PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	W	V	CW	HW
CW1	WASHER BOX 18 GAUGE STEEL BOX WITH POWDER COAT FINISH. 3/4" HOSE BIBBS. MFR/MODEL: GUY GRAY BB-200.	2"	2"	3/4"	3/4"
DF1	ELECTRIC DRINKING FOUNTAIN ADA. DUAL HEIGHT. RECESSED WALL MOUNTED. BOTTLE FILLER. BRUSHED STAINLESS STEEL FINISH. FRONT PUSH BUTTONS. 100 MICRON STRAINER. RECESSED MOUNTING FRAME. 8.0 GPH @ 50F. 115V, 4.8 FLA, 500 WATTS. MFR/MODEL: OASIS MFR/MODEL M8CREBF.	2"	2"	1/2"	NA
DF2	ELECTRIC DRINKING FOUNTAIN ADA. DUAL HEIGHT. WALL MOUNTED. BOTTLE FILLER. STAINLESS STEEL TOP. SANDSTONE POWDER COATED PAINTED CABINET. FRONT AND SIDE PUSH BAR ACTIVATED VALVES. 100 MICRON STRAINER. 8.0 GPH @ 50F. 115V, 3.1 FLA., 286 WATTS. MFR/MODEL: OASIS MODEL PG8EBFSL.	2"	2"	1/2"	NA
DSN1	DOWNSPOUT NOZZLE JR SMITH 1770. CAST BRONZE NOZZLE AND FLANGE. SEE PLANS FOR SIZES.	NA	NA	NA	NA
ECO1	EXTERIOR CLEANOUT HEAVY LOAD DUTY. (2)REQUIRED FOR TWO WAY CLEANOUT. CAST IRON BODY AND COVER. MFR/MODEL: SMITH 4263.	NA	NA	NA	NA
ESEW1	EMERGENCY SHOWER EYEWASH COMBINATION EMERGENCY SHOWER/EYE WASH. GREEN ABS BOWL AND SHOWERHEAD. 20 GPM ABS SHOWER HEAD. 4GPM EYEWASH. FLOOR FLANGE. SIGNAGE. GALVANIZED STEEL PIPING/FITTINGS. MFR/MODEL: HAWS 8317.	NA"	NA"	1-1/4" TEPID	NA
ESH1	EMERGENCY SHOWER EYEWASH HEATER 24GPM @ 33F RISE. 480V/3PH/115KW. STRAINER. DIGITAL READOUT. NEMA 4. NON-FUSED DISCONNECT. ANSI Z358.1. MFR/MODEL: CHRONOMITE ERB-240L/480/3P.	NA"	NA"	1-1/4"	1-1/4" TEPID
ET1 ET2	EXPANSION TANK 2.1 GALLON VOLUME. .85 GALLON ACCEPTANCE. MFR/MODEL: WATTS DET-5.	NA	NA	3/4"	NA
ET3 ET4 ET5	EXPANSION TANK 4.5 GALLON VOLUME. 1.8 GALLON ACCEPTANCE. MFR/MODEL: WATTS DET-12.	NA	NA	3/4"	NA
FCO1	FLOOR CLEANOUT FOOT LOAD TRAFIC DUTY. CAST IRON BODY. 6" NICKEL BRONZE TOP. MFR/MODEL: SMITH 4020.	NA	NA	NA	NA
FCO2	FLOOR CLEANOUT HEAVY LOAD DUTY. CAST IRON BODY. 6" NICKEL BRONZE TOP. MFR/MODEL: SMITH 4100.	NA	NA	NA	NA
FD1	FLOOR DRAIN FOOT TRAFFIC DUTY. CAST IRON BODY. ROUND NICKEL BRONZE TOP. TRAP PRIMER. MFR/MODEL: SMITH 2005.	2"*	2"*	NA	NA
FD2	FLOOR DRAIN MEDIUM DUTY. CAST IRON BODY AND TOP. TRAP PRIMER. MFR/MODEL: SMITH 2110.	3"	2"	NA	NA
FS1	FLOOR SINK 12" SQUARE. 8" DEEP. PORCELAIN ENAMEL CAST IRON BODY AND 1/2 GRATE. TRAP PRIMER. MFR/MODEL: SMITH 330.	2"*	2"	NA	NA
FS2	FLOOR SINK 12" SQUARE. 10" DEEP. PORCELAIN ENAMEL CAST IRON BODY AND 1/2 GRATE. TRAP PRIMER. MFR/MODEL: SMITH 340.	3"	2"	NA	NA
GI1	GREASE INTERCEPTOR 75GPM. 175.6 GREASE LBS. 40 GALLON CAPACITY. MOLDED HIGH DENSITY POLYETHYLENE CONSTRUCTION. GAS TIGHT COVER. 3" INLET/OUTLET/VENT CONNECTIONS. MFR/MODEL: SCHIER GB3.	3"	2"	NA	NA
HB1	HOSE BIBB WALL FAUCET. VACUUM BREAKER. CHROME PLATED. LOOSE TEE KEY. MFR/MODEL: WOODFORD 24P.	NA	NA	3/4"	NA
FPD1	FIRE PROTECTION DRAIN 6" STANDPIPE TO 30"AFF. PRIME TRAP.	6"	3"	NA	NA
HS1	HAND SINK WALL MOUNT. 18 GA. 304 STAINLESS STEEL. 17"LEFT TO RIGHT X 15" FRONT TO BACK. MFR/MODEL: TURBO AIR TSS-1-H. TRIM: 1. FAUCET: 4" CENTERS. GOOSENECK 6-1/4"REACH. TWO HANDLE. MFR/MODEL: CHICAGO 521-CP. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS. 4. THERMOSTATIC MIXING VALVE: ASSE 1070. 1.5GPM AT 5PSI PD. SET TO 110F. MFR/MODEL: ACORN ST70CP-12.	2"	2"	1/2"	1/2"
L1	LAVATORY ADA. UNDERCOUNTER MOUNT. OVERFLOW. VITREOUS CHINA. 19-1/4"X16-1/4". MFR/MODEL: KOHLER K-2210. TRIM: 1. FAUCET: SLOAN SOLIS EAF-275 SINGLE TEMP. SOLAR POWER-SENSOR ACTIVATED. .5GPM. 6VDC LITHIUM BATTERY BACKUP. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS.	2"	2"	NA	1/2" TW
L2	LAVATORY ADA. WALL MOUNTED. VITREOUS CHINA. OVERFLOW. 21-1/4"X18-1/8". MFR/MODEL: KOHLER K-2007. TRIM: 1. FAUCET: SLOAN SOLIS EAF-275 SINGLE TEMP. SOLAR POWER-SENSOR ACTIVATED. .5GPM. 6VDC LITHIUM BATTERY BACKUP. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS. 4. CARRIER SUPPORT.. 5. THERMOSTATIC MIXING VALVE: ASSE 1070. 1.5GPM AT 5PSI PD. SET TO 105F.MFR/MODEL: ACORN ST70CP-12.	2"	2"	NA	1/2" TW
LT1	LAUNDRY SINK STAINLESS STEEL. 21.5"x24"OUTSIDE. 18"X16"X13 DEEP"BOWL. FLOOR MOUNTED WITH LEGS. MFR/MODEL: TRINITY THA-0303. TRIM: 1. FAUCET: DECK MOUNTED. SINGLE HOLE. GOOSENECK SPOUT. 2.0 GPM. MFR/MODEL: TRINITY. 2. P-TRAP, SUPPLIES AND STOPS.	2"	2"	1/2"	N/A
MS1	MOP SINK 24"x24"x10", FLOOR MOUNTED. MOLDED STONE. STAINLESS STEEL DRAIN. MFR/MODEL: FIAT MSB-2424. TRIM: 1. WALL FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK, AND 3/4" HOSE THREAD ON SPOUT. CHICAGO 897. 2. FIAT MODEL NO. 899-CC MOP HANGER, NO. 832-AA HOSE AND BRACKET, AND NO. E-77-AA VINYL BUMPERGUARD. 3. INSTALL REDUCED PRESSURE BACKFLOW PREVENTER WATTS 009 AND COLD WATER HOSE BIBB WITH VACUUM BREAKER, WOODFORD MODEL NO. 24. INSTALL AT THE MOP SINK FOR THE SOAP DISPENSING UNIT. VERIFY REQUIREMENT WITH OWNER.	3"	2"	1/2"	1/2"
MV1 MV2 MV4	MIXING VALVE ASSE 1017. 4 GPM AT 5 PSI PRESSURE DROP. INTERNAL CHECK VALVE AND SCREENS. ROUGH BRASS FINISH. MFR/MODEL: ACORN MV17-1	NA	NA	SP	SP
MV3	MIXING VALVE ASSE 1017. 8 GPM AT 5 PSI PRESSURE DROP. INTERNAL CHECK VALVE AND SCREENS. ROUGH BRASS FINISH. MFR/MODEL: ACORN MV17-2.	NA	NA	SP	SP
OD1	OVERFLOW ROOF DRAIN CAST IRON BODY AND DOME. MFR/MODEL: SMITH 1080	NA	NA	NA	NA
OWS1	OIL WATER SEPARATOR 500 GALLON CAPACITY. 250 GALLON OIL CAPACITY. PRECAST CONCRETE CONSTRUCTION. H20 TRAFFIC GAS TIGHT ACCESS COVER. EXTENSION AS REQUIRED FOR FINISH GRADE. 4" INLET/OUTLET. 3"VENT CONNECTIONS. COALESCING MEDIA. HIGH OIL FLOAT SWITCH/PANEL 110V. SAMPLING VAULT. MFR/MODEL: PARK SOCMP-500.	4"	3"	NA	NA
PRV1	PRESSURE REDUCING VALVE 118GPM @ 3PSI PD. SIZE: 2-1/2" GLOBE. MFR/MODEL: WATTS ACV	NA	NA	3"	NA
PRV2	PRESSURE REDUCING VALVE 60GPM @ 3PSI PD. SIZE: 1-1/2" GLOBE. MFR/MODEL: WATTS ACV	NA	NA	2"	NA
PS1	POT SINK 18GA. 304 STAINLESS STEEL. LEGS. TWO DRAINBOARDS. OVERALL: 90"LEFT TO RIGHT X 24"FRONT TO BACK. 44-1/2"HEIGHT. THREE BOWL SIZES: 18"X18"X14"DEEP. MFR/MODEL: TURBO AIR TSA-3-14-D1. TRIM: 1. FAUCET: WALL MOUNTED. 8" CENTERS. THREE HOLE. TWO HANDLE. SWING SPOUT (14"REACH). 2.0 GPM. MFR/MODEL: CHICAGO 540LDL15JKCP. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS. 4. LEVER STRAINER: MFR/MODEL: ELKAY LK-24RT.	2"ID	NA	3/4"	3/4"

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	W	V	CW	HW
RD1	ROOF DRAIN CAST IRON BODY AND DOME. MFR/MODEL: SMITH 1010	NA	NA	NA	NA
RH1	ROOF HYDRANT FREEZE PROOF. DUAL CHECK BACKFLOW PREVENTER. CAST IRON SUPPORT WITH EPDM BOOT. RESERVIOR, NO DRAIN LINE REQUIRED. MFR/MODEL: WOODFORD SRH-MS.	NA"	NA"	3/4"	NA
RPBP1	REDUCED PRESSURE BACKFLOW PREVENTER STRAINER. BRONZE BODY. NRS. AIR GAP FITTING. 118 GPM AT 13 PSI PD. 3" SIZE. MFR/MODEL: WATTS 909	NA"	NA"	3"	NA
RPBP2	REDUCED PRESSURE BACKFLOW PREVENTER STRAINER. BRONZE BODY. QT. AIR GAP FITTING. 60 GPM AT 10 PSI PD. 2" SIZE. MFR/MODEL: WATTS 909	NA"	NA"	2"	NA
P1,2, 3,4,5	RECIRCULATION PUMP 1 GPM @ 12 FEET HEAD. 52WATTS. 115 VOLTS. 1 PH. 2800 RPM. MFR/MODEL: B&G NBF-10.	NA	NA	NA	1/2"
SI1	SOLIDS INTERCEPTOR ON FLOOR APPLICATION. PROVIDE FINE MESH SCREEN ON OUTLET. MFR/MODEL: SMITH 8710.	2"	2"	NA	NA
S1	LUNCH ROOM SINK: ADA. COUNTERTOP. DOUBLE COMPARTMENT. 18 GAUGE. TYPE 304 STAINLESS STEEL. OVERALL: 29"LEFT TO RIGHT X 22"FRONT TO BACK. REAR DRAINS. BOWL SIZES: 11-1/2"X16"X 5-1/2"DEEP. MFR/MODEL: ELKAY LRAD292255. TRIM: 1. FAUCET: ADA. 8" CENTERS. THREE HOLE. TWO HANDLE. SWING SPOUT (9-1/2"REACH). 2.0 GPM. MFR/MODEL: CHICAGO 201-A317XKABCP. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS. 4. DISPOSER: 1/2HP. 120V. MFR/MODEL: ISE BADGER. 5. CUP STRAINER: MFR/MODEL: ELKAY LK-35. 6. THERMOSTATIC MIXING VALVE: ASSE 1070. 2.0GPM AT 9PSI PD. SET TO 110F. MFR/MODEL: ACORN ST70CP-12.	2"	2"	1/2"	1/2"
S2	HAND SINK ADA. WALL MOUNTED. 304 STAINLESS STEEL. OVERFLOW. 22"X19"X5.5"DEEP. MFR/MODEL: ELKAY ELVW02219SACC. TRIM: 1. FAUCET: GOOSE NECK SENSOR FAUCET. 1.5 GPM. MFR/MODEL: ELKAY LKB721C. AC PLUG IN/4AA BATTERIES. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS, CARRIER SUPPORT.	2"	2"	NA	1/2"TW
S3	HAND SINK: WALL MOUNTED. 14 GAUGE. 304 STAINLESS STEEL. 25"X19.5"X10.5"DEEP. MFR/MODEL: ELKAY EWS2520SACMC. TRIM: 1. FAUCET: GOOSE NECK SENSOR FAUCET. 1.5 GPM. MFR/MODEL: ELKAY LKB722C. AC PLUG IN/4AA BATTERIES. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS. CARRIER SUPPORT.	2"	2"	NA	1/2"TW
S4	HAND SINK: WALL MOUNTED. 14 GAUGE. 304 STAINLESS STEEL. 25"X19.5"X10.5"DEEP. MFR/MODEL: ELKAY EWS2520SACMC. TRIM: 1. FAUCET: GOOSE NECK SENSOR FAUCET. 1.5 GPM. MFR/MODEL: ELKAY LKB722C. AC PLUG IN/4AA BATTERIES. 2. INSULATION ON TRAP AND HW. 3. CHROME PLATED CAST BRASS P-TRAP, SUPPLIES AND STOPS. CARRIER SUPPORT. 4. THERMOSTATIC MIXING VALVE: ASSE 1070. 1.5GPM AT 5PSI PD. SET TO 110F. MFR/MODEL: ACORN ST70CP-12.	2"	2"	1/2"	1/2"
SH1	SHOWER: ADA. ONE PIECE FIBER COMPOSITE CONSTRUCTION. 60"X36". GRAB BARS. FOLDING SEAT. MFR/MODEL: FIBERFAB 63H1. TRIM: 1. SHOWER VALVE SYSTEM: ASSE 1016. PRESSURE BALANCE VALVE. 1.5 GPM. SET VALVE TO 115F MAX. SHOWER HEAD. HAND SHOWER. MFR/MODEL: SYMMONS 3505-H321-V-CYL-B. 2. CHROME PLATED STRAINER.	2"	2"	1/2"	1/2"
TD1	TRENCH DRAIN PRESLOPED POLYPROYLENE SYSTEM. 1 METER SECTIONS. .6% SLOPE. CLASS E WHEEL LOAD. 56'10" LENGTH (INCLUDING CATCH BASIN). MFR/MODEL: SMITH 9931. TRIM: 1. CATCH BASIN: CLASS E WHEEL LOAD. 4" SIDE OUTLET. MRF/MODEL: SMITH 9936. 2. TRAP PRIMER CONNECTION.	4"	2"	NA	NA
TP1	TRAP PRIMER PRECISION PLUMBING PRODUCTS INC., PR-500 PRIME RITE MACHINED BRASS BODY. INLET 1/2" MALE NPT FITTING, OUTLET 1/2" FEMALE NPT. DISTRIBUTION UNIT MODEL DU-2 WITH 12"x12" ACCESS DOOR. COMPLETE WITH A BALL VALVE BEFORE TRAP PRIMER.	NA	NA	1/2"	NA
U1	URINAL ADA. WALL HUNG VITREOUS CHINA. WASHOUT. 14"RIM. .125 GPF. MFR/MODEL: KOHLER K-4991-ET. TRIM: 1. FLUSH VALVE: INFRARED SENSOR. AA BATTERIES. .125 GPF. MFR/MODEL: SLOAN 8186-0.125. 2. SUPPORT: MFR/MODEL: SMITH.	2"	2"	3/4"	NA
U2	URINAL WALL HUNG VITREOUS CHINA. WASHOUT. 14"RIM. .125 GPF. MFR/MODEL: KOHLER K-4991-ET. TRIM: 1. FLUSH VALVE: INFRARED SENSOR. AA BATTERIES. .125 GPF. MFR/MODEL: SLOAN 8186-0.125. 2. SUPPORT: MFR/MODEL: SMITH.	2"	2"	3/4"	NA
WB1	WALL SUPPLY BOX 20 GAUGE STEEL BOX WITH POWDER COAT FINISH. 1/4 TURN VALVE. MFR/MODEL: GUY GRAY MIB1AB.	NA"	NA"	1/2"	NA
WC1	WATER CLOSET ADA. WALL HUNG. 1.28 GPF. SIPHON JET. ELONGATED BOWL. . 1-1/2" TOP SPUD. MFR/MODEL: KOHLER K-4325 TRIM: 1. FLUSH VALVE: 1.28GPF. INFRARED SENSOR. AA BATTERY. MFR/MODEL: SLOAN 8111-1.28. 2. SEAT: OPEN FRONT. STAINLESS STEEL CHECK HINGE. 3. CLOSET SUPPORT: MFR/MODEL: SMITH.	3"	2"	1"	NA
WC2	WATER CLOSET WALL HUNG. 1.28 GPF. SIPHON JET. ELONGATED BOWL. . 1-1/2" TOP SPUD. MFR/MODEL: KOHLER K-4325 TRIM: 1. FLUSH VALVE: 1.28GPF. INFRARED SENSOR. AA BATTERY. MFR/MODEL: SLOAN 8111-1.28. 2. SEAT: OPEN FRONT. STAINLESS STEEL CHECK HINGE. 3. CLOSET SUPPORT: MFR/MODEL: SMITH.	3"	2"	1"	NA
WC3	WATER CLOSET FLOOR MOUNTED. 1.28 GPF. SIPHON JET. ELONGATED BOWL. 1-1/2" TOP SPUD. MFR/MODEL: KOHLER K-96057 TRIM: 1. FLUSH VALVE: 1.28GPF. INFRARED SENSOR. AA BATTERY. MFR/MODEL: SLOAN 8111-1.28. 2. SEAT: OPEN FRONT. STAINLESS STEEL CHECK HINGE.	3"	2"	1"	NA
WCO	WALL CLEANOUT CAST BRONZE TAPER THREAD PLUG. MFR/MODEL: SMITH 4470.	NA	NA	NA	NA
WHA	WATER HAMMER ARRESTOR SIZE PER MFR. INSTRUCTIONS. MFR/MODEL: PRECISION PLUMBING PRODUCTS.	NA	NA	NA	NA
W1	WALL HYDRANT CHROME WALL BOX. FREEZELESS. VACUUM BREAKER. MFR/MODEL: WOODFORD B67.	NA	NA	3/4"	NA
WH1 WH2	ELECTRIC WATER HEATER 30 GALLON. 34 GPH @ 95F RISE. TWO 4KW SIMULATANEOUS ELEMENTS. 480V/3PH. MFR/MODEL: SMITH DEL-30.	NA	NA	SP	SP
WH3	GAS WATER HEATER 60 GALLON. 146 GPH @ 95F RISE. 120,000BTU INPUT. 120V/1PH/5A. 4"CONCENTRIC VENT KIT. NEUTRALIZATION KIT. MFR/MODEL: SMITH BTH-120.	NA	NA	SP	SP
WH4	GAS WATER HEATER 60 GALLON. 146 GPH @ 95F RISE. 120,000BTU INPUT. 120V/1PH/5A. 4"CONCENTRIC VENT KIT. NEUTRALIZATION KIT. MFR/MODEL: SMITH BTH-120.	NA	NA	SP	SP
WH5	GAS WATER HEATER 100 GALLON. 188 GPH @ 95F RISE. 150,000BTU INPUT. 120V/1PH/5A. 4"CONCENTRIC VENT KIT. NEUTRALIZATION KIT. MFR/MODEL: SMITH BTH-150.	NA	NA	SP	SP
WH6	ELECTRIC WATER HEATER TANKLESS WALL MOUNTED. .5 GPM AT 56F RISE. SET FOR 110F DISCHARGE. 208V. 4.1KW. 19.7 AMPS. EEMAX	NA	NA	1/2"	1/2"

NA=NOT APPLICABLE
SP=SEE PLANS
* = UNLESS NOTED OTHERWISE
ID = INDIRECT WASTE

CODE INFORMATION

INTERNATIONAL PLUMBING CODE – 2021

ALL SYSTEMS SHALL BE IN COMPLIANCE WITH THE ABOVE CODES AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

WATER/DRAINAGE SYSTEM

WATER SYSTEM HAS BEEN SIZED/DESIGNED PER INTERNATIONAL PLUMBING CODE – 2021 USING APPENDIX E SIZING OF WATER PIPING SYSTEMS.

SANITARY DRAINAGE SYSTEM HAS BEEN SIZED/DESIGNED PER INTERNATIONAL PLUMBING CODE – 2021. CHAPTER 7. SANITARY PIPING SLOPE=1/8"PER FOOT UNLESS NOTED OTHERWISE.

STORM PIPING SYSTEM

STORM DRAIN SYSTEM HAS BEEN SIZED PER INTERNATIONAL PLUMBING CODE – 2021, USING TABLES 1106.3. 3 INCHES PER HOUR RAINFALL RATE. HORIZONTAL PIPING SHALL SLOPE A MINIMUM 1/4" PER FOOT UNLESS NOTED OTHERWISE.

GAS PIPING SYSTEM

GAS PIPING SIZED PER 2021 INTERNATIONAL FUEL GAS CODE. HIGH PRESSURE SYSTEM = 2.0 PSI INLET PRESSURE 1.0 PSI PRESSURE DROP FOR FINAL PRESSURE OF 1.0 PSI (28"WC.). LOW PRESSURE SYSTEM = LESS THAN 2.0 PSI WITH .5"WC PRESSURE DROP.
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING QUANTITY AND LOCATION OF THERMAL EXPANSION LOOPS, FLEXIBLE CONNECTIONS, SUPPORTS, ETC. MASON INDUSTRIES APPROVED MFR.

LEGEND

G2	2 PSI GAS ABOVE FLOOR.
G	LOW PRESSURE GAS ABOVE FLOOR.
	COLD WATER
	HOT WATER (TEMPERED SIMILAR) ABOVE FLOOR.
	HOT WATER (TEMPERED SIMILAR) RETURN ABOVE FLOOR.
	VENT ABOVE FLOOR.
	WASTE BELOW FLOOR/GRADE.
	WASTE ABOVE FLOOR.
SD	STORM DRAIN BELOW FLOOR/GRADE.
SD	STORM DRAIN ABOVE FLOOR.
OD	OVERFLOW STORM DRAIN BELOW FLOOR/GRADE.
OD	OVERFLOW STORM DRAIN ABOVE FLOOR.
C	CONDENSATE DRAIN
GI	WASTE BELOW FLOOR/GRADE.
A	COMPRESSED AIR
	PRESSURE REGULATOR
	SHUT OFF VALVE
	TEMPERATURE/RELIEF VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	UNION
	THERMOMETER
	PRESSURE GUAGE WITH COCK
	CHECK VALVE
	INSTRUMENT TAP
	BALANCING VALVE
WCO	WALL CLEANOUT
FCO	FLOOR CLEANOUT
	PIPE UP
	PIPE DOWN
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RECIRC
TW	TEMPERED WATER
TWR	TEMPERED WATER RECIRC
W	WASTE
V	VENT
DWV	DRAIN WASTE & VENT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
VTR	VENT THRU ROOF
IE	BOTTOM OF PIPE ELEVATION
SOV	SHUT OFF VALVE
WHA	WATER HAMMER ARRESTOR W/ ACCESS PANEL
AP	ACCESS PANEL
RTU7 400	HVAC EQUIPMENT. EXAMPLE 400MBH/CFH
6	KEY NOTE (EXAMPLE IS #6)

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Case #:
Plan Check #:
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: SCHEDULES -PLUMBING

P001

WATER SYSTEM CALCULATIONS

Maintenance Restrooms

Preliminary Information			
1	Static Pressure at Meter Elevation (6857.28') =	114	psi
2	Meter Loss (2" Omni) =	2	psi
3	Backflow Preventer Loss (3" RPBP) =	13	psi
4	Static Pressure at Pressure Reducing Valve Inlet	99	psi
5	Static Pressure at Pressure Reducing Valve Outlet	80	psi
6	Finish Floor Elevation = 6855.28'		
7	Warehouse Mezzanine Finish Floor Elevation = 6875.28'		
8	Showroom Roof Hose Bibb Elevation = 6889.28'		
9	Warehouse Roof Hose Bibb Elevation = 6899.28'		
Demand Load			
10	Domestic Supply Demand = 118 gpm (360 FU Flush valve curve)		
11	Irrigation System Demand = 60 gpm. Irrigation system is metered separately.		
12	Total Combined Demand = 178 gpm		
Permissible Friction Loss			
13	Minimum Residual Pressure Maintained At Highest Fixture =	25	psi
14	Elevation Of Highest Fixture =	6860.3	ft
15	Elevation Of Water Meter =	6857.3	ft
16	Static Pressure Loss To Highest Fixture =	1.29	psi
17	PRV Static Pressure =	80	psi
18	Residual Pressure =	25	psi
19	Static Pressure Loss =	1.3	psi
20	**Pressure Available For Friction Loss In Pipes =**	**53.7**	**psi**
21	Developed Length Of Pipe (Interior Pipe TEL) =	305	ft
22	**Average Permissible Friction Loss Per 100 ft Length Of Pipe =**	**17.6**	**psi**

Cold Water Sizing Table Based On 15.0psi loss/100ft and 5 fps Max. Velocity

Pipe Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
GPM	4	8	15	21	28	50	75	120
Velocity (ft/sec)	5	5	5	5	5	5	5	5
FU (FV)	NA	NA	5	7.5	11	50	130	360
FU (TANK)	1.5	4	10.5	25	45	130	250	500

WATER SYSTEM CALCULATIONS

Mezzanine Restrooms

Preliminary Information			
1	Static Pressure at Meter Elevation (6857.28') =	114	psi
2	Meter Loss (2" Omni) =	2	psi
3	Backflow Preventer Loss (3" RPBP) =	13	psi
4	Static Pressure at Pressure Reducing Valve Inlet	99	psi
5	Static Pressure at Pressure Reducing Valve Outlet	80	psi
6	Finish Floor Elevation = 6855.28'		
7	Warehouse Mezzanine Finish Floor Elevation = 6875.28'		
8	Showroom Roof Hose Bibb Elevation = 6889.28'		
9	Warehouse Roof Hose Bibb Elevation = 6899.28'		
Demand Load			
10	Domestic Supply Demand = 118 gpm (360 FU Flush valve curve)		
11	Irrigation System Demand = 60 gpm. Irrigation system is metered separately.		
12	Total Combined Demand = 178 gpm		
Permissible Friction Loss			
13	Minimum Residual Pressure Maintained At Highest Fixture =	25	psi
14	Elevation Of Highest Fixture =	6880.3	ft
15	Elevation Of Water Meter =	6857.3	ft
16	Static Pressure Loss To Highest Fixture =	9.89	psi
17	PRV Static Pressure =	80	psi
18	Residual Pressure =	25	psi
19	Static Pressure Loss =	9.9	psi
20	**Pressure Available For Friction Loss In Pipes =**	**45.1**	**psi**
21	Developed Length Of Pipe (Interior Pipe TEL) =	740	ft
22	**Average Permissible Friction Loss Per 100 ft Length Of Pipe =**	**6.1**	**psi**

Cold Water Sizing Table Based On 5.0psi loss/100ft and 5 fps Max. Velocity

Pipe Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
GPM	2.5	6.5	15	21	28	50	75	120
Velocity (ft/sec)	3.5	4.5	5	5	5	5	5	5
FU (FV)	NA	NA	5	7.5	11	50	130	360
FU (TANK)	1	3	10.5	25	45	130	250	500

WATER SYSTEM CALCULATIONS

Northwest Showroom Restrooms

Preliminary Information			
1	Static Pressure at Meter Elevation (6857.28') =	114	psi
2	Meter Loss (2" Omni) =	2	psi
3	Backflow Preventer Loss (3" RPBP) =	13	psi
4	Static Pressure at Pressure Reducing Valve Inlet	99	psi
5	Static Pressure at Pressure Reducing Valve Outlet	80	psi
6	Finish Floor Elevation = 6855.28'		
7	Warehouse Mezzanine Finish Floor Elevation = 6875.28'		
8	Showroom Roof Hose Bibb Elevation = 6889.28'		
9	Warehouse Roof Hose Bibb Elevation = 6899.28'		
Demand Load			
10	Domestic Supply Demand = 118 gpm (360 FU Flush valve curve)		
11	Irrigation System Demand = 60 gpm. Irrigation system is metered separately.		
12	Total Combined Demand = 178 gpm		
Permissible Friction Loss			
13	Minimum Residual Pressure Maintained At Highest Fixture =	25	psi
14	Elevation Of Highest Fixture =	6858.3	ft
15	Elevation Of Water Meter =	6857.3	ft
16	Static Pressure Loss To Highest Fixture =	0.43	psi
17	PRV Static Pressure =	80	psi
18	Residual Pressure =	25	psi
19	Static Pressure Loss =	0.4	psi
20	**Pressure Available For Friction Loss In Pipes =**	**54.6**	**psi**
21	Developed Length Of Pipe (Interior Pipe TEL) =	1425	ft
22	**Average Permissible Friction Loss Per 100 ft Length Of Pipe =**	**3.8**	**psi**

Cold Water Sizing Table Based On 3.0psi loss/100ft and 5 fps Max. Velocity

Pipe Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
GPM	2	5	10	18	28	50	75	120
Velocity (ft/sec)	2.5	3.5	4	4.5	5	5	5	5
FU (FV)	NA	NA	NA	6	11	50	130	360
FU (TANK)	1	2	6	16	45	130	250	500

PLUMBING PROJECT NOTES

A. FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, FEES, PERMITS, CERTIFICATE OF INSPECTION, ETC. NECESSARY OR REASONABLE, REQUIRED FOR THE COMPLETE INSTALLATION OF ALL PLUMBING WORK.

C. WORK SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES, LAWS, ACTS, ORDINANCES, REGULATIONS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

D. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL THE APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE, SAFETY, AND THE MANUFACTURERS STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.

E. THESE DRAWINGS ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL MAKE MODIFICATIONS INCLUDING OFFSETS, TURNS, AND RE-ROUTING REQUIRED TO COMPLETE THE INSTALLATION. DO NOT SCALE LOCATION OF EQUIPMENT OR PIPING.

F. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING EQUIPMENT SO THAT NO INTERFERENCES ARE ENCOUNTERED WITH OTHER EQUIPMENT OR WITH STRUCTURAL ELEMENTS.

G. ALL PLUMBING WORK IS TO RUN IN A NEAT AND PROFESSIONAL MANNER, WITH THE AESTHETICS OF THE FACILITY OF PARAMOUNT IMPORTANCE. ALL ROUGH-IN WORK TO BE HIDDEN WITHIN WALLS AND ABOVE CEILING UNLESS OTHERWISE NOTED.

H. ALL WORK SHALL BE LOCATED TO AVOID CONFLICTS WITH OTHER TRADES. CLOSELY COORDINATE ALL WORK WITH ALL OTHER TRADES. FAILURE OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES SHALL RELIEVE THE ARCHITECT/ENGINEER/OWNER FROM ANY ADDED COSTS.

I. CONTRACTOR TO VERIFY AND COORDINATE AVAILABLE VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

J. THESE DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE LOCATIONS OF FIXTURES, EQUIPMENT, LINES, ETC. COORDINATE ALL DOCUMENTS AS TO PROPER LOCATIONS OF ALL EQUIPMENT AND MATERIALS.

K. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS.

L. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW WASTE LINES ARE TO BE CONNECTED BEFORE MAKING UP OR INSTALLATION OF NEW WASTE SYSTEM.

M. THE INSTALLATION OF ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER INDICATING OR RECORDING EQUIPMENT, OR SPECIALTIES REQUIRING FREQUENT READING, REPAIRS, ADJUSTMENT, INSPECTION, REMOVAL OR REPLACEMENT SHALL BE CONVENIENTLY AND ACCESSIBLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING.

N. ALL VENTS THRU ROOF SHALL BE 10'-0" REMOVED FROM ALL AIR INTAKES.

O. WHERE POSSIBLE TIE VENT PIPING TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH THE ROOF.

P. CONTRACTOR SHALL ROUGH-IN ALL WASTES AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES SHALL BE VALVED.

Q. NO PIPING OR EQUIPMENT SHALL BE INSTALLED ABOVE ELECTRICAL EQUIPMENT OR INSTALLED IN ELECTRICAL ROOMS.

R. REFER TO ARCHITECTURAL DRAWINGS FOR DOWNSPOUT INFORMATION.

S. ALIGN LAVATORY WALL ROUGH-IN/STUB-OUTS EXACTLY WITH CENTERLINE OF LAVATORIES.

T. ALL STUBS THRU SLAB ARE TO BE RECESSED ½" TO ALLOW USE OF LASER SCREED.

U. DO NOT SUSPEND ANY PIPING, ACCESSORIES, OR ANY OTHER ITEMS FROM 2X JOIST IN PANELIZED ROOF SYSTEM OR THE PLYWOOD ROOF DECK ITSELF. ALL SUPPORTS SHALL CONFORM TO TRUSS MANUFACTURERS RECOMMENDATIONS.

V. SUBMIT ACCURATE "AS-BUILT" DRAWINGS TO OWNER UPON PROJECT COMPLETION.

W. PROVIDE A READY-TO-USE SYSTEM WITH ALL WORK GUARANTEED IN WRITING AGAINST DEFECTIVE WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR MINIMUM FROM OWNER OCCUPANCY UNLESS ARCHITECT SPECIFIES A LONGER WARRANTY TERM.

X. PROVIDE ACCESS TO ALL VALVES IN CEILING.

Y. ALL CLEANOUTS SHALL HAVE TOPS ESPECIALLY DESIGNED FOR SPECIFIC FLOOR FINISHES SUCH AS CARPET, TILE, ETC. UNLESS OTHERWISE SPECIFIED.

Z. PLUMBING CONTRACTOR SHALL PROVIDE A PRESSURE REDUCING VALVE WHERE WATER MAIN ENTERS BUILDING IF PRESSURE EXCEEDS 80 PSI.

AA. RESTROOM ACCESS PANELS TO BE MADE OF STAINLESS STEEL.

BB. RESTROOM SHUTOFF VALVE AND ACCESS PANEL TO BE LOCATED IN CEILING.

CC. ISOLATION VALVES TO BE INSTALLED ON DOMESTIC WATER BRANCH LINES.

DD. SEE PLUMBING FIXTURE CONNECTION SCHEDULE FOR BRANCH SIZES NOT SHOWN ON PLANS.

PIPING MATERIALS LIST

WATER SUPPLY AND DISTRIBUTION SYSTEM

A. DOMESTIC WATER SYSTEM PIPING BELOW GRADE OR SLAB ON GRADE SHALL BE TYPE "K" SOFT TEMPER COPPER TUBING.

B. DOMESTIC WATER SYSTEM PIPING ABOVE SLAB ON GRADE SHALL BE TYPE "L" HARD DRAWN COPPER TUBING.

FITTINGS

A. FITTINGS FOR COPPER PIPING BELOW GRADE WITH BRAZED JOINTS SHALL BE WROUGHT COPPER (THE SAME THICKNESS AS THE PIPING) FOR SOLDER JOINT-PRESSURE TYPE.

B. FITTINGS FOR COPPER PIPING ABOVE GRADE SHALL BE WROUGHT COPPER OR CAST RED BRASS FOR SOLDER JOINT-PRESSURE TYPE.

JOINTS

A. JOINTS FOR COPPER PIPING SYSTEMS 2" AND SMALLER SHALL BE MADE USING 95-5 TIN-ANTIMONY OR APPROVED LEAD FREE SOLDER. (NO 50/50 OR ANY LEAD CONTAINING SOLDER WILL BE PERMITTED ON DOMESTIC WATER PIPING, HOT OR COLD.)

B. JOINTS FOR COPPER PIPING SYSTEMS 2-1/2" AND LARGER ABOVE GRADE SLAB AND ALL SIZES BELOW GRADE SLAB SHALL BE MADE USING SIL-FOS, EASY FLOW, OR PHOS COPPER BRAZING RODS WITH A MELTING TEMPERATURE ABOVE 1000 DEG. F.

INSULATION

A. INSULATE DOMESTIC WATER PIPING ABOVE GRADE (EXCEPT EXPOSED CONNECTIONS TO PLUMBING FIXTURES) WITH ENGINEERED POLYMER FOAM INSULATION. FOLLOW THIS SCHEDULE:

SERVICE	PIPE SIZE	INSUL. THICKNESS
DOMESTIC HOT WATER (105 -140 F)	.5" - 1.25"	1/2"
DOMESTIC HOT WATER (105 -140 F)	1.5" AND UP	1"
DOMESTIC HOT WATER RETURN	ALL	1"
DOMESTIC COLD WATER	ALL	1/2"

SANITARY DRAINAGE SYSTEM

A. DRAINAGE AND VENT PIPING BELOW SLAB/GRADE SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE, SCHEDULE 40, CONFORMING TO ASTM D1785/D2665. DRAINAGE PATTERN FITTINGS - SOLVENT CEMENT JOINTS.

B. DRAINAGE AND VENT PIPING ABOVE SLAB/GRADE SHALL BE HUBLESS CAST IRON PIPE AND FITTINGS. ASTM A-888/CISPI 301.

STORM DRAINAGE SYSTEM

STORM DRAIN PIPING BELOW SLAB/GRADE AND ABOVE GRADE SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE, SCHEDULE 40, CONFORMING TO ASTM D1785/D2665. DRAINAGE PATTERN FITTINGS - SOLVENT CEMENT JOINTS.

NOTE: INSTALL AN OFFSET FROM THE FIRST ELBOW ON THE HORIZONTAL BRANCH DIRECTLY UNDER THE ROOF DRAIN BODY, THEN ADDITONAL OFFSETS IN HORIZONTAL PIPE FOR EXPANSION EVERY 30 FEET MINIMUM.

COMPRESSED AIR SYSTEM

PARKER TRANSAIR SYSTEM INCLUDING 6063-T5 ALUMINUM PIPE, COMPRESSION FITTINGS AND VALVES.

NATURAL GAS SYSTEM

SCHEDULE 40 STEEL. WELDED JOINTS FOR 2-1/2" AND LARGER. THREADED JOINTS 2" AND SMALLER.

PLUMBING FIXTURE UNIT CALCULATION

2015 IPC WHOLE BUILDING

FIXTURE	TOTAL	DWV FU	TOTAL DWV FU	WTR FU	TOTAL WTR FU	COLD WTR FU	HOT WTR FU	TOTAL COLD WTR FU	TOTAL HOT WTR FU
Clothes Washer	1	2	2	3	3	2.25	2.25	2.25	2.25
Drinking Fountain - Bilevel	4	1	4	0.5	2	0.5	0	2.00	0.00
Floor Drain (Emergency)	14	0	0	0	0	0	0	0.00	0.00
Floor Sink (Pot Sink)	1	2	2	0	0	0	0	0.00	0.00
Floor Sink (For Small Discharge)	5	0.5	2.5	0	0	0	0	0.00	0.00
Floor Sink (Emergency)	7	0	0	0	0	0	0	0.00	0.00
Glass Sander/Hose Bibb	1	1	1	1	1	1	0	1.00	0.00
Hand Sink- Deli	1	1	1	2	2	1.5	1.5	1.50	1.50
Hose Bibb (first)	1	0	0	2.5	2.5	2.5	0	2.50	0.00
Hose Bibb (additional)	5	0	0	1	5	1	0	5.00	0.00
Sink-Deli Pot	1	0	0	4	4	3	3	3.00	3.00
Sink-Locker/Break	2	2	4	2	4	1.5	1.5	3.00	3.00
Laundry Tub-Mezzanine	2	2	4	1	2	1	0	2.00	0.00
Lavatory Metered (.5gpm)	20	1	20	0.7	14	0.5	0.5	10.00	10.00
Maintenance Hand Sink	6	2	12	1.5	9	1	1	6.00	6.00
Mop Sink	5	2	10	3	15	2.25	2.25	11.25	11.25
Rooftop Hose Bibb (additional HB)	10	0	0	1	10	1	0	10.00	0.00
Shower	3	2	6	2	6	1.5	1.5	4.50	4.50
Urinal	8	2	16	5	40	5	0	40.00	0.00
Trench Drain	1	3	3	0	0	0	0	0.00	0.00
Water Closet-Flush Valve	24	4	96	10	240	10	0	240.00	0.00
Totals	122		183.5		359.5			344.0	41.5
Demand = 118 gpm									

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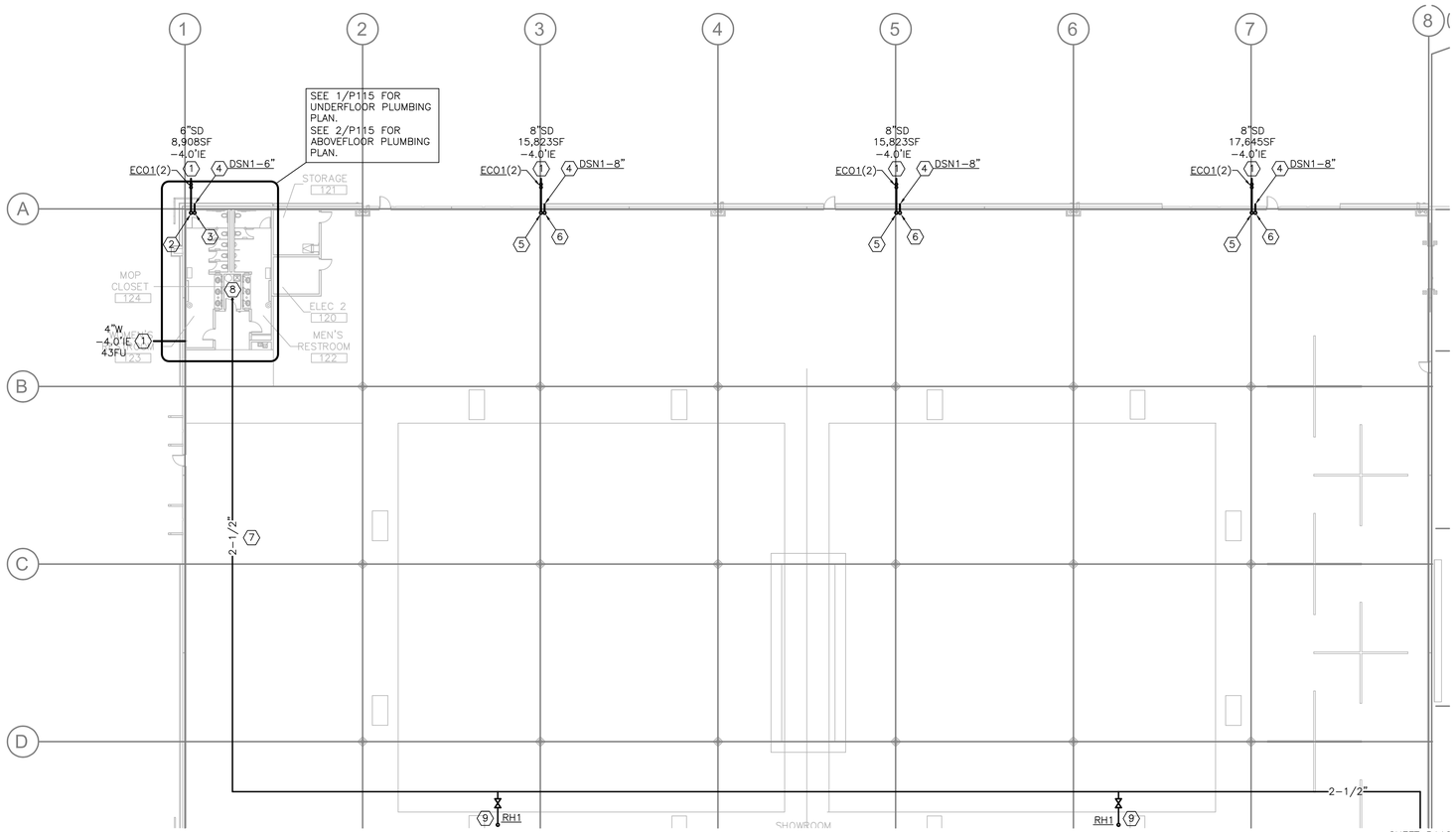
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: CALCULATIONS - PLUMBING

P002

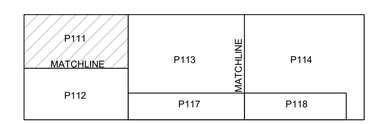


1 SHOWROOM FLOOR PLAN-NORTH-PLUMBING

SCALE: 1" = 20'-0"

KEYED NOTES

1. SEE CIVIL DRAWINGS FOR CONTINUATION.
2. 6"SD UP TO RD AND DN. PROVIDE WCO AT BASE.
3. 6"OD UP TO OD AND DN TO DSN1 12" AFF.
4. INSTALL SIGNAGE 12" ABOVE DOWNSPOUT NOZZLE STATING "OVERFLOW ROOF DRAIN OUTLET. SPILLAGE INDICATES THE MAIN ROOF DRAIN IS PLUGGED." SIGN SIZE: 8"X6". SIGN COLOR: RED. TEXT HEIGHT: 1/2". TEXT COLOR: WHITE.
5. 8"SD UP TO RD AND DN. PROVIDE WCO AT BASE.
6. 8"OD UP TO OD AND DN TO DSN1 12" AFF.
7. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
8. 2-1/2"CW DN.
9. 3/4"CW UP THRU ROOF TO RH1.



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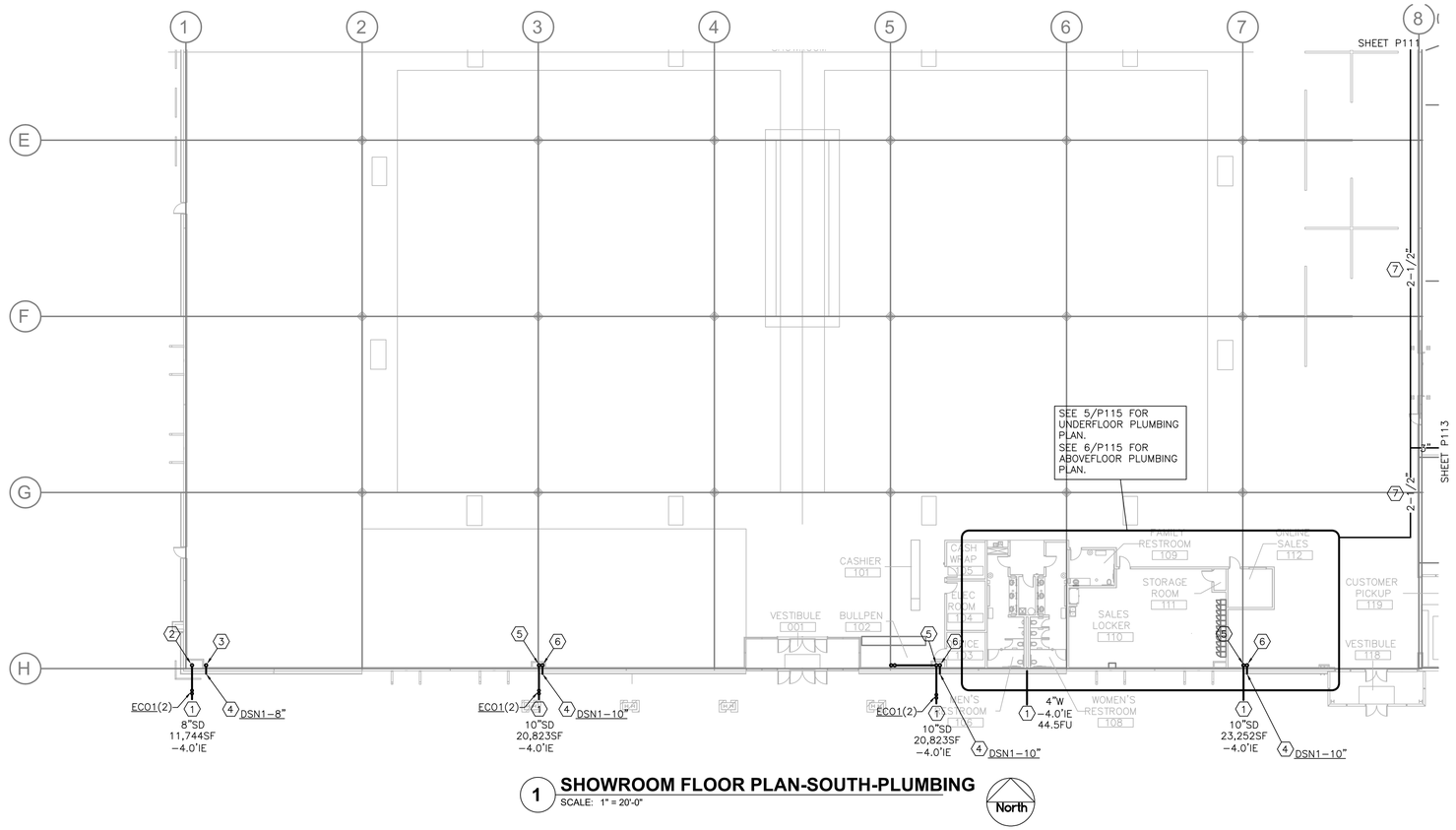
P111

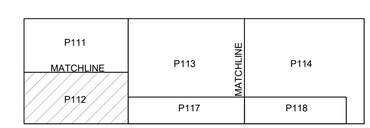


1 SHOWROOM FLOOR PLAN-SOUTH-PLUMBING

SCALE: 1" = 20'-0"

KEYED NOTES

1. SEE CIVIL DRAWINGS FOR CONTINUATION.
2. 8"SD UP TO RD AND DN. PROVIDE WCO AT BASE.
3. 8"OD UP TO OD AND DN TO DSN1 12" AFF.
4. INSTALL SIGNAGE 12" ABOVE DOWNSPOUT NOZZLE STATING "OVERFLOW ROOF DRAIN OUTLET. SPILLAGE INDICATES THE MAIN ROOF DRAIN IS PLUGGED." SIGN SIZE: 8"X6". SIGN COLOR: RED. TEXT HEIGHT: 1/2". TEXT COLOR: WHITE.
5. 10"SD UP TO RD AND DN. PROVIDE WCO AT BASE.
6. 10"OD UP TO OD AND DN TO DSN1 12" AFF.
7. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.



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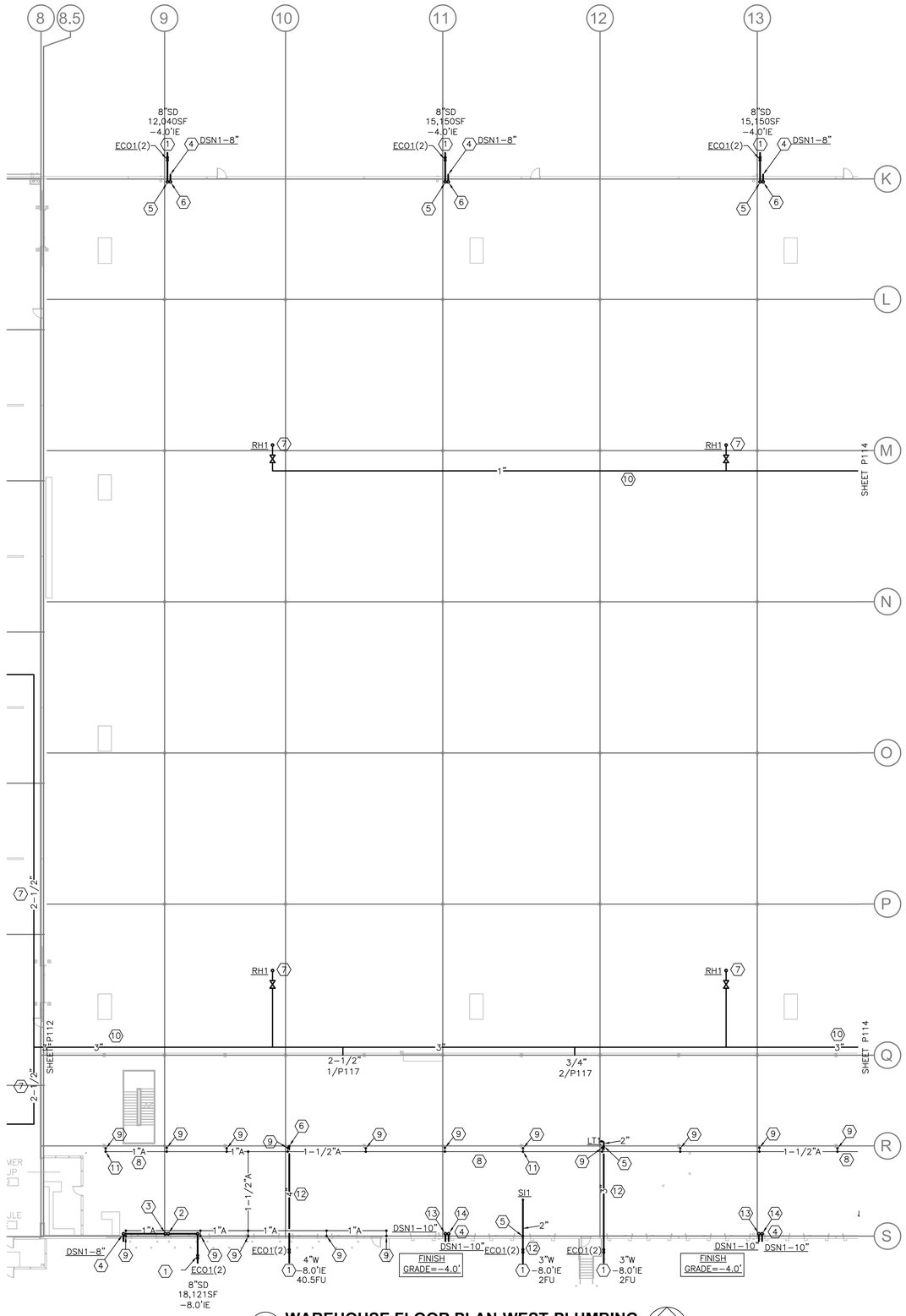


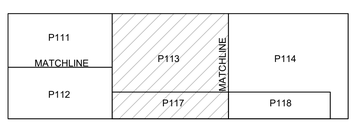
1 WAREHOUSE FLOOR PLAN-WEST-PLUMBING

SCALE: 1" = 20'-0"

North

KEYED NOTES

1. SEE CIVIL DRAWINGS FOR CONTINUATION.
2. 8"SD UP TO RD AND DN. PROVIDE WCO AT BASE.
3. 8"OD UP TO OD AND DN TO DSN1 8"AFF.
4. INSTALL SIGNAGE 12" ABOVE DOWNSPOUT NOZZLE STATING "OVERFLOW ROOF DRAIN OUTLET. SPILLAGE INDICATES THE MAIN ROOF DRAIN IS PLUGGED." SIGN SIZE: 8"X6". SIGN COLOR: RED. TEXT HEIGHT: 1/2". TEXT COLOR: WHITE.
5. 3"W UP TO WCO AT 18"AFF. 2"W UP.
6. 4"W UP TO WCO AT 18"AFF.
7. 3/4"CW UP THRU ROOF TO RH1.
8. AIR PIPING LOCATED CLOSE TO MEZZANINE STRUCTURE. TYPICAL.
9. 1/2"A DN TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING AND DRAIN VALVE ON BOTTOM OF DROP.
10. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
11. BRANCH TAKES OFF FROM TOP OF MAIN TO KEEP ANY MOISTURE IN THE MAIN. TYPICAL OF ALL BRANCHES.
12. SLOPE=1/4"PER FOOT.
13. 10"SD UP TO RD AND DN TO DSN1 12" AFF.
14. 10"OD UP TO OD AND DN TO DSN1 12" AFF.



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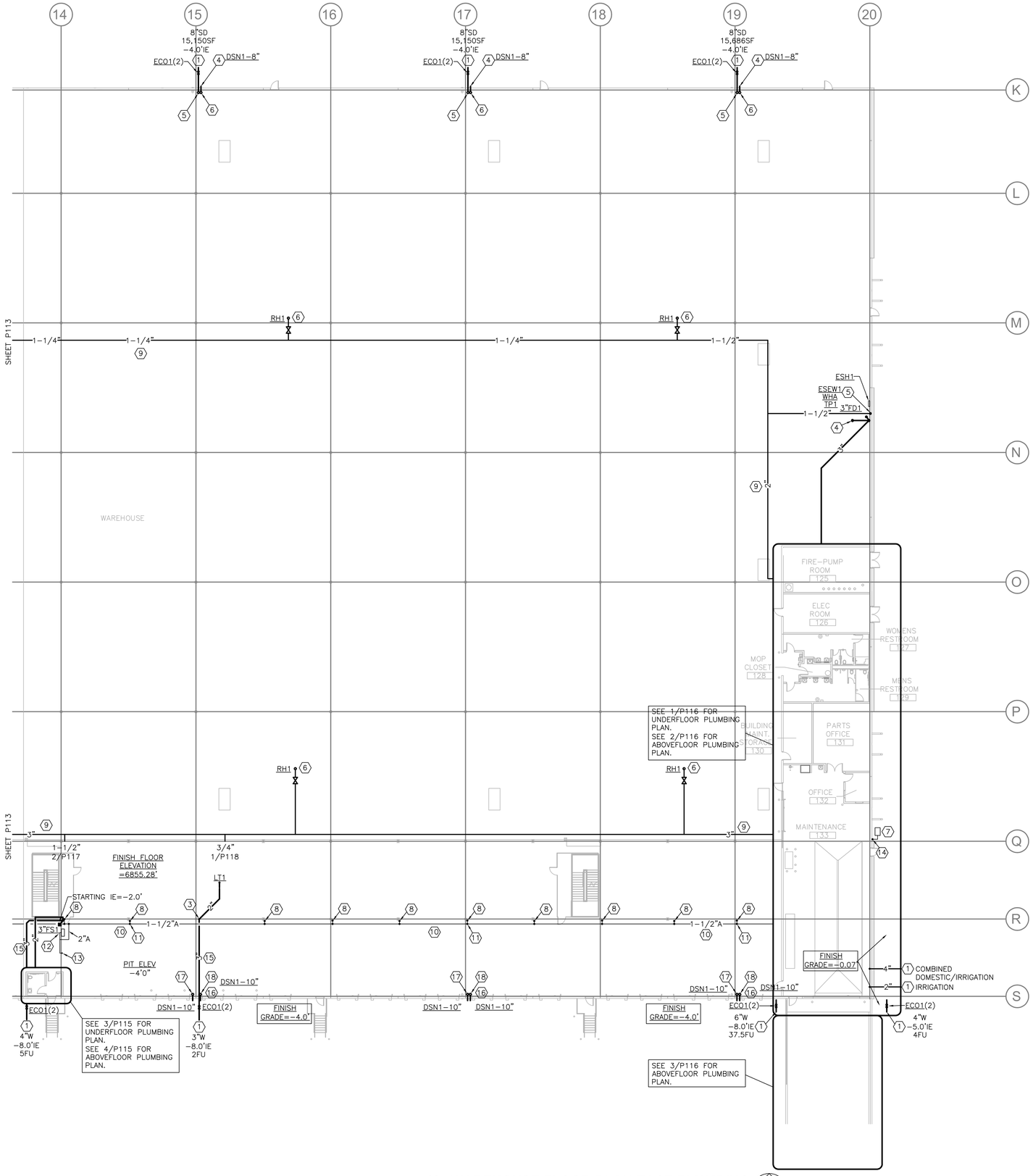
P113



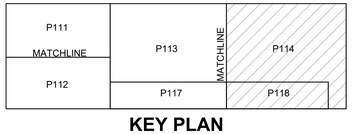
1 WAREHOUSE FLOOR PLAN-EAST-PLUMBING

SCALE: 1" = 20'-0"

North

KEYED NOTES

1. SEE CIVIL DRAWINGS FOR CONTINUATION.
2. 4"W UP. WCO AT 18"AFF.
3. 3"W UP TO WCO AT 18"AFF. 2"W UP.
4. 3"VTR. WCO 18"AFF.
5. 1-1/2"CW DN TO ESH1 (SOV AT 8'AFF). 1-1/2"TEPID TO ESEW1 AND WHA.
6. 3/4"CW UP THRU ROOF TO RH1.
7. GAS METER. 2PSI SERVICE. 13,893.2 CFH DEMAND.
8. 1/2"A DN TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING AND DRAIN VALVE ON BOTTOM OF DROP.
9. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
10. AIR PIPING LOCATED CLOSE TO MEZZANINE STRUCTURE. TYPICAL.
11. BRANCH TAKES OFF FROM TOP OF MAIN TO KEEP ANY MOISTURE IN THE MAIN. TYPICAL OF ALL BRANCHES.
12. OWNER FURNISHED AIR COMPRESSOR (147CFM@125PSI), COALESCING FILTER, DRYER, ETC. PROVIDE SOV. 2"A DN TO AIR COMPRESSOR.
13. 2"A UP.
14. 4"G2 UP.
15. SLOPE=1/4"PER FOOT.
16. INSTALL SIGNAGE 12" ABOVE DOWNSPOUT NOZZLE STATING "OVERFLOW ROOF DRAIN OUTLET. SPILLAGE INDICATES THE MAIN ROOF DRAIN IS PLUGGED." SIGN SIZE: 8"X6". SIGN COLOR: RED. TEXT HEIGHT: 1/2". TEXT COLOR: WHITE.
17. 10"SD UP TO RD AND DN TO DSN1 12" AFF.
18. 10"OD UP TO OD AND DN TO DSN1 12" AFF.



KEY PLAN

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COLORADO SPRINGS, CO

Case #:
Plan Check #:
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: PARTIAL WAREHOUSE FLOOR PLAN-PLUMBING

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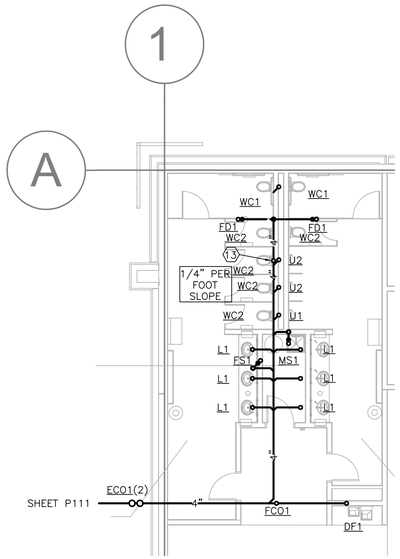
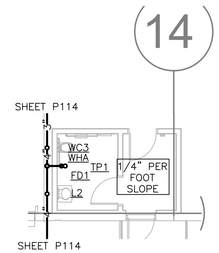


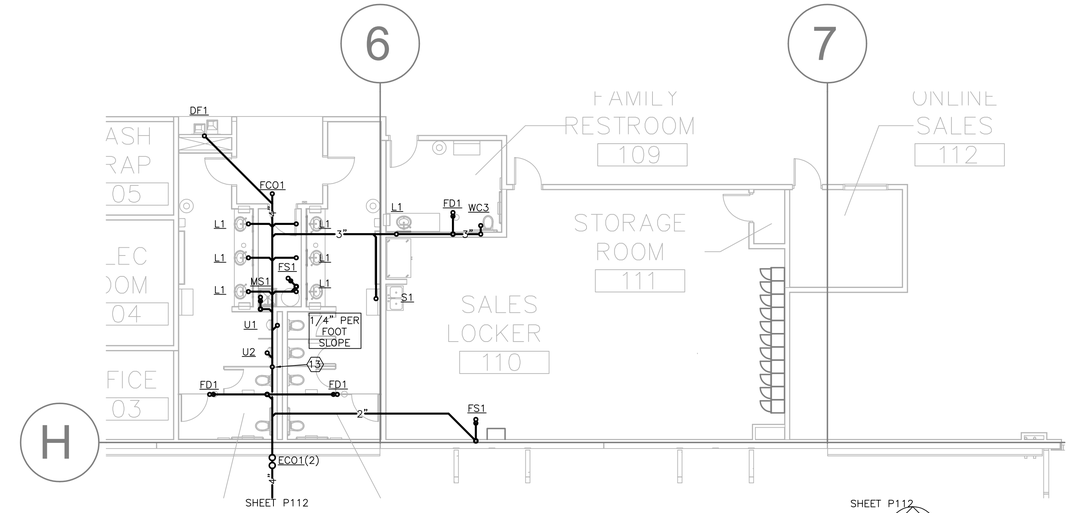
1 SHOWROOM RESTROOM FLOOR PLAN - U/G PLUMBING

SCALE : 1/8"=1'-0"



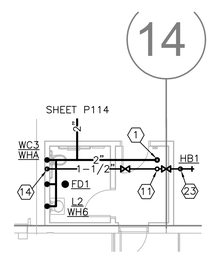
3 TRUCKER RESTROOM FLOOR PLAN - U/G PLUMBING

SCALE : 1/8"=1'-0"



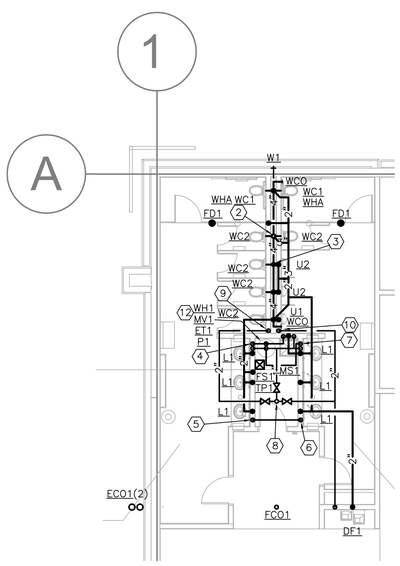
5 RESTROOM FLOOR PLAN - U/G PLUMBING

SCALE : 1/8"=1'-0"



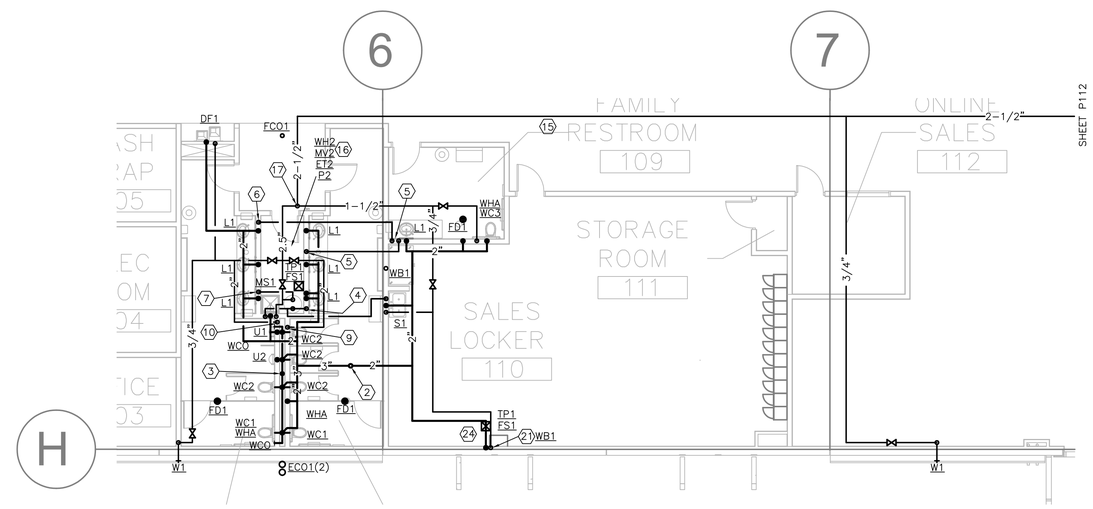
4 TRUCKER RESTROOM FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"



2 SHOWROOM RESTROOM FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"



6 RESTROOM FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"

KEYED NOTES

1. 2"V UP.
2. 4"VTR.
3. 4"W DN.
4. 3/4"TW DN TO LAVS.
5. 3/4"TW DN.
6. 3/4"TW DN TO LAVS. AFTER LAST LAV BRANCH THEN 1/2"TWR.
7. 1/2"TWR DN.
8. 2-1/2"CW UP.
9. 2"CW DN AND MANIFOLD TO WATER CLOSETS.
10. 2"CW DN AND MANIFOLD TO WATER CLOSETS AND URINALS.
11. 1-1/2"CW UP.
12. SEE WATER HEATER DETAIL 1/P411.
13. 4"W UP.
14. 1-1/2"CW DN TO FIXTURES.
15. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
16. SEE WATER HEATER DETAIL 2/P411.
17. 2-1/2"CW DN.
18. 1/2"CW DN TO WATER FILTER (PROVIDE WATER FILTER PER ICE MACHINE MFR). RUN 1/2"FILTERED CW IN WALL TO EACH WB1 (COFFEE, ESPRESSO, ICE MACHINE).
19. 1-1/4"CW DN.
20. SEE WATER HEATER DETAIL 3/P411.
21. 1/2"CW DN TO WATER FILTER (PROVIDE WATER FILTER PER ICE MACHINE MFR). RUN 1/2"FILTERED CW IN WALL TO WB1.
22. 3"VTR.
23. HB1 12" AFF TO SERVE OWNER'S SHREDDER SPRINKLER HEAD.
24. COORDINATE LOCATION OF FLOOR SINK WITH EQUIPMENT FOOTPRINT. INSTALL FLOOR SINK HALF UNDER AND HALF OUTSIDE EQUIPMENT. TYPICAL.
25. 1"G UP TO ROOF.
26. 4"EXH/AIR INTAKE UP THRU ROOF TO CONCENTRIC VENT CAP.

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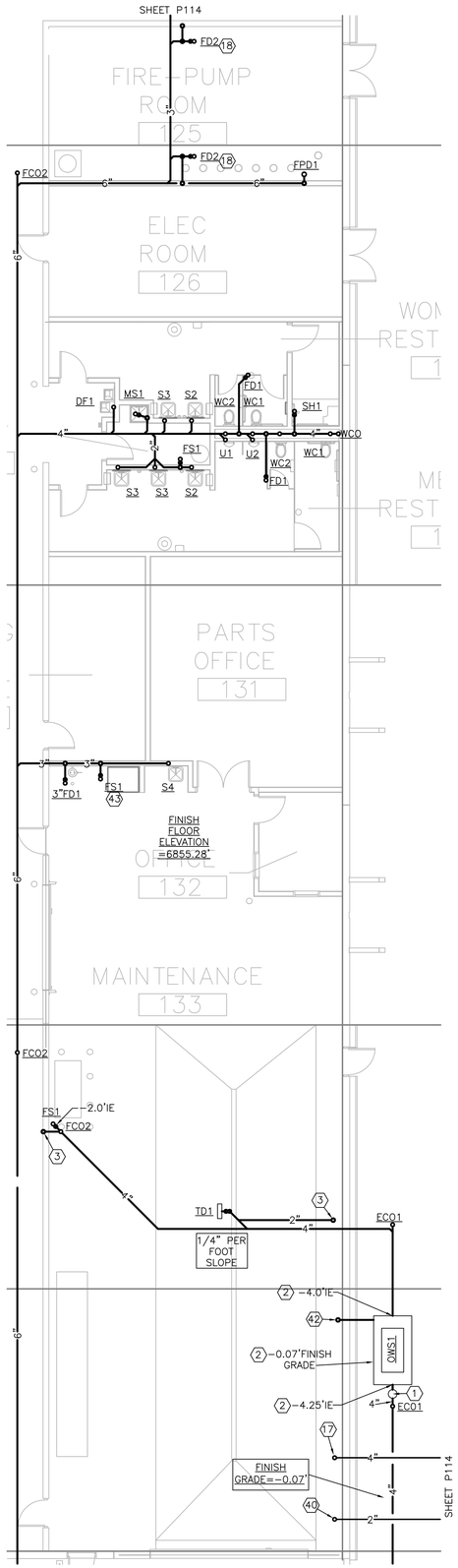
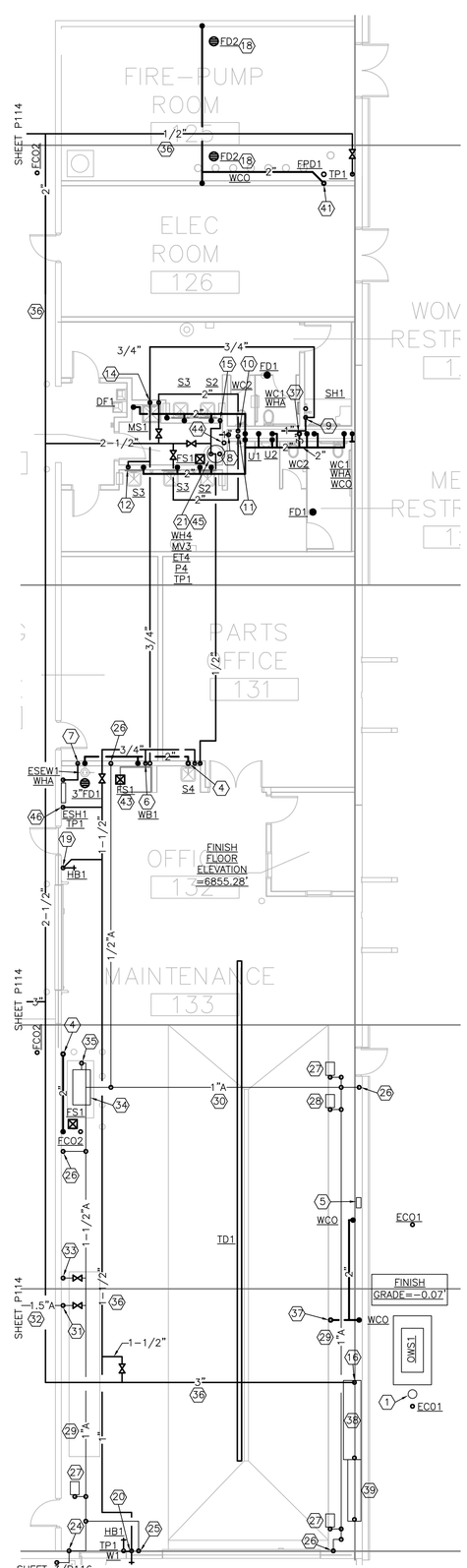
P115



1 MAINTENANCE FLOOR PLAN - U/G PLUMBING

SCALE : 1/8"=1'-0"

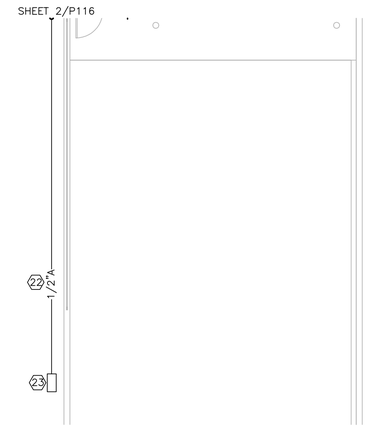
North



2 MAINTENANCE FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"

North



3 MAINTENANCE FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"

North

KEYED NOTES

1. SAMPLING VAULT.
2. CONFIRM FINISH GRADE PRIOR TO CONSTRUCTION.
3. 2"V UP.
4. 3"VTR.
5. OWS1 HIGH LEVEL ALARM PANEL 60"AFF. PROVIDE 3/4" RACEWAY BETWEEN PANEL AND FLOAT SWITCH IN SEPARATOR.
6. 1/2"CW DN TO WATER FILTER (PROVIDE WATER FILTER PER ICE MACHINE MFR). RUN 1/2"FILTERED CW IN WALL TO WB1.
7. 1-1/2"TEPID DN TO ESEW1 AND WHA.
8. 1"HW DN TO CHASE SERVING SH1, MS1 AND S4.
9. 3/4"HW DN.
10. 2"CW DN AND MANIFOLD TO WATER CLOSETS AND SHOWER.
11. 2"CW DN AND MANIFOLD TO WATER CLOSETS AND URINALS.
12. 1"TW DN TO SINKS.
13. 3/4"TW DN.
14. 3/4"TW DN TO SINKS. AFTER LAST SINK BRANCH THEN 1/2"TWR.
15. 1/2"TWR DN.
16. 3"CW DN.
17. 4"COMBINED DOMESTIC/LANDSCAPE WATER UP.
18. COORDINATE FLOOR DRAIN LOCTION WITH FIRE ENGINEER.
19. 3/4"CW DN. SOV 48"AFF.
20. 1"CW DN. SOV 48"AFF.
21. SEE WATER HEATER DETAIL 4/P411.
22. MOUNT ON WALL 12"ABOVE SLAB.
23. WALL MOUNTED 3/8" HOSE REEL. SOV AND DRAIN VALVE.
24. 1"A DN. SOV AT 48"AFF, THEN 1/2"A DN WITH PRESSURE REG/GAGE, QUICK DISCONNECT FITTING AND DRAIN VALVE ON BOTTOM OF DROP.
25. 1/2"A DN TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING (INTERIOR AND EXTERIOR) AND DRAIN VALVE ON BOTTOM OF DROP.
26. 1/2"A DN TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING AND DRAIN VALVE ON BOTTOM OF DROP.
27. 3/8" HOSE REEL. 1/2"A TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING, AND DRAIN VALVE.
28. 1/2" HOSE REEL. 1/2"A TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING, AND DRAIN VALVE.
29. AIR PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
30. SLOPE MAIN PIPING BACK TO COMPRESSOR TO DRAIN MOISTURE. TYPICAL.
31. 1-1/2"A DN TO UNDER MEZZANINE.
32. AIR PIPING LOCATED CLOSE TO MEZZANINE STRUCTURE. TYPICAL.
33. 1-1/2"A DN TO OIL TANKS. PROVIDE SOV, PRESSURE REG/GAGE, DRAIN VALVE.
34. OWNER FURNISHED AIR COMPRESSOR (51CFM@175PSI), COALESCING FILTER, DRYER, ETC.
35. 1-1/2"A DN TO AIR COMPRESSOR. PROVIDE SOV.
36. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
37. 4"VTR.
38. FOOT PRINT OF DOMESTIC WATER METER AND BACKFLOW PREVENTER. SEE 7/P411.
39. FOOT PRINT OF LANDSCAPE WATER METER AND BACKFLOW PREVENTER. SEE 7/P411.
40. 2"LANDSCAPE WATER UP.
41. 3"V DN AND 3"VTR. WCO 18"AFF.
42. 3"V UP.
43. COORDINATE LOCATION OF FLOOR SINK WITH EQUIPMENT FOOTPRINT. INSTALL FLOOR SINK HALF UNDER AND HALF OUTSIDE EQUIPMENT. TYPICAL.
44. 1"G, 4" EXH AND 4"AIR INTAKE UP TO ROOF.
45. 4"EXH/AIR INTAKE UP THRU ROOF TO CONCENTRIC VENT CAP.
46. 1-1/2"CW DN TO ESH1. SOV AT 8'AFF.

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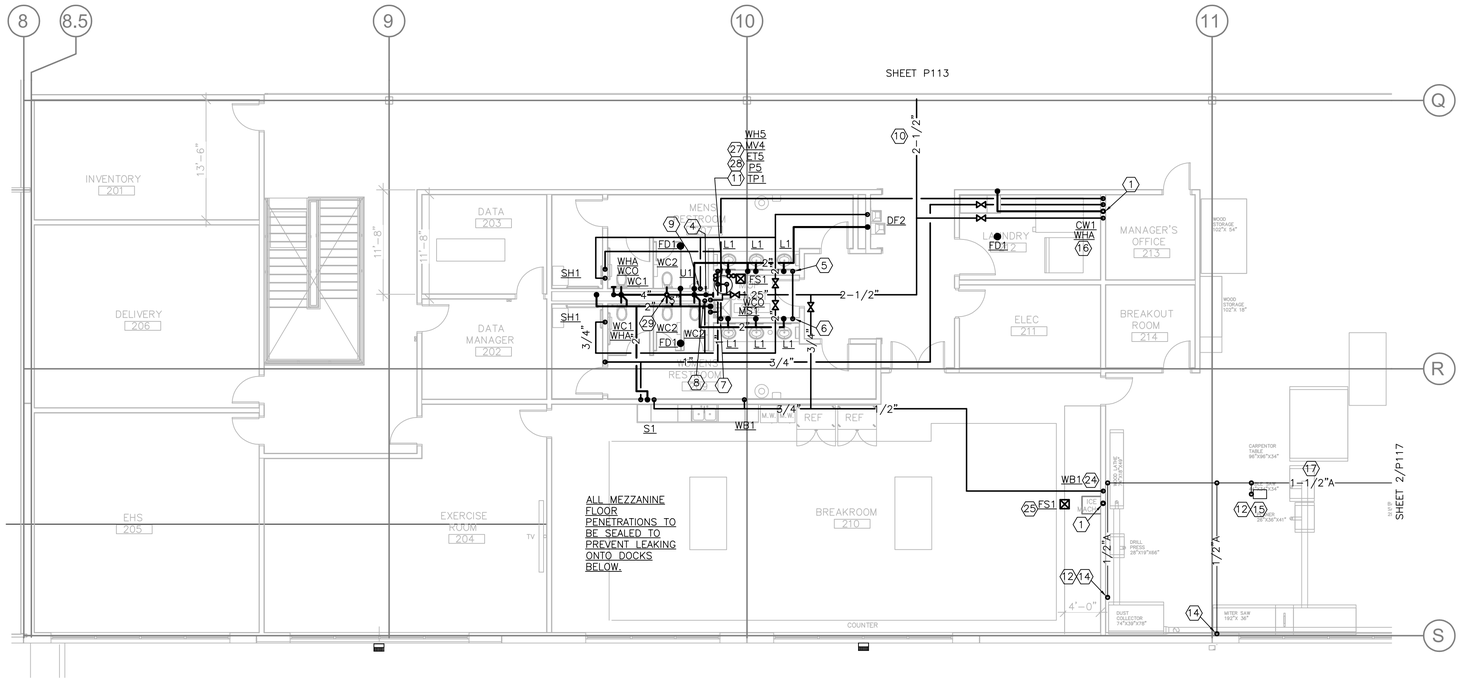
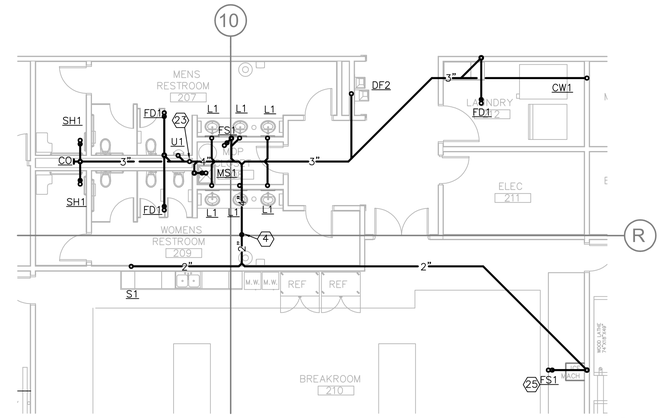
P116



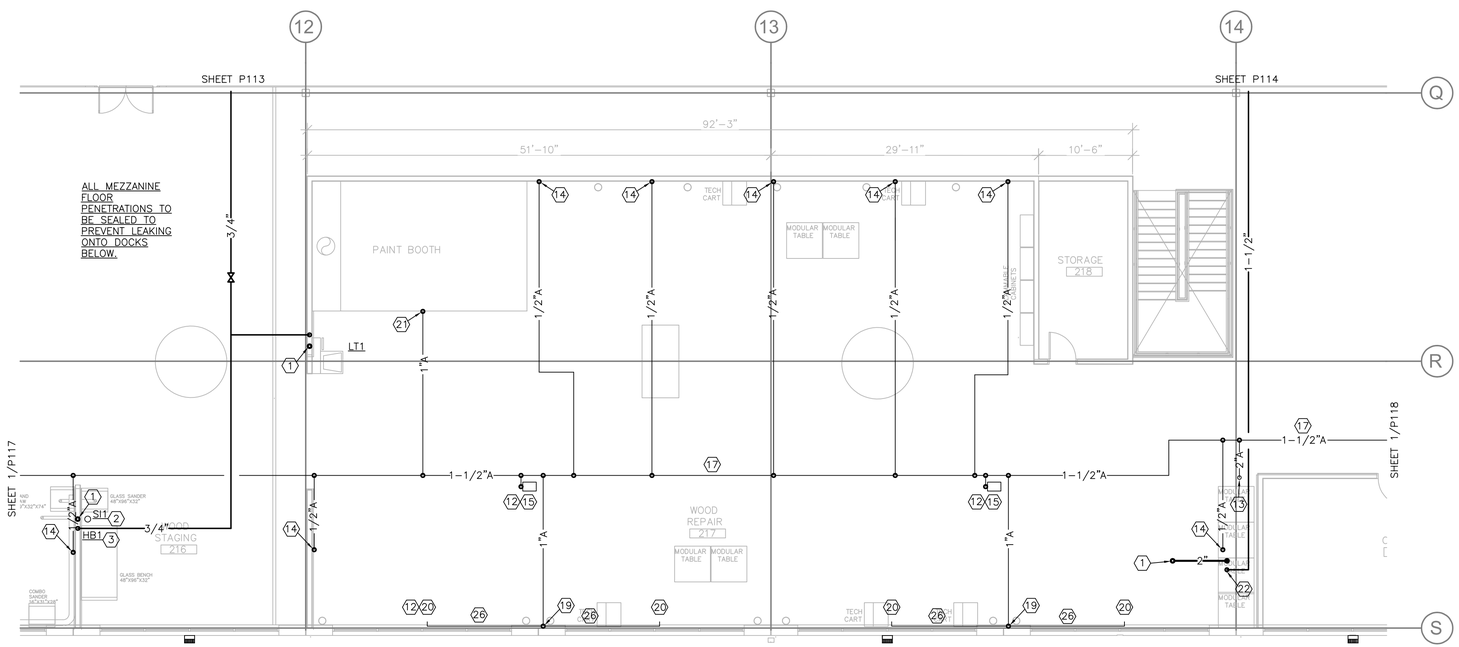
1 PARTIAL MEZZANINE FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"



3 PARTIAL MEZZANINE FLOOR PLAN - BELOW FLOOR PLUMBING

SCALE : 1/8"=1'-0"

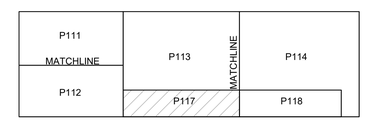


2 WH MEZZ WEST MIDDLE FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"

KEYED NOTES

1. 3"VTR.
2. SOLID INTERCEPTOR TO RECEIVE GLASS SANDER WASTE. SEE 6/P3.1.
3. 3/4"CW DN TO GLASS SANDER HB1. PROVIDE WHA.
4. 4"W DN.
5. 3/4"TW DN.
6. 3/4"TW DN LAVS. AFTER LAST LAV BRANCH THEN 1/2"TWR.
7. 1/2"TWR DN.
8. 2"CW DN AND MANIFOLD TO WATER CLOSETS.
9. 2"CW DN AND MANIFOLD TO WATER CLOSETS AND URINAL.
10. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
11. SEE WATER HEATER DETAIL 5/P411.
12. COORDINATE AIR DROP AND HOSE REEL LOCATIONS WITH OWNER. SUBMIT COMPRESSED AIR SHOP DRAWINGS FOR THEIR REVIEW AND COMMENT/APPROVAL PRIOR TO CONSTRUCTION. TYPICAL.
13. 2"A DN.
14. 1/2"A DN TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING AND DRAIN VALVE ON BOTTOM OF DROP.
15. 3/8" HOSE REEL. 1/2"A TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING, AND DRAIN VALVE.
16. INSTALL FILTROL 160 LINT TRAP FILTERON DRAIN HOSE TO WASHER BOX DISCHARGE.
17. AIR PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
18. 1/2"CW DN TO ICE MACHINE. PROVIDE WATER FILTER PER MFR.
19. 1"A DN TO SOV AND DRAIN VALVE ON BOTTOM OF DROP.
20. 1/2"A. PRESSURE REG/GAGE AND QUICK CONNECTOR.
21. 1"A DN TO SOV, PRESSURE REG/GAGE AND DRAIN VALVE ON BOTTOM OF DROP.
22. 1-1/2"CW DN.
23. 4"W UP.
24. 1/2"CW DN TO WATER FILTER (PROVIDE WATER FILTER PER ICE MACHINE MFR). RUN 1/2"FILTERED CW IN WALL TO WB1.
25. COORDINATE LOCATION OF FLOOR SINK WITH MILLWORK FOOTPRINT. INSTALL FLOOR SINK HALF UNDER AND HALF OUTSIDE MILLWORK. TYPICAL.
26. ROUTE UNDER WINDOW.
27. 1"G UP TO ROOF.
28. 4"EXH/AIR INTAKE UP THRU ROOF TO CONCENTRIC VENT CAP.
29. 4"VTR.



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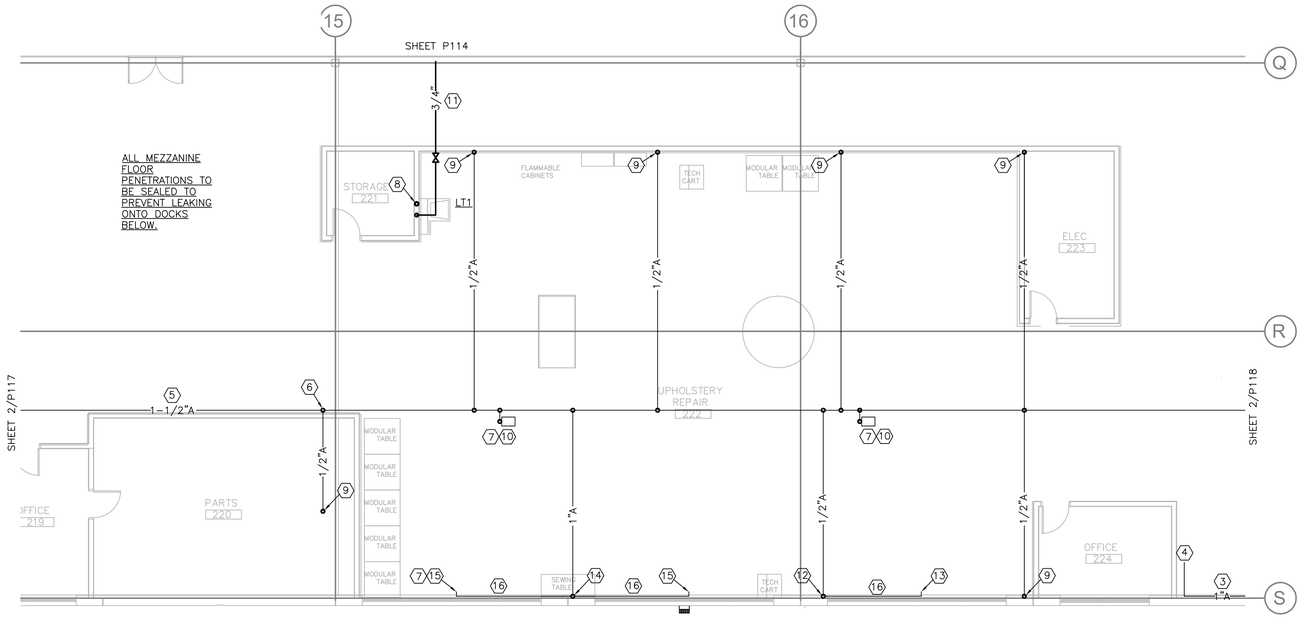
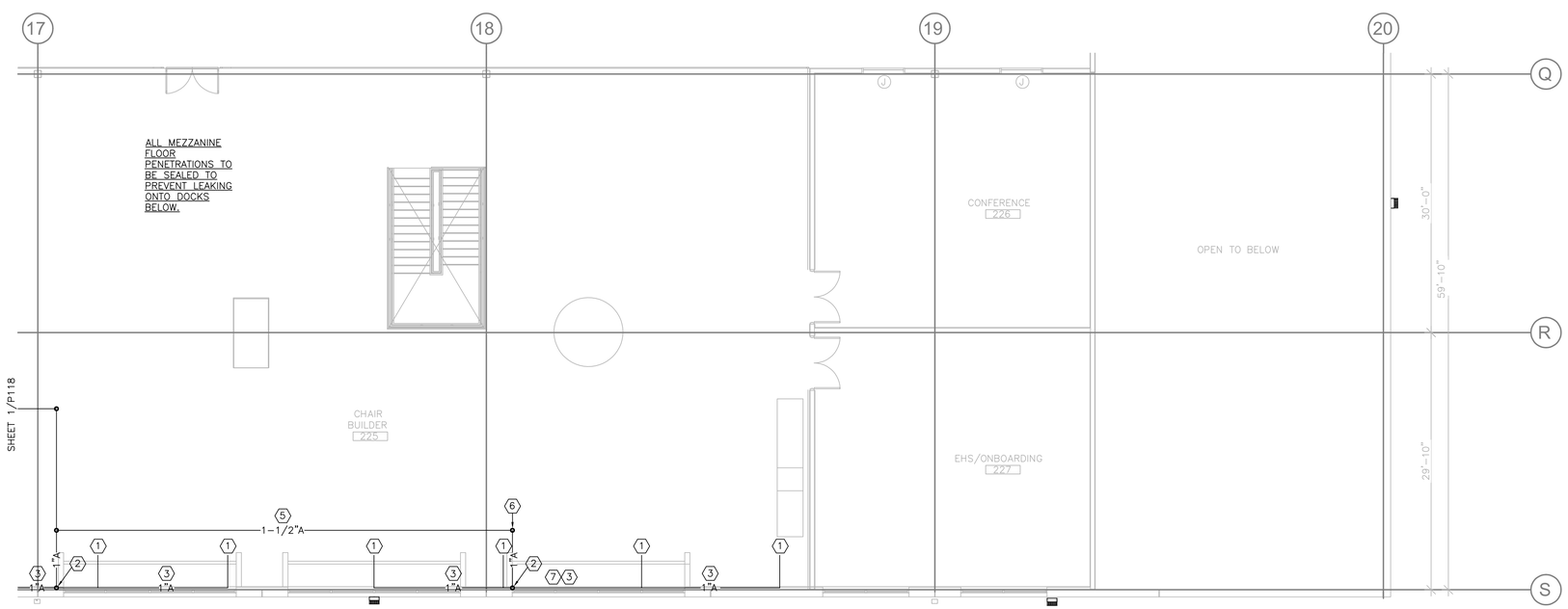
P117



1 WH MEZZ EAST MIDDLE FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"

North



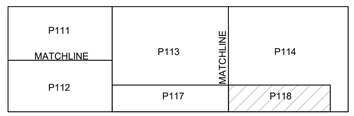
2 PARTIAL MEZZANINE FLOOR PLAN - PLUMBING

SCALE : 1/8"=1'-0"

North

KEYED NOTES

1. 1"A. TWO PRESSURE REG/GAGES AND QUICK CONNECTORS.
2. 1"A DN TO SOV AND DRAIN VALVE ON BOTTOM OF DROP.
3. ROUTE UNDER WINDOW AND ABOVE WORKBENCH.
4. 1/2"A. PRESSURE REG/GAGE AND QUICK CONNECTOR.
5. AIR PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
6. BRANCH TAKES OFF FROM TOP OF MAIN TO KEEP ANY MOISTURE IN THE MAIN. TYPICAL OF ALL BRANCHES.
7. COORDINATE AIR DROP AND HOSE REEL LOCATIONS WITH OWNER. SUBMIT COMPRESSED AIR SHOP DRAWINGS FOR THEIR REVIEW AND COMMENT/APPROVAL PRIOR TO CONSTRUCTION. TYPICAL.
8. 3"VTR.
9. 1/2"A DN TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING AND DRAIN VALVE ON BOTTOM OF DROP.
10. 3/8" HOSE REEL. 1/2"A TO SOV, PRESSURE REG/GAGE, QUICK DISCONNECT FITTING, AND DRAIN VALVE.
11. WATER PIPING LOCATED CLOSE TO ROOF STRUCTURE. TYPICAL.
12. 1/2"A DN TO SOV AND DRAIN VALVE ON BOTTOM OF DROP.
13. 1/2"A. PRESSURE REG/GAGE AND QUICK CONNECTOR.
14. 1"A DN TO SOV AND DRAIN VALVE ON BOTTOM OF DROP.
15. 1/2"A. PRESSURE REG/GAGE AND QUICK CONNECTOR.
16. ROUTE UNDER WINDOW.



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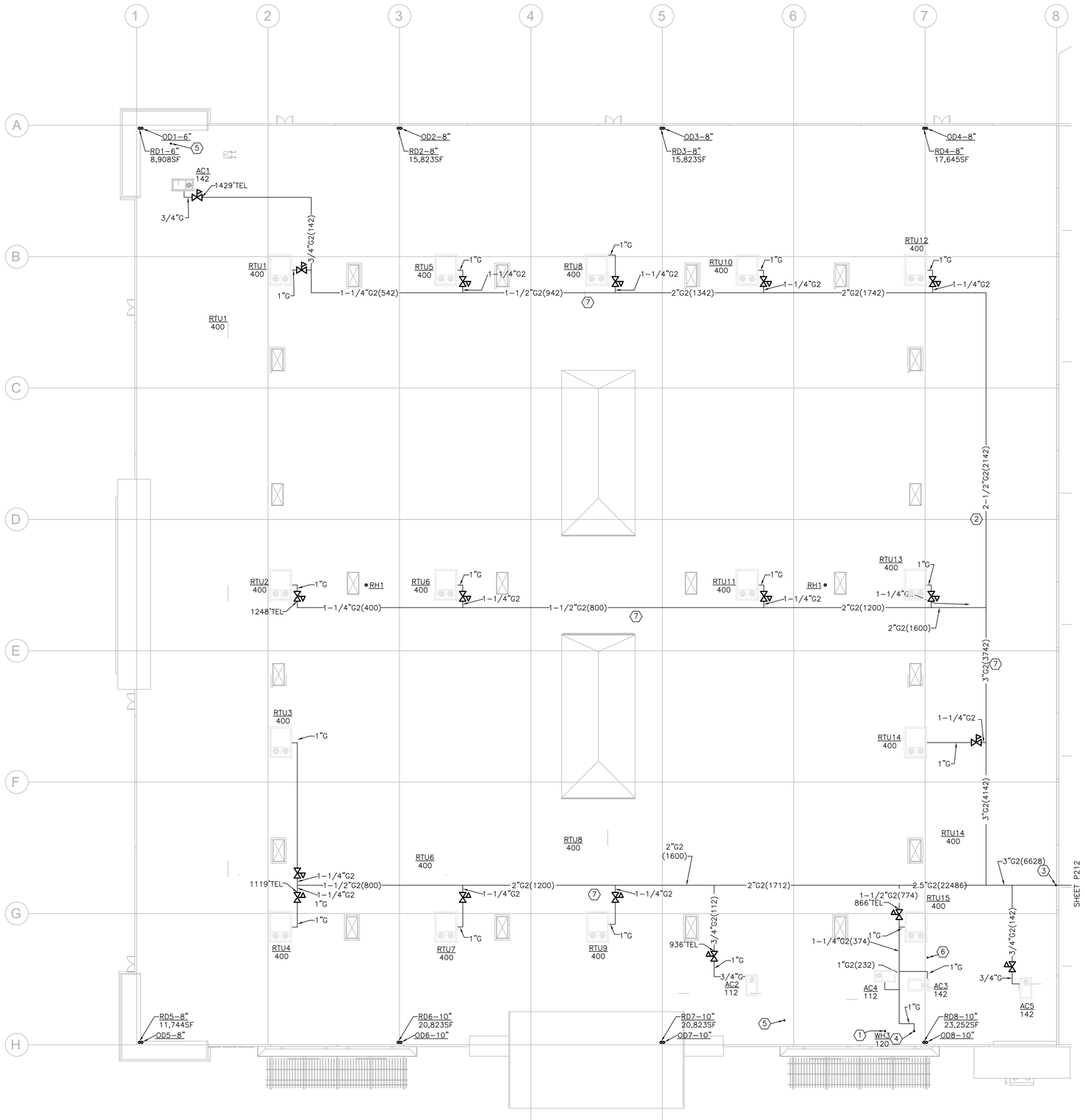


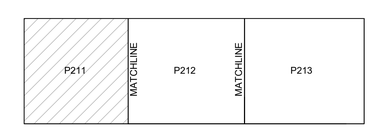
1 ROOF PLAN - SHOWROOM - PLUMBING

SCALE : 1"=20'-0"

North

KEYED NOTES

1. 4"CONCENTRIC WH3 ROOF CAP. PROVIDE 10' CLEARANCE MINIMUM FROM HVAC INLET.
2. SWING JOINT AT RIDGE.
3. 4"G2 DN TO LOWER ROOF.
4. 1"G DN TO WH3.
5. 4"VTR.
6. 3"VTR.
7. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING QUANTITY AND LOCATION OF THERMAL EXPANSION LOOPS, FLEXIBLE CONNECTIONS, SUPPORTS, ETC. MASON INDUSTRIES APPROVED MFR.



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Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:

Title: ROOF PLAN-SHOWROOM PLUMBING

P211

Kraemer Consulting Engineers, PLLC.
Mechanical and Electrical Engineers
2050 West Whispering Wind Dr., Suite 158
Phoenix, Arizona 85085-2864
(602) 285-1664
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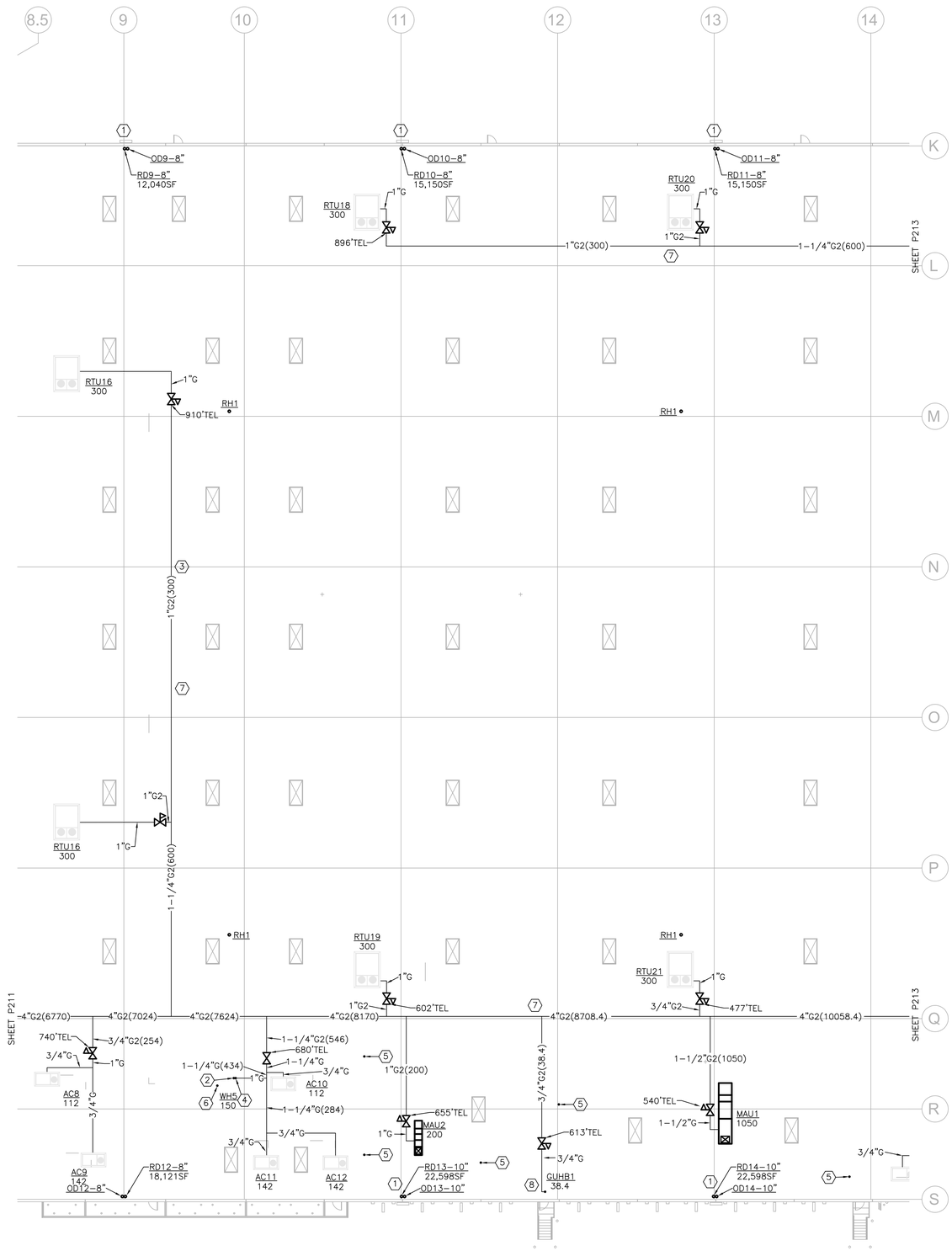
JOB # 21-120A



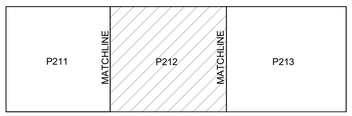
1 ROOF PLAN - WAREHOUSE WEST - PLUMBING

SCALE : 1"=20'-0"

North

KEYED NOTES

1. SEE ARCH. PLANS FOR EXACT RD/OD LOCATIONS.
2. 4"CONCENTRIC WH5 ROOF CAP. PROVIDE 10' CLEARANCE MINIMUM FROM HVAC INLET.
3. SWING JOINT AT RIDGE.
4. 1"G DN TO WH5.
5. 3"VTR.
6. 4"VTR.
7. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING QUANTITY AND LOCATION OF THERMAL EXPANSION LOOPS, FLEXIBLE CONNECTIONS, SUPPORTS, ETC. MASON INDUSTRIES APPROVED MFR.
8. 3/4"G DN TO GUH ON MEZZANINE.



KEY PLAN

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JOB # 21-120A

Butler Design Group Inc.
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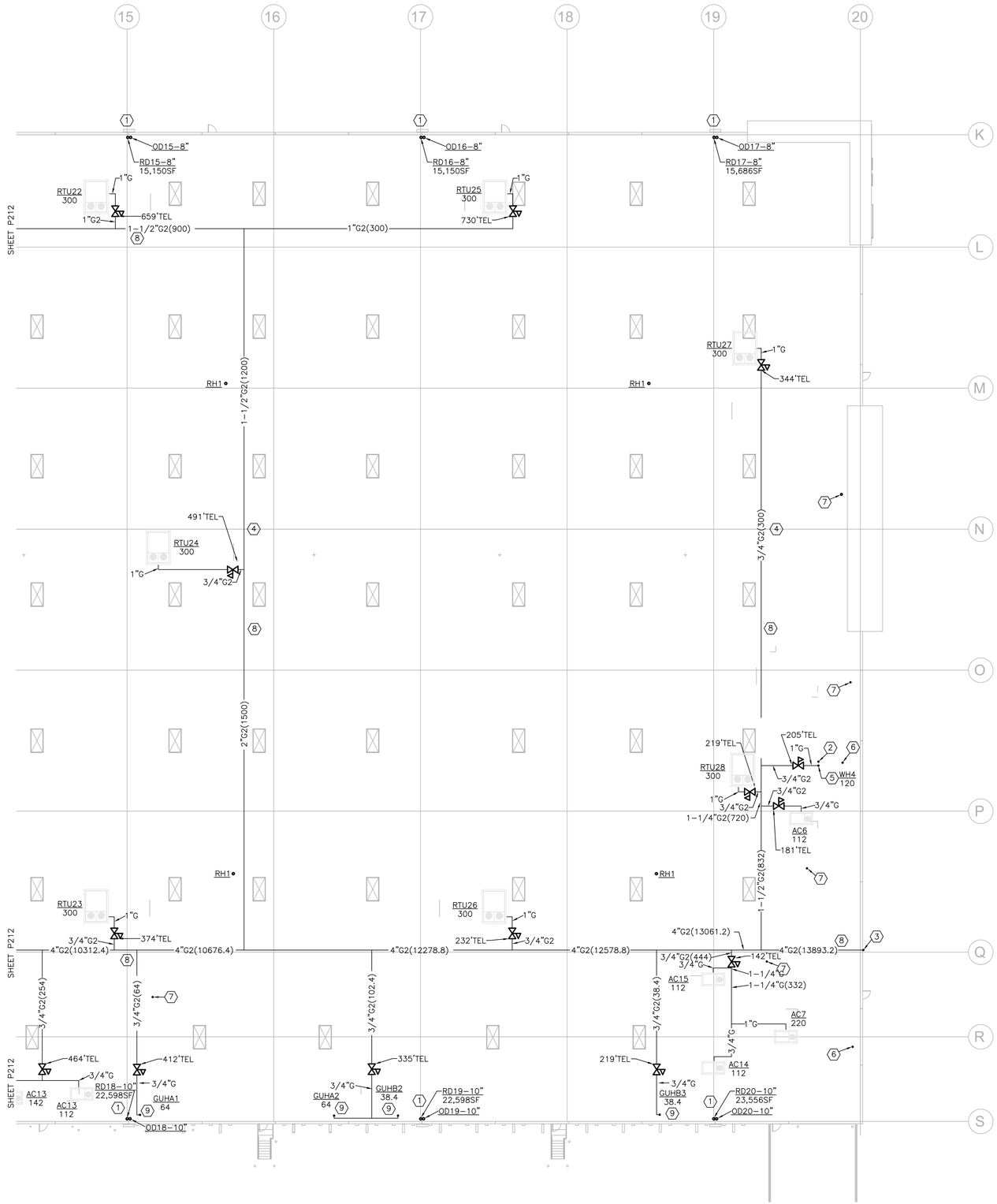
COLORADO SPRINGS, CO

Case #:
Plan Check #:
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: ROOF PLAN-WAREHOUSE WEST PLUMBING

P212



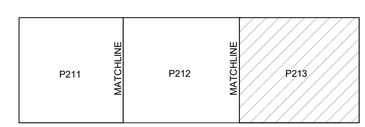
1 ROOF PLAN - WAREHOUSE EAST - PLUMBING

SCALE : 1"=20'-0"

North

KEYED NOTES

1. SEE ARCH. PLANS FOR EXACT RD/OD LOCATIONS.
2. 4"CONCENTRIC WH4 ROOF CAP. PROVIDE 10' CLEARANCE MINIMUM FROM HVAC INLET.
3. 4"G2 DN.
4. SWING JOINT AT RIDGE.
5. 1"G DN TO WH4.
6. 4"VTR.
7. 3"VTR.
8. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING QUANTITY AND LOCATION OF THERMAL EXPANSION LOOPS, FLEXIBLE CONNECTIONS, SUPPORTS, ETC. MASON INDUSTRIES APPROVED MFR.
9. 3/4"G DN TO GUH ON MEZZANINE.



KEY PLAN

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Case #:
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Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: ROOF PLAN-WAREHOUSE EAST PLUMBING

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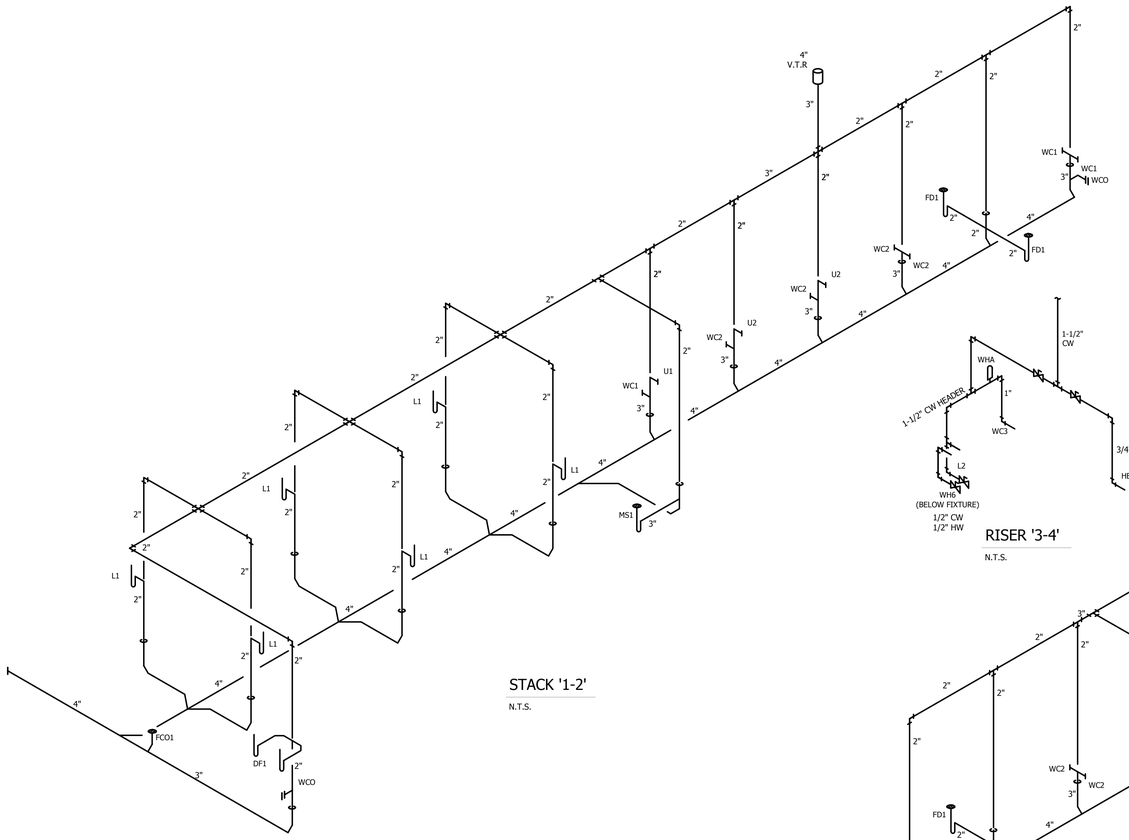
JOB # 21-120A

P213



STACK '1-2'

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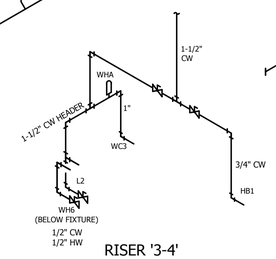

RISER '3-4'

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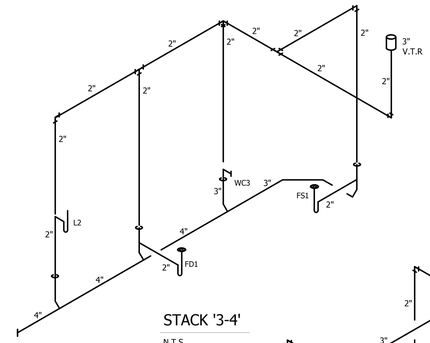
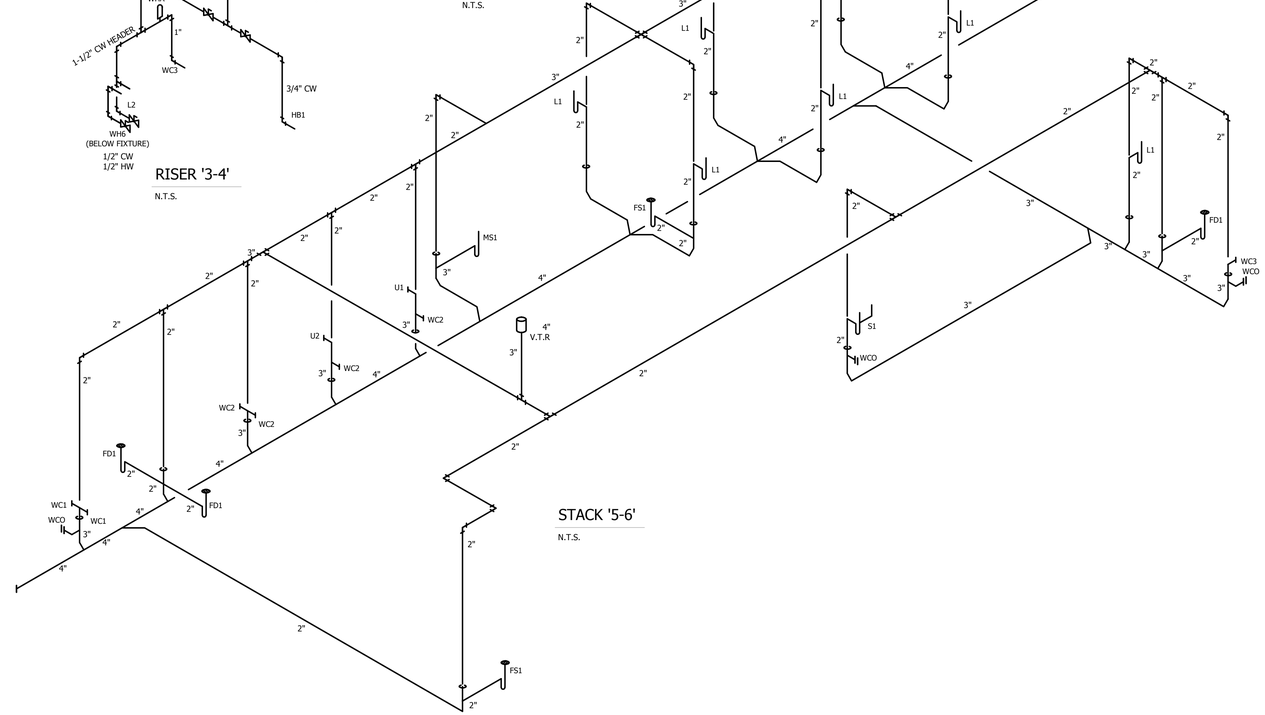


STACK '3-4'

N.T.S.



STACK '5-6'

N.T.S.

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COLORADO SPRINGS, CO

Case #:
Plan Check #:
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:

Title:
WASTE & VENT
SCHEMATICS - PLUMBING

P311

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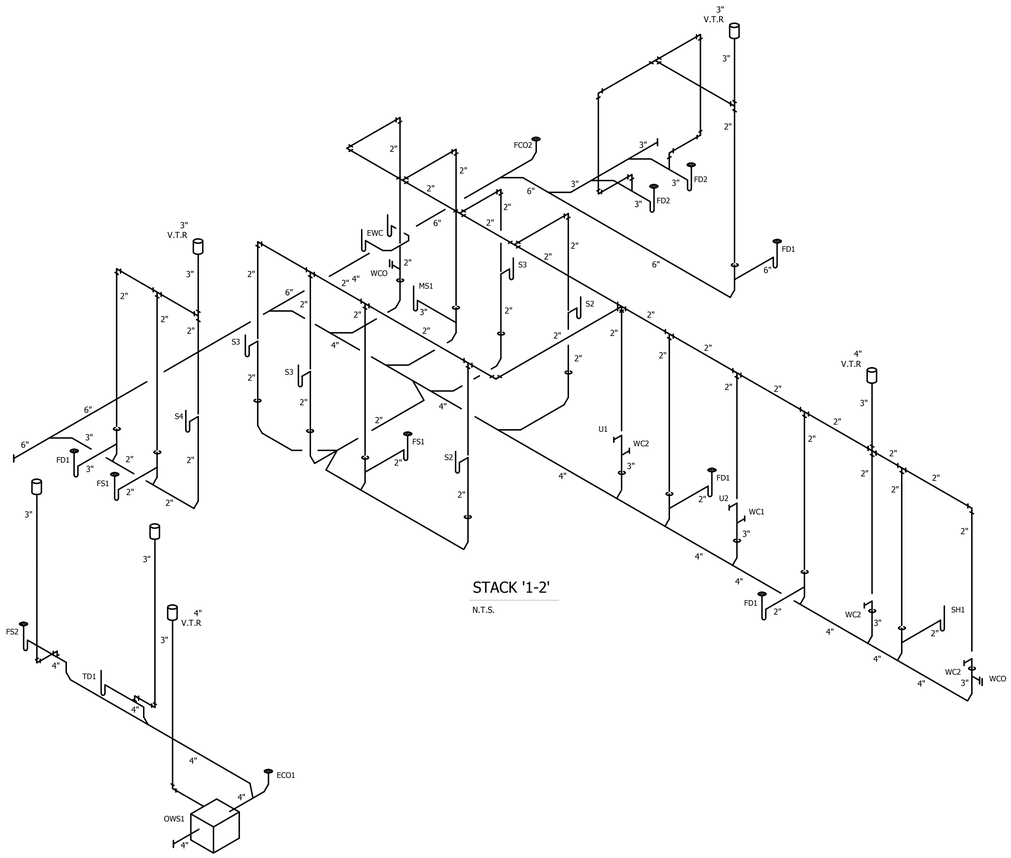
(602) 285-9450 - fax
JOB # 21-120A

WHA - WATER HAMMER ARRESTOR:
SIOUX CHIEF 650 SERIES PISTON-TYPE WATER HAMMER ARRESTER, COPPER TUBE, MAX WORKING PRESSURE TEMPERATURE 150°F, MAX PRESSURE 350 PSIG. ANSI/ASSE1010, 2004 CERTIFIED. THE CONTRACTOR SHALL INSTALL THE WATER HAMMER ARRESTORS IN THE PIPING SYSTEM AS REQUIRED BY THE SIZE OF THE FIXTURE LOAD. INSTALL IN AN ACCESSIBLE AREA OR PROVIDE ACCESS DOOR.

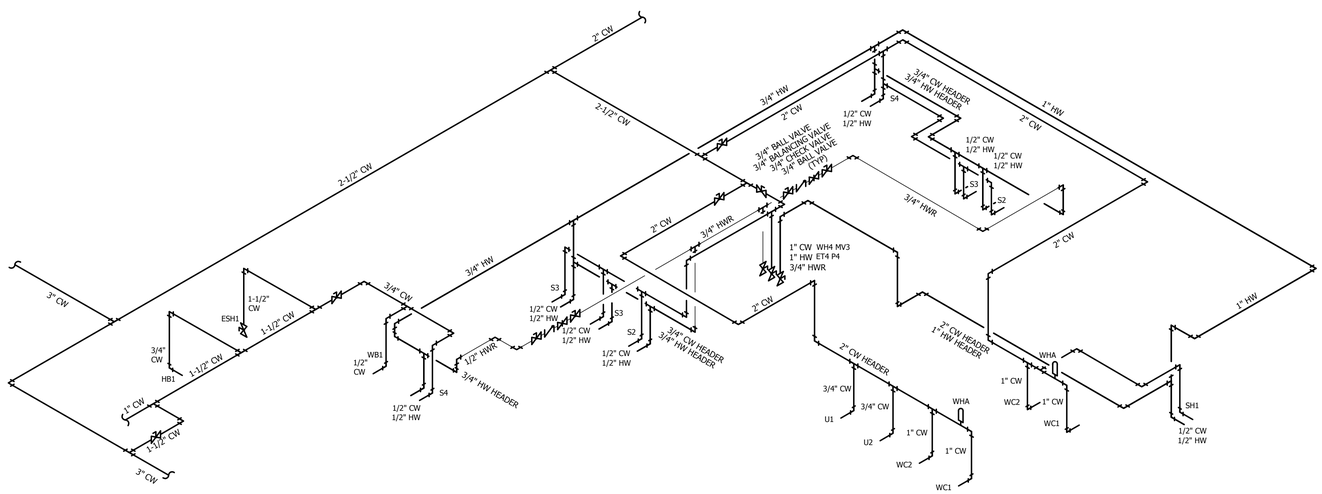
FIXTURE	FIXTURE UNIT RATING	CONNECTION SIZE	SIOUX CHIEF ARRESTOR SIZE
WHA1	1 - 11	1/2"	A
WHA2	12 - 32	3/4"	B
WHA3	33 - 60	1"	C
WHA4	61 - 113	1"	D
WHA5	114 - 154	1"	E
WHA6	155 - 330	1"	F

NOTES:
FOR BRANCH LINES 20'-0" OR LESS INSTALL WHA BETWEEN LAST TWO FIXTURES & FOR BRANCH LINES OVER 20'-0" TWO WHA SHOULD BE USED THE SECOND ONE PLACE AT THE MIDPOINT OF THE LINE.



STACK '1-2'

N.T.S.



RISER '1-2'

N.T.S.

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Case #:
Plan Check #:
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: WASTE, VENT, & WATER SCHEMATICS - PLUMBING

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JOB # 21-120A

P312

WHA - WATER HAMMER ARRESTOR:
SIOUX CHIEF 650 SERIES PISTON-TYPE WATER HAMMER ARRESTER, COPPER TUBE, MAX WORKING PRESSURE TEMPERATURE 150°F, MAX PRESSURE 350 PSIG. ANSI/ASSE1010, 2004 CERTIFIED. THE CONTRACTOR SHALL INSTALL THE WATER HAMMER ARRESTORS IN THE PIPING SYSTEM AS REQUIRED BY THE SIZE OF THE FIXTURE LOAD. INSTALL IN AN ACCESSIBLE AREA OR PROVIDE ACCESS DOOR.

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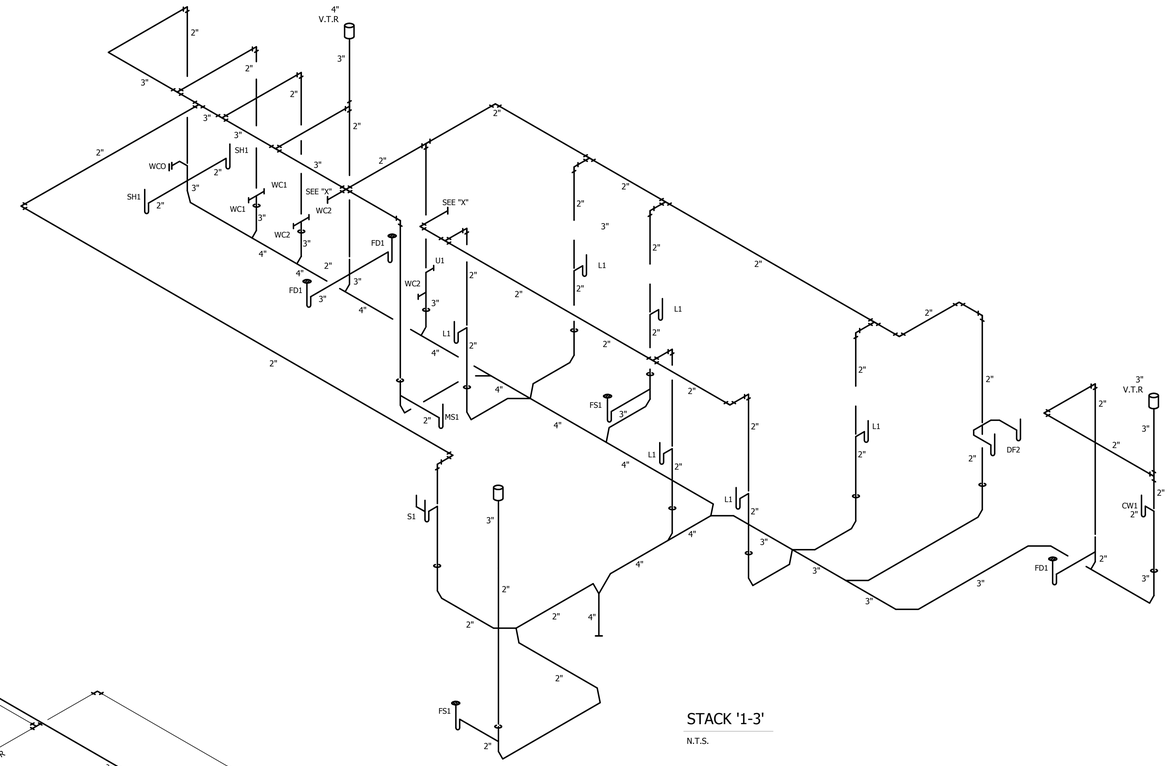
WHA5	114 - 154	1"	E
WHA6	155 - 330	1"	F

NOTES:
FOR BRANCH LINES 20'-0" OR LESS INSTALL WHA BETWEEN LAST TWO FIXTURES & FOR BRANCH LINES OVER 20'-0" TWO WHA SHOULD BE USED THE SECOND ONE PLACE AT THE MIDPOINT OF THE LINE.



STACK '1-3'
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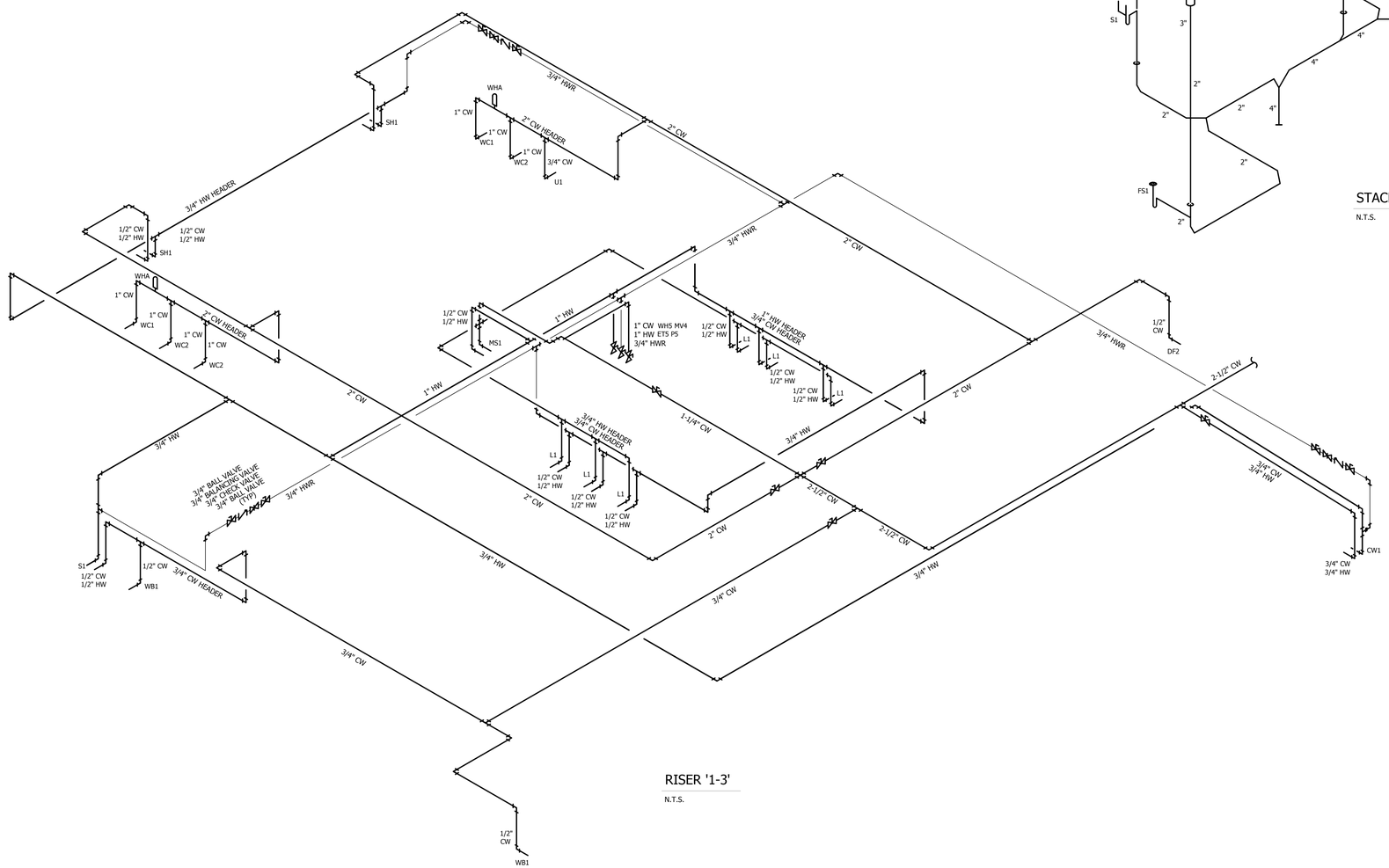

RISER '1-3'
N.T.S.

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COLORADO SPRINGS, CO

Case #:
Plan Check #:
Date: 10/15/24
Revisions:

Project Number: 20068.100
Drawn By:
Title: WASTE, VENT, & WATER SCHEMATICS - PLUMBING

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JOB # 21-120A

P313

WHA - WATER HAMMER ARRESTOR:
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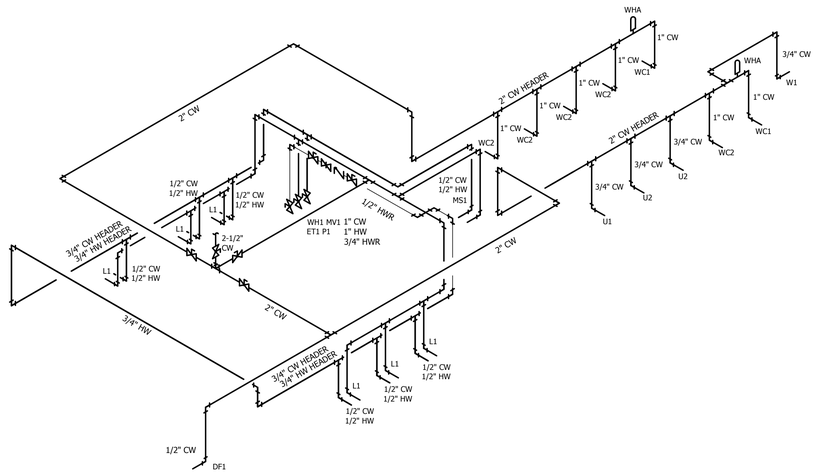
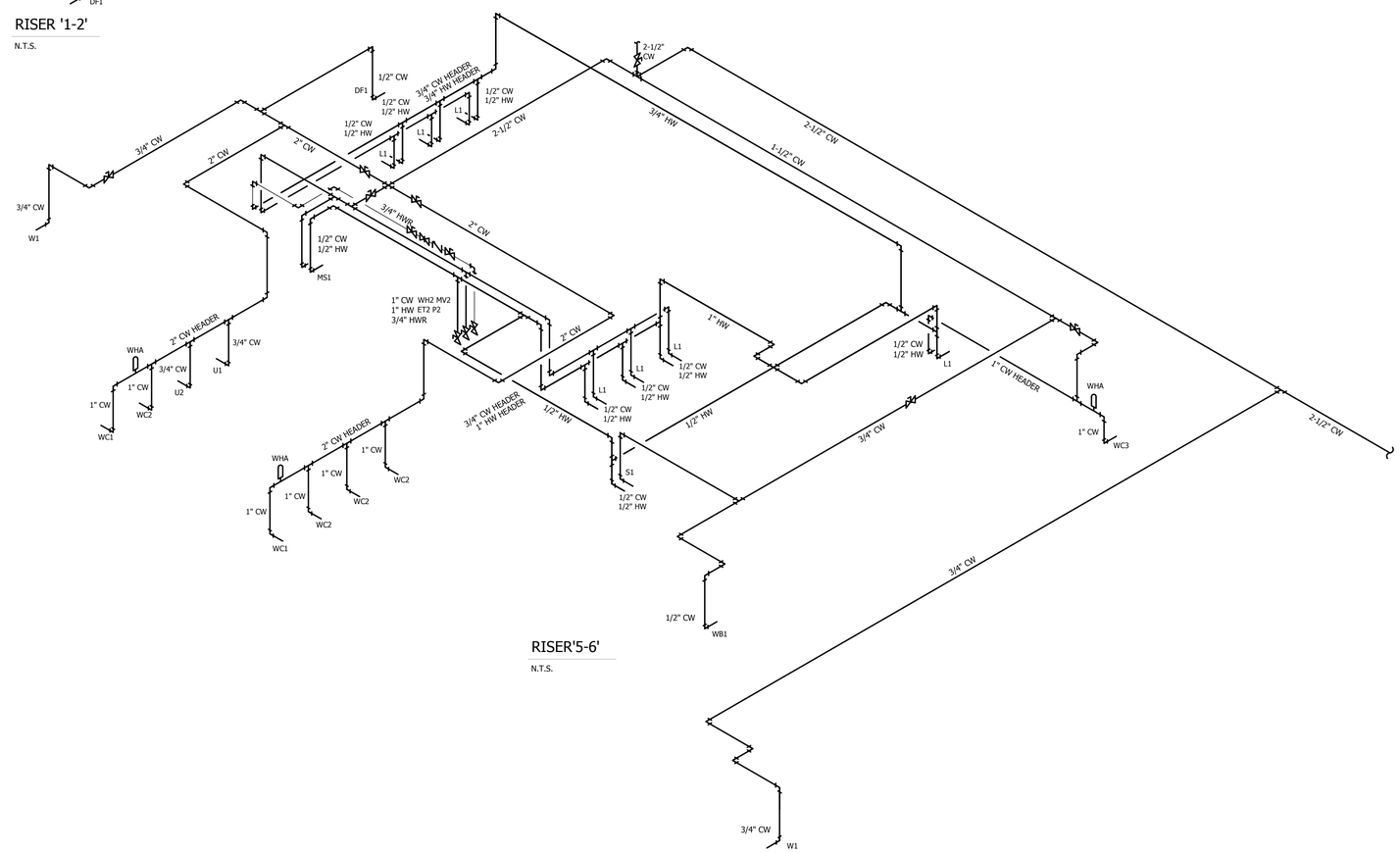


RISER '1-2'

N.T.S.



RISER'5-6'

N.T.S.

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Title: WATER SCHEMATICS - PLUMBING

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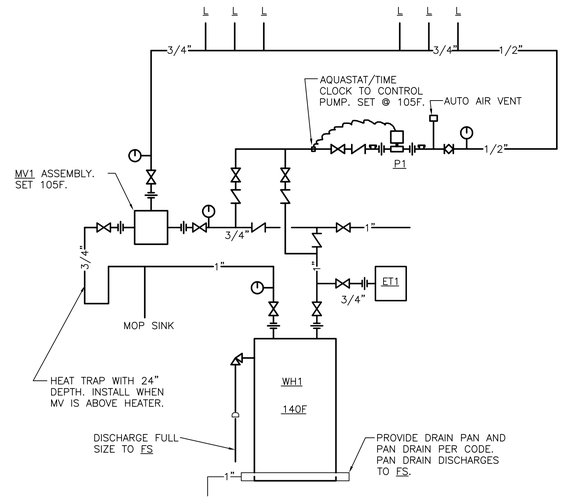
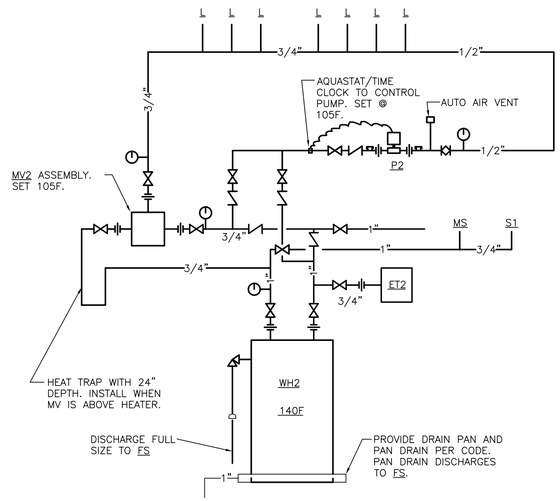
JOB # 21-120A

P314



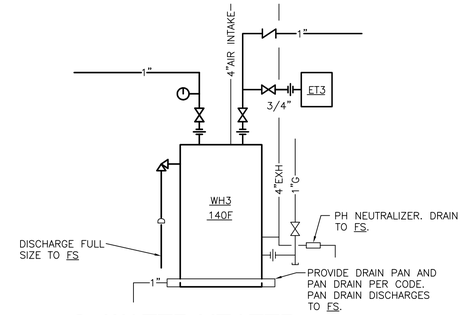
1 WATER HEATER

NO SCALE



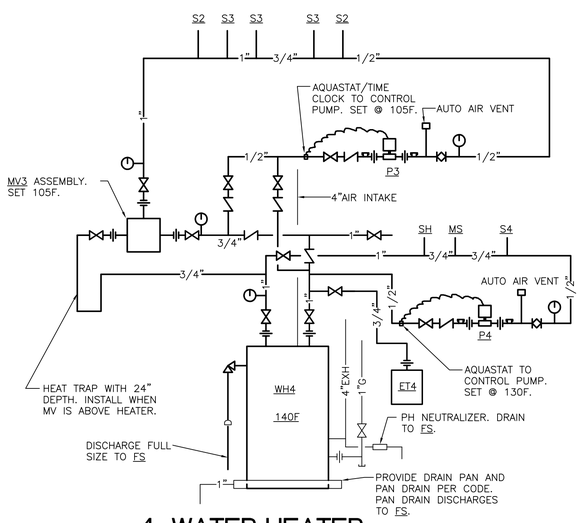
2 WATER HEATER

NO SCALE



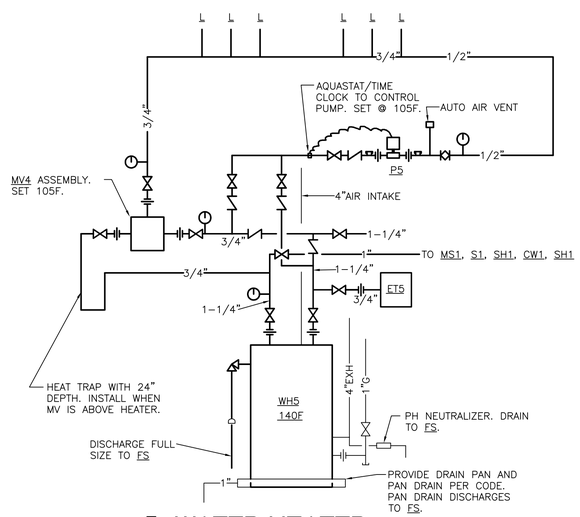
3 WATER HEATER

NO SCALE



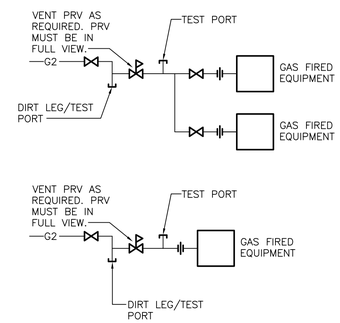
4 WATER HEATER

NO SCALE



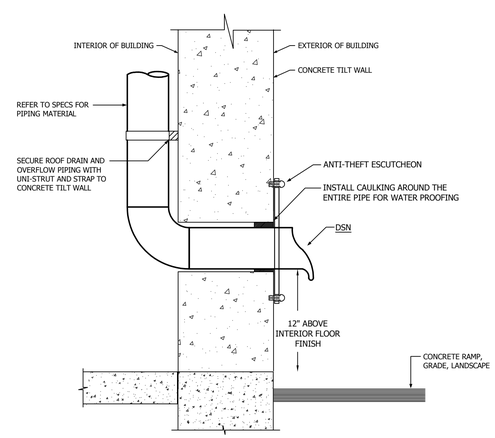
5 WATER HEATER

NO SCALE



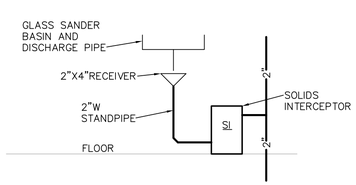
8 GAS EQUIPMENT CONNECTIONS

NO SCALE



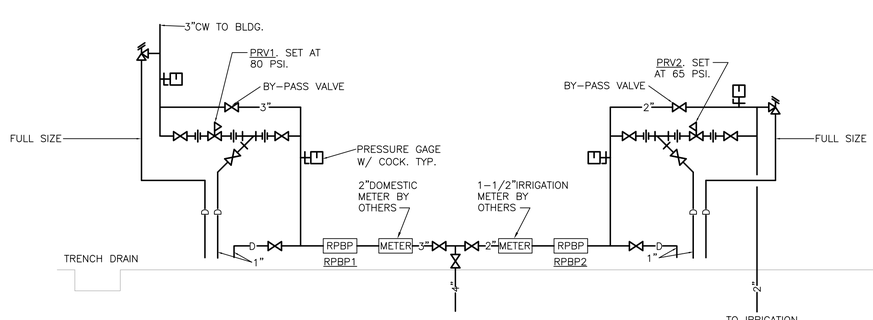
9 RD/OD TERMINATION W/DOWNSPOUT NOZZLE

NO SCALE



6 GLASS SANDER DETAIL

NO SCALE



7 WATER SERVICE

NO SCALE

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COLORADO SPRINGS, CO

Case #:
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Project Number: 20068.100
Drawn By:
Title: DETAILS - PLUMBING

P411