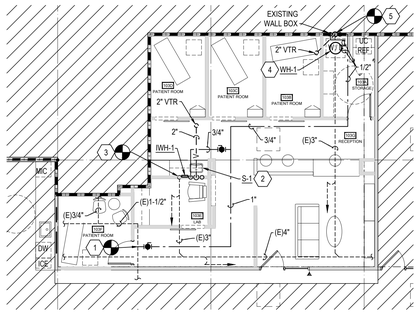
PLUMBING GENERAL NOTES:

1. FURNISH AND INSTALL ALL MATERIALS AND LABOR REQUIRED TO PROVIDE COMPLETE AND OPERABLE PLUMBING SYSTEMS WITH ALL ITEMS AND APPURTENANCES NECESSARY, EVEN THOUGH NOT SPECIFICALLY CALLED OUT.
2. ALL WORK AND/OR MATERIAL SHALL BE INSTALLED BY A LICENSED CONTRACTOR.
3. 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 PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO THE OWNER.
4. CROSS-CONNECTIONS OF ANY FIXTURE, DEVICE OR CONSTRUCTION WHICH WILL PERMIT BACKFLOW CONNECTIONS BETWEEN A WATER DISTRIBUTION SYSTEM AND ANY PART OF THE DRAINAGE SYSTEM SHALL NOT BE INSTALLED.
5. PLUMBING FIXTURES SHALL BE AS SCHEDULED. ALL HANDICAP FIXTURE INSTALLATIONS SHALL BE IN COMPLIANCE WITH ADA AND TAS (TEXAS ACCESSIBILITY STANDARDS). CONFIRM EXACT LOCATIONS OF ALL PLUMBING FIXTURES WITH ARCHITECT PRIOR TO INSTALLATION. ALL FIXTURES SHALL BE COMPLETE WITH ALL NECESSARY TRIM. ALL EXPOSED METAL PARTS SHALL BE CHROME PLATED BRASS.
6. CONFIRM ROUGH-IN REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO INSTALLATION.
7. COORDINATE EXACT ROUTING OF ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF WORK.
8. CONTRACTOR SHALL CONFIRM DEPTHS OF EXISTING SEWER LINES AND CONFIRM ADEQUACY FOR CONNECTION OF NEW SYSTEM. THE ENGINEER SHALL BE NOTIFIED IF THE REQUIRED SLOPES CAN NOT BE MAINTAINED, PRIOR TO INSTALLATION OF ANY NEW PIPING.
9. INSTALL PLUMBING VENTS THROUGH ROOF TO BE A MINIMUM OF 10'-0" FROM ALL RTU AND OTHER OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL.
10. ALL EXPOSED PIPING PASSING THROUGH FLOORS, CEILINGS OR WALLS SHALL BE PROVIDED WITH APPROVED PLATES OF SUFFICIENT DIAMETER TO COVER THE SLEEVE OPENING AND FIT SNUGLY AROUND THE PIPE.
11. THIS CONTRACTOR SHALL FURNISH ALL PIPE SUPPORTS REQUIRED FOR HIS EQUIPMENT AND MATERIAL. ALL HORIZONTAL RUNS OF PIPING SHALL BE SUPPORTED BY PIPE HANGERS SPACED NOT MORE THAN 10 FEET APART FOR PIPES 1-1/4" AND LARGER, AND 8' FOR PIPES SMALLER THAN 1-1/4", AND AT EACH JOINT FOR SOIL OR WASTE PIPE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. HANGERS FOR COPPER PIPE SHALL HAVE NYLON INSULATED BUSHINGS OR PIPE SHALL BE WRAPPED WITH 15# FELT.
12. CLEANOUTS SHALL BE PROVIDED WHERE INDICATED ON THE DRAWINGS, OR WHERE REQUIRED, TO PROVIDE ACCESS TO ALL LINES AND AT HORIZONTAL RUN AT INTERVALS NOT EXCEEDING 80 FEET IN ALL SOIL, WASTE AND DRAIN LINES. CLEANOUTS SHALL BE SAME AS PIPE EXCEPT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED.
13. ALL WASTE AND VENT PIPING SHALL BE STANDARD WEIGHT CAST IRON OR SCHEDULE 40 PVC. HORIZONTAL SOIL & WASTE PIPES SHALL BE GIVEN A GRADE OF 1/4 INCH PER FOOT WHERE POSSIBLE, BUT IN NO CASE LESS THAN 1/8 INCH PER FOOT. [INSTALL WASTE PIPING AT A MINIMUM SLOPE OF 2% INSIDE BUILDING, OR AS REQUIRED BY LOCAL CODES.] ALL PVC PIPING INSTALLATION SHALL CONFORM TO ASTM D 2321 LATEST EDITION "UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS" IN ALL RESPECTS. MINIMUM TRENCH WIDTH SHALL BE THE PIPE DIAMETER PLUS 16". ALL BEDDING MATERIAL SHALL MEET 1A OR 1B CRITERIA.
14. ALL NEW DOMESTIC WATER PIPING SHALL BE TYPE "L" COPPER WITH WROUGHT COPPER FITTINGS. INSULATE ALL DOMESTIC WATER PIPING WITHIN THE BUILDING AND OUTSIDE THE BUILDING THERMAL INSULATION ENVELOPE WITH FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. INSULATION SHALL BE 1" THICK FOR NOMINAL PIPE SIZES UP TO 1-1/4" AND 1-1/2" THICK FOR ALL PIPE SIZES 1-1/2" AND GREATER.

FIRE PROTECTION NOTES:

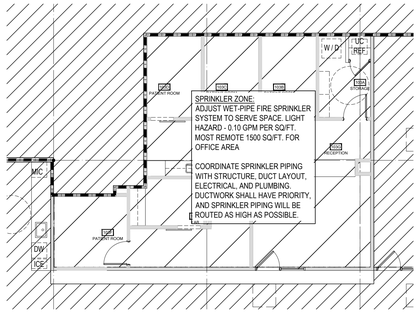
1. THE WORK COVERED UNDER THIS SECTION CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, MATERIALS AND PERFORMING ALL OPERATIONS IN CONNECTION WITH A COMPLETE, HYDRAULICALLY DESIGNED, WET AUTOMATIC FIRE SPRINKLER SYSTEM AS SPECIFIED, FOR THE ENTIRE PROJECT. THE WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   A. COMPLETE DESIGN AND WORKING DRAWINGS MEETING APPLICABLE REQUIREMENTS.
   B. SPRINKLER HEADS (WET PIPE).
   C. PIPING.
   D. VALVES.
2. THE FIRE PROTECTION SYSTEM SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE CITY FIRE DEPARTMENT. THE SYSTEM SHALL COMPLY WITH ALL APPLICABLE CITY, STATE, AND NATIONAL CODES AND ORDINANCES, AND THE CODES, ORDINANCES AND REGULATIONS OF ALL OTHER RULING AUTHORITIES HAVING JURISDICTION, INCLUDING, BUT NOT LIMITED TO:
   NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS
3. CONTRACTOR SHALL ARRANGE SPRINKLER HEADS REFERENCED TO ROOM CENTERLINES AND AXES TO ESTABLISH A PATTERN COMPLIMENTARY TO THE FINISHED CEILING. COORDINATE EXACT HEAD LOCATION AND PIPE ROUTING WITH THE ARCHITECT PRIOR TO INSTALLATION.
4. SPRINKLER PIPING SHALL BE CONCEALED TO THE EXTENT POSSIBLE IN ALL BUT STRICTLY MECHANICAL UTILITY AREAS. ALL LAYOUTS OF SPRINKLER PIPING SHALL BE REVIEWED BY AND COORDINATED WITH THE ARCHITECT. FINAL APPROVAL OF PIPING LAYOUT, HEAD PLACEMENT, ETC. SHALL BE BY ARCHITECT. ALL EXPOSED PIPING AND FITTINGS SHALL BE PAINTED TO MATCH ADJACENT WALL OR CEILING SURFACE AS DIRECTED BY THE ARCHITECT.
5. SPRINKLER HEADS SHALL BE SEMI-RECESSED TYPE, CHROME FINISH IN AREAS WITH FINISHED CEILINGS WHERE PIPING CAN BE CONCEALED. SPRINKLER HEADS IN EXPOSED AREAS SHALL BE STANDARD CHROME FINISH, SIDE WALL, PENDANT OR UPRIGHT HEADS AS REQUIRED.
6. ALL THREADED PIPING SHALL BE SCHEDULE 40 BLACK STEEL. THE MINIMUM THIN WALL PIPING ALLOWED SHALL BE SCHEDULE 40 FOR PIPE UP TO 2" AND SCHEDULE 10 FOR PIPE OVER 2". ALL THIN WALL PIPING SHALL BE JOINED USING ROLLED GROOVES WITH COUPLINGS. IF ALLOWED BY LOCAL CODES, OTHER TYPES OF PIPING MAY BE USED, BUT ONLY THOSE LISTED FOR FIRE SPRINKLER SERVICE.
7. FURNISH AND INSTALL ALL VALVES AND ACCESSORIES REQUIRED BY AUTHORITY HAVING JURISDICTION.
8. SYSTEM TEST AND DRAIN VALVES SHALL BE COORDINATED WITH THE OWNER BY SPECIFICALLY CALLING TO THE OWNER'S ATTENTION THE LOCATION OF THESE SYSTEMS.
9. SYSTEM SHALL BE THOROUGHLY CLEANED BY FLUSHING OUT WITH WATER UNTIL IT IS FREE FROM SAND, OIL, OR OTHER FOREIGN MATTER, PRIOR TO THE INSTALLATION OF HEADS AND ORIFICES.
10. UPON AWARD OF THE CONTRACT FOR THE FIRE PROTECTION SYSTEM, THE CONTRACTOR SHALL PREPARE PRELIMINARY DRAWINGS AND SECURE THE APPROVAL OF THE OWNER AND ARCHITECT. ON APPROVAL OF THE OWNER AND ARCHITECT, THE CONTRACTOR SHALL PREPARE DETAILED WORKING DRAWINGS FOR THE SYSTEM AND SECURE THE APPROVALS OF THE LOCAL FIRE MARSHAL. THE OWNER'S INSURANCE CARRIER, AND ANY OTHER APPROVALS REQUIRED. A COPY OF THE APPROVAL LETTERS SHALL BE DELIVERED TO THE ARCHITECT PRIOR TO COMMENCING WORK.
11. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PREPARE A LETTER OF GUARANTEE, WHICH SHALL GUARANTEE THE WORK AGAINST DEFECTS IN MATERIALS AND INSTALLATION AS OUTLINED UNDER THE GENERAL CONDITIONS. SECURE THE APPROVAL OR SEAL OF THE STATE RATING BUREAU AND PROVIDE THIS DOCUMENT TO THE ARCHITECT AND THE OWNER.
12. THE FIRE PROTECTION PIPING SYSTEM SHALL BE HYDRAULICALLY CALCULATED BASED UPON 90 PERCENT RESIDUAL PRESSURE AVAILABLE PER A CONTRACTOR-PROVIDED FLOW TEST AT SITE. THE BUILDING IS LIGHT HAZARD AND THE HYDRAULIC CALCULATIONS SHALL BE BASED UPON 0.10 GPM/SQFT MOST REMOTE 1,500 SQ.FT. USING NFPA 13, SPRINKLER SYSTEMS CRITERIA.
13. THE ARCHITECT SHALL HAVE THE FINAL AUTHORITY OVER ROUTING OF SPRINKLER RISER PIPING, SPRINKLER HEAD LOCATIONS, ETC. THE DESIGN OF THE AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE CAREFULLY COORDINATED WITH THE ARCHITECT PRIOR TO SUBMISSION OF SHOP DRAWINGS AND SYSTEM INSTALLATION.



TRUE NORTH PLAN NORTH 01

PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"



TRUE NORTH PLAN NORTH 02

FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTES BY SYMBOL: "(#)"

1. CONNECT NEW COLD WATER PIPING TO EXISTING WATER PIPING, SIZED AS SHOWN.
2. ROUTE 3/4" COLD WATER PIPING DOWN IN WALL. BRANCH 1/2" COLD WATER PIPING TO SINK AND CONNECT. BRANCH 1/2" COLD WATER PIPING TO TANKLESS WATER HEATER BELOW SINK AND CONNECT. ROUTE 1/2" HOT WATER PIPING FROM TANKLESS WATER HEATER AND CONNECT TO SINK. REFER TO DETAIL 3 OF THIS SHEET FOR TANKLESS WATER HEATER INSTALLATION DETAIL. ROUTE 2" VENT PIPING UP IN WALL FROM SINK AND CONTINUE AS SHOWN. ROUTE 2" WASTE PIPING DOWN FROM SINK.
3. ROUTE 2" WASTE PIPING DOWN FROM SINK AND CONNECT TO EXISTING 3" WASTE PIPE STUB IN FLOOR.
4. PROVIDE AND INSTALL WATER HEATER AT A HEIGHT OF 9'-0" ABOVE FINISHED FLOOR, ABOVE THE WASHER/DRYER STACK (BY OWNER). REFER TO DETAIL 4 OF THIS SHEET FOR WATER HEATER INSTALLATION DETAIL.
5. ROUTE 1/2" COLD WATER PIPING AND 1/2" HOT WATER PIPING DOWN IN WALL AND CONNECT TO EXISTING WALL BOX. ROUTE 2" VENT UP FROM EXISTING WALL BOX AND CONTINUE AS SHOWN.

PLUMBING LEGEND

	COLD WATER
	HOT WATER (110°F HW)
	WASTE (SANITARY SEWER)
	VENT (SANITARY SEWER)
	FIRE PROTECTION PIPE
	EXISTING UTILITY
	GATE VALVE
	BALL VALVE
	CHECK VALVE
	STRAINER
	UNION
	CAP END OF LINE
	RISER DOWN
	RISER UP
	PLUG CLEANOUT
	DIRECTION OF FLOW
	DIRECTION OF PITCH (DOWN)
	THERMOMETER
	NEW TO EXISTING CONNECTION
CO	CLEANOUT
FCO	FLOOR CLEANOUT
WCO	WALL CLEANOUT
VTR	VENT THRU ROOF
AFF	ABOVE FINISHED FLOOR
EA	EACH
(E)	EXISTING

FIRE PROTECTION LEGEND:

WET-PIPE FIRE SPRINKLER SYSTEM

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	H	C	W	V	DESCRIPTION
S-1	SINGLE COMPARTMENT SINK UNDERMOUNT, ACCESSIBLE	1/2"	1/2"	2"	2"	KOHLER #K-5479-5U. ENAMELED CAST IRON 5-1/4" DEEP UNDER-MOUNT SINK WITH WHITE FINISH AND THREEE OVERSIZED FAUCET HOLES. DRAIN OPENING TO BE IN THE CENTER REAR LOCATION. KOHLER MAZZ #K-R72511-SD PULL-DOWN KITCHEN SINK FAUCET WITH POLISHED CHROME FINISH. STRAINER AND P-TRAP. ADA INSULATION PACKAGE.

NOTES:

1. ALL FIXTURES SHALL MEET LOW WATER CONSUMPTION REQUIREMENTS.
2. PROVIDE STOPS AT ALL FIXTURES.
3. ACCESSIBLE FIXTURES SHALL BE MOUNTED AND INSTALLED PER TAS.
4. PROVIDE TRUE-BRO "LAV-GUARD" INSULATION KIT FOR EXPOSED PIPING AT ALL ACCESSIBLE SINKS AND LAVS.

TANKLESS WATER HEATER SCHEDULE

TAG	ROOM LOCATION	INPUT (KW)	VOLTS / PHASE	WATER TEMP. RISE, °F		MANUFACTURER & MODEL NUMBER
				1.0 GPM	1.5 GPM	
IWH-1	BREAK ROOM	8.32	208/1	57	38	CHRONOMITE M-40/208-MM

NOTES:

1. PROVIDE AND INSTALL QUARTER TURN, SHUT-OFF BALL VALVES FOR HOT AND COLD WATER CONNECTIONS.

WATER HEATER SCHEDULE

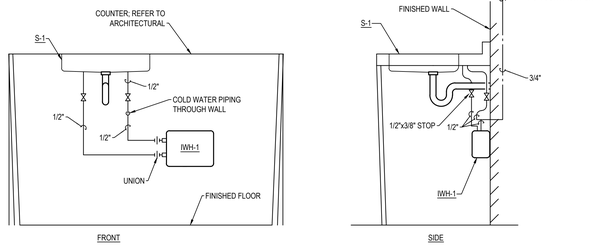
UNIT NUMBER	WH-1
TYPE	STORAGE
GALLONS	10
KW (SINGLE ELEMENT)	2.5
VOLTS / PHASE	208/1
AMPS	12.0
RECOVERY @ 100° RISE	10 GPH
MANUFACTURER	AO SMITH
MODEL NUMBER	DEL-10
REMARKS	1, 2

NOTES:

1. PROVIDE SHUTOFF VALVE ON HOT AND COLD WATER LINE.
2. PROVIDE EXPANSION TANK EQUAL TO AMTROL ST-5.

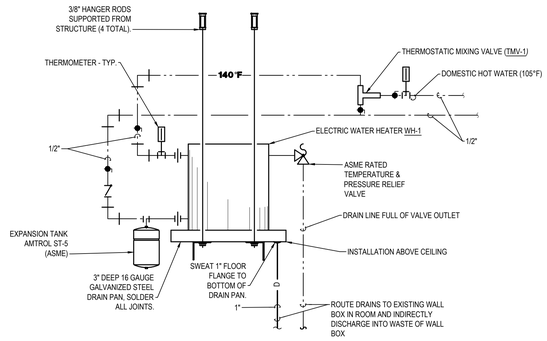
THERMOSTATIC MIXING VALVE

MARK	LOCATION	DISCHARGE TEMPERATURE (°F)	FLOW RATE (GPM)	PRESSURE DROP (PSI)	MANUFACTURER & MODEL NUMBER
TMV-1	103A-STORAGE	110.0	3.5	5	LEONARD #270-LF



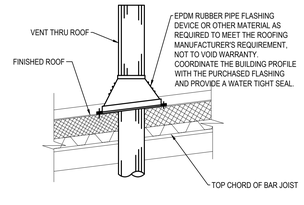
03 TANKLESS WATER HEATER INSTALLATION

SCALE: NTS



04 WATER HEATER INSTALLATION

SCALE: NTS



05 VENT THROUGH ROOF DETAIL

SCALE: NTS

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No.	Date	Revision

JS Drawn

SM Approved

PLUMBING AND FIRE PROTECTION FLOOR PLANS

Project No. 17211.00
Date 01.12.2018

P1.0

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