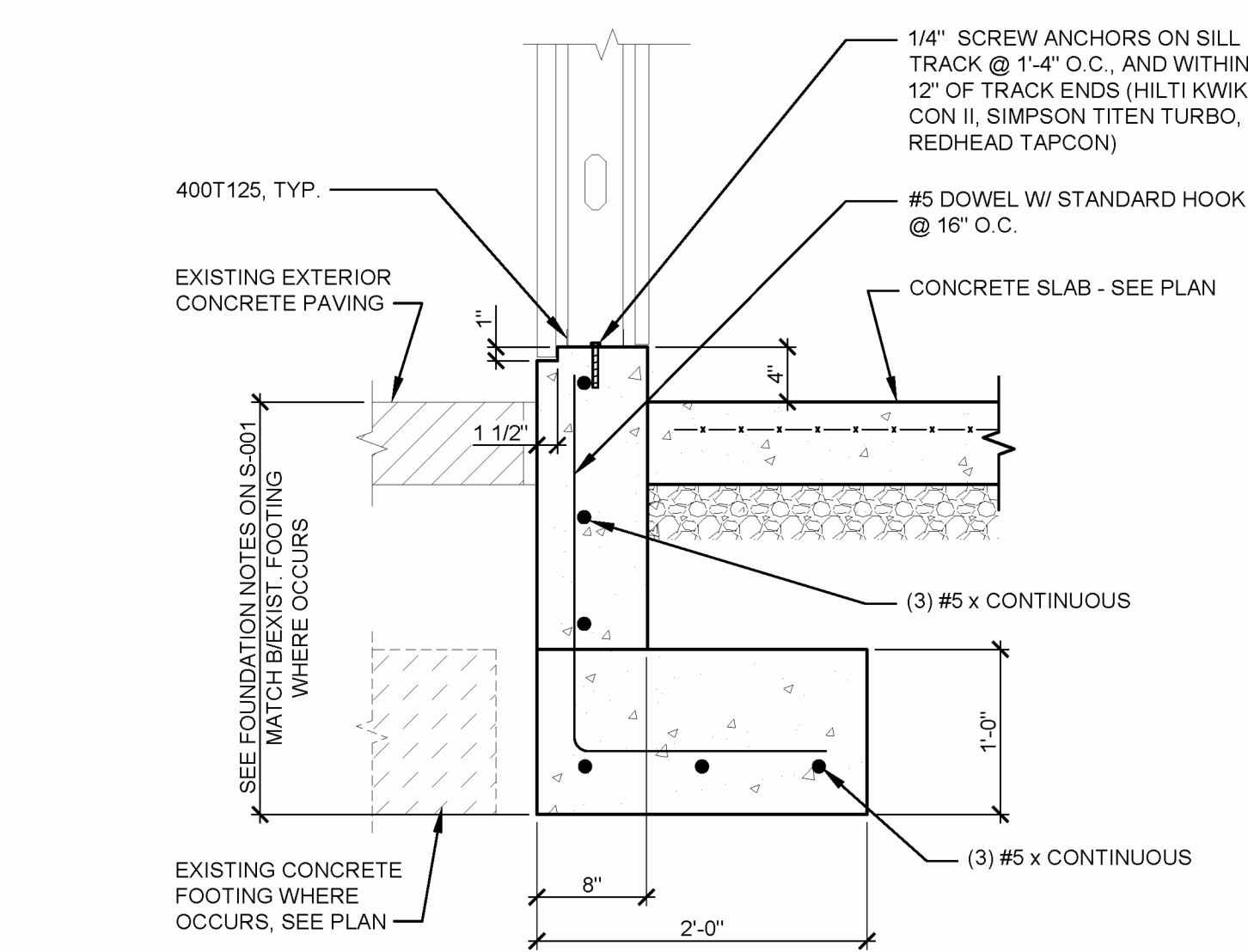
6 TYPICAL CONTROL JOINT DETAIL
S-101 SCALE: 1" = 1'-0"



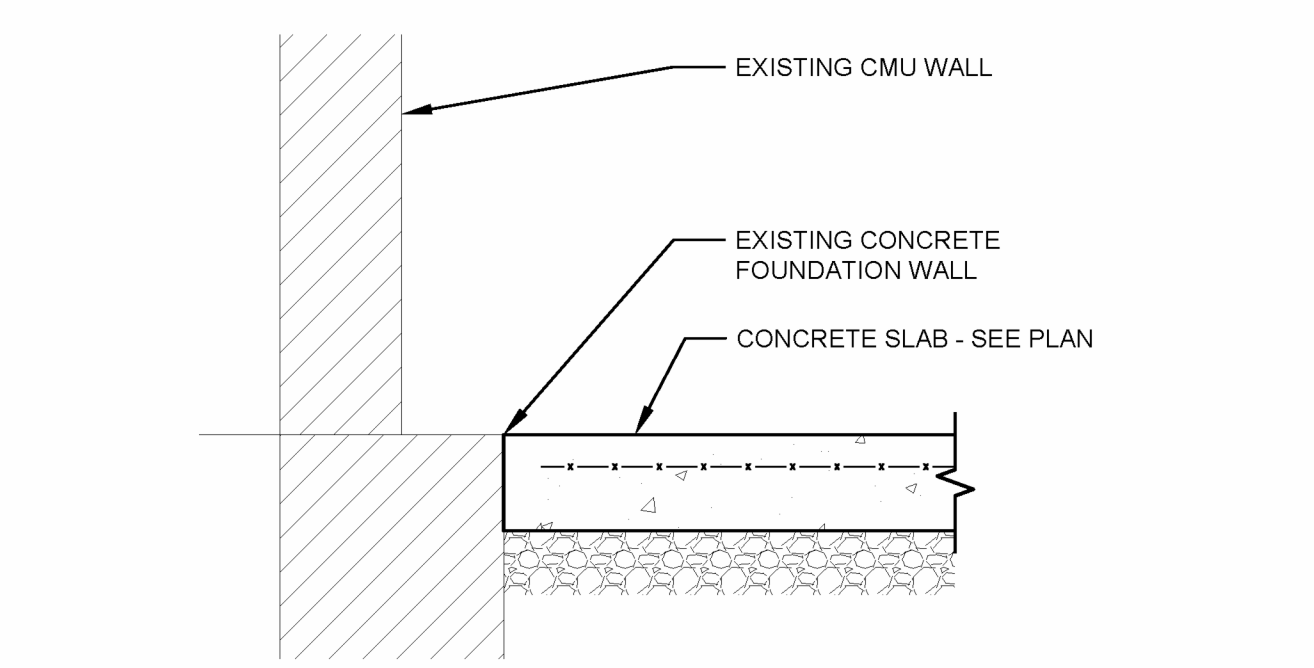
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S-101 SCALE: 1" = 1'-0"



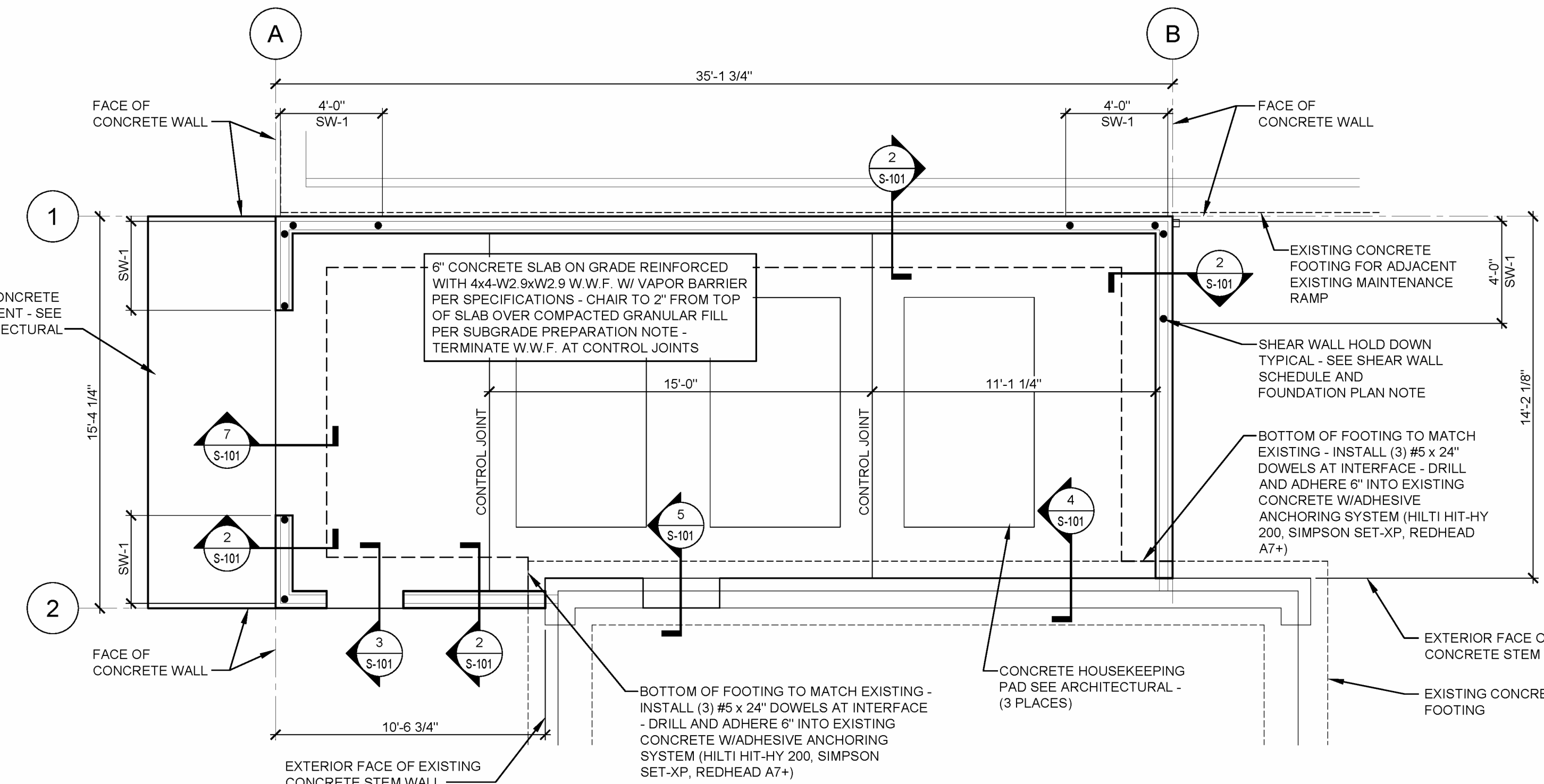
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S-101 SCALE: 1" = 1'-0"



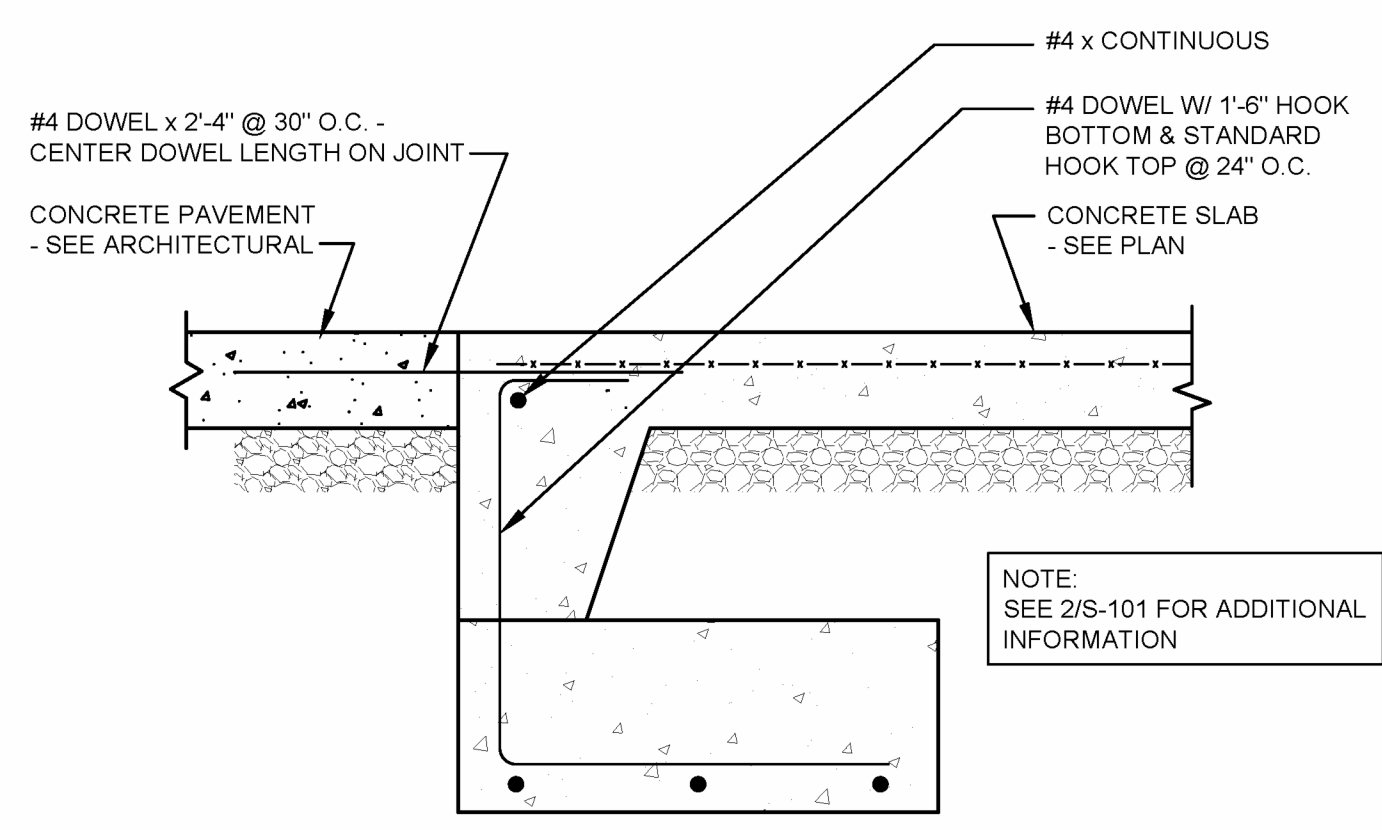
2 SECTION
S-101 SCALE: 1" = 1'-0"



4 SECTION
S-101 SCALE: 1" = 1'-0"

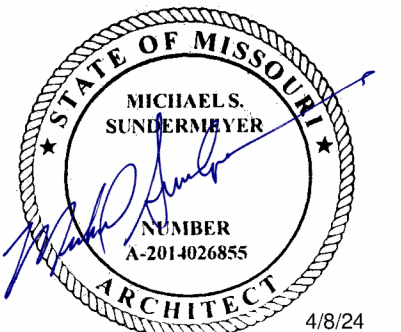


1 FOUNDATION PLAN
S-101 SCALE: 1/4" = 1'-0"



7 SECTION
S-101 SCALE: 1" = 1'-0"

• = ON PLAN DENOTES SHEAR WALL END POST HOLDDOWN LOCATIONS. UNLESS NOTED OTHERWISE ON PLAN, ALL EXTERIOR WALLS SHALL BE CONSTRUCTED ACCORDANCE WITH SW-1. SEE ROOF FRAMING PLAN AND SHEAR WALL SCHEDULE SHEET S-102 FOR BALANCE OF SHEAR WALL ANCHOR REQUIREMENTS.



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DRAWN BY:
CHECKED BY:
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SHEET TITLE:
CODE ANALYSIS &
ARCHITECTURAL
SITE PLAN

SHEET NUMBER:

A-001

5 OF 13 SHEETS
04/08/2024

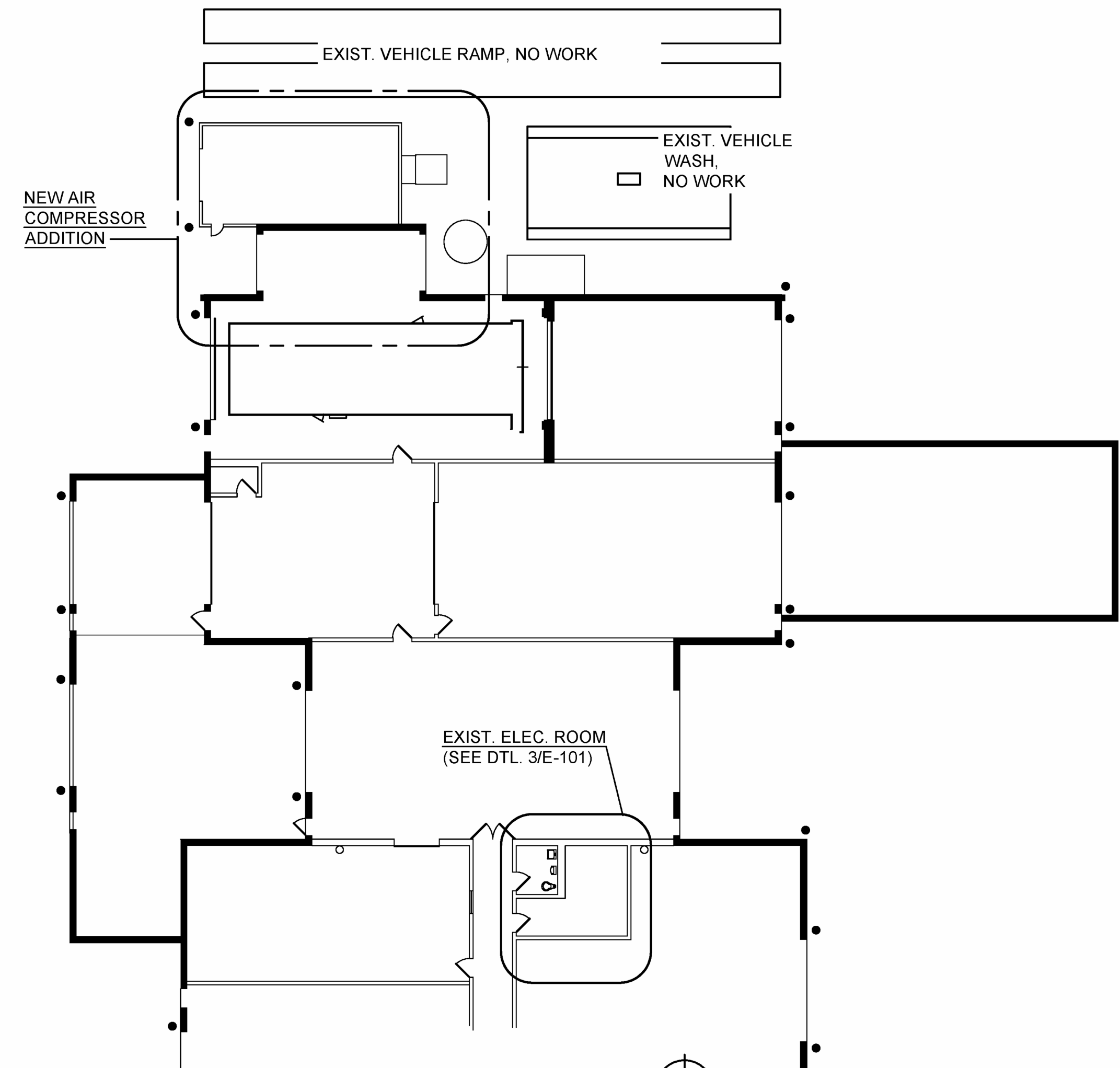
SCOPE OF WORK:

REPLACE EXISTING COMPRESSED AIR SYSTEM THAT SUPPLIES BLAST BOOTH WITH A NEW COMPRESSED AIR SYSTEM. A NEW SITE-BUILT METAL BUILDING WITH SHED ROOF, TO BE ATTACHED TO THE EXISTING MECHANICAL ROOM FOR THE NEW COMPRESSED AIR SYSTEM.

ALTERNATE 1
REPLACE EXISTING BREATHABLE AIR SYSTEM.

GENERAL NOTES:

- ALL NEW BUILDING MATERIALS TO BE OF NON-COMBUSTIBLE OR WOOD FIRE RETARDANT TREATED MATERIAL.
- THE CONTRACTOR SHALL COMPLY WITH FEDERAL ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION REGULATIONS AND ALL LOCAL AND STATE HEALTH DEPARTMENT REQUIREMENTS AND RECOMMENDATIONS REGARDING MOLD AND MILDEW.
- IN THE EVENT THE CONTRACTOR DISCOVERS, AT ANY TIME THE PRESENCE OF MOLD AND/OR MILDEW, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE ARCHITECT / ENGINEER OF RECORD, IN WRITING, OF THE CONCERNS AND/OR SUSPICIONS.
- THE GENERAL CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION ACTIVITY (WHICH SHALL INCLUDE STORAGE OF MATERIALS AND EQUIPMENT) WITHIN THE LIMITS OF CONSTRUCTION OR WITHIN THE DESIGNATED STAGING AREA.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY SURFACES DAMAGED BY CONSTRUCTION ACTIVITY THAT IS UNDER THE CONTROL OF THE GENERAL CONTRACTOR (THIS INCLUDES ALL SUBCONTRACTOR WORK). REPAIRS SHALL MATCH EXISTING MATERIALS AND BE APPROVED BY THE OWNER.
- THE GENERAL CONTRACTOR SHALL REMOVE CONSTRUCTION DEBRIS FROM THE JOBSITE ON A REGULAR BASIS, AS IDENTIFIED IN THE SPECIFICATIONS. KEEP DEBRIS CONTAINED TO THE LIMITS OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION.
- THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL MOISTURE AND DEBRIS HAVE BEEN ELIMINATED PRIOR TO INSTALLING NEW MATERIALS AND PREPARE SURFACE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. REFERENCE SPECIFICATIONS FOR FURTHER DIRECTION.
- SHOULD THE GENERAL CONTRACTOR OBSERVE ANY DETERIORATED MATERIALS OR DAMAGED STRUCTURAL CONDITIONS, THE ARCHITECT AND OWNER SHALL BE NOTIFIED.
- ANY EQUIPMENT NOT IDENTIFIED TO BE REMOVED IS TO REMAIN UNLESS NOTED OTHERWISE.
- THE CONTRACT WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, TOOLS, LABOR & SERVICES NECESSARY FOR COMPLETION OF THE PROJECT.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUALITY OF WORKMANSHIP & FOR COMPLIANCE WITH THE DESIGN. THE GENERAL CONTRACTOR SHALL CORRECT ALL ERRORS & DEVIATIONS AS REQUESTED BY THE OWNER.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR QUALITY OF ALL REFURBISHED MATERIALS. ALL REFURBISHED MATERIALS TO APPEAR NEW.
- THE G.C. SHALL VERIFY ALL RELEVANT DIMENSIONS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH THE AFFECTED WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY. ALL DISCREPANCIES SHALL BE RESOLVED PRIOR TO PROCEEDING WITH AFFECTED WORK.
- SHOULD ANY OF THE DETAILED INSTRUCTIONS ON THE DRAWINGS CONFLICT WITH THE NOTES OR SPECIFICATIONS OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL APPLY.
- JOB SITE CLEANING: DURING DEMOLITION & CONSTRUCTION, THE JOB SITE SHALL BE CLEANED ON A DAILY BASIS, INCLUDING REMOVAL OF TRASH, RUBBLE, DEBRIS & ORGANIZATION OF MATERIALS & EQUIPMENT. UPON COMPLETION OF THE WORK, THE JOB SITE SHALL BE THOROUGHLY CLEANED, INCLUDING AREAS OF THE BUILDING MADE DIRTY BY CONSTRUCTION WORK. THE G.C. SHALL REMOVE TRASH, RUBBLE, TOOLS, EQUIPMENT & EXCESS MATERIALS FROM THE PREMISES. THE BUILDING IS TO BE LEFT IN A CLEAN CONDITION.
- THE GENERAL CONTRACTOR IS TO PROVIDE SUPERVISION OF ALL TRADES / SUBS, AS WELL AS ON-SITE SUPERVISION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL DUMPSTERS REQUIRED FOR EXECUTION OF THE PROJECT SCOPE INCLUDING DISPOSAL OF ALL NON-REUSED FIXTURES.



2 ENLARGED PLAN AT AREAS OF WORK
SCALE: 1/16" = 1'-0"

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	FIN	FINISHED	OPNG	OPENING
AC	ACOUSTICAL	FFE	FINISHED FLOOR ELEV.	OPH	OPPOSITE HAND
ACV	AIR CONDITIONING	FFL	FINISHED FLOOR LINE	OD	OUTSIDE DIAMETER
ALT	ALTERNATE	FE	FIRE EXTINGUISHER	OO	OUT TO OUT
ALUM	ALUMINUM	FEC	FIRE EXTINGUISHER CABINET	OA	OVERALL
AB	ANCHOR BOLT	FT	FIRE TREATED	OH	OVERHEAD
ARCH	ARCHITECT(URAL)	FLG	FLASHING	PTD	PAINT(ED)
BRG	BEARINGS	FLR	FLOOR	PKG	PARKING
BM	BENCH MARK	FD	FLOOR DRAIN	PLAM	PLASTIC LAMINATE
BLK	BLOCK	FTG	FOOTING	PL	PLATE
BLKG	BLOCKING	FDN	FOUNDATION	PWD	PLYWOOD
BD	BOARD	FRT	FIRE RETARDANT TREATED	PVC	POLYVINYL CHLORIDE
B.O.	BOTTOM OF	FUR	FUR(RED)ING	PSF	POUNDS PER SQUARE FT.
BRK	BRICK	GA	GAGE, GAUGE	PSI	POUNDS PER SQUARE IN.
BLDG	BUILDING	GALV	GALVANIZED	PT	PRESSURE TREATED
CAB	CABINET	GC	GENERAL CONTRACTOR	PL	PROPERTY LINE
CLS	CEILING	GL	GLASS GLAZING	REM	REMOVE
CL	CENTER LINE	GYP	GYP(SUM)	RET	RETURN
C/O	CENTER OF	GWB	GYP(SUM WALL BOARD	RH	RIGHT HAND
CC	CENTER TO CENTER	HTG	HEATING	RD	ROOF DRAIN
CLR	CLEAR	HVAC	HEATING/VENTILATION	RFG	ROOFING
COL	COLUMN		/AIR CONDITIONING	RM	ROOM
CONC	CONCRETE	HT	HEIGHT	RO	ROUGH OPENING
CMU	CONCRETE MASONRY UNIT	HC	HOLLOW CORE	SLNT	SEALANT
CONST	CONSTRUCTION	HM	HOLLOW METAL	SECT	SECTION
CONTR	CONTRACTOR	HK	HOOK(S)	SHTG	SHEATHING
CONT	CONTINUOUS	HOR	HORIZONTAL	SHT	SHEET
CNTR	COUNTER	HB	HOSE BIBB	SIM	SIMILAR
CPL	COUNTER FLASHING	INSUL	INSULATE(D), (ION)	SC	SOLID CORE
C/SK	COUNTERSUNK	INT	INTERIOR	S	SOUTH
CRS	COURSE(S)	JST	JOIST	SF	SQUARE FOOT
CF	CUBIC FOOT	JT	JOINT	SI	SQUARE INCH
CY	CUBIC YARD	LH	LEFT HAND	SY	SQUARE YARD
DL	DEAD LOAD	LF	LINEAL FOOT	STD	STANDARD
DEMO	DEMOLISH, DEMOLITION	L	LINTEL	STO	STORAGE
DTL	DETAIL	LL	LIVE LOAD	SUSP	SUSPENDED
DIAG	DIAGONAL	MACH	MACHINE	SYM	SYMMETRY, (ICAL)
DIAM	DIAMETER	MH	MANHOLE	TEL	TELEPHONE
DIM	DIMENSION	MFR	MANUFACTURER	TV	TELEVISION
DR	DOOR	MAS	MASONRY	THK	THICK(NESS)
DS	DOWN SPOUT	MO	MASONRY OPENING	T&G	TONGUE & GROOVE
D	DRAIN	MAX	MAXIMUM	TOM	TOP OF MASONRY
DWG	DRAWING	MECH	MECHANICAL	TPO	THERMOPLASTIC POLYOLEFIN
DF	DRINKING FOUNTAIN	MTL	METAL	TS	TOP OF STEEL
E	EAST	M	METER(S)	TOS	TOP OF STEEL
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	MWK	MILLWORK	TW	TOP OF WALL
ELEC	ELECTRICAL	MIN	MINIMUM	TOW	TOP OF WALL
EWC	ELECTRIC WATER COOLER	MISC	MISCELLANEOUS	TV	TYPICAL
ELEV	ELEVATION	MT	MOUNTED, (ING)	UNO	UNLESS NOTED OTHERWISE
EMER	EMERGENCY	NOM	NOMINAL	VERT	VERTICAL
EQ	EQUAL	N	NORTH	VNT	VINYL TILE
EXIST	EXISTING	NIC	NOT IN CONTRACT	VSCT	WAINSCOT
EXP	EXPOSED	NTS	NOT TO SCALE	WC	WATER CLOSET
EXT	EXTERIOR	OC	ON CENTER(S)	WF	WELDED WIRE FABRIC
FOF	FACE OF FINISH			W	WEST
FO	FACE OF			W	WIDTH, WIDE
FOM	FACE OF MASONRY			WN	WINDOW
FOS	FACE OF STUDS			WO	WITHOUT
FRP	FIBERGLASS REINFORCED PLASTIC			WO	WOOD

CODE DATA

THESE PLANS WERE PREPARED AND SHALL COMPLY WITH THE FOLLOWING CODES:
 2021 INTERNATIONAL BUILDING CODE
 2012 INTERNATIONAL ENERGY CONSERVATION CODE
 2021 INTERNATIONAL PLUMBING CODE
 2021 INTERNATIONAL MECHANICAL CODE
 2020 NATIONAL ELECTRICAL CODE

OCCUPANCY CLASSIFICATION (MIXED OCCUPANCY)
 ACCESSORY TO THE FOLLOWING OCCUPANCY:
 F-1: FACTORY INDUSTRIAL, MODERATE HAZARD (IBC 306.2)

BUILDING AREA - PRIMARY COMBINED SUPPORT MAINTENANCE SHOP (CSMS)
 AREA RESTRICTIONS: PER IBC 506.2 THIS FACILITY IS ALLOWED UNLIMITED AREA
 BASE BUILDING SQUARE FOOTAGE: 78,529 S.F.
 ADDITION SQUARE FOOTAGE: 540 S.F.
 TOTAL: 79,069 S.F.

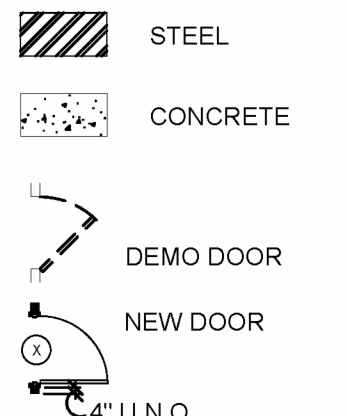
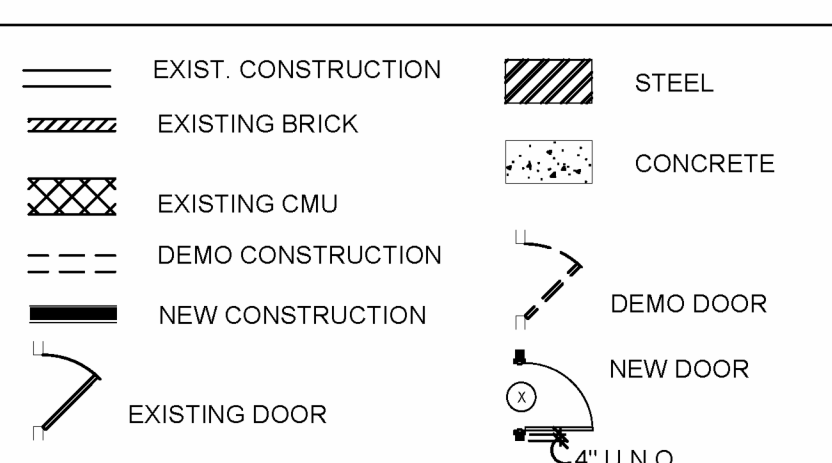
HEIGHT RESTRICTIONS: (IBC 504.3)
 THIS FACILITY WILL BE KEPT TO ONE STORY, THERE IS NO HEIGHT INCREASE.

BUILDING ADDITION CONSTRUCTION IS TYPE II-B (NON-COMBUSTIBLE, UNPROTECTED)

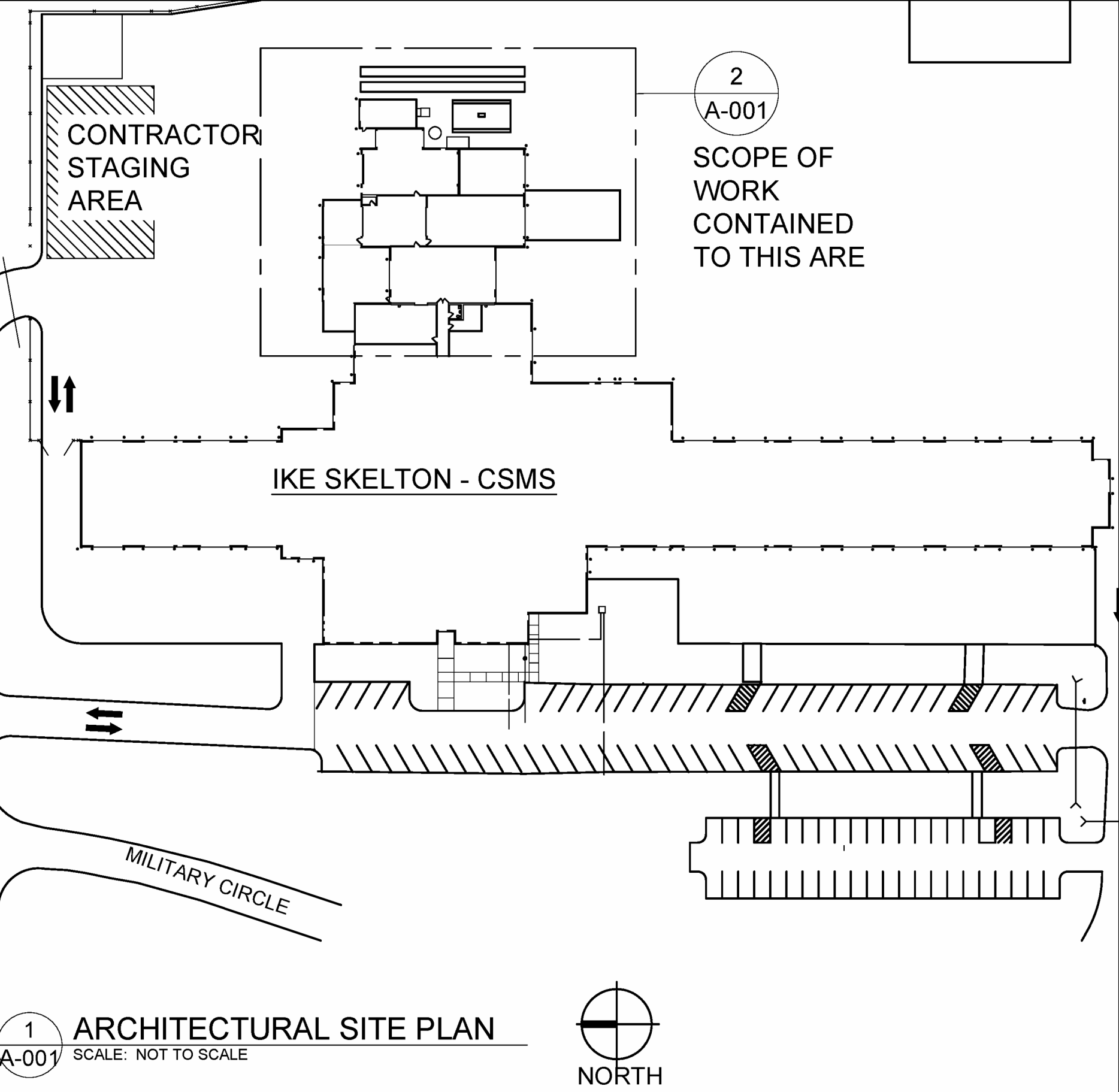
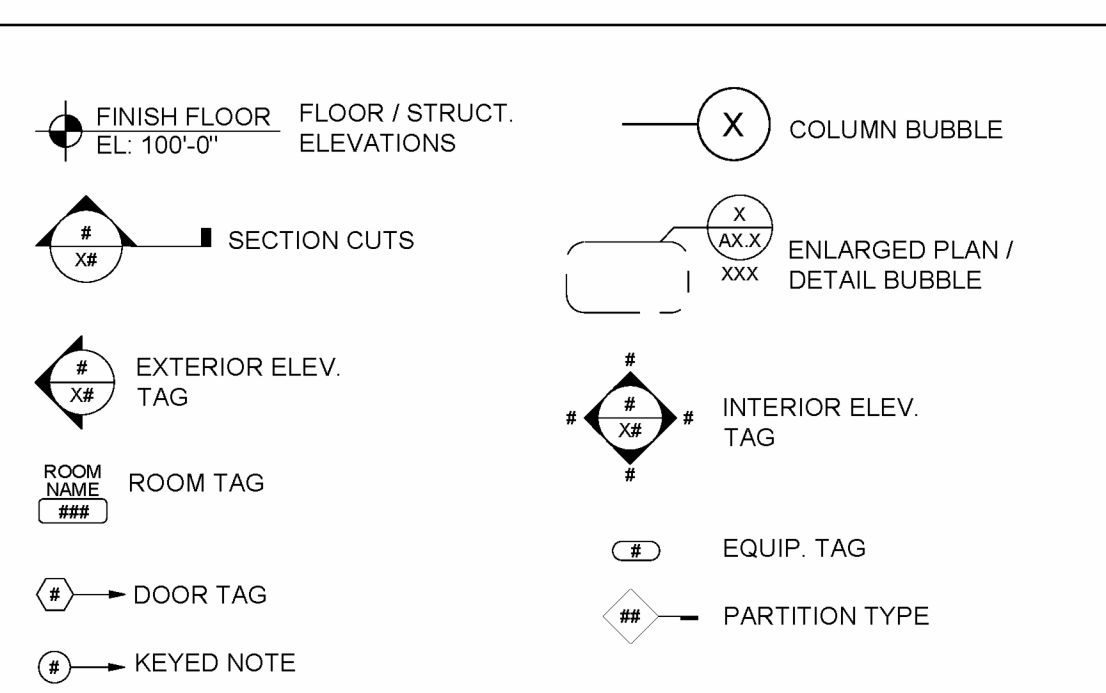
IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENGAGE A FIRE PROTECTION CONTRACTOR TO DEVELOP FIRE PROTECTION SYSTEM SHOP DRAWINGS FOR ARCHITECT REVIEW AND APPROVAL. ADDITION SHALL BE FULLY PROTECTED WITH FIRE SUPPRESSION SYSTEM EXTENDED FROM EXISTING SYSTEM, DELIVERED AND INSTALLED BY CONTRACTOR.

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT: (IBC TABLE 1004.5)
 -AIR COMPRESSOR ROOM (UNOCCUPIED)
 (THERE IS NO CHANGE TO THE EXISTING OCCUPANT LOAD)

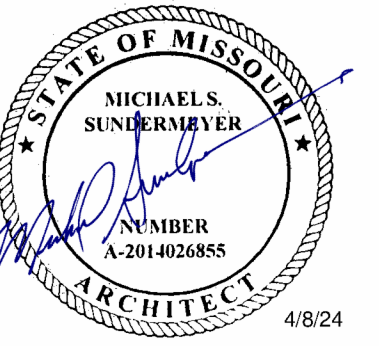
MATERIAL KEY



SYMBOL LEGEND



1 ARCHITECTURAL SITE PLAN
SCALE: NOT TO SCALE



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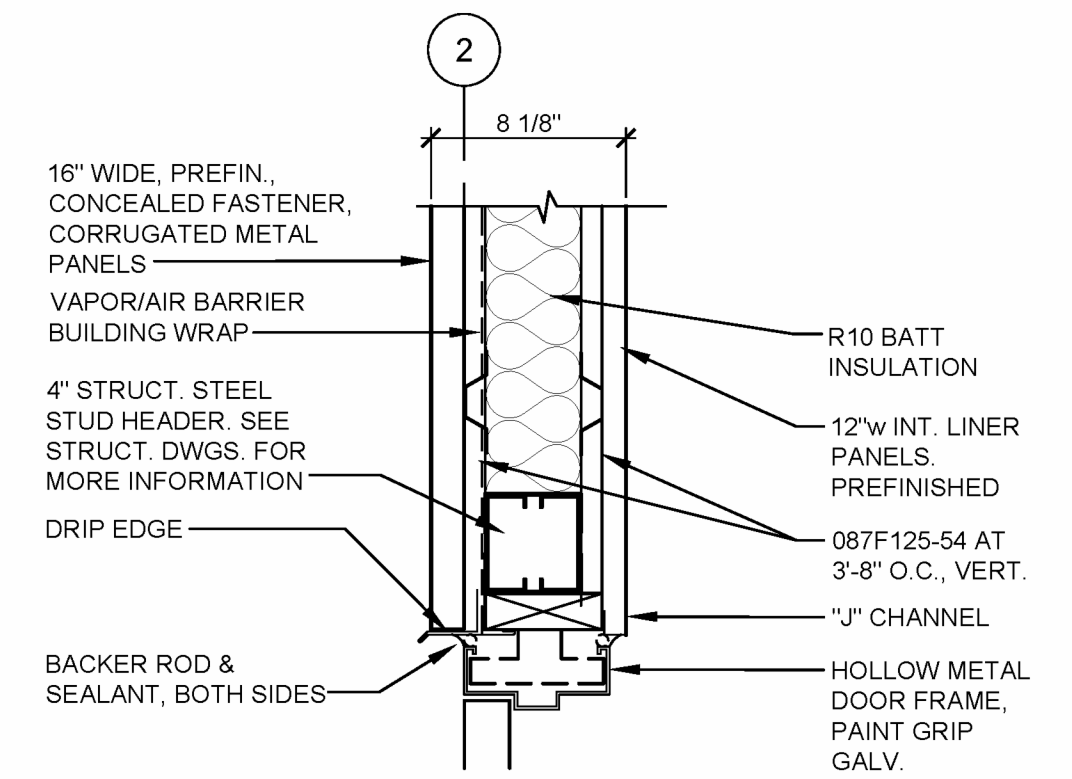
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FLOOR PLAN &
DETAILS

SHEET NUMBER:

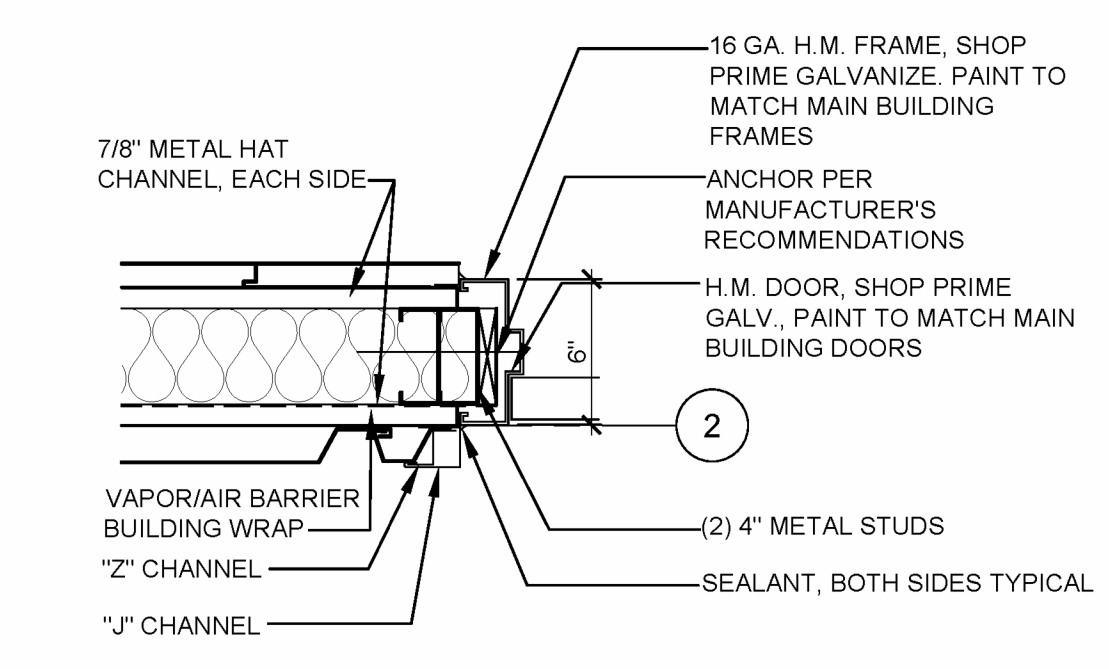
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6 OF 13 SHEETS
04/08/2024

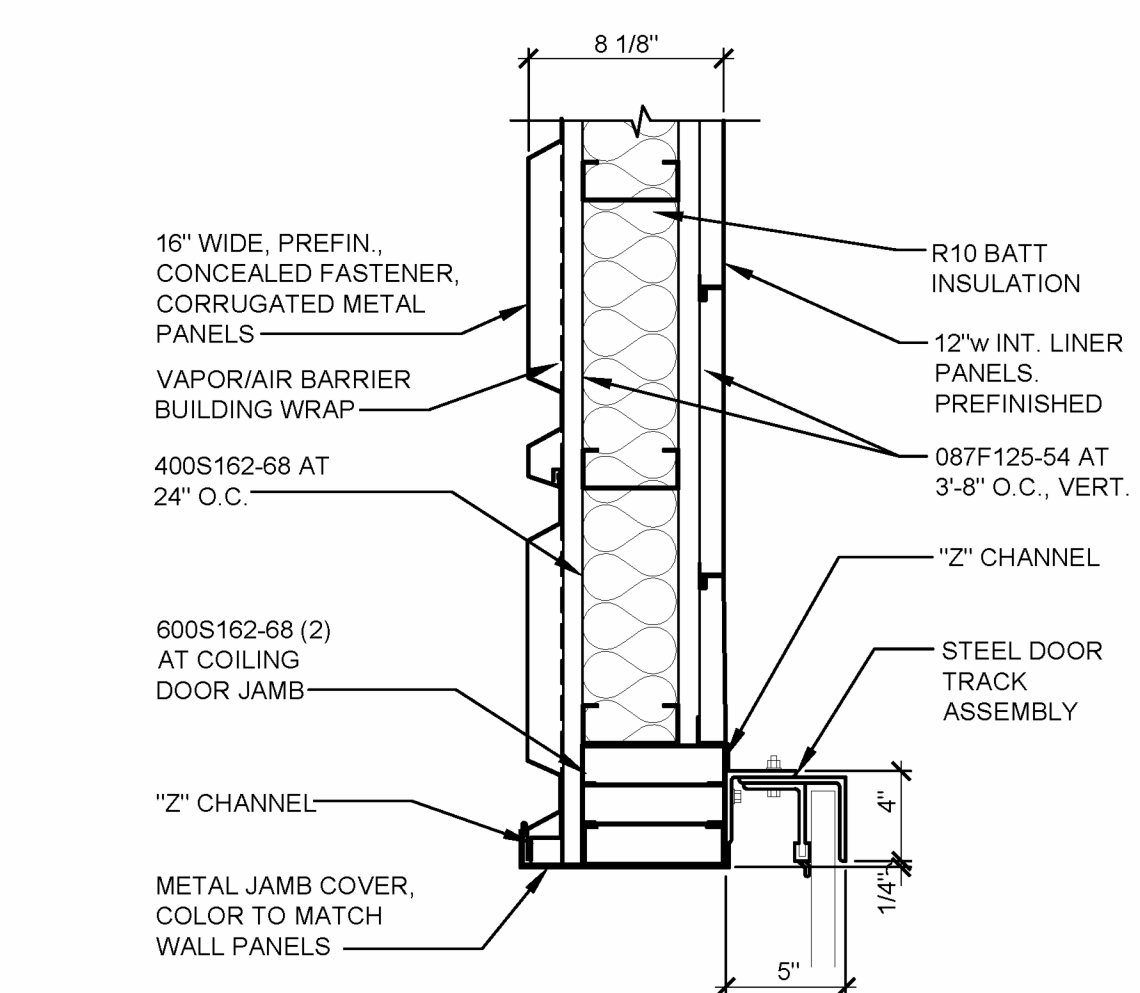
GENERAL NOTES:	DOORS/FRAMES/HARDWARE:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.	DOOR 1 - MANUALLY OPERATED, PREFINISHED, COILING DOOR HARDWARE BY MANUFACTURER
2. REFER TO DEMOLITION ELEVATION FOR ADDITIONAL INFORMATION. SEE DETAIL 7/A-201.	DOOR 2 - 7'-0"x3'-0" HOLLOW METAL DOOR AND FRAME (SEE 7/A-101), SHOP PRIMED, PAINT TO MATCH EXISTING DOORS AND FRAMES ON MAIN BUILDING.
3. NEW CONCRETE FLOORS TO BE SMOOTH FINISH, CLEAR COAT SEALED. SEE SPECIFICATIONS FOR MORE INFORMATION.	<ul style="list-style-type: none"> BEST 7-PIN CORE, PROVIDED BY OWNER STOREROOM LOCKSET 3 HINGES CLOSER WITH HOLD-OPEN LEVERS, STRIKE, AND STRIKE PLATE KICKPLATES (INTERIOR SIDE) SILENCERS (3) WEATHER STRIPPING THRESHOLD DOOR SWEEP DRIP STRIP
4. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE CLEANED, PATCH AND REPAIR IF DAMAGED.	DOOR 3 - HOLLOW METAL FRAME ONLY
5. REMOVE AND DISPOSE OF FACE BRICK AND INSULATION. CUT BACK EXISTING MASONRY TIES, CLEAN OF DEBRIS AND MORTAR, TO SEMI-SMOOTH FINISH.	
6. SHEAR WALLS: SEE STRUCT. FRAMING PLAN SHEET FOR LOCATIONS & SHEAR WALL NOTES.	



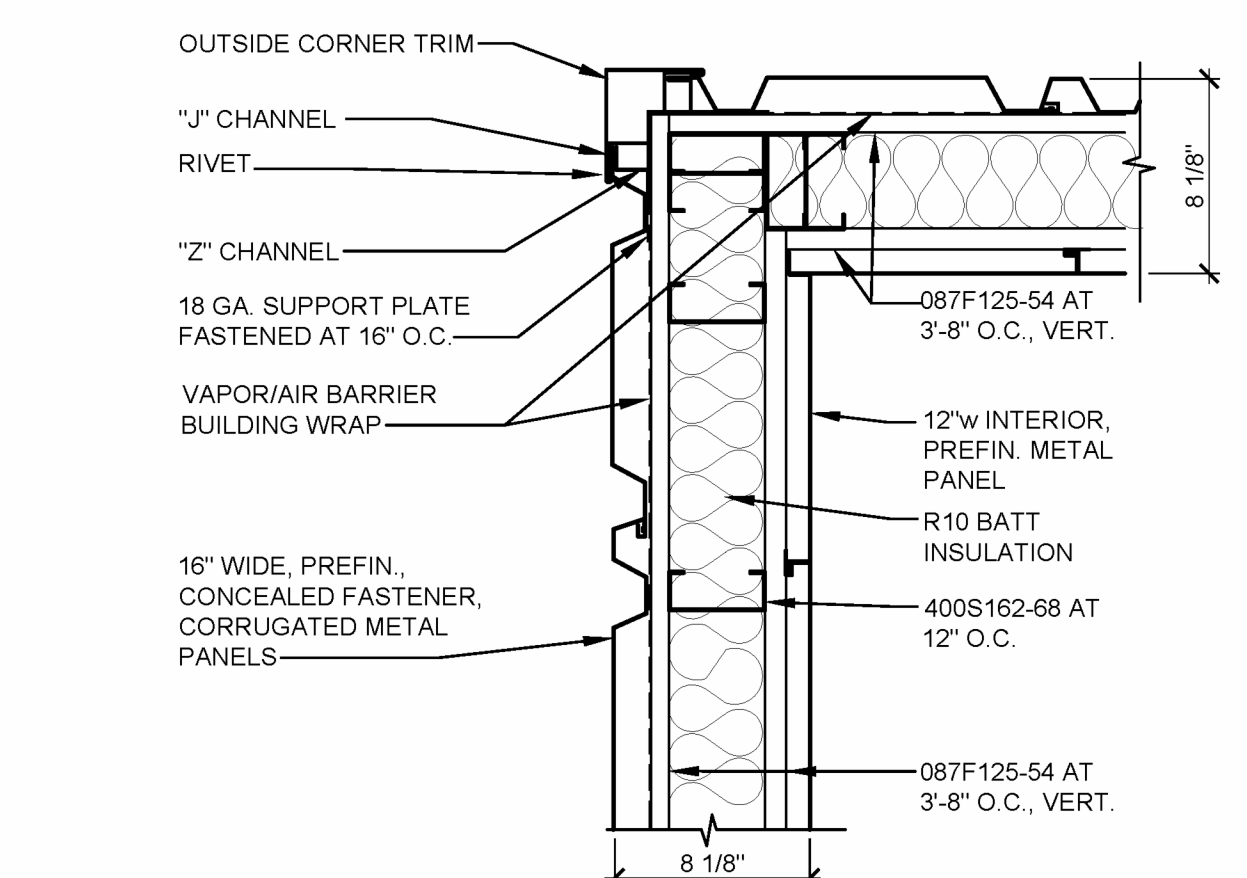
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A-101
SCALE: 1 1/2" = 1'-0"



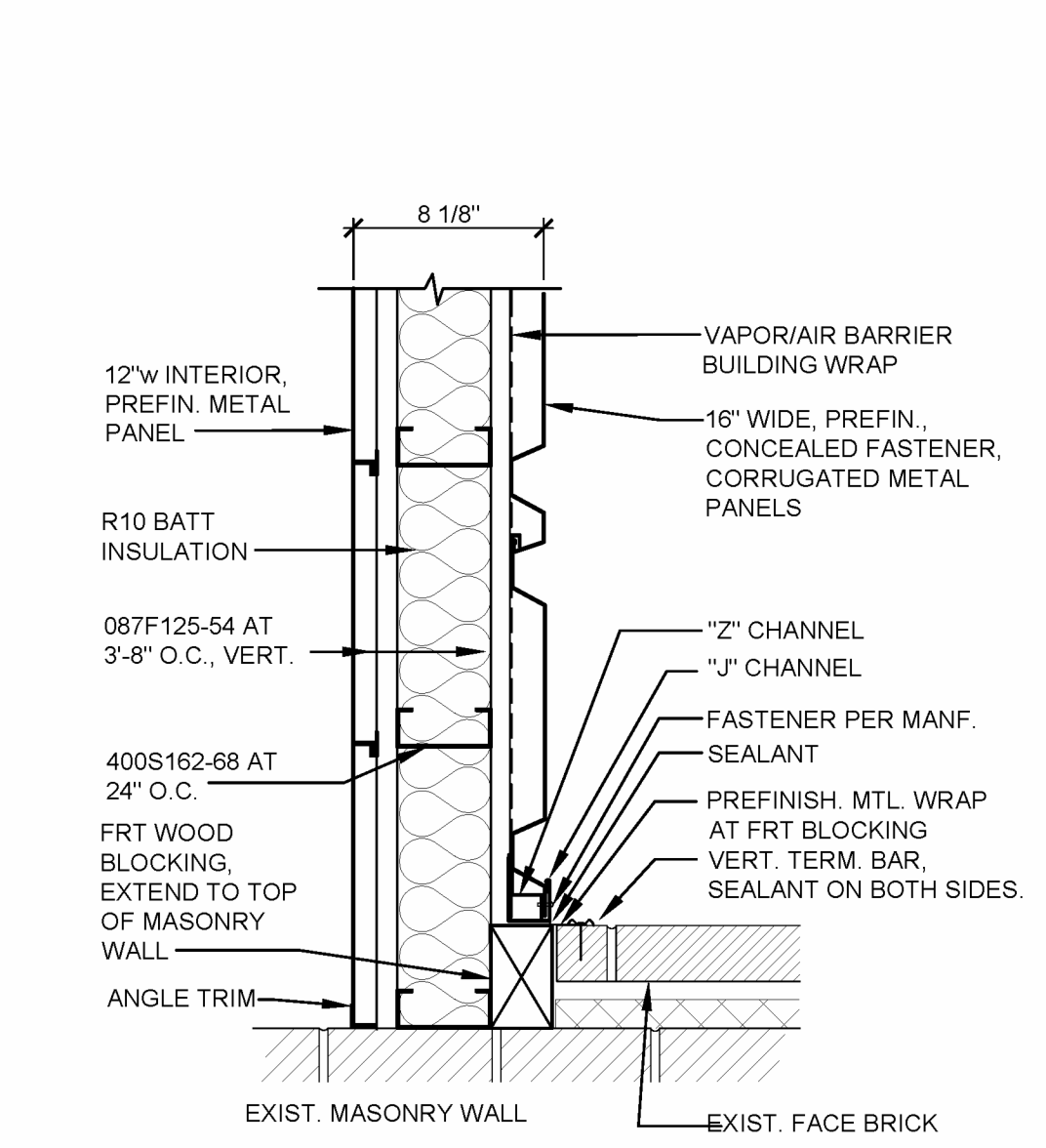
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SCALE: 1 1/2" = 1'-0"



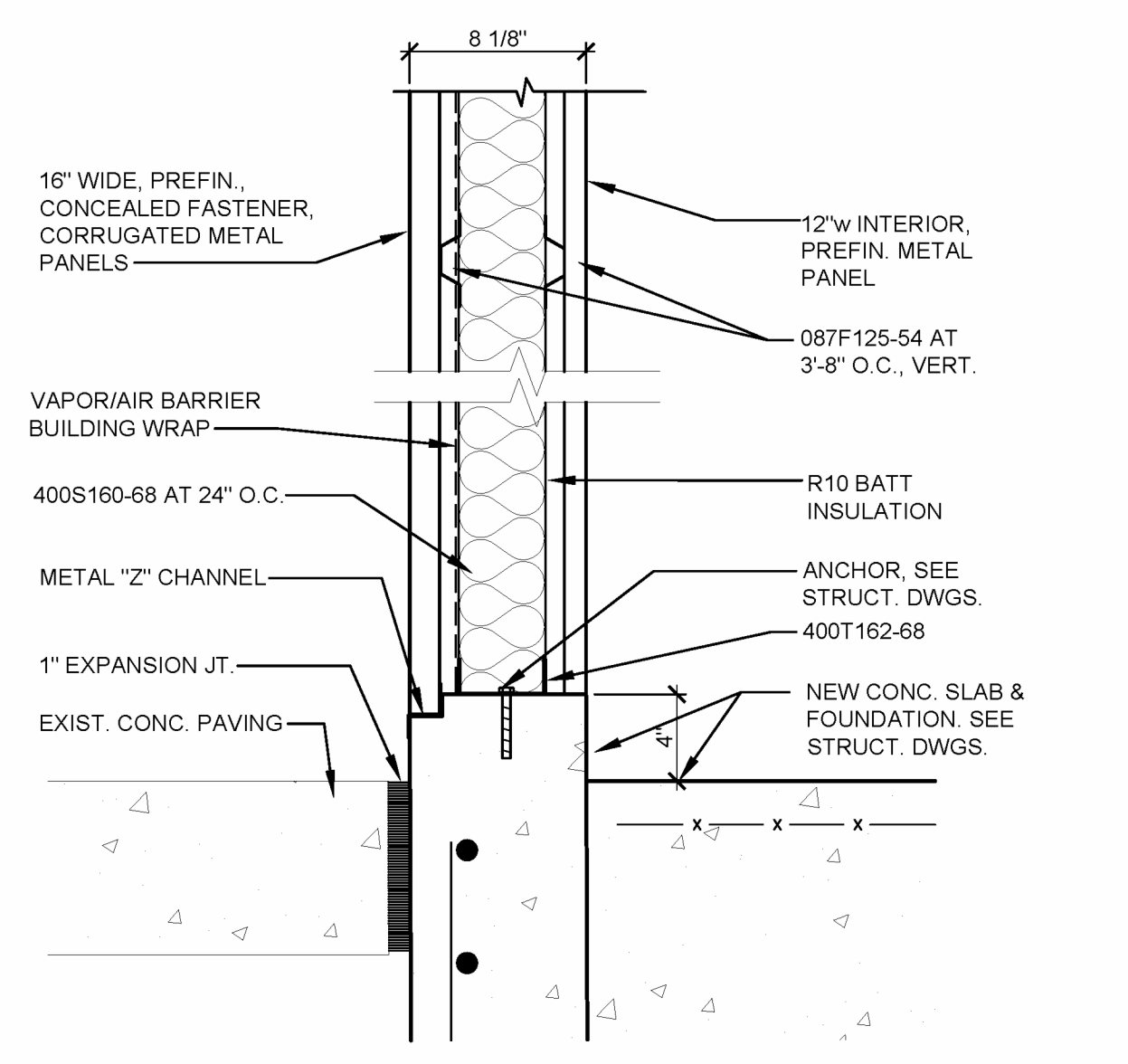
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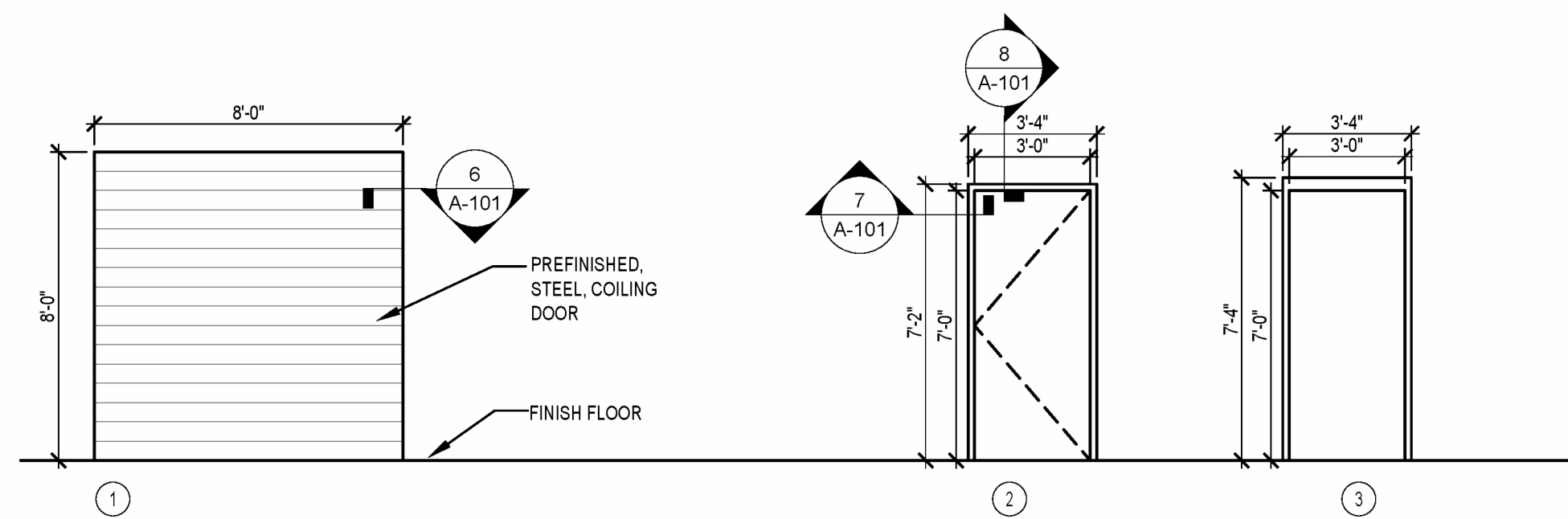
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SCALE: 1 1/2" = 1'-0"



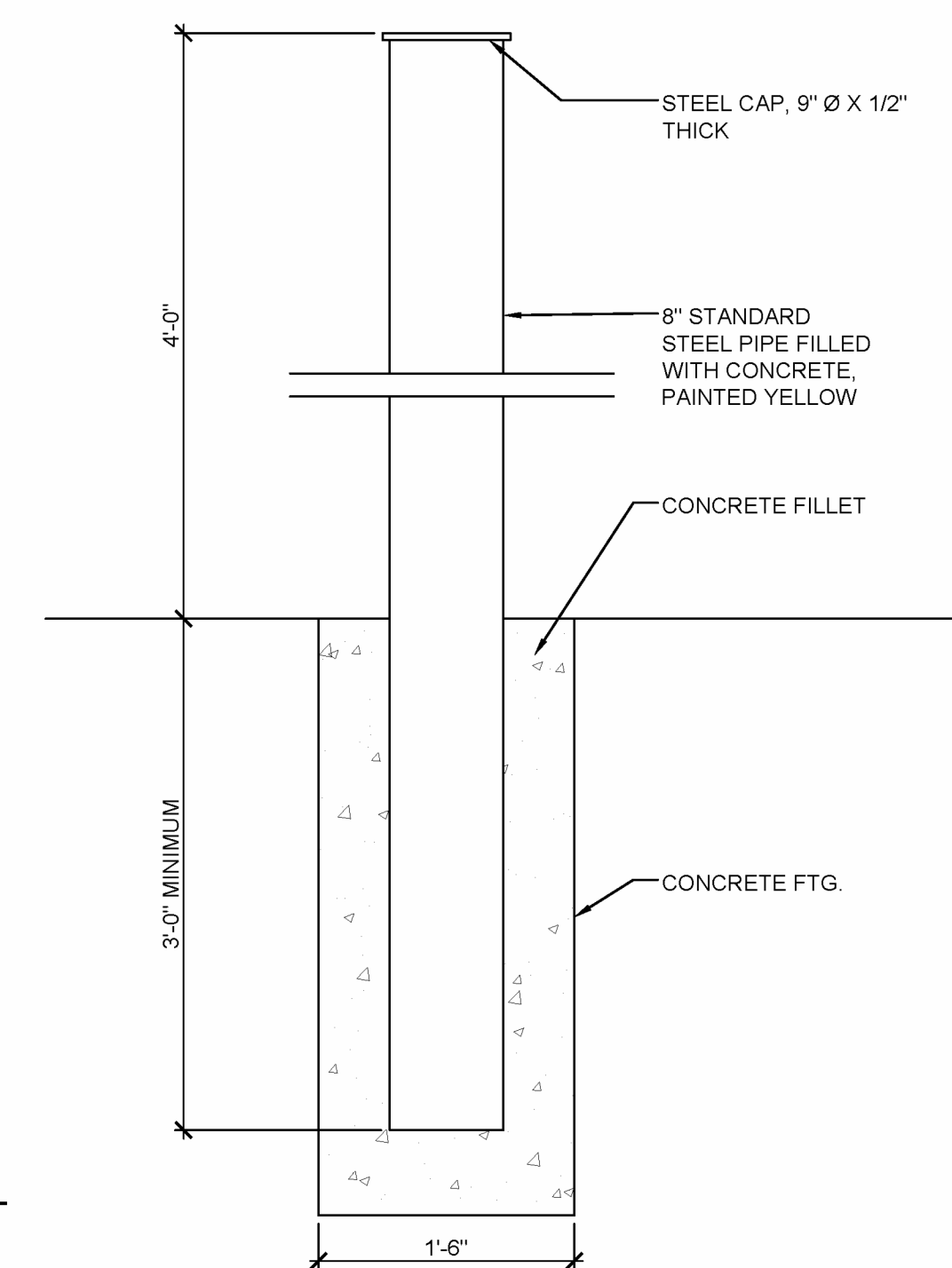
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SCALE: 1 1/2" = 1'-0"



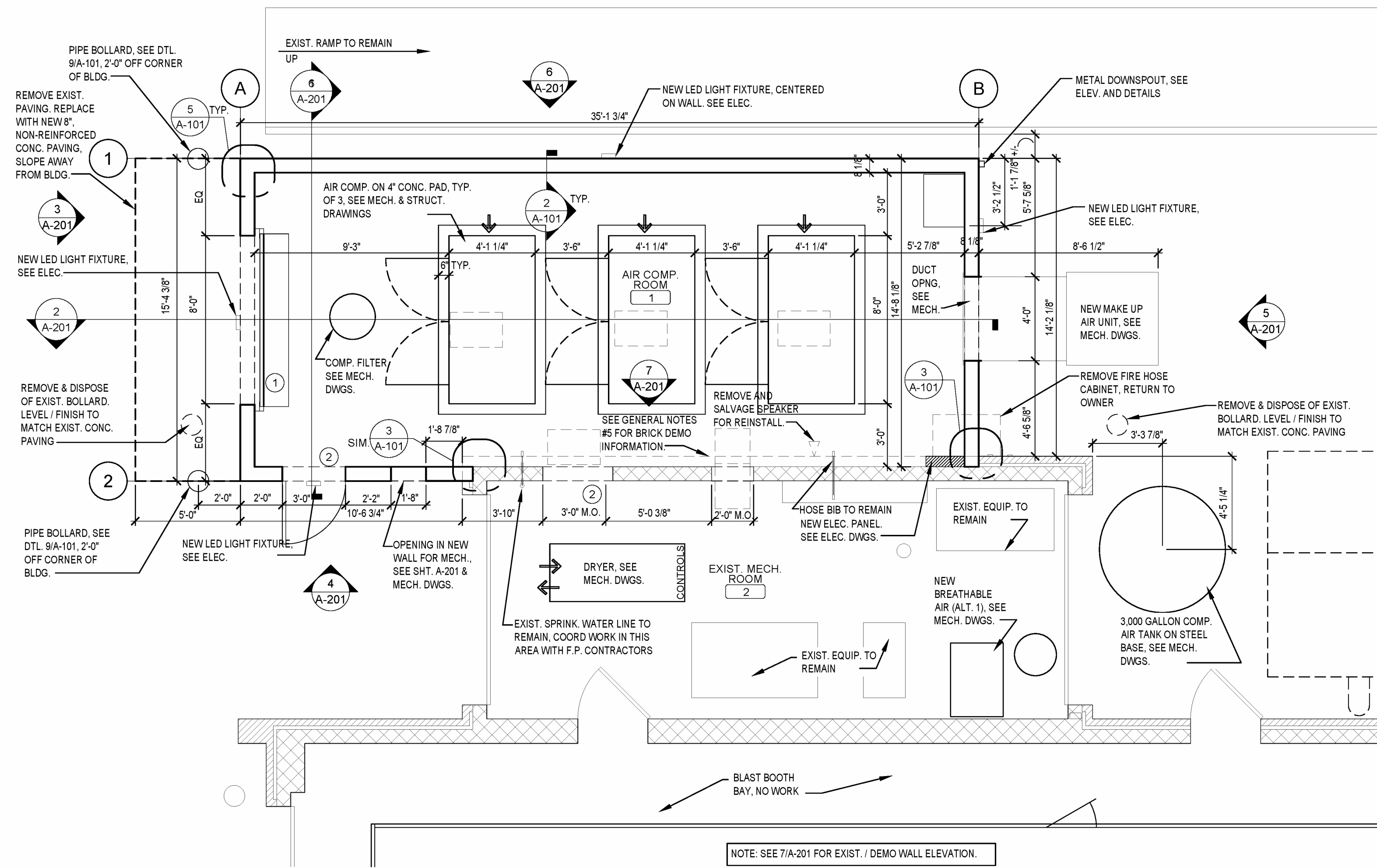
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SCALE: 1 1/2" = 1'-0"



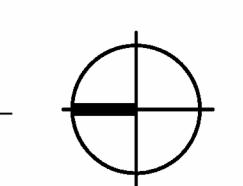
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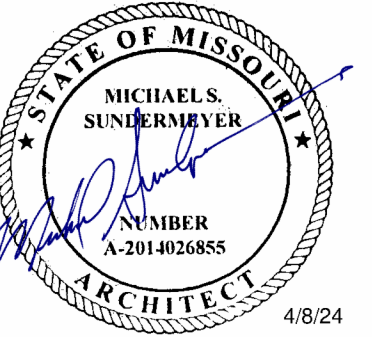


9
A-101
SCALE: 1" = 1'-0"



1
A-101
SCALE: 1/4" = 1'-0"





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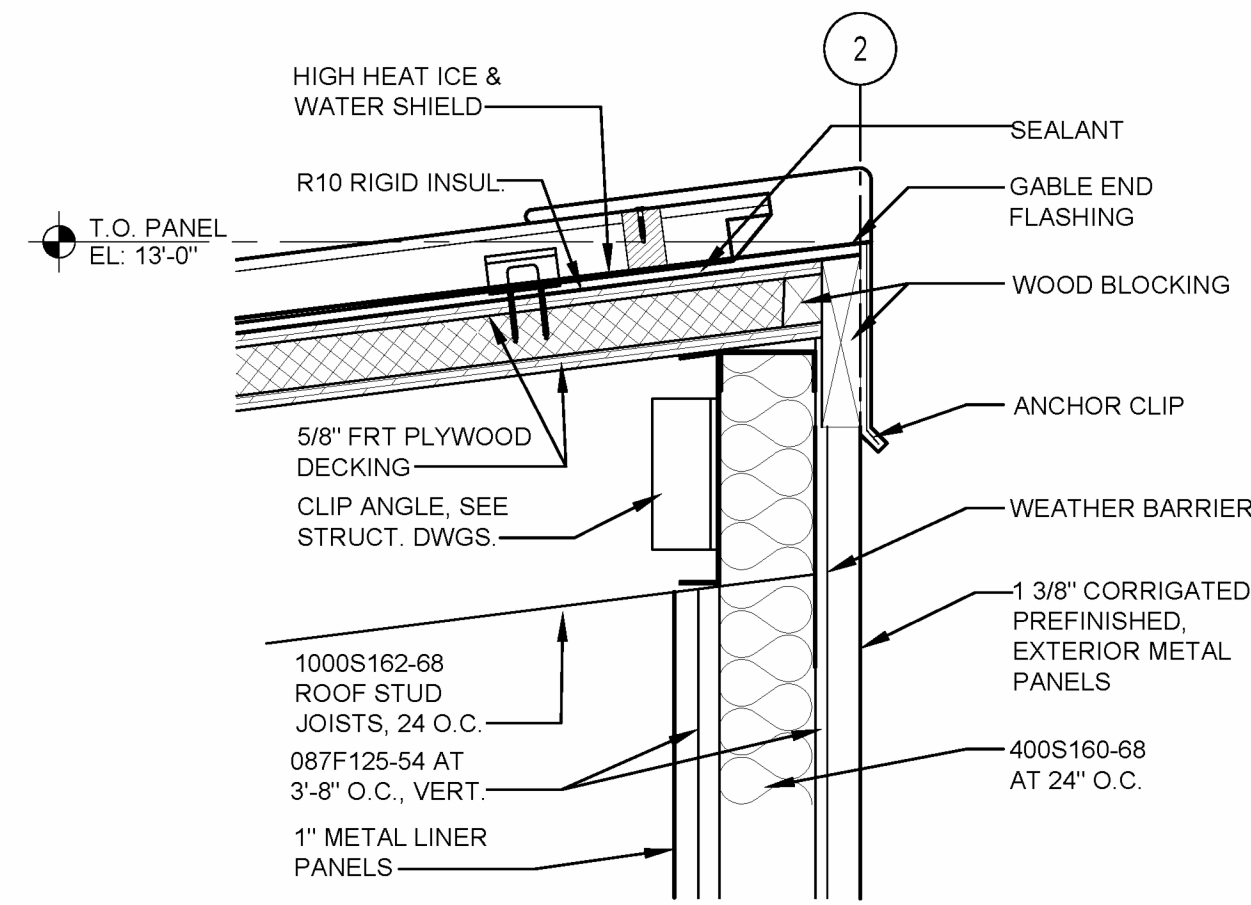
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ROOF PLAN &
DETAILS

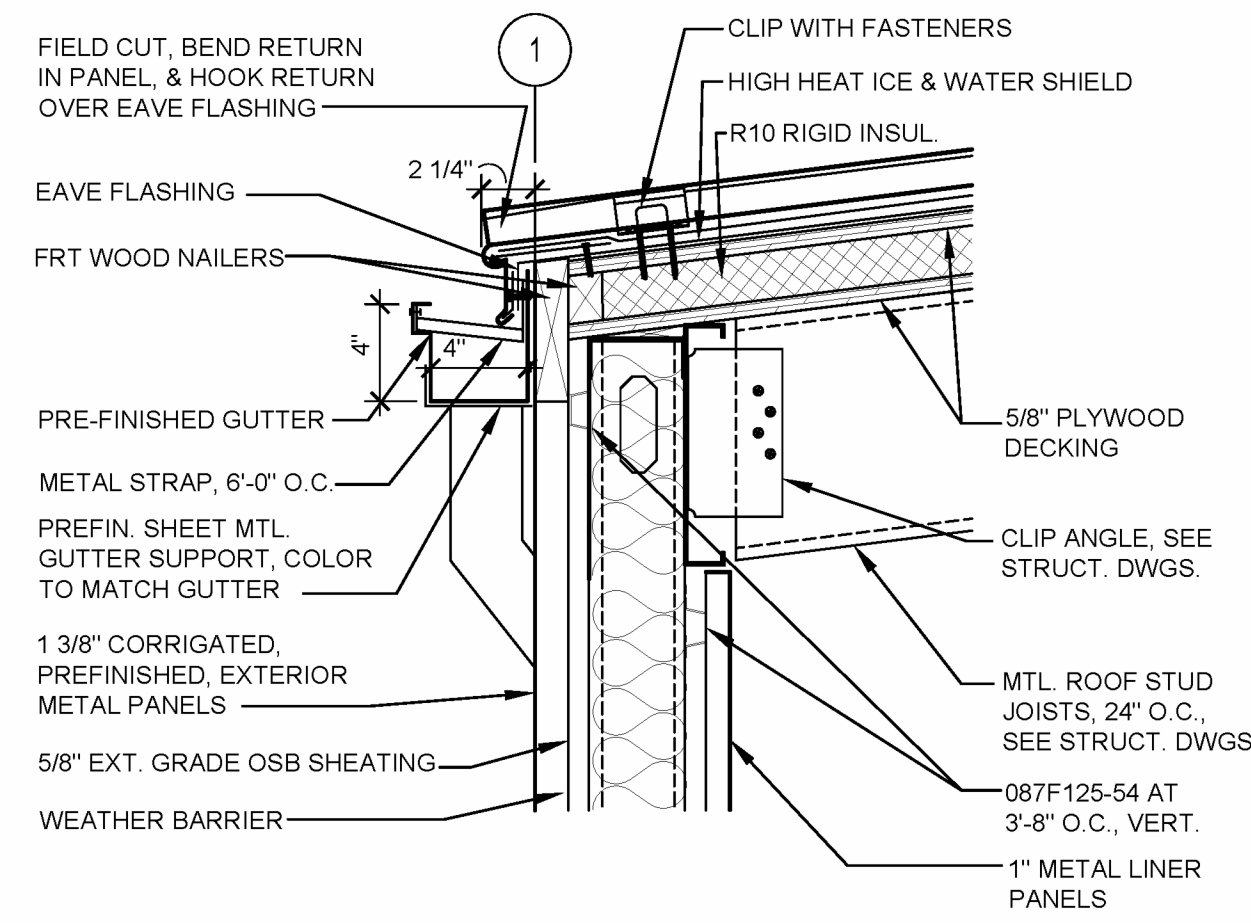
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A-102

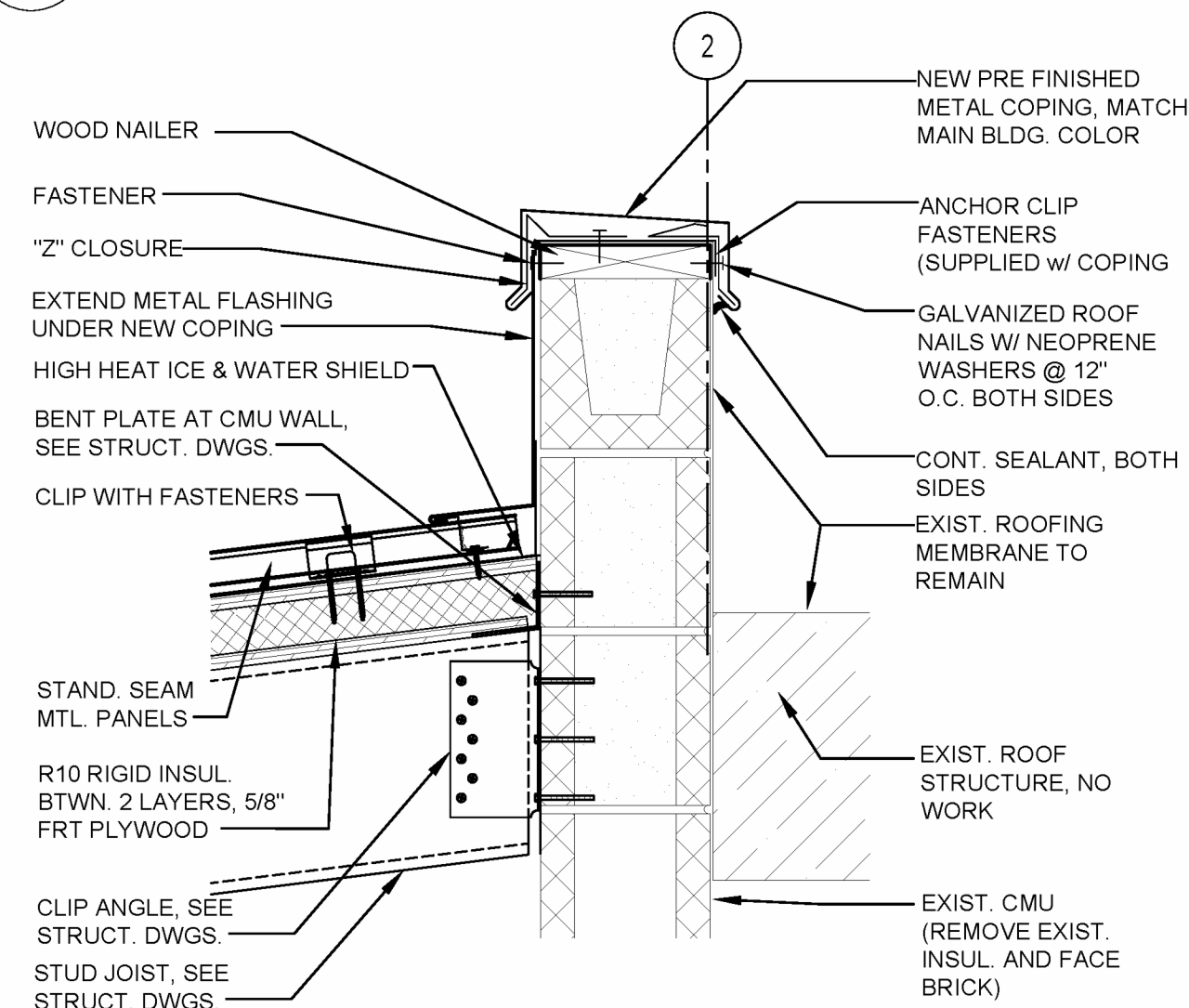
7 OF 13 SHEETS
04/08/2024



6 ROOF EDGE DETAIL
SCALE: 1 1/2" = 1'-0"

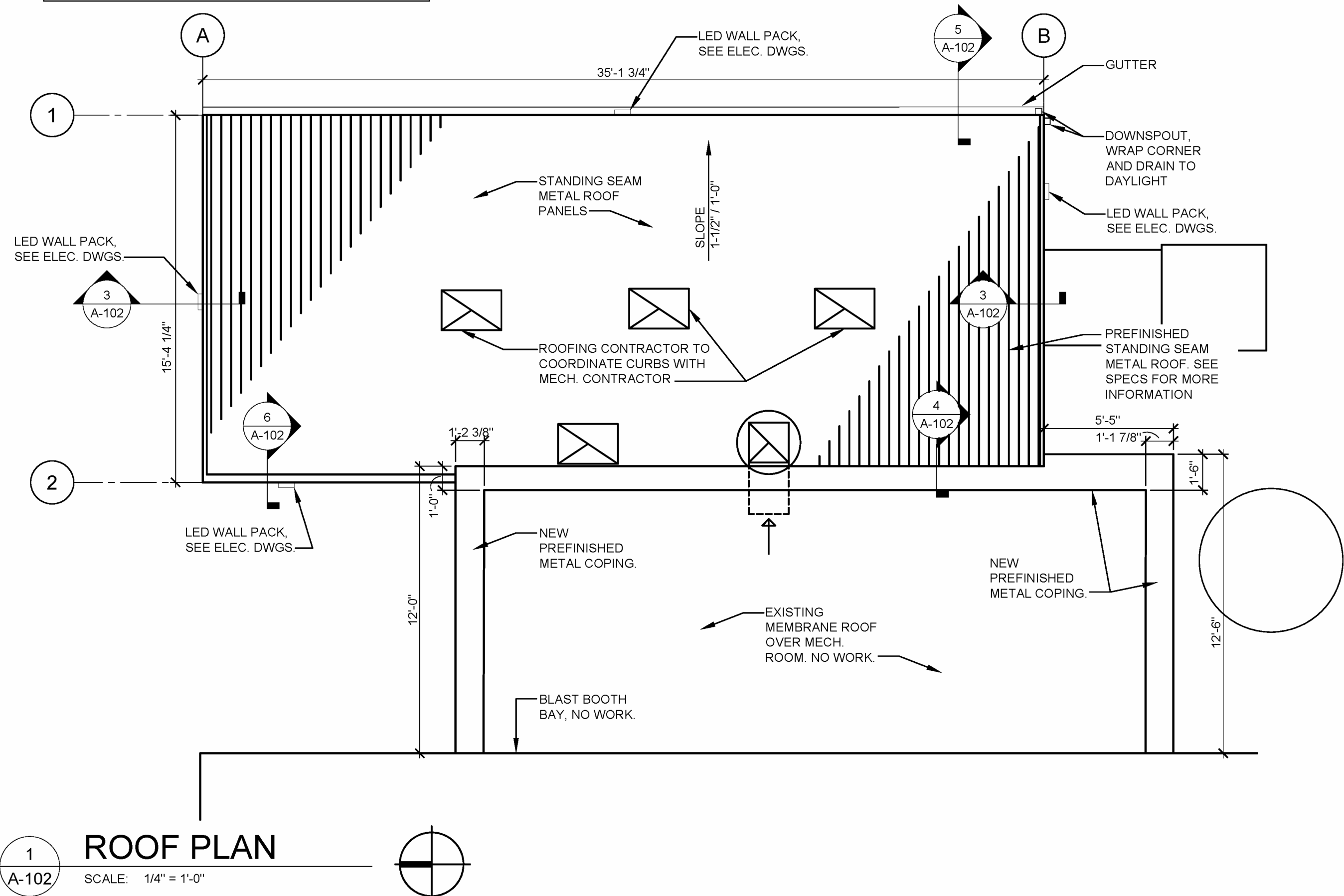


5 GUTTER DETAIL
SCALE: 1 1/2" = 1'-0"

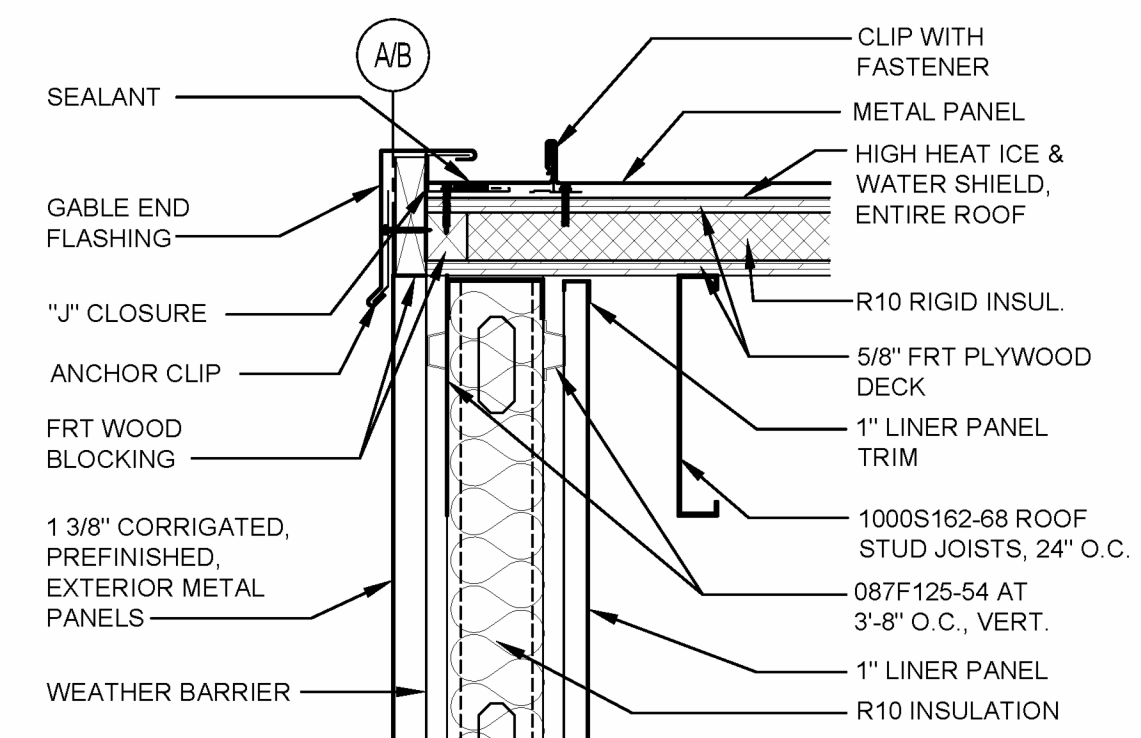


4 FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"

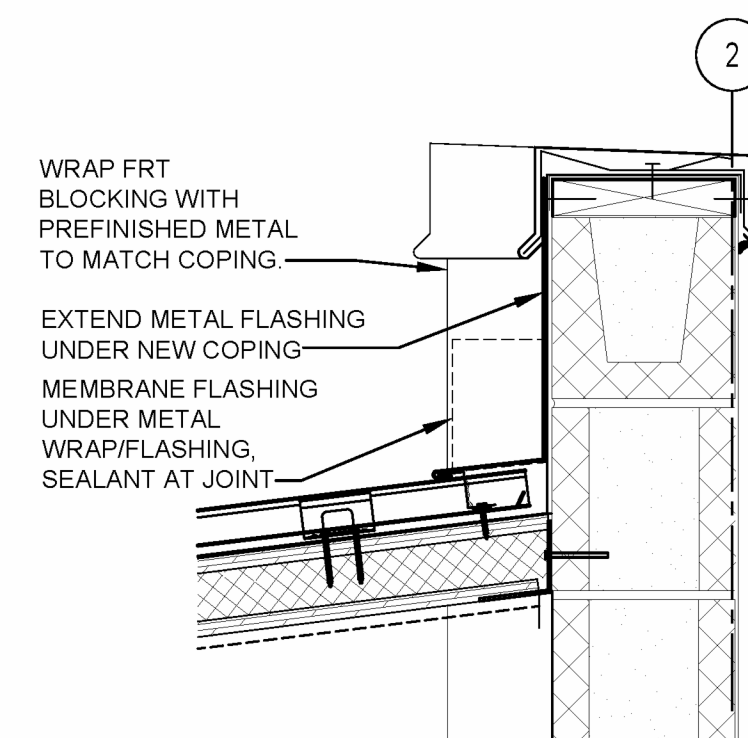
- GENERAL ROOF NOTES:**
1. VERIFY AND COORDINATE ROOF PENETRATIONS WITH MECHANICAL DRAWINGS.
 2. REFER TO SPECIFICATIONS FOR ALL ROOFING MATERIALS.
 3. G.C. SHALL INSURE GUTTER AND DOWNSPOUT ARE COMPLETELY CLEAR OF ALL DEBRIS DURING CONSTRUCTION AT ALL COMPLETION.
 4. ROOF AND NEW COPING AT EXISTING PARAPET TO MATCH COLOR OF EXISTING STANDING SEAM METAL ROOF COLOR, DMI - CLASSIC BROZE.



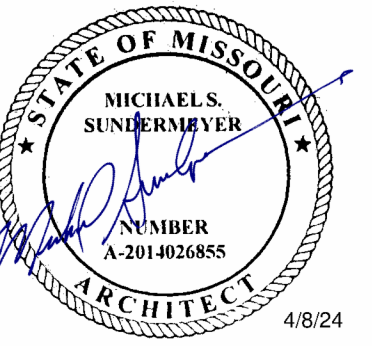
1 ROOF PLAN
SCALE: 1/4" = 1'-0"



3 ROOF EDGE DETAIL
SCALE: 1 1/2" = 1'-0"



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



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2302 MILITIA DRIVE
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PROJECT # T2336-01
SITE # 6300
FACILITY # 8136300007

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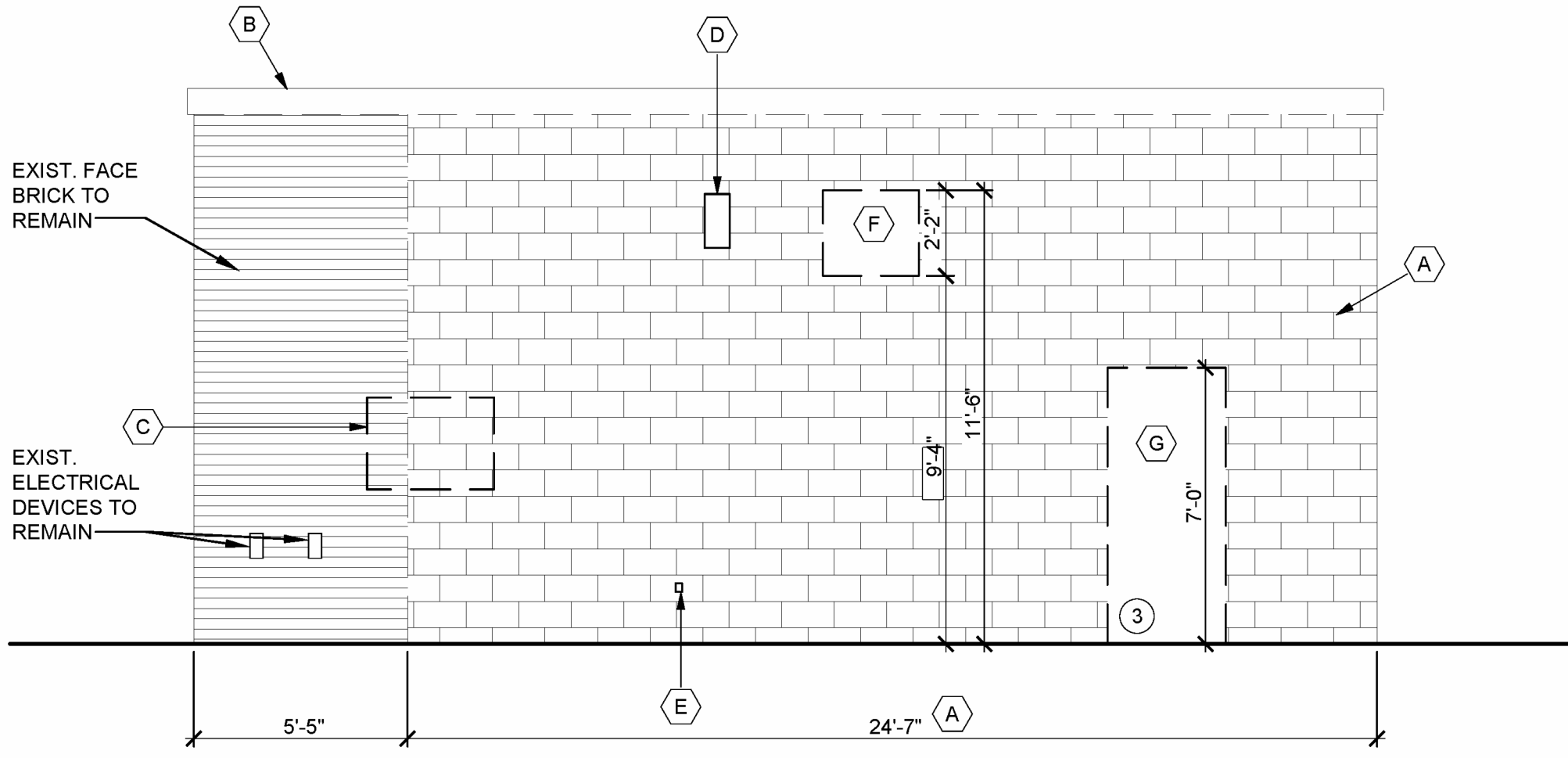
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BUILDING
ELEVATIONS &
SECTIONS

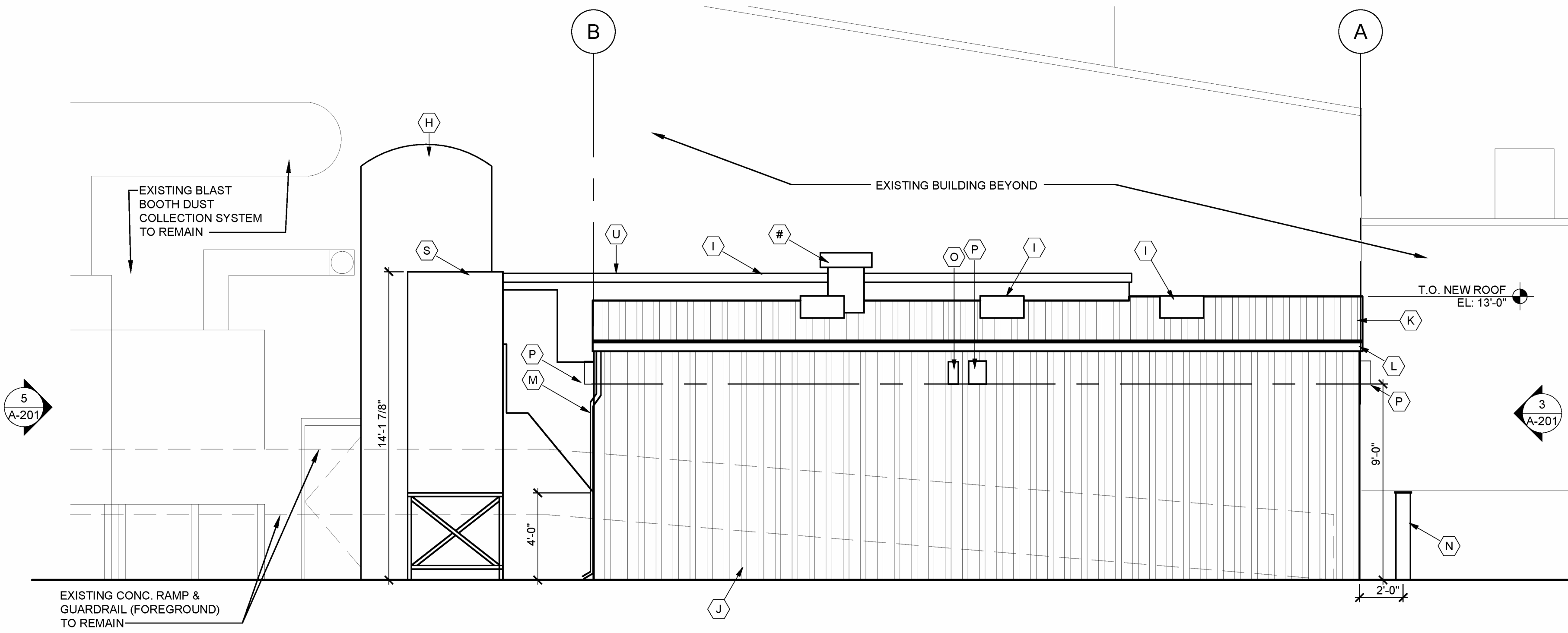
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A-201

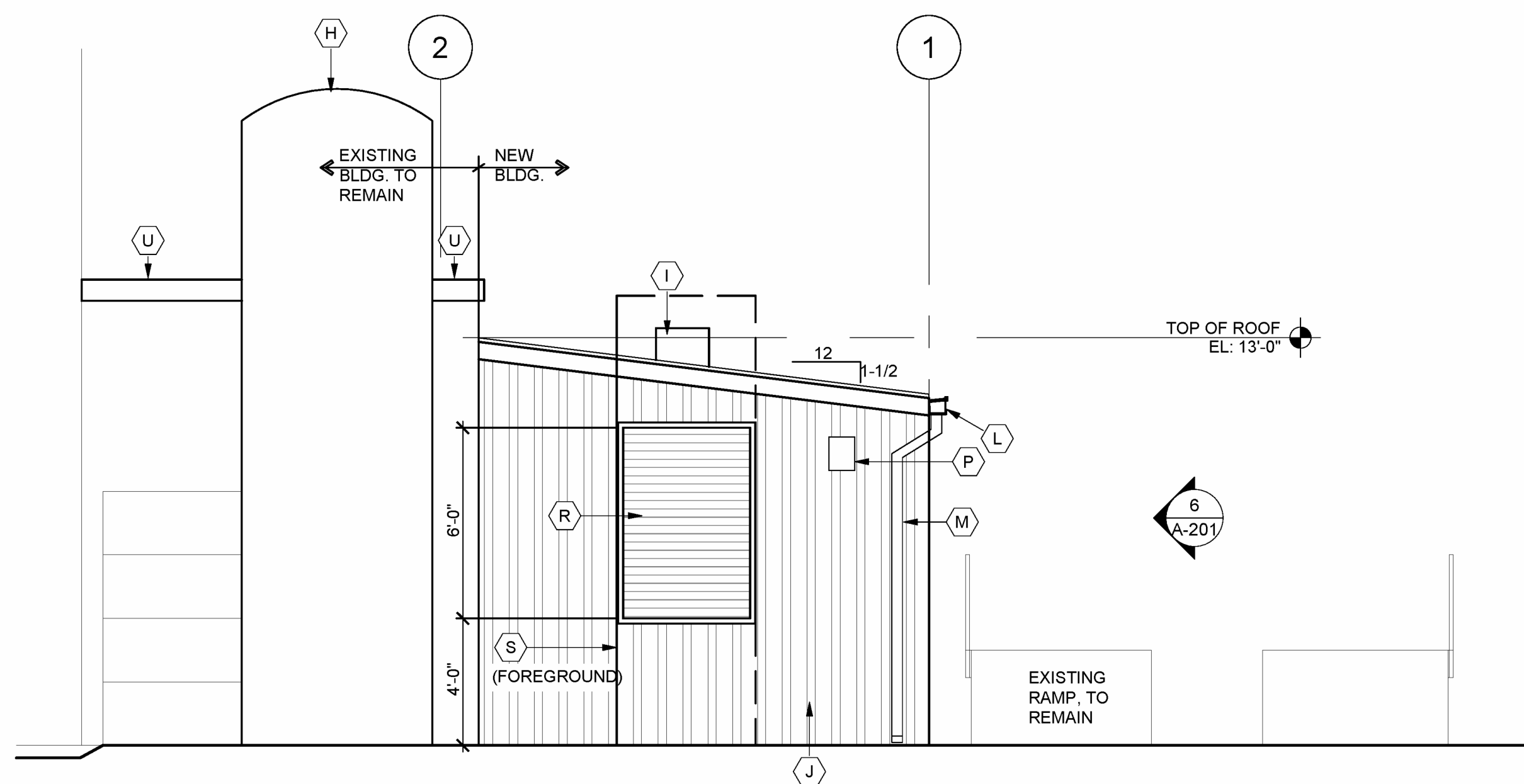
8 OF 13 SHEETS
04/08/2024



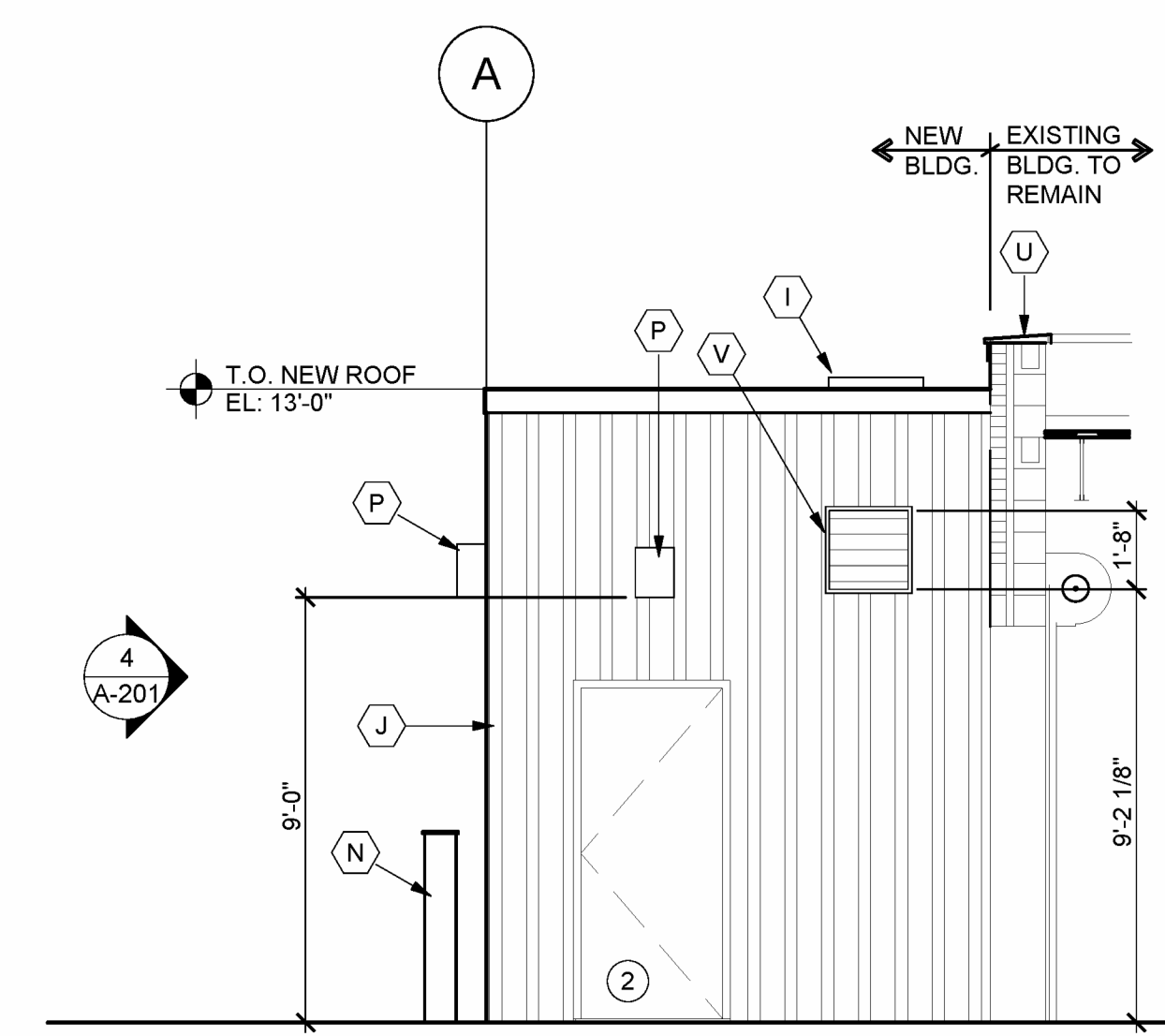
7 EAST ELEVATION (DEMO)
A201 SCALE: 1/8" = 1'-0"



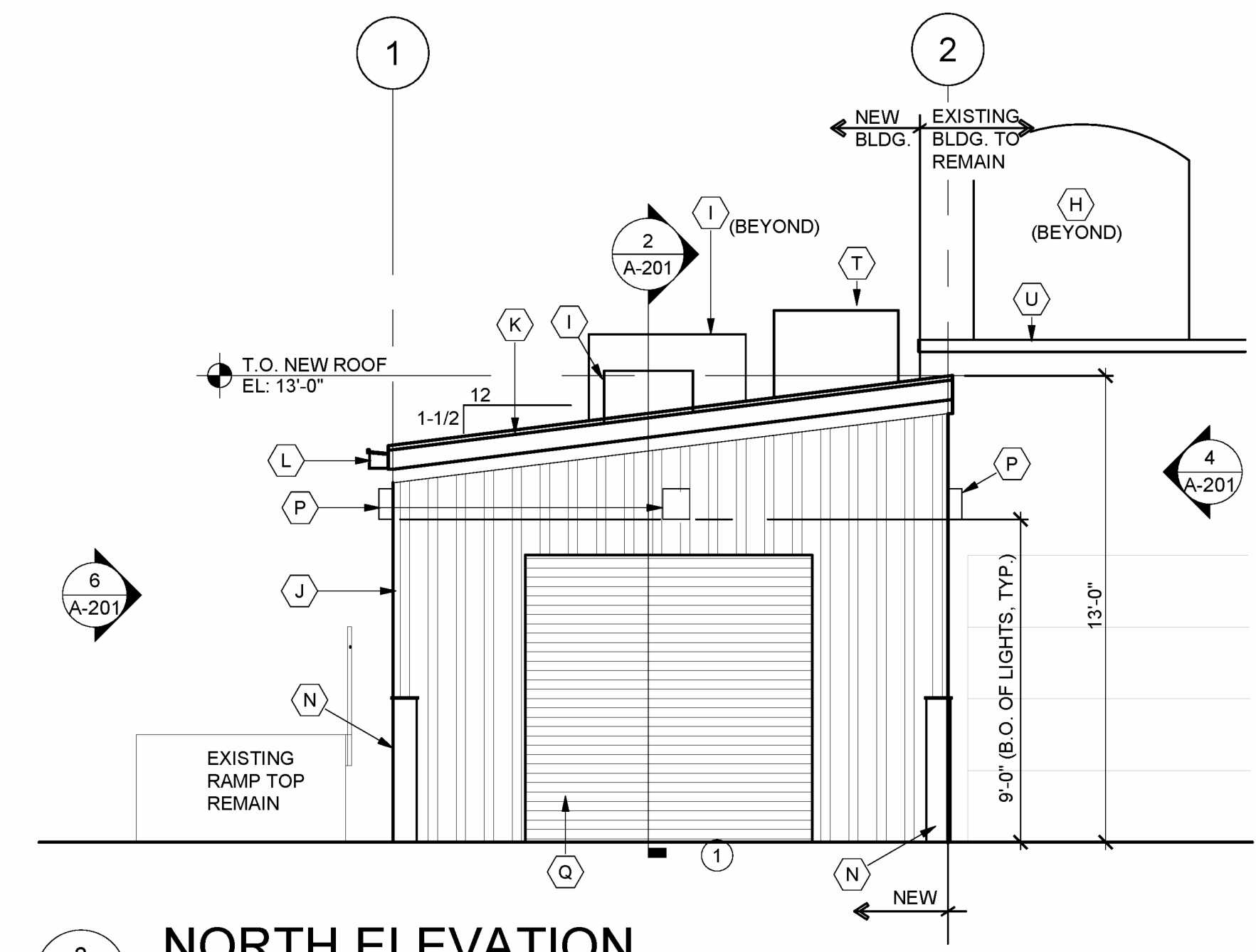
6 EAST ELEVATION (NEW)
A201 SCALE: 1/8" = 1'-0"



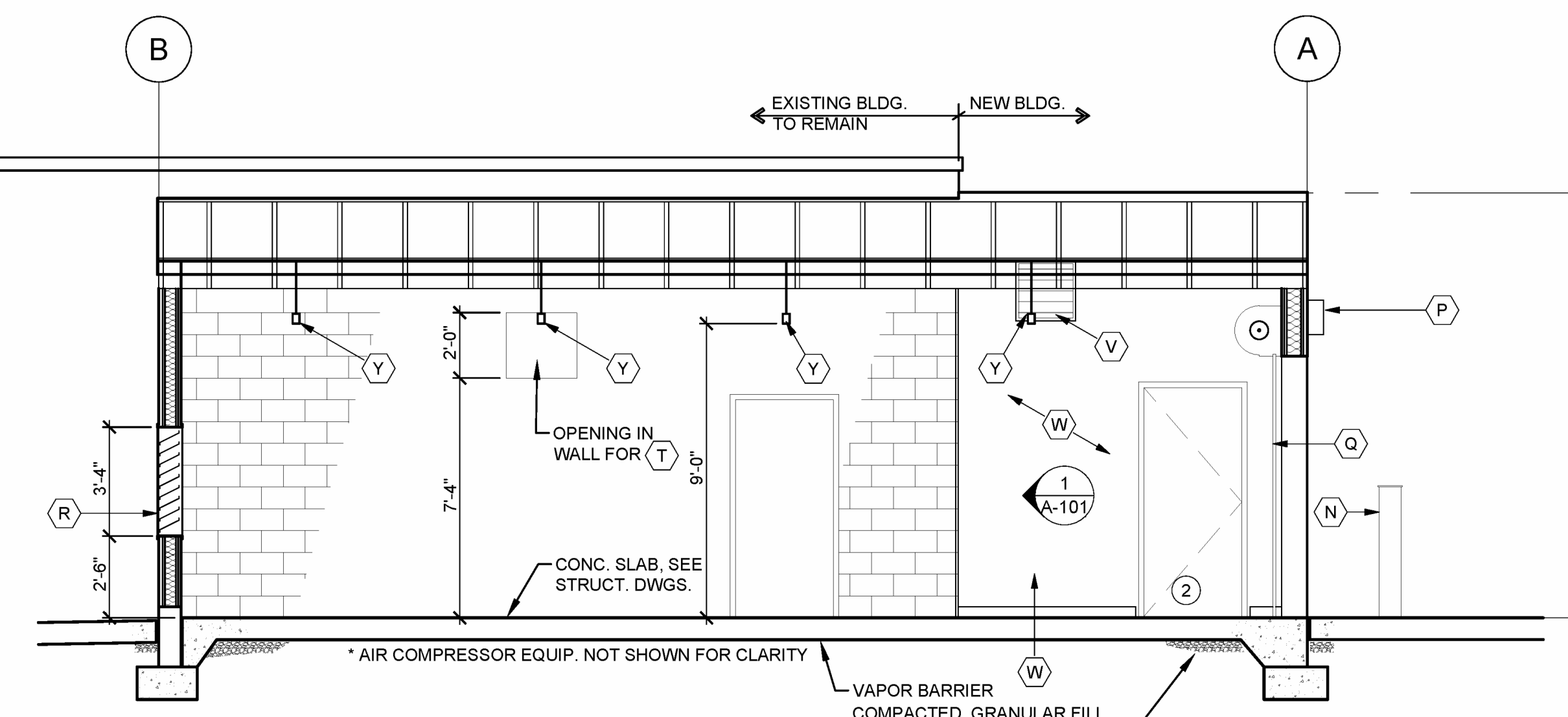
5 SOUTH ELEVATION
A201 SCALE: 1/8" = 1'-0"



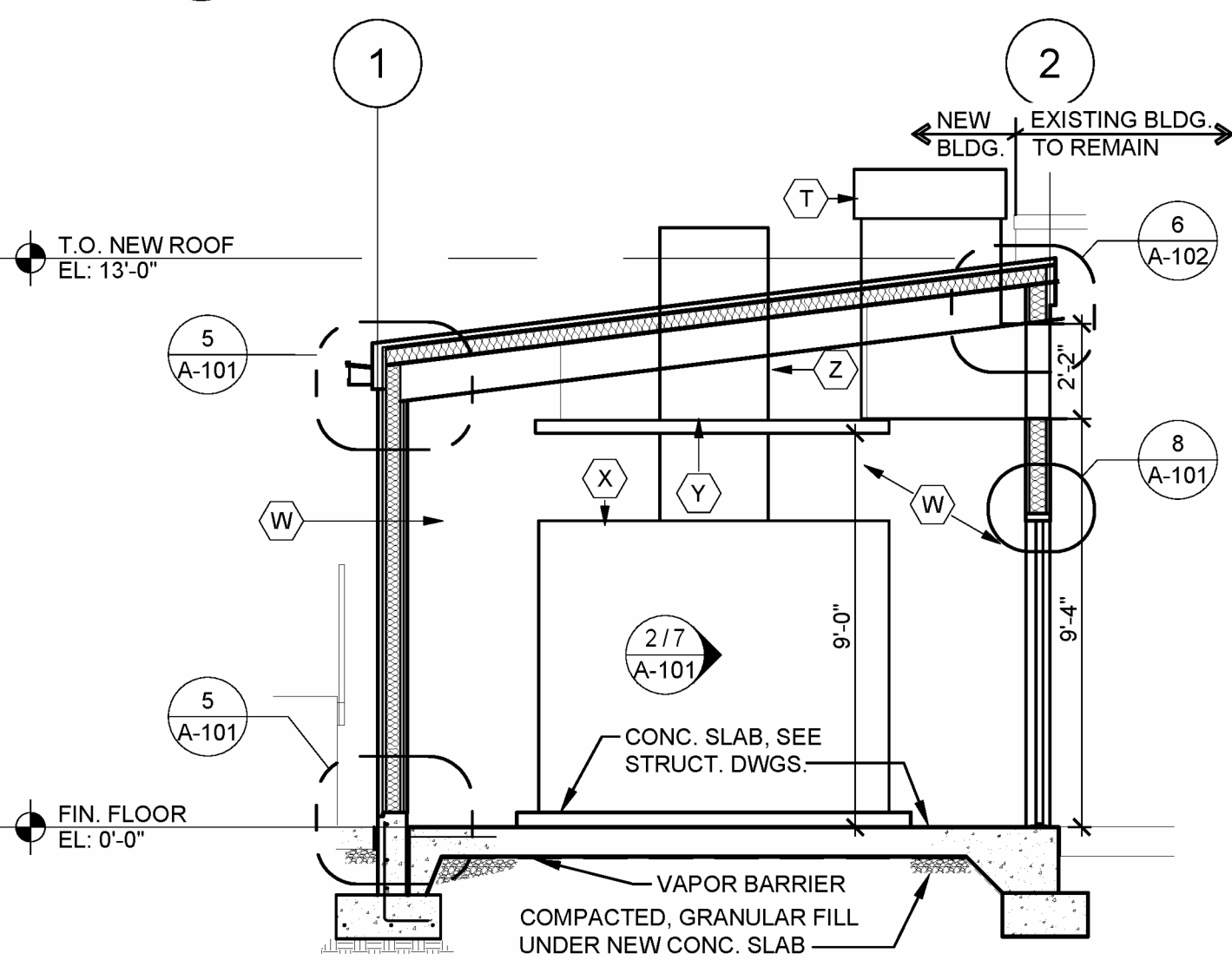
4 WEST ELEVATION
A201 SCALE: 1/8" = 1'-0"



3 NORTH ELEVATION
A201 SCALE: 1/8" = 1'-0"



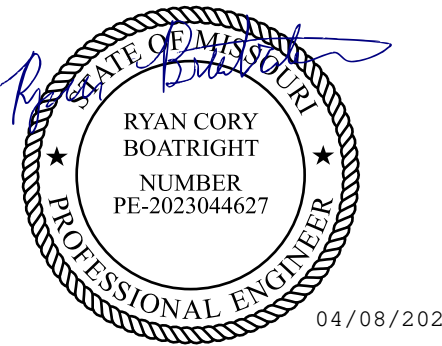
2 SECTION THRU ADDITON
A-201 SCALE: 1/4" = 1'-0"



1 SECTION THRU ADDITION
A-201 SCALE: 1/4" = 1'-0"

KEYED NOTES:

(A) REMOVE EXIST. BRICK AND INSULATION TO EXPOSE CMU WALL. CUT BACK BRICK TIES AND CLEAN BLOCK.	(M) METAL DOWNSPOUT
(B) REMOVE ALL METAL COPING AT MECHANICAL ROOM AND ANY DAMAGED WOOD BLOCKING.	(N) CONCRETE FILLED STEEL PIPE BOLLARD TO MATCH EXISTING. SEE DETAIL ON SHEET A-101.
(C) REMOVE EXISTING FIRE HOSE AND CABINET, RETURN TO OWNER.	(O) RELOCATED EXISTING LOUD SPEAKER.
(D) REMOVE LOUD SPEAKER, SALVAGE FOR REINSTALLATION ON NEW AIR COMP. ROOM.	(P) NEW WALL PACK LED LIGHT, SEE ELECTRICAL DRAWINGS.
(E) EXISTING HOSE BIB TO REMAIN. PROTECT DURING DEMO AND CONSTRUCTION.	(Q) NEW COILING OVERHEAD DOOR.
(F) CUT NEW OPENING FOR EXHAUST DUCT, SEE MECH. DRAWINGS FOR MORE INFORMATION.	(R) DUCT OPENING, SEE MECH. DRAWINGS.
(G) CUT NEW OPENING FOR FRAMED PASS-THROUGH.	(S) NEW MAKE UP AIR UNIT, SEE MECH. DRAWINGS.
(H) 3,000 GAL., COMPRESSED AIR STORAGE TANK. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.	(T) EXHAUST FAN, SEE MECH. DRAWINGS.
(I) AIR IN-TAKE. SEE ROOF PLAN AND MECH. DRAWINGS FOR MORE INFORMATION.	(U) NEW METAL COPING, MATCH EXISTING BUILDING (DARK BRONZE).
(J) METAL WALL PANELS, SEE SPECIFICATIONS AND DETAILS.	(V) LOUVER, SEE MECH. DRAWINGS
(K) STANDING SEAM METAL ROOF, SEE SPECIFICATIONS AND ROOF PLAN.	(W) 1'-0" WIDE, PREFINISHED, INTERIOR LINER PANELS
(L) METAL GUTTER	(X) AIR COMPRESSOR, TYP. OF 3
	(Y) SUSPENDED LED LIGHT FIXTURE, SEE ELEC. DWGS.
	(Z) COMPRESSOR EXH. DUCT, TYP. OF 3, SEE MECH. DWGS.



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DRAWN BY: MEA
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SHEET TITLE:

MECHANICAL
FLOOR PLAN

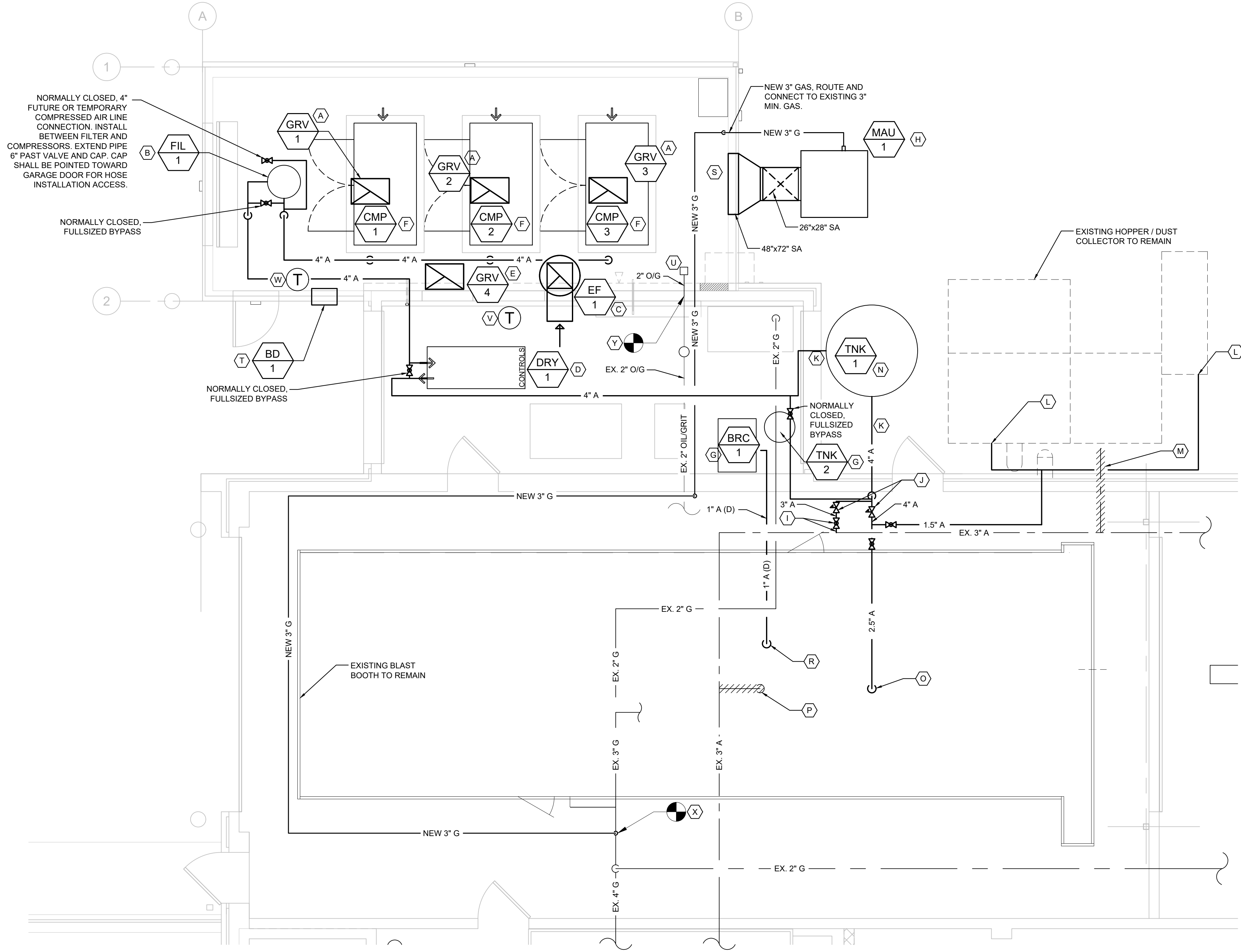
SHEET NUMBER:

M-101

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04/08/2024

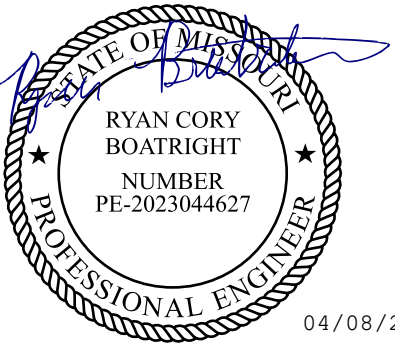
- KEYED NOTES:**
- (A) INSTALL NEW GRAVITY VENTILATOR ON ROOF OF NEW BUILDING. CONNECT 20"x30" DUCT FROM GRAVITY VENTILATOR DOWN TO NEW AIR COMPRESSOR.
 - (B) INSTALL NEW AIR FILTER IN ROOM. ROUTE NEW CONDENSATE LINE TO NEW FLOOR SINK LOCATED WITHIN MECHANICAL ROOM.
 - (C) INSTALL NEW EXHAUST FAN ON NEW ROOF. DUCT 20"x20" EXHAUST DUCT INTO EXISTING SPACE.
 - (D) INSTALL NEW DRYER ON EXISTING CONCRETE FLOOR. COMPRESSOR SHOULD BE BOLTED TO THE FLOOR WITH FOUR (4) M20 (3/4 INCH) BOLTS. SEAL BASE TO FLOOR WITH CORK OR RUBBER. ROUTE NEW CONDENSATE LINE TO EXISTING FLOOR DRAIN LOCATED WITHIN MECHANICAL ROOM.
 - (E) INSTALL NEW GRAVITY VENTILATOR ON NEW ROOF. ROUTE 30"x20" DUCT DOWN INTO NEW ROOM.
 - (F) INSTALL NEW 60 HP COMPRESSOR ON NEW CONCRETE PAD. ROUTE CONDENSATE LINE TO FLOOR SINK LOCATED WITHIN ROOM. COMPRESSOR SHOULD BE BOLTED TO THE FLOOR WITH FOUR (4) M20 (3/4 INCH) BOLTS. SEAL BASE TO FLOOR WITH CORK OR RUBBER.
 - (G) **BID ALTERNATE #1:** INSTALL NEW BREATHING AIR COMPRESSOR SYSTEM WITH 120 GAL TANK. INSTALL CARBON MONOXIDE DETECTOR AND CONNECT INTO TANK TO SAMPLE AIR. AT CONNECTION TO FILTER AND TANK, INSTALL UNION IN PIPING.
 - (H) INSTALL NEW MAKE-UP AIR UNIT ON MINIMUM 20" CURB ON GRADE. BOLT CURB TO GRADE USING CONCRETE ANCHOR BOLTS.
 - (I) CONNECT NEW 3" COMPRESSED AIR LINE INTO EXISTING COMPRESSED AIR LINE. INSTALL MANUAL BALL VALVE IN LINE TO ALLOW ISOLATION AS NEEDED. NORMALLY CLOSED.
 - (J) INSTALL NEW PRESSURE REGULATING VALVES IN NEW COMPRESSED AIR LINE. SET TO 105 PSIG.
 - (K) HEAT TRACE EXTERIOR COMPRESSED AIR LINES AND DRAINS WITH A SELF REGULATING, MINIMUM 10 W / FT HEAT TRACE TAPE. COORDINATE WITH ELECTRICAL FOR LOCATION OF DISCONNECT.
 - (L) ROUTE NEW COMPRESSED AIR LINE OUTSIDE AND CONNECT TO EXISTING DUST COLLECTORS. INSTALL UNIONS AT CONNECTION POINTS FOR EASE OF REPLACEMENT. SEAL AROUND PENETRATION THROUGH WALL.
 - (M) DEMOLISH EXISTING COMPRESSED AIR LINE OUT TO EXISTING HOPPERS. CAP BACK AT EXISTING COMPRESSED AIR LINE. PATCH OPENING IN EXISTING WALL.
 - (N) INSTALL NEW COMPRESSED AIR BREATHING TANK ON GRADE. BOLT TO EXISTING CONCRETE USING CONCRETE ANCHOR BOLTS.
 - (O) ROUTE NEW COMPRESSED AIR LINE DOWN TO EXISTING BLAST TANKS. CONNECT COMPRESSED AIR INTO BLAST TANKS. INSTALL ISOLATION VALVE AND UNION AT EACH TANK FOR EASE OF SERVICE. AIR LINE SIZES TO EACH TANK SHALL BE 1.5".
 - (P) DEMOLISH EXISTING COMPRESSED AIR LIKE TO EXISTING BLAST TANKS. CAP BACK AT EXISTING COMPRESSED AIR LINE.
 - (R) **BID ALTERNATE #1:** DEMOLISH EXISTING BREATHING AIR LINE TO EXISTING HEADER TO BREATHING AIR CONNECTION POINTS. CAP PIPING BACK AT MAIN. ROUTE NEW 1" BREATHING AIR PIPE TO BREATHING AIR HEADER.
 - (S) 48"x72" SUPPLY AIR DUCT THROUGH EXTERIOR WALL. INSTALL BIRD SCREEN ON OPEN END WITHIN BUILDING.
 - (T) INSTALL NEW 20"x20" BAROMETRIC DAMPER.
 - (U) CONNECT NEW 6"x6"x6" FLOOR SINK WITH GRATE INTO EXISTING OIL/GRIT LINE. ROUTE CONDENSATE FROM AIR COMPRESSORS AND FILTER TO NEW FLOOR SINK WITHIN ROOM. FIELD CUT HOLES IN GRATE TO TURN CONDENSATE DOWN WITHIN BOWL.
 - (V) INSTALL NEW THERMOSTAT 4" A.F.F. CONNECT THERMOSTAT INTO NEW EXHAUST FAN.
 - (W) INSTALL NEW THERMOSTAT AND PRESSURE SENSOR 4" A.F.F. CONNECT THERMOSTAT AND PRESSURE SENSOR INTO NEW MAKE UP AIR UNIT.
 - (X) CONNECT NEW 3" GAS TO EXISTING 3" MIN. GAS LINE. CONNECT NEW GAS LINE TO TOP OF EXISTING GAS PIPING.
 - (Y) EXTEND AND CONNECT NEW 2" OIL/GRIT TO EXISTING 2" MIN. OIL/GRIT. ASSUMED INVERT OF A MINIMUM OF 4" 6" BASED ON AS BUILT DRAWINGS. CONTRACTOR TO VERIFY. CONTACT ENGINEER FOR DISCREPANCIES.

MECHANICAL/PLUMBING SYMBOLS LEGEND	
— O/G —	NEW OIL / GRIT PIPING (BELOW SLAB)
--- EX O/G ---	EXISTING OIL / GRIT PIPING
- V -	NEW SANITARY VENT
- EX V -	EXISTING SANITARY VENT
— NEW G —	NEW GAS PIPING
- EX. G -	EXISTING GAS PIPING
— A —	NEW COMPRESSED AIR PIPING
- EX. A -	EXISTING COMPRESSED AIR PIPING
- A (D) -	NEW GRADE D BREATHABLE AIR
XXX	EQUIPMENT/FIXTURE DESIGNATION
⬡	KEYED NOTE
⬢	REVISION NUMBER
⊙	POINT OF CONNECTION (NEW TO EXISTING)
TYP.	TYPICAL
V.I.F.	VERIFY IN FIELD
▷	FLOW DIRECTION
	DEMOLITION



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

1
M-101



RYAN CORY BOATRIGHT
License Number: 2023044627
Expiration Date: 12/31/25
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EXHAUST FAN SEQUENCE OF OPERATION

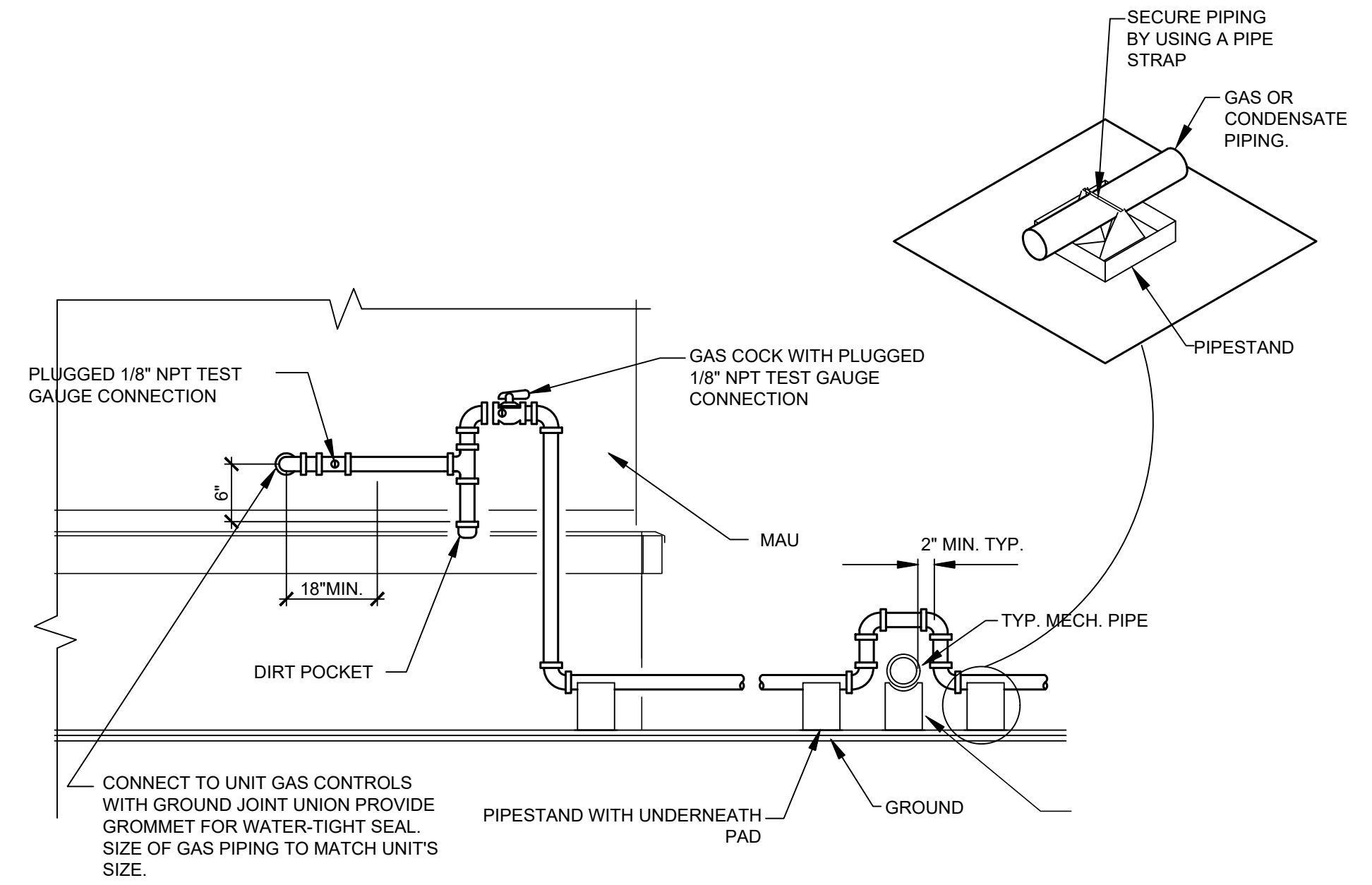
ENABLE/DISABLE
WHEN THE SPACE TEMPERATURE REACHES 75 DEG F OR ABOVE, FAN SHALL BE ENABLED. IF THE SPACE TEMPERATURE IS BELOW 70 DEG F, THE FAN SHALL BE DISABLED. FAN SHALL BE SET AT A SINGLE SPEED MANUALLY USING THE ONBOARD POTENTIOMETER. ENABLE/DISABLE SIGNAL SHALL COME FROM THERMOSTAT.
GRV-4 MOTORIZED BACKDRAFT DAMPER
WHEN EF-1 IS ENABLED, BACKDRAFT DAMPER SHALL OPEN. BACKDRAFT DAMPER ON GRV-4 SHALL FAIL CLOSED.

GRV 1, 2, AND 3 SEQUENCE OF OPERATION

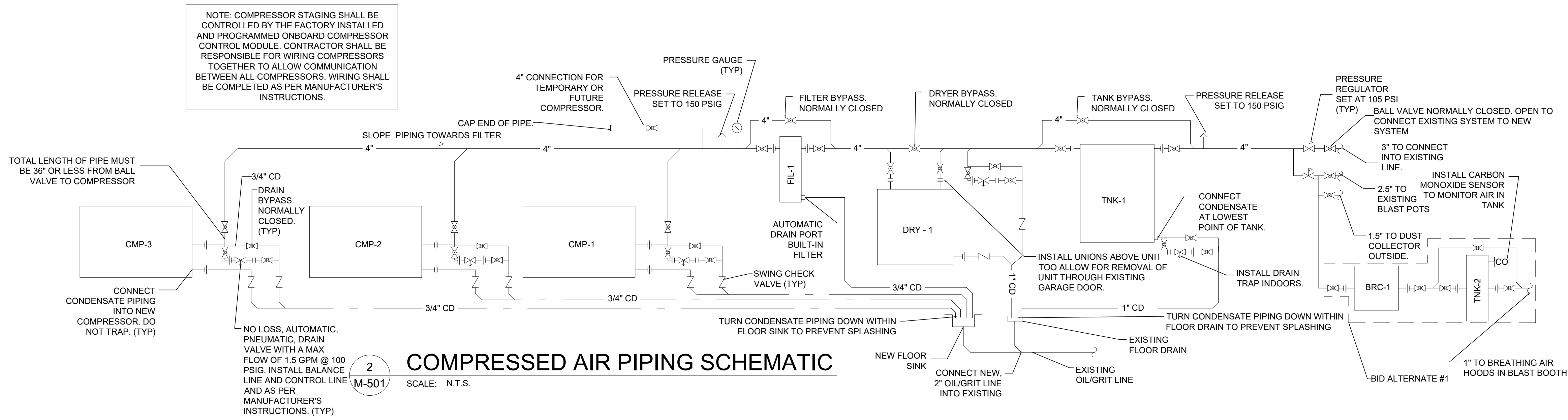
ENABLE/DISABLE
WHEN THE CORRESPONDING COMPRESSOR IS ENABLED, THE BACKDRAFT DAMPER LOCATED WITHIN GRV 1, 2, AND 3 SHALL BE OPENED. DAMPER SHALL FAIL OPEN, POWERED CLOSED.

MAKE UP AIR UNIT SEQUENCE OF OPERATION

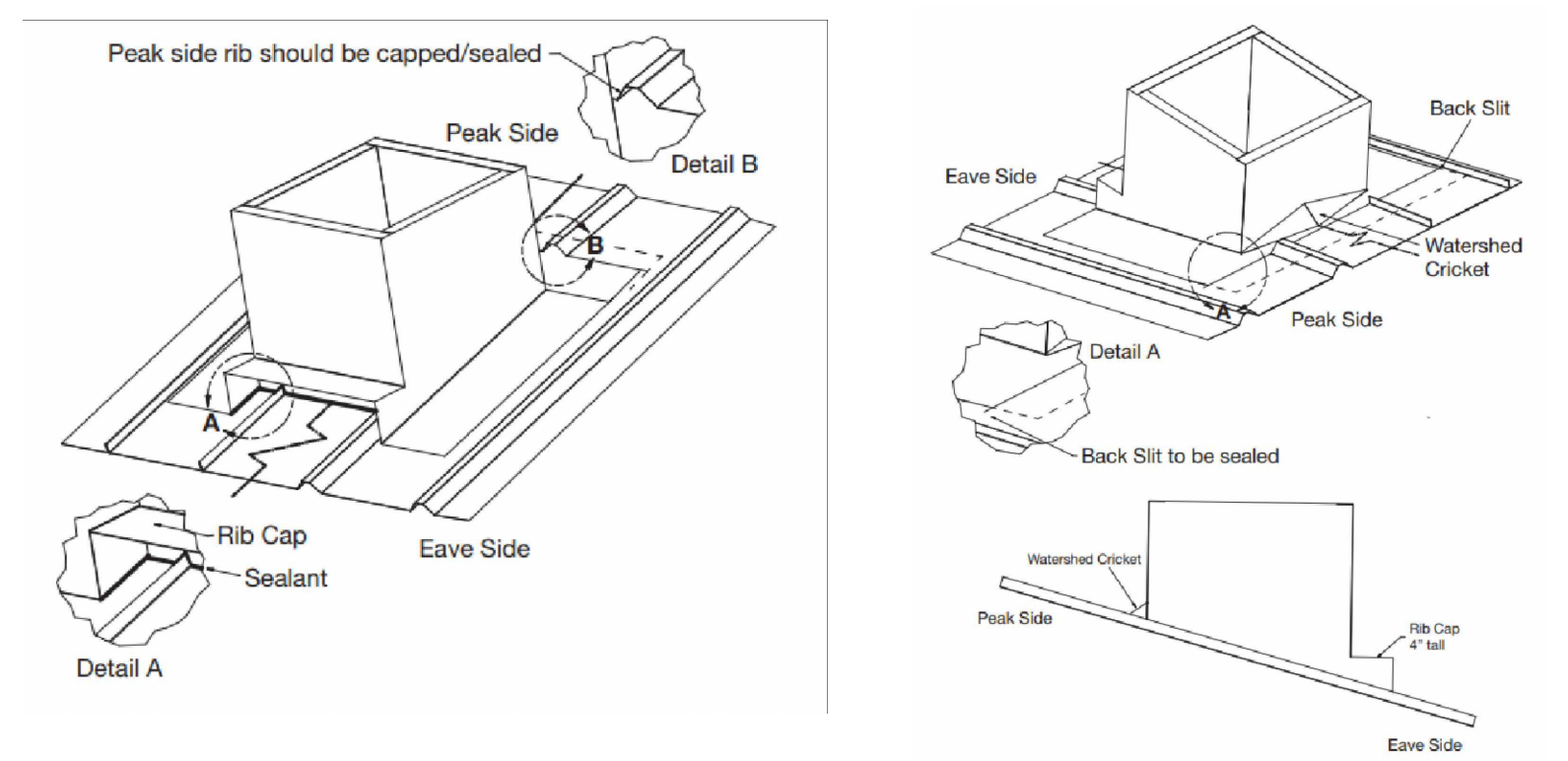
NORMAL OPERATION
DURING NORMAL OPERATION, THE MAKE UP AIR UNIT SHALL BE USED TO HEAT AND PROVIDE VENTILATION TO THE SPACE. DUE TO THE NATURE OF THE SPACE SERVED, THE MAKE UP AIR UNIT SHALL CONTINUOUSLY BE OPERATED IN AN OCCUPIED STATE.
HEATING MODE
GAS HEAT SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 90 DEG F. HEAT MODE SHALL BE DISABLED WHEN SPACE SETPOINT, ADJUSTABLE VIA THE THERMOSTAT, IS SATISFIED. DEADBAND SHALL BE SET AT 10 DEG F. UNIT CONTROLLER AUTOMATICALLY LOCKS OUT GAS HEATING OPERATION AT A OUTSIDE AIR TEMPERATURE OF 50 DEG F.
VENTILATION MODE
WHEN OUTSIDE AIR TEMPERATURE IS MORE THAN 53 DEG F, VENTILATION MODE SHALL BE ENABLED. GAS HEAT SHALL BE DISABLED.
FAN SPEED CONTROL
SUPPLY FAN SPEED SHALL MODULATED VIA THE FACTORY INSTALLED VFD. THE VFD SHALL MODULATE TO MAINTAIN THE SPACE SETPOINT PRESSURE OF 0.01" W.C. WHICH SHALL BE ADJUSTABLE AT THE SPACE PRESSURE SENSOR.



1
M-501 MAKE-UP AIR UNIT GAS PIPING DETAIL
SCALE: N.T.S.



2
M-501 COMPRESSED AIR PIPING SCHEMATIC
SCALE: N.T.S.



3
M-501 METAL ROOF CURB INSTALLATION DETAIL
SCALE: N.T.S.

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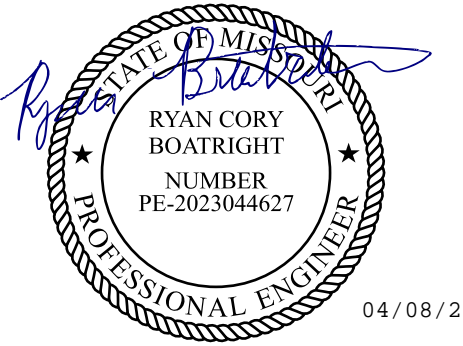
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DETAILS

SHEET NUMBER:

M-501

10 OF 13 SHEETS
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CHECKED BY: RCB
DESIGNED BY: RCB

SHEET TITLE:

MECHANICAL
SCHEDULES

SHEET NUMBER:

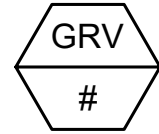
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04/08/2024



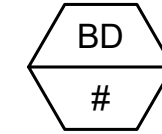
MAKE-UP AIR UNIT SCHEDULE (MAU)

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	AREA SERVED	SUPPLY FAN				GAS HEAT				ELECTRICAL					OPERATING WEIGHT (LBS.)	ACCESSORIES	REMARKS	EQUIVALENT MANUFACTURER MODEL #	EQUIVALENT MANUFACTURER MODEL #	
				MAX	MIN	ESP	MOTOR	INPUT	OUTPUT	TEMP. RISE	EAT	LAT	VOLTS	PHASE	HERTZ	MOCP						MCA
MAU-1	GREENHECK	VSU-120-H30	AIR COMPRESSOR ROOM	12,000	4,200	0.2	10	1140	1049	81	4.0	85.0	208	3	60	70	40.5	1-18	1-7	M120	CFA	
REMARKS: 1. SUPPLY FAN VFD SHALL MODULATE BASED ON READING FROM BUILDING PRESSURE SENSOR. FACTORY PROGRAMMED CONTROLS. 2. DISCHARGE TEMPERATURE CONTROL WITH ROOM TEMPERATURE OVERRIDE. 3. INSTALL THERMOSTAT WITHIN ROOM TO SET SPACE SETPOINT TEMPERATURE. 4. HEATING ELEMENT SHALL BE LOCKED OUT UNTIL INCOMING AIR TEMPERATURE FALLS BELOW 50 DEG F. ONCE THIS OCCURS, MUA SHALL MODULATE GAS VALVE TO MAINTAIN SPACE TEMPERATURE SETPOINT. 5. 30:1 TURNDOWN FOR GAS HEATING INPUT. 6. GAS HEAT SHALL BE CONTROLLED BY ONBOARD CONTROLLER. 7. VERTICAL TYPE UNIT WITH BOTTOM INTAKE AND SIDE DISCHARGE.																	ACCESSORIES: 1. DIRECT FIRED HEAT EXCHANGER 2. 2 INCH PANEL FILTERS, MERV 7 3. 48" TALL UNIT MOUNTING STAND 4. DISCONNECT SWITCH (NON FUSED), FACTORY INSTALLED 5. SERVICE OUTLETS (GFCI TYPE, FACTORY MOUNTED, FIELD WIRED BY ELC) 6. FACTORY SUPPLIED DDC CONTROLLER 7. FACTORY INSTALLED SUPPLY FAN VFD INLET HOOD WITH BIRD SCREEN			9. OUTDOOR AIR, LOW LEAKAGE DAMPER 10. UV SCANNER FOR FLAME SENSING 11. HIGH GAS PRESSURE SWITCH 12. FACTORY FREEZE PROTECTION (SUPPLY LOW LIMIT) 13. FACTORY INSTALLED HEATING INLET TEMP SENSOR 14. HINGED ACCESS DOORS 15. FACTORY INSTALLED OUTDOOR INLET DAMPER 16. 24 VAC CONTROLS TRANSFORMER FACTORY INSTALL 17. FACTORY FURNISHED THERMOSTAT 18. FACTORY FURNISHED PRESSURE SENSOR		



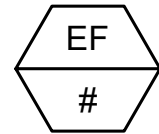
GRAVITY VENTILATOR SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	THROAT AREA (SQ. FT.)	THROAT (W X L)	CURB CAP (W X L)	BACKDRAFT DAMPER (W X L)	CFM	PRESS. DROP (IN. W.G.)	WEIGHT (LBS)	ACCESSORIES
GRV-1, 2, 3, 4	GREENHECK	FGR	4.17	20" X 30"	26" X 36"	20" X 30"	3,274	.084	70	SEE BELOW
ACCESSORIES: 1. MOTORIZED BACKDRAFT DAMPER, INTERLOCK WITH CORRESPONDING COMPRESSOR ACTIVATION. (GRV - 1, 2, 3) 2. MOTORIZED BACKDRAFT DAMPER, INTERLOCK WITH CORRESPONDING EF-1 ACTIVATION. (GRV - 4) 3. STAINLESS STEEL BIRD SCREEN 4. 18", GCC CURB WITH A 1.5" TO 12" SLOPE. CONFIRM WITH GC SLOPE OF ROOF PRIOR TO ORDERING.										
							ALT. MANUFACTURER MODEL #	ALT. MANUFACTURER MODEL #		
							COOK GR	CAPTIVEAIRE EV-CA		



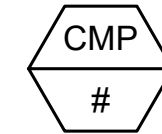
BACKDRAFT DAMPER SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	THROAT AREA (SQ. FT.)	THROAT (W X L)	FRAME MATERIAL	S.P. START TO OPEN (IN. W.G.)	S.P. FULL OPEN (IN. W.G.)	OPTIONAL DAMPER (W X L)	CFM	FEATURES
BD-1	GREENHECK	EM-32	2.78	20" X 20"	ALUMINUM	0.01	0.08	20" X 30"	4500	1-11
ACCESSORIES: 1. VERTICAL MOUNT / HORIZONTAL AIRFLOW 2. ADJUSTABLE PRESSURE CONTROLLER (APC) 3. COUNTERBALANCE WEIGHTS 4. FRAME MATERIAL - 6063T5 EXTRUDED ALUMINUM 5. FRAME THICKNESS - 0.125 IN. 6. BLADE MATERIAL - 6063T5 EXTRUDED ALUMINUM 7. BLADE THICKNESS - 0.070 IN.										
								ALT. MANUFACTURER MODEL #	ALT. MANUFACTURER MODEL #	
								COOK BDM	CAPTIVEAIRE A1-MBDD	



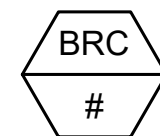
EXHAUST FAN SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	TYPE	DRIVE	CFM	FAN RPM	S.P. (IN. W.G.)	MOTOR			SERVICE	WEIGHT (LBS)	ACCESSORIES	
								HP	VOLTS	PHASE	HZ			
EF-1	GREENHECK	G-200-VG	ROOF	DIRECT	3,500	883	0.70	1	115	1	60	EX. MECH. ROOM	94	1-8
ACCESSORIES: 1. BACKWARD INCLINED ALUMINUM WHEEL, DIRECT DRIVE, ELECTRONICALLY COMMUTATED MOTOR 2. FACTORY INSTALLED VARIABLE SPEED MOTOR WITH POTENTIOMETER DIAL FOR BALANCING. 3. GRAVITY BACKDRAFT DAMPER 4. 1.5" TO 12" SLOPING, 18 INCH GCC TYPE ROOF CURB. CONFIRM SLOPE WITH GC PRIOR TO ORDERING. 5. FAN SHALL BE INTERLOCKED WITH THERMOSTAT WITHIN SPACE. 6. BIRD SCREEN 7. FACTORY INSTALLED INTERNAL TO HOUSING, NEMA 1 DISCONNECT SWITCHES														
										ALT. MANUFACTURER MODEL #	ALT. MANUFACTURER MODEL #			
										COOK ACED	CAPTIVEAIRE DR-HFA			



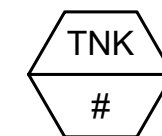
AIR COMPRESSOR SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	NOMINAL POWER	FAN AIR FLOW	COMP AIR CFM @125 PSI	TEMP RISE	MCA	MOCP	OPERATING PRESSURE		MOTOR			WEIGHT (LBS)	ACCESSORIES	
									MIN	MAX	KW	VOLTS	PHASE			HZ
CMP-1, 2	INGERSOLL RAND	RS45I-A125	45 KW / 60 HP	3,814 CFM	298	43°F	85	125	65 PSIG	125 PSIG	1.1	460	3	60	4,060	1,3-5
CMP-3	INGERSOLL RAND	RS45N-A145	45 KW / 60 HP	3,814 CFM	271	43°F	83	125	65 PSIG	125 PSIG	1.1	460	3	60	2,875	2-5
ACCESSORIES: 1. CONSTANT SPEED COMPRESSOR. 2. VARIABLE SPEED COMPRESSOR. 3. INTERNAL DISCHARGE CHECK VALVE. EXTERNAL NOT REQUIRED. 4. INTEGRAL AFTERCOOLER. 5. COMPRESSORS SHALL BE FURNISHED WITH ONBOARD CONTROLLERS FOR COMPRESSOR STAGING.										NOTES: 1. LENGTH: 95.79" 2. WIDTH: 49.21" 3. HEIGHT: 80.0"			SOLE SOURCE, NO SUBSTITUTIONS PERMITTED. CONTACT JON GLASS AT INGERSOLL RAND CELL: (573)881-8601 EMAIL: JGLASS@JHF.COM			



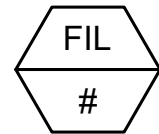
BREATHABLE AIR SCHEDULE (BID ALTERNATE #1)

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	DESCRIPTION	SERVICE	INLET FLOW	OUTLET FLOW	POWER (KW)	WEIGHT (LBS)	ACCESSORIES			
BRC-1	DELTECH	DM-50	BREATHING AIR PURIFIER	BLAST BOOTH	60 CFM	50 CFM	0.35	560	SEE BELOW			
ACCESSORIES: 1. COALESCING FILTERS WITH AUTOMATIC DRAIN AND DIFFERENTIAL PRESSURE GAUGES 2. PARTICULATE AFTER FILTER WITH DIFFERENTIAL PRESSURE GAUGE 3. ACTIVATED CARBON FILTER 4. AIR SAMPLER PORTS OF AIR ANALYZER OPTIONS 5. NEMA 4 CONTROL BOX WITH LED INDICATORS 6. SOFT ON/OFF SWITCH WITH TWO POWER RECOVERY MODES 7. VOLTAGE FREE COMMON ALARM CONTACTS. TIE INTO EXISTING BAS TO MONITOR. 8. COMPUSAVE EMS CONTROL 9. SERIES 1000 CO MONITOR MOUNTED WITHIN ROOM. TIE INTO EXISTING BAS.							NOTES: 1. HEIGHT: 57" 2. WIDTH: 50" 3. DEPTH: 41"			SOLE SOURCE, NO SUBSTITUTIONS PERMITTED. CONTACT JON GLASS AT INGERSOLL RAND CELL: (573)881-8601 EMAIL: JGLASS@JHF.COM		



COMPRESSED AIR TANK SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	DESCRIPTION	ORIENTATION	SERVICE	CAPACITY (GALLONS)	MAWP	MDMT	DIAMETER (IN.)	HEIGHT (IN.)	WEIGHT (LBS)	NOTES
TNK-1	MANCHESTER	AIR RECEIVER	VERTICAL	CMP - 1, 2, 3	3,800	150 PSI @ 400°F	-20°F @ 150 PSI	72	236.2	6,520	1-6
TNK-2	MANCHESTER	AIR RECEIVER	VERTICAL	BRC - 1	120	200 PSI @ 400°F	-20°F @ 200 PSI	24	75	325	4, 7
NOTES: 1. MINIMUM DESIGN METAL TEMPERATURE (MDMT) 2. MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP) 3. INSTALL DOWNSTREAM OF AIR DRYER (DRY-1) 4. INSTALL PER MANUFACTURERS INSTRUCTIONS. 5. INSTALL NO LOSS, AUTOMATIC DRAIN VALVE IN EXISTING MECHANICAL ROOM ADJACENT TO TANK. 6. INSTALL SELF REGULATING, 10 W / FT HEAT TRACE TAPE ON CONDENSATE AND AIR LINE. 7. BID ALTERNATE #1.											
								SOLE SOURCE, NO SUBSTITUTIONS PERMITTED. CONTACT JON GLASS AT INGERSOLL RAND CELL: (573)881-8601 EMAIL: JGLASS@JHF.COM			



FILTER SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	DESCRIPTION	SERVICE	MINIMAL PRESSURE DROP (PSID)	LENGTH (IN.)	WIDTH (IN.)	HEIGHT (IN.)	WEIGHT (LBS)	ACCESSORIES
FIL-1	INGERSOLL RAND	F1870NG (NLLM1100)	NON-LUBE MODULE	CMP - 1, 2, 3	0.50	14.0	25.75	72.31	660	SEE BELOW
ACCESSORIES: 1. INSTALL DOWNSTREAM OF AIR COMPRESSORS (CMP - 1, 2, 3). 2. INSTALL PER MANUFACTURERS INSTRUCTIONS. 3. NO LOSS, AUTOMATIC DRAIN. 4. COALESCING FILTER.										
					SOLE SOURCE, NO SUBSTITUTIONS PERMITTED. CONTACT JON GLASS AT INGERSOLL RAND CELL: (573)881-8601 EMAIL: JGLASS@JHF.COM					



AIR DRYER SCHEDULE

ID	MANUFACTURER (BASIS OF DESIGN)	MODEL NO.	TYPE	CFM	CONDENSER AIRFLOW (CFM)	PRESSURE DROP	NOMINAL POWER	ELECTRICAL DATA					WEIGHT (LBS)	ACCESSORIES
								VOLTS	PH	HZ	MCA	MOCP		
DRY-1	INGERSOLL RAND	NVC1000-1600	REFRIG.	1,000	3,800	2.5 PSIG	8.9 KW / 11.9 HP	208	3	60	37.2	60	2,315	SEE BELOW
ACCESSORIES: 1. INSTALL DOWNSTREAM OF FILTER (FIL-1). 2. INSTALL PER MANUFACTURERS INSTRUCTIONS. 3. AIR COOLED, COMPRESSED AIR DRYER. 4. ELECTRONIC NO AIR LOSS DRAIN. 5. MICROPROCESSOR CONTROLLER.								NOTES: 1. LENGTH: 72.01" 2. WIDTH: 32.01" 3. HEIGHT: 69.02"			SOLE SOURCE, NO SUBSTITUTIONS PERMITTED. CONTACT JON GLASS AT INGERSOLL RAND CELL: (573)881-8601 EMAIL: JGLASS@JHF.COM			



DAVID A. TRETTER
License Number: 021293
Expiration Date: 12/31/25

CASCO Diversified Corporation
MO Certificate of Authority #000329 Arch.
MO Certificate of Authority #000613 Eng.
Exp. Date: 12/31/25

12 Sumner Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100



OFFICE OF
ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND
CONSTRUCTION

MISSOURI NATIONAL
GUARD

INSTALL AIR
COMPRESSOR SYSTEM &
BUILDING ADDITION

COMBINED SUPPORT
MAINTENANCE SHOP (CSMS)
2302 MILITIA DRIVE
JEFFERSON CITY, MO

PROJECT # T2336-01
SITE # 6300
FACILITY # 8136300007

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:

CAD DWG FILE:
DRAWN BY: RA
CHECKED BY: DAT
DESIGNED BY: RA

SHEET TITLE:

ELECTRICAL
SCHEDULES &
DIAGRAMS

SHEET NUMBER:

E-601

13 OF 13 SHEETS
04/08/2024

EQUIPMENT SCHEDULE										FILE: 2303483_LOAD.xlsm
PLAN MARK	EQUIPMENT SERVED	LOAD	VOLT/ PHASE	FED BY	DISC BY	MCA	MOC PD	FEEDER	REMARKS	
CMP-1	AIR COMPR	70.67KVA	480/3	P6	EC	85.00	125A	(3)#1,#6G 1-1/4" C	PROVIDE 200A-3P NF DISC SWITCH AT UNIT	
CMP-2	AIR COMPR	70.67KVA	480/3	P6	EC	85.00	125A	(3)#1,#6G 1-1/4" C	PROVIDE 200A-3P NF DISC SWITCH AT UNIT	
CMP-3	AIR COMPR	69.00KVA	480/3	P6	EC	83.00	100A	(3)#3,#8G 1-1/4" C	PROVIDE 100A-3P NF DISC SWITCH AT UNIT	
DRY-1	DRYER	13.40KVA	208/3	P8	EC	37.20	60A	(3)#6,#10G 3/4" C	PROVIDE 60A-3P NF DISC SWITCH AT UNIT	
MAU-1	MAKE-UP AIR UNIT	14.59KVA	208/3	P8	FWU	40.50	70A	(3)#4,#8G 1" C	NON-FUSED DISC SWITCH FURNISHED WITH UNIT	
EF-1	EXHAUST FAN	1.94KVA	120/1	P8	FWU	16.20	25A	(2)#10,#10G 1/2" C	NON-FUSED DISC SWITCH FURNISHED WITH UNIT. MOTOR STARTER BY MC, INSTALLED BY EC	
BRC-1	BREATHABLE AIR	0.36KVA	120/1	P8	EC	3.00	20A	(2)#12,#12G 1/2" C	PROVIDE MOTOR RATED SWITCH AT UNIT (BID AIR #1)	

VOLTAGE DROP CALCULATIONS											
PANEL/ LOAD	AWG	SETS	CU/AL	PH	OHMS/K-FT NEC TABLES	LENGTH	Z	LOAD	V-DROP	V	%-DROP
CMP-1	#1	1	CU	3	0.160 OHM/K-FT	218 FT	0.0349 OHM	85 A	2.96 V	480 V	0.62%
CMP-2	#1	1	CU	3	0.079 OHM/K-FT	212 FT	0.0167 OHM	85 A	1.42 V	480 V	0.30%
CMP-3	#3	1	CU	3	0.240 OHM/K-FT	203 FT	0.0487 OHM	83 A	4.04 V	480 V	0.84%
PNL P8	#2	1	CU	3	0.200 OHM/K-FT	213 FT	0.0426 OHM	23 A	0.98 V	480 V	0.20%

NOTES:
1. PHASE V-DROP CALC IS BASED ON NEC TABLE 8, DC RESISTANCE, UNCOATED WIRES. IF #1/0 OR LARGER, USE TABLE 9 DUE TO SKIN AFFECT.
3. PHASE V-DROP CALC IS BASED ON NEC TABLE 9, EFFECTIVE Z AT 0.85 PF, UNCOATED WIRES, STEEL CONDUIT (WORST CASE).

EQUATIONS:
Z (1-PH) = (TABLE 8 OHMS/K-FT) * (K-FT/1000) * (LENGTH) (2) / (SETS) - NOTE: IF #1/0 OR LARGER, USE TABLE 9 DUE TO SKIN AFFECT
Z (3-PH) = (TABLE 9 OHMS/K-FT) * (K-FT/1000) * (LENGTH) / (SETS)
V-DROP = Z * LOAD

GROUNDING:
UPSIZE EQUIPMENT GROUNDING CONDUCTORS PROPORTIONATELY PER NEC 250.122(B)

VOLTAGE DROPS:
2% MAXIMUM FOR FEEDERS
UP TO 3% MAXIMUM FOR BRANCH CIRCUITS
MINIMUM WIRE SIZE SHALL BE #12. FOR ALL 120V, 20A BRANCH CIRCUITS, WIRE SIZES SHALL BE NOT LESS THAN THOSE SPECIFIED BELOW:
A. UP TO 60' : #12
B. 61' TO 95' : #10
C. 96' TO 150' : #8
D. 151' TO 230' : #6

2303483_LOAD.xlsm

75KVA XFRM FAULT CALC		2303483_LOAD.xlsm
CALCULATION		
VOLTAGE (L-L):	208V	I-FLA=(RATED KVA * 1000)/[V-LL*SQRT(PHASE)]
PHASE (PH):	3	
AMPS:	6A	I-FLA= 208A
FULL LOAD KVA:	2KVA	
TRANSFORMER:	75KVA	M=100%/Z= 100.0
IMPEDANCE (%Z):	1.5Z	I-SC=I-FLA*M= 21 KA

MOTOR LOAD FAULT CALC		2303483_LOAD.xlsm
CALCULATION		
STARTING I-SC:	21 KA	
MOTOR LOAD (KVA):	23KVA	I-SC(ML)=ML*6= 383A
MOTOR LOAD (A):	64A	I-SC=I-SC+I-SC(ML)= 21 KA

PANEL P8 FEEDER FAULT CALC		2303483_LOAD.xlsm
CALCULATION		
STARTING I-SC:	21 KA	IMPEDANCE BASED ON 3 SINGLE CONDUCTORS IN NON-MAGNETIC CONDUIT (WORSE CASE)
VOLTAGE (L-L):	208V	
PHASE (PH):	3	
FEEDER SIZE:	2	
FEEDER MATERIAL:	CU	f=[SQRT(PHASE)*L*(S-C)/[Q*C*V-LL]
PARALLEL SETS (Q):	1 SETS	
FEEDER LENGTH (L):	30FT	f= 0.876
FEET PER OHMS (C):	6,044 FT/OHMS	M=1/(1+f)= 0.533
		I-SC=I-SC*M= 11 KA

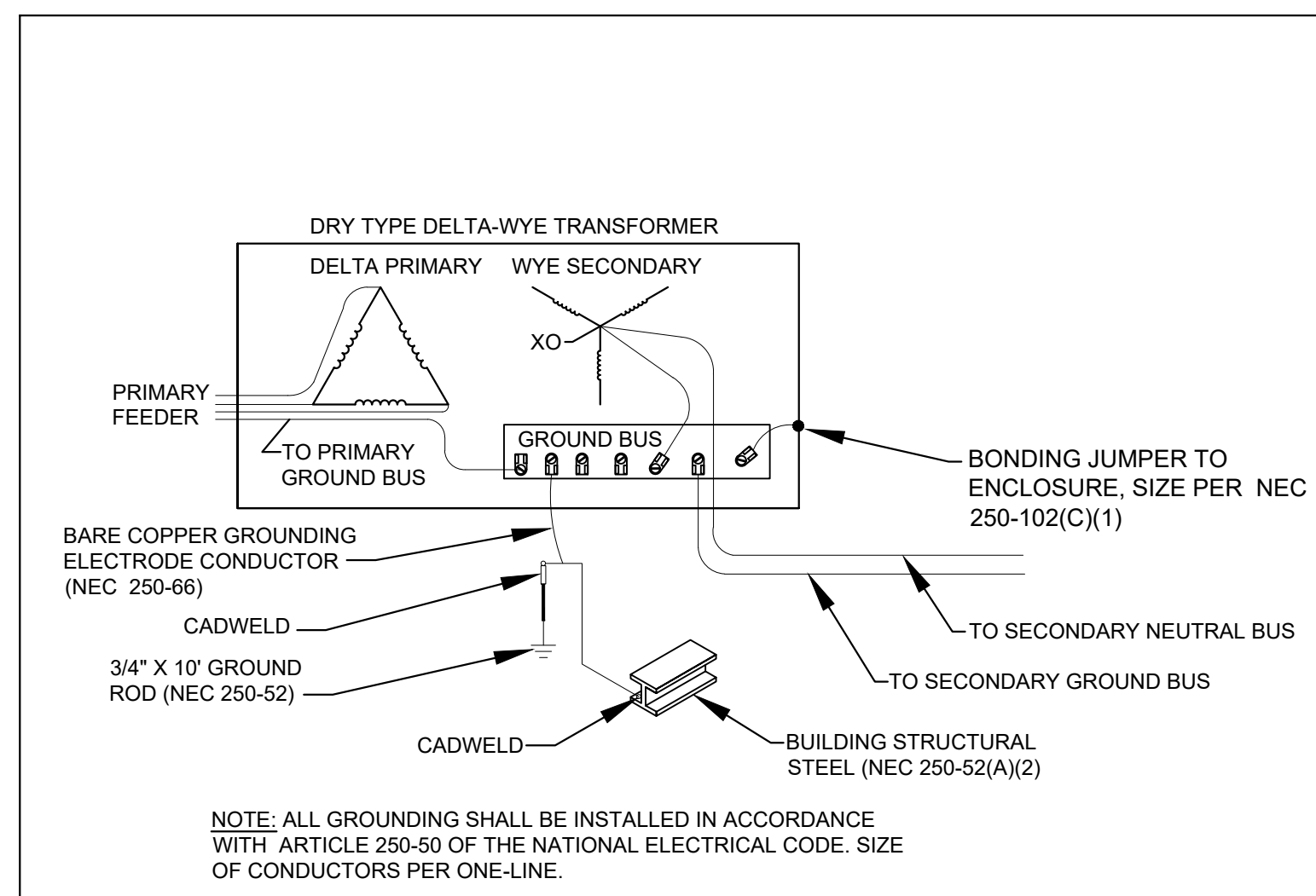
EX PANEL P6 TO XFRM FEEDER		2303483_LOAD.xlsm
CALCULATION		
STARTING I-SC:	27 KA	IMPEDANCE BASED ON 3 SINGLE CONDUCTORS IN NON-MAGNETIC CONDUIT (WORSE CASE)
VOLTAGE (L-L):	480V	
PHASE (PH):	3	
FEEDER SIZE:	2	
FEEDER MATERIAL:	CU	f=[SQRT(PHASE)*L*(S-C)/[Q*C*V-LL]
PARALLEL SETS (Q):	1 SETS	
FEEDER LENGTH (L):	213FT	f= 3.434
FEET PER OHMS (C):	6,044 FT/OHMS	M=1/(1+f)= 0.226
		I-SC=I-SC*M= 6 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

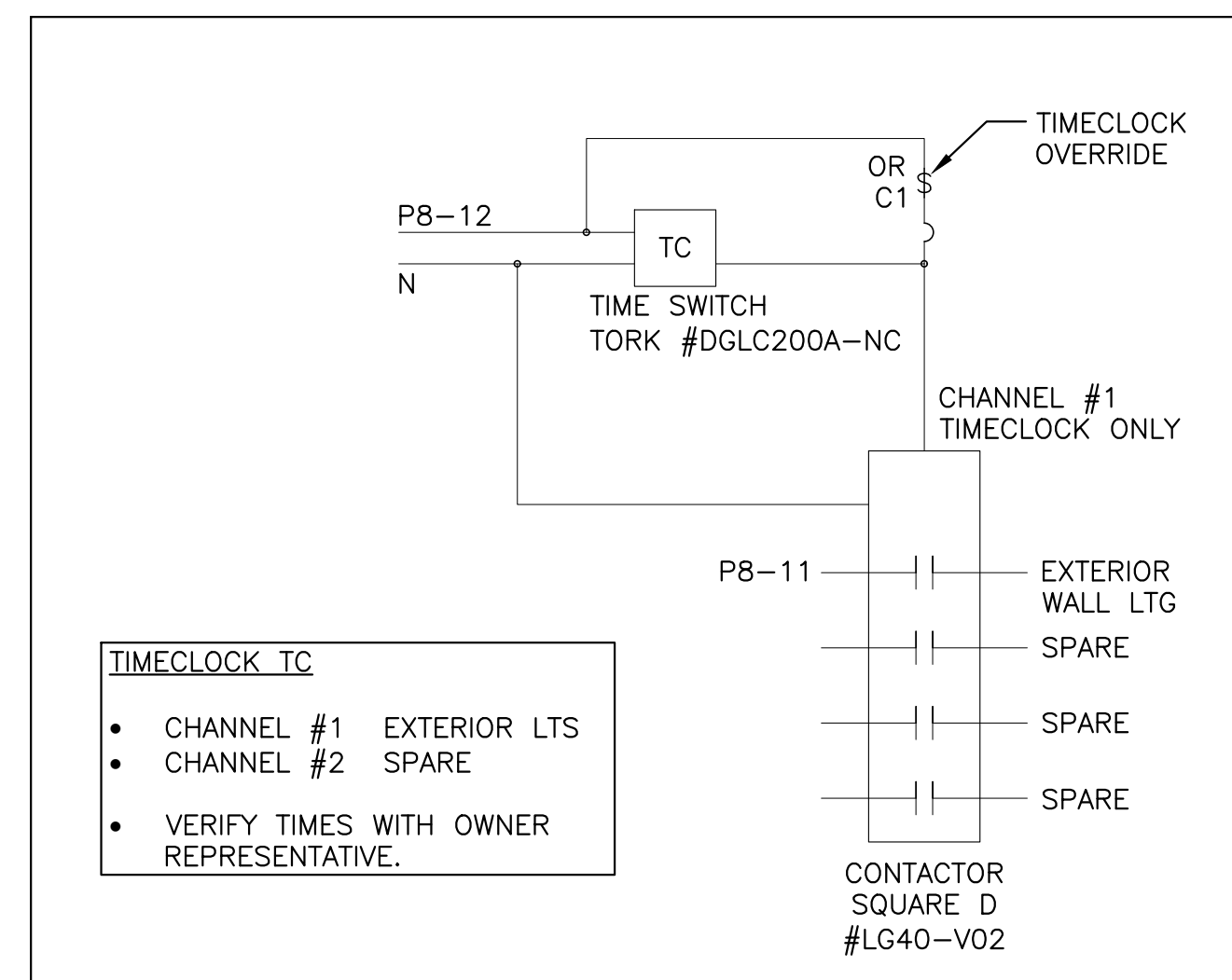
LIGHTING FIXTURE SCHEDULE							
TYPE	MANF	CATALOG NO.	LAMP DATA		REMARKS	WATTS	
			** NO.	LAMPS			
A	LITHONIA	TZL1D-L96-6000LM-FST-MVOLT-40K-80CRI-WH	L	1	6000 LUMENS 4000K LED	PENDANT MOUNT 8-FT LOW TEMP LED STRIP LIGHT FIXTURE WITH ROUND FROSTED LENS, 0-10V DIMMABLE FIXTURE	60W
B	LITHONIA	TWP-LED-20C-40K-MVOLT-DOBXD	L	1	4207 LUMENS 4000K LED	WALL MOUNT LED FIXTURE, IMPACT RESISTANT POLYCARBONATE LENS, FULLY GASKETED, LOW TEMP DRIVER, BRONZE FINISH	45W
C	HUBBELL	SG1-30-4K7-FT-UNV-DBT-E	L	1	3060 LUMENS 4000K LED	EXTERIOR WALL LED FIXTURE ABOVE DOOR, INTEGRAL EMERGENCY BATTERY, BRONZE FINISH. CONNECT BATTERY AHEAD OF CONTACTOR SWITCHING	30W
E	COOPER	SURE-LITE APEL-H2-WH	L	2	FURN W/RXT	WALL MOUNT 2-HEAD LED EMERGENCY FIXTURE, 90-MIN BATTERY, WHITE FINISH	2W

** LAMPS L - LED; F - FLUORESCENT; CF - COMPACT FLUORESCENT; MH - METAL HALIDE;

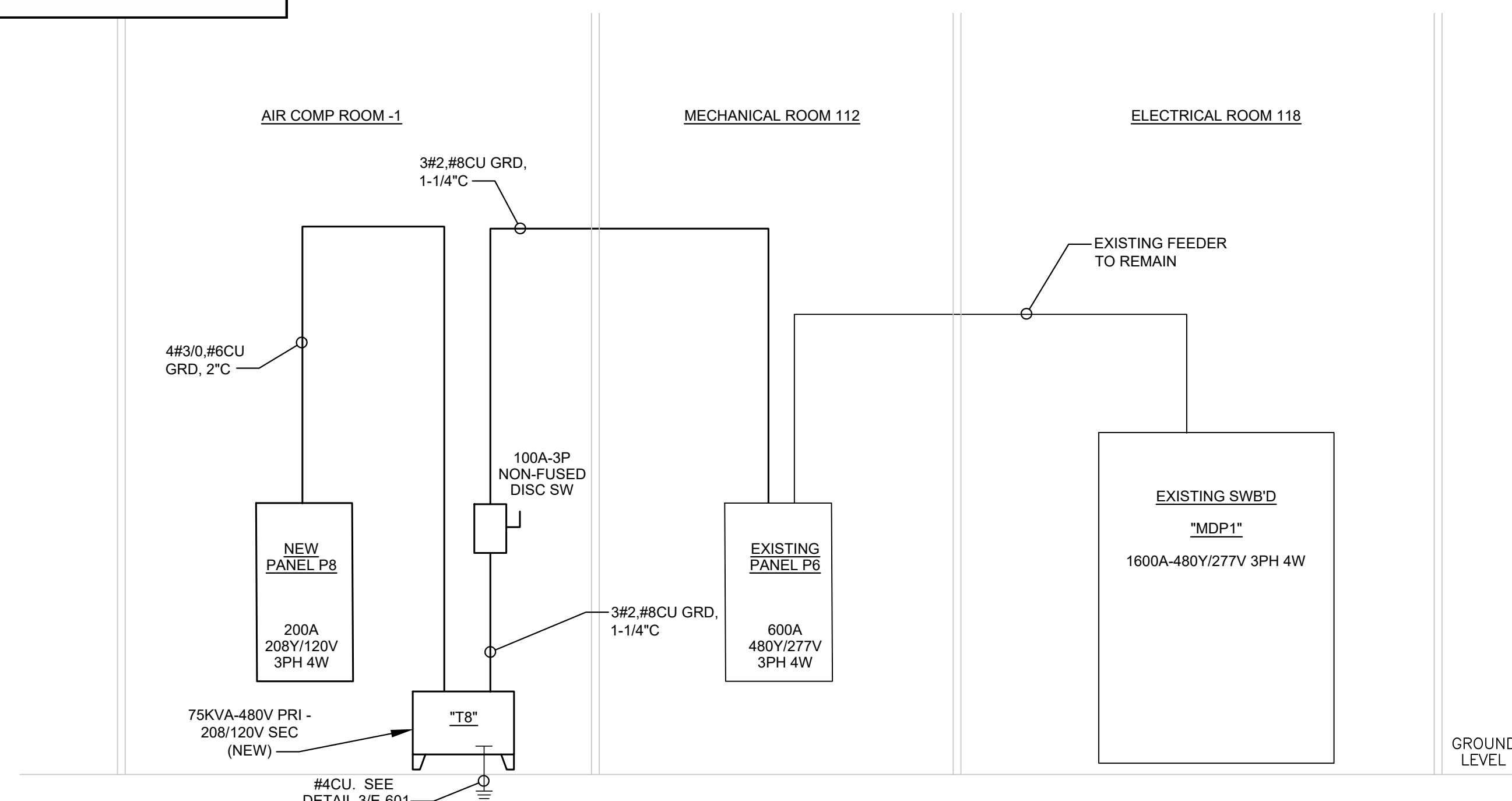
NOTES:
A. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND QUANTITY OF FIXTURES.
B. PROVIDE ALL NECESSARY ACCESSORIES, CONNECTORS, HANGERS, END CAPS, ETC FOR A COMPLETE OPERABLE INSTALLATION.
C. ALL LUMINAIRES ARE 120V, UNLESS NOTED OTHERWISE.



3 STEP-DOWN TRANSFORMER GROUNDING DIAGRAM
E601 SCALE: NOT TO SCALE



2 EXTERIOR LIGHTING CONTROL DIAGRAM
E601 SCALE: NOT TO SCALE



1 PARTIAL ONE-LINE DIAGRAM
E601 SCALE: NONE