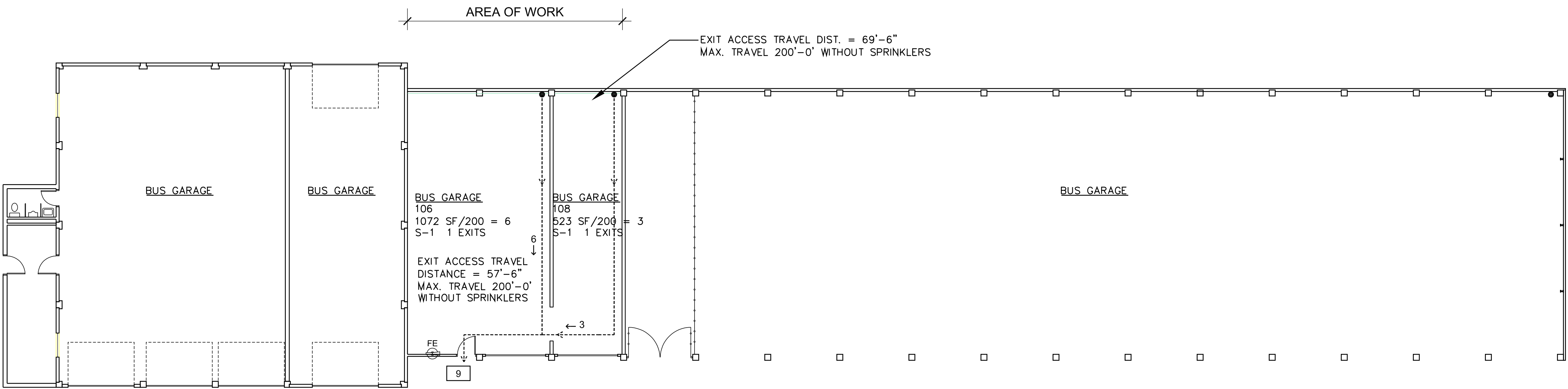


LONGVIEW SCHOOL DISTRICT BUS GARAGE BUILDING REPAIR

Longview, Washington



CODE INFORMATION PLAN

SCALE: 3/32" = 1'-0"

CODE SUMMARY:

PER THE 2018 INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE AMENDMENTS FOR AREA OF WORK

CONSTRUCTION TYPE:	V-B (NO CHANGE)
OCCUPANCY CLASS:	S-1 STORAGE (NO CHANGE)
USE:	STORAGE, MINOR MOTOR VEHICLE REPAIR
OCCUPANCY SEPARATION:	NONE PER TABLE 508.4
INCIDENTAL USES:	NONE
FIRE PROTECTION:	NON- SPRINKLERED
FIRE ALARM:	NONE

BUILDING AREA:

BASIC ALLOWABLE BUILDING HEIGHT:	PER TABLE 504.3 40'-0" (S-1, V-B)
BUILDING HEIGHT:	EXISTING 20'-0" (NO CHANGE)
BASIC ALLOWABLE PER TABLE 504.4 # NO. OF STORIES:	ONE STORY (S-1, V-B)
EXISTING # NO. OF STORIES:	ONE STORY (NO CHANGE)
BASIC ALLOWABLE PER TABLE 506.2 BUILDING AREA:	9,000 SF (S-1, V-B)
EXISTING BUILDING AREA:	12,231 SF (NO CHANGE)

EQUATION 5-4

$$W = (L1xw1+L2xw2+L3xw3+L4xw4)/F$$
$$W = (259x115+45x140+259x96+54x30)/617$$
$$W = (29,785+6,300+24,864+1,620)/617$$
$$W = 62,569/617$$
$$W = 101.41 \text{ Calculated Width of Public Way or Open Space}$$

EQUATION 5-5

$$If = [F/P - 0.25]W/30$$
$$If = [617/617 - 0.25]30/30$$
$$If = [1 - 0.25]1$$
$$If = [0.75]1$$
$$If = 75.0\% (0.75) \text{ Area Factor Increase to Frontage}$$

EQUATION 5-2

$$Aa = [At + (NS \times If)] \times Sa$$
$$Aa = [9,000 + (9,000 \times 0.75)] \times 2$$
$$Aa = [9,000 + 6,750] \times 2$$
$$Aa = 15,750 \times 2$$
$$Aa = 31,500 \text{ S.F. of Allowable per floor}$$

FIRE RESISTANCE RATING:

FIRE RESISTANCE RATING FOR BUILDING ELEMENTS:	(PER TABLE 601) 0 HR. EXTERIOR BEARING WALLS
FIRE RESISTANCE RATING FOR FIRE SEPARATION	PER TABLE 602 (S-1, V-B)
DISTANCE:	X ≥ 30 FT 0 HR
FIRE WALLS:	EXISTING 0 HR.

MEANS OF EGRESS:

OCCUPANT LOAD:	PER TABLE 1004.1.2 9 OCCUPANTS (PARKING GARAGE 200 GROSS) (ONLY BAYS 1-3)
NUMBER OF EXITS REQUIRED:	1
NUMBER OF EXITS PROVIDED:	1
EXIT WIDTH REQUIRED:	1.8 INCHES
EXIT WIDTH PROVIDED:	36 INCHES
EXIT ACCESS:	S-1 OCCUPANCY COMMON PATH OF EGRESS TRAVEL DOES NOT EXCEED EXCEED 75'-0" PER TABLE 1006.2.1 EXIT ACCESS TRAVEL DISTANCE DOES NOT EXCEED 200'-0" PER TABLE 1017.2.

Project Team

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Sheet Index

ARCHITECTURAL:

A000	COVER SHEET/ CODE INFORMATION
A201	PLANS, ELEVATIONS AND DETAILS
A202	ROOF PLAN AND EXTERIOR DETAILS

STRUCTURAL:

S100	STRUCTURAL NOTES
S101	STRUCTURAL NOTES
S102	STRUCTURAL NOTES
S201	FOUNDATION AND ROOF FRAMING PLANS
S301	FRAMING DETAILS

MECHANICAL:

M001	COVER SHEET- MECHANICAL
M201	LEVEL 1 PLAN - MECHANICAL

ELECTRICAL:

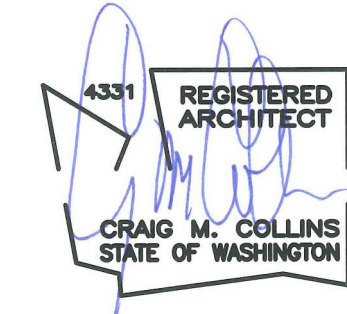
E001	COVER SHEET - ELECTRICAL
E201	LEVEL 1 PLAN - POWER PLANS
E301	LEVEL 1 PLAN - LIGHTING PLANS
E501	ONE-LINE DIAGRAM - ELECTRICAL

SYMBOL LEGEND:

FE	NEW WALL MOUNTED FIRE EXTINGUISHER
# →	EXITING LOAD FLOW INDICATOR
# →	COMBINED EXITING LOAD FLOW INDICATOR
##	TOTAL OCCUPANT LOAD AT INDIVIDUAL EXIT SYSTEM



MARK	DATE	DESCRIPTION



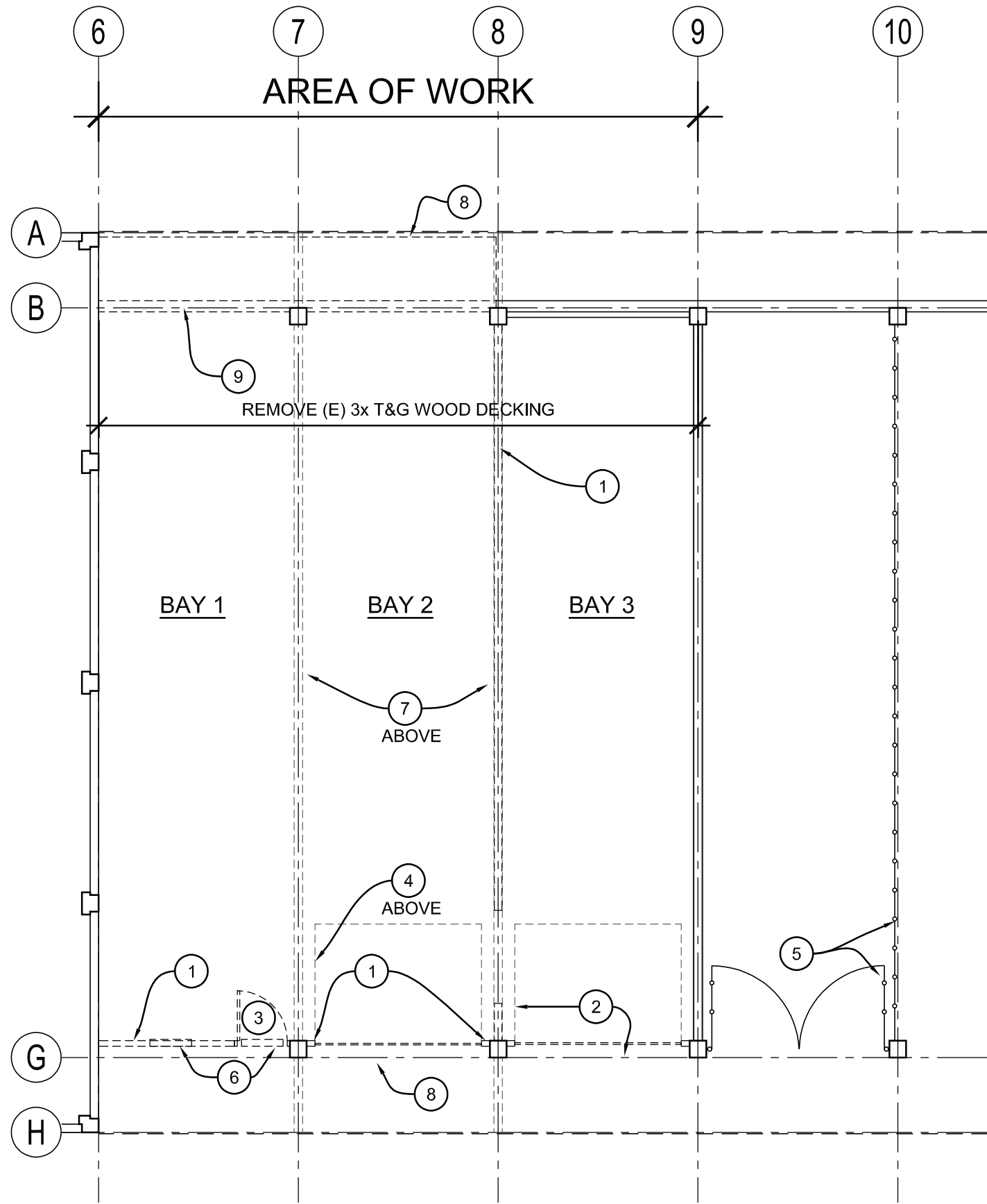
MAINTENANCE AND TRANSPORTATION FACILITY
BUS GARAGE BUILDING REPAIR
LONGVIEW SCHOOL DISTRICT
2080 38th AVE., LONGVIEW, WA 98632

CONST. DOCS.
10-27-2022

2022-28

SHEET NO.

A000



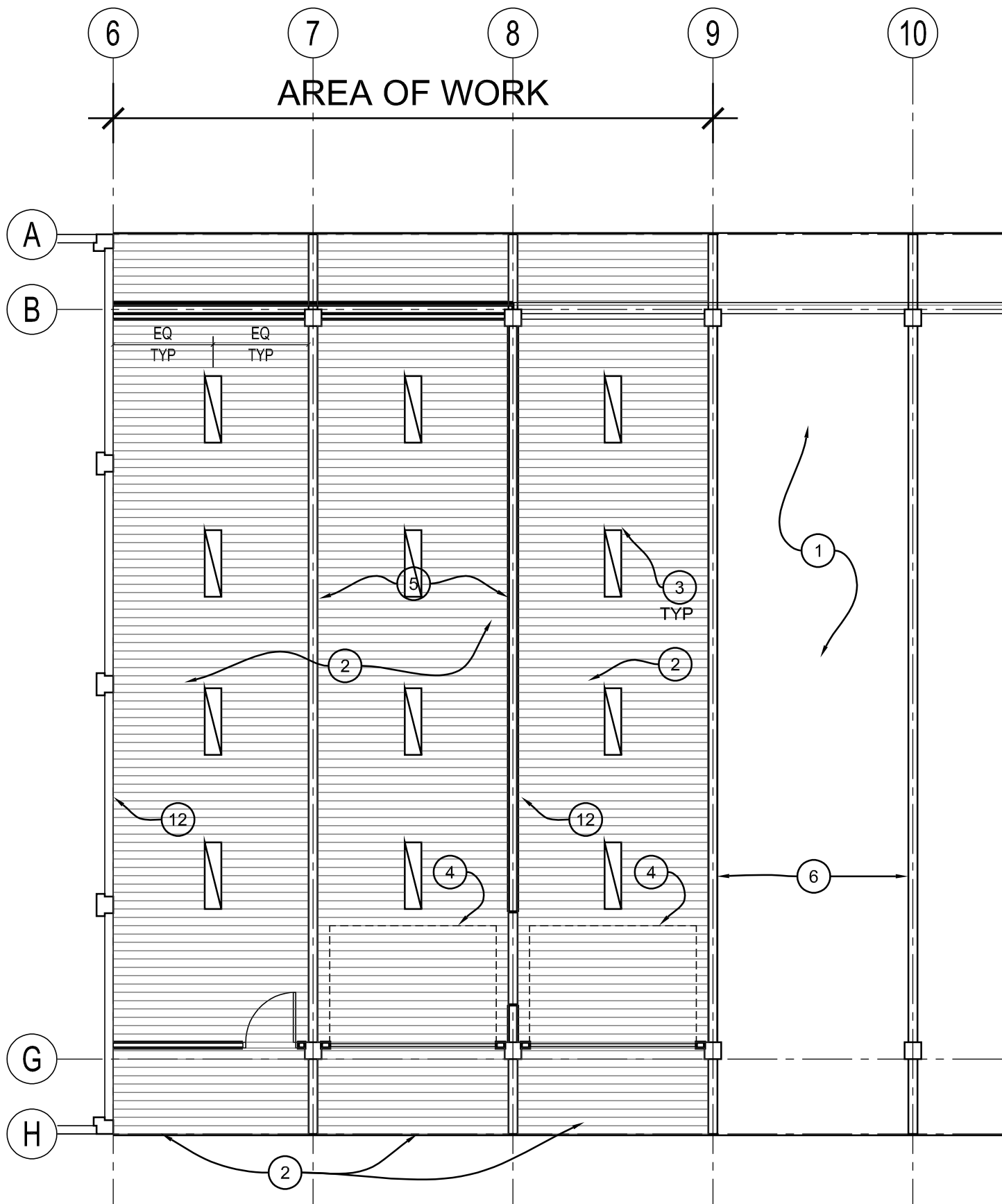
1 PARTIAL DEMOLITION PLAN
1/8" = 1'-0"

DEMOLITION PLAN GENERAL NOTES:

- DEMOLITION PLANS INDICATE REMOVAL OF PRIMARY ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS AS REQUIRED FOR NEW WORK. DRAWINGS MAY NOT SHOW ALL COMPONENTS. REFER TO OTHER ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DOCUMENTS FOR ADDITIONAL DEMOLITION INFORMATION.
- ALL MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION TO INCLUDE SYSTEM CAP-OFFS BACK TO THE SOURCE OR NEAREST JUNCTION BOX UNLESS OTHERWISE NOTED.
- REMOVE ALL MISCELLANEOUS DEBRIS, EQUIPMENT, AND ITEMS IN AREA OF WORK AS REQUIRED FOR NEW WORK.

KEYNOTES- DEMOLITION

- REMOVE 2x6 WOOD STUD PARTITION WALLS
- REMOVE OVERHEAD DOOR AND TRACK SYSTEM
- REMOVE HOLLOW METAL DOOR AND FRAME
- REMOVE OVERHEAD TRACK SYSTEM
- EXISTING 8'-0" HIGH CHAIN LINK FENCE AND GATES TO REMAIN
- REMOVE ALUMINUM WINDOWS
- REMOVE EXISTING GLU-LAM BEAMS, EXISTING BEAM BRACKETS EMBEDDED IN CONC. COLUMNS TO BE RE-USED.
- REMOVE TEMPORARY ENCLOSURE
- REMOVE DAMAGED STEEL GIRTS



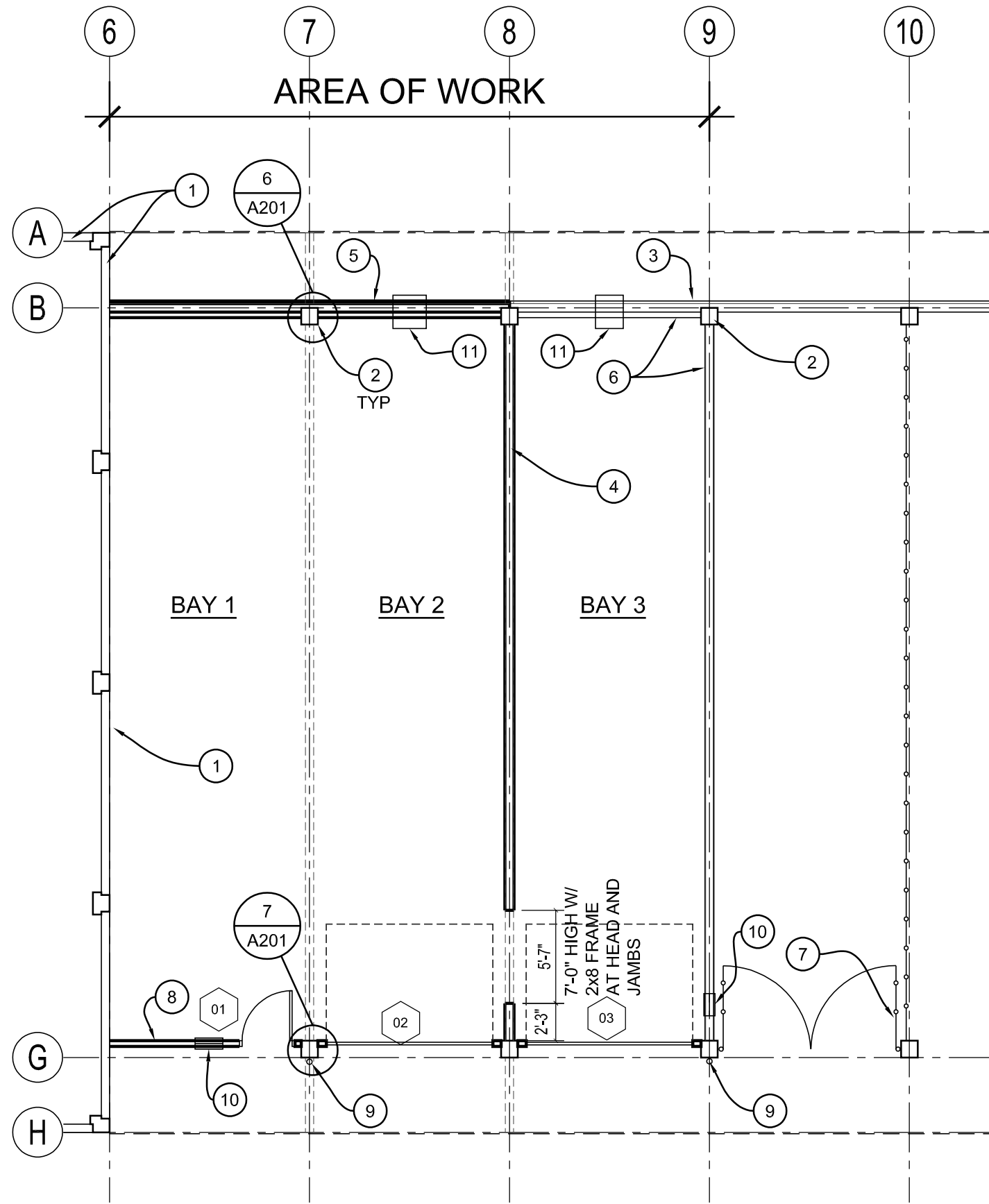
3 PARTIAL CEILING PLAN
1/8" = 1'-0"

KEYNOTES- CEILING PLAN

- EXISTING 3x6 WOOD T&G ROOF
- NEW 3x6 WOOD T&G CEILING/ ROOF
- NEW CEILING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL
- NEW OVERHEAD SECTIONAL DOOR AND TRACK SYSTEM
- NEW GLUE LAMINATED BEAM, SEE STRUCTURAL
- EXISTING GLUE LAMINATED BEAMS TO REMAIN

REFLECTED CEILING PLAN GENERAL NOTES:

- REFLECTED CEILING PLANS INDICATE LOCATIONS OF PRIMARY STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND DOES NOT SHOW ALL COMPONENTS. REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION.



2 PARTIAL FLOOR PLAN
1/8" = 1'-0"

KEYNOTES- FLOOR PLAN

- EXISTING CONCRETE WALL - CLEAN AND PAINT
- EXISTING CONCRETE COLUMNS - CLEAN AND PAINT ALL IN AREA OF WORK
- EXISTING METAL SIDING ON METAL GIRTS AND 2x6 WOOD FRAMED WALL WITH PLYWOOD ON INTERIOR
- NEW 2x6 WOOD STUD PARTITION WALLS ON EXISTING CONCRETE CURB WITH 1/2" PLYWOOD EACH SIDE - PAINT
- REMOVE SOOT FROM PLYWOOD ON WALLS TO REMAIN WITH CHEMICAL DRY SPONGE / ERASER FOR PREPARATION FOR PAINT
- EXISTING 8'-0" HIGH CHAIN LINK FENCE AND GATES TO REMAIN
- NEW FIBER CEMENT PANEL SIDING OVER 2x6 WOOD STUD FRAMING AT 16" O.C. WITH 1/2" PLYWOOD BOTH SIDES - PAINT
- 4" DIA PVC DOWNSPOUT (PAINT) WITH CONCRETE SPLASH PAD
- MEW LOUVERS PER MECHANICAL
- NEW EXHAUST FANS PER MECHANICAL

DOOR TYPE

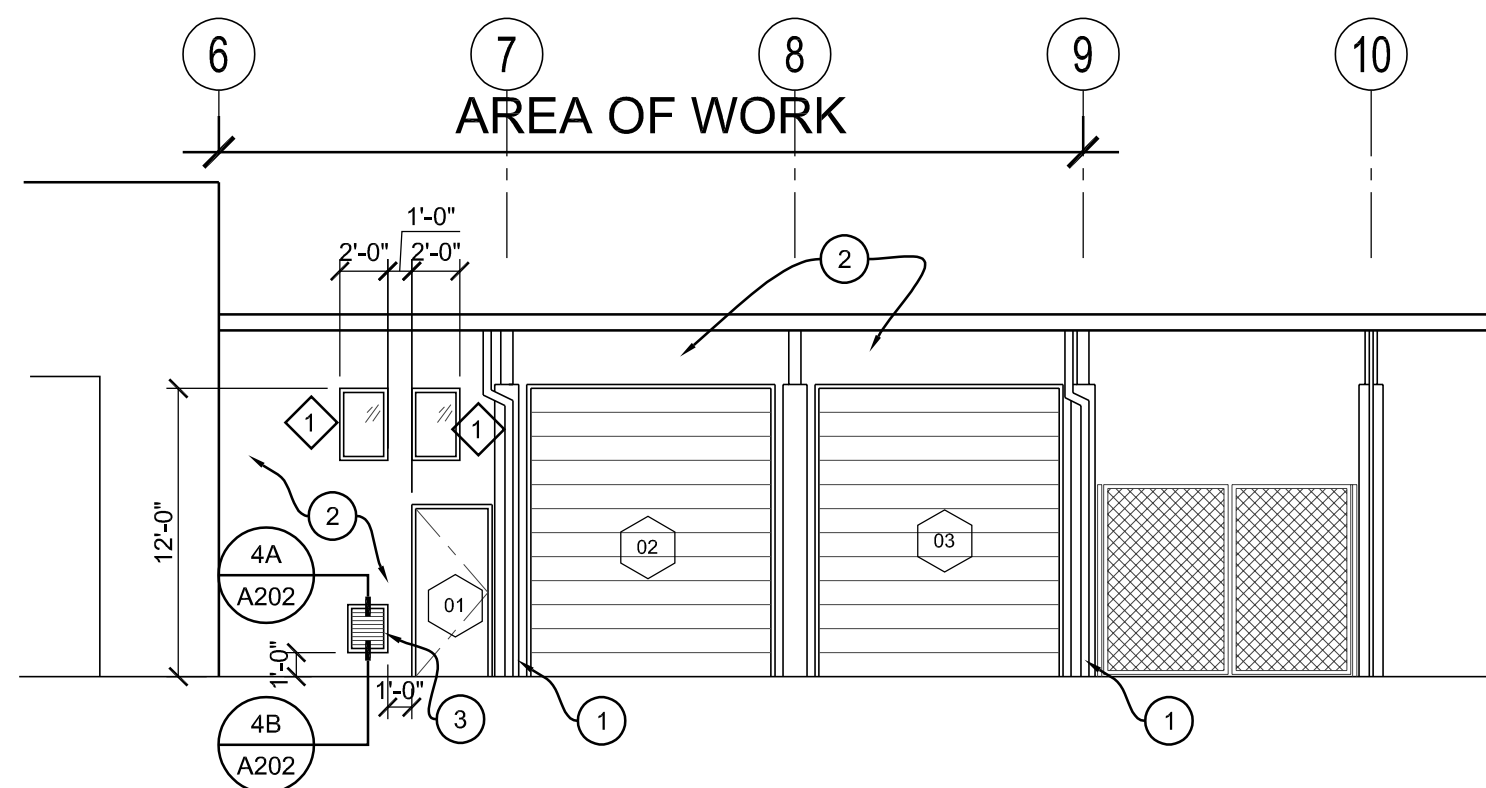
- 01 3"x7" FLUSH HOLLOW METAL DOOR AND FRAME, PAINT
REFER TO SPEC FOR DOOR HARDWARE

- 02 12"x12" O.H. SECTIONAL DOOR

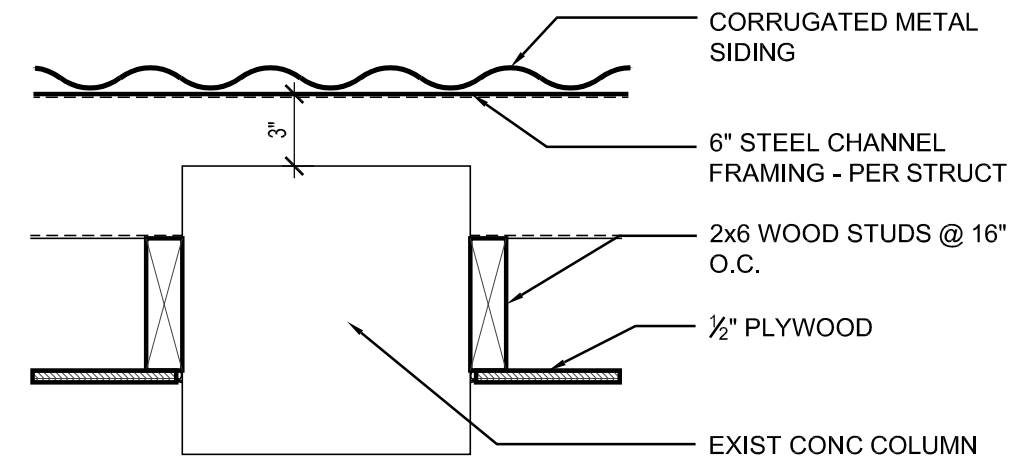
- 03 12"x12" O.H. SECTIONAL DOOR

WINDOW TYPE

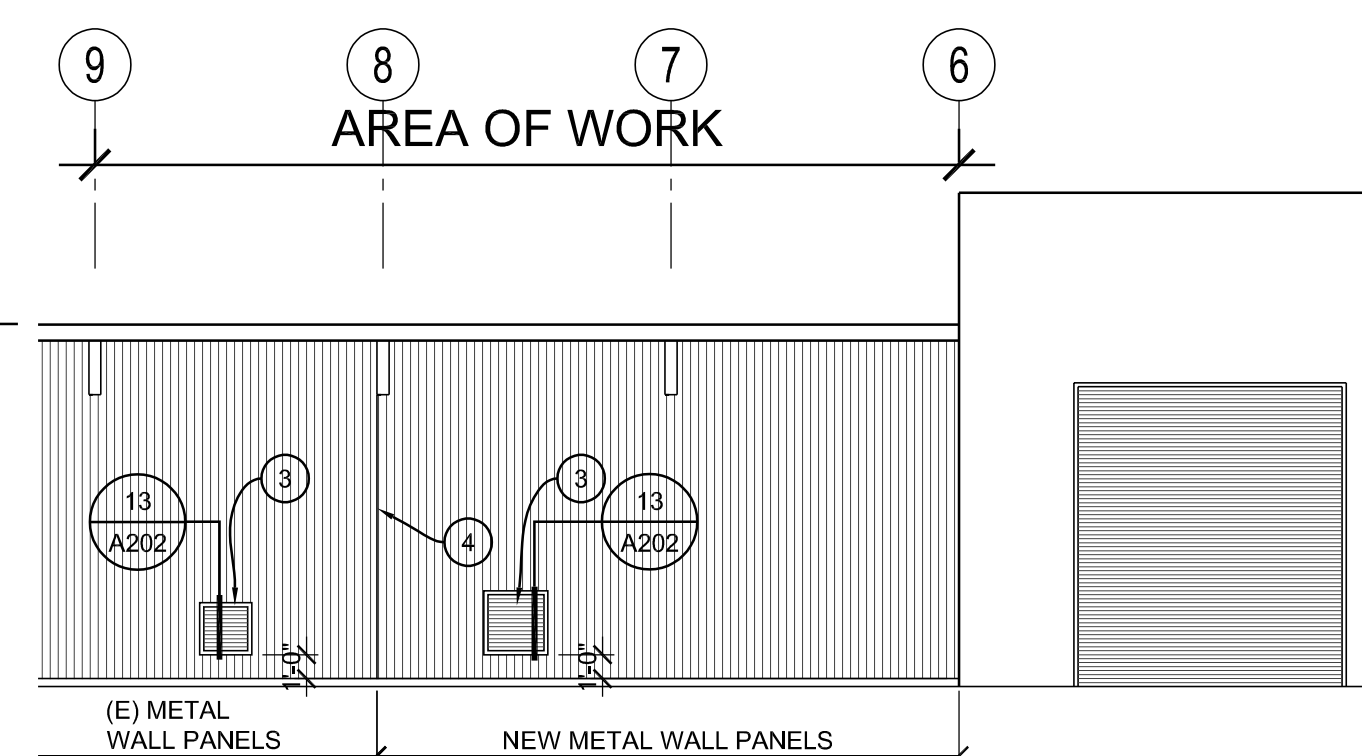
- 04 2"x3"x3"H WINDOW - SEE DETAILS 5A, 5B / A202



4 PARTIAL SOUTH ELEVATION
1/8" = 1'-0"



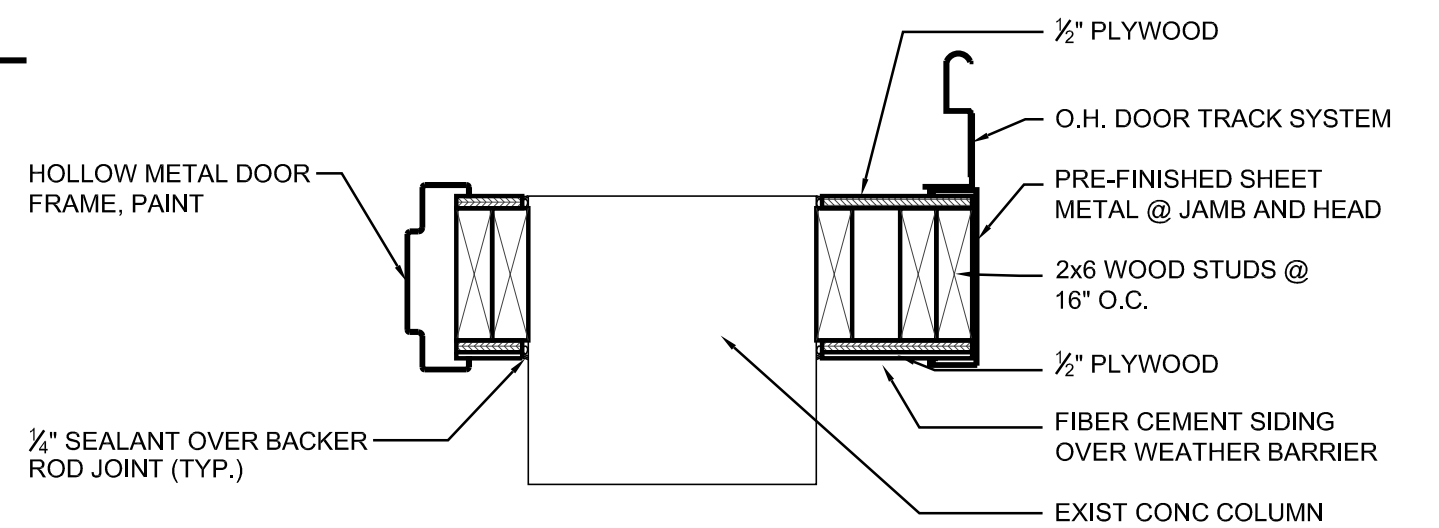
6 WALL DETAIL
1 1/2" = 1'-0"



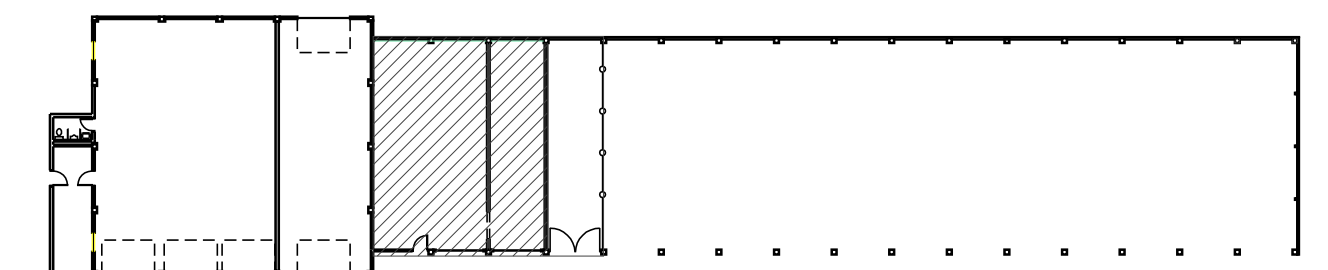
5 PARTIAL SOUTH ELEVATION
1/8" = 1'-0"

KEYNOTES- EXTERIOR ELEVATIONS

- 4" DIA PVC DOWNSPOUT (PAINT) WITH SPLASH PAD
- NEW SIDING, PAINT
- LOUVER - SEE MECHANICAL DRAWINGS
- TIE-IN AND OVERLAP NEW SIDING TO EXIST SIDING

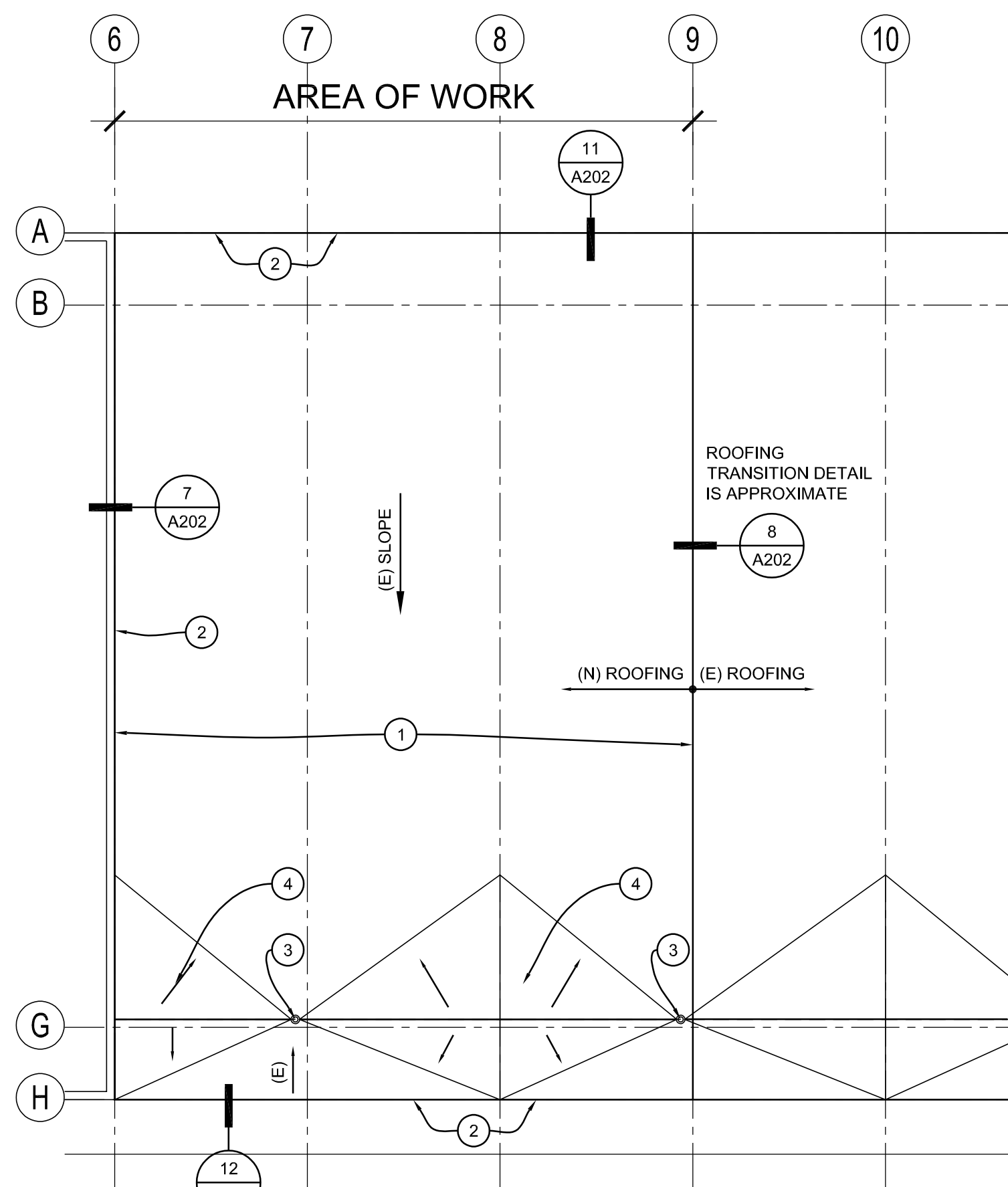


7 DOOR JAMBS DETAIL (SIM @ HEAD CONDITION)
1 1/2" = 1'-0"



KEYPLAN
NOT TO SCALE

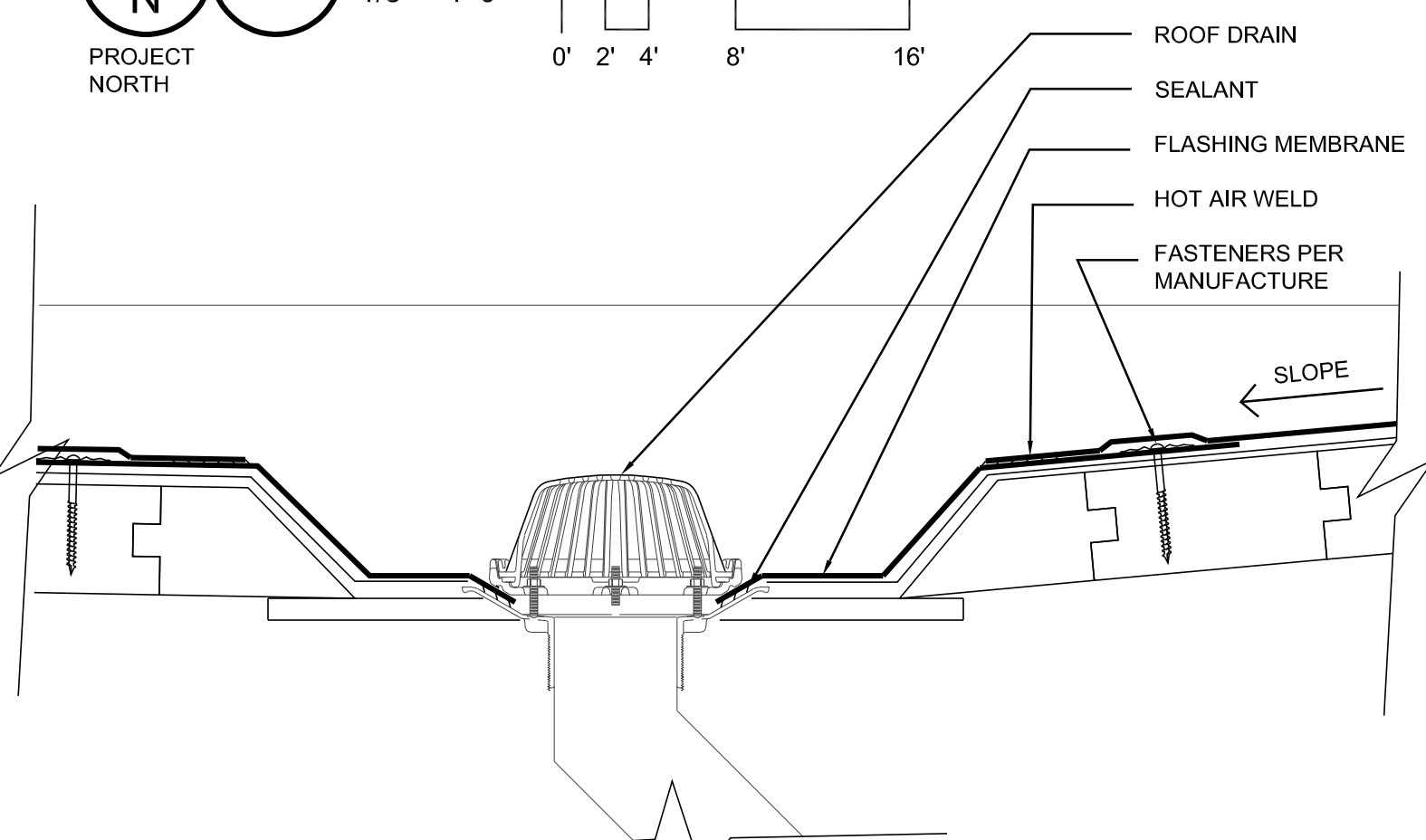
MARK	DATE	DESCRIPTION



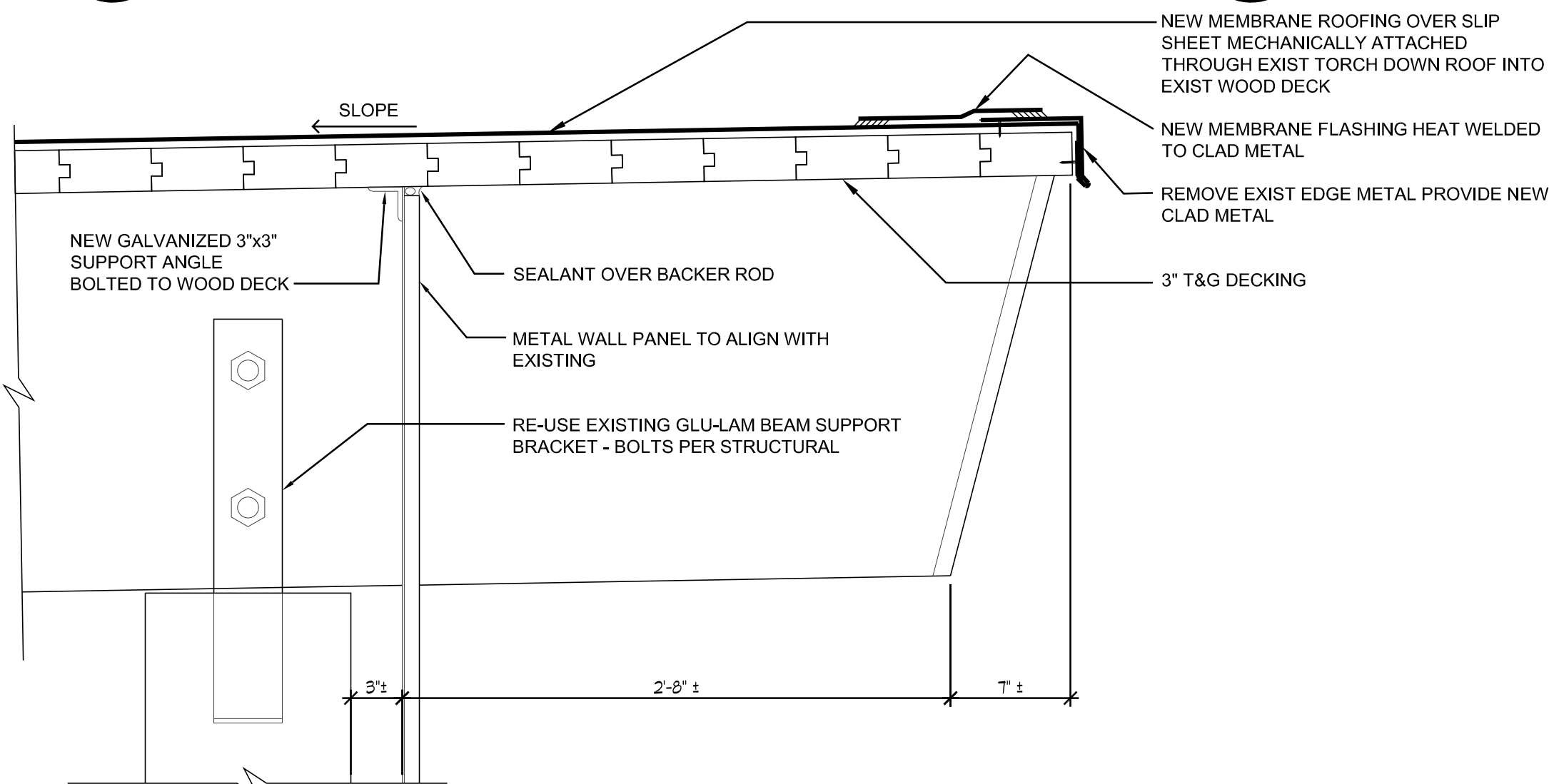
1 PARTIAL ROOF PLAN
1/8" = 1'-0"

KEYNOTES- ROOF PLAN

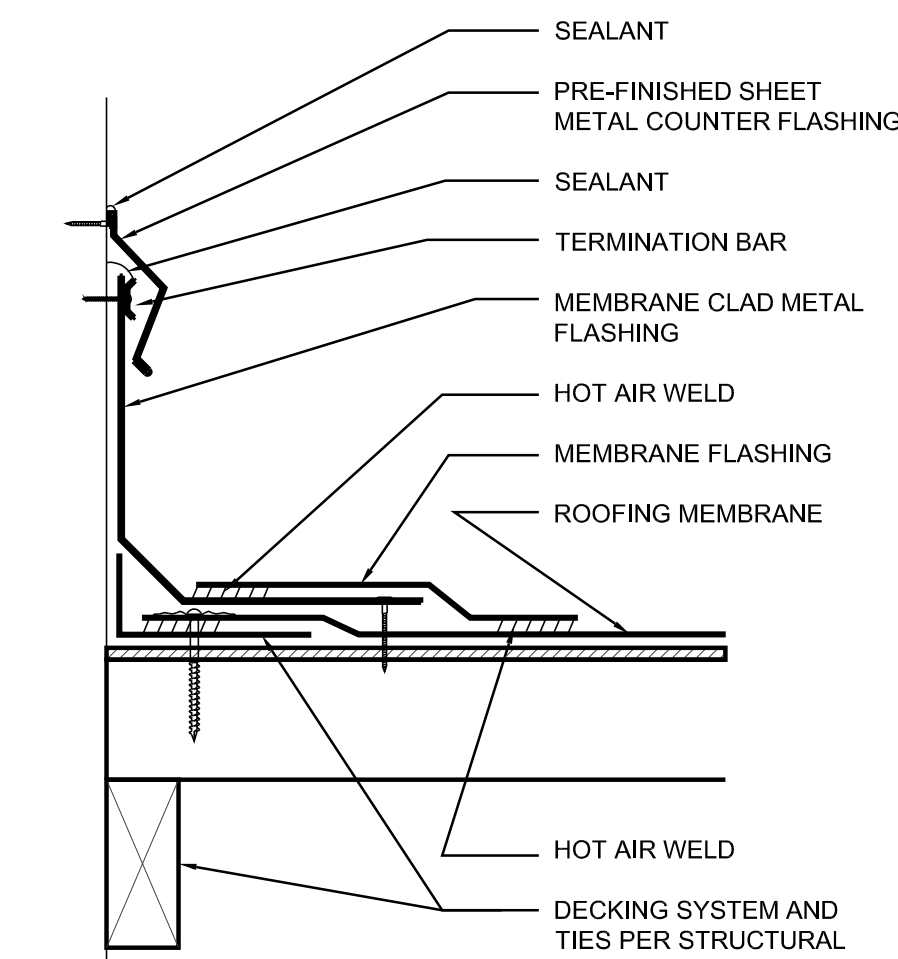
1. EXISTING ROOF MEMBRANE SYSTEM TO BE REMOVED AND NEW ROOF MEMBRANE SYSTEM TO BE INSTALLED OVER AREA OF NEW DECKING
2. REMOVE VERTICAL MEMBRANE, COPINGS AND BASE FLASHING FROM WALLS, AND FASCIAS.
3. NEW ROOF DRAINS. IN EXISTING LOCATIONS
4. NEW TAPERED INSULATION CRICKETS/SADDLES TO MATCH EXISTING SIZE, LOCATION, AND CONFIGURATION.



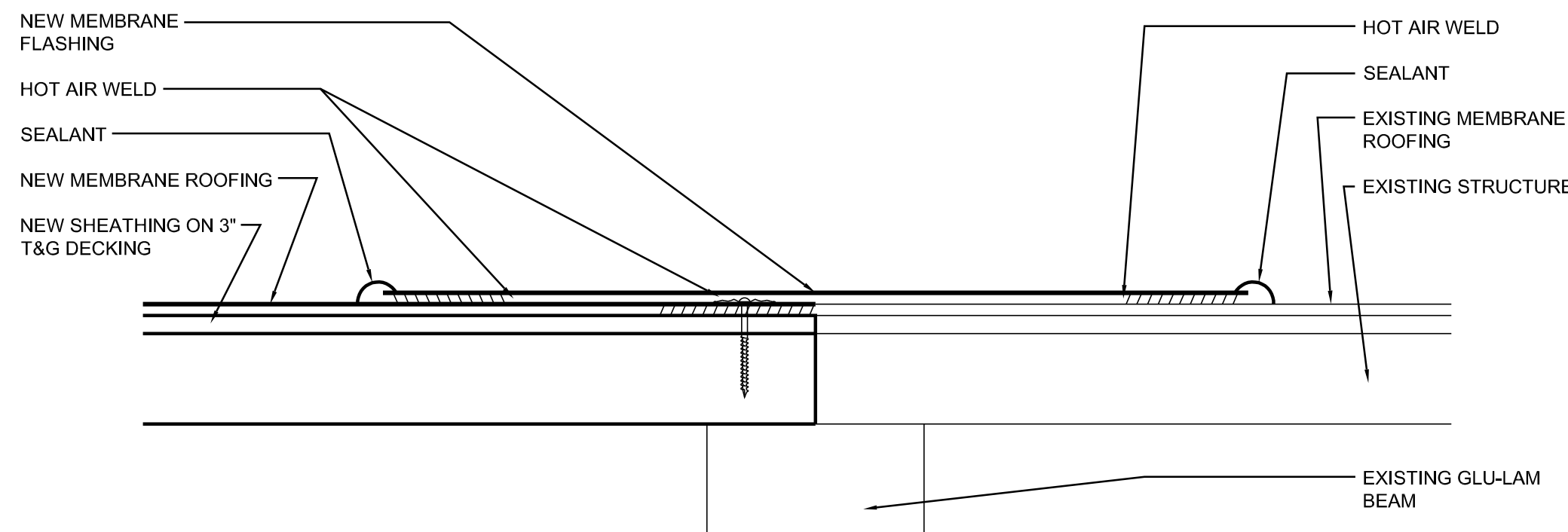
6 ROOF DRAIN DETAIL
3" = 1'-0"



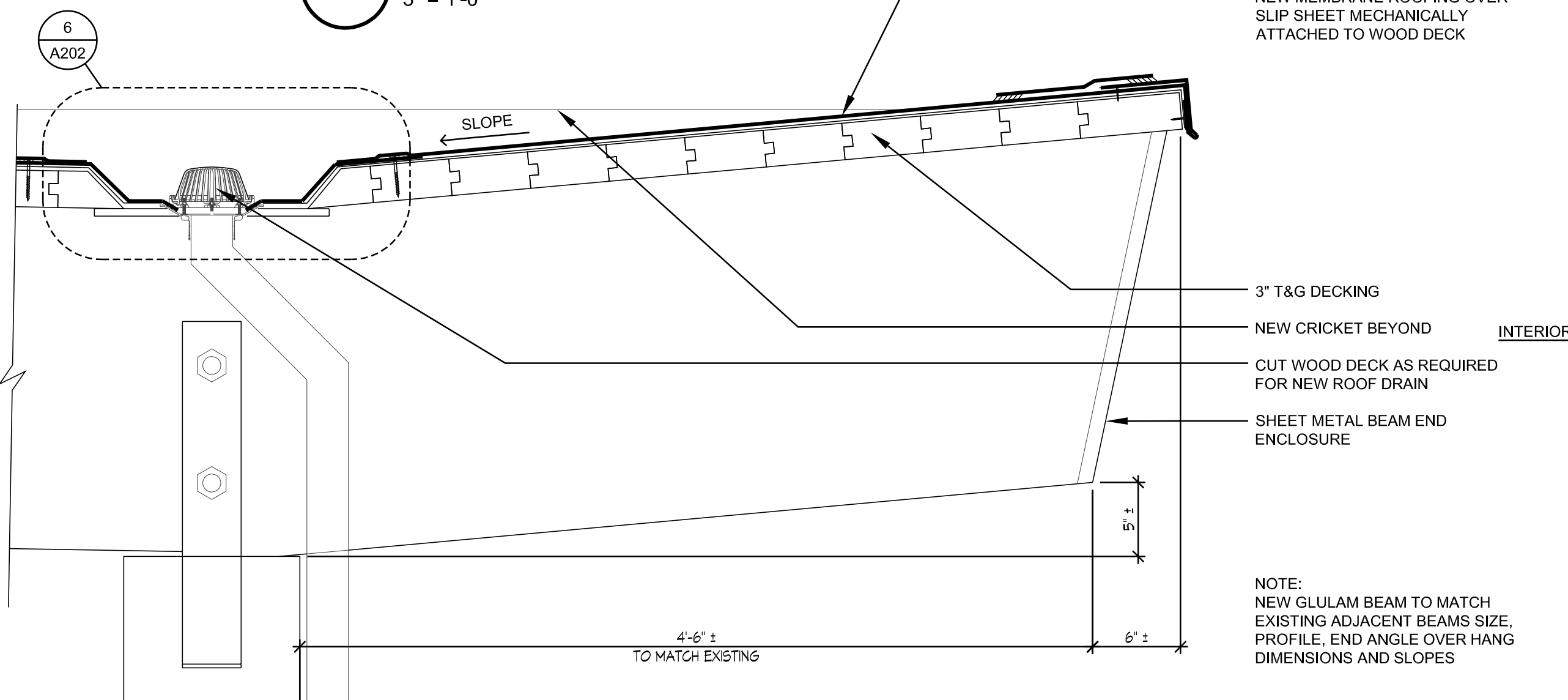
11 ROOF EDGE DETAIL
3/4" = 1'-0"



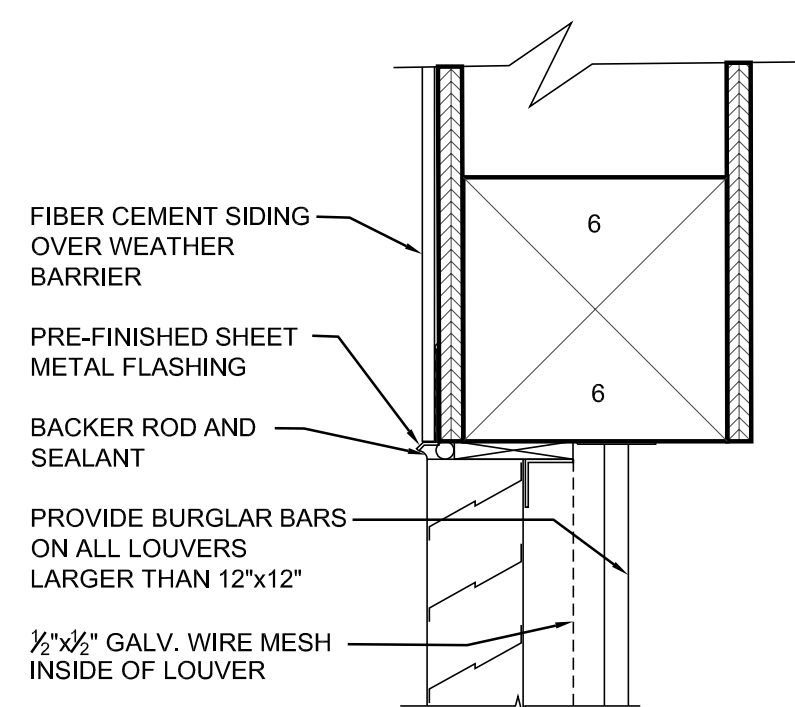
7 WALL FLASHING DETAIL
3" = 1'-0"



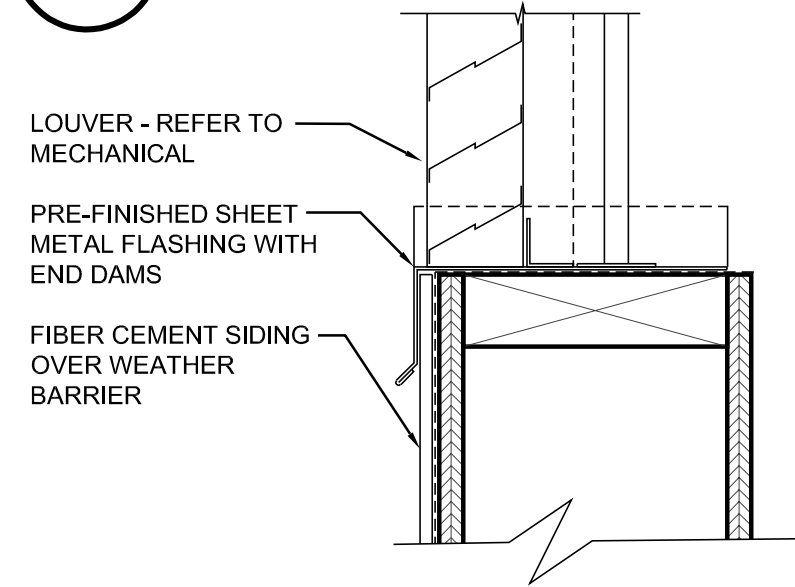
8 ROOF TRANSITION DETAIL
3" = 1'-0"



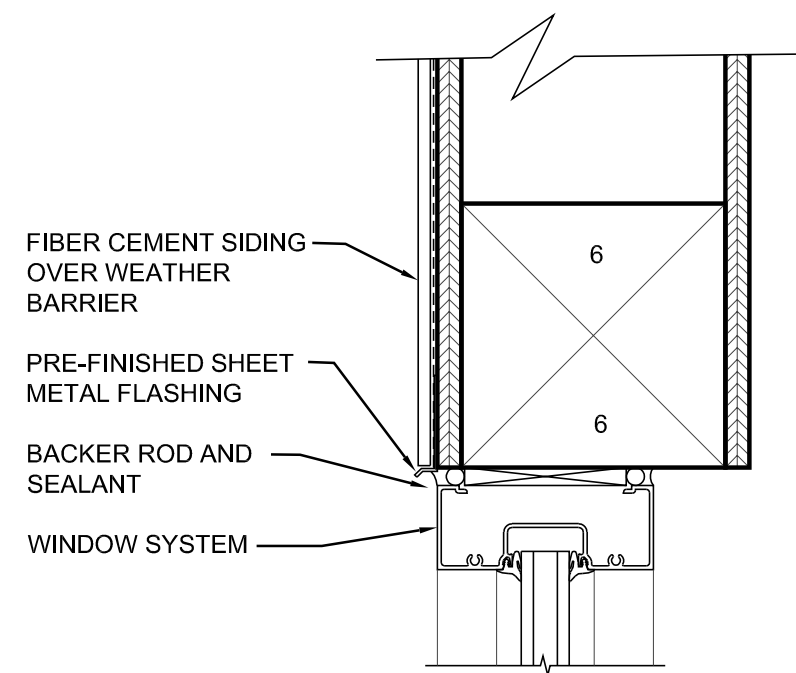
12 LOWER EAVE DETAIL
1/2" = 1'-0"



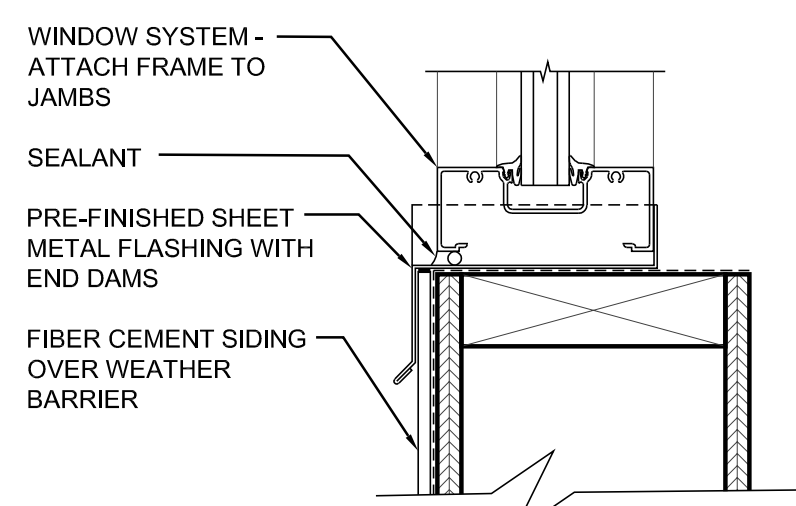
4A LOUVER HEAD DETAIL
3" = 1'-0"



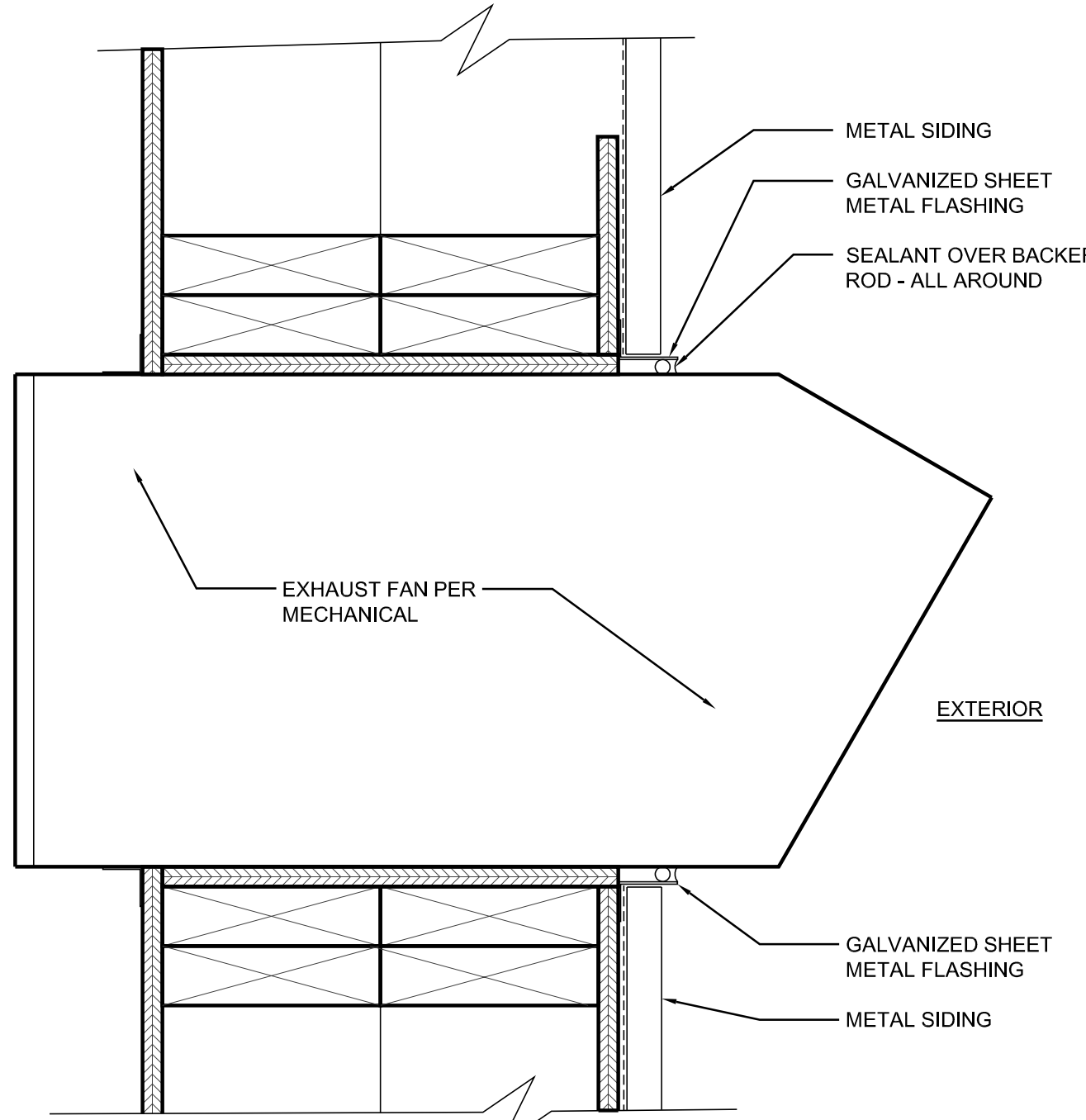
4B LOUVER SILL DETAIL
3" = 1'-0"



5A WINDOW HEAD DETAIL
3" = 1'-0"



5B WINDOW SILL DETAIL
3" = 1'-0"



13 EXHAUST FAN DETAIL
3" = 1'-0"

MARK	DATE	DESCRIPTION

GENERAL NOTES

THESE GENERAL NOTES ARE TO BE USED AS A SUPPLEMENT TO THE SPECIFICATIONS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE SPECIFIED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS RESPONSIBILITY INCLUDES BUT IS NOT LIMITED TO JOB SITE SAFETY; ERECTION MEANS, METHODS, AND SEQUENCES; TEMPORARY SHORING, FORMWORK, BRACING; USE OF EQUIPMENT AND CONSTRUCTION PROCEDURES. PROVIDE ADEQUATE RESISTANCE TO LOADS ON THE STRUCTURES DURING CONSTRUCTION PER SEI/ASCE STANDARD NO. 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION."

CONSTRUCTION OBSERVATION BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE WITH DESIGN ASPECTS ONLY AND IS NOT INTENDED IN ANY WAY TO REVIEW THE CONTRACTOR'S CONSTRUCTION PROCEDURES.

STANDARDS

ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION.

CONTRACT DRAWINGS / DIMENSIONS

ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. CONSULTANT DRAWINGS BY OTHER DISCIPLINES ARE SUPPLEMENTARY TO ARCHITECTURAL DRAWINGS. REPORT DIMENSIONAL OMISSIONS OR DISCREPANCIES BETWEEN ARCHITECTURAL DRAWINGS AND STRUCTURAL, MECHANICAL, ELECTRICAL OR CIVIL DRAWINGS TO ARCHITECT PRIOR TO PROCEEDING WITH WORK.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS. PRIMARY STRUCTURAL ELEMENTS ARE DIMENSIONED ON STRUCTURAL PLANS AND DETAILS AND OVERALL LAYOUT OF STRUCTURAL PORTION OF WORK. SOME SECONDARY ELEMENTS ARE NOT DIMENSIONED, SUCH AS WALL CONFIGURATIONS, INCLUDING EXACT DOOR AND WINDOW LOCATIONS, ALCOVES, SLAB SLOPES AND DEPRESSIONS, CURBS, ETC. VERTICAL DIMENSIONAL CONTROL IS DEFINED BY ARCHITECTURAL WALL SECTIONS AND BUILDING SECTIONS. STRUCTURAL DETAILS SHOW DIMENSIONAL RELATIONSHIPS TO CONTROL DIMENSIONS DEFINED BY ARCHITECTURAL DRAWINGS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

DESIGN CRITERIA

VERTICAL LOADS

AREA	DESIGN DEAD LOAD	LIVE LOAD (2)	CONCENTRATED LOADS
ROOF	15 PSF	25 PSF (1)	300#

LATERAL FORCES

LATERAL FORCES ARE TRANSMITTED BY DIAPHRAGM ACTION OF ROOF AND FLOORS TO SHEAR WALLS. LOADS ARE THEN TRANSFERRED TO FOUNDATION BY SHEAR WALL ACTION WHERE ULTIMATE DISPLACEMENT IS RESISTED BY PASSIVE PRESSURE OF EARTH AND/OR SLIDING FRICTION. OVERTURNING IS RESISTED BY DEAD LOAD OF THE STRUCTURE.

WIND:

THE BUILDING MEETS THE CRITERIA TO USE THE "ENCLOSED, PARTIALLY ENCLOSED, AND OPEN BUILDING OF ALL HEIGHTS PROCEDURE" PER ASCE 7-16.

- EXPOSURE CATEGORY = B
- BASIC WIND SPEED, (3 SEC. GUST), V_{ULT} = 110 MPH; V_{ASD} = 77 MPH
- RISK CATEGORY PER IBC TABLE 1604.5 = II
- TOPOGRAPHIC FACTOR K_{zt} = 1.0
- INTERNAL PRESSURE COEFFICIENT (ENCLOSED) = ± 0.18
- COMPONENTS AND CLADDING LOADS, SEE THE FOLLOWING TABLES:

ROOF SURFACES ¹						
EFFECTIVE WIND AREA	POSITIVE PRESSURES (PSF)	NEGATIVE PRESSURES (PSF)				
		ZONE ³				
	ALL ZONES	1	2	2'	3	3'
10 SF	16.0	-19.2	-22.2	-26.7	-29.7	-41.7
20 SF	16.0	-19.2	-21.9	-26.4	-26.7	-37.2
50 SF	16.0	-19.2	-21.0	-25.9	-23.7	-31.2
100 SF	16.0	-19.2	-20.7	-25.2	-20.7	-26.7

WALL SURFACES ¹				
EFFECTIVE WIND AREA	POSITIVE PRESSURE (PSF)		NEGATIVE PRESSURE (PSF)	
	ZONE ²			
	4	5	4	5
10 SF	17.7	17.7	-19.2	-23.7
20 SF	16.9	16.9	-18.4	-22.1
50 SF	16.0	16.0	-17.3	-20.0
100 SF	16.0	16.0	-16.5	-18.4
500 SF	16.0	16.0	-16.0	-16.0

ROOF OVERHANGS ¹					
EFFECTIVE WIND AREA	NEGATIVE PRESSURE (PSF)				
	ZONE ³				
	1	2	2'	3	3'
10 SF	-31.5	-34.5	-39.0	-42.0	-53.9
20 SF	-30.7	-33.4	-37.9	-38.2	-48.6
50 SF	-29.6	-31.4	-36.4	-34.1	-41.6
100 SF	-28.8	-30.3	-34.8	-30.3	-36.3
500 SF	-27.0	-28.5	-33.0	-28.5	-34.5

1. VALUES SHOWN IN TABLE ARE GROSS ULTIMATE WIND PRESSURES.
2. WALL ZONES ARE AS DEFINED BY FIGURE 30.3-1 IN ASCE 7-16 FOR LOW RISE BUILDINGS.
3. ROOF ZONES ARE AS DEFINED BY FIGURES 30.3-2 THROUGH 30.3-7 IN ASCE 7-16 FOR LOW RISE BUILDINGS.

SEISMIC: (ASCE 7-16) V = CsW

WHERE $C_s = \frac{S_{DS}}{(\frac{R}{I_e})}$; WITH

C_s MINIMUM = 0.044 $S_{DS}I_e \geq 0.01$

OR

C_s MINIMUM = $\frac{0.5S_1}{\frac{R}{I_e}}$ FOR $S_1 > 0.6g$

C_s MAXIMUM = $T(\frac{R}{I_e})$ FOR $T \leq T_L$

OR

C_s MAXIMUM = $\frac{S_{D1}T_L}{T^2 (\frac{R}{I_e})}$ FOR $T > T_L$

SEISMIC IMPORTANCE FACTOR, I_e = 1.0
RISK CATEGORY OF BUILDING PER IBC TABLE 1604.5 = II
SPECTRAL RESPONSE ACCELERATIONS S_S = 1.05 & S₁ = 0.43
SITE CLASS PER TABLE 20.3-1 = D
DESIGN SPECTRAL RESPONSE ACCELERATIONS S_{DS} = 0.88 & S_{D1} = 0.60
SEISMIC DESIGN CATEGORY = D
ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC FORCE-RESISTING SYSTEM PER TABLE 12.2-1:
CONCRETE SHEAR
RESPONSE MODIFICATION FACTOR, R = 5
OVERSTRENGTH FACTOR, Ω = 2.5
C_s = 0.176
REDUNDANCY FACTOR PER 12.3.4, ρ = 1.0

PIPES, DUCTS AND MECHANICAL EQUIPMENT SUPPORTED OR BRACED FROM STRUCTURE. CONFORM TO SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC. PUBLICATION "SEISMIC RESTRAINT MANUAL: GUIDELINES FOR MECHANICAL SYSTEMS". SPRINKLER LINE ATTACHMENTS SHALL CONFORM TO NFPA PAMPHLET 13.

FOUNDATION DESIGN CRITERIA

ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF (ASSUMED)*

ACTIVE PRESSURE - RESTRAINED: 50 PCF +14H SEISMIC SURCHARGE (ASSUMED)
ACTIVE PRESSURE - UNRESTRAINED: 35 PCF +6H SEISMIC SURCHARGE (ASSUMED)
PASSIVE RESISTANCE: 200 PCF (INCLUDES F.O.S. ≥ 1.5) (ASSUMED)
COEFFICIENT OF FRICTION: .35 (INCLUDES F.O.S. ≥ 1.5) (ASSUMED)
*1/3 INCREASE ALLOWED FOR SEISMIC OR WIND LOADING
STATIC DIFFERENTIAL SETTLEMENT: 1/2" MAX OVER 50 FEET PER GEO-TECHNICAL REPORT.

ALL FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED EARTH OR "STRUCTURAL BACKFILL". NATIVE EARTH BEARING SHALL BE SURFACE COMPACTED. AREAS OVER-EXCAVATED SHALL BE BACKFILLED WITH LEAN CONCRETE (f_c= 2000 PSI) OR "STRUCTURAL BACKFILL". AREAS DESIGNATED "STRUCTURAL BACKFILL" SHALL BE FILLED WITH APPROVED WELL-GRADED BANKRUN MATERIAL. MAXIMUM SIZE OF ROCK 4". FROZEN SOIL, ORGANIC MATERIAL AND DELETERIOUS MATTER NOT ALLOWED. COMPACT TO AT LEAST 95% OF ITS MAXIMUM DENSITY AS DETERMINED BY ASTM D1557. CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EXCAVATION TO AVOID DAMAGE TO BURIED LINES, TANKS, AND OTHER CONCEALED ITEMS. UPON DISCOVERY, DO NOT PROCEED WITH WORK UNTIL RECEIVING WRITTEN INSTRUCTIONS FROM ARCHITECT. A COMPETENT REPRESENTATIVE OF THE OWNER SHALL INSPECT ALL FOOTING EXCAVATIONS FOR SUITABILITY OF BEARING SURFACES PRIOR TO PLACEMENT OF REINFORCING STEEL. PROVIDE DRAINAGE AND DEWATERING AROUND ALL WORK TO AVOID WATER-SOFTENED FOOTINGS.

CONCRETE

CAST-IN-PLACE CONCRETE

CODES, SPECIFICATIONS, AND STANDARDS. CONCRETE WORK SHALL CONFORM TO THE FOLLOWING CODES, SPECIFICATIONS, AND STANDARDS, AND THE STANDARDS AND SPECIFICATIONS THEY REFERENCE. THE CONTRACTOR SHALL OBTAIN AND HAVE READILY AVAILABLE ON SITE THE LATEST VERSION OF THE "ACI MANUAL OF CONCRETE PRACTICE":

POST-INSTALLED ANCHORS

POST-INSTALLED ANCHORS: SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH REBAR. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. INSTALLER SHALL BE QUALIFIED AND TRAINED BY THE MANUFACTURER. HOLES SHALL BE HAMMER DRILLED ONLY (ROTARY DRILLED ONLY AT UNREINFORCED MASONRY - NO HAMMER TOOLS).

SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED FOR APPROVAL A MINIMUM OF 2 WEEKS PRIOR TO BID, ALONG WITH CALCULATIONS THAT SHALL BE STAMPED BY A PROFESSIONAL ENGINEER (LICENSED IN THE STATE OF THE PROJECT) DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.

CONCRETE ANCHORS:

- ADHESIVE ANCHORS: HILTI HIT-HY 200 V3 (ICC-ESR-4868), HILTI HIT-RE 500 V3 (ICC-ESR-3814), DEWALT PURE 110+ (ICC-ESR-3298) OR SIMPSON SET-3G (ICC-ESR-4057) OR PRE-APPROVED EQUAL.
- *CONCRETE SHALL BE A MINIMUM OF 21 DAYS OLD AT TIME OF INSTALLATION.
- *CONCRETE SHALL BE IN THE TEMPERATURE RANGE AS REQUIRED BY THE CONCRETE MANUFACTURER.
- *HOLE SHALL BY HAMMER-DRILLED ONLY.
- *DO NOT INSTALL IN WATER-FILLED HOLES.
- *INSTALLER OF HORIZONTAL OR UPWARDLY INCLINED (ANY POSITION EXCEPT DIRECTLY DOWNWARD) ANCHORS SHALL ALSO BE CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.
- EXPANSION ANCHORS: KWIKBOLT T22 (ICC ESR-4266) BY HILTI, INC., OR PRE-APPROVED EQUAL.
- SCREW ANCHORS: KWIK HUS-EZ (ICC ESR-3027) BY HILTI, INC., OR PRE-APPROVED EQUAL.

DETAILING, FABRICATION AND ERECTION

ALL WORKMANSHIP SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION, 15TH EDITION, THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS JULY 7, 2016, THE AISC CODE OF STANDARD PRACTICE, JUNE 15, 2016 AND THE AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, JULY 12, 2016.

STEEL MEMBERS ARE EQUALLY SPACED BETWEEN COLUMNS AND/OR DIMENSION POINTS UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDES AND JOINT PREPARATIONS THAT INCLUDE BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES, AND OTHER AIDES, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, WELD EXTENSION TABS, COPES, SURFACE ROUGHNESS VALUES AND TAPERS OF UNEQUAL PARTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLIANCE WITH ALL CURRENT OSHA REQUIREMENTS.

HOLES, COPES OR OTHER CUTS OR MODIFICATIONS OF THE STRUCTURAL STEEL MEMBERS SHALL NOT BE MADE IN THE FIELD WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

MATERIAL PROPERTIES

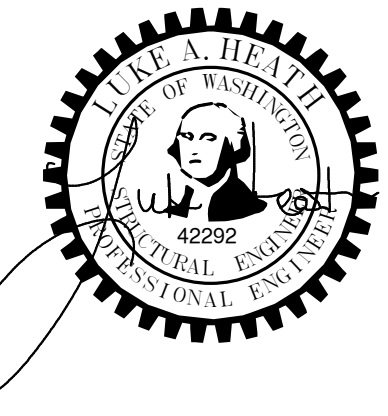
MACHINE BOLTS (M.B.): ASTM A307, GRADE A

HIGH-STRENGTH BOLTS: A325-ASTM F1852, A490-ASTM F2280

ANCHOR BOLTS (A.B.): ASTM F1554, GRADE 36,

STRUCTURAL DRAWING INDEX	
SHEET NUMBER	SHEET DESCRIPTION
S100	GENERAL NOTES
S101	GENERAL NOTES
S102	GENERAL NOTES
S201	PLANS
S301	DETAILS
Grand total: 5	

MARK	DATE	DESCRIPTION



MAINTENANCE AND TRANSPORTATION FACILITY
BUS GARAGE BUILDING REPAIR
LONGVIEW SCHOOL DISTRICT
2080 38th AVE., LONGVIEW, WA 98632

PERMIT SET
10-27-2022

2022-28
SHEET NO.
S100



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WELDING

STRUCTURAL STEEL: WELD IN ACCORDANCE WITH "STRUCTURAL WELDING CODE" AWS D1.1.

CERTIFICATION: ALL WELDING SHALL BE PERFORMED BY WABO CERTIFIED WELDERS. WELDERS SHALL BE PREQUALIFIED FOR EACH POSITION AND WELD TYPE WHICH THE WELDER WILL BE PERFORMING.

WELD TABS (ALSO KNOWN AS WELD "EXTENSION" TABS OR "RUN OFF" TABS) SHALL BE USED. AFTER THE WELD HAS BEEN COMPLETED THE WELD TABS SHALL BE REMOVED AND THE WELD END GROUND TO A SMOOTH CONTOUR. WELD "DAMS" OR "END DAMS" SHALL NOT BE USED.

THE PROCESS CONSUMABLES FOR ALL WELD FILLER METAL INCLUDING TACK WELDS, ROOT PASS AND SUBSEQUENT PASSES DEPOSITED IN A JOINT SHALL BE COMPATIBLE.

ALL WELD FILLER METAL AND WELD PROCESS SHALL PROVIDE THE TENSILE STRENGTH AND CHARPY V-NOTCH RATINGS AS FOLLOWS:

GRAVITY FRAME

WELD TYPE	FILLER METAL TENSILE STRENGTH	CHARPY V-NOTCH (CVN) RATING
FILLET	70 KSI	----
PARTIAL PENETRATION	70 KSI	----
COMPLETE PENETRATION	70 KSI	20 FT-LBS @ 40 DEG F

WELDED CONNECTIONS INSPECTION:

- ALL WELDING SHALL BE CHECKED BY VISUAL MEANS AND BY OTHER METHODS DEEMED NECESSARY BY THE WELDING INSPECTOR.

THE STANDARDS OF ACCEPTANCE FOR WELDS TESTED BY ULTRASONIC METHODS SHALL CONFORM TO AWS D1.1.

ALL WELDS FOUND TO BE DEFECTIVE SHALL BE REPAIRED AND REINSPECTED BY THE SAME METHODS ORIGINALLY USED, AND THIS REPAIR AND REINSPECTION SHALL BE PAID FOR BY THE CONTRACTOR

CARPENTRY:

NAILS: CONNECTION DESIGNS ARE BASED ON NAILS WITH THE FOLLOWING PROPERTIES:

PENNYWEIGHT	DIAMETER (INCHES)	LENGTH (INCHES)
8d	0.131	2-1/2
10d	0.148	3
16d	0.148	3-1/2
20d	0.192	4

ALL NAILS AND STAPLES SHALL CONFORM TO ASTM F1667 INCLUDING SUPPLEMENT 1. FOR DIAPHRAGM OR SHEAR WALL NAILING THE FOLLOWING FASTENER TYPES MAY BE USED AT EQUIVALENT SPACING TO THAT SPECIFIED ON PLANS.

FASTENER TYPE	DIAMETER (INCHES)	LENGTH (INCHES)	EQUIVALENT SPACING (INCHES)		
8d COMMON WIRE	0.131	2-1/2	6	4	3
8d "DIPPED GALV. BOX"	0.131	2-1/2	6	4	3
8d COOLER	0.113	2-1/2	4-1/2	3	2-1/2
14 GA. STAPLES	0.080	1-1/2"	6	4	3
16 GA. STAPLES	0.062	1-1/2"	4	3	-
10d COMMON WIRE	0.148	3	6	4	3
10d "HOT DIPPED GALV. BOX"	0.148	3	6	4	3
10d "SHINY BOX"	0.131	3	4-1/2	3	2-1/4
16d COMMON WIRE	0.162	3-1/2	6	4	3
16d SINKER NAIL	0.148	3-1/4	5	3-1/4	2-1/2

* BASED ON 15/32" PLYWOOD OR OSB.

WOOD SHEATHING (STRUCTURAL): **SHEATHING ON ROOF SURFACES SHALL BE PLYWOOD ONLY.** SHEATHING ON FLOOR AND WALLS SHALL BE PLYWOOD OR ORIENTED STRAND BOARD (OSB). PLYWOOD SHEATHING SHALL BE 5-PLY MINIMUM WHERE INDICATED AS PERFORMANCE CATEGORY 3/4" OR THICKER. WOOD SHEATHING SHALL BE "STRUCTURAL I" CONFORMING TO PS1-09 AND/OR PS2-10. ALL PANELS SHALL BEAR THE STAMP OF AN APPROVED GRADING AGENCY. SPAN RATING SHALL BE PROVIDED AS FOLLOWS: ROOF FRAMING AT 32"O.C. (48/24); ROOF FRAMING AT 24"O.C. (32/16); WALLS (32/16); FLOORS (48/24) ALL WOOD SHEATHED WALLS SHALL BE BLOCKED AT ALL PANEL EDGES UNLESS NOTED OTHERWISE.

GLUE-LAMINATED MEMBERS: CONFORM TO ANSI/AITC A190.1. MEMBERS SHALL BE COMBINATION 24F-V4 DOUGLAS FIR (DF) FOR SIMPLE SPANS; AND 24F-V8 DF FOR CANTILEVERED AND/OR CONTINUOUS SPANS (Fb=2400 PSI, Fv=265 PSI, E=1.8X10⁶ PSI);

ALL MEMBERS TO HAVE EXTERIOR GLUE AND HAVE AN APPROVED GRADE STAMP AND SHALL BE INDUSTRIAL APPEARANCE GRADE, CAMBER AS SHOWN ON STRUCTURAL DRAWINGS.

FRAMING LUMBER: STANDARDS. EACH PIECE SHALL BEAR THE GRADE TRADEMARK OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB), WESTERN WOOD PRODUCTS ASSOCIATION (WWPA), OR OTHER AGENCY ACCREDITED BY THE AMERICAN LUMBER STANDARD COMMITTEE (ALSC) TO GRADE UNDER ALSC CERTIFIED GRADING RULES.

SPECIES AND GRADE (BASE DESIGN VALUE)

- 6x BEAMS AND HEADERS. "DOUG FIR-LARCH" NO. 1 (Fb=1350 PSI, Fv=170 PSI)
- 2x TO 4x JOISTS, PURLINS AND HEADERS. "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fv=180 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fv=150 PSI)
- 6x POSTS AND COLUMNS. "DOUG FIR-LARCH" NO. 1 (Fc=1000 PSI)
- EXTERIOR STUDS, INTERIOR BEARING WALLS AND 4x COLUMNS. "DOUG FIR-LARCH" NO. 2 (Fb= 900 PSI, Fc= 1350 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI)
- INTERIOR NON-BEARING STUD WALLS. "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI. Fc=1350 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI)
- 2x & 3x T&G DECKING: "DOUG FIR-LARCH" COMMERCIAL (Fb=1450 PSI, E=1700 KSI)
- THE MINIMUM GRADE OF ALL OTHER STRUCTURAL FRAMING. "DOUG FIR-LARCH" NO. 2 (Fb= 900 PSI, Fc=1350 PSI), OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI).
- UTILITY & STANDARD GRADES NOT PERMITTED.

STRUCTURAL COMPOSITE LUMBER (SCL): SHALL BE MANUFACTURED BY REDBUILT LLC., OR PRE-APPROVED EQUAL IN ACCORDANCE WITH APPROVED SHOP AND INSTALLATION DRAWINGS CONFORMING TO A CURRENT EVALUATION REPORT.

MINIMUM DESIGN VALUES:

- 2x SCL: Fb = 1700 PSI, Fv = 285 PSI, E = 1300 KSI
- 1-3/4" SCL: Fb = 2600 PSI, Fv = 285 PSI, E = 1800 KSI
- 3-1/2" SCL: Fb = 2900 PSI, Fv = 285 PSI, E = 2000 KSI
- 5-1/4" SCL: Fb = 2900 PSI, Fv = 285 PSI, E = 2000 KSI
- RIMBOARD: APA/EWS PERFORMANCE RATED RIM (PRR-401)

MEMBERS HAVE BEEN DESIGNED TO SERVICEABILITY AND OTHER PERFORMANCE BASED REQUIREMENTS, WHICH MAY EXCEED MINIMUM DESIGN LOADS AND CODE REQUIREMENTS. SUBSTITUTIONS MUST MEET OR EXCEED MOMENT, SHEAR, AND STIFFNESS OF THOSE MEMBERS SPECIFIED AT THE SAME DEPTH AND SPACING.

PRESERVATIVE TREATED WOOD REQUIREMENTS:

TREATMENTS OTHER THAN THOSE LISTED BELOW ARE NOT PERMITTED.

		APPLICATION	SPECIFIED MATERIAL	PRESERVATIVE TREATMENT (1)	CONNECTORS & FASTENERS (2)(3)
EXPOSURE	DRY	FOUNDATION SILL PLATES, TOP PLATES & LEDGERS ON CONCRETE OR MASONRY WALLS (4)	2x, 4x, 6x (FIR), OR GLULAM (SP)	SBX	GALV (G60)
				ACQ, CBA, CA	GALV (G185)
	WET	FRAMING, DECKING, POSTS & LEDGERS	2x, & 4x (FIR)	ACQ, CBA, CA	GALV (G185)
			2x, & 4x (CEDAR)	NONE	GALV (G90)
		BEAMS & COLUMNS	6x (FIR), OR GLULAM (SP)	ACQ, CBA, CA	GALV (G185)
			6x OR GLULAM (CEDAR)	NONE	GALV (G90)

- CCA: CHROMATED COPPER ARSENATE NOT PERMITTED
SBX: DOT SODIUM BORATE
ACQ: ALKALINE COPPER QUAT
CBA & CA: COPPER AZOLE
FIR: DOUG-FIR OR HEM-FIR
SP: SOUTHERN PINE
- CONNECTORS: JOIST HANGERS, STRAPS, FRAMING CONNECTORS, COLUMN CAPS AND BASES, ETC.
FASTENERS: MACHINE BOLTS, ANCHOR BOLTS AND LAG SCREWS WITH ASSOCIATED PLATE WASHERS AND NUTS. NAILS, SPIKES, WOOD SCREWS, ETC.
- G60, G90 & G185 PER ASTM A653 FOR COLD-FORMED STEEL CONNECTORS. BATCH/POST HOT-DIP GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM A153 STRUCTURAL STEEL CONNECTORS. HOT-DIP GALVANIZED PER ASTM A153 FOR FASTENERS OR MECHANICALLY GALVANIZED FASTENERS PER ASTM B695, CLASS 55 OR GREATER.
- AT CONTRACTORS OPTION, LEDGERS AND TOP PLATES A MINIMUM OF 8 FEET ABOVE GRADE ON CONCRETE OR MASONRY WALLS MAY BE UN-TREATED IF COMPLETELY SEPARATED FROM THE WALL BY A SELF ADHERING ICE & WATER SHIELD BARRIER (40 MIL MINIMUM).

GENERAL REQUIREMENTS: PROVIDE MINIMUM NAILING PER IBC TABLE 2304.10.1 OR MORE, AS OTHERWISE SHOWN. STAGGER ALL NAILING TO PREVENT SPLITTING OF WOOD MEMBERS. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED WITH THE EXCEPTION OF INTERIOR CONCRETE TOPPINGS ON WOOD FLOOR SYSTEMS. HOLES AND CUTS IN 3x OR 4x PLATES SHOULD BE TREATED WITH A 9% SOLUTION OF COPPER NAPHTHENATE. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. PROVIDE CUT WASHERS WHERE BOLT HEADS, NUTS AND LAG SCREW HEADS BEAR ON WOOD. PROVIDE A MINIMUM 3"x3"x0.229" PLATE WASHER ON ALL ANCHOR BOLTS WHICH CONNECT MUD SILLS TO FOUNDATION. DO NOT NOTCH OR DRILL STRUCTURAL MEMBERS, EXCEPT AS ALLOWED BY IBC SECTIONS 2308.4.2.4, 2308.5.9, 2308.5.10 AND 2308.7.4 OR AS RESTRICTED BY PLANS OR DETAILS, OR AS APPROVED PRIOR TO INSTALLATION. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

WOOD SHRINKAGE AND CONSOLIDATION: SHRINKAGE OF WOOD MEMBERS AND CONSOLIDATION OF BEARING WALLS IS EXPECTED FROM TIME OF FRAMING UNTIL AFTER BUILDING IS PUT IN SERVICE. MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS SHALL BE CONSTRUCTED TO ACCOMODATE 1/4" OF TOTAL SETTLEMENT PER STORY.

FRAMING CONNECTORS: SHALL CONFORM TO CURRENT EVALUATION REPORT AND BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, SAN LEANDRO, CA, OR PRE-APPROVED EQUAL. PROVIDE MAXIMUM SIZE AND QUANTITY OF NAILS OR BOLTS PER MANUFACTURER, EXCEPT AS NOTED OTHERWISE. PROVIDE LEAD HOLES AS REQUIRED TO PREVENT SPLITTING OF WOOD MEMBERS. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

LAG SCREWS: SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1. LAG SCREWS SHALL BE OF A DIAMETER INDICATED ON DRAWINGS WITH A MINIMUM OF 8x DIA. EMBEDMENT IN SUPPORTING MEMBER UNLESS NOTED OTHERWISE. CLEARANCE HOLE FOR THE SHANK SHALL BE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE UNTHREADED PORTION OF THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60 TO 75 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION. THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH. SOAP OR OTHER LUBRICANT SHALL BE USED ON THE SCREWS OR IN THE LEAD HOLE TO FACILITATE INSERTION AND PREVENT DAMAGE TO THE SCREW. LAG SCREWS SHALL NOT BE DRIVEN WITH A HAMMER. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

PRE-MANUFACTURED SHEAR/BRACED WALL PANELS: SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, IN SAN LEANDRO, CA, HARDY FRAMES INC., VENTURA, CA, OR APPROVED EQUAL. WALL PANEL ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSTALLATION INSTRUCTIONS AND APPROVED SHOP DRAWINGS. WALL PANEL ASSEMBLY SHALL CONFORM TO CURRENT EVALUATION REPORT.

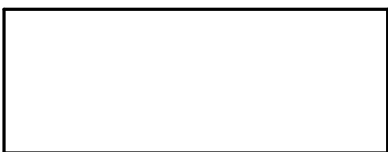
PRE-APPROVED SUBSTITUTIONS: SUBSTITUTIONS MAY BE ALLOWED ONLY IF THEY MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND THE SPECIFICATIONS, AND IF COMPLETE WRITTEN ENGINEERING DATA FOR EACH CONDITION REQUIRED FOR THIS PROJECT IS PROVIDED TO THE STRUCTURAL ENGINEER TWO WEEKS PRIOR TO BID DATE AND APPROVED IN WRITTEN ADDENDA BY THE ARCHITECT. DATA IS TO INDICATE CODE BASIS BY YEAR, AUTHORITY FOR STRESSES AND STRESS INCREASES, IF ANY, AND AMOUNT OF EXPECTED DEFLECTION FOR FLEXURAL MEMBERS UNDER (1) TOTAL LOAD AND (2) LIVE LOAD ONLY. ALL INCREASED COSTS IN MECHANICAL, SPRINKLER, ELECTRICAL OR GENERAL INSTALLATION AND ANY ARCHITECTURAL OR STRUCTURAL REDESIGN RESULTING FROM SUBSTITUTION SHALL BE BORNE BY THE GENERAL CONTRACTOR.

SHOP DRAWINGS/SUBMITTALS

THE FOLLOWING SHOP DRAWINGS/SUBMITTALS SHALL BE PROVIDED FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION OR DELIVERY.

	STRUCTURAL ENGR.	BLDG. DEPT.
1. MISCELLANEOUS STEEL	X	X
2. GLU-LAMINATED MEMBERS	X	X
3. CONTRACTOR'S STATEMENT OF RESPONSIBILITY	X	X

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING LABORATORY PER THE REQUIREMENTS OF IBC CHAPTER 17 AND THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION AND THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL FOR THE ITEMS LISTED IN THE QUALITY ASSURANCE/SPECIAL INSPECTION SECTION:



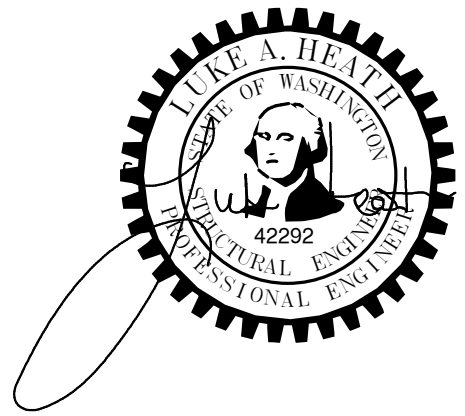
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MAINTENANCE AND TRANSPORTATION FACILITY
BUS GARAGE BUILDING REPAIR
LONGVIEW SCHOOL DISTRICT
2080 38th AVE., LONGVIEW, WA 98632

JACOLLINS ARCHITECTURAL GROUP, P.S.

950 12th AVE., SUITE 200
LONGVIEW, WA 98632
PHONE: 360-425-0000
E-MAIL: craig@collinsarchgroup.com

STATEMENT OF SPECIAL INSPECTIONS:

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1704 AND 1705 AND AS NOTED HEREIN.

STRUCTURAL SYSTEM	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
STEEL CONSTRUCTION	INSPECTION OF WELDING			SPECIAL INSPECTIONS IN THIS SECTION MAY BE WAIVED WHERE FABRICATION IS PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED IN ACCORDANCE WITH IBC SECTION 1704.2.5 AND WITH APPROVAL OF THE BUILDING OFFICIAL.	AISC 360 CHAPTER N5 AISC 341 CHAPTER J6 AWS D1.1
	A. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	X			
	B. MULTI-PASS FILLET WELDS	X			
	C. SINGLE-PASS FILLET WELDS > 5/16"	X			
	D. PLUG AND SLOT WELDS	X			
	E. SINGLE-PASS FILLET WELDS ≤ 5/16"		X		
	F. FIELD-INSTALLED WELDED STUDS		X		
CONCRETE	ANCHORS POST-INSTALLED IN HARDENED CONCRETE (MECHANICAL ANCHORS INSTALLED IN ANY DIRECTION AND ADHESIVE ANCHORS INSTALLED DOWNWARD)		X	PERIODIC INSPECTION TO INCLUDE A QUANTITY OF 10% WITH A MINIMUM OF (5) ANCHORS INSPECTED PER INSTALLER ON A DAILY BASIS.	ACI 318: 17.8.2 MFR EVAL REPORT MFR PUBLISHED INSTALLATION INSTRUCTIONS
	ANCHORS POST-INSTALLED IN HARDENED CONCRETE (ADHESIVE ANCHORS INSTALLED HORIZONTAL OR UPWARDLY INCLINED)	X			ACI 318: 17.8.2 MFR EVAL REPORT MFR PUBLISHED INSTALLATION INSTRUCTIONS
WOOD FRAMING	SHEAR WALL NAILING		X	SPECIAL INSPECTION NOT REQUIRED FOR FASTENER SPACING > 4" O.C.	IBC 1705.11.1, 1705.12.2, 1705.5
	DIAPHRAGM NAILING		X	SPECIAL INSPECTION NOT REQUIRED FOR FASTENER SPACING > 4" O.C.	IBC 1705.11.1, 1705.12.2, 1705.5
	NAILING, BOLTING, AND ANCHORAGE OF COMPONENTS THAT ARE PART OF DRAG STRUTS, BRACES AND HOLD-DOWNS THAT ARE PART OF THE SEISMIC RESISTING SYSTEM		X		IBC 1705.11.1, 1705.12.2

TESTING AND SPECIAL INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO OWNER, CONTRACTOR, BUILDING OFFICIAL, ARCHITECT AND STRUCTURAL ENGINEER OF RECORD.

STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE IN ACCORDANCE WITH IBC 1704.6. STRUCTURAL OBSERVATION SHALL BE PERFORMED AS FOLLOWS:

- » PERIODIC VISUAL OBSERVATION OF STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES.
- » REVIEW OF TESTING AND INSPECTION REPORTS.
- » REPORTS SHALL BE PREPARED FOR EACH SITE VISIT AND SHALL BE DISTRIBUTED TO ARCHITECT.

GENERAL CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

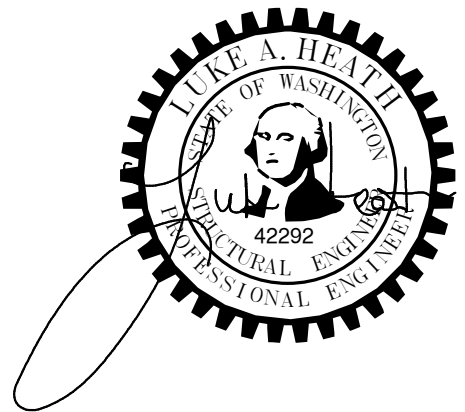
ABBREVIATION LIST			
⦿	AT	HDR	HEADER
A.B.	ANCHOR BOLT	HGR	HANGER
ADD'L	ADDITIONAL	HORIZ.	HORIZONTAL
A.F.F.	ABOVE FINISH FLOOR	HSS	HOLLOW STRUCTURAL SECTION
ALT.	ALTERNATE	HT	HEIGHT
ARCH.	ARCHITECTURAL	INT.	INTERIOR
BLD'G	BUILDING	JST	JOIST
BLK'G	BLOCKING	JT	JOINT
BM	BEAM	L	ANGLE
B.O.F.	BOTTOM OF FOOTING	L.F.R.S.	LATERAL FORCE-RESISTING SYSTEM
BOT.	BOTTOM	L.L.	LIVE LOAD
BRB	BUCKLING RESTRAINED BRACE	LLH	LONG LEG HORIZONTAL
BRG	BEARING	LLV	LONG LEG VERTICAL
BTWN	BETWEEN	LOC.	LOCATION
B.U.	BUILT UP	LSL	LAMINATED STRAND LUMBER
(C=)	CAMBER	LVL	LAMINATED VENEER LUMBER
CANT.	CANTILEVER	MAX.	MAXIMUM
CF5	COLD-FORMED STEEL	M.B.	MACHINE BOLT
C.J.	CONTROL/CONSTRUCTION JOINT	MECH.	MECHANICAL
℄	CENTERLINE	MEZZ.	MEZZANINE
CLR.	CLEARANCE	MFR	MANUFACTURER
CMU	CONCRETE MASONRY UNIT	MIN.	MINIMUM
COL.	COLUMN	MISC.	MISCELLANEOUS
CONC.	CONCRETE	MTL	METAL
CONN.	CONNECTION	N.F.	NEAR FACE
CONST.	CONSTRUCTION	N.S.	NEAR SIDE
CONT.	CONTINUOUS	NTS	NOT TO SCALE
CONTR.	CONTRACTOR	O.C.	ON CENTER
COORD.	COORDINATE	OPN'G	OPENING
C.P.	COMPLETE PENETRATION	OPP.	OPPOSITE
GTR'D	CENTERED	P.A.F.	POWDER ACTUATED FASTENER
C.Y.	CUBIC YARD	PERP.	PERPENDICULAR
DBL.	DOUBLE	℄	PLATE
DCW	DEMAND CRITICAL WELD	P.P.	PARTIAL PENETRATION
D.F.	DOUGLAS FIR	P.P.T.	PRESERVATIVE PRESSURE TREATED
DIA. OR ⌀	DIAMETER	P.S.F.	POUNDS PER SQUARE FOOT
DIAG.	DIAGONAL	PSL	PARALLAM
DIM.	DIMENSION	P.T.	POST TENSION
D.L.	DEAD LOAD	PW.	PLYWOOD
DWG	DRAWING	REINF.	REINFORCEMENT
DWL	DOWEL	REQ'D	REQUIRED
(E)	EXISTING	SCHED.	SCHEDULE
EA.	EACH	SCL	STRUCTURAL COMPOSITE LUMBER
E.F.	EACH FACE	SHT'G	SHEATHING
EL.	ELEVATION	SIM.	SIMILAR
ELEV.	ELEVATOR	S.O.G.	SLAB ON GRADE
ENGR	ENGINEER	SQ.	SQUARE
EQ.	EQUAL	STD	STANDARD
E.W.	EACH WAY	STIFF.	STIFFENER
EXP.	EXPANSION	STL	STEEL
EXT.	EXTERIOR	STRUCT.	STRUCTURAL
FDN	FOUNDATION	T & B	TOP & BOTTOM
F.F.	FAR FACE	T & G	TONGUE AND GROOVE
FLR	FLOOR	THR'D	THREADED
F.O.M.	FACE OF MASONRY	T.O.F.	TOP OF FOOTING
F.O.S.	FACE OF STUD	T.O.S.	TOP OF STEEL
FRM'G	FRAMING	TRT'D	TREATED
F.R.T.	FIRE RETARDANT TREATED	TYP.	TYPICAL
F.S.	FAR SIDE	U.N.O.	UNLESS NOTED OTHERWISE
FTG	FOOTING	U.T.	ULTRASONIC TESTED
GA.	GAGE/GAUGE	VERT.	VERTICAL
GALV.	GALVANIZED	W/	WITH
GL.	GLULAM	W.P.	WORK POINT
GR.	GRADE	WT	WEIGHT
GWB	GYP SUM WALL BOARD	W.W.R.	WELDED WIRE REINFORCING

MARK	DATE	DESCRIPTION	

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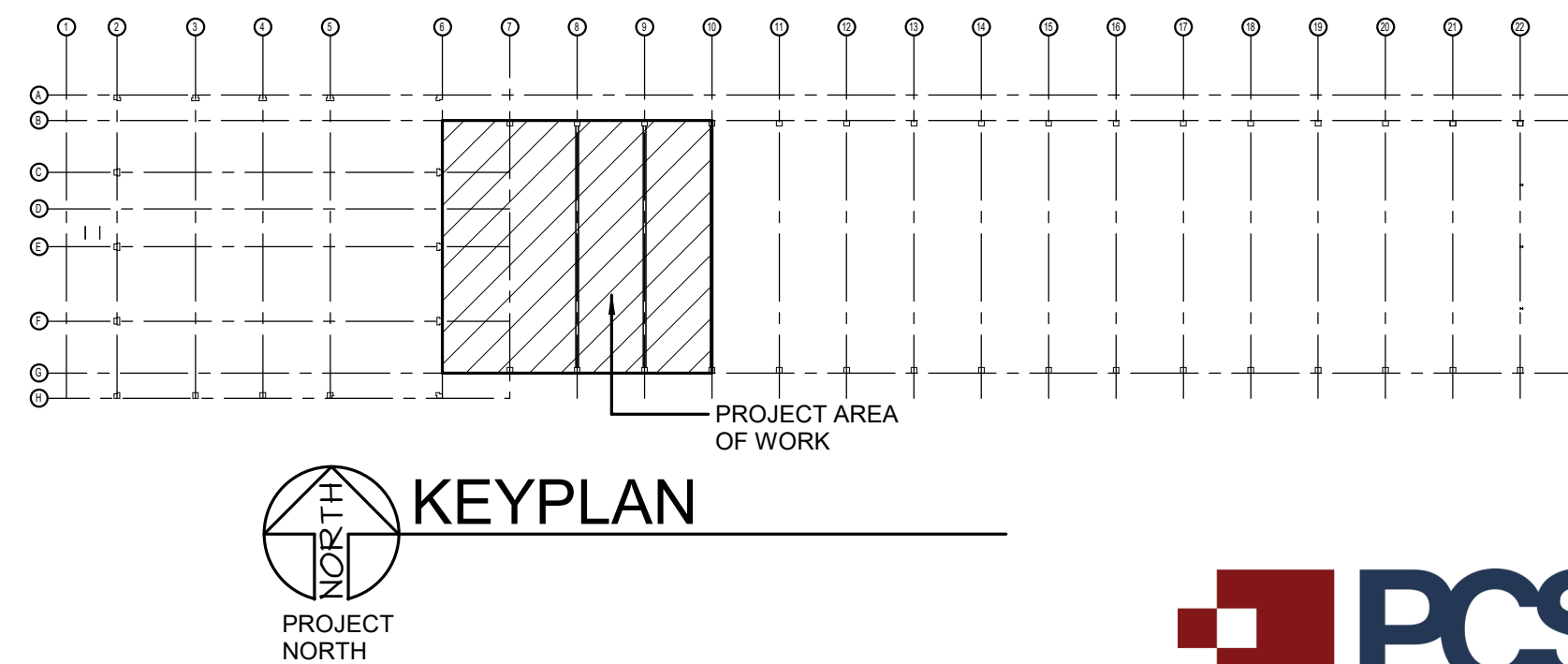
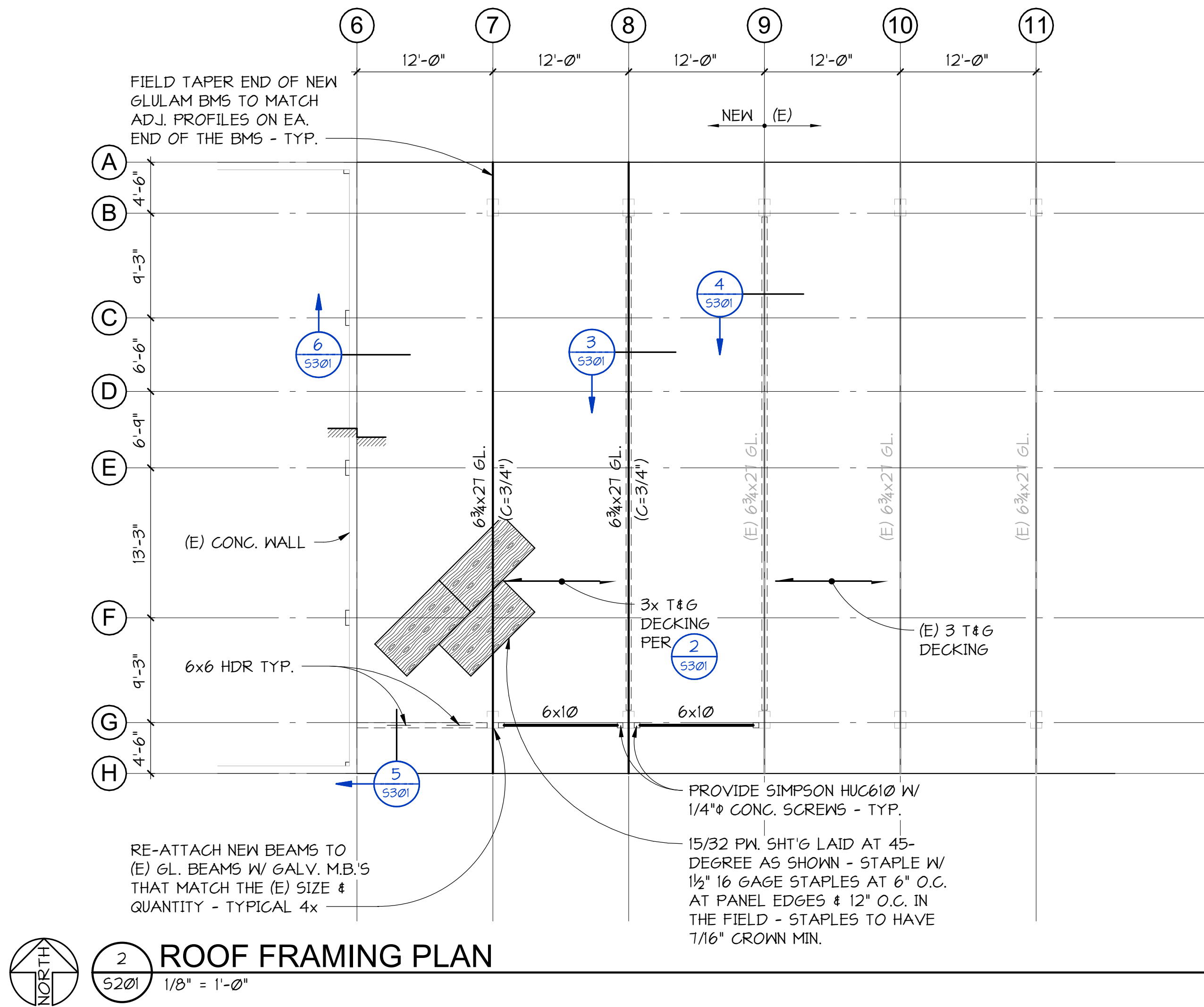
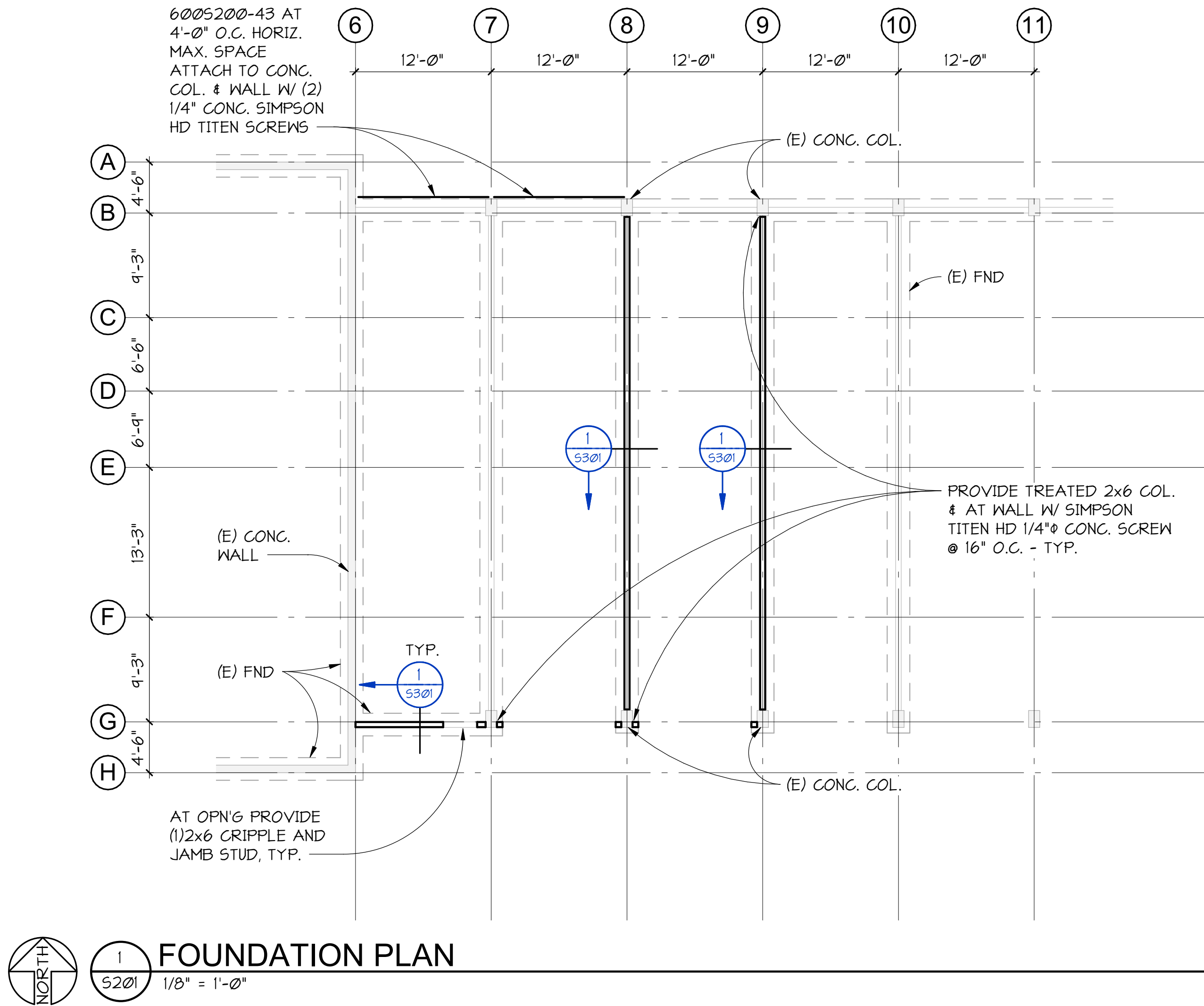
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2022-28

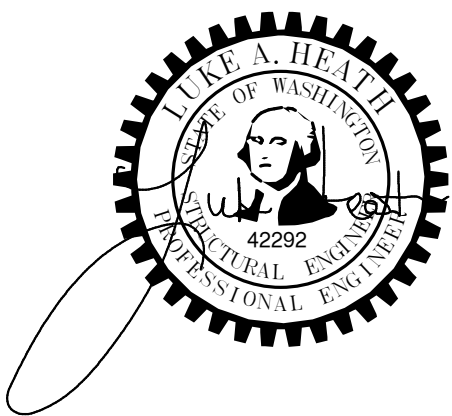
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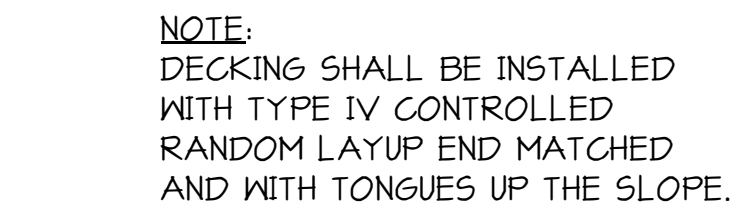
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MARK	DATE	DESCRIPTION



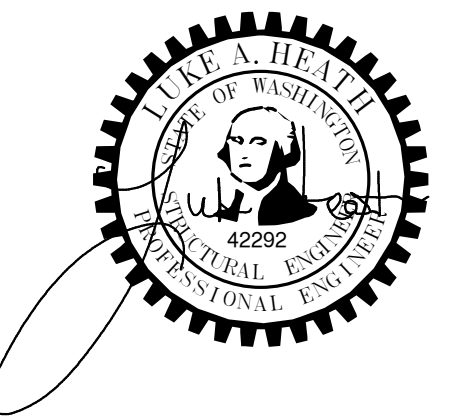


TYPICAL ROOF DECKING
LAYUP AND FASTENERS

2
5301

DETAIL

NO SCALE



**BUS GARAGE BUILDING REPAIR
LONGVIEW SCHOOL DISTRICT**
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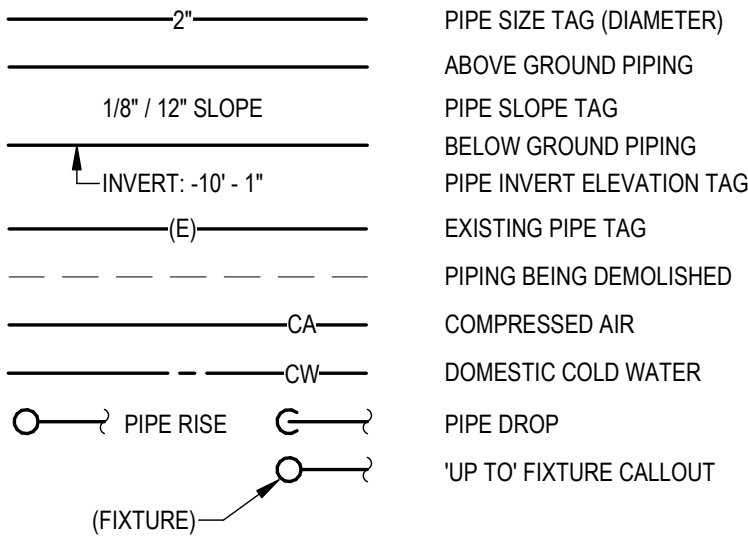
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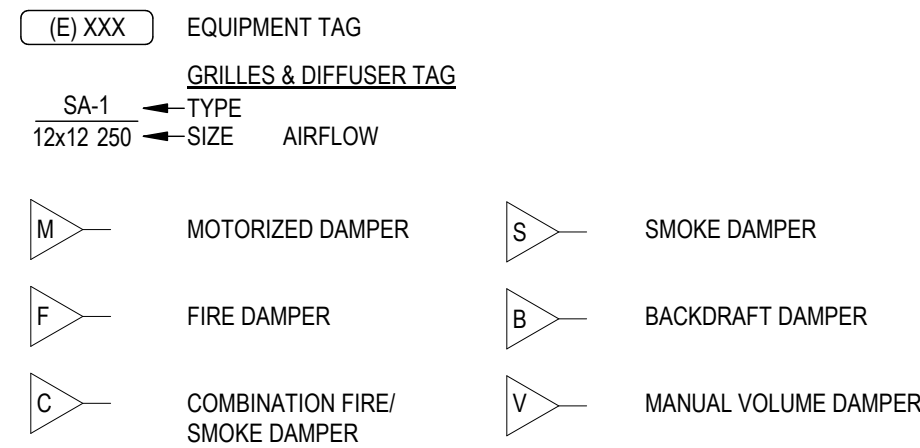
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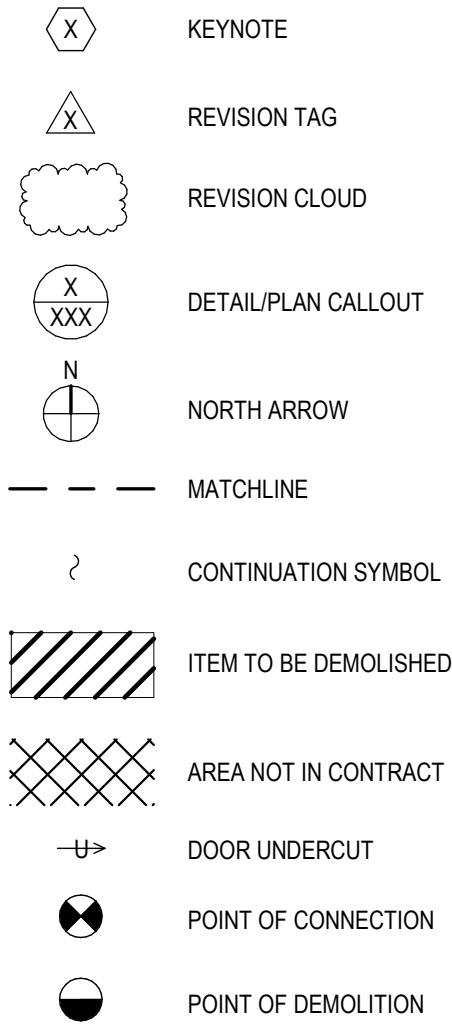
PIPING LEGEND



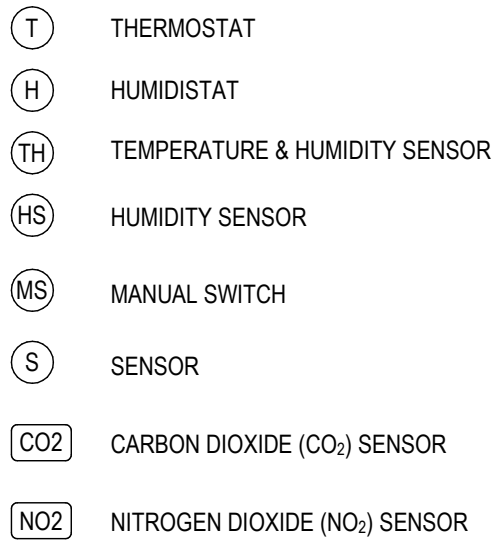
MECHANICAL TAGS



GENERAL SYMBOLS



HVAC SYMBOLS & TAGS



GENERAL SHEET NOTES

- REMOVE ALL UNUSED PIPING AND ACCESSORIES.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR MECHANICAL SYSTEMS WITHIN SPACE AND WITHIN CLOSE PROXIMITY OF SPACE.
- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT SHALL BE FIELD DETERMINED. ALL DISCREPANCIES IN THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING PRIOR TO SUBMISSION.
- THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
- FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
- PLANS SHALL GOVERN IN MATTERS OF QUANTITY, SPECIFICATIONS SHALL GOVERN IN MATTERS OF QUALITY. IN CASE OF DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. PLANS ARE TO BE TIED TO SPECIFICATIONS FOR A COMPLETE DESIGN PACKAGE. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS.
- ANYTHING MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.
- PROVIDE FIRE PROOFING FOR ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. FIRE PROOFING MUST BE EQUIVALENT OR HIGHER TO THAT OF THE PENETRATED ASSEMBLY. REFER TO ARCHITECTURAL PLANS.
- PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF. CONSULT STRUCTURAL ENGINEER OF RECORD FOR ALL STRUCTURAL PENETRATIONS. PROVIDE WATER-PROOFING AS NEEDED FOR ALL EXTERIOR PENETRATIONS.
- PIPE AND DUCTWORK SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE SHOWN.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
- LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWINGS, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
- INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.

NOTE
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

ABBREVIATIONS

Ø	ROUND	MAX	MAXIMUM
AC	AIR CONDITIONING	MBH	ONE THOUSAND BTU PER HOUR
ADD	ADDENDUM	MCF	ONE THOUSAND CUBIC FEET
AFF	ABOVE FINISHED FLOOR	MD	MOTORIZED DAMPER
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	MECH	MECHANICAL
ALT	ALTERNATE	MFR	MANUFACTURER
AP	ACCESS PANEL	MIN	MINIMUM
ARCH	ARCHITECT/ARCHITECTURAL	MISC	MISCELLANEOUS
BFF	BELOW FINISHED FLOOR	MUA	MAKE-UP/AIR
BTU	BRITISH THERMAL UNITS	NC	NOISE CRITERIA
BTUH	BRITISH THERMAL UNITS PER HOUR	NC	NORMALLY CLOSED
CAP	CAPACITY	NC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO	NUMBER
CO	CLEAN OUT	NO	NORMALLY OPEN
D	DEGREE	NTS	NOT TO SCALE
DB	DRY BULB	O	OXYGEN
DIA	DIAMETER	O/A	OUTSIDE AIR
DN	DOWN	PD	PRESSURE DROP
EAT	ENTERING AIR TEMPERATURE	PRESS	PRESSURE
ELEC	ELECTRICAL	PRV	PRESSURE REDUCING VALVE
EQUIP	EQUIPMENT	PSI	POUNDS PER SQUARE INCH
EWC	ELECTRIC WATER COOLER	PSIG	POUNDS PER SQUARE INCH GAUGE
EWI	ENTERING WATER TEMPERATURE	PWR	POWER
E/A	EXHAUST AIR	R/A	RETURN AIR
(E)	EXISTING	RCP	RADIANT CEILING PANEL
*F	DEGREES FAHRENHEIT	REC	RECESSED
FD	FIRE DAMPER	RED	REDUCER
FL	FLOOR	RH	RELATIVE HUMIDITY
FO	FUEL OIL	R/LA	RELIEF AIR
FOV	FUEL OIL VENT	RM	ROOM
FOR	FUEL OIL RETURN	RPM	REVOLUTIONS PER MINUTE
FOS	FUEL OIL SUPPLY	SF	SQUARE FOOT
FPM	FEET PER MINUTE	S/A	SUPPLY AIR
F	FLOOR SINK	SF	SQUARE FOOT
FT	FOOT/FEET	SD	SMOKE DAMPER
GAL	GALLON	SM	SURFACE MOUNT
GC	GENERAL CONTRACTOR	SP	STANDPIPE
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
HP	HORSE POWER	STM	STEAM
ID	INDIRECT	T	THERMOSTAT
IN	INCH	TD	TEMPERATURE DROP
INV	INVERT	TEMP	TEMPERATURE
LB	POUND	TYP	TYPICAL
LB/HR	POUNDS PER HOUR	UG	UNDERGROUND
LAT	LEAVING AIR TEMPERATURE	VAC	VACUUM
LP	LOW PRESSURE	V	VENT
LPG	LIQUEFIED PETROLEUM GAS	VAV	VARIABLE AIR VOLUME
LVR	LOUVER	VENT	VENTILATION
LWT	LEAVING WATER TEMPERATURE	WB	WET BULB
M/A	MIXED AIR		

CODE COMPLIANCE

BUILDING MECHANICAL SYSTEMS ARE DESIGN IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

- 2018 INTERNATIONAL BUILDING CODE WITH WASHINGTON AMENDMENTS
- 2018 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON AMENDMENTS
- 2018 UNIFORM PLUMBING CODE WITH WASHINGTON AMENDMENTS
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE WITH WASHINGTON AMENDMENTS

MECHANICAL SHEET INDEX

- M001 COVER SHEET - MECHANICAL
- M101 LEVEL 1 PLAN - MECHANICAL

GARAGE VENTILATION CALCULATION					
SPACE NAME	TOTAL AREA (FT ²)	MAX. CAPACITY REQUIRED		MINIMUM TURNDOWN	
		OSA PER UNIT AREA (CFM/FT ²)	OSA CAPACITY (CFM)	OSA PER UNIT AREA (CFM/FT ²)	REQUIRED VENTILATION CAPACITY (CFM)
REPAIR BAY	1100	1	1100	0.05	55
PARKING BAY	540	1	540	0.05	27

LOUVER						
TAG	LOCATION	BASIS OF DESIGN		REQUIRED FREE AREA	WEIGHT	REMARKS
		MANUFACTURER	MODEL			
LV-1	REPAIR BAY	GREENHECK	ESD-635-30x24	3	19	PROVIDE BIRD SCREEN.
LV-2	PARKING BAY	GREENHECK	ESD-635-20x20	1	11	PROVIDE BIRD SCREEN.

EXHAUST FAN SCHEDULE												
TAG	LOCATION	BASIS OF DESIGN		SERVES	ARRANGEMENT	AIRFLOW	ESP	HP	VOLT	PH	WEIGHT	NOTES
		MANUFACTURER	MODEL									
EF-1	WALL	GREENHECK	SBE-1H24	REPAIR BAY	SIDEWALL	1100 CFM	.25" W.C.	1/4	230	1	65	1,2
EF-2	WALL	GREENHECK	SBE-1H20	PARKING BAY	SIDEWALL	540 CFM	.25" W.C.	1/4	230	1	58	1,2
NOTES: 1. PROVIDE WITH WALL HOUSING, WALL HOUSING GUARD AND WEATHER HOOD. 2. FAN TO BE CONTROLLED WITH WALL SWITCH. SWITCH SHALL BE LABELED STATING "FAN TO BE TURNED ON WHEN SPACE IS OCCUPIED OR ENGINES ARE RUNNING."												



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COVER SHEET -
MECHANICAL

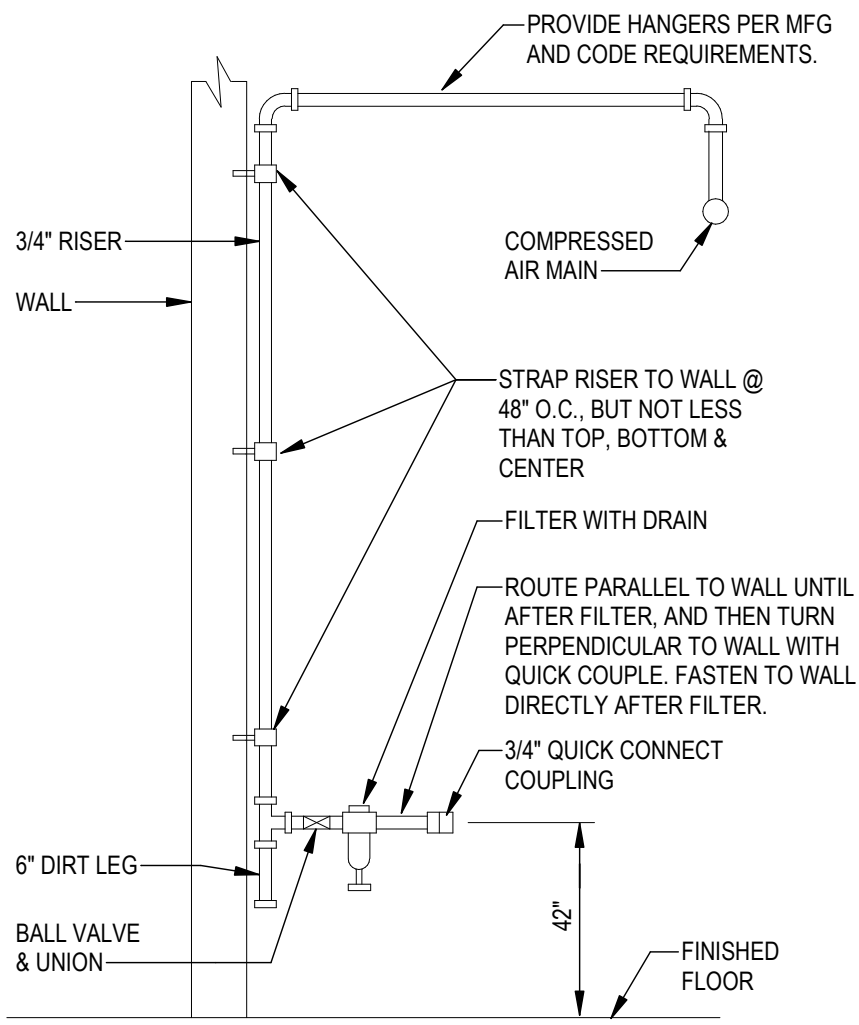
2022-28

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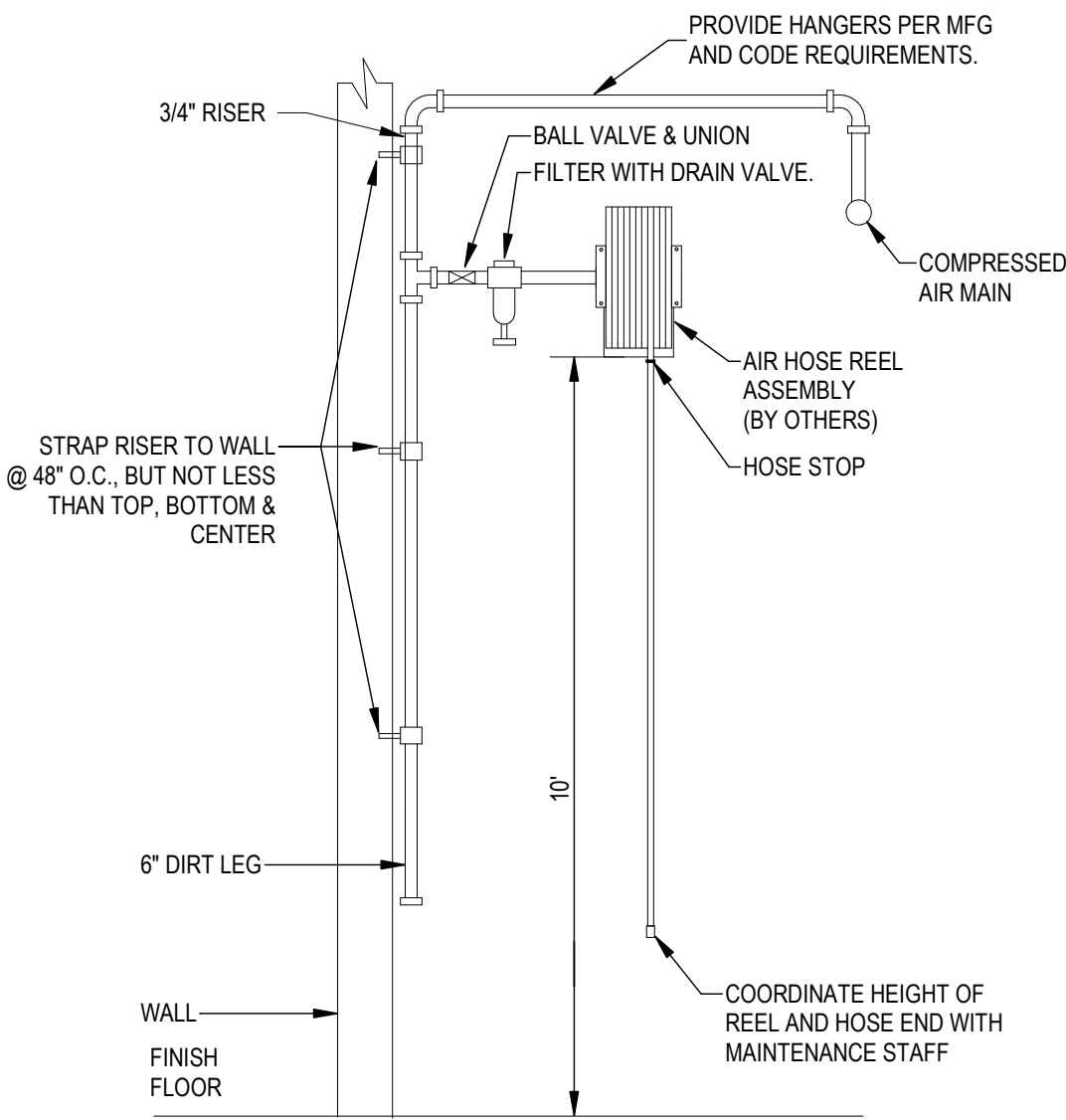
M001

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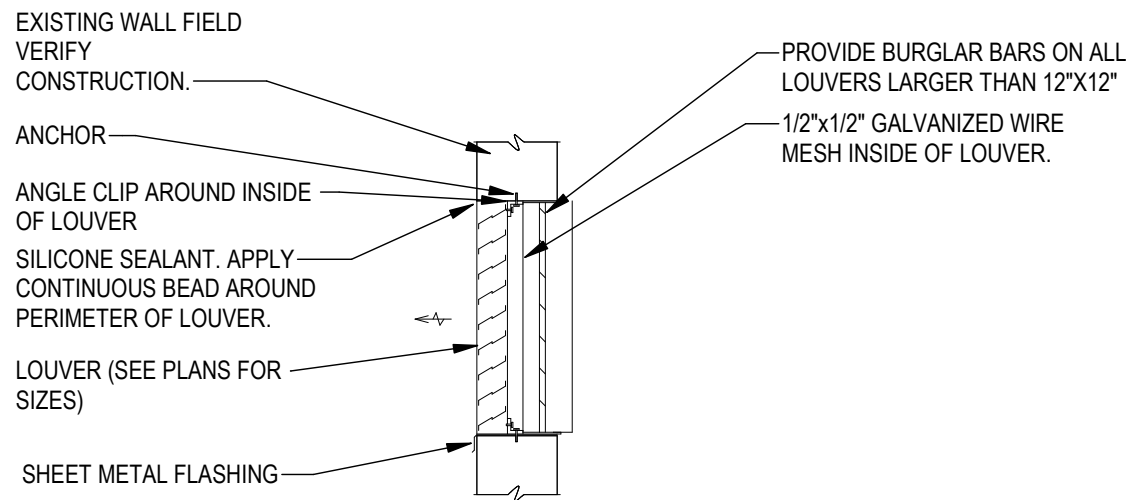
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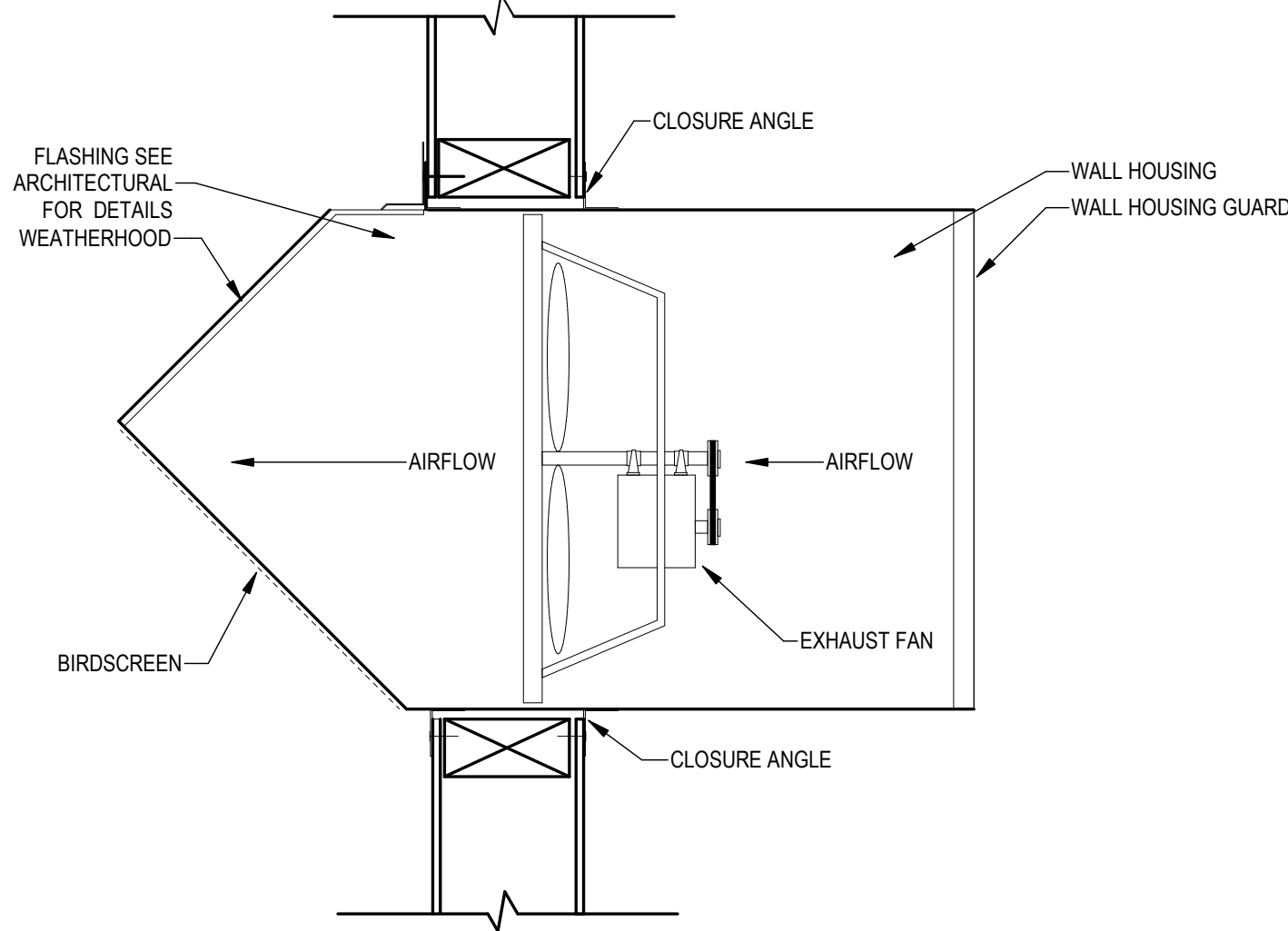
6 COMPRESSED AIR WALL OUTLET
NOT TO SCALE



5 COMPRESSED AIR HOSE REEL DETAIL
NOT TO SCALE



4 LOUVER ASSEMBLY DETAIL 1
NOT TO SCALE



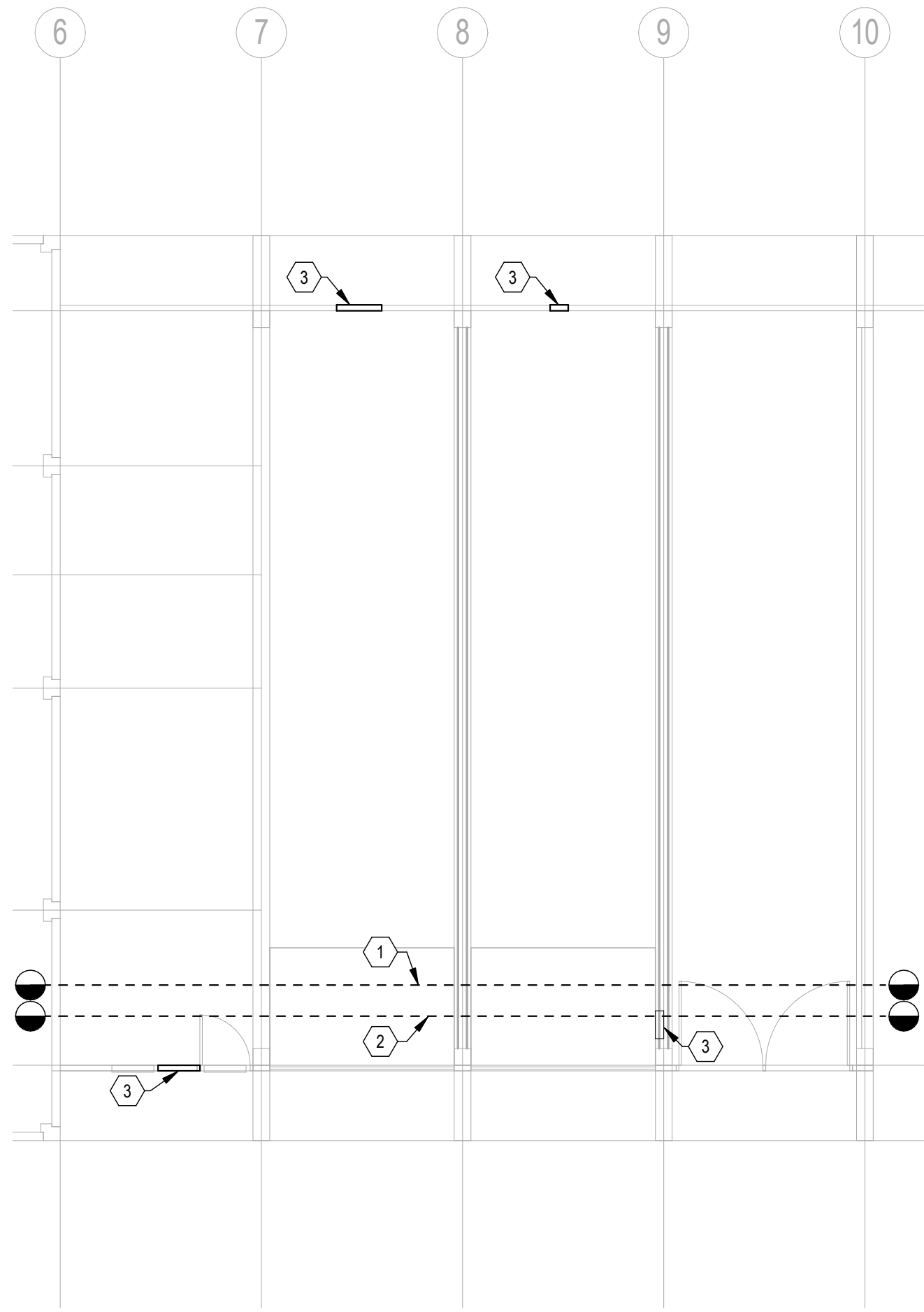
3 WALL MOUNT EXHAUST FAN W/ WEATHERHOOD & WALL HOUSING DETAIL
NOT TO SCALE

DEMO KEYNOTES

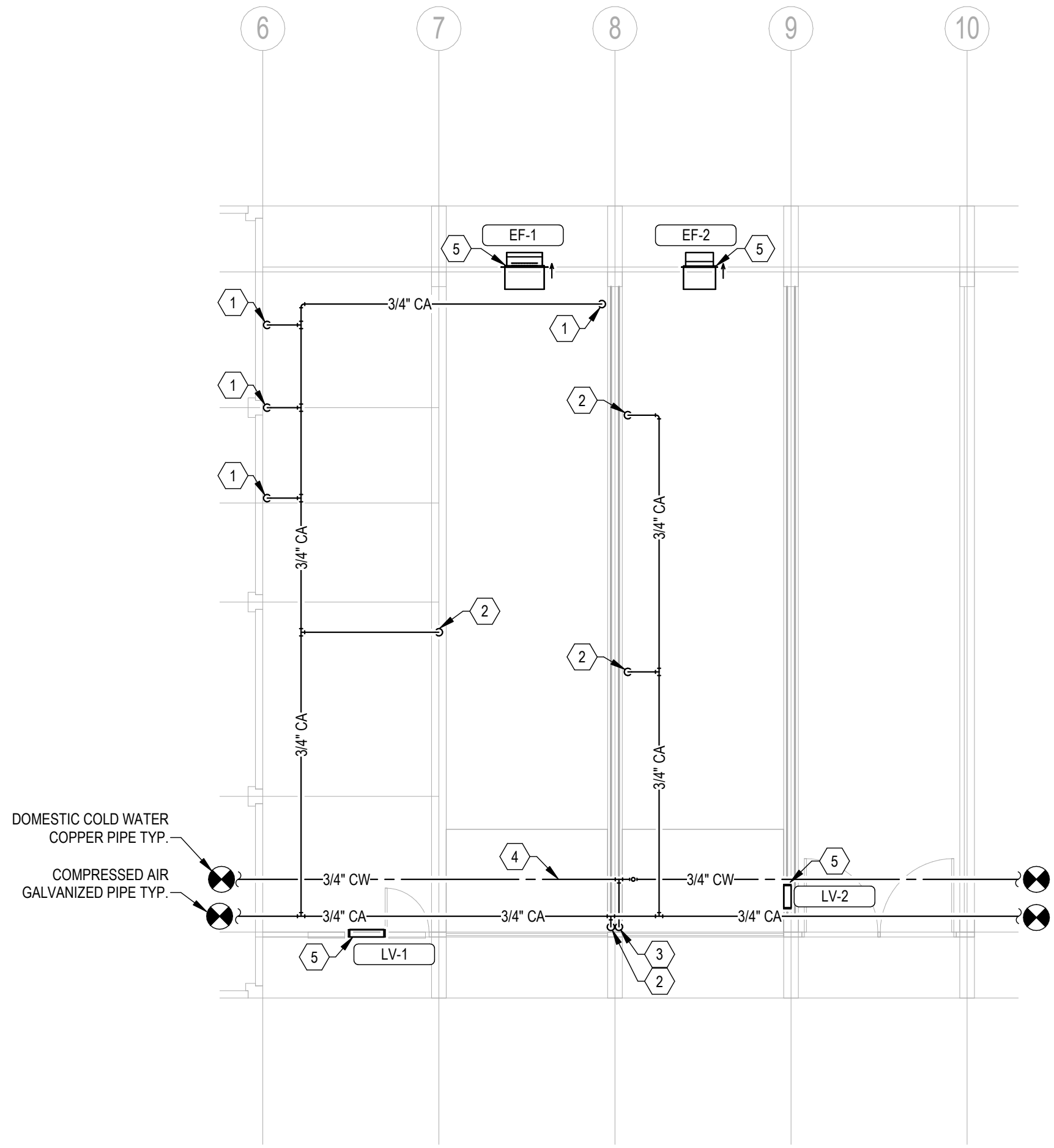
- 1 DEMOLISH WATER LINE THAT HAS BEEN DAMAGED BY FIRE.
- 2 DEMOLISH AIR LINE THAT HAS BEEN DAMAGED BY FIRE.
- 3 PREPARE OPENING IN WALL FOR NEW LOUVERS AND EXHAUST FANS.

KEYNOTES

- 1 3/4" COMPRESSED AIR DROP FOR WALL OUTLET CONNECTION. SEE DETAIL 6/M101.
- 2 3/4" COMPRESSED AIR DROP FOR AIR HOSE HOSE REEL CONNECTION. HOSE REEL PROVIDED BY OTHERS. SEE DETAIL 5/M101.
- 3 3/4" WATER LINE TO HOSE BIBB. 3' ABOVE FLOOR
- 4 HEAT TRACE WATER LINE FROM MAINTENANCE OFFICE TO HOSE BIBB. PROVIDE SHUT OFF TO PROVIDE MEANS OF DRAINING WATER PIPING THAT IS ROUTED THROUGH UNCONDITIONED SPACES.
- 5 INSTALL EXHAUST FAN AND LOUVER IN ACCORDANCE WITH NFPA 70 TABLE 511.3(C). FAN AND LOUVER SHALL BE INSTALLED NO MORE THAN 12" ABOVE FLOOR. PROVIDE OSHA APPROVED PROTECTION AROUND EXHAUST FAN.



2 LEVEL 1 DEMO PLAN - MECHANICAL
SCALE: 1/8" = 1'-0"



1 LEVEL 1 PLAN - MECHANICAL
SCALE: 1/8" = 1'-0"



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LEVEL 1 PLAN -
MECHANICAL

2022-28















SHEET NO.

M101

RECEPTACLE SYMBOLS LEGEND





















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	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE ABOVE COUNTER
	DOUBLE DUPLEX RECEPTACLE ABOVE COUNTER
	DUPLEX RECEPTACLE W/ GFCI
	DOUBLE DUPLEX RECEPTACLE W/ GFCI
	DUPLEX RECEPTACLE W/ GFCI ABOVE COUNTER
	DOUBLE DUPLEX RECEPTACLE W/ GFCI ABOVE COUNTER
	DUPLEX RECEPTACLE ON CEILING
	DOUBLE DUPLEX RECEPTACLE ON CEILING
	DUPLEX RECEPTACLE, HALF SWITCHED
	DUPLEX RECEPTACLE, FULL SWITCHED
	SPECIAL PURPOSE RECEPTACLE, VERIFY NEMA CONFIGURATION
	SPECIAL PURPOSE RECEPTACLE ON CEILING, VERIFY NEMA CONFIGURATION
	RECEPTACLE W/ CEILING CORD DROP
	FLOORBOX W/ DUPLEX RECEPTACLE
	FLOORBOX W/ DOUBLE DUPLEX RECEPTACLE
	COMBINATION FLOORBOX W/ POWER AND LOW VOLTAGE

CONNECTIONS/EQUIPMENT SYMBOLS LEGEND

	EQUIPMENT ELECTRICAL CONNECTION
	MOTOR CONNECTION
	MOTOR RATED SWITCH W/ THERMAL OVERLOAD
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	JUNCTION BOX
	LINE VOLTAGE THERMOSTAT
	UTILITY METER
	EQUIPMENT CABINET AS NOTED
	ELECTRIC WALL HEATER
	BRANCH PANEL RECESSED
	BRANCH PANEL SURFACE
	TRANSFORMER
	SWITCHBOARD















LIGHTING SYMBOLS LEGEND

NOTE: GRAY HATCH ON PLANS INDICATES EMERGENCY LUMINAIRE

	RECESSED DOWNLIGHT - ROUND/SQUARE
	SURFACE DOWNLIGHT - ROUND/SQUARE
	PENDANT OR FLUSH MOUNT LUMINAIRE
	LINEAR RECESSED LUMINAIRE
	LINEAR SURFACE LUMINAIRE
	LINEAR PENDANT LUMINAIRE
	LINEAR WALL LUMINAIRE
	LINEAR STRIP LUMINAIRE
	CONTINUOUS TAPE OR UNDERCABINET LUMINAIRE
	RECESSED HEAT LAMP
	RECESSED 2x2 LUMINAIRE
	RECESSED 2x4 LUMINAIRE
	SURFACE OR PENDANT 2x2 LUMINAIRE
	SURFACE OR PENDANT 2x4 LUMINAIRE
	WALL MOUNTED LUMINAIRE
	RECESSED STEP LIGHT
	GROUND MOUNT FLOOD
	POLE MOUNTED AREA LUMINAIRE
	BOLLARD OR POST TOP LUMINAIRE
	EXIT SIGN, SHADING INDICATES FACES, ARROWS PER PLAN

LIGHTING CONTROLS SYMBOLS LEGEND

NOTE: ANY COMBINATION OF LETTERS MAY APPLY TO A SWITCH FOR MULTIPLE FUNCTIONS

	STANDARD SWITCH
	STANDARD SWITCH W/ SWITCHING SUBSCRIPT
	3-WAY SWITCH
	4-WAY SWITCH
	LOW VOLTAGE SWITCH
	LOW VOLTAGE SWITCH PER SCHEDULE
	OCCUPANCY SENSOR SWITCH
	KEYED SWITCH
	DIMMER SWITCH
	TIMER SWITCH
	OCCUPANCY SENSOR CEILING MOUNT
	PHOTOCELL CEILING MOUNT
	OCCUPANCY SENSOR WALL MOUNT
	PHOTOCELL WALL MOUNT

ABBREVIATIONS












A	AMPERES
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
AV	AUDIO VISUAL
BKR	BREAKER
C	CONDUIT
CKT	CIRCUIT
CO	CONDUIT ONLY
CU	COPPER
CLG	CEILING
CT	CURRENT TRANSFORMER
DAS	DISTRIBUTED ANTENNA SYSTEM
DIA	DIAMETER
(E)	EXISTING
EGC	EQUIPMENT GROUNDING CONDUCTOR
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE
F	FUSE
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FLA	FULL LOAD AMPERES
FSD	FIRE SMOKE DAMPER
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
HP	HORSEPOWER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
KCMIL	THOUSAND CIRCULAR MIL
KVA	KILOVOLT-AMP
KW	KILOWATT
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPERES
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDF	MAIN DISTRIBUTION FRAME
MOP	MAIN DISTRIBUTION PANEL
MDU	MEDIA DISTRIBUTION UNIT
MIN	MINIMUM
MLO	MAIN LUG ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
NAC	NOTIFICATION APPLIANCE CIRCUIT
OC	ON CENTER
P	POLE
PH	PHASE
PNL	PANEL
PWR	POWER
(R)	RELOCATE
ROW	RIGHT-OF-WAY
S	SWITCH
SDP	SUB-DISTRIBUTION PANEL
SIM	SIMILAR
SPD	SURGE PROTECTIVE DEVICE
TR	TAMPER RESISTANT
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WP	WEATHERPROOF
(X)	DEMOLISH
XFMR	TRANSFORMER

TYPICAL DEVICE MOUNTING HEIGHTS

RECEPTACLES	+18" AFF
RECEPTACLES, ABOVE COUNTER	+6" ABOVE COUNTER, +46" AFF MAX, COORDINATE WITH CASEWORK
PHONE/DATA/CATV OUTLET	+18" AFF
SWITCHES	+46" AFF
THERMOSTATS	+46" AFF
CARD READERS	+46" AFF
PANELBOARDS	+72" TO TOP OR PER NEC 404.8
RESIDENTIAL PANEL	+48" TO HIGHEST OPERABLE CONTROL
CONTROL PANELS	+72" TO TOP

- NOTES:
1. MEASUREMENTS ARE TYPICAL UNO ON PLANS
 2. MEASUREMENTS ARE TO CENTER OF BOX UNO
 3. COMPLY WITH ALL ADA ACCESSIBILITY GUIDELINES

GENERAL SYMBOLS LEGEND

	MECHANICAL EQUIPMENT TAG
	KITCHEN EQUIPMENT TAG
	DWELLING UNIT CIRCUIT TAG
	KEYNOTE
	REVISION TAG
	REVISION CLOUD
	DETAIL/PLAN CALLOUT
	NORTH ARROW
	MATCHLINE
	DWELLING UNIT CALLOUT TAG
	W/ UNIT TYPE AND CIRCUIT NUMBER

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

GENERAL PROJECT NOTES

1. COMPLETED INSTALLATION SHALL COMPLY WITH NEC AND ALL LOCAL LAWS, ORDINANCES, AND REGULATIONS.
2. CODE BASIS OF DESIGN: 2020 NATIONAL ELECTRICAL CODE WITH WASHINGTON STATE MODIFICATIONS (NFPA 70), 2018 INTERNATIONAL BUILDING CODE, 2018 WASHINGTON STATE ENERGY CODE.
3. PLANS ARE DIAGRAMMATIC IN NATURE TO COMMUNICATE SCOPE OF WORK AND GENERAL INTENT. CONTRACTOR SHALL PROVIDE ALL FITTINGS, BOXES, AND APPURTENANCES NECESSARY FOR A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.
4. DEVICE LOCATIONS ON PLANS MAY NOT BE EXACT. COORDINATE ALL DEVICE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL AND OTHER TRADES.
5. EQUIPMENT FOR OTHER DISCIPLINES MAY BE SHOWN FOR REFERENCE ONLY. REFER TO OTHER DISCIPLINES' DRAWINGS FOR MORE DETAIL REGARDING EQUIPMENT SPECIFICATIONS AND INFORMATION.
6. PLANS SHALL GOVERN IN MATTERS OF QUANTITY, SPECIFICATIONS SHALL GOVERN IN MATTERS OF QUALITY. IN CASE OF DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. PLANS ARE TO BE TIED TO SPECIFICATIONS FOR A COMPLETE DESIGN PACKAGE.
7. ANYTHING MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.
8. WIRE SIZE AND QUANTITIES ARE NOT GENERALLY INDICATED ON PLANS. FOR A TYPICAL 20A/1P CIRCUIT BREAKER, PROVIDE (3) #12 CU CONDUCTORS (PHASE, NEUTRAL, GROUND). FOR A TYPICAL 20A/2P CIRCUIT BREAKER, PROVIDE (3) #12 CU CONDUCTORS (PHASE, PHASE, GROUND). FOR A TYPICAL 20A/3P CIRCUIT BREAKER, PROVIDE (4) #12 CU CONDUCTORS (THREE PHASES PLUS GROUND).
9. TO COMPENSATE FOR VOLTAGE DROP, ON 20A, 120V CIRCUITS: OVER 100 FEET, PROVIDE #10 AWG, OVER 150 FEET, PROVIDE #8 AWG. ON 20A, 277V CIRCUITS: OVER 250 FEET, PROVIDE #10 AWG.
10. CIRCUIT NUMBERS ARE GENERALLY INDICATED AS XX-##. WHERE (XX) INDICATES PANEL NAME AND (##) INDICATES THE CIRCUIT NUMBER. IN SOME CASES THE PANEL MAY BE COMMON TO A LARGE AREA, AND THE CIRCUIT NUMBER ONLY MAY BE CALLED OUT ON THE PLANS.
11. MAINTAIN AT LEAST 12" SEPARATION BETWEEN POWER AND COMMUNICATIONS WIRING ROUTED PARALLEL. SMALLER SEPARATION MAY BE ALLOWED WHEN CROSSING.
12. PROVIDE FIRE PROOFING FOR ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. FIRE PROOFING MUST BE EQUIVALENT OR HIGHER TO THAT OF THE PENETRATED ASSEMBLY. REFER TO ARCHITECTURAL PLANS.
13. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED ASSEMBLIES. MAINTAIN 24" SEPARATION BETWEEN DEVICES IN FIRE-RATED WALLS. PROVIDE FIRE-RATED BOXES OR "PUTTY PADS" AS REQUIRED TO MAINTAIN FIRE RATING.
14. CONSULT STRUCTURAL ENGINEER OF RECORD FOR ALL STRUCTURAL PENETRATIONS.

ELECTRICAL SHEET INDEX

E001	COVER SHEET - ELECTRICAL
E201	LEVEL 1 PLAN - POWER PLANS
E301	LEVEL 1 PLAN - LIGHTING PLANS
E501	ONE-LINE DIAGRAM - ELECTRICAL



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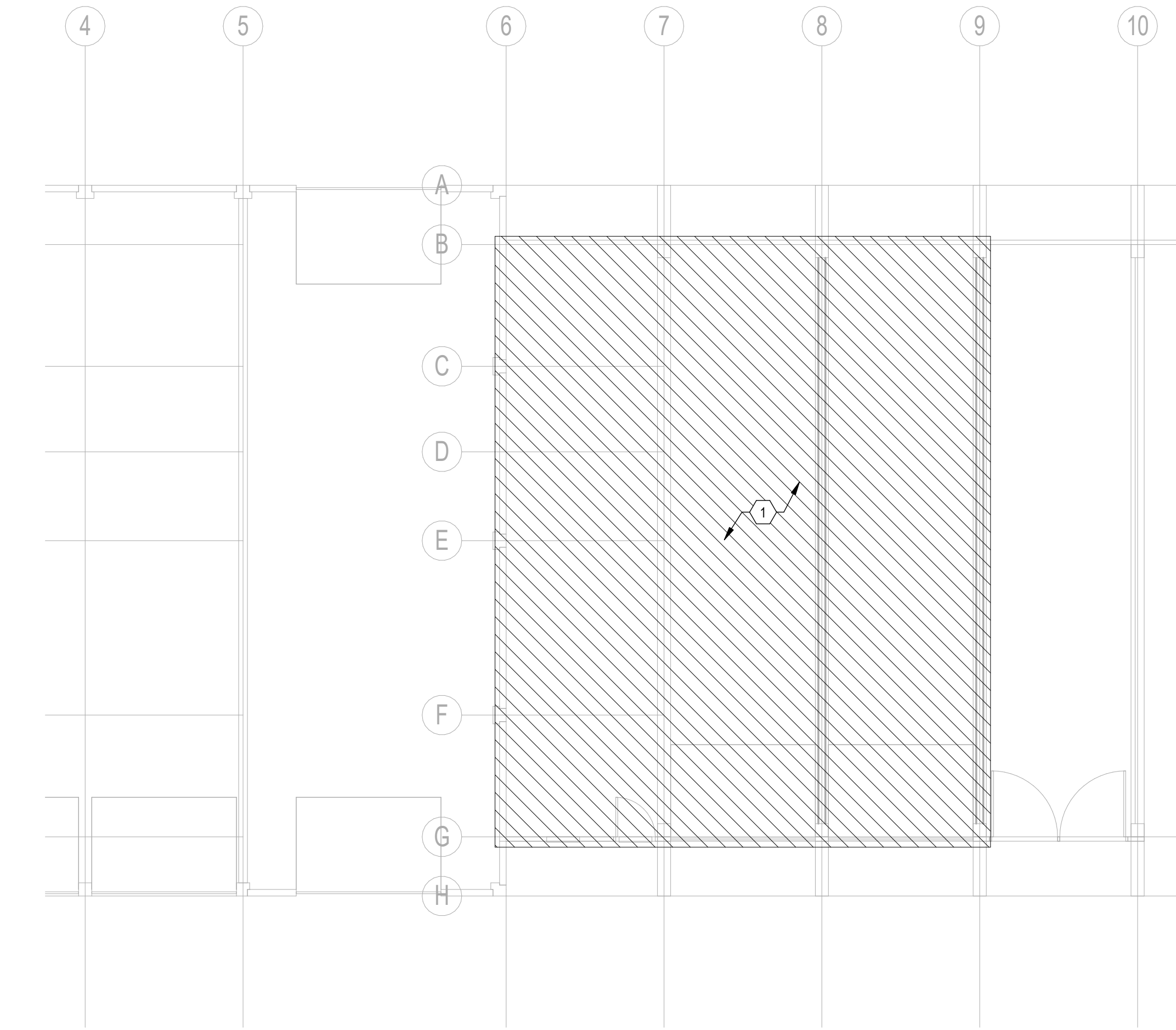
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COVER SHEET -
ELECTRICAL

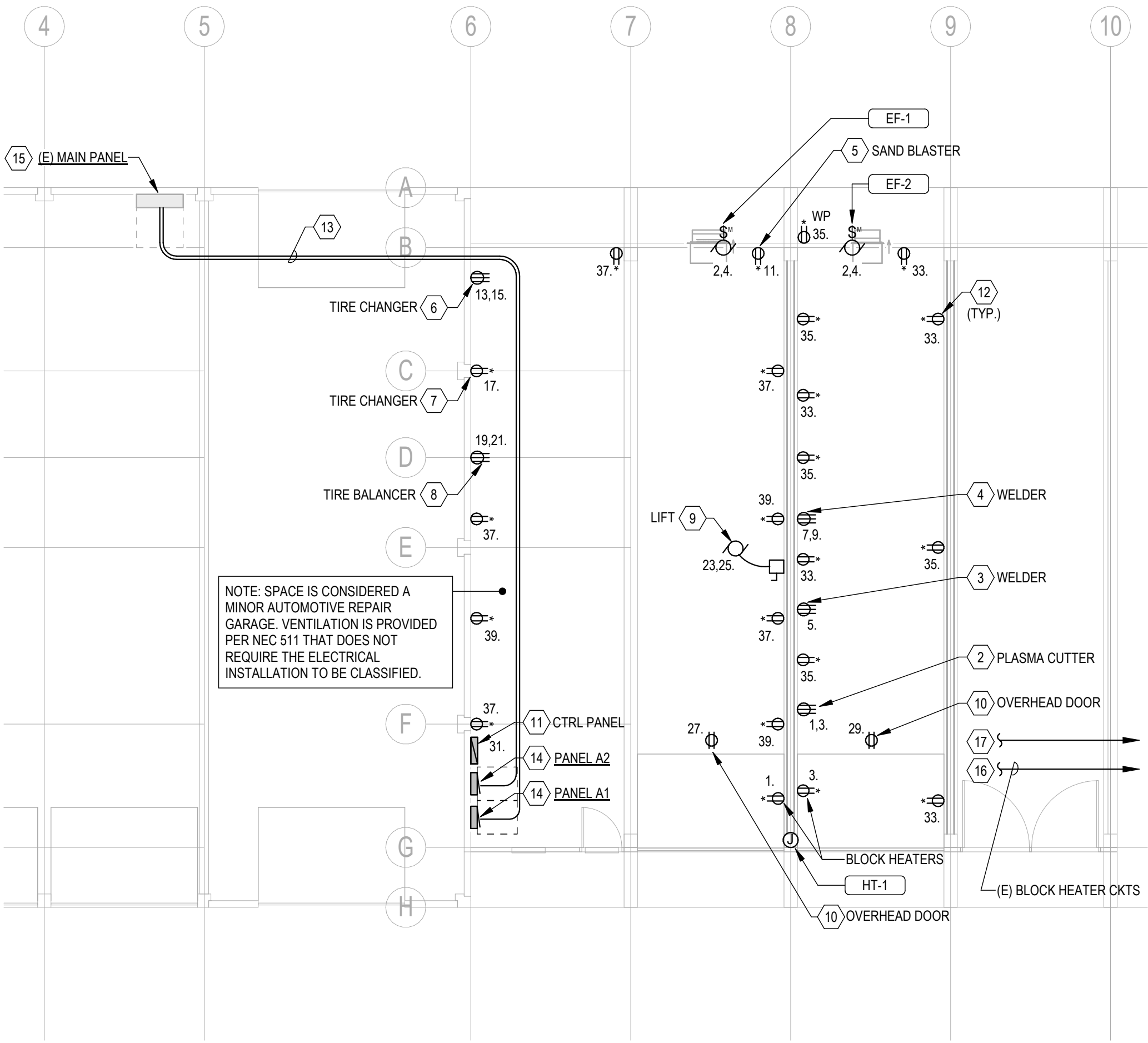
2022-28

SHEET NO.

E001



2 LEVEL 1 DEMO PLAN - POWER
SCALE: 1/8" = 1'-0"



1 LEVEL 1 PLAN - POWER
SCALE: 1/8" = 1'-0"

MECHANICAL & PLUMBING EQUIPMENT CONNECTION SCHEDULE												
EQUIPMENT TAG	EQUIPMENT DESCRIPTION	LOCATION	VOLTAGE	PHASE	LOAD	FLA	MCA	MOCp	POLES	FEEDER	NOTES	
EF-1	EXHAUST FAN	REPAIR BAY	240 V	1	0.7 KVA	2.9 A	3.6 A	15 A	2	202	1	
EF-2	EXHAUST FAN	PARKING BAY	240 V	1	0.7 KVA	2.9 A	3.6 A	15 A	2	202	1	
HT-1	HEAT TRACE	REPAIR BAY	120 V	1	0.2 KVA	1.7 A	2.1 A	15 A	1	201N		
GENERAL MECHANICAL SCHEDULE NOTES												
A. LOADS FOR EQUIPMENT LISTED ABOVE ARE BASIS OF DESIGN LOADS ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT REQUIREMENTS WITH APPROVED SUBMITTALS FOR DIVISION 22 AND 23.												
B. PROVIDE DISCONNECTING MEANS IF REQUIRED PER NEC FOR ALL MECHANICAL EQUIPMENT (MAY NOT BE SHOWN ON PLANS). PROVIDE FUSED DISCONNECTS FOR MOTOR OVERLOAD PROTECTION PER NEC 430.32, UNLESS MOTOR HAS INTEGRAL OVERLOAD PROTECTION.												
C. FEEDER REFERS TO FEEDER SCHEDULE ON SHEET E501.												
MECHANICAL SCHEDULE NOTES												
1. LOCATE CONTROL SWITCH ADJACENT TO LIGHTING CONTROL SWITCH.												

- GENERAL SHEET NOTES**
- EXISTING CONDITIONS SHOWN ARE BASED ON AS-BUILT DRAWINGS AND FIELD OBSERVATION. CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS THAT MAY AFFECT CONSTRUCTION.
 - PROTECT ALL CIRCUITS AND WIRING THAT ARE TO REMAIN.
 - PROVIDE ADDITIONAL WIRING AS NECESSARY FOR CONTINUITY OF CIRCUITS TO ANY EXISTING DEVICES TO REMAIN.
 - REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.
 - REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY.
 - EXTEND EXISTING INSTALLATIONS USING MATERIALS AND METHODS COMPATIBLE WITH EXISTING ELECTRICAL INSTALLATIONS.
 - GRAY LINES INDICATE EXISTING TO REMAIN. BOLD LINES INDICATE NEW WORK.
 - PROVIDE BRANCH CIRCUITS TO ALL EQUIPMENT AND DEVICES SHOWN FROM PANEL A1, UNLESS NOTED OTHERWISE.
 - PROVIDE WEATHERPROOF LOCKABLE ENCLOSURE FOR ALL OUTDOOR DEVICES.

- KEYNOTES**
- DEMOLISH ALL (E) ELECTRICAL ITEMS IN SHADED AREA, INCLUDING LIGHTING, DEVICES, WIRING, CONDUITS, AND BOXES/ENCLOSURES.
 - PROVIDE RECEPTACLE FOR 240V/1PH, 33A PLASMA CUTTER. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (4) #8 CU BRANCH CIRCUIT.
 - PROVIDE RECEPTACLE FOR 120V/1PH, 25A WELDER. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (3) #10 CU BRANCH CIRCUIT.
 - PROVIDE RECEPTACLE FOR 240V/1PH, 32A WELDER. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (4) #8 CU BRANCH CIRCUIT.
 - PROVIDE RECEPTACLE FOR 120V/1PH, 16A SAND BLASTER CABINET. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (3) #12 CU BRANCH CIRCUIT.
 - PROVIDE RECEPTACLE FOR 240V/1PH, 17A TIRE CHANGER. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (3) #10 CU BRANCH CIRCUIT.
 - PROVIDE RECEPTACLE FOR 120V/1PH, 10A TIRE CHANGER. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (3) #12 CU BRANCH CIRCUIT.
 - PROVIDE RECEPTACLE FOR 240V/1PH, 10A TIRE BALANCER. VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO ORDERING. PROVIDE (4) #12 CU BRANCH CIRCUIT.
 - PROVIDE CONNECTION TO 240V/1PH, 20A VEHICLE LIFT. PROVIDE (4) #10 CU BRANCH CIRCUIT.
 - PROVIDE GFCI RECEPTACLE AT CEILING FOR OVERHEAD DOOR MOTOR, 120V, 10A. PROVIDE (3) #12 CU BRANCH CIRCUIT.
 - PROVIDE NEW LIGHTING/RECEPTACLE CONTROL PANEL TO CONTROL EXISTING BLOCK HEATER CIRCUITS. BOD: GREENGATE LIGHTKEEPER 16 (LK16), COORDINATE PROGRAMMING WITH OWNER.
 - PROVIDE GFCI RECEPTACLE FOR GENERAL USE, MOUNT AT +48" TO TOP OF BOX. VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER IN FIELD.
 - PROVIDE FEEDER TO NEW PANEL. COORDINATE ROUTING IN FIELD WITH EXISTING CONDITIONS.
 - PROVIDE (N) PANEL PER ONE-LINE.
 - PROVIDE (N) BREAKERS IN MAIN PANEL PER ONE-LINE.
 - RECONNECT TO (E) BLOCK HEATER CIRCUITS AT CEILING. ALL BLOCK HEATER CIRCUITS SHALL ROUTE THROUGH THE CONTROL PANEL PER KEYNOTE 11. CONTRACTOR SHALL FIELD COORDINATE EXACT QUANTITY OF BLOCK HEATER CIRCUITS TO BE RECONNECTED. (14) 120V/20A CIRCUITS ASSUMED FOR PRICING, SEE PANEL SCHEDULE.
 - RECONNECT ALL (E) CIRCUITS FOR EQUIPMENT TO THE EAST OF BAY 3 TO PANEL A1. CONTRACTOR SHALL FIELD COORDINATE EXACT QUANTITY OF CIRCUITS TO BE CONNECTED. ASSUME (3) 20A/120V CIRCUITS FOR PRICING.



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LEVEL 1 PLAN -
POWER PLANS

2022-28

SHEET NO.

E201

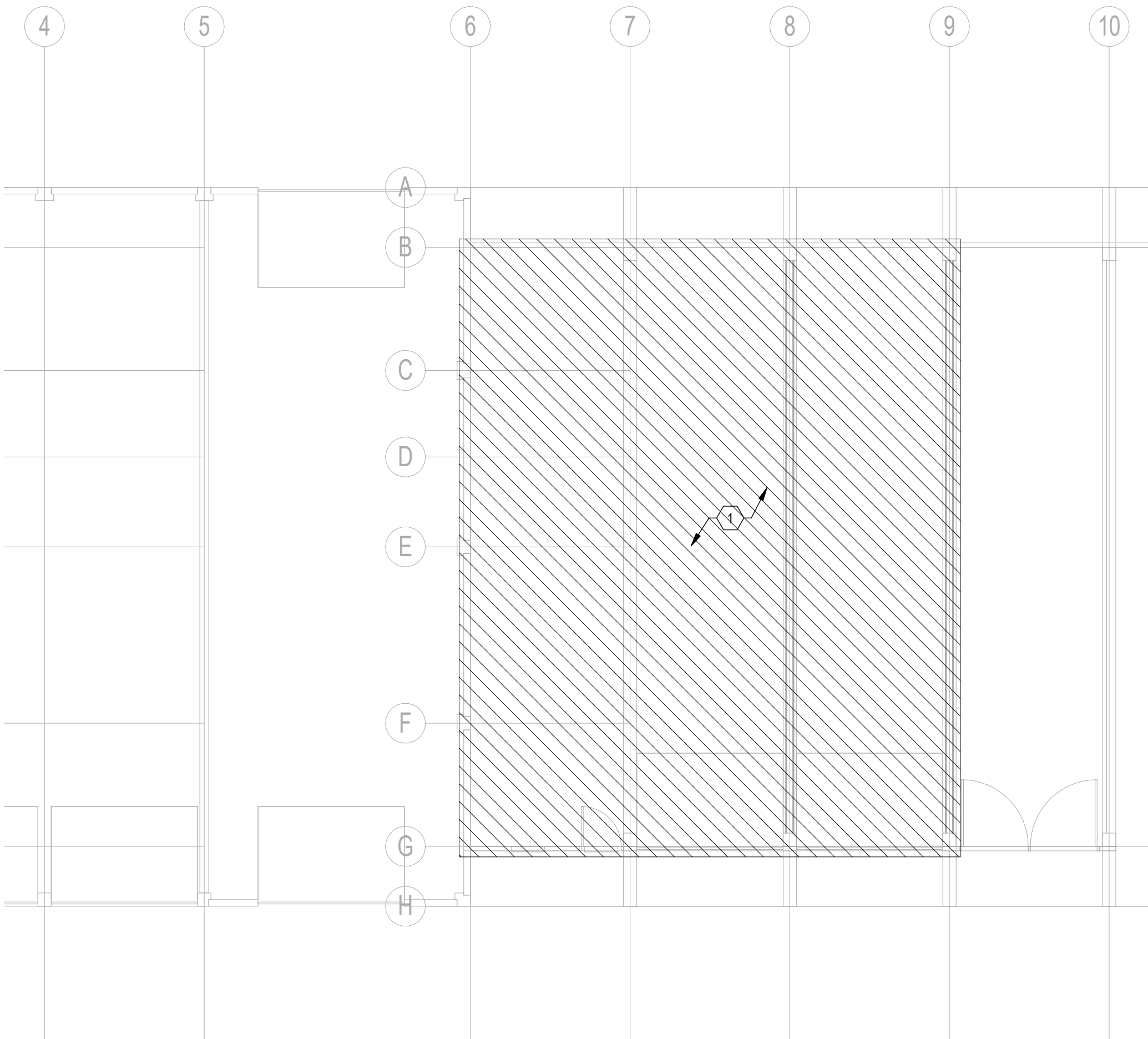
LUMINAIRE SCHEDULE										
TYPE	LUMINAIRE DESCRIPTION	MOUNTING	LAMP	COLOR TEMP	LUMEN OUTPUT	POWER SUPPLY	MANUFACTURER & MODEL	INPUT VOLTAGE	INPUT WATTS	NOTES
L1	4' STRIP LIGHT, ROUND DIFFUSE LENS	SURFACE	LED	4000K	7000	INTEGRAL ELECTRONIC DRIVER, 0-10V DIMMING	LITHONIA CLX OR EQUAL	120 V	47 W	
GENERAL LUMINAIRE SCHEDULE NOTES A. REFER TO SPECIFICATIONS SECTIONS 26 5100 FOR ADDITIONAL REQUIREMENTS. B. FINISH FOR ALL LUMINAIRES LISTED ABOVE SHALL BE PER ARCHITECT. C. LUMEN OUTPUT LISTED ABOVE IS DELIVERED LUMENS. D. MOUNTING HEIGHTS: a. CONFIRM MOUNTING HEIGHTS FOR WALL MOUNTED AND SUSPENDED LUMINAIRES WITH ARCHITECT AND INTERIOR DESIGNER. b. WALL MOUNTED LUMINAIRES: UNLESS NOTED OTHERWISE, SPECIFIED MOUNTING HEIGHTS ARE TO CENTER OF LUMINAIRE FROM FINISHED FLOOR. c. SUSPENDED LUMINAIRES: UNLESS NOTED OTHERWISE, SPECIFIED MOUNTING HEIGHTS ARE TO BOTTOM OF LUMINAIRE FROM FINISHED FLOOR.										

GENERAL SHEET NOTES

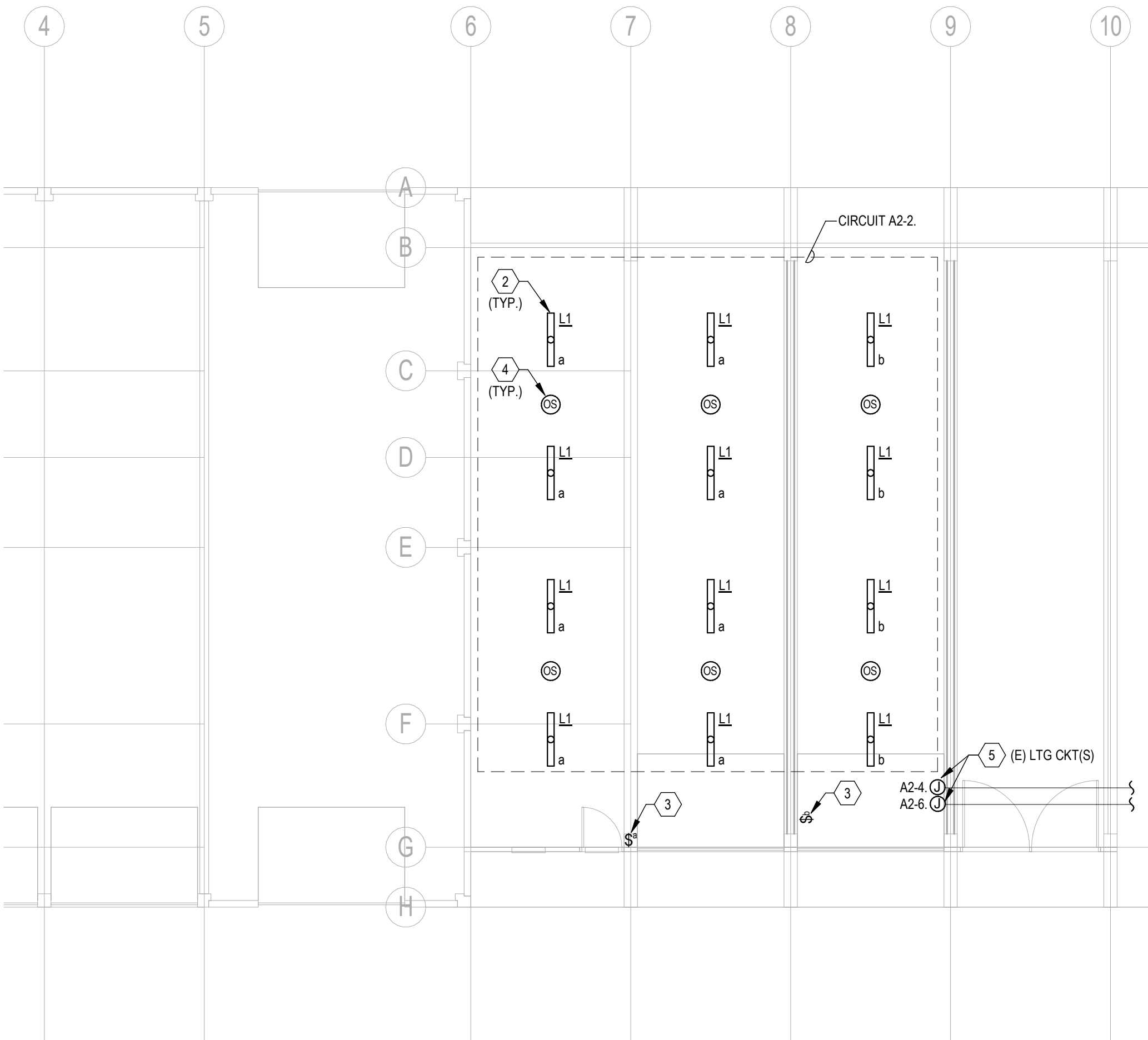
- A. EXISTING CONDITIONS SHOWN ARE BASED ON AS-BUILT DRAWINGS AND FIELD OBSERVATION. CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS THAT MAY AFFECT CONSTRUCTION.
- B. PROTECT ALL CIRCUITS AND WIRING THAT ARE TO REMAIN.
- C. PROVIDE ADDITIONAL WIRING AS NECESSARY FOR CONTINUITY OF CIRCUITS TO ANY EXISTING DEVICES TO REMAIN.
- D. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.
- E. REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY.
- F. EXTEND EXISTING INSTALLATIONS USING MATERIALS AND METHODS COMPATIBLE WITH EXISTING ELECTRICAL INSTALLATIONS.
- G. GRAY LINES INDICATE EXISTING TO REMAIN. BOLD LINES INDICATE NEW WORK.

KEYNOTES

- 1 DEMOLISH ALL (E) ELECTRICAL ITEMS IN SHADED AREA, INCLUDING LIGHTING, DEVICES, WIRING, CONDUITS, AND BOXES/ENCLOSURES.
- 2 PROVIDE SURFACE MOUNT LED LIGHT FIXTURE PER LUMINAIRE SCHEDULE.
- 3 PROVIDE OVERRIDE WALL SWITCH TO CONTROL ALL LIGHTS IN ROOM.
- 4 PROVIDE LINE-VOLTAGE OCCUPANCY SENSOR, WIRE PER MANUFACTURER'S INSTRUCTIONS, BASIS OF DESIGN: SENSOR SWITCH CMR OR EQUAL.
- 5 RECONNECT EXISTING LIGHTING CIRCUIT(S) SERVING DOWNSTREAM AUTO BAYS TO PANEL A2.



1 LEVEL 1 DEMO PLAN - LIGHTING
SCALE: 1/8" = 1'-0"



2 LEVEL 1 PLAN - LIGHTING
SCALE: 1/8" = 1'-0"



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**LEVEL 1 PLAN -
LIGHTING PLANS**

2022-28

SHEET NO.

E301

[illegible]

PANEL A2

VOLTAGE: 120/240, 1PH, 3W

BUS RATING: 150 A

MAINS: MLO

AIC RATING: 65K

INTEGRAL SPD: NO

FEED-THRU LUGS: NO

NEMA RATING: NEMA 1

MOUNTING: SURFACE

LOCATION: SURFACE

SUPPLY FROM:

CKT	TRIP	POLE	DESCRIPTION	TYPE	A (VA)	B (VA)	TYPE	DESCRIPTION	POLE	TRIP	CKT
1	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800	564	L	GARAGE LIGHTS	1	20 A	2
3	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800	1440	(F) GARAGE LIGHTS	1	20 A	4
5	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800	1440	L	(F) GARAGE LIGHTS	1	20 A	6
7	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800					8
9	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800						10
11	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800					12
13	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800						14
15	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800					16
17	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800						18
19	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800					20
21	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800						22
23	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800					24
25	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E	1800						26
27	20 A	1	BLOCK HEATER (THRU RELAY PANEL) (G)	E		1800					28
29											30
					14604 VA	14040 VA					
					122 A	117 A					

BREAKER KEY

(A) = AFCI

(A/G) = AFCI/GFCI

(G) = GFCI

(L) = LOCKABLE

(N) = SWITCHED NEUTRAL

(S) = SHUNT TRIP

(GFP) = GROUND FAULT PROTECTED

LOAD CLASSIFICATION

C = CONTINUOUS GENERAL LOAD

D = DWELLING UNIT

E = ELECTRIC HEAT

G = GENERAL NON-CONTINUOUS LOAD

H = HVAC EQUIPMENT

HM = HOTEL/MOTEL

K = KITCHEN EQUIPMENT

L = LIGHTING

M = LARGEST MOTOR

R = MOTOR

M = RECEPTACLE

CONNECTED LOAD

0 VA

0 VA

25200 VA

0 VA

0 VA

0 VA

0 VA

0 VA

3444 VA

0 VA

0 VA

0 VA

DEMAND FACTOR

0.00%

0.00%

100.00%

0.00%

0.00%

0.00%

0.00%

0.00%

125.00%

0.00%

0.00%

0.00%

ESTIMATED DEMAND

0 VA

0 VA

25200 VA

0 VA

0 VA

0 VA

0 VA

0 VA

4305 VA

0 VA

0 VA

0 VA

PANEL TOTALS

TOTAL CONNECTED LOAD: 28644 VA

TOTAL DEMAND LOAD: 2955 VA

TOTAL DEMAND AMPS: 123 A

KEYNOTES

1 NEW BREAKER SHALL MATCH EXISTING MANUFACTURER AND AIC RATINGS.