

GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY IBC 2015 EDITION AND SHALL CONFORM TO ALL OTHER APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE ILLINOIS ACCESSIBILITY CODE (1997) AND THE AMERICANS WITH DISABILITIES ACT.

- A. GENERAL NOTES
1. ALL CONTRACTORS ARE REQUIRED TO VISIT THE SITE AND BE KNOWLEDGEABLE REGARDING EXISTING CONDITIONS AND THEIR EFFECT ON THE PROPOSED WORK. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE PROJECT.
2. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO THE INTERRUPTION OF ANY UTILITY.
3. PROTECT AND KEEP IN SERVICE ACTIVE UNDERGROUND UTILITIES, PIPES, OR CONDUITS, WHETHER INDICATED ON THE DRAWINGS OR NOT, UNLESS SPECIFICALLY CALLED FOR TO BE REMOVED, RELOCATED, OR DISCONNECTED AND ABANDONED.
4. CONTRACTORS AND SUBCONTRACTORS SHALL COORDINATE THEIR WORK WITH THAT OF OTHER TRADES.
5. NO WORK WILL BE PERMITTED TO BE INSTALLED WITHOUT RECIPT AND SUBSEQUENT REVIEW OF FULL AND COMPLETE SUBMITTALS BY THE ARCHITECT/ENGINEER.
6. DO NOT SCALE DRAWINGS, DIMENSIONS INDICATED TAKE PRECEDENCE OVER SCALE.
7. VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD. WHERE DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS OR ELEVATIONS SHOWN AND ACTUAL FIELD CONDITIONS, NOTIFY ARCHITECT/ENGINEER.
8. WHERE CONFLICTS MAY EXIST BETWEEN THE REQUIREMENTS OF PORTIONS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, HIGHER QUALITY OR MORE STRINGENT REQUIREMENT SHALL GOVERN. THEREFORE, BY EXECUTING A CONTRACT FOR CONSTRUCTION, THE CONTRACTOR AGREES THAT, IF IT RAISED NO QUESTIONS REGARDING SUCH CONFLICTS DURING THE BIDDING PROCESS, AND IN THE ABSENCE OF A CLARIFYING ADDENDUM ISSUED DURING THE BIDDING PROCESS, IT HAS VOLUNTEERED TO COMPLY WITH THE MORE EXPENSIVE REQUIREMENT AS PART OF ITS BASE BID AND IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION TO RESOLVE THE CONFLICT.
9. THE CONTRACT DOCUMENTS REQUIRE THE CONTRACTOR TO FURNISH AND INSTALL COMPLETE PRODUCTS, SYSTEMS AND SERVICES. BY EXECUTING A CONTRACT FOR CONSTRUCTION, THE CONTRACTOR AGREES THAT THE DRAWINGS SET FORTH THE DESIGN INTENT AND, THEREFORE, MAY NOT EXPRESSLY DEPICT EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE. THE CONTRACTOR FURTHER AGREES THAT, AS PART OF ITS BID, IT MUST FURNISH AND INSTALL EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE AND, CONSEQUENTLY, THE CONTRACTOR IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION FOR ANY LENGTH, SEGMENT, PIECE, PART COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE BECAUSE IT IS NOT EXPRESSLY DEPICTED HEREIN.

- B: MISCELLANEOUS AND DEMOLITION NOTES
1. COORDINATE PENETRATIONS AND/OR SLEEVES REQUIRED IN WALLS, FLOORS, CEILINGS OR ROOFS FOR MECHANICAL AND ELECTRICAL WORK REQUIRED BY ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
2. SEAL PENETRATIONS OF DUCTWORK, CONDUIT OR PIPES WITH UL APPROVED MATERIALS TO MAINTAIN THE FIRE RATING OF ASSEMBLIES. PROVIDE FIRE DAMPERS AS INDICATED ON THE DRAWINGS.
3. SEAL WITH ACOUSTICAL SEALANT PENETRATIONS OF DUCTWORK, CONDUIT AND PIPES THROUGH NON-RATED FLOORS, FULL-HEIGHT WALLS/PARTITIONS, ACOUSTICALLY INSULATED WALLS/PARTITIONS, AND SOUND-RATED WALLS/PARTITIONS, TO MAINTAIN THE ACOUSTICAL INTEGRITY OF THOSE ASSEMBLIES.
4. APPLY APPROPRIATE & COMPATIBLE SEALANT MATERIALS AS REQUIRED TO SEPARATE DISSIMILAR METALS, FILL GAPS IN EXISTING ASSEMBLIES OR WHERE NEW AND EXISTING ASSEMBLIES MEET OR WHERE OTHERWISE REQUIRED BY THE SPECIFICATIONS.
5. BRING ANY UNFORESEEN OR CONFLICTING CONDITIONS TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. REPAIR, PATCH, OR REPLACE FINISH MATERIALS OR VISIBLE ASSEMBLIES THAT ARE SOILED, CUT OR DAMAGED IN ANY FASHION DURING THE COURSE OF THE WORK. PERFORM PATCHING SUCH THAT EDGES BLEND INTO CONTIGUOUS SURFACES SMOOTHLY, MATCHING TEXTURE AND COLOR OF ADJACENT SURFACES.

STANDARD ABBREVIATIONS

Table with 3 columns of abbreviations and their full names. Includes terms like ANCHOR BOLT, ACROUSTIC TILE CEILING, FLOOR DRAIN, PLASTER, etc.

THE MATERIALS, ABBREVIATIONS, AND DRAFTING SYMBOLS LEGEND ARE EACH AN ALL INCLUSIVE MASTER LIST USED BY THIS FIRM. THE INCLUSION OF THESE LEGENDS INTO THESE DOCUMENTS DOES NOT IMPLY THAT ALL THE SYMBOLS OR MATERIALS INCLUDED IN THESE LEGENDS ARE INCORPORATED INTO THIS PROJECT.

DRAFTING MATERIALS LEGEND

Table of drafting materials legend showing detail numbers, drawing numbers, and symbols for items like COLUMN NUMBER, LOCATION ELEVATION, ROOM NUMBER, DOOR NO., NOMINAL THICKNESS, KEYNOTE IDENTIFICATION, WINDOW TYPE, TOILET ACCESSORY IDENTIFICATION, and SPOT ELEVATION.

PROJECT

TENNIS CENTER BOILER AND WATER HEATER REPLACEMENT
1300 FOREST GATE ROAD
OAK BROOK, ILLINOIS 60523

OWNER

OAK BROOK PARK DISTRICT
1450 FOREST GATE ROAD
OAK BROOK, ILLINOIS 60523

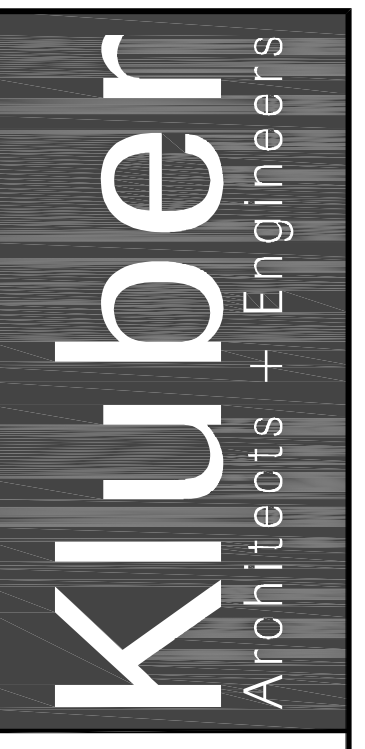
ARCHITECT/ENGINEER

KLUBER, INC.
10 S. SHUMWAY AVENUE
BATAVIA, ILLINOIS 60510
TEL 630-406-1213
FAX 630-406-9472
www.kluberinc.com



INDEX OF DRAWINGS

Table listing drawing numbers and titles: G100 COVER SHEET, GENERAL NOTES, SYMBOLS AND DRAWING INDEX; M300 MECHANICAL FLOOR PLANS; M400 MECHANICAL SCHEDULES, DETAILS & TEMPERATURE CONTROLS; P300 PLUMBING FLOOR PLANS; P400 PLUMBING SCHEDULES & DETAILS; E300 ELECTRICAL FLOOR PLANS.



TENNIS CENTER BOILER AND WATER HEATER REPLACEMENT
OAK BROOK PARK DISTRICT
1450 FOREST GATE ROAD
OAK BROOK, IL 60523

APPLICABLE CODES

- 1. INTERNATIONAL BUILDING CODE (IBC); 2015 EDITION.
2. INTERNATIONAL MECHANICAL CODE; 2015 EDITION.
3. ILLINOIS PLUMBING CODE; 2014 EDITION.
4. NATIONAL ELECTRICAL CODE (NEC); 2014 EDITION.
5. INTERNATIONAL PROPERTY MAINTENANCE CODE; 2015 EDITION.
6. INTERNATIONAL ENERGY CONSERVATION CODE; 2015 EDITION.
7. INTERNATIONAL EXISTING BUILDING CODE; 2015 EDITION.
8. INTERNATIONAL FUEL GAS CODE; 2015 EDITION.
9. ILLINOIS ACCESSIBILITY CODE; 1997 EDITION.
10. INTERNATIONAL FIRE CODE; 2015 EDITION.
11. NFPA 13, 2013 EDITION.



SITE LOCATION PLAN
SCALE: 1/16" = 1'-0" 1

SEALS & CERTIFICATES

I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED STATE AND SPECIFICATIONS AND STANDARDS THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH IBC 2015 EDITION, THE ENVIRONMENTAL BARRIERS ACT AND THE ILLINOIS ACCESSIBILITY CODE.

KLUBER, INC. ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE #184-001284

MECHANICAL ENGINEER'S SEAL

ELECTRICAL ENGINEER'S SEAL

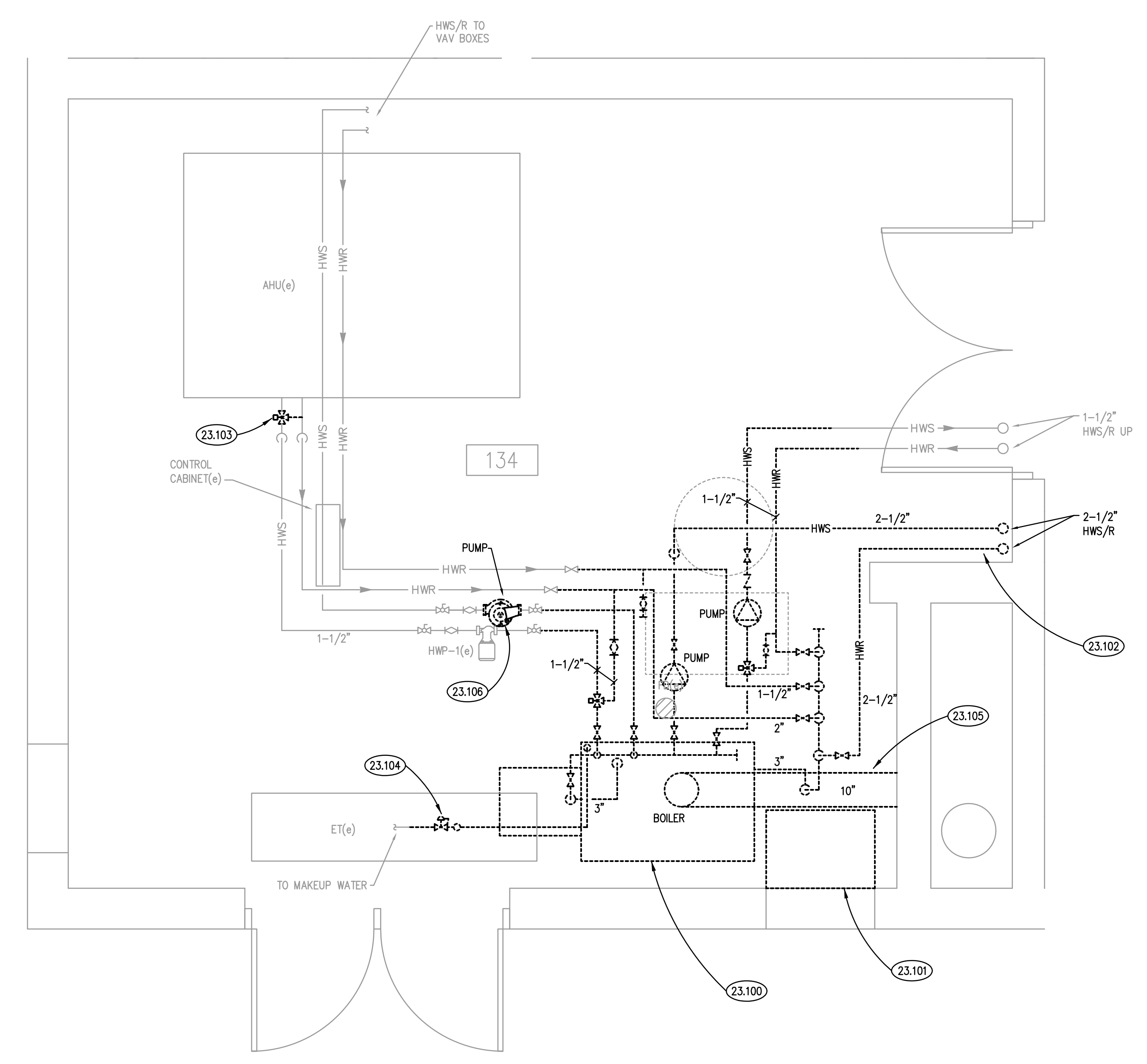
G100, MFP210, MFP310

G100, E210, E310

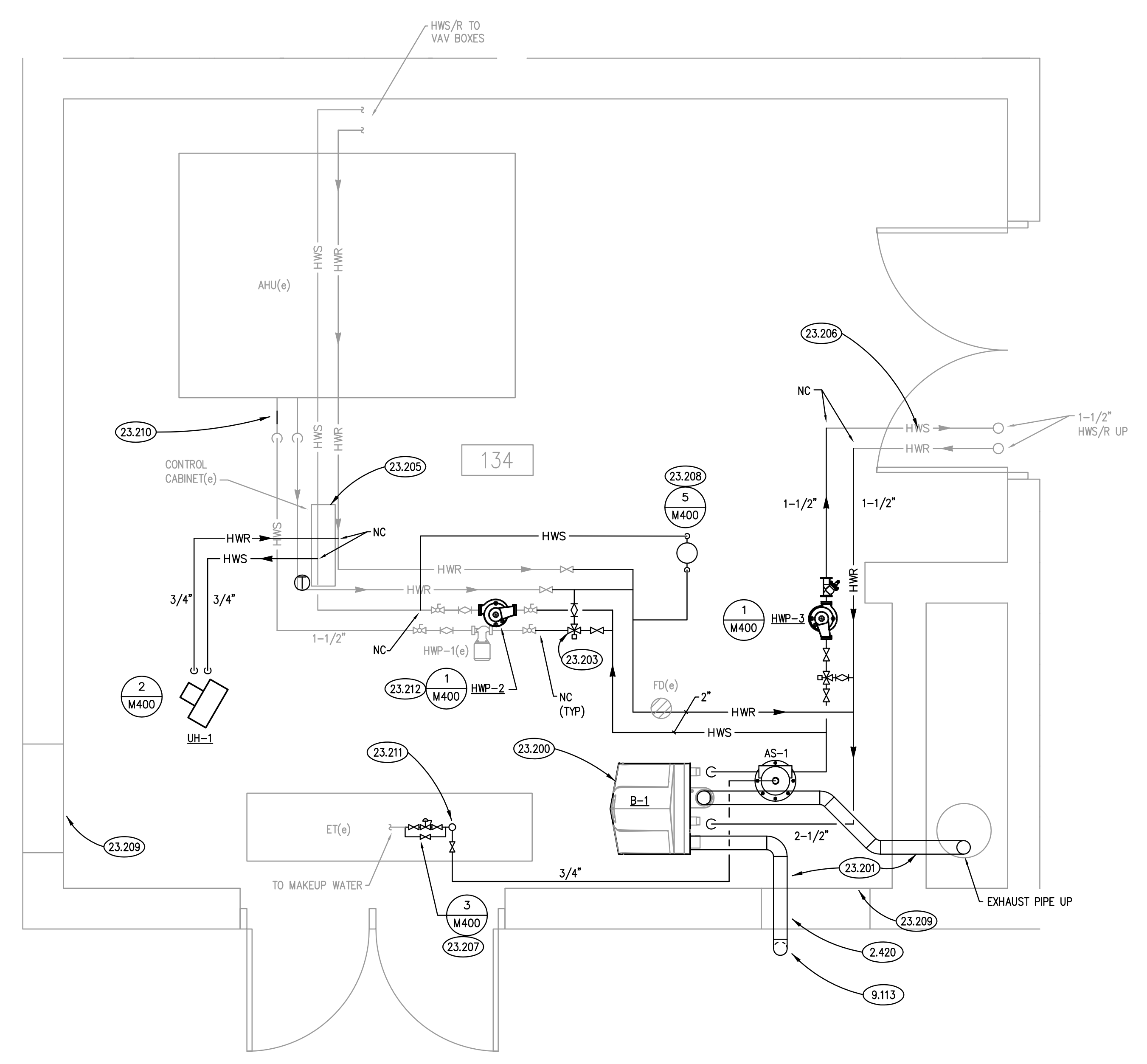
Table for tracking issued and bid documents with columns for date and status.

Table for drawing tracking including columns for job no., drawn, checked, approved, sheet title, and sheet number.

G100



BOILER ROOM DEMOLITION PLAN
SCALE: 1/2" = 1'-0" **2**



BOILER ROOM NEW WORK PLAN
SCALE: 1/2" = 1'-0" **1**

MECHANICAL GENERAL NOTES

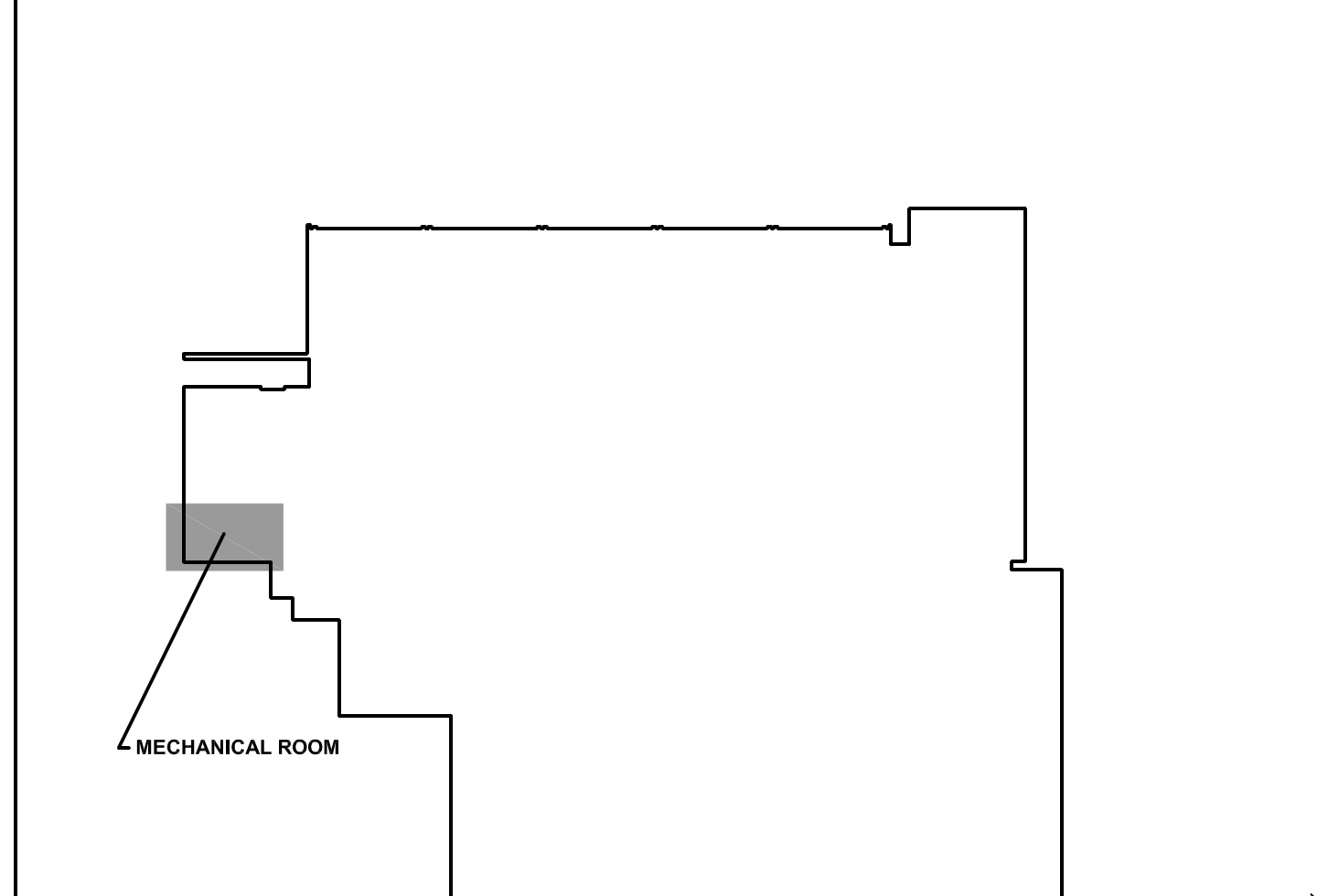
- REFER TO DRAWING 0100 FOR PROJECT GENERAL NOTES.
- ALL PIPING AND IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
- GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
- SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
- DO NOT CUT THROUGH THE MASONRY BOND BEAMS OR OTHER STRUCTURAL ELEMENT WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.
- OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.

KEYNOTES

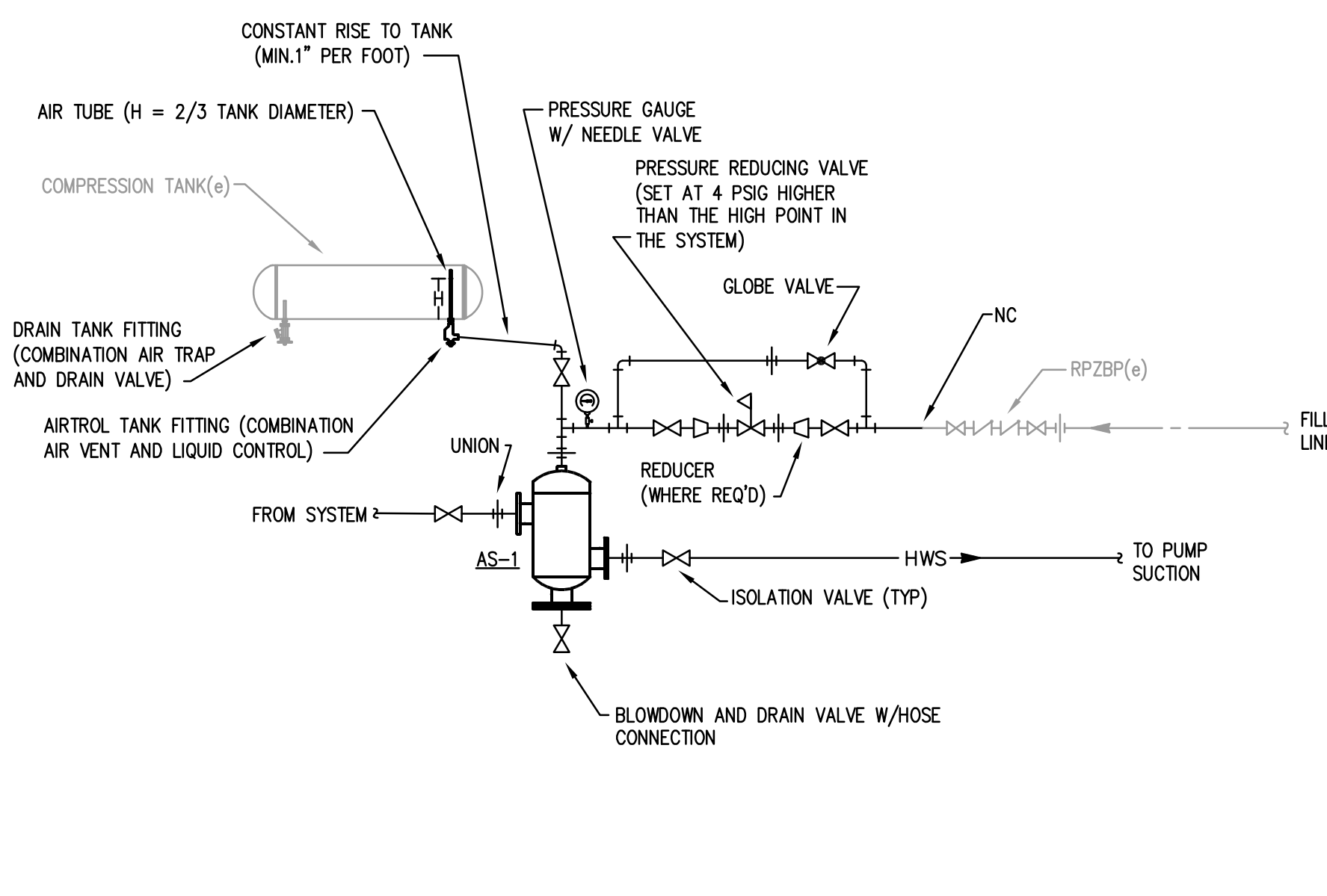
- 2.420 CORE EXISTING BRICK AND CONCRETE MASONRY WALL TO PERMIT INSTALLATION OF VENT PIPE; PROTECT EXISTING WINDOWS, WALL SURFACE, AND LOUVER BELOW FROM SLURRY FROM CORING OPERATION; FILL ANNULAR SPACE AROUND VENT PIPE WITH LOW-EXPANSION POLYURETHANE FOAM, AND PROVIDE CLOSED CELL FOAM BACKER ROD AN LOW MODULUS SILICONE JOINT SEALANT AT INTERIOR AND EXTERIOR FACES OF WALL; PROVIDE JOINT SEALANT COLOR MATCHING BRICK COLOR AT EXTERIOR WALL FACE.
- 9.113 PAINT EXPOSED EXTERIOR SURFACES OF VENT PIPE; COLOR TO MATCH EXISTING BRICK; ONE COAT MASTER PAINTER INSTITUTE (MPI) #17 WATER-BASED BONDING PRIMER AND TWO TOPCOATS (MPI) #151 WATER-BASED LIGHT INDUSTRIAL COATING; PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 23.100 REMOVE BOILER AND ALL ASSOCIATED PIPING AND SPECIALTIES AS SHOWN. REMOVE PIPING BACK TO LOCATIONS SHOWN. PROVIDE TEMPORARY CAP ON SECTIONS TO REMAIN FOR NEW CONNECTION.
- 23.101 REMOVE COMBUSTION AIR BOX AND ASSOCIATED DAMPER. PROVIDE INSULATED PANEL FOR LOUVER.
- 23.102 REMOVE HWS/R PIPING FOR THE TENNIS COURTS BACK TO WALL. PROVIDE PERMANENT CAP ON PIPING AT WALL.
- 23.103 DISCONNECT, PROTECT AND RELOCATE 3-WAY VALVE AT AIR HANDLING UNIT. SEE NEW WORK PLANS FOR NEW LOCATION.
- 23.104 REMOVE PRESSURE REDUCING VALVE AND ASSOCIATED GALVANIZED PIPING FOR MAKEUP WATER.
- 23.105 REMOVE BOILER EXHAUST VENTING BACK TO WALL. PROVIDE PERMANENT CAP ON DUCTWORK.
- 23.106 REMOVE PUMP AND TURN OVER TO OWNER. PROVIDE TEMPORARY CAPS ON PIPING FOR NEW CONNECTION.
- 23.200 PROVIDE NEW BOILER, ALL ASSOCIATED PIPING AND SPECIALTIES.
- 23.201 PROVIDE BOILER EXHAUST AND COMBUSTION AIR VENTING. VENTING SHALL BE SIZED AND CONFIGURED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE EXHAUST PVC PIPE UP THROUGH EXISTING CHIMNEY. CAP TOP OF CHIMNEY AROUND EXHAUST PIPE. SEAL PENETRATION AROUND EXHAUST PIPE INTO CHIMNEY IN BOILER ROOM.
- 23.203 RELOCATED 3-WAY VALVE FOR AIR HANDLING UNIT.
- 23.205 INTERFACE NEW EQUIPMENT INTO THE EXISTING B.A.S.
- 23.206 INSULATE SECTION OF EXISTING HWS/R PIPING IN MECHANICAL ROOM.
- 23.207 PROVIDE NEW PRESSURE REDUCING VALVE FOR BOILER MAKEUP WATER.
- 23.208 PROVIDE NEW CHEMICAL TREATMENT EQUIPMENT. MOUNT EQUIPMENT ON RACK. COORDINATE EXACT LOCATION OF EQUIPMENT WITH OWNER.

KEYNOTES ARE NOT ALWAYS REPEATED ACROSS ALL DRAWINGS ON THIS SHEET. AN UN-KEYNOTED ITEM ON THIS SHEET IS THE SAME AS A KEYNOTED ITEM ON THIS SHEET HAVING THE SAME GRAPHIC APPEARANCE.

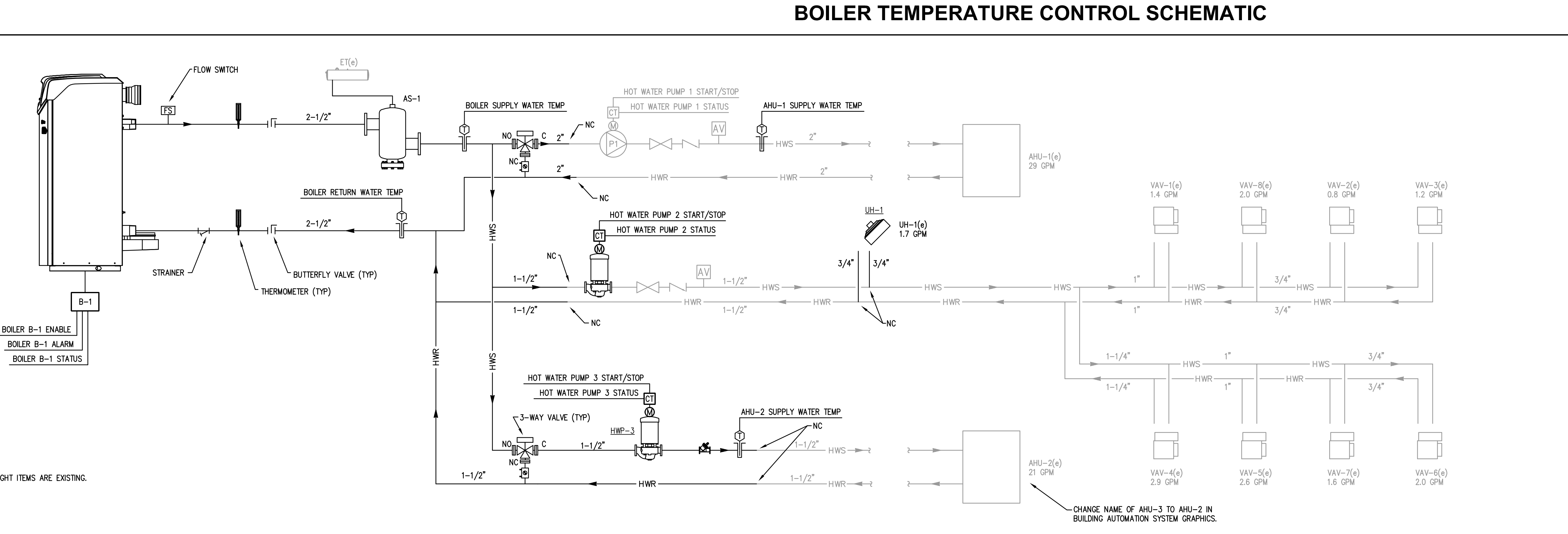
KEYPLAN



ISSUED	
REVISION	
DATE	
BY	
JOB NO.	18-310-1186
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW
SHEET TITLE	
MECHANICAL FLOOR PLANS	
SHEET NUMBER	
M300	



AIR SEPARATOR & COMPRESSION TANK DETAIL
SCALE: NTS



NOTES:
1. LIGHT WEIGHT ITEMS ARE EXISTING.

MISCELLANEOUS EQUIPMENT CONTROLS

UNIT HEATERS
UNIT HEATER FAN SHALL BE ENERGIZED WHEN THE SPACE TEMPERATURE DROPS BELOW THE ROOM THERMOSTAT SETPOINT. THE FAN SHALL CYCLE TO MAINTAIN THE SPACE TEMPERATURE.

POINTS LIST

	HARDWARE				SOFTWARE			
	AI	AO	DI	DO	SCHED	TREND	ALARM	GRAPHIC
BOILER (B-1)								
BOILER ENABLE			X	X				X
BOILER STATUS			X					X
BOILER ALARM			X					X
HOT WATER PUMP START/STOP (HWP-1, HWP-2, HWP-3)			X	X				X
HOT WATER PUMP STATUS (HWP-1, HWP-2, HWP-3)			X					X
BOILER SUPPLY WATER TEMPERATURE	X						X	X
BOILER RETURN WATER TEMPERATURE	X						X	X
BUILDING HOT WATER SETPOINT		X					X	X
OUTSIDE AIR TEMPERATURE	X						X	X
AHU-1 SUPPLY WATER TEMPERATURE	X						X	X
AHU-2 SUPPLY WATER TEMPERATURE	X						X	X

NOTE: ALL ADDITIONAL POINTS AVAILABLE FROM BOILER CONTROLLER SHALL BE INTERFACED IN A TABLE FORMAT.

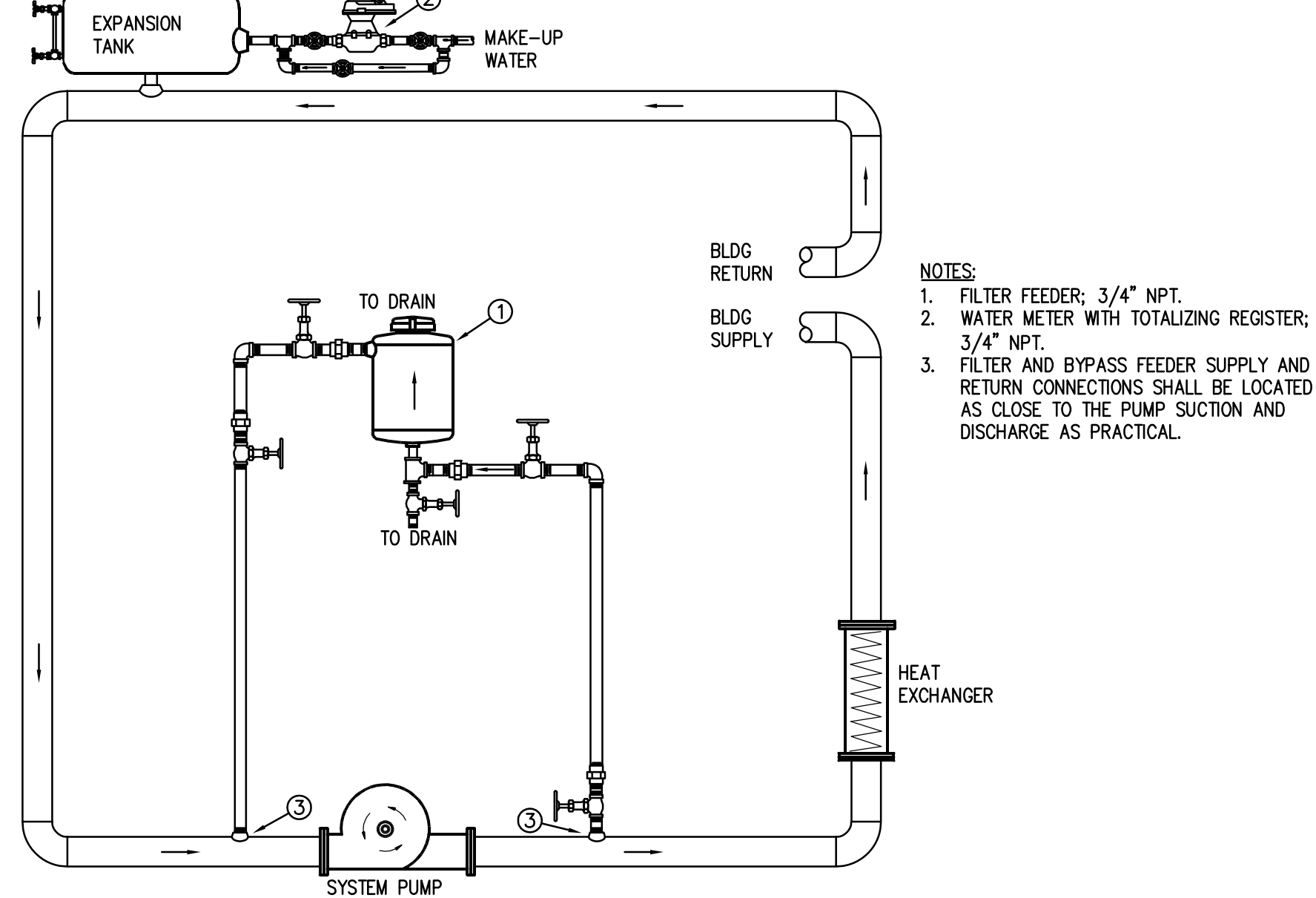
SEQUENCE OF OPERATIONS

BOILER (B-1):
THE BOILER CONTROLLER SHALL CONTROL THE OPERATION OF THE BOILERS. THE BOILER SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE FALLS BELOW 60°F (ADJ.).
THE BOILER SHALL MODULATE ITS FIRING RATE TO MAINTAIN THE HEATING WATER TEMPERATURE SETPOINT.
THE HEATING WATER TEMPERATURE SHALL BE RESET BASED ON OUTDOOR AIR TEMPERATURE. THE WATER TEMPERATURE SHALL BE 180°F WHEN THE OUTDOOR AIR TEMPERATURE IS 0°F. THE WATER TEMPERATURE SHALL BE 100°F WHEN THE OUTDOOR AIR IS 60°F. TEMPERATURE RESET CURVES AND SETPOINTS SHALL BE ADJUSTABLE.
AN ALARM SHALL BE GENERATED IF THERE IS A BOILER ALARM OR A LOW WATER LEVEL ALARM.

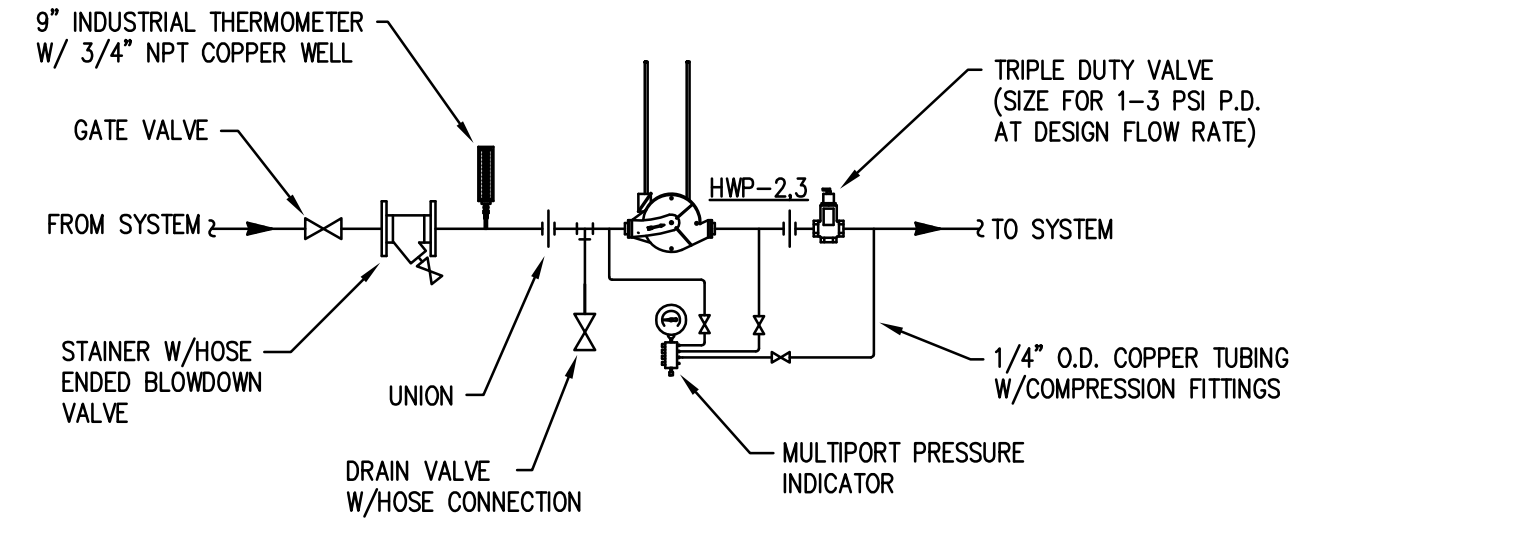
PUMPS (P-1(e), P-2(e), P-3):
HEATING WATER PUMP P-1 SHALL BE ENERGIZED WHEN AHU-1 IS IN HEATING MODE.
HEATING WATER PUMP P-2 SHALL BE ENERGIZED WHEN THE OUTDOOR AIR TEMPERATURE DROPS BELOW 60 DEGREES F.
HEATING WATER PUMP P-3 SHALL BE ENERGIZED WHEN AHU-3 IS IN HEATING MODE.
AN ALARM SHALL BE GENERATED UPON A PUMP FAULT STATUS.

HEATING VALVE (AHU-1, AHU-2, AHU-3):
THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SETPOINT(ADJ.). THE HOT WATER CONTROL VALVE SHALL FAIL OPEN IN LOSS OF POWER.

NOT USED
SCALE: NTS



CLOSED CHEMICAL TREATMENT DETAIL
SCALE: NTS



IN-LINE PUMP DETAIL
SCALE: NTS

MARK	TYPE	WATER FLOW RATE (GPM)	MAX PRESS DROP (FT)	GAS INPUT (MBH)	GAS OUTPUT (MBH)	EWT / LWT (°F)	ELECTRICAL (V/PH/Hz)	MINIMUM EFFICIENCY	MODEL	NOTES
B-1	CONDENSING	65	4.4	600	585	180 / 160	120/1/60	97	FTXL	1, 2

NOTES:
1. MODEL BASED ON LOCHINVAR.
2. BOILER SHALL BE CAPABLE OF ROOF EXHAUST VENTING AND SIDEWALL COMBUSTION AIR INTAKE.

MARK	WATER FLOW RATE (GPM)	HEAD (FT)	TYPE	MOTOR POWER (HP)	ELECTRICAL (V/PH/Hz)	MOTOR SPEED (RPM)	SERVICE	MODEL	NOTES
HWP-1(e)	29	35	INLINE	1/3	120/1/60	1800	AHU-1	e-90	1
HWP-2	22	20	INLINE	1/3	120/1/60	1800	VAVS	e-90	1
HWP-3	21	11	INLINE	1/4	120/1/60	1800	AHU-2	e-90	1

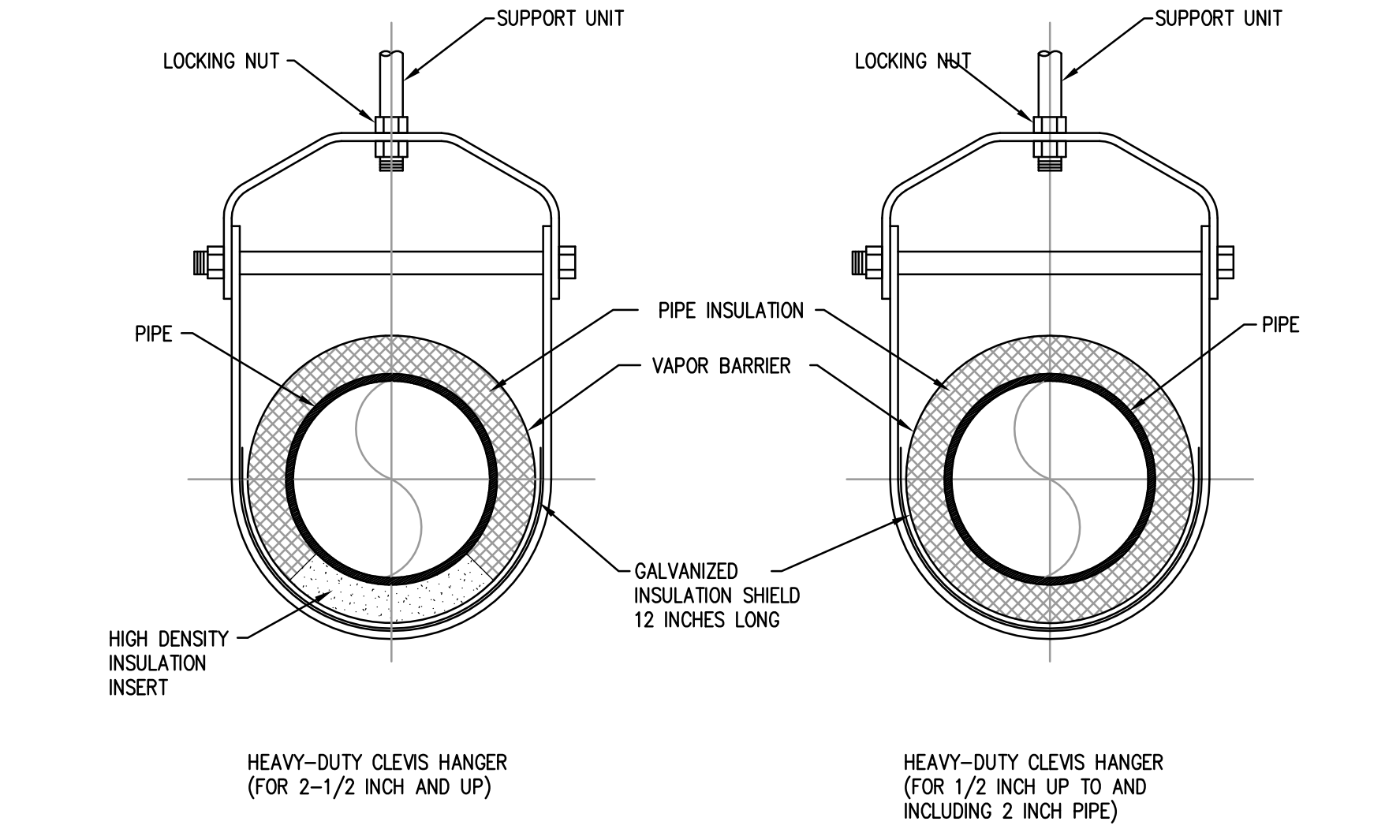
NOTES:
1. MODEL BASED ON BELL & GOSSETT.

MARK	WATER FLOW (GPM)	MAX WPD (FT)	INLET / OUTLET SIZE (IN)	MAX DESIGN PRESSURE (PSIG)	MODEL	NOTES
AS-1	67	0.7	2-1/2 / 2-1/2	125	R-2-1/2-N	1

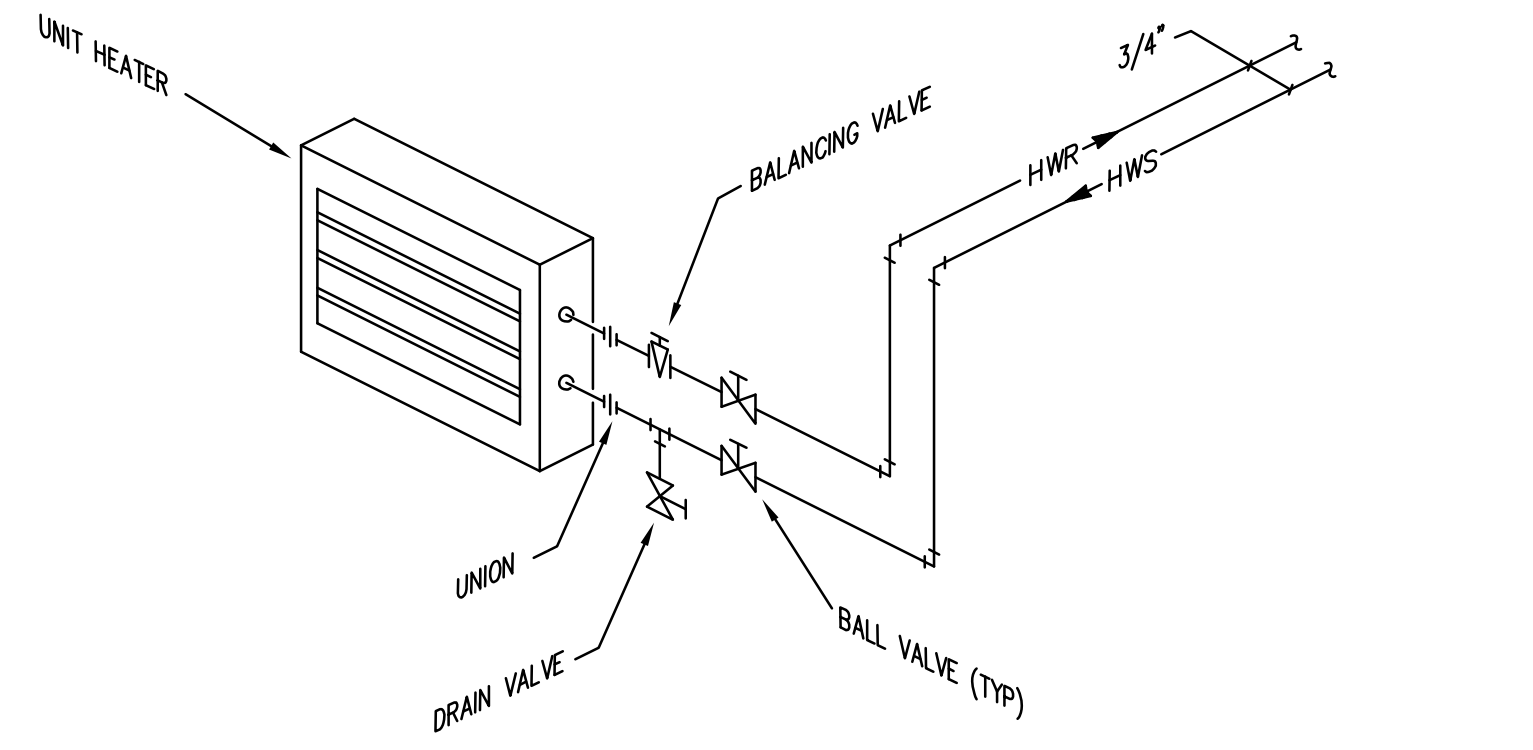
NOTES:
1. MODEL BASED ON BELL & GOSSETT.

MARK	AIR FLOW RATE (CFM)	EAT / LAT (°F)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)	EWT / LWT (°F)	MIN CAPACITY (MBH)	SUPPLY FAN (HP)	ELECTRICAL (V/PH/Hz)	MODEL	AREA SERVED	NOTES
UH-1	370	60 / 100	1.7	0.8	180 / 160	13.9	1/25	120/1/60	HC-24	MECH ROOM	1

NOTES:
1. MODEL BASED ON MODINE.



PIPE HANGER DETAILS
SCALE: NTS

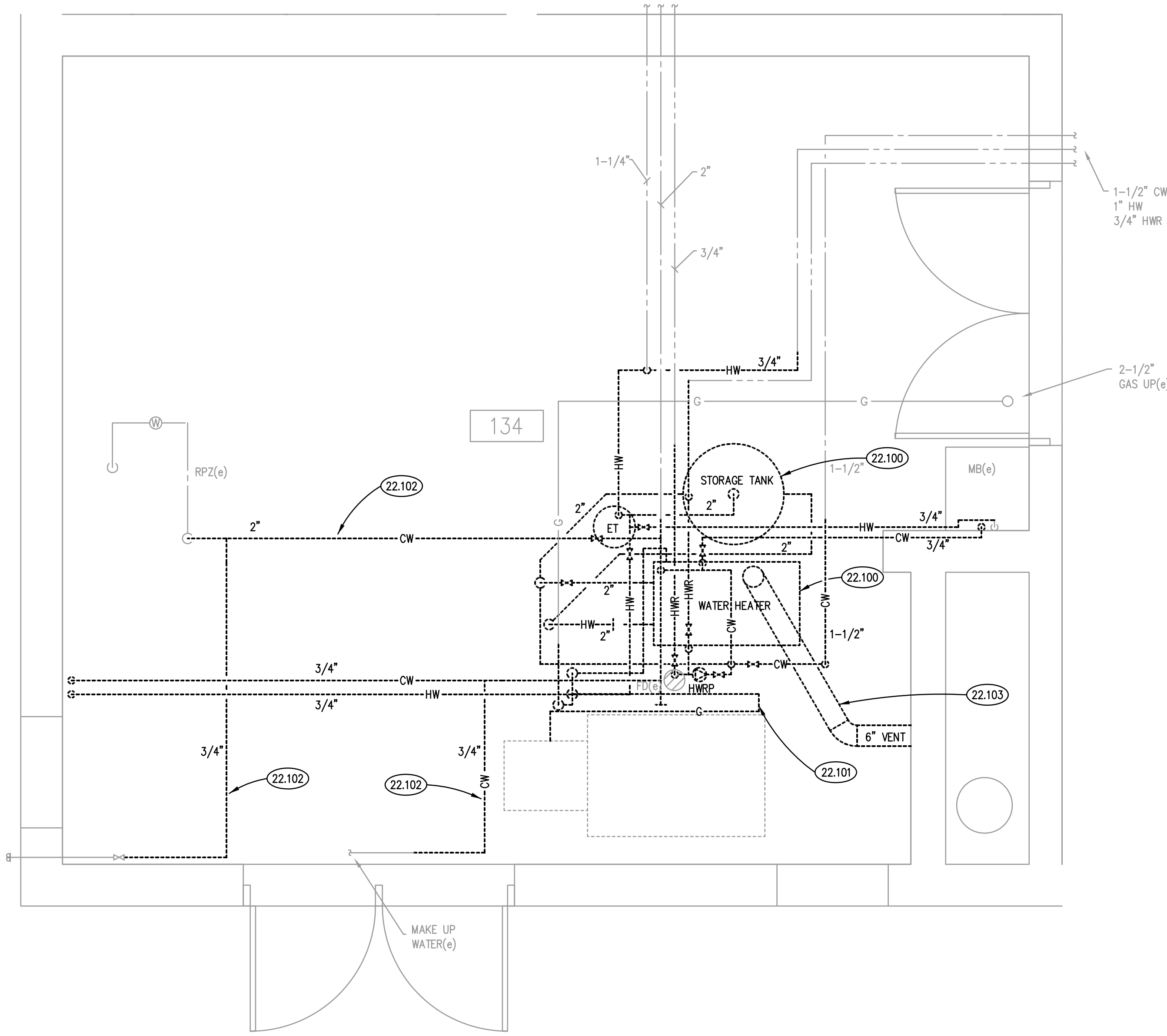


UNIT HEATER PIPING DETAIL
SCALE: NTS

ISSUED	DATE	BY	DESCRIPTION

JOB NO.	18-310-1186
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW

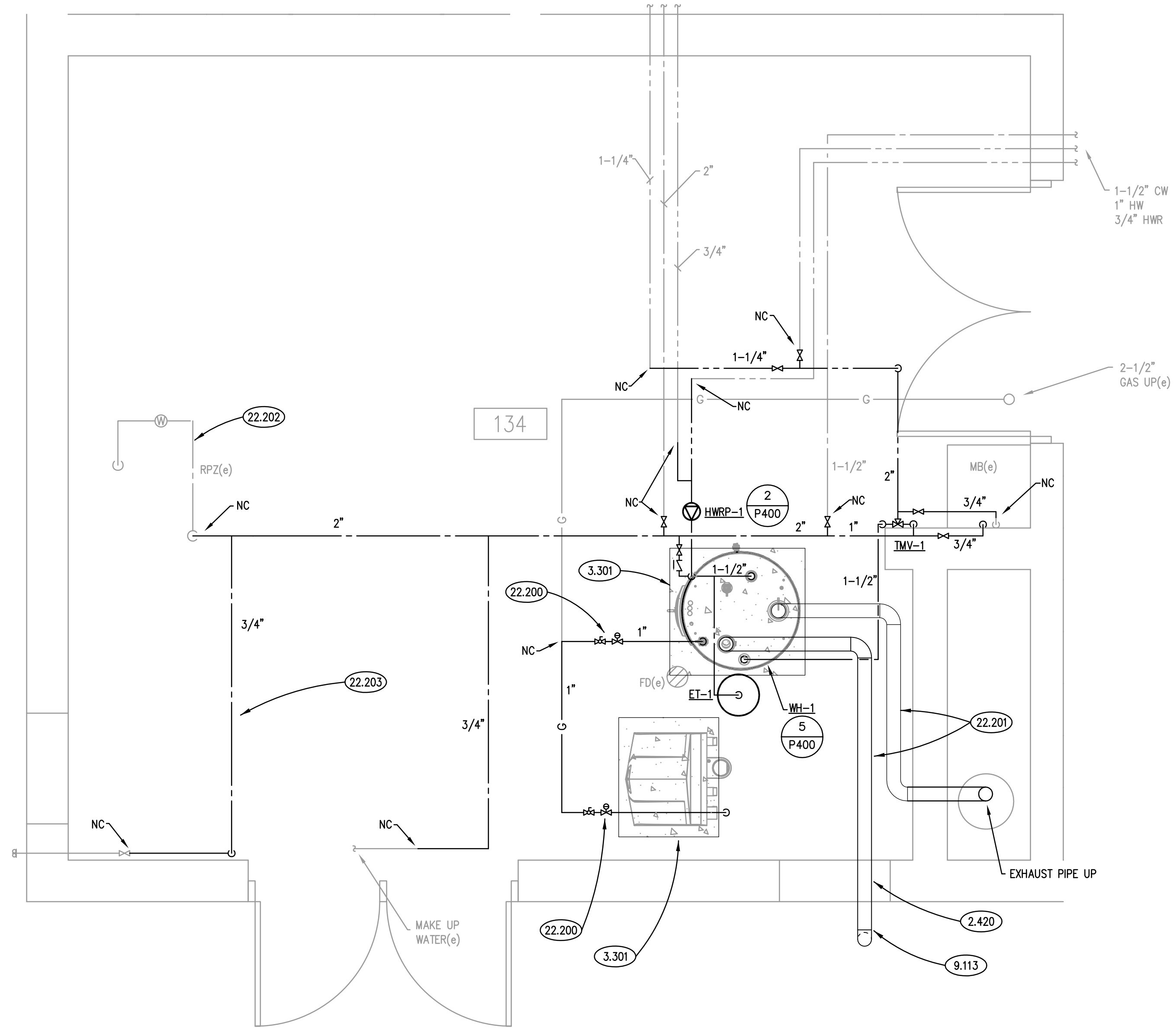
PH1186 - Oak Brook Park District - Boiler and Water Heater Replacement33_Design/Drawings/CD-030_Arch1186M&U00.dwg, 6/18/2018 8:56:04 AM, dsw



BOILER ROOM PLUMBING DEMOLITION PLAN

SCALE: 1/2" = 1'-0"

2



BOILER ROOM NEW WORK PLAN

SCALE: 1/2" = 1'-0"

1

PLUMBING GENERAL NOTES

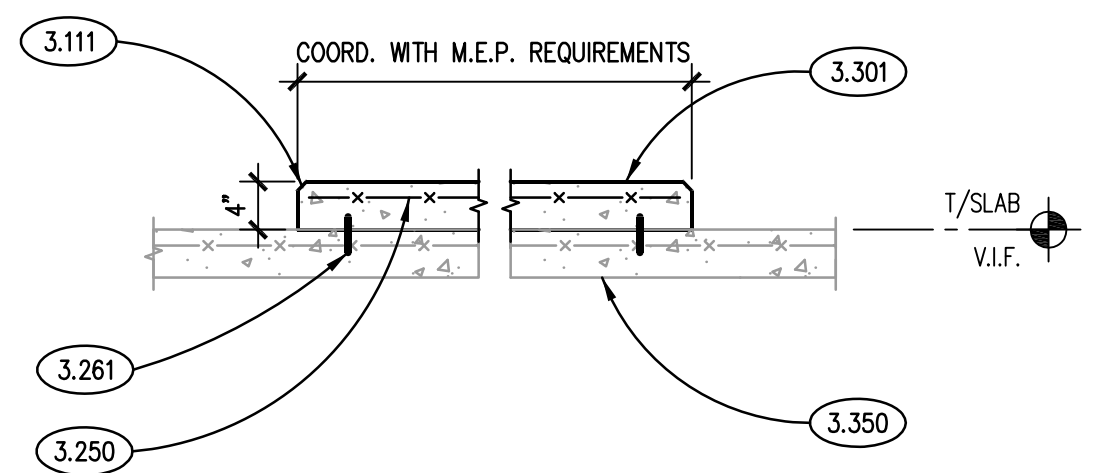
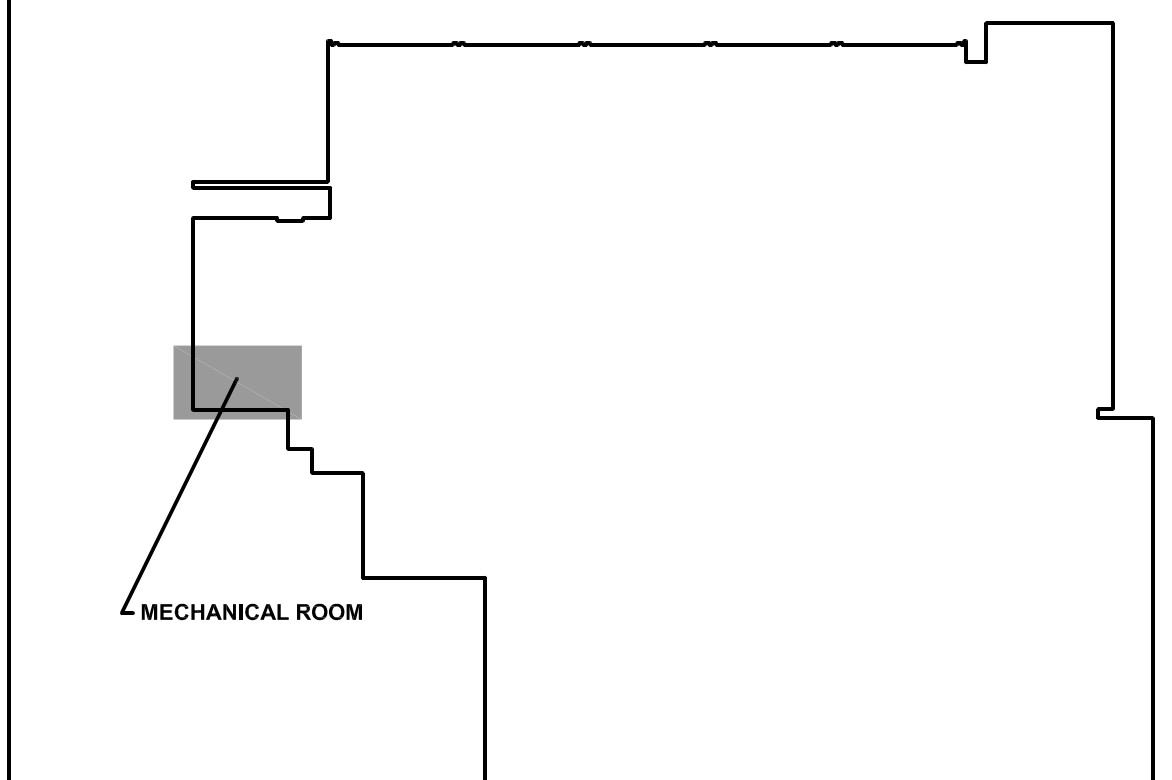
1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ALL PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM.
3. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.
4. EXISTING PIPING INDICATED ON THESE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATIONS, QUANTITY AND PIPE SIZES.
5. DO NOT CUT THROUGH THE MASONRY BOND BEAMS OR OTHER STRUCTURAL ELEMENT WHEN INSTALLING OPENINGS REQUIRED FOR ALL PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.

KEYNOTES

- 2.420 CORE EXISTING BRICK AND CONCRETE MASONRY WALL TO PERMIT INSTALLATION OF VENT PIPE; PROTECT EXISTING WINDOWS, WALL SURFACE, AND LOUVER BELOW FROM SLURRY FROM CORING OPERATION; FILL ANNULAR SPACE AROUND VENT PIPE WITH LOW-EXPANSION POLYURETHANE FOAM, AND PROVIDE CLOSED CELL FOAM BACKER ROD AN LOW MODULUS SILICONE JOINT SEALANT AT INTERIOR AND EXTERIOR FACES OF WALL; PROVIDE JOINT SEALANT COLOR MATCHING BRICK COLOR AT EXTERIOR WALL FACE.
- 9.113 PAINT EXPOSED EXTERIOR SURFACES OF VENT PIPE; COLOR TO MATCH EXISTING BRICK; ONE COAT MASTER PAINTER INSTITUTE (MP1) #17 WATER-BASED BONDING PRIMER AND TWO TOPCOATS (MP1) #151 WATER-BASED LIGHT INDUSTRIAL COATING; PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 3.111 CONCRETE FORMING AND ACCESSORIES: CONTINUOUS 3/4" CHAMFER U.N.O.
- 3.250 CONCRETE REINFORCING: WWF REFER TO SLAB CALLOUT ON PLAN. PROVIDE WWF-6X6 W21 X W21 IN FLAT SHEETS U.N.O. PROVIDE PROPER SUPPORT AS REQUIRED TO MAINTAIN PLACEMENT AT NOTED ELEVATION. "PULL UP" METHOD DURING SLAB PLACEMENT NOT ACCEPTABLE. DISCONTINUE AT CONTRACTION AND CONSTRUCTION JOINTS.
- 3.261 CONCRETE REINFORCING: #4 DOWEL X 4" LG. @ 2'-0" O.C. U.N.O. ANCHOR INTO EXISTING SLAB/WALL/FOOTING USING INJECTION ADHESIVE/EPOXY SYSTEM. EMBEDMENT TO BE 2" U.N.O.
- 3.301 CAST-IN-PLACE CONCRETE: EQUIPMENT PAD, REFER TO DETAIL A/P300 FOR THICKNESS, REINFORCING, MIX TYPE AND FINISH. COORDINATE SIZE, LOCATION AND QUANTITY WITH M.E.P. DRAWINGS AND MANUFACTURER REQUIREMENTS.
- 3.350 CAST-IN-PLACE CONCRETE ACCESSORY: BONDING AGENT. ROUGHEN BASE SLAB AS REQUIRED.
- 22.100 REMOVE HOT WATER BOILER AND HOT WATER STORAGE TANK. REMOVE ALL PIPES TO LOCATION AS SHOWN AND PROVIDE TEMPORARY CAP. COORDINATE WITH OWNER FOR SHUTDOWN OF DOMESTIC WATER SYSTEM.
- 22.101 REMOVE GAS PIPING BACK TO LOCATION SHOWN. PROVIDE TEMPORARY CAP ON PIPING FOR NEW CONNECTION.
- 22.102 REMOVE SECTIONS OF GALVANIZED PIPE BACK TO LOCATIONS SHOWN.
- 22.103 REMOVE WATER HEATER EXHAUST VENTING BACK TO WALL. PROVIDE PERMANENT CAP ON DUCTWORK.
- 22.200 PROVIDE FINAL GAS CONNECTION TO MECHANICAL EQUIPMENT. FIELD VERIFY EXISTING GAS PRESSURE. PROVIDE REQUIRED PRESSURE REGULATOR AND SHUTOFF VALVE. PROVIDE SHUTOFF VALVE WITH PRESSURE TEST PORT UPSTREAM AND DOWNSTREAM OF PRESSURE REGULATOR. PROVIDE DIRT LEG UPSTREAM OF PRESSURE REGULATOR.

KEYNOTES ARE NOT ALWAYS REPEATED ACROSS ALL DRAWINGS ON THIS SHEET. AN UN-KEYNOTED ITEM ON THIS SHEET IS THE SAME AS A KEYNOTED ITEM ON THIS SHEET HAVING THE SAME GRAPHIC APPEARANCE.

KEYPLAN



TYPICAL EQUIPMENT PAD DETAIL

SCALE: N.T.S.

A

ISSUED
DATE
BY

JOB NO. 18-310-1186
DRAWN BWG / VAD
CHECKED DDW / JMB
APPROVED DDW / JMB

SHEET TITLE

PLUMBING FLOOR PLANS

SHEET NUMBER

P300

ABBREVIATIONS

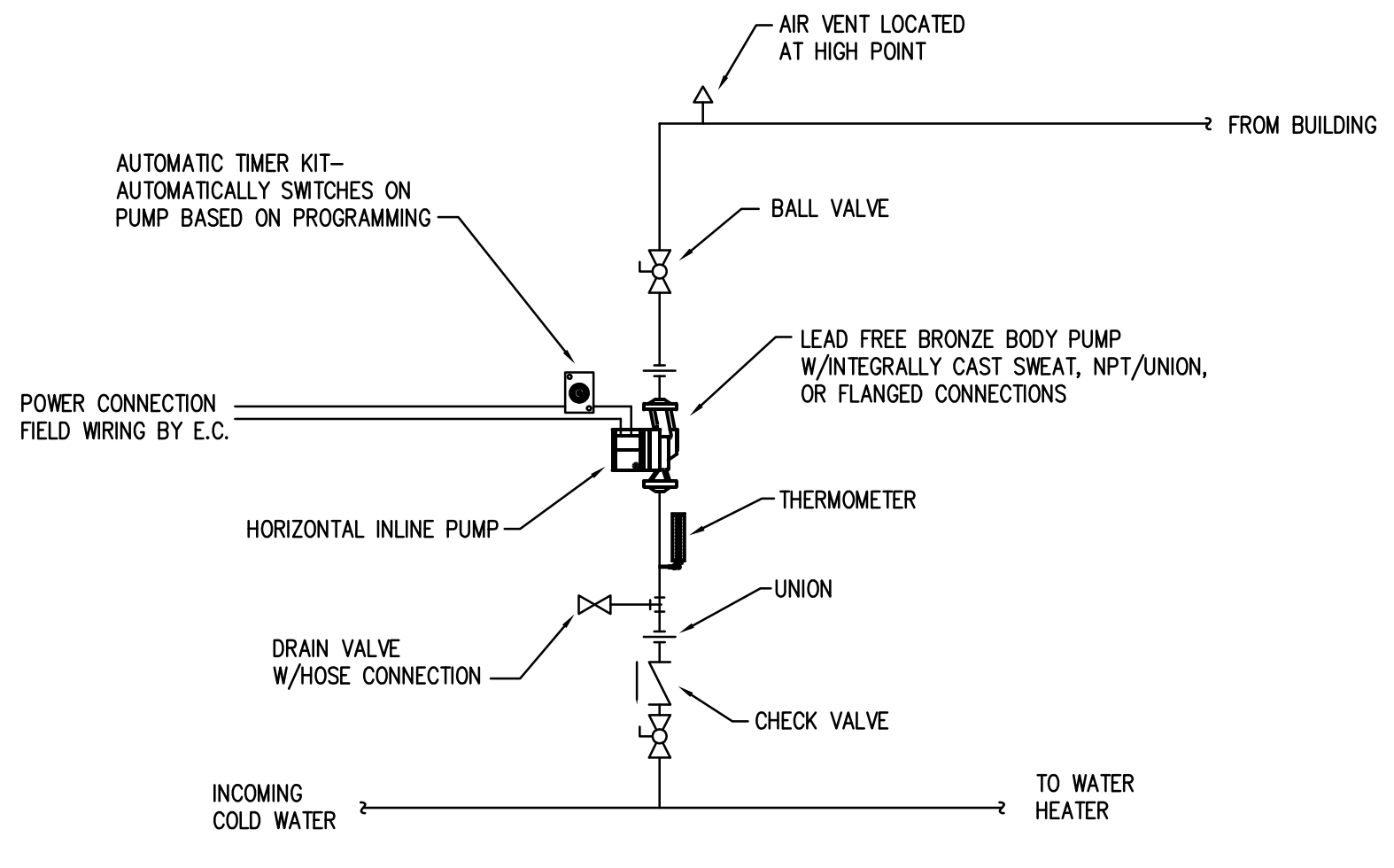
Table of abbreviations for plumbing and electrical symbols, including terms like AND, INSUL, INCREASE, etc.

THIS LIST IS AN ALL INCLUSIVE MASTER LIST USED BY THIS FIRM. THE INCLUSION OF THESE ABBREVIATIONS INTO THESE DOCUMENTS DOES NOT IMPLY THAT ALL THE ABBREVIATIONS ARE INCORPORATED INTO THIS PROJECT.

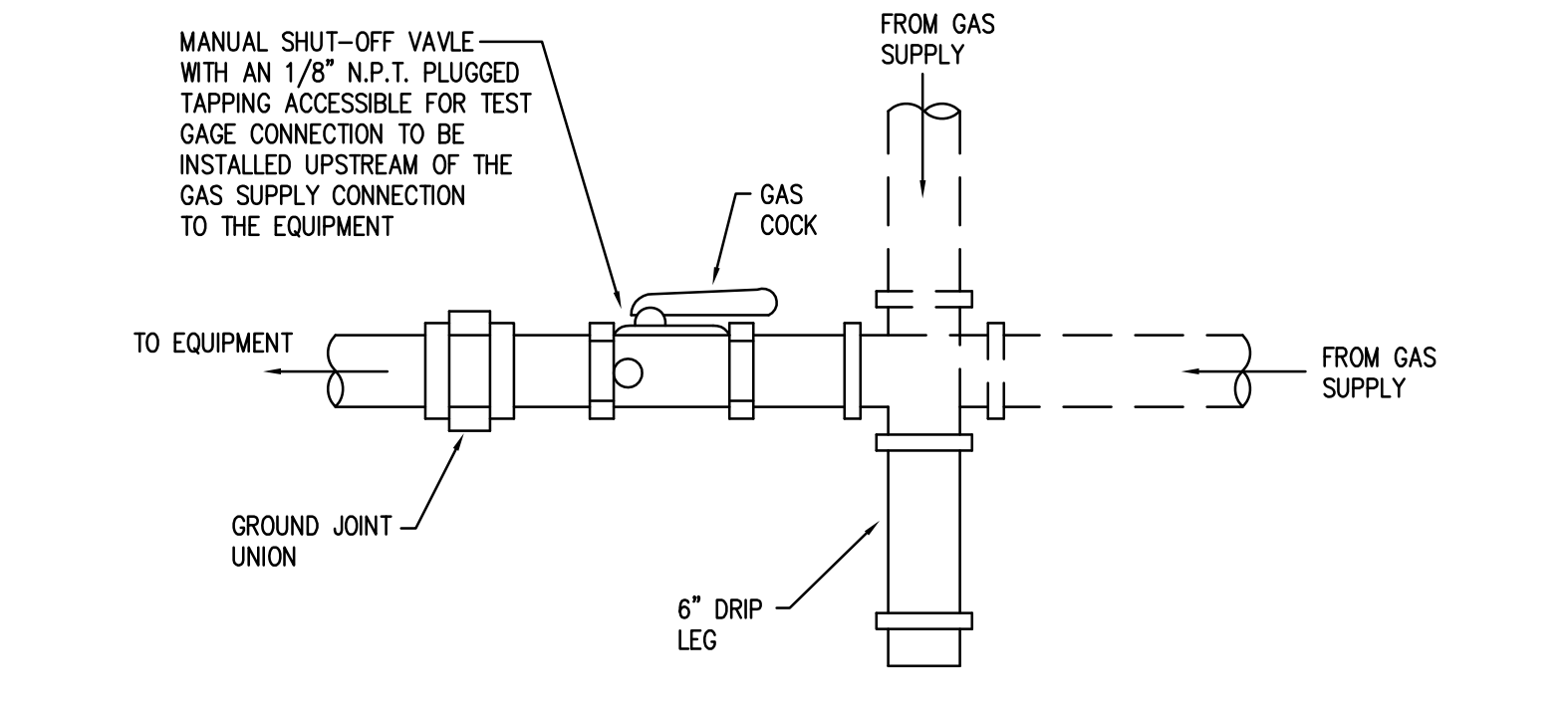
PLUMBING SYMBOLS

Table of plumbing symbols showing line styles and symbols for cold water piping, hot water piping, vent piping, waste piping, etc.

THIS LIST IS AN ALL INCLUSIVE MASTER LIST USED BY THIS FIRM. THE INCLUSION OF THESE SYMBOLS INTO THESE DOCUMENTS DOES NOT IMPLY THAT ALL THE SYMBOLS ARE INCORPORATED INTO THIS PROJECT.

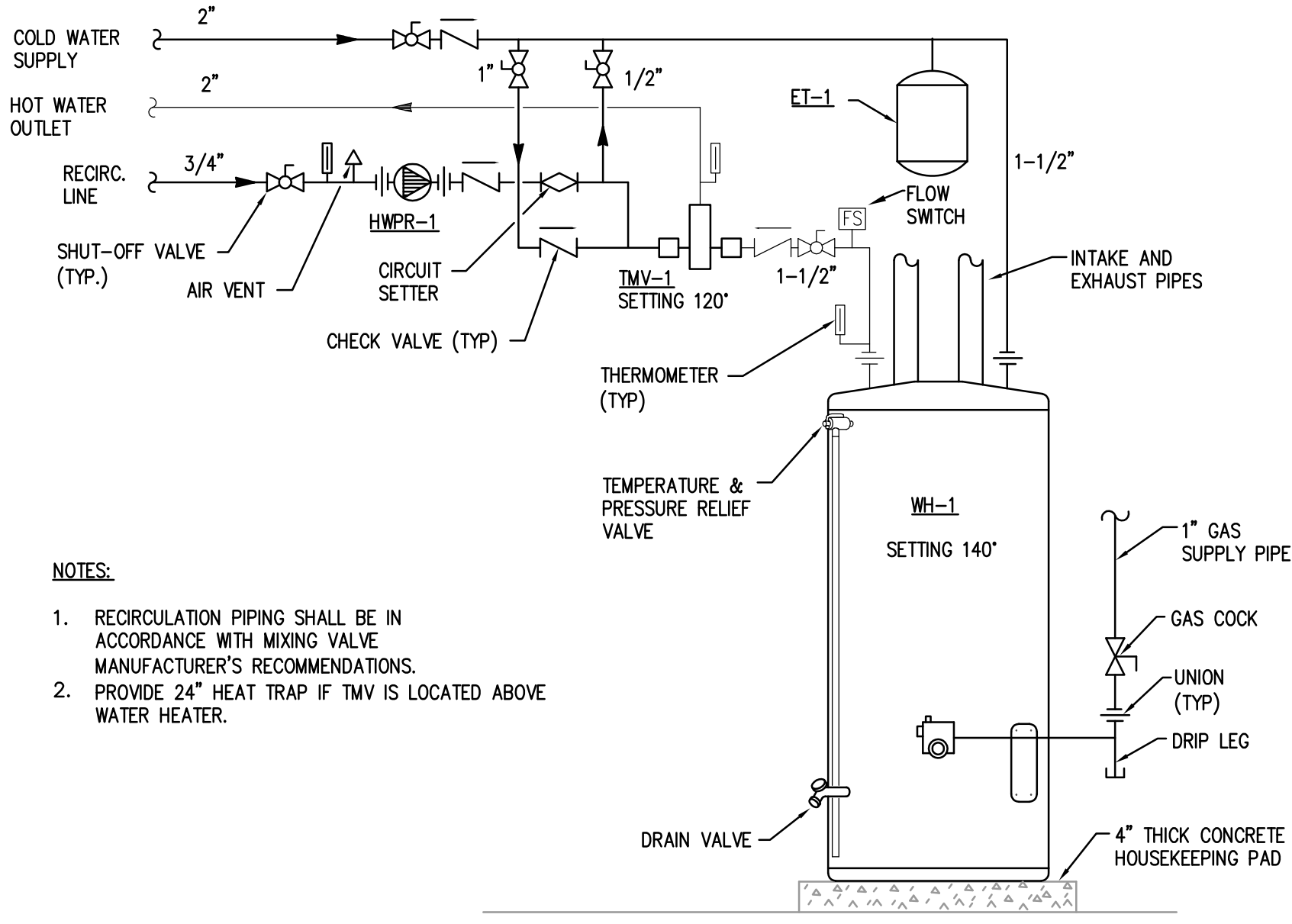


HOT WATER RECIRCULATION PUMP DETAIL SCALE: NTS



GAS CONNECTION TO EQUIPMENT DETAIL SCALE: NTS

NOT USED SCALE: NTS



GAS FIRED WATER HEATER DETAIL SCALE: NTS

GAS WATER HEATER SCHEDULE

Table with columns MARK, MODEL, TYPE, NATURAL GAS INPUT (MBH), STORAGE CAPACITY (GALLONS), RECOVERY @ 100 DEGREE F RISE (GPH), THERMAL EFFICIENCY (%), ELECTRICAL (V/PH/Hz), SERVICE, REMARKS.

- 1. MODEL BASED ON LOCHINVAR.
2. WATER HEATER SHALL MEET THE THERMAL EFFICIENCY AND STANDBY LOSS REQUIREMENTS OF THE U.S. DEPARTMENT OF ENERGY AND CURRENT EDITION OF ASHRAE/IES 90.1.
3. WATER HEATER SHALL BE CAPABLE OF ROOF EXHAUST VENTING AND SIDEWALL COMBUSTION INTAKE.

EXPANSION TANK SCHEDULE

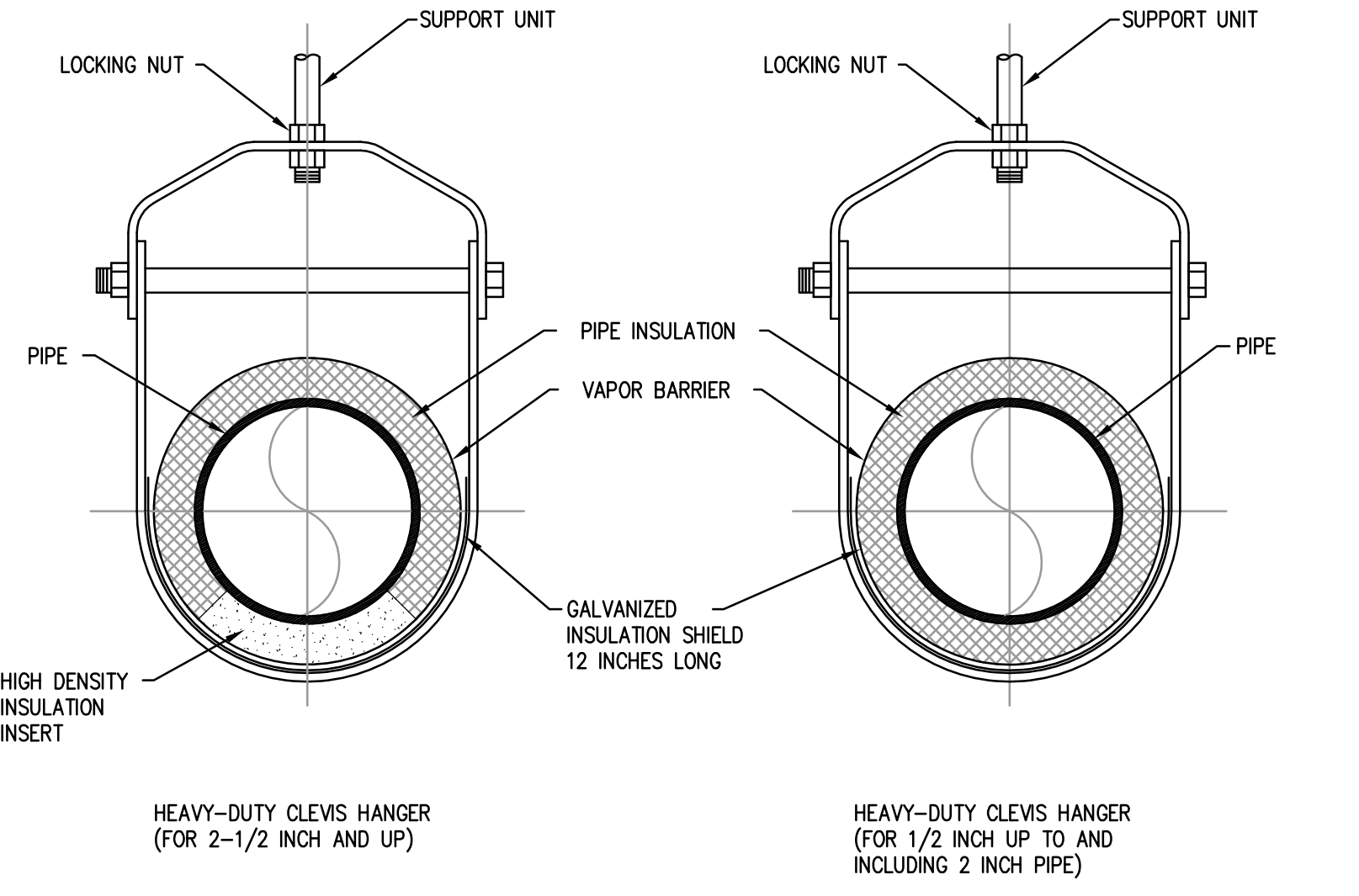
Table with columns MARK, MODEL, TANK VOLUME (GAL), TANK ACCEPTANCE (GAL), LENGTH x DIAMETER (IN x IN), MAXIMUM DESIGN PRESSURE (PSIG), MAXIMUM DESIGN TEMPERATURE (°F), REMARKS.

- 1. MODEL BASED ON AMTROL.

PUMP SCHEDULE

Table with columns MARK, MODEL, WATER FLOW RATE (GPM), HEAD (FT), TYPE, MOTOR SIZE (WATTS), ELECTRICAL (V/PH/Hz), MOTOR SPEED (RPM), SERVICE, REMARKS.

- 1. MODEL BASED ON BELL & GOSSETT.



PIPE HANGER DETAILS NTS

KLUBER Architects + Engineers

Kluber, Inc.
Barrington, Illinois 60015
Tel. 847.336.3210
Gurnee, Illinois 60031
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www.klubertec.com

TENNIS CENTER BOILER AND WATER HEATER REPLACEMENT
OAK BROOK PARK DISTRICT
1450 FOREST GATE ROAD
OAK BROOK, IL 60523

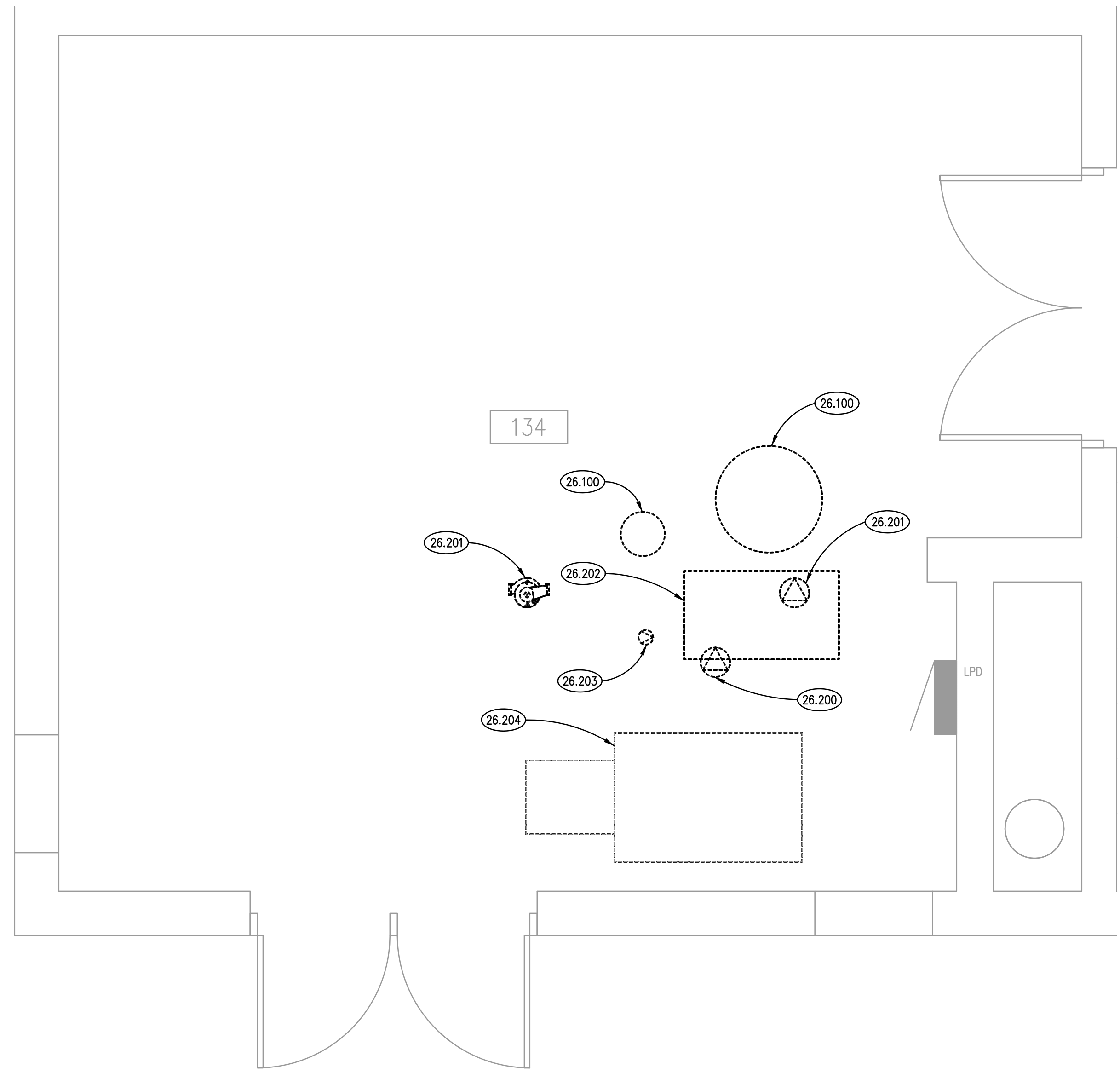
Table with columns ISSUED, LOGS, etc.

JOB NO. 18-310-1186
DRAWN BWG
CHECKED DDW
APPROVED DDW

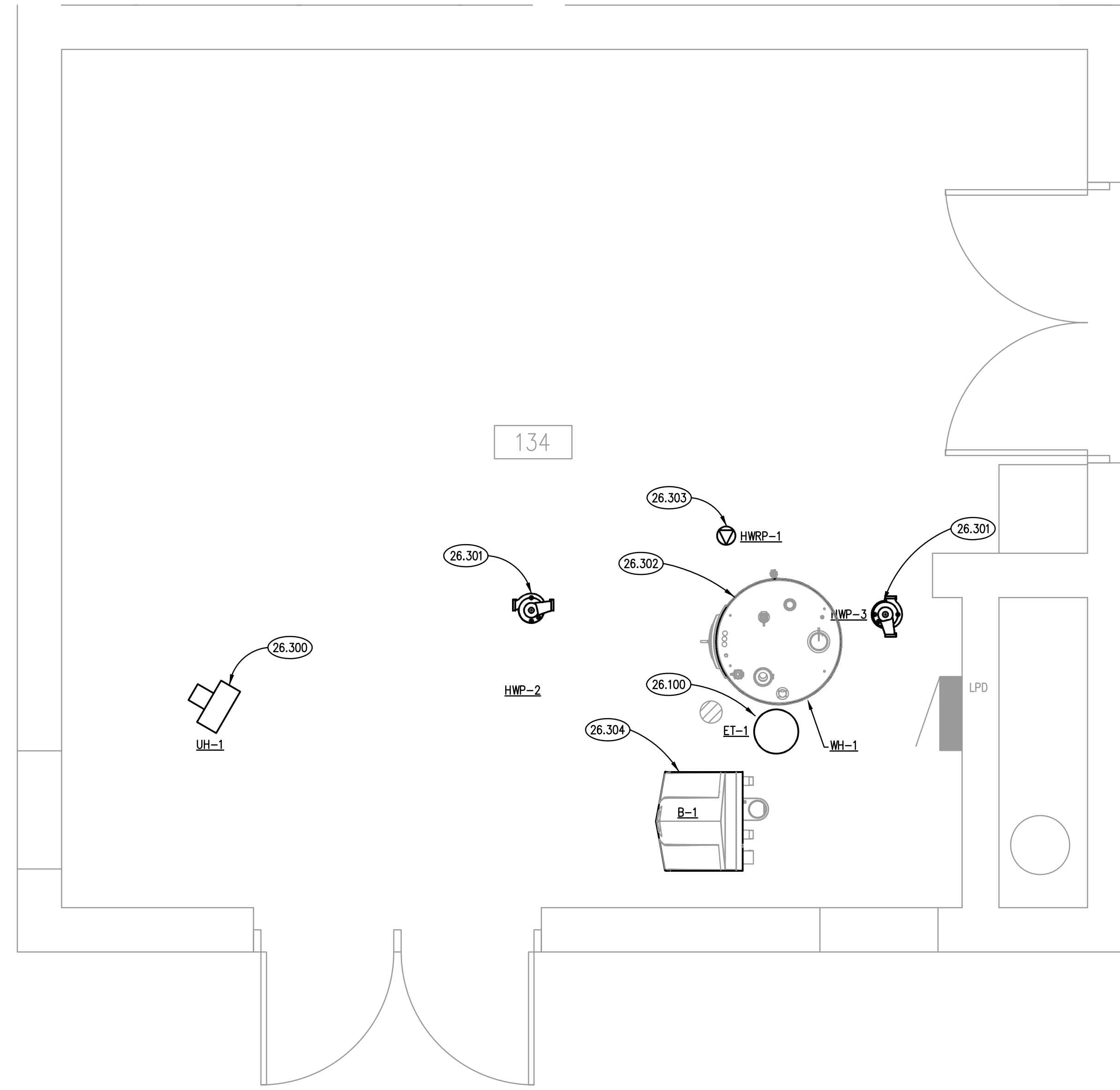
SHEET TITLE
PLUMBING SCHEDULES & DETAILS

SHEET NUMBER

P400



BOILER ROOM DEMOLITION PLAN 2
SCALE: 1/2" = 1'-0"



BOILER ROOM NEW WORK PLAN 1
SCALE: 1/2" = 1'-0"

HVAC/PLUMBING EQUIPMENT SCHEDULE												
NO.	DESCRIPTION	FLA	KW	HP	VOL	PH	CCT NO.	DISC. FURN BY	STARTER		CIRCUIT WIRING	NOTE
									TYPE	BY		
B-1	BOILER	12			120	1	LPD-20	EC	N/A	N/A	EXISTING	
HWP-2	PUMP			1/3	120	1		EC	N/A	N/A	EXISTING	
HWP-3	PUMP			1/4	120	1		EC	N/A	N/A	EXISTING	
UH-1	UNIT HEATER			F	120	1	LPD-7	EC	N/A	N/A	2#12, #12G, 1/2"	
HWRP-1	HOT WATER RECIRC PUMP			F	120	1	LPD-29	EC	N/A	N/A	EXISTING	
WH-1	WATER HEATER	6.7			120	1		EC	N/A	N/A	EXISTING	

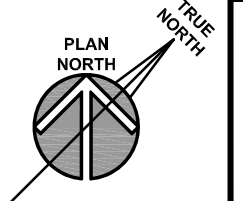
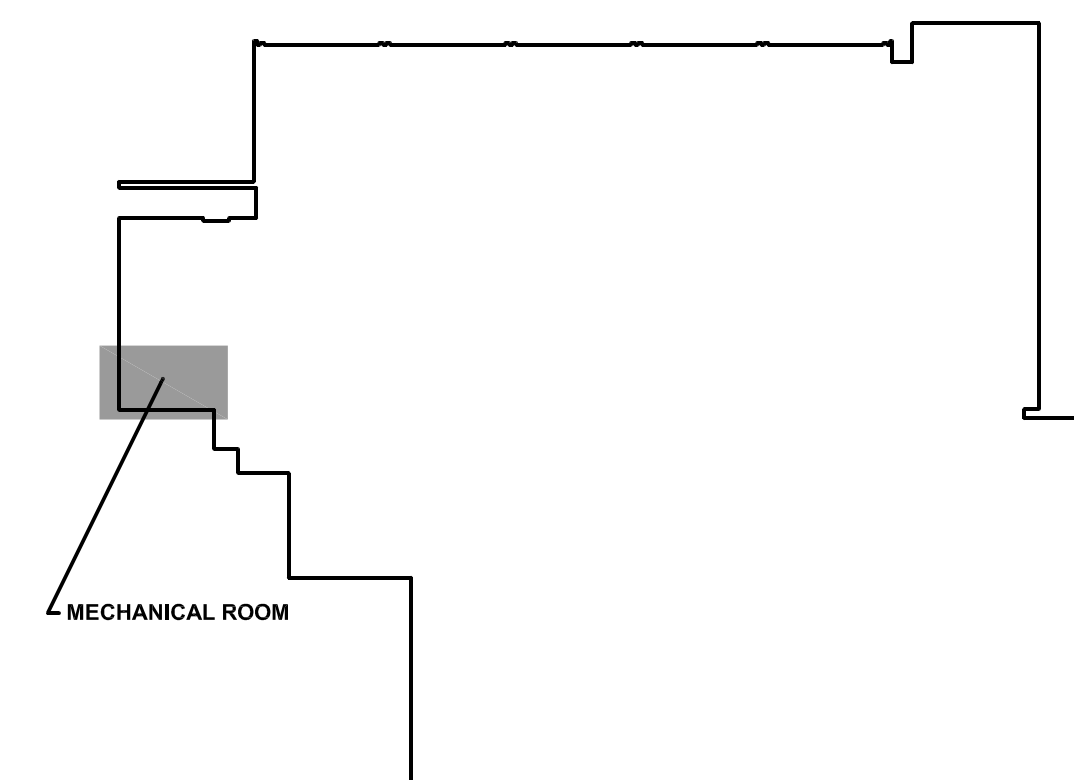
NOTES:

KEYNOTES

KEYNOTES ARE NOT ALWAYS REPEATED ACROSS ALL DRAWINGS ON THIS SHEET. AN UN-KEYNOTED ITEM ON THIS SHEET IS THE SAME AS A KEYNOTED ITEM ON THIS SHEET HAVING THE SAME GRAPHIC APPEARANCE.

- 26.100 NO ELECTRICAL CONNECTION TO THIS EQUIPMENT.
- 26.200 DEMOLISH EXISTING ELECTRICAL CONNECTION TO PUMP TO BE REMOVED. DEMOLISH BRANCH CIRCUITRY IN ITS ENTIRETY TO SOURCE. REMOVE EXISTING 20 AMPERE, 3 POLE BREAKER (LPD-7/9/11).
- 26.201 DISCONNECT EXISTING ELECTRICAL CONNECTION TO PUMP TO BE REPLACED. PROTECT FEEDER TO BE REUSED FOR NEW PUMP.
- 26.202 DISCONNECT EXISTING ELECTRICAL CONNECTION TO WATER HEATER TO BE REPLACED. PROTECT FEEDER TO BE REUSED FOR NEW WATER HEATER.
- 26.203 DISCONNECT EXISTING ELECTRICAL CONNECTION TO HOT WATER RECIRCULATION PUMP TO BE REPLACED. PROTECT FEEDER TO BE REUSED FOR NEW PUMP.
- 26.204 DISCONNECT EXISTING ELECTRICAL CONNECTION TO BOILER TO BE REPLACED. PROTECT FEEDER TO BE REUSED FOR BOILER.
- 26.300 PROVIDE ELECTRICAL CONNECTION TO NEW MECHANICAL EQUIPMENT: UNIT HEATER. PROVIDE (QUANT. 3) 20 AMPERE, SINGLE POLE BREAKERS IN PANEL LPD (7,9,11). HOMERUN 2#12, #12G, 1/2" TO NEW 20 AMPERE, SINGLE POLE BREAKER IN EXISTING PANEL LPD. LABEL (QUANT. 2) UNUSED 20 AMPERE BREAKERS AS "SPARE".
- 26.301 PROVIDE ELECTRICAL CONNECTION TO NEW MECHANICAL EQUIPMENT: HOT WATER PUMP. EXTEND EXISTING HOT WATER PUMP BRANCH CIRCUITRY TO NEW PUMP AS NECESSARY AND RECONNECT TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM.
- 26.302 PROVIDE ELECTRICAL CONNECTION TO NEW MECHANICAL EQUIPMENT: WATER HEATER. EXTEND EXISTING WATER HEATER BRANCH CIRCUITRY TO NEW EQUIPMENT AS NECESSARY AND RECONNECT TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM.
- 26.303 PROVIDE ELECTRICAL CONNECTION TO NEW MECHANICAL EQUIPMENT: HOT WATER RECIRCULATION PUMP. EXTEND EXISTING HOT WATER RECIRCULATION PUMP BRANCH CIRCUITRY TO NEW PUMP AS NECESSARY AND RECONNECT TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM (PANEL LPD-29).
- 26.304 PROVIDE ELECTRICAL CONNECTION TO NEW MECHANICAL EQUIPMENT: BOILER. EXTEND EXISTING BOILER BRANCH CIRCUITRY TO NEW PUMP AS NECESSARY AND RECONNECT TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM (PANEL LPD-20).

KEYPLAN



ISSUED	DATE	BY	REVISIONS

JOB NO.	18-310-1186
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APPROVED	MTK

SHEET TITLE
ELECTRICAL FLOOR PLANS

SHEET NUMBER
E300