HOUSING AUTHORITY OF THE COUNTY OF DEKALB

Taylor Street Plaza Hallway & Apartment Condensing Boiler Replacement 507 E. Taylor St, Dekalo, IL 6015

OWNER

HOUSING AUTHORITY OF THE COUNTY OF DEKALB 507 E TAYLOR ST, DEKALB, IL 60115

TRC MORLDWIDE ENGINEERING MEP, LLC 53 M. JACKSON BLYD, **SUITE 1604** CHICAGO, IL 60604 (312) 291-8276

ARCHITECT

RONALD G. BILLY JR. TYSON & BILLY ARCHITECTS P.C. 4000 MORSAY DRIVE ROCKFORD, IL 61107

MEP ENGINEER

ABBREVIATION LIST

POUND

LAZY SUSAN

LN.FT. LINEAR FEET

MEN

ONE BEDROOM TWO BEDROOM

AMERICANS WITH DISABILITIES ACT

ABOVE FINISHED FLOOR

ALUMINUM/ASSISTED LIVING

(815) 229-8222

Architect/Engineer ILLINOIS REGISTRATION NO.: 001-015480 Exp. Date: 11/30/20 ILLINOIS PROFESSIONAL DESIGN FIRM REGISTRATION NO. 184003452

STATEMENT OF COMPLIANCE I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTURAL OBLIGATION, THEY ARE IN COMPLIANCE WITH THE ENVIRONMENTAL BARRIERS ACT (410 ILCS 25) AND THE ILLINOIS ACCESSIBILITY CODE (71 111. ADM. CODE 400)

Signed

Architect/Engineer ILLINOIS REGISTRATION NO.: 001-015480 Exp. Date: 11/30/20 ILLINOIS PROFESSIONAL DESIGN FIRM REGISTRATION NO. 184003452

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CODE COMPLIANCE

BUILDING CODES.

	00DL3.
REQUIREMENTS BAS	SED ON THE FOLLOWING:
BUILDING:	2015 ICC [IBC] INTERNATIONAL BUILDING CODE
FIRE:	2015 ICC [IFC] INTERNATIONAL FIRE CODE
MECHANICAL:	2015 ICC [IMC] INTERNATIONAL MECHANICAL CODE
PLUMBING:	2014 ILLINOIS PLUMBING CODE
ELECTRICAL:	2014 [NEC] NATIONAL ELECTRICAL CODE
ACCESSIBILITY:	2018 STATE OF ILLINOIS ACCESSIBILITY CODE
ENERGY:	2015 ICC [IECC] INTERNATIONAL ENERGY CONSERVATION CODE W/ STATE AMENDMENTS
FUEL GAS:	2015 INTERNATIONAL FUEL GAS CODE

HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, COMPLY WITH ALL APPLICABLE CODES.

Signed:

SHEET INDEX

GENERAL

COVER SHEET

ELECTRICAL SYMBOLS & ABBREVIATIONS

GROUND FLOOR ELECTRICAL DEMOLITION & NEW PLAN

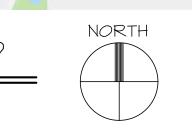
ELECTRICAL SCHEDULES SYMBOLS & ABBREVIATIONS

GROUND FLOOR HYAC DEMOLITION & NEW PLAN

HYAC SCHEDULES & DIAGRAMS

HVAC DETAILS

University



AUTO	AUTOMATIC	MACH	MACHINE
В	BASE	MAX.	MAXIMUM
BRG	BEARING	MC	MEMORY CARE
CB	CORNER BASE	MECH.	MECHANICAL
CBNTS	CABINETS	MED	MEDICINE
CL	CENTER LINE	MIN.	MINIMUM/MINUTE
CM2	SQUARE CENTIMETER	MFR'S	MANUFACTURER'S
	CONCRETE MASONRY BLOCK	M.R.	MOISTURE RESISTANT
CONC.	CONCRETE	MSG	MANUFACTURERE'S STANDARD
CONT.	CONTINUOUS	N/A	GAUGE
CORP.	CORPORATION	NFPA	NOT APPLICABLE
DB	DRAWER BASE	NOM.	
DBL	DOUBLE		ASSOCIATION
DIA	DIAMETER	0SB	
DIM.	DIMENSION		ON CENTER
DM	DRYWALL		ORIENTED STRAND BOARD
D.S.	DOWNSPOUT	PLUMB.	PLASTIC LAMINATE
E	EFFICEINCY	PTAC	
E/J	EXPANSION JOINT	R	PACKAGED TERMINAL AIR
EL.	FLEVATOR		CONDITIONERS
ELEG	FLECTRICAL		RADIUS
ELEV	DOUBLE DIAMETER DIMENSION DRYWALL DOWNSPOUT EFFICEINCY EXPANSION JOINT ELEVATOR ELECTRICAL ELEVATOR/ELEVATION EQUAL		REFLECTED CEILING PLAN
EQ	EQUAL		REFERANCE/REFRIGERATOR
-	EQUIPMENT	5	REQUIRED
	EVALUATION SERVICE REPORT	REV	
EXIST.		R.O.	
	EXTERIOR	SB	
	FURNITURE, FIXTURE, AND EQUIPMENT		SINK BASE
E	FIRE EXTINGUISHER CABINET		SOLID CORE
F.E.C.	FIBERGLASS REINFORCED PANEL		SQUARE FEET
FRP	FOOT	SPEC	SIMILAR
	GALVANIZED	SQ.FT.	
	GENRAL CONTRACTOR		SQUARE FEET
	GENERAL		SQUARE INCHES
	GYPSUM	STL.	STAINLESS STEEL
	HANDICAP BASE	STRUCT	
	HANDICAP BASE DRAWER	211,301	STRUCTURAL
	HANDICAP CORNER BASE	T/	TOP OF
HCB	HOLLOW CORE		TEMPERED
HC	HOLLOW METAL	TERM.	TERMINATION
HM	INTERNATIONAL BUILDING CODE	TYP.	TYPICAL
IBC	INTERNATIONAL CODE COUNCIL	UL.	UNDERWRITERS LABORATORIES
100	ILLINOIS DEPARTMENT OF PUBLIC HEALTH	VEST.	VESTIBULE
IDPH	INTERNATIONAL ENERGY CONSERVATION	W LST.	WALL
IECC	CODE	M.	MOMEN
INSUL.	INSULATED/INSULATION	M/	MITH
JAN.	JANITOR	MD	WOOD
			WELDED WIRE FABRIC

MATERIAL	INDICATIONS
EARTH	ROUGH WOOD
GRAVEL OR SAND FILL	FINISH WOOD
CONCRETE	PLYWOOD
LIGHT WEIGHT CONCRETE	
BRICK MASONRY	ACOUSTICAL TILE
REINFORGING BARS (END)	LAMINATED BEAM
REINFORGING BARS (SIDE)	VAPOR BARRIER
CONCRETE BLOCK	RIGID INSULATION
CUT STONE	LOOSE OR BATT INSULATION
STUD WALL OR PARTITION	PLASTER OR DRYWALL

STEEL OR IRON

I [] STRUCTURAL STEEL

GRAPHIC	SYMBOLS
DETAIL OR SECTION	DETAIL NO.
INTERIOR ELEVATION	(A)
DOOR SYMBOL	101)
WALL TYPE SYMBOL	—(M1)
ELEVATION SYMBOL	+0'-0'-P
ROOM SYMBOL	101
MINDOM SYMBOL	

FIRE ALARM SYSTEM ELECTRICAL EQUIPMENT <u>SYMBOL</u> **DESCRIPTION** <u>DESCRIPTION</u> SMOKE DETECTOR ("X" DENOTES AS FOLLOWS) MOLDED CASE CIRCUIT BREAKER R - RELAY BASE HEAT DETECTOR CURRENT TRANSFORMER FLAME DETECTOR GROUND CONNECTION DUCT DETECTOR ("X" DENOTES AS FOLLOWS) GROUND POINT R - RETURN GROUND ROD ADDRESSABLE RELAY PAD MOUNTED TRANSFORMER ("X" DENOTES KVA SIZE) REMOTE INDICATOR STATION BRANCH PANELBOARD AND CABINET - RECESSED MOUNT REMOTE TEST STATION BRANCH PANELBOARD AND CABINET - SURFACE MOUNT BEAM DETECTOR MANUAL PULL STATION DISTRIBUTION PANELBOARD AND CABINET - SURFACE MOUNT FLOW SWITCH ELECTRIC THERMOSTAT TAMPER SWITCH MOTOR ("X" DENOTES HORSEPOWER) HORN ONLY CAPACITOR ("X" DENOTES KVAR) HORN STROBE CHIME ONLY DISCONNECT SWITCH - FUSED CHIME STROBE DISCONNECT SWITCH - NON-FUSED SPEAKER ONLY MOTOR CONTROLLER COMBINATION MOTOR CONTROLLER SPEAKER STROBE HORSEPOWER RATED MANUAL MOTOR STARTER TOGGLE SWITCH BELL STROBE WITH THERMAL OVERLOAD PROTECTION JUNCTION OR PULL BOX VISUAL ONLY DOOR HOLD OPEN PUSHBUTTON OR PUSH PLATE ADDRESSABLE MODULE GENERATOR/ALTERNATOR FIRE ALARM CONTROL PANEL AUTOMATIC TRANSFER SWITCH **EQUIPMENT JUNCTION BOX**

ELECTRICAL DEVICES

DUPLEX RECEPTACLE - NORMAL CIRCUIT ("X" DENOTES AS

DUPLEX RECEPTACLE - EMERGENCY CIRCUIT("X" DENOTES AS

QUADRAPLEX RECEPTACLE - NORMAL CIRCUIT ("X" DENOTES

QUADRAPLEX RECEPTACLE - EMERGENCY CIRCUIT ("X"

SIMPLEX RECEPTACLE - NORMAL CIRCUIT ("X" DENOTES AS

GFCI - 20 AMP, 125VAC, GROUND FAULT CURRENT

S - 20 AMP, 125VAC, SURGE GUARD PROTECTION TYPE

HM - 20 AMP, 125VAC, HORIZONTAL MOUNT TYPE

IG - 20 AMP, 125VAC, ISOLATED GROUND TYPE

WP - 20 AMP, 125VAC, WEATHERPROOF TYPE

SPECIAL RECEPTACLE - EMERGENCY CIRCUIT (SEE

SPECIAL RECEPTACLE - NORMAL CIRCUIT (SEE DRAWINGS

ST - 20 AMP, 125VAC, SAFETY TYPE

DESCRIPTION

FOLLOWS:)

FOLLOWS:)

AS FOLLOWS:)

FOLLOWS:)

DENOTES AS FOLLOWS:)

SIMPLEX RECEPTACLE - EMERGENCY

CIRCUIT ("X" DENOTES AS FOLLOWS:)

NONE - 20 AMP, 125VAC

INTERRUPTER TYPE

AND SPECIFICATIONS)

DRAWINGS AND SPECIFICATIONS)

QUADRAPLEX - CEILING MOUNTED

DUPLEX - CEILING MOUNTED

FLOOR BOX (DUPLEX)

FLOOR BOX (BLANK)

FLOOR BOX (QUADRAPLEX)

FLOOR BOX (POWER AND DATA)

PLUGSTRIP (POWER AND/OR DATA)

TOGGLE SWITCH - 3-WAY

TOGGLE SWITCH - 4-WAY

TOGGLE SWITCH - PILOT LIGHT

INDIVIDUAL LIGHT DIMMER

<u>DESCRIPTION</u>

WALL MOUNTED CLOCK

GROUND QUANTITY OF CONDUCTORS OR CABLES IN CONDUIT

<u>SYMBOL</u>

___ PHASE CONDUCTORS

TOGGLE SWITCH - KEY OPERATED

LETTER DESIGNATION INDICATES SWITCH LEG

CLOCK SYSTEM

DIGITAL TIME CLOCK/ELAPSED TIME SYSTEM OUTLET

RACEWAY SYSTEM

TOGGLE SWITCH - 20 AMP, 120/277VAC

PAGING/AUDIO SYSTEM **DESCRIPTION** <u>SYMBOL</u> DUPLEX RECEPTACLE -COUNTER TOP ("X" DENOTES AS FOLLOWS:) MICROPHONE INPUT RECEPTACLE - WALL MOUNTED MICROPHONE INPUT RECEPTACLE - FLOOR MOUNTED MICROPHONE INPUT RECEPTACLE - CEILING MOUNTED WALL MOUNTED PAGING HORN SPEAKER (ROUGH-IN) LOUDSPEAKER - CEILING MOUNTED LOUDSPEAKER - CEILING MOUNTED WITH VOLUME CONTROL LOUDSPEAKER - WALL MOUNTED VOLUME CONTROL DOOR SECURITY SYSTEM

<u>SYMBOL</u> <u>DESCRIPTION</u> **CCTV MONITOR OUTLET** DOOR BUZZER ELECTRIC DOOR RELEASE BUTTON ELECTRIC DOOR STRIKE INTERCOM UNIT FLUSH MTD. MASTER INTERCOM AND DIRECTORY UNIT SECURITY CONTROL PANEL SECURITY MAGNETIC DOOR LOCK SECURITY CARD READER MOTION DETECTOR SECURITY DOOR CONTACTS SECURITY EXIT PUSH BUTTON SECURITY MONITOR SECURITY DOOR REQUEST TO EXIT MOTION DETECTOR SECURITY KEYPAD BIOSCAN ACCESS PAD DURESS ALARM (HOLD UP BUTTON) ELECTRIC POWER TRANSFER PUSH PLATE TOUCHLESS ACTUATOR DOOR RELEASE PUSH BUTTON COMBINATION CARD READER WITH KEYPAD DOOR POWER SUPPLY \square CAMERA \square **CAMERA - EXTERIOR**

CAMERA - PAN/TILT/ZOOM

NOTE: ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT

LIGHTING <u>SYMBOL</u> <u>DESCRIPTION</u> 12x48 FLUORESCENT FIXTURE HALF SHADED INDICATES LIFE SAFETY POWER FULL SHADED INDICATES EMERGENCY POWER 24x24 FLUORESCENT FIXTURE 0 24" WALL LIGHTS 6 36" WALL LIGHTS 48" WALL LIGHTS 6 \bowtie 24" STEM MOUNTED WALL LIGHTS \searrow 36" STEM MOUNTED WALL LIGHTS 48" STEM MOUNTED WALL LIGHTS WALL MOUNTED SCONCE 24x48 FLUORESCENT FIXTURE WALL MOUNTED EMERGENCY BATTERY LIGHT CEILING MOUNTED EMERGENCY BATTERY LIGHT EXIT LIGHT DIRECTIONAL ARROWS CEILING MOUNTED EXIT LIGHT (DUAL FACED) CEILING MOUNTED EXIT LIGHT WALL MOUNTED EXIT LIGHT EXTERIOR POLE LIGHTS (SINGLE HEADS) EXTERIOR POLE LIGHTS (DOUBLE HEADS) EXTERIOR POLE LIGHTS (THREE HEADS) EXTERIOR POLE LIGHTS (FOUR HEADS) EXTERIOR POLE LIGHTS (POLE TOP MOUNT) EXTERIOR LIGHTS (BOLLARDS) GROUND FLOOD LIGHT EXTERIOR FLOOD LIGHT DUAL BALLAST (NORMAL AND EMERGENCY) MOTION DETECTOR (LIGHT SWITCH) OCCUPANCY SENSOR ("X" DENOTES AS FOLLOWS) CM - CEILING MOUNT WM - WALL MOUNT VACANCY SENSOR WITH SWITCH TELECOMMUNICATION SYSTEM <u>SYMBOL</u> <u>DESCRIPTION</u> DUPLEX DATA ONLY OUTLETS FLOOR BOX (VOICE, DATA, VOICE/DATA)

CEILING MOUNTED (DATA, VOICE/DATA)

TELEVISION SYSTEM

FLAT PANEL TV WITH RECESSED WALL BOX

FLOOR PLAN SYMBOLS <u>SYMBOL</u> **DESCRIPTION** PLAN NOTE GENERAL NOTE

— — HEAVY DASHED LINES INDICATE EXISTING TO BE REMOVED

HEAVY CONTINUOUS LINES INDICATE NEW WORK

<u>DESCRIPTION</u>

TV SYSTEM OUTLET (72")

AUDIO/VISUAL CONTROLLER

<u>SYMBOL</u>

LINE SYMBOLS LIGHT/SCREENED SOLID OR DASHED LINES INDICATE EXISTING TO REMAIN HORZ

HTR

HORIZONTAL

HFATER

HORSEPOWER

HIGH VOLTAGE

HIGH PRESSURE SODIUM

ACU AIR CONDITIONING UNIT INCLUDE ISOLATED GROUND SURGE GUARD ADDITION ADD ADJUSTABLE JUNCTION BOX AMPERE FRAME ABOVE FINISHED CEILING KITCHEN EQUIPMENT CONTRACTOR ABOVE FINISHED FLOOR KITCHENETTE AFG ABOVE FINISHED GRADE KILOVOLT AMPERE AIR HANDLING UNIT KILOVOLT AMPERE REACTIVE AMPERE INTERRUPTING CAPACITY KII OWATT AI UMINUM LABORATORY AMMETER AMBIENT LINEAR FEET APPROXIMATELY LOCATION APPROX ARCH ARCHITECT LIFE SAFETY ATS AUTOMATIC TRANSFER SWITCH AUTO AUTOMATIC LIGHTING LOW VOLTAGE AVG AVFRAGE BARE COPPER MASTER ANTENNA TELEVISION BREAKER MAXIMUM BRAKE HORSEPOWER MECHANICAL CONTRACTOR MCB BUILDING LINE MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER BRANCH MDP MAIN DISTRIBUTION PANEL BTMBOTTOM MECH **MECHANICAL** MANHOLE **DEGREES CELSIUS** MINIMUM **MISCELLANEOUS** CB or C/B CIRCUIT BREAKER MAIN LUGS ONLY CENTER TO CENTER MOUNTED CCTV CLOSED CIRCUIT TELEVISION MOUNTING HEIGHT MTG HT MEDICINE UNIT CENTER LINE OUTSIDE DIAMETER OWNER FURNISHED-CONTRACTOR INSTALLED CEILING COLUMN OWNER FURNISHED-OWNER INSTALLED OFOI COMMUNICATION COMPRESSOR CONC OPERATING ROOM CONCRETE CONST CONSTRUCTION CONT CONTINUOUS PUSHBUTTON CONTR CONTRACTOR PULL BOX PNEUMATIC ELECTRIC CONVERTER CRITICAL POWER FACTOR CURRENT TRANSFORMER PH or Ø DIRECT BURIAL POST INDICATOR VALVE PANELBOARD DIRECT CURREN DEPT DEPARTMENT PILOT LIGHT DRINKING FOUNTAIN PREFABRICATED DEMAND METER PNEUMATIC TUBE DRAWOUT PNEUMATIC TUBE STATION DOCTORS PART WINDING POWER ROOM AIR CONDITIONING UNIT ELECTRICAL CONTRACTOR FXHAUST FAN RADIATION RECEPTACLE ELEV **ELEVATOR** REF or REFR REFRIGERATOR FI FVATION REINFORCED **EMER EMERGENCY** RGIP REMOTE GROUND INDICATING PANEL **ENCLOSURE** ELECTRIC PNEUMATIC REVOLUTIONS PER MINUTE SUPPLY AIR FQUIPMENT **EWC** FLECTRIC WATER COOLE SHORT CIRCUIT **EXPLOSIONPROOF** SURGE GUARD PROTECTION SIGNAL FXPANSION **EXTERIOR** SOLID NEUTRAL DEGREES FAHRENHEIT **SPECIFICATIONS** FIRE ALARM SQUARE FIRE ALARM ANNUNCIATOR PANEL SAFETY SWITCH FACP FIRE ALARM CONTROL PANEL SOLID STATE SOFT START FLAT CABLE STANDARD FAN COIL UNIT STATION FOOD FACILITY CONTRACTOR STRUCTURAL FOOD FACILITY SUPPLIER SUSPENDED FIRE HOSE CABINET SWITCH **SWITCHBOARD** FIXTURE SWITCHGEAR TEMPERATURE CONTROL CONTRACTOR FLUORESCENT **TELECOMMUNICATION** FLEX-CONN FLEXIBLE CONNECTION TEMP TEMPERATURE FIRE PROTECTION CONTRACTOR TOP OF MANHOLE FUSED SAFETY SWITCH TELEVISION **FILMVIEWER** UNDER CARPET UNDER CABINET or UNDER COUNTER FULL VOLTAGE **FVNR** FULL VOLTAGE NON REVERSING UNIT HEATER G or GND **UNIT VENTILATOR** GALV GALVANIZED VOLT GENERAL CONTRACTOR VACUUM **GENERATOR** VACUUM BREAKER GROUND FAULT CKT. INTERRUPTER VACUUM CLEANING GROUND FAULT INTERRUPTER VELOCITY VARIABLE FREQUENCY DRIVE GROUND FAULT PROTECTION VOLTMETER HANDHOLE VOLUME HIGH INTENSITY DISCHARGE VAPORPROOF VARIABLE SPEED DRIVE/CONTROLLER HAND OPERATED VSD/VFC HOA HAND-OFF-AUTOMATIC WITHOUT

ELECTRICAL ABBREVIATIONS

DESCRIPTION

INTERCOMMUNICATION

INSIDE DIAMETER

INCANDESCENT

HERTZ

DESCRIPTION

ALTERNATING CURRENT

AIR CONDITIONING

ACCESS PANEL

A or AMP

ACP

GENERAL NOTES(Cont...)

36. AT THE COMPLETION OF THE JOB, IT WILL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO TURN OVER TO THE BUILDING MANAGER AN AS—BUILT—DRAWING IN REPRODUCIBLE FORM. THESE DRAWINGS DO NOT HAVE TO BE MADE FROM SCRATCH. THE ENGINEER'S PLANS MAY BE USED AS BACKGROUND WITH THE ACTUAL CIRCUITING CHANGES ADDED. 37. DISTRIBUTION PANELS AND BRANCH CIRCUIT PANELBOARD SHALL HAVE A PANEL DIRECTORY INSTALLED. UTILIZE TYPE WRITER AS A MINIMUM OF COMPLIANCE. HAND WRITTEN CARD DIRECTORIES ARE NOT ACCEPTABLE.

STANDARD FOR SAFETY IN THE WORKPLACE, LABEL SHALL READ "CAUTION ARC FLASH HAZARD" SIZE AND COLOR OF TEXT SHALL BE PER STANDARD.

ALL EQUIPMENT INSTALLED OUTSIDE SHALL BE WEATHER PROOF RATED. REFER TO DRAWINGS FOR

WEIGHT TRANSFORMER

WATER

WEATHERPROOF

38. MAIN DISTRIBUTION PANEL AND BRANCH PANELBOARD SHALL BE LABELED WITH A READILY VISIBLE LABEL PER NFPA

40. COMPRESSION TYPE CONDUIT COUPLINGS ARE REQUIRED IN WALLS & CEILINGS OF WET AREA & PLENUM RATED CEILINGS ONLY. CONDUITS TO HAVE RIGID CONNECTIONS AT WET AREAS.

PER NEC. BASED IN THE AMOUNT OF CABLE AND CONDUITS ENTERING/LEAVING THE BOX. 43. ALL BREAKERS SERVING EXIT SIGNS AND EMERGENCY LIGHITNG EQUIPMENT SHALL BE KEY—LOCK STYLE.

IMPEDANCE

39. LABEL ALL J—BOX COVER PLATES, RECEPTACLE COVER PLATES WITH CIRCUIT INFORMATION.

41. ALL CONDUCTORS SHALL BE MADE OF COPPER UNLESS NOTED OTHERWISE. MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS OTHERWISE INDICATED. UTILIZE SOLID CONDUCTORS FOR WIRE GAGES UP TO #12 AWG AND STRANDED CONDUCTOR FOR GAUGES # 10 AND LARGER. 42. MINIMUM RACEWAY SIZE SHALL BE 3/4" UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL SIZE ALL CONDUCTORS SO AS TO NOT EXCEED 40% OF CONDUIT FILLING CAPACITY PER NEC. ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED

ELECTRICAL CODE. GROUND CONDUCTORS ARE NOT SHOWN ON PLANS.

ELECTRICAL CONTRACTOR SHALL VISIT PROJECT SITE PRIOR TO HIS BID/PRICING TO BECOME AWARE OF WORKING CONDITION AND TYPE, SIZE AND QUANTITY OF WORK INVOLVED AND EQUIPMENT TO BE

GENERAL NOTES

ALL ELECTRICAL WORK SHALL COMPLY WITH THE LOCAL ELECTRICAL CODE. WHERE THE CONSTRUCTION

GOVERNS. HOWEVER, THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO

VIOLATE ANY CODES OR REGULATION. ANY SUCH ISSUES IT IS THE RESPONSIBILITY OF THE ELECTRICAL

ALL AC POWER CIRCUITS SHALL INCLUDE GREEN EQUIPMENT GROUND CONDUCTOR SIZED PER THE LOCAL

CONTRACTOR TO BRING TO THE NOTICE OF CLIENT/ARCHITECT/CONSULTANT.

DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL

ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND AL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.

PROVIDE ALL TRENCHING, BACKFILLING & RESURFACING REQUIRED FOR THE ELECTRICAL WORK.

PROVIDE TEMPORARY LIGHT & POWER FOR THE DURATION OF THE PROJECT, ON ALL DAYS WHEN ANY TRADE IS WORKING. PROVIDE TEMPORARY LIGHT & POWER FOR OVERTIME DELIVERIES BY OTHER TRADES. EXACT LOCATIONS OF ALL EQUIPMENT, DEVICES, CONDUIT, ETC. MUST BE FIELD DETERMINED &

COORDINATED. WHERE THE CONTRACT DOCUMENTS DO NOT AGREE, THE MORE RESTRICTIVE & COSTLY APPROACH SHALL BE USED & IDENTIFIED IN THE BID PROPOSAL. THE ELECTRICAL CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS AND

SPECIFICATIONS THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET OR CONTROL AND POWER WIRING IS OMITTED. HE SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THE ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT, NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER AFTER BIDDING FOR SUCH EQUIPMENT

WORKMANSHIP: ONLY THE BEST IN WORKMANSHIP IN ACCORDANCE WITH PRESENT STANDARDS WILL BE ACCEPTABLE. ANY WORK INSTALLED & ADJUDGED BY THE ENGINEER TO BE BELOW STANDARDS SHALL BE TAKEN OUT & REPLACED WITH PROPERLY DONE WORK AT CONTRACTOR'S EXPENSE.

10. PROVIDE ALL CUTTING, PATCHING & REFINISHING OF WALLS, FLOORS & CEILINGS REQUIRED FOR THE

11. ALL EQUIPMENT & DEVICES SHALL BE NEW & BE LISTED OR LABELED BY U.L. OR EQUIVALENT ORGANIZATION 2. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO ENSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE

WITH THE MANUFACTURERS LISTED INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT AND

3. VERIFY EXACT MOUNTING HEIGHTS & FINISHES WITH ARCHITECTURAL CONSTRUCTION DOCUMENTS AND SPECIFICATIONS PRIOR TO ROUGH-IN.

TERMINATIONS MUST BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT

14. CONTRACTOR SHALL COORDINATE INSTALLATION OF WORK TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR INSTALLATION OF PLUMBING & MECHANICAL INSTALLATION. CONDUIT RUNS TO BE 15. DETERMINE IN ADVANCE OF PURCHASE THAT ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLE

SHALL FIT AND THE ROOM OR SPACE ALLOCATED AS INDICATED ON THE DRAWINGS ALLOWING SUFFICIENT CLEARANCE FOR THE SAFE SERVICE AND/OR MAINTENANCE OR RELATED EQUIPMENT, INCLUDING THAT OF

16. CONTRACTOR TO COORDINATE EXACT PLACEMENT OF ALL DEVICES SHOWN ON THE ELECTRICAL CONSTRUCTION DOCUMENTS WITH ARCHITECTURAL, MECHANICAL & PLUMBING DRAWINGS PRIOR TO FINAL

CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY ARCHITECT OR AS INDICATED ON DRAWINGS. WIRE MOLDING IS NOT PERMITTED.

18. PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED FOR ELECTRICAL WORK.

OVERHEATING AND PREMATURE FAILURE.

19. ELECTRICAL CONTRACTOR SHALL SEAL ALL ELECTRICAL PENETRATION THRU FIRE RATED PARTITIONS WITH FIRE RATED MATERIAL INSTALLED PER MANUFACTURER'S GUIDELINES & U.L. REQUIREMENTS. MATERIAL SELECTION SHALL BE BASED ON RATING OF PARTITION PENETRATED.

20. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY NAMEPLATE LOADS OF ALL EQUIPMENT (MECH & OWNER SUPPLIED) TO INSURE PROPER WIRE SIZING & OVERCURRENT PROTECTION & SHALL NOTIFY ENGINEER OF

1. ELECTRICAL DESIGN HAS BEEN BASED ON THE INSTALLATION OF 75C CONDUCTORS CONNECTED TO TERMINAL LUGS & EQUIPMENT U.L. LISTED FOR A MINIMUM 75C. CONDUCTORS TERMINATED ON EQUIPMENT WITH A LOWER RATING (60C) OR NO RATING SHOWN TO HAVE CONDUCTOR SIZE INCREASED TO CONFIRM TO NFPA CODES & LOCAL BUILDING CODES.

22. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.

23. ALL HOME RUNS GREATER THAN 100'-0" SHALL BE #10 WIRE MINIMUM.

24. PROVIDE INSULATED GROUNDING CONDUCTOR IN ALL CONDUITS & CABLE ASSEMBLIES.

25. CONDUITS INSTALLED IN DUCT BANKS, IN SLABS, IN EARTH OR FILL SHALL BE PVC SCHEDULE-40 OR GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT ENCASED IN CONCRETE. UNDER SLAB INSTALLATIONS MUST TRANSITION FROM BELOW GRADE TO GALVANIZED RIGID OR INTERMEDIATE METAL CONDUIT AT THE LAST BEND BEFORE EXITING THE UNDERGROUND OR UNDER SLAB LOCATION. CONDUIT ABOVE GRADE MAY BE GALVANIZED RIGID CONDUIT OR INTERMEDIATE METAL CONDUIT INDOORS OR

26. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR INSTALLED. COLOR OF NEUTRAL CONDUCTOR SHALL BE WHITE FOR 120V AND GRAY FOR 480V SYSTEMS. SHARING OF NEUTRALS SHALL NOT

. ALL MOTORS, A/C UNITS, COMPRESSORS & METAL HOUSING SHALL BE GROUNDED WITH GREEN GROUND WIRES SIZED & INSTALLED ACCORDING TO CODES. ALL FEEDERS RUN IN NON-METALLIC CONDUITS SHALL HAVE GROUND CONDUCTOR SIZED IN ACCORDANCE WITH APPLICABLE CODES. THE CONTRACTOR SHALL MAINTAIN UNIFORMITY & CONTINUITY OF THE GROUNDING SYSTEM. 28. E.C SHALL COORDINATE WITH HVAC CONTRACTOR EXACT POINT OF CONNECTION TO MECHANICAL UNIT

PRIOR TO ROUGH- IN. 29. E.C. SHALL ALSO VERIFY EXACT BREAKER SIZE AND WIRING WITH APPROVED MECHANICAL UNITS SHOP DRAWINGS PRIOR TO INSTALLATION.

30. E.C SHALL FURNISH AND INSTALL J-BOX AND 3/4"C FOR MECHANICAL THERMOSTAT. COORDINATE FINAL LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

RECEPTACLES SHALL BE RATED FOR 20A, DUPLEX/QUADRAPLEX TYPE AS NOTED ON PLANS, 125V, 3—WIRE, GROUNDING TYPE, NEMA CONFIGURATION 5—20R.

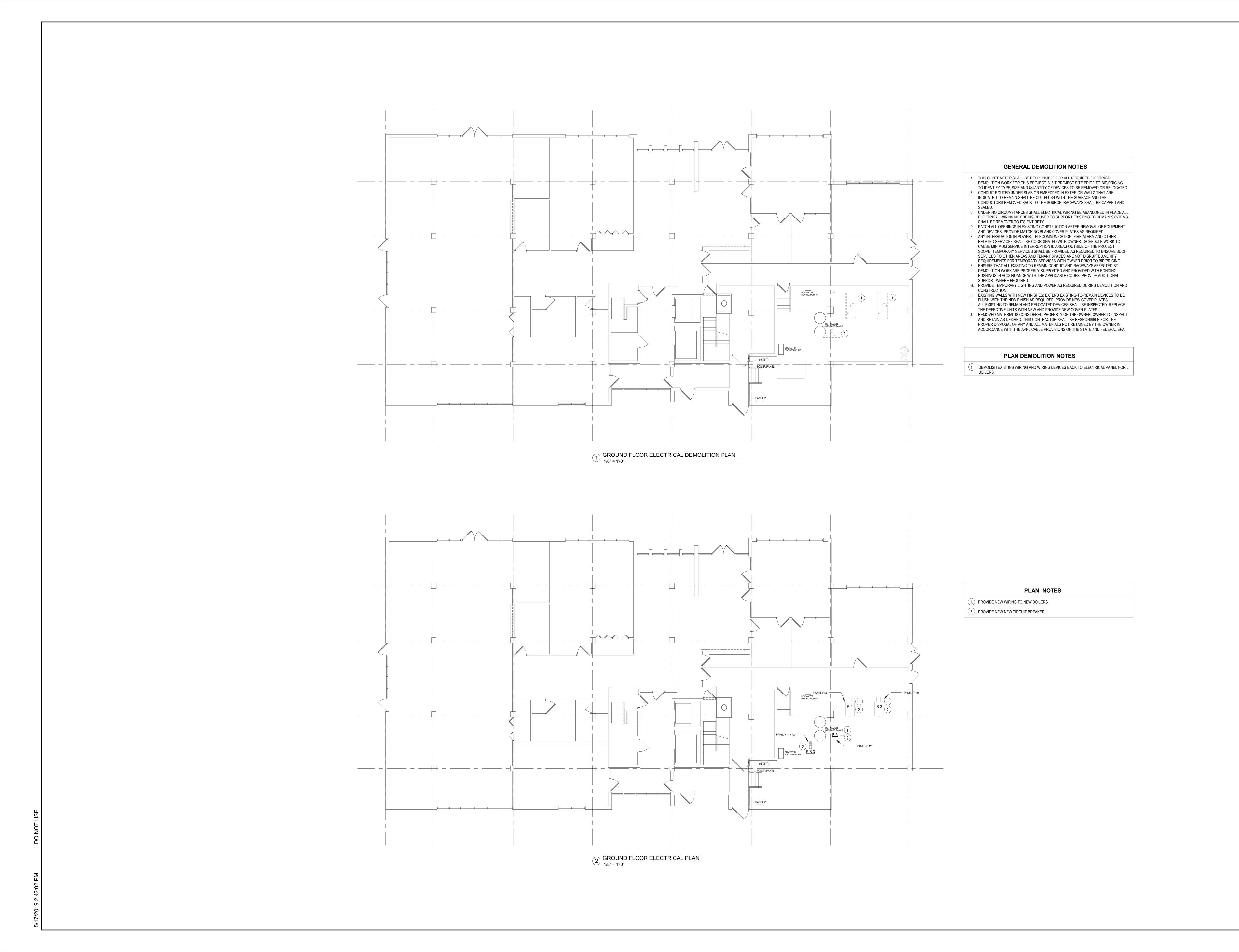
PROVIDE WALL PLATES FOR FLUSH MOUNTED RECEPTACLES, STANDARD SIZE, TYPE, STYLE AND FINISH COLOR SHALL WILL BE SELECTED BY ARCHITECT. COVER PLATES FOR DEVICES IN TYPE FS & FD BOXES FOR EXPOSED WORK SHALL BE SHEET STEEL, SUITABLE FOR THE DEVICES INSTALLED. GANG TYPE COVERS

SHALL BE USED WHERE MORE THAN ONE DEVICE IS MOUNTED IN A BOX. POWER AND DATA CONDUIT TO BE DROPED IN THE DRY WALL LOCATION AS INDICATED IN THE PLAN. CONDUIT TO THE RESPECTIVE DEVICE TO BE ROUTED THROUGH THE PENETRATIONS PROVIDED IN FLOOR.

4. NO TELEPHONE WIRE SHALL BE RUN EXPOSED ON BASEBOARDS OR WALLS, TELEPHONE & DATA OUTLETS SHALL BE IN A 2" DEEP BOX WITH SINGLE GANG RING & PLATE.

. E.C. MUST PRODUCE A LETTER ATTESTING THAT WORK HAS BEEN COMPLETED TO THE SATISFACTION OF THE BUILDING MANAGER WHO WILL CONFIRM HIS ACCEPTANCE BY AFFIXING HIS SIGNATURE TO THE LETTER IN A SPACE PROVIDED FOR THIS PURPOSE. WORK WILL NOT BE CONSIDERED AS BEING COMPLETE WITHOUT

≼ Sheet No:



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WORLDWIDE ENGINEERING P

OWNER ARCHITECT
CONTRACTOR BONDING CO.

E Taylor St, alb, IL 60115

1 COR PLAZA BOILER RE 507 E Taylor St, DeKalb, IL 60115 19-SPI-413 5/17/2019

Rev. Date

Sheet No:
E210



Branch:
A.I.C. Rating:
Main Type:

Main Rating: 225 A

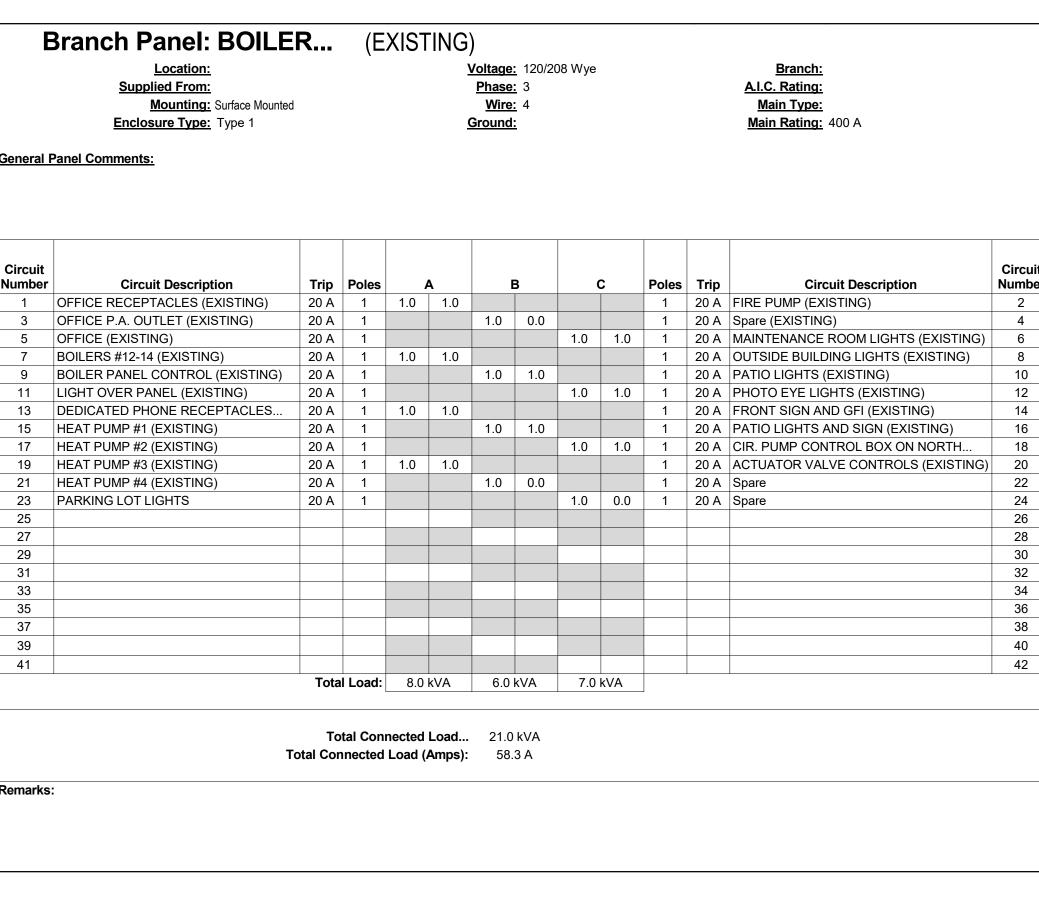
Circuit Number 2 4

40

42

≥шо

E600



	Location: Supplied From: Mounting: Surface Mounted Enclosure Type: Type 1 Panel Comments:	((EXISTING) Voltage: 120/208 Wye Phase: 3 Wire: 4 Ground:							Branch: A.I.C. Rating: Main Type: Main Rating: 400 A			
Circuit Number	Circuit Description	Trip	Poles		A		В		C	Poles	Trip	Circuit Description	Circuit Number
1	OFFICE RECEPTACLES (EXISTING)	20 A	1	1.0	1.0		5	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1	<u> </u>	FIRE PUMP (EXISTING)	2
3	OFFICE P.A. OUTLET (EXISTING)	20 A	1	1.0	1.0	1.0	0.0			1		Spare (EXISTING)	4
5	OFFICE (EXISTING)	20 A	1			1.0	0.0	1.0	1.0	1		MAINTENANCE ROOM LIGHTS (EXISTING)	6
7	BOILERS #12-14 (EXISTING)	20 A	1	1.0	1.0			1.0	1.0	1		OUTSIDE BUILDING LIGHTS (EXISTING)	8
9	BOILER PANEL CONTROL (EXISTING)	20 A	1	1.0	1.0	1.0	1.0			1		PATIO LIGHTS (EXISTING)	10
11	LIGHT OVER PANEL (EXISTING)	20 A	1			1.0	1.0	1.0	1.0	1		PHOTO EYE LIGHTS (EXISTING)	12
13	DEDICATED PHONE RECEPTACLES	20 A	1	1.0	1.0			1.0	1.0	1		FRONT SIGN AND GFI (EXISTING)	14
15		20 A	1	1.0	1.0	1.0	1.0			1		PATIO LIGHTS AND SIGN (EXISTING)	16
	HEAT PUMP #1 (EXISTING)		1			1.0	1.0	1.0	1.0			CIR. PUMP CONTROL BOX ON NORTH	18
17	HEAT PUMP #2 (EXISTING)	20 A	-	4.0	4.0			1.0	1.0	1			
19	HEAT PUMP #3 (EXISTING)	20 A	1	1.0	1.0	4.0	0.0			1		ACTUATOR VALVE CONTROLS (EXISTING)	
21	HEAT PUMP #4 (EXISTING)	20 A	1			1.0	0.0	1.0	0.0	1		Spare	22
23	PARKING LOT LIGHTS	20 A	1					1.0	0.0	1	20 A	Spare	24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
		TOLA	l Load:	8.0	kVA	6.0	kVA	7.0	kVA				

Branch Panel: PANEL P (EXISTING)

Ground:

Total Connected Load... 43.2 kVA Total Connected Load (Amps): 119.9 A

Enclosure Type: Type 1

Circuit Description

General Panel Comments:

1 MISC. LOAD (EXISTING) 3 SPACE (EXISTING)

5 --7 MISC. LOAD (EXISTING)

15 --17 --19 MISC. LOAD (EXISTING)

21 --23 --25 MISC. LOAD (EXISTING)

27 DOOR BELL (EXISTING) 29 MISC. LOAD (EXISTING)

35 MISC. LOAD (EXISTING) 37 MISC. LOAD (EXISTING) 39 MISC. LOAD (EXISTING)

41 MISC. LOAD (EXISTING)

13 P-B-3 (NEW)

9 HOT WATER CIRCULATION PUMP...

			CONTROL SYMBOLS		
TTT	AIR FLOW MEASURING STATION	НН	HUMIDITY TRANSMITTER (PNEUMATIC)	VSC	VARIABLE SPEED MOTOR CONTROLLER
AFS	AIR FLOW SWITCH	TLL	LOW LIMIT SAFETY THERMOSTAT	VP	VELOCITY PRESSURE SENSOR (ELECTRONIC)
AL	ALARM	/// MS	MAGNETIC INDUCTIVE FLOW	VS	VIBRATION SWITCH
BDD	BACK DRAFT DAMPER	120/60/1 BY EC	METER SENSOR	VD	VOLUME DAMPER (MANUAL)
_///_CO2	CO ₂ SENSOR	S	MANUAL SWITCH (ELECTRIC)	VXT	VORTEX SHEDDING AIR FLOW TRANSMITTER
120/60/1 BY EC	Z	MDM	MODEM	///_VSM	VORTEX SHEDDING
CS	CURRENT SENSOR	MCC	MOTOR CONTROL CENTER	120/60/1 BY EC	FLOW METER
DD	DUCT DETECTOR	STR	MOTOR STARTER	20	20 PSIG MAIN AIR
I/S	CURRENT TO PNEUMATIC TRANSDUCER	ows	OPERATOR'S WORK STATION		PRESSURE GAUGE
ES	DAMPER END SWITCH (BINARY)	OAD	OUTDOOR AIR DAMPER	HC	HOLDING COIL
ΔΑΡ	DIFFERENTIAL PRESSURE SENSOR (ANALOG)	VPS	OUTDOOR AIR VOLUME PROBE, TRANSDUCER AND MONITOR	H	HUMIDISTAT (SPACE)
ΔΡ	DIFFERENTIAL PRESSURE SWITCH SENSOR (BINARY)	PR	PNEUMATIC RELAY	S	SWITCH (PNEUMATIC)
ΔP (HL)	DIFFERENTIAL PRESSURE SWITCH (HIGH LIMIT) (BINARY)	PE	PRESSURE-ELECTRIC SWITCH	T	THERMOSTAT (SPACE)
ΔP _(LL)	(LOW LIMIT) (BINARY)	PC	PRESSURE CONTROLLER (PNEUMATIC)	T _N	THERMOSTAT (SPACE) NIGHT CYCLE
EP	ELECTRO-PNEUMATIC SWITCH	Р	PRESSURE SENSOR (ELECTRONIC)	Ø	0-30 PSIG AIR GAUGE
EPT	ELECTRO-PNEUMATIC TRANSDUCER	PT	PRESSURE TRANSMITTER (PNEUMATIC)	LAN	LOCAL AREA NETWORK
EAD	EXHAUST AIR DAMPER	RAD	RETURN AIR DAMPER	TCC	TEMPERATURE CONTROL CONTRACTOR
FBD	FACE & BY-PASS DAMPER	SD	SMOKE DETECTOR	(NOTE: TCC & E	CC ARE USED INTERCHANGEABLY)
FDD	FAN DISCHARGE DAMPER	S/S	START/STOP SWITCH	ECC	ENVIRONMENTAL CONTROL CONTRACTOR
FID	FAN INLET DAMPER	/// OM	STEAM FLOW MEASUREMENT ORIFICE	EC	ELECTRICAL CONTRACTOR
VXD	FAN INLET VORTEX DAMPER	120/60/1 BY EC	PLATE & MASS FLOW COMPUTER	POR	PNEUMATIC
FC	FLOW CONTROLLER	TC	OVERRIDE TIMER	_E_ /_OR	ELECTRICAL WIRING
FS	FLOW SENSOR	TC	TEMPERATURE CONTROLLER (PNEUMATIC)	Al-X	ANALOG INPUT (DDC CONTROLLER)
НОА	HAND-OFF-AUTO SWITCH	Т	TEMPERATURE SENSOR (ELECTRONIC)	AO-X	ANALOG OUTPUT (DDC CONTROLLER)
нтс	HUMIDITY CONTROLLER (PNEUMATIC)	TT	TEMPERATURE TRANSMITTER (PNEUMATIC)	BI-X	BINARY INPUT (DDC CONTROLLER)
HTE	HUMIDITY HIGH LIMIT (ELECTRIC)	М	TERMINAL BOX ACTUATOR	BO-X	BINARY OUTPUT (DDC CONTROLLER)
Н	HUMIDITY SENSOR (ELECTRONIC)	ТМ	TURBINE METER		

NOTE: ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT

PLAN VIEWS	DETAIL VIEW	VALVE AND FITTING SYMBOLS
		PIPING FLEXIBLE CONNECTION
		PIPE TURNED UP (UNLESS NOTED OTHERWISE)
		PIPE TURNED DOWN
		PIPE OUT TOP
		PIPE OUT BOTTOM
		THREADED NIPPLE W/CAP
		PIPE WITH BLIND FLANGE
	———	CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		ISOLATION VALVE (PLUMBING SCHEMATIC)
		CHECK VALVE
	 	UNION
		GATE VALVE
	<u> </u>	BALL VALVE
	T	GLOBE VALVE
	—tol—	BUTTERFLY VALVE
	———	TEMPERATURE CONTROL - 2 WAY MODULATING VALVE
	—	TEMPERATURE CONTROL - 2 WAY 2 POSITION ISOLATION VALVE
	NC NC	TEMPERATURE CONTROL - 3 WAY MODULATING VALVE
	NO NC	TEMPERATURE CONTROL - 3 WAY 2 POSITION ISOLATION VALVE
	NO NO	CALIBRATED BALANCE VALVE
	<u> </u>	SAFETY RELIEF VALVE
		STRAINER
		FLOW METER
⊕ ⊽		FLOOR DRAIN
	A	AUTOMATIC FLOW CONTROL VALVE
		FLOW MEASURING DEVICE
	Д Д	MANUAL AIR RELIEF VENT
	<u></u>	AUTOMATIC AIR RELIEF VENT
		LUBRICATED PLUG VALVE
		STEAM PRESSURE REDUCING VALVE
	₩ P	ANGLE VALVE
		REFRIGERANT HOT GAS BY-PASS VALVE
	5	SHUT-OFF COCK (HYDRONICS)
		SOLENOID VALVE
	·	REFRIGERANT EXPANSION VALVE
	<u> </u>	WATER PRESSURE REDUCING/REGULATING VALVE
0 5	— <u>T</u> —	STEAM TRAP
<u> </u>		DIELECTRIC UNION BETWEEN STEEL AND COPPER
\$ ro		STRAINER (STEAM)
	P	PRESSURE AND TEMPERATURE PLUG
		REFRIGERANT SIGHT GLASS
		THERMOMETER
\$	PQ VQ TQ	(P=PRESS V=VAC T=TEMP) GAUGE
	工甲	SENSOR (T-TEMP H-HUMIDITY)
8	FS	FLOW SWITCH
	<u>]CO</u>	CLEAN OUT
		INDICATED EXPANSION LOOP (COLD SPRUNG)
		ANCHOR
		GUIDE
		REFRIGERANT SHUT-OFF VALVE
		EXPANSION JOINT
	ΔΤ	DIFFERENTIAL SWITCH

GENERAL NOTES

A. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HVAC INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT AND PIPE.

DIFFERENTIAL SWITCH

DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS INCLUDING SIZES AND LOCATIONS OF EXISTING EQUIPMENT PRIOR TO DEMOLITION. HVAC PLANS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO INDICATE EQUIPMENT REQUIRED, CAPACITY, SIZE, LOCATION, DIRECTION, AND GENERAL ARRANGEMENT, BUT NOT EXACT DETAILS OF CONSTRUCTION. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT

CONTRACTORS AND SUBCONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION

MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND VERIFY ALL DIMENSIONS IN THE FIELD. . UNLESS SPECIFICALLY NOTED TO BE CUT AND PATCHED ON ARCHITECTURAL DRAWINGS. HVAC CONTRACTORS SHALL CUT, PATCH AND PAINT WALLS AND FLOORS TO MATCH EXISTING. FIRE RATING OF WALLS AND FLOORS SHALL BE MAINTAINED. THOROUGHLY SEAL ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS WITH APPROVED FIRE STOPPING MATERIALS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE REQUIRED FOR HIS WORK.

. HVAC CONTRACTORS SHALL PROTECT ALL FURNISHINGS AND FINISHES BELOW AREAS OF COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND

CONDITIONS. REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK. . LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER

PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.

H	VAC PIPING SYMBOLS
——————————————————————————————————————	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
——————————————————————————————————————	PERIMETER HEATING WATER SUPPLY
——— PHWR ———	PERIMETER HEATING WATER RETURN
	CHILLED BEAM HEATING WATER SUPPLY
CBHWR	CHILLED BEAM HEATING WATER RETURN
cws	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
CBCWS	CHILLED BEAM CHILLED WATER SUPPLY
CBCWR	CHILLED BEAM CHILLED WATER RETURN
cs	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
——————————————————————————————————————	LOW PRESSURE STEAM
——————————————————————————————————————	LOW PRESSURE CONDENSATE RETURN
——— MPS ———	MEDIUM PRESSURE STEAM
MPR	MEDIUM PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM
HPR	HIGH PRESSURE CONDENSATE RETURN
—— тс ——	TRAPPED CONDENSATE IN TUNNEL (SYSTEM PRESSURE)
sv	STEAM VENT
CPD	CONDENSATE PUMP DISCHARGE
——— GS ———	GLYCOL SUPPLY
GR	GLYCOL RETURN
CD	CONDENSATE & EQUIPMENT DRAIN
BFW	BOILER FEED WATER
BWCF	BOILER WATER CHEMICAL FEED
CWCF	CONDENSER WATER CHEMICAL FEED
ECWS	EQUIPMENT COOLING WATER SUPPLY
ECWR	EQUIPMENT COOLING WATER RETURN
HRS	HEAT RECOVERY SUPPLY
HRR	HEAT RECOVERY RETURN
RHG	REFRIGERANT HOT GAS
——— RL ———	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
	DIRECTION OF PIPE SLOPE (DOWN)

	FLOOR PLAN SYMBOLS	
TYP	SECTION WITH TOP NUMBER INDICATING SECTION DESIGNATION AND BOTTOM NUMBER INDICATING DRAWING THAT SECTION IS CUT ON OR DRAWING THAT SECTION IS DRAWN ON	
1 A101 TYP	DETAIL WITH TOP LETTER INDICATING DETAIL DESIGNATION AND BOTTOM NUMBER INDICATING DRAWING THAT DETAIL IS REFERENCED ON OR DRAWING THAT DETAIL IS DRAWN ON	
A.	GENERAL NOTE	
1.	PLAN NOTE LIST	
1	PLAN NOTE	
T _N	THERMOSTAT - "N" INDICATING NIGHT SETBACK THERMOSTAT	
H	HUMIDISTAT	
A	CONNECTION OF NEW WORK TO EXISTING	

LINE SYMBOLS

HEAVY CONTINUOUS LINES INDICATE NEW WORK

LIGHT DOT LINES INDICATE FUTURE WORK

HEAVY DASHED LINES INDICATE EXISTING TO BE REMOVED

LIGHT/SCREENED SOLID OR DASHED LINES INDICATE EXISTING TO REMAIN

ABBREV. <u>DESCRIPTION</u> ARCHITECT AND ENGINEER AC OR ACU AIR CONDITIONING UNIT OR AIR COMPRESSOR AIR COOLED CONDENSING UNIT AIR CONDITIONING CONDENSATE DRAIN AD ACCESS DOOR ADJUSTABLE OR ADJACENT ADJ **AFCV** AIRFLOW CONTROL VALVE ABOVE FINISHED FLOOR AFMS AIR FLOW MEASURING STATION AHU AIR HANDLING UNIT AIR PRESSURE DROP APPROX APPROXIMATE AR AIR RECEIVER ARCH ARCHITECT AIR SEPARATOR ATM ATMOSPHERE ACID VENT ΑV AIR VOLUME MEASURING STATION AVMS AW ACID WASTE BOILER BCU BLOWER COIL UNIT BDD BACKDRAFT DAMPER BHP BRAKE HORSEPOWER BACKWARD INCLINED BLDG BUILDING BOT BOTTOM BRINE PUMP BST BULK SALT STORAGE BTU BRITISH THERMAL UNIT BTUH BTU PER HOUR COMPRESSED AIR CAPACITY COOLING COIL CCP COOLING COIL PUMP CENTRIF CENTRIFUGAL CFM CFOI CH CHILLER CAST IRON CLEAN OUT CO2 CARBON DIOXIDE COL COLUMN COM COMP COMPRESSOR CONC CONCRETE CONN CONNECTION CONST CONSTRUCTION CONT CONTINUOUS CONDENSATE PUMP CPD CUH CABINET UNIT HEATER CW COLD WATER CWM COLD WATER MAKE-UP CHILLED WATER PUMP DIFFUSER OR DAMPER DUCT COIL

EQUIP

EQV

EQVP

ERP

ESP

EUH

EWT

EXH

EXIST

EXT

EQV V

EQUIPMENT

EQUIPMENT VACUUM

EQUIPMENT VACUUM PUMP

EQUIPMENT VACUUM VENT

ELECTRIC RADIANT PANEL

EMERGENCY SHOWER

ELECTRIC UNIT HEATER

ENTERING WATER TEMPERATURE

EXPANSION TANK

EXHAUST

EXISTING

EXTERIOR

GENERAL CONTRACTOR GRAVITY HOOD GALLONS PER HOUR GPM **GALLONS PER MINUTE** GAS NATURAL VENT CONSTANT AIR VOLUME HUMIDIFIER, HUMIDITY OR HEIGHT HEATING COIL CONDENSATE PUMP DISCHARGE HCP HEATING COIL PUMP (HOT WATER) HD HEAD CUBIC FEET PER MINUTE HEAT EXCHANGER CONTRACTOR FURNISHED/OWNER INSTALLED HAND-OFF-AUTOMATIC HORZ HORIZONTAL HOSP HOSPITAL HORSEPOWER OR HEATPUMP CARBON DIOXIDE MANIFOLD HIGH PRESSURE CONDENSATE RETURN HPR HPS HIGH PRESSURE STEAM HRC HEAT RECOVERY COIL HTR HEATER HVAC HEATING, VENTILATION AND AIR CONDITIONING HWCP HOT WATER CIRCULATING PUMP CONDENSATE PUMP DISCHARGE HWP HEATING HOT WATER PUMP HWR HEATING HOT WATER RETURN HWS HEATING HOT WATER SUPPLY HX HEAT EXCHANGER HERTZ CHILLED WATER RETURN CHILLED WATER SUPPLY INSTRUMENT AIR INSTRUMENT AIR COMPRESSOR INSTRUMENT AIR DRYER, EQAD DECIBELS OR DRY BULB INSIDE DIAMETER OR DIMENSION IFB INTEGRAL FACE AND BYPASS DCV DOUBLE CHECK VALVE DCWBP DOMESTIC COLD WATER BOOSTER PUMP DUAL DUCT INCL INCLUDE DIRECT DIGITAL CONTROL INSUL INSULATED DEAERATOR INTERIOR DEFLECTION INVERT I.P.S. INTERNATIONAL PIPE SIZING DEPT DEPARTMENT ISOL ISOLATION DHWBP DOMESTIC HOT WATER BOOSTER PUMP DEIONIZED WATER JT JOINT DIAMETER DISC DISCONNECT SHORT CIRCUIT RATING DISCH DISCHARGE KITCHEN EQUIPMENT CONTRACTOR DOWNSPOUT KW KILOWATTS DOMESTIC SOFT WATER BOOSTER PUMP DSWBP DUC DOOR UNDER CUT DWG DRAWING LAB AIR COMPRESSOR DW DISTILLED WATER LAB AIR DRYER DOMESTIC WATER BOOSTER PUMP DWBP LOCAL AREA NETWORK DWH DOMESTIC WATER HEATER LEAVING AIR TEMPERATURE LINEAR BAR DIFFUSER POUNDS ENTERING AIR TEMPERATURE LINEAR DIFFUSER ELECTRIC BASEBOARD HEATER LINEAR FOOT ELECTRICAL CONTRACTOR LAMINAR FLOW DIFFUSER ENVIRONMENTAL CONTROL CONTRACTOR LEAVING FLUID TEMPERATURE ECG EGG CRATE GRILLE ED EXHAUST DIFFUSER LOW PRESSURE CONDENSATE RETURN ELECTRIC DUCT COIL EDC LOW PRESSURE STEAM EER ENERGY EFFICIENCY RATIO LEAVING LVG EXHAUST AIR FAN LVP LAB VACUUM PUMP ENTERING FLUID TEMPERATURE LEAVING WATER TEMPERATURE EXHAUST GRILLE OR ETHYLENE GLYCOL ELEC ELECTRIC MEDICAL AIR INTAKE ELEV ELEVATION MIXED AIR TEMPERATURE **EMER EMERGENCY** MAX MAXIMUM EXTRUDED METAL GRILLE EMG **ENCL ENCLOSURE** BTU/HR X 1000 ENTR ENTERING MECHANICAL CONTRACTOR EOM END OF MAIN DRIP MCA MINIMUM CIRCUIT AMPACITY EQA **EQUIPMENT AIR** MOTOR CONTROL CENTER MCC EQAC EQUIPMENT AIR COMPRESSOR MOTORIZED DAMPER EQAI EQUIPMENT AIR INTAKE

MECH MECHANICAL

MTD MOUNTED

NA NOT APPLICABLE

NTS NOT TO SCALE

MFR MANUFACTURER

MISCELLANEOUS

NOT IN CONTRACT

NORMALLY OPEN

NORMALLY CLOSED OR NOISE CRITERIA

ABBREV. DESCRIPTION

F/SD

FLA

FLR

FODT

FOP

FOR

FOV

FPM

FPS

GAL

DEGREES FAHRENHEIT

FACE & BYPASS

FIRE ALARM

FAN COIL UNIT

FULL LOAD AMPS

FUEL OIL DAY TANK

FUEL OIL RETURN

FUEL OIL SUPPLY

FUEL OIL VENT

FLOW SWITCH

GAS, NATURAL

GAUGE

GALLON

GALVANIZED

FAN POWERED BOX

FEET PER MINUTE

FEET PER SECOND

FEET OR FLASH TANK

FOOTING OR FITTING

FIN TUBE RADIATION

FUEL OIL PUMP

FLOOR

MECHANICAL ABBREVIATIONS ABBREV. DESCRIPTION OUTSIDE AIR OUTSIDE AIR TEMPERATURE FLOAT AND THERMOSTATIC TRAP ON CENTER OUTSIDE DIAMETER OWNER FURNISHED/CONTRACTOR INSTALLED FIRE AND SMOKE DAMPER OWNER FURNISHED/OWNER INSTALLED FLEXIBLE CONNECTION OPERATOR OPNG OPENING FLOOR DRAIN OR FIRE DAMPER FIRE HOSE OR FUME HOOD PUMP, PNEUMATIC OR PRESSURE PLUMBING CONTRACTOR PRESSURE DROP OR PERFORATED DIFFUSER PNEUMATIC ELECTRIC PREFILTERS PROPYLENE GLYCOL PREHEAT COIL POST INDICATOR VALVE FUEL OIL STORAGE TANK PLASTER TRAP POC POINT OF CONNECTION POUNDS PER HOUR PPM PARTS PER MILLION PRESSURE RELIEF DOOR PREFAB PREFABRICATED PRES PRESSURE PRESSURE REDUCING VALVE POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH GAUGE POLYVINYL CHLORIDE RETURN AIR OR RELIEF AIR RAD RADIATED RETURN AIR TEMPERATURE R/H REHEAT REC RECEIVER RECIR RECIRCULATING REFRIGERATOR RETURN AIR FAN RETURN GRILLE RELIEF HOOD OR RELATIVE HUMIDITY REHEAT COIL RLA RUNNING LOAD AMPS RADIANT PANELS RETURN PERFORATED GRILLE RPM REVOLUTIONS PER MINUTE REQ'D REQUIRED ROOF VENTILATOR SUPPLY AIR OR SOUND ATTENUATOR STEAM BOILER STEAM COIL STEAM CONDENSATE COOLER SCCH SUBCOOLED CHILLER SCFM STANDARD CUBIC FEET PER MINUTE SCH SCHEDULE SOFT COLD WATER (DOMESTIC) SCW SUPPLY DIFFUSER OR SMOKE DAMPER SD SEC SECTION SENS SENSIBLE SUPPLY AIR FAN SUPPLY GRILLE SHEET SMBH SENSIBLE MBH SMC SHEET METAL CONTRACTOR STATIC PRESSURE OR STORM PUMP **SPECIFICATIONS** SPEC SQUARE FEET SAFETY RELIEF VALVE STEAM TRAP STANDARD STD STR STARTER STRUCT STRUCTURAL SV STEAM VENT SWITCH SYS SYSTEM THERMOSTAT TERMINAL BOX TEMPERATURE CONTROL CONTRACTOR TOTAL DISCHARGE HEAD TRIPLE DUTY VALVE TEMP TEMPERATURE THW TEMPERED HOT WATER TEMPERATURE LOW LIMIT TMBH TOTAL MBH TSP TOTAL STATIC PRESSURE TYP TYPICAL UNIT HEATER UNLESS NOTED OTHERWISE ULTRA VIOLET LIGHT VARIABLE AIR VOLUME VOLUME DAMPER (MANUAL) VELOCITY VARIABLE SPEED CONTROLLER VTR VENT THROUGH ROOF WASTE, WATTS OR WIDTH WB WET BULB WITH WITHOUT WFMD WATER FLOW MEASURING DEVICE WG WATER GAUGE WGT WEIGHT WEATHERPROOF WPD WATER PRESSURE DROP # POUND MOCP MAXIMUM OVERCURRENT PROTECTION MPSR MEDIUM PRESSURE CONDENSATE RETURN MPS MEDIUM PRESSURE STEAM

SYMBOLS AND ABBREVIATIONS **HVAC SCHEDULES & DIAGRAMS** HVAC DETAILS ELECTRICAL SYMBOLS AND ABBREVIATIONS ELECTRICAL SCHEDULES

H210 H800 E001 E210

DRAWING INDEX- COMBINED GROUND FLOOR HVAC DEMOLITION & NEW PLAN GROUND FLOOR ELECTRICAL DEMOLITION & NEW PLAN

≼ Sheet No:

WORL

PLAN NOTES

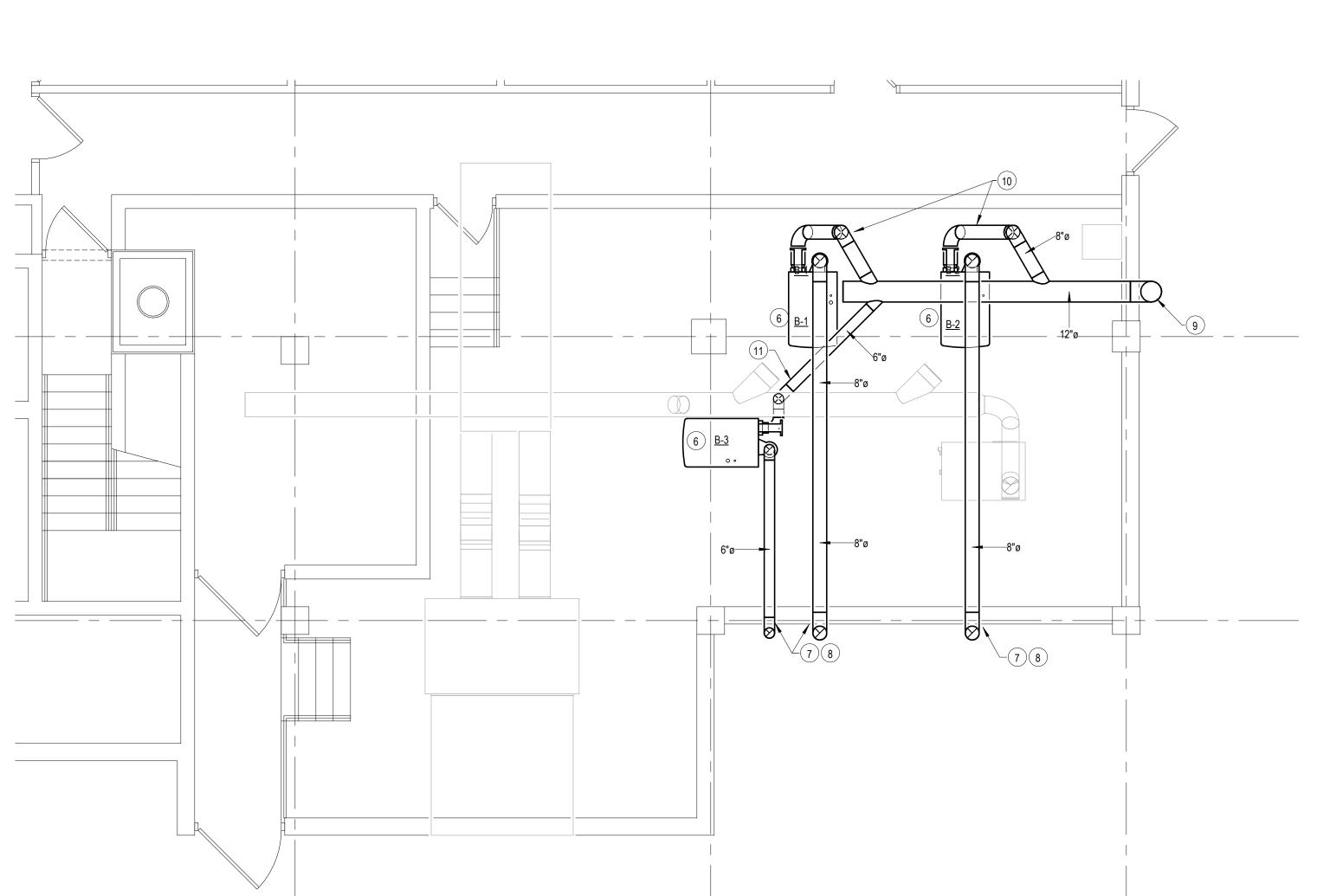
- EXISTING BOILER AND ITS ASSOCIATED PIPING CONNECTIONS, FLUE DUCT TO BE DEMOLISHEED AS SHOWN ON PLANS.
- 2 EXISTING 3" HEATING WATER RETURN PIPE TO DEMOLISH WITH ITS VALES FROM THE POINT OF DROP DOWN.
- EXISTING 3" HEATING WATER RETURN PIPE TO DEMOLISH WITH ITS VALES FROM THE BOILER TO THE POINT SHOWN. 4 CONTRACTOR TO CAP AND INSULATE FLUE BRANCH OUT AT THE POINT SHOWN AND TO DEMOLISH THE FLUE BRANCH OUT CONNECTING TO THE BOILER AS SHOWN.
- 5 EXISTING AIR SEPARTOR AND ASSOCIATED PIPE CONNECTING TO BOILER TO BE DEMOLISHED. 6 PROVIDE NEW BOILER WITH ITS ASSOCIATED ACCESSORIES AND INSTAL AS PER MANUFACTURER RECOMMENDATION.
- 7 PROVIDE TERMINATION PLATE AT THE WALL. 8 PROVIDE EXIST CONE AND EXHAUST FLUE OUTSIDE OF MECHANICAL ROOM WITH WALL SLEEVE. THE CONTRACTOR SHALL CUT,
- PATCH AND SEAL EXISTING EXTERIOR WALL AS REQUIRED TO ROUT EXHAUST FLUE. 9 PROVIDE A TEE FOR FRESH AIR INTAKE OUTSIDE OF MECHANICAL ROOM WITH WALL SLEEVE. THE CONTRACTOR SHALL CUT, PATCH AND SEAL EXISTING EXTERIOR WALL AS REQUIRED TO ROUTE FRESH AIR INTAKE.
- 10 PROVIDE 8" FLUE & INTAKE TO BOILER (TYPICAL). 11 PROVIDE 6" FLUE & INTAKE TO BOILER B-3.
- 12 CONNECT 3" HEATING WATER RETURN AT THE POINT OF CONNECTION SHOWN. CONTRACTOR TO FEILD CO-ORDINATE.
- 13 CONNECT NEW 3" HEATING WATER RETURN FROM THE POINT OF CONNECTION SHOWN.
- 14 PROVIDE NEW AIR SEPARATOR AND INSTALL AS PER MANUFACTURER RECOMMENDATION. 15 CONNECT 3" HEATING WATER SUPPLY AT THE POINT OF CONNECTION SHOWN. CONTRACTOR TO FEILD CO-ORDINATE.
- 16 CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXISTING BOILER LOCATION AND EXPAND EXISTING CONCRETE PAD AS REQUIRED
- FOR NEW WORK. 17 DISCONNECT AND REMOVE RECIRCULATING PUMP AND PUMP ACCESSORIES.

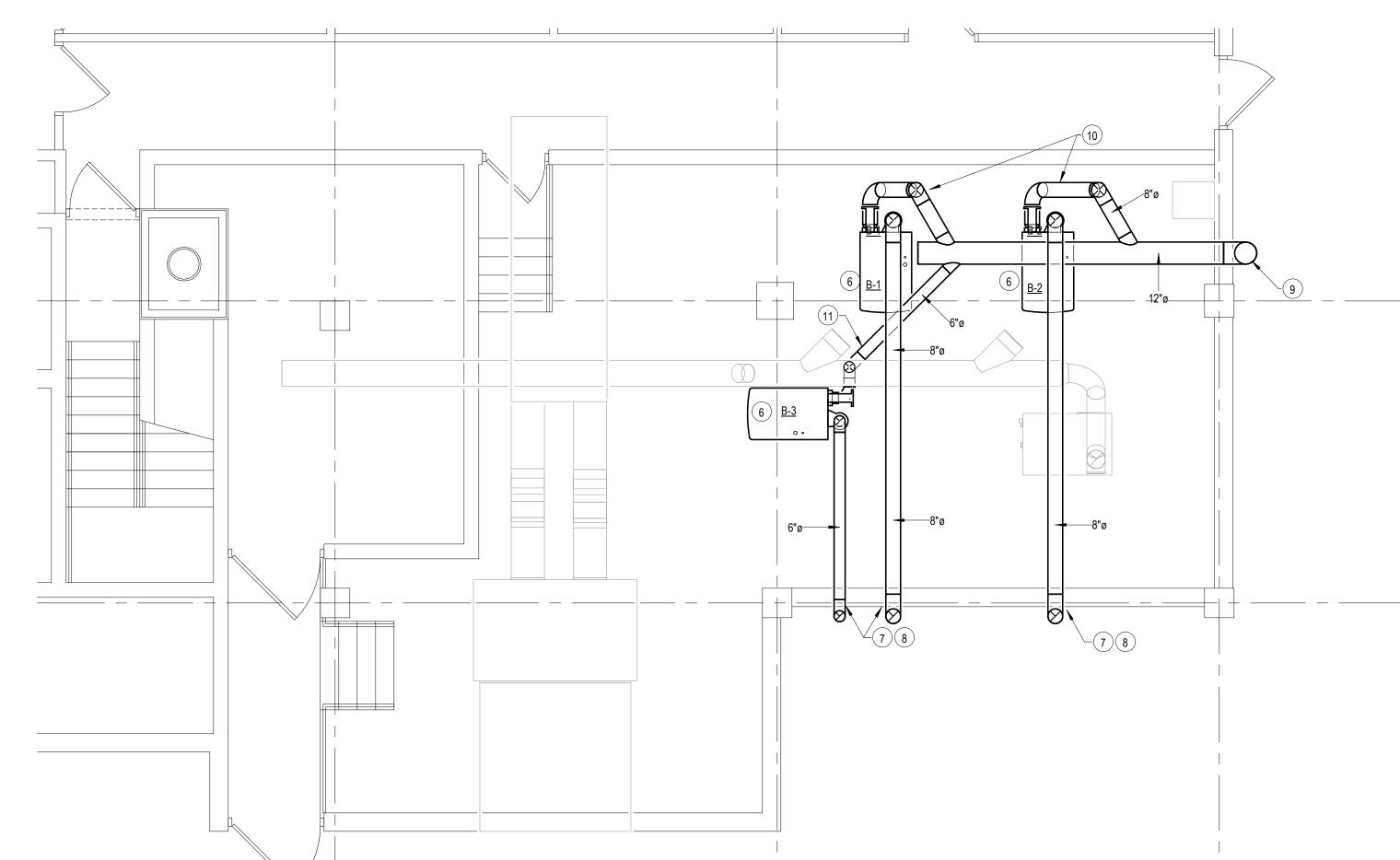
18 PROVIDE NEW VFD, RECIRCULATION PUMP AND PUMP ACCESSORIES.

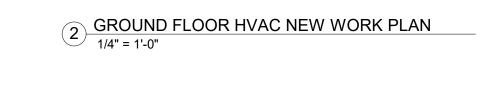
GENERAL NOTES

- A. THE MECHANICAL DRAWINGS INDICATE THE GENERAL SCOPE OF WORK FOR NEW OR REPLACED MATERIALS AND EQUIPMENT. THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO VIEW THE SCOPE OF WORK AND VERIFY ALL WORKING CONDITIONS. B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE NOTED EXISTING MECHANICAL EQUIPMENT. NO CUTTING OF STRUCTURAL MEMBERS OR STRUCTURE WHICH WILL DETERIORATE THE INTEGRITY AND STRENGTH OF THE BUILDING WILL BE
- ALLOWED WITHOUT THE WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL NEW OR EXISTING MATERIALS, STRUCTURES AND EQUIPMENT. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.
- D. ALL CONTRACTORS SHALL COORDINATE AS REQUIRED TO PERFORM DEMOLITION WORK AS INDICATED IN THE CONTRACT DOCUMENTS.
- . CONTRACTOR IS RESPONSIBLE FOR CLEAN-UP THRU-OUT THE COURSE OF THE PROJECT AND DETAILED CLEAN-UP AT THE END OF
- REPAIR OR REPLACE ALL DAMAGED AREAS AS A RESULT OF REMOVAL OF EXISTING MECHANICAL DEMOLITION. G. ALL SYSTEM SHUTDOWNS SHALL BE COORDINATED WITH OWNER. NO SYSTEM SHUTDOWNS ARE ALLOWED WITHOUT WRITTEN
- PERMISSION FROM THE OWNER. H. THE CONTRACTOR SHALL CUT, PATCH AND SEAL EXISTING EXTERIOR WALL AS REQUIRED TO FINISH NEW WORK.

3 GROUND FLOOR HVAC NEW PIPING PLAN 1/4" = 1'-0"







HOT WATER BOILER SCHEDULE CIRCULATING FLUID ELECTRICAL DATA **OPERATING WEIGHT**1500

1500 LEAVING MAX. W.P.D. (FT. TEMPERATURE (°F) HD.) WATER WATER AERCO AERCO AERCO BMK 2000 BMK 2000 1740 1740 MECHANICAL ROOM CONDENSING TYPE NATURAL GAS MECHANICAL ROOM CONDENSING TYPE

NATURAL GAS

PROVIDE OUTDOOR AIR SENSOR FOR BOILERS TO OPERATE ON RESET CURVE. PROVIDE MULTI BOILER CONTROL FOR FORCED PARALLEL OPERATION.

CONDENSING TYPE

PROVIDE REMOTE HEADER TEMPERATURE SENSOR, BMS COMMUNICATION CAPABILITY, CONDENSATE NEUTRALIZATION KIT AND INTEGRAL MULTI-BOILER PLANT CONTROL.

MINIMUM TURNDOWN: 15:1 COMBUSTION SYSTEM SHALL BE CAPABLE OF O2 SENSOR IN ORDER TO ALERT IF UNIT IS EXPERIENCING NON-OPTIMUM COMBUSTION CONDITIONS.
PROVIDE MOTORIZED ISOLATION VLAVES ON EACH BOILER AS PER BOILER MANUFACTURER RECOMMENDATION.
PROVIDE CONDENSATE NEUTRALIZER FOR EACH BOILER AND COMMON FLUE DRAINS.

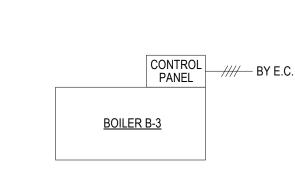
8. PROVIDE PRESSURE RELIFE VLAVES FOR EACH BOILER.

MECHANICAL ROOM

	CIRCULATING PUMP SCHEDULE																	
				DESIGN HEAD							MOTOR DATA			PUI	MP SIZE	DESIGN REFE	RENCE	
TAG	LOCATION	SERVICE	GPM	(FT. HD.)	EFFICIENCY (%)	PUMP TYPE	FLUID	TEMPERATURE (°F)	HP	RPM	VOLT	PHASE	CYCLE	SUCTION (IN.)	DISCHARGE (IN.)	MANUFACTURER	MODEL	NOTES
P-B-3	MECHANICAL ROOM	LOBBY	50	30	62.90	INLINE	WATER	150	1	1750	208	3	60	1 1/2"	1 1/2"	BELL & GOSSETT	E-60	

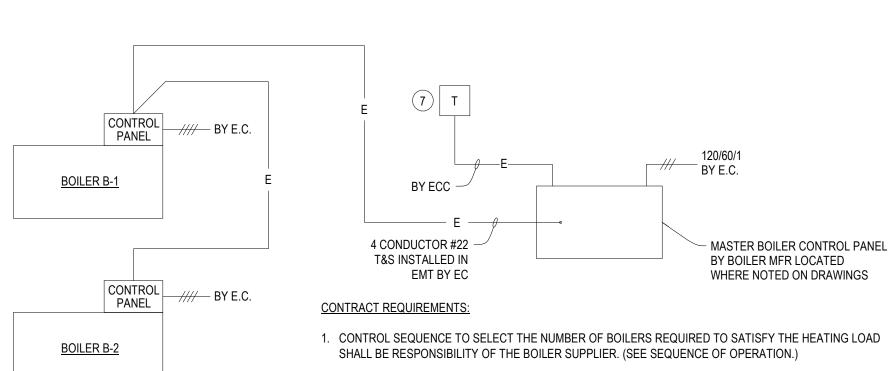
NOTE:
1. PROVIDE NEW VFD FOR NEW PUMPS. LOCATION SHALL BE COORDINATED IN THE FIELD.

AIR SEPARATOR SCHEDULE											
TAG	LOCATION	SYSTEM SERVED	CAPACITY (GPM)	CONNECTION SIZE (IN.)	MAX. W.P.D. (FT. HD)	BUILT-IN STRAINER REQUIRED	NOTES				
AS-1	MECHANICAL ROOM	BOILER B-3	180	24 1/2"	-	NO					



CONTRACT REQUIREMENTS:

- 1. CONTROL SEQUENCE TO BOILER REQUIRED TO SATISFY THE HEATING LOAD SHALL BE RESPONSIBILITY OF THE BOILER SUPPLIER. (SEE SEQUENCE OF OPERATION.)
- 2. CONTROL SEQUENCE THAT CONTROLS THE FIRING OF THE BOILER SO ACTIVATED SUCH THAT THE SUPPLY WATER TEMPERATURE MATCHES THE CONTROL POINT BASED ON THE LISTED RESET SCHEDULE - SHALL BE FURNISHED BY THE BOILER SUPPLIER. BOILER SUPPLIER TO INCLUDE 16 HOURS OF FIELD CALIBRATION AND INSTRUCTION ON THE CONTROL COMPONENTS.
- 3. ALL WIRING INVOLVED IN THE BOILER CONTROLS HERE DENOTED WILL BE DONE BY E.C.; ALL WIRING TO BE INSTALLED IN EMT TO MEET BOILER MANUFACTURER'S REQUIREMENTS AND SHALL BE IN ACCORDANCE
- WITH ALL LOCAL, STATE & NATIONAL ELECTRICAL CODES & STANDARDS. 4. CONTROLLER TO SEQUENCE OPERATIVE BOILERS AND LEAD-LAG TO ENSURE EQUAL RUN TIME.



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- 4. CONTROLLER TO SEQUENCE OPERATIVE BOILERS AND LEAD-LAG TO ENSURE EQUAL RUN TIME.

PLAN NOTES

1) RTD SENSOR IN RETURN HOT WATER TO AFFORD RETURN WATER ACTUAL TEMPERATURE TO MASTER CONTROL PANEL. SENSOR BY BOILER SUPPLIER, INSTALLED IN WELL BY MC, WIRED BY ECC.

1 BOILER WATER TEMPERATURE CONTROL SCHEMATIC NTS

4 PUMP IN-LINE PIPING DETAIL NO SCALE

TERMINATE SLEEVE

WALL SURFACE

FLUSH WITH FINISHED

FIRESTOP EACH

SIDE OF SLEEVE

AS SPECIFIED

FINISHED WALL SURFACE OF RATED ASSEMBLY

TERMINATE SLEEVE

PIPE —

FIRESTOP EACH -

AS SPECIFIED

IN DIVISION 7.

FINISHED WALL

SURFACE OF

RATED

CEILING.

1 PIPE PENETRATION DETAILS NO SCALE

ASSEMBLY₃

SIDE OF SLEEVE

FLUSH WITH

WALL SURFACE

FINISHED

IN DIVISION 7.

(3) FOR PIPE SIZES OVER 2", BUTTERFLY VALVES SHALL BE USED IN LIEU OF BALL VALVES.

(2) SUPPORT WITH SPRING HANGERS EACH SIDE AS CLOSE TO PUMP AS POSSIBLE.

1 UNIONS ARE NOT REQUIRED WHEN PUMP IS CONNECTED TO PIPING WITH FLANGE CONNECTIONS.

PUMP MOTOR SHAFT TO BE — MOUNTED IN VERTICAL SHOWN ON PLANS SHOWN ON PLANS STRAINER (3) BALL VALVE (TYPICAL) -W/BLOWDOWN VALVE AND CAP CALIBRATED BALANCING VALVE **ECCENTRIC** (1) UNION (TYPICAL) -REDUCER (FLAT SIDE UP) 1/4" BALL VALVE (TYPICAL) REDUCE TO PUMP SIZE (TYPICAL) PRESSURE GAUGE

SLEEVE -WATERST

TO PASS PIPE AND

LEAVE ROOM FOR

SEALANT TO MEET

UL-LISTING.

PIPE SLEEVE OF SIZE TO

TO MEET UL-LISTING. SLEEVE FLUSH

2) SEE SPECIFICATION SECTIONS FOR FURTHER REQUIREMENTS INCLUDING FLOOR SLEEVES.

INCLUDES FIRE WALLS, FIRE BARRIERS, SMOKE BARRIERS, AND FIRE PARTITIONS.

PIPE AND INSULATION AND LEAVE ROOM FOR SEALANTERMINATE

INSULATION TO

THROUGH WALL

CONTINUOUS

WITH FINISHED

WALL SURFACE

FILL ANNULAR GAPS EACH -

(1) PROVIDE ESCUTCHEON PLATE FLUSH AGAINST WALL AND OF SIZE TO COMPLETELY COVER OPENING IN EXPOSED AREAS ONLY.

(3) LOCATE FIRESTOP LABEL ON EACH SIDE OF PENETRATION SO THAT IT IS VISIBLE FROM AN ACCESSIBLE LOCATION ABOVE

SIDE OF SLEEVE WITH

NONCOMBUSTIBLE

FINISHISEALANT.

SURFACE INSULATED PIPE THROUGH INTERIOR
NON-RATED WALLS OR SMOKE-

RESISTANT CORRIDOR WALLS

UNINSULATED PIPE THROUGH
INTERIOR FIRE RATED WALLS

INSULATED PIPE THROUGH INTERIOR FIRE RATED WALLS

 WALL SLEEVE (POURED IN PLACE)

> HYDRO-STATIC PIPE CLOSURE, "LINK-SEAL"

PIPE SLEEVE OF SIZE TO PASS PIPE AND LEAVE

FOR PIPE INSULATION.

PIPE INSULATION CONTINUOUS

THROUGH WALL.

ROOM

5 HOT WATER BOILER DETAIL NO SCALE

SOFT MAKEUP WATER FROM
BACKFLOW PREVENTER CHECK VALVE 2 FULL SIZE OF -SRV DISCHARGE COLD BOILER FILL VALVE -(NORMALLY CLOSED, FOR MAINTENANCE USE ONLY) 1/2 SAMPLE LINE HOT WATER BOILER BOILER DRAIN(S) 1-1/2" MINIMUM SIZE PLAN NOTES 1 ANCHOR TO PAD PER SCHEDULE.

(3) SEE BOILER GAS TRAIN DETAIL.

(4) PROVIDE SHUTOFF VALVE.

(MULTIPLE BOILERS) SHUTOFF VALVE CALIBRATED BALANCE VALVE TO OTHER
BOILERS
FROM BUILDING LOADS THERMOMETER (TYP.) SAFETY RELIEF VALVE(S) FLEXIBLE CONNECTOR (TYP.) SINGLE ELBOW IN DISCHARGE PIPING NATURAL GAS(2)

ROUTE ALL PIPING OUTSIDE OF MANUFACTURER'S RECOMMENDED MAINTENANCE ACCESS AREAS FOR TUBE OR BURNER REMOVAL.

MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND APPLICABLE CODES.

(5) TERMINATE WITH OPEN END 2" ABOVE EQUIPMENT OR AS NOTED IN

TCC ISOLATION VALVE - AUTOMATIC AIR VENT.
ROUTE DISCHARGE TO FLOOR DRAIN. 2

2 BOILER FACTORY GAS TRAIN PIPING DETAIL NO SCALE

VENT PIPE FULL SIZE, NO TRAPS IN VENT LINE, TO 1" COMMON HEADER AND THEN TO OUTSIDE OF BUILDING.

(2) ROUTE VENT SEPARATELY TO EXTERIOR OF BUILDING, FULL SIZE, NO TRAPS IN VENT.

PILOT GAS REGULATOR

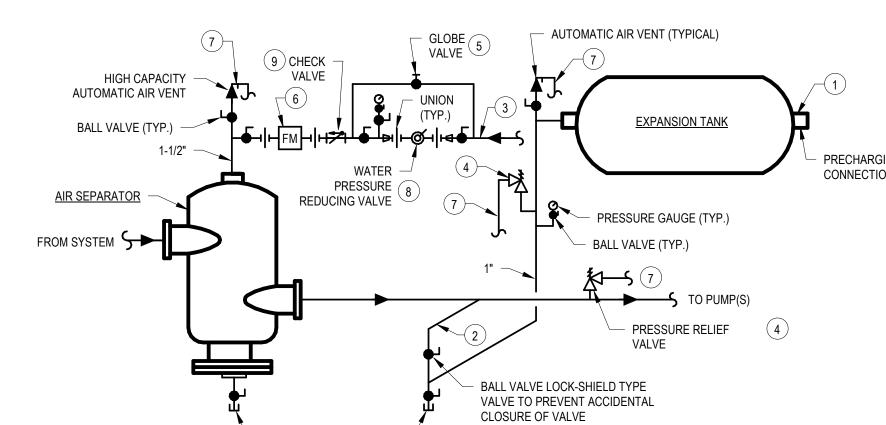
— — — FURNISHED AND INSTALLED BY CONTRACTOR. SEE PLUMBING DRAWINGS. FURNISHED BY BOILER MANUFACTURER.

PRESSURE GAUGE (TYPICAL) PRESSURE GAS COCK – DKIP LEG INTERLOC - IRI APPROVED OPERATING PRESSURE REGULATO - GAS K SHUT-OFF COCK SAFETY GAS ELECTRIC GAS VALVE VALVE

VENT VALVE

ELECTRIC

- EQUIPMENT PAD



1 TANK CONNECTION LOCATIONS MAY VARY DEPENDING ON TANK SIZE AND MODEL. LOCATE TANK AS NOTED ON PLANS AND SEISMICALLY

(4) "UV" STAMPED SAFETY VALVE WITH RESILIENT SEAT SUITABLE FOR 250°F WITH PACKED LEVER (LIQUID SERVICE ASME SEC. VIII) AND

STAINLESS SPRING (SIZED FOR 60 GPM OR 1200 PPH STEAM) AT 60°F (90% RATED AT 10% OVER PRESSURE). SET TO RELIEVE AT 125 PSIG OR

AS REQUIRED BY ASME CODE. NO VALVES BETWEEN SAFETY VALVE AND VESSEL BEING PROTECTED. LOCATE SAFETY VALVE BELOW 10'-0"

3/4" TOTALIZING FLOW METER (20 GPM CAPACITY) TO MEASURE MAKEUP WATER VOLUME. PROVIDE REMOTE-READING REGISTER FOR

CHECK VALVE SHALL BE PROVIDE IN ADDITION TO THE BACKFLOW PREVENTOR ON THE PLUMBING SYSTEM.

2 PROVIDE ANTI-THERMOSYPHON LOOP TO PREVENT GRAVITY HEATING OF TANK. 12" MIN. DROP.

PLAN NOTES

RESTRAIN AS REQUIRED.

3 THE COLD WATER MAKE-UP. SEE PLUMBING DRAWINGS.

BYPASS TO BE SAME SIZE AS MAKE-UP LINE, 3/4" MINIMUM.

ADJUSTMENT RANGE SHALL BE TANK PRECHARGE PLUS OR MINUS 10 PSIG.

METER WHICH IS MORE THAN 8'-0" AFF.

ROUTE DISCHARGE TO 6" ABOVE FLOOR DRAIN.

3 AIR SEPARATOR AND EXPANSION TANK PIPING DETAIL NO SCALE

PRECHARGING AIR CONNECTION - 3/4" DRAIN WITH HOSE -CONNECTION AND CAP

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