

PLUMBING FIXTURE SCHEDULE								
DES.	FIXTURE	TRAP	WASTE	VENT	COLD WATER	HOT WATER	MANUFACTURER/ MODEL #	DESCRIPTION
MS	MOP SINK	3"	3"	1 1/2"	1/2"	1/2"	MOP SINK: MSB-2424 FAUCET: FIAT 830-AA	FLOOR MOUNTED 24"x24"x10" WHITE, MOLDED ONE PIECE CONSTRUCTION. 3" INTEGRAL DRAIN WITH REMOVABLE STAINLESS STEEL DOME STRAINER AND LINT BASKET. FAUCET SHALL BE CHROME PLATED W/ VACUUM BREAKER, PAIL HOOK, WALL SUPPORT ARM, 3/4" HOSE CONNECTION, VALVES ON 8" CENTERS. PROVIDE WITH 30" FLEXIBLE HEAVY DUTY 3/4" RUBBER HOSE AND STAINLESS STEEL HOSE SUPPORT BRACKET. ANSI A-112.18.1-1975.
RD	ROOF DRAIN	-	-	-	-	-	JOSAM 21500 SERIES OR (APPROVED EQUAL)	4" PIPE OUTLET SIZE, COATED CAST IRON ROOF DRAIN, LARGE POLYPROPYLENE LOCKING DOME, WEJOC NON-PUNCTURING CLAMP RING WITH INTEGRAL GRAVEL STOP, LARGE SLUMP WITH WIDE ROOF FLANGE AND BOTTOM OUTLET. PROVIDE WITH DECK CLAMP.
FD	FLOOR DRAIN (102B, 102C, M04, M05, 206A, 208A, 209A, 307A, 309A)	2"	1-3/4"	-	1/2"	-	JOSAM 30000-A SERIES W/ 1/2" TRAP PRIMER (OR APPROVED EQUAL)	CAST IRON FLOOR DRAIN, TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJOC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER WITH INTEGRAL BRONZE BACKWATER VALVE.
FS	FLOOR SINK (102A)	3"	1-1/2"	-	1/2" FOR TP	-	ZURN Z1900 PROVIDED BY PLUMBING CONTRACTOR	-
UR	WATERFREE URINAL	2"	1-1/2"	-	-	-	SLOAN MODEL 1004000	-

PLUMBING FIXTURE SCHEDULE								
DES.	FIXTURE	TRAP	WASTE	VENT	COLD WATER	HOT WATER	MANUFACTURER/ MODEL #	DESCRIPTION
WC	FLOOR MOUNTED TANK TYPE WATER CLOSET	INTEGRAL	3"	1-1/2"	1/2"	-	KOHLER "HIGHLINE" MODEL: #K-3427	FLOOR MOUNTED, SIPHON JET, WHITE, VITREOUS CHINA, ELONGATED BOWL, WATER SAVER 1.6 GPF. PROVIDE PLASTIC, CLOSED FRONT SEAT AND COVER, WITH CHECK HINGES. PROVIDE CHROME PLATED FLUSH VALVE.
L-1	LAVATORY (201A, 208A, 209A, 307A, 309A)	1-1/2"	1-1/2"	1 1/4" (U.O.N.)	1/2"	1/2"	FIXTURE: KOHLER "CAXTON" UNDERMOUNT MODEL #K-20000 FAUCET: WATER-CREATION F2-0009 W/ POP-UP DRAIN.	PROVIDE RECTANGULAR WHITE, VITREOUS CHINA, FRONT OVERFLOW, UNDER-MOUNT TYPE, APPROXIMATELY 20"x16". PROVIDE FLEXIBLE CHROME PLATED WATER SUPPLIES AND 17-GAUGE CHROME PLATED "P" TRAP AND EXTENSION TO WALL.
L-2	LAVATORY (102B, 102C, M04, M05)	1-1/2"	1-1/2"	1 1/4" (U.O.N.)	1/2"	1/2"	FIXTURE: KOHLER "CAXTON" UNDER-MOUNT MODEL #K-2209 FAUCET: ZURN Z6913-XL HARD-WIRED MOTION SENSOR.	PROVIDE OVAL WHITE, VITREOUS CHINA, FRONT OVERFLOW, UNDER-MOUNT TYPE, APPROXIMATELY 17"x14". PROVIDE FLEXIBLE CHROME PLATED WATER SUPPLIES AND 17-GAUGE CHROME PLATED "P" TRAP AND EXTENSION TO WALL.
L-3	LAVATORY (102C, 102D)	1-1/2"	1-1/2"	1 1/4" (U.O.N.)	1/2"	1/2"	FIXTURE: CERASTYLE, MODEL 001500-U 25"x50" CITY CERAMIC RECTANGULAR VESSEL FAUCET: REMER BY NAMEK'S MODEL L11USN-CR CHROME SINGLE HOLE, SINGLE HANDLE, ADA COMPLIANT.	PROVIDE RECTANGULAR WHITE, VITREOUS CHINA, FRONT OVERFLOW, WALL MOUNT TYPE, APPROXIMATELY 25"x50". PROVIDE FLEXIBLE CHROME PLATED WATER SUPPLIES AND 17-GAUGE CHROME PLATED "P" TRAP AND EXTENSION TO WALL.
SH-1	SHOWER STALL (201A)	2"	2"	1-1/2"	1/2"	1/2"	FIXTURE: MAAX AKER PLASTICS SHOWER BASE ICON6034 DOORS: AURA SLIDING GLASS FAUCET: SPEAKMAN SM-3060-1	-
SH-2	SHOWER STALL (206A)	2"	2"	1 1/4"	1/2"	1/2"	FIXTURE: MAAX AKER PLASTICS SHOWER BASE ICON4242 DOOR: AURA SLIDING GLASS FAUCET: SPEAKMAN SM-3060-1	-
SH-3	SHOWER STALL (208A, 209A)	2"	2"	1 1/4"	1/2"	1/2"	FIXTURE: MAAX AKER PLASTICS SHOWER BASE ICON4834 DOORS: AURA SLIDING GLASS FAUCET: SPEAKMAN SM-3060-1	-
SH/T	SHOWER TUB COMBINATION (307A, 309A)	2"	2"	1 1/4"	1/2"	1/2"	FIXTURE: AKER PLASTICS BARRIER FREE TUB/SHOWER MODEL BFTS-60. COORDINATE RIGHT HAND & LEFT HAND AS REQUIRED. SHOWER HEAD: SPEAKMAN SM-3070-1	BARRIER FREE, 60"x33" ONE-PIECE GELCOATED FIBERGLASS TUB/SHOWER WITH 17-1/2" APRON STRUCTURALLY ENFORCED WALL SURROUND, AND A FACTORY MOUNTED WHITE BAR PACKAGE.
S-1	KITCHEN SINK (210B, 305, 310)	1 1/2"	1 1/2"	1 1/4"	1/2"	1/2"	SINK: ELKAY LR3222 FAUCET: AMERICAN STANDARD HERITAGE 7231 (POLISHED CHROME)	SELF-RIMMING TYPE 302, 18 GA. STAINLESS STEEL. 33"W X 22"L X 8", DOUBLE BOWL, 4-HOLE PUNCHED, COATED UNDERDECK. FAUCET: GOOSENECK, SWING SPOUT, LEVER HANDLES. WITH FOOD WASTE DISPOSER.
S-2	KITCHEN SINK (M01, 201)	1 1/2"	1 1/2"	1 1/4"	1/2"	1/2"	SINK: ELKAY "CROSSTOWN" ECTSR2529B01 FAUCET: AMERICAN STANDARD QUINCE 4433.300	SELF-RIMMING TYPE 304, 18 GA. STAINLESS STEEL. 22.5"L X 16.75"W X 9"D, SINGLE BOWL. FAUCET: HIGH ARC W/ PULL-DOWN SPRAY WITHOUT FOOD WASTE DISPOSER.
S-3	PANTRY SINK (210A)	1 1/2"	1 1/2"	1 1/4"	1/2"	1/2"	SINK: ELKAY_HD335692 FAUCET: AMERICAN STANDARD QUINCE 4433.300	SELF-RIMMING TYPE 304, 18 GA. STAINLESS STEEL. 20"W X 15.5"L X 9", SINGLE BOWL, UNDER-MOUNT. FAUCET: HIGH ARC W/ PULL-DOWN SPRAY WITHOUT FOOD WASTE DISPOSER.
S-4	HAND SINK (102A)	1 1/2"	1 1/2"	1 1/4"	1/2"	1/2"	SINK: ADVANCE TACO 7-PS-60 W/ GOOSE NECK FAUCET	WALL MOUNTED STAINLESS STEEL PROVIDE CHROME PLATED P-TRAP, ETC.
S-5	THREE-COMPARTMENT SINK (102A)	1 1/2"	1 1/2"	1 1/4"	1/2"	1/2"	REGENCY 39" LONG, TYPE 304, 16 GA. STAINLESS STEEL FAUCET: ZURN_Z842K4	FAUCET WITH DOUBLE JOINTED SPOUT AND WRIST BLADE HANDLES.
S-6	LAUNDRY SINK (204C)	1 1/2"	1 1/2"	1 1/4"	1/2"	1/2"	AMERICAN STANDARD FIAT	FIAT 20" FREE STANDING POLYETHYLENE UTILITY SINK WITH FAUCET, P-TRAP AND SUPPLYS.
WH	WALL HYDRANT	-	-	-	1/2"	-	ZURN-Z=1300	NON-FREEZE, FLUSH INSTALLATION; NICKLE-BRONZE BOX AND HINGED COVER W/ OPERATING KEY LOCK AND "WATER" CAST IN COVER, 3/4" HOSE OUTLET, W/AUTOMATIC DRAINING VACUUM BREAKER. VALVE SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH WALL AND PLACE THE VALVE SEAT INSIDE OF THE BUILDING TO FREEZING. BRONZE SEAT AND REPLACABLE WASHERS. MOUNT 24" ABOVE FINISHED GRADE.
WCO	WALL CLEANOUT	-	-	-	-	-	ZURN Z-1441-BP	DURA-COATED, CAST IRON BODY, GAS AND WATERTIGHT BRONZE THREADED PLUG, WITH ROUND SMOOTH STAINLESS STEEL ACCESS COVER AND SECURING SCREW.
FCO	FLOOR CLEANOUT	-	-	-	-	-	ZURN ZB-1400	ADJUSTABLE, DURA-COATED, CAST IRON BODY W/ POLISHED BRONZE SCORRIATED TOP, GAS AND WATERTIGHT ABS THREADED PLUG.
IMB	ICE MAKER BOX	-	-	-	1/2"	-	GUY GRAY BIM875	-

PLUMBING SYMBOLS			
(THIS IS A SCHEDULE OF STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THIS PROJECT)			
SAN	SANITARY PIPING	SAN	DOUBLE CHECK VALVE BACKFLOW PREVENTOR
SAN	SANITARY PIPING-UNDERGROUND	DCBP	
SD	STORM DRAIN PIPING	SD	REDUCED PRESSURE BACKFLOW PREVENTOR
SD	STORM DRAIN PIPING BELOW SLAB	SD	
SSD	SUB-SOIL DRAIN	SSD	
FM	FORCED MAIN	FM	FLOW SWITCH
V	VENT PIPE	V	
CW	DOMESTIC COLD WATER	CW	PRESSURE GAUGE (A-B IS RANGE, PSIG)
HW	DOMESTIC HOT WATER	HW	THERMOMETER (A-B IS RANGE, °F)
HW	DOMESTIC HOT WATER (110°F)	HW	
HW	DOMESTIC HOT WATER (140°F)	HW	
HWR	DOMESTIC HOT WATER RECIRC.	HWR	SHOCK ARRESTOR (WITH PDI RATING INDICATED)
IW	INDIRECT WASTE	IW	CLEANOUT (HORIZONTAL/VERTICAL)
G	NATURAL GAS FUEL	GAS	
F	FIRE SUPPLY / SERVICE PIPE	F	VENT THRU ROOF
SP	WET SPRINKLER PIPE	SP	DRY-PIPE VALVE ASSEMBLY
SED	SPRINKLER EXPRESS DRAIN	SED	
IR	IRRIGATION PIPE	IR	
CA	COMPRESSED AIR	CA	
DN	PIPE TURNING DOWN	DN	
UP	PIPE TURNING UP	UP	
TOP	TOP TAKE OFF	TOP	
BOTTOM	BOTTOM TAKE OFF	BOTTOM	
CONT	PIPE CONTINUES	CONT	
GV	GATE VALVE	GV	
GV	GATE VALVE	GV	
CV	CHECK VALVE	CV	
BV	BALANCING/REGULATING VALVE	BV	
OS&Y	OUTSIDE SCREW & YOKE VALVE	OS&Y	
SOL	GAS SOLENOID VALVE	SOL	
GC	GAS COCK	GC	
PRV	PRESSURE REDUCING VALVE	PRV	
BFP	BACKFLOW PREVENTER ASSEMBLY	BFP	
WH	WALL HYDRANT	WH	
HB	HOSE BIBB	HB	
MV	MIXING VALVE ASSEMBLY	MV	
TS	TAMPER SWITCH	TS	
BWV	BACKWATER VALVE	BWV	
RED	PIPE REDUCER	RED	
SLV	PIPE SLEEVE	SLV	
FHV	FIRE HOSE VALVE	FHV	
TP	TRAP PRIMER VALVE	TP	
AV	AIR VENT VALVE	AV	
TPV	TEMPERATURE AND PRESSURE RELIEF VALVE	TPV	
ILCP	IN-LINE CIRCULATING PUMP	ILCP	
FD	FLOOR DRAIN (SANITARY)	FD	
AD	AREA DRAIN (STORM)	AD	
RD	ROOF DRAIN (STORM)	RD	
OSD	OPEN SITE DRAIN	OSD	
EPD	EMERGENCY FLOOR DRAIN (SANITARY)	EPD	

PLUMBING SYSTEM SCHEDULE																											
(THIS IS A SCHEDULE OF STANDARD SYSTEMS. SOME SYSTEMS MAY NOT APPEAR ON THIS PROJECT)																											
SYSTEM	PIPE SIZE OR SERVICE	PIPE MATERIAL						CONNECTION		FITTINGS			INSULATION														
		SEAM	BLACK STL (SCH OR WT)	COPPER (TYPE)	PVC (SCH)	GALVANIZED (SCH)	CAST IRON NO-HUB	GROOVED	THREAD AND COUPLE	WELD	SOLDER	NEOPRENE GASKET	SOLVENT WELD	PRESSURE CLASS	BLACK STEEL	CAST IRON	DUCTILE IRON	MALLEABLE IRON	WROUGHT COPPER	PVC	THICKNESS	GLASS FIBER	CELLULAR FOAM	KRAFT VP JACKET (ASL)	KEYED NOTES		
SANITARY WASTE	UNDERGROUND																										
	ABOVE GROUND																										
SANITARY VENT	ABOVE GROUND																										
	ABOVE GROUND																										
GAS	OUTDOOR ≤ 2"	CW	STD																								
	OUTDOOR > 2"	CW	STD																								
	INDOOR ≤ 2"	CW	STD																								
	INDOOR > 2"	CW	STD																								
DOMESTIC COLD WATER	UNDERGROUND																										
	UNDERGRD ALL	CW	STD																								
	UP TO 2"	L																									
	2 1/2"	CW																									
DOMESTIC HOT WATER	UP TO 2"	L																									
	2 1/2"	L																									
	2 1/2"	CW																									
	3" & 4"	CW	L																								
	3" & 4"	CW	L	40																							
	OVER 4"	CW	L	40																							
STORM	UNDERGROUND																										
	UNDERGROUND																										
	ABOVE GROUND	CW																									

KEYED NOTES:
1. OUTDOOR PIPING TO BE PAINTED.
2. PVC NOT TO BE USED IN RETURN AIR PLENUMS OR THROUGH RATED WALLS.
3. UNDERGROUND PIPING TO BE PLASTIC COATED.
4. INSULATE HORIZONTAL PIPING 1/2" THICK
5. SLOPE HORIZONTAL STORM AND WASTE DRAINAGE PIPING:
PIPE SIZE 2-1/2" OR LESS.....1/8" PER FT.
PIPE SIZE 3" TO 6".....1/16" PER FT.
PIPE SIZE 8" TO LARGER.....1/4" PER FT.

NORTH (building)

Shepherdstown Opera House RENOVATIONS

131 W. German St. Shepherdstown West Virginia

131 West German Street, LLC

Mech/Elect Engineer: FHC Engineering, PC
4 Weems Lane #277
Winchester, VA 22601
540 247-2939

Structural Engineer: Ruckman Engineering, PLC
22-B Ricketts Drive
Winchester, VA 22601

Architecture Planning Interiors Landscape: GDA Architecture
Matthew W. Grove
325 Migration Lane, Conradtown, WV 25420
18 West Boscawen Street, Winchester, VA 22601

Issue/Revision Seal: 11999 REGISTERED PROFESSIONAL ENGINEER
REVISION #1: 10.23.20
FOR CONSTRUCTION: 10.23.20
REDESIGN REVISIONS: 02.23.21

FOR CONSTRUCTION 10.23.20
Drawing Title: GENERAL NOTES & SYMBOLS

Date: OCTOBER 23, 2020
Scale: As Noted
Project Number: 19820
Drawing Number: P0.1

HYDRONIC FIRE PROTECTION SYSTEM NOTES

GENERAL

- A. Provide a complete wet pipe system of automatic sprinklers in heated areas.
- B. The system shall be installed in accordance with the rules and regulations of NFPA Pamphlet No. 13, local fire department and Owner's insurance company.
- C. System piping shall be hydraulically designed throughout all areas in accordance with the rules and regulations of NFPA Pamphlet No. 13 unless the design densities required by code. Sprinkler system design shall accommodate a potential load of the greater density of mixed use (if applicable). Provide mains and branches designed to support head density and spacing as required by the hazard classification of the individual spaces being sprinkled.
- D. The hydraulic calculations for the sprinkler system pipe sizing shall be based on the actual site residual and static pressures as measured at the nearest fire hydrant.
- E. Sprinkler piping shall be installed and coordinated with the ductwork and other mechanical and electrical services in the ceiling cavities by the Contractor to provide the clearance for lighting fixtures as indicated on the drawings.
- F. Provide sprinkler system with required drain lines, test connections, spare heads, tools, Siamese connections, alarms, circuit closers, monitor switches, alarm valves, isolation valves, air compressors, etc.
- G. Water Flow Alarm Switches as required by NFPA Standards.
- H. Supervisory Switches as required by NFPA Standards.
- I. The Automatic Sprinkler Design/Build Contractor will perform the final sprinkler system design, including hydraulic calculations, as required by all applicable codes and the local Fire Marshal to accommodate this facility. The fire sprinkler contractor will prepare and provide sprinkler shop drawings that have been stamped and signed by a professional engineer, licensed in the State of Virginia, and submit them for review by the Fire Marshal.

CODES AND STANDARDS

- A. The referenced codes shall include any and all supplements, addenda, memoranda, information bulletins and any other changes and additions effective prior to the Date of Substantial Completion by adoption of the local Authority Having Jurisdiction.
- B. Modifications required by the Authorities Having Jurisdiction shall be made without additional charge to the Owner.
- C. Where alterations to and/or deviations from the Contract Documents are required by the Authorities, report the requirements to the Architect and secure his approval before starting the alterations.
- D. Where Contract Documents' requirements are in excess of Code requirements, the Contract Documents shall govern.
- E. All rules and regulations of the Underwriters Laboratories (UL) shall be complied with whether or not indicated in the Contract Documents.
- F. Provide all work in accordance with the following codes and standards:
 - International Building Code (IBC), latest edition in force.
 - National Electric Code.
 - Local Fire Prevention Code.
 - NFPA Standard #13 - Installation of Sprinkler Systems, latest edition in force.
 - NFPA Standard #24 - Installation of Private Water Supplies, latest edition in force.

QUALITY ASSURANCE

- A. Basis of Design: As indicated on the drawings and as specified in Part 2 of this section.
- B. Acceptable Manufacturers: If they comply with these specifications, products by the following manufacturers will be acceptable.
 1. Pipe and fittings: Allied Tube & Conduit, U.S. Pipe and Foundry, Victaulic.
 2. Valves: Mueller, Nibco, Stockham, Milwaukee, Grinnell, Victaulic, Watts, Clay Valve.
 3. Fire department connections: Potter-Roemer, Allenco.
 4. Sprinkler heads: Reliable, Central, Viking.

PIPE, FITTINGS AND VALVES

- A. Interior Piping:
 1. Interior pipe shall be new and designed for 175 psi working pressure.
 2. Pipe shall be black steel, conforming to ASTM A 135, Schedule 40. Schedule 40 pipe may be threaded (ANSI B 2.1), welded (ANSI B 31.10) or grooved (UL approved).
 3. Schedule 10 pipe (lightwall) may be welded (ANSI B 31.10, a, b) or roll-grooved (UL approved). Lightwall pipe shall not be cut-grooved.
- B. Underground Piping:
 1. Ductile Iron:
 - a. Pipe shall be Class 50 OR 51, with integrally cast bell and spigot for mechanical joints.
 - b. Fittings shall be Class 2, short body pattern to match spigot gland and rubber gasket on adjoining pipe or fitting.
 - c. Joining Gaskets shall be plain rubber Type A, ANSI A 21.11 and ASTM F 36.
- C. Fittings:
 1. Fittings shall be new and designed for 175 psi working pressure.
 2. Cast iron flange fittings shall conform to ANSI B 16.1 and shall be UL approved. Malleable iron fittings may be used on 4-inch or smaller diameter pipe and shall conform to ANSI B 16.3 and shall be UL approved.
 3. Cast iron threaded fittings shall conform to ANSI B 16.4 and shall be UL approved. Malleable iron fittings may be used on 4-inch or smaller diameter pipe and shall conform to ANSI B 16.3 and shall be UL approved.
 4. Weld fittings shall be black steel, same weight as adjoining pipe, and shall conform to ANSI B 16.9, ANSI B 16.25, ASTM A 234, ANSI B 16.5 or ANSI B 16.11.
 5. Grooved couplings and mechanical fittings shall be malleable iron conforming to ASTM A 47 and shall be UL approved. Gasket material shall be EPDM or butyl rubber.
- E. Unions and Flanges:
 1. Cast-iron flange unions shall be black standard, 175 psi working pressure WOG, UL approved, conforming to ASTM A 126 and ANSI B 16.1.
 2. Mechanical couplings for use with grooved pipe/fittings shall be malleable iron (conforming to ASTM A 47) or ductile iron (conforming to ASTM A 536) and shall be UL approved. Couplings shall be of hinged, two-piece design, secured in position with tight fitting, heat treated carbon steel bolts and nuts (conforming to ASTM A 183). Gasket material shall be EPDM or butyl rubber.

VALVES

- A. Gate Valves:
 1. 2 inches and smaller: 200-pound WSP, bronze, OS&Y, rising stem, screwed bonnet, solid wedge disc, screwed, UL listed, ASTM A 126, Class B.
 2. 2 1/2 inches and larger: 175-pound WOG, IBBM, OS&Y, rising stem, bolted bonnet, solid wedge disc, flanged, UL listed, ASTM A 126, Class B.
- B. Check Valves:
 1. 2-1/2 inches and larger: 175-pound WOG, IBBM, swing, bolted cap, renewable seat, flanged, UL listed, ASTM A 126, Class B.
- C. Butterfly Valves:
 1. UL listed with full lug type ductile iron body, aluminum bronze disc, 316 stainless steel stem, Buna-N seat, phenolic ring, bubble-tight closure at 175 psi and worm gear manual operator with crank or handwheel and indicator. Provide a tapped hole in gear operator casing for attachment of supervisory switch.
 2. UL listed with grooved-end design, grade "H" butyl seat, bubble-tight closure at 200 psi, manual gear operator, standard trim. Provide a tapped hole in case of gear operator for attachment of supervisory switch.

FIRE DEPARTMENT CONNECTIONS

- A. Provide fire department connections with local fire department standard hose threads.
- B. Provide fire department connections with finish selected by Architect.
- C. Wall-Mounted Siamese Inlet: Provide flush wall-mounted, two-way, brass body, Siamese connections at locations indicated on the drawings. Provide double clapper valves, plugs, chains and wall plate. Factory raised lettering label on plate shall read as indicated on the drawings.
 1. Basis of Design: Potter-Roemer Series #5750; or Allenco Series #270.

SPRINKLER HEADS

- A. Sprinkler head discharge characteristics, identification, temperature ratings, classifications and performance shall comply with NFPA 13.
- B. Sprinkler heads shall have UL and FM approval.
- C. Provide sprinkler head orifice size as required by coverage and hydraulic calculations.
- D. Unless specified otherwise, provide sprinkler head finishes as follows:
 1. Concealed spaces: Rough bronze.
 2. Exposed in unfinished spaces: Rough bronze.
 3. Exposed in finished spaces: Polished or satin chrome.
- E. Upright Type, Standard: Encapsulated, fusible alloy and spring lever actuator. Basis of Design: Reliable Model G-SSU.
- F. Pendent Type, Standard: Encapsulated fusible alloy and spring lever actuator. Basis of Design: Reliable Model G-SSP.
- G. Concealed Type: Standard pendent head of either adjustable or non-adjustable type and two-piece cup/coverplate assembly. Provide white coverplates for heads installed in ceiling tiled spaces. Provide factory-standard coverplate finish, as selected by Architect, in all other areas. Basis of Design: Reliable Model G1.

ACCESSORIES

- A. Water Flow Detector:
 1. For wet sprinkler systems, provide paddle-type, clamp-on flow switch with field-adjustable retard and automatic recycle. Flow switch shall have UL label. Provide electrical characteristics compatible with Division 16 Fire Alarm System. Provide auxiliary contacts on flow switch for connection to other building alarm systems.
 - a. Basis of Design: Reliable Model A.
- B. Valve Supervisory Switch: Provide UL listed valve-mounted supervisory switch arranged to detect the open or closed position of control valve. Provide tamper switch, required firm and electrical characteristics compatible with Division 16 Fire Alarm System. Provide auxiliary contacts for connection to other building alarm systems. Basis of Design: Potter-Roemer, Inc. Figure #6220 Series.
- C. Ball Drip: Provide cast brass automatic ball drip with 3/4-inch threaded outlet. Basis of Design: Allenco Model #2112NY; or Potter-Roemer, Inc. Model #5982.
- D. Inspector's Sight Test Connection: Provide semi-steel sight test connection with glass tube and having flow equivalent to one 1/2-inch sprinkler head.

SPRINKLER HEAD TYPES

- A. Unfinished Spaces (mechanical rooms, storage rooms, janitor's closets, other areas not having finished ceilings): Upright, pendent or sidewall type as required to provide specified coverage and maintain maximum headroom.
- B. Flat, White Ceiling Areas: Concealed type with white coverplate.
- C. Main Building Public Lobby: Concealed type with coverplate finish selected by Architect.

PIPING SUPPORTS

- A. Pipe supports shall conform to NFPA requirements.

PRESSURE TESTING

- A. Provide pressure tests for the entire system including all tenant improvements, changes, etc., in accordance with NFPA Standard No. 13 and local Authorities Having Jurisdiction.

GENERAL REQUIRMENTS

SECTION 15000 - GENERAL PLUMBING REQUIREMENTS

PART 1 GENERAL

- A. Provide under this Division complete plumbing and fire protection systems, fully adjusted, tested, and commissioned for use as indicated on the Drawings and as specified herein.
- 1.2 CODES AND STANDARDS
 - A. Codes and standards listed herein, insofar as they apply, form a part of these Specifications, the same as if they were fully written and shall be followed as minimum requirements. Where standards conflict, that standard with the more stringent requirements shall be applicable. Where these specifications require higher grade material or workmanship than the referenced standards, provide the highest grade of material and workmanship specified.
 - B. Prior to purchase or installation, give written notice to the Architect of any materials or apparatus believed in violation of laws, ordinances, rules or regulations, or Authorities Having Jurisdiction.
 - C. The referenced codes shall include any and all supplements, addenda, memoranda, information bulletins and any other changes and additions effective prior to the permit issue date by adoption of the local Authority Having Jurisdiction.
 - D. Make any and all modifications required by the Authorities Having Jurisdiction without additional charge to the Owner.
 - E. Where alterations to and/or deviations from the Contract Documents are required by the Authorities, report the requirements to the Architect and secure approval before starting the alterations.
 - F. Where Contract Documents' requirements are in excess of Code requirements and are permitted under the Code, the Contract Documents shall govern.
 - G. All rules and regulations of the Underwriters Laboratories shall be complied with whether or not indicated in the Contract Documents.
 - H. All work shall comply with the following codes and standards.
 1. Codes:
 - International Building Code, latest edition in force
 - International Plumbing Code, latest edition in force
 - International Fuel Gas Code, latest edition in force
 - National Electric Code.
 2. Standards: In addition to the requirements shown or specified, comply with the latest current applicable standards, specifications and codes published by the following (where the following publications list recommendations and guidelines, the recommendations and guidelines shall be considered requirements of this contract and the items and systems shall be constructed and/or tested in accordance with the recommendations and guidelines):
 - American Society of Mechanical Engineers (ASME).
 - American National Standards Institute (ANSI).
 - American Water Works (AWWA).
 - American Society for Testing and Materials (ASTM).
 - National Fire Protection Association (NFPA).
 - Underwriters Laboratories (UL).
 - Plumbing Drainage Institute
 - Manufacturer's Standardization Society of the Valves and Fittings Industry, Inc. (MSS).

1.3 PERMITS

- A. Obtain and pay for all permits, licenses, and inspection certificates required for all work in accordance with the provisions of the Contract Documents.

1.4 GUARANTEE

- A. Guarantee in form satisfactory to the Owner, that all Work installed is free from defects in workmanship and/or materials. Guarantee that all apparatus will develop capacities and characteristics specified for a period of one year from the date of final acceptance by the Owner or certification of substantial completion, whichever occurs later.
- B. During the guarantee period, remedy, without cost to the Owner, defective workmanship, materials, and apparatus performance. Remedial work shall be completed within a reasonable time specified by the Owner. In default thereof, the Owner may have such work done and charge all costs to the Contractor.

1.5 COMPLETE PERFORMANCE OF WORK

- A. Execute work in strict accordance with the best practice of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- B. Provide labor, materials, apparatus, and appliances essential to the complete functioning of the systems described and indicated, or which may be reasonably implied as essential whether mentioned in the Contract Documents or not.
- C. In cases of doubt as to the Work intended, or in the event of need for explanation thereof, request supplementary instructions from the Architect.

1.6 COOPERATION WITH OTHER TRADES

- A. Coordinate efforts of all trades and furnish in writing, with copies to the Architect and Owner, any information necessary to permit the work of all trades to be installed satisfactorily and with least possible interference or delay.
- B. Where the work of various trades will be installed in close proximity to one another, or where there is evidence that the work of one trade will interfere with work of other trades, assist in working out space conditions to make a satisfactory adjustment. If one trade installs his work before coordinating with work of other trades, make necessary changes to correct the condition without extra charge.

1.7 DRAWINGS

- A. The Drawings show the general layout of the various items of equipment. However, layout of equipment, accessories, specialties, ductwork, and piping systems are diagrammatic unless specifically dimensioned, and do not necessarily indicate every required valve, fitting, trap, duct, elbow, transition, turning valve, or similar items required for a complete installation. Consult the Architectural Drawings and details for exact location of rough-ins, fixtures and equipment. Where same is not definitely located, obtain the information from the Architect before proceeding.
- B. Follow the Drawings in laying out the work and check drawings of all trades to verify spaces in which work will be installed. Maintain maximum headroom throughout. Where space conditions appear inadequate, request clarification from the Architect before proceeding with the installation.

1.8 MANUFACTURER'S RECOMMENDATIONS

- A. Except where specifically indicated differently in the Contract Documents, apply, install, connect, erect, use, clean, and condition manufactured articles, materials, and equipment per manufacturer's current printed recommendations. Keep copies of such printed recommendations at job site.

1.9 SUBMITTALS

- A. After the Contract is awarded, but prior to proceeding with the Work, obtain complete submittals from the manufacturers, suppliers, vendors, subcontractors, for all materials and equipment specified in this Division and submit data and details of such materials and equipment to the Architect.
- B. Prior to forwarding submittals to the Architect, review and certify that the equipment, materials, methods, etc. represented by the submittals are in compliance with the Contract Documents.
- C. A minimum period of two weeks, exclusive of transmittal time, will be required in the Engineer's office each time a submittal is submitted or resubmitted for review. This time period shall be considered by the Contractor when scheduling his work.
- D. Approval of product data shall not relieve the Contractor of the responsibility for errors that may be contained therein, or for deviations from requirements in the Contract Documents. It shall be clearly understood that the Architect or Engineer noting some errors but overlooking others does not grant the Contractor permission to proceed in error. Regardless of any information contained in the product data the Contract Documents shall govern the work and are neither waived nor superseded in any way by submittal review.

PART 2 PRODUCTS

2.1 MATERIALS

- A. The word "Provide" is defined as requiring the Contractor to "furnish, erect, test, adjust and install complete and ready for use" the item to which it refers.
- B. Unless otherwise specified, provide new, first-class quality materials and apparatus required for the work. Furnish, deliver, erect, connect and finish work in every detail, and select and arrange work to fit properly into the building spaces. Where no specific kind or quality of material is given, provide a first class standard article as approved by the Architect.
- C. Equipment designated as "Basis of Design" has been coordinated for structural penetrations; duct, piping, and electrical connection; operating and service (maintenance) requirements; and physical size with regard to space where equipment is housed. Other specified manufacturers of like equipment are acceptable contingent on the Contractor providing a complete installation and maintaining full responsibility to provide, at no additional cost, any modifications to the structure or configuration of adjoining equipment and the installation that is required to properly install, operate, and service the equipment being used.

PART 3 EXECUTION

3.1 EXCAVATION AND BACKFILLING

- A. General: Provide excavation and backfilling of trenches required for the installation of all utility services and underground piping within the building, and to points of connection with exterior underground utilities outside of the building.
- B. Trenching: Excavate to the required depths and grade the bottoms of trenches to secure the required slope for pipe lines. Where encountered, excavate rock to a minimum depth of six inches below the bottom of pipe. Excavate the bottom of the trench by hand to provide firm, uniform bearing for the bottom quarter of the pipe. Excavate recesses for joints for pipe having bells, sleeves, other enlargement at the joints. Provide separate trenches for water and sewer lines.
- C. Backfilling: Do not backfill trenches until the piping has been tested as required and reviewed and approved by the Architect and/or any Local Authorities having jurisdiction thereof.
 1. Provide backfill consisting of sand or selected excavated material, placed to a depth of one foot above the top of the conduit or pipe and compacted by hand tamping. Provide backfill for the remainder of the trench in accordance with the requirements of Division 2, using materials as specified therein, and compact as required to produce the specified density.

3.2 SLEEVES, FORMED OPENINGS, PLATES, AND INSERTS

- A. Provide sleeves for all piping passing through masonry, concrete, tile and gypsum wall construction.
- B. Provide sleeves and formed openings of sufficient size to pass continuous, uninterrupted insulation of the specified thickness.
- C. Check floor and wall construction finishes to determine proper length of sleeves for various locations and make actual lengths to suit the following:
 1. Terminate sleeves flush with walls, partitions, and ceilings.
 2. In areas where pipes are exposed, extend sleeves 2 inches above finished floor.

3.3 RECORD DRAWINGS

- A. Maintain at the project site a complete set of "Record Drawings" reflecting an accurate as-built record of all Work. In addition, mark the "Record Drawings" to show changes and deviations in the Work from that shown on the Contract Documents. This requirement shall not be construed as authorization for the Contractor to make changes in the layout or work without definite instructions from the Architect.



NORTH (building)

Shepherdstown Opera House RENOVATIONS

131 W. German St.
Shepherdstown
West Virginia

Owner

131 West German Street, LLC

Mech/Elect Engineer

FHC Engineering, PC
4 Weems Lane #277
Winchester, VA 22601
540 247-2939

Structural Engineer

Ruckman Engineering, PLC
22-B Ricketts Drive
Winchester, VA 22601



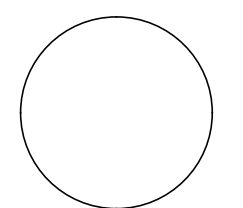
Issue/Revision	Seal
REVISION #1	10.23.20
FOR CONSTRUCTION 10.23.20	
REDESIGN REVISIONS 02.23.21	
FOR CONSTRUCTION 10.23.20	

Drawing Title

SPECIFICATIONS

Date: OCTOBER 23, 2020
Scale: As Noted
Project Number: 19820
Drawing Number:

P0.2



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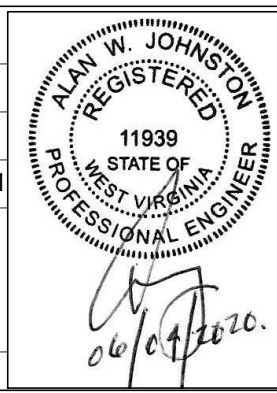
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Issue/Revision	Seal
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FOR CONSTRUCTION	10.23.20
REDESIGN REVISIONS	02.23.21

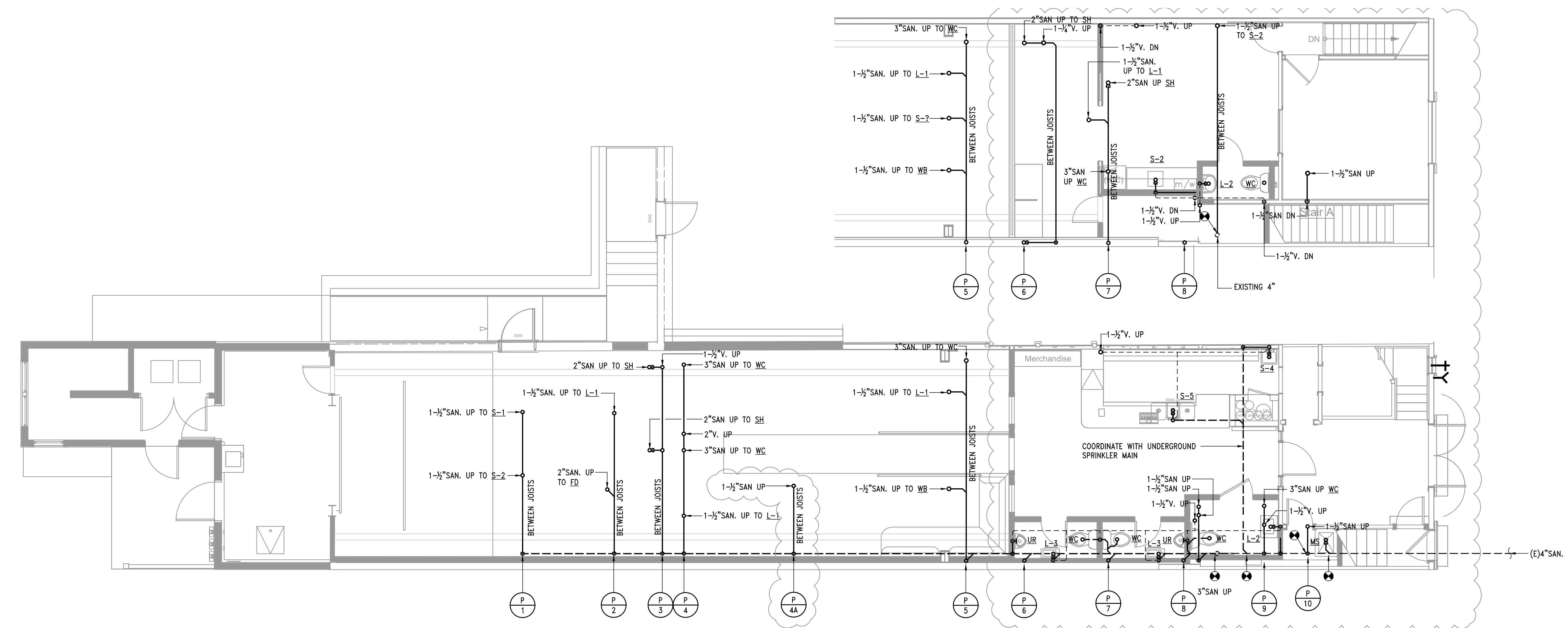
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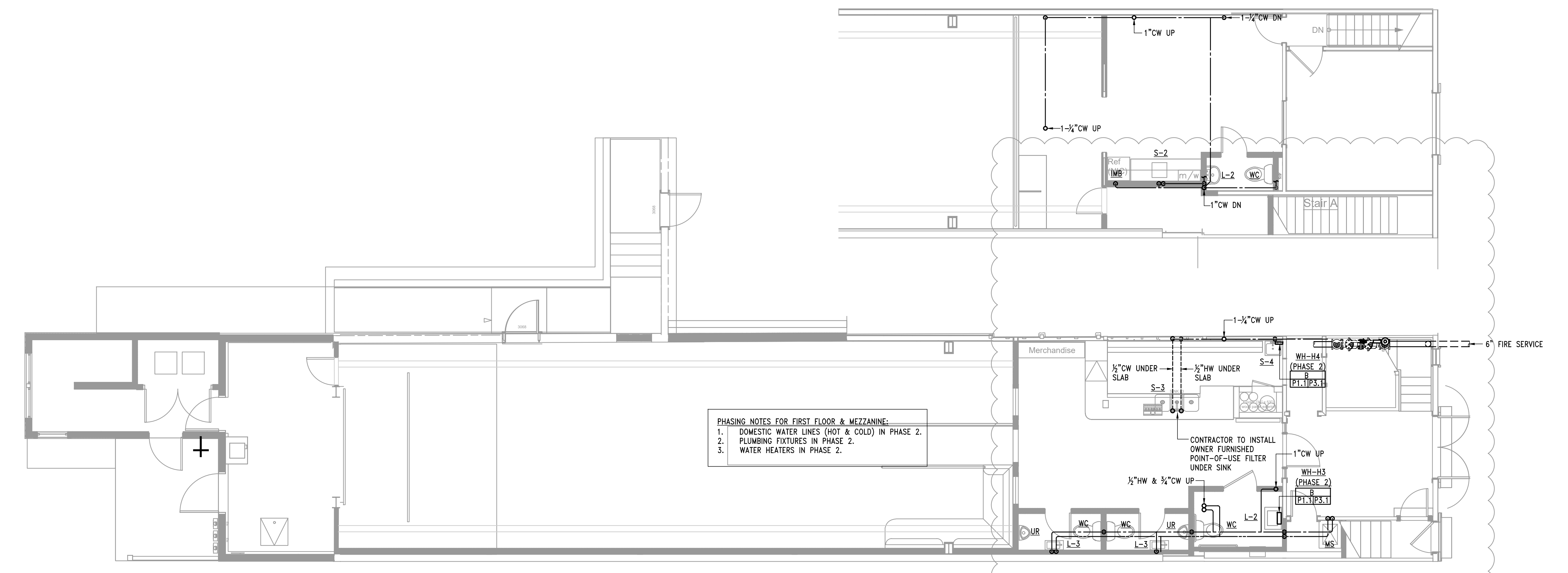


MAIN LEVEL & MEZZANINE FLOOR PLANS

Date: OCTOBER 23, 2020
Scale: As Noted Project Number: 19820
Drawing Number

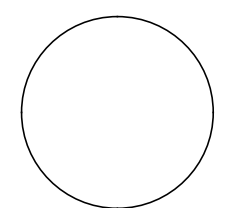


MAIN LEVEL AND MEZZANINE FLOOR PLANS - WASTE & VENT
SCALE: 3/16" = 1'-0"



PHASING NOTES FOR FIRST FLOOR & MEZZANINE:
 1. DOMESTIC WATER LINES (HOT & COLD) IN PHASE 2.
 2. PLUMBING FIXTURES IN PHASE 2.
 3. WATER HEATERS IN PHASE 2.

MAIN LEVEL AND MEZZANINE FLOOR PLANS - DOMESTIC WATER
SCALE: 3/16" = 1'-0"



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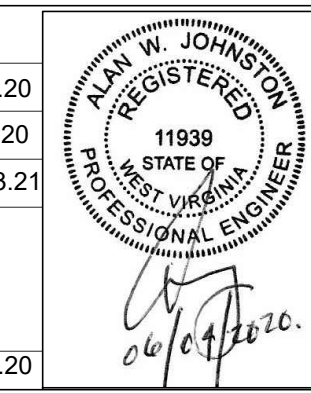
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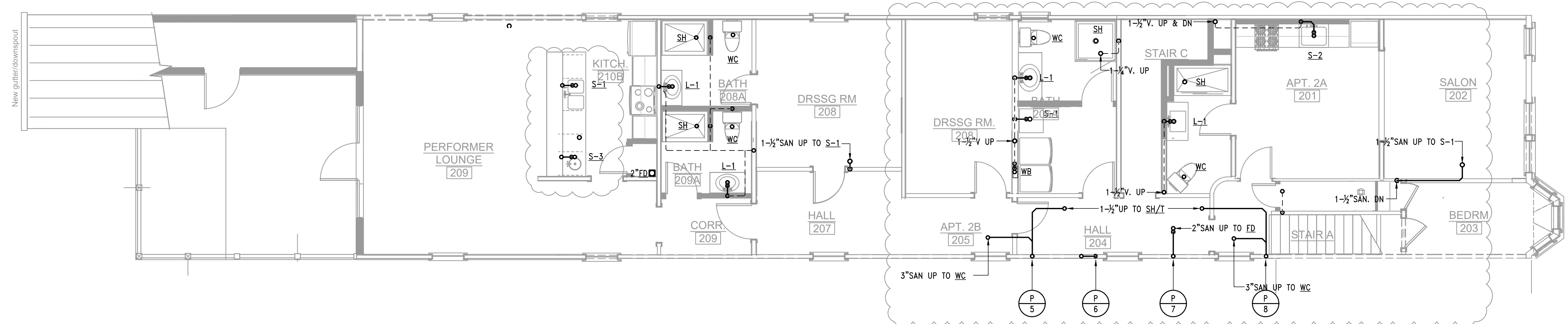
FOR CONSTRUCTION 10.23.20

Drawing Title

2ND & 3RD FLOOR PLANS

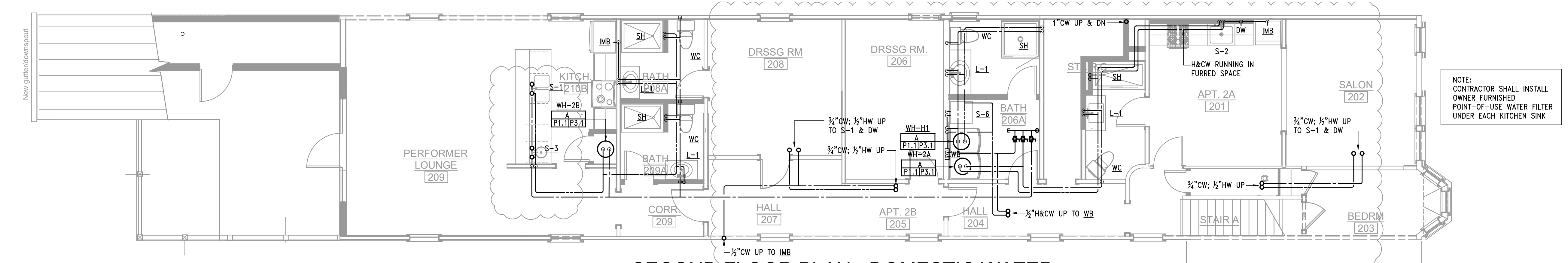
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Project Number: 19820
Drawing Number:

P1.2



SECOND FLOOR PLAN - WASTE & VENT

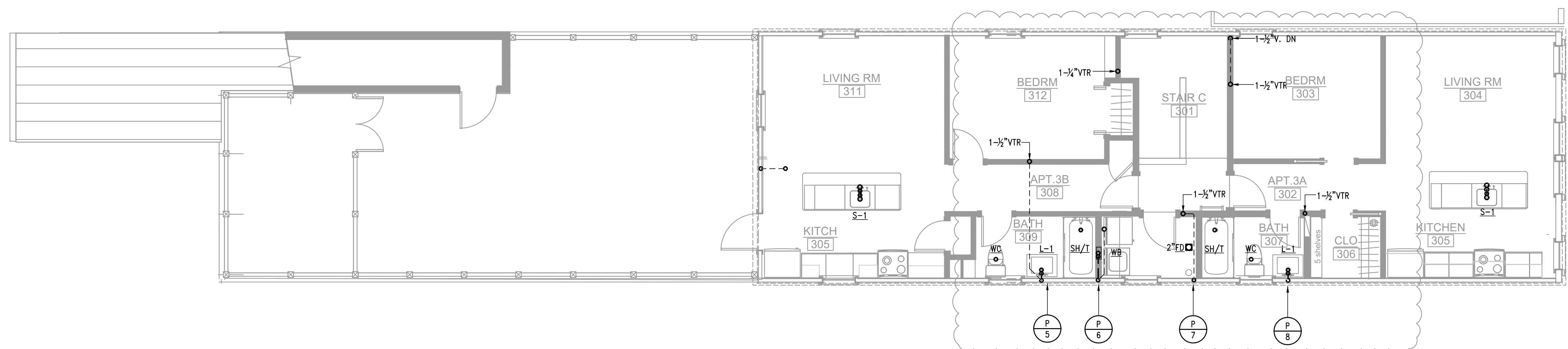
SCALE: 3/16" = 1'-0"



NOTE:
CONTRACTOR SHALL INSTALL
OWNER FURNISHED
POINT-OF-USE WATER FILTER
UNDER EACH KITCHEN SINK

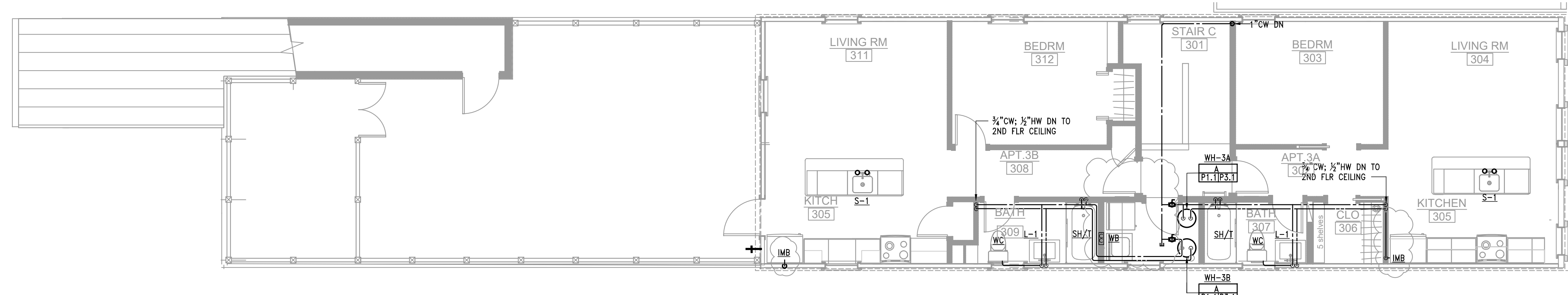
SECOND FLOOR PLAN - DOMESTIC WATER

SCALE: 3/16" = 1'-0"



THIRD FLOOR PLAN - WASTE & VENT

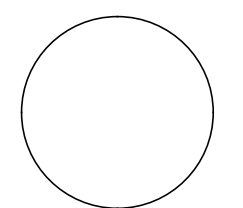
SCALE: 3/16" = 1'-0"



NOTE:
CONTRACTOR SHALL INSTALL
OWNER FURNISHED
POINT-OF-USE WATER FILTER
UNDER EACH KITCHEN SINK

THIRD FLOOR PLAN - DOMESTIC WATER

SCALE: 3/16" = 1'-0"



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Structural Engineer

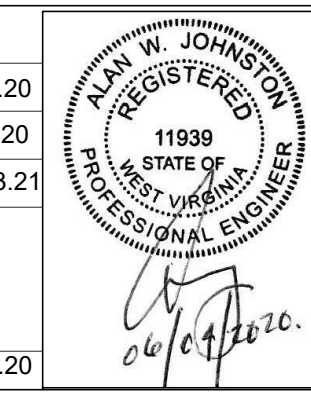
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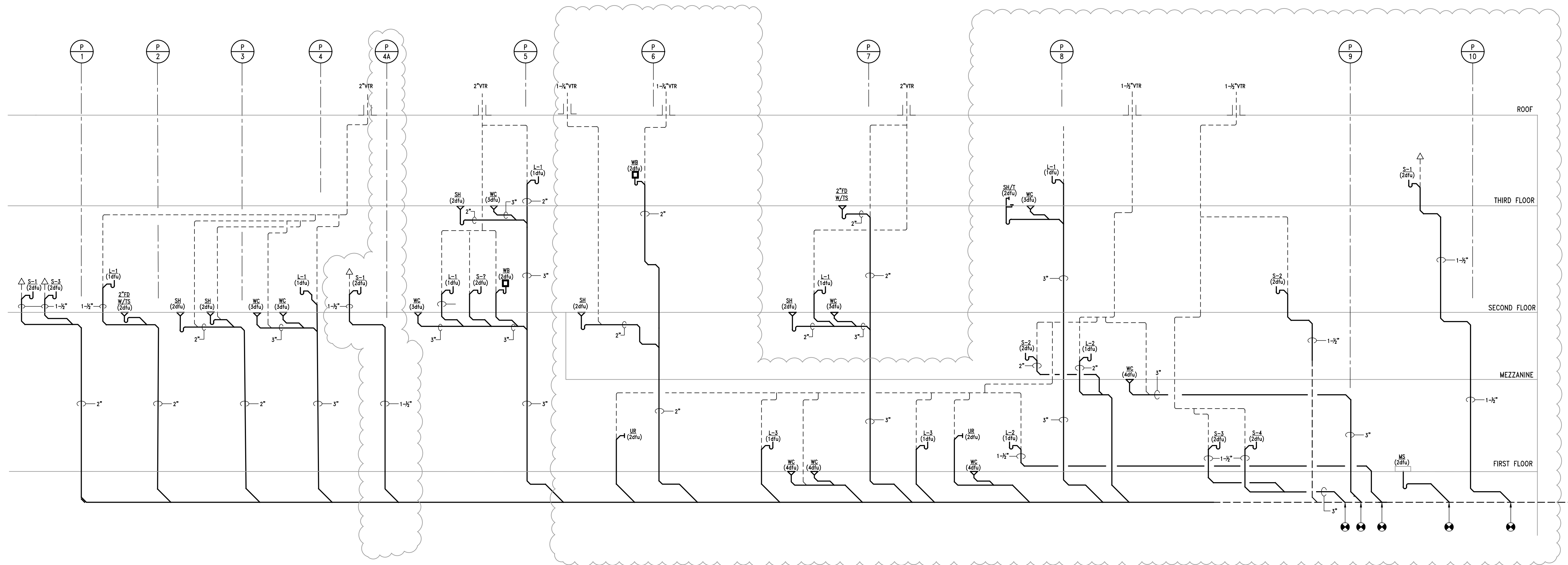
Drawing Title



RISER DIAGRAMS

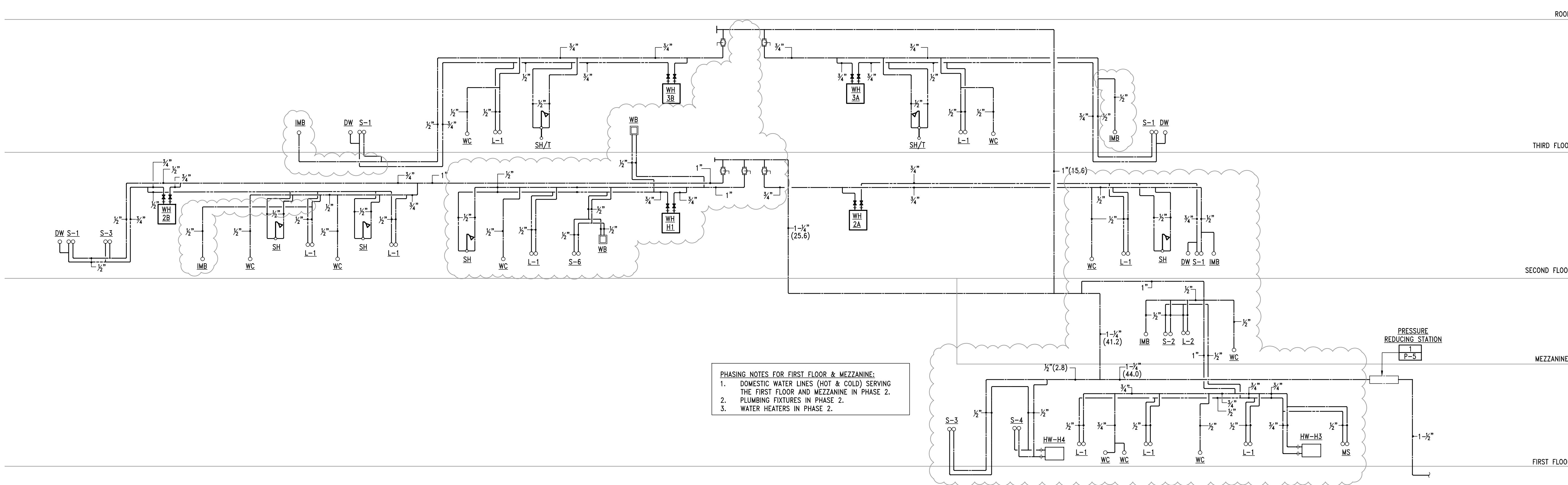
Date: OCTOBER 23, 2020
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Project Number: 19820
Drawing Number:

P2.1



WASTE & VENT RISER DIAGRAM

SCALE: NONE

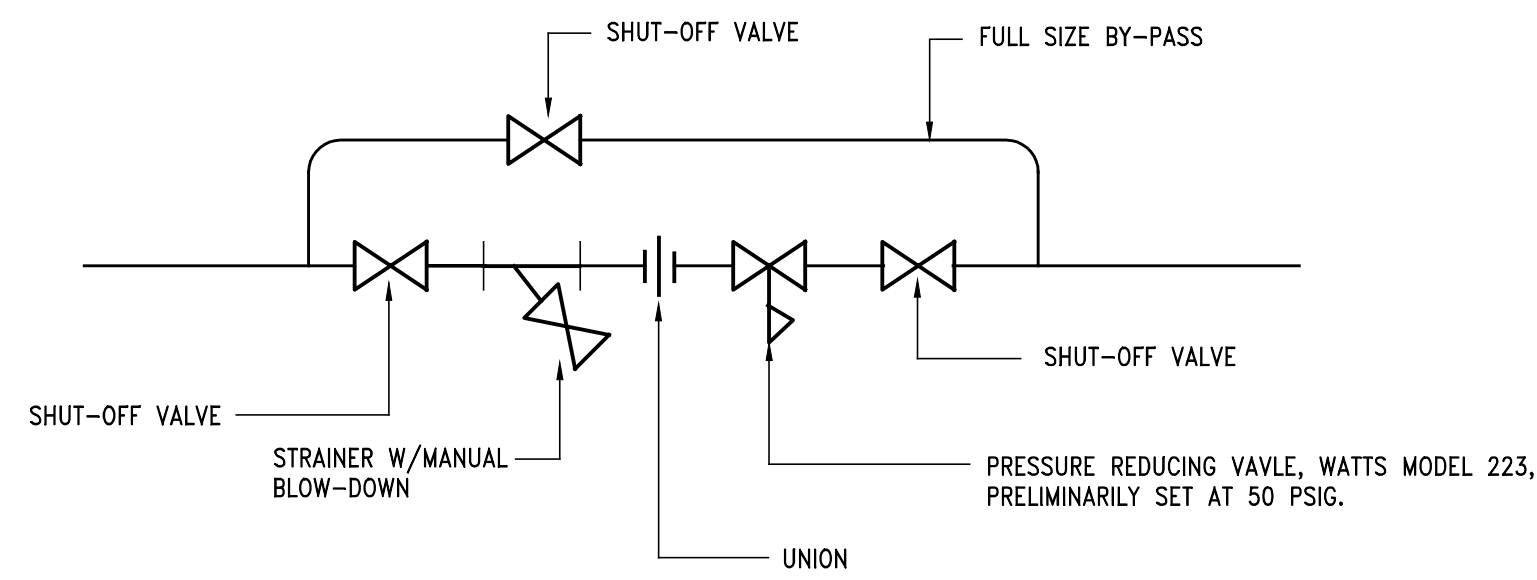


PHASING NOTES FOR FIRST FLOOR & MEZZANINE:

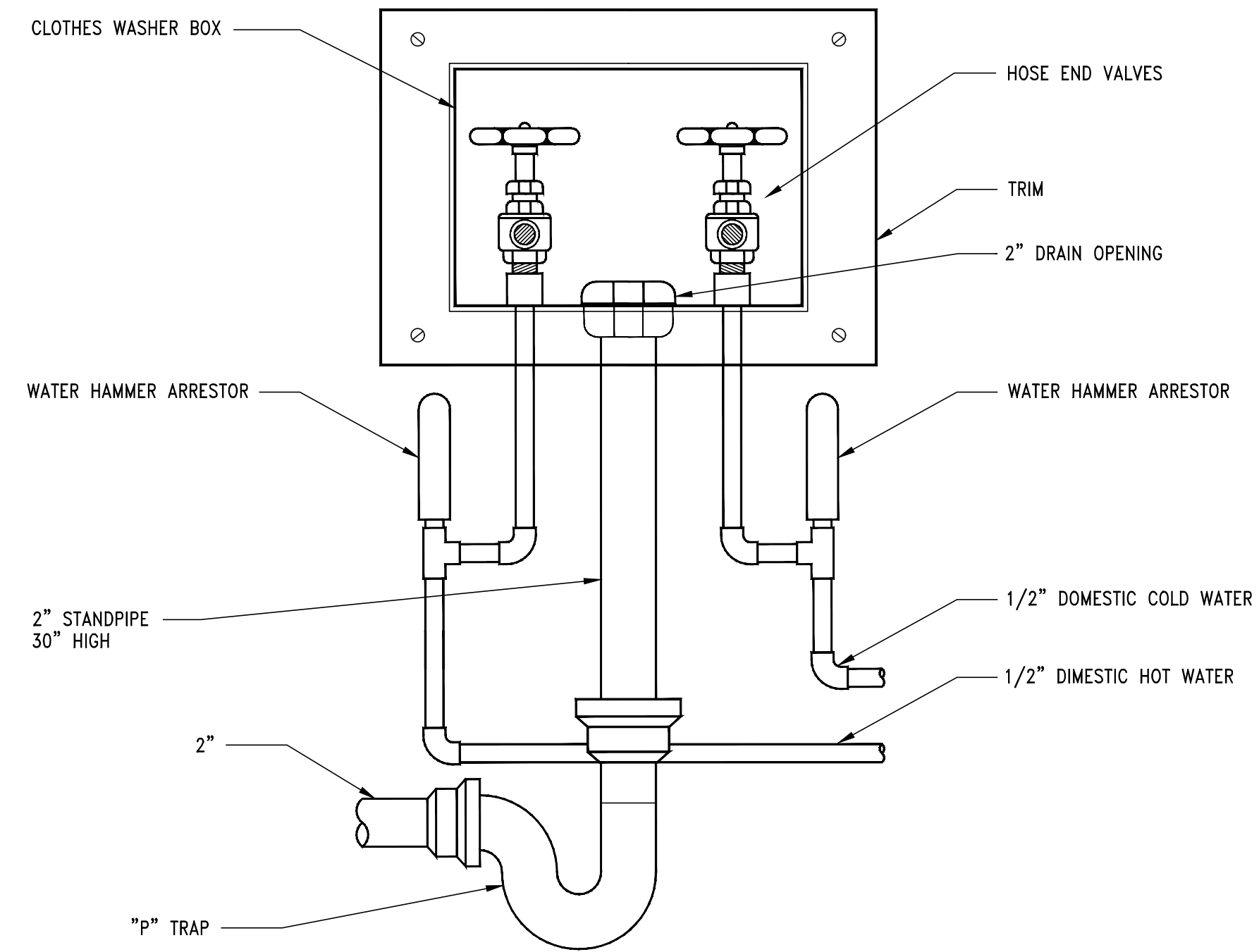
1. DOMESTIC WATER LINES (HOT & COLD) SERVING THE FIRST FLOOR AND MEZZANINE IN PHASE 2.
2. PLUMBING FIXTURES IN PHASE 2.
3. WATER HEATERS IN PHASE 2.

DOMESTIC WATER RISER DIAGRAM

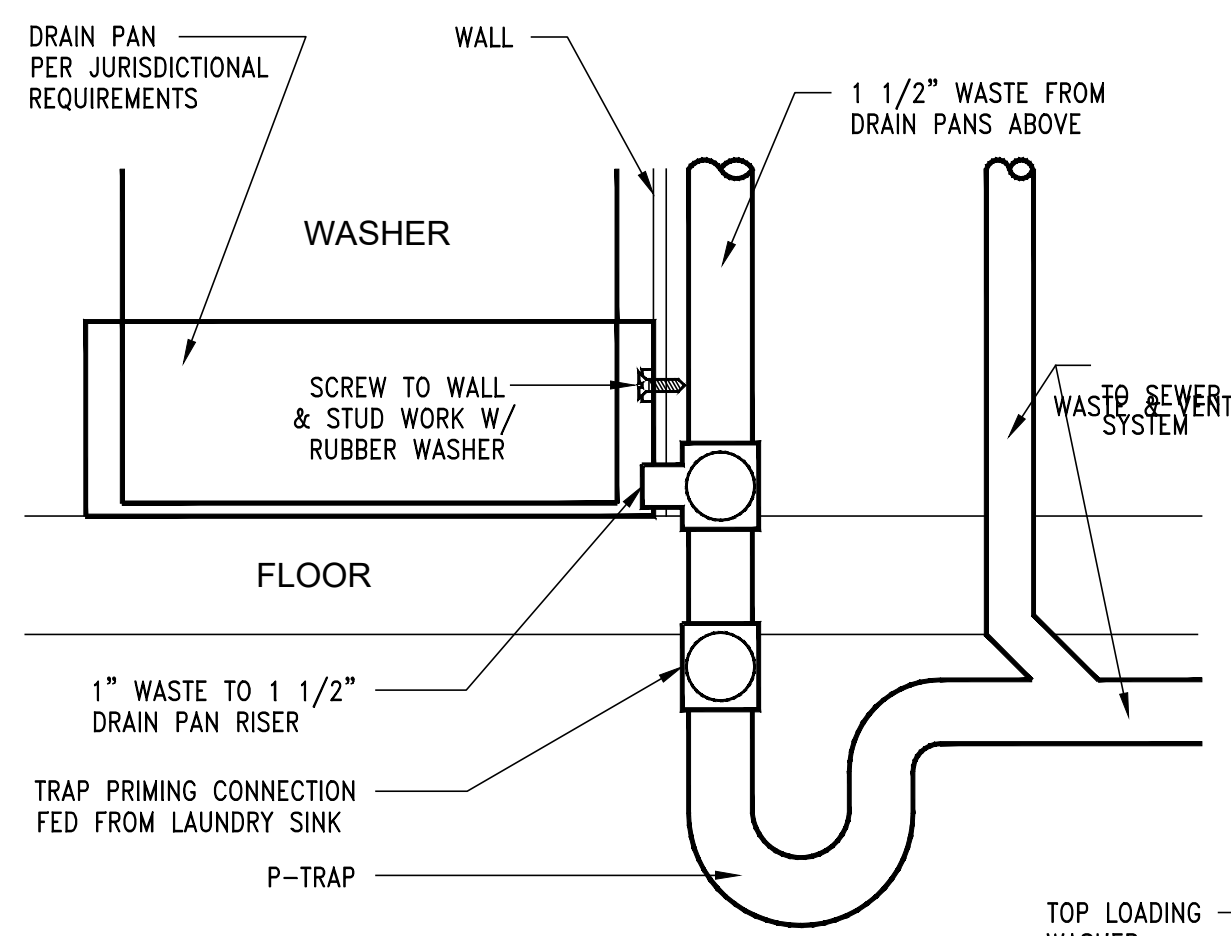
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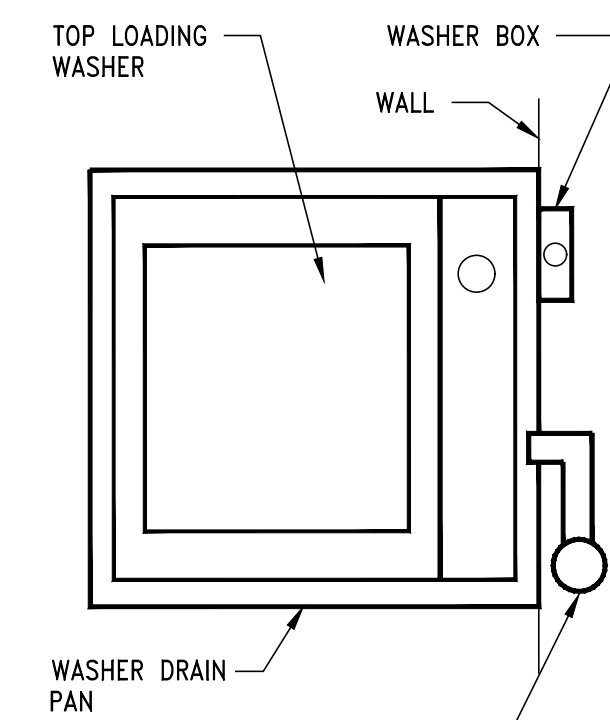
E
P1.2|P3.1 **PRESSURE REDUCING STATION**
DETAIL
SCALE: NONE



C
P1.2|P3.1 **WASHER SUPPLY & DRAIN**
DETAIL
SCALE: NONE

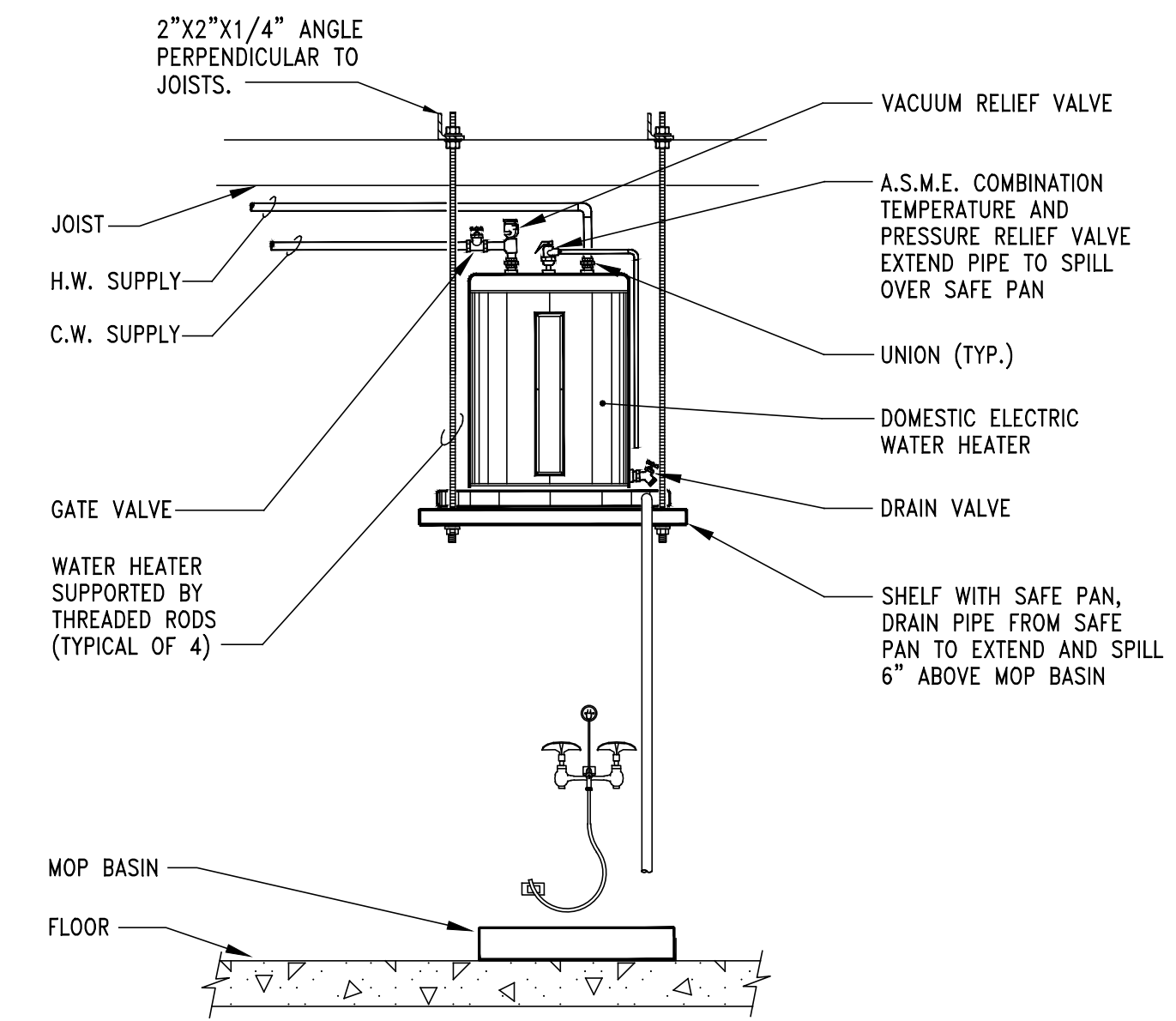


SECTION



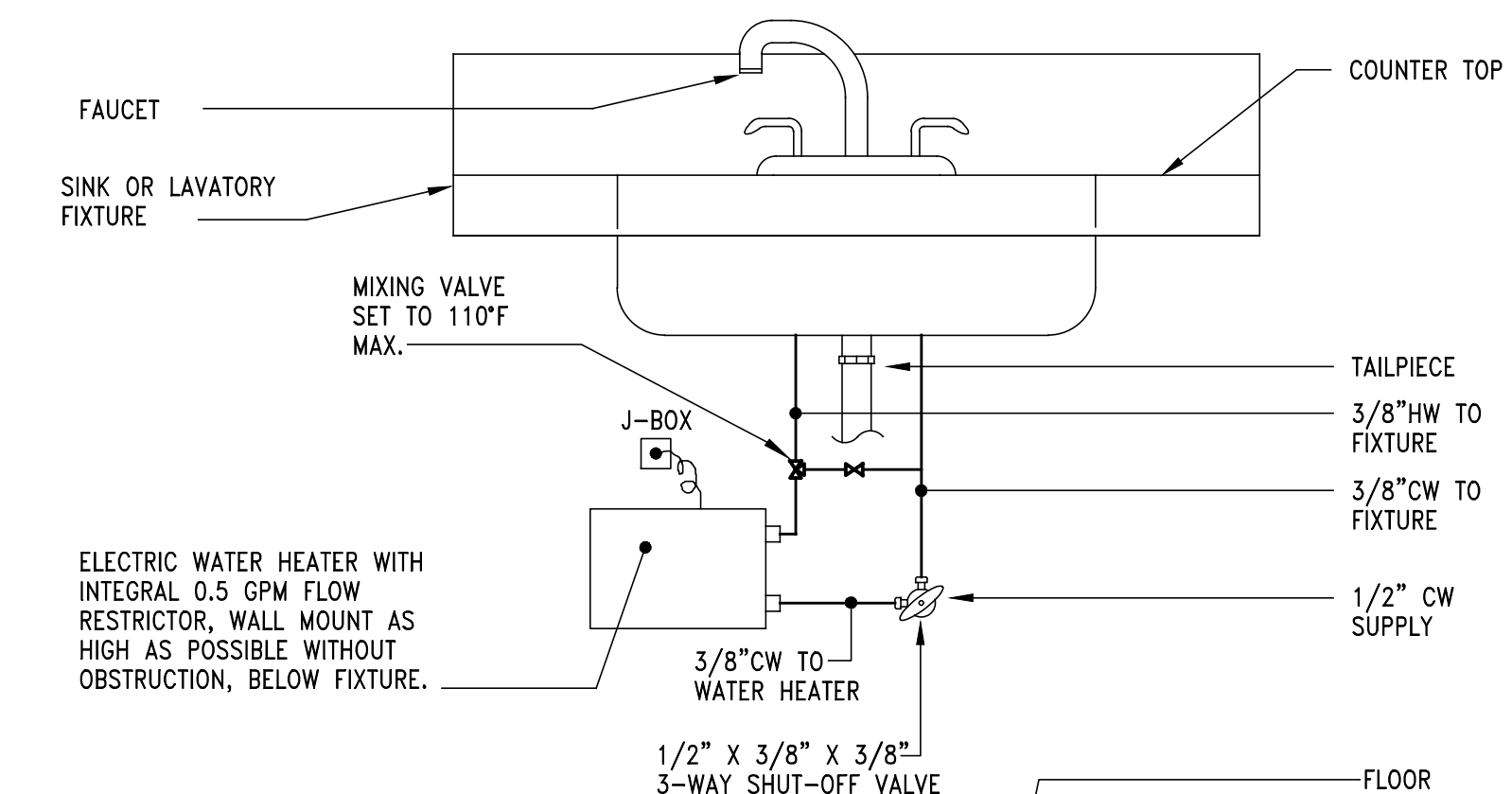
PLAN VIEW

D
P1.2|P3.1 **WASHER DRAIN PAN DETAIL**
SCALE: NONE



SCHEDULE OF CAPACITIES								
W.H. NO.	STORAGE GALLONS	G.P.H. RECOVERY @ 80 F RISE	OPER. WGT. LBS.	ELECTRIC			BASIS OF DESIGN	
				VOLTS	PH	Hz		
2A	28	12.5	335	240	1	60	2.5	A.O. SMITH PROLINE MODEL ENJB-30
2B	28	12.5	335	240	1	60	2.5	A.O. SMITH PROLINE MODEL ENJB-30
3A	28	12.5	335	240	1	60	2.5	A.O. SMITH PROLINE MODEL ENJB-30
3B	28	12.5	335	240	1	60	2.5	A.O. SMITH PROLINE MODEL ENJB-30
H1	38	21.0	435	240	1	60	4.5	A.O. SMITH PROLINE MODEL ENLB-40
H2				NOT USED				

A
P1.2|P3.1 **DOMESTIC ELECTRIC WATER**
HEATER DETAIL
SCALE: NONE



SCHEDULE OF CAPACITIES							
W.H. NO.	TEMP. RISE °F	0.5 GPM	1.0 GPM	KW	ELECTRIC		BASIS OF DESIGN
					VOLTS	AMPS	
WH-3	57	-	-	4.2	240	20	CHRONOMITE MODEL SR-20L
WH-4	57	-	-	4.2	240	20	CHRONOMITE MODEL SR-20L

B
P1.1|P3.1 **INSTANTANEOUS DOMESTIC WATER**
HEATER DETAIL (PHASE 2)
SCALE: NONE

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AIA, LEED AP

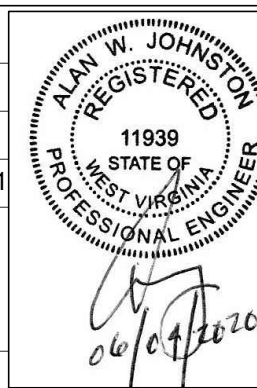
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Drawing Title



DETAILS & SCHEDULES

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