

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SHUJI OKUDA, P.E. #54327 ON OCTOBER 23, 2012

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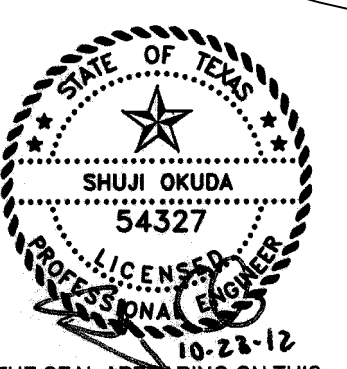
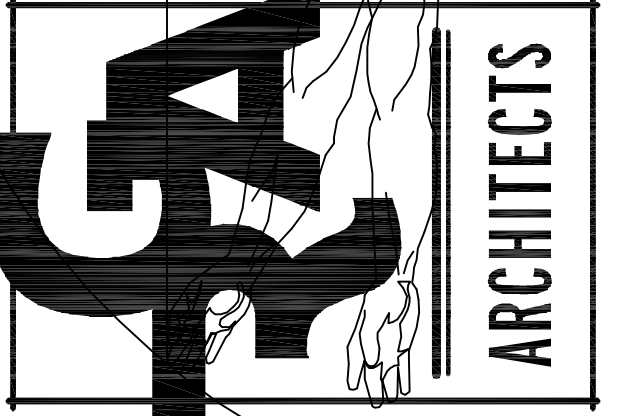


cloudlenders
 Champions Crossing
 920 South Kimball Ave.
 Southlake, Texas 76092

1 FLOOR PLAN - WASTE & VENT
 Scale: 1/8" = 1'-0"

PROJECT NUMBER:	12069
DATE:	08.30.2012
REVISIONS:	
▲	REVISION 1 10.23.2012
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▲	
▲	
SHEET:	P1.01

3007 DOLY STREET, STE 100
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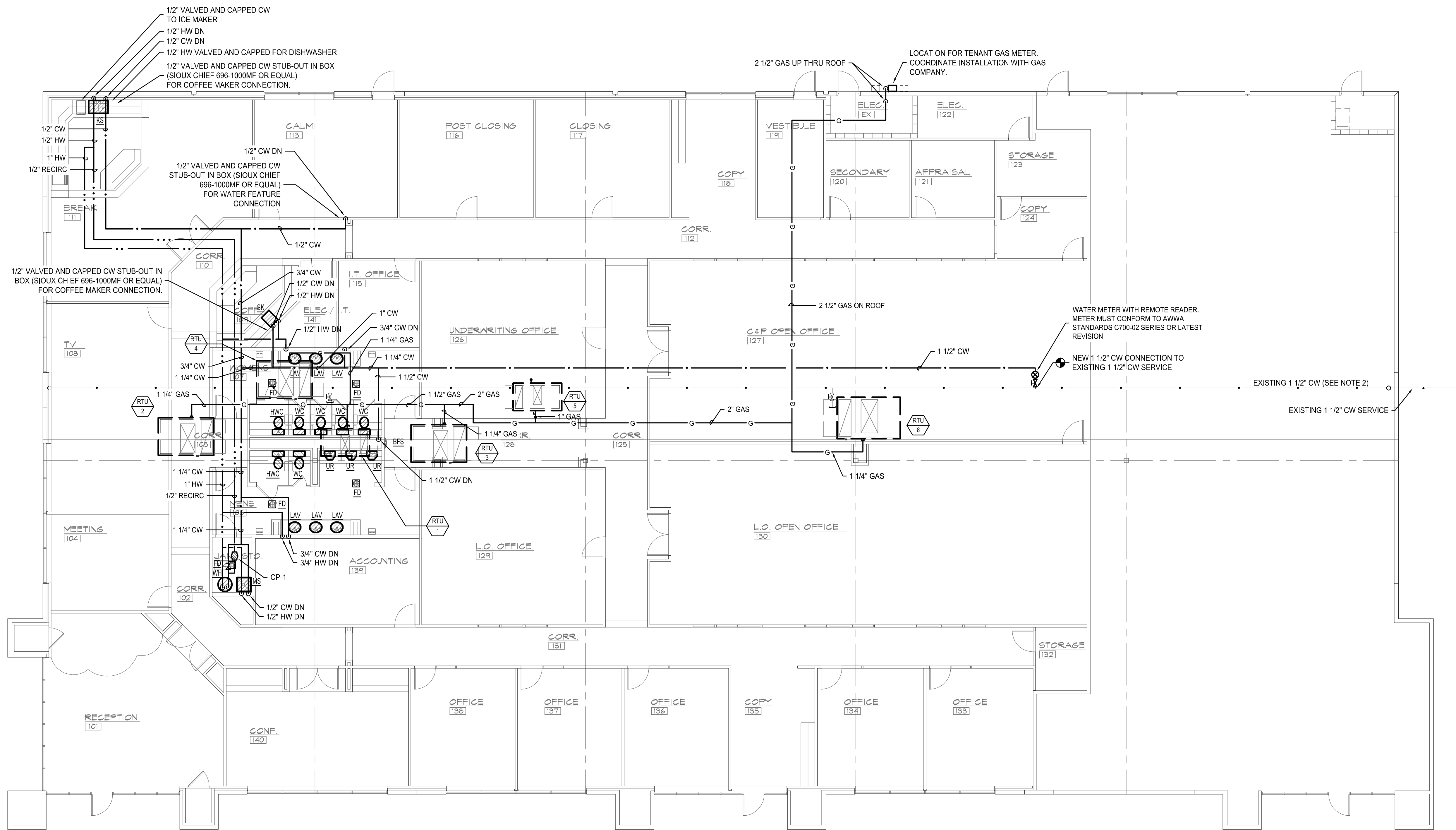
10-23-12
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Systems
 ASSOCIATES, P.C.
 No. F-0000597 Engineering Consultants
 800 West Airport Freeway Suite 611 Irving, Texas 75062 Tel (972) 812-8898 Fax (972) 812-8890 SAI Job No. 12069

cloudlenders
 Champions Crossing
 920 South Kimball Ave.
 Southlake, Texas 76092

NOTE:
 1. CONTRACTOR SHALL PROVIDE GAS COCK, UNION AND DIRT LEG IN THAT ORDER IN GAS LINE SERVING ALL EQUIPMENT
 2. WATER SERVICE SIZE HAS BEEN OBTAINED FROM RECORD DRAWINGS. CONTRACTOR SHALL FIELD VERIFY PIPING AND METER SIZES.



FLOOR PLAN - WATER & GAS
 Scale: 1/8" = 1'-0"

PROJECT NUMBER: 12069
 DATE: 08.30.2012
 REVISIONS:
 ▲ REVISION 1 10.23.2012
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 ▲
 SHEET: P1.02

PLUMBING SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	SANITARY WASTE PIPING
	SANITARY VENT PIPING
	GREASE WASTE PIPING
	ACID WASTE PIPING
	STORM DRAIN PIPING
	STORM DRAIN OVER FLOW PIPING
	NATURAL GAS PIPE
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RECIRCULATION PIPING
	EXISTING PIPE TO BE REMOVED WHERE NO CONNECTION IS REQUIRED
	CONDENSATE DRAIN LINE PIPING (D) (CD)
	REGULATOR
	GAS COCK
	GATE VALVE
	BALL VALVE
	CHECK VALVE
	UNION
	BALANCING VALVE
	FLOW DIRECTION OF PIPING
	SOLENOID VALVE
	MIXING VALVE
	HOSE BIBB OR FREEZE PROOF WALL HYDRANT (HB) (FPWH)
	CAP PIPING
	FLOOR DRAIN (FD)
	HUB DRAIN (HD)
	FLOOR SINK (FS)
	FLOOR CLEANOUT (FCO)
	TWO WAY OR DOUBLE CLEAN OUT (TWC) (DCO)
	WALL CLEANOUT (WCO)
	VTR
	UF
	OH
	POINT OF CONNECTION TO EXISTING

ALL SYMBOLS ON THIS LIST ARE NOT NECESSARILY USED ON THIS JOB

ELECTRIC WATER HEATER SCHEDULE											
DESIGNATION	MODEL NUMBER	MANUFACTURER	STORAGE GALLONS	RECOVERY RATE G.P.H.	TEMPERATURE RISE	LEAVING WATER TEMPERATURE	ELECTRICAL CHARACTERISTICS			REMARKS/SPECIAL INSTRUCTIONS	
							K.W.	VOLTAGE	PHASE		
WH	DEN-30	A.O. SMITH	30	8	100	140	2	208	1	CONTRACTOR SHALL INSTALL EXPANSION TANK IF REQUIRED. INSTALL WATER HEATER PER MANUFACTURERS INSTRUCTIONS. INSTALL THERMOSTATIC MIXING VALVE SIMILAR TO SYMMONS #410-B ON EACH FAUCET.	

GENERAL NOTES:
 1. CONTRACTOR SHALL PROVIDE DIELECTRIC UNIONS AT WATER HEATER CONNECTIONS.
 2. CONTRACTOR SHALL PROVIDE BALL VALVES AT WATER HEATER CONNECTIONS.
 3. CONTRACTOR SHALL PROVIDE T&P RELIEF VALVE, DRAIN VALVE AND EMERGENCY OVERFLOW DRAIN PAN FOR WATER HEATER. T & P AND OVERFLOW DRAINS
 4. DISCHARGE OUTSIDE OR INTO NEAREST OPEN SIGHT DRAIN.

DOMESTIC HOT WATER CIRCULATOR SCHEDULE											
DESIGNATION	MODEL NUMBER	MANUFACTURER	TOTAL HEAD IN FEET	IMPELLER & VOLUME MATERIAL	TOAL GPM	PUMP WATTAGE	ELECTRICAL CHARACTERISTICS			REMARKS/SPECIAL INSTRUCTIONS	
							H.P.	VOLTAGE	PHASE		
CP-1	UP25-64BF	GRUNFOS	15	BRONZE	20	185	1/12	115	1	REFER TO INSTALLATION DETAIL. DO NOT MOUNT MOTOR SHAFT IN VERTICAL POSITION.	

GENERAL NOTES:
 1. CONTRACTOR SHALL PROVIDE TIMER AND THERMOSTAT CONTROL OF PUMP. REFER TO DETAIL.
 2. CONTRACTOR SHALL INSTALL PUMP PER MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS.

TEXAS ENERGY CODE COMPLIANCE
 CONTRACTOR SHALL PROVIDE HEAT TRAPS ON VERTICAL PIPE RISERS TO WATER HEATER STORAGE TANKS SERVING NON-RECIRCULATING HOT WATER SYSTEM. INSTALL HEAT TRAPS ON BOTH THE INLET AND OUTLET PIPING. HEAT TRAPS SHALL BE INSTALLED AS CLOSE AS PRACTICAL TO THE STORAGE TANK.

CONTRACTOR SHALL PROVIDE AUTOMATIC TIME SWITCH ON DOMESTIC HOT WATER RECIRCULATION PUMP. AUTOMATIC TIME SWITCH SHALL BE SET TO SWITCH OFF THE RECIRCULATION SYSTEM DURING EXTENDED PERIODS WHEN HOT WATER IS NOT REQUIRED.

FOR AUTOMATIC-CIRCULATING HOT WATER SYSTEMS, PIPING SHALL BE INSULATED WITH 1 INCH OF INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/H X FT² X F DEGREES. THE FIRST 8 FEET OF PIPING IN NON-CIRCULATING SYSTEMS SERVED BY EQUIPMENT WITHOUT INTEGRAL HEAT TRAPS SHALL BE INSULATED WITH 0.5 INCH OF MATERIAL HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/H X FT² X F DEGREES.

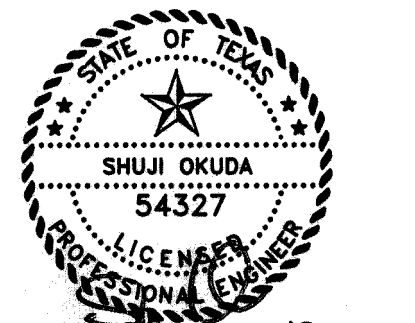
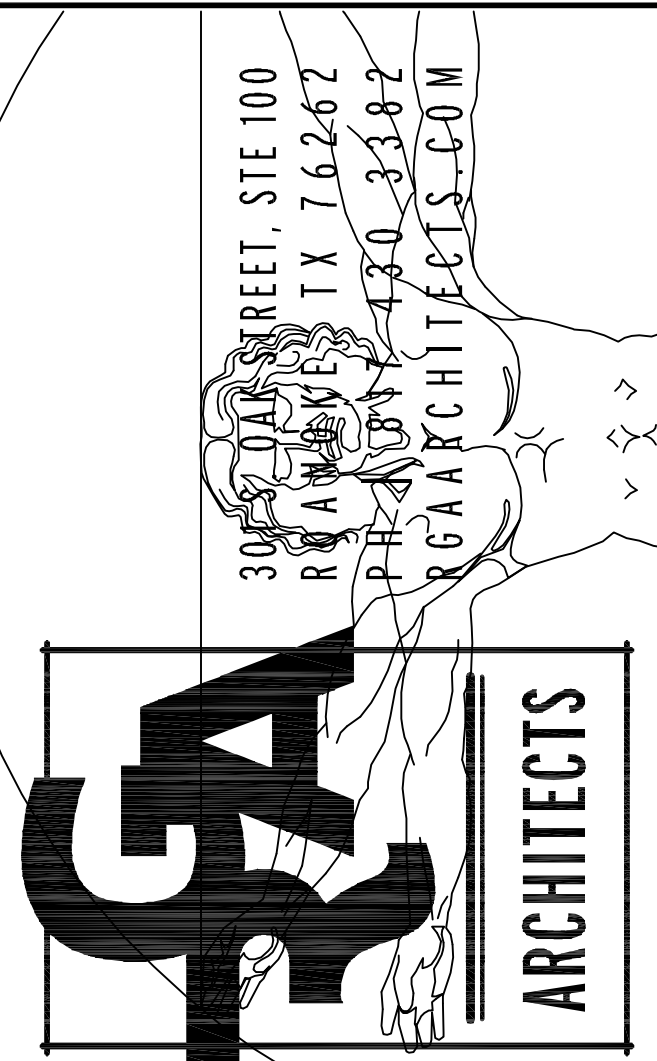
CONTRACTOR SHALL PROVIDE A THERMOSTATIC MIXING VALVE ON THE HOT WATER SUPPLY PIPE SERVING PUBLIC RESTROOM LAVATORIES. THERMOSTATIC MIXING VALVE SHALL BE SET FOR A MAXIMUM TEMPERATURE OF 110 DEGREES.

ADA/TAS PLUMBING FIXTURES
 CONTRACTOR SHALL VERIFY ADA/TAS PLUMBING FIXTURE LOCATIONS AND REQUIREMENTS WITH FINAL ARCHITECTURAL CONSTRUCTION DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL ADA/TAS APPROVED PLUMBING FIXTURES SHOWN ON THE FINAL ARCHITECTURAL CONSTRUCTION
 CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR MOUNT HEIGHTS AND SPECIAL MOUNTING INSTRUCTION AND LIMITATIONS.
 CONTRACTOR SHALL INSTALL ADA/TAS APPROVED PLUMBING FIXTURES TO COMPLY THE LATEST VERSIONS OF THE ADA AND TEXAS ACCESSIBILITY STANDARDS CODES.

PLUMBING FIXTURE SCHEDULE											
DESIG.	DESCRIPTION	MANUFACTURER & MODEL NUMBER	SAN. SWR	VENT	COLD WTR	HOT WTR	DESCRIPTION / REMARKS				
			SIZE	SIZE	SIZE	SIZE					
WC	FLOOR MOUNTED WATER CLOSET TANK TYPE	TOTO MS854114E OLSONITE PLASTIC SEAT	4"	2"	3/4"	-	VITREOUS CHINA, LOW CONSUMPTION, ELONGATED BOWL, SIPHON E-MAX FLUSH, SIDE MOUNTED CHROME TRIP LEVER, ELONGATED ONE-PIECE TOILET				
HWC	FLOOR MOUNTED WATER CLOSET TANK TYPE ADA APPROVED	TOTO MS604114CF OLSONITE PLASTIC SEAT	4"	2"	3/4"	-	VITREOUS CHINA, LOW CONSUMPTION, ELONGATED BOWL, SIPHON DOUBLE CYCLONE FLUSH, SIDE MOUNTED CHROME TRIP LEVER, ELONGATED ONE-PIECE TOILET				
UR	WALL HUNG URINAL 1.0 GPF INFRARED ADA APPROVED	TOTO UT447E SLOAN ROYAL #180 ES-S	2"	2"	3/4"	-	VITREOUS CHINA, WASHOUT LOW CONSUMPTION 1.6 GALLON PER FLUSH URINAL WITH 3/4 INCH TOP SPUD, 2 INCH FEMALE THREADED OUTLET, 3/4 INCH TOP SPUD TWO WALL HANGERS MOUNTED ON STRUCTURAL STEEL SUPPORTS ANCHORED TO FLOOR. FURNISH URINAL COMPLETE WITH SLOAN ROYAL #180 ES-S FLUSH VALVE AND FLOOR MOUNTED CAST IRON SUPPORTS SIMILAR TO JOSAM PRO-SET UPRIGHTS. CONSULT ARCHITECT'S DRAWINGS FOR MOUNTING HEIGHT				
LAV	COUNTERTOP LAVATORY ADA	TOTO LTS01-1 SLOAN OPTIMA ETF-600	2"	2"	1/2"	1/2"	VITREOUS CHINA, FRONT OVERFLOW WITH 4 INCH CENTER SET FAUCET. COUNTERTOP LAVATORY, FURNISHED COMPLETE WITH CHROME PLATED OFFSET 1 1/2 INCH P-TRAP ANGLE STOPS WITH FLEXIBLE METAL SUPPLIES, HAND LAV GUARD INSULATION KIT, AND SLOAN MODEL ETF-600 ELECTRONIC INFRARED SENSOR FAUCET.				
KS	COMPARTMENT STAINLESS STEEL KITCHEN SINK ADA	DBW-2133-A-GR-L MOEN #8799 FAUCET	-	-	-	-	STAINLESS STEEL SELF RIMMING SINK 5 1/2 INCHES DEEP FOR ADA. 1/2 HP 115 V DISPOSAL				
SK	SINGLE COMPARTMENT STAINLESS STEEL	JUST MFG SL-ADA-1921-A-GR MOEN #8799 FAUCET	2"	2"	1/2"	1/2"	SINGLE COMPARTMENT 18 GAUGE STAINLESS STEEL SINK WITH THREE HOLE PUNCHING STAINLESS STEEL SELF RIMMING SINK 6 INCHES DEEP FOR ADA.				
MS	SQUARE MOP SINK WITH GUARD AND HOSE	TSB-100	3"	2"	3/4"	3/4"	TERRAZZO TSB-100 24 INCH X 24 INCH X 12 INCH MOP SINK WITH DELTA 2872383 FAUCET FIAT NO. 898-CC MOP HANGER, NO. 832-AA HOSE WITH BRACKET NO. 1453-BB STAINLESS STEEL STRAINER. PROVIDE ONE MSG 2424 WALL GUARD.				
BFS	ELECTRIC BOTTLE FILLING STATION	ELKAY LWWSMK	-	-	1/2"	-	REFRIGERATED, RECESSED BOTTLE FILLING STATION WITH FILTER. ELKAY MODEL: LWWSMK OR EQUAL. PROVIDE REPLACEMENT FILTERS.				
ICE MAKER BOX	ICE MAKER OUTLET BOX	SIOUX CHIEF CK BOX 696-1000MF	-	-	1/2"	-	SECURE STUD MOUNTED 1/2" WATER OUTLET BOX				
FD	FOR RESTROOMS AND EXPOSED AREAS	1100 WITH TRAP PRIMER CONNECTION	-	-	-	-	TRAP PRIMER CONNECTION, VANDALPROOF TOP, SPEED SET OUTLET AND NO HUB ADA AFTER. VERIFY ROUND OR SQUARE TOP WITH ARCHITECT				
FCO	INTERIOR FLOOR CLEANOUT	WADE 6000STD-1	-	-	-	-	COATED CAST IRON KLEENATRON LEVELZE FLOOR CLEANOUT, INTEGRAL GASKETED BRONZE CLEANOUT PLUG, ADJUSTABLE HOUSING WITH SCORIA TED SECURED ROUND NICKALLOY TOP. CONTRACTOR SHALL SELECT COVER FOR FLOOR COVERING USED REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF FLOOR COVERING.				
CO	EXTERIOR CLEANOUTS PROVIDE PAD	WADE 6000X-1	-	-	-	-	COATED CAST IRON KLEENATRON LEVELZE FLOOR CLEANOUT, INTEGRAL GASKETED BRONZE CLEANOUT PLUG, ADJUSTABLE HOUSING WITH SCORIA TED SECURED ROUND NICKALLOY TOP. CONTRACTOR SHALL PROVIDE CONCRETE PAD. REFER TO DETAIL.				
WCO	WALL CLEANOUT TEE WITH ACCESS COVER	WADE 8560/8480R	-	-	-	-	ROUND STAINLESS STEEL WALL ACCESS COVER WITH CENTER SCREW, COATED CAST IRON CLEANOUT TEE WITH HUB AND SPOUT CONNECTION AND RECESSED BRONZE TAPPED PLUG. PROVIDE VANDALPROOF SCREW. REFER TO WALL CLEANOUT DETAIL.				

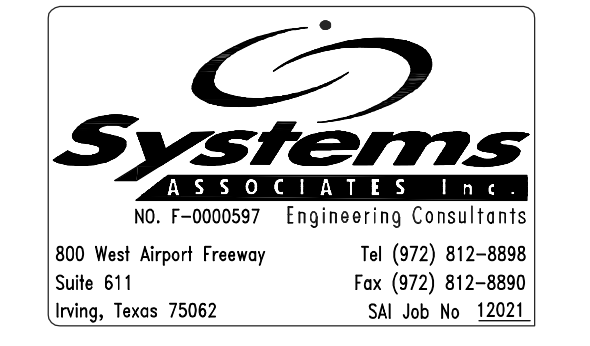
- NOTES:**
- WALL HUNG PLUMBING FIXTURES SHALL BE SUPPORTED USING ADJUSTABLE CONCEALED ARM FLOOR MOUNTED SUPPORTS WITH RECTANGULAR STRUCTURAL STEEL UPRIGHTS UTILIZING HEAVY-DUTY CAST-IRON FEET BOLTED TO THE FLOOR AND CAST IRON SUPPORT HEADERS.
 - FLOOR AND HUB DRAINS IN RESTROOMS AND MECHANICAL ROOMS, ALSO DRAINS WHICH RECEIVE HVAC CONDENSATE AND DRAINS NOT FREQUENTLY USED SHALL HAVE AN AUTOMATIC TRAP PRIMER ACTIVATED BY A DROP IN WATER PRESSURE. TRAP PRIMER SHALL BE LOCATED DIRECTLY BEHIND A 10 INCH BY 10 INCH ACCESS PANEL FLUSH WITH WALL ACCESS PANEL, LOCATED AS DIRECTED BY THE ARCHITECT. ACCESS PANEL LOCATIONS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO ROUGH-IN. ARCHITECT RESERVES THE RIGHT TO RELOCATE ACCESS PANEL PRIOR TO INSTALLATION WITHOUT ADDITIONAL COST.
 - CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AND LOCATIONS OF ALL PLUMBING FIXTURES INCLUDING HANDICAPPED (ADA) FIXTURES. CONTRACTOR SHALL COORDINATE ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION OF PLUMBING FIXTURE. THE PLUMBING AND ARCHITECTS DRAWINGS. CONTRACTOR SHALL PROVIDE ADA FIXTURES AS SHOWN ON BOTH
 - FLUSH VALVE FOR THE HANDICAPPED PLUMBING FIXTURES SHALL BE INSTALLED WHERE THE HANDLE FACES INTO THE OPEN AREA WITHIN THE STALL. (TOWARDS THE CENTER OF STALL)
 - CONTRACTOR SHALL PROVIDE FLEXIBLE MOLDED INSULATION ON P-TRAPS, WATER SUPPLIES AND VALVES SERVING ADA PLUMBING FIXTURES. CONTRACTOR SHALL PROVIDE OFFSET P-TRAPS ON ADA FIXTURES
 - CONTRACTOR SHALL INSTALL ALL PLUMBING FIXTURES SHOWN ON THE ARCHITECTURAL, KITCHEN, PLUMBING AND OWNER FURNISHED DRAWINGS.
 - CONTRACTOR SHALL FURNISH AND INSTALL ON EACH PLUMBING FIXTURE CHROME PLATED BRASS P-TRAP, NIPPLES WITH ESCUTCHEON, CHROME PLATED BRASS ANGLE SUPPLIES WITH ALL METAL CONSTRUCTION CHROME PLATED FLEXIBLE BRASS RISERS WITH NIPPLES AND CHROME PLATED BRASS ESCUTCHEONS WITH CAST SET SCREW.
 - CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS, PIPING, SUPPORTS, ETC. TO INSTALL EACH PLUMBING FIXTURE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND TO COMPLY WITH CITY, STATE, ADA AND TAS CODES AND STANDARDS.
 - CONTRACTOR SHALL REFER TO HVAC DRAWINGS AND PROVIDE ALL NECESSARY WASTE, VENT AND CW PIPING, ALSO VALVES AND FITTINGS REQUIRED TO INSTALL FLOOR AND HUB DRAINS RECEIVING CONDENSATE.
 - FLUSH VALVES SHALL BE SIMILAR TO "SLOAN ROYAL" UNLESS OTHERWISE NOTED

GAS LOAD SUMMARY					
SYSTEM	QUANTITY	DESIGNATION OR ITEM NUMBER	EQUIPMENT DESCRIPTION	ITEM CFH	TOTAL CFH
BUILDING HEATING	1	RTU-1	ROOF TOP UNIT	60.00	60.00
	1	RTU-2	ROOF TOP UNIT	120.00	120.00
	1	RTU-3	ROOF TOP UNIT	120.00	120.00
	1	RTU-4	ROOF TOP UNIT	120.00	120.00
	1	RTU-5	ROOF TOP UNIT	60.00	60.00
	1	RTU-6	ROOF TOP UNIT	150.00	150.00
SUBTOTAL					630.00
TOTAL GAS LOAD					630.00
SYSTEM INFORMATION				OZ PER SQ INCH	INCHES OF WATER COLUMN
PRESSURE LEAVING METER				4	6.92
TOTAL EQUIVALENT PIPE LENGTH IN FEET					



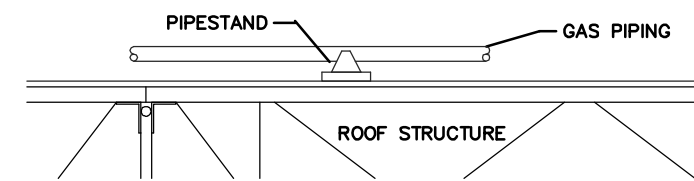
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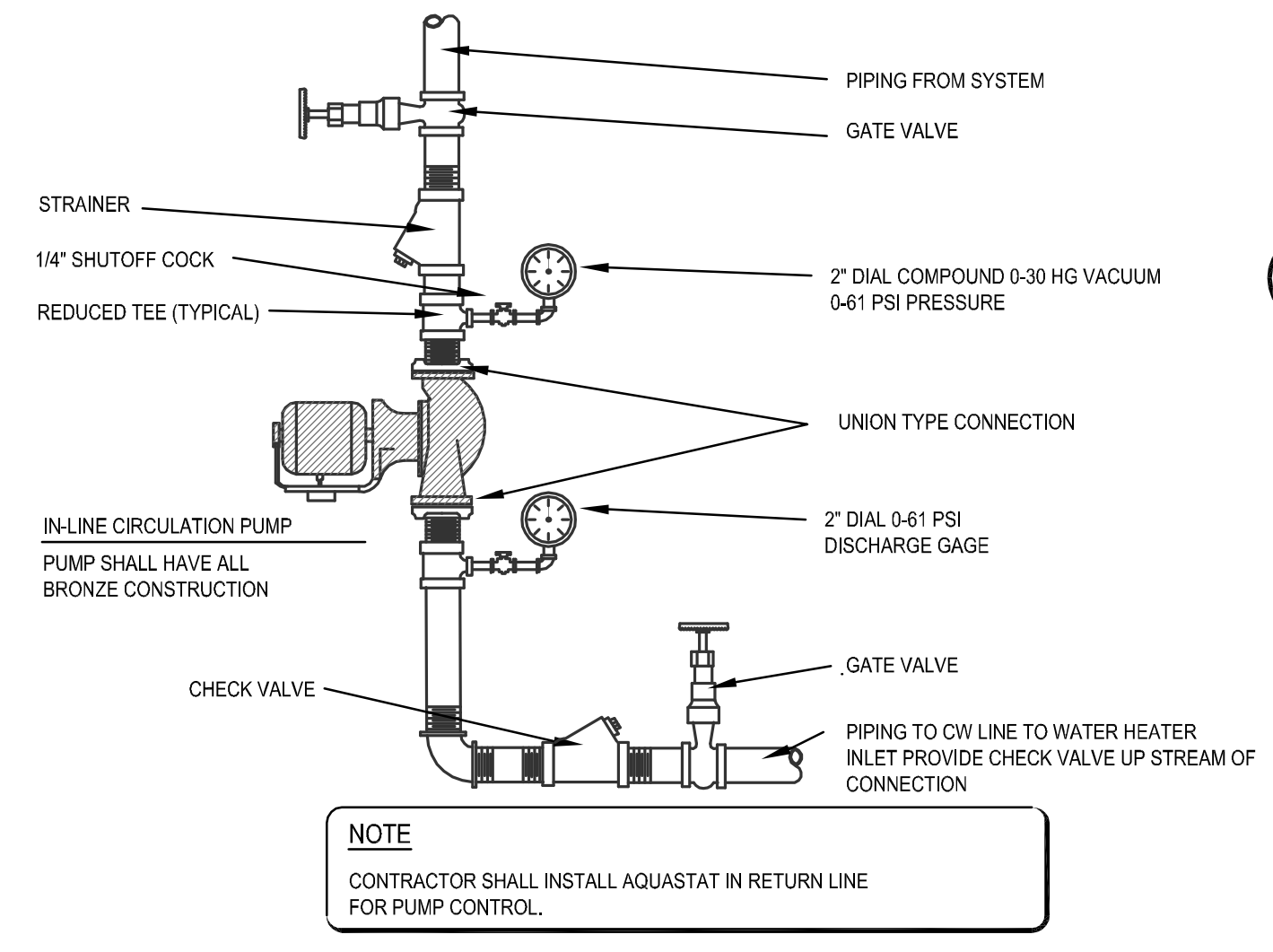
1. PIPING SHALL BE SUPPORTED AT ALL ELBOWS AND TEES AND AT SPACING SPECIFIED IN TABLE BELOW. PIPING SHALL BE SLOPED AND ROUTED TO PREVENT TRAPPING CONDENSATE (EXCEPT AT DIRT LEGS) AND TO FACILITATE CONDENSATE DRAINAGE.
2. GAS PIPING AND PENETRATIONS THRU ROOF SHALL BE AS CALLED FOR IN SPECIFICATIONS SECTION 15 OR AS REQUIRED BY LOCAL CODES.
3. PIPESTAND SHALL BE MIRO, INC. "PILLOWBLOCK" MODEL 1.5 (UP TO 1 1/2"), 3-R (UP TO 3"), AND 4-R & 4-RAH FOR 4", 6-RAH (5" TO 6").
4. DO NOT ATTACH PIPESTANDS TO ROOF.

PIPE SIZE	MODEL NO.	MAX SPACING
3/4"	1.5	6'
1"	1.5	7'
1 1/4"	1.5	8'
1 1/2"	1.5	10'
2"	3-R	10'
2 1/2"	3-R	15'
3"	3-R	13'
4"	4-R & 4-RAH	9'
5"	6-RAH	13'
6"	6-RAH	10'

MIRO INDUSTRIES, INC.
PARKWAY INDUSTRIAL PARK
586 WEST 8360 SOUTH
SANDY, UTAH 84070
(800) 768-6978

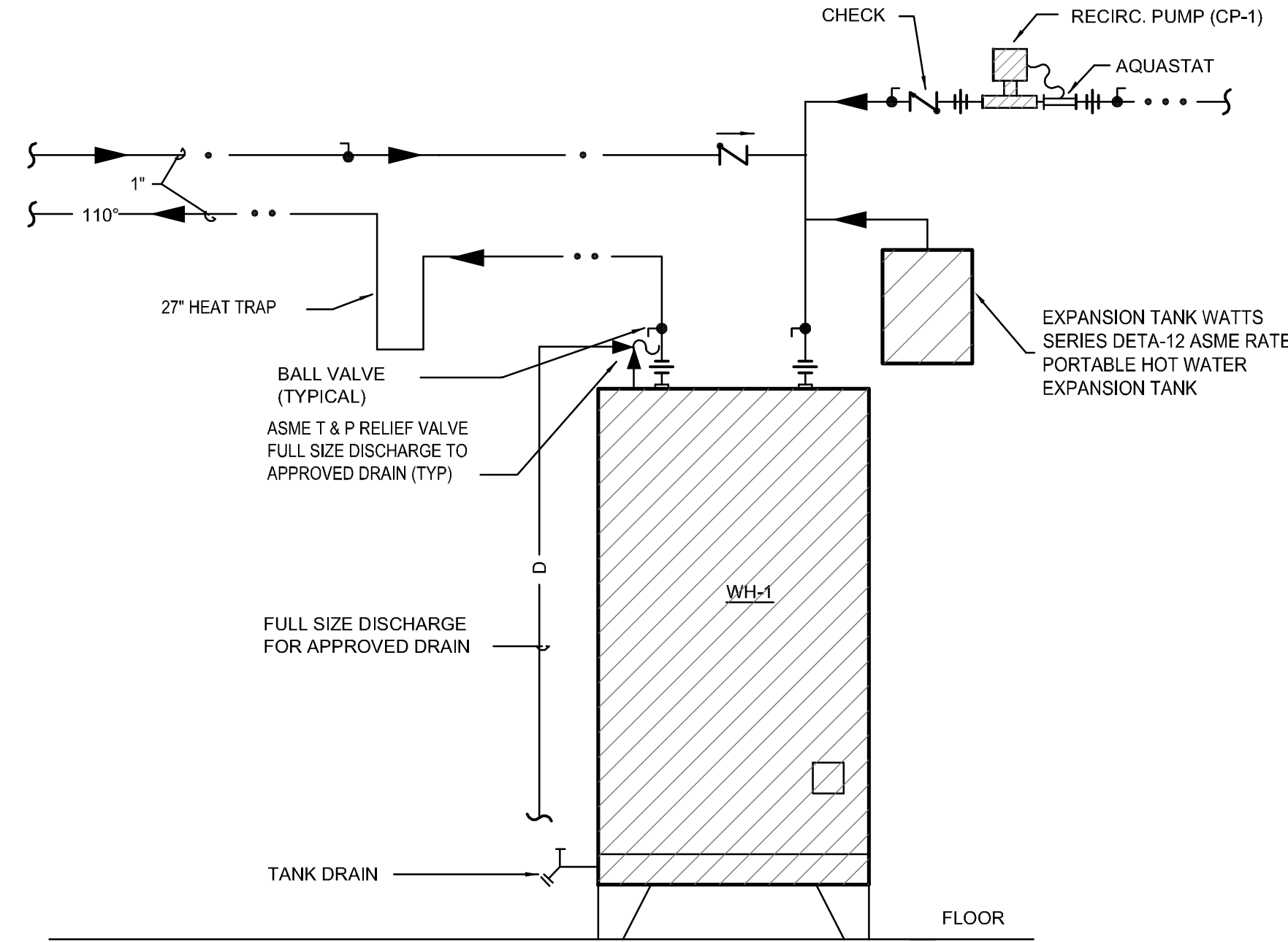
13 PIPE SUPPORT DETAIL

Scale: NONE



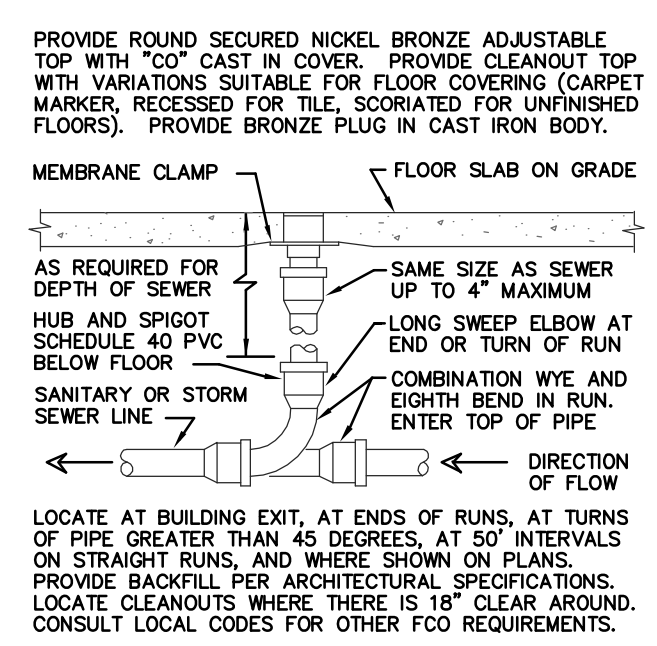
14 CIRCULATION PUMP

Scale: NONE



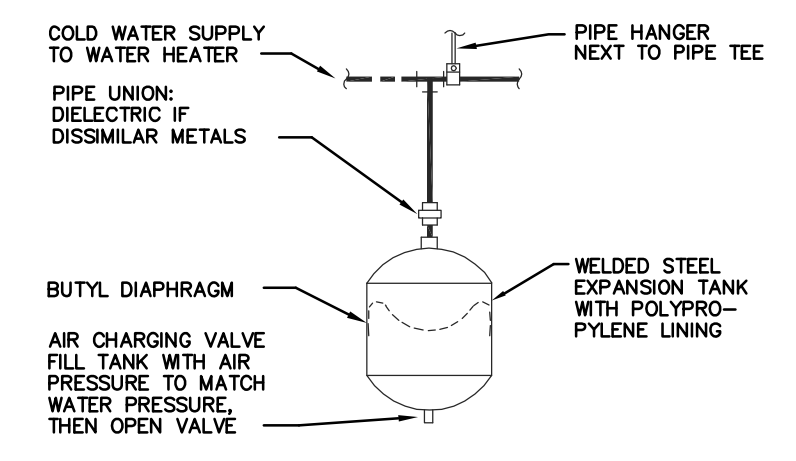
15 WATER HEATER DETAIL

Scale: NONE



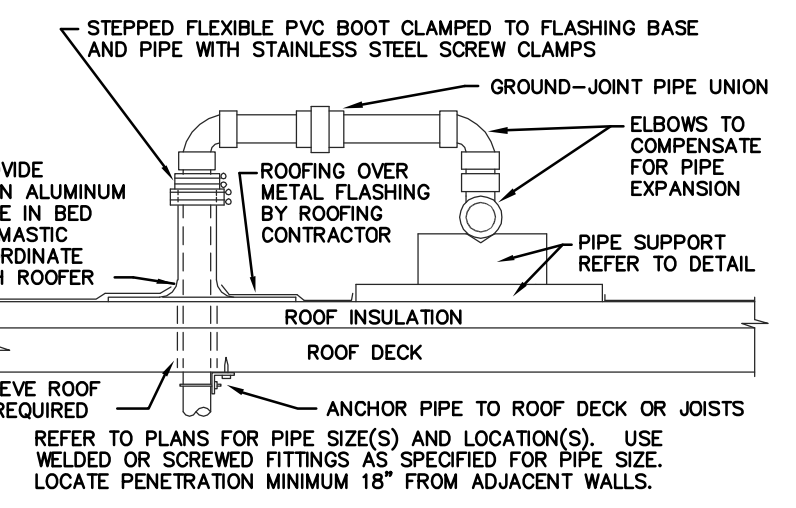
09 FLOOR CLEANOUT

Scale: NONE



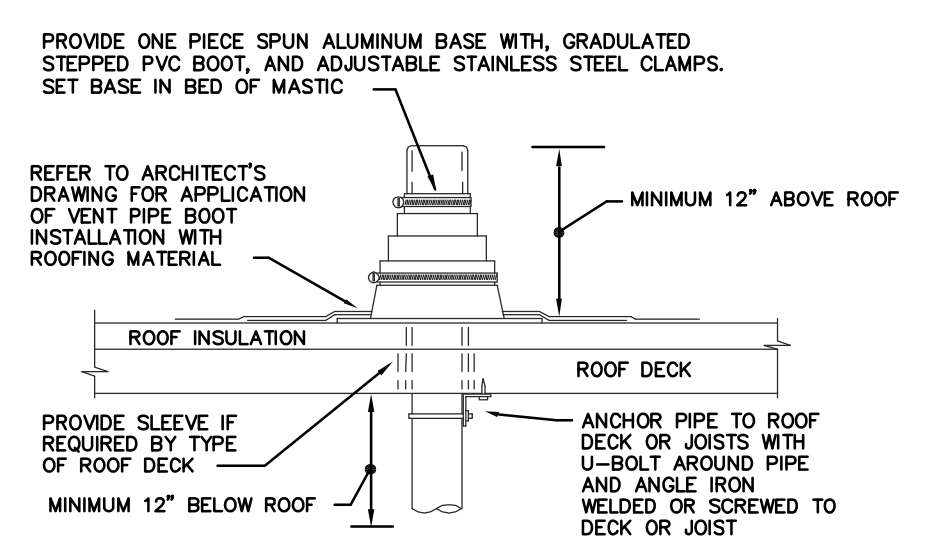
10 EXPANSION TANK

Scale: NONE



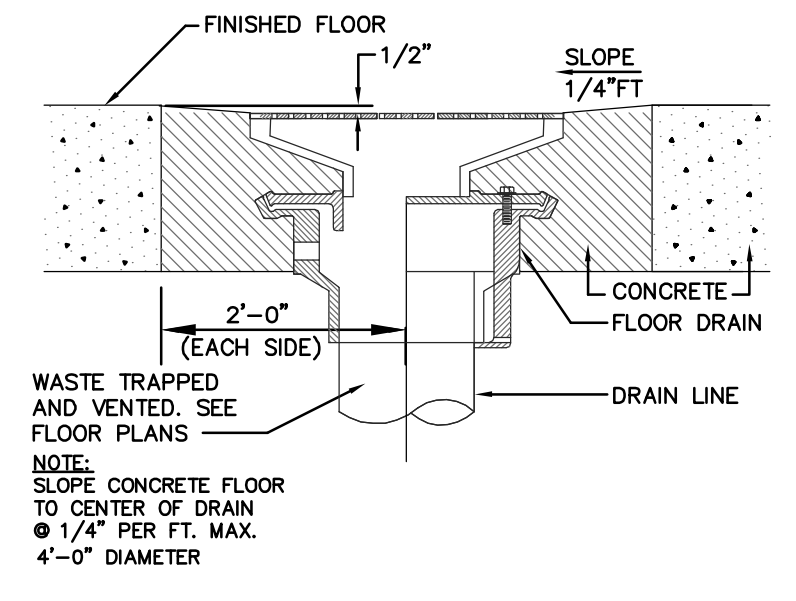
11 ROOF PENETRATION

Scale: NONE



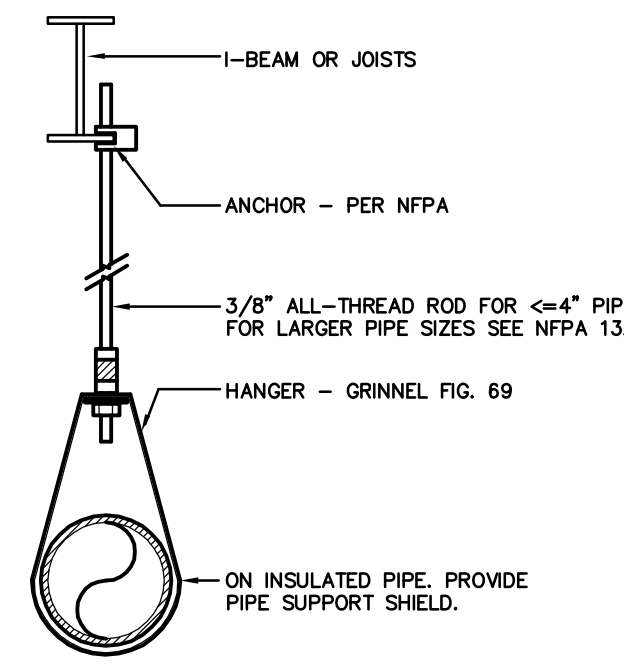
05 VENT PENETRATION

Scale: NONE



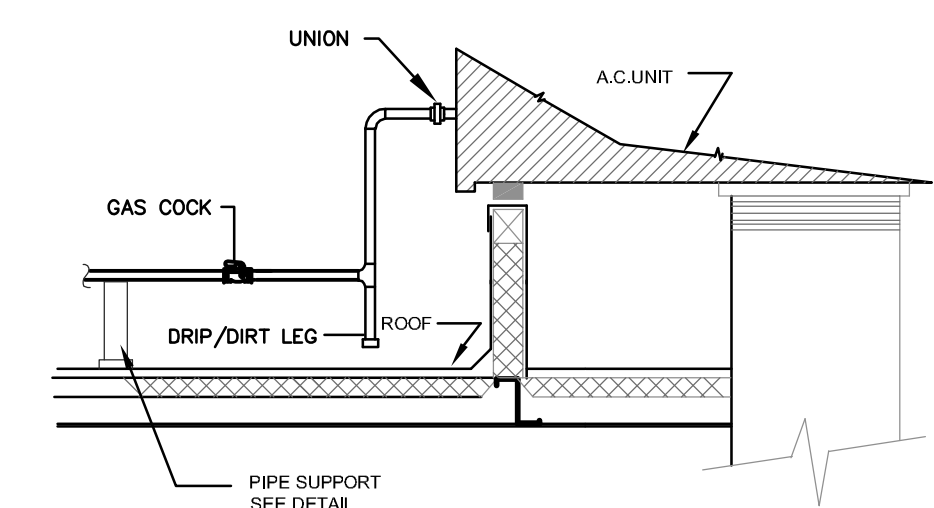
06 FLOOR DRAIN DETAIL

Scale: NONE



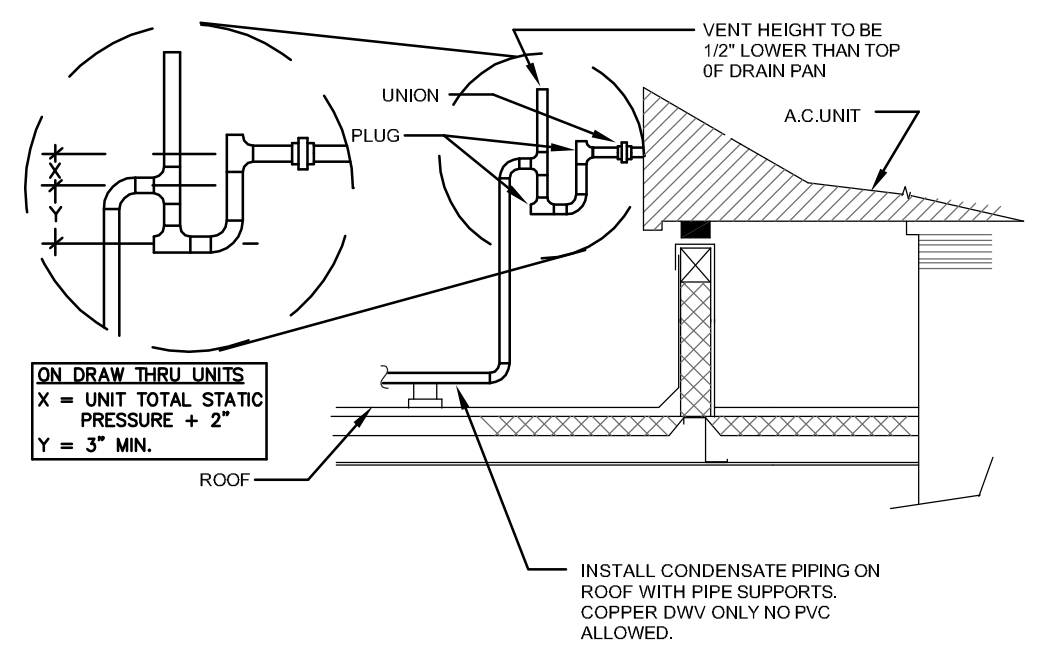
07 PIPE HANGER DETAIL

Scale: NONE



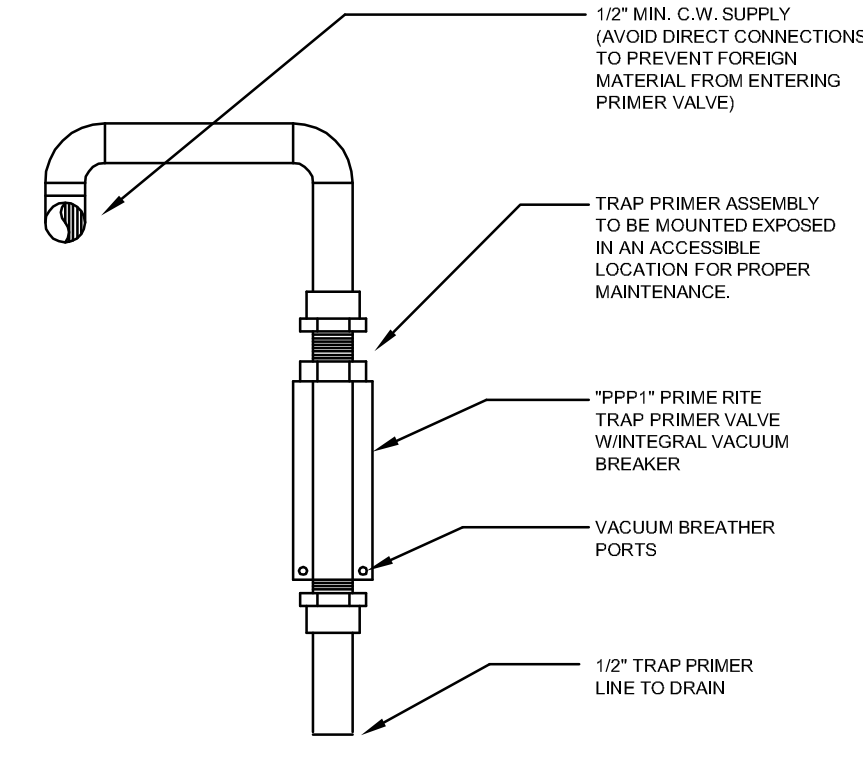
01 RTU GAS DETAIL

Scale: NONE



02 CONDENSATE DETAIL

Scale: NONE



03 TRAP PRIMER DETAIL

Scale: NONE

INSTALL PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS

HOT OR COLD WATER SUPPLY

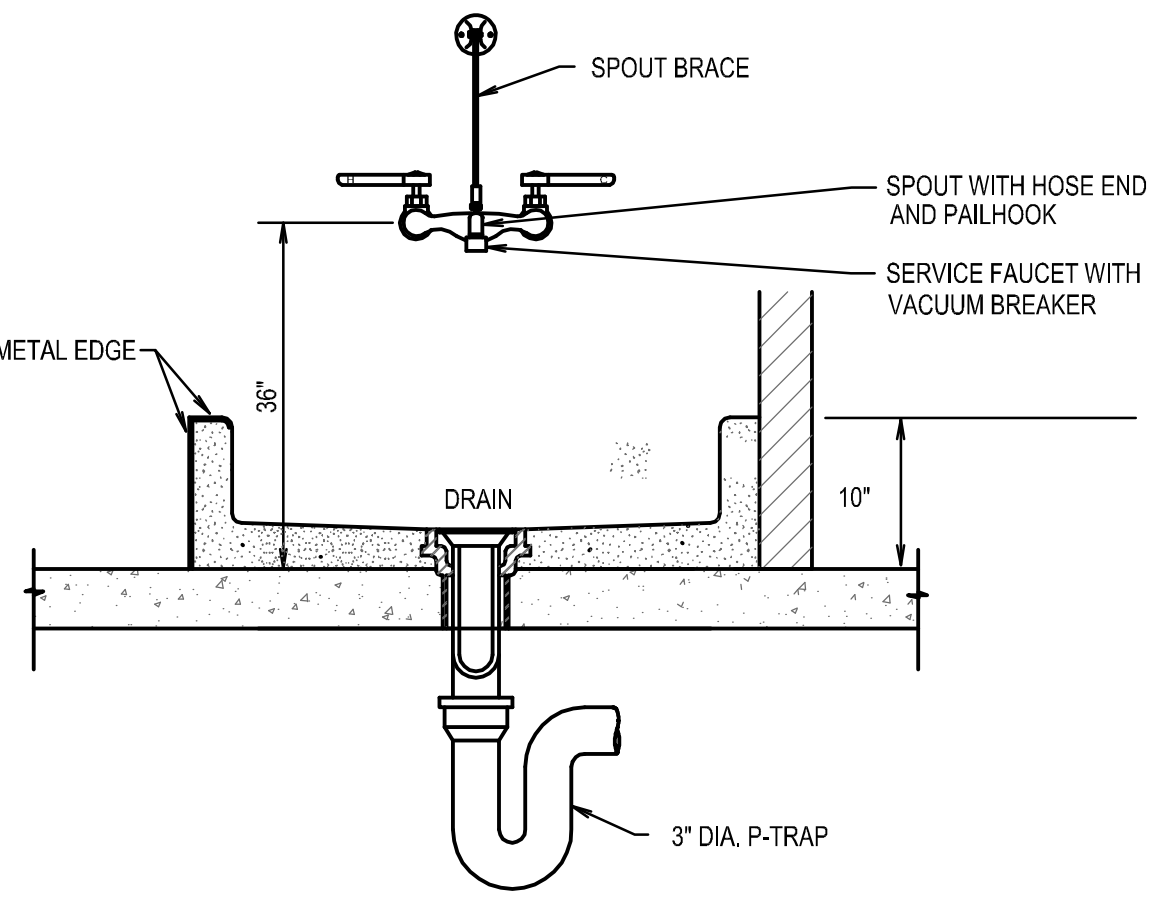
IF HORIZONTAL BRANCH IS LESS THAN 20' LONG, PROVIDE ONE WHA AT END OF LINE IF BRANCH IS GREATER THAN 20' LONG, PROVIDE ANOTHER WHA IN MIDDLE, EACH SIZED FOR HALF THE FIXTURE UNITS

SINGLE FIXTURE			MULTIPLE FIXTURES		
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	FIXTURE UNIT TABULATION		
			FIXTURE	COLD	HOT
A	1/2"	1-11	VALVE WATER CLOSET	10	--
B	3/4"	12-32	TANK WATER CLOSET	5	--
C	1"	33-60	URINAL	5	--
D	1-1/4"	61-113	LAVATORY/SINK	1.5	1.5
E	1-1/2"	114-154	JANITOR'S SINK	3	3
F	2"	154-330	SHOWER/BATHTUB	2	2

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #4112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS PANEL FOR SERVICING OR REPLACEMENT, WHERE REQUIRED.

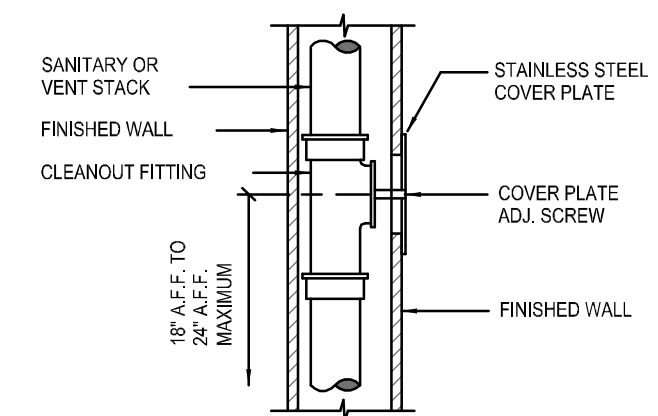
04 HAMMER ARRESTERS

Scale: NONE



12 MOP SINK DETAIL

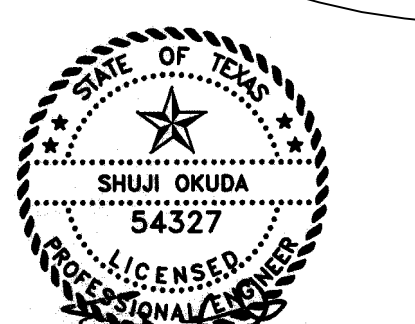
Scale: NONE



8 WALL CLEANOUT DETAIL

Scale: NONE

3002 DULY STREET, STE 100
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REG ARCHITECTS.COM



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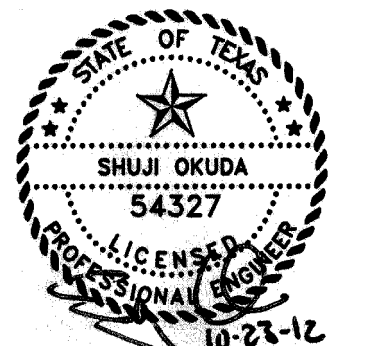
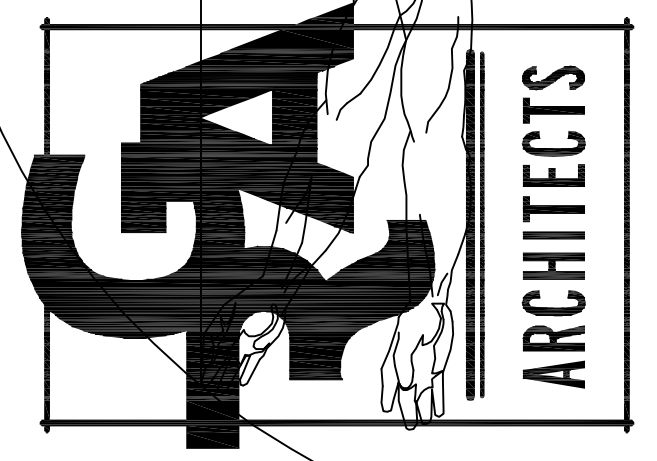
REVISIONS:

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P2.02

SHEET:

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 Southlake, Texas 76092

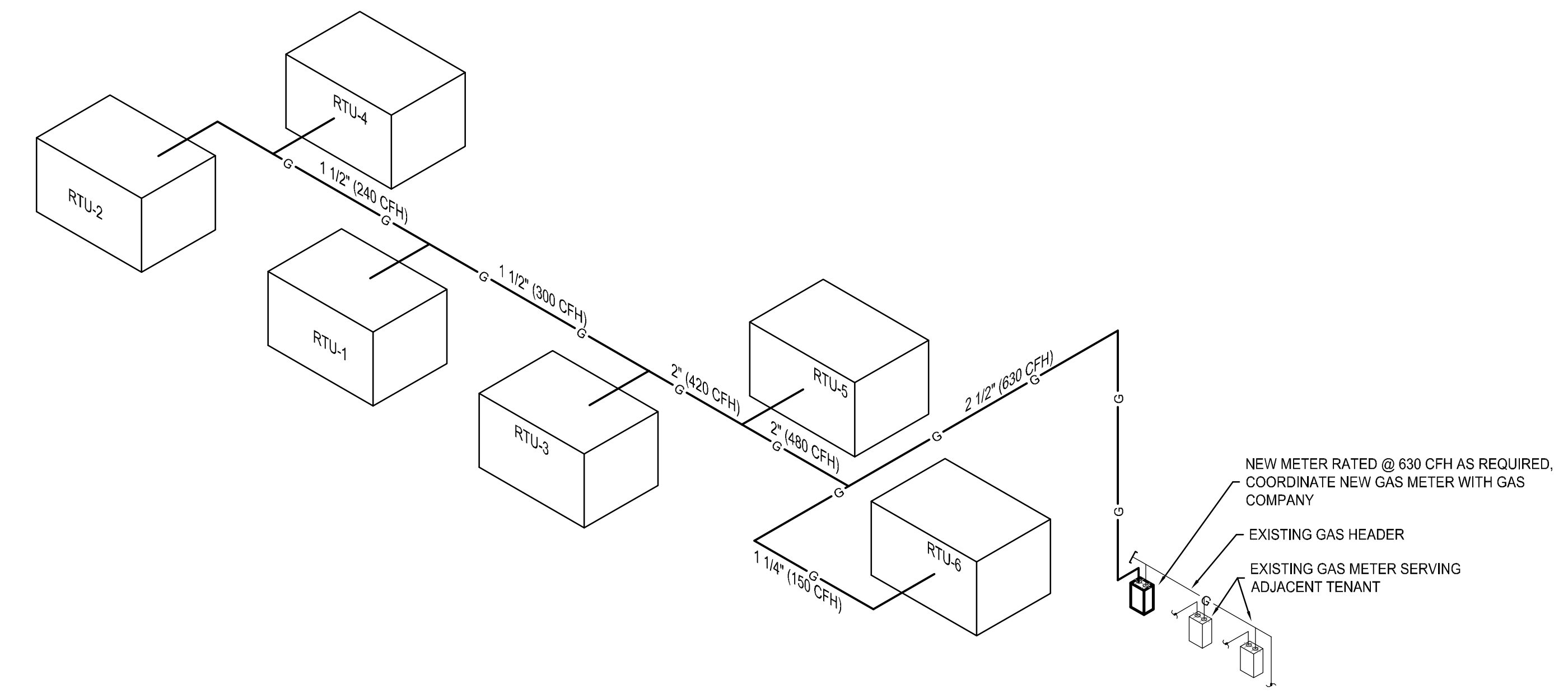
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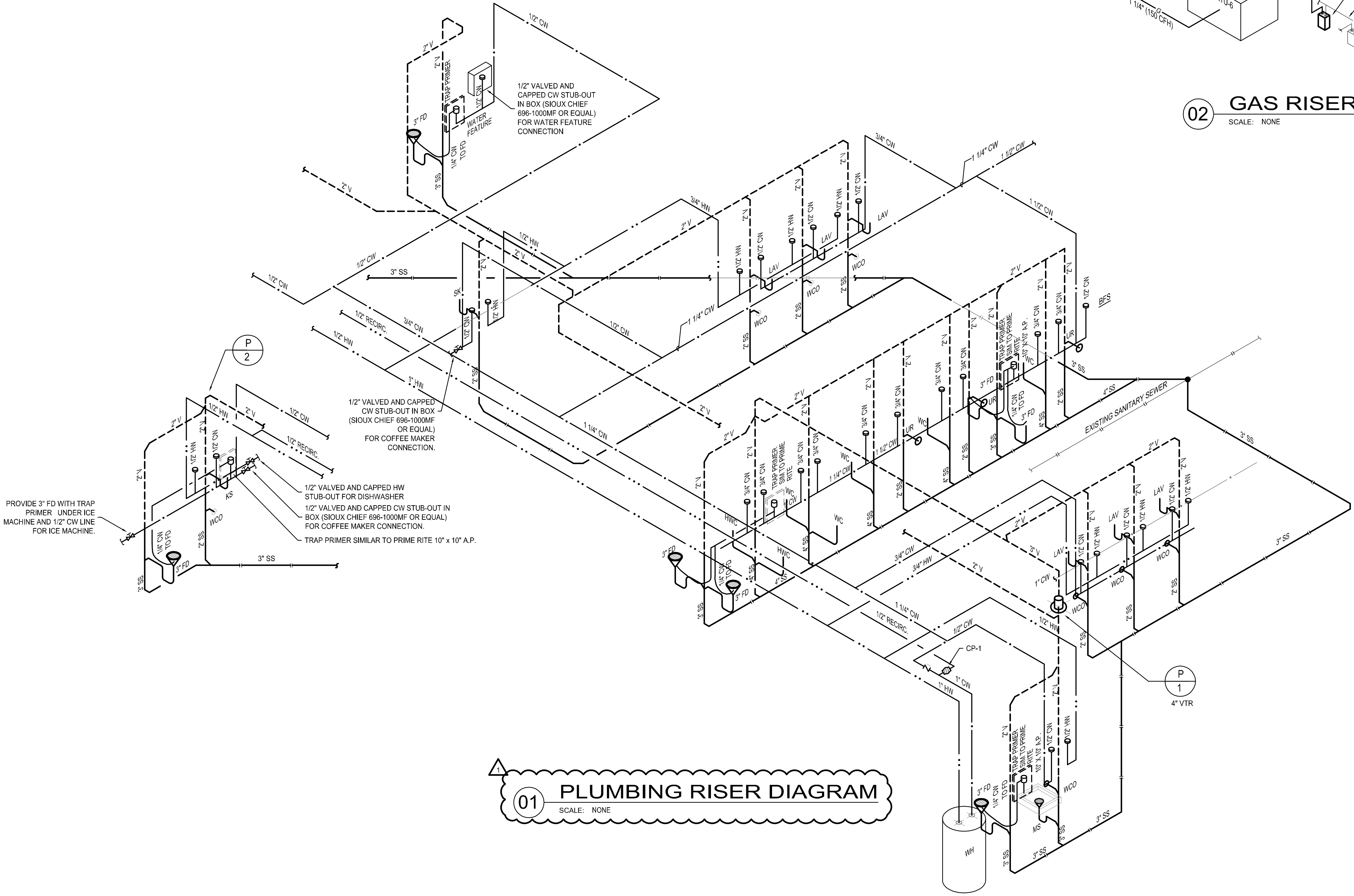
REVISIONS:
 ▲ REVISION 1 10.23.2012

P3.01

SHEET:



02 GAS RISER DIAGRAM
 SCALE: NONE



01 PLUMBING RISER DIAGRAM
 SCALE: NONE

PREPARE: 8/20/12