



12/14/21



(817) 737-9922

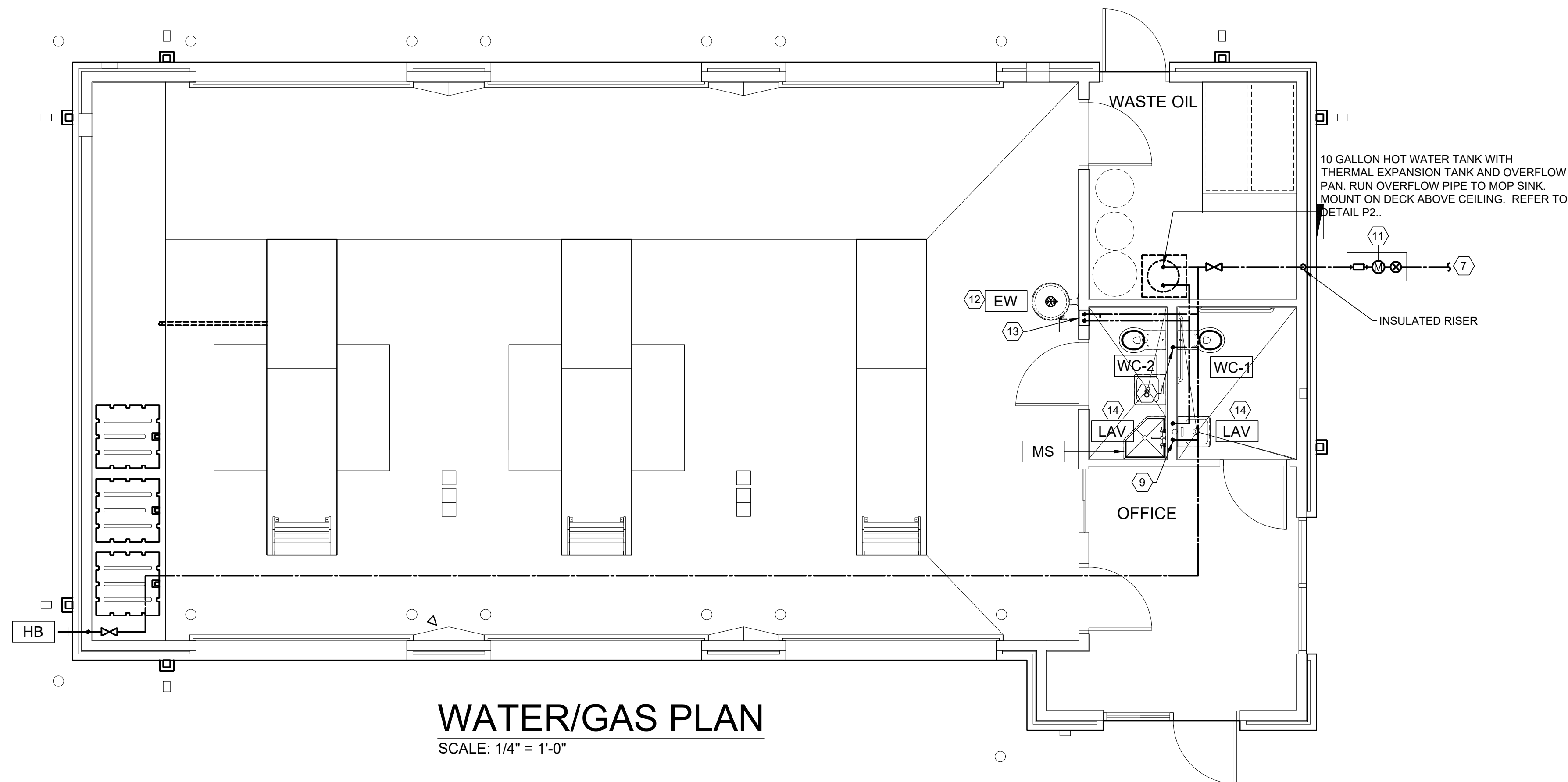
4055 International Plaza Suite 100  
Fort Worth, Texas 76109

**STRICKLAND BROTHERS**  
10910 WOODLAND BEAVER RD  
CHARLOTTE, NORTH CAROLINA 28215

Revisions:

File Name: 21255  
Project No: 21255  
Date: 11/23/21  
Drawn By: NH  
Checked By: NH/DN

SHEET  
**P1.0**  
PLUMBING  
WATER AND  
SANITARY  
PLAN



### PLUMBING LEGEND

	SOIL OR WASTE PIPING ABOVE GRADE
	SOIL OR WASTE PIPING BELOW GRADE
	VENT PIPING
	COLD WATER PIPING
	HOT WATER PIPING
	BLOCK VALVE, SHUTOFF VALVE
	HOSE BIB HEIGHT AS NOTED
	PIPING DOWN
	CAP ON END OF PIPE
	FLOOR CLEANOUT
	BRANCH CONNECTION
	ASME TEMPERATURE & PRESSURE RELIEF VALVE
	VACUUM BREAKER
	KEYED NOTE REFERENCE

### SANITARY - KEYED NOTES

- COORDINATE LOCATION OF EXISTING SANITARY SEWER LINE. FIELD VERIFY LOCATION. CONNECT NEW SANITARY PIPING SERVICE SEWER TO EXISTING.
- 2" WASTE DOWN 1 1/2" VENT UP FROM HAND LAVATORY
- 4" WASTE DOWN 2" VENT UP FROM WATER CLOSET
- ROUTE VENT UP THROUGH ROOF. COORDINATE WITH ARCHITECTURAL. ONLY ROUTE THRU WALLS THAT EXTEND TO DECK.
- MINIMUM SLOPE FOR SS/CW LINES TO BE 1/8" MINIMUM PER FOOT FOR 4" LINES 1/4" MINIMUM PER FOOT FOR 2", 3" & 4" LINES
- EXTEND 3"V THROUGH ROOF PROVIDE PIPE BOOT AND COORDINATE WITH ROOFING SUBCONTRACTOR TO FLASH AND SEAL PENETRATION.

### WATER/GAS - KEYED NOTES

- CONNECT NEW POTABLE WATER TO EXISTING WATER MAIN COORDINATED WITH CIVIL C-400.
- DROP 3/4" CW DOWN WALL & STUB OUT TO SERVE WATER CLOSET
- DROP 1/2" HW/CW DOWN WALL & STUB OUT TO SERVE LAVATORIES
- NOT USED.
- NEW 1 1/2" UNDERGROUND MAIN FROM CITY WATER SUPPLY. REFER TO CIVIL PLANS FOR METER, BACKFLOW PREVENTION AND ISOLATION TO BUILDING.
- WALL MOUNTED EMERGENCY EYE WASH. INSTALL AT MANUFACTURER'S RECOMMENDED HEIGHT.
- EMERGENCY FIXTURE THERMOSTATIC MIXING VALVE LOCATED INSIDE VALVE BOX ON WALL. ROUTE 1/2" CW & 1/2" HW TO MIXING VALVE. THEN EXTEND 1/2" TW (TEPID WATER 75°F) TO FIXTURE.
- AT PUBLIC HANDWASHING LAVATORY, PROVIDE ASSE 1070 APPROVED POINT OF USE MIXING VALVE. SET VALVE OUTLET TEMP TO 110°F.

### PLUMBING NOTES

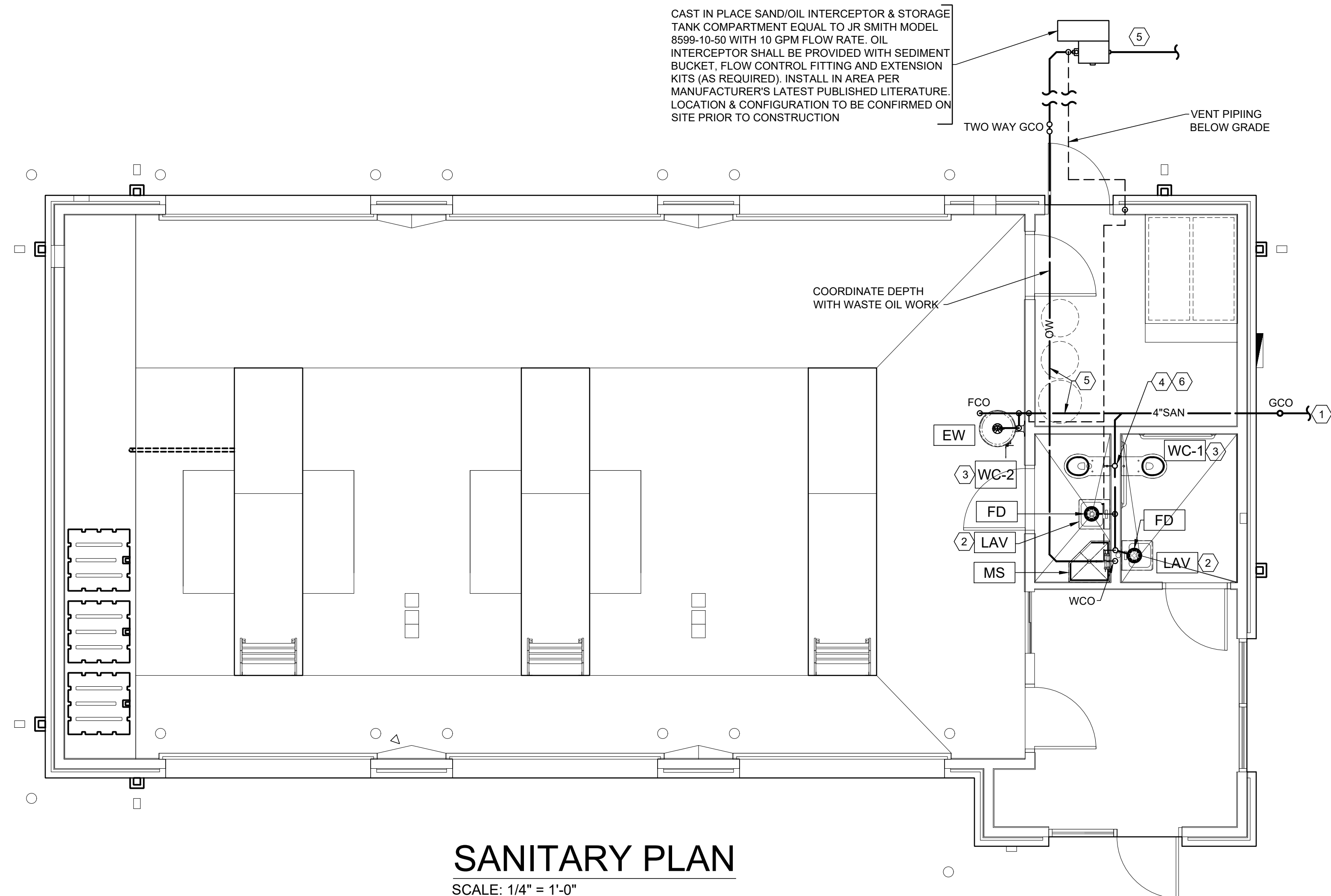
- THE CONTRACTOR INSTALL THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, APPLICABLE REGULATIONS AND ORDINANCES.
- ALL WORK SHALL BE DONE IN A NEAT, PROFESSIONAL MANNER, BY COMPETENT, LICENSED TRADESMEN.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYING FOR ALL PERMITS AND OBTAINING ALL APPROVALS FROM THE AUTHORITY HAVING JURISDICTION.
- CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE SYSTEM, AS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS AND ANY OTHER MEANS BY THE OWNER'S REPRESENTATIVE.
- ALL MATERIALS USED UNDER THIS CONTRACT TO BE NEW, UL APPROVED AND IN GOOD WORKING ORDER.
- ALL WATER PIPING SYSTEMS SHALL BE VALVED AT THE INLET SIDE OF ALL EQUIPMENT, WITH HOT AND COLD WATER CONNECTIONS AND THE OUTLET SIDE OF ALL HOT WATER AND STEAM CONNECTIONS.
- ALL OPEN PIPING SHALL BE CAPPED OR PLUGGED TO PREVENT ENTRY OF FOREIGN MATERIAL DURING THE CONSTRUCTION PERIOD.
- ALL PIPING SHALL BE SECURED OR FASTENED TO STRUCTURAL FRAMING, WALLS OR STUDS.
- PIPING SHALL NOT CONTACT ANY ELECTRICAL CONDUITS DIRECTLY, OR INDIRECTLY THROUGH PIPE SUPPORTS.
- ALL WATER PIPING SHALL BE TYPE "L" COPPER TUBING, ASTM B-88 WITH WROUGHT COPPER FITTINGS, ANSI B-16.22. UNDERGROUND PIPING INSTALLED WITHIN SPECIALTY PRODUCTS CO. "PLASTI-SLEEVE", 0.005" THICKNESS.
- UNIT TRAPS, GREASE TRAPS, BACK FLOW PREVENTORS, AND OTHER EQUIPMENT DEEMED NECESSARY OR REQUIRED BY CODES OR LANDLORD, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED WITH FORMED STYROFOAM PIPE INSULATION. MINIMUM INSULATION THICKNESS SHALL BE 1".
- PRIOR TO COMMENCING WORK, CONTRACTOR TO CONFIRM LOCATION OF ALL FLOOR SINKS, FLOOR DRAINS WITH TENANT.

### PLUMBING SPECIFICATIONS

- INSPECTIONS: THE CONTRACTOR MUST AT ALL TIMES LEND ANY ASSISTANCE NECESSARY FOR ENGINEERS OR THEIR AUTHORIZED REPRESENTATIVE TO MAKE TESTS, INSPECTIONS, ETC.
- BLOWING OUT, CLEANING AND TESTING SYSTEMS: ALL PIPING AND EQUIPMENT SHALL BE BLOWN OUT UNDER PRESSURE AND CLEANED OF FOREIGN MATTER BEFORE THE SYSTEM IS PUT INTO OPERATION. EQUIPMENT SHALL NOT BE CONNECTED TO PIPING UNTIL IT HAS BEEN BLOWN OUT AND CLEANED. PRESSURE TEST ALL NEW WATER PIPING SYSTEMS. ANY DEFECTS MADE EVIDENT BY THE TEST SHALL BE CORRECTED BY THIS CONTRACTOR WITHOUT EXTRA COST TO THE OWNER. DISINFECT WATER PIPING IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION. PLUMBING CODE.
- SANITARY WASTE AND VENT PIPING: PVC DWV PIPE AND FITTINGS CONFORMING TO ASTM-D2665.
- DOMESTIC WATER PIPING: ABOVE GROUND WATER TYPE L HARD COPPER WATER PIPING CONFORMING TO ASTM-B-88. WROUGHT COPPER FITTINGS CONFORMING TO ASTM-B-16.23.
- COMPRESSED AIR PIPING: THREADED BLACK STEEL PIPE AND FITTINGS.
- WASTE OIL PIPING (HARD PIPE): PRESSURE RATED PVC PIPE AND FITTINGS.
- WASTE OIL PIPING (HOSES): REFER TO FF&E MANUAL FOR REQUIRED HOSES. P.C. TO FIELD MEASURE LENGTH REQUIRED.
- WASHER FLUID DISTRIBUTION PIPING: CHARLOTTE PIPE "CHEM-DRAIN" CPVC PIPE AND FITTINGS OR APPROVED EQUAL.
- ANTI-FREEZE DISTRIBUTION PIPING: CHARLOTTE PIPE "CHEM-DRAIN" CPVC PIPE AND FITTINGS OR APPROVED EQUAL.
- INSULATION: ALL ABOVE GROUND DOMESTIC WATER PIPING SHALL BE WRAPPED WITH "1" FIBERGLASS INSULATION WITH PAPER JACKET. ALL EXPOSED PIPING IN ROOM 104 SHALL HAVE PVC JACKET OVER INSULATION.
- PROVIDE BALL VALVES TO ISOLATE ALL GROUPS OF FIXTURES AS SHOWN ON THE PLANS TO FACILITATE FUTURE SERVICING.
- PROVIDE DIELECTRIC UNIONS OR FLANGES TO ISOLATE DISSIMILAR METALS.
- ALL PIPING IN EXPOSED AREAS SHALL BE LABELED WITH PREFAB LABELS AND INCLUDE DIRECTION OF FLOW ARROWS
- HORIZONTAL DRAINAGE PIPING "3" AND LARGER SHALL HAVE A MINIMUM FALL OF 1/8" PER FOOT AND PIPING 2" AND SMALLER SHALL HAVE A MINIMUM FALL OF 1/4" PER FOOT. FIELD VERIFY INVERTS PRIOR TO CONSTRUCTION.
- CLEANOUTS SHALL BE PROVIDED IN ALL PIPING AS SHOWN OR INDICATED BY THE AUTHORITY HAVING JURISDICTION.
- WALL CLEANOUTS SHALL HAVE STAINLESS STEEL COVERS.
- ALL VENT PIPING SHALL SLOPE UP TO THE POINT OF DISCHARGE AT MINIMUM 1/16" PER FOOT.
- P.C. SHALL COORDINATE ALL FLOOR CUTTING WITH GC.
- REFER TO FF&E FOR ALL EQUIPMENT TO BE INSTALLED BY CONTRACTOR.

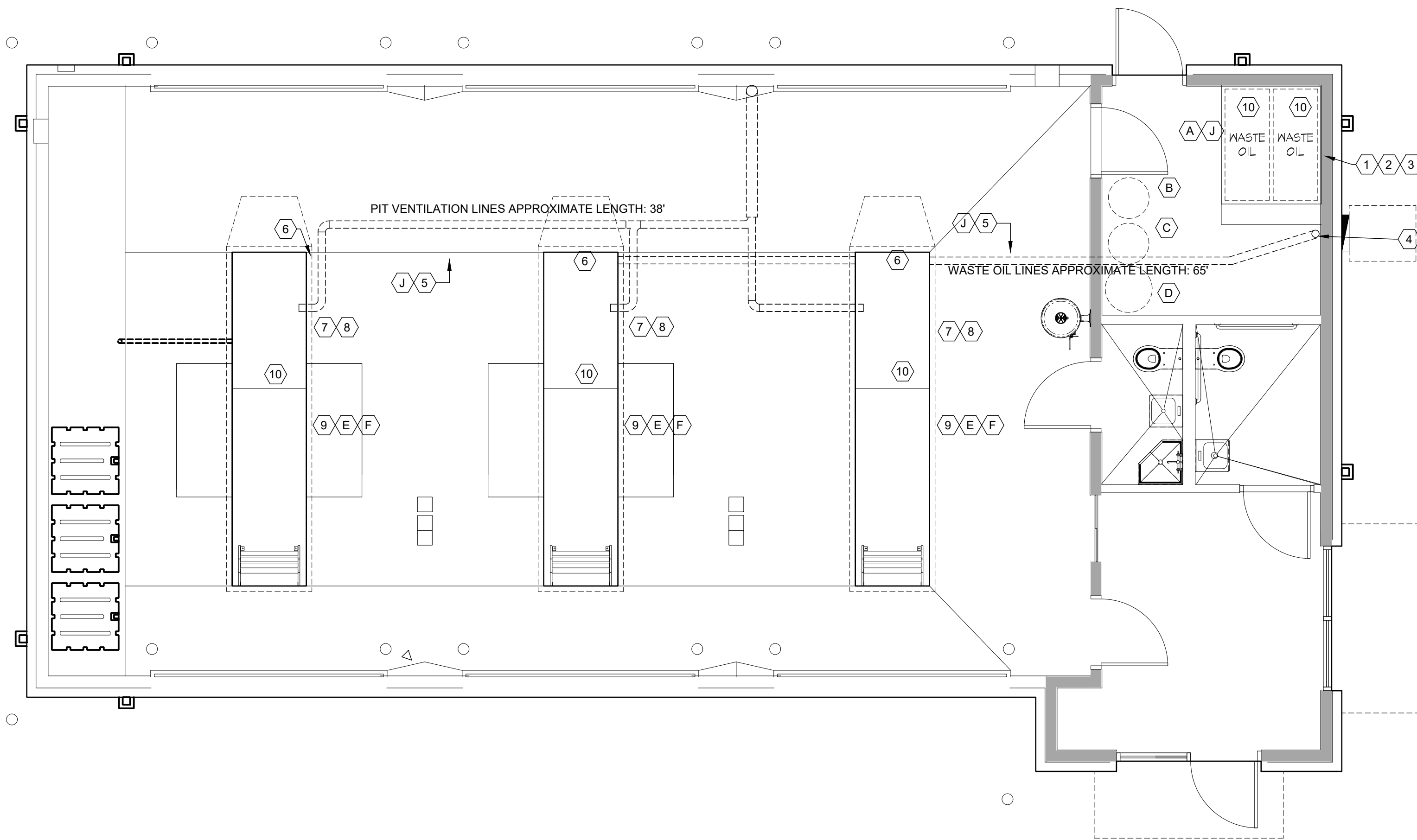
**CASE**  
Engineering Inc.

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St. Louis, MO 63026  
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CERTIFICATE OF AUTHORITY NO. C-4550



### SANITARY PLAN

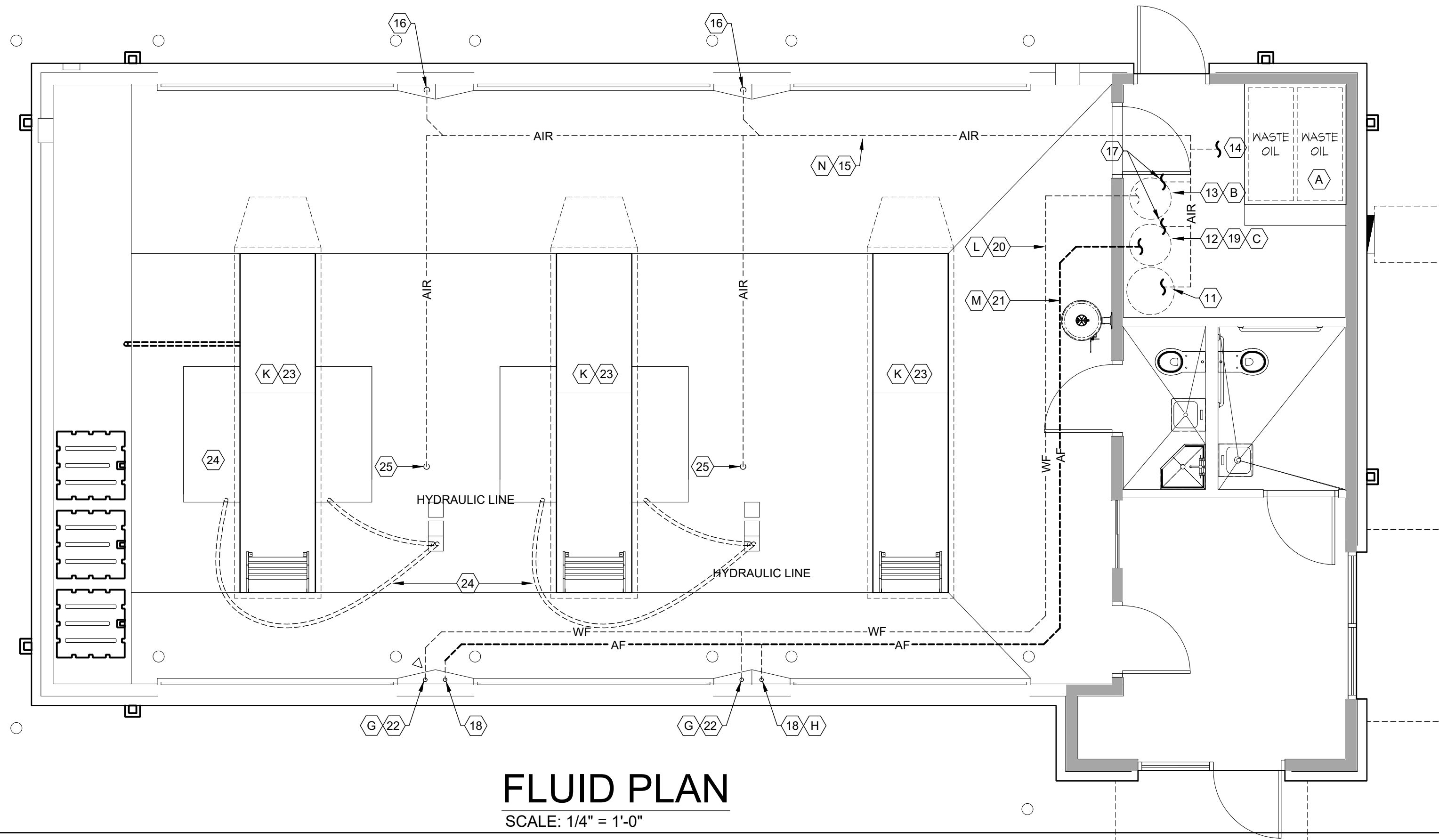
SCALE: 1/4" = 1'-0"



## WASTE OIL PLAN

SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"



## FLUID PLAN

SCALE: 1/4" = 1'-0"

### EQUIPMENT & MATERIAL LIST

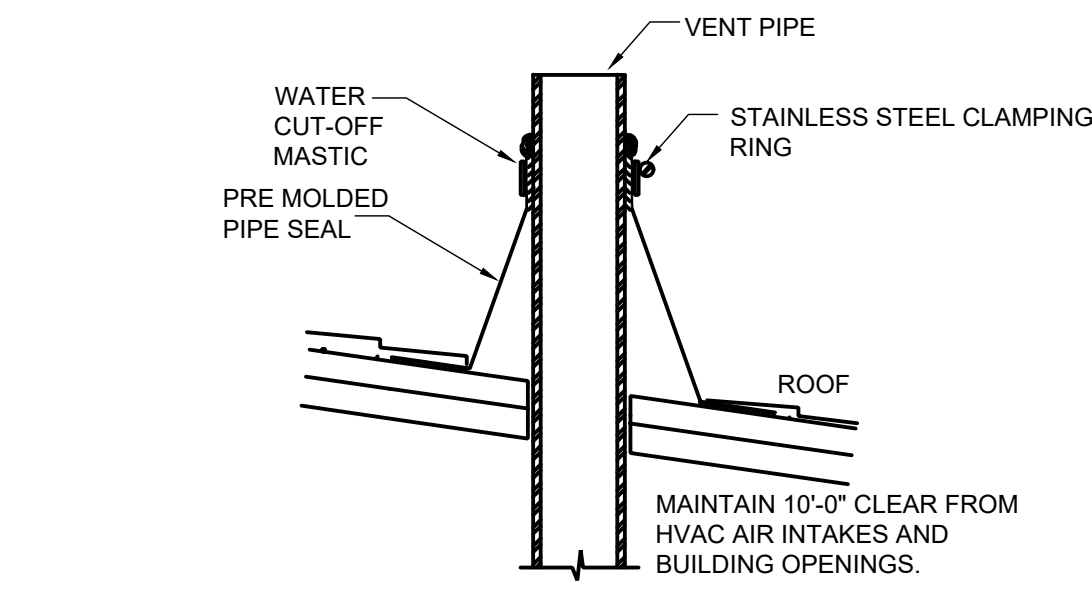
- (A) WASTE OIL PUMP: GCO-647016
- (B) WASHER FLUID PUMP: GCO-647016
- (C) ANTI-FREEZE PUMP: GCO-647016
- (D) AIR COMPRESSOR: VT-735-80-1-B
- (E) ROLLING UP TANKS: E203-30
- (F) OIL SPASH GUARD: DG203
- (G) WASHER FLUID NOZZLES: GCO-180685
- (H) ANTI-FREEZE NOZZLES: GCO-180685
- (J) FLEXIBLE WASTE OIL LINES: LISTED UNDER "MISC ITEMS". VENDOR TO CONFIRM & FIELD VERIFY PRIOR TO ORDERING.
- (K) LOW RISE LIFT: BL-BLAZER 9000
- (L) FLEXIBLE WASHER FLUID HOSE: A-CH-4-25-PR14-25A-B
- (M) FLEXIBLE ANTI-FREEZE FLUID HOSE: A-CH-4-25-PR14-25A-G
- (N) FLEXIBLE GENERAL AIR HOSE: A-CH-4-40-PR14-50A-R

### WASTE OIL - KEYED NOTES

- (1) DIAPHRAGM PUMP FOR EXTRACTING WASTE OIL FROM PIT SLIDING TRAYS TO WASTE OIL TANK. MOUNT PUMP ON WALL SHELF ABOVE WASTE OIL TANKS AT 84" A.F.F.
- (2) PIPING FROM PUMP DISCHARGE INTO WASTE OIL STORAGE TANKS
- (3) FLEXIBLE WASTE OIL LINE UP FROM BELOW GROUND TO PUMP INLET PORT
- (4) 4" PRESSURE RATED SCHEDULE 40 PVC PIPE TURNED UP FROM UNDERGROUND AND TERMINATED AT 3" A.F.F. FLEXIBLE WASTE OIL LINE SHALL CONTINUE UP TO WASTE OIL PUMP
- (5) 4" SCHEDULE 40 PVC PIPE SLEEVE WITH FLEXIBLE WASTE OIL LINE INSIDE. ROUTED BELOW SLAB FROM EDGE OF SERVICE BAYS. CONTRACTOR TO ROUTE PVC PIPE FLAT WITH TOP OF PIPE APPROX 2" BELOW BOTTOM OF FLOOR SLAB (APPROX 8" B.F.F.).
- (6) 1 1/4" OW (SCHEDULE 40 PVC PRESSURE RATED PIPE) ROUTED UNDERGROUND AND THRU PIT WALLS. SEAL PIPE PENETRATIONS OF PIT WALL WITH CLEAR SILICONE SEALANT AROUND PIPE AT WALL.
- (7) 1 1/4" PVC TEE WITH 3" SPOOL PIECE OUT TO A 1 1/4" PVC BALL VALVE WITH THREADED ADAPTOR.
- (8) PROVIDE 24" OF FLEXIBLE OIL HOSE FROM THREADED TITTING ON PVC BALL VALVE AND TERMINATE WITH A VENDOR SUPPLIED FEMALE QUICK CONNECT FITTING.
- (9) 30 GALLON SLIDING WASTE OIL TANK MOUNTED ON PIT RAILS INSIDE PIT
- (10) WASTE OIL TANK SHALL BE EQUIPPED WITH THE VENDOR SUPPLIED ALL THREAD FITTING WITH BALL VALVE AND MALE QUICK CONNECT FITTING

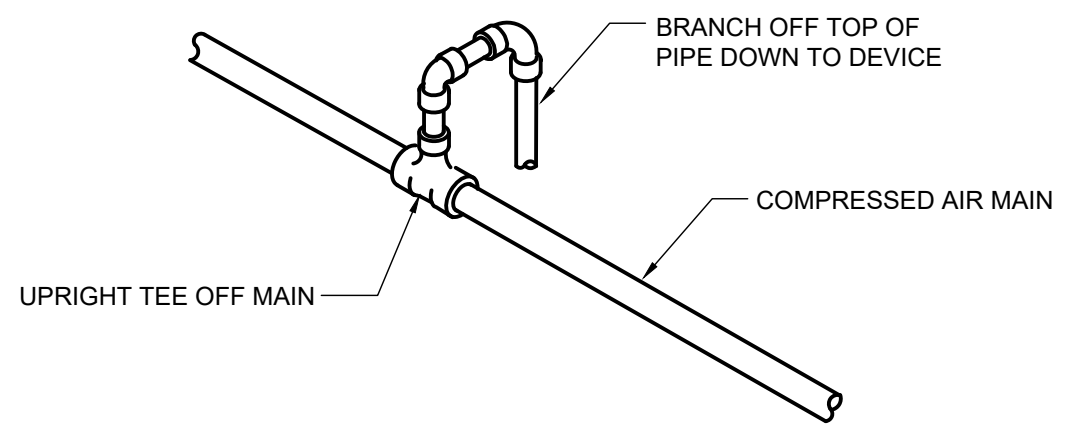
### AIR & FLUID - KEYED NOTES

- (11) 80 GALLON AIR COMPRESSOR ON 4" THICK HOUSEKEEPING PAD. INSTALL SET OUTLET PSI TO 90 PSI. OWNER TO ADJUST AS NECESSARY. CONTRACTOR TO PROVIDE ALL REQUIRED REGULATORS AS NEEDED AT PUMPS AND VEHICLE LIFTS
- (12) DIAPHRAGM PUMP FOR ANTI-FREEZE DISTRIBUTION TO SERVICE HOSES AT WORK BAYS. MOUNT PUMP ON WALL SHELF ABOVE ANTI-FREEZE TANK AT APPROX 84" A.F.F. CONNECT COMPRESSED AIR PIPING AND FLUID HOSES PER MANUFACTURERS RECOMMENDATIONS
- (13) DIAPHRAGM PUMP FOR WINDSHIELD WASHER FLUID DISTRIBUTION TO SERVICE HOSES AT WORK BAYS. MOUNT PUMP ON WALL SHELF ABOVE ANTI-FREEZE TANK AT APPROX 84" A.F.F. CONNECT COMPRESSED AIR PIPING AND FLUID HOSES PER MANUFACTURERS RECOMMENDATIONS
- (14) DIAPHRAGM PUMP FOR EXTRACTING WASTE OIL FROM PIT SLIDING TRAYS TO WASTE OIL TANKS. MOUNT PUMP ON WALL SHELF ABOVE WASTE OIL TANKS AT APPROX 84" A.F.F. CONNECT COMPRESSED AIR PIPING AND FLUID HOSES PER MANUFACTURERS RECOMMENDATIONS
- (15) BLACK STEEL COMPRESSED AIR DISTRIBUTION PIPING ROUTED UP HIGH. ROUTE SUCH THAT PIPING DOES NOT INTERFERE WITH BAY DOOR OPERATION
- (16) COMPRESSED AIR ROUTED DOWN FACE OF WALL TO 24" A.F.F. PROVIDE BALL VALVE JUST ABOVE BOTTOM OF PIPE. CONNECT FLEXIBLE HOSE TO END OF STEEL PIPING
- (17) CONNECT COMPRESSED AIR TO DIAPHRAGM PUMPS. PROVIDE STEEL TEE IN MAIN AND ROUTE FLEXIBLE AIR HOSE TO PUMP INLET CONNECTION. TYPICAL.
- (18) ROUTE FLEXIBLE HOSE FROM PUMP FLUID INLET PORT DOWN INTO WINDSHIELD WASHER FLUID TANK BELOW. CONNECT WITH MANUFACTURER APPROVED FITTINGS.
- (19) ROUTE FLEXIBLE HOSE FROM PUMP FLUID INLET PORT DOWN INTO ANTI-FREEZE FLUID TANK BELOW. CONNECT WITH MANUFACTURER APPROVED FITTINGS.
- (20) ROUTE 1/2" WASHER FLUID PIPING AS SHOWN FROM PUMP OUTLET FITTING TO SERVICE BAYS
- (21) ROUTE 1/2" AF PIPING AS SHOWN FROM PUMP OUTLET FITTING TO SERVICE BAYS
- (22) 1/2" AF & 1/2" WF DROPS DOWN FACE OF WALL BETWEEN BAY DOORS TO 24" A.F.F. CONFIRM WITH OWNER FOR EXACT LOCATION OF DROPS. CONNECT FLUID HOSE AND DISPENSING NOZZLE TO END OF DROPS
- (23) RECESSED PIT LIFT SYSTEM WITH CONTROL BOX/CONSOLE. LIFT PROVIDED AND INSTALLED BY CONTRACTOR. CONTRACTOR TO COORDINATE UNDERGROUND HYDRAULIC LINES PRIOR TO CONSTRUCTION
- (24) CONTRACTOR SHALL BE RESPONSIBLE FOR PLUMBING THE HYDRAULIC LINES TO THE NEW PIT LIFT. THIS INCLUDES THE ROUGH-IN OF 2" PVC PIPE CONDUIT UNDER SLAB TO LOCATIONS RECOMMENDED BY LIFE MANUFACTURER. ALL PVC ELBOWS SHOULD BE LONG RADIUS, NOT SHORT RADIUS. HYDRAULIC LINES SHOULD EXTEND FROM LIFT CONNECTION TO LIFT/CONTROL MODULE. REFER TO MANUFACTURERS INSTRUCTIONS FOR SIZE AND QUANTITY OF HYDRAULIC LINES. FIELD COORDINATION IS REQUIRED FOR THIS EQUIPMENT.
- (25) CONTRACTOR SHALL BE RESPONSIBLE FOR PLUMBING THE PRIMARY COMPRESSED AIR LINE TO THE NEW PIT LIFT CONTROL BOX/CONSOLE AND ALSO THE INTERNAL AIR LINES FROM THE CONSOLE TO THE LIFT. COORDINATE WITH G.C. AND INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTION.



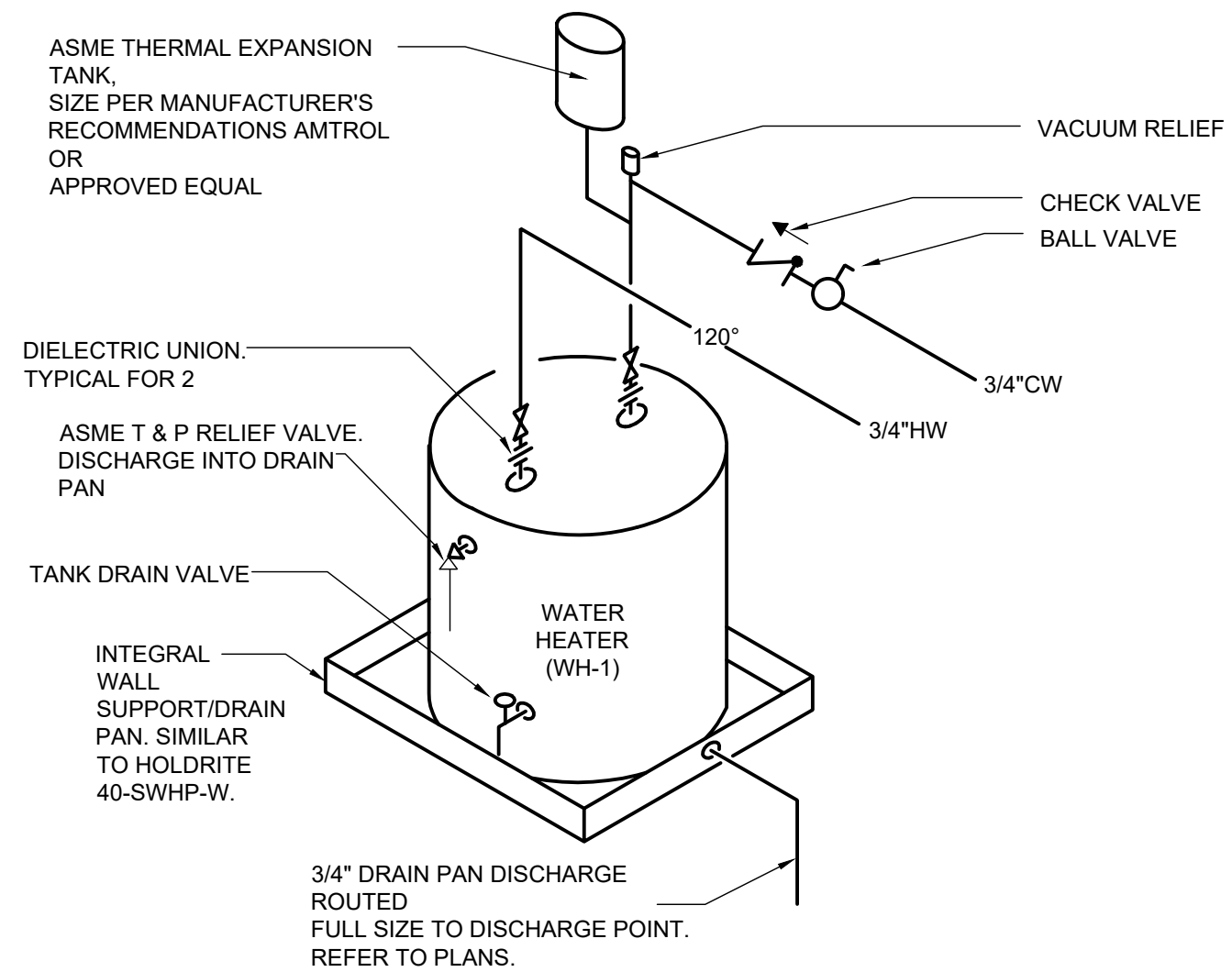
1  
P.O.1 SCALE: N.T.S.

VENT THRU ROOF TERMINATION



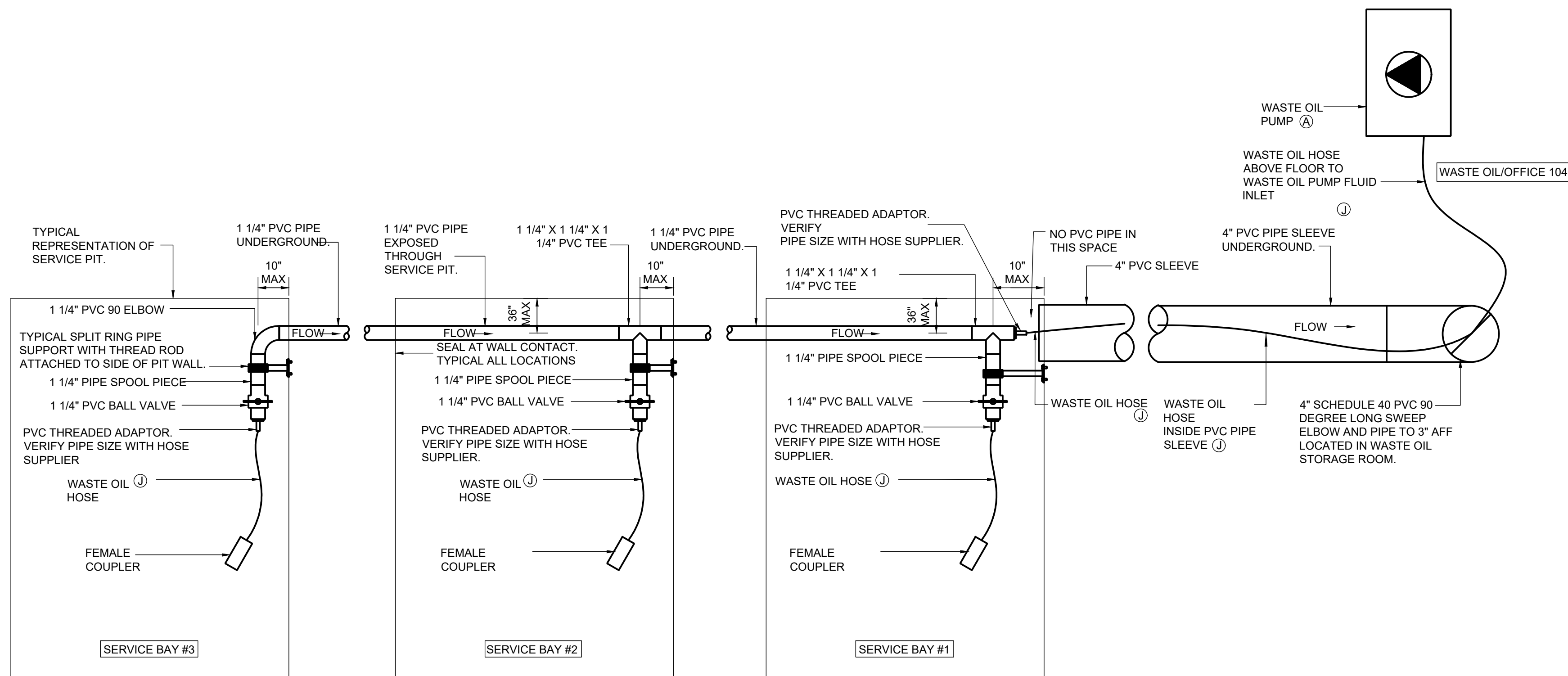
3  
P.O.1 SCALE: N.T.S.

COMPRESSED AIR BRANCH



2  
P.O.1 SCALE: N.T.S.

ELECTRIC WATER HEATER



1  
P2.0 SCALE: NONE

WASTE OIL PIPING DETAIL

#### PLUMBING SPECIFICATIONS

1. PLUMBING CONTRACT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FEES AND PERMITS REQUIRED FOR AND REASONABLY INCIDENTAL TO THE EXECUTION OF THE PLUMBING WORK.
2. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE APPLICABLE STATE BUILDING CODE, PLUMBING, ENERGY, AND LOCAL BUILDING CODES.
3. THE PLUMBING CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE PLUMBING PLANS, SCHEDULES AND DETAILS PRIOR TO INSTALLATION OF THE PLUMBING SYSTEM AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE OWNER, ARCHITECT AND/OR ENGINEER FOR RESOLUTION, FIELD VERIFY ALL EXISTING LINE SIZES AND LOCATIONS PRIOR TO BIDDING.
4. IT WILL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO INSURE THAT ITEMS TO BE FURNISHED UNDER THIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS.
5. THE PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF THE OTHER TRADES PRIOR TO THE INSTALLATION OF ANY OF HIS PIPING OR EQUIPMENT.
6. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ITEMS SHOWN ON THE FLOOR PLAN DRAWINGS AND ALSO THE ITEMS REFERENCED IN THE EQUIPMENT AND MATERIALS LIST ON DRAWING P.O.2.
7. MEASUREMENTS: BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK, THE PLUMBING CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND LINE SIZES AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF SAME. HE SHALL ALSO BE RESPONSIBLE FOR VERIFYING THE INVERT ELEVATION OF THE EXISTING SANITARY PIPING PRIOR TO CONSTRUCTION.
8. STANDARDS OF MATERIALS: ALL MATERIALS USED SHALL BE NEW UNLESS OTHERWISE SHOWN OR CALLED FOR, AND SHALL BE FURNISHED IN ACCORDANCE WITH STANDARD SPECIFICATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, THE AMERICAN CONCRETE INSTITUTE, AND OTHER GUIDE SPECIFICATIONS.
9. DIAGRAMS AND COORDINATION: THE DRAWINGS ARE DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. THE DRAWINGS INDICATE OFFSETS REQUIRED, BUT BY NO MEANS INDICATE ALL SUCH SITUATIONS.
10. INSPECTIONS: THE CONTRACTOR MUST AT ALL TIMES LEND ANY ASSISTANCE NECESSARY FOR ENGINEERS OR THEIR AUTHORIZED REPRESENTATIVE TO MAKE TESTS, INSPECTIONS, ETC.
11. BLOWING OUT, CLEANING AND TESTING SYSTEMS: ALL PIPING AND EQUIPMENT SHALL BE BLOWN OUT UNDER PRESSURE AND CLEANED OF FOREIGN MATTER BEFORE THE SYSTEM IS PUT INTO OPERATION. EQUIPMENT SHALL NOT BE CONNECTED TO PIPING UNTIL IT HAS BEEN BLOWN OUT AND CLEANED. PRESSURE TEST ALL NEW WATER PIPING SYSTEMS. ANY DEFECTS MADE EVIDENT BY THE TEST SHALL BE CORRECTED BY THIS CONTRACTOR WITHOUT EXTRA COST TO THE OWNER. DISINFECT WATER PIPING IN ACCORDANCE WITH N.C. PLUMBING CODE.
12. GUARANTEE: CONTRACTOR SHALL GUARANTEE HIS MATERIAL, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF 12 MONTHS AFTER DATE OF FINAL ACCEPTANCE BY ENGINEERS AND OWNERS (PARTS AND LABOR). ALL GUARANTEE FAILURE SHALL BE CORRECTED OR REPLACED BY CONTRACTOR AS SOON AS POSSIBLE AFTER IDENTIFICATION OF SUCH FAILURE.
13. SANITARY WASTE AND VENT PIPING: PVC DWV PIPE AND FITTINGS CONFORMING TO ASTM-D2665.
14. DOMESTIC WATER PIPING: ABOVE GROUND WATER: TYPE L HARD COPPER WATER PIPING CONFORMING TO ASTM-B-88. WROUGHT COPPER FITTINGS CONFORMING TO ASTM-B-16.23.
15. COMPRESSED AIR PIPING: THREADED BLACK STEEL PIPE AND FITTINGS.
16. WASTE OIL PIPING (HARD PIPE): PRESSURE RATED PVC PIPE AND FITTINGS.
17. WASTE OIL PIPING (HOSES): REFER TO FF&E MANUAL FOR REQUIRED HOSES. P.C. TO FIELD MEASURE LENGTH REQUIRED.
18. WASHER FLUID DISTRIBUTION PIPING: CHARLOTTE PIPE "CHEM-DRAIN" CPVC PIPE AND FITTINGS.
19. ANTI-FREEZE DISTRIBUTION PIPING: CHARLOTTE PIPE "CHEM-DRAIN" CPVC PIPE AND FITTINGS.
20. INSULATION: ALL ABOVE GROUND DOMESTIC WATER PIPING SHALL BE WRAPPED WITH "1" FIBERGLASS INSULATION WITH PAPER JACKET. ALL EXPOSED PIPING IN ROOM 104 SHALL HAVE PVC JACKET OVER INSULATION.
21. PROVIDE BALL VALVES TO ISOLATE ALL GROUPS OF FIXTURES AS SHOWN ON THE PLANS TO FACILITATE FUTURE SERVICING.
22. PROVIDE DIELECTRIC UNIONS OR FLANGES TO ISOLATE DISSIMILAR METALS.
23. ALL PIPING IN EXPOSED AREAS SHALL BE LABELED WITH PREFAB LABELS. INCLUDE DIRECTION OF FLOW ARROWS
24. HORIZONTAL DRAINAGE PIPING "3" AND LARGER SHALL HAVE A MINIMUM FALL OF 1/8" PER FOOT AN PIPING 2" AND SMALLER SHALL HAVE A MINIMUM FALL OF 1/4" PER FOOT. FIELD VERIFY INVERTS PRIOR TO CONSTRUCTION.
25. CLEANOUTS SHALL BE PROVIDED IN ALL PIPING AS SHOWN OR INDICATED BY THE AHJ.
26. WCO SHALL HAVE STAINLESS STEEL COVERS.
27. JALL VENT PIPING SHALL SLOPE UP TO THE POINT OF DISCHARGE AT MINIMUM 1/16" PER FOOT.
28. P.C. SHALL COORDINATE ALL FLOOR CUTTING WITH GC.
29. REFER TO FF&E FOR ALL EQUIPMENT TO BE INSTALLED BY P.C.

**CASE**  
Engineering Inc.

796 Merus Court  
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F 636.349.1730  
CERTIFICATE OF AUTHORITY NO. C-4550



12/14/21

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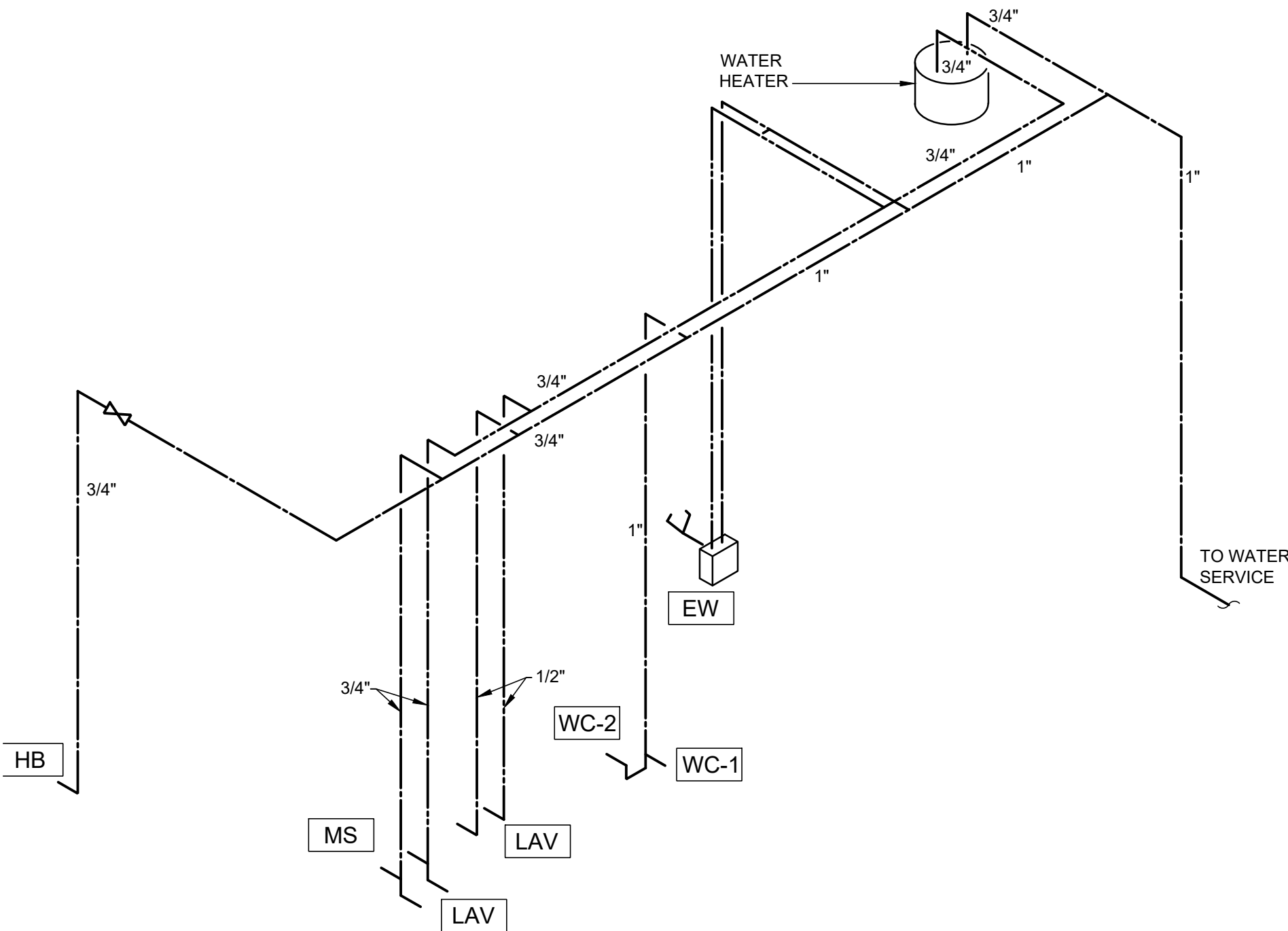
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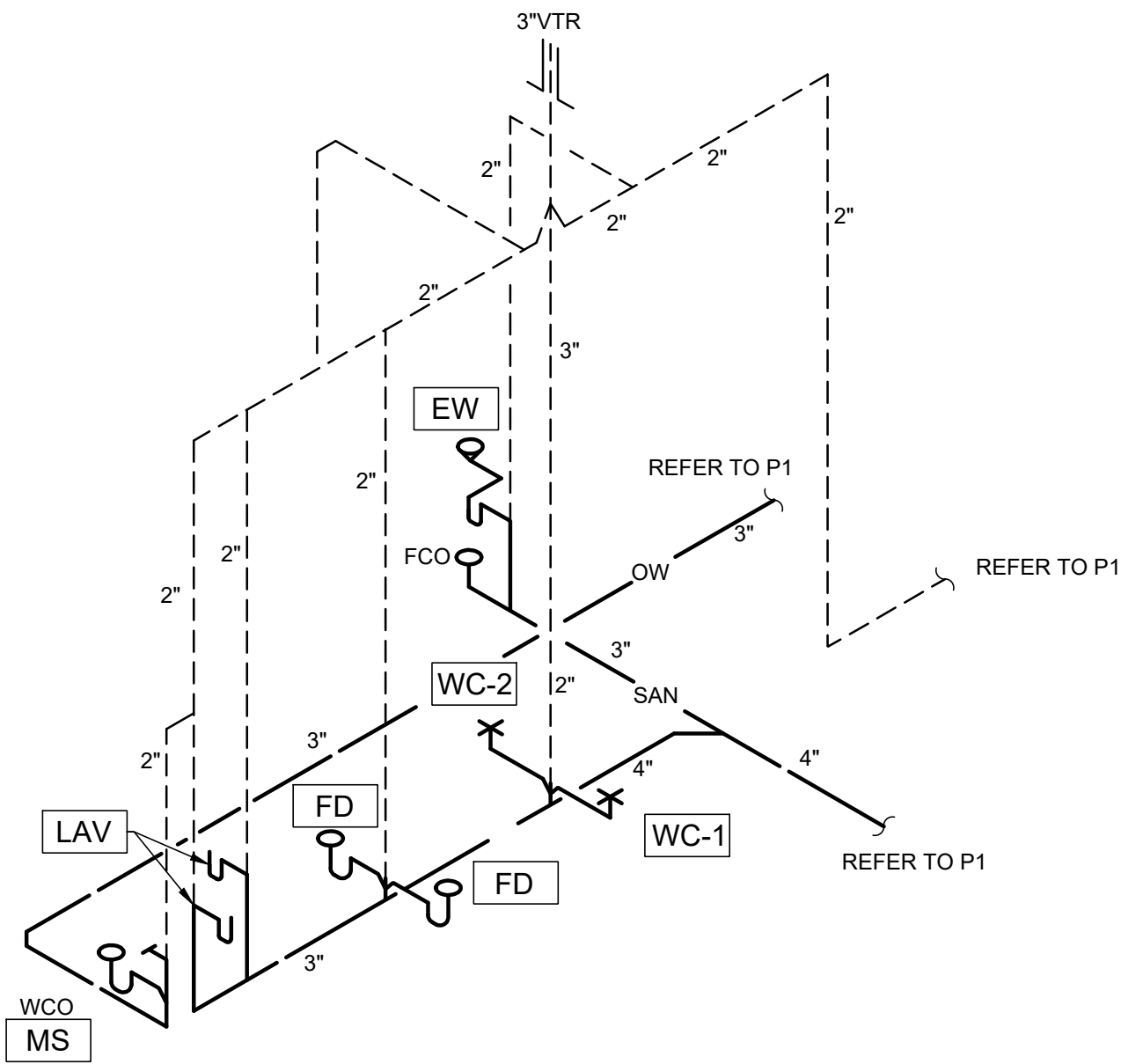
SHEET

**P2.0**  
PLUMBING  
SPECIFICATIONS  
AND DETAILS

EMERGENCY EYE WASH - WATER CALCULATIONS
PER ANSI Z358.1, AN EMERGENCY EYE WASH MUST DELIVER 0.4 GPM OF "TEPID" WATER FOR 15 MINUTES.  (0.4 GPM) X (15 MINS) = 6 GALLONS OF TEPID WATER REQUIRED.  TEPID WATER IS DEFINED AS BEING BETWEEN 60°F & 100°F  THIS DESIGN HAS A NEW 10 GALLON CAPACITY STORAGE WATER TANK FOR THE BUILDING AND THIS ALSO SERVES THE EMERGENCY FIXTURE VIA AN EMERGENCY THERMOSTATIC MIXING VALVE.  THE STORED WATER IS AT 120°F. ASSUMED COLD WATER TEMP IS 45°F. DESIRED "TEPID" WATER IS 75°.  FOR A TEPID WATER OUTPUT OF 75°F, GIVEN THE CONDITIONS ABOVE, THE PERCENTAGE OS 120°F HOT WATER REQUIRED IS:  HW % REQUIRED = (TEPID WATER - COLD WATER)/(HOT WATER - COLD WATER) = (75 - 45)/(120 - 45) = (30)/(75) = 0.4  THEREFORE 40% OF THE WATER MUST BE HOT WATER.  (0.4) X (6 GALLONS) - 2.4 GALLONS OF HOT WATER REQUIRED.  10 GALLONS OF 120°F HOT WATER PROVIDED VIA NEW WATER HEATER.
HOT WATER RE-CIRCULATION NOTES
A HOT WATER RE-CIRCULATION LOOP AND PUMP IS NOT REQUIRED IN THIS PROJECT AS THE DEVELOPED LENGTH OF HOT WATER PIPING FROM THE WATER HEATER TO THE FURTHEST FIXTURE (SINK IN UNISEX RESTROOM) DOES NOT EXCEED 50 FT, PER IPC 607.2
OIL/WATER SEPARATOR NOTES
THERE IS NO OIL/WATER SEPARATOR PROVIDED FOR THIS FACILITY AS THERE ARE NO OPEN DRAINS TO THE SANITARY SEWER LOCATED WITHIN THE SERVICE BAYS. THE CORPORATE POLICY FOR STRICKLAND OIL COMPANY IS TO CAPTURE AND RECLAIM ALL USED OIL IN SPECIFIC CONTAINERS FOR TRANSPORTATION OFF THE PREMISES BY AN OIL DISPOSAL COMPANY. ANY SPILLS WILL BE WIPED UP WITH RAGS.



WATER



SANITARY

PLUMBING FIXTURE CONNECTION SCHEDULE						
MARK	TYPE OF FIXTURE	WASTE	TRAP ARM	VENT	CW	HW
WC	WATER CLOSET	4"	3"	2"	3/4"	-
LAV	LAVATORY	2"	1 1/2"	1 1/2"	1/2"	1/2"
MS	MOP SINK	2"	2"	1 1/2"	1/2"	1/2"
FD	FLOOR DRAIN	2-4"	2-4"	1 1/2"	-	-
HB	HOSE BIB	-	-	-	3/4"	-
WSH	WASHING MACHINE	2"	2"	1 1/2"	3/4"	3/4"
GT	GREASE INTERCPT					
PLUMBING FIXTURE UNIT COUNT						
MARK	TYPE OF FIXTURE	QTY.	F.U. EA FIXTURE		F.U. WATER	
			WASTE	WATER	WASTE	WATER
WC	WATER CLOSET	2	4	5	8	10
LAV	LAVATORY	2	1	2	2	4
MS	MOP SINK	1	2	3	2	3
FD	FLOOR DRAIN	3	2	-	6	-
					18	17
PLUMBING PIPE SCHEDULE						
SYSTEM			SERVICE			
WATER LINE BELOW GRADE			TYPE 'K' COPPER			
WATER LINE ABOVE GRADE			TYPE 'L' COPPER			
SANITARY SEWR BELOW GRADE			SCHEDULE 40 PVC			
SANITARY SEWER GRADE			SCHEDULE 40 PVC			
VENT PIPE BELOW GRADE			SCHEDULE 40 PVC			
VENT PIPE ABOVE GRADE			SCHEDULE 40 PVC			
GAS LINE PIPING			SCHEDULE 40 BLACK IRON			
GENERAL NOTES:						
1. PROVIDE SHUT-OFF VALVES FOR ALL WATER LINES AT PLUMBING FIXTURES & EQUIPMENT CONNECTIONS. 2. MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET SHALL NOT EXCEED 2.2 GALLONS OF WATER PER MIN. 3. MAXIMUM FLOW OF WATER PER FLUSH FROM URINAL SHALL NOT EXCEED 1.0 GALLON AVERAGE PER FLUSH. 4. MAXIMUM FLOW OF WATER PER FLUSH FROM TOILET SHALL NOT EXCEED 1.28 GALLONS PER FLUSH.						

PLUMBING FIXTURE SCHEDULE			
MARK	MANUFACTURER	MODEL	DESCRIPTION
WC 1	ZURN	Z5561	ELONGATED 17" H, 12" ROUGH-IN FLOOR MOUNTED ELONGATED TANK TYPE WATER CLOSET. MANUAL 1.1 GPF PRESSURE ASSISTED TANK TYPE FLUSH LEVER HANDLE SHALL BE ON THE WIDE SIDE OF THE RESTROOM, (ADA COMPLIANT).
WC 2	ZURN	Z5571	ELONGATED 15" H, 12" ROUGH-IN FLOOR MOUNTED ELONGATED TANK TYPE WATER CLOSET. MANUAL 1.1 GPF PRESSURE ASSISTED TANK TYPE FLUSH LEVER HANDLE SHALL BE ON SAME SIDE OF FIXTURE AS ADA TOILET ADJACENT. (STANDARD HEIGHT)
LAV	ZURN	Z5340 WITH ZURN Z81101-XL-G -HCT-3M	WALL HUNG LAV WITH MANUAL TWO HANDLE FAUCET FAUCET ON 4" CENTERS AND OPEN GRID STRAINER. PROVIDE WITH 0.5 GPM AERATOR. PROVIDE WITH WALL CARRIER AND SCALD GUARD COVERS ON TRAP AND SUPPLY LINES, HOT AND COLD FAUCET INDEXES AND STOP AND SUPPLY PROTECTORS.(ADA COMPLIANT).
MS	FIAT	MSBIDTG2424	COMPLETE FIXTURE WITH FAUCET PACKAGE. CONFIRM ACCESSORIES WITH OWNER PRIOR TO PURCHASE.
FD	WATTS	FD-100-B	PROVIDE WITH TRAP PRIMER CONNECTION, SEDIMENT BUCKET, VANDAL PROOF SCREWS
WCO	J.R SMITH ZURN WADE	4532 ZN-1445 W-8560	WALL CLEAN-OUT, CAST IRON BRANCH CLEAN-OUT TEE WITH BRONZE COUNTERSUNK PLUG, ROUND STAINLESS STEEL ACCESS COVER.
GCO	JOSAM	56040	CAST IRON BRONZE PLUG GRADE CLEAN-OUT, PROVIDE 24" x 24" x 4" THICK CONCRETE PAD AT GRADE.
FCO	ZURN	CO2451-VP	PVC CLEANOUT, ABS PLUG, NICKEL VANDAL PROOF SECURED TOP
HB	WOODFORD	25	FREEZE PROOF, AUTOMATIC DRAINING WALL FAUCET WITH WHEEL HANDLE OPERATION AND 3/4" MALE HOSE THREAD NOZZLE. INSTALL AT 18" AFF.
MXV	LAWLER	TMM-1070	MECHANICAL POINT OF USE MIXING VALVE WITH 120° F CUT-OFF LIMIT. SET OUTLET TO 110° F
OT	J.R SMITH	8599-10-50	OIL INTERCEPTOR WITH INTEGRAL STORAGE COMPARTMENT - 10 GPM FLOW RATE. CONFIRM IF STORAGE TANK IS REQUIRED.
WH	AO SMITH	PROMAX EJC-10	10 GAL TANK TYPE ELECTRIC WATER HEATER, ELEMENT WATTAGE SHALL BE RATED AT THE INDICATED VOLTAGE. COORDINATE ELECTRICAL WITH E.C. PROVIDE DRAIN PAN UNDER HEATER. DRAIN T&P TO DRAIN PAN, ROUTE DRAIN PAN DISCHARGE PER PLANS. PROVIDE WALL MOUNTED SUPPORT SHELF WITH INTEGRAL DRAIN PAN SIMILAR TO "HOLDRITE 40-SWHP-W". PROVIDE COMPLETE WITH EXPANSION TANK. SET HEATER OUTLET TO 120° F.
EW	BRADLEY	S19224B	ANSI Z358.1 COMPLIANT, ADA COMPLIANT WALL MOUNTED EMERGENCY EYE WASH STATION. MOUNT WITH BOTTOM OF BOWL AT 27'-1/4" AFG. PROVIDE WITH ALL HARDWARE TO MOUNT TO WALL AND ROUGH IN THE WATER LINES. FIXTURE TO DRAIN TO SANITARY SEWER IN WALL. PADDLE ACTIVATED WATER FLOW WITH ANSI REQUIRED FLOW RATE. PROVIDE COMPLETE WITH MIXING VALVE.
TMV	BRADLEY	S19-2000 EFX8-R-B-SE	THERMOSTATIC MIXING VALVE FOR EMERGENCY FIXTURES TO MATCH EYE WASH STATION. PROVIDE COMPLETE WITH SURFACE MOUNTED BOX FOR THE WALL.
WHA	SIOUX CHIEF	650 SERIES	PISTON TYPE WATER HAMMER ARRESTOR. SIZE PER PDI RECOMMENDATIONS
REFER TO EQUIPMENT SCHEDULE FOR SINK MANUFACTURER & DESCRIPTIONS. FIXTURES PROVIDED & INSTALLED BY GENERAL CONTRACTOR. NOTE: FAUCETS & FITTINGS FOR ABOVE ARE TO BE PROVIDED BY AND INSTALLED BY GENERAL CONTRACTOR. NOTE: INSULATE HOT & COLD WATER SUPPLIES AND P-TRAP WITH TRUEBRO MODEL 102 INSULATION KIT.			

RISERS  
SCALE: NONE

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SHEET  
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PLUMBING  
SCHEDULES  
AND RISER