



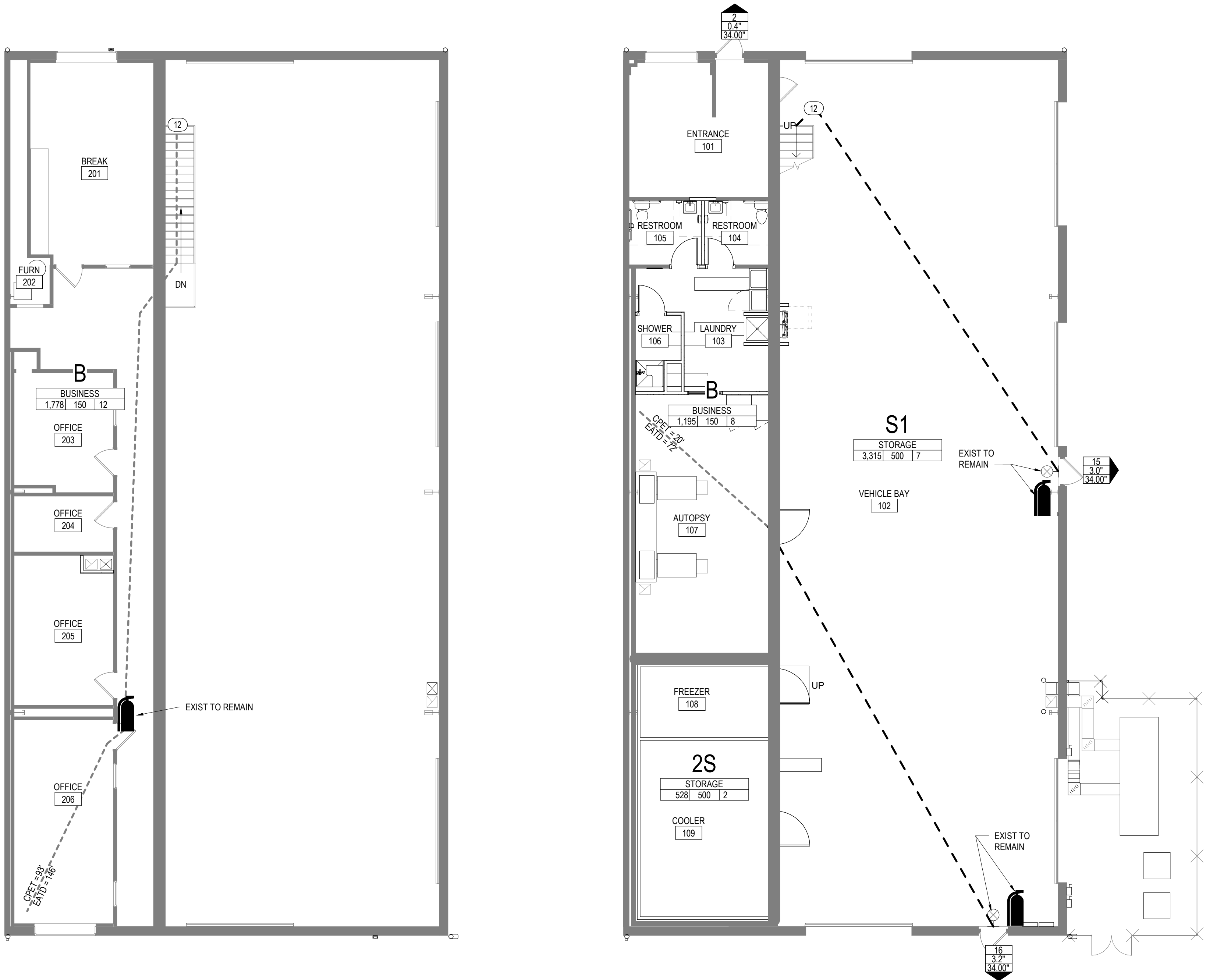
**IFB 2021-20-JD**  
**Mesa County Morgue**  
**Addendum 1 – September 21, 2020**

- I. Plan Set – Final – Stamped are included with this Addendum.





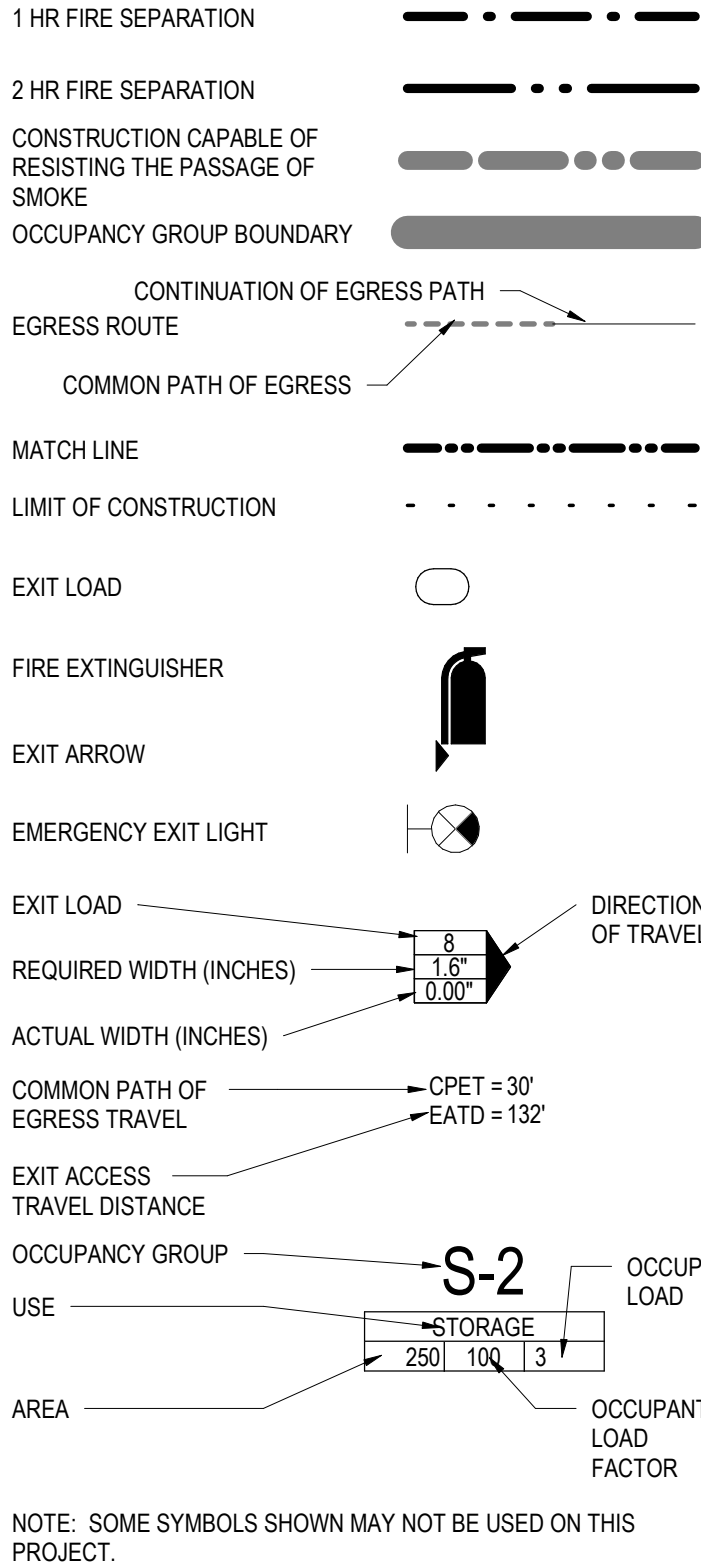




**LIFE SAFETY PLAN - SECOND FLOOR**  
NORTH  
2  
G1-1  
1/8" = 1'-0"

**LIFE SAFETY PLAN - FIRST FLOOR**  
NORTH  
1  
G1-1  
1/8" = 1'-0"

## LIFE SAFETY PLAN LEGEND



## STATEMENT OF SPECIAL INSPECTIONS

Seismic Design Category: Risk Category: Wind Exposure Category:

**GENERAL**  
The International Building Code requires that special inspections be performed to verify that the materials and construction methods used comply with the construction documents and applicable standards.

**MINIMUM REQUIRED SPECIAL INSPECTIONS**  
The owner or owner's agent shall be responsible for employing registered special inspectors from approved testing agencies to conduct inspections for each building material as described below. All special inspectors shall prepare an inspection report indicating compliance or noncompliance with appropriate requirements. Special inspection reports and reports of potentially necessary field repairs shall be provided to the architect, engineer, contractor and building official.

**FABRICATORS (2012 IBC 1704.2.5)**  
Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, special inspection of the fabricated items shall be required unless the work requiring special inspections is done on the premises of a fabricator registered and approved to perform such work without special inspection.

**STRUCTURAL OBSERVATION FOR SEISMIC RESISTANCE (2012 IBC 1704.5.1)**  
Refer to the structural engineers statement of special inspection for requirements.

**STRUCTURAL OBSERVATION FOR WIND REQUIREMENTS (2012 IBC 1704.5.2)**  
Refer to the structural engineers statement of special inspection for requirements.

**STEEL CONSTRUCTION (2012 IBC 1705.2)**  
Refer to the structural engineers statement of special inspection for requirements.

**CONCRETE CONSTRUCTION (2012 IBC 1705.3)**  
Refer to the structural engineers statement of special inspection for requirements.

**MASONRY CONSTRUCTION (2012 IBC 1705.4)**  
Refer to the structural engineers statement of special inspection for requirements.

**WOOD CONSTRUCTION (2012 IBC 1705.5)**  
Refer to the structural engineers statement of special inspection for requirements.

**SOILS (2012 IBC 1705.6)**  
Refer to the structural engineers statement of special inspection for requirements.

**DRIVEN DEEP FOUNDATIONS (2012 IBC 1705.7)**  
Refer to the structural engineers statement of special inspection for requirements.

**CAST-IN-PLACE DEEP FOUNDATIONS (2012 IBC 1705.8)**  
Refer to the structural engineers statement of special inspection for requirements.

**HELICAL PILE FOUNDATIONS (2012 IBC 1705.9)**  
Refer to the structural engineers statement of special inspection for requirements.

**WIND RESISTANCE (2012 IBC 1705.10)**

STRUCTURAL WOOD (2012 IBC 1705.10.1)		
Item	Requirement	Description
Gluing operations	continuous	Elements of the main windforce-resisting system.
Nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system	periodic	Includes wood shear walls, wood diaphragms, drag struts, braces and hold-downs.
COLD FORMED STEEL LIGHT - FRAME CONSTRUCTION (2012 IBC 1705.10.2)		
Item	Requirement	Description
Welding operations	periodic	Elements of the main windforce-resisting system.
Screw attachment, bolting anchoring and other attachments within the main windforce-resisting system	periodic	Includes wood shear walls, wood diaphragms, drag struts, braces and hold-downs.
WIND RESISTING COMPONENTS (2012 IBC 1705.10.3)		
Item	Requirement	Description
Roof Cladding	periodic	
Wall Cladding	periodic	

**SEISMIC RESISTANCE (2012 IBC 1705.11)**

STRUCTURAL STEEL (2012 IBC 1705.11.1)		
Item	Requirement	Description
Seismic force resisting systems	AISC 341	Seismic Design Category C, D, E or F
STRUCTURAL WOOD (2012 IBC 1705.11.2)		
Item	Requirement	Description
Gluing operations	continuous	Elements of the seismic force-resisting system.
Nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system	periodic	Includes wood shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.
Screw attachment, bolting anchoring and other attachments within the main windforce-resisting system	periodic	Includes wood shear walls, wood diaphragms, drag struts, braces and hold-downs.
COLD FORMED STEEL LIGHT - FRAME CONSTRUCTION (2012 IBC 1705.11.3)		
Item	Requirement	Description
Welding	periodic	Includes wood shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.
Screw attachment, bolting anchoring and other attachments within the main windforce-resisting system	periodic	Includes wood shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.
ARCHITECTURAL COMPONENTS (2012 IBC 1705.11.5)		
Item	Requirement	Description
Erection and fastening of exterior cladding	periodic	Seismic design category D, E, or F
Interior or exterior non-bearing walls	periodic	Seismic design category D, E, or F
Interior or exterior veneer	periodic	Seismic design category D, E, or F
Access floor anchorage	periodic	Seismic design category D, E, or F
MECHANICAL AND ELECTRICAL COMPONENTS (2012 IBC 1705.11.6)		
Item	Requirement	Description
Anchorage of electrical equipment for emergency or standby power systems	periodic	Seismic design category C, D, E, or F
Anchorage of other electrical equipment	periodic	Seismic design category E, or F
Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units	periodic	Seismic design category C, D, E, or F
Installation and anchorage of ductwork designed to carry hazardous materials	periodic	Seismic design category C, D, E, or F
Installation and anchorage of vibration isolation systems	periodic	Seismic design category C, D, E, or F where the construction documents require a nominal clearance of 1/4 inch (6.4 mm) or less between the equipment support frame and restraint.
STORAGE RACKS (2012 IBC 1705.11.7)		
Item	Requirement	Description
Anchorage of storage racks 8' or greater in height	periodic	Seismic design category D, E, or F
SEISMIC ISOLATION SYSTEMS (2012 IBC 1705.11.8)		
Item	Requirement	Description
Fabrication and installation of isolation units and energy dissipation devices	periodic	

**DESIGNATED SEISMIC SYSTEMS (2012 IBC 1705.11.4)**  
In accordance with Section 1705.11.4.3 and verify that the label, anchorage or mounting conforms to the certificate of compliance.

**SPRAYED FIRE RESISTANT MATERIALS (2012 IBC 1705.13)**  
The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable.

**PHYSICAL AND VISUAL TEST (2012 IBC 1705.13.1)**

Item	Requirement	Description
Condition of substrates		Compliance with the listing and the fire-resistance rating.
Thickness of application		Compliance with the listing and the fire-resistance rating.
Density in pounds per cubic foot (lb/ft <sup>3</sup> )		Compliance with the listing and the fire-resistance rating.
Bond strength adhesion/cohesion		Compliance with the listing and the fire-resistance rating.
Condition of finished application		Compliance with the listing and the fire-resistance rating.

**MASTIC AND INTUMESCENT FIRE RESISTANT COATINGS (2012 IBC 1705.14)**  
Special inspections for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be in accordance with AWCI 1208. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents.

**EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) (2012 IBC 1705.15)**  
Special inspections shall be required for all EIFS application.

**WATER RESISTIVE BARRIER COATING (EIFS) (2012 IBC 1705.15.1)**  
A water resistive barrier coating complying with ASTM E 2570 requires special inspection of the water-resistive barrier coating when installed over a sheathing substrate.

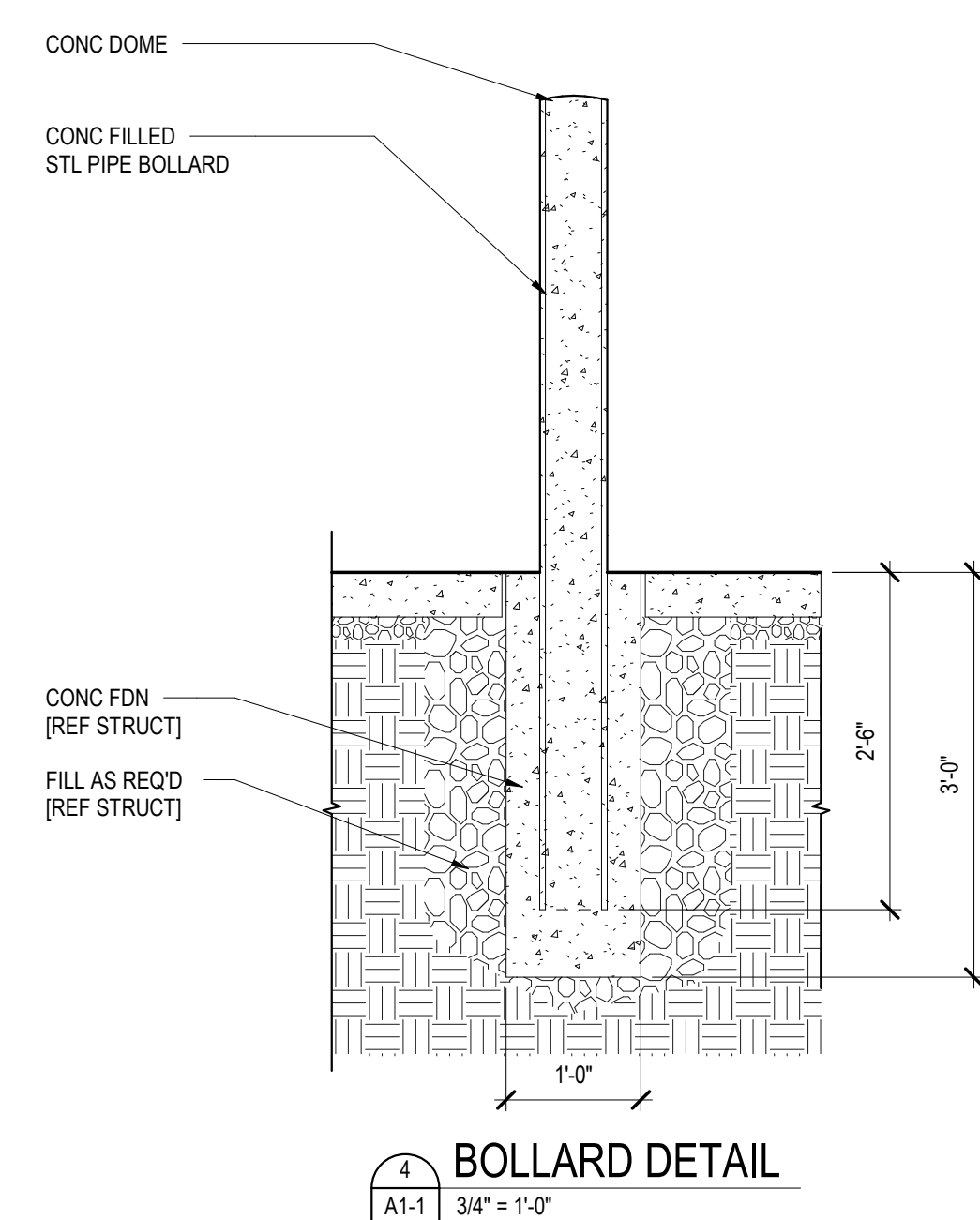
**FIRE-RESISTANT PENETRATIONS AND JOINTS (2012 IBC 1705.16)**

Item	Requirement	Description
through penetrations	ASTM E 2174	high-rise buildings or in buildings assigned to Risk Category III or IV
membrane penetration fire stops	ASTM E 2174	high-rise buildings or in buildings assigned to Risk Category III or IV
fire resistant joint systems	ASTM E 2393	high-rise buildings or in buildings assigned to Risk Category III or IV
perimeter fire barrier systems	ASTM E 2393	high-rise buildings or in buildings assigned to Risk Category III or IV

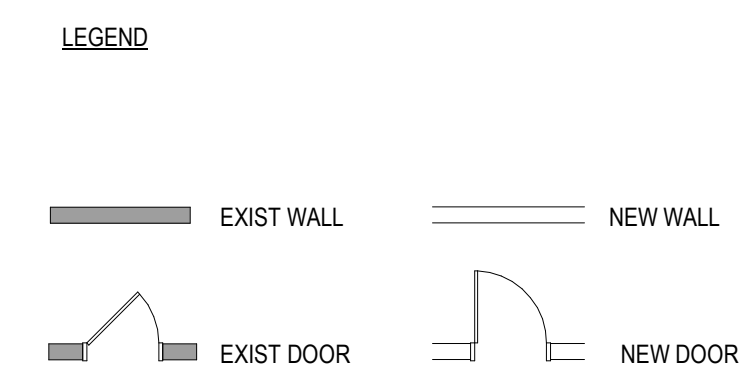
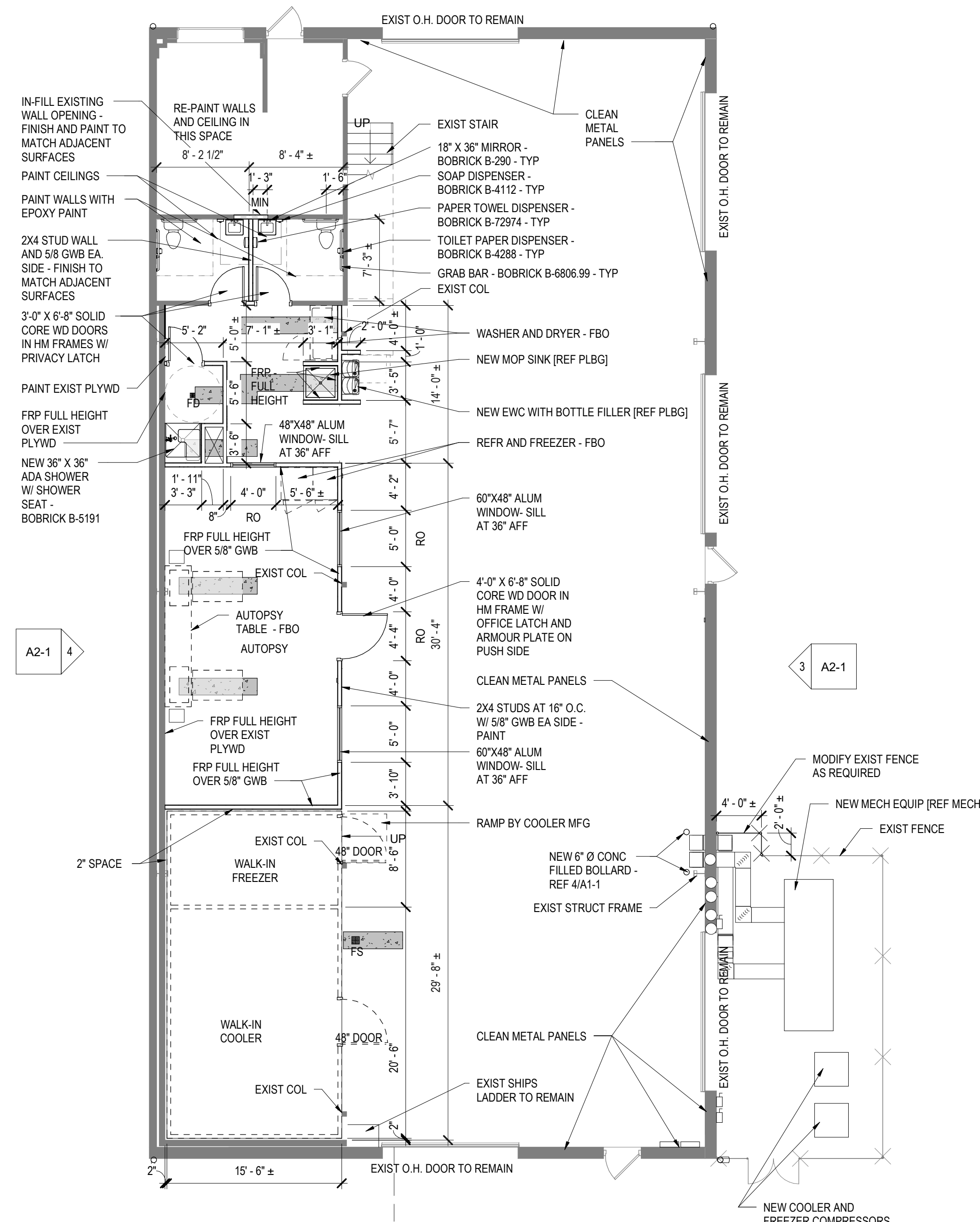
**SMOKE CONTROL (2012 IBC 1705.17)**  
Smoke control systems shall be tested by a special inspector.





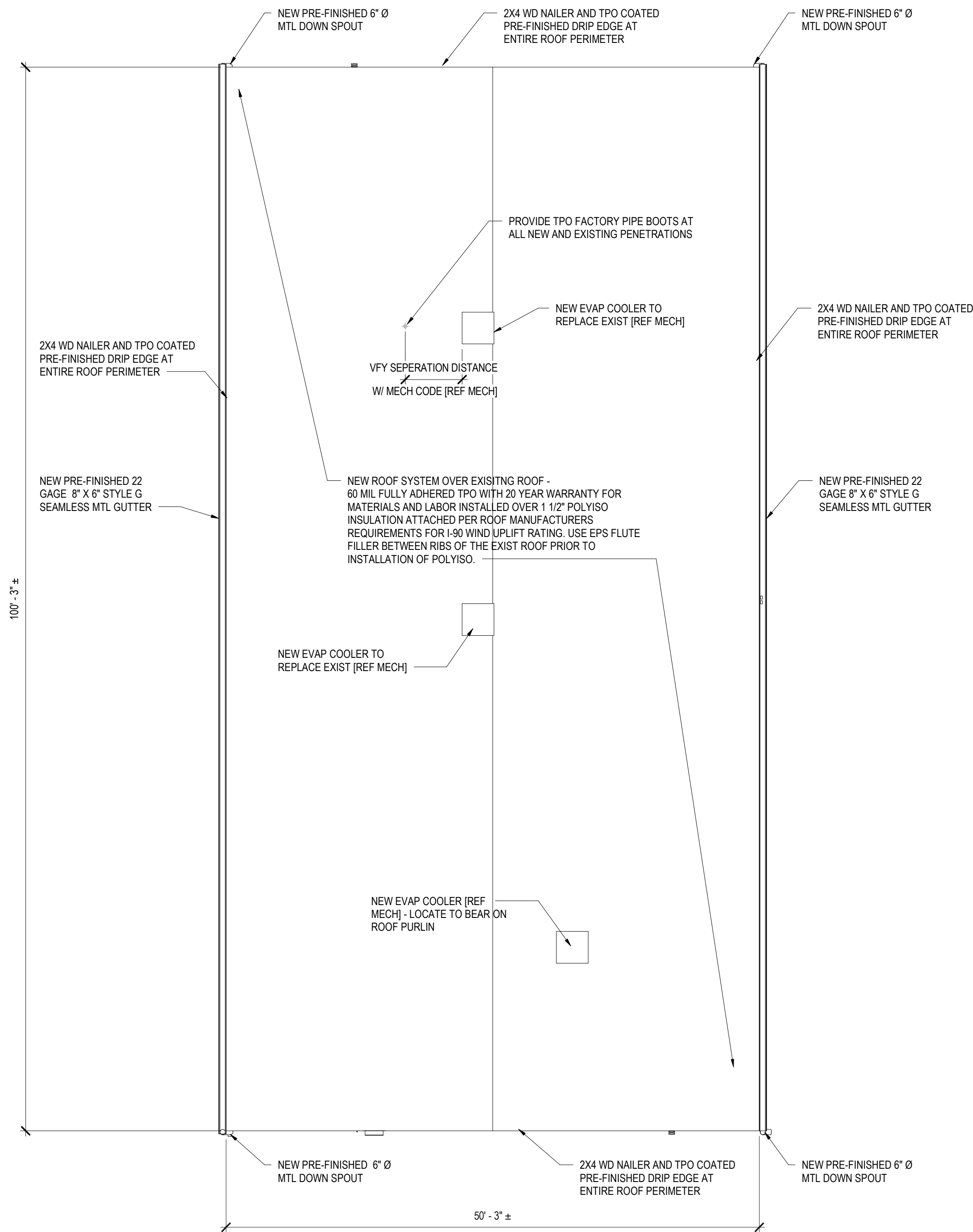


 **BOLLARD DETAIL**  
A1-1 3/4" = 1'-0"

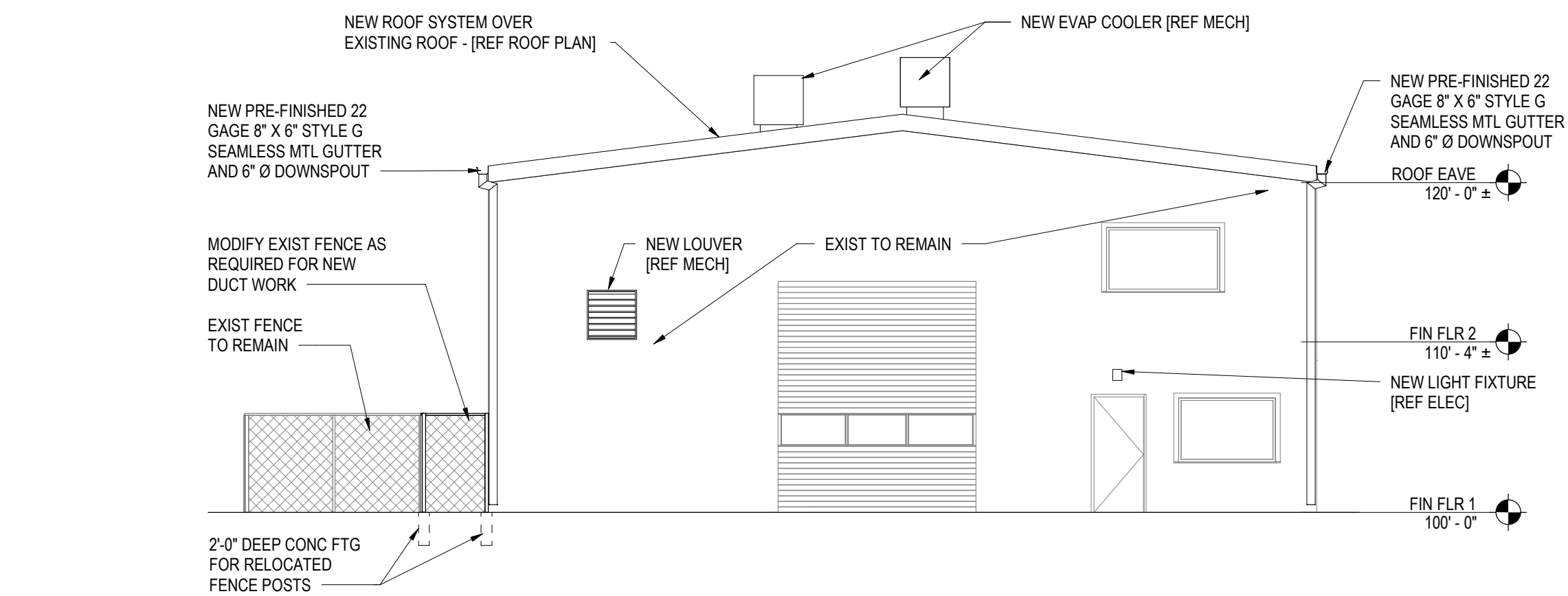


1. INTERIOR DIMENSIONS ARE TO F.O. STUD, UNO.
2. DIMENSIONS TO EXISTING WALLS ARE TO FINISH FACE, UNO.
3. ALL ITEMS ARE NEW UNLESS NOTED AS EXISTING

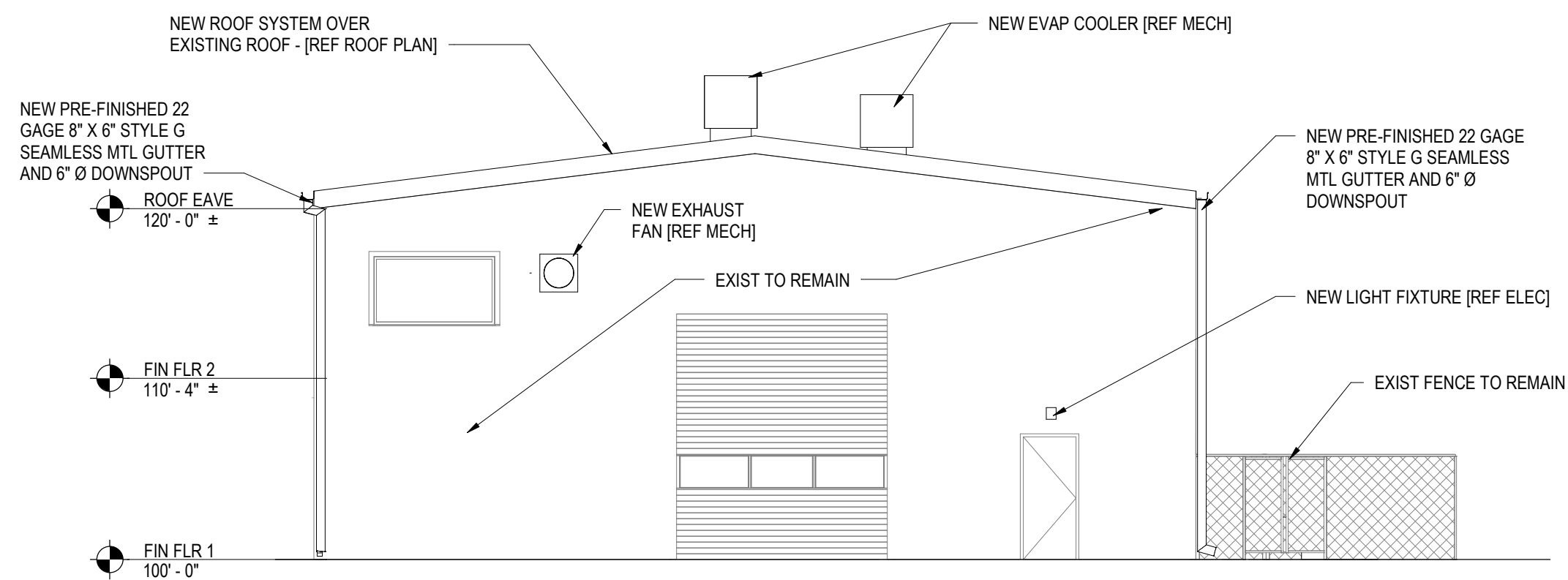




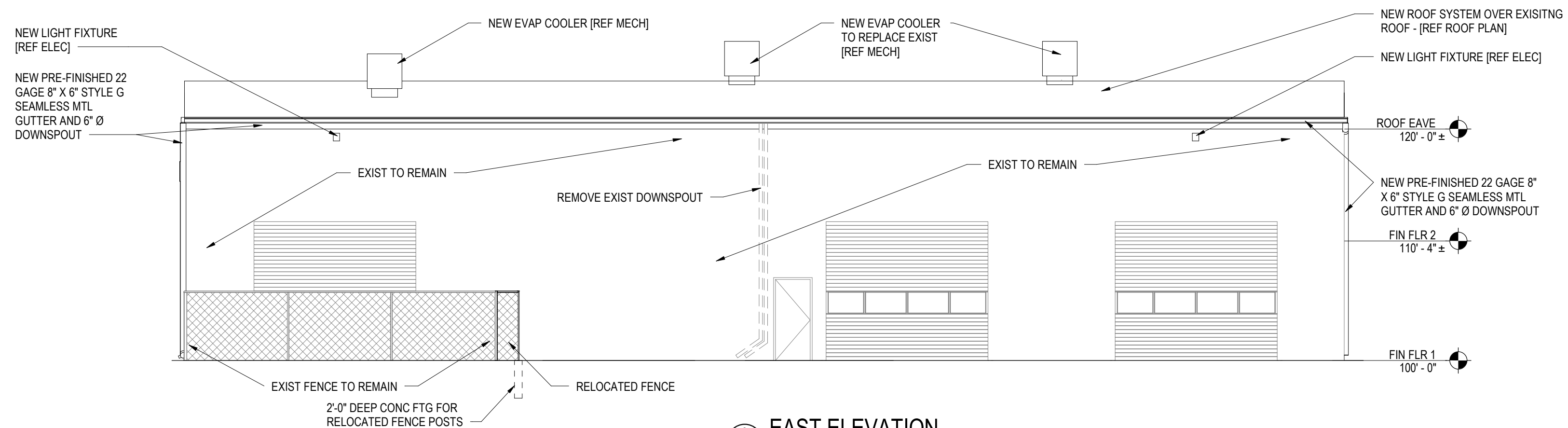
5 ROOF PLAN  
A2-1 1/8" = 1'-0"  
NORTH



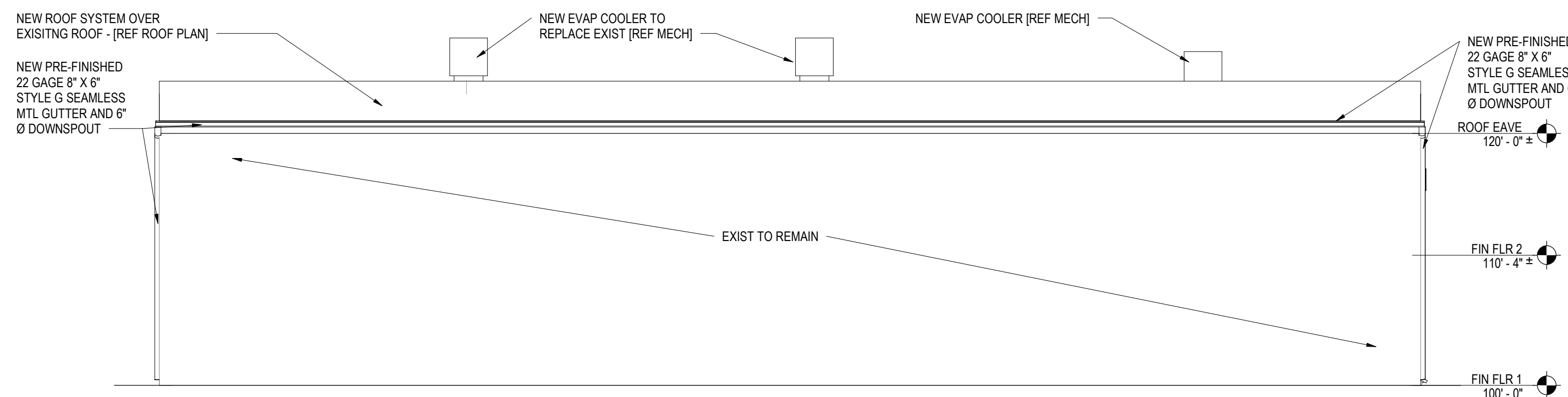
1 NORTH ELEVATION  
A2-1 1/8" = 1'-0"



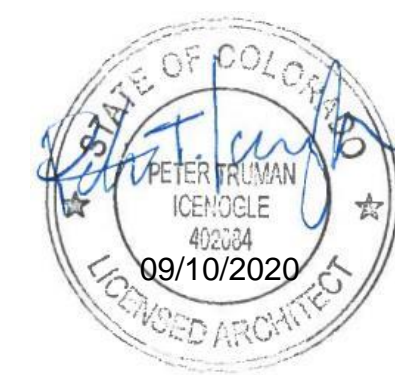
2 SOUTH ELEVATION  
A2-1 1/8" = 1'-0"

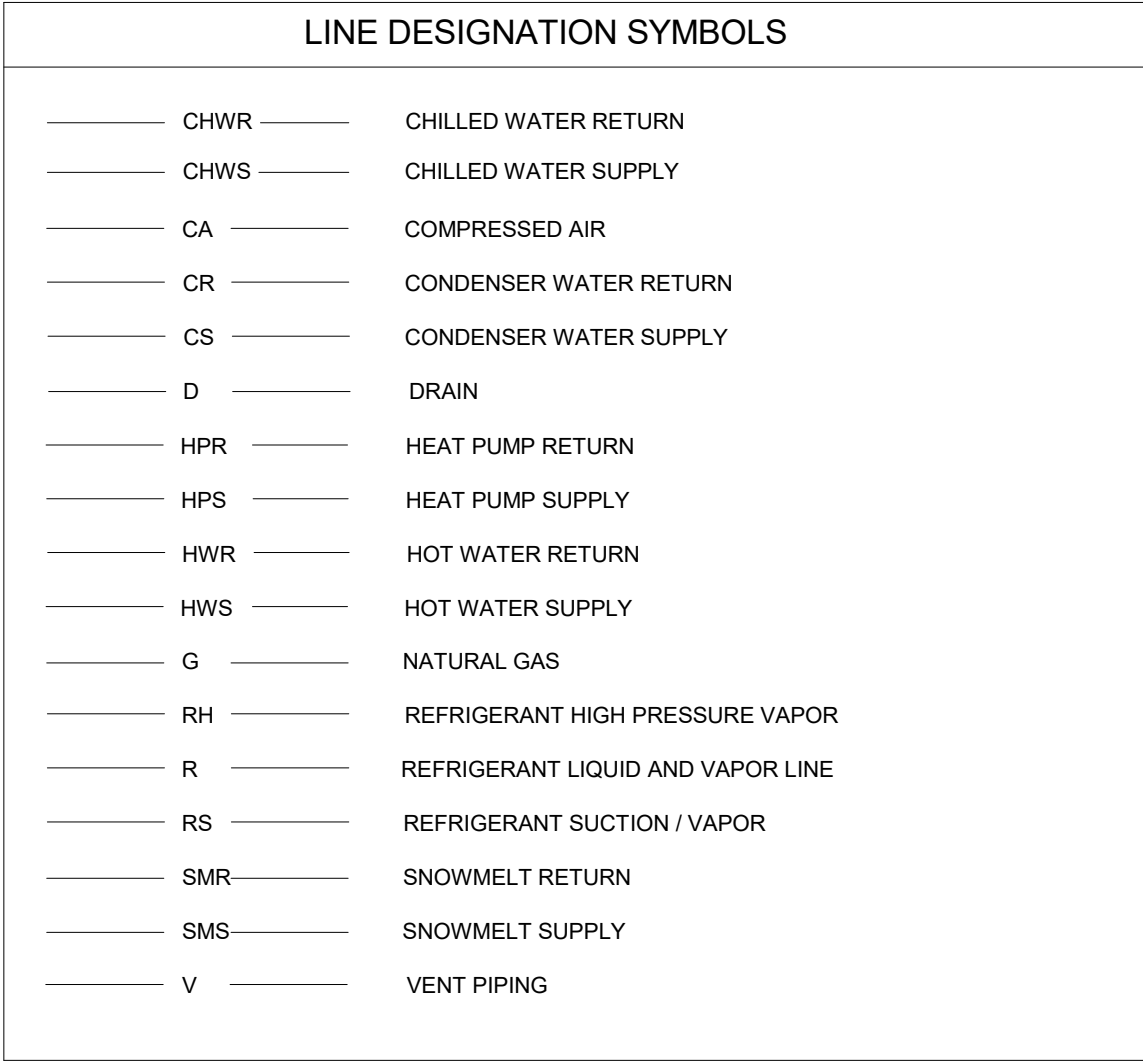
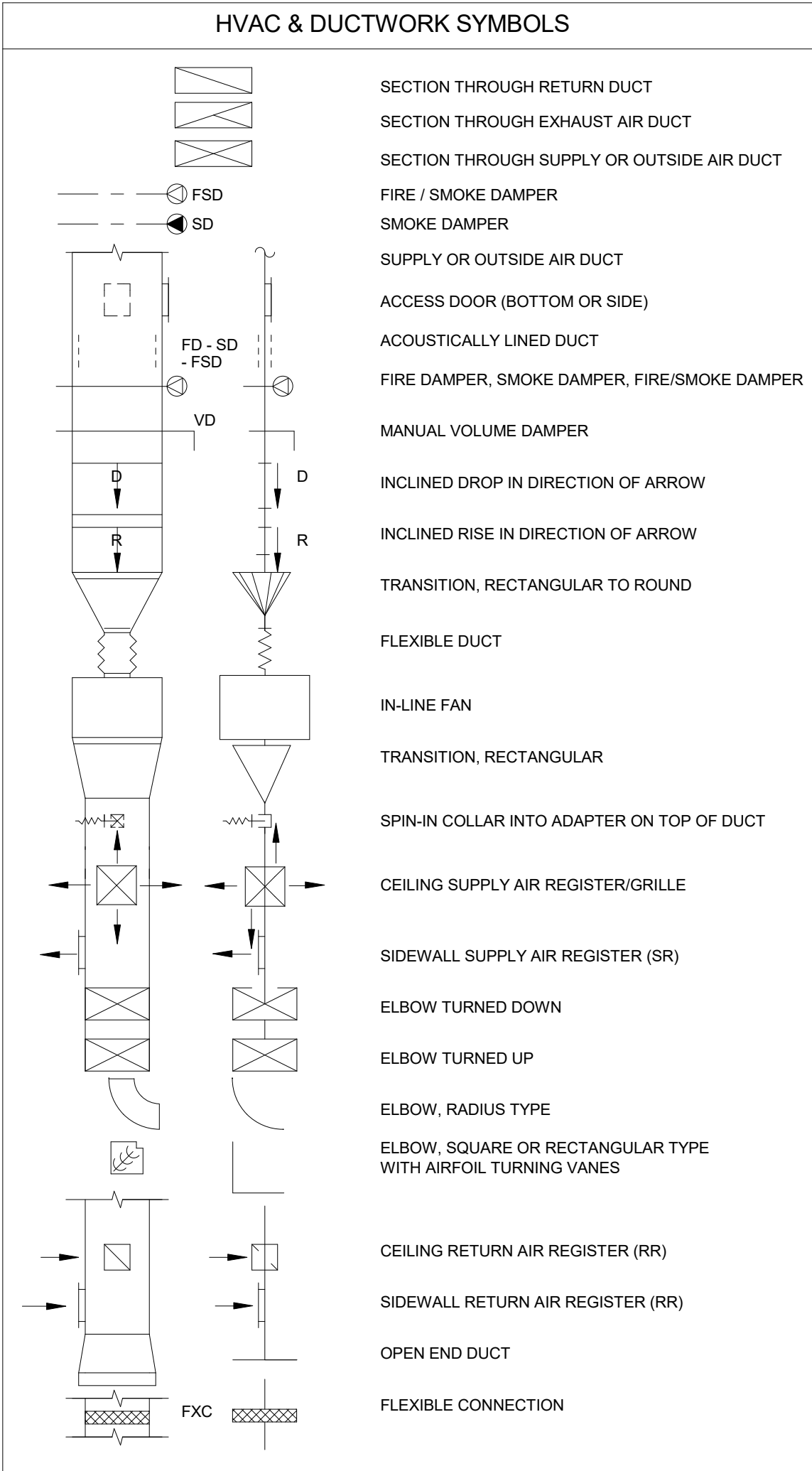
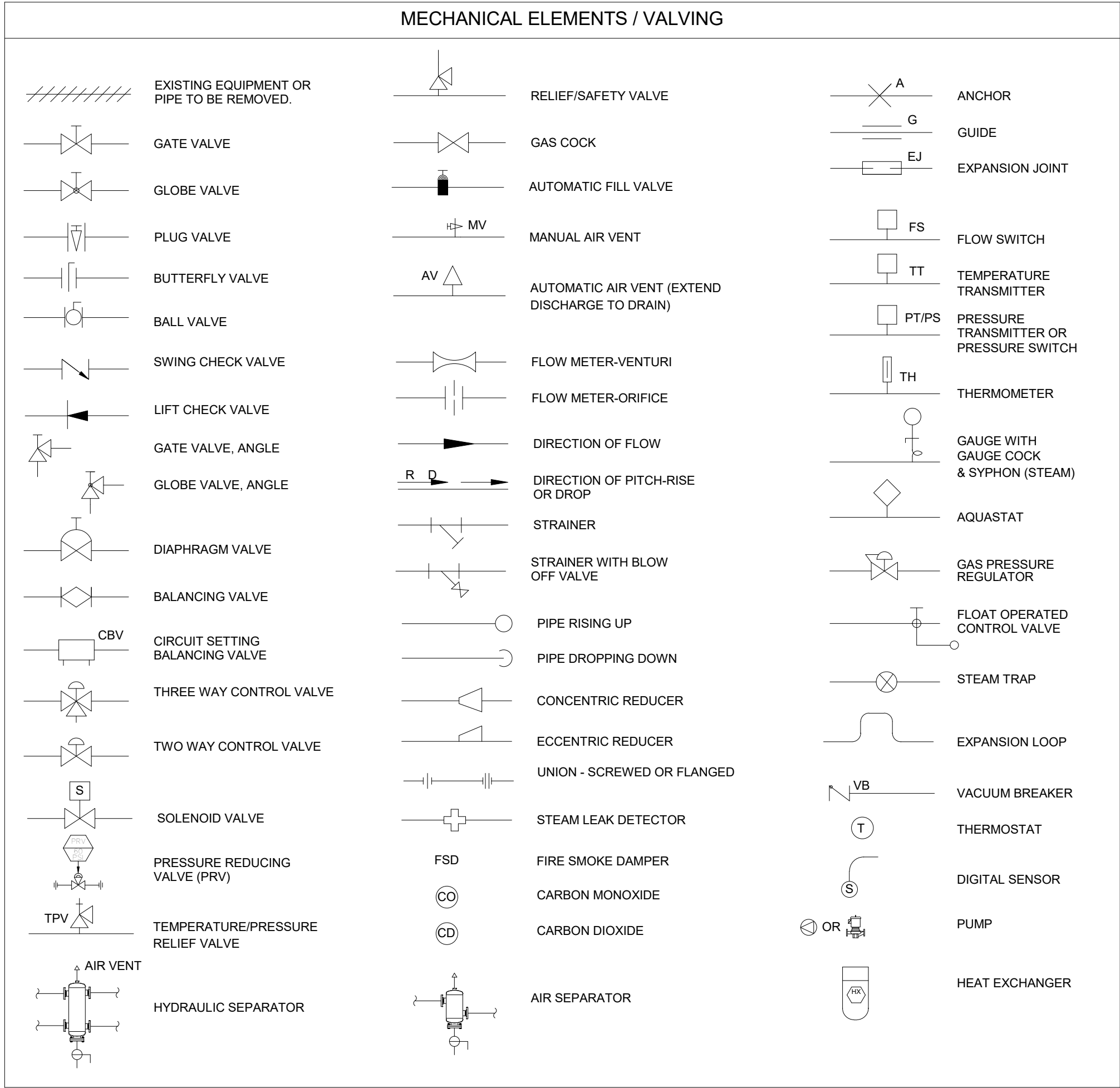


3 EAST ELEVATION  
A2-1 1/8" = 1'-0"



4 WEST ELEVATION  
A2-1 1/8" = 1'-0"





RESPONSIBLE DIVISION:

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET IN PLACE AND WIRED AS FOLLOWS:

EQUIPMENT	FURNISHED	SET	POWER WIRED	CONTROL WIRED
COMBINATION MAGNETIC MOTOR STARTERS, MAGNETIC MOTOR STARTERS, VFD'S AND CONTACTORS	23(1)	26	26(2)	23
FUSED AND UNFUSED DISCONNECT SWITCHES, THERMAL OVERLOAD SWITCHES AND HEATERS, MANUAL MOTOR STARTERS	26	26	26	--
MANUAL-OPERATING AND MULTI-SPEED SWITCHES	23	26	26	26
CONTROLS, RELAYS, TRANSFORMERS	23	23	26	23
THERMOSTATS (LOW VOLTAGE) AND TIME SWITCHES	23	23	26	23
THERMOSTATS (LINE VOLTAGE)	23	23	26	26
TEMPERATURE CONTROL PANELS	23	23	26	23
MOTOR AND SOLENOID VALVES, DAMPER MOTORS, PE & EP SWITCHES	23	23(2)	--	23(2)
PUSH-BUTTON STATIONS AND PILOT LIGHTS	23	23(2)	--	23(2)
HEATING, COOLING, VENTILATION AND AIR CONDITIONING CONTROLS	23	23	26	23
EXHAUST FAN SWITCHES	23	26	26	23(2)

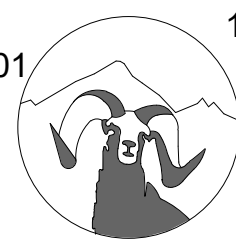
SUBSCRIPT FOOTNOTES:

- MOTOR STARTER TO INCLUDE CONTROL TRANSFORMER, HOA SWITCH, (1) NO AND (1) NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.
- IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23, CONNECT UNDER DIVISION 26.

ABBREVIATIONS:

44" MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF DEVICE	DIFF DIFFERENTIAL DISCH DISCHARGE	HR HOUR	PTAC PACKAGED TERMINAL AIR CONDITIONER
A AMPS	DIV DIVISION	HT HEIGHT	PV PLUG VALVE
A.D. ACCESS DOOR	DN DOWN	HTR HEATING WATER RETURN	PVC POLYVINYL CHLORIDE
AAV AIR ADMITTANCE VALVE	DS DUCT SILENCER	HWS HEATING WATER SUPPLY	QTY QUANTITY
ABV ABOVE	DWG DRAWING	HX HEAT EXCHANGER	RA RETURN AIR GRILLE / REGISTER
AC AIR CONDITIONING UNIT	DX DIRECT EXPANSION	HZ HERTZ	RCP REFLECTED CEILING PLAN
AC ABOVE COUNTER	EA EXHAUST AIR GRILLE/REGISTER	ID INSIDE DIAMETER	RD ROOF DRAIN
AD AREA DRAIN (SEE SYMBOLS)	EA EXHAUST AIR GRILLE/REGISTER	IG ISOLATED GROUND	REL RELIEF
A.F.C. ABOVE FINISHED CEILING	EAT ENTERING AIR TEMPERATURE	IN INCHES	REOD REQUIRED
A.F.G. ABOVE FINISHED GRADE	EC ELECTRICAL CONTRACTOR	INV INVERT	RF RETURN FAN
AIC AMPS INTERRUPTING CAPACITY	ECC ECCENTRIC	JBOX JUNCTION BOX	RH RELATIVE HUMIDITY
A.F.F. ABOVE FINISHED FLOOR	EFF EFFICIENCY	K KELVIN	RHC REHEAT COIL
AHU AIR HANDLING UNIT	EF EFFICIENCY	KW KILOWATT	RLA RATED LOAD AMPS
ALUM ALUMINUM	EL ELEVATION	KVA KILO VOLT - AMPS	RM ROOM
AP ACCESS PANEL OR DOOR	ELEC ELECTRIC	L LENGTH	RPM REVOLUTIONS PER MINUTE
ATS AUTOMATIC TRANSFER SWITCH	ELEV ELEVATOR	LAT LEAVING AIR TEMPERATURE	SA SUPPLY AIR GRILLE / REGISTER
AV AUDIO / VIDEO	EM EMERGENCY FUNCTION	LB LAVATORY	SC SHORT CIRCUIT
AVG AVERAGE	ENT ENTERING	LB POUND	SCA SHORT CIRCUIT AVAILABLE
AWG AMERICAN WIRE GAGE	EMT ELECTRIC METALLIC TUBE	LD LINEAR DIFFUSER	SCCR SHORT CIRCUIT CURRENT
BAS BUILDING AUTOMATION SYSTEM	EQ EQUAL	LF LINEAR FEET	RATING
BB BASEBOARD	EQU EQUIPMENT	LIN LINEAR	SCHEDULE
BD BACK DRAFT DAMPER	EQUIV EQUIVALENT	LIQ LIQUID	SD SMOKE DAMPER
BFP BACK FLOW PREVENTOR	ES END SWITCH	LM LUMEN	SEF SMOKE EXHAUST FAN
BL BOILER	ESP EXTERNAL STATIC PRESSURE	LRA LOCKED ROTOR AMPS	SP SUPPLY FAN
BLDG BUILDING	ET EXPANSION TANK	LV LOUVER	SH SENSIBLE HEAT
BLW BELOW	EWG ELECTRIC WATER COOLER	LVG LEAVING	SH SHOWER
BOB BOTTOM OF BEAM	EWT ENTERING WATER TEMPERATURE	LWT LEAVING WATER TEMPERATURE	SP STATIC PRESSURE
BOD BOTTOM OF DUCT	TEMPERATURE	MBH THOUSANDS OF BTU PER HOUR	SPD SURGE PROTECTION DEVICE
BOP BOTTOM OF PIPE	EX EXHAUST	MC MECHANICAL CONTRACTOR	SPEC SPECIFICATION
BSMT BASEMENT	EXPAN EXPANSION	MCA MINIMUM CIRCUIT	SQ SQUARE
BTU BRITISH THERMAL UNIT	EXT EXTERNAL	MCB MAIN CIRCUIT BREAKER	SS STAINLESS STEEL
C CHILLER	F FAULT	MD MOTORIZED DAMPER	SS SAFETY SHOWER
CAP CAPACITY	FA FREE AREA	MIS MISCELLANEOUS	STD STANDARD
CB CIRCUIT BREAKER	FC FAN COIL UNIT	MLO MAIN LUG ONLY	STL STEEL
CBV CIRCUIT BALANCING VALVE	FC FOOTCANDLE	MOC MAXIMUM OVERCURRENT	SYS SYSTEM
CCT CORRELATED COLOR TEMPERATURE	FCV FLOW CONTROL VALVE	MTD MOUNTED	TEMP TEMPERATURE
CKT CIRCUIT	FD FIRE DAMPER	MIN MINIMUM	TR TRANSFER GRILLE / REGISTER
CFH CUBIC FEET PER HOUR	FD FLOOR DRAIN	MISC MISCELLANEOUS	TR TAMPER RESISTANT
CFM CUBIC FEET PER MINUTE	FIN FINISHED	MOC MAXIMUM OVERCURRENT	TT TEMPERATURE TRANSMITTER
CHWR CHILLED WATER RETURN	FLA FULL LOAD AMPS	PROTECTION	TTB TELECOMMUNICATIONS
CHWS CHILLED WATER SUPPLY	FLEX FLEXIBLE	FLR FLOOR	TYP TYPICAL
CI CAST IRON	FOB FLAT ON BOTTOM	FOT FLAT ON TOP	TX TRANSFORMER
CL CENTER LINE	FOT FLAT ON TOP	FP FIRE PROTECTION	UC UNDERCUT DOOR
CLG CEILING	FP FIRE PROTECTION	NEG NEGATIVE	UH UNIT HEATER
CMU CONCRETE MASONRY UNIT	FP FIRE PUMP	NIC NOT IN CONTRACT	UNO UNLESS NOTED OTHERWISE
CO CLEAN OUT	FPM FEET PER MINUTE	NL NIGHT / SECURITY LIGHT - DO NOT SWITCH	UNOCC UNOCCUPIED
COL COLUMN	FPS FEET PER SECOND	NO NORMALLY OPEN	UP UPRIAL
COMP COMPRESSOR	FS FLOW SWITCH	NTS NOT TO SCALE	V VOLTS
CONC CONCRETE	FSD FIRE/SMOKE DAMPER	NO NORMALLY OPEN	VA VOLT AMPERE
COND CONDENSATE	FT FEET	NOM NOMINAL	VA VALVE
CONN CONNECTION	FXC FLEXIBLE CONNECTION	OA OUTSIDE AIR	VAV VARIABLE AIR VOLUME UNIT
CONT CONTINUATION	GND GROUND	OBD OPPOSED BLADE DAMPER	VFD VARIABLE FREQUENCY DRIVE
CONTR CONTRACTOR	GA GAUGE	OCC OCCUPIED	VRF VARIABLE REFRIGERANT FLOW
CR COLOR RENDERING INDEX	GAL GALLON	OCC OCCUPIED	VOLT VOLTAGE
CT COOLING TOWER	GALV GALVANIZED	OCC OCCUPIED	VTR VENT THROUGH ROOF
CT CURRENT TRANSFORMER	GEC GROUND ELECTRODE CONDUCTOR	OCC OCCUPIED	W WIDTH
CU CONDENSING UNIT	GFCI / GFI GROUND FAULT CIRCUIT INTERRUPTER	OCC OCCUPIED	W WATT
CUP COPPER	GC GENERAL CONTRACTOR	OCC OCCUPIED	W WITH
CUH CABINET UNIT HEATER	GPH GALLONS PER HOUR	OCC OCCUPIED	W/O WITHOUT
CVB CONSTANT VOLUME BOX	GPM GALLONS PER MINUTE	OCC OCCUPIED	WB WET BULB
CWR CONDENSER WATER RETURN	GRSLB GRAINS PER POUND	OCC OCCUPIED	WC WATER COLUMN
CWS CONDENSER WATER SUPPLY	H2O WATER	OCC OCCUPIED	WC WATER CLOSET
DB DRY BULB	HB HOSE BIBB	OCC OCCUPIED	WG WATER GAUGE
DEPT DEPARTMENT	HD HEAD (SEE SCHEDULES)	OCC OCCUPIED	WP WEATHERPROOF
DF DRINKING FOUNTAIN	HP HEAT PUMP	OCC OCCUPIED	WPIU WEATHERPROOF INUSE
DIA DIAMETER	HP HORSEPOWER	OCC OCCUPIED	WSR WITHSTAND RATING
DIAG DIAGRAM		OCC OCCUPIED	XPWR TRANSFORMER

386 Indian Road  
Grand Junction, CO 81501  
Phone: (970) 241-8709



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Durango, CO 81301  
Phone: (970) 422-767

Bighorn Consulting Engineers, Inc.  
Mechanical & Electrical Engineers

SUBSTITUTIONS:

A. SUBSTITUTIONS: SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES, AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO BID TIME.

C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR PIPING DRAWINGS.

D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING AND ENERGY CONSERVATION CODES. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.

E. WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM WILL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE RECEIVED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.

BG+co.

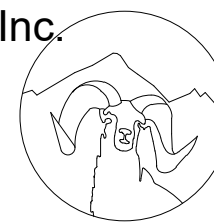
Architecture  
Interior Design  
Project Management

622 Road Avenue  
Grand Junction, CO 81501  
970-242-1058 office

BLTYE GROUP + co.

Bighorn Consulting  
Engineers, Inc.

Mechanical &  
Electrical  
Engineers



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Durango, CO 81301  
Phone: (970) 422-7676

MESA COUNTY MORGUE

831 NOLAND AVE.  
GRAND JUNCTION, CO 81501

MECHANICAL COVER  
SHEET

CONSTRUCTION DOCUMENTS



REV. DESC. DATE:

DATE: 08/19/2020

PROJECT #: 20-115

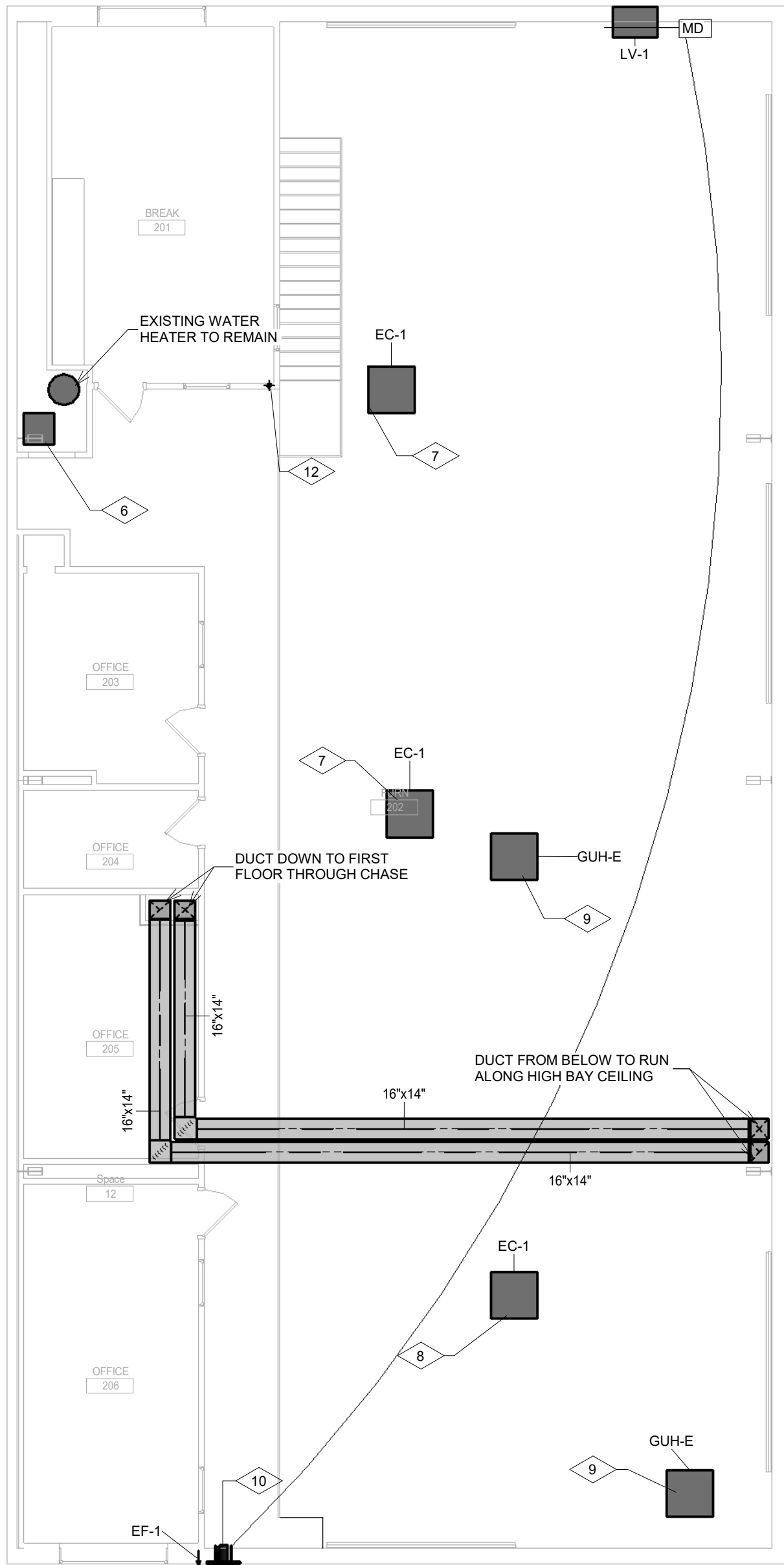
SHEET #:

M0-1

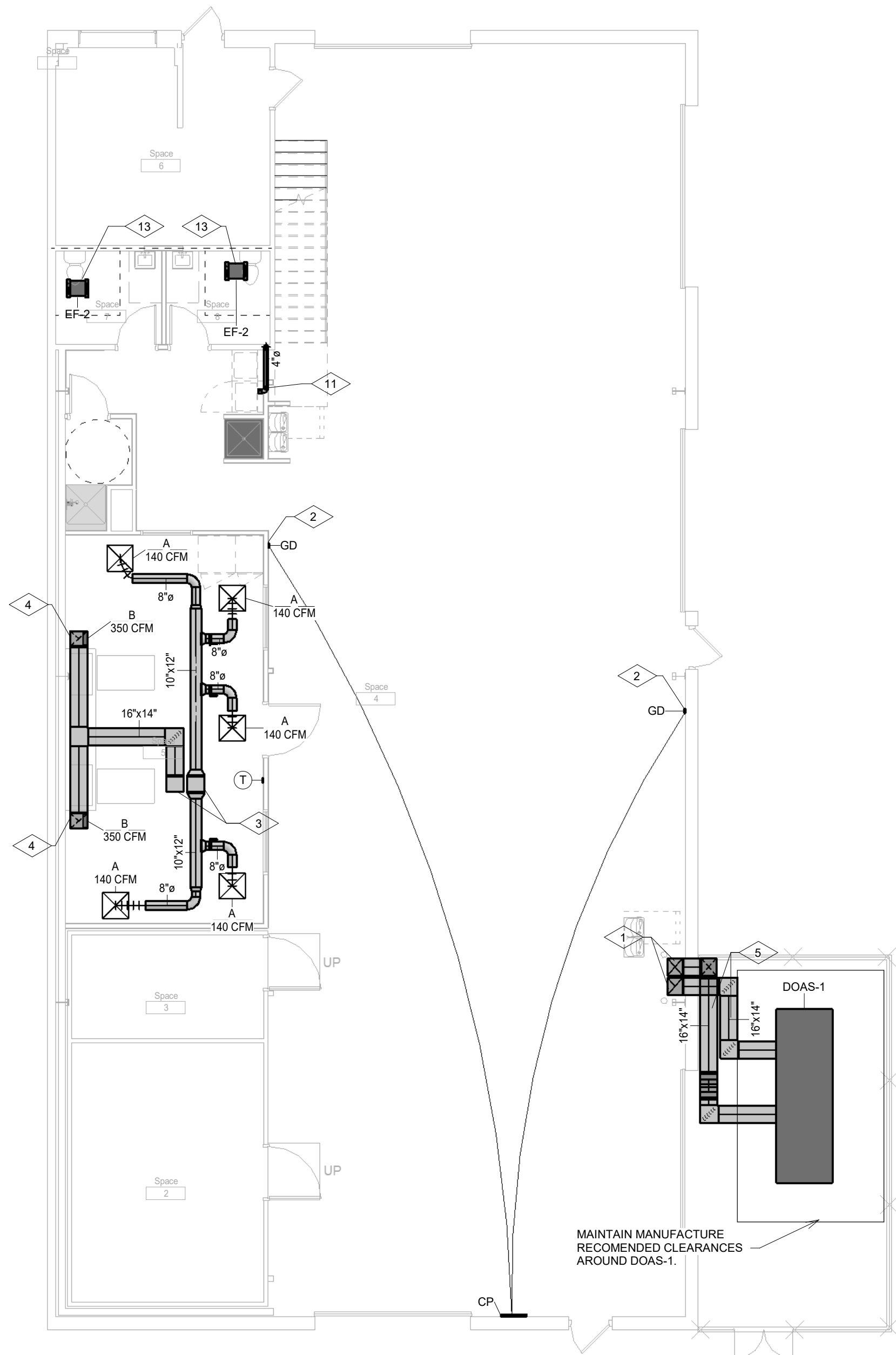
MECHANICAL SHEET LIST	
Sheet Number	Sheet Name
M0-1	MECHANICAL COVER SHEET
M1-1	MECHANICAL - FLOOR PLANS
M3-1	MECHANICAL - SCHEDULES



M1-1 FLAG NOTES	
FLAG NUMBER	FLAG TEXT
1	DUCT ROUTED UP THROUGH INTERIOR OF BUILDING TO HIGH BAY CEILING
2	MACURCO CX-6 COMBINATION CO AND NO2 SENSOR CONNECTED TO MACURCO DUP-120 CONTROL PANEL
3	DUCT ROUTED DOWN FROM HIGH BAY CEILING THROUGH CHASE ON SECOND FLOOR
4	EXHAUST DUCT DROPS DOWN TO 12" AFF.
5	EXTERIOR DUCT IS TO BE AGC'S Q-DUCT OR EQUIVALENT
6	EXISTING GAS FURNACE TO REMAIN. CONTRACTOR TO VERIFY OPERATION OF EXISTING GAS FURNACE. ALTERNATE: REPLACE EXISTING GAS FURNACE 1 TO 1 WITH ARMSTRONG A962V GAS FURNACE.
7	NEW EVAP COOLER TO REPLACE EXISTING. CONNECT TO EXISTING WATER, POWER, AND DUCTWORK.
8	NEW EVAP COOLER TO GO ON ROOF. ROUTE POWER AND DOMESTIC COLD WATER LINE TO COOLER. TERMINATE WITH INVERTED PYRAMID SHEET METAL FITTING
9	EXISTING GAS UNIT HEATER TO REMAIN IN SPACE. CONTRACTOR TO VERIFY GOOD WORKING CONDITION.
10	NEW WALL MOUNTED EXHAUST FAN TO REPLACE EXISTING. FAN TO BE CONTROLLED BY GAS DETECTION CONTROL PANEL ON MAIN FLOOR. INTERLOCK OPERATION OF LOUVER MOTORIZED DAMPER.
11	DRYER DUCT ROUTED THROUGH WALL TO ROOF. CONTRACTOR TO VERIFY DRYER EXHAUST DUCT DOES NOT EXCEED MANUFACTURER SPECIFIED LIMITATIONS. PROVIDE DRYER EXHAUST BOOSTER FAN IF REQUIRED.
12	DRYER EXHAUST VENT TO TERMINATE TO ROOF VENT CAP. MAINTAIN ALL CLEARANCES FROM MECHANICAL AIR INTAKES AS SPECIFIED IN THE 2018 IMC.
13	REPLACE EXISTING EXHAUST FAN AND CONNECT TO EXISTING DUCTWORK.



MECHANICAL - SECOND FLOOR PLAN  
1/8" = 1'-0"



MECHANICAL - FIRST FLOOR PLAN  
1/8" = 1'-0"





DEDICATED OUTDOOR AIR UNIT SCHEDULE

TYPE MARK	SERVICE	LOCATION	NOM. COOLING (MBH)	NOM. HEATING (MBH)	SUPPLY FAN						EXHAUST						ELECTRICAL			MANUFACTURER	MODEL #	OPTIONS/ACCESSORIES
					AIRFLOW (CFM)	E.S.P.	MOTOR HP	VOLTS	PHASE	FREQUENCY	AIRFLOW (CFM)	MOTOR HP	VOLTS	PHASE	FREQUENCY	E.S.P. (IN. W.G.)	MCA (A)	MOCP (A)				
DOAS-1	AUTOPSY	SLAB ON GRADE	32.2	50	800	.75	2.5	208 V	3	60 Hz	800	2.5	280 V	3	60 Hz	.75	40.20 A	45 A	TRANE	OABD036D3	NOTE-1	

NOTES:  
1. PROVIDE WITH HOUSEKEEPING PAD, 100% MODULATING GAS HEAT, DX COOLING, ENERGY RECOVERY WHEEL, HAILGUARD, MERV 13 FILTERS. PROVIDE FACTORY CONTROLLER CAPABLE OF CONTROLLING ALL UNIT FUNCTIONS, SCHEDULES, AND ALARMS.

EXHAUST FAN SCHEDULE

TYPE MARK	SERVICE	LOCATION	EXHAUST AIRFLOW (CFM)	EXHAUST E.S.P.	EXHAUST FAN MOTOR POWER	EXHAUST FAN SPEED (RPM)	MOTOR		PHASE	ELECTRICAL FREQUENCY	MANUFACTURER	MODEL #	NOTES
							VOLTS	FLA (A)					
EF-1	GAS MITIGATION	WALL	2500	.5	3/4	1388	120 V	1	60 Hz	1	GREENHECK	AER-E20C-620-VG	NOTE-1
EF-2	RESTROOM	CEILING	80	.2	1/10	950	120 V	1	60 Hz	1	GREENHECK	CSP-A110	NOTE-2

NOTES:  
1. PROVIDE WALL MOUNTING FRAME, MOTORIZED BACKDRAFT DAMPER, AND BIRD SCREEN. FAN TO BE CONTROLLED BY GAS DETECTION CONTROL PANEL. INTERLOCK OPERATION OF FAN TO THE MOTORIZED DAMPER AT THE INTAKE LOUVER LV-1.  
2. PROVIDE CEILING MOUNT KIT, BACKDRAFT DAMPER, TERMINATE DUCT TO WALL OR ROOF CAP. FAN TO OPERATE WITH RESTROOM LIGHTS.

EVAPORATIVE COOLER SCHEDULE

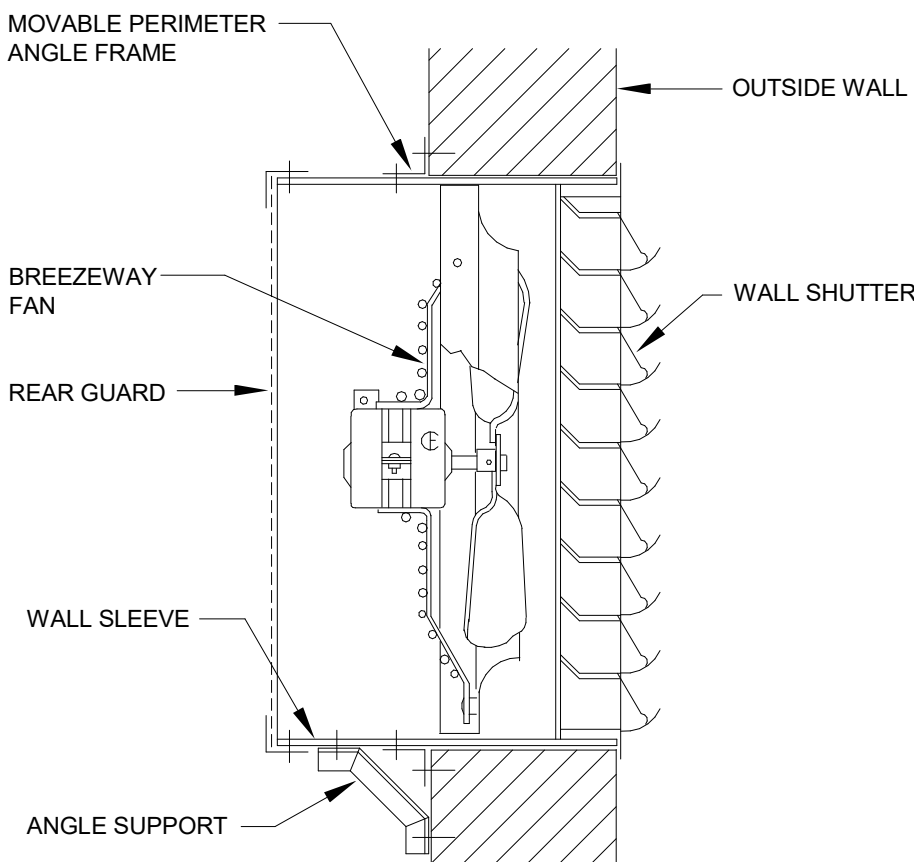
TYPE MARK	SUPPLY AIRFLOW (CFM)	SUPPLY E.S.P.	ELECTRICAL			FLA (A)	MOTOR HP	SPEED (RPM)	MANUFACTURER	MODEL #	OPTIONS/ACCESSORIES
			VOLTS	PHASE	FREQUENCY						
EC-1	2500	.4	120 V	1	60 Hz	10 A	1/2	514	CHAMPION	4001DD	NOTE-1

NOTES:  
1. PROVIDE WITH ROOF STAND, PUMP, BLEED-OFF KIT, POWDER COATED FINISH, GALVANIZED STEEL CABINET.

LOUVER SCHEDULE

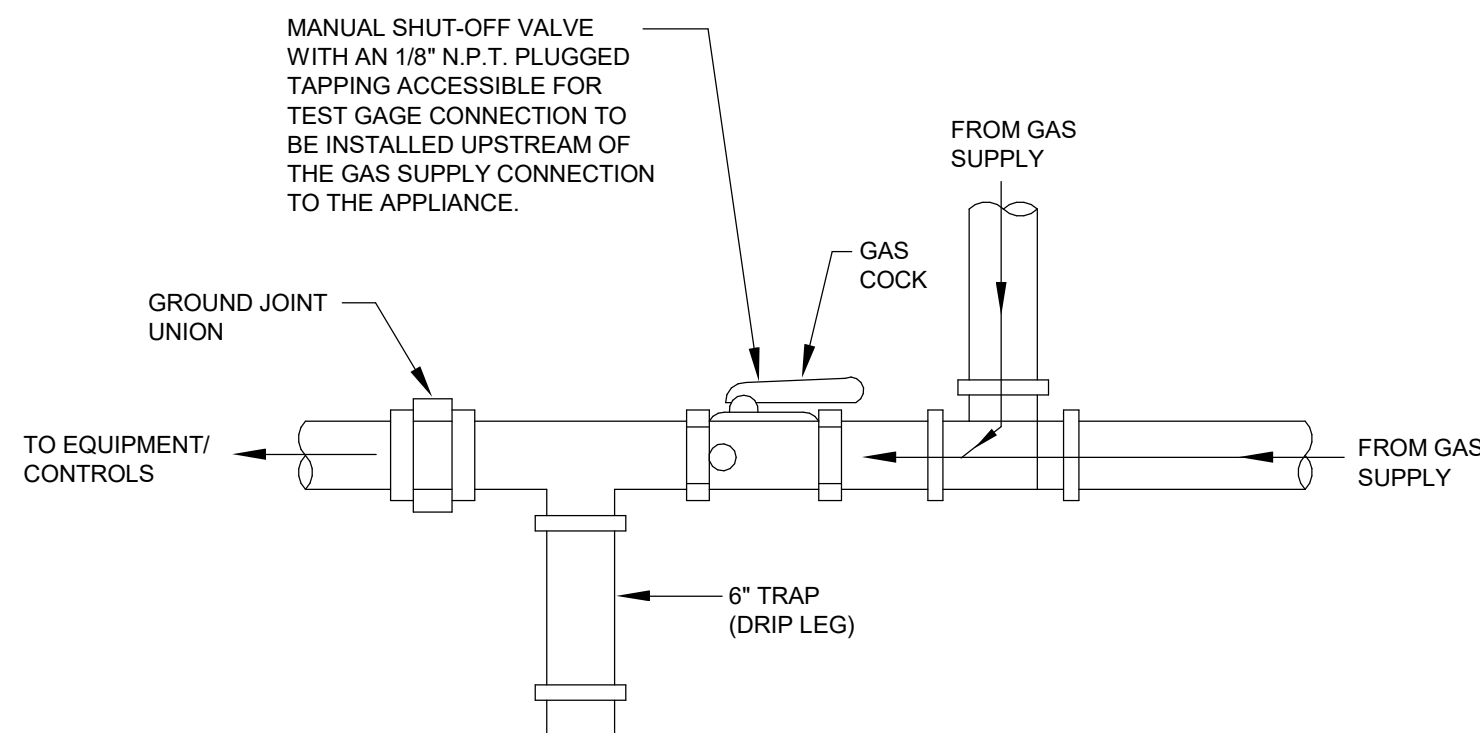
TYPE MARK	SERVICE	WIDTH	HEIGHT	THICKNESS	MATERIAL	SCREEN TYPE	MANUFACTURER	MODEL #	OPTIONS/ACCESSORIES
LV-1	EF-1	3' - 0"	3' - 0"	0' - 6"	ALUMINUM	BIRD	GREENHECK	ECD-801-36X36	NOTE-1

NOTES:  
1. PROVIDE WITH MOTORIZED DAMPER, FLUSH MOUNTING KIT, INTERLOCK OPERATION WITH EF-1.



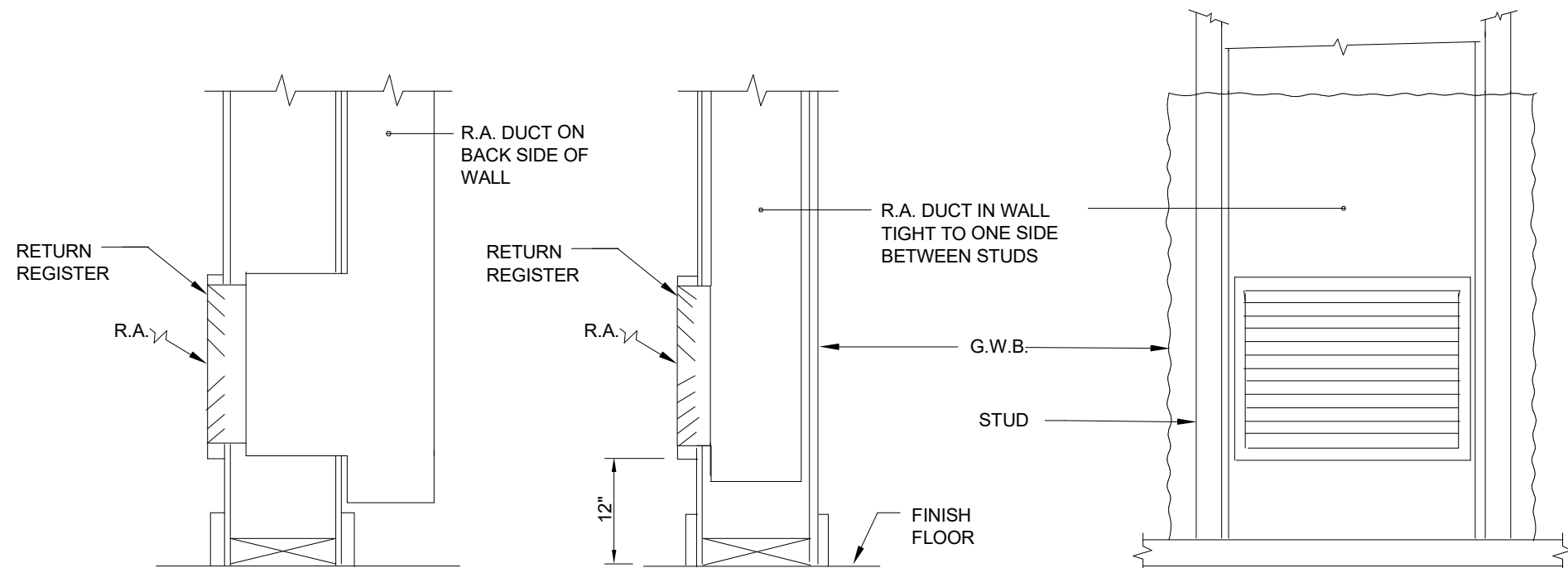
WALL MOUNTED EXHAUST FAN DETAIL

NOT TO SCALE



GAS CONNECTION TO EQUIPMENT DETAIL

NOT TO SCALE



WALL MOUNTED RETURN AIR GRILLE DETAIL

N.T.S.

MECHANICAL PROVISIONS

1. SCOPE OF WORK

- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.  
B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.  
C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.  
D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS

- A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

- A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. FLEXIBLE DUCT WORK

- A. FLEXIBLE TYPE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.  
B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 6 LINEAR FEET PER RUN.  
C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

5. REFRIGERANT

- A. PIPING CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICUOUS AND FREE FROM ANY POSSIBLE CONDENSATION.  
B. INSULATE REFRIGERANT LINES WITH ARMOUR-FLEX TYPE INSULATION.  
C. PIPE SHALL BE TYPE "K" COPPER TUBING, WITH WROUGHT COPPER SOLDER TYPE FITTINGS SUITABLE FOR CONNECTION WITH SILVER SOLDER.

6. DUCTWORK

- A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS.  
B. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.  
C. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.  
D. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS, SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.  
E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.  
F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.  
G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.  
H. ALL SUPPLY AND RETURN DUCTWORK 15 FEET DOWNSTREAM OF THE HVAC UNIT SHALL BE INTERNALLY LINED WITH A 1/2" ACOUSTICAL DUCT LINER UNLESS OTHERWISE NOTED ON THE DRAWINGS.

7. DRAINAGE PIPING

- A. (CONDENSATE) SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT JOINTS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN, ROOF DRAIN OR INDIRECT WASTE DRAIN.

8. HVAC CONTROLS

- A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

9. ELECTRICAL

- A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

10. PIPE SUPPORTS

- A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

11. GAS PIPING

- A. PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS. WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE RUNOUT. A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 9" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.

12. MISCELLANEOUS

- A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.  
B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS.  
C. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.  
D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT.  
E. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.  
F. PEX TUBING, IF PEX TUBING IS USED AS AN APPROVED ALTERNATE FOR APPLICATIONS WHERE METALLIC PIPING IS THE BASIS OF DESIGN, THE PEX MANUFACTURER SHALL SUBMIT SHOP DRAWINGS CLEARLY INDICATING THAT THE DESIGN HAS BEEN ANALYZED AND MODIFIED, AS REQUIRED TO MAINTAIN SCHEDULED HYDRONIC SYSTEM PARAMETERS. ANY DESIGN RESULTING IN INCREASED SYSTEM PRESSURE DROP AS A RESULT OF IMPROPER PEX SIZING OR DESIGN SHALL NOT BE PERMITTED.

13. TESTING AND BALANCING

- A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

14. GUARANTEE

- A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.  
B. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.



PLUMBING PIPE DESIGNATIONS	
LINE TYPE	DESCRIPTION
140	HIGH TEMPERATURE (140°) WATER PIPE
---	COLD WATER PIPE (CW)
CA	COMPRESSED AIR
DC	DECONTAMINATION PIPING
DER	DEIONIZED WATER RETURN
DES	DEIONIZED WATER SUPPLY
DIS	DISTILLED WATER SUPPLY
DIR	DISTILLED WATER RETURN
CD	EQUIPMENT CONDENSATE DRAIN
FP	FIRE MAIN
GW	GREASE WASTE PIPE
HE	HELIUM
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
---	HOT WATER RECIRCULATION (HWR)
---	HOT WATER PIPE (HW)
H2	HYDROGEN
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MA	MEDICAL AIR
G	NATURAL GAS PIPE
N2	NITROGEN
N2O	NITROUS OXIDE
ORD	OVERFLOW STORM WATER PIPE
O2	OXYGEN
PG	PROPANE GAS
RD	ROOF DRAIN PIPE
---	SOIL OR WASTE PIPE
S/O	SOIL / OIL WASTE PIPE
TWR	TOWER WATER RETURN
TWS	TOWER WATER SUPPLY
VAC	VACUUM
---	VENT PIPE (V)

PLUMBING ELEMENTS / VALVING	
LINE TYPE	DESCRIPTION
	PRESSURE REDUCING VALVE (PRV)
	GATE VALVE
	GLOBE VALVE
	PLUG VALVE
	BUTTERFLY VALVE
	BALL VALVE
	SWING CHECK VALVE
	LIFT CHECK VALVE
	GATE VALVE, ANGLE
	GLOBE VALVE, ANGLE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	RELIEF/SAFETY VALVE
	GAS COCK
	GAS PRESSURE REGULATOR
	STRAINER
	STRAINER WITH BLOW OFF VALVE
	WATER HEATER
	WATER METER
	PRESSURE GAGE
	TEMPERATURE GAGE

LINE TYPE	DESCRIPTION
	PIPE RISING UP
	PIPE DROPPING DOWN
	UNION - SCREWED OR FLANGED
	PRESSURE TRANSMITTER OR PRESSURE SWITCH
	THERMOMETER/TEMPERATURE INDICATOR
	GAUGE WITH GAUGE COCK/ PRESSURE INDICATOR
	BACKFLOW PREVENTOR
	BACKFLOW PREVENTOR (DOUBLE CHECK VALVE ASSEMBLY)
	WATER HAMMER ARRESTER
	CIRCUIT SETTING
	HOSE BIBB
	ROOF DRAIN
	FLOOR DRAIN
	AREA DRAIN
	FLOOR CLEAN OUT
	FLOOR SINK
	CLEAN OUT TO GRADE
	WALL CLEAN OUT
	FLEXIBLE-CONNECTION
	CHECK VALVE
	VACUUM BREAKER

RESPONSIBLE DIVISION:

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET IN PLACE AND WIRED AS FOLLOWS:

ITEM	FURNISHED	SET	POWER WIRED	CONTROL WIRED
EQUIPMENT	23	23	26	--
COMBINATION MAGNETIC MOTOR STARTERS, MAGNETIC MOTOR STARTERS, VFD'S AND CONTACTORS	23(1)	26	26(2)	23
FUSED AND UNFUSED DISCONNECT SWITCHES, THERMAL OVERLOAD SWITCHES AND HEATERS, MANUAL MOTOR STARTERS	26	26	26	--
MANUAL-OPERATING AND MULTI-SPEED SWITCHES	23	26	26	26
CONTROLS, RELAYS, TRANSFORMERS	23	23	26	23
THERMOSTATS (LOW VOLTAGE) AND TIME SWITCHES	23	23	26	23
THERMOSTATS (LINE VOLTAGE)	23	23	26	26
TEMPERATURE CONTROL PANELS	23	23	26	23
MOTOR AND SOLENOID VALVES, DAMPER MOTORS, PE & EP SWITCHES	23	23(2)	--	23(2)
PUSH-BUTTON STATIONS AND PILOT LIGHTS	23	23(2)	--	23(2)
HEATING, COOLING, VENTILATION AND AIR CONDITIONING CONTROLS	23	23	26	23
EXHAUST FAN SWITCHES	23	26	26	23(2)

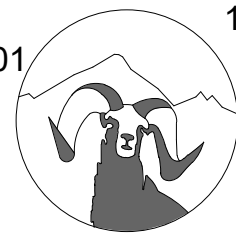
SUBSCRIPT FOOTNOTES:

- MOTOR STARTER TO INCLUDE CONTROL TRANSFORMER, HOA SWITCH, (1) NO AND (1) NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.
- IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23, CONNECT UNDER DIVISION 26.

ABBREVIATIONS:

44' MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF DEVICE	DIFF DIFFERENTIAL	HR HOUR	PTAC PACKAGED TERMINAL AIR CONDITIONER
A AMPS	DIV DIVISION	HT HEIGHT	PV PLUG VALVE
A.D. ACCESS DOOR	DN DOWN	HTR HEATER	PVC POLYVINYL CHLORIDE
AAV AIR ADMITTANCE VALVE	DS DUCT SILENCER	HWR HEATING WATER RETURN	QTY QUANTITY
ABV ABOVE	DWG DRAWING	HWS HEATING WATER SUPPLY	RX RETURN AIR GRILLE / REGISTER
AC AIR CONDITIONING UNIT	DX DIRECT EXPANSION	HZ HERTZ	RCP REFLECTED CEILING PLAN
AC ABOVE COUNTER	(A) EXISTING	ID INSIDE DIAMETER	RD ROOF DRAIN
AD AREA DRAIN (SEE SYMBOLS)	EA EXHAUST AIR GRILLE/REGISTER	IG ISOLATED GROUND	REL RELIEF
A.F.C. ABOVE FINISHED CEILING	EAT ENTERING AIR TEMPERATURE	IN INCHES	REQD REQUIRED
A.F.G. ABOVE FINISHED GRADE	EC ELECTRICAL CONTRACTOR	INV INVERT	RF RETURN FAN
AIC AMPS INTERRUPTING CAPACITY	ECC ECCENTRIC	JBOX JUNCTION BOX	RH RELATIVE HUMIDITY
A.F.F. ABOVE FINISHED FLOOR	EF EXHAUST FAN	K KELVIN	RHC REHEAT COIL
AHU AIR HANDLING UNIT	EFF EFFICIENCY	KW KILOWATT	RLA RATED LOAD AMPS
ALUM ALUMINUM	EL ELEVATION	KVA KILO VOLT - AMPS	RM ROOM
AP ACCESS PANEL OR DOOR	ELEC ELECTRIC	L LENGTH	RFM REVOLUTIONS PER MINUTE
ATS AUTOMATIC TRANSFER SWITCH	ELEV ELEVATOR	LAT LEAVING AIR TEMPERATURE	SA SUPPLY AIR GRILLE / REGISTER
AV AUDIO / VIDEO	EM EMERGENCY FUNCTION	LV LAVATORY	SC SHORT CIRCUIT
AVG AVERAGE	ENT ENTERING	LD LINEAR DIFFUSER	SCA SHORT CIRCUIT AVAILABLE
AWG AMERICAN WIRE GAGE	EMT ELECTRIC METALLIC TUBE	LF LINEAR FEET	SCCR SHORT CIRCUIT CURRENT
BAS BUILDING AUTOMATION SYSTEM	EQ EQUAL	LN LINE	RATING
BB BASEBOARD	EQUIP EQUIPMENT	LQ LIQUID	SCH SCHEDULE
BD BACK DRAFT DAMPER	EQUIV EQUIVALENT	LIQ LIQUID	SD SMOKE DAMPER
BFP BACK FLOW PREVENTOR	ES END SWITCH	LM LUMEN	SEF SMOKE EXHAUST FAN
BL BOILER	ESP EXTERNAL STATIC PRESSURE	LRA LOCKED ROTOR AMPS	SF SUPPLY FAN
BLDG BUILDING	ET EXPANSION TANK	LV LOUVER	SH SENSIBLE HEAT
BLW BELOW	EWC ELECTRIC WATER COOLER	LVG LEAVING	SH SHOWER
BOB BOTTOM OF BEAM	EWT ENTERING WATER	LWT LEAVING WATER TEMPERATURE	SP STATIC PRESSURE
BOD BOTTOM OF DUCT	TEMPERATURE	MBH THOUSANDS OF BTU PER HOUR	SPD SURGE PROTECTION DEVICE
BOP BOTTOM OF PIPE	EX EXHAUST	MC MECHANICAL CONTRACTOR	SPEC SPECIFICATION
BSMT BASEMENT	EXPAN EXPANSION	MCA MINIMUM CIRCUIT	SQ SQUARE
BTU BRITISH THERMAL UNIT	EXT EXTERNAL	AMPACITY AMPACITY	SS STAINLESS STEEL
C CHILLER	MCBS MAIN CIRCUIT BREAKER	SS SAFETY SHOWER	STD STANDARD
CAP CAPACITY	FA FREE AREA	MD MOTORIZED DAMPER	STL STEEL
CB CIRCUIT BREAKER	FC FAN COIL UNIT	MDP MAIN DISTRIBUTION PANEL	SYS SYSTEM
CBV CIRCUIT BALANCING VALVE	FC FOOTCANDLE	MFR MANUFACTURER	TEMP TEMPERATURE
CCT CORRELATED COLOR TEMPERATURE	FCV FLOW CONTROL VALVE	MIN MINIMUM	TR TRANSFER GRILLE / REGISTER
OKT CIRCUIT	FD FIRE DAMPER	MISC MISCELLANEOUS	TR TAMPER RESISTANT
CFH CUBIC FEET PER HOUR	FD FLOOR DRAIN	MLO MAIN LUG ONLY	TT TEMPERATURE TRANSMITTER
CFM CUBIC FEET PER MINUTE	FIN FINISHED	MOC MAXIMUM OVERCURRENT PROTECTION	TTB TELECOMMUNICATIONS
CHWR CHILLED WATER RETURN	FLA FULL LOAD AMPS	MTD MOUNTED	TERMINAL BACKBOARD
CHWS CHILLED WATER SUPPLY	FLEX FLEXIBLE	MTD MOUNTED	TEMP TEMPERATURE
CI CAST IRON	FOB FLAT ON BOTTOM	MUA MAKE-UP AIR UNIT	TX TRANSFORMER
CL CENTER LINE	FOT FLAT ON TOP	N NEUTRAL	UC UNDERCUT DOOR
CLG CEILING	FP FIRE PROTECTION	NC NORMALLY CLOSED	UH UNIT HEATER
CMU CONCRETE MASONRY UNIT	FP FIRE PUMP	NEG NEGATIVE	UNO UNLESS NOTED OTHERWISE
CO CLEAN OUT	FPM FEET PER MINUTE	NIC NOT IN CONTRACT	UNOCC UNOCCUPIED
COL COLUMN	FPS FEET PER SECOND	NL NIGHT / SECURITY LIGHT - DO NOT SWITCH	UR URINAL
COMP COMPRESSOR	FS FLOW SWITCH	NO NORMALLY OPEN	V VOLTS
CONC CONCRETE	FSD FIRE/SMOKE DAMPER	NOM NOMINAL	VA VOLT AMPERE
COND CONDENSATE	FT FEET	NTS NOT TO SCALE	VA VALVE
CONN CONNECTION	FXC FLEXIBLE CONNECTION	OA OUTSIDE AIR	VAV VARIABLE AIR VOLUME UNIT
CONT CONTINUATION	GND GROUND	OBG OPPOSED BLADE DAMPER	VFD VARIABLE FREQUENCY DRIVE
CONTR CONTRACTOR	GA GAUGE	OCC OCCUPIED	VRF VARIABLE REFRIGERANT FLOW
CRI COLOR RENDERING INDEX	GAL GALLON	OD OUTSIDE DIAMETER	VOLT VOLTAGE
CT COOLING TOWER	GALV GALVANIZED	ORD OVERFLOW ROOF DRAIN	VTR VENT THROUGH ROOF
CT CURRENT TRANSFORMER	GEC GROUND ELECTRODE CONDUCTOR	OCP OVER CURRENT PROTECTION	W WIDTH
CJ CONDENSING UNIT	GFCI GFI GROUND FAULT CIRCUIT INTERRUPTER	OD OUTSIDE DIAMETER	W WATTS
CJ COPPER	GC GENERAL CONTRACTOR	OL OVERLOAD	WI WITH
CUH CABINET UNIT HEATER	GPM GALLONS PER MINUTE	PD PRESSURE DROP	WIO WITHOUT
CVB CONSTANT VOLUME BOX	GRSLB GRAINS PER POUND	PH PHASE	WB WET BULB
CWR CONDENSER WATER RETURN	H2O WATER	POS POSITIVE PRESSURE	WC WATER COLUMN
CWS CONDENSER WATER SUPPLY	HB HOSE BIBB	POS POINT OF SALE	WC WATER CLOSET
DB DRY BULB	HD HEAD (SEE SCHEDULES)	PRV PRESSURE REDUCING VALVE	WG WATER GAUGE
DEPT DEPARTMENT	HP HEAD PUMP	PS PRESSURE SWITCH	WP WEATHERPROOF
DF DRINKING FOUNTAIN	HP HORSEPOWER	PSI POUNDS PER SQUARE INCH	WPU WEATHERPROOF IN-USE
DIA DIAMETER			WSR WITHSTAND RATING
DIAG DIAGRAM			XFMR TRANSFORMER

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SUBSTITUTIONS:

A. SUBSTITUTIONS: SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES, AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO BID TIME.

C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR RIGGING DRAWINGS.

D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING AND ENERGY CONSERVATION CODES. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.

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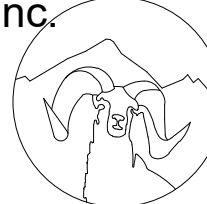
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PLUMBING COVER SHEET

CONSTRUCTION DOCUMENTS



REV. DESC. DATE:

DATE: 08/19/2020

PROJECT #: 20-115

SHEET #:

P0-1



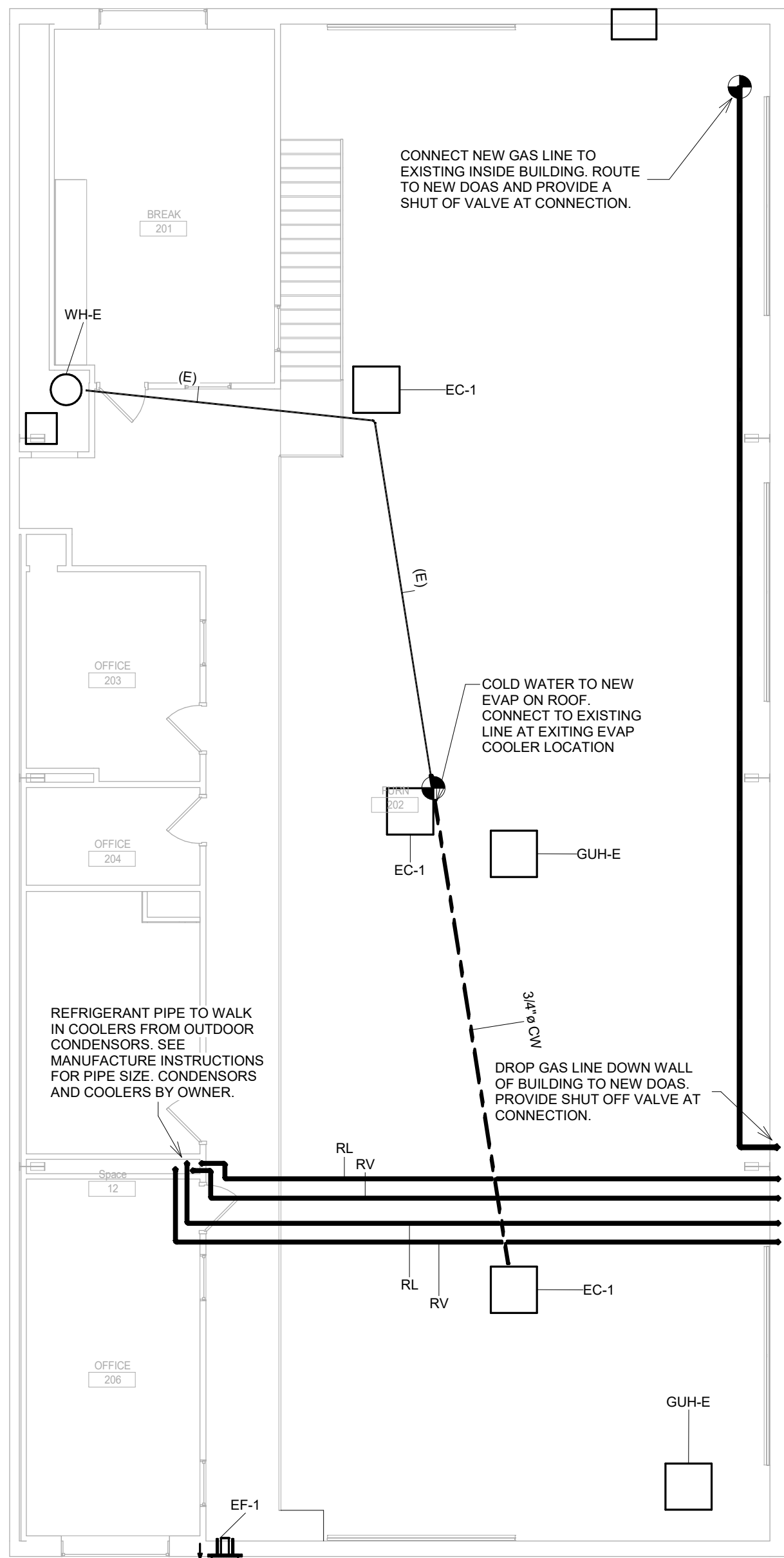
REV. DESC. DATE:

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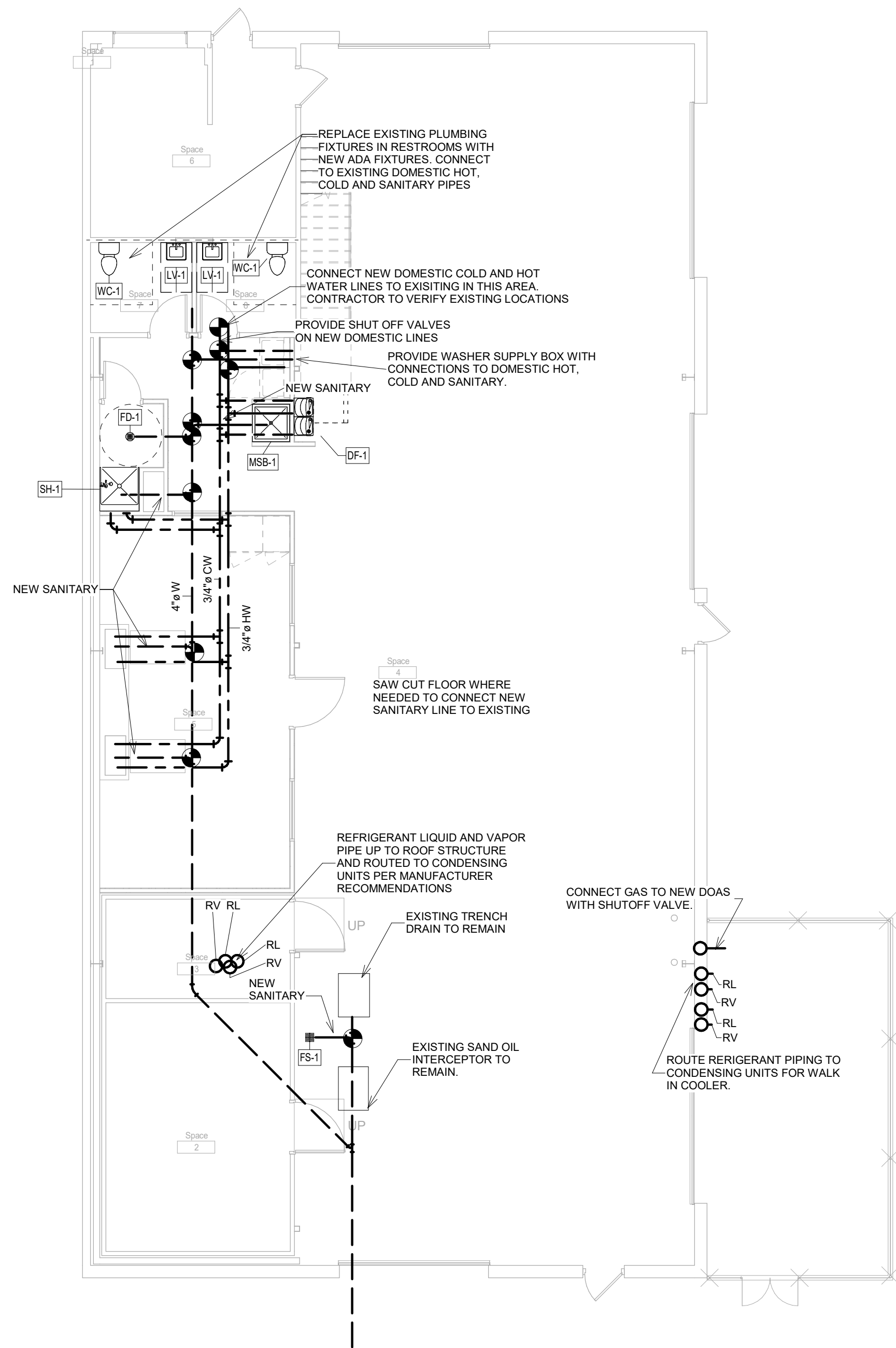
PROJECT #: 20-115

SHEET #:

P1-1



2 PLUMBING - SECOND FLOOR PLAN  
P1-1 1/8" = 1'-0"



1 PLUMBING - FIRST FLOOR PLAN  
P1-1 1/8" = 1'-0"





FIRE ALARM EQUIPMENT LEGEND	
	FIRE ALARM CONTROL PANEL
	FIRE ALARM PULL STATION
	FIRE ALARM HORN
	FIRE ALARM STROBE
	FIRE ALARM HORN/STROBE
	CEILING MOUNTED SPEAKER
	DUCT DETECTOR
	REMOTE LAMP
	SMOKE DETECTOR - PHOTOELECTRIC
	135° STANDARD HEAT DETECTOR
	PIR DETECTOR
	DOOR HOLD - MAGNETIC HOLD
	FLOW SWITCH
	TAMPER SWITCH

COMMUNICATION LEGEND	
	CLOCK ONLY
	CLOCK / PA SPEAKER WALL MOUNTED
	ROUND CEILING MOUNTED SPEAKER
	SQUARE SPEAKER
	INTERCOM PUSH TO CALL SWITCH
	WIRELESS ACCESS POINT ABOVE THE CEILING
	ABOVE THE CEILING PROJECTOR CONNECTION
	WALL MOUNTED HDMI
	PLAIN DATA OUTLET
	PLAIN DATA OUTLET WITH MOUNTING HEIGHT
	COMBINATION DATA/TELEPHONE
	FLOOR MOUNTED COMBINATION DATA/TELEPHONE
	CEILING MOUNTED COMBINATION DATA/TELEPHONE
	TELEVISION OUTLET

SECURITY SYSTEM LEGEND	
	SECURITY CAMERA
	ADA DOOR OPERATOR PUSH BUTTON
	ELECTRIC DOOR STRIKE
	CARD READER FOR DOOR OPENER

LIGHTING LEGEND	
<b>NOTES:</b>	
SYMBOLS SHOWN ARE STANDARD. VARIATION AND/OR COMBINATIONS MAY BE USED ON THE PLANS. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWINGS OCCUR, THE ITEM SHALL BE PROVIDED AND INSTALLED.	
VARIATION AND/OR COMBINATION MAY BE USED ON THE PLANS.	
A NUMBER NEXT TO A RECEPTACLE OR DEVICE INDICATES A CIRCUIT NUMBER.	
AN UPPER CASE LETTER NEXT TO A SWITCH INDICATES THE FUNCTION OF THE SWITCH. A LOWER CASE LETTER INDICATES THE SWITCH CIRCUIT.	
AN UPPER CASE LETTER NEXT TO A LIGHT FIXTURE INDICATES THE TYPE OF FIXTURE. REFER TO THE LUMINAIRE SCHEDULE FOR FIXTURE SPECIFICATIONS. A LOWER CASE LETTER NEXT TO A LIGHT CORRESPONDS TO THE SWITCH DESIGNATION.	

SWITCHES	
\$	SINGLE POLE SWITCH
\$2	TWO POLE SWITCH
\$3	THREE-WAY SWITCH
\$4	FOUR-WAY SWITCH
\$D	DIMMER SWITCH
\$3D	3 WAY DIMMER SWITCH - (4D INDICATES A 4WAY DIMMER)
\$DR	DOOR ACTIVATED SWITCH
\$MA	WALL MOUNTED DUAL TECHNOLOGY MANUAL ON / AUTO OFF VACANCY SENSOR SWITCH
\$LV	LOW VOLTAGE LIGHT SWITCH
\$TO	MANUAL MOTOR STARTER
\$P	PILOT LIGHT SWITCH
\$OS	AUTO ON / AUTO OFF LIGHT SWITCH
\$MO	DUAL TECHNOLOGY MOTION / OCCUPANCY SENSOR LIGHT SWITCH
\$MA	MANUAL ON / AUTO OFF DIMMING LIGHT SWITCH
\$K	KEY OPERATED LIGHT SWITCH
\$T	MANUAL ON - TIMED OFF LIGHT SWITCH
\$S	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH
\$MA	CEILING MOUNTED DUAL TECHNOLOGY MANUAL ON / AUTO OFF VACUITY SENSOR
\$SC	SCENE CONTROL STATION
\$MS	UNIT LIGHTING MANAGEMENT CONTROL STATION.

LIGHT FIXTURES	
	1'x4' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
	2'x4' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
	2'x2' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
	OPEN STRIP FIXTURE
	WALL BRACKET LINEAR FIXTURE
	WALL MOUNTED SCONCE LIGHT FIXTURE
	RECESSED DOWNLIGHT CAN FIXTURE
	SURFACE CEILING OR PENDANT MOUNTED FIXTURE
	DOUBLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
	SINGLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
	WALL MOUNTED EMERGENCY LIGHT
	EMERGENCY EXTERIOR EGRESS FIXTURE

ELECTRICAL EQUIPMENT LEGEND	
	BRANCH CIRCUIT PANELBOARD
	TELEPHONE TERMINAL BOARD
	ELECTRIC MOTOR
	FUSED SAFETY SWITCH / DISCONNECT COMBINATION
	MOTOR STARTER
	CONTACTOR
	CIRCUITRY HOMERUN: PANEL LA - CIR. #7
	CONDUIT OR WIRE CONCEALED IN WALL/C.L.G. (SOLID LINE TYPE)
	CONDUIT OR WIRE UNDERFLOOR/UNDERGND. (CENTER LINE TYPE)

MAIN DISTRIBUTION GEAR	
	CIRCUIT BREAKER IN A PANEL BOARD
	PAD MOUNTED UTILITY TRANSFORMER
	FUSED DISCONNECT 100A = AMP RATING 2P = NUMBER OF POLES
	FUSED DISCONNECT
	ELECTRICAL METER SHOWN ON ONE-LINE DIAGRAMS
	ELECTRICAL POWER PANEL WITH MAIN LUG OR MAIN BREAKER PP1= PANEL NAME 225A MLO = MAIN LUG OR BREAKER SIZE 120/208V = PANEL VOLTAGE 3PH, 4 WIRE = PANEL PHASE, DISTRIBUTION TYPE
	PP1 225A MCB 120/208V 3PH, 4W
	PP1 225A MLO 120/208V 3PH, 4W

ELECTRICAL DEVICE LEGEND	
	CEILING JUNCTION BOX - SURFACE/FLUSH
	WALL JUNCTION BOX - SURFACE/FLUSH
	DUPLEX RECEPTACLE
	FLOOR MOUNTED RECEPTACLE
	SPLIT WIRED DUPLEX RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	FOURPLEX RECEPTACLE
	FLOOR MOUNTED FOURPLEX RECEPTACLE
	APPLIANCE RECEPTACLE - 3 WIRE
	GROUND FAULT CIRCUIT INTERRUPTER
	RECEPTACLE WITH USB CHARGING CAPABILITIES
	RECEPTACLE MOUNTED ABOVE COUNTER
	AUTOMATIC TRANSFER SWITCH
	AUDIO / VIDEO
	AVERAGE
	AMERICAN WIRE GAGE
	BUILDING AUTOMATION SYSTEM
	BASEBOARD
	BACK DRAFT DAMPER
	BACK FLOW PREVENTOR
	BOILER
	BUILDING
	BELOW
	BOTTOM OF BEAM
	BOTTOM OF DUCT
	BOTTOM OF PIPE
	BASEMENT
	BRITISH THERMAL UNIT
	CHILLER
	CAPACITY
	CIRCUIT BREAKER
	CIRCUIT BALANCING VALVE
	CORRELATED COLOR
	TEMPERATURE
	CIRCUIT
	CUBIC FEET PER HOUR
	CUBIC FEET PER MINUTE
	CHILLED WATER RETURN
	CHILLED WATER SUPPLY
	CAST IRON
	CENTER LINE
	CEILING
	CONCRETE MASONRY UNIT
	CLEAN OUT
	COLUMN
	COMPRESSOR
	CONCRETE
	CONDENSATE
	CONNECTION
	CONTINUATION
	CONTRACTOR
	COLOR RENDERING INDEX
	COOLING TOWER
	CURRENT TRANSFORMER
	CONDENSING UNIT
	COPPER
	CABINET UNIT HEATER
	CONSTANT VOLUME BOX
	CONDENSER WATER RETURN
	CONDENSER WATER SUPPLY
	DRY BULB
	DEPARTMENT
	DRINKING FOUNTAIN
	DIAMETER
	DIAGRAM
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WITH A WEATHER PROOF COVER
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE MOUNTED AT 44" ABOVE FINISHED FLOOR

#### RESPONSIBLE DIVISION:

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET, IN PLACE AND WIRED AS FOLLOWS:

ITEM	FURNISHED	SET	POWER WIRED	CONTROL WIRED
EQUIPMENT	23	23	26	--
COMBINATION MAGNETIC MOTOR STARTERS, MAGNETIC MOTOR STARTERS, VFD'S AND CONTACTORS	23(1)	26	26(2)	23
FUSED AND UNFUSED DISCONNECT SWITCHES, THERMAL OVERLOAD SWITCHES AND HEATERS, MANUAL MOTOR STARTERS	26	26	26	--
MANUAL-OPERATING AND MULTI-SPEED SWITCHES	23	26	26	26
CONTROLS, RELAYS, TRANSFORMERS	23	23	26	23
THERMOSTATS (LOW VOLTAGE) AND TIME SWITCHES	23	23	26	23
THERMOSTATS (LINE VOLTAGE)	23	23	26	26
TEMPERATURE CONTROL PANELS	23	23	26	23
MOTOR AND SOLENOID VALVES, DAMPER MOTORS, PE & EP SWITCHES	23	23(2)	--	23(2)
PUSH-BUTTON STATIONS AND PILOT LIGHTS	23	23(2)	--	23(2)
HEATING, COOLING, VENTILATION AND AIR CONDITIONING CONTROLS	23	23	26	23
EXHAUST FAN SWITCHES	23	26	26	23(2)

#### SUBSCRIPT FOOTNOTES:

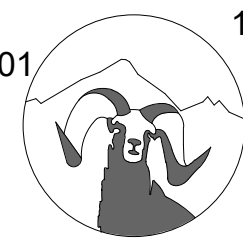
- MOTOR STARTER TO INCLUDE CONTROL TRANSFORMER, HOA SWITCH, (1) NO AND (1) NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.
- IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23, CONNECT UNDER DIVISION 26.

#### ABBREVIATIONS:

44"	MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF DEVICE	DIFF	DIFFERENTIAL	HR	HOUR	PTAC	PACKAGED TERMINAL AIR CONDITIONER
A	AMPS	DIV	DIVISION	HT	HEIGHT	PV	PLUG VALVE
A.D.	ACCESS DOOR	DN	DOWN	HWR	HEATING WATER RETURN	PVC	POLYVINYL CHLORIDE
AV	AIR ADMITTANCE VALVE	DS	DUCT SILENCER	HWS	HEATING WATER SUPPLY	QTY	QUANTITY
ABV	ABOVE	DWG	DRAWING	HV	HEAT EXCHANGER	RA	RETURN AIR GRILLE / REGISTER
AC	AIR CONDITIONING UNIT	DX	DIRECT EXPANSION	HZ	HERTZ	RCP	REFLECTED CEILING PLAN
AC	ABOVE COUNTER	EA	EXISTING	ID	INSIDE DIAMETER	RD	ROOF DRAIN
AD	AREA DRAIN (SEE SYMBOLS)	EC	ELECTRICAL CONTRACTOR	IS	INCHES	REL	RELIEF
A.F.C.	ABOVE FINISHED CEILING	ECC	ECCENTRIC	IN	INCHES	REQD	REQUIRED
A.F.G.	ABOVE FINISHED GRADE	EF	EXHAUST FAN	INV	INVERT	RF	RETURN FAN
AIC	AMPS INTERRUPTING CAPACITY	EQ	EQUIPMENT	JBOX	JUNCTION BOX	RH	RELATIVE HUMIDITY
A.F.F.	ABOVE FINISHED FLOOR	EQUV	EQUIVALENT	K	KELVIN	RHC	REHEAT COIL
AHU	AIR HANDLING UNIT	ES	END SWITCH	KW	KILOWATT	RLA	RATED LOAD AMPS
ALUM	ALUMINUM	ESP	EXTERNAL STATIC PRESSURE	KVA	KILO VOLT - AMPS	RM	ROOM
AP	ACCESS PANEL OR DOOR	ET	EXPANSION TANK	L	LEAVING AIR TEMPERATURE	REV	REVOLUTIONS PER MINUTE
ATS	AUTOMATIC TRANSFER SWITCH	ELEV	ELEVATOR	LAT	LEAVING AIR TEMPERATURE	SA	SUPPLY AIR GRILLE / REGISTER
AV	AUDIO / VIDEO	EM	EMERGENCY FUNCTION	LV	LAVATORY	SC	SHORT CIRCUIT
AVG	AVERAGE	ENT	ENTERING	LB	POUND	SCA	SHORT CIRCUIT AVAILABLE
AWG	AMERICAN WIRE GAGE	EMT	ELECTRIC METALLIC TUBE	LD	LINEAR DIFFUSER	SCCR	SHORT CIRCUIT CURRENT
BAS	BUILDING AUTOMATION SYSTEM	EQ	EQUAL	LF	LINEAR FEET	RATING	RATING
BB	BASEBOARD	EQUIP	EQUIPMENT	LIN	LINEAR	SCH	SCHEDULE
BD	BACK DRAFT DAMPER	LIQ	LIQUID	LQ	LIQUID	SD	SMOKE DAMPER
BFP	BACK FLOW PREVENTOR	LM	LUMEN	LRA	LOCKED ROTOR AMPS	SEF	SMOKE EXHAUST FAN
BL	BOILER	ESP	EXTERNAL STATIC PRESSURE	SH	SHOWER	SH	SHOWER
BLDG	BUILDING	ET	EXPANSION TANK	LWT	LEAVING WATER TEMPERATURE	SPD	SURGE PROTECTION DEVICE
BLW	BELOW	EWC	ELECTRIC WATER COOLER	LWG	LEAVING	SPEC	SPECIFICATION
BOB	BOTTOM OF BEAM	EWT	ENTERING WATER	LWT	LEAVING WATER TEMPERATURE	SQ	SQUARE
BOD	BOTTOM OF DUCT	TEMPERATURE	TEMPERATURE	MBH	THOUSANDS OF BTU PER HOUR	SS	STAINLESS STEEL
BOP	BOTTOM OF PIPE	EX	EXHAUST	MC	MECHANICAL CONTRACTOR	SS	SAFETY SHOWER
BSMT	BASEMENT	EXPN	EXPANSION	MCA	MINIMUM CIRCUIT	STD	STANDARD
BTU	BRITISH THERMAL UNIT	EXT	EXTERNAL	AMPACITY	AMPACITY	STL	STEEL
CH	CHILLER	F	DEGREES FAHRENHEIT	MED	MEDIUM	SYS	SYSTEM
CAP	CAPACITY	FA	FREE AREA	MFR	MANUFACTURER	TEMP	TEMPERATURE
CB	CIRCUIT BREAKER	FC	FAN COIL UNIT	MIN	MINIMUM	TR	TRANSFER GRILLE / REGISTER
CBV	CIRCUIT BALANCING VALVE	FD	FLOOR DRAIN	MISC	MISCELLANEOUS	TR	TAMPER RESISTANT
CCT	CORRELATED COLOR	FIN	FINISHED	MLO	MAIN LUG ONLY	TT	TEMPERATURE TRANSMITTER
TEMPERATURE	TEMPERATURE	FLA	FULL LOAD AMPS	MOC	MAXIMUM OVERCURRENT	TTB	TELECOMMUNICATIONS
CFM	CUBIC FEET PER HOUR	FLEX	FLEXIBLE	PROTECTION	PROTECTION	TERMINAL	TERMINAL BACKBOARD
CHWR	CHILLED WATER RETURN	FLR	FLOOR	MTD	MOUNTED	TX	TRANSFORMER
CHWS	CHILLED WATER SUPPLY	FOB	FLAT ON BOTTOM	MUA	MAKE-UP AIR UNIT	TX	TRANSFORMER
CI	CAST IRON	FOT	FLAT ON TOP	N	NEUTRAL	UC	UNDERCUT DOOR
CL	CENTER LINE	FP	FIRE PROTECTION	NC	NORMALLY CLOSED	UH	UNIT HEATER
CLG	CEILING	FP	FIRE PUMP	NEG	NEGATIVE	UNO	UNLESS NOTED OTHERWISE
CMU	CONCRETE MASONRY UNIT	FPM	FEET PER MINUTE	NIC	NOT IN CONTRACT	UNOCC	UNOCCUPIED
CO	CLEAN OUT	FPS	FEET PER SECOND	NL	NIGHT / SECURITY LIGHT - DO	UR	URINAL
COL	COLUMN	FS	FLOW SWITCH	NOT SWITCH	NOT SWITCH	V	VOLTS
COMP	COMPRESSOR	FSD	FIRE/SMOKE DAMPER	NO	NORMALLY OPEN	VA	VOLT AMPERE
CONC	CONCRETE	FT	FEET	NOM	NOMINAL	VA	VALVE
COND	CONDENSATE	FXC	FLEXIBLE CONNECTION	NTS	NOT TO SCALE	VAV	VARIABLE AIR VOLUME UNIT
CONN	CONNECTION	GND	GROUND	OA	OUTSIDE AIR	VFD	VARIABLE FREQUENCY DRIVE
CONT	CONTINUATION	GA	GAUGE	OB	OPPOSED BLADE DAMPER	VRF	VARIABLE REFRIGERANT FLOW
CONTR	CONTRACTOR	GAL	GALLON	OCC	OCCUPIED	VTR	VENT THROUGH ROOF
CRI	COLOR RENDERING INDEX	GALV	GALVANIZED	OCP	OVER CURRENT PROTECTION	W	WIDTH
CT	COOLING TOWER	GEC	GROUND ELECTRODE	OD	OUTSIDE DIAMETER	W	WATTS
CT	CURRENT TRANSFORMER	CONDUCTOR	CONDUCTOR	GFCI	GROUND FAULT CIRCUIT	WI	WITH
CJ	CONDENSING UNIT	INTERRUPTER	INTERRUPTER	ORD	OVERFLOW ROOF DRAIN	W/O	WITHOUT
CJ	COPPER	GC	GENERAL CONTRACTOR	OZ	OUNCE	WB	WET BULB
CUH	CABINET UNIT HEATER	GPH	GALLONS PER HOUR	PBD	PARALLEL BLADE DAMPER	WC	WATER COLUMN
CVB	CONSTANT VOLUME BOX	GPM	GALLONS PER MINUTE	PD	PRESSURE DROP	WC	WATER CLOSET
CWR	CONDENSER WATER RETURN	GRSLB	GRAINS PER POUND	PH	PHASE	WG	WATER GAUGE
CWS	CONDENSER WATER SUPPLY	H2O	WATER	POS	POSITIVE PRESSURE	WP	WEATHERPROOF
DB	DRY BULB	POS	POINT OF SALE	PRV	PRESSURE REDUCING VALVE	WPU	WEATHERPROOF-INUSE
DEPT	DEPARTMENT	HP	HEAD (SEE SCHEDULES)	PS	PRESSURE SWITCH	WSR	WITHSTAND RATING
DF	DRINKING FOUNTAIN	HP	HEAD (SEE SCHEDULES)	PT	PRESSURE TRANSMITTER	XFMR	TRANSFORMER
DIA	DIAMETER	HP	HEAD (SEE SCHEDULES)	PT	PRESSURE TRANSMITTER		
DIAG	DIAGRAM	HP	HEAD (SEE SCHEDULES)	PT	PRESSURE TRANSMITTER		

ELECTRICAL SHEET LIST	
Sheet Number	Sheet Name
E0-1	ELECTRICAL COVER SHEET
E1-1	LIGHTING - FLOOR PLANS
E1-2	LIGHTING - DETAILS
E2-1	ELECTRICAL - FLOOR PLANS
E3-1	ELECTRICAL SCHEDULES

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#### SUBSTITUTIONS:

A. SUBSTITUTIONS: SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

#### EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES, AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO BID TIME.

C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR PIPING DRAWINGS.

D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING AND ENERGY CONSERVATION CODES. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.

E. WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM WILL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE RECEIVED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.



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LIGHTING NOTES:

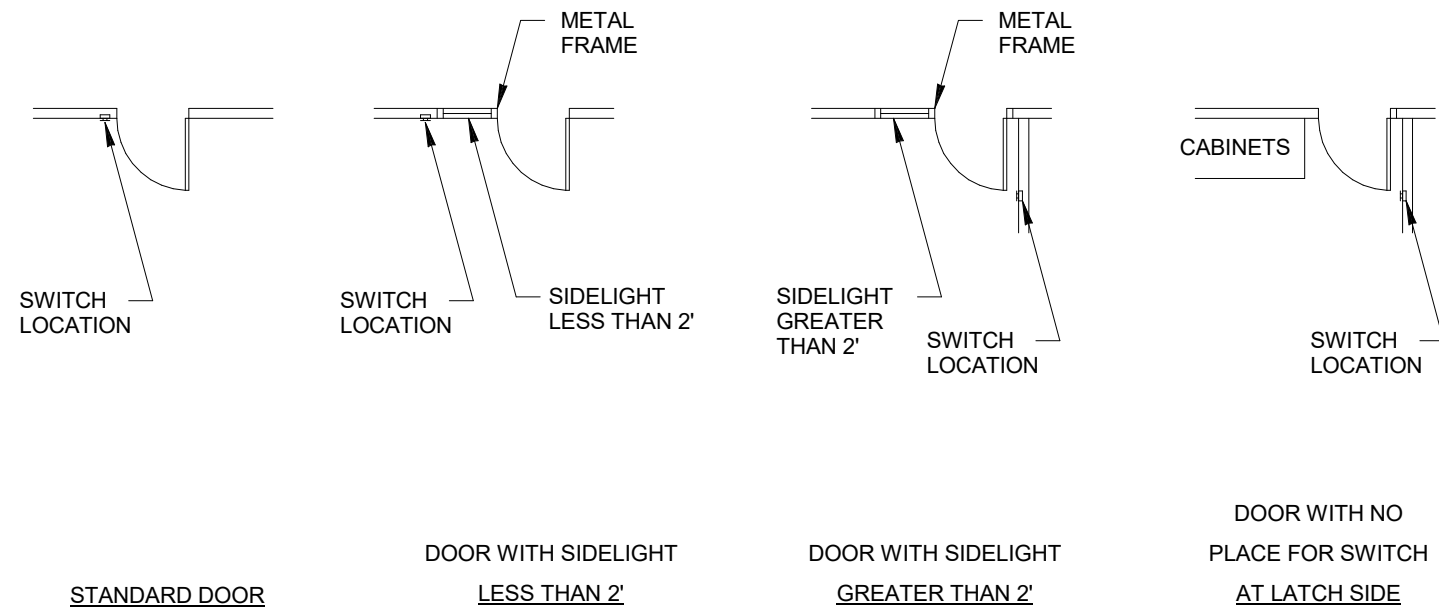
1. UNLESS NOTED OTHERWISE NEW FIXTURES ARE REPLACING EXISTING FIXTURES IN THE SPACE. FIXTURES TO BE POWERED FROM THE EXISTING CIRCUITS IN THE SPACE
2. EXTERIOR FIXTURES TO BE CONTROLLED WITH LOCAL ON/OFF CONTROLS AT EACH ENTRANCE WITH A TIMECLOCK SWEEPING FIXTURES OFF AFTER CLOSING HOURS. COORDINATE WITH OWNER FOR SET TIMES
3. EXTERIOR FIXTURES TO BE CONTROLLED BY PHOTOCELL FOR DUSK TO DAWN OPERATIONS FOR SECURITY LIGHTING.
4. OTHER EXTERIOR SPACES ARE TO BE CONTROLLED AS INDICATED ON PLANS.



Architectural floor plan of a building wing. The plan shows four offices (201, 202, 203, 204) and a central corridor. Each office contains desks labeled L1. The plan includes door symbols (D), windows (SW1), and a central area labeled FURN 202. A scale bar at the bottom indicates 12 units.

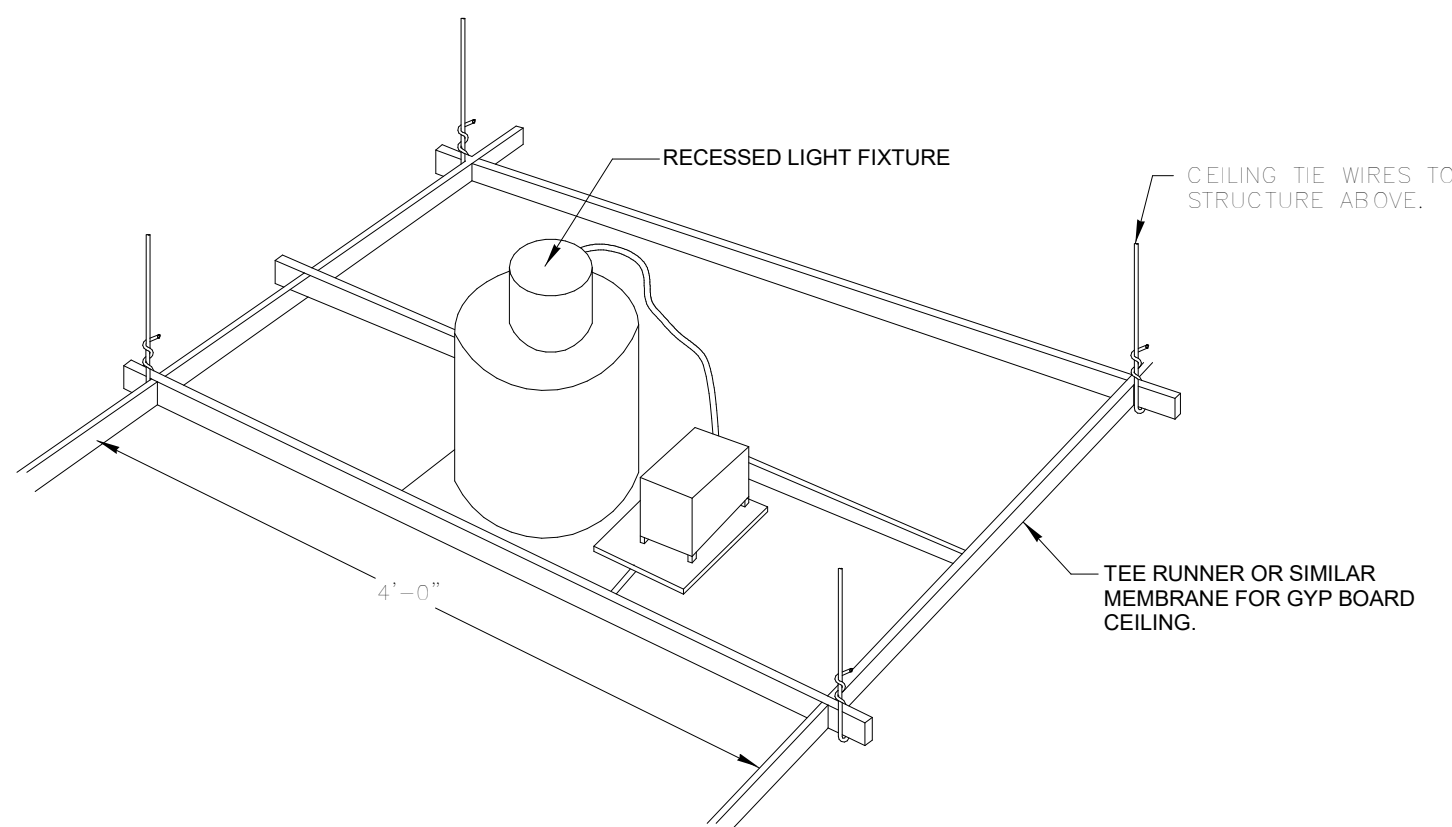


E1-1-2 FLAG NOTES	
FLAG NUMBER	FLAG TEXT
1	REPLACE EXISTING EXTERIOR WALL MOUNTED FIXTURES AT CORNER OF BUILDING WITH LED WALL PACKS, REROUTE FEEDER TO CENTER FIXTURE OVER DOORWAYS TO MINIMIZE LIGHT SPILL TO SURROUNDING PROPERTIES.



### SWITCH MOUNTING DETAILS

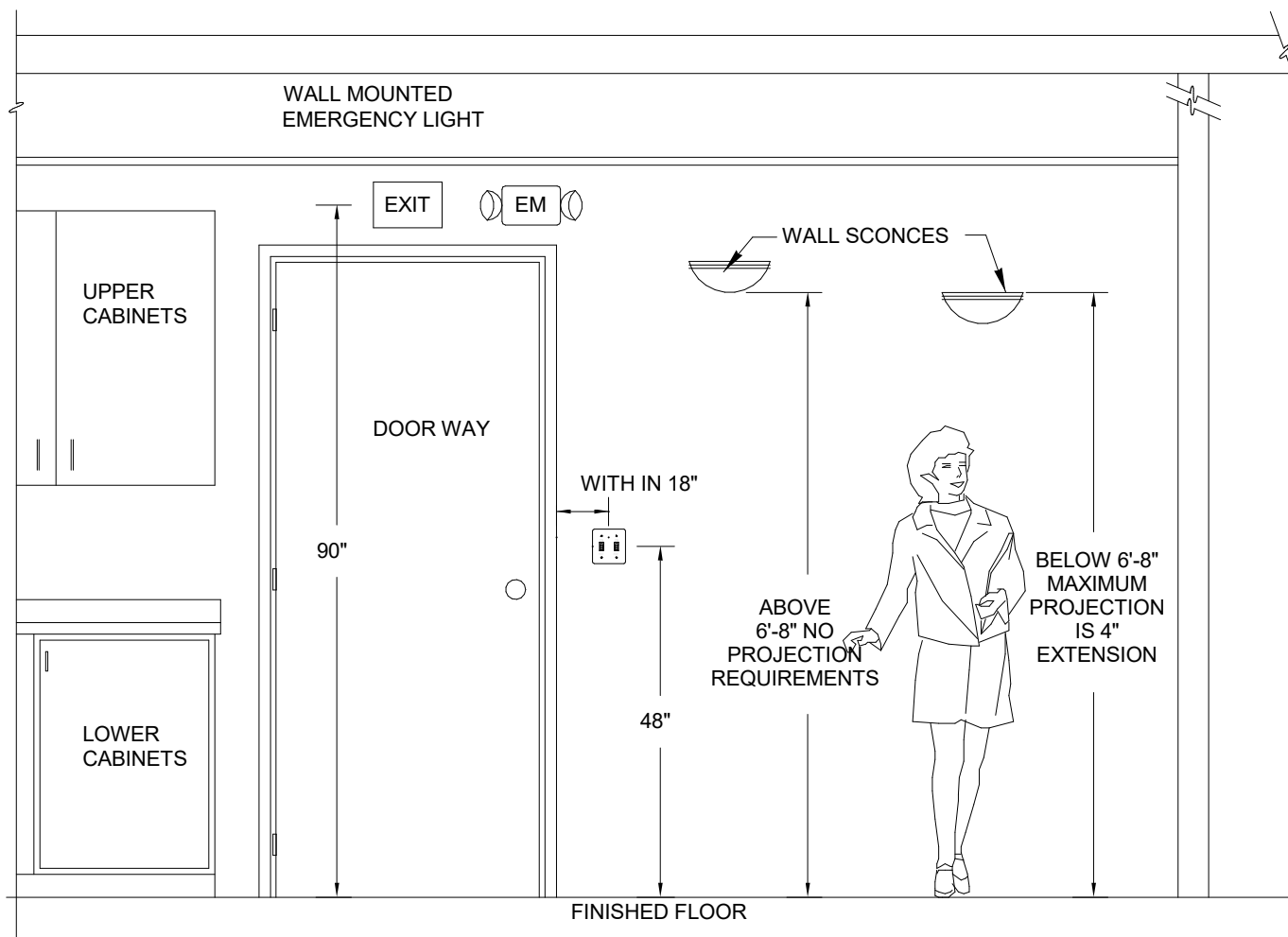
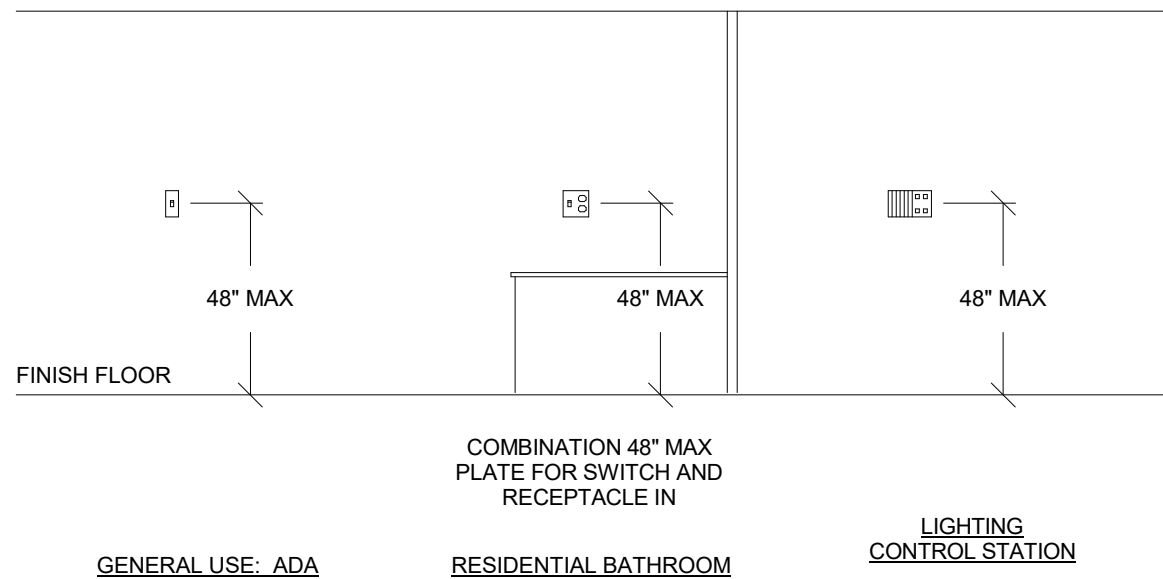
SCALE: NOT TO SCALE



### RECESSED LIGHT FIXTURE DETAIL

SCALE: NOT TO SCALE

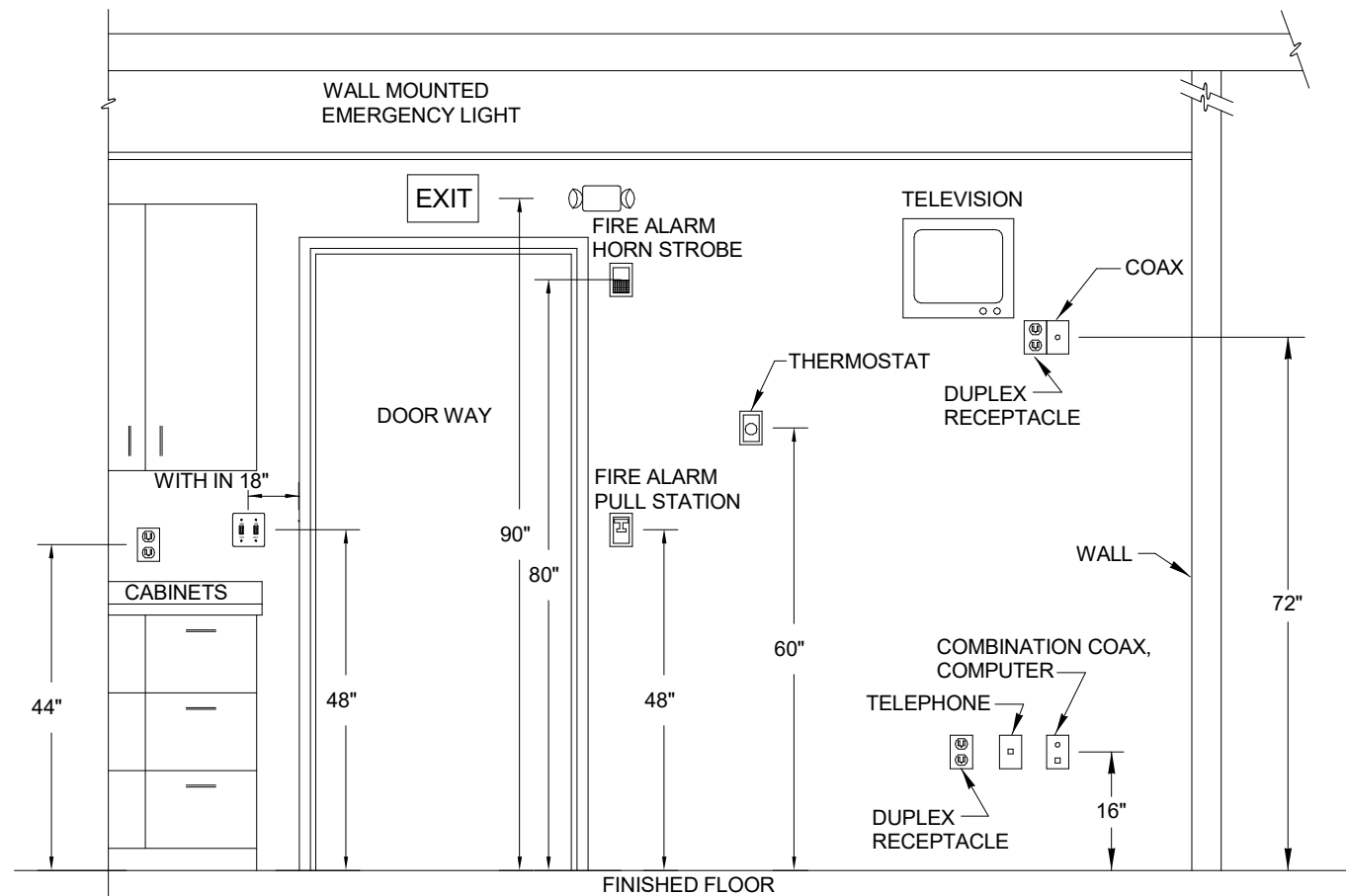
- NOTE:
- ALL GRID MOUNTED FIXTURES ARE TO BE SUPPORTED FROM THE STRUCTURE ABOVE.
  - 200lb TEST WIRE HANGER AT EACH CORNER OF FIXTURE (TOTAL OF 4) OR 1 CADDY CLIP 515 PER SIDE (TOTAL OF 4)
  - TYPICAL ALL GRID MOUNTED FIXTURES.



### LIGHTING DEVICE MOUNTING HEIGHT DETAIL

NOT TO SCALE

- DETAIL NOTES:
- ALL DEVICES SHOWN ON THIS DETAIL ARE FOR REFERENCES OF MOUNTING HEIGHTS ONLY. THE ELECTRICAL CONTRACTOR SHALL FIELD ADJUST THE HEIGHTS AND LOCATIONS OF THE DEVICES AS REQUIRED FOR PROPER MOUNTING.
  - ALL DEVICES REQUIRED FOR THIS PROJECT MAY NOT APPEAR ON THIS DETAIL. ALL ITEMS SHOWN ON THIS DETAIL MAY NOT BE REQUIRED FOR THIS PROJECT.
  - THE AMERICANS WITH DISABILITIES ACT, KNOWN AS ADA, AFFECTS LIGHT FIXTURES USED IN CIRCULATION OR EGRESS SPACES. IN PRACTICE THIS MEANS THAT WALL MOUNTED FIXTURES LOCATED BELOW 6'-8" AFF IN HALLS, CORRIDORS, PASSAGEWAYS OR AISLES, MUST BE NO GREATER THAN 4" DEEP. THE ADA AFFECTS CONSTRUCTION FOR BOTH NEW AND EXISTING BUILDINGS.

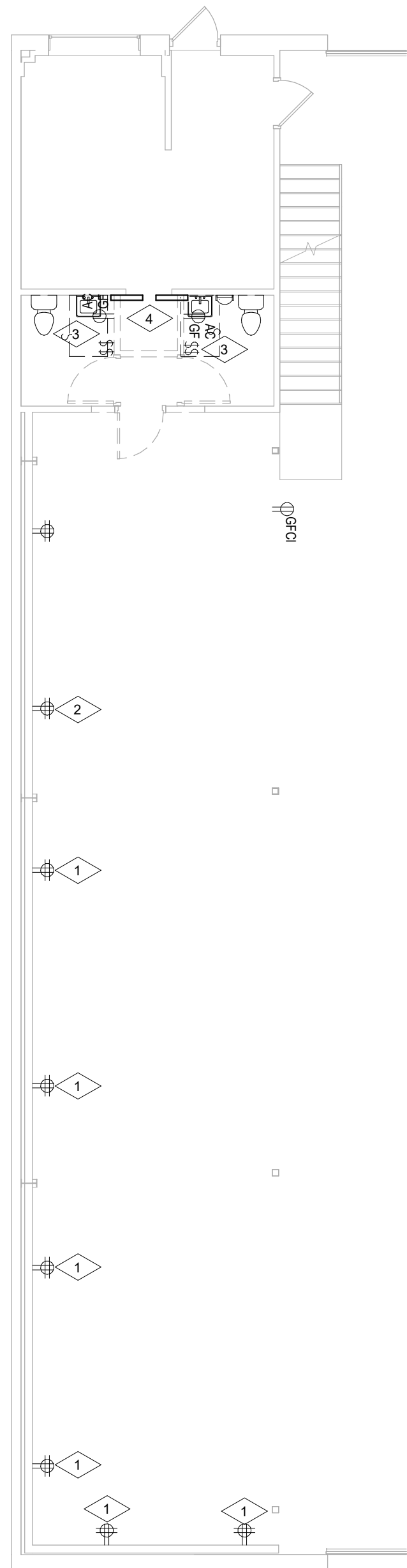


- NOTES:
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL TELEVISION OUTLETS WITH THE ARCHITECT PRIOR TO INSTALLATION.
  - ALL DEVICES SHOWN ON THIS DETAIL ARE FOR REFERENCES OF MOUNTING HEIGHTS ONLY. THE ELECTRICAL CONTRACTOR SHALL FIELD ADJUST THE HEIGHTS OF THE DEVICES AS REQUIRED FOR PROPER MOUNTING OF THE DEVICES.
  - ALL DEVICES REQUIRED FOR THIS PROJECT MAY NOT APPEAR ON THIS DETAIL. ALL ITEMS SHOWN ON THIS DETAIL MAY NOT BE REQUIRED FOR THIS PROJECT.

### DEVICE MOUNTING HEIGHT

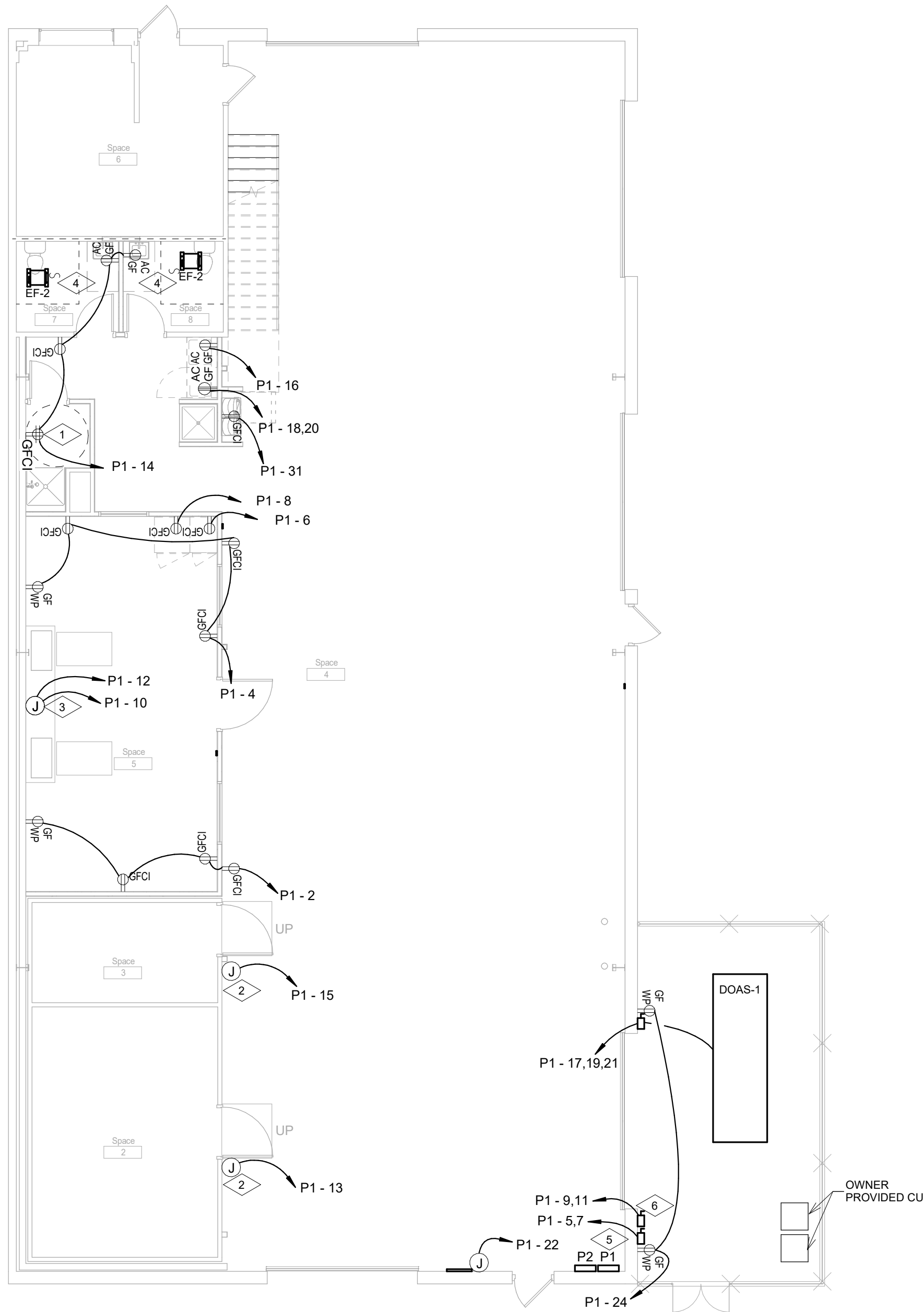






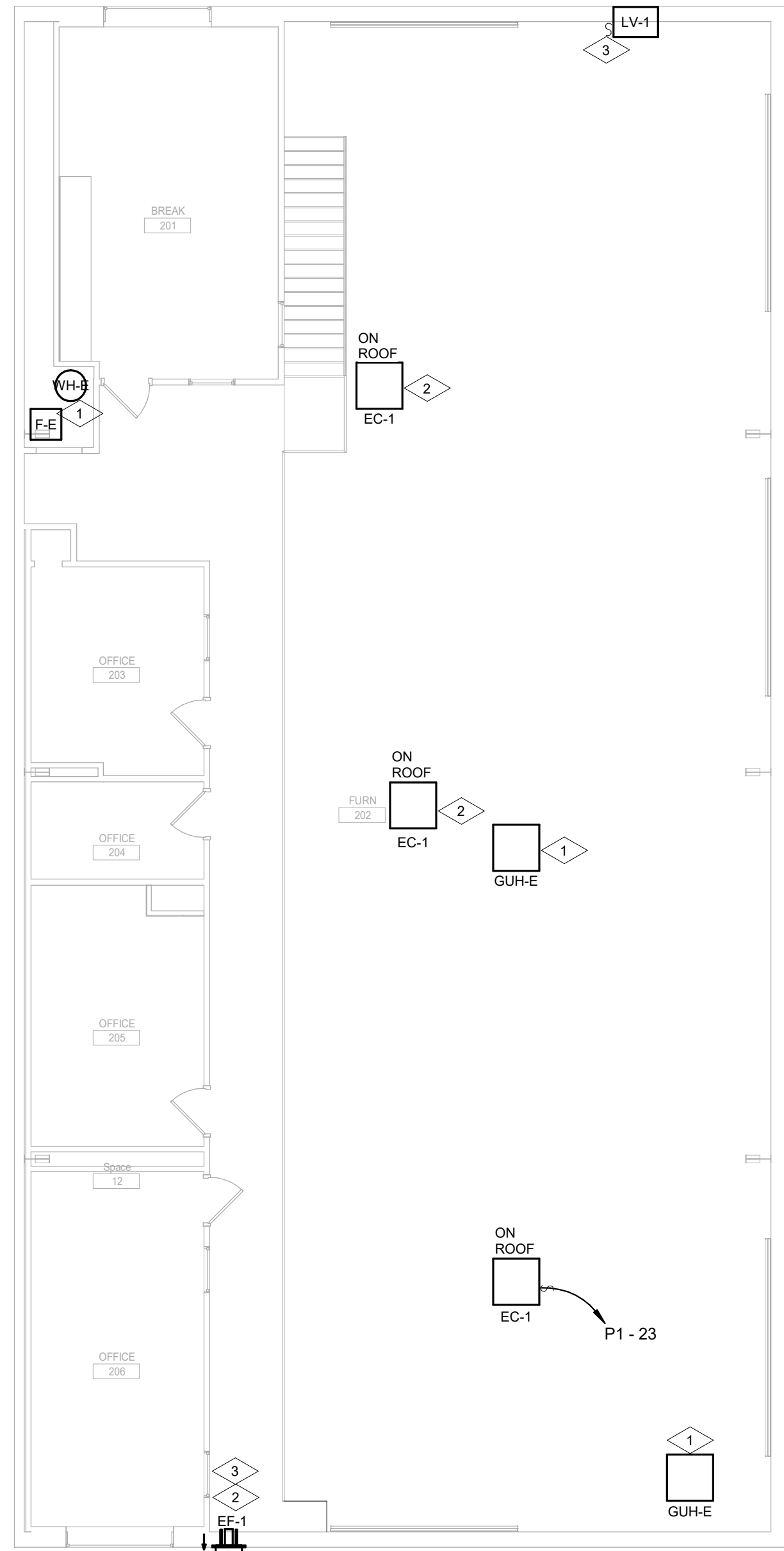
1  
E2-1 1/8" = 1'-0"

E2-1-1 FLAG NOTES	
FLAG NUMBER	FLAG TEXT
1	DEMO RECEPTACLE, AND PROVIDE BLANK COVER
2	DEMO RECEPTACLE, REPURPOSE CONDUIT AND A SPARE 20A SINGLE POLE BREAKER TO FEED THE NEW AUTOPSY TABLE
3	DEMO RECEPTACLE AND SWITCHING FOR EXHAUST FAN AND LIGHT FIXTURE, SALVAGE CIRCUIT FOR RELOCATION OF DEVICES
4	DEMO ALL ELECTRICAL DEVICES IN THIS ALCOVE, PULL NEW CONDUCTORS AS NECESSARY TO MAINTAIN EXISTING CIRCUITS IN THE ASSOCIATED ROOM.



2  
E2-1 1/8" = 1'-0"

E2-1-2 FLAG NOTES	
FLAG NUMBER	FLAG TEXT
1	PROVIDE GFCI PROTECTION FOR THE EXISTING OUTLET.
2	JUNCTION BOX TO PROVIDE FOR DOOR HEAT TRACE AND LIGHTING FOR THE UNIT.
3	JUNCTION BOX TO PROVIDE TWO DEDICATED 20A 120V CIRCUITS TO THE TABLE.
4	EXHAUST FANS TO BE CIRCUITED AND CONTROLLED WITH THE LIGHTING IN THE SPACE.
5	AN EFFORT HAS BEEN MADE TO PROVIDE BREAKERS TO REFEED EXISTING EQUIPMENT IDENTIFIED IN EXISTING PANEL P1; ELECTRICIAN TO INVESTIGATE CIRCUITS IN USE AND PROVIDE BREAKERS AS NECESSARY TO REFEED ACTIVE CIRCUITS AFTER REMODEL.
6	COORDINATE FINAL LOCATION OF DISCONNECTS WITH CONDENSING UNIT LOCATION; SELECT FINAL WIRING AND OVERCURRENT DEVICES BASED UPON UNITS TO BE INSTALLED.



3  
E2-1 1/8" = 1'-0"

E2-1-3 FLAG NOTES	
FLAG NUMBER	FLAG TEXT
1	EXISTING EQUIPMENT TO REMAIN.
2	EQUIPMENT REPLACED WITH NEW; VERIFY EXISTING CIRCUITS PROVIDE FOR NEW REQUIREMENTS.
3	COORDINATE WITH MECHANICAL CONTRACTOR FOR INTERLOCK REQUIREMENTS BETWEEN LV-1 AND EF-1.



## ELECTRICAL PROVISIONS

**ELECTRICAL PROVISIONS:**  
**CODES AND FEES**  
A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY AND FIRE INSURANCE CARRIER'S REQUIREMENTS. CONTACT PROPER AUTHORITIES, OBTAIN AND PAY FOR REQUIRED PERMITS, INSPECTIONS AND UTILITY SERVICE CONNECTIONS. DO NOT INCLUDE ANY UTILITY COMPANY CHARGES THAT CAN BE BILLED DIRECTLY TO THE OWNER.  
B. IN CASE OF DIFFERENCE BETWEEN THE BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, FIRE INSURANCE CARRIER'S REQUIREMENTS, AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT IN WRITING OF ANY SUCH DIFFERENCE.  
C. NONCOMPLIANCE: SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, FIRE INSURANCE CARRIER'S REQUIREMENTS, AND UTILITY COMPANY REGULATIONS, HE SHALL BEAR THE COST ARISING IN CORRECTING ANY SUCH DEFICIENCY.

**CONDUITS**  
A. SCHEDULE 80 PVC CONDUIT SHALL BE USED FOR ALL UNDERGROUND FEEDERS AND BRANCH CIRCUITS UNLESS OTHERWISE DIRECTED ON PLANS OR AS APPROVED BY NEC. ALL CONDUIT SHALL BE UL APPROVED.  
B. CONDUIT SIZES SHALL BE AS INDICATED ON THE DRAWINGS, OR MINIMUM IN ACCORDANCE WITH THE NEC, INCLUDING PROVISION FOR GREEN EQUIPMENT GROUNDING CONDUCTOR USING 3/4 INCH MINIMUM CONDUIT. THE USE OF 1/2 INCH CONDUIT ELSEWHERE MAY BE APPROVED IF CONDITIONS WARRANT.  
C. CONDUIT SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.  
D. THE ENTIRE CONDUIT SYSTEM SHALL BE INSTALLED TO PROVIDE A CONTINUOUS BOND THROUGHOUT THE SYSTEM.  
E. ALL CONDUIT JOINTS SHALL BE CUT SQUARE, REAMED SMOOTH, AND DRAWN UP TIGHT. BENDS OR OFFSETS SHALL BE MADE WITH AN APPROVED BENDER OR KNEEY, OR HUIR CONDUIT FITTINGS. NUMBER OF BENDS PER RUN SHALL CONFORM TO THE NEC LIMITATIONS.  
F. CONCEALED CONDUITS SHALL BE RUN IN A DIRECT LINE WITH LONG SWEEP BENDS AND OFFSETS. EXPOSED CONDUITS SHALL BE PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES, USING CONDUIT FITTINGS FOR ALL TURNS AND OFFSETS.  
G. TRANSITIONS BETWEEN NONMETALLIC CONDUITS AND CONDUITS OF OTHER MATERIALS SHALL BE MADE WITH THE MANUFACTURER'S STANDARD ADAPTERS DESIGNED FOR SUCH PURPOSE.  
H. EXPOSED CONDUITS SHALL BE SECURELY FASTENED IN PLACE ON MAXIMUM 10 FOOT INTERVALS; AND HANGERS, SUPPORTS OR FASTENERS SHALL BE PROVIDED AT EACH ELBOW AND AT THE END OF EACH STRAIGHT RUN TERMINATING AT A BOX OR CABINET.

**WIRES AND CABLES**  
A. WIRE AND CABLE SHALL MEET ALL STANDARDS AND SPECIFICATIONS APPLICABLE, AND SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE NEC. INSULATED WIRE AND CABLE SHALL HAVE SIZE, TYPE OF INSULATION, VOLTAGE AND MANUFACTURER'S NAME PERMANENTLY MARKED ON OUTER COVERING AT REGULAR INTERVALS NOT EXCEEDING FOUR FEET. WIRE AND CABLE SHALL BE DELIVERED IN COMPLETE COILS OR REELS WITH IDENTIFYING TAGS, STATING SIZE, TYPE OF INSULATION, ETC.  
B. WIRE AND CABLE SHALL BE FACTORY COLOR CODED WITH A SEPARATE COLOR FOR EACH PHASE AND NEUTRAL USED CONSISTENTLY THROUGHOUT THE SYSTEM. COLOR CODING SHALL BE AS REQUIRED BY THE NEC.  
C. ALL CONDUCTORS SHALL BE RATED 600 VOLTS, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS, OR FOR ELECTRONIC OR COMMUNICATION USE.  
D. WIRE AND CABLE FOR VARIOUS APPLICATIONS SHALL BE AS FOLLOWS UNLESS OTHERWISE DESIGNATED:  
1. WIRE #10 AND SMALLER SHALL BE SOLID; WIRE #8 AND LARGER SHALL BE STRANDED.  
2. #12 THRU #6 DRY LOCATIONS: TYPE THHN, 90 DEGREES C.  
3. #12 THRU #6 IN SLABS, UNDERGROUND, OR WET LOCATIONS: TYPE THWN OR TYPE XHHW, 75 DEGREES C.  
4. #4 AND LARGER: TYPE THWN OR TYPE XHHW 75 DEGREES C.  
F. WIRE AND CABLE SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, ANACONDA WIRE & CABLE, ROME CABLE, TRIANGLE CONDUIT & CABLE, OR APPROVED EQUAL. SUBSTITUTION OF WIRE AND CABLE MANUFACTURER SHALL BE ONLY WITH THE APPROVAL OF THE ARCHITECT/ENGINEER.  
G. FOR ANY SPECIFIC USE NOT COVERED HERE ABOVE, COMPLY WITH THE NEC IN CONDUCTOR USE.  
H. ALL 15 AND 20 AMP CIRCUITS WITH LENGTHS OVER 100 FT. SHALL HAVE THEIR CONDUCTOR SIZE INCREASED TO A MINIMUM OF #10 UNLESS OTHERWISE INDICATED ON PLAN, FOR VOLTAGE DROP.

**ELECTRICAL IDENTIFICATION**  
A. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED ON THE DRAWINGS. UPON COMPLETION OF THE PROJECT, TWO (2) COMPLETE SETS OF MARKED-UP PRINTS SHALL BE DELIVERED TO THE ARCHITECT.  
B. IDENTIFICATION OF EQUIPMENT  
1. PROVIDE AND INSTALL LAMINATED BLACK AND WHITE LAMACOID NAMEPLATES FOR ALL SERVICE SWITCHES, DISTRIBUTION SWITCHES, DISTRIBUTION SWITCHBOARDS, BRANCH CIRCUIT PANELBOARDS, SAFETY SWITCHES, CABINETS, AND OTHER EQUIPMENT WITH THEIR CORRECT DESIGNATION. LABEL EQUIPMENT IN AREAS ACCESSIBLE TO THE PUBLIC ON INSIDE OF ENCLOSURE ONLY. NAMEPLATES SHALL BE FIRMLY SECURED TO FRONT COVER OR DOOR WITH TWO PROPERLY SIZED POP RIVETS.  
2. MOUNT A TYPEWRITTEN DIRECTORY BEHIND PLASTIC ON THE INSIDE OF EACH BRANCH CIRCUIT PANEL DOOR, GIVING THE NUMBER, DESCRIPTION AND LOCATION OF THE CIRCUIT CONTROLLED BY EACH CIRCUIT BREAKER. REVISE EXISTING DIRECTORIES TO REFLECT CIRCUIT MODIFICATIONS UNDER THIS CONTRACT.  
3. ALL FUSED SAFETY SWITCHES AND FUSED SWITCH UNITS IN SWITCHBOARDS SHALL INDIVIDUALLY BEAR A FUSE LABEL SHOWING PROPER SIZE AND TYPE OF FUSE TO BE USED.  
4. INSTALL WIRING DIAGRAMS ON THE INSIDE COVER OF ALL STARTERS, SWITCHES AND OTHER SUCH EQUIPMENT. SUCH DIAGRAMS SHALL NOT BE HANDWRITTEN.  
5. ALL JUNCTION BOXES WITH BLANK COVERS SHALL HAVE CIRCUITS CONTAINED THEREIN IDENTIFIED BY MEANS OF PERMANENT BLACK "MAGIC MARKER" ON THE COVER.

**LUMINAIRES:**  
A. THE ELECTRICAL CONTRACTOR IS TO CONFIRM THE LIGHT FIXTURES ORDERED WILL BE COMPATIBLE WITH THE CEILING TYPES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING THE FIXTURES.  
B. ALL LIGHT FIXTURES NEED TO BE COMPATIBLE WITH THE SWITCHES AND CONTROLS BEING PROVIDED.  
C. THE LIGHTING PACKAGE SHALL BE APPROVED BY BOTH ARCHITECTS AND ENGINEERS AS APPROVED EQUAL BEFORE BID. NO LIGHT FIXTURE SHALL BE ORDERED UNTIL THE LIGHT FIXTURE SUBMITTAL PACKAGE HAS BEEN APPROVED IN WRITING BY THE ARCHITECT, GENERAL CONTRACTOR AND ELECTRICAL ENGINEER.  
D. COORDINATE LUMINAIRE MOUNTING REQUIREMENTS PRIOR TO PLACING ORDER.

## Branch Panel: P1

Location: Space 4  
Supply From:  
Mounting: Surface  
Enclosure: Type 1

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: 10000  
Mains Type: MCB  
Mains Rating: 200 A  
MCB Rating: 200 A

### Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	100A 2POLE	20 A	2	2000... 720 VA				20 A	RCPT - AUTOPSY SOUTH	2
3	--	--	--		2000... 720 VA			1 20 A	RCPT - AUTOPSY NORTH	4
5	COOLER CONDENSER 1	20 A	2			1200... 180 VA		1 20 A	RCPT - AUTOPSY COOLER 1	6
7	--	--	--	1200... 180 VA				1 20 A	RCPT - AUTOPSY COOLER 2	8
9	COOLER CONDENSER 2	20 A	2		1200... 500 VA			1 20 A	EQMT - AUTOPSY TABLE 1	10
11	--	--	--			1200... 500 VA		1 20 A	EQMT - AUTOPSY TABLE 2	12
13	COOLER 1 - DOOR HEAT TRACE	20 A	1	1000... 900 VA				1 20 A	RCPT - BATHROOM/MECH ROOM	14
15	COOLER 2 - DOOR HEAT TRACE	20 A	1		1000... 1265...			1 20 A	RCPT - WASHER	16
17	DOAS-1 DEDICATED OUTSIDE AIR UNIT	45 A	3			4827... 2500...		2 30 A	RCPT - DRYER	18
19	--	--	--	4827... 2500...				-- --	--	20
21	--	--	--		4827... 500 VA			1 20 A	GAS DETECTION SYSTEM	22
23	EC-1 NEW EVAP COOLER	20 A	1			1200... 360 VA		1 20 A	RCPT - EXTERIOR HVAC	24
25	EXIST - HEAT	15 A	1	1000... 700 VA				1 20 A	EXIST - GARAGE DOOR NORTH	26
27	EXIST - OFFICE HEAT	20 A	2		750 VA 700 VA			1 20 A	EXIST - GARAGE DOOR EAST	28
29	--	--	--			750 VA 700 VA		1 20 A	EXIST - GARAGE DOOR SOUTH	30
31	WATER COOLER - GFCI 5mA BREAKER	20 A	1	600 VA 1440...				1 20 A	EXIST - RCPT - MEZZANINE SOUTH	32
33	Spare	20 A	1		200 VA 1440...			1 20 A	EXIST - RCPT - MEZZANINE NORTH	34
35	Spare	20 A	1			200 VA 1260...		1 20 A	EXIST - RCPT - BREAK ROOM	36
37				0 VA				1 20 A	EXIST - RCPT - BREAK ROOM	38
39					1000...			1 15 A	EXIST - RCPT - NETWORK	40
41						200 VA		1 20 A	Spare	42
Total Load:				17067 VA	16102 VA	15077 VA				
Total Amps:				144 A	135 A	126 A				

### Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	14481 VA	100.00%	14481 VA	
Other	1200 VA	100.00%	1200 VA	Total Conn. Load: 48246 VA
Power	13900 VA	100.00%	13900 VA	Total Est. Demand: 48246 VA
Receptacle	4325 VA	100.00%	4325 VA	Total Conn.: 134 A
Spare	14340 VA	100.00%	14340 VA	Total Est. Demand: 134 A

### Notes:

## POWER FOR DEDICATED OUTDOOR AIR UNIT...

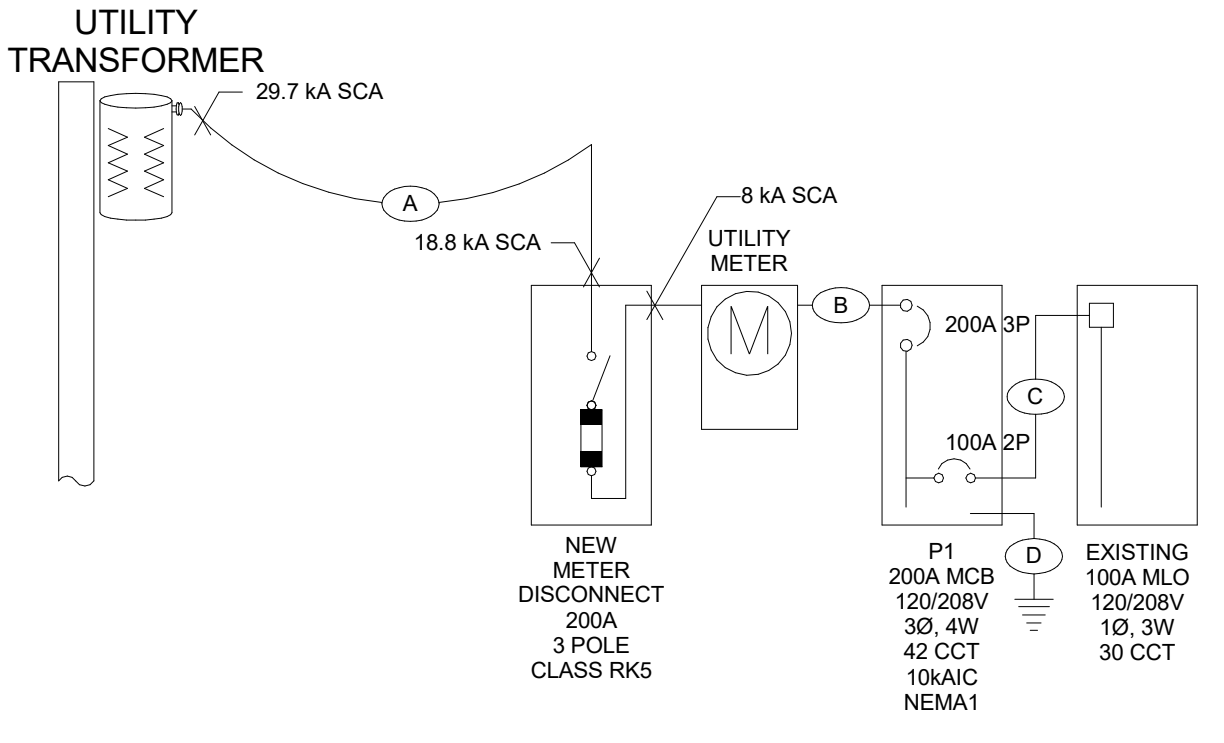
TYPE MARK	SERVICE	SUPPLY FAN		EXHAUST		ELECTRICAL	
		MOTOR HP	VOLTS	PHASE	MOTOR HP	VOLTS	PHASE
DOAS-1	AUTOPSY	2.5	208 V	3	2.5	280 V	3
						FLA (A)	MOCP (A)
						35 A	45 A

## POWER FOR EVAPORATIVE COOLER...

TYPE MARK	SERVICE	ELECTRICAL		MOTOR HP	BCE: MCA (A)		BCE: MOCP (A)
		VOLTS	FLA (A)				
EC-1	120 V		10 A	1/2	13 A		20 A

## POWER FOR EXHAUST FAN SCHEDULE

TYPE MARK	SERVICE	MOTOR		BCE: MCA (A)	BCE: MOCP (A)
		HORSE POWER	VOLTS		
EF-1	GAS MITIGATION	3/4	120 V	14 A	20 A
EF-2	RESTROOM	1/10	120 V	4 A	20 A



### WIRE SCHEDULE:

- (A) EXISTING OVERHEAD (4#500MCM(AL))  
(B) 2" C - (4#3/4AWG(CU,THWN))  
(C) 1 1/4" C - (4#3AWG(CU,THWN)) + 1#8AWG(CU)EGC  
(D) 4 AWG (CU) TO UNCOATED 20' CONCRETE ENCASED ELECTRODE  
4 AWG (CU) TO METAL WATER PIPES AND STRUCTURE

### ONE LINE NOTES:

- EXISTING SERVICE IS A SINGLE PHASE 120/208V, 10, 3W, 200A DIRECT METERED INSTALLATION. SERVICE IS TO BE UPGRADED TO A 120/208V, 30, 4W, 200A SERVICE. EXISTING 30 SERVICE FEEDERS EXTEND TO THE STRUCTURE, WITH ONLY SINGLE PHASE CURRENTLY IN USE. COORDINATE WITH XCEL FOR CONNECTION TO EXISTING CONDUCTORS.
- AN ADDITIONAL 200A DISCONNECT WILL NEED TO BE INSTALLED TO MEET XCEL COLD SEQUENCE REQUIREMENTS.
- EXISTING MAIN SINGLE PHASE PANEL TO BE REPLACED WITH 30, 4W PANEL; CIRCUIT REMAINING LOADS AFTER DEMOLITION TO BREAKERS IN NEW PANEL.
- PROVIDE GROUNDING AND BONDING TO MEET 2020 NEC ARTICLE 250.

### FAULT CURRENT NOTES:

UTILITY FAULT CURRENT VALUES ARE BASED UPON 150kVA 120/208V XCEL TRANSFORMER LOCATED AT AN ESTIMATED 100FT FROM THE SERVICE GEAR. FAULT CURRENT VALUES ON THE LOAD SIDE OF FUSED DISCONNECT IS BASED UPON MANUFACTURER'S LET THROUGH VALUES.

- 1 ELECTRICAL - ONE LINE  
Not to Scale

BG+co.

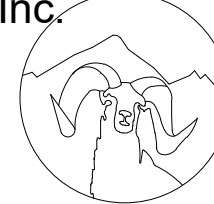
Architecture  
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MESA COUNTY MORGUE

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GRAND JUNCTION, CO 81501

ELECTRICAL SCHEDULES

CONSTRUCTION DOCUMENTS



REV. DESC. DATE:

DATE: 08/19/2020

PROJECT #: 20-115

SHEET #:

E3-1