

PLUMBING ABBREVIATIONS

ABV	ABOVE	DF	DRINKING FOUNTAIN	INS	INSULATION	REF	REFERENCE
AC	ALTERNATING CURRENT	DFU	DRAINAGE FIXTURE UNIT	INSP	INSPECT	REQD	REQUIRED
ACU / AC	AIR-CONDITIONING UNIT(S)	DI	DEIONIZED WATER	INSUL	INSULATION	RET	RETURN
ADA	AMERICANS WITH DISABILITIES ACT	DIA	DIAMETER	INT	INTERIOR, INTERNAL	REV	REVISION
ADAG	AMERICANS WITH DISABILITIES ACT	DIM	DIMENSION	INV	INVERT	RF	ROOF
ADDL	ADDITIONAL	DN	DOWN	IP	IRON PIPE	RH	RIGHT HAND
ADJ	ADJUSTABLE	DP	DEPTH OR DEEP	IPS	IRON PIPE SIZE	RL	ROOF LEADER
AF	ABOVE THE FLOOR	DS	DOWNSPOUT	IW	INDIRECT WASTE	RM	ROOM
AFF	ABOVE FINISHED FLOOR	DSP	DRY STANDPIPE	J-BOX	JUNCTION BOX	RO	REVERSE OSMOSIS
AGA	AMERICAN GAS ASSOCIATION	DW	DISTILLED WATER	JC	JANITOR'S CLOSET	RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER
AHP	AIR HORSEPOWER	DWG	DRAWING	KF	KITCHEN FIXTURE	RPM	REVOLUTIONS PER MINUTE
AHU	AIR-HANDLING UNIT	DWV	DRAIN, WASTE AND VENT	KVA	KILOVOLT-AMPERE	RR	ROOF RECEPTACLE
AIR	AIR CONDITION(-ING, -ED)	E	EXISTING	KW	KILOWATT	RW	RAW WATER
COND		EA	EACH	KW	KILOWATT	RWC	RAIN WATER CONDUCTOR
ASI	AMERICAN IRON AND STEEL INSTITUTE	EEW	EMERGENCY EYEWASH	KWH	KILOWATT HOUR	RWL	RAIN WATER LEADER
ALT	ALTERNATE	EFF	EFFICIENCY	L	LENGTH	S&W	SOIL & WASTE
AMB	AMBIENT	ELEC	ELECTRICAL	LAB	LABORATORY	SAD	SEE ARCHITECTURAL DRAWING(S)
AMP	AMPERE (AMP, AMPS)	EMER	EMERGENCY	LAT	LATERAL	SAN	SANITARY
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	ENCL	ENCLOSURE	LAV	LAVATORY	SB	SPLASH BLOCK
AP	ACCESS PANEL	ENG	ENGINEER	LBS	POUNDS	SCD	SEE CIVIL DRAWING(S)
ARCH	ARCHITECT, ARCHITECTURAL	ENT	ENTRANCE	LD	LEAK DETECTION	SCFM	CUBIC FT PER MINUTE, STANDARD CONDITIONS
ARF	ABOVE RAISED FLOOR	EQ	EQUAL	LF	LINEAR FEET	SCFS	CUBIC FT PER SEC, STANDARD CONDITIONS
ASC	ABOVE SUSPENDED CEILING	ESEW	EMERGENCY SHOWER / EYEWASH	LG	LENGTH	SCH	SCHEDULE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS	ESS	EMERGENCY SAFETY SHOWER	LH	LEFT HAND	SCUP	SCUPPER
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	EST	ESTIMATE	LPD	LOW POINT DRAIN	SD	STORM WATER
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS	EVAP	EVAPORAT(-E, -ING, -ED, -OR)	LV	LAB VENT	SD	STORM DRAIN
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERS	EWC	ELECTRIC WATER COOLER	LW	LAB WASTE	SEC	SECOND
ASTM	AMERICAN SOCIETY FOR TESTING AND	EWI	ELECTRIC WATER HEATER	MAX	MAXIMUM	SECT	SECTION
ATC	ACOUSTICAL TILE CEILING	EXT	EXTINGUISH	MCC	MOTOR CONTROL CENTER	SERV	SERVICE
ATM	ATMOSPHERE	F	FAHRENHEIT	ME	MECHANICAL ENGINEER	SEV	SEWAGE EJECTOR VENT
AV	ACID VENT	FA	FIRE ALARM	MFC	MECHANICAL	SF	SQUARE FOOT
AW	ACID WASTE	FACP	FIRE ALARM CONTROL PANEL	MFR	MANUFACTURER	SH	SHOWER
AWG	AMERICAN WIRE GAUGE	FCO	FLOOR CLEANOUT	MGD	MILLION GALLONS PER DAY	SHT	SHEET
AWSS	AMERICAN WELDING SOCIETY	FD	FLOOR DRAIN	MH	MANHOLE	SIM	SIMILAR
AWWA	AMERICAN WATER WORKS ASSOCIATION	FDC	FIRE DEPARTMENT CONNECTION	MIN	MINIMUM	SK	SINK
		FE	FIRE EXTINGUISHER	MISC	MISCELLANEOUS	SLD	SEE LANDSCAPE ARCHITECT DRAWING(S)
		FEC	FIRE EXTINGUISHER CABINET	MS	MOP SINK	SLV	SLEEVE
		FF	FINISHED FLOOR	MTR	MOTOR	SMD	SEE MECHANICAL DRAWING(S)
		FFE	FINISHED FLOOR ELEVATION	MWP	MAXIMUM WORKING PRESSURE	SOV	SHUTOFF VALVE
		FG	FINISH GRADE			SP	STANDPIPE
		FH	FIRE HOSE	N	NITROGEN	SP	PRESSURE, STATIC
		FHC	FIRE HOSE CABINET	N/A	NOT APPLICABLE	SPD	SUMP PUMP DISCHARGE
		FHR	FIRE HOSE RACK	NBS	NATIONAL BUREAU OF STANDARDS	SPEC	SPECIFICATION
		FHS	FIRE HOSE STATION	NC	NORMALLY CLOSED	SPM	SPRINKLER MAIN
		FHY	FIRE HYDRANT	NC	NOISE CRITERIA	SQ	SQUARE
		FIXT	FIXTURE	NEC	NATIONAL ELECTRICAL CODE	SQ FT	SQUARE FEET
		FL	FLOOR	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	SS	SERVICE SINK
		FND	FOUNDATION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	SS	SERVICE SINK
		FP	FIRE PROTECTION MAIN	NFVH	NON-FREEZE WALL HYDRANT	SSD	SEE STRUCTURAL DRAWING(S)
		PPM	FEET PER MINUTE	NO.#	NUMBER	STD	STANDARD
		FPS	FEET PER SECOND	NOM	NOMINAL	STD	STANDARD
		FR	FIRE RISER	NPS	NOMINAL PIPE SIZE (Also CALLED IPS)	STD	STANDARD
		FS	FLOOR SINK	NPSHR	NET POSITIVE SUCTION HEAD REQUIRED	STL	STEEL
		FT	FEET	NRS	NON RISING STEAM VALVE	SUCT	SUCTION
		FU	FIXTURE UNIT	NTS	NOT TO SCALE	SV	SAFETY RELIEF VALVE
		FURN	FURNISH	NTS	NOT TO SCALE	T	TEE
		FUT	FUTURE			T&P	TEMPERATURE & PRESSURE RELIEF VALVE
		FVC	FIRE VALVE CABINET	O	OXYGEN (CHEMICAL BREVIATION)	TAP	TAP, TAPPED
		FW	FIRE WATER	OC	ON CENTER	TD	TRENCH DRAIN
		G	GAS	OD	OVERFLOW DRAIN	TEMP	TEMPERATURE
		GA	GAGE OR GAUGE	ODIA	OUTSIDE DIAMETER	TLT	TOILET
		GAL	GALLON	OS&Y	OUTSIDE SCREW & YOKE (VALVE)	TOT	TAP ON TOP
		GC	GENERAL CONTRACTOR	OSD	OPEN SIGHT DRAIN	TP	TRAP SEAL PRIMER
		GCO	GRADE CLEANOUT	OUT	OUTLET	TPL	TRAP PRIMER LINE
		GD	GARBAGE DISPOSAL	OVF	OVERFLOW DRAIN	TW	TEMPERED WATER
		GND	GROUND	OZ	OUNCE	TWR	TEMPERED WATER RETURN
		GOVT	GOVERNMENT	P	PITCH	TY	TEE WYE, (SAN TEE)
		GP	GALVANIZED PIPE	PB	LEAD (CHEMICAL ABBREVIATION)	TYP	TYPICAL
		GPD	GALLONS PER DAY	PD	PLAZA DRAIN, PRESSURE DROP, OR DIFFERENCE	UON	UNLESS OTHERWISE NOTED
		GPF	GALLONS PER FLUSH GPM	PDI	PLUMBING DRAINAGE INSTITUTE	UR	URINAL
		GPM	GALLONS PER MINUTE	PE	PROFESSIONAL ENGINEER	V	VENT
		GPH	GALLONS PER HOUR	PERIM	PERIMETER	VAC	VACUUM
		GPS	GALLONS PER SECOND	PG	PRESSURE GAUGE	VAR	VARIABLE
		GV	GALVANIZED	PH	PHASE (ELECTRICAL)	VB	VALVE BOX
		GVA	GATE VALVE	PIV	POST INDICATOR VALVE	VEL	VELOCITY
		H	HIGH	PL	PROPERTY LINE	VERT	VERTICAL
		HB	HOSE BIB	PLBG	PLUMBING	VLV	VALVE
		HD	HEAD	POC	POINT OF CONNECTION	VOL	VOLUME
		HDR	HEADER	PPM	PARTS PER MILLION	VOL	VOLUME
		HOR	HORIZONTAL	PRESS	PRESSURE	VP	VENT PIPE
		HP	HORSE POWER	PRIM	PRIMARY	VS	VENT STACK
		HR	HOUR	PRV	PRESSURE REDUCING VALVE	VT	VOLT
		HRS	HOURS	PSI	POUNDS PER SQUARE INCH	VTR	VENT THROUGH ROOF
		HT	HEIGHT	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	W	WATT
		HTG	HEATING	PSIG	POUNDS PER SQUARE INCH GAUGE	W	WASTE
		HTR	HEATER	PV	PUMP VACUUM	W/	WITH
		HVAC	HEATING, VENTILATION & AIR CONDITIONING	PVC	POLYVINYL CHLORIDE	W/O	WITHOUT
		HW	HOT WATER	PW	PURE WATER	WC	WATER CLOSET
		HWR	HOT WATER RETURN	PWR	PURE WATER RETURN	WCO	WALL CLEANOUT
		HZ	HERTZ (CYCLES PER SECOND)	PWR	POWER	WFS	WATER FLOW SWITCH
		I	IRON			WH	WALL HYDRANT
		IBV	INDICATING BUTTERFLY VALVE	QT	QUART	WH	WALL HEATER
		ICW	INDUSTRIAL COLD WATER	QTY	QUANTITY	WL	WATER LEVEL
		ID	INSIDE DIAMETER	R	HYDRAULIC RADIUS	WM	WATER METER
		IE	INVERT ELEVATION	RAD	RADIUS	WP	WEATHERPROOF
		IHW	INDUSTRIAL HOT WATER	RCP	REFLECTED CEILING PLAN	WS	WATER STOP
		IHW	INDUSTRIAL HOT WATER	RCVR	RECEIVER	WSFU	WATER SUPPLY FIXTURE UNIT
		IHW	INDUSTRIAL HOT WATER	RD	ROOF DRAIN	WT	WEIGHT
		IHW	INDUSTRIAL HOT WATER	RECIRC	RECIRCULATE	#	NUMBER
		IHW	INDUSTRIAL HOT WATER			%	PERCENT
		IHW	INDUSTRIAL HOT WATER			&	AND
		IHW	INDUSTRIAL HOT WATER			(E)	EXISTING
		IHW	INDUSTRIAL HOT WATER			(N)	NEW
		IHW	INDUSTRIAL HOT WATER			@	AT (THE RATE OF)

PLUMBING SYMBOLS

	POINT OF CONNECTION		DWV FITTING, 90° TEE
	FLOOR DRAIN		PIPE DROP
	FLOOR DRAIN OR FLOOR SINK		PIPE BRANCH, TOP
	FLOOR SINK		PIPE BRANCH, BOTTOM
	COMBINATION ROOF / OVERFLOW DRAIN		SHUTOFF VALVE
	ROOF DRAIN		2-WAY CONTROL VALVE
	ROOF RECEPTOR		3-WAY CONTROL VALVE
	FLOOR CLEANOUT		SOLENOID VALVE
	WALL CLEANOUT		BALL VALVE
	HOSE BIBB		BUTTERFLY VALVE
	THERMOSTATIC MIXING VALVE, MASTER		CHECK VALVE
	THERMOSTATIC MIXING VALVE, POINT-OF-USE		CIRCUIT SETTER / BALANCING VALVE
	THERMOMETER		GLOBE VALVE
	TEMPERATURE GAUGE		GLOBE VALVE, ANGLE
	PRESSURE GAUGE		GATE VALVE
	LINE BREAK		GATE VALVE, ANGLE
	PIPE CAP		PRESSURE REDUCING OR REGULATING VALVE
	END OF PIPE		T&P RELIEF VALVE
	TEMPERATURE SENSOR		DRAIN VALVE, LINE
	FLEX CONNECTION		DRAIN VALVE, TANK
	UNION		PETE'S PLUG / TEST PORT
	FLOW DIRECTION		AUTOMATIC AIR VENT
	DWV FITTING, 45° ELBOW		GOOSENECK AIR VENT
	DWV FITTING, 90° ELBOW		EQUIPMENT TAG
	DWV FITTING, 45° TEE		

PLUMBING LEGEND

SYMBOL	TAG	DESCRIPTION
	CW	COLD WATER
	HW	HOT WATER SUPPLY
	HWR	HOT WATER RETURN
	SAN	SANITARY SEWER
	SAN	SANITARY SEWER (UNDERFLOOR)
	V	SANITARY VENT
	G	NATURAL GAS
	TP	TRAP PRIMER WATER
	CD	CONDENSATE DRAIN
	FW	FIRE PROTECTION WATER
	SD	STORM DRAIN
	OD	OVERFLOW DRAIN

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2013 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.28 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
- MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8, 13.6.7, 13.6.5.6, AND 2013 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25, AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPM#).

COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

GENERAL NOTES

- PROVIDE COMPLETE AND FULLY FUNCTIONAL PLUMBING SYSTEMS AS INDICATED IN THE CONTRACT DOCUMENTS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, CALIFORNIA MECHANICAL CODE, CALIFORNIA BUILDING CODE AND LOCAL RULES AND REGULATIONS, STATE AND LOCAL FIRE MARSHAL REGULATIONS, THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY, THE NATIONAL ELECTRIC CODE, THE STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AMERICAN GAS ASSOCIATION, OCCUPATION AND SAFETY ACT, AMERICAN NATIONAL STANDARDS INSTITUTE, AMERICAN SOCIETY OF MECHANICAL ENGINEERS, AMERICAN SOCIETY FOR TESTING AND MATERIALS, INSTALLATION STANDARDS PUBLISHED BY THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS (IAPMO) AND OTHER APPLICABLE LAWS, CODES, OR REGULATIONS. NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- VERIFY LOCATION OF UTILITIES PRIOR TO PERFORMING WORK. COORDINATE ALL WORK WITH OTHER TRADES.
- PLUMBING FIXTURES SHALL HAVE MAXIMUM FLOW RATES AS INDICATED ON SCHEDULES.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND COLOR OF PLUMBING FIXTURES.
- COORDINATE ALL CORING OF FLOORS AND WALLS WITH ARCHITECT PRIOR TO START OF WORK.
- BEFORE FABRICATION OR INSTALLATION, THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT. EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED IN FIELD.
- PIPING SHALL HAVE SUFFICIENT CLEARANCE FROM STRUCTURE TO ALLOW FOR EXPANSION AND CONTRACTION OF THE PIPING. NO PIPING SHALL TOUCH WOOD, CONCRETE, OTHER PIPING, ETC.
- ALL EQUIPMENT, FIXTURES, ETC. SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY AND PERFORM ALL REQUIRED TESTING OF ALL PIPING AND ACCESSORIES INSTALLED. ALL SUCH PLUMBING INSTALLATIONS SHALL BE TESTED, REPAIRED, AND ADJUSTED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND ALL GOVERNING AUTHORITIES.
- ALL VALVES, UNIONS, ETC. SHALL BE ETC. TO BE SAME SIZE AS LINE SIZE UNLESS OTHERWISE NOTED ON DRAWINGS.
- PROVIDE UNIONS AFTER EACH THREADED VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
- FOLLOW THE GENERAL ARRANGEMENT INDICATED ON THE DRAWINGS AS CLOSELY AS POSSIBLE. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND ALL OTHER TRADES PRIOR TO INSTALLATION OF THE MATERIALS AND EQUIPMENT TO VERIFY ADEQUATE SPACE AVAILABLE FOR INSTALLATION OF THE WORK SHOWN. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED IF AN AREA OF CONFLICT OCCURS BETWEEN TRADES.
- SPECIFICATIONS ARE AN INTEGRAL PART OF THIS PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH SPECIFICATION REQUIREMENTS.
- ALL FIXTURES, FLOOR DRAINS, FLOOR SINKS, ETC. SHALL BE TRAPPED AND VENTED. PROVIDE TRAP PRIMER TO ALL FLOOR DRAINS, FLOOR SINKS, HUB DRAINS AND AS INDICATED ON THE DRAWINGS. ALL TRAP PRIMERS SHALL BE ACCESSIBLE AND PROVIDED WITH A 12"X12" ACCESS PANEL (MINIMUM).
- PRIMARY AND SECONDARY STORM DRAINAGE PIPING SHALL BE INSULATED. INSULATE DRAIN BODY AND HORIZONTAL UP TO 5 FEET OF VERTICAL FROM THE HORIZONTAL.
- PROVIDE ALL PIPING, VALVES, FITTINGS AND OTHER APPURTENANCES FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
- PIPING MATERIALS TO BE AS FOLLOWS:  
A. SANITARY SEWER AND VENT: CAST IRON, GALVANIZED STEEL, OR COPPER TUBE  
B. DOMESTIC WATER: COPPER OR DUCTILE IRON  
REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS PER SYSTEM.
- PIPING TO BE SLOPED AS FOLLOWS:  
A. SANITARY SEWER = 2%  
B. SANITARY VENT (BELOW FLOOD RIM) = 2%  
C. SANITARY VENT (ABOVE FLOOD RIM) = 0.25%  
D. TRAP PRIMER = 1%  
E. CONDENSATE = 1%  
F. STORM DRAIN = 1%
- VERIFY IN FIELD EXISTING CONDITIONS, SIZE AND EXACT LOCATION OF SERVICES PRIOR TO START OF WORK.
- THE CONSTRUCTION DOCUMENTS FOR THIS PROJECT WERE PREPARED BY THE DESIGN TEAM USING 3-D MODELING SOFTWARE. USING THIS SOFTWARE BY THE DESIGN TEAM DOES NOT RELIEVE THE CONTRACTOR FROM PERFORMING THE NECESSARY COORDINATION TO PROVIDE COMPLETE, CODE COMPLIANT AND OPERATIONAL BUILDING SYSTEMS. THE PLANS AND SECTIONS PROVIDED ARE NOT COMPLETE AND ARE TO BE CONSIDERED DIAGRAMMATIC ONLY. THE EXACT LOCATION OF THE PIPING, DUCTWORK, ELECTRICAL AND SUPPORT COMPONENTS ARE TO BE DETERMINED IN THE FIELD. ALL BUILDING SECTIONS AND DETAILS PROVIDED ARE FOR INFORMATION ONLY AND DO NOT RELIEVE THE CONTRACTOR FROM PERFORMING FINAL COORDINATION. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ALL OTHER TRADES.

OWNERSHIP OF INSTRUMENTS OF SERVICE

- ALL REPORTS, DRAWINGS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY THE CONSULTANT AS INSTRUMENTS OF SERVICE SHALL REMAIN THE PROPERTY OF THE CONSULTANT. THE CONSULTANT SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERE TO.
- THE CLIENT ACKNOWLEDGES THE CONSULTANT'S CONSTRUCTION DOCUMENTS, INCLUDING ELECTRONIC FILES, AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE FINAL CONSTRUCTION DOCUMENTS PREPARED UNDER THIS AGREEMENT SHALL BECOME THE PROPERTY OF THE CLIENT UPON COMPLETION OF THE SERVICES AND PAYMENT IN FULL OF ALL MONIES DUE TO THE CONSULTANT. THE CLIENT SHALL NOT REUSE OR MAKE ANY MODIFICATION TO THE CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE CONSULTANT. THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS THE CONSULTANT, ITS OFFICERS, DIRECTORS, EMPLOYEES AND SUBCONSULTANTS (COLLECTIVELY, "CONSULTANT") AGAINST ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING FROM OR ALLEGEDLY ARISING FROM OR IN ANY WAY CONNECTED WITH THE UNAUTHORIZED REUSE OR MODIFICATION OF THE CONSTRUCTION DOCUMENTS BY THE CLIENT OR ANY PERSON OR ENTITY THAT ACQUIRES OR OBTAINS THE CONSTRUCTION DOCUMENTS FROM OR THROUGH THE CLIENT WITHOUT THE WRITTEN AUTHORIZATION OF THE CONSULTANT.

CALIFORNIA CODES AND STANDARDS

- 2013 CALIFORNIA BUILDING CODE
- 2013 CALIFORNIA ELECTRICAL CODE
- 2013 CALIFORNIA MECHANICAL CODE
- 2013 CALIFORNIA PLUMBING CODE
- 2013 CALIFORNIA ENERGY CODE
- 2013 CALIFORNIA FIRE CODE
- NFPA-13 - LATEST ADOPTED EDITION

SHEET LIST - PLUMBING	
NUMBER	NAME
P01	PLUMBING LEGEND, ABBREVIATIONS, AND GENERAL NOTES
P02	PLUMBING SCHEDULES
P21	PLUMBING LOWER LEVEL DEMO PLAN
P22	PLUMBING FIRST FLOOR DEMO PLAN
P23	PLUMBING MEZZANINE FLOOR DEMO PLAN
P24	PLUMBING SECOND FLOOR DEMO PLAN
P25	PLUMBING THIRD FLOOR DEMO PLAN
P31	PLUMBING LOWER LEVEL PLAN
P32	PLUMBING FIRST FLOOR PLAN
P33	PLUMBING MEZZANINE FLOOR PLAN
P34	PLUMBING SECOND FLOOR PLAN
P35	PLUMBING THIRD FLOOR PLAN
P61	PLUMBING DETAILS
P62	PLUMBING DETAILS

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PLUMBING  
LEGEND,  
ABBREVIATIONS,  
AND GENERAL  
NOTES

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BID SET

REVISIONS

No	Desc	Date
1	65% CD Set	2016-08-01
2	95% CD Set	2016-10-31
3	Bid Set	2016-11-15

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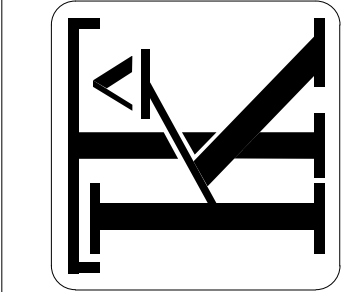
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P01

PLUMBING - ELECTRIC WATER HEATER SCHEDULE																				
TAG	MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	SERVICE	CAPACITY		OUTPUT	EFF. (%)	WATER CONNECTION SIZE	TURN ON FLOW RATE	ELECTRICAL			DIMENSIONS			OPERATING WEIGHT	NOTES
							GPM	@ °F RISE					VOLT	PHASE	FREQUENCY	LENGTH	WIDTH	HEIGHT		
EW1	1-1	HUBBELL	TX018	TANKLESS	MEN'S BATHROOM 115	BATHROOM 115 AND 116	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	
EW1	1-2	HUBBELL	TX018	TANKLESS	JANITOR 120	JANITOR 120	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	
EW1	1-3	HUBBELL	TX018	TANKLESS	COFFEE/LOUNGE 122	COFFEE/LOUNGE 122	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	
EW1	2-1	HUBBELL	TX018	TANKLESS	SHOWER 208	SHOWER 208	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	
EW1	2-2	HUBBELL	TX018	TANKLESS	COFFEE 216	COFFEE 216	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	
EW1	3-1	HUBBELL	TX018	TANKLESS	CORRIDOR 304	CORRIDOR 304	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	
EW1	3-2	HUBBELL	TX018	TANKLESS	MEN'S BATHROOM 309	BATHROOM 308 AND 309	1.90 GPM	65.0 °F	18.00 kW	98	3/4"	0.2 GPM	480 V	3	60 Hz	1' - 4 3/16"	0' - 3 9/16"	1' - 5"	21.5 lb	

PLUMBING - FIXTURE SCHEDULE									
TAG	DESCRIPTION	BRANCH CONNECTION				REMARKS			
		WASTE	VENT	CW	HW				
WC-1	WATER CLOSET FLUSHOMETER	4"	2"	1-1/2"	-	KOHLER #K-4330-ET, VITREOUS CHINA, WALL HUNG, ELONGATED BOWL. ZURN Z8000AV-WS1-DF DUAL FLUSH, 1.6/1.1 GPF, MANUALLY OPERATED. OLSOINTE 10CC SEAT			
WC-1A	WATER CLOSET FLUSHOMETER (ADA)	4"	2"	1-1/2"	-	KOHLER #K-4330-ET, VITREOUS CHINA, WALL HUNG, ELONGATED BOWL. ZURN Z8000AV-WS1-DF DUAL FLUSH, 1.6/1.1 GPF, MANUALLY OPERATED. OLSOINTE 10CC SEAT. INSTALL PER ADA REQUIREMENTS			
UR-1	URINAL FLUSHOMETER	2"	2"	3/4"	-	KOHLER #K-4904ET, VITREOUS CHINA. WALL HUNG URINAL, KOHLER K-13520 1/8 GPF FLUSHOMETER. SENSOR OPERATED..			
LAV-1	LAVATORY	2"	2"	1/2"	1/2"	KOHLER #K-2209, UNDERCOUNTER, ADA. SINGLE HOLE, SLOAN SOLIS EAF-150 FAUCET. INSTALL 0.35 GPM MULTI-STREAM LAMINAR SPRAY HEAD FROM MANUFACTURER. PROVIDE TMV-1.			
LAV-2	LAVATORY	2"	2"	1/2"	1/2"	KOHLER #K-2005-R, WALL HUNG, ADA. 4" CENTERSET FAUCET HOLES WITH RIGHT-HAND SOAP DISPENSER, SLOAN SOLIS EAF-150 FAUCET. PROVIDE WITH 4" CENTERSET TRIM PLATE. INSTALL 0.35 GPM MULTI-STREAM LAMINAR SPRAY HEAD FROM MANUFACTURER. PROVIDE TMV-1.			
LAV-3	LAVATORY	2"	2"	1/2"	1/2"	ELKAY #LLVR-2117, TOP MOUNT, ADA. SINGLE HOLE, SLOAN SOLIS EAF-150 FAUCET. INSTALL 0.35 GPM MULTI-STREAM LAMINAR SPRAY HEAD FROM MANUFACTURER. PROVIDE TMV-1.			
(E) LAV-4	LAVATORY	2"	2"	1/2"	1/2"	(E) SINK AND FAUCET. INSTALL 0.35 GPM AERATOR FROM MANUFACTURER. PROVIDE TMV-1.			
SK-1	SINK	2"	2"	1/2"	1/2"	ELKAY ELUHAD21155SPD, SINGLE COMPARTMENT, ADA. SINGLE LEVER HANDLE. ELKAY LK7921SSS. 1.5 GPM. PROVIDE HOLE FOR AIRGAP FITTING FROM DW-1.			
MS-1	MOP SINK	3"	2"	1/2"	1/2"	JONESPEC MB-2600 24x24x10" DEEP. FLOOR MOUNTED. SPEAKMAN-SC-5811-RCP FAUCET W/BRASS VACUUM BREAKER			
SH-1	SHOWER (ADA)	2"	2"	1/2"	1/2"	SYMMONS S-9603-PLR HAND SHOWER SYSTEM WITH PRESSURE BALANCING VALVE. 1.5 GPM. SHOWER PAN BY OTHER DIVISION. PROVIDE FLOOR DRAIN AND TRAP.			
HB-1	HOSE BIBB ASSEMBLY	-	-	3/4"	-	WOODFORD MODEL 21, CP INLET, NO INTERNAL VACUUM BREAKER. PROVIDE WILKINS 420XL PRESSURE VACUUM BREAKER UPSTREAM OF HOSE BIBB.			
(E) HB-1	HOSE BIBB ASSEMBLY	-	-	3/4"	-	(E) HOSE BIBB.			
DW-1	DISHWASHER	IW	-	1/2"	1/2"	PLUMBING CONNECTIONS BY PLUMBING, APPLIANCE SPECIFICATIONS BY OTHER DIVISION. ROUTE DRAIN CONNECTION TO AIRGAP FITTING AT SK-1.			
TMV-1	THERMOSTATIC MIXING VALVE	-	-	1/2"	-	LEONARD VALVE MODEL LF-270.			
WHA-1	WATER HAMMER ARRESTOR	-	-	-	-	PPP, INC. PRODUCTS, MODEL MIL-D-82036, SEE SIZE ON PRINTS.			

PLUMBING - DRAIN AND CLEANOUT SCHEDULE					
TAG	DESCRIPTION	MFR	MODEL	STRAINER / COVER	REMARKS
FD-1	FLOOR DRAIN	ZURN	Z415B	5" DIA.	CHROME PLATED BRONZE TOP, CAST IRON BODY, CLAMPING COLLAR. PROVIDE TRAP PRIMER.
FD-2	FLOOR DRAIN	ZURN	Z511	9" DIA.	HEAVY DUTY CAST IRON BODY, SEDIMENT BUCKET, CLAMPING COLLAR.
FD-3	FLOOR DRAIN	ZURN	Z315	10" DIA.	CAST IRON BODY, NICKLE-BRONZE TOP WITH SECONDARY STRAINER AND HINGED SOLID LOCKING COVER. PROVIDE WITH TRAP PRIMER.
FD-4	FLOOR DRAIN	ZURN	Z511	9" DIA.	HEAVY DUTY CAST IRON BODY, SEDIMENT BUCKET, CLAMPING COLLAR. HEEL-PROOF GRATE. DO NOT PROVIDE TRAP OR VENT.
FS-1	FLOOR SINK	ZURN	Z1900	12" SQ. TOP	1/2 GRATE, 6" DEEP, EPOXY COATED, CAST IRON BODY WITH BRONZE TOP & GRATE AND SEDIMENT BUCKET. PROVIDE TRAP PRIMER.
FS-2	FLOOR SINK	ZURN	Z1902	12" SQ. TOP	NO GRATE, 10" DEEP, EPOXY COATED, CAST IRON BODY.
RD-1/OD-1	ROOF AND OVERFLOW DRAIN	ZURN	Z164	12" DIA.	COMBINATION MAIN ROOF & OVERFLOW DRAIN.
FCO	FLOOR CLEANOUT	ZURN	Z1400	7-1/4" DIA.	HEAVY DUTY NICKEL BRONZE TOP. CAST IRON BODY, ANCHOR FLANGE, BRONZE PLUG. PROVIDE TRAFFIC RATED COVER FOR CLEANOUTS IN PARKING AREAS.
GCO	GRADE CLEANOUT	ZURN	Z1400	7-1/4" DIA.	HEAVY DUTY CAST IRON TOP. CAST IRON BODY, BRONZE PLUG.
WCO	WALL CLEANOUT	ZURN	Z1446	-	CAST IRON BODY CLEANOUT TEE. STAINLESS STEEL COVER, BRONZE PLUG.
DSN	DOWNSPOUT NOZZLE	ZURN	Z199	-	DOWNSPOUT NOZZLE FOR STORM DRAIN OVERFLOW. REFER TO PLANS FOR SIZE.
VTR	VENT CAP	ZURN	Z193	-	CAST IRON BODY, HOODED DOME CAP. VANDAL RESISTANT SCREW.
AG-1	AIR GAP FITTING	WILKINS	AG-1	-	CAST IRON, EPOXY COATED.



PLUMBING  
SCHEDULES

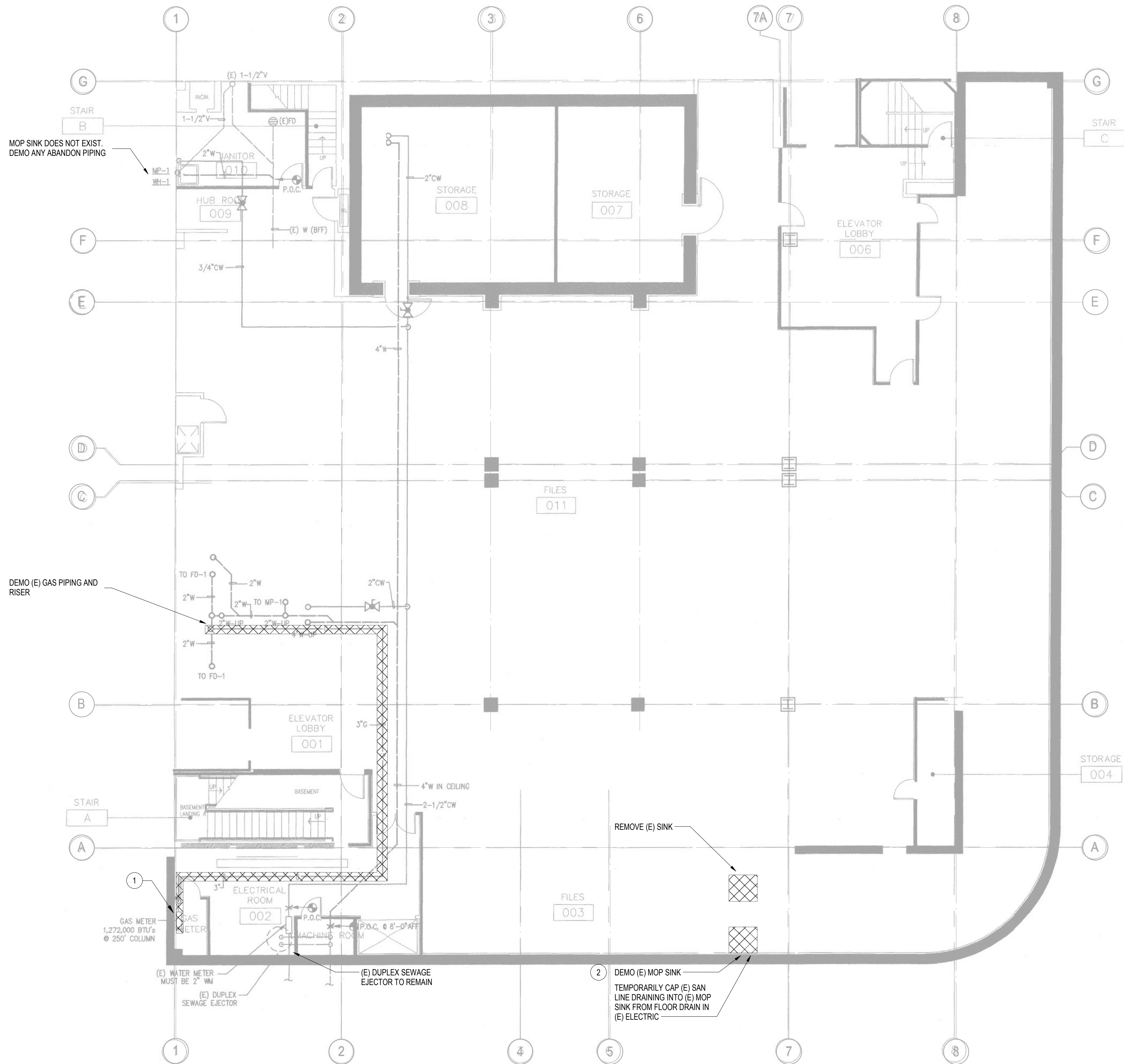
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P02





1 PLUMBING LOWER LEVEL DEMO PLAN  
1/8" = 1'-0"

GENERAL NOTES

- EXISTING CONDITIONS SHOWN REPRESENT BEST KNOWN INFORMATION COMPILED FROM PREVIOUS RECORD DOCUMENTS. HOWEVER IT HAS NOT BEEN POSSIBLE TO VERIFY ALL CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL CONDITIONS CRITICAL TO WORK PRIOR TO BEGINNING ANY DEMO OR NEW WORK.
- THERE WILL BE NO GAS SERVICE TO THE BUILDING. GAS SERVICE SHALL BE CAPPED AT ENTRANCE TO BUILDING.
- REMOVE ALL ABANDONED PLUMBING PIPING.
- PROTECT ALL EXISTING PIPING THAT IS TO REMAIN.
- REPAIR AND REPLACE ANY DAMAGED PIPING INSULATION.

SHEET NOTES

- CONTRACTOR WILL COORDINATE WITH PG&E TO REMOVE NATURAL GAS SERVICE TO BUILDING.
- DEMO AND CAP (E) CW AND/OR HW SERVICE BACK TO THE MAIN BRANCH. TEMPORARILY CAP (E) SAN AND V.

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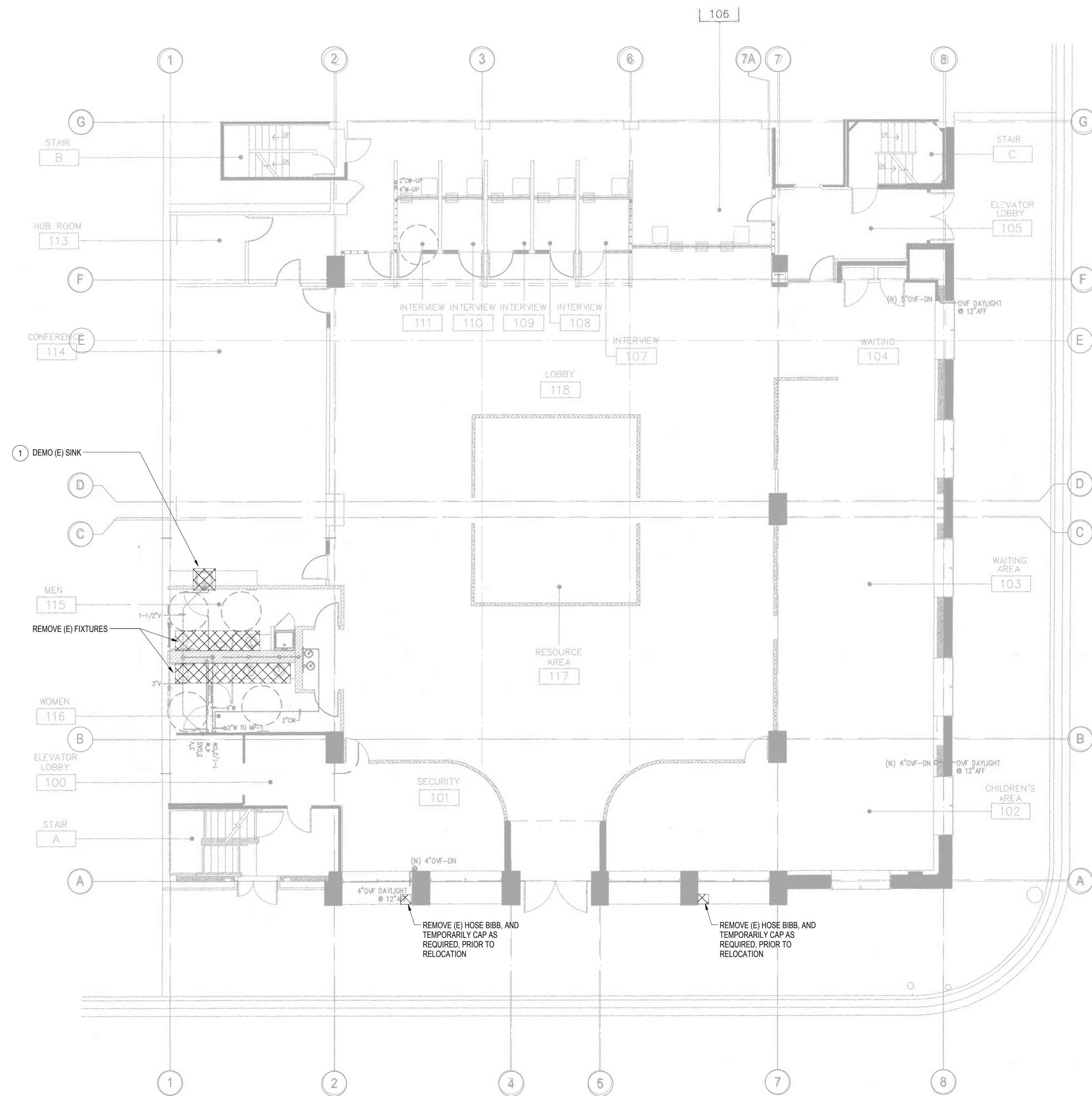
REGISTERED PROFESSIONAL MECHANICAL ENGINEER  
JOHN P. MCDONALD  
No. M 30438  
Exp. 12-31-17  
STATE OF CALIFORNIA

PLUMBING LOWER  
LEVEL DEMO PLAN

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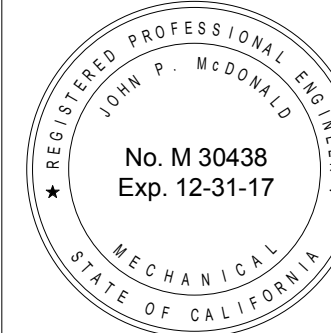
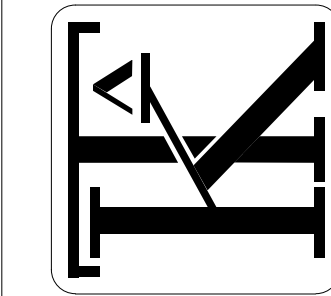
1 PLUMBING FIRST FLOOR DEMO PLAN  
1/8" = 1'-0"

#### GENERAL NOTES

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- REPAIR AND REPLACE ANY DAMAGED PIPING INSULATION.

#### # SHEET NOTES

- DEMO AND CAP (E) CW AND/OR HW SERVICE BACK TO THE MAIN BRANCH. DEMO AND CAP (E) SAN BACK TO MAIN BRANCH IN LEVEL BELOW. DEMO AND CAP (E) V TO MAIN BRANCH.



#### BID SET

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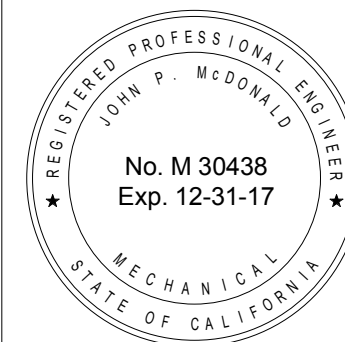
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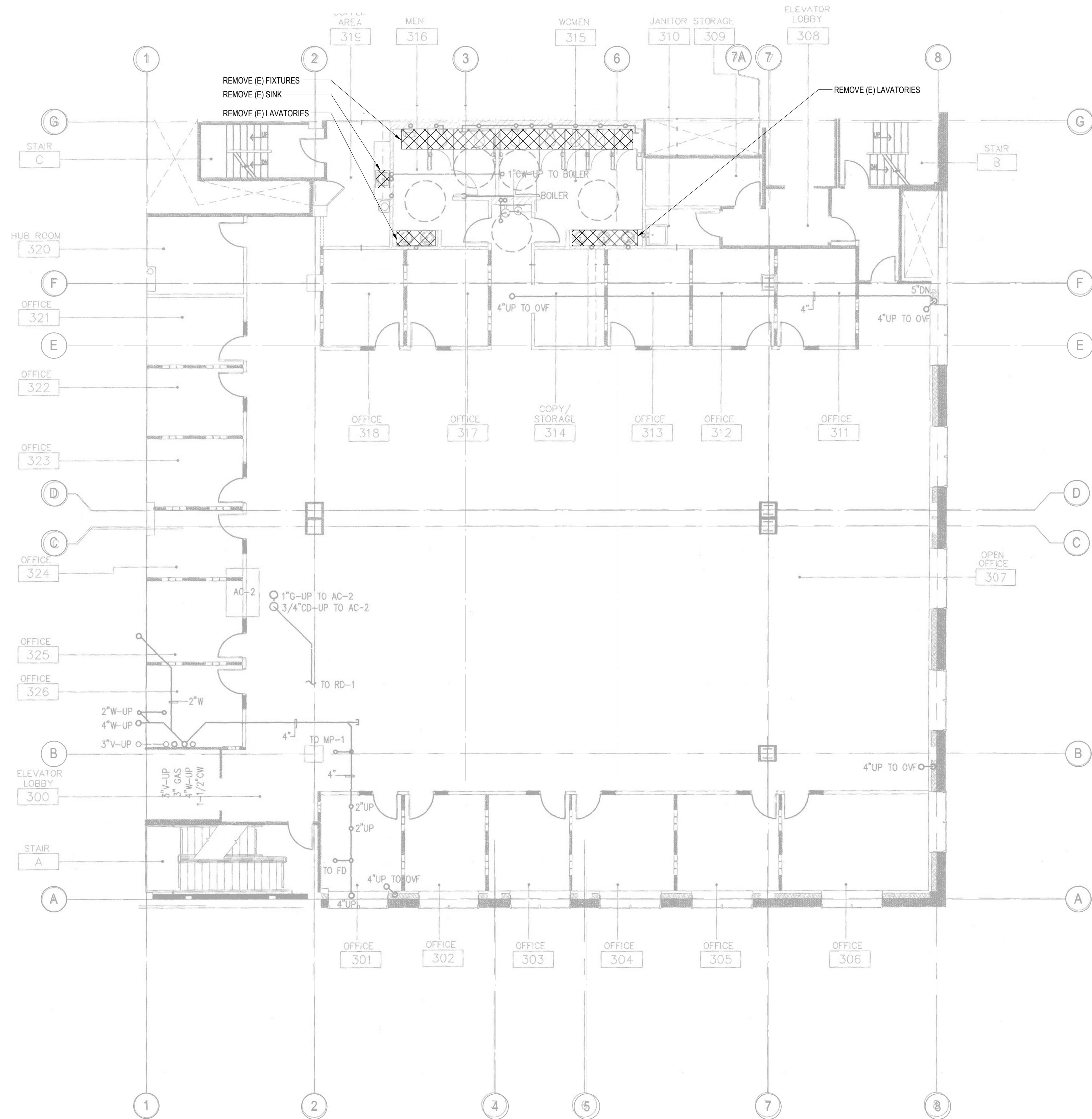
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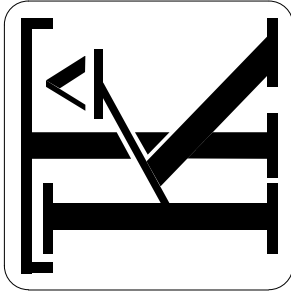
1 PLUMBING SECOND FLOOR DEMO PLAN  
1/8" = 1'-0"

GENERAL NOTES

- EXISTING CONDITIONS SHOWN REPRESENT BEST KNOWN INFORMATION COMPILED FROM PREVIOUS RECORD DOCUMENTS. HOWEVER IT HAS NOT BEEN POSSIBLE TO VERIFY ALL CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL CONDITIONS CRITICAL TO WORK PRIOR TO BEGINNING ANY DEMO OR NEW WORK.
- THERE WILL BE NO GAS SERVICE TO THE BUILDING. GAS SERVICE SHALL BE CAPPED AT ENTRANCE TO BUILDING.
- REMOVE ALL ABANDONED PLUMBING PIPING.
- PROTECT ALL EXISTING PIPING THAT IS TO REMAIN.
- REPAIR AND REPLACE ANY DAMAGED PIPING INSULATION.

# SHEET NOTES

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PLUMBING  
SECOND FLOOR  
DEMO PLAN

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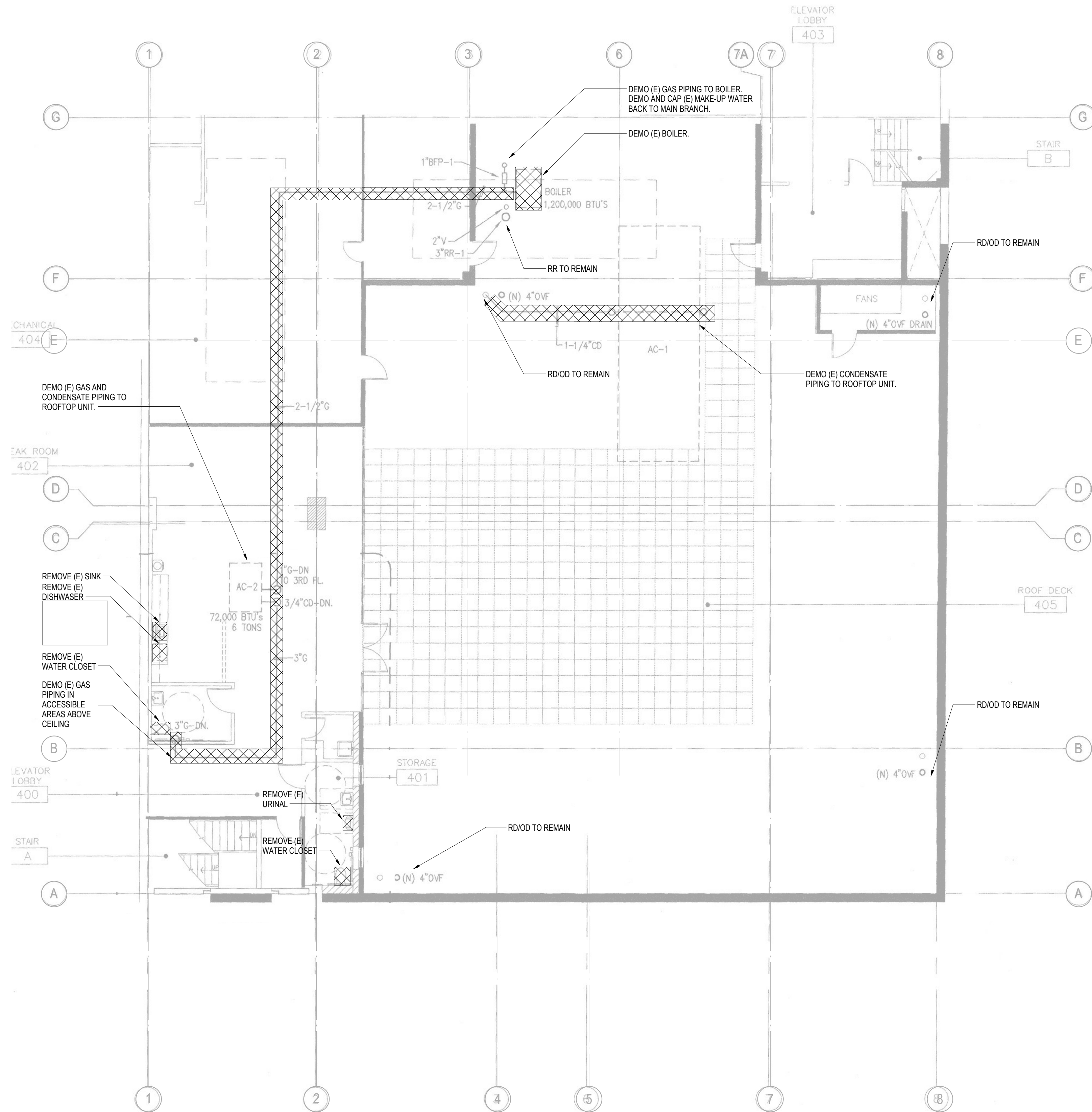
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1 PLUMBING THIRD FLOOR DEMO PLAN  
1/8" = 1'-0"

- GENERAL NOTES**
- EXISTING CONDITIONS SHOWN REPRESENT BEST KNOWN INFORMATION COMPILED FROM PREVIOUS RECORD DOCUMENTS. HOWEVER IT HAS NOT BEEN POSSIBLE TO VERIFY ALL CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL CONDITIONS CRITICAL TO WORK PRIOR TO BEGINNING ANY DEMO OR NEW WORK.
  - THERE WILL BE NO GAS SERVICE TO THE BUILDING. GAS SERVICE SHALL BE CAPPED AT ENTRANCE TO BUILDING.
  - REMOVE ALL ABANDONED PLUMBING PIPING.
  - PROTECT ALL EXISTING PIPING THAT IS TO REMAIN.
  - REPAIR AND REPLACE ANY DAMAGED PIPING INSULATION.

# SHEET NOTES

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**PLUMBING THIRD FLOOR DEMO PLAN**

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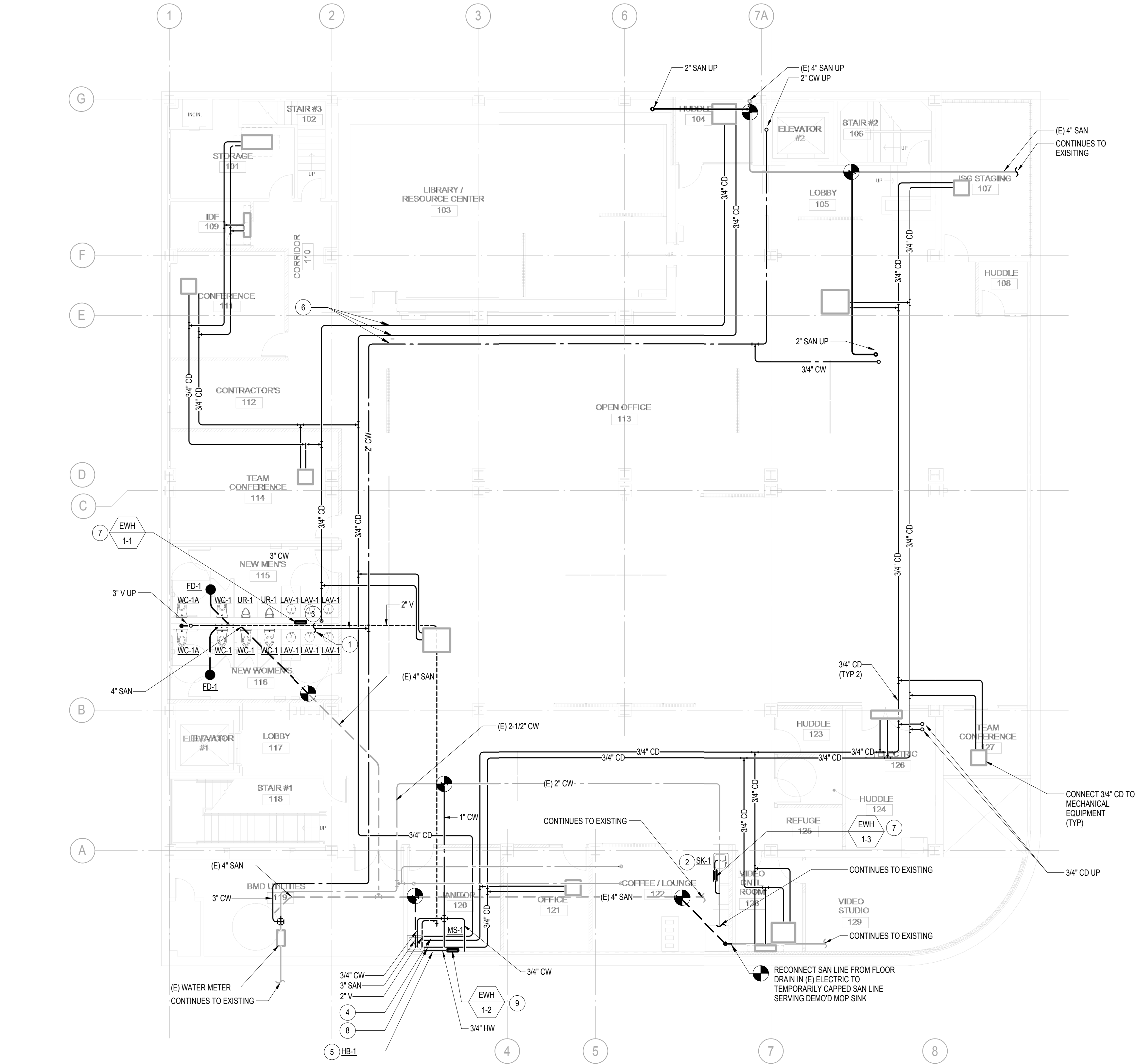
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1 PLUMBING LOWER LEVEL PLAN  
1/8" = 1'-0"

GENERAL NOTES

- 1 OPEN UP SLAB WITHIN FIRST WEEK OF PROJECT START. INVESTIGATE WATER INTRUSION AND EXISTING MEMBRANE UNDER SLAB.
- 2 ALL SUPPLY LINES SHALL BE MECHANICALLY ISOLATED FROM THE BUILDING STRUCTURE BY MEANS OF RESILIENT PIPE ISOLATORS.
- 3 ALL NEW WASTE LINES OR THOSE EXPOSED DURING CONSTRUCTION SHALL BE ISOLATED.
- 4 ISOLATION PADS SHALL BE USED WHERE PIPING, PIPE CONNECTORS, OR VALVES MAY CONTACT FRAMING, DUCTWORK, STRUCTURE, STUDS, GYPSUM BOARD, OR OTHER PIPES.
- 5 RISER CLAMPS FOR SUPPLY AND WASTE LINES SHALL BE ISOLATED FROM THE STRUCTURE.
- 6 LIMITED EXISTING SERVICES ARE SHOWN ON NEW WORK FLOOR PLANS. REFER TO DEMO PLANS FOR EXISTING SERVICES, FIXTURES, AND EQUIPMENT.

# SHEET NOTES

- 1 ROUGH-IN AND CONNECT. REFER TO FIXTURE SCHEDULE FOR CONNECTION SIZES.
- 2 (E) FIXTURE REPLACED WITH (N) FIXTURE. RECONNECT TO (E) PLUMBING SERVICES.
- 3 TERMINATE CONDENSATE PIPING AT LAVATORY TAILPIECE.
- 4 TERMINATE CONDENSATE PIPING OVER MOP SINK.
- 5 LOCATE HOSE BIBB ASSEMBLY OVER MOP SINK.
- 6 INSTALL PIPING AS CLOSE TO COLUMNS AS POSSIBLE.
- 7 INSTALL EWH UNDERNEATH SINK/LAVATORY.
- 8 TERMINATE SECONDARY CONDENSATE PIPING OVER MOP SINK WITH VISIBLE AIR GAP. LABEL PIPE AS SECONDARY CONDENSATE.
- 9 REFER TO DETAIL 2 / P62.

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REGISTERED PROFESSIONAL MECHANICAL ENGINEER  
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MECHANICAL  
STATE OF CALIFORNIA

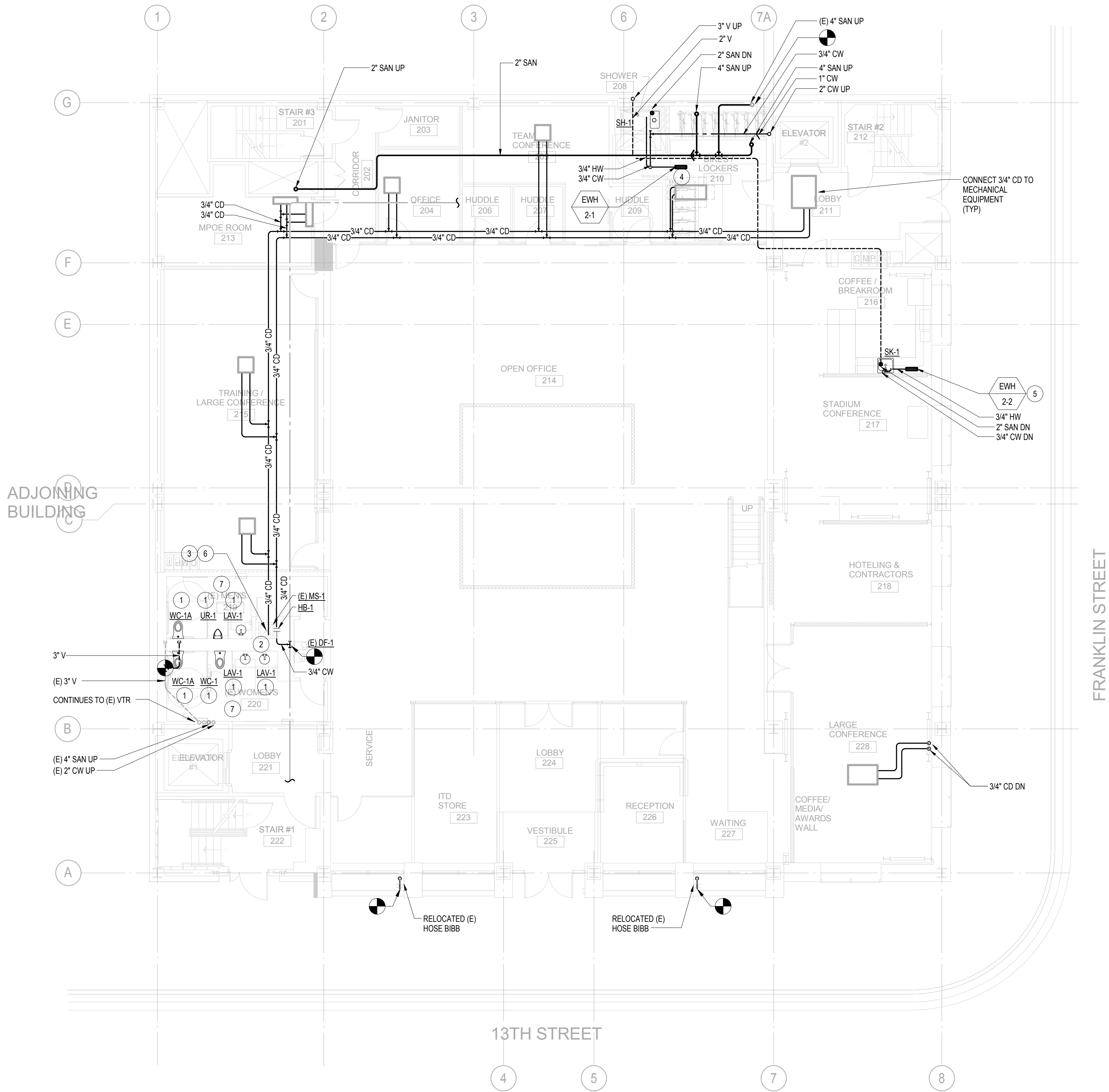
PLUMBING LOWER  
LEVEL PLAN

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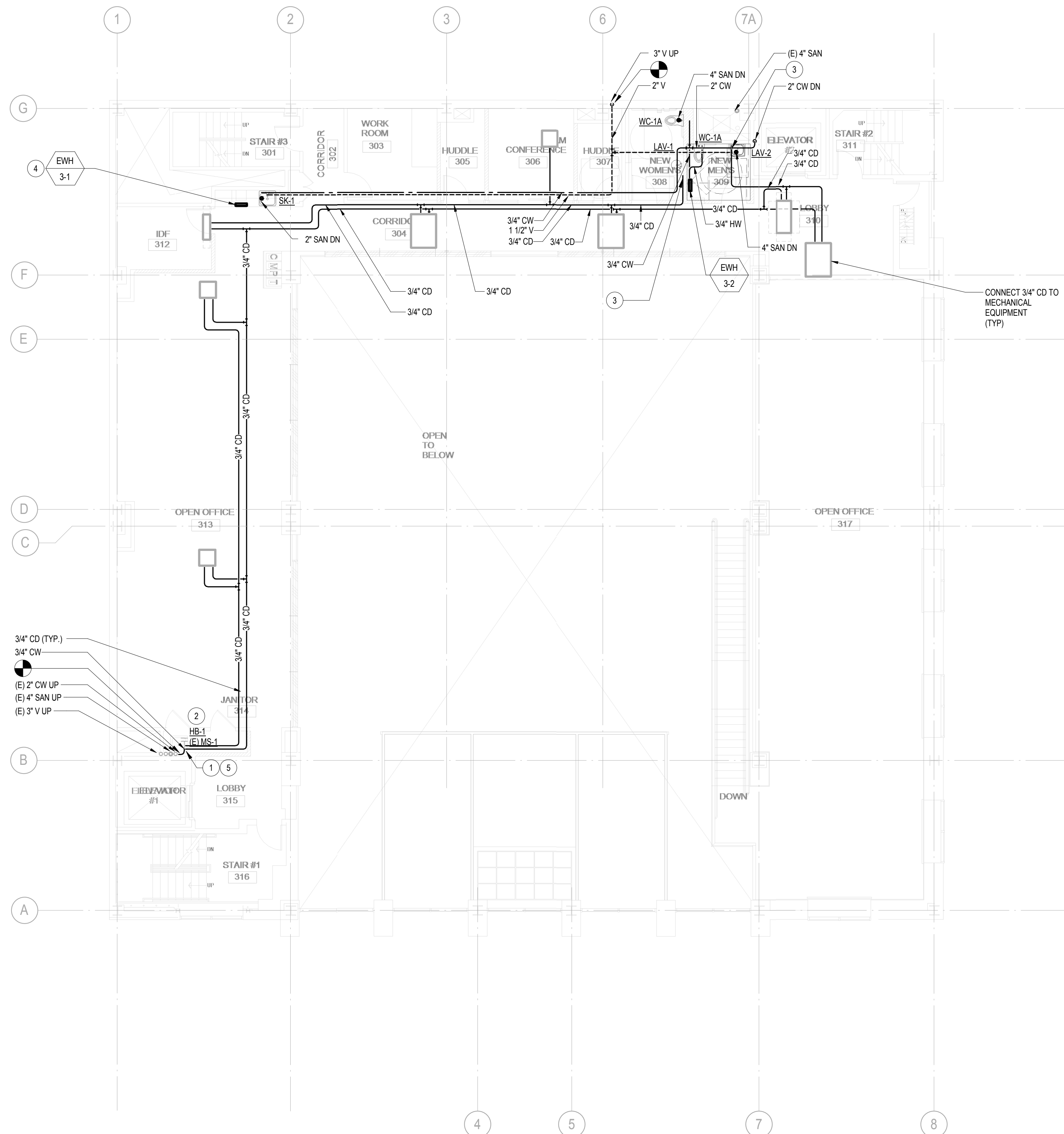
1 PLUMBING FIRST FLOOR PLAN  
1/8" = 1'-0"

- GENERAL NOTES**
- 1 OPEN UP SLAB WITHIN FIRST WEEK OF PROJECT START. INVESTIGATE WATER INTRUSION AND EXISTING MEMBRANE UNDER SLAB.
  - 2 ALL SUPPLY LINES SHALL BE MECHANICALLY ISOLATED FROM THE BUILDING STRUCTURE BY MEANS OF RESILIENT PIPE ISOLATORS.
  - 3 ALL NEW WASTE LINES OR THOSE EXPOSED DURING CONSTRUCTION SHALL BE ISOLATED.
  - 4 ISOLATION PADS SHALL BE USED WHERE PIPING, PIPE CONNECTORS, OR VALVES MAY CONTACT FRAMING, DUCTWORK, STRUCTURE, STUDS, GYPSUM BOARD, OR OTHER PIPES.
  - 5 RISER CLAMPS FOR SUPPLY AND WASTE LINES SHALL BE ISOLATED FROM THE STRUCTURE.
  - 6 LIMITED EXISTING SERVICES ARE SHOWN ON NEW WORK FLOOR PLANS. REFER TO DEMO PLANS FOR EXISTING SERVICES, FIXTURES, AND EQUIPMENT.

- # SHEET NOTES**
- 1 (E) FIXTURE REPLACED WITH (N) FIXTURE. RECONNECT TO (E) PLUMBING SERVICES.
  - 2 TERMINATE CONDENSATE PIPING OVER MOP SINK.
  - 3 LOCATE HOSE BIBB ASSEMBLY OVER MOP SINK.
  - 4 WATER HEATER LOCATED ABOVE CEILING. PROVIDE ACCESS PANEL; REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION.
  - 5 INSTALL EWH UNDERNEATH SINK/LAVATORY.
  - 6 TERMINATE SECONDARY CONDENSATE PIPING OVER MOP SINK WITH VISIBLE AIR GAP. LABEL PIPE AS SECONDARY CONDENSATE.
  - 7 VERIFY (E) FLOOR DRAINS ARE PROVIDED WITH TRAP PRIMERS.

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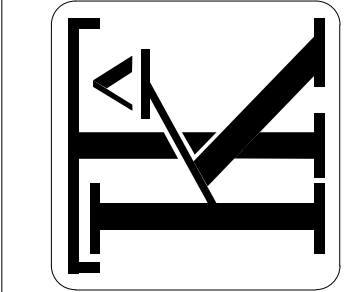
### GENERAL NOTES

- 1 OPEN UP SLAB WITHIN FIRST WEEK OF PROJECT START. INVESTIGATE WATER INTRUSION AND EXISTING MEMBRANE UNDER SLAB.
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- 5 RISER CLAMPS FOR SUPPLY AND WASTE LINES SHALL BE ISOLATED FROM THE STRUCTURE.
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## SHEET NOTES

1. TERMINATE CONDENSATE PIPING OVER MOP SINK.
2. LOCATE HOSE BIBB ASSEMBLY OVER MOP SINK.
3. TERMINATE CONDENSATE PIPING AT LAVATORY TAILPIECE
4. INSTALL EWH UNDERNEATH SINK/LAVATORY.
5. TERMINATE SECONDARY CONDENSATE PIPING OVER MOP SINK WITH VISIBLE AIR GAP. LABEL PIPE AS SECONDARY CONDENSATE.

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PLUMBING  
MEZZANINE  
FLOOR PLAN

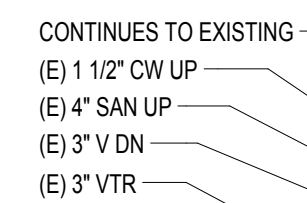
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1

- 1 OPEN UP SLAB WITHIN FIRST WEEK OF PROJECT START. INVESTIGATE WATER INTRUSION AND EXISTING MEMBRANE UNDER SLAB.
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- 4 ISOLATION PADS SHALL BE USED WHERE PIPING, PIPE CONNECTORS, OR VALVES MAY CONTACT FRAMING, DUCTWORK, STRUCTURE, STUDS, GYPSUM BOARD, OR OTHER PIPES.
- 5 RISER CLAMPS FOR SUPPLY AND WASTE LINES SHALL BE ISOLATED FROM THE STRUCTURE.
- 6 LIMITED EXISTING SERVICES ARE SHOWN ON NEW WORK FLOOR PLANS. REFER TO DEMO PLANS FOR EXISTING SERVICES, FIXTURES, AND EQUIPMENT.

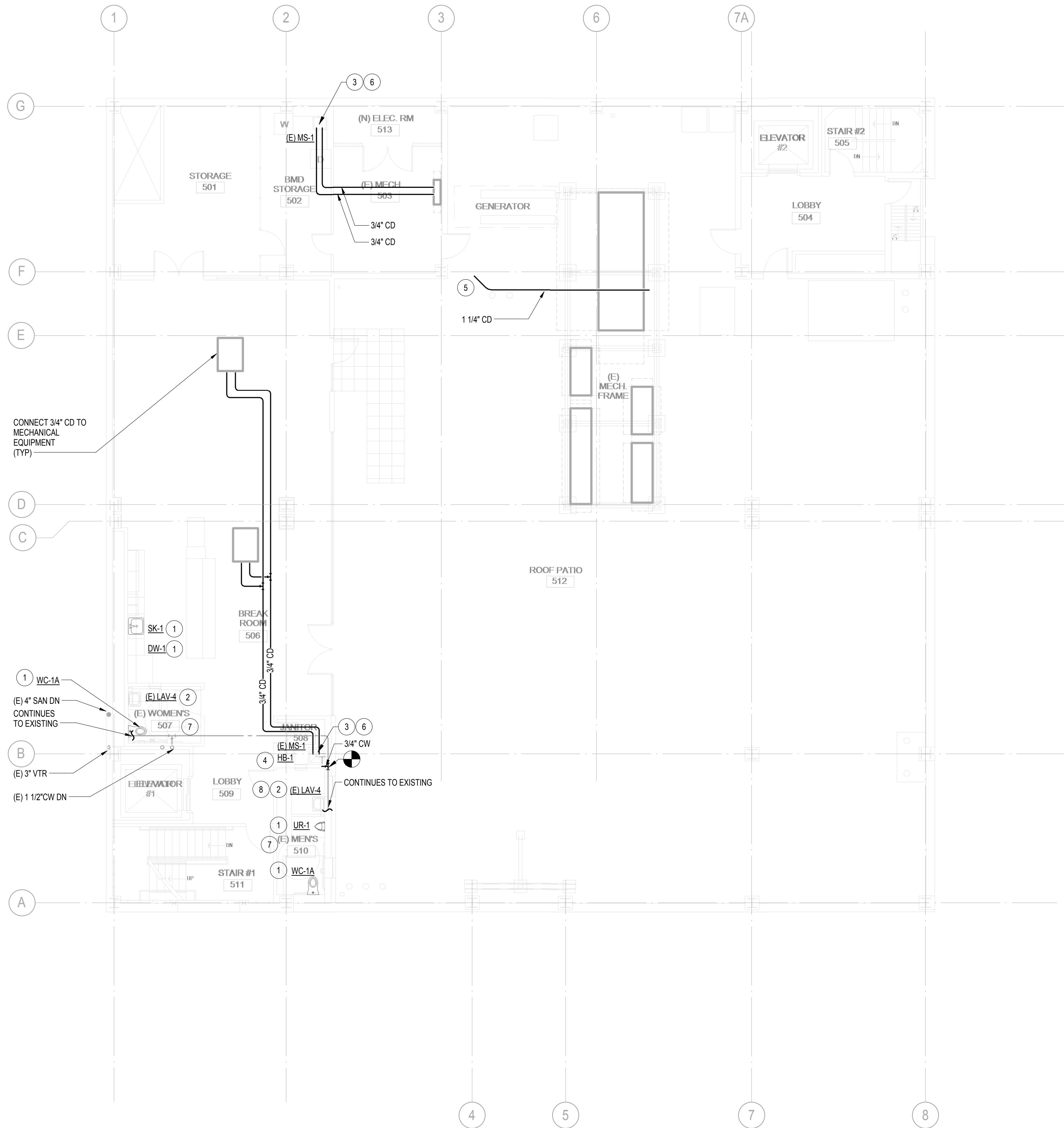
- 1 (E) FIXTURE REPLACED WITH (N) FIXTURE. RECONNECT TO (E) PLUMBING SERVICES.
- 2 TERMINATE CONDENSATE PIPING AT LAVATORY TAILPIECE.
- 3 TERMINATE CONDENSATE PIPING OVER MOP SINK.
- 4 LOCATE HOSE BIBB ASSEMBLY OVER MOP SINK.
- 5 TERMINATE SECONDARY CONDENSATE PIPING OVER MOP SINK WITH VISIBLE AIR GAP. LABEL PIPE AS SECONDARY CONDENSATE.
- 6 VERIFY (E) FLOOR DRAINS ARE PROVIDED WITH TRAP PRIMERS



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1 PLUMBING THIRD FLOOR PLAN  
1/8" = 1'-0"

GENERAL NOTES

- 1 OPEN UP SLAB WITHIN FIRST WEEK OF PROJECT START. INVESTIGATE WATER INTRUSION AND EXISTING MEMBRANE UNDER SLAB.
- 2 ALL SUPPLY LINES SHALL BE MECHANICALLY ISOLATED FROM THE BUILDING STRUCTURE BY MEANS OF RESILIENT PIPE ISOLATORS.
- 3 ALL NEW WASTE LINES OR THOSE EXPOSED DURING CONSTRUCTION SHALL BE ISOLATED.
- 4 ISOLATION PADS SHALL BE USED WHERE PIPING, PIPE CONNECTORS, OR VALVES MAY CONTACT FRAMING, DUCTWORK, STRUCTURE, STUDS, GYPSUM BOARD, OR OTHER PIPES.
- 5 RISER CLAMPS FOR SUPPLY AND WASTE LINES SHALL BE ISOLATED FROM THE STRUCTURE.
- 6 LIMITED EXISTING SERVICES ARE SHOWN ON NEW WORK FLOOR PLANS. REFER TO DEMO PLANS FOR EXISTING SERVICES, FIXTURES, AND EQUIPMENT.

# SHEET NOTES

- 1 (E) FIXTURE REPLACED WITH (N) FIXTURE. RECONNECT TO (E) PLUMBING SERVICES.
- 2 INSTALL (N) 0.35 GPM AERATOR AT (E) FIXTURE.
- 3 TERMINATE CONDENSATE PIPING OVER MOP SINK.
- 4 LOCATE HOSE BIBB ASSEMBLY OVER MOP SINK.
- 5 TERMINATE CONDENSATE DRAIN AT (E) ROOF RECEPTOR.
- 6 TERMINATE SECONDARY CONDENSATE PIPING OVER MOP SINK WITH VISIBLE AIR GAP. LABEL PIPE AS SECONDARY CONDENSATE.
- 7 VERIFY (E) FLOOR DRAINS ARE PROVIDED WITH TRAP PRIMERS.
- 8 FIXTURE HEIGHT SHALL BE ADJUSTED. REFER TO 1/A6.6 FOR ELEVATION.

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PLUMBING THIRD  
FLOOR PLAN

ITD HEADQUARTERS  
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OAKLAND, CA 94612

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REVISIONS			
No	Desc	Date	
1	65% CD Set	2016-08-01	
2	95% CD Set	2016-10-31	
3	Bid Set	2016-11-15	

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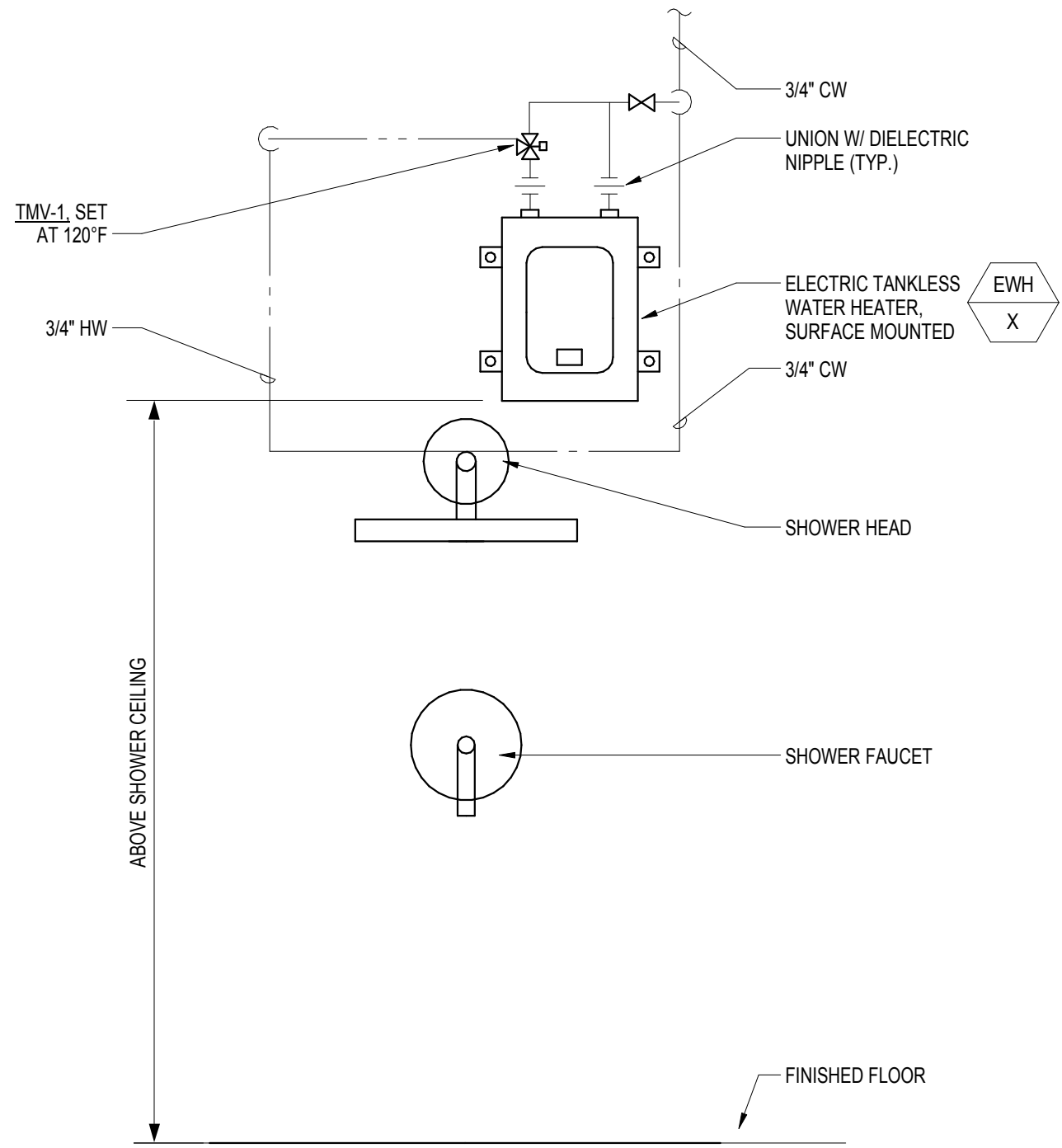
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PROJECT NO.: 1203.22

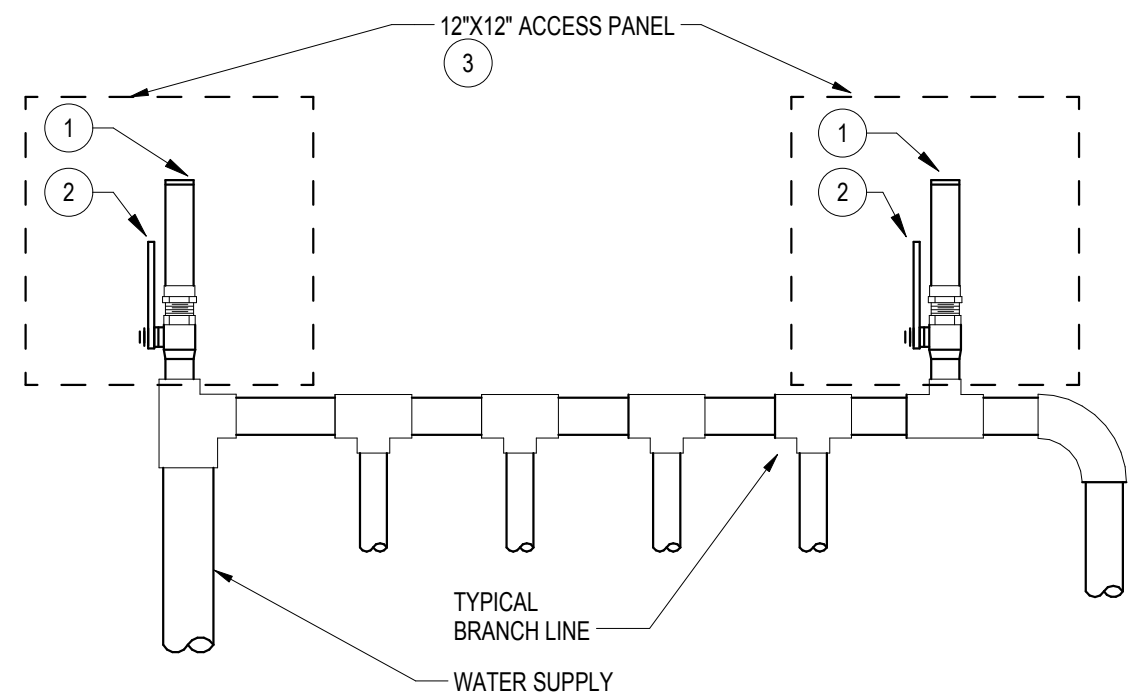
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A. SHOWER

8 ELECTRIC TANKLESS WATER HEATER INSTALLATION  
NTS



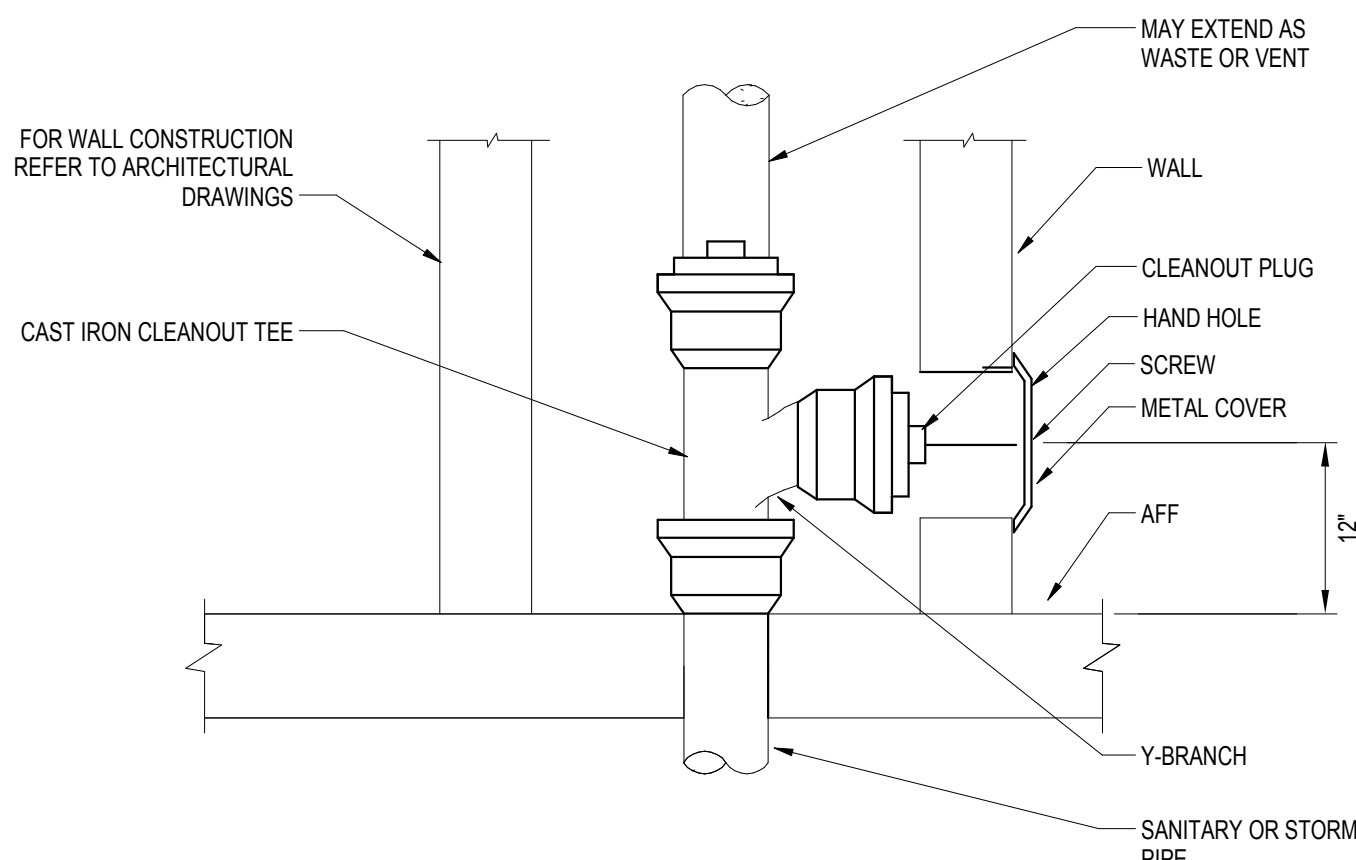
# SHEET NOTES:

1. INSTALL WATER HAMMER ARRESTER AT THE BEGINNING OF THE BRANCH LINE AND AT THE END OF BRANCH LINE BETWEEN THE LAST TWO FIXTURES FOR BRANCH LINES GREATER THAN 10 FEET. FOR BRANCHES OVER 20 FEET, PROVIDE AN ADDITIONAL WATER HAMMER ARRESTER AT BRANCH MIDPOINT.
2. BALL VALVE, SAME SIZE AS WATER HAMMER ARRESTER CONNECTION SIZE.
3. PROVIDE LARGER ACCESS PANEL FOR LARGER WATER HAMMER ARRESTER MODELS OR MULTIPLE WATER HAMMER ARRESTERS SHARING A COMMON ACCESS PANEL.

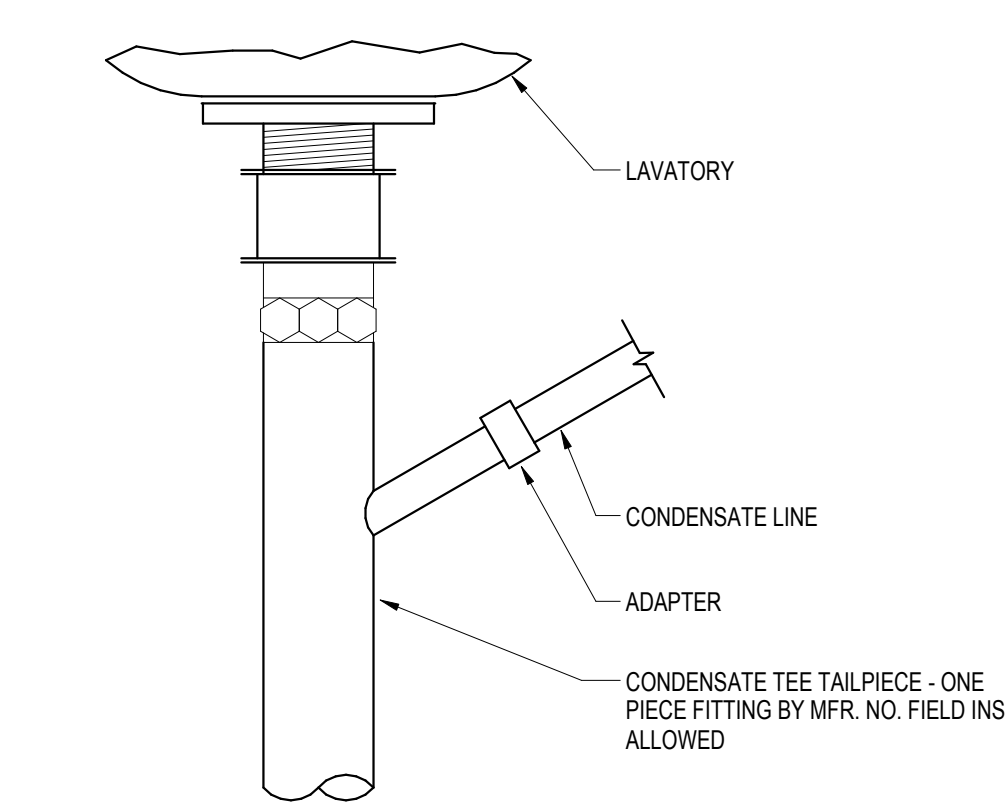
NOTES:

1. INSTALLATION SHALL COMPLY WITH STANDARD PDI-WH 201 AND PER MANUFACTURER'S REQUIREMENTS
2. WHEN THE FLOW PRESSURE EXCEEDS 65 PSIG, PROVIDE THE NEXT LARGER SIZE WATER HAMMER ARRESTER.
3. PROVIDE WATER HAMMER ARRESTER(S) AT FIXTURES WHERE QUICK CLOSING VALVES ARE INSTALLED PER 2013 CPC 609.10, INCLUDING BUT NOT LIMITED TO WATER CLOSETS, URINALS, SENSOR FAUCETS, CLOTHES WASHERS, DRINKING FOUNTAINS, AND BOTTLE FILLERS.

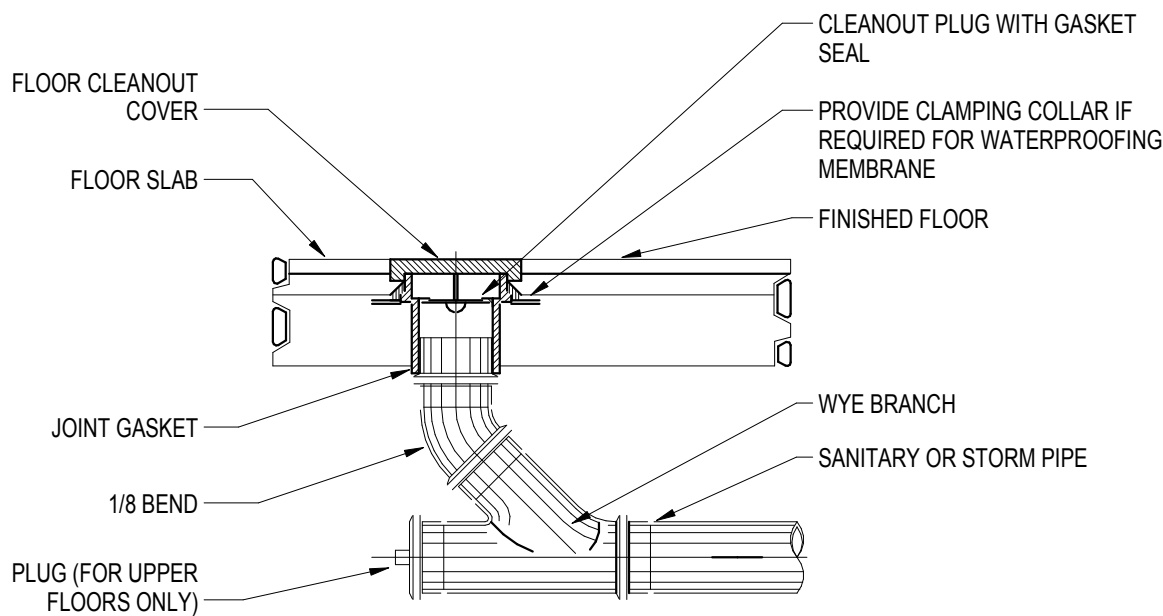
7 WATER HAMMER ARRESTOR  
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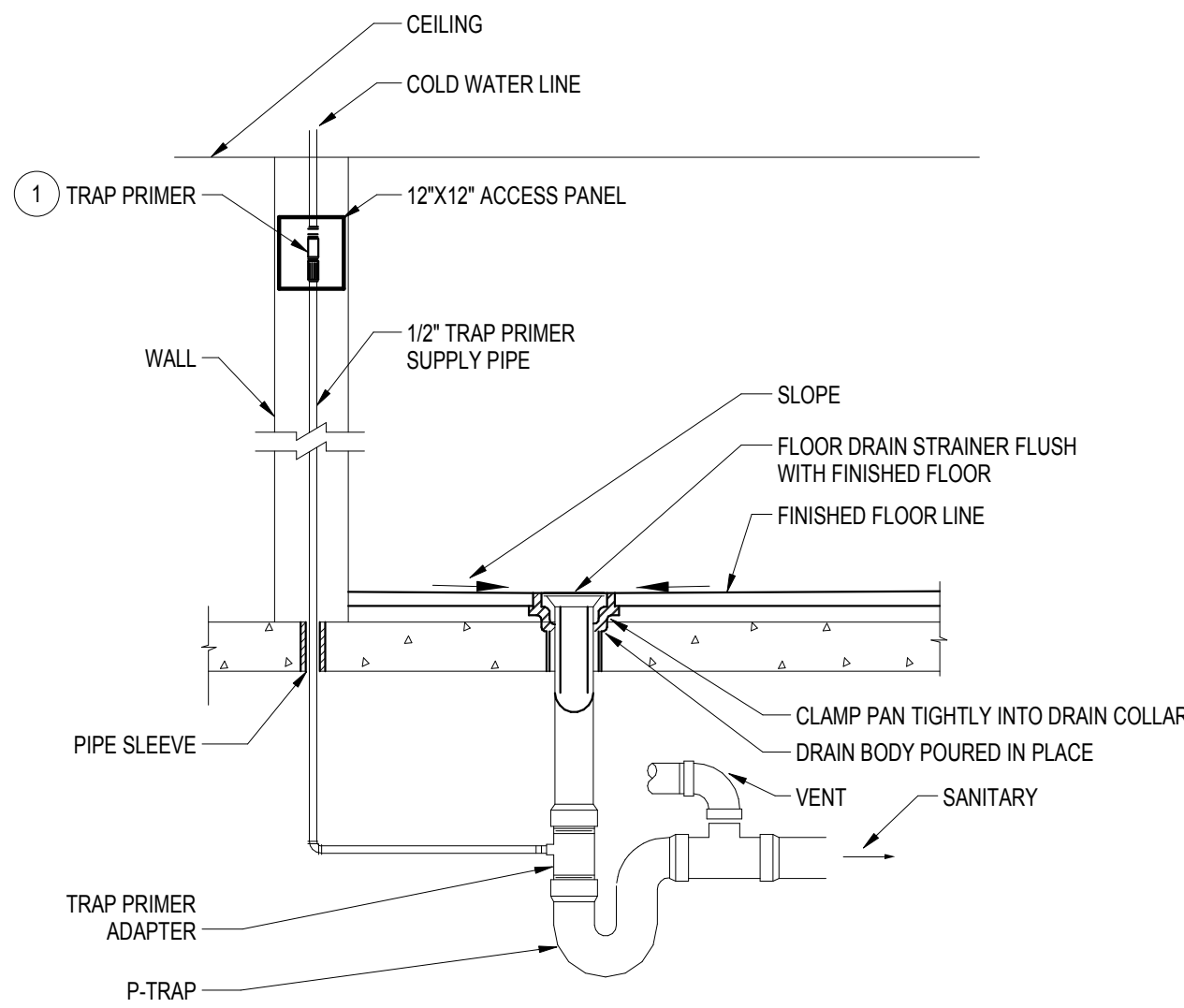
6 WALL CLEANOUT  
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5 LAVATORY CONDENSATE CONNECTION  
NTS



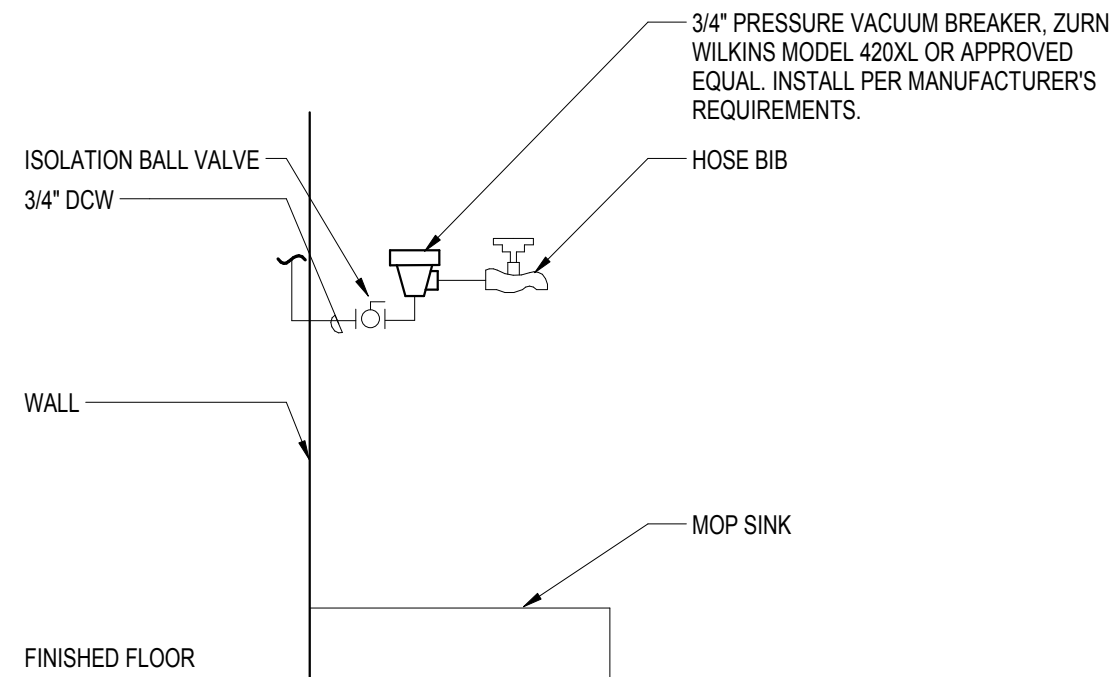
4 FLOOR CLEANOUT  
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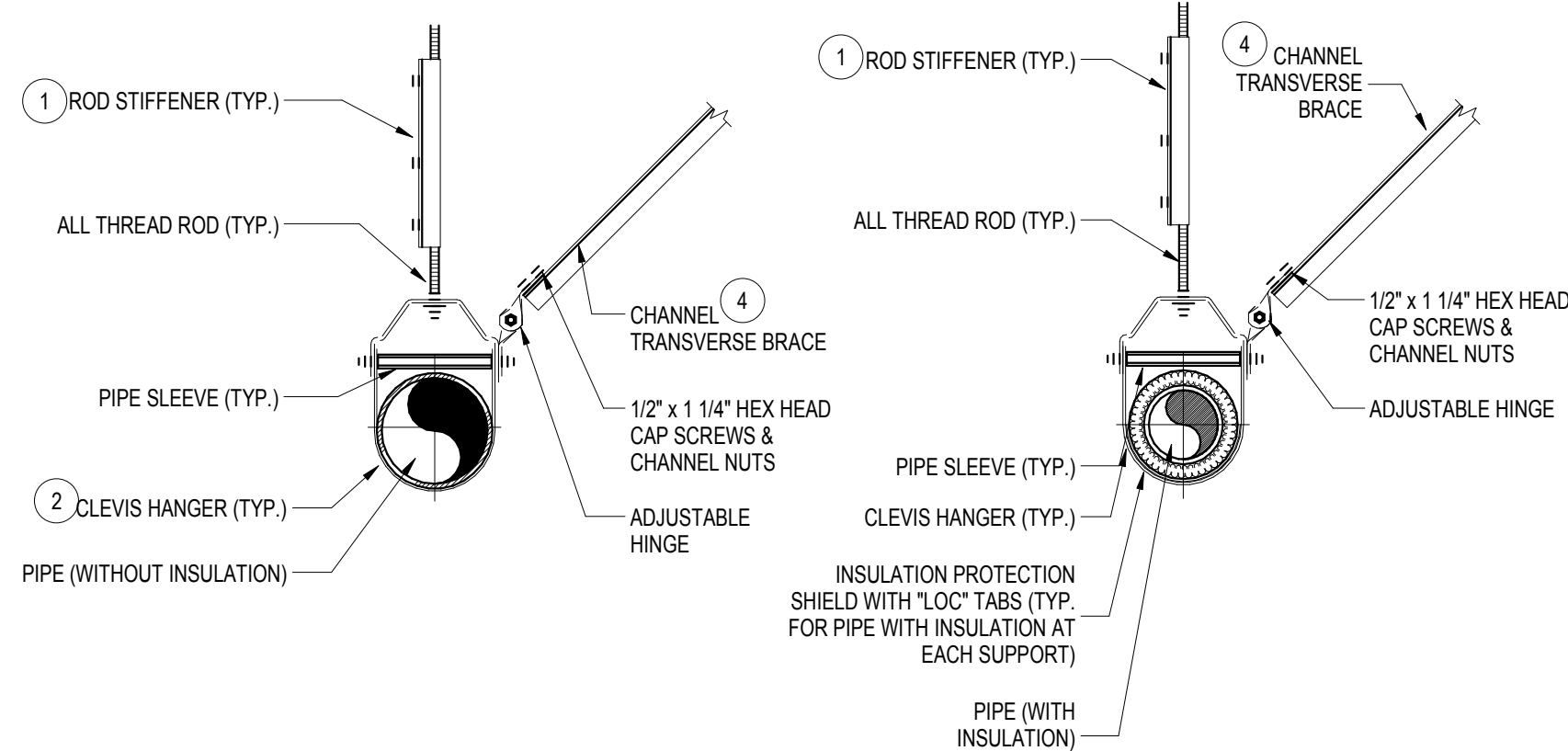
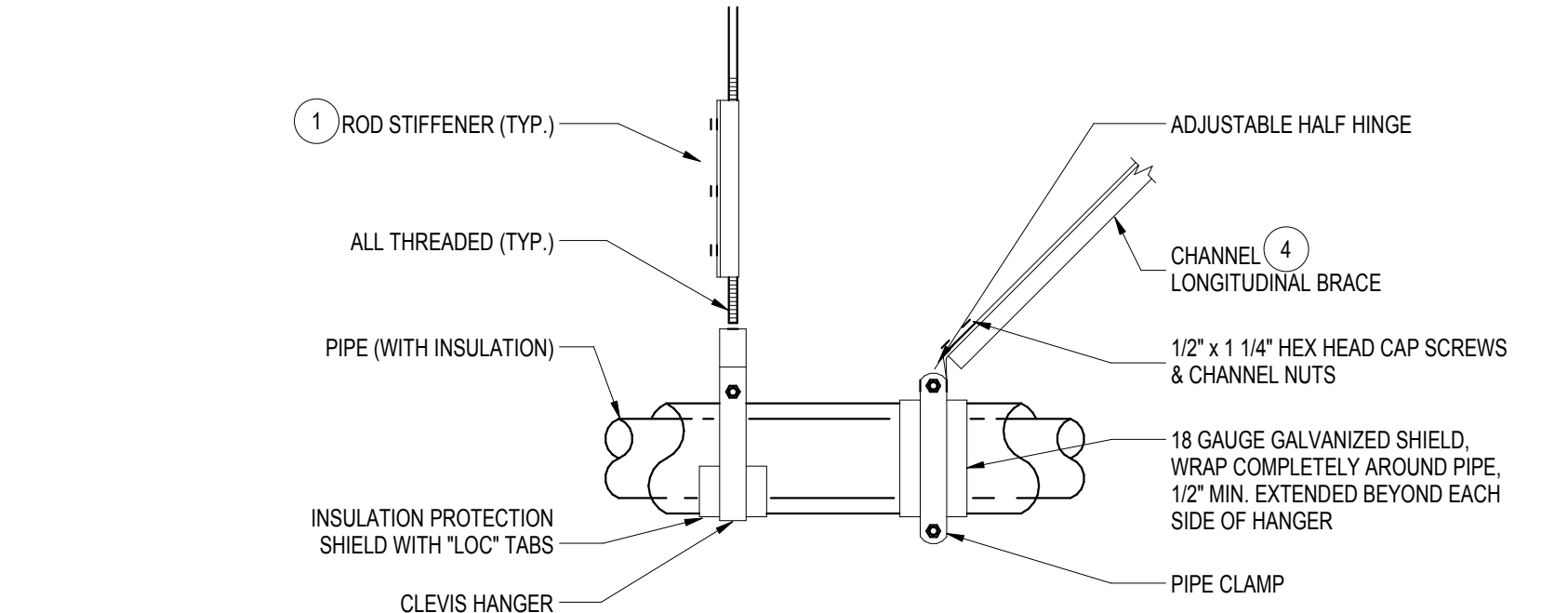
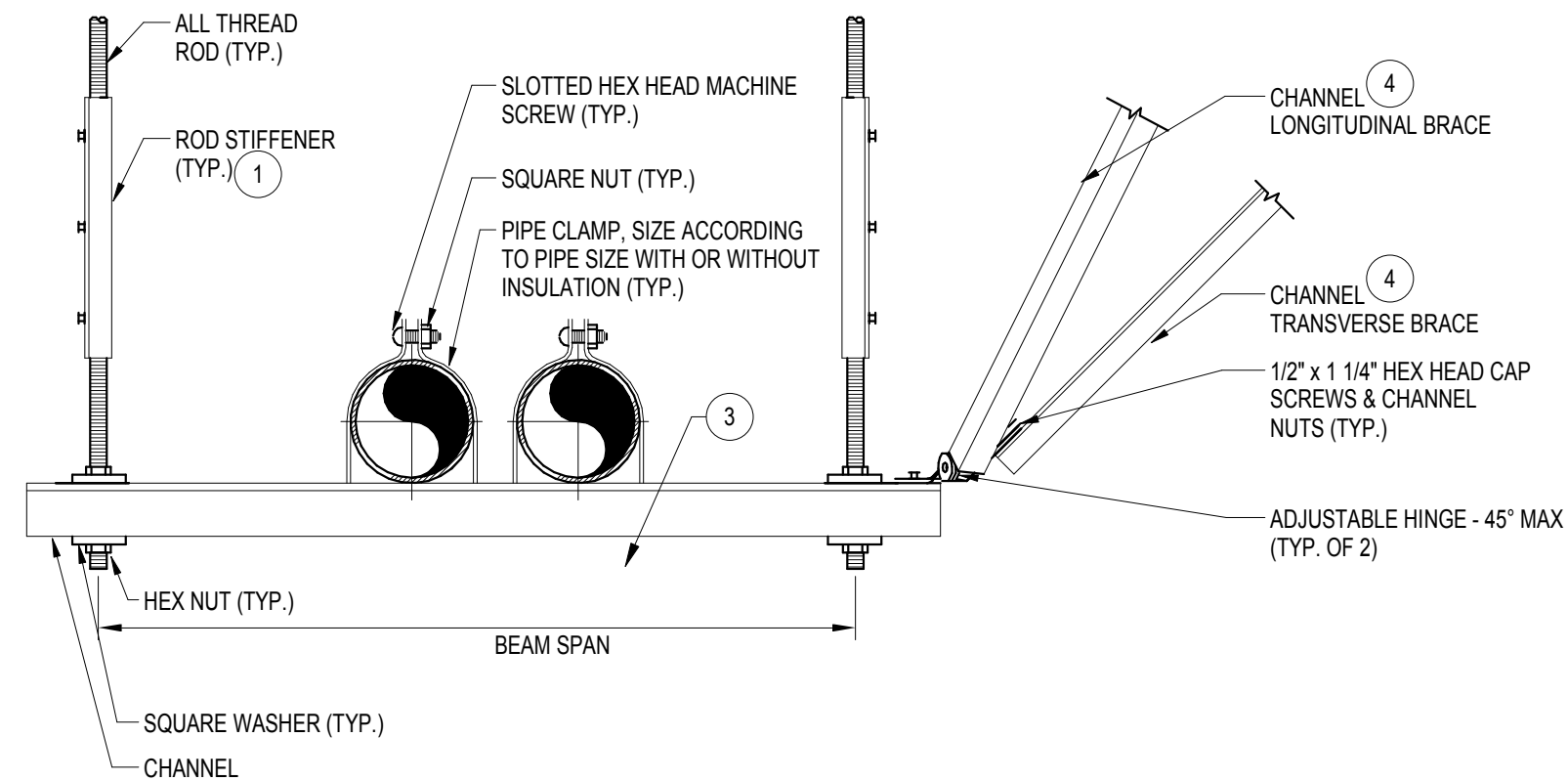
# SHEET NOTES:

1. REFER TO SCHEDULES FOR TRAP PRIMER MAKE AND MODEL. INSTALL PER MANUFACTURER'S REQUIREMENTS.

3 FLOOR DRAIN WITH TRAP PRIMER  
NTS



2 HOSE BIBB ASSEMBLY  
NTS



NOTES:

1. COMPLY WITH CALIFORNIA BUILDING CODE SECTION 1632A. ADOPTED EDITION.
2. BRACE ALL PIPING AND EQUIPMENT TRANSVERSELY AND LONGITUDINALLY ACCORDING TO SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL AND AND PLUMBING PIPING SYSTEMS.
3. ALL PIPE SUPPORTS SHALL BE PIPING TECHNOLOGY & PRODUCTS, INC. OR APPROVED EQUAL.
4. PROVIDE TRANSVERSE SEISMIC BRACING AT 20'-0" MAXIMUM AND AT EVERY CHANGE OF DIRECTION.
5. PROVIDE LONGITUDINAL SEISMIC BRACING AT 40'-0" O.C. MAXIMUM, MINIMUM OF 2 REQUIRED.
6. REFER TO 5/P62 FOR ATTACHMENT TO DECK CONTINUATION.

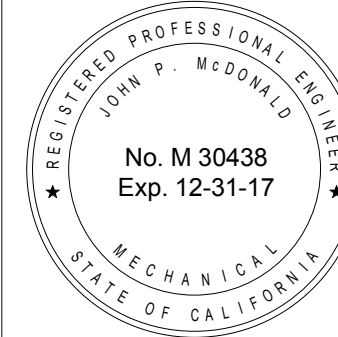
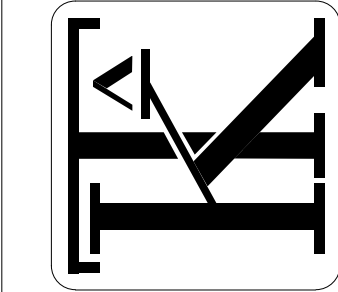
# SHEET NOTES:

1. INSTALL ROD STIFFENER WHEN LENGTH EXCEEDS THE SCHEDULE LENGTH:

ROD SIZE	MAX. ROD LENGTH WITHOUT ROD STIFFENER	MAX. SPACING BETWEEN ROD STIFFENERS
3/8"	19'	13'
1/2"	25'	18'
5/8"	31'	23'
3/4"	37'	28'
7/8"	43'	33'
1"	50'	38'
1-1/4"	60'	43'

- ROD STIFFENERS ARE REQUIRED ONLY ON HANGER AND TRAPEZE ASSEMBLIES THAT HAVE SEISMIC BRACING ATTACHED AT OR WITHIN 4' OF THE ROD. A MINIMUM OF TWO ROD STIFFENERS MUST BE INSTALLED.
2. PROVIDE COPPER HANGERS AND/OR CLAMPS FOR BARE COPPER PIPING OR EPOXY COATED CLEVIS HANGER AND/OR CLAMPS FOR NON-METALLIC SEPARATION BETWEEN DISIMILAR METALS.
  3. REFER TO PIPING TECHNOLOGY & PRODUCTS INC. FOR CHANNEL TYPE AND LOAD RATING BASED ON BEAM SPAN FOR UNIFORM AND CONCENTRATED LOADING.
  4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 TYPICAL SINGLE AND TRAPEZE PIPE SUPPORT  
NTS



PLUMBING  
DETAILS

ITD HEADQUARTERS  
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OAKLAND, CA 94612

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1	65% CD Set	2016-08-01
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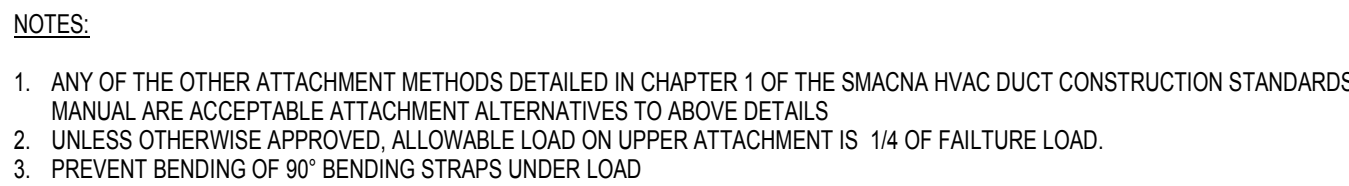
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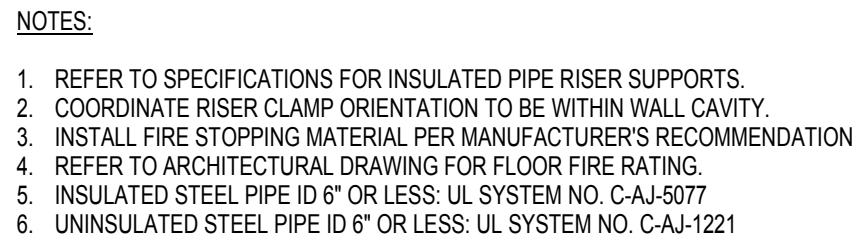
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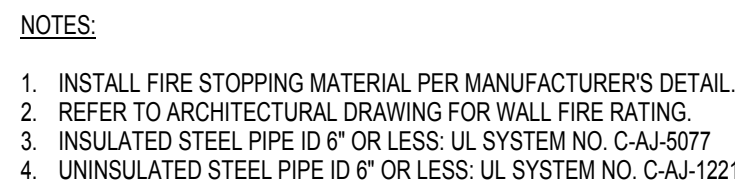
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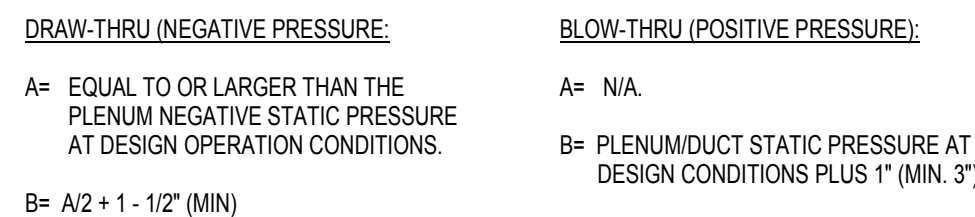
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