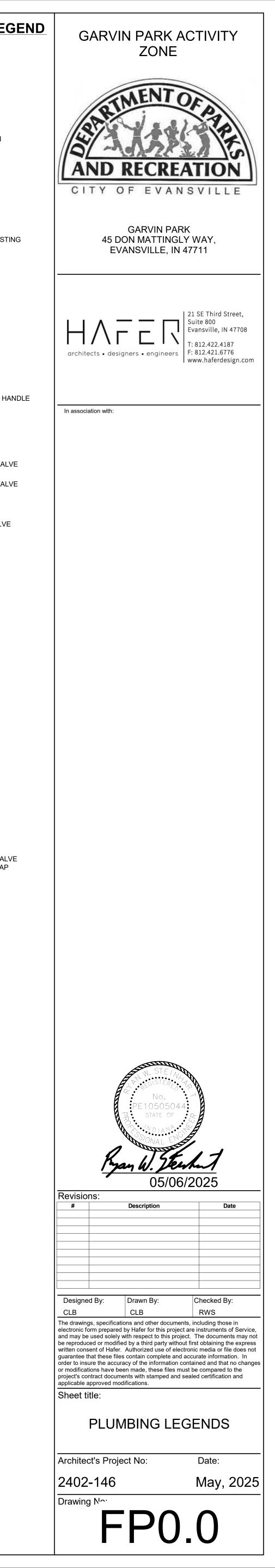


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		FO	FUEL OIL	PD	PRESSURE DROP	CP CIRCULATIN
ALL PE	ING, HEATING,	FOR	FUEL OIL RETURN	PH	PHASE (ELECTRIC)	DC DECHLORIN
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MERMARL 52.2)VAVOLT AMPEREHMMAN HOLEVACVAC UUMMHMAN HOLEVACVAC UUMEMINMINIMUM OR MINUTE (PER CONTEXT)VDVOLLME DAMPER (MANUAL)MPTMALE PIPE THREADVELVELOCITYTDRAINMVMAULAL VENTVDVOLLWE DAMPER (MANUAL)TDRAINMVMAULAL VENTVFDVARIABLE FREQUENCY DRIVETIC PRESSURENMUTI CONTRACTVFDVARIABLE FREQUENCY DRIVETIC PRESSURENNITROGENVTVTRIFIED TLER)NANOT APPLICABLEVTVARABLE VOLUME TERMINALR)NANOT APPLICABLEVTVARIABLE COUNER TERMINALR)NANOT APPLICABLEVTVARIABLE VOLUME TERMINALR)NANOT APPLICABLEVTVARIABLE VOLUME TERMINALR)NDNOT OR SCALEVTVARIABLE VOLUME TERMINALR)NDNITROUS OXIDE, NORMALLY OPEN ORWWATT OR WIDTH (PER CONTEXT)NUMBER (PER CONTEXT)WOWITHOUTNUMBER (PER CONTEXT)WONUMBER (PER CONTEXT)WOWITHOUTNUMBER (PER CONTEXT)WONUMBER (PER CONTEXT)WOWOWATER ORADITASSOOYGENWFWAL HYDRANTASSOOUTSIDE AIRWHWATER PRESSURE DIFFERENTALMPEROATOUTSIDE AIR TEMPERTUREWHWATER PRESSURE DIFFERENTALMIPEROAOUTSIDE AIR TEMPERTUREWHWATER PRESS	TIO	MECH	MECHANICAL	UV	UNIT VENTILATOR	
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TIC PRESSURENNITROGENVTVITRIFIED TILER)NANOT APPLICABLEVTRVENT THROUGH THE ROOFRT BULB TEMPERATURENCNORMALLY CLOSED OR NOISE CRITERIAVVTVARIABLE VOLUME TERMINALER COOLER(PER CONTEXT)WWASTETIONNICNOT IN CONTRACTWWATT OR WIDTH (PER CONTEXT)ER TEMPERATURENONITROUS OXIDE, NORMALLY OPEN ORW/OWITHOUTFR TEMPERATURENONITROUS OXIDE, NORMALLY OPEN ORW/OWITHOUTRNON-NITRONADR PART LOAD VALUEWBWET BULBNPLVNON-STANDARD PART LOAD VALUEWBWET BULBNRCNOISE REDUCTION NEADWCOWALL CLEAN OUTNRCNOISE REDUCTION COEFFICIENTWFWASTE FOUNTAINASSOOXYGENWHWALL HYDRANTREMOSTATIC TRAPOAOUTSIDE AIRWHAWATER HAMMER ARRESTORMIPEROAOUTSIDE AIR TEMPERTUREWMWATER PRESSURE DIFFERENTIALOCON CENTERWTWEIGHTIECTIONODOUTSIDE DIAMETERWTWEIGHTUTOF/CIOWNER FURNISHED/WVWATER CLEANOUTUTOF/CIOWNER FURNISHED/WVWATER VENTOF/CIOWNER FURNISHED/VVWATER CLEANOUTTIRE DAMPEROF/OOWNER FURNISHED/VONOWNER FURNISHED/VXVEAROWNER FURNISHED/VXVEAROWNER FURNISHED/VXVEAR<	DRAIN	MV	MANUAL VENT	VFD	VARIABLE FREQUENCY DRIVE	
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ASS O O OXYGEN WH WALL HYDRANT ERMOSTATIC TRAP MPER OA OUTSIDE AIR TEMPERTURE WHA WATER HAMMER ARRESTOR OAT OUTSIDE AIR TEMPERTURE WM WATER METER OBD OPPOSED BLADE DAMPER OC ON CENTER WPD WATER PRESSURE DIFFERENTIAL OC ON CENTER WT WEIGHT IECTION OD OUTSIDE DIAMETER WTR WATER OD OUTSIDE DIAMETER WTR WATER OF/CI OWNER FURNISHED/ CONTRACTOR INSTALLED YCO YARD CLEANOUT FIRE DAMPER OF/OI OWNER FURNISHED/ CONTRACTOR INSTALLED YR YEAR OWNER INSTALLED YR YEAR		NRC	NOISE REDUCTION COEFFICIENT	WF	WASH FOUNTAIN	
MPER OAT OUTSIDE AIR TEMPERTURE WM WATER METER OBD OPPOSED BLADE DAMPER WPD WATER PRESSURE DIFFERENTIAL OC ON CENTER WT WEIGHT IECTION OD OUTSIDE DIAMETER WTR WATER OUT OF/CI OWNER FURNISHED/ CONTRACTOR INSTALLED VC WV WASTE VENT CONTRACTOR INSTALLED YCO YARD CLEANOUT FIRE DAMPER OF/OI OWNER FURNISHED/ OWNER INSTALLED YR YEAR OWNER INSTALLED ZN ZONE		0	OXYGEN	WH	WALL HYDRANT	
OC ON CENTER WT WEIGHT NECTION OD OUTSIDE DIAMETER WTR WATER OUT OF/CI OWNER FURNISHED/ WV WASTE VENT CONTRACTOR INSTALLED YCO YARD CLEANOUT FIRE DAMPER OF/OI OWNER FURNISHED/ YR VER VONER INSTALLED YR YEAR OWNER INSTALLED ZN ZONE		OAT	OUTSIDE AIR TEMPERTURE	WM	WATER METER	
OUT OF/CI OWNER FURNISHED/ WV WASTE VENT CONTRACTOR INSTALLED YCO YARD CLEANOUT FIRE DAMPER OF/OI OWNER FURNISHED/ YR YEAR OWNER INSTALLED ZN ZONE		OC	ON CENTER	WT	WEIGHT	
FIRE DAMPER OF/OI OWNER FURNISHED/ YR YEAR OWNER INSTALLED ZN ZONE			OWNER FURNISHED/	WV	WASTE VENT	
	FIRE DAMPER	OF/OI	OWNER FURNISHED/	YR	YEAR	
ENT CONNECTION OFD OVERFLOW DRAIN	ENT CONNECTION	OFD		ZN	ZONE	

		PIPING SYST	EMS & ABBREVIATIONS	PLUMBING /	MEDICAL GAS LEGEN
	AIR ADMITTANCE VALVE			SYMBOL:	DESCRIPTION:
AS BF BFP	AIR SEPARATOR BUTTERFLY VALVE BACKFLOW PREVENTER		HOT WATER PIPING HOT WATER RECIRCULATION PIPING	G+−−− OR G−−−− O+−−− OR O−−−−	RISER DOWN (ELBOW)
BLR	BOILER				
CA CO	AIR COMPRESSOR CLEANOUT	STM	WASTE PIPING STORM PIPING	G +−−− OR −− C −−	RISE OR DROP
CP CS	CIRCULATING PUMP CLINICAL SINK	G	NATURAL GAS PIPING	 OR 	BRANCH - TOP CONNECTION
DC DWH ES	DECHLORINATOR TANKLESS WATER HEATER EMERGENCY SHOWER	O VAC	OXYGEN VACUUM	;ἑ, or ↓	BRANCH - BOTTOM CONNECTION
EW EWC	EYEWASH ELECTRIC WATER COOLER	MA	MEDICAL AIR		BRANCH - SIDE CONNECTION
EWF	BOTTLE FILLING STATION ELECTRIC WATER HEATER	———IA———	INSTRUMENT AIR		
FD	FLOOR DRAIN	N	NITROGEN	C	PIPE CAP
FS FS	FLOOR SINK (PLUMBING) FLOW SWITCH (FIRE PROTECTION) FLOOR TROUGH	NO CO2	NITROUS OXIDE CARBON DIOXIDE	•	WATER HAMMER ARRESTOR
FT GWH GD	GAS WATER HEATER FOOD WASTE DISPOSER		WASTE ANESTHESIA GAS DISPOSAL	>	DIRECTION OF FLOW IN PIPE
GT	GREASE TRAP	CA	COMPRESSED AIR	4	
HB HD	HOSE BIBB HOT WATER DISPENSER HOSE VALVE CONNECTION	FIRE PROTE	CTION SYMBOL LIST	\$	CONNECTION POINT NEW TO EXISTING
HV HX LAV	HOSE VALVE CONNECTION HEAT EXCHANGER LAVATORY	SYMBOL:	DESCRIPTION:	\$	PIPE CONTINUATION
MB MV	MOP BASIN THERMOSTATIC CONTROLLER	٩٩	NEW PIPE	\bigcirc	FLOOR DRAIN
RB RCP	REFRIGERATOR / ICE MAKER BOX HOT WATER RECIRCULATION PUMP		NEW PIPE		BACKFLOW PREVENTER
RD RH SH	ROOF DRAIN ROOF HYDRANT SHOWER	₩0	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)	——×——	SHUTOFF VALVE
SI SK	SOLIDS INTERCEPTOR SINK	->	SHUTOFF VALVE	&	CALIBRATED BALANCING VALVE
ST SWH	STORAGE TANK SEMI-INSTANTANEOUS WATER HEATER	—¤	AUTOMATIC DRAIN VALVE		CHECK VALVE
TD TMV	TRENCH DRAIN THERMOSTATIC MIXING VALVE	—FP—	FIRE PROTECTION	→ ►	NORMALLY CLOSED VALVE
TXT UR WB	THERMAL EXPANSION TANK URINAL WASTE HOSE BOX	د ا	FLOW SWITCH		
WD WC WCO	WASTE HOSE BOX WATER CLOSET WALL CLEANOUT		BUTTERFLY VALVE	——————————————————————————————————————	THROTTLING VALVE W/ LOCKING HANDLE
WF WH	WATER FILTER EXTERIOR HOSE BIBB	₽° +	MONITORING SWITCH	——————————————————————————————————————	TRIPLE DUTY VALVE (BALANCING, CHECK, SHUTOFF)
WS YCO	WATER SOFTENER YARD CLEANOUT			X	PRESSURE REDUCING VALVE
MEDICAL			FIRE DEPARTMENT CONNECTION	₩	2-WAY MODULATING CONTROL VALVE
AAP IAC MAP	AREA ALARM PANEL INSTRUMENT AIR COMPRESSOR MASTER ALARM PANEL	T		M	
MAS MGO	MEDICAL AIR COMPRESSOR MEDICAL GAS OUTLET	<u>م</u>	GATE VALVE	· · · · · · · · · · · · · · · · · · ·	3-WAY MODULATING CONTROL VALVE
MVPS NPCC	MEDICAL VACUUM PUMP NITROGEN PRESSURE CONTROL CABINET		CHECK VALVE	——×——	2-POSITION VALVE
VB	VALVE BOX				AUTOMATIC FLOW CONTROL VALVE
		、 ペー	CHECK VALVE	-¥.	SAFETY RELIEF VALVE
		፝ጞ፞፞፞፞	PRESSURE RELIEF VALVE	Ì	SAFETY RELIEF VALVE
			ANGLE VALVE		UNION/FLANGE
				!	P & T PLUG
				D	REDUCER
					SUCTION DIFFUSER
				لکا +	



MANUAL AIR VENT

DRAIN VALVE WITH HOSE CONNECTION AND CAP

HIGH CAPACITY AIR VENT

THERMOMETER WITH WELL

AND HOSE CONNECTION WITH CAP

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—_____ METER

RECIRCULATING PUMP

_______(FILLED TYPE)

FLEXIBLE CONNECTION

PRESSURE GAUGE
 (FURNISHED WITH BALL VALVE)

"WYE" - STRAINER W/SHUTOFF VALVE

STEAM TRAP

BALL-IN-WALL

AREA ALARM PANEL

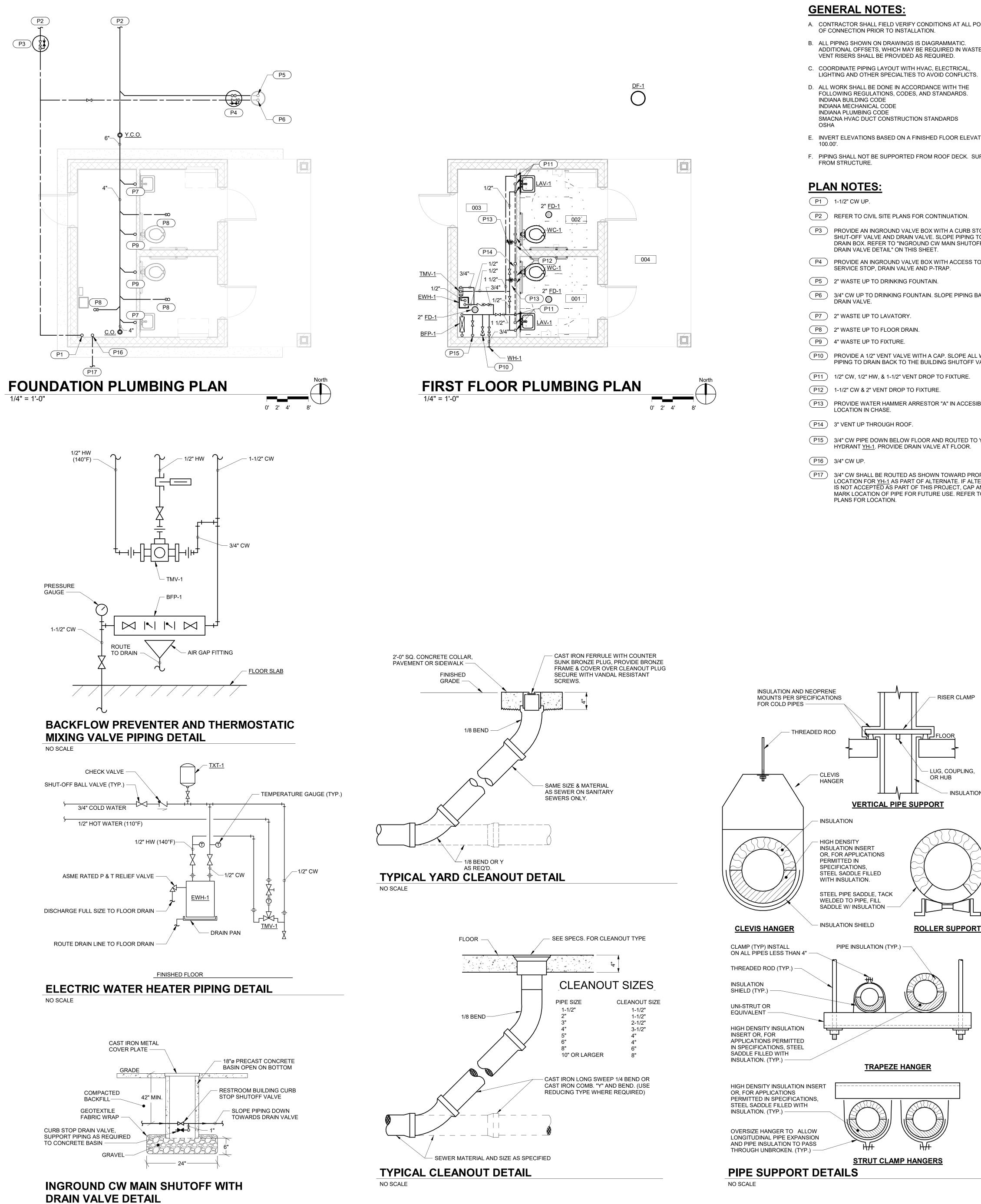
MEDICAL GAS VALVE BOX

MEDICAL GAS OUTLET

PRESSURE MONITOR

PRESSURE TRANSDUCER





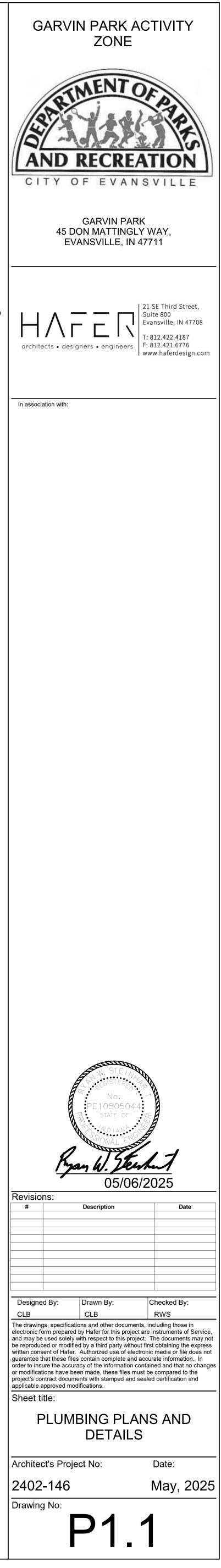
NO SCALE

- A. CONTRACTOR SHALL FIELD VERIFY CONDITIONS AT ALL POINTS OF CONNECTION PRIOR TO INSTALLATION.
- B. ALL PIPING SHOWN ON DRAWINGS IS DIAGRAMMATIC. ADDITIONAL OFFSETS, WHICH MAY BE REQUIRED IN WASTE AND VENT RISERS SHALL BE PROVIDED AS REQUIRED.
- C. COORDINATE PIPING LAYOUT WITH HVAC, ELECTRICAL, LIGHTING AND OTHER SPECIALTIES TO AVOID CONFLICTS.
- D. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING REGULATIONS, CODES, AND STANDARDS.
- SMACNA HVAC DUCT CONSTRUCTION STANDARDS
- E. INVERT ELEVATIONS BASED ON A FINISHED FLOOR ELEVATION OF
- F. PIPING SHALL NOT BE SUPPORTED FROM ROOF DECK. SUPPORT

PLA	NNUTES:
P1	1-1/2" CW UP.
P2	REFER TO CIVIL SITE PLANS FOR CONTINUATION.
P3	PROVIDE AN INGROUND VALVE BOX WITH A CURB STOP SHUT-OFF VALVE AND DRAIN VALVE. SLOPE PIPING TOWAR DRAIN BOX. REFER TO "INGROUND CW MAIN SHUTOFF WITH DRAIN VALVE DETAIL" ON THIS SHEET.
P4	PROVIDE AN INGROUND VALVE BOX WITH ACCESS TO THE SERVICE STOP, DRAIN VALVE AND P-TRAP.
P5	2" WASTE UP TO DRINKING FOUNTAIN.
P6	3/4" CW UP TO DRINKING FOUNTAIN. SLOPE PIPING BACK TO DRAIN VALVE.
P7	2" WASTE UP TO LAVATORY.
P8	2" WASTE UP TO FLOOR DRAIN.
P9	4" WASTE UP TO FIXTURE.
P10	PROVIDE A 1/2" VENT VALVE WITH A CAP. SLOPE ALL WATER PIPING TO DRAIN BACK TO THE BUILDING SHUTOFF VALVE.
P11	1/2" CW, 1/2" HW, & 1-1/2" VENT DROP TO FIXTURE.
P12	1-1/2" CW & 2" VENT DROP TO FIXTURE.
P13	PROVIDE WATER HAMMER ARRESTOR "A" IN ACCESIBLE LOCATION IN CHASE.
P14	3" VENT UP THROUGH ROOF.
D15	

- P15 3/4" CW PIPE DOWN BELOW FLOOR AND ROUTED TO YARD HYDRANT <u>YH-1</u>. PROVIDE DRAIN VALVE AT FLOOR.
- P17 3/4" CW SHALL BE ROUTED AS SHOWN TOWARD PROPOSED LOCATION FOR <u>YH-1</u> AS PART OF ALTERNATE. IF ALTERNATE IS NOT ACCEPTED AS PART OF THIS PROJECT, CAP AND MARK LOCATION OF PIPE FOR FUTURE USE. REFER TO CIVIL

- INSULATION





	WAT	ER HAMMER A	ARRESTOP
MARK	I.P.S.	F.U. RATING	J.R. SMITH
А	1/2"	1 - 11	5005

FIXTURE						IPC 2006	5	REMARKS
FIATURE	COLD WATER	HOT WATER	WASTE	VENT	DFU	CWFU	HWFU	REWARNS
2" FLOOR DRAIN	-	-	2"	-	2	-	-	
LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	1	1.5	1.5	
WALL HYDRANT	3/4"	-	-	-	-	2.5	-	
WATER CLOSET - FLUSH VALVE	1 1/2"	-	4"	2"	4	10	-	

	MISCELLANEOUS EQUIPMENT SCHEDULE				
SYMBOL	DESCRIPTION	REMARKS			
<u>BFP-1</u>	BACKFLOW PREVENTER - 1-1/2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER; PROVIDE WITH TWO SHUTOFF BALL VALVES, TEST COCKS, AND A "Y" STRAINER. MOUNT BACKFLOW PREVENTER AT 24" A.F.F. PROVIDE AIR GAP FITTINGS AND ROUTE DRAIN TO FLOOR DRAIN.	BASED ON WILKINS MODEL 975XLUS			
<u>EWH-1</u>	ELECTRIC WATER HEATER - 4 GALLON CAPACITY, 7 GPH RECOVERY AT 90°F RISE, 120/1, 12 AMP, 1.44 KW. MOUNT THE WATER HEATER ON WALL SHELF AND PROVIDE ALL BRACKETS AND HARDWARE REQUIRED FOR A COMPLETE INSTALLATION. SET THE WATER HEATER FOR 140°F.	BASED ON AO SMITH MODEL EPU-4			
<u>TMV-1</u>	THERMOSTATIC MIXING VALVE - 7 GPM @ 5 PSI PRESSURE DROP, MEETS ASSE 1017, SET AT 110° F. DIAL THERMOMETER ON DISCHARGE, SHUTOFF VALVES. SECURE TO WALL NEXT TO <u>EWH-1</u> . 1/2" INLETS, 1/2" OUTLET.	BASED ON LEONARD MODEL TA-LF-F			
<u>TXT-1</u>	THERMAL EXPANSION TANK - NON-ASME REPLACEABLE BLADDER TYPE, PRECHARGED, 150 PSI MAXIMUM DESIGN PRESSURE, 3/4" STAINLESS STEEL SYSTEM CONNECTION, STANDARD TIRE VALVE CHARGING CONNECTION, 2.1 GALLON ACCEPTABLE VOLUME, SET TANK PRESSURE TO 50 PSI.	BASED ON WESSELS MODEL 5TX			

R SCHEDULE		
	JOSAM	ZURN
	75001	100

PLUMBING MATERIAL LIST

THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.

CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS OF DESIGN.

<u>CO</u>

DESCRIPTION: FLOOR CLEANOUT - CAST IRON THREADED ADJUSTABLE HOUSING, FLANGED FERRULE WITH PLUG AND ROUND SECURED NICKEL BRONZE SCORIATED TOP. MANUFACTURER & CATALOG NO .: ZURN Z-1400, SMITH 4000, WADE 6000, JOSAM 56000, WATTS CO-200, MIFAB C1100 <u>DF-1</u>

<u>DESCRIPTION:</u> DRINKING FOUNTAIN - OUTDOOR, GROUND MOUNT, FULLY EXPOSED FREEZE-RESISTANT, BARRIER-FREE ACCESSIBLE DRINKING FOUNTAIN WITH BOTTLE FILLER. BI-LEVEL PEDESTAL WITH PET FOUNTAIN. VANDAL RESISTANT BUBBLER, ONE-PIECE CONSTRUCTION, HEAVY DUTY STEEL POWDER COATED CONSTRUCTION. PROVIDE A DIRECT BURY 4400 FOUNTAIN ADAPTER. BURY DEPTH 24". PROVIDE WITH SUPPLY STOP AND DRAIN VALVE FOR WINTERIZING. PROVIDE WASTE P-TRAP. INSTALL PER MANUFACTURER RECOMMENDATION. COLOR AS SELECTED BY ARCHITECT.

MANUFACTURER & CATALOG NO .: ELKAY LK4420BF1UDBFRK

<u>DESCRIPTION:</u> FLOOR DRAIN -6" DIAMETER NICKEL BRONZE ADJUSTABLE TOP, CAST IRON BODY, 3" OUTLET AND FLASHING COLLAR, DEEP SEAL P-TRAP AND TRAP PRIMER CONNECTION. MANUFACTURER & CATALOG NO.: ZURN Z-415, SMITH 2005, WADE 1100, JOSAM 30000, WATTS FD-100, MIFAB F1100

LAV-1

<u>FD-1</u>

DESCRIPTION: LAVATORY -WALL MOUNTED, WHITE VITREOUS CHINA, 4" HIGH CONTOURED BACKSPLASH, 20" X 18", FAUCET HOLES ON 4" CENTERS, 1-1/4" 17 GAUGE CAST BRASS "P" TRAP WITH CLEANOUT AND ESCUTCHEON. PROVIDE FLOOR MOUNTED LAVATORY CARRIER. MOUNT 34" FLOOR TO RIM.

MANUFACTURER & CATALOG NO .: AMERICAN STANDARD 0355.012, CRANE, ELJER, KOHLER

DESCRIPTION: LAVATORY TRIM - MANUAL METERING FAUCET WITH 0.5 GPM AERATOR AND OPEN GRID STRAINER W/ NO LIFT ROD. LOOSE KEY STOP VALVES WITH COMPRESSION FITTINGS AND WATER SUPPLIES AND RISERS; TRUEBRO HANDILAV GUARD INSULATION KIT. MANUFACTURER & CATALOG NO .: AMERICAN STANDARD 1340.227

<u>WC-1</u>

DESCRIPTION: ACCESSIBLE WATER CLOSET - WALL HUNG, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" BACK SPUD. FURNISH WITH ZURN FLOOR MOUNTED COMBINATION CARRIER FITTING SUPPORT. MOUNT 17" FLOOR TO RIM.

MANUFACTURER & CATALOG NO.: AMERICAN STANDARD "AFWALL" 3353101.020, CRANE, KOHLER, ELJER DESCRIPTION: SEAT - WHITE EXTRA HEAVY OPEN FRONT INJECTION MOLDED SOLID ANTI-MICROBIAL PLASTIC SELF-SUSTAINING SEAT WITH CHECK HINGE AND STAINLESS STEEL OR PLATED STEEL

POSTS AND NUTS. MANUFACTURER & CATALOG NO .: BEMIS 3155C, CHURCH 3155C, BENEKE 533PC, OLSONITE 95CCAM

DESCRIPTION: FLUSH VALVE - REAR SPUD, SINGLE FLUSH, CONCEALED, MANUAL SPECIALTY HYDRAULIC, CHEMICAL RESISTANT MATERIAL, VACUUM BREAKER, WALL AND SPUD FLANGES.

1.6 GALLONS PER FLUSH. 3 YEAR WARRANTY. CONTRACTOR TO VERIFY EQUIPMENT REQUIREMENTS, MANUFACTURER RECOMMENDATIONS AND ROUGH-IN LOCATIONS. MANUFACTURER & CATALOG NO .: SLOAN ROYAL 952-1.6

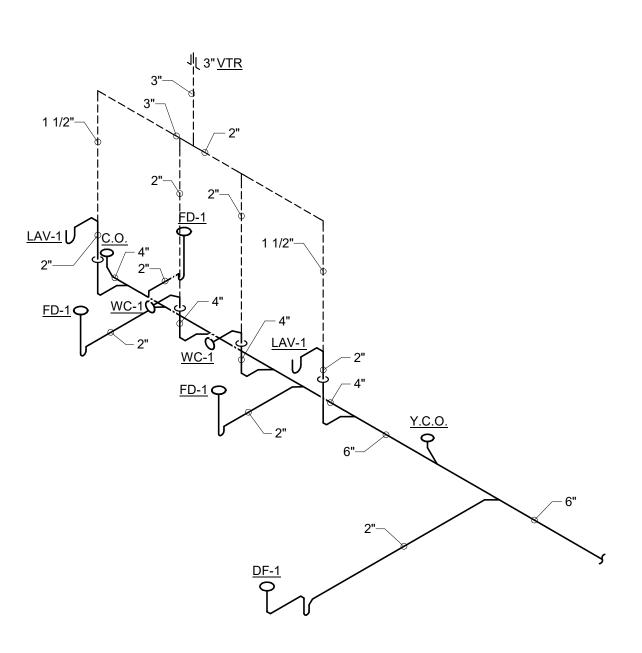
<u>WH-1</u>

DESCRIPTION: WALL HYDRANT - FREEZELESS WALL HYDRANT, VACUUM BREAKER, 3/4" MALE HOSE THREAD, BRASS VALVE BODY AND SEAT, STAINLESS STEEL STEM, CHROME FINISH DOOR AND BOX. FURNISH TWO TEE KEY OPERATORS FOR LOCKABLE DOOR. ASSE 1011 APPROVED AND LISTED. MOUNT AT 18" ABOVE GRADE. MANUFACTURER & CATALOG NO .: WOODFORD B65, ZURN

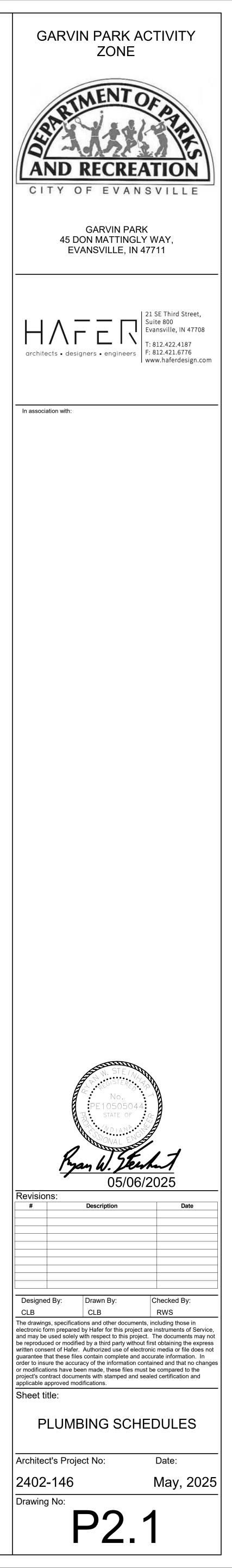
<u>YH-1</u>

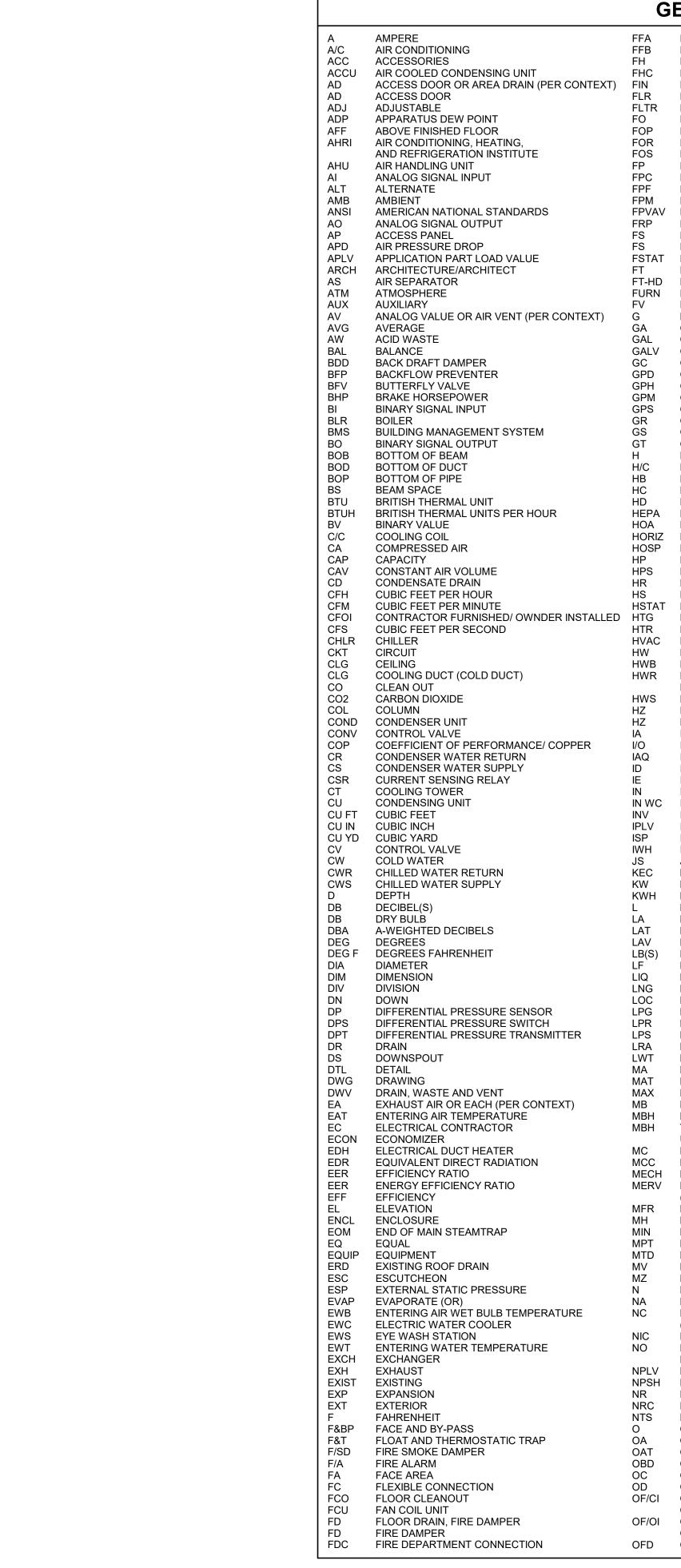
DESCRIPTION: YARD HYDRANT - FREEZELESS MODULAR BOX YARD HYDRANT, HINGED TAMPER-PROOF KEYED ACCESS DOOR, INTEGRAL BACKFLOW PREVENTER, VACUUM BREAKER, 3/4" MALE HOSE THREAD, BRASS VALVE BODY AND SEAT, BRASS DOOR AND FASCIA COMPOSITE BOX. FURNISH TWO TEE KEY OPERATORS. ASSE 1052 APPROVED AND LISTED. BURY DEPTH PER MANUFACTURER'S RECOMMENDATIONS.

MANUFACTURER & CATALOG NO .: WOODFORD Y95



SANITARY RISER DIAGRAM NO SCALE





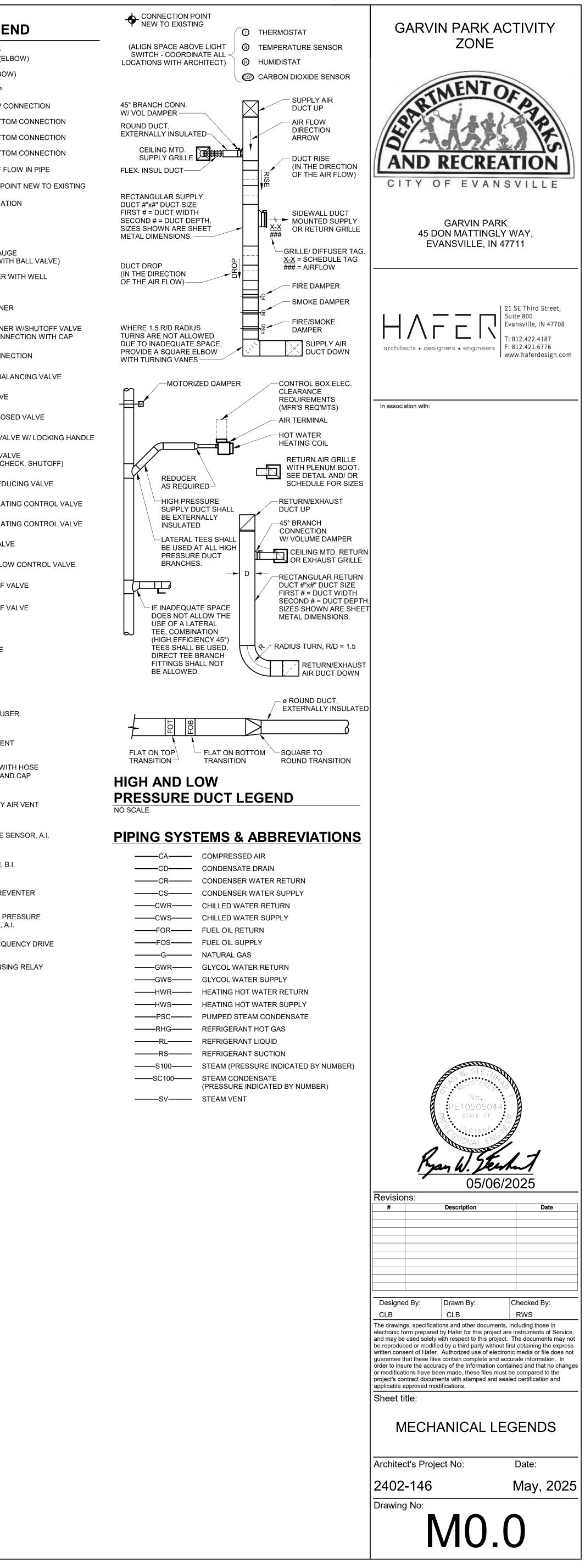
ENERAL ABBREVIATIONS		
FROM FLOOR ABOVE	OS&Y	(
FROM FLOOR BELOW FIRE HOSE	OSD OUT OZ	(
FIRE HOSE CABINET FINISHED FLOOR	PBD PC	C F F
FILTER FUEL OIL	PC PCT PD	F
FUEL OIL FUEL OIL PUMP FUEL OIL RETURN	PE PH	F
FUEL OIL RETURN FUEL OIL SUPPLY FIRE PROTECTION	PHC PICV	F
FIRE PROTECTION CONCTRACTOR FINS PER FOOT	PIV	C F
FEET PER MINUTE FAN POWERED VARIABLE AIR VOLUME	PLMB PLT	F
FIBERGLASS REINFORCED PLASTIC FLOW SWITCH	PPH PPM	F
FLOW SWITCH FREEZESTAT	PRESS	F
FEET HEAD IN FEET	PRV PSC	F
FURNACE, FURNISH FACE VELOCITY	PSI PSIA	F
NATURAL GAS GAUGE	PSIG PVC	F
GALLONS GALVANIZED	QTY RA	C F
GENERAL CONTRACTOR GALLON PER DAY	RAD RAT	F F
GALLON PER HOUR GALLONS PER MINUTE	RC RD	F
GALLON PER SECOND GLYCOL WATER RETURN	RDC REQ	F
GLYCOL WATER SUPPLY GREASE TRAP	REV RH	F
HEIGHT HEATING COIL	RHG RL	F
HOSE BIBB HOSE CLOSET	RLA RM	F
HEAD HIGH EFFICIENCY PARTICULATE AIR	RND RO	F
HAND, OFF, AUTO STATION HORIZONTAL	RPM RS	F
HOSPITAL HORSEPOWER	RTU RW	F
HIGH PRESSURE STEAM HOUR	SA SAN	
HAND SINK HUMIDSTAT HEATING	SCW SD	
HEATING HEATER HEATING, VENTILATING & AIR CONDITIONING	SEC'N SEER SENS	
HOT WATER HOT WATER BOILER	SF SG	
HEATING HOT WATER RETURN OR HOT WATER RETURN (PER CONTEXT)	SH SHR	
HEATING HOT WATER SUPPLY FREQUENCY	SHT	
HERTZ INSTRUMENT AIR	SK SND	
INPUT/ OUTPUT INDOOR AIR QUALITY	SOL SP	
INSIDE DIAMETER, INDIRECT WASTE INVERT ELEVATION	SP SPD	
INCH/INCHES INCHES, WATER COLUMN	SPT SQ	
INVERT INTEGRATED PART-LOAD VALUE	SS STD	5
INTERNAL STATIC PRESSURE INSTANTANEOUS WATER HEATER	STM STP	5
JOIST SPACE KITCHEN EQUIPMENT CONTRACTOR	STR SUCT	N S
KILOWATTS KILOWATT HOUR	SV T&P	55
LENGTH LABORATORY AIR	T/S TA	ר ר
LEAVING AIR TEMPERATURE LAVATORY	TAB TCC	ך ך
POUNDS LINEAR FEET	TCP TD	ר
LIQUID LIDUID NATURAL GAS	TD	
LOCATION LIQUIFIED PETROLEUM GAS	TDH TDV	ר
LOW PRESSURE STEAM RETURN LOW PRESSURE STEAM (SUPPLY)	TEMP TFA TFB	ר ר ר
LOCKED ROTOR AMPS LEAVING WATER TEMPERATURE MEDICAL AIR	TONS	י ר ר
MIXED AIR TEMPERATURE MAXIMUM	TSP TSTAT	י ר ר
MOP BASIN BTU/ HR x 1,000	TYP	י ד נ
THOUSAND BRITISH THERMAL UNITS PER HOUR	UG UH	ι
MECHANICAL CONTRACTOR MOTOR CONTROL CENTER	UNO UR	l
MECHANICAL MINIMUM EFFICIENCY REPORTING VALUE	UV V	l N
(ASHRAE 52.2) MANUFACTURER	VA VAC	
MAN HOLE MINIMUM OR MINUTE (PER CONTEXT)	VAV VD	\ \
MALE PIPE THREAD	VEL VERT	\ \
MANUAL VENT MULTIZONE	VFD VOL	\ \
NITROGEN NOT APPLICABLE	VT VTR	\ \
NORMALLY CLOSED OR NOISE CRITERIA (PER CONTEXT)	VVT W	۱ ۷
NOT IN CONTRACT NITROUS OXIDE, NORMALLY OPEN OR	W W/	V
NUMBER (PER CONTEXT) NON-STANDARD PART LOAD VALUE	W/O WB	V V
NET POSITIVE SUCTION HEAD NOISE REDUCTION	WC WCO	V
NOISE REDUCTION COEFFICIENT NOT TO SCALE	WF WG	V
	WH WHA WM	V
OUTSIDE AIR TEMPERTURE OPPOSED BLADE DAMPER	WM WPD WT	V V
ON CENTER OUTSIDE DIAMETER OWNER FURNISHED/	WTR WV	
OWNER FURNISHED/ CONTRACTOR INSTALLED OWNER FURNISHED/	YCO YR	۷ ۲
OWNER FORNISHED/ OWNER INSTALLED OVERFLOW DRAIN	ZN	Z

DPEN SCREW & YOKE
DPEN SIGHT DRAIN DUTLET
DUNCE PARALLEL BLADE DAMPER
PLUMBING CONTRACTOR PERCENT
PRESSURE DROP PNEUMATIC ELECTRIC
PHASE (ELECTRIC)
PREHEAT COIL PRESSURE INDEPENDENT
CONTROL VALVE POST INDICATOR VALVE
PLUMBING PLASTER TRAP
POUNDS PER HOUR
PARTS PER MILLION PRESSURE
PRIMARY PRESSURE REGULATING VALVE
PUMPED STEAM CONDENSATE POUNDS PER SQUARE INCH
POUNDS PER SQUARE INCH, ABSOLUTE
POUNDS PER SQUARE INCH GAUGE POLYVINYL CHLORIDE
QUANTITY RETURN AIR
RADIATED RETURN AIR TEMPERATURE
REHEAT COIL
ROOF DRAIN REDUCER
REQUIRED REVISION
RELATIVE HUMIDITY REFRIGERANT HOT GAS
REFRIGERANT LIQUID
RUNNING LOAD AMPS ROOM
ROUND READ ONLY
REVOLUTIONS PER MINUTE REFRIGERANT SUCTION
ROOF TOP UNIT
READ / WRITE SUPPLY AIR
SANITARY SOFT COLD WATER (DOMESTIC)
SMOKE DAMPER
SECTION SEASONAL ENERGY EFFICIENCY RATIO
SENSIBLE SQUARE FOOT
SPECIFIC GRAVITY SENSIBLE HEAT
SENSIBLE HEAT RATIO
SHEET SOFT HOT WATER (DOMESTIC)
SINK SOUND
SOLENOID SUMP PIT
STATIC PRESSURE
STATIC PRESSURE DIFFERENTIAL STATIC PRESSURE TRANSMITTER
SQUARE STAINLESS STEEL
STANDARD STEAM, STORM
STANDARD TEMPERATURE AND PRESSURE
MOTOR STARTER SUCTION
STEAM VENT FEMPERATURE AND PRESSURE
TUB/ SHOWER TRANSFER AIR
EST AND BALANCE (CONTRACTOR)
EMPERATURE CONTROL CONTRACTOR
TEMPERATURE DIFFERENCE
DIFFERENTIAL (PER CONTEXT) FOTAL DYNAMIC HEAD
TRIPLE DUTY VALVE
TEMPERATURE TO FLOOR ABOVE
O FLOOR BELOW ONS OF REFRIGERATION
TOTAL PRESSURE DROP
THERMOSTAT
JNDERCUT DOOR
JNDERGROUND JNIT HEATER
JNLESS NOTED OTHERWISE JRINAL
JNIT VENTILATOR
/ENT, VOLTS (PER CONTEXT) /OLT AMPERE
/ACUUM /ARIABLE AIR VOLUME
/OLUME DAMPER (MANUAL) /ELOCITY
/ERTICAL /ARIABLE FREQUENCY DRIVE
/OLUME
/ITRIFIED TILE
/ENT THROUGH THE ROOF
ARIABLE VOLUME TERMINAL
/ARIABLE VOLUME TERMINAL VASTE VATT OR WIDTH (PER CONTEXT)
/ARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT
/ARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET
/ARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB
VARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WATER GAUGE
VARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WATER GAUGE WALL HYDRANT WATER HAMMER ARRESTOR
VARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WATER GAUGE WALL HYDRANT WATER HAMMER ARRESTOR WATER METER WATER PRESSURE DIFFERENTIAL
VARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WATER GAUGE WALL HYDRANT WATER HAMMER ARRESTOR WATER METER
VARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WATER GAUGE WALL HYDRANT WATER HAMMER ARRESTOR WATER METER WATER PRESSURE DIFFERENTIAL WEIGHT WATER WASTE VENT
VARIABLE VOLUME TERMINAL WASTE WATT OR WIDTH (PER CONTEXT) WITH WITHOUT WET BULB WATER CLOSET WALL CLEAN OUT WASH FOUNTAIN WATER GAUGE WALL HYDRANT WATER HAMMER ARRESTOR WATER METER WATER PRESSURE DIFFERENTIAL WEIGHT WATER

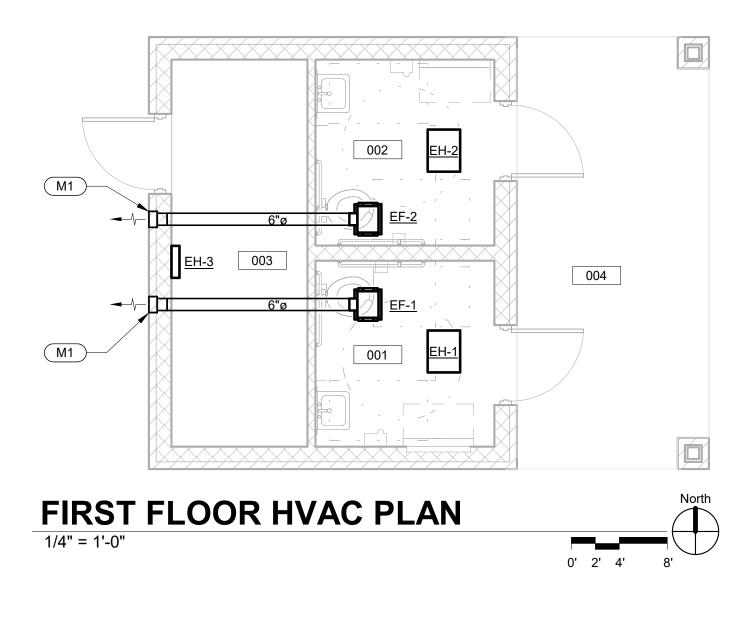
EQUIP	MENT DESIGNATIONS
AHU AHUOA AS AT BCC BLR BT CA CAB CC CHLR CO CT CU DA DOAS EF FC FCU FH AT FTR GF GMU HX IU OAH	AIR BLENDER SCHEDULE CRAC UNIT AIR COOLED CHILLER AIR HANDLING UNIT ENERGY RECOVERY UNIT SCHEDULE AIR SEPARATOR AIR TERMINAL UNIT AIR TERMINAL UNIT – ELECTRIC REHEAT VRF BRANCH CIRCUIT CONTROLLER BOILER BUFFER TANK AIR COMPRESSOR CABINET HEATER COILING COIL CHILLER CONVERTOR COOLING TOWER CONDENSING UNIT MOTORIZED DAMPER DEAERATOR DEDICATED OUTSIDE AIR UNIT EXHAUST FAN EXPANSION TANK FILTER FLUID COOLER FAN COIL UNIT FILTER HOUSING FAN POWER AIR TERMINAL FLASH TANK ELECTRIC FINTUBE RADIATOR GAS FURNACE GLYCOL MAKEUP UNIT HEAT EXCHANGER VRF INDOOR UNIT PREHEAT COIL PRESSURE REDUCING VALVE ROOFTOP UNIT SOUND ATTENUATOR STEAM CONDENSATE PUMP BOILER STACK ECONOMIZER SAFETY RELIEF VALVE SURGE TANK UNIT HEATER
PUMPS CHWP CWP FP GWP HP HWP JP WHP	CHILLED WATER PUMP CONDENSER WATER PUMP FIRE PUMP PUMPS-G WATER TO AIR HEAT PUMP HOT WATER PUMP JOCKEY PUMP WATER TO WATER HEAT PUMP

	PIPING/ TEMPERATU		ROL LEGEND
SYMBOL:	DESCRIPTION: ACTUATOR / MOTOR	<u>SYMBOL:</u> c+ OR c	<u>DESCRIPTION:</u> RISER DOWN (ELBOW)
	AIRFLOW MEASURING STATION	o+ OR o	RISER UP (ELBOW)
		;c + OR c	RISE OR DROP
CA	CONDENSATE ALARM UNIT	t ORt	BRANCH - TOP CONNECTION
CSR	CURRENT SENSING RELAY		BRANCH - BOTTOM CONNECTION
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	t _{OR} 	BRANCH - BOTTOM CONNECTION BRANCH - BOTTOM CONNECTION
			DIRECTION OF FLOW IN PIPE
L 上	SWITCH (ADJ.)	•	CONNECTION POINT NEW TO EXISTING
SD	SMOKE DETECTOR (BY OTHERS)	~	PIPE CONTINUATION
上 上			PUMP
FM	FLOW METER		PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
Г FS	FLOW SWITCH		THERMOMETER WITH WELL (FILLED TYPE)
Д FT	FLOW TRANSMITTER	— , ,	"WYE" - STRAINER
山 山 山	HUMIDITY ELEMENT		"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP
			FLEXIBLE CONNECTION
STR	MOTOR STARTER	₩	CALIBRATED BALANCING VALVE
<u>д</u>		——⋈——	SHUTOFF VALVE
SP 凸	STATIC PRESSURE SENSOR	—₩—	NORMALLY CLOSED VALVE
	STATIC PRESSURE SENSOR / SWITCH	——————————————————————————————————————	THROTTLING VALVE W/ LOCKING HANDLE
		——————————————————————————————————————	TRIPLE DUTY VALVE (BALANCING, CHECK, SHUTOFF)
STE	SPACE TEMPERATURE ELEMENT	₽	PRESSURE REDUCING VALVE
, Å	TEMPERATURE ELEMENT	₩	2-WAY MODULATING CONTROL VALVE
	(DUCT MOUNTED)	 英	3-WAY MODULATING CONTROL VALVE
ξ		×	2-POSITION VALVE
ф ГЕ	TEMPERATURE SENSOR WITH AVERAGING ELEMENT		AUTOMATIC FLOW CONTROL VALVE
ς		-15 ²	SAFETY RELIEF VALVE
Ś		، میں کر	SAFETY RELIEF VALVE
TLL	THERMOSTAT	!<	CHECK VALVE
是		'' (II	UNION/FLANGE
TS	TEMPERATURE SENSOR	۰. ۲	P & T PLUG
VFD	VARIABLE FREQUENCY DRIVE		REDUCER
Д VP	VELOCITY PRESSURE SENSOR		SUCTION DIFFUSER
	WALL MOUNTED CARBON DIOXIDE SENSOR	ڪ †	MANUAL AIR VENT
(H)	WALL MOUNTED HUMIDISTAT		DRAIN VALVE WITH HOSE
M	MOTOR	⊥	CONNECTION AND CAP
(T)	WALL MOUNTED THERMOSTAT	4 4	HIGH CAPACITY AIR VENT
(T/H)	WALL MOUNTED COMBINATION	[] 小	TEMPERATURE SENSOR, A.I.
	THERMOSTAT / HUMIDISTAT	FS T	FLOW SWITCH, B.I.
	FAN	ᆘ	BACKFLOW PREVENTER
H	HEATING COIL		DIFFERENTIAL PRESSURE
<u>с</u>			TRANSMITTER, A.I. VARIABLE FREQUENCY DRIVE
c	COOLING COIL		CURRENT SENSING RELAY
<u> </u>		<u>USR</u>	STEAM TRAP
_ ↓			<u>-</u> , 11 V U

DAMPER



CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
G	NATURAL GAS
——GWR——	GLYCOL WATER RETURN
GWS	GLYCOL WATER SUPPLY
——HWR——	HEATING HOT WATER RETURN
——HWS——	HEATING HOT WATER SUPPLY
PSC	PUMPED STEAM CONDENSATE
——————————————————————————————————————	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
S100	STEAM (PRESSURE INDICATED BY NUMBER
SC100	STEAM CONDENSATE (PRESSURE INDICATED BY NUMBER)



MISCELLANEOUS EQUIPMENT SCHEDULE											
SYMBOL	DESCRIPTION	REMARKS									
<u>EH-1</u> <u>EH-2</u>	CEILING ELECTRIC HEATER - 3.0KW, 10,200 BTU'S, 240V / 1 PH, 12.5A, TEMP. RISE 54°F. PROVIDE MOUNTING FLANGE FOR GYPBOARD CEILING, FACTORY UNIT MOUNTED DISCONNECT AND LINE VOLTAGE UNIT MOUNTED TAMPER RESISTANT THERMOSTAT.	BASED ON MARKEL MODEL HF3385D-RP									
<u>EH-3</u>	ELECTRIC HEATER - HEAVY DUTY WALL HEATER, FAN FORCED, SURFACE MOUNTING, BUILT-IN THERMOSTAT AND DISCONNECT. 240 V / 1 PH, 16.7 A, 3 KW.	BASED ON MARKEL MODEL 3450									

	FAN SCHEDULE														
SYMBOL	SERVICE	AIRFLOW STA (CFM) PRES	EXTERNAL	FRPM	BHP	MHP 2) (NOTE 2)	VOLT-PHASE	DISCONNECT		BACKDRAFT		SOUND POWER			
			STATIC PRESSURE (IN. W.C.)		(NOTE 2)			BY (NOTE 3)	TYPE (NOTE 4)	DAMPER	DRIVE	LEVELS (SONES)	MANUFACTURER	MODEL	REMARKS
EF-1,EF-2	RESTROOMS	75	0.15	900	0.01	16 WATTS	115 / 1	MFR	NF	GRAVITY	DIRECT	0.3	GREENHECK	SP-A90	5,6
<u>NOTES:</u> 1. 2. 3. 4.	 FANS MUST BE WITHIN +/- 10% OF SCHEDULED RPM. NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAMEPLATE RATING. DISCONNECT BY: MFR = FURNISHED AND INSTALLED BY MANUFACTURER. EC = FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. 								SPEED CON [°] 13.	SECT SCREEN TROLLER MOU NG CIRCUIT.					

GENERAL NOTES:

- A. THE HVAC DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. CONTRACTOR SHALL MAKE MODIFICATIONS IN THE INSTALLATION SO ALL EQUIPMENT AND MATERIALS FIT PROPERLY AND CAN BE SERVICED. COORDINATE ALL WORK WITH OTHER TRADES.
- B. COORDINATE DUCTWORK WITH LIGHT FIXTURE SUPPORTS, CONDUIT, PLUMBING, FIRE PROTECTION PIPING AND OTHER TRADES.
- C. SEAL AROUND ALL PENETRATIONS.
- D. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING REGULATIONS, CODES, AND STANDARDS. INDIANA BUILDING CODE INDIANA MECHANICAL CODE INDIANA PLUMBING CODE
- INDIANA PLUMBING CODE SMACNA HVAC DUCT CONSTRUCTION STANDARDS OSHA
- E. ROUTE DUCTWORK AS SHOWN ON PLAN; FIELD VERIFY ROUTING, AND CLEARANCES. PREFABRICATE AS MUCH DUCT AS POSSIBLE. ALLOW FOR FIELD TRIM AND ADJUSTMENTS. COORDINATE ANY CONFLICTS WITH ARCHITECT PRIOR TO INSTALLATION.
- F. REFERENCE REFLECTED CEILING PLAN FOR TYPES AND HEIGHTS OF CEILINGS.

PLAN NOTES:

M1 PROVIDE GREENHECK MODEL BVE EXTRUDED ALUMINUM BRICK VENT OR EQUIVALENT. MATCH SIZE TO DUCT. COLOR BY ARCHITECT.

