

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	HWS	HOT WATER SUPPLY
AD	ACCESS DOOR	HX	HEAT EXCHANGER
ADJ	ADJUSTABLE	HZ	HERTZ
AFF	ABOVE FINISHED FLOOR	ID	INSIDE DIAMETER
AHU	AIR HANDLING UNIT	IN	INCH
ALT	ALTERNATE	KEF	KITCHEN EXHAUST FAN
AP	ACCESS PANEL	KH	KITCHEN EXHAUST HOOD
APPROX	APPROXIMATE	KW	KILOWATT
ARCH	ARCHITECTURAL	L	LOUVER
AUTO	AUTOMATIC	LAT	LEAVING AIR TEMPERATURE
BD	BACKDRIFT DAMPER	LB	POUND
BFLY	BUTTERFLY	LD	LINEAR DIFFUSER
BTU	BRITISH THERMAL UNIT	LTD	LOW TEMPERATURE DIFFERENTIAL
BTUH	BTU PER HOUR	LSD	LEAVING SLOT DIFFUSER
BS	BRANCH SELECTOR	LWT	LEAVING WATER TEMPERATURE
CS	CIRCUIT BREAKER	MAU	MAKE UP AIR UNIT
CCT	CONTROL CIRCUIT TRANSFORMER	MAX	MAXIMUM
CD	CEILING DIFFUSER	MBH	1000 BTU PER HOUR
CF	CUBIC FEET	MCO	MINIMUM CURRENT AMPACTY
CFM	CUBIC FEET PER MINUTE	NC	NOISE CRITERIA
CHP	CHILLED WATER PUMP	NC	NORMALLY CLOSED
CHWR	CHILLED WATER RETURN	NPT	NATIONAL PIPE THREAD
CHWS	CHILLED WATER SUPPLY	NPS	NOT TO SCALE
CL	CENTER LINE	OA	OUTSIDE AIR
CLG	CEILING	OSB	OPPOSED BLADE DAMPER
CMU	CONCRETE MASONRY UNIT	OD	OUTSIDE DIAMETER
CO	CONCRETE	OD	OPEN END DUCT
CONC	CONNECTION	P	PUMP
CONN	CONTINUATION	PACU	PACKAGED AIR CONDITIONING UNIT
CONT	CONTROLLER	PD	PRESSURE DROP
CONTR	CORRIDOR	PH	PHASE
CORR	CORROSION	PCC	POINT OF CONNECTION
CT	COOLING TOWER	POD	POINT OF DEMOLITION
CTE	CONNECT TO EXISTING	PPM	PARTS PER MILLION
CU	CONDENSING UNIT	PRV	PRESSURE REDUCING VALVE
DB	DRY BULB TEMPERATURE	PSIA	POUNDS PER SQUARE INCH ABSOLUTE
DH	DUCT HEATER	PSIG	POUNDS PER SQUARE INCH GAUGE
DIFF	DIFFUSER	R	RADIUS
DIA	DIAMETER	RA	RETURN AIR
D	DIAMETER	REQD	REQUIRED
DIM	DIMENSION	RG	RETURN GRILLE
DN	DOWN	RH	RELATIVE HUMIDITY
DNS	DECATERIALIZED OUTSIDE AIR SYSTEM	RLA	RUNNING LOAD AMPS
DWG	DRAWING	RPM	REVOLUTIONS PER MINUTE
EA	EXHAUST AIR	RM	ROOM
EAT	ENTERING AIR TEMPERATURE	RTU	ROOF TOP UNIT
EFC	EXHAUST FAN	SA	SUPPLY AIR
EFG	EXHAUST GRILLE	SD	SMOKE DETECTOR
ELEC	ELECTRICAL	SD	SMOKE DAMPER
ELEV	ELEVATOR	SF	SQUARE FOOT
EQUIP	EQUIPMENT	SG	SUPPLY GRILLE
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
ETR	EXISTING TO REMAIN	SPEC	SPECIFICATION
EUM	ELECTRIC UNIT HEATER	SQ	SQUARE
EW	ENTERING WATER TEMPERATURE	SQ FT	SQUARE FEET
EXIST	EXISTING	SR	SUPPLY REGISTER
EXT	EXTERNAL	STRUCT	STRUCTURAL
F	FAHRENHEIT	TEMP	TEMPERATURE
FAN	FAN	TG	TRANSFER GRILLE
FAN COL UNIT	FAN COIL UNIT	TSP	TOTAL STATIC PRESSURE
FDD	FIRE DAMPER	TSTAT	THERMOSTAT
FFE	FINISHED FLOOR ELEVATION	TYP	TYPICAL
FLEX	FLEXIBLE	UH	UNIT HEATER
FPM	FEET PER MINUTE	UNO	UNLESS NOTED OTHERWISE
FT	FEET	VAC	VOLTS ALTERNATING CURRENT
FSD	FRESH SMOKE DAMPER	VAV	VARIABLE AIR VOLUME
GA	GALLON	VFD	VARIABLE FREQUENCY DRIVE
GALV	GALVANIZED	VSD	VARIABLE SPEED DRIVE
GC	GENERAL CONTRACTOR	W	WATTS
GPH	GALLON PER HOUR	WB	WET BULB
GPM	GALLON PER MINUTE	WC	WALL CAP
GV	GRAVITY VENTILATOR	WG	WATER GAUGE
GYP BD	GYPSPUM BOARD	WI	WITH
HP	HORSEPOWER	W/O	WITHOUT
HR	HOUR	W/OUT	ABANDONED
HWP	HOT WATER PUMP	(A)	ABANDONED
HWR	HOT WATER RETURN	(D)	DEMOLISHED
		(E)	EXISTING
		@	AT
			DEGREE

MECHANICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	RECTANGULAR SUPPLY DUCT - UP / DOWN		AIR FLOW MONITORING STATION
	RECTANGULAR RETURN DUCT - UP / DOWN		DIFFERENTIAL PRESSURE SENSOR
	RECTANGULAR EXHAUST DUCT - UP / DOWN		STATIC PRESSURE SENSOR
	ROUND SUPPLY DUCT - UP / DOWN		DUCT SENSOR
	ROUND RETURN DUCT - UP / DOWN		TRANSVERSE DUCT TEST AND BALANCE
	ROUND EXHAUST DUCT - UP / DOWN		HUMIDIFIER WITH IDENTIFICATION
	TRANSITION		AIR TERMINAL UNIT WITH IDENT. & MAX CFM
	SQUARE THROAT ELBOW WITH TURNING VANES		SUPPLY DIFFUSER AND AIR QUANTITY BLANK OUTS INDICATE NO THROW IN THIS DIRECTION. (SX DENOTES TYPE)
	RISE/DROP IN ELEVATION		PACKAGED AIR CONDITIONING UNIT (X DENOTES TYPE)
	RADIUS ELBOW		EXHAUST GRILLE AND AIR QUANTITY (X DENOTES TYPE)
	BRANCH DUCT CONNECTION		AIR FLOW RATE AT DOOR UNDERCUT
	BRANCH RECTANGULAR TRUNK		REFER TO KEYNOTE #MX
	BRANCH DUCT CONNECTION		THERMOSTAT OR TEMP SENSOR
	BRANCH DUCT CONNECTION		HUMIDISTAT OR HUMIDITY SENSOR
	BRANCH DUCT CONNECTION		PRESSURE MONITOR
	BRANCH DUCT CONNECTION		CARBON DIOXIDE SENSOR
	BRANCH DUCT CONNECTION		CARBON MONOXIDE SENSOR
	BRANCH DUCT CONNECTION		MULTI-POINT MONITOR
	FIRE DAMPER		HYDRONIC PIPING SYMBOLS
	SMOKE DAMPER		PRESSURE GAUGE
	COMBINATION FIRE/SMOKE DAMPER		THERMOSTAT
	MANUAL VOLUME DAMPER		BALL VALVE OR GATE VALVE
	MOTORIZED DAMPER		CHECK VALVE
	SMOKE DETECTOR		BACKFLOW PREVENTER
	CARBON DIOXIDE DETECTOR		GLOBE VALVE
	CARBON MONOXIDE DETECTOR		THREE WAY VALVE
			2-WAY CONTROL VALVE
			3-WAY CONTROL VALVE
			HYDRONIC PUMP
			NOT ALL SYMBOLS MAY BE USED

MECHANICAL SPECIFICATIONS

DUCTWORK & ACCESSORIES

SHEETMETAL DUCTWORK
 ALL DUCTWORK TO BE RIGID SHEET METAL CONSTRUCTED FROM GALVANIZED SHEET STEEL IN ACCORDANCE WITH SMACNA LOW VELOCITY DUCT CONSTRUCTION STANDARDS. FIBERGLASS DUCTBOARD IS NOT ALLOWED. ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICE FOR ACHIEVING AIR TIGHT (EN LEAKAGE) AND NOISELESS (NO OBJECTIONABLE NOISE SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. FURNISH ALL REQUIRED DAMPERS, TRANSITIONS, CONNECTIONS TO AIR TERMINALS, AND OTHER ACCESSORIES NECESSARY FOR A COMPLETE OPERATING SYSTEM. NO VARIATION OF DUCT CONFIGURATION OR SIZES WILL BE PERMITTED EXCEPT BY PERMISSION FROM THE ENGINEER. MOUNT DUCTWORK AS HIGH AS POSSIBLE TO UNDERSIDE OF STRUCTURE. (NO SQUARE THROAT ELBOWS SHALL BE INSTALLED WITHOUT DOUBLE THROATLESS TURNING VANES.) ALL DUCT CONNECTIONS TO EQUIPMENT SHALL BE LOADED TYPE VINYL VIBRATION ELIMINATION CONNECTIONS. (F, C) FLEXIBLE CONNECTIONS. DUCTWORK TRANSITIONS SHALL BE (C) FLAT ON TOP UNLESS OTHERWISE SPECIFIED ON PLAN. ALL BRANCH SUPPLY DUCTS SHALL HAVE (MVD) MANUAL VOLUME DAMPERS INSTALLED FOR BALANCING. SEE SYMBOL LIST. ALL CONTRACTOR FABRICATED AND MANUFACTURER FABRICATED COMPONENTS OF THE OUTSIDE AIR SUPPLY AIR, RETURN AIR AND EXHAUST SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED AIR-TIGHT. THE INSTALLED SYSTEMS SHALL BE PRESSURE TESTED AS SPECIFIED. PIPE OPENINGS IN SYSTEM COMPONENTS SHALL HAVE SHEET METAL BAFFLES, SET IN SEALANT, TO PREVENT LEAKAGE. ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

DUCT SEALANT
 SEAL ALL LONGITUDINAL AND TRANSVERSE JOINTS WITH A NON-HARDENING, NONMIGRATING MASTIC OR LIQUID ELASTIC SEALANT OF A TYPE RECOMMENDED BY THE MANUFACTURER FOR SEALING JOINTS AND SEAMS IN SHEET METAL DUCTWORK. COVER ALL FIELD JOINTS, JOINTS AROUND SPIN-IN FITTINGS AND FASTENING SCREWS WITH MASTIC.

SUPPORTS
 PROVIDE HOT-DIPPED GALVANIZED STEEL, FASTENERS, ANCHORS, RODS, STRAPS, TRIM, AND ANGLES FOR SUPPORT OF DUCTWORK.

DAMPERS
 PROVIDE OPPOSED-BLADE, MULTI-LEAF VOLUME CONTROL DAMPERS AT SUPPLY AND RETURN TAKEOFFS (AT BRANCH DUCT) WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS.

GRILLES, REGISTERS & DIFFUSERS
 DIFFUSERS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND SCHEDULES. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS ITEMS NECESSARY FOR A COMPLETE AND PROPER INSTALLATION IN THE TYPE OF EXISTING CEILING USED IN THIS PROJECT.

THERMAL INSULATION
 PROVIDE EXTERNAL THERMAL INSULATION WITH AN INTEGRAL VAPOR BARRIER FACING OF SUFFICIENT THICKNESS TO MEET LOCAL ENERGY CODE REQUIREMENTS. PROVIDE INSULATION ON EXHAUST AND OUTSIDE AIR DUCTS, AND ON CONCEALED PORTIONS OF SUPPLY AND RETURN AIR DUCTS. DO NOT INSULATE EXPOSED DUCTWORK AND PORTIONS OF DUCTWORK THAT ARE INTERNALLY LINED. THERMAL INSULATION TO COMPLY WITH AN NFPA FLAME SPREAD OF 25 OR LESS, AND SMOKE DEVELOPED NO GREATER THAN 50.

ACOUSTICAL DUCT LINER
 UNLESS OTHERWISE INDICATED ON THE PLANS, PROVIDE MINIMUM OF R-5.6 GLASS FIBER ACOUSTICAL DUCT LINER ON SUPPLY AND RETURN DUCTWORK WITHIN 10 FEET OF THE DISCHARGE AND INTAKE OF AIR HANDLING UNITS. INCREASE DUCT SIZE AS INDICATED ON PLANS AS NEEDED IN EACH DIMENSION TO ACCOMMODATE LINER. LINER SHALL BE FASTENED TO DUCT WITH MECHANICAL LINER FASTENERS IN ACCORDANCE WITH SMACNA.

DAMPER CONTROL
 CONTRACTOR TO ENSURE THAT ALL ELECTRICAL CONNECTIONS TO MECHANICAL DAMPERS ARE CONNECTED.

FLEXIBLE TYPE DUCT
 FLEXIBLE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY UL, CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATINGS NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.

USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 10 LINEAR FEET PER RUN WHERE POSSIBLE. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

PIPING

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

SEISMIC RESTRAINT OF PIPING
 THE MECHANICAL SYSTEM SHALL BE CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH SBC 1907 AND LOCAL CODES. PROVIDE RESTRAINTS ON DUCTWORK, PIPING AND EQUIPMENT.

SCOPE OF WORK

THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM. HVAC SYSTEM INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- INLINE EXHAUST FANS
- DUCTWORK SYSTEM WITH GRILLES, DIFFUSERS, FILTERS, AND DAMPERS
- TEMPERATURE CONTROL SYSTEM INCLUDING LOW VOLTAGE WIRING AND CONDUIT
- DUCT, PIPING, AND EQUIPMENT INSULATION, WHERE INDICATED HEREIN

ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND OTHER REGULATION GOVERNING WORK. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION, SUCH AS DUCTWORK, FANS, HOODS, SUPPLY AND RETURN DIFFUSERS, ETC., SHALL BE PROVIDED WITHIN THE SCOPE OF WORK OF THIS SECTION. CONTRACTOR SHALL FIELD COORDINATE THE EXACT LOCATION OF EQUIPMENT WITH THE OWNER.

PERMITS

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK. RETAIN CERTIFICATES OF INSPECTIONS AND SUBMIT WHEN WORK IS COMPLETE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES ENFORCED BY CITY, COUNTY, STATE, AND/OR FEDERAL AUTHORITIES.

SHOP DRAWINGS

SUBMIT SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ENGINEER FOR APPROVAL.

MISCELLANEOUS

COORDINATE THE INSTALLATION OF ALL ROOF FLASHINGS AT ROOF PENETRATION. ROOF PENETRATIONS SHALL COMPLY WITH SMACNA AND NRCA STANDARDS. PROVIDE FLASHING FOR ALL ROOF PENETRATIONS IN ACCORDANCE WITH ROOF MANUFACTURERS' RECOMMENDATIONS. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REQUIRED SIZES, WEIGHTS ELECTRICAL CONNECTIONS, AND CLEARANCES ARE COMPATIBLE WITH THE DESIGN CONCEPT SHOWN ON THE DRAWING. THESE CHANGES SHALL BE ACCOMPLISHED BY THE CONTRACTOR. THE PLANS ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

CONTROLS

CONTROL WIRING
 THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING FOR THE COMPLETE AND PROPER OPERATING TEMPERATURE CONTROL SYSTEM. THE SYSTEM SHALL INCLUDE ALL INTERLOCKS FOR EQUIPMENT.

TESTING & BALANCING

TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER BALANCE AND OPERATION. TEST SHALL BE PER NEBB OR AABC, AND ASHRAE STANDARDS. ELIMINATE NOISE AND VIBRATION AND ASSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURE, AND OPERATION. BALANCE MECHANICAL SYSTEM AND SUBMIT COMPLETED TEST REPORT TO CONSTRUCTION MANAGER. PRIOR TO THE REQUEST FOR FINAL PAYMENT, BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR, NEBB OR AABC. ALL SYSTEMS SHALL BE BALANCED TO WITHIN 5% OF AIR VOLUMES INDICATED. ANY DISCREPANCY SHALL BE REPORTED TO HVAC INSTALLER FOR DUCT CORRECTION, PRIOR TO FINAL REPORT. IN ADDITION, THE BALANCING CONTRACTOR SHALL VERIFY THAT THE BUILDING PRESSURE IS BETWEEN 0.02" AND 0.04" W.G. POSITIVE WITH RESPECT TO THE OUTDOORS. AFTER FINAL DUCT ADJUSTMENTS HAVE BEEN MADE, FINAL BALANCING SHALL BE PERFORMED AND THE RESULTS REPORTED IN A CERTIFIED BALANCE REPORT. FINAL BALANCED POSITIONS SHALL BE MARKED ON THE DAMPER WITH A PERMANENT MARKER. NOTE ALL AIR QUANTITIES OUTSIDE OF TOLERANCE IN REPORT.

AT PROJECT COMPLETION, A COPY OF THE FINAL BALANCE REPORT MUST BE SUBMITTED TO THE BUILDING OFFICIAL FOR REVIEW, COMMENT, AND ACCEPTANCE PRIOR TO ISSUE OF CERTIFICATE OF OCCUPANCY.

MECHANICAL GENERAL NOTES

- CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE PROJECT SCOPE, UTILITY CONNECTIONS, AND ALL BUILDING SERVICES.
- STANDARD DETAILS ILLUSTRATED ON THE DRAWINGS SHALL BE APPLIED IN ALL CASES WHERE THE FEATURE OCCURS IN THE SYSTEM DESIGN.
- ALL DUCTWORK SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS IN INCHES. REFER TO SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.
- MAJOR EQUIPMENT SHOWN ON THE PLANS AND ELEVATIONS ILLUSTRATE THE GENERAL ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONENT USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
- SUPPORTS, ANCHOR BOLTS, AND HANGERS FOR ALL EQUIPMENT SPECIFIED IN DIVISION 23 SHALL CONFORM TO THE SPECIFICATIONS. MISCELLANEOUS STEEL BRACING SUPPORTS AND REINFORCING STEEL NEEDED TO SUPPORT EQUIPMENT SPECIFIED IN DIVISION 23 SHALL BE PART OF THE SCOPE OF WORK OF DIVISION 23.
- DIFFUSERS, REGISTERS, AND GRILLES SHOWN ON THE MECHANICAL DRAWINGS SHALL BE IN ACCORDANCE WITH THE AIR DISTRIBUTION DEVICE SCHEDULE AND SPECIFICATIONS. BRANCH DUCTS TO AIR DEVICES SHALL BE IN ACCORDANCE WITH THE SCHEDULE UNLESS NOTED OTHERWISE.
- DUCTWORK STORED ON-SITE AWAITING INSTALLATION SHALL REMAIN PROPERLY SEALED AND PROTECTED. OPEN ENDS OF DUCTWORK SHALL BE CAPPED AND SEALED AFTER INSTALLATION.
- CEILING DIFFUSER LOCATIONS SHALL BE AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
- CEILING DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED WITH MOUNTING FRAMES AND FEATURES IN ACCORDANCE WITH THE CEILING TYPE.
- PROVIDE MANUAL BALANCING VOLUME DAMPERS AT ALL LOW PRESSURE BRANCH TAKE-OFFS TO DIFFUSERS AND GRILLES FROM SUPPLY, RETURN AND EXHAUST MAINS AND SUB-MAINS, AND AT ALL LOW PRESSURE DUCT SPLITS OR SUB-MAIN TAKE-OFFS. DAMPERS SHALL BE INSTALLED ABOVE AN ACCESSIBLE CEILING OR ACCESS PANEL.
- DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL NOT BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT ROUTING OF ALL SERVICES WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES. REFER TO SPECIFICATIONS FOR COORDINATION DRAWING REQUIREMENTS.
- MAINTAIN ACCESSIBILITY OF ALL EQUIPMENT, DAMPERS, CONTROL PANELS, VALVES, AND OTHER DEVICES. PROVIDE ACCESS PANELS AS REQUIRED. COORDINATE PLACEMENT WITH THE ARCHITECT PRIOR TO INSTALLATION.
- CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT PRIOR TO CUTTING ANY OPENING IN THE STRUCTURE.
- CONTROLS: PROVIDE STANDALONE MANUFACTURER CONTROLS WITH EQUIPMENT. PROVIDE INTERCONNECTIONS WITH EXHAUST FANS AND LOUVERS. PROVIDE ANY NECESSARY TRANSFORMERS AND RELAYS FOR A FULLY FUNCTIONING SYSTEM.
- SEISMIC RESTRAINT IS REQUIRED ON ALL MECHANICAL EQUIPMENT, APPLIANCES AND SYSTEMS INSTALLED. A SIGNED AND SEALED LETTER FROM THE DESIGNING ENGINEER VERIFYING THE INSTALLED SEISMIC RESTRAINTS MEET WITH THEIR DESIGN INTENT AND HAS THEIR APPROVAL MUST BE SUBMITTED PRIOR TO CONCEALMENT OF ANY PORTION OF A MECHANICAL SYSTEM OR THE FINAL INSPECTION.

MECHANICAL SHEET INDEX		
NUMBER	SHEET NAME	
M0.1	HVAC NOTES AND LEGEND	
M0.1	HVAC PLAN - RESTROOMS	

AsBuilts - No Change

12/12/2024

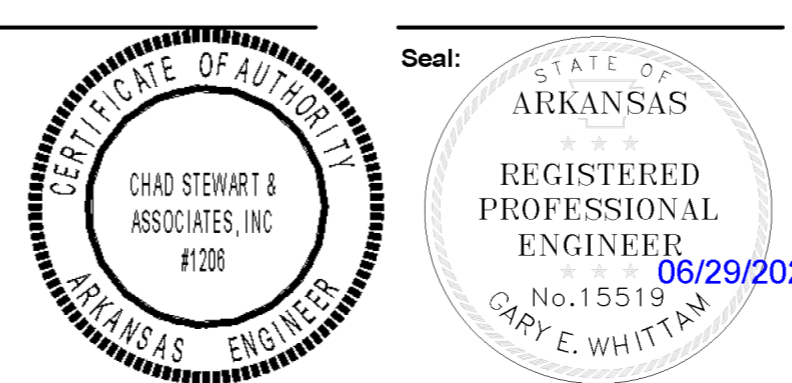
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HVAC NOTES AND LEGEND

Drawing Number:
M0.1

Date:
 29 June 2022

Project Number:
 21933

FAN SCHEDULE															
MARK	DESCRIPTION	CFM	ESP (IN-WG)	FAN RPM	DRIVE TYPE	MAX. SONES	ELECTRICAL DATA				BASIS OF DESIGN		WEIGHT (LBS)	REMARKS	
							MOTOR INPUT	V/PH/Hz	FLA	INTERLOCK	OPENING	MFR.			MODEL
EF-1	INLINE CABINET EXHAUST FAN	300	0.5	1238	DIRECT	3.5	105 W	115/160	1.42	-	8"x8"	GREENHECK	CSP-A300	25	SEE NOTES
EF-2	INLINE CABINET EXHAUST FAN	375	0.5	807	DIRECT	3.0	388 W	115/160	3.30	-	20"x8"	GREENHECK	CSP-A700	36	SEE NOTES
EF-3	CEILING EXHAUST FAN	75	0.3	755	DIRECT	0.6	80 W	115/160	1.15	-	8"x8"	GREENHECK	SP-B110	15	SEE NOTES

- NOTES:
 1. PROVIDE FAN WITH ELECTRICAL DISCONNECT SWITCH.
 2. EXHAUST FAN TO RUN CONTINUOUSLY.
 3. PROVIDE CEILING EXHAUST FANS WITH BACKDRAFT DAMPER, HANGING VIBRATION & ISOLATION KIT, ROUND DUCT CONNECTION, MFR. PROVIDED ROOF JACK, GALV. STEEL SCROLL & HOUSING WITH ALUMINUM WHEEL SPEED CONTROLLER, GRILLE KIT, MOUNTING BRACKETS, AND TRANSFORMER AS REQUIRED FOR INTERLOCKING.

GRILLE, REGISTER, & DIFFUSER SCHEDULE									
MARK	DESCRIPTION	APPLICATION	MATERIAL	FINISH	DAMPER	N.C. MAX	MFR.	MODEL	REMARKS
EG-1	SIDEWALL EXHAUST GRILLE, REVERSIBLE CORE, HORIZONTAL BLADES ON 1/4" CENTERS, MOUNTING FRAME AND OPPOSED BLADE DAMPER	EXHAUST	ALUMINUM	COORD W ARCH	YES	30	NALOR	5156H	SEE NOTES

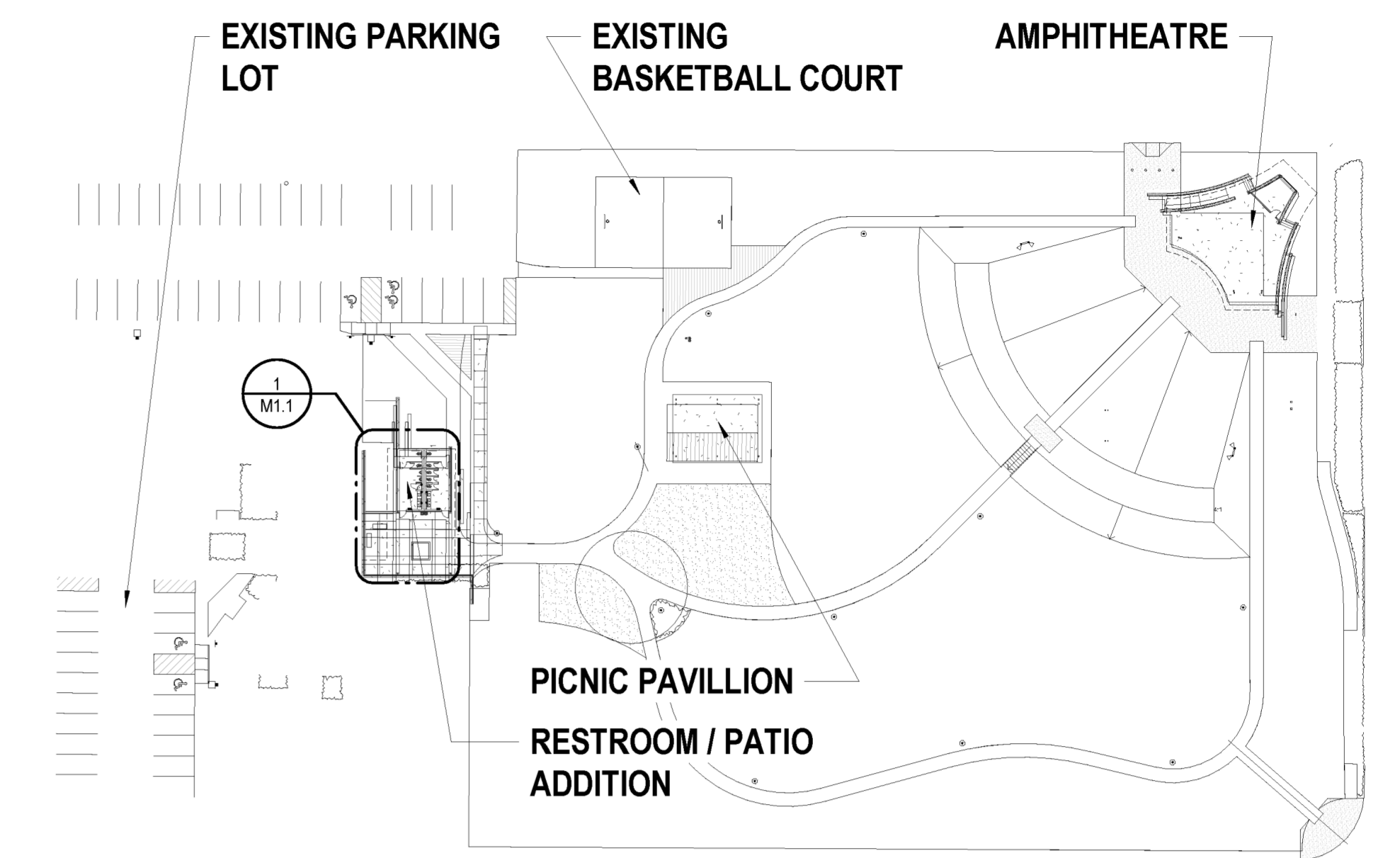
- NOTES:
 1. COORDINATE AIR DISTRIBUTION DEVICE LOCATION WITH LIGHTS AND REFLECTED CEILING PLANS.
 2. CEILING DEVICES SHALL BE COMPATIBLE WITH CEILINGS SPECIFIED BY ARCHITECT.
 3. UNLESS NOTED OTHERWISE, DIFFUSER NECK SIZE INDICATES DUCT RUNOUT SIZE.

LOUVER SCHEDULE												
MARK	DESCRIPTION	MFR.	MODEL	QTY	WIDTH (IN)	HEIGHT (IN)	FREE AREA (SF)	CFM	PRESSURE DROP (IN-WC)	FREE AREA VELOCITY (FPM)	SPMP (FPM)	REMARKS
L-1	WIND-DRIVEN RAIN LOUVER EXHAUST	GREENHECK	EHH4601	2	24	12	0.53	300	0.07	551	1,250	SEE NOTES
L-2	WIND-DRIVEN RAIN LOUVER INTAKE	GREENHECK	EHH4601	2	24	12	0.53	300	0.06	551	1,250	SEE NOTES

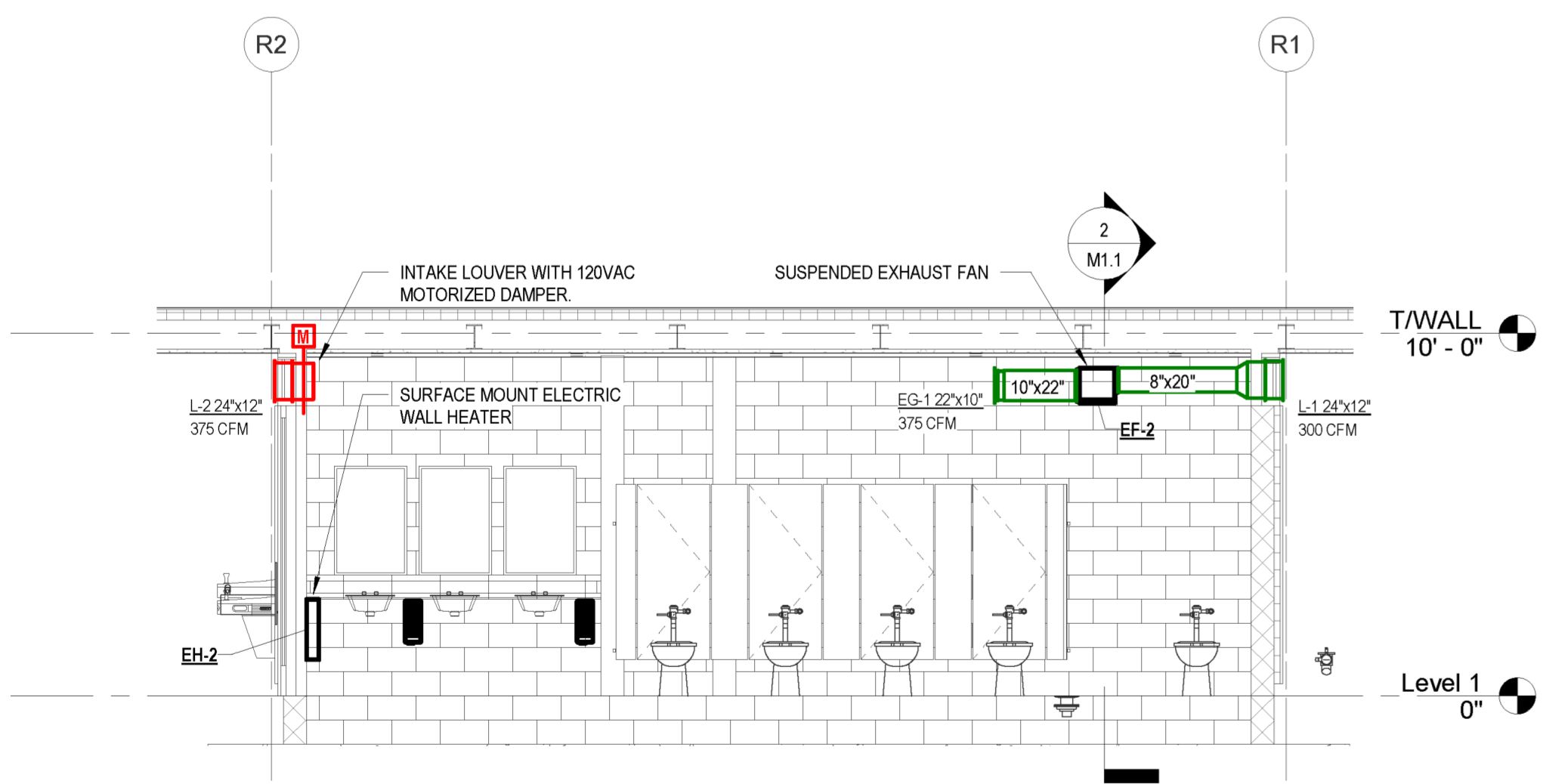
- NOTES:
 1. PROVIDE LOUVER WITH INTEGRAL GALVANIZED BIRD SCREEN.
 2. CUSTOM PAINT COLOR TO BE SELECTED BY ARCHITECT TO MATCH OTHER BUILDING FINISHES.
 3. PROVIDE LOUVER WITH EXTENDED SILL.
 4. GREENHECK SHOWN IN THE SCHEDULE IS SHOWN TO ESTABLISH A STANDARD OF QUALITY, NOT TO LIMIT COMPETITION. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS SHALL BE ACCEPTABLE.

ELECTRIC UNIT HEATER SCHEDULE							
MARK	AIRFLOW (CFM)	TOTAL HEATING CAPACITY (KW)	ELECTRICAL		MFR.	MODEL	REMARKS
			V/PH/Hz	MCA			
EH-1	175	4.0	208/160	19.2	MARKEL	F3326D-RP	SEE NOTES
EH-2	175	4.0	208/160	19.2	MARKEL	F3326D-RP	SEE NOTES

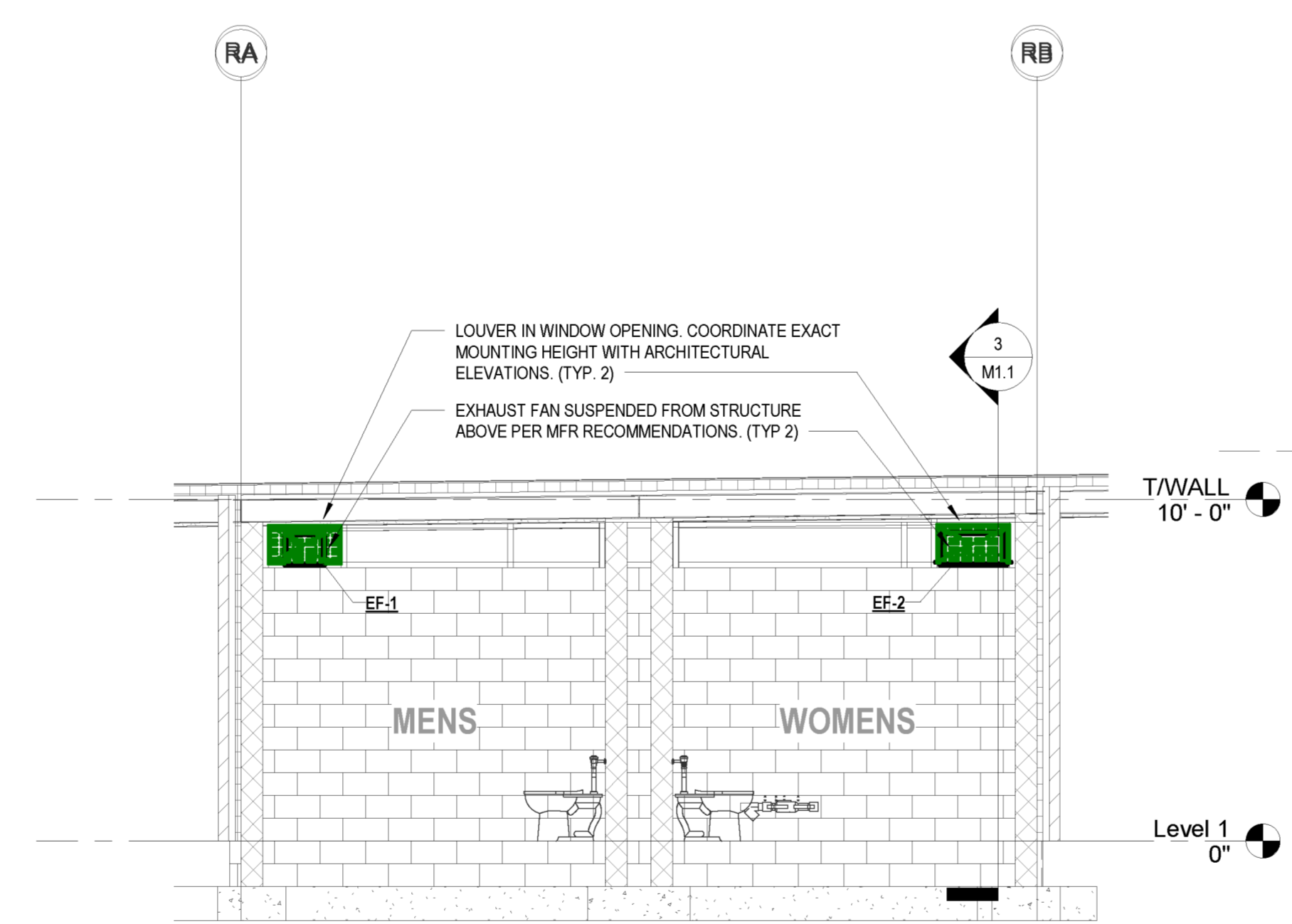
- NOTES:
 1. ALL CAPACITIES ARE NET VALUES.
 2. PROVIDE SURFACE MOUNT KIT AND 16 GA. STEEL HEAVY DUTY GRILLE.
 3. PROVIDE WITH INTEGRAL THERMOSTAT.
 4. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT. SEE ELECTRICAL DRAWINGS.



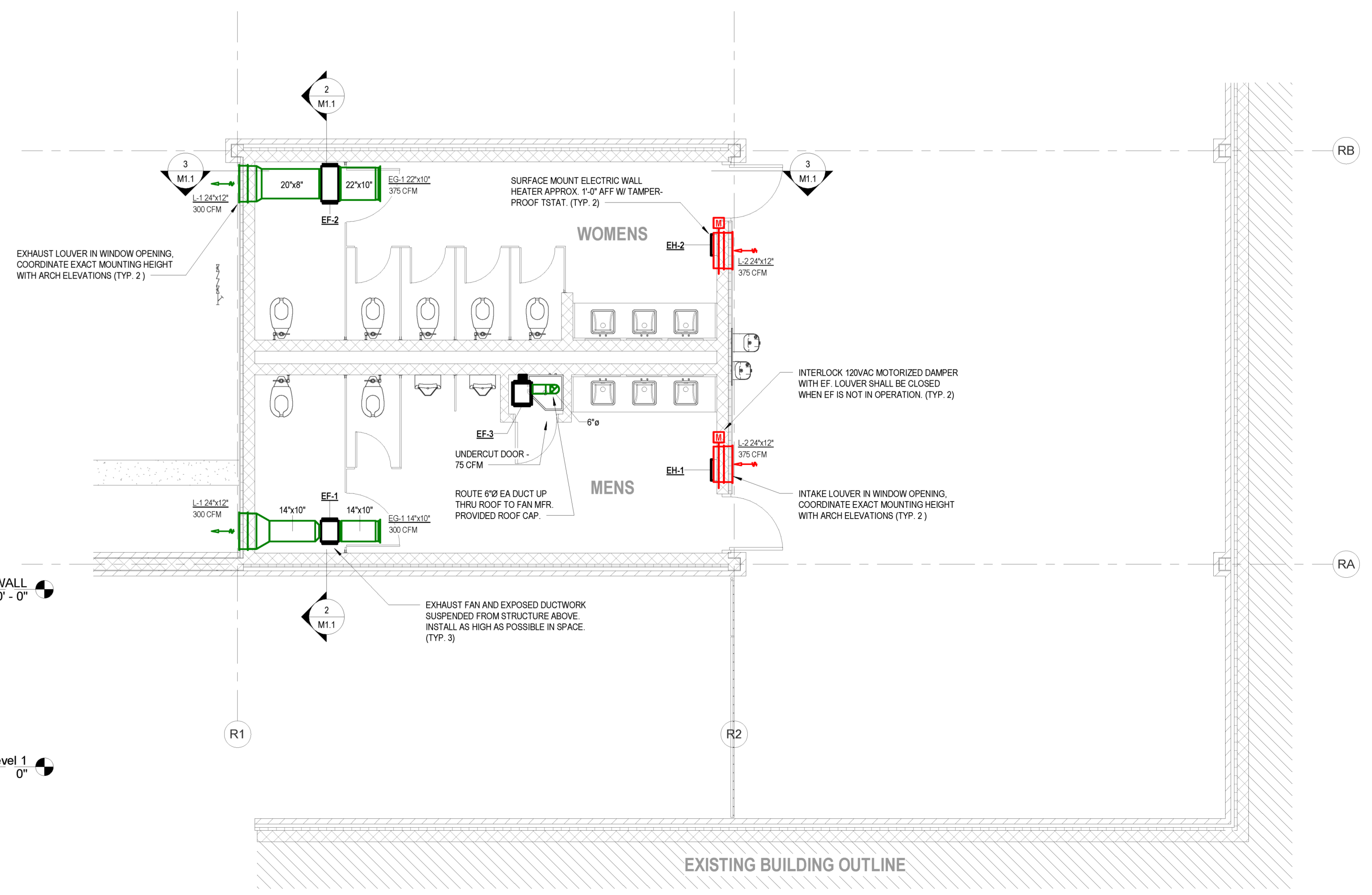
4 KEY PLAN - HVAC
N.T.S.



3 HVAC SECTION - RESTROOMS
1/4" = 1'-0"



2 HVAC SECTION - RESTROOMS
1/4" = 1'-0"



1 RESTROOM PLAN - HVAC
1/4" = 1'-0"

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Revisions:
 Consultants:
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Hightower Park Improvements
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 West Memphis, AR 72301
 for
City of West Memphis

Seal:
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HVAC PLAN - RESTROOMS
 Drawing Number:
M1.1
 Date: 29 June 2022
 Project Number:
 21933

PLUMBING FIXTURE SCHEDULE						
MARK	FIXTURE DATA	WASTE	VENT	C.W.	H.W.	REMARKS
DF-1	MOST DEPENDABLE FOUNTAINS 10145 SM OR SMSS W/ OPTIONAL PET FOUNTAIN. PROVIDE 1-1/2" SCH. 40 PVC DRAIN. DRAIN LINE STOPS ABOVE GRADE.	1-1/2"	-	3/4"	-	-
FCO	ADJUSTABLE CAST IRON FLOOR AND GRADE CLEANOUP EQUAL TO WADE #6000. ADJUSTABLE HOUSING. FLANGED FERRULE, INTEGRAL CLAMPING COLLAR, ABS PLUG & ROUND TOP WITH SCORRIATED SECURED COVER.	-	-	-	-	-
FD-1	SIXIX CHIEF #832 ADJUSTABLE ON GRADE FLOOR DRAIN, 7"x7" SQUARE NICKEL BRONZE STRAINER, 3" OUTLET.	3"	2"	-	-	SEE NOTE 1.
GCO	ADJUSTABLE CAST IRON FLOOR AND GRADE CLEANOUP EQUAL TO WADE #6000. ADJUSTABLE HOUSING. FLANGED FERRULE, INTEGRAL CLAMPING COLLAR, ABS PLUG & ROUND TOP WITH SCORRIATED SECURED COVER.	-	-	-	-	-
L-1	LAVATORY, ADA COMPLIANT, UNDERMOUNT, VITREOUS CHINA, KOHLER #K-21056. PROVIDE WITH P-TRAP AND AMERICAN STANDARD #1340.227, 4" CENTERSET METERING FAUCET WITH VANDAL RESISTANT AERATOR SET TO 0.5 GPM AND GRID DRAIN. PROVIDE TRUEBRO LAV-GUARD FOR P-TRAP AND SUPPLY STOPS.	1-1/4"	2"	1/2"	1/2"	-
MS-1	HIGH-DENSITY COMPOSITE FLOOR MOUNTED MOP SINK - PROFLO #PFM2424. PROVIDE WITH STAINLESS STEEL CAP ON THRESHOLD, 24"x24"x12", HOSE AND WALL BRACKET, 3 STATION MOP HANGER AND STAINLESS STEEL FLAT STRAINER. FURNISH S.S. WALL PANELS ON BACK AND ADJACENT WALL. WALL HUNG SERVICE SINK FAUCET EQUAL TO ZURN #ZRN1121-XL WITH 1.0 GPM FLOW CONTROL.	3"	2"	1/2"	1/2"	-
NFYH-1	EXPOSED, NON-FREEZE YARD HYDRANT, EQUAL TO ZURN #Z1390L.	-	-	3/4"	-	-
U-1	URNAL, STAINLESS STEEL, WALL HUNG, 3/4" TOP SPUD. ACORN DURA-WARE #2198 SERIES 0.5 GPF. ADA COMPLIANT, PROVIDE WITH BATTERY POWERED, SENSOR ACTIVATED, KTRF8203-ENG FLUSH VALVE. PROVIDE APPROPRIATE FLOOR MOUNTED CARRIER.	2"	2"	3/4"	-	-
W-1	ACORN DURA-WARE #2120 SERIES, STAINLESS STEEL FLOOR MOUNTED FLUSH VALVE WATER CLOSET. ADA COMPLIANT, PROVIDE WITH "ZURN" NO. ZER600PL-WZ (1.6 GPF) EXPOSED BATTERY POWERED SENSOR EZ FLUSH VALVE.	4"	2"	1"	-	-

- NOTES:
- PROVIDE TRAP SEAL EQUAL TO ZURN Z1072 FOR TRAPS SUBJECT TO EVAPORATION AS REQUIRED BY SECTION 1002.4 OF THE IPC 2015.
 - PROVIDE FULL SIZE CLEANOUTS.
 - ITEMS SPECIFIED IN THIS SCHEDULE ARE LISTED AS STANDARD. COMPARABLE ITEMS MAY BE SUBMITTED FOR APPROVAL MEETING THIS STANDARD.

INSTANTANEOUS WATER HEATER EQUIPMENT SCHEDULE										
MARK	MANUFACTURER	MODEL	DESCRIPTION	TEMPERATURE RISE @ 1.0 GPM (°F)	ELEMENT WATTAGE	VPHHZ	AMPS	WIDTH	HEIGHT	REMARKS
WH-1	EEMAX	AM005240T	INSTANTANEOUS ELECTRIC WATER HEATER	25°	3.6 KW	208/160	17	5.23"	13.72"	SEE NOTES 1 & 3.
WH-2	EEMAX	AM010240T	INSTANTANEOUS ELECTRIC WATER HEATER	51°	7.5 KW	208/160	36	5.23"	13.72"	SEE NOTES 1 & 2.
WH-3	EEMAX	AM010240T	INSTANTANEOUS ELECTRIC WATER HEATER	51°	7.5 KW	208/160	36	5.23"	13.72"	SEE NOTES 1 & 2.
WH-4	EEMAX	AM005240T	INSTANTANEOUS ELECTRIC WATER HEATER	25°	3.6 KW	208/160	17	5.23"	13.72"	SEE NOTES 1 & 3.
WH-5	EEMAX	PR013240	INSTANTANEOUS ELECTRIC WATER HEATER	69°	10.1 KW	208/160	49	8"	11.5"	SEE NOTES 1 & 2.

- NOTES:
- UNITS 1-4 INCLUDE INTEGRATED ASSE 1070 MIXING VALVE, OUTPUT TEMPERATURE FACTORY SET TO 105°F.
 - PROVIDE UNIT WITH 1.0 GPM IN LINE FLOW REGULATOR.
 - PROVIDE UNIT WITH 0.5 GPM IN LINE FLOW REGULATOR.

BACKFLOW PREVENTER SCHEDULE					
MARK	MANUFACTURER	MODEL	SIZE	MOUNTING	REMARKS
BFP-1	WATTS	LF-007	2"	HORIZONTAL	-
BFP-2	WATTS	LF-007	3/4"	HORIZONTAL	-
BFP-3	WATTS	LF-007	3/4"	HORIZONTAL	-

SCOPE OF WORK

SCOPE OF WORK
THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE ALL LOCAL CODES AND OTHER REGULATION GOVERNING WORK. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT. EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL WRAP ALL EXPOSED PVC PIPING IN UL RATED WRAP WITH A 2650 FLAME SPREAD / SMOKE DEVELOPED INDEX. CONTRACTOR SHALL REPAIR ALL CORE DRILLED HOLES IN SPACE THAT ARE NOT UTILIZED IN THE NEW WORK (FIELD VERIFY EXISTING HOLES).

PERMITS
THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK. RETAIN CERTIFICATES OF INSPECTIONS AND SUBMIT WHEN WORK IS COMPLETE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES ENFORCED BY CITY, COUNTY, STATE, AND/OR FEDERAL AUTHORITIES.

SHOP DRAWINGS
SUBMIT SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT 5 SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

MISCELLANEOUS
ALL EXTERIOR OPENINGS TO BE PROPERLY CALKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE. TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE. COORDINATE THE INSTALLATION OF ALL ROOF FLASHINGS AT ROOF PENETRATION. PROVIDE FLASHING FOR ALL ROOF PENETRATIONS IN ACCORDANCE WITH ROOF MANUFACTURER'S RECOMMENDATIONS. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE. THE PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REQUIRED SIZES, WEIGHTS, ELECTRICAL CONNECTIONS, AND CLEARANCES ARE COMPATIBLE WITH THE DESIGN CONCEPT SHOWN ON THE DRAWING. THESE CHANGES SHALL BE ACCOMPLISHED BY THE CONTRACTOR. THE PLANS ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

SOIL, WASTE AND VENT PIPING
SOIL, WASTE AND VENT PIPING 10" AND SMALLER SHALL PVC, ASTM 2865, SCHEDULE 40 PVC WITH PVC FITTINGS, AND SOLVENT WELD JOINTS WITH ASTM 2654 SOLVENT CEMENT.

DOMESTIC WATER PIPING
DOMESTIC WATER PIPING 2" AND SMALLER SHALL BE COPPER TUBE WITH WROUGHT COPPER SWEAT FITTINGS JOINED WITH NON-LEAD, NON-ANTIMONY SOLDER OR APPROVED EQUAL. PROVIDE TYPE "L" COPPER TUBE ABOVE GRADE AND TYPE "M" BELOW GRADE.

CROSS-LINKED POLYETHYLENE (PEX) PIPE CONFORMING TO STANDARDS ASTM F876 OR ASTM F877 SHALL BE ACCEPTABLE.

HANGERS & SUPPORTS
THE PLUMBING CONTRACTOR SHALL FURNISH ALL PIPE SUPPORTS REQUIRED FOR EQUIPMENT AND MATERIAL. ALL HORIZONTAL RUNS OF PIPING SHALL BE SUPPORTED BY PIPE HANGERS INSTALLED AS REQUIRED BY LOCAL CODES. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. HANGERS AND PIPE ATTACHMENTS TO BE FACTORY FABRICATED WITH GALVANIZED COATINGS, NONMETALLIC COATED FOR HANGERS IN DIRECT CONTACT WITH COPPER TUBING.

CONNECTIONS
INSTALL UNIONS ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLERS TO CONNECT PIPING MATERIALS OF DIFFERENT METALS. SCREW JOINT STEEL PIPING UP TO AND INCLUDING 1-1/2", WELD PIPING USE NON-LEAD, NON-ANTIMONY SOLDER FOR SOLDERING DOMESTIC WATER COPPER PIPE.

CLEANOUTS
PROVIDE 1/8" SMITH OR EQUIVALENT FLOOR AND WALL CLEANOUTS AS INDICATED ON THE DRAWINGS OR WHERE REQUIRED BY CODE IN ALL SOIL, WASTE, AND DRAIN LINES. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAID SIZE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.

INSTALLATION
INSTALL EXPOSED PIPING FREE OF SAGS AND BENDS. PROVIDE BRACKET STANDOFFS FROM MOUNTING SURFACES SUFFICIENT TO ALLOW 1" CLEARANCE SPACE AROUND ALL PIPING, INCLUDING ANY ADDED PIPING INSULATION. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM BOARD PARTITIONS, CONCRETE FLOOR AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.

GENERAL
PLUMBING CONTRACTOR TO PROVIDE VALVES WHERE INDICATED ON PLANS AND AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT. PROVIDE BRAIDED STAINLESS STEEL HOSE (UNLESS OTHERWISE NOTED) BETWEEN VALVE AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.

VALVES
PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER. UNLESS NOTED OTHERWISE VALVES SHALL BE AS FOLLOWS:

VALVE TYPE	MANUFACTURER	MODEL NO.
CHECK VALVE (UP TO 2")	NIBCO	#S-22
FULL PORT BALL VALVE (UP TO 3")	NIBCO	#S-FP-600
GATE VALVE (UP TO 3")	NIBCO	#S-113
TEMP. & PRESSURE RELIEF VALVE	WILKINS	#TF1100A
WATER HAMMER ARRESTOR	WILKINS	#1250
BACKFLOW PREVENTER (DEVICE)	WILKINS	#10
VACUUM RELIEF VALVE	WILKINS	#5VCH
PRESSURE REDUCING VALVE	WILKINS	#50YSBR

SUPPLY
IF WATER PRESSURE SUPPLIED TO STORE IS GREATER THAN AND 66 PSI, THEN PROVIDE A PRESSURE REGULATOR TO MAIN SUPPLY TO MAINTAIN WATER PRESSURE. PROVIDE BACKFLOW PREVENTION ON WATER SERVICE IF REQUIRED BY LOCAL CODES.

TESTING
ALL PIPES SHALL BE TESTED BY AN APPROVED METHOD BEFORE THEY ARE BACKFILLED OR CONCEALED. AFTER TESTING IS COMPLETE, THE PLUMBING CONTRACTOR SHALL DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO ENGINEER FOR REVIEW AND APPROVAL.

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

GENERAL NOTES

- THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS (DO NOT SCALE FOR LOCATIONS). THE CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONAL HEATING, VENTILATING, AND AIR CONDITIONING SYSTEM (HVAC) AS INDICATED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES AND CONTROLS AS INDICATED.
- REMOVE CONNECTING UTILITIES (WATER, DRAINAGE, POWER, GAS, ETC.) AS INDICATED OR NECESSARY FOR FUTURE RECONNECTION IF REQUIRED.
- CONTRACTOR SHALL EMPLOY WORKMEN WHO ARE TRAINED AND EXPERIENCED IN NECESSARY SKILLS TO PERFORM DEMOLITION WORK.
- CONTRACTOR SHALL USE APPROPRIATE TOOLS AND SHALL NOT IMPART EXCESSIVE VIBRATIONS TO THE EXISTING STRUCTURE OR OTHER BUILDING COMPONENTS.
- COORDINATE PIPING WITH EXISTING STRUCTURAL, ELECTRICAL, HVAC, COMMUNICATION, AND FIRE PROTECTION. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL EXPENSE TO THE OWNER. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS OF TRADES.
- ALL NEW & DEMOLISHED PIPING PENETRATIONS SHALL BE FULLY SEALED WATERTIGHT.
- EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF ASME, ASTM, UL, NEMA, ANSI, ASHRAE, NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
- PROVIDE AND INSTALL ALL "P" TRAPS, MANIFOLDS, DRAIN LINES, SHUT-OFFS, GREASE TRAPS & BACKFLOW PREVENTORS AS REQUIRED BY EQUIPMENT AND/OR LOCAL CODES.
- IF WATER PRESSURE AT EQUIPMENT AREA EXCEEDS 40 P.S.I. FLOW PRESSURE, INSTALL A PRESSURE REDUCING VALVE ON BOTH THE MAIN HOT AND COLD WATER SUPPLY LINES.
- LOCATE AND FURNISH ALL AREA FLOOR DRAINS UNLESS OTHERWISE SPECIFIED.
- SEE EQUIPMENT SCHEDULE FOR LISTING OF ALL EQUIPMENT WITH APPROPRIATE SPECIFICATIONS. SCHEDULE WILL INCLUDE ALL RESPONSIBILITIES FOR PROVIDING AND INSTALLING EQUIPMENT.
- THESE PLANS ARE FOR INFORMATION ONLY. INFORMATION ON THIS SHEET IS TO BE REVIEWED BY THE OWNER AND INCORPORATED INTO THE PLANS IN ACCORDANCE WITH LOCAL CODES. THE ENTIRE INSTALLATION SHALL CONFORM WITH THE LATEST EDITION OF THE LOCAL AND STATE PLUMBING CODE IN ADDITION TO LAND-GRID REQUIREMENTS AND SPECIFICATIONS.
- THE OWNER SHOULD SUBMIT THESE PLANS TO LOCAL BUILDING, HEALTH AND FIRE DEPARTMENT OFFICIALS FOR APPROVAL.
- CONTRACTORS TO MAKE USE OF ANY CONNECTIONS ALREADY INSTALLED IN EXISTING BUILDING WHENEVER POSSIBLE.
- ALL INDIRECT WASTES EXCEEDING 24" IN LENGTH SHALL BE TRAPPED.
- PROVIDE CLEANOUTS REQUIRED, & AT THE BASE OF ALL STACKS.
- PROVIDE FIXTURE STOPS AT ALL PLUMBING FIXTURES.
- PROVIDE ALL FITTING & ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.

PIPING INSULATION

WATER PIPING
PROVIDE THERMAL INSULATION ON ALL HOT TEMPERED & COLD WATER, AND HORIZONTAL WASTE PIPING IN CEILING SPACES, AND ON ALL COLD WATER PIPING IN CASEWORK AND BAR AREAS. USE SELF-SEALING CLOSED CELL FOAM OR JACKETED FIBERGLASS INSULATION WITH MANUFACTURE APPROVED ADHESIVES, SEALERS, AND COATINGS. ALL MATERIALS USED SHALL NOT EXCEED 26 FOR FLAME SPREAD, 50 FOR FUEL CONTRIBUTED, OR 80 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:

PIPE SIZE	INSULATION THICKNESS
LESS THAN OR EQUAL TO 1-1/2"	1"
2" DIA. OR GREATER	1-1/2"

(INSULATION VALUE = K VALUE NOT EXCEEDING 2.027 BTU PER INCH*HT)

SAFETY COVERS
INSTALL SPECIFIED NO-SCALD SAFETY COVERS WITH INSULATED FOAM LINER AND TAMPER PROOF STRAP AT ALL EXPOSED PIPING.

HVAC PIPING
INSULATE REFRIGERANT SUCTION PIPING AND COOLING COIL CONDENSATE PIPING 3/4" THICK, SELF SEALING, CLOSED CELL FOAM. INSULATE CONDENSATE PIPING WITH 1-1/2" THICK, HEAVY DUTY, SELF SEALING, JACKETED FIBERGLASS.

PLUMBING LEGEND

NOT ALL SYMBOLS MAY BE USED

SYMBOL	ABB.	DESCRIPTION
	CW	DOMESTIC COLD WATER
	HW	DOMESTIC HOT WATER
	HWR	DOMESTIC HOT WATER RECIRC.
	S	SANITARY
	CD	CONDENSATE DRAIN
	SD	STORM DRAIN
	V	SANITARY VENT
		PIPE TURN DOWN
		PIPE TURN UP
		BALL VALVE
		GATE VALVE
		CHECK VALVE
		BALANCING VALVE
		BUTTERFLY VALVE
		STRAINER
		REDUCER
		ANCHOR
		CAP/PLUG
	CO	CLEANOUT (ABOVE CEILING)
	FCO	FLOOR CLEAN OUT
	WCO	WALL CLEAN OUT
	FD	FLOOR DRAIN
	VTR	VENT THRU ROOF
	IE	INVERT ELEVATION
	AFF	ABOVE FINISHED FLOOR
	WH	WATER HEATER
	WC	WATER CLOSET
	BFP	BACKFLOW PREVENTER
	(E)	EXISTING
	(D)	DEMOLISH

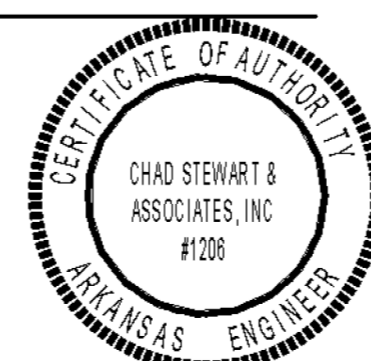
PLUMBING SHEET INDEX

Sheet Number	Sheet Name
PD-1	GENERAL NOTES, SCHEDULES AND LEGEND
P1-1	RESTROOM/PATIO ADDITION FLOOR PLAN & RISER
P1-2	AMPHITHEATRE & PICNIC PAVILION FLOOR PLAN
P2-1	PLUMBING DETAILS

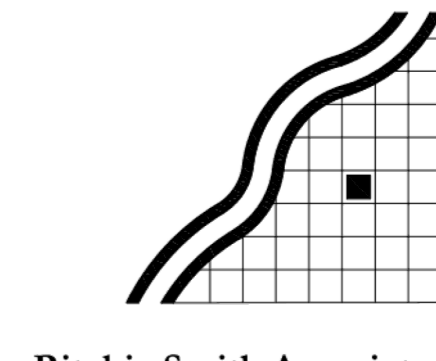
Revisions:

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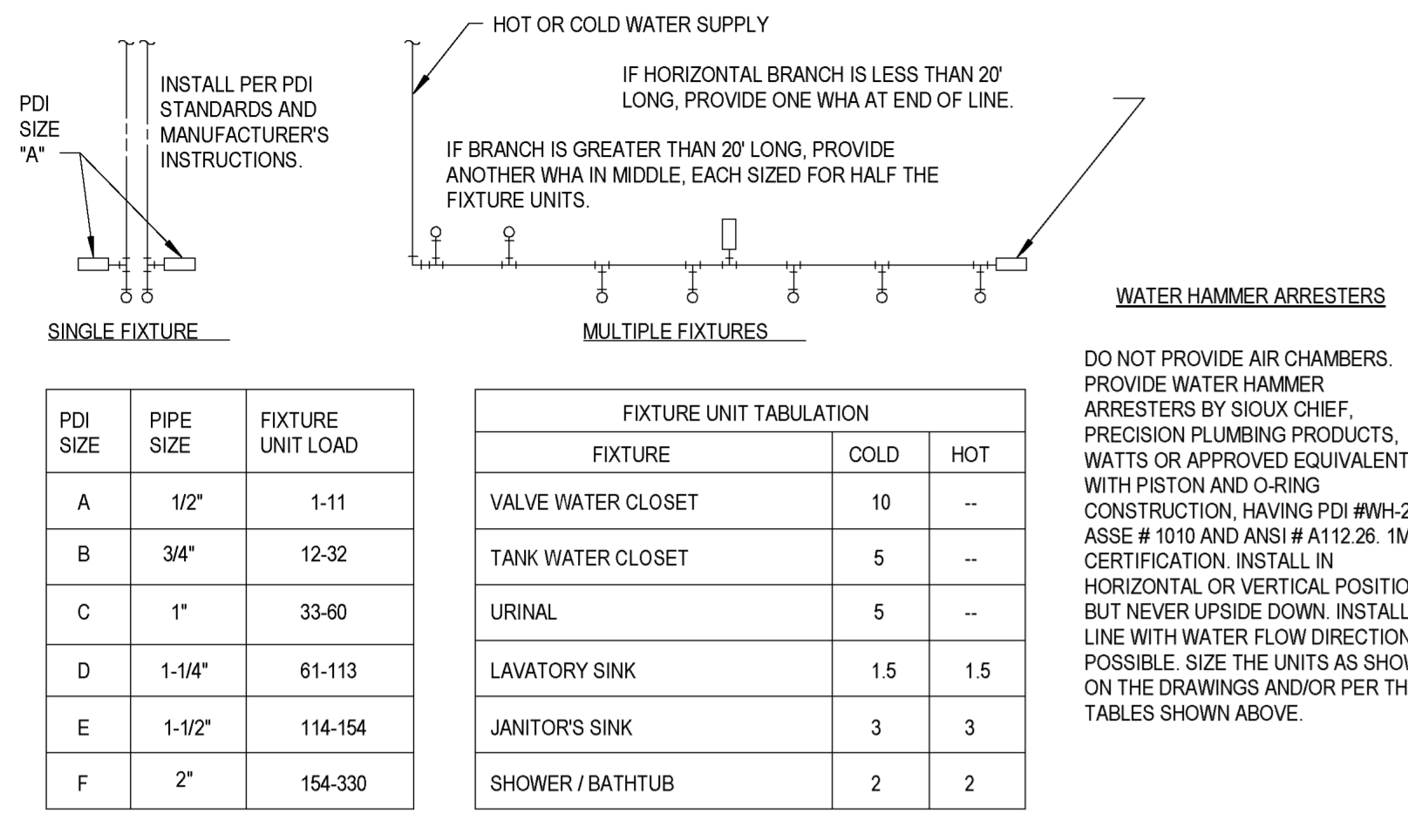
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GENERAL NOTES,
SCHEDULES AND LEGEND

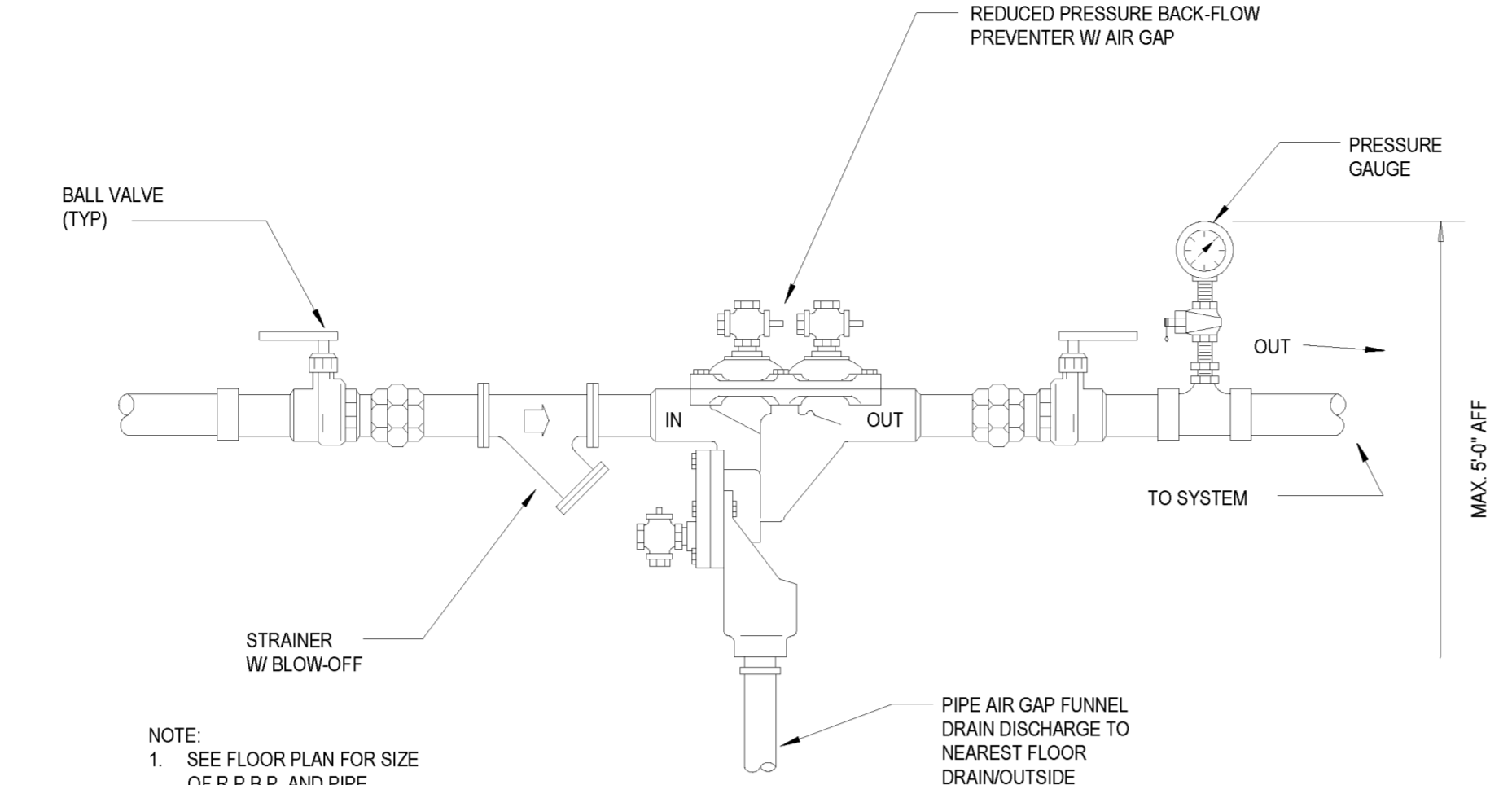
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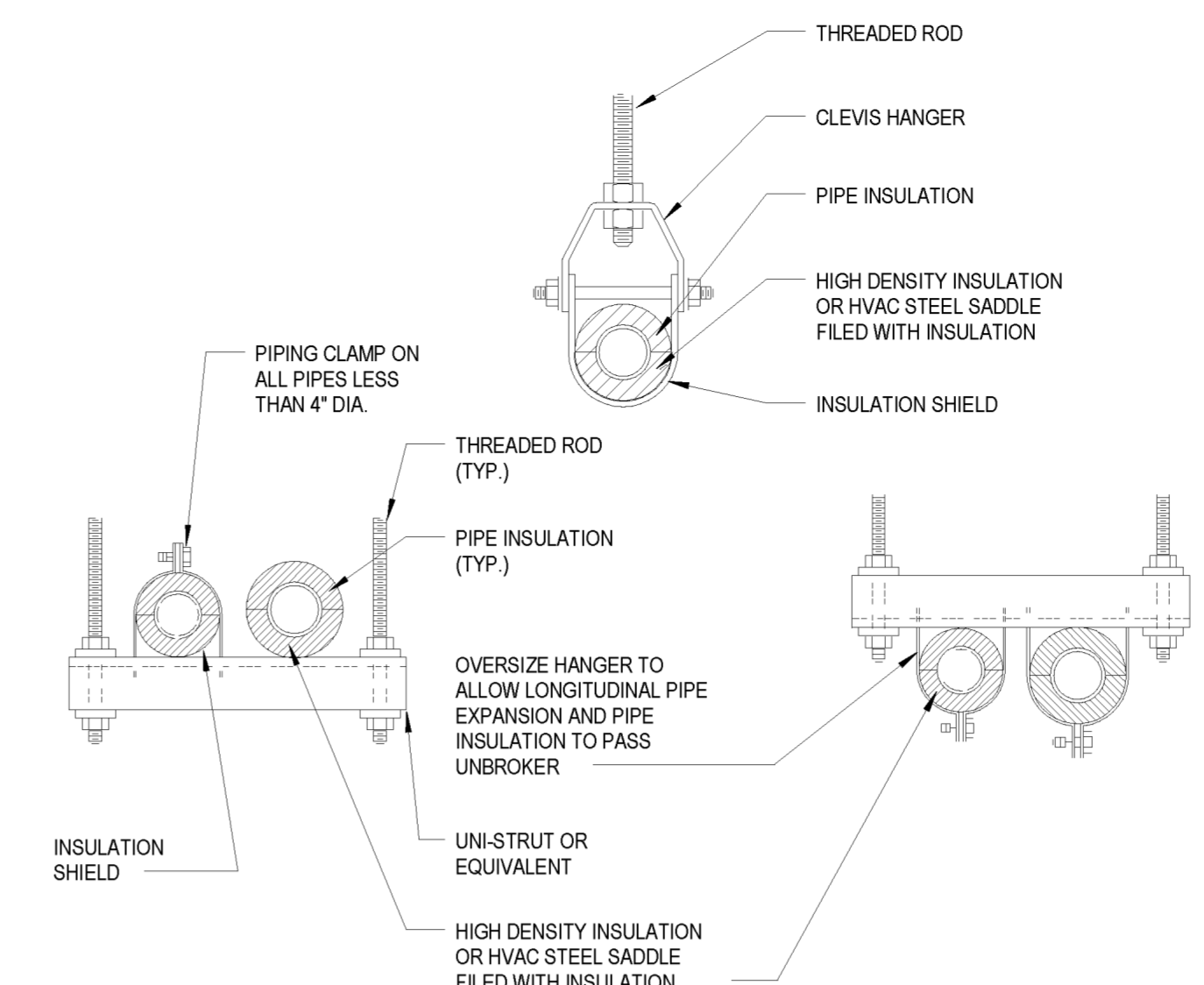
Date: 29 June 2022 Project Number: 21933



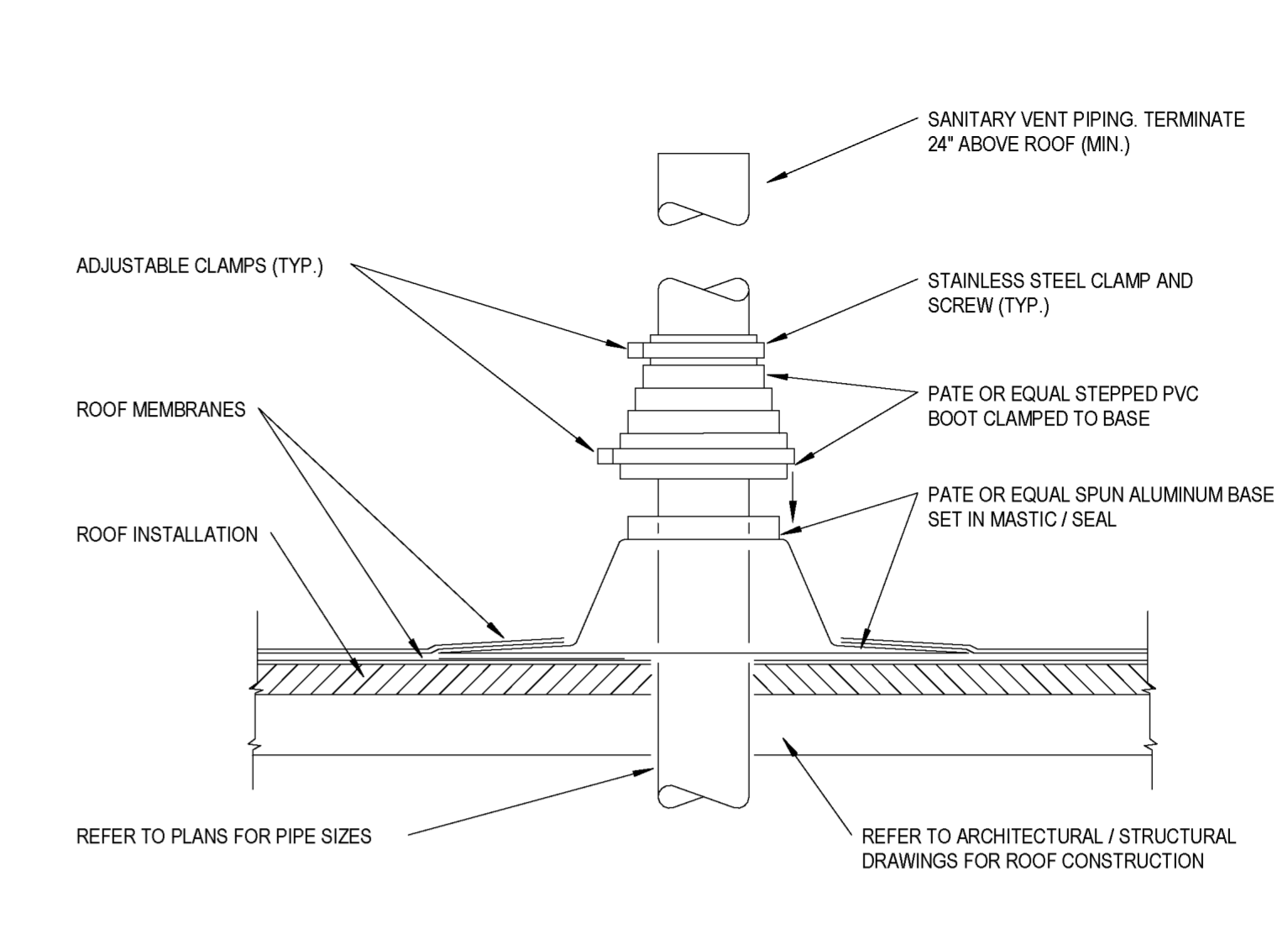
1 WATER HAMMER ARRESTERS DETAIL
N.T.S.



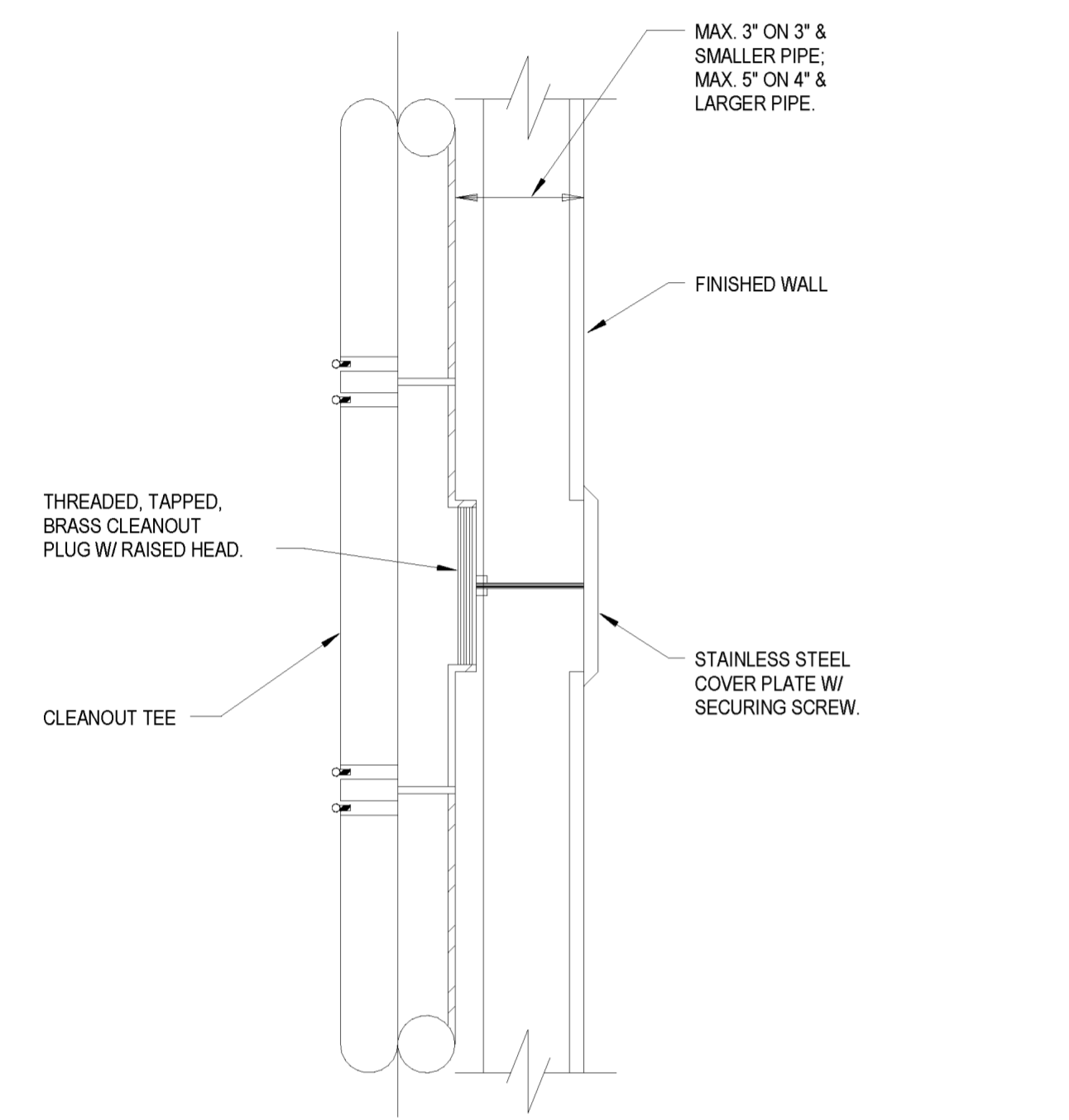
2 REDUCED PRESSURE BACKFLOW PREVENTER
N.T.S.



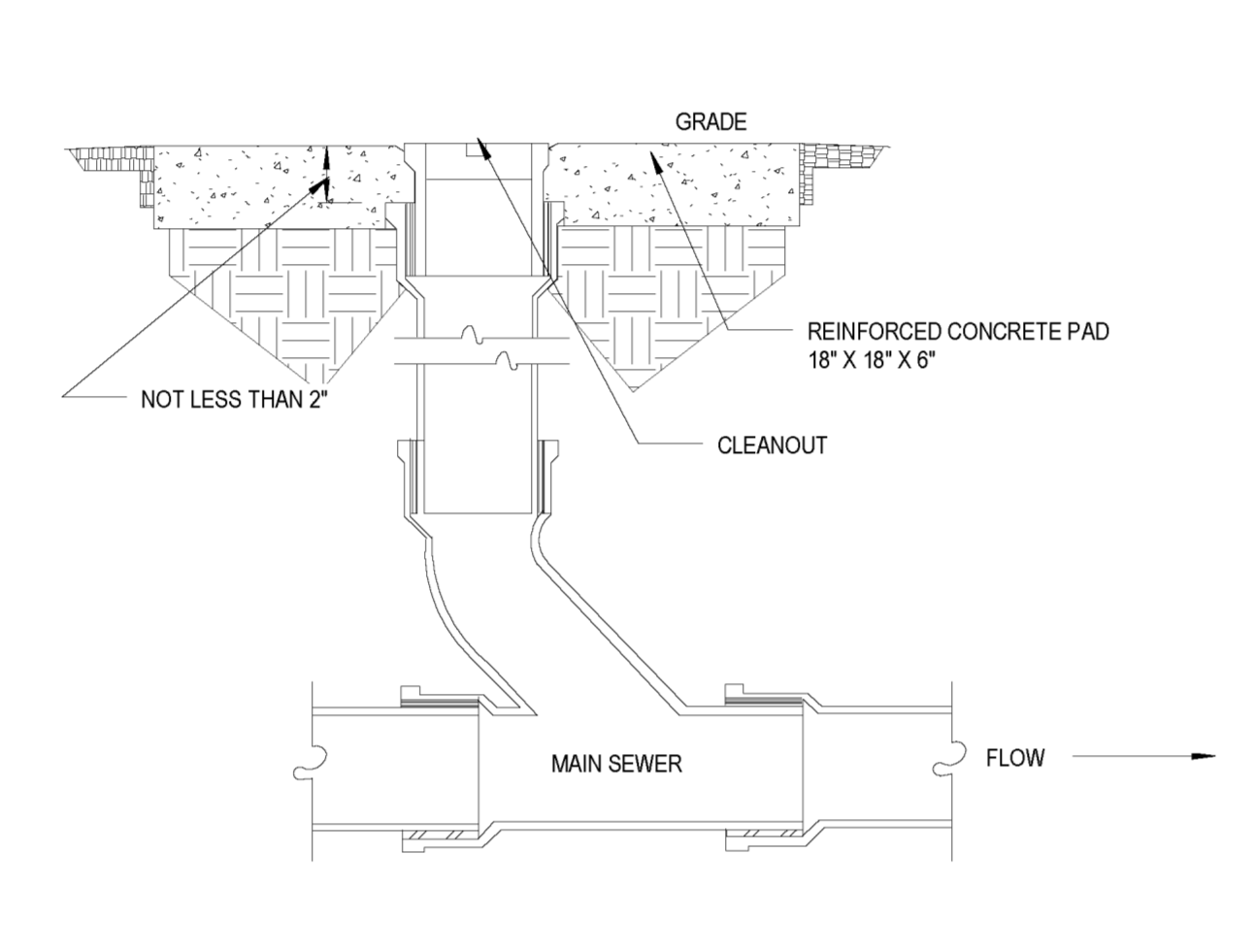
3 PIPE SUPPORT DETAIL
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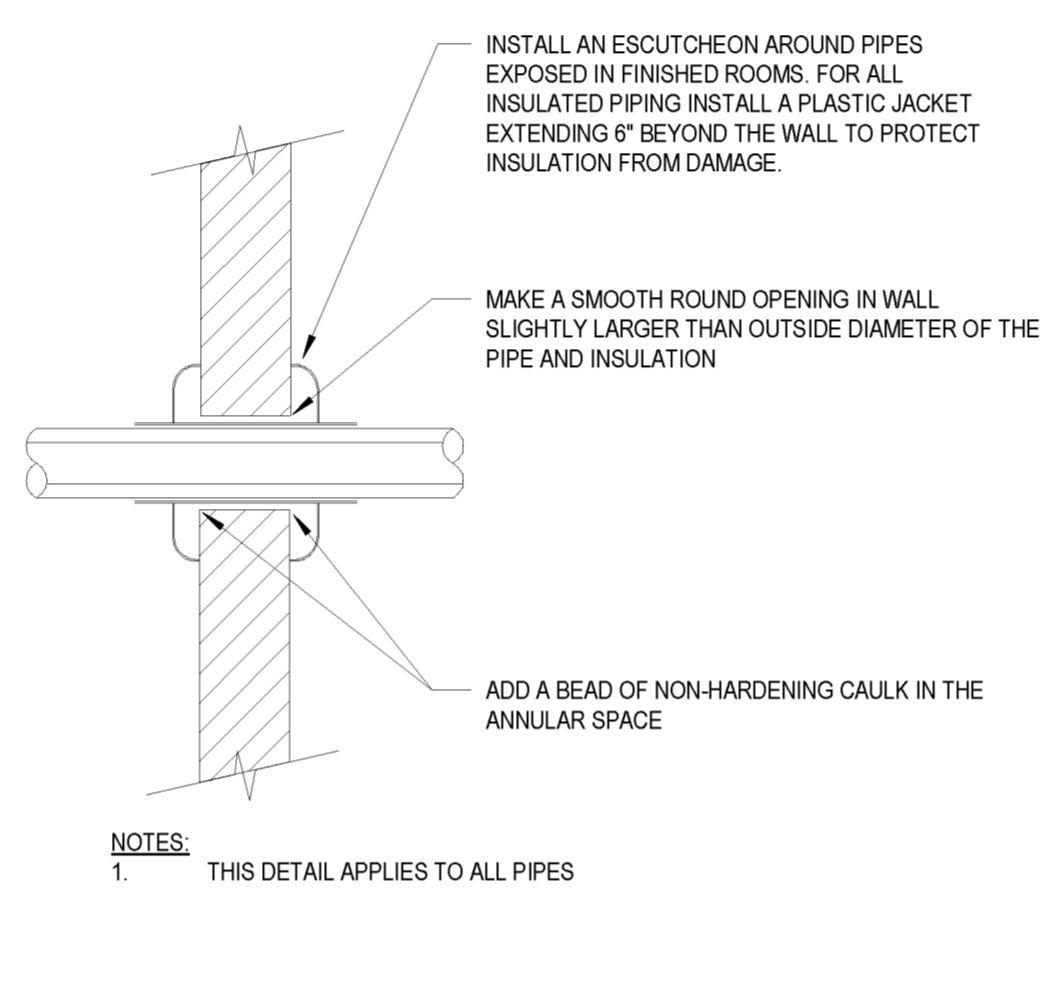
4 VENT THROUGH ROOF DETAIL
N.T.S.



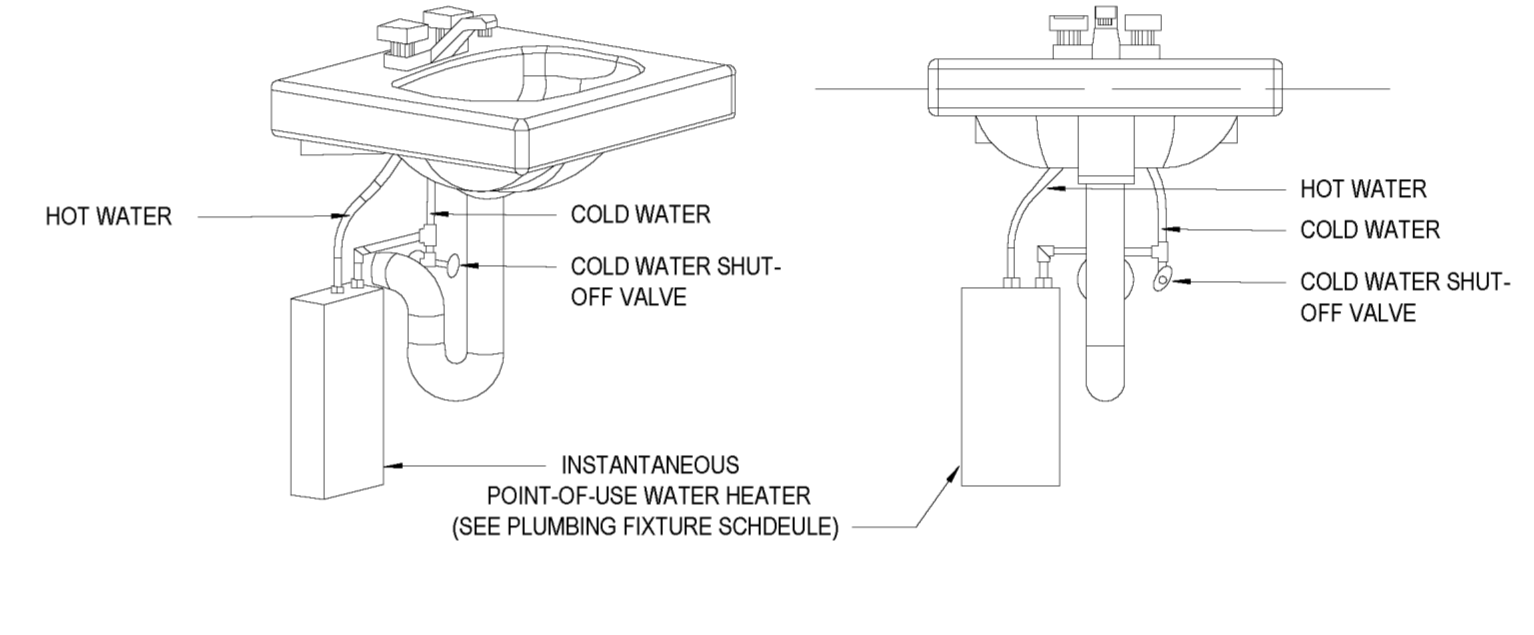
5 WALL CLEANOUT DETAIL
N.T.S.



6 EXTERIOR CLEANOUT DETAIL
N.T.S.



7 INTERIOR WALL PENETRATION DETAIL
N.T.S.



8 INSTANTANEOUS WATER HEATER DETAIL
N.T.S.

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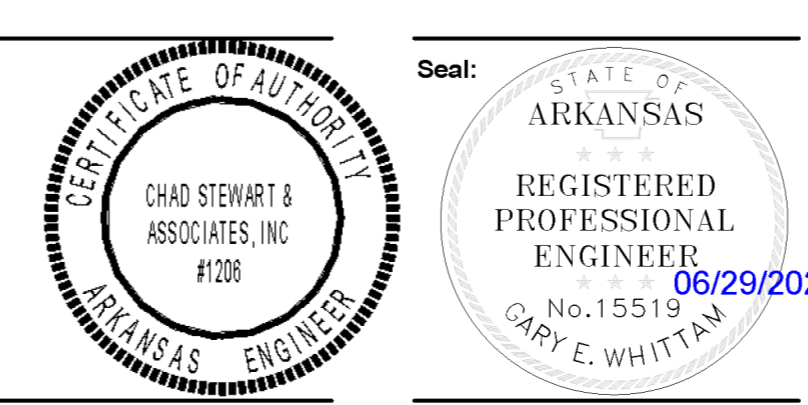
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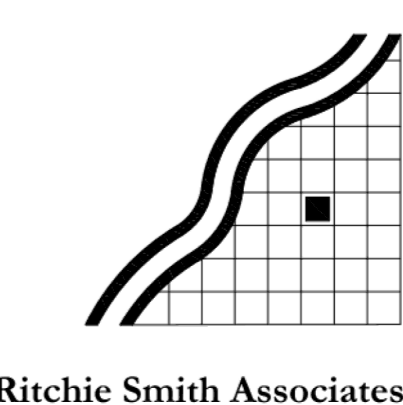
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Landscape Architecture
Urban Design

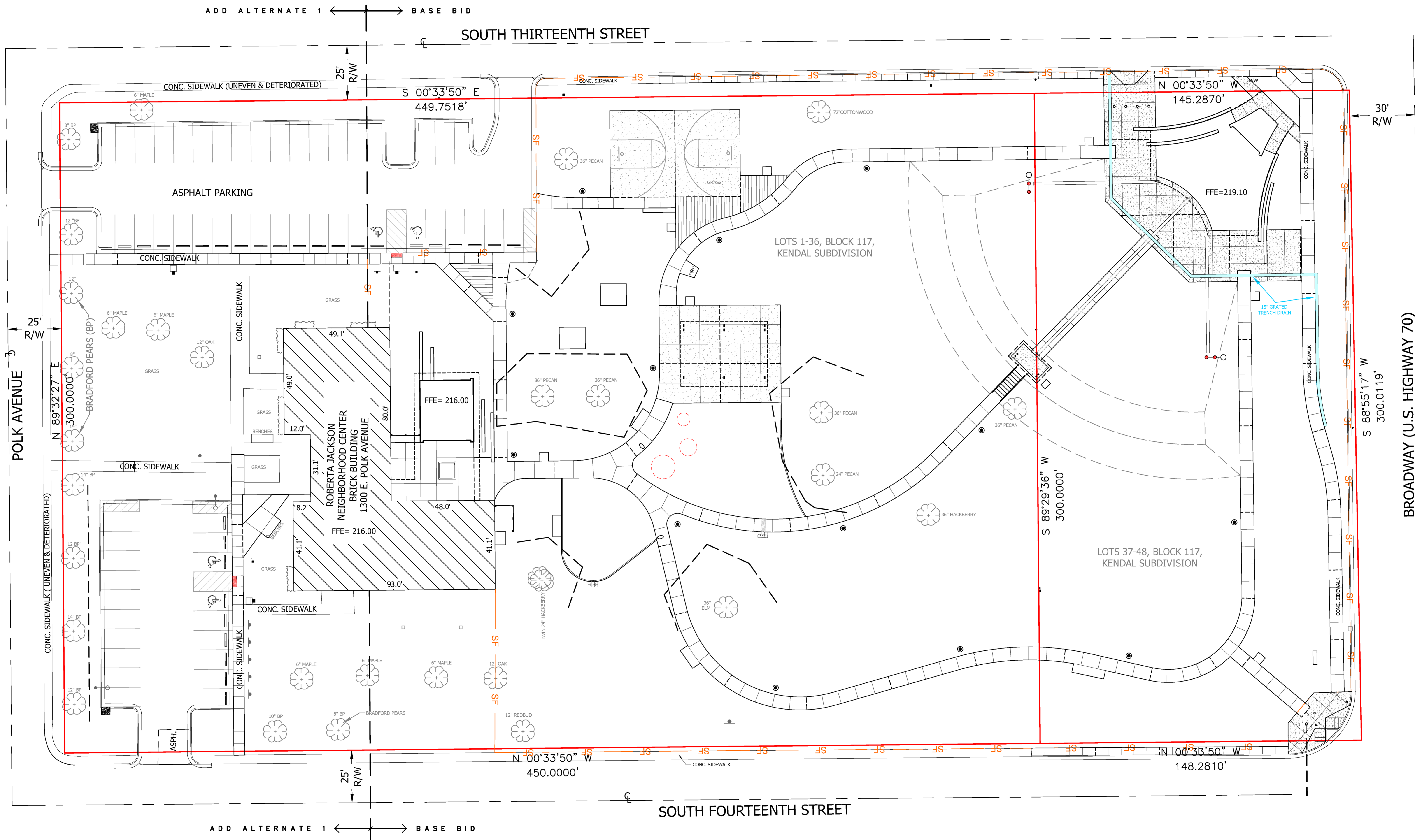
▲ 65 Union Avenue
Suite 1140
Memphis, TN 38103
Phone 901.525.1198
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PLUMBING DETAILS

Drawing Number:
P2.1

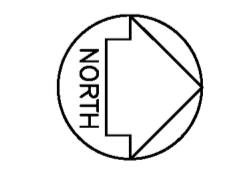
Date:
29 June 2022

Project Number:
21933

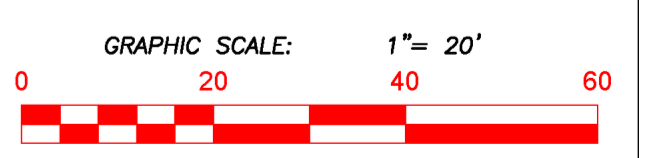


NOTE
 PRIOR TO DEMOLITION & EXCAVATION WORK, CONTRACTOR SHALL BECOME FAMILIAR WITH PHASE 1 & 2 ENVIRONMENTAL SITE ASSESSMENTS FOR THE TWO PARCELS ALONG BROADWAY AVE.

IF ANY MATERIALS ARE ENCOUNTERED THAT APPEAR TO BE HAZARDOUS OR OF UNKNOWN ORIGIN, CONTRACTOR SHALL STOP WORK IN THAT AREA IMMEDIATELY & CONTACT THE PROJECT MANAGER & CITY OF WEST MEMPHIS ENGINEERING DEPARTMENT.



BASES OF BEARINGS:
 GRID NORTH ON 25EC GPS
 ARK SPC SYSTEM, NORTH ZONE



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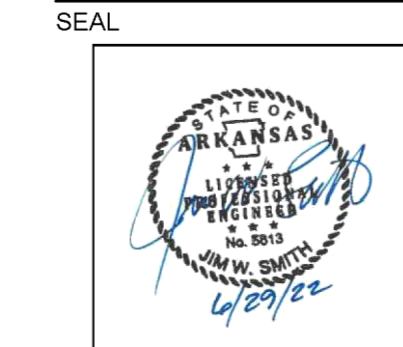
Revisions:

Consultants:

CIVIL:
 Sorrell-Smith Engineering
 Consultants, LLC
 110 N. Missouri St.
 West Memphis, AR 72301
 P: 870.735.8084



Hightower Park Improvements
 S 14th St and E Polk Avenue
 West Memphis, AR 72301
 for
City of West Memphis



Architecture ■ Interior Design ■ Planning

GAREY ARCHITECTS

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Erosion Control Plan
 Drawing Number
C 6.0
 Date: June 29, 2022
 Project Number: 21933