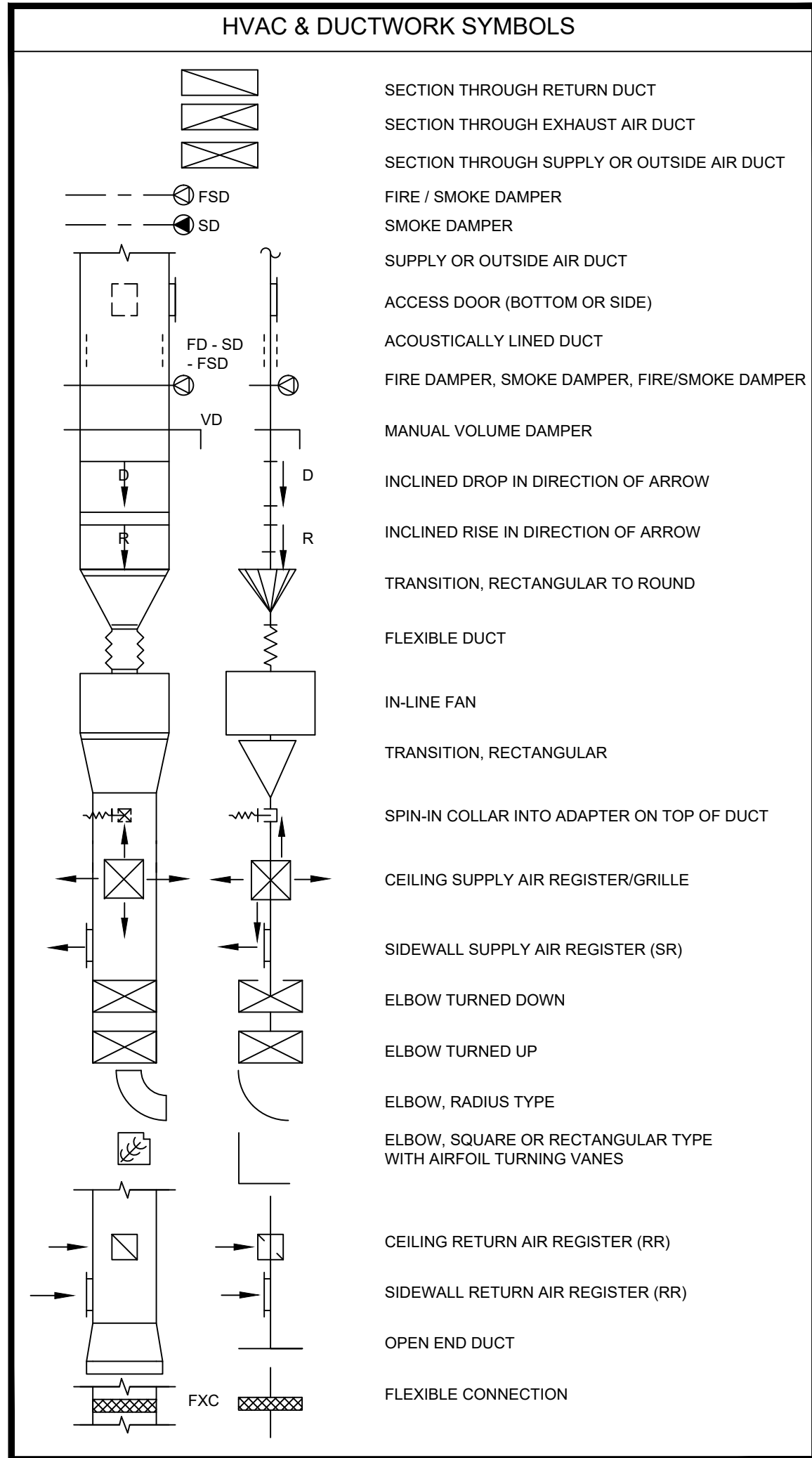
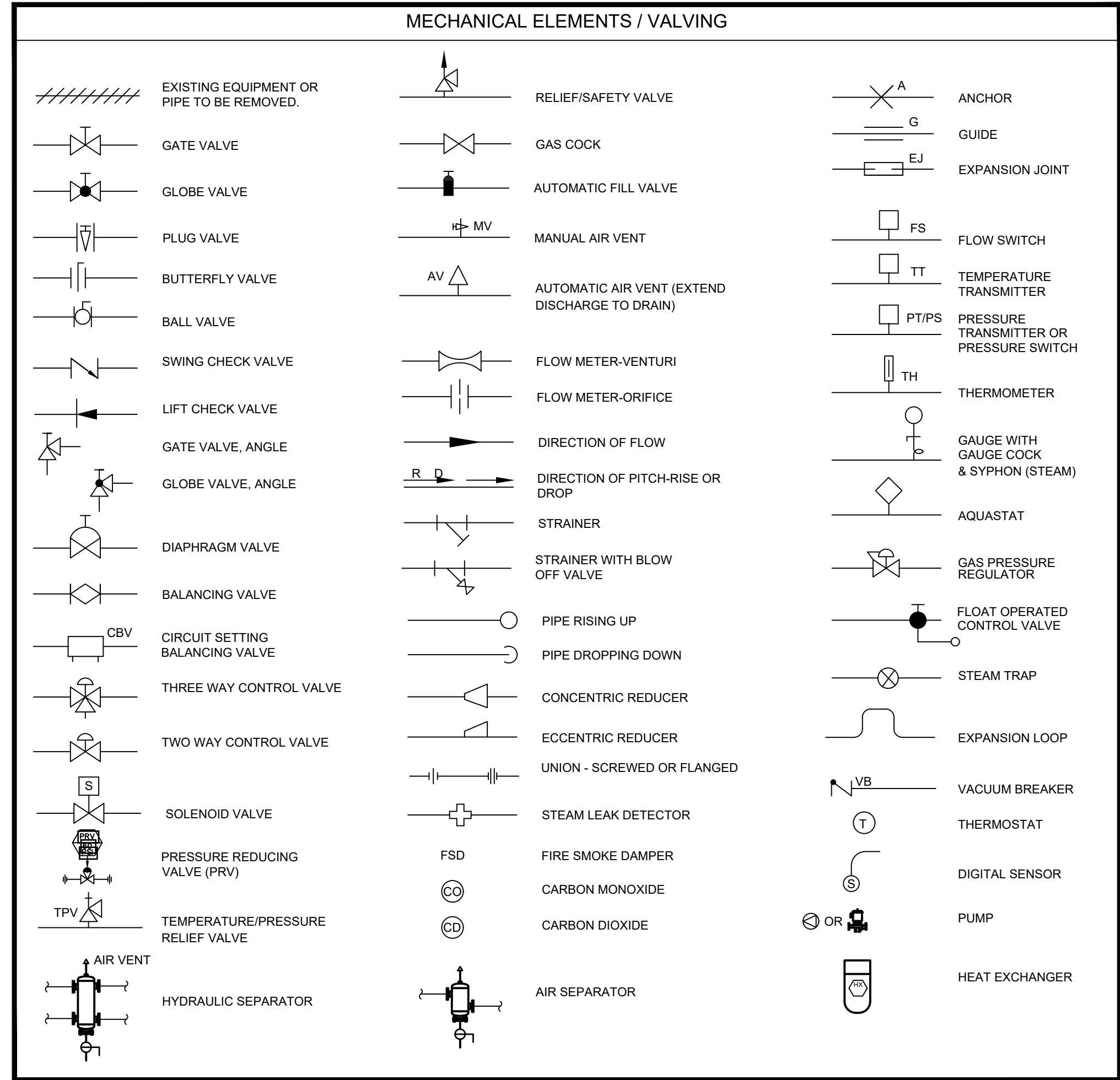


BOILER UPGRADE PROJECT - CONTRACTOR ESTIMATE PREPARED BY BIGHORN ENGINEERING

Equipment / Work (+20% indicates increase in raw materials costs)	Cost Per Length	Total Length	TOTAL PROJECT			PHASED PROJECT (Main only & partial completion for other two pools)			DIFFERENCE
			Quantity	Cost Per Item	Total Cost Per Item	Quantity	Cost Per Item	Total Cost Per Item	
Boiler (Lochinvar - #FTX-725N)			2	\$ 24,300.00	\$ 48,600.00	1	\$ 24,300.00	\$ 24,300.00	\$ 24,300.00
BOILER CIRCULATION PUMP (TACO - #VR30-3			2	\$ 3,300.00	\$ 6,600.00	1	\$ 3,300.00	\$ 3,300.00	\$ 3,300.00
SYSTEM CIRCULATION PUMPS			2	\$ 5,850.00	\$ 11,700.00	2	\$ 5,850.00	\$ 11,700.00	\$ -
BRAZED PLATE HEAT EXCHANGER (TB12MTX60) ORIG\$1500	Main pool		1	\$ 1,500.00	\$ 1,500.00	1	\$ 1,800.00	\$ 1,500.00	\$ -
BRAZED PLATE HEAT EXCHANGER (TB12MTX50) ORIG \$1350	Toddler pool		1	\$ 1,350.00	\$ 1,350.00			\$ -	\$ 1,350.00
BRAZED PLATE HEAT EXCHANGER (TB12MTX20) ORIG\$750	Hot Tub		1	\$ 750.00	\$ 750.00			\$ -	\$ 750.00
HEAT EXCHANGER CIRC PUMPS #3.4. & 5 ((TACO- #1615			3	\$ 4,350.00	\$ 13,050.00	1	\$ 4,350.00	\$ 4,350.00	\$ 8,700.00
EXPANSION TANK			1	\$ 3,450.00	\$ 3,450.00	1	\$ 3,450.00	\$ 3,450.00	\$ -
HYDRAULIC SEPARATOR (TACO - #5903-P-42)			1	\$ 7,350.00	\$ 7,350.00	1	\$ 7,350.00	\$ 7,350.00	\$ -
JERIMIAS SS FLUE (316 PRESSURE RATED DOUBLE WALL FLUE)			2	\$ 7,500.00	\$ 15,000.00	1	\$ 7,500.00	\$ 7,500.00	\$ 7,500.00
CHEMICAL FEEDER			1	\$ 4,500.00	\$ 4,500.00	1	\$ 4,500.00	\$ 4,500.00	\$ -
2" FLANGED IRON BODY VALVES ORIG\$753EA +20% 903.60ea			9	\$ 903.60	\$ 8,132.40	3	\$ 903.60	\$ 2,710.80	\$ 5,421.60
3" FLANGED IRON BODY VALVES ORIG\$860EA +20% 1032ea			9	\$ 1,032.00	\$ 9,288.00	3	\$ 1,032.00	\$ 3,096.00	\$ 6,192.00
BOILER BALANCING			2	\$ 580.00	\$ 1,160.00	1	\$ 580.00	\$ 580.00	\$ 580.00
PUMP BALANCING			7	\$ 360.00	\$ 2,520.00	5	\$ 360.00	\$ 1,800.00	\$ 720.00
3" FLANGED FLOW CHECK CONTROL VALVES ORIG\$691 +20% 829ea			2	\$ 829.20	\$ 1,658.40	2	\$ 691.00	\$ 1,382.00	\$ 276.40
3" FLANGED Y TYPE BRONZE STRAINER			1	\$ 1,500.00	\$ 1,500.00	1	\$ 1,500.00	\$ 1,500.00	\$ -
HDPE 3" PIPING (INCLUDING LABOR) ORIG\$14.79/FT +20% 17.75ft	17.75	172			\$ 3,053.00			\$ 3,053.00	\$ -
3" SCHD 40 STEEL PIPING THREADED @ ONE END ORIG\$ 17.04/FT +20% 20.45ft	20.45	200			\$ 4,090.00			\$ 4,090.00	\$ -
2-1/2" SCHD 40 BLACK STEEL PIPING ORIG\$81/FT +20% 97.20ft	97.2	40			\$ 3,888.00			\$ 3,888.00	\$ -
3" SCHD 40 STEEL PIPING CELLULAR GLASS (2"THICK) INSULATION ORIG\$44.43/FT +20% 53.31ft	53.31	200			\$ 10,662.00			\$ 10,662.00	\$ -
CONDENSATE NEUTRALZATION KIT			2	\$ 150.00	\$ 300.00	2	\$ 150.00	\$ 300.00	\$ -
NEW ELECTRICAL PANEL 120/208 100AMP 10,000 SCCR			1	\$ 5,000.00	\$ 5,000.00	1	\$ 5,000.00	\$ 5,000.00	\$ -
FLOOR DRAIN			1	\$ 2,000.00	\$ 2,000.00	1	\$ 2,000.00	\$ 2,000.00	\$ -
CONCRETE PAD (6FTX4FTX4")			1	\$ 500.00	\$ 500.00	1	\$ 500.00	\$ 500.00	\$ -
DEMOLITION OF BOILERS (TOTAL INCL O&P RMS MEANS W/ 4% INFLATION			3	\$ 4,100.00	\$ 12,300.00	1	\$ 4,100.00	\$ 4,100.00	\$ 8,200.00
MOBILIZATION OF CREW			2	\$ 10,000.00	\$ 20,000.00	1	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
SUBTOTAL					\$ 199,901.80			\$ 122,611.80	\$ 77,290.00
EXISTING BUILDING FACTOR (10%)					\$ 19,990.18			\$ 12,261.18	\$ 7,729.00
CONTRACTOR OVERHEAD AND PROFIT (15%)					\$ 29,985.27			\$ 18,391.77	\$ 11,593.50
PROJECT TOTAL (EXPECTED CONTRACTOR BIDS)					\$ 249,877.25			\$ 153,264.75	\$ 96,612.50
CONTINGENCY ACCOUNT (10%)					\$ 19,990.18			\$ 12,261.18	\$ 7,729.00
PROJECT TOTAL INCLUDING FORCE (CONTINGENCY) FUNDING					\$ 269,867.43			\$ 165,525.93	\$ 104,341.50
Additional costs due to raw materials increast of 20%					\$ 9,173.14			\$ 6,186.94	\$ 2,986.20



LINE DESIGNATION SYMBOLS

CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CA	COMPRESSED AIR
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
D	DRAIN
HPR	HEAT PUMP RETURN
HPS	HEAT PUMP SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
G	NATURAL GAS
RH	REFRIGERANT HIGH PRESSURE VAPOR
R	REFRIGERANT LIQUID AND VAPOR LINE
RS	REFRIGERANT SUCTION / VAPOR
SMR	SNOWMELT RETURN
SMS	SNOWMELT SUPPLY
V	VENT PIPING

RESPONSIBLE DIVISION:

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET IN PLACE AND WIRED AS FOLLOWS:

ITEM	FURNISHED	SET	POWER WIRED	CONTROL WIRED
EQUIPMENT	23	23	26	--
COMBINATION MAGNETIC MOTOR STARTERS, MAGNETIC MOTOR STARTERS, VFD'S AND CONTACTORS	23(1)	26	26(2)	23
FUSED AND UNFUSED DISCONNECT SWITCHES, THERMAL OVERLOAD SWITCHES AND HEATERS, MANUAL MOTOR STARTERS	26	26	26	--
MANUAL-OPERATING AND MULTI-SPEED SWITCHES	23	26	26	26
CONTROLS, RELAYS, TRANSFORMERS	23	23	26	23
THERMOSTATS (LOW VOLTAGE) AND TIME SWITCHES	23	23	26	23
THERMOSTATS (LINE VOLTAGE)	23	23	26	26
TEMPERATURE CONTROL PANELS	23	23	26	23
MOTOR AND SOLENOID VALVES, DAMPER MOTORS, PE & EP SWITCHES	23	23(2)	--	23(2)
PUSH-BUTTON STATIONS AND PILOT LIGHTS	23	23(2)	--	23(2)
HEATING, COOLING, VENTILATION AND AIR CONDITIONING CONTROLS	23	23	26	23
EXHAUST FAN SWITCHES	23	26	26	23(2)

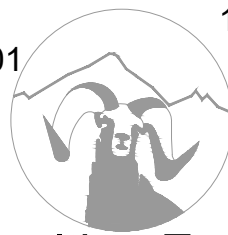
SUBSCRIPT FOOTNOTES:

1. MOTOR STARTER TO INCLUDE CONTROL TRANSFORMER, HOA SWITCH, (1) NO AND (1) NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.
2. IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23. CONNECT UNDER DIVISION 26.

ABBREVIATIONS:

44" FINISHED FLOOR TO CENTER OF DEVICE	DIFF DIFFERENTIAL	HR HOUR	PT PRESSURE TRANSMITTER
A AMPS	DISCH DISCHARGE	HT HEIGHT	PTAC PACKAGED TERMINAL AIR CONDITIONER
A.D. ACCESS DOOR	DIV DIVISION	HTR HEATER	PV PLUG VALVE
AAV AIR ADMITTANCE VALVE	DN DOWN	HWR HEATING WATER RETURN	PVC POLYVINYL CHLORIDE
ABV ABOVE	DS DUCT SILENCER	HWS HEATING WATER SUPPLY	QTY QUANTITY
AC AIR CONDITIONING UNIT	DWG DRAWING	HX HEAT EXCHANGER	RA RETURN AIR GRILLE / REGISTER
AC ABOVE COUNTER	DX DIRECT EXPANSION	HZ HERTZ	RCP REFLECTED CEILING PLAN
AD AREA DRAIN (SEE SYMBOLS)	(A) EXISTING	ID INSIDE DIAMETER	RD ROOF DRAIN
A.F.C. ABOVE FINISHED CEILING	EA EXHAUST AIR GRILLE/REGISTER	IG ISOLATED GROUND	REL RELIEF
A.F.G. ABOVE FINISHED GRADE	EAT ENTERING AIR TEMPERATURE	INV INVERT	REQD REQUIRED
AIC AMPERE INTERRUPTING CAPACITY	EC ELECTRICAL CONTRACTOR	JBOX JUNCTION BOX	RF RETURN FAN
A.F.F. ABOVE FINISHED FLOOR	ECC ECCENTRIC	K KELVIN	RH RELATIVE HUMIDITY
AHU AIR HANDLING UNIT	EFF EFFICIENCY	KW KILOWATT	RHC REHEAT COIL
ALUM ALUMINUM	EL ELEVATION	KVA KILO VOLT - AMPS	RLA RATED LOAD AMPS
AP ACCESS PANEL OR DOOR	ELEC ELECTRIC	L LENGTH	RM ROOM
ATS AUTOMATIC TRANSFER SWITCH	ELEV ELEVATOR	LAT LEAVING AIR TEMPERATURE	RPM REVOLUTIONS PER MINUTE
AV AUDIO / VIDEO	EM EMERGENCY FUNCTION	LV LAVATORY	SA SUPPLY AIR GRILLE / REGISTER
AVG AVERAGE	ENT ENTERING	LB POUND	SC SHORT CIRCUIT
AWG AMERICAN WIRE GAGE	EMT ELECTRIC METALLIC TUBE	LD LINEAR DIFFUSER	SCA SHORT CIRCUIT AVAILABLE
BAS BUILDING AUTOMATION SYSTEM	EQ EQUAL	LF LINEAR FEET	SCCR SHORT CIRCUIT CURRENT RATING
BB BASEBOARD	EQUIP EQUIPMENT	LIN LINEAR	SCH SCHEDULE
BD BACK DRAFT DAMPER	EQUIV EQUIVALENT	LIQ LIQUID	SD SMOKE DAMPER
BFP BACK FLOW PREVENTOR	ES END SWITCH	LM LUMEN	SEF SMOKE EXHAUST FAN
BL BOILER	ESP EXTERNAL STATIC PRESSURE	LRA LOCKED ROTOR AMPS	SF SUPPLY FAN
BLDG BUILDING	EXP EXPANSION TANK	LV LOUVER	SH SENSIBLE HEAT
BLW BELOW	EWC ELECTRIC WATER COOLER	LVG LEAVING	SH SHOWER
BOB BOTTOM OF BEAM	EWI ENTERING WATER TEMPERATURE	LWT LEAVING WATER TEMPERATURE	SP STATIC PRESSURE
BOD BOTTOM OF DUCT	EX EXHAUST	MBH THOUSANDS OF BTU PER HOUR	SPD SURGE PROTECTION DEVICE
BOP BOTTOM OF PIPE	EXPAN EXPANSION	MC MECHANICAL CONTRACTOR	SPEC SPECIFICATION
BSMT BASEMENT	EXT EXTERNAL	MCA MINIMUM CIRCUIT AMPACITY	SQ SQUARE
BTU BRITISH THERMAL UNIT	F DEGREES FAHRENHEIT	MCB MAIN CIRCUIT BREAKER	SS STAINLESS STEEL
C CHILLER	FA FREE AREA	MD MOTORIZED DAMPER	SS SAFETY SHOWER
C CAPACITY	FC FAN COIL UNIT	MDP MAIN DISTRIBUTION PANEL	STD STANDARD
CB CIRCUIT BREAKER	FC FOOTCANDLE	MED MEDIUM	STL STEEL
CBV CIRCUIT BALANCING VALVE	FCV FLOW CONTROL VALVE	MFR MANUFACTURER	SYS SYSTEM
CCT CORRELATED COLOR TEMPERATURE	FD FIRE DAMPER	MIN MINIMUM	TEMP TEMPERATURE
CKT CIRCUIT	FD FLOOR DRAIN	MISC MISCELLANEOUS	TR TRANSFER GRILLE / REGISTER
CFH CUBIC FEET PER HOUR	FIN FINISHED	MLO MAIN LUG ONLY	TR TAMPER RESISTANT
CFM CUBIC FEET PER MINUTE	FLA FULL LOAD AMPS	MOCP MAXIMUM OVERCURRENT PROTECTION	TT TEMPERATURE TRANSMITTER
CHWR CHILLED WATER RETURN	FLEX FLEXIBLE	MTD MOUNTED	TTB TELECOMMUNICATIONS TERMINAL BACKBOARD
CHWS CHILLED WATER SUPPLY	FLR FLOOR	MUA MAKE-UP AIR UNIT	TYP TYPICAL
CI CAST IRON	FOB FLAT ON BOTTOM	N NEUTRAL	TX TRANSFORMER
CL CENTER LINE	FOT FLAT ON TOP	NC NORMALLY CLOSED	UC UNDERCUT DOOR
CLG CEILING	FP FIRE PROTECTION	NEG NEGATIVE	UH UNIT HEATER
CMU CONCRETE MASONRY UNIT	FP FIRE PUMP	NIC NOT IN CONTRACT	UNO UNLESS NOTED OTHERWISE
CO CLEAN OUT	FPM FEET PER MINUTE	NL NIGHT / SECURITY LIGHT - DO NOT SWITCH	UNOCC UNOCCUPIED
COL COLUMN	FPS FEET PER SECOND	NO NORMALLY OPEN	UR URINAL
COMP COMPRESSOR	FSD FIRE/SMOKE DAMPER	NOM NOMINAL	V VOLTS
CONC CONCRETE	FT FEET	NTS NOT TO SCALE	VA VOLT AMPERE
COND CONDENSATE	FXC FLEXIBLE CONNECTION	OA OUTSIDE AIR	VA VALVE
CONN CONNECTION	GND GROUND	OBD OPPOSED BLADE DAMPER	VAV VARIABLE AIR VOLUME UNIT
CONT CONTINUATION	GA GAUGE	OC ON CENTER	VFD VARIABLE FREQUENCY DRIVE
CONTR CONTRACTOR	GAL GALLON	OCC OCCUPIED	VRF VARIABLE REFRIGERANT FLOW
CRI COLOR RENDERING INDEX	GALV GALVANIZED	OCP OVER CURRENT PROTECTION	VOLT VOLTAGE
CT COOLING TOWER	GEC GROUND ELECTRODE CONDUCTOR	OD OUTSIDE DIAMETER	VTR VENT THROUGH ROOF
CT CURRENT TRANSFORMER	GFCI / GFI GROUND FAULT CIRCUIT INTERRUPTER	OL OVERLOAD	W WIDTH
CU CONDENSING UNIT	GC GENERAL CONTRACTOR	ORD OVERFLOW ROOF DRAIN	W WATTS
CU COPPER	GPH GALLONS PER HOUR	OZ OUNCE	W/ WITHOUT
CUH CABINET UNIT HEATER	GPM GALLONS PER MINUTE	PBD PARALLEL BLADE DAMPER	WB WET BULB
CVB CONSTANT VOLUME BOX	GRS/LB GRAINS PER POUND	PH PHASE	WC WATER COLUMN
CWR CONDENSER WATER RETURN	H2O WATER	POS POSITIVE PRESSURE	WC WATER CLOSET
CWS CONDENSER WATER SUPPLY	HB HOSE BIBB	POS POINT OF SALES	WG WATER GAUGE
DB DRY BULB	HD HEAD (SEE SCHEDULES)	PRV PRESSURE REDUCING VALVE	WP WEATHERPROOF
DEPT DEPARTMENT	HP HEAT PUMP	PS PRESSURE SWITCH	WPIU WEATHERPROOF IN-USE
DF DRINKING FOUNTAIN	HP HORSEPOWER	PSI POUNDS PER SQUARE INCH	WSR WITHSTAND RATING
DIA DIAMETER			XFMR TRANSFORMER
DIAG DIAGRAM			

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Bighorn Consulting Engineers, Inc.
Mechanical & Electrical Engineers

SUBSTITUTIONS:

A. SUBSTITUTIONS. SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES, AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO BID TIME.

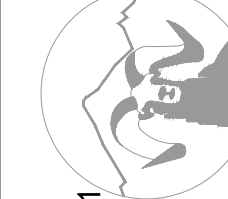
C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR PIPING DRAWINGS.

D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING AND ENERGY CONSERVATION CODES. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.

E. WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM WILL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE RECEIVED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.

DO NOT REPRODUCE THESE DRAWINGS AND SPECIFICATIONS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER. THE DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF THE SERVICE AND SHALL REMAIN THE PROPERTY OF THE DESIGNER. WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT, THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANYONE, ON ANY OTHER PROJECTS FOR ADDITIONS TO THIS PROJECT BY OTHERS EXCEPT BY THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER.

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Mechanical & Electrical Engineers

DELTA REC CENTER
POOL BOILER UPGRADE
531 PALMER STREET
DELTA, COLORADO

DATE:	ISSUED FOR:
02/04/2021	PERMIT

DATE:	1/21/2021
JOB NO:	20-210
DRAWN BY:	BCE
CHECKED BY:	BCE
SCALE:	AS SHOWN
SHEET NUMBER:	

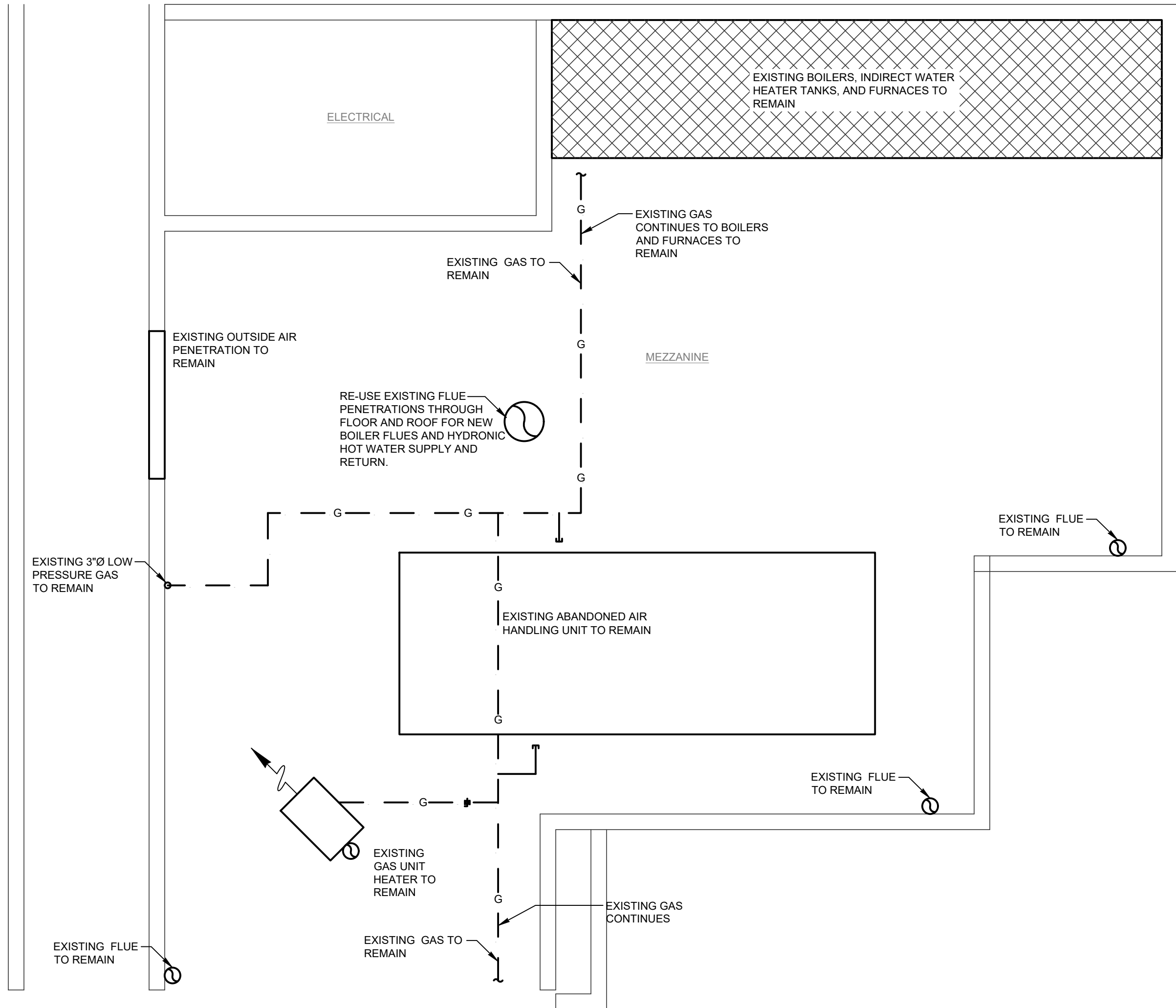
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MECHANICAL GENERAL NOTES:

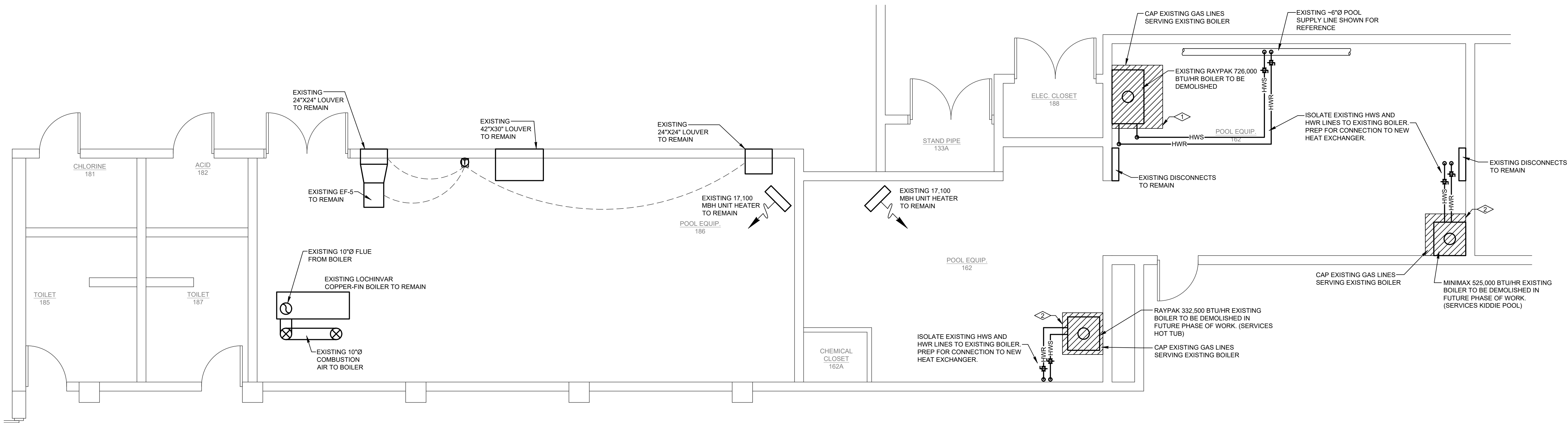
- DRAWING IS DIAGRAMMATIC IN NATURE. LOCATIONS AND SIZES MAY VARY. DURING FIELD COORDINATION & INSTALLATION OF MECHANICAL, PLUMBING, & ELECTRICAL, DRAWINGS DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
- CONDENSING BOILER FLUE VENT MATERIAL SHALL BE EQUIVALENT TO SELKIRK PS - UL 103 PRESSURE RATED STAINLESS STEEL FLUE MATERIAL.
- ROUTE CONDENSATE FROM CONDENSING MECHANICAL EQUIPMENT TO CONDENSATE NEUTRALIZATION KITS. CONDENSATE FROM NEUTRALIZATION KITS SHALL BE DISCHARGED INDIRECTLY THROUGH AIR GAP TO NEAREST FLOOR DRAIN.
- MECHANICAL CONTRACTOR SHALL FIELD LOCATE EXISTING DUCTWORK PRIOR TO CONSTRUCTION. MECHANICAL CONTRACTOR SHALL COORDINATE TIE IN CONNECTION POINTS OF NEW COMBUSTION AIR TO BOILERS WITH EXISTING DUCTWORK AS NECESSARY.
- CONTRACTOR SHALL CLEAN AND SERVICE ALL EXISTING EQUIPMENT TO REMAIN. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO REMAIN IS PROPERLY FUNCTIONING PRIOR TO RE-USING EQUIPMENT. CONTRACTOR TO INSURE THAT FINAL MECHANICAL SYSTEM WILL OPERATE AS INTENDED ON PROVIDED DRAWINGS.
- EXISTING EQUIPMENT SHOWN IS FOR REFERENCE ONLY. FIELD LOCATE EXISTING EQUIPMENT AND PIPING PRIOR TO ANY WORK BEING DONE.
- THE GENERAL CONTRACTOR SHALL COORDINATE THE ROUGH IN OF NEW EQUIPMENT ON THE MEZZANINE FLOOR AND PIPING DOWN TO THE 1ST FLOOR POOL MECHANICAL ROOM. SO THAT THE EXISTING POOL SYSTEM CAN BE SWITCHED OVER TO THE NEW BOILER SYSTEM WITH MINIMAL DOWN TIME. THE GENERAL CONTRACTOR SHALL PROVIDE A HIGH LEVEL WRITTEN SEQUENCE INDICATING A TIMELINE OF NEW EQUIPMENT ROUGH IN AND EXISTING EQUIPMENT DEMOLITION TO THE OWNER.

FLAG NOTES:

- DEMOLISH MECHANICAL EQUIPMENT WITHIN HATCHED AREA, THIS BOILER IS TO BE REMOVED IN THE FIRST PHASE OF WORK. FULL UPGRADE OF THESE BOILERS IS SHOWN FOR COMPLETENESS AND FINAL INTENT.
- THIS BOILER IS TO BE REMOVED IN A FUTURE PHASE OF WORK.



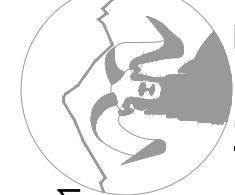
MECHANICAL - MEZZANINE DEMO FLOOR PLAN
SCALE: 1/4"=1'-0"



MECHANICAL - DEMO FLOOR PLAN
SCALE: 1/4"=1'-0"

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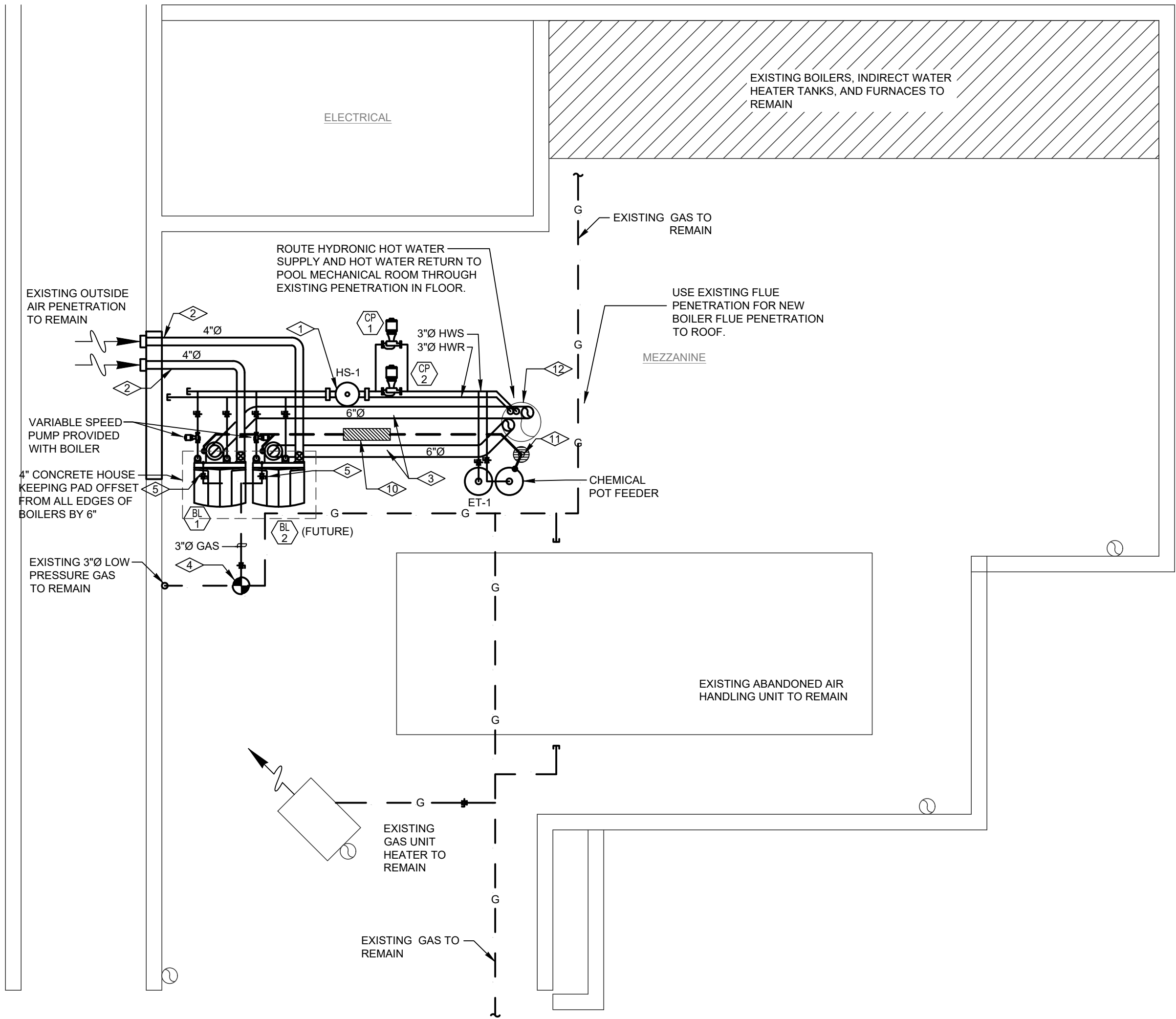
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MECHANICAL GENERAL NOTES:

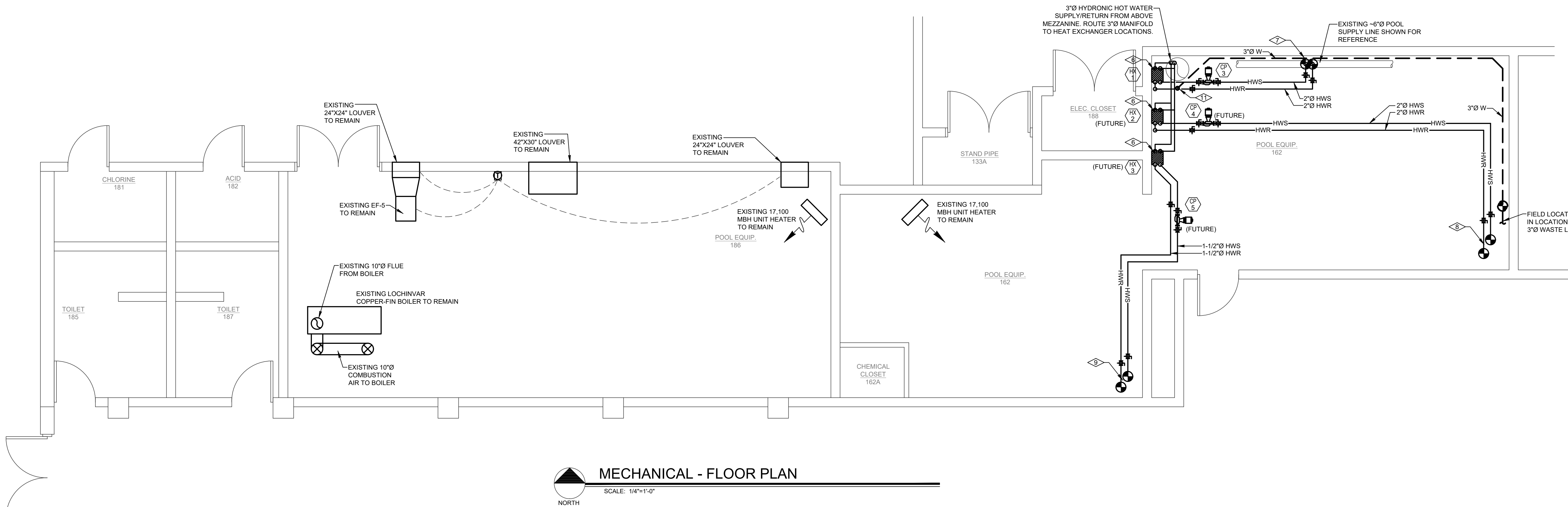
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- ROUTE CONDENSATE FROM CONDENSING MECHANICAL EQUIPMENT TO CONDENSATE NEUTRALIZATION KITS. CONDENSATE FROM NEUTRALIZATION KITS SHALL BE DISCHARGED INDIRECTLY THROUGH AIR GAP TO NEAREST FLOOR DRAIN.
- MECHANICAL CONTRACTOR SHALL FIELD LOCATE EXISTING DUCTWORK PRIOR TO CONSTRUCTION. MECHANICAL CONTRACTOR SHALL COORDINATE TIE IN CONNECTION POINTS OF NEW COMBUSTION AIR TO BOILERS WITH EXISTING DUCTWORK AS NECESSARY.
- CONTRACTOR SHALL CLEAN AND SERVICE ALL EXISTING EQUIPMENT TO REMAIN. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO REMAIN IS PROPERLY FUNCTIONING PRIOR TO RE-USING EQUIPMENT. CONTRACTOR TO INSURE THAT FINAL MECHANICAL SYSTEM WILL OPERATE AS INTENDED ON PROVIDED DRAWINGS.
- EXISTING EQUIPMENT SHOWN IS FOR REFERENCE ONLY. FIELD LOCATE EXISTING EQUIPMENT AND PIPING PRIOR TO ANY WORK BEING DONE.
- PIPING MATERIAL USED FOR THE POOL SIDE OF THE HEAT EXCHANGER SHALL BE RATED FOR USE WITH CHLORINATED WATER.
- PIPING SHALL BE INSULATED PER 2012 IECC CODE REQUIREMENTS, REFERENCE TABLE C403.2.8 MINIMUM PIPE INSULATION THICKNESS PROVIDED ON SCHEDULES SHEET.

FLAG NOTES:

- TACO - 5903A HYDRAULIC AIR SEPARATOR, REFERENCE HYDRONIC SCHEMATIC AND MANUFACTURER'S INSTALLATION DETAILS FOR CONNECTIONS TO HYDRONIC HOT WATER SUPPLY AND RETURN (HWS/HWR).
- ROUTE 4"Ø COMBUSTION AIR FROM NEW BOILER TO EXISTING OUTSIDE AIR PENETRATION THROUGH WALL. (MATERIAL OF NEW COMBUSTION AIR TO BE GALVANIZED STEEL.) PROPERLY SEAL ANNULAR SPACE AROUND PENETRATION THROUGH EXISTING PLENUM.
- ROUTE 6"Ø FLUE FROM NEW BOILER TO ROOF PENETRATION AT EXISTING FLUE ROOF PENETRATION. PROVIDE EQUIVALENT TO SELKIRK - PS UL103 PRESSURE RATED ALL STAINLESS STEEL DOUBLE WALL FLUE MATERIAL. SLOPE FLUE MATERIAL 1/8" PER 12" BACK TOWARDS NEW BOILER.
- FIELD LOCATE TIE IN LOCATION FROM EXISTING LOW PRESSURE NATURAL GAS TO NEW LOW PRESSURE NATURAL GAS FOR NEW BOILERS.
- ROUTE NEW 2"Ø LOW PRESSURE GAS TO NEW BOILER. PROVIDE ISOLATION VALVE AND DIRT LEG BEFORE CONNECTION TO BOILER.
- RACK HEAT EXCHANGERS ON WALL. COORDINATE FINAL LOCATION ALONG WALL IN FIELD WITH EXISTING EQUIPMENT, PIPING AND ELECTRICAL DISCONNECTS. PROVIDE ISOLATION VALVES AT ALL INLET/OUTLET CONNECTIONS AT HEAT EXCHANGER. ROUTE NEW POOL HOT WATER SUPPLY/RETURN PIPING TO EXISTING BOILER TIE IN LOCATIONS.
- ROUTE NEW 2"Ø LAP POOL HOT WATER SUPPLY AND RETURN TO HX-1. FIELD LOCATE TIE IN LOCATION TO EXISTING PIPING. PROVIDE TRANSITIONS AS NEEDED FROM EXISTING PIPING TO NEW 2"Ø PIPING.
- ROUTE NEW 2"Ø KIDDIE POOL HOT WATER SUPPLY AND RETURN TO HX-2. FIELD LOCATE TIE IN LOCATION TO EXISTING PIPING. PROVIDE TRANSITIONS AS NEEDED FROM EXISTING PIPING TO NEW 2"Ø PIPING.
- ROUTE NEW 1-1/2"Ø HOT TUB HOT WATER SUPPLY AND RETURN TO HX-3. FIELD LOCATE TIE IN LOCATION TO EXISTING PIPING. PROVIDE TRANSITIONS AS NEEDED FROM EXISTING PIPING TO NEW 1-1/2"Ø PIPING.
- ROUTE 3/4"Ø CONDENSATE PIPED FULL SIZE FROM NEW BOILERS ON MEZZANINE TO CONDENSATE NEUTRALIZATION KIT. ROUTE NEUTRALIZED CONDENSATE FROM TRAP TO NEW FLOOR DRAIN. DISCHARGE INDIRECTLY THROUGH AIR GAP TO FLOOR DRAIN. PIPING SHALL BE BALLASTED ON FLOOR AND SLOPED 1/8" PER 12" TOWARDS FLOOR DRAIN.
- PROVIDE NEW 3"Ø FLOOR DRAIN EQUIVALENT TO J.R. SMITH 2005 WITH J.R. SMITH QUAD CLOSE MECHANICAL TRAP SEAL. RE-USE EXISTING PENETRATION THROUGH MEZZANINE FLOOR FOR SANITARY WASTE PENETRATION. ROUTE NEW SANITARY WASTE LINE FROM FLOOR DRAIN TO EXISTING WASTE WITHIN POOL MECHANICAL ROOM ON 1ST FLOOR. FIELD COORDINATE FINAL TIE IN LOCATION OF NEW WASTE LINE TO EXISTING WASTE LINE.
- SEAL/CAP EXISTING PENETRATION THROUGH MEZZANINE FLOOR AFTER REMOVAL OF FLUE MATERIAL. (COORDINATE THE ROUTING OF NEW PIPING THROUGH EXISTING PENETRATION THROUGH FLOOR.)



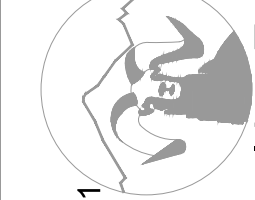
MECHANICAL - MEZZANINE FLOOR PLAN
SCALE: 1/4"=1'-0"



MECHANICAL - FLOOR PLAN
SCALE: 1/4"=1'-0"

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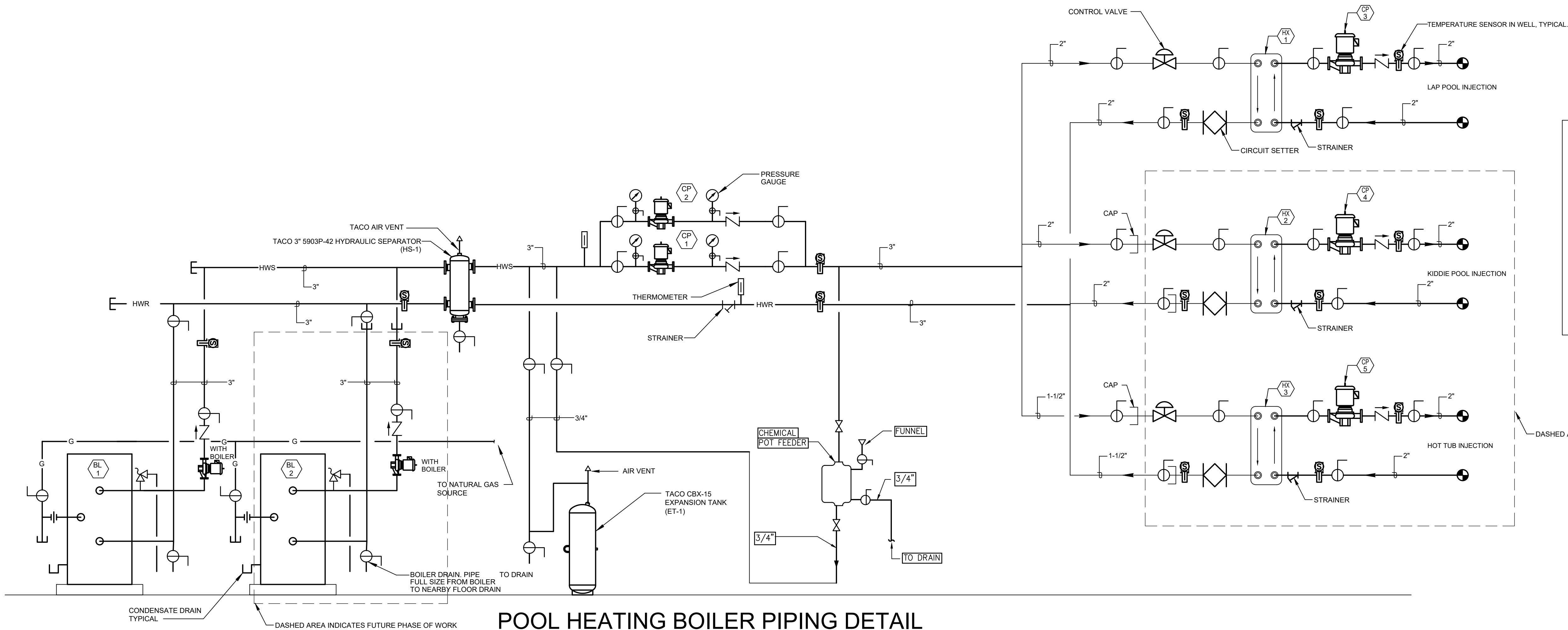
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DELTA REC CENTER
POOL BOILER UPGRADE
531 PALMER STREET
DELTA, COLORADO

DATE:	ISSUED FOR:
02/04/2021	PERMIT

DATE:	1/21/2021
JOB NO:	20-210
DRAWN BY:	BCE
CHECKED BY:	BCE
SCALE:	AS SHOWN
SHEET NUMBER:	

M1-2



POOL HEATING BOILER PIPING DETAIL

SCALE: NTS
NOTE: FINAL FILL OF SYSTEM SHALL BE WITH CLEAR WATER AND WITH A PH OF 8-9.

SEQUENCE OF OPERATION:

EACH POOL HEAT EXCHANGER HAS A RETURN WATER TEMPERATURE SENSOR. IF THE RETURN WATER DROPS BELOW SETPOINT (ADJ), THE CORRESPONDING CIRCULATION PUMP WILL START (CP-3, 4, OR 5). THE PLANT WILL BE ENABLED TO FIRE UNDER ITS OWN CONTROLS TO MAINTAIN 160° F (ADJ) BY MODULATING THE FIRING RATE AND SEQUENCE OF THE BOILERS.

THE BOILER CIRCULATION PUMP WILL START WHEN ITS CORRESPONDING BOILER FIRES.

THE PRIMARY CIRCULATION PUMP (CP-1 OR CP-2) SHALL BE STARTED WHEN THE BOILER PLANT IS ENABLED. THE PUMP WILL RUN UNDER ITS OWN CONTROL TO MAINTAIN CONSTANT DIFFERENTIAL PRESSURE. THE PUMPS WILL BE ALTERNATED ON A WEEKLY BASIS.

THE WATER TEMPERATURE AT EACH POOL WILL BE MAINTAINED BY MODULATING THE TWO WAY HEATING CONTROL VALVE ON THE BOILER SUPPLY WATER.

POOL TEMPERATURES ARE AS FOLLOWS:

1. LAP POOL = 84° F.
2. KIDDIE POOL = 90° F.
3. HOT TUB = 101° F.

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FIRE ALARM EQUIPMENT LEGEND	
	FIRE ALARM CONTROL PANEL
	FIRE ALARM PULL STATION
	FIRE ALARM HORN
	FIRE ALARM STROBE
	FIRE ALARM HORN/STROBE
	CEILING MOUNTED SPEAKER
	DUCT DETECTOR
	REMOTE LAMP
	SMOKE DETECTOR - PHOTOELECTRIC
	135° STANDARD HEAT DETECTOR
	PIR DETECTOR
	DOOR HOLD - MAGNETIC HOLD
	FLOW SWITCH
	TAMPER SWITCH

COMMUNICATION LEGEND	
	CLOCK ONLY
	CLOCK / PA SPEAKER WALL MOUNTED
	ROUND CEILING MOUNTED SPEAKER
	SQUARE SPEAKER
	INTERCOM PUSH TO CALL SWITCH
	WIRELESS ACCESS POINT ABOVE THE CEILING
	ABOVE THE CEILING PROJECTOR CONNECTION
	WALL MOUNTED HDMI
	PLAIN DATA OUTLET
	PLAIN DATA OUTLET WITH MOUNTING HEIGHT
	COMBINATION DATA/TELEPHONE
	FLOOR MOUNTED COMBINATION DATA/TELEPHONE
	CEILING MOUNTED COMBINATION DATA/TELEPHONE
	TELEVISION OUTLET

SECURITY SYSTEM LEGEND	
	SECURITY CAMERA
	ADA DOOR OPERATOR PUSH BUTTON
	ELECTRIC DOOR STRIKE
	CARD READER FOR DOOR OPENER

LIGHTING LEGEND	
<u>NOTES:</u>	
SYMBOLS SHOWN ARE STANDARD. VARIATION AND/OR COMBINATIONS MAY BE USED ON THE PLANS. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWINGS OCCUR, THE ITEM SHALL BE PROVIDED AND INSTALLED.	
VARIATION AND/OR COMBINATION MAY BE USED ON THE PLANS.	
A NUMBER NEXT TO A RECEPTACLE OR DEVICE INDICATES A CIRCUIT NUMBER.	
AN UPPER CASE LETTER NEXT TO A SWITCH INDICATES THE FUNCTION OF THE SWITCH. A LOWER CASE LETTER INDICATES THE SWITCH CIRCUIT.	
AN UPPER CASE LETTER NEXT TO A LIGHT FIXTURE INDICATES THE TYPE OF FIXTURE. REFER TO THE LUMINAIRE SCHEDULE FOR FIXTURE SPECIFICATIONS. A LOWER CASE LETTER NEXT TO A LIGHT CORRESPONDS TO THE SWITCH DESIGNATION.	

SWITCHES	
	SINGLE POLE SWITCH
	TWO POLE SWITCH
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	DIMMER SWITCH
	3 WAY DIMMER SWITCH - (4D INDICATES A 4WAY DIMMER)
	DOOR ACTIVATED SWITCH
	WALL MOUNTED DUAL TECHNOLOGY MANUAL ON / AUTO OFF VACANCY SENSOR SWITCH
	LOW VOLTAGE LIGHT SWITCH
	MANUAL MOTOR STARTER
	PILOT LIGHT SWITCH
	AUTO ON / AUTO OFF LIGHT SWITCH
	DUAL TECHNOLOGY MOTION / OCCUPANCY SENSOR LIGHT SWITCH
	MANUAL ON / AUTO OFF DIMMING LIGHT SWITCH
	KEY OPERATED LIGHT SWITCH
	MANUAL ON - TIMED OFF LIGHT SWITCH
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH
	CEILING MOUNTED DUAL TECHNOLOGY MANUAL ON / AUTO OFF VACUITY SENSOR
	SCENE CONTROL STATION
	UNIT LIGHTING MANAGEMENT CONTROL STATION.

LIGHT FIXTURES	
	1'x4' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
	2'x4' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
	2'x2' LED TROFFER OR DIRECT/INDIRECT TYPE FIXTURE GRID, FLANGE OR SURFACE MOUNTED
	OPEN STRIP FIXTURE
	WALL BRACKET LINEAR FIXTURE
	WALL MOUNTED SCONCE LIGHT FIXTURE
	RECESSED DOWNLIGHT CAN FIXTURE
	CEILING CEILING OR PENDANT MOUNTED FIXTURE
	EX2 DOUBLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
	EX SINGLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
	EM WALL MOUNTED EMERGENCY LIGHT
	EMR EMERGENCY EXTERIOR EGRESS FIXTURE

GENERAL ELECTRICAL NOTES:

- ALL ELECTRICAL WORK TO COMPLY WITH LATEST EDITION OF NEC, IECC AND ALL APPLICABLE GOVERNING CODES.
- FIELD COORDINATION DURING CONSTRUCTION IS IMPERATIVE. CONTRACTORS BIDDING THIS WORK MUST MAKE REASONABLE ALLOWANCES FOR UNFORESEEN CONTINGENCIES.
- ELECTRIC UTILITY TO ADVISE OWNER AND/OR THE ELECTRICAL ENGINEER PRIOR TO SERVICE MODIFICATION REQUIRING COST TO THE OWNER.
- WIRING:
 - ALL WIRING IS SHOWN DIAGRAMMATICALLY ON DRAWING, FIELD VERIFY ALL CONDITIONS PRIOR TO ROUGH-IN.
 - ALL CONDUITS AND CONVEYANCES SHALL BE CONCEALED. IN THE EVENT THAT A NEW DEVICE IS BEING INSTALLED IN AN EXISTING DRYWALL PARTITION, PROVIDE A CUT IN TYPE BOX AND FISH FLEXIBLE CONDUIT DOWN INSIDE THE WALL FROM ABOVE THE CEILING AND REPAIR THE DRYWALL AROUND THE CONDUIT. TRANSITION TO EMT ONCE ABOVE THE CEILING.
 - SIZES OF WIRE AND CABLES ARE BASED UPON COPPER CONDUCTORS, UNLESS OTHERWISE INDICATED. ALL CIRCUITS SHALL CONTAIN (2) #12 AWG WITH (1) #12 GND IN 1/2" CONDUIT UNLESS NOTED OTHERWISE.
 - ALL BRANCH CIRCUITS WITH HOME RUNS OVER 50 FEET, WILL BE SIZED ONE SIZE LARGER.
 - ALL PENETRATIONS IN OR THROUGH FIRE RATED PARTITIONS SHALL BE FIRE STOPPED IN SUCH A WAY THAT THE PENETRATION MATCHES THE FIRE RATING OF THE WALL.
 - THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION BETWEEN THE APPROPRIATE DISCIPLINES AND CONTRACTORS.
 - COORDINATE ALL DEVICE, FIXTURE AND HARDWARE COLOR SELECTIONS WITH THE ARCHITECT PRIOR TO MAKING SHOP DRAWING SUBMITTALS.
 - COORDINATE THE MOUNTING HEIGHTS OF ALL RECEPTACLES MOUNTED ABOVE COUNTERS, CASEWORK AND APPLIANCE RECEPTACLES WITH ARCHITECTURAL ELEVATIONS.
 - BRANCH CIRCUIT AND SPECIAL SYSTEMS WIRING FOR DEVICES ON WALLS IN FINISHED AREAS WHICH CANNOT BE CONCEALED SHALL BE INSTALLED IN SURFACE MOUNTED RACEWAY.
 - ALL EXPOSED CONDUITS, BOXES, ETC. IN ROOMS TO BE PAINTED SHALL BE PAINTED TO MATCH THE SURROUNDING SURFACE. EXPOSED CONDUITS, BOXES, ETC. IN ROOMS WHICH ARE NOT PAINTED MAY BE LEFT UN-PAINTED. EXPOSED CONDUIT, BOXES, ETC. ON THE EXTERIOR OF BUILDINGS SHALL BE PAINTED TO MATCH THE SURROUNDING SURFACE AS CLOSELY AS POSSIBLE.
 - THE CONTRACTOR IS RESPONSIBLE FOR PATCHING, PAINTING, REPAIRING OR REPLACEMENT OF ALL WALLS, CEILING OR OTHER BUILDING ELEMENTS WHICH ARE DISTURBED AS PART OF THE DEMOLITION AND/OR INSTALLATION OF ELECTRICAL WORK.
 - PROVIDE ELECTRICAL CONNECTION TO ALL FIRE, SMOKE, AND FIRE / SMOKE DAMPERS INCLUDING POWER AND FIRE ALARM. VERIFY EXACT SIZE AND FINAL LOCATION OF ALL DAMPERS WITH THE MECHANICAL CONTRACTOR. ALL ROOFTOP UNITS RATED AT MORE THAN 2000 CFM WILL BE OUTFITTED WITH A DUCT DETECTOR IN THE RETURN DUCT. ALL ROOFTOP UNITS RATED AT MORE THAN 15000 CFM WILL BE OUTFITTED WITH A DUCT DETECTOR IN BOTH THE SUPPLY AND RETURN DUCT AT ROOFTOP LEVEL AND IN THE RETURN DUCT AT EVERY LEVEL THAT IS SERVED. ELECTRICAL CONTRACTOR WILL PROVIDE A REMOTE TEST STATION AND ALL WIRING NECESSARY TO COMPLETE INSTALLATION.
 - REFER TO THE MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH PLUMBING AND HVAC EQUIPMENT AND OWNER/GENERAL CONTRACTOR FURNISHED EQUIPMENT.

ELECTRICAL EQUIPMENT LEGEND	
	BRANCH CIRCUIT PANELBOARD
	TELEPHONE TERMINAL BOARD
	ELECTRIC MOTOR
	FUSED SAFETY SWITCH / DISCONNECT COMBINATION
	MOTOR STARTER
	CONTACTOR
	CIRCUITRY HOMERUN: PANEL LA - CIR. #7
	CONDUIT OR WIRE CONCEALED IN WALL/CLG. (SOLID LINE TYPE)
	CONDUIT OR WIRE UNDERFLOOR/UNDERGND. (CENTER LINE TYPE)

MAIN DISTRIBUTION GEAR	
	CIRCUIT BREAKER IN A PANEL BOARD
	PAD MOUNTED UTILITY TRANSFORMER
	FUSED DISCONNECT 100A = AMP RATING 2P = NUMBER OF POLES
	FUSED DISCONNECT
	ELECTRICAL METER SHOWN ON ONE-LINE DIAGRAMS
	ELECTRICAL POWER PANEL WITH MAIN LUG OR MAIN BREAKER PPT= PANEL NAME 225A MLO = MAIN LUG OR BREAKER SIZE 120/208V = PANEL VOLTAGE 3PH, 4 WIRE = PANEL PHASE, DISTRIBUTION TYPE
	PP1 225A MCB 120/208V 3PH, 4W
	PP1 225A MLO 120/208V 3PH, 4W

ELECTRICAL DEVICE LEGEND	
	CEILING JUNCTION BOX - SURFACE/FLUSH
	WALL JUNCTION BOX - SURFACE/FLUSH
	DUPLEX RECEPTACLE
	FLOOR MOUNTED RECEPTACLE
	SPLIT WIRED DUPLEX RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	FOURPLEX RECEPTACLE
	FLOOR MOUNTED FOURPLEX RECEPTACLE
	APPLIANCE RECEPTACLE - 3 WIRE
	GROUND FAULT CIRCUIT INTERRUPTER
	RECEPTACLE WITH USB CHARGING CAPABILITIES
	RECEPTACLE MOUNTED ABOVE COUNTER
	RECEPTACLE MOUNTED IN CASEWORK
	ELECTRIC HAND DRYER
	THERMOSTAT
	OPEN/CLOSE/STOP PUSH BUTTON
	DRAWING KEY NOTES
	ROOM DESIGNATION
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WITH A WEATHER PROOF COVER
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE MOUNTED AT 44" ABOVE FINISHED FLOOR

LUMINAIRES:

- COORDINATE THE LOCATION OF ALL LIGHTING EQUIPMENT INCLUDING BUT NOT LIMITED TO THE LUMINAIRES, SWITCHES WITH THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND ALL OTHER TRADES AS REQUIRED. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONAL LOCATION OF LIGHT FIXTURES.
- LIGHTING FIXTURES SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE AND SHALL NOT BE SUPPORTED FROM THE T-BAR CEILING GRID.
- THE ELECTRICAL CONTRACTOR IS TO CONFIRM THE LIGHT FIXTURES ORDERED WILL BE COMPATIBLE WITH THE CEILING TYPES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING THE FIXTURES.
- VERIFY LUMINAIRE MOUNTING REQUIREMENTS AND OVERALL HEIGHT OF ALL PENDANT MOUNTED FIXTURES PRIOR TO ORDERING.
- ALL LIGHT FIXTURES NEED TO BE COMPATIBLE WITH THE SWITCHES AND CONTROLS BEING PROVIDED.
- THE LIGHTING PACKAGE SHALL BE APPROVED BY BOTH THE ARCHITECT AND ENGINEER AS APPROVED EQUAL BEFORE BID. NO LIGHT FIXTURE SHALL BE ORDERED UNTIL THE LIGHT FIXTURE SUBMITTAL PACKAGE HAS BEEN APPROVED IN WRITING BY THE ARCHITECT, GENERAL CONTRACTOR AND ELECTRICAL ENGINEER.
- COORDINATE LUMINAIRE MOUNTING REQUIREMENTS PRIOR TO PLACING ORDER.

EMERGENCY AND EXIT LIGHTS:

- PROVIDE EMERGENCY AND EXIT SIGNS AS PER ALL GOVERNING CODES.
- EXIT SIGNS CONNECTED TO A REMOTE EMERGENCY HEAD REQUIRE EXTRA BATTERY CAPACITY TO OPERATE THE REMOTELY LOCATED EMERGENCY HEAD FOR EGRESS AWAY FROM THE BUILDING.
- REFER TO THE PLANS FOR THE NUMBER OF FACES REQUIRED AT EACH EXIT. FIELD ADJUST THE LOCATION OF THE EXIT SIGNS AND NUMBER OF FACES FOR THE BEST VISIBILITY POSSIBLE.
- ALL LIGHTING FIXTURES DENOTED WITH "EM" SHALL BE PROVIDED WITH AN ENGINEER APPROVED EMERGENCY LED DRIVER OR INVERTER TO OPERATE THE FIXTURE IN AN EMERGENCY MODE TO MEET ALL CURRENT GOVERNING CODES AND WILL BE CIRCUITED TO THE UNSWITCHED SIDE OF THE LIGHTING CIRCUIT.
- ALL LIGHT FIXTURES DESIGNATED WITH "EM" OR SPECIFIED WITH AN EMERGENCY FUNCTION SHALL BE PROVIDE WITH ONE OF THE FOLLOWING.
 - INTEGRAL TEST SWITCH
 - REMOTE INFRARED HANDHELD DEVICE
 - INTEGRAL ELECTRONIC DEVICE THAT AUTOMATICALLY PERFORMS CODE REQUIRED TESTS.
- ALL STAIRWELLS AND PATHS OF EGRESS TO THE EXTERIOR DOORS AND THE EXTERIOR PATH OF EGRESS AWAY FROM THE BUILDING SHALL RECEIVE EMERGENCY LIGHTING PER CODE.

RESPONSIBLE DIVISION:

UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET IN PLACE AND WIRED AS FOLLOWS:

EQUIPMENT	FURNISHED	SET	POWER WIRED	CONTROL WIRED
COMBINATION MAGNETIC MOTOR STARTERS, MAGNETIC MOTOR STARTERS, VFD'S AND CONTACTORS	23(1)	26	26(2)	23
FUSED AND UNFUSED DISCONNECT SWITCHES, THERMAL OVERLOAD SWITCHES AND HEATERS, MANUAL MOTOR STARTERS	26	26	26	--
MANUAL-OPERATING AND MULTI-SPEED SWITCHES	23	26	26	26
CONTROLS, RELAYS, TRANSFORMERS	23	23	26	23
THERMOSTATS (LOW VOLTAGE) AND TIME SWITCHES	23	23	26	23
THERMOSTATS (LINE VOLTAGE)	23	23	26	26
TEMPERATURE CONTROL PANELS	23	23	26	23
MOTOR AND SOLENOID VALVES, DAMPER MOTORS, PE & EP SWITCHES	23	23(2)	--	23(2)
PUSH-BUTTON STATIONS AND PILOT LIGHTS	23	23(2)	--	23(2)
HEATING, COOLING, VENTILATION AND AIR CONDITIONING CONTROLS	23	23	26	23
EXHAUST FAN SWITCHES	23	26	26	23(2)

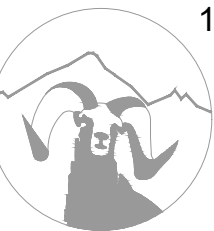
SUBSCRIPT FOOTNOTES:

- MOTOR STARTER TO INCLUDE CONTROL TRANSFORMER, HOA SWITCH, (1) NO AND (1) NC AUXILIARY CONTACT, AND "ON" AND "OFF" PILOT LIGHTS.
- IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 26. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 23. CONNECT UNDER DIVISION 26.

ABBREVIATIONS:

44" FINISHED FLOOR TO CENTER OF DEVICE	DIFF DIFFERENTIAL	HR HOUR	PT PRESSURE TRANSMITTER
A AMPS	DISCH DISCHARGE	HT HEIGHT	PTAC PACKAGED TERMINAL AIR CONDITIONER
A.D. ACCESS DOOR	DIV DIVISION	HTR HEATER	PV PLUG VALVE
AAV AIR ADMITTANCE VALVE	DN DOWN	HWR HEATING WATER RETURN	PVC POLYVINYL CHLORIDE
ABV ABOVE	DS DUCT SILENCER	HWS HEATING WATER SUPPLY	QTY QUANTITY
AC AIR CONDITIONING UNIT	DWG DRAWING	HX HEAT EXCHANGER	RA RETURN AIR GRILLE / REGISTER
AC ABOVE COUNTER	(A) EXISTING	HZ HERTZ	RCP REFLECTED CEILING PANEL
AD AREA DRAIN (SEE SYMBOLS)	EA EXHAUST AIR GRILLE/REGISTER	ID INSIDE DIAMETER	RD ROOF DRAIN
A.F.C. ABOVE FINISHED CEILING	EAT ENTERING AIR TEMPERATURE	IN INCHES	REL RELIEF
A.F.G. ABOVE FINISHED GRADE	EC ELECTRICAL CONTRACTOR	INV INVERT	REQD REQUIRED
AIC AMPERE INTERRUPTING CAPACITY	ECC ECCENTRIC	JBOX JUNCTION BOX	RF RETURN FAN
A.F.F. ABOVE FINISHED FLOOR	EF EXHAUST FAN	K KELVIN	RH RELATIVE HUMIDITY
AHU AIR HANDLING UNIT	EFF EFFICIENCY	KW KILOWATT	RHC REHEAT COIL
ALUM ALUMINUM	EL ELEVATION	KVA KILO VOLT - AMPS	RLA RATED LOAD AMPS
AP ACCESS PANEL OR DOOR	ELEC ELECTRIC	L LENGTH	RM ROOM
ATS AUTOMATIC TRANSFER SWITCH	ELEV ELEVATOR	LAT LEAVING AIR TEMPERATURE	RPV REVOLUTIONS PER MINUTE
AV AUDIO / VIDEO	EMV EMERGENCY FUNCTION	LV LAVATORY	SA SUPPLY AIR GRILLE / REGISTER
AVG AVERAGE	ENT ENTERING	LB POUND	SC SHORT CIRCUIT
AWG AMERICAN WIRE GAGE	EMT ELECTRIC METALLIC TUBE	LD LINEAR DIFFUSER	SCA SHORT CIRCUIT AVAILABLE
BAS BUILDING AUTOMATION SYSTEM	EQ EQUAL	LF LINEAR FEET	SCCR SHORT CIRCUIT CURRENT RATING
BB BASEBOARD	EQUIP EQUIPMENT	LIN LINEAR	SCH SCHEDULE
BD BACK DRAFT DAMPER	EQUIV EQUIVALENT	LIQ LIQUID	SD SMOKE DAMPER
BFP BACK FLOW PREVENTOR	ES END SWITCH	LM LUMEN	SEF SMOKE EXHAUST FAN
BL BOILER	ESP EXTERNAL STATIC PRESSURE	LRA LOCKED ROTOR AMPS	SF SUPPLY FAN
BLDG BUILDING	ET EXPANSION TANK	LV LOUVER	SH SENSIBLE HEAT
BLW BELOW	EW ELECTRIC WATER COOLER	LVG LEAVING	SH SHOWER
BOB BOTTOM OF BEAM	EWT ENTERING WATER TEMPERATURE	LWT LEAVING WATER TEMPERATURE	SP STATIC PRESSURE
BOD BOTTOM OF DUCT	EX EXHAUST	MBH THOUSANDS OF BTU PER HOUR	SPD SURGE PROTECTION DEVICE
BOP BOTTOM OF PIPE	EXPAN EXPANSION	MC MECHANICAL CONTRACTOR	SPEC SPECIFICATION
BSMT BASEMENT	EXT EXTERNAL	MCA MINIMUM CIRCUIT AMPACITY	SQ SQUARE
BTU BRITISH THERMAL UNIT	F DEGREES FAHRENHEIT	MCB MAIN CIRCUIT BREAKER	SS STAINLESS STEEL
C CHILLER	FA FREE AREA	MD MOTORIZED DAMPER	SS SAFETY SHOWER
CAP CAPACITY	FC FAN COIL UNIT	MDP MAIN DISTRIBUTION PANEL	STD STANDARD
CB CIRCUIT BREAKER	FD FOOTCANDLE	MED MEDIUM	STL STEEL
CBV CIRCUIT BALANCING VALVE	FCV FLOW CONTROL VALVE	MFR MANUFACTURER	SYS SYSTEM
CCT CORRELATED COLOR TEMPERATURE	FD FIRE DAMPER	MIN MINIMUM	TEMP TEMPERATURE
CKT CIRCUIT	FLD FLOOR DRAIN	MISC MISCELLANEOUS	TR TRANSFER GRILLE / REGISTER
CFH CUBIC FEET PER HOUR	FIN FINISHED	MLO MAIN LUG ONLY	TR TAMPER RESISTANT
CFM CUBIC FEET PER MINUTE	FLA FULL LOAD AMPS	MOCP MAXIMUM OVERCURRENT PROTECTION	TT TEMPERATURE TRANSMITTER
CHWR CHILLED WATER RETURN	FLEX FLEXIBLE	MTD MOUNTED	TB TELECOMMUNICATIONS TERMINAL BACKBOARD
CHWS CHILLED WATER SUPPLY	FLR FLOOR	MUA MAKE-UP AIR UNIT	TYP TYPICAL
CI CAST IRON	FOT FLAT ON BOTTOM	N NEUTRAL	TX TRANSFORMER
CL CENTER LINE	FOT FLAT ON TOP	NC NORMALLY CLOSED	UC UNDERCUT DOOR
CLG CEILING	FP FIRE PROTECTION	NEG NEGATIVE	UH UNIT HEATER
CMU CONCRETE MASONRY UNIT	FP FIRE PUMP	NIC NOT IN CONTRACT	UNO UNLESS NOTED OTHERWISE
CO CLEAN OUT	FS FEET PER MINUTE	NL NIGHT / SECURITY LIGHT - DO NOT SWITCH	UNOCC UNOCCUPIED
COL COLUMN	FPS FEET PER SECOND	NO NORMALLY OPEN	UR URINAL
COMP COMPRESSOR	FS FLOW SWITCH	NOM NOMINAL	V VOLTS
CONC CONCRETE	FSD FIRE/SMOKE DAMPER	NTS NOT TO SCALE	VA VOLT AMPERE
COND CONDENSATE	FT FEET	OA OUTSIDE AIR	VA VALVE
CONN CONNECTION	FX FLEXIBLE CONNECTION	OBD OPPOSED BLADE DAMPER	VAV VARIABLE AIR VOLUME UNIT
CONT CONTINUATION	GND GROUND	OC ON CENTER	VFD VARIABLE FREQUENCY DRIVE
CONTR CONTRACTOR	GAL GALLON	OCC OCCUPIED	VRF VARIABLE REFRIGERANT FLOW
CRI COLOR RENDERING INDEX	GALV GALVANIZED	OCF OVER CURRENT PROTECTION	VOLT VOLTAGE
CT COOLING TOWER	GEC GROUND ELECTRODE CONDUCTOR	OD OUTSIDE DIAMETER	VTR VENT THROUGH ROOF
CT CURRENT TRANSFORMER	GFI / GFI GROUND FAULT CIRCUIT INTERRUPTER	OL OVERLOAD	W WIDTH
CU CONDENSING UNIT	GC GENERAL CONTRACTOR	ORD OVERFLOW ROOF DRAIN	W WATTS
CU COPPER	GPH GALLONS PER HOUR	OZ OUNCE	W/ WITH
CUH CABINET UNIT HEATER	GPM GALLONS PER MINUTE	PBD PARALLEL BLADE DAMPER	W/O WITHOUT
CVB CONSTANT VOLUME BOX	GRS/LB GRAINS PER POUND	PB PRESSURE DROP	WB WET BULB
CWR CONDENSER WATER RETURN	H 2O WATER	PH PHASE	WC WATER COLUMN
CWS CONDENSER WATER SUPPLY	HB HOSE BIBB	POS POSITIVE PRESSURE	WC WATER CLOSET
DB DRY BULB	HD HEAD (SEE SCHEDULES)	POS POINT OF SALES	WG WATER GAUGE
DEPT DEPARTMENT	HP HEAT PUMP	PRV PRESSURE REDUCING VALVE	WP WEATHERPROOF
DF DRINKING FOUNTAIN	HP HORSEPOWER	PS PRESSURE SWITCH	WPU WEATHERPROOF IN-USE
DIA DIAMETER		PSI POUNDS PER SQUARE INCH	WSR WITHSTAND RATING
DIAG DIAGRAM			XFMR TRANSFORMER

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Mechanical & Electrical Engineers

SUBSTITUTIONS:

A. SUBSTITUTIONS: SUBSTITUTION OF SPECIFIED EQUIPMENT WILL BE ALLOWED THROUGH A PRIOR APPROVAL PROCESS INITIATED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT INTENDED SUBSTITUTION AT LEAST FIVE DAYS PRIOR TO BID FOR APPROVAL FROM ENGINEER. SUBMITTAL SHALL INCLUDE CAPACITIES, DIMENSIONS AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT. SUBSTITUTION SHALL OCCUR AT NO COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF APPROVED SUBSTITUTION AND SHALL INCUR ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING STRUCTURAL MODIFICATIONS, SPACE LAYOUT AND REDESIGN COSTS. SEE ALSO DIVISION I GENERAL REQUIREMENTS.

EXAMINATION OF SITE, DRAWINGS, SPECIFICATIONS:

A. EXAMINE CAREFULLY THE SITE AND CONDITIONS OF THE SITE. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR TO INSTALL A COMPLETE WORKING SYSTEM WITHIN THE SITE CONDITIONS.

B. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND 5 DAYS PRIOR TO BIDDING REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES AND CONFLICTS TO THE ENGINEER TO BE REMEDIED IN AN ADDENDUM TO THE PROJECT PRIOR TO BID TIME.

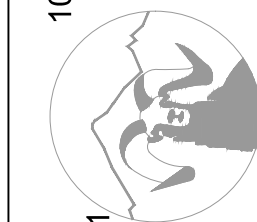
C. DRAWINGS ARE DIAGRAMMATIC AND CATALOG NUMBERS GIVEN ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CAPACITY OF THE EQUIPMENT MEETS THE DRAWING REQUIREMENTS AND SHALL NOT DIMENSION FROM THE MECHANICAL, PLUMBING, OR PIPING DRAWINGS.

D. THE LATEST ADOPTED VERSIONS OF THE INTERNATIONAL BUILDING CODES SHALL BE USED AS REQUIRED. THIS WILL ALSO INCLUDE THE LATEST ADOPTED VERSIONS OF THE MECHANICAL, PLUMBING AND ENERGY CONSERVATION CODES. ALL METHODS AND MATERIALS REQUIRED BY THESE CODES SHALL BE REQUIRED BY THESE SPECIFICATIONS UNLESS INDICATED OTHERWISE. OTHER APPLICABLE LOCAL CODES AND ORDINANCES SHALL BE AS REQUIRED AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE KNOWLEDGEABLE OF THESE REQUIREMENTS.

E. WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM WILL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE RECEIVED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.

DO NOT REPRODUCE THESE DRAWINGS AND SPECIFICATIONS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER. THE DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF THE SERVICE AND SHALL REMAIN THE PROPERTY OF THE DESIGNER. WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT, THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANYONE, ON ANY OTHER PROJECTS FOR ADDITIONS TO THIS PROJECT BY OTHERS EXCEPT BY THE EXPRESSED WRITTEN PERMISSION OF THE DESIGNER.

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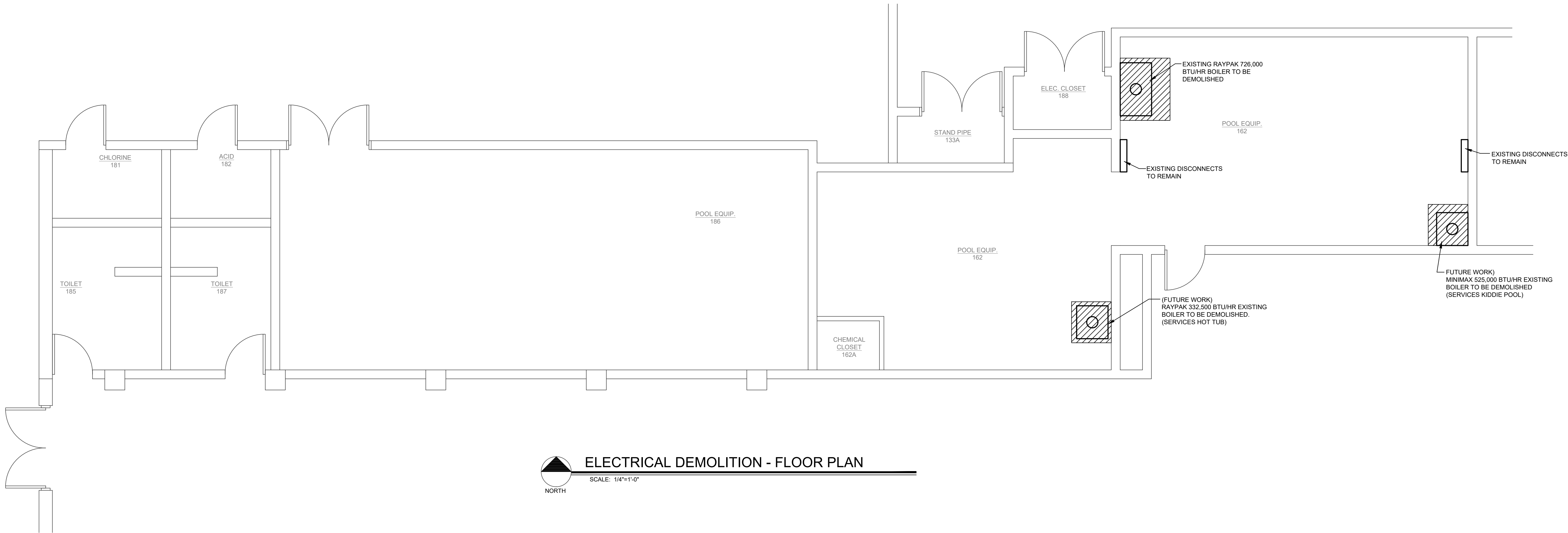
**DELTA REC CENTER
POOL BOILER UPGRADE
531 PALMER STREET
DELTA, COLORADO**

DATE:	ISSUED FOR:</
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ELECTRICAL DEMOLITION - MEZZANINE FLOOR PLAN

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



ELECTRICAL DEMOLITION - FLOOR PLAN

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

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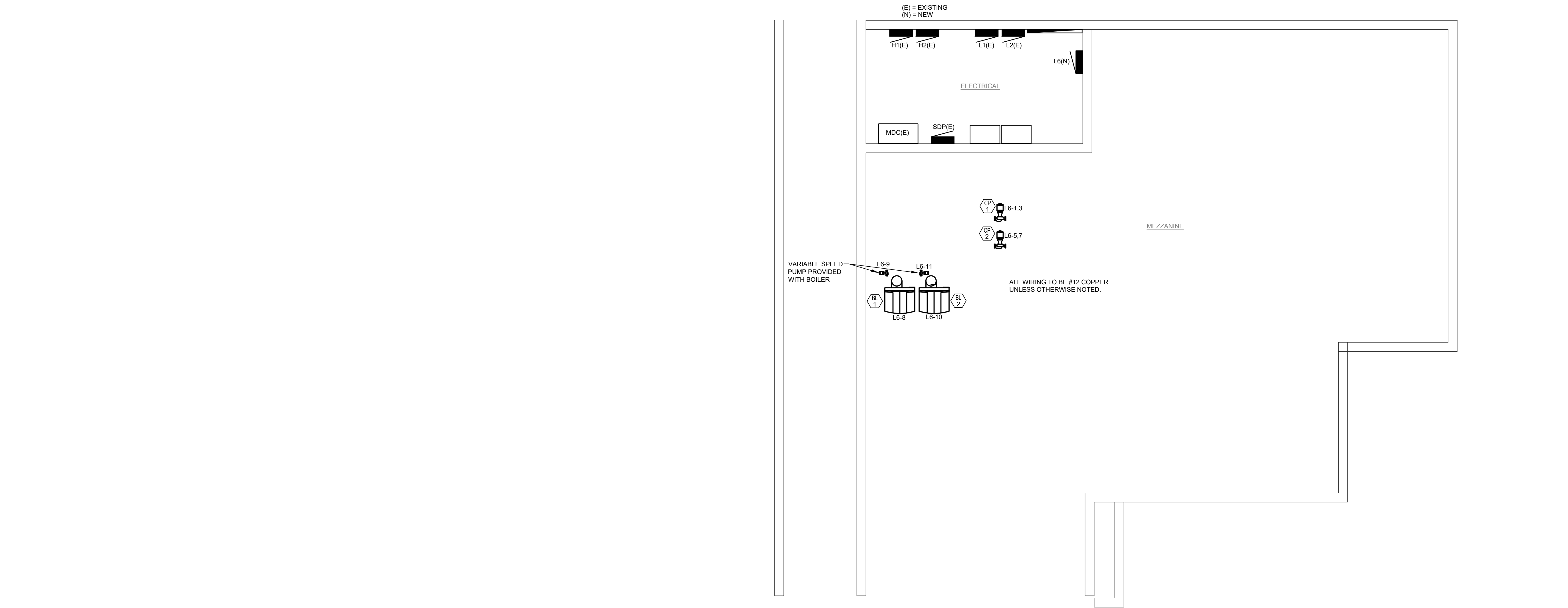
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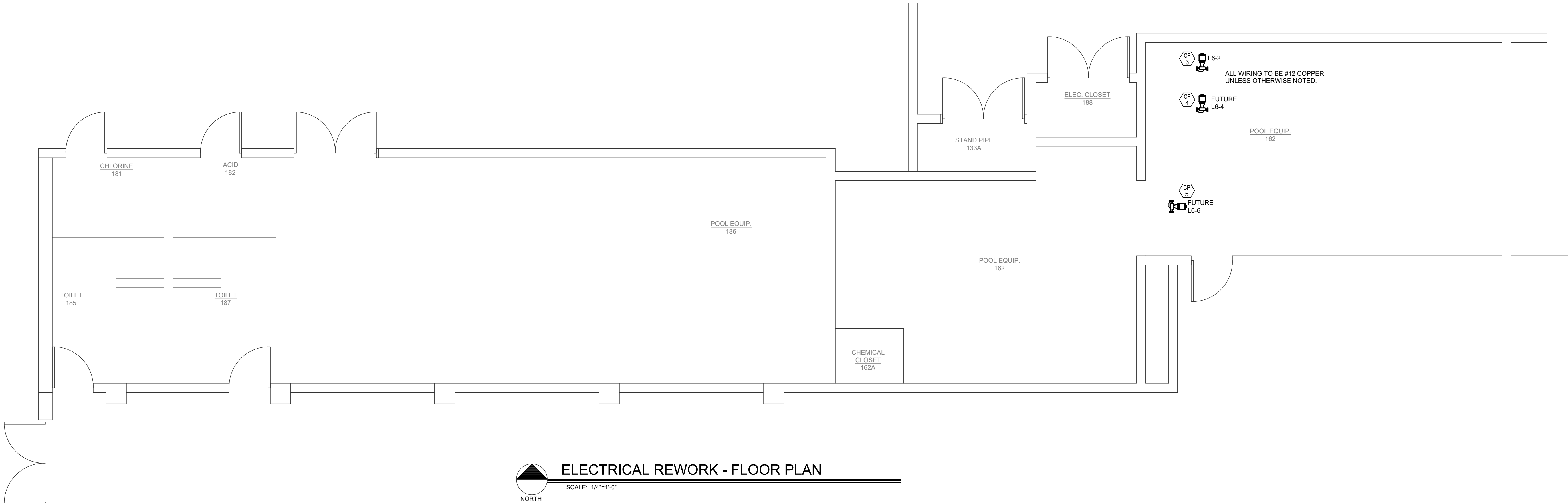
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02/04/2021	PERMIT

DATE:	1/21/2021
JOB NO:	20-210
DRAWN BY:	BCE
CHECKED BY:	BCE
SCALE:	AS SHOWN
SHEET NUMBER:	

E2-1



ELECTRICAL - MEZZANINE FLOOR PLAN
SCALE: 1/4"=1'-0"



ELECTRICAL REWORK - FLOOR PLAN
SCALE: 1/4"=1'-0"

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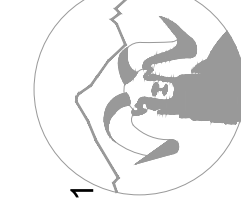
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DELTA, COLORADO

DATE:	ISSUED FOR:
02/04/2021	PERMIT

DATE:	1/21/2021
JOB NO:	20-210
DRAWN BY:	BCE
CHECKED BY:	BCE
SCALE:	AS SHOWN
SHEET NUMBER:	E2-2

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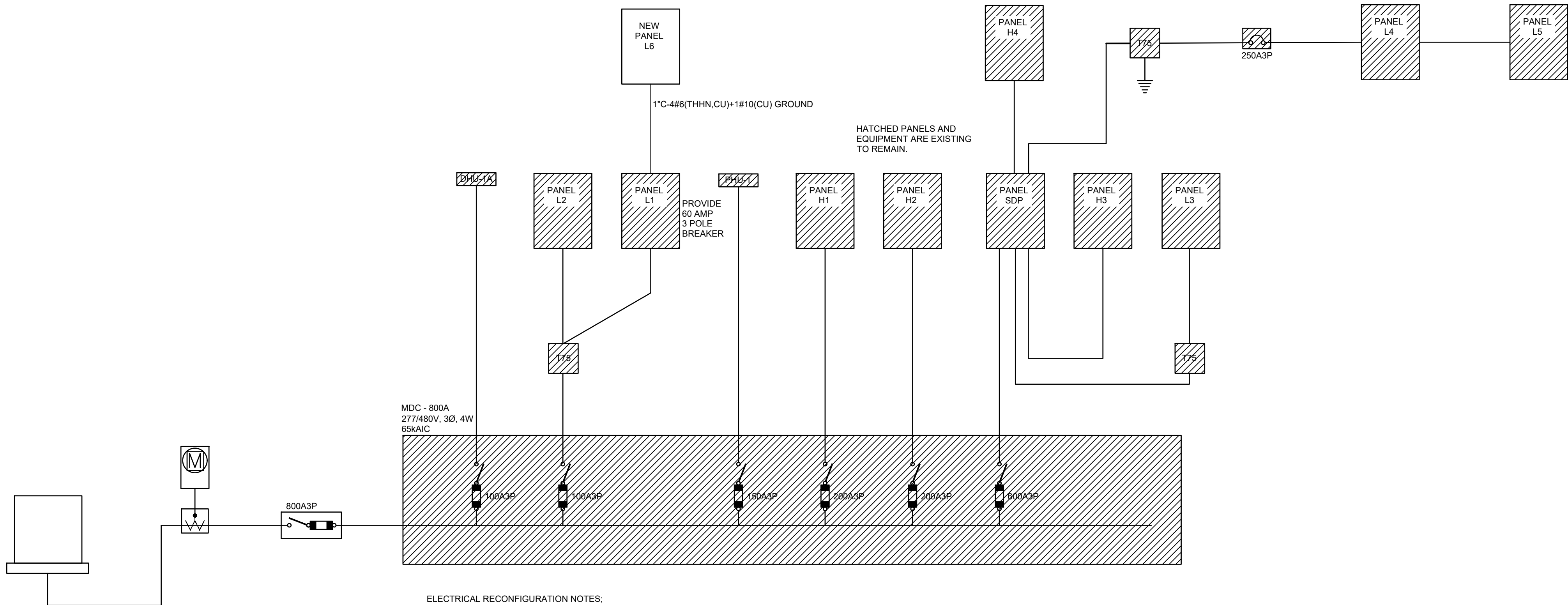
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DELTA REC CENTER POOL BOILER UPGRADE 531 PALMER STREET DELTA, COLORADO

DATE: 02/04/2021
ISSUED FOR: PERMIT

DATE: 1/21/2021
JOB NO: 20-210
DRAWN BY: BCE
CHECKED BY: BCE
SCALE: AS SHOWN
SHEET NUMBER:

E2-2



ELECTRICAL RECONFIGURATION NOTES:
1. EXISTING POWER FOR BOILERS AND ASSOCIATED PUMPS WILL BE REMOVED FROM PANELS L1 & L2. ALL ABANDONED BREAKERS WILL BE RELABELLED AS SPARE. REMOVE UNUSED WIRING FROM THE PANEL.
2. THE ELECTRICAL CONTRACTOR WILL PROVIDE A 60 AMP 3 POLE BREAKER AND INSTALL NEW BREAKER IN PANEL "L1" AT SPACES 33, 35 & 37. THIS BREAKER WILL BE USED TO POWER THE NEW PANEL "L6". IF A LOAD IS ASSOCIATED WITH SPACE #37, IT WILL BE RELOCATED TO OPEN SPACE #22.
3. THE E.C. WILL PROVIDE A 60 AMP THREE PHASE PANEL BOARD (SEE PANEL SCHEDULE) AND INSTALL IN ELECTRICAL ROOM 206; PER NEC 2020 REQUIREMENTS.
4. PANEL "L6" WILL BE USED TO SUPPLY POWER TO THE NEW BOILERS AND ASSOCIATED PUMPS.

PUMP SCHEDULE											
EQUIPMENT NO.	SERVICE	TYPE	LOCATION	GPM	HEAD (FT.)	MOTOR				MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
						HORSEPOWER	RPM	V./PH./HZ.	FLA		
CP-1, 2	HEATING WATER	IN-LINE	MECHANICAL ROOM	65	35	2.175	3450	230/1/60	7.2	TACO-VR30-3	NOTE-1
CP-3	LAP POOL	IN-LINE	MECHANICAL ROOM	38	28	0.75	1760	115/1/60	14	TACO-1615	NOTE-2
CP-4	KIDDIE POOL	IN-LINE	MECHANICAL ROOM	30	32	0.75	1760	115/1/60	14	TACO-1615	NOTE-2
CP-5	HOT TUB	IN-LINE	MECHANICAL ROOM	18	36	0.75	1760	115/1/60	14	TACO-1615	NOTE-2
NOTES: 1. PROVIDE WITH CAST IRON CASING, SS IMPELLER AND SHAFT, FLANGED CONNECTIONS, MODBUS COMMUNICATION, AND ECM MOTOR WITH SELF SENSING TECHNOLOGY. MOTOR HORSEPOWER SHALL BE GREATER THAN NON-OVERLOADING BRAKE HORSEPOWER. 2. PROVIDE WITH STAINLESS STEEL CASING, SHAFT AND IMPELLER, AND FLANGED CONNECTIONS. 5.75" IMPELLER.											

BOILER SCHEDULE										
EQUIPMENT NO.	SERVICE	INPUT CAPACITY (BTU/HR.)	OUTPUT CAPACITY (BTU/HR.)	BOILER VOLUME (GALLONS)	COMBUSTION AIR SIZE (INCHES)	FLUE SIZE (INCHES)	ELECTRICAL		MANUFACTURER & MODEL	OPTIONS/ACCESSORIES
							AMPS	V./PH./HZ.		
BL-1	HEATING WATER	725,000	705,000	5	4"Ø	6"Ø	15	120/1/60	LOCHINVAR - FTX725	NOTE-1
BL-2	HEATING WATER	725,000	705,000	5	4"Ø	6"Ø	15	120/1/60	LOCHINVAR - FTX725	NOTE-1
NOTES: 1. PROVIDE WITH 50 PSI ASME RELIEF VALVE, CSD-1 CONTROLS, CONCENTRIC VENT KIT, VARIABLE SPEED CIRCULATION PUMP, LOW-WATER CUTOFF WITH MANUAL RESET & TEST, OUTDOOR TEMPERATURE RESET, FLOW SWITCH, ADJUSTABLE HIGH LIMIT WITH MANUAL RESET, MODULATING TEMPERATURE CONTROL, CONDENSATE NEUTRALIZING KIT, HIGH ALTITUDE KIT SIZED PER LOCATION ELEVATION, AND BLOWER MOTOR, CON-X-US REMOTE CONNECT, CASCADING SEQUENCER, BACNET COMMUNICATIONS.										

PANEL SCHEDULE - L6									
TYPE: VOLTAGE: ENCLASURE:		PANELBOARD 120/208 VOLTAGE: ENCLASURE: NEMA1		BUS SIZE: MAIN BRKR: MOUNTING:		100 NONE FLUSH		PHASES: 3 WIRES: 4 SC RATING: 10000	
NEUTRAL BUS: YES		GROUND BUS: YES							
LOAD TYPE	LOAD DESCRIPTION	AMPS POLES	CKT# LOAD	Ø	CKT# LOAD	AMPS POLES	LOAD TYPE	LOAD DESCRIPTION	
MOTOR	CP-1 CIRCULATION PUMP HEATING WATER	15A 2P	1 749	A	2 1656	20A 1P	MOTOR	CP-3 CIRC. PUMP LAP POOL	---
MOTOR	---	---	3 749	B	4 1656	20A 1P	MOTOR	CP-4 CIRC. PUMP KIDDIE POOL	---
MOTOR	CP-2 CIRCULATION PUMP HEATING WATER	15A 2P	5 749	C	6 1656	20A 1P	MOTOR	CP-5 CIRC. PUMP HOT TUB	---
MOTOR	---	---	7 749	A	8 1200	20A 1P	MECH HEATING	BL-1 BOILER HEATING WATER	---
MOTOR	BP-1 BOILER CIRCULATION PUMP	15A 1P	9 749	B	10 1200	20A 1P	MECH HEATING	BL-2 BOILER HEATING WATER	---
MOTOR	BP-2 BOILER CIRCULATION PUMP	15A 1P	11 749	C	12 0	20A 1P	SPARE	UNALLOCATED FUTURE	---
SPARE	UNALLOCATED FUTURE	20A 1P	13 0	A	14 0	20A 1P	SPARE	UNALLOCATED FUTURE	---
SPARE	UNALLOCATED FUTURE	20A 1P	15 0	B	16 0	20A 1P	SPARE	UNALLOCATED FUTURE	---
SPARE	UNALLOCATED FUTURE	20A 1P	17 0	C	18 0	20A 1P	SPARE	UNALLOCATED FUTURE	---
SPARE	UNALLOCATED FUTURE	20A 1P	19 0	A	20 0	---	SPACE	---	---
SPARE	UNALLOCATED FUTURE	20A 1P	21 0	B	22 0	---	SPACE	---	---
SPARE	UNALLOCATED FUTURE	20A 1P	23 0	C	24 0	---	SPACE	---	---
LOADS BY TYPE:									
LOAD TYPE	CONNECTED LOAD (VA)	DEMAND FACTOR	DEMAND LOAD (VA)	LOADS BY PHASE:					
LIGHTING	0.00	1.25	0.00	PHASE	CONNECTED LOAD (VA)	CONNECTED LOAD (AMPS)	BALANCE (PERCENT)		
KITCHEN	0.00	0.00	0.00	A	4354.00	36.28	A-B: 100		
PROCESS	0.00	1.00	0.00	B	4354.00	36.28	B-C: 72.4		
RECEPTACLES	0.00	1.00	0.00	C	3154.00	26.28	C-A: 72.4		
MECH HEATING	2400.00	1.00	2400.00	TOTAL/AVERAGE		11862.00	32.95	81.6	
MECH COOLING	0.00	1.00	0.00	NOTES:					
MECH YEAR ROUND	0.00	1.00	0.00	1. THE LARGEST CONNECTED MOTOR LOAD IS INCLUDED IN MECHANICAL, PROCESS, OR MOTOR LOADS.					
APPLIANCE	0.00	1.00	0.00						
MISCELLANEOUS	0.00	1.00	0.00						
MOTOR	9462.00	1.00	14193.00						
SPARE	0.00	1.00	0.00						
LARGEST MOTOR 1	ABOVE	0.25	414.00						
TOTAL	11862.00		12276.00						