GENERAL NOTES - MECHANICAL:

- (1) THE MECHANICAL CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING THE WORK IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES UNDER THIS SECTION OF THE CONTRACT. IF THE CONTRACTOR DETERMINES THAT THE CONTRACT DOCUMENTS AND PLANS ARE NOT IN COMPLIANCE WITH THE APPLICABLE LOCAL CODES, HE/SHE SHALL INFORM THE ARCHITECT PRIOR TO CONSTRUCTION START FOR DIRECTION. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO MEET APPLICABLE LOCAL CODES, AND RE-WORK SHALL BE AT CONTRACTOR'S EXPENSE.
- (2) CONTRACTOR SHALL HANG AND INSTALL ALL DUCTWORK FLUSH WITH THE BUILDING STRUCTURE TO ACCOMMODATE NEW CEILINGS. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WORK WITH ARCHITECTURAL AND ELECTRICAL DESIGN. ALL DUCTWORK SHALL BE MODIFIED AS NECESSARY AND REQUIRED TO FIT AROUND BUILDING STRUCTURES, ARCHITECTURAL BUILD-OUT AND ELECTRICAL CABLE TRAY INSTALLATIONS. MECHANICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK SCOPE OF OTHER TRADES AND PARTICIPATE IN COORDINATING ALL CONSTRUCTION EFFORTS.
- (3) CONNECT EACH DIFFUSER TO THE MAIN DISTRIBUTION DUCTS WITH A FLEX-DUCT SECTION; CONNECTIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE DETAIL. EACH FLEX-DUCT CONNECTION
- SHALL INCLUDE A BUTTERFLY DAMPER TO BE INSTALLED AT THE TRUNK DUCT.

 (4) CONTRACTOR SHALL PROVIDE ALL DUCTWORK REQUIRED TO COMPLETE THE HVAC SYSTEM. TIE IN BRANCH DUCTS TO MAIN DUCTS WITH SHEET METAL FLANGES. FLANGE CONNECTION SHALL BE FASTENED WITH CRIMPED SHEET METAL STRIPS AND SEALED WITH SILICONE CAULK.
- (5) CONTRACTOR SHALL SUPPLY AND INSTALL FIRE DAMPERS AND ACCESS DOORS IN THE HORIZONTAL DUCTS WHERE THEY PENETRATE FIRE WALLS & BARRIERS.
- (6) ALL OPENINGS CUT IN MASONRY AND PLASTER WALLS OR CONCRETE FLOORS SHALL BE CORE DRILLED OR SAWED WHEN POSSIBLE. CONTRACTOR SHALL CHECK BUILDING CONSTRUCTION BEFORE MAKING PENETRATIONS TO AVOID CUTTING THROUGH STRUCTURAL BEAMS AND REINFORCING. CONTRACTOR SHALL INFORM THE ENGINEER IF REINFORCING IS CUT OR DAMAGED WHILE MAKING OPENINGS. CONTRACTOR SHALL REINFORCE ALL OPENINGS AS REQUIRED BY DRAWINGS AND SPECIFICATIONS. PATCH AND SEAL OPENINGS WITH 8000 PSI CEMENT GROUT. INSTALL DECORATIVE TRIM (EQUIPMENT FLANGES, FRAMING OR ESCUTCHEONS) AROUND OPENINGS IN FINISHED AREAS. COORDINATE ALL CUTTING AND PATCHING WITH THE OTHER TRADES
- (7) ON ANY WORK SHOWN ON MECHANICAL DRAWINGS REQUIRING DEMOLITION OF EXISTING OR NEW BUILDING STRUCTURES AND FINISHES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE NECESSARY DEMOLITION. CONTRACTOR SHALL PATCH AND REPAIR ALL DEMOLITION WORK. PATCHING SHALL BE COMPLETED WITH THE SAME MATERIALS AS THE SURROUNDING AREAS, OR WITH ARCHITECT-APPROVED PATCHING MATERIALS. REPAIRS SHALL BE COMPLETED ACCORDING TO ARCHITECTURAL SPECIFICATIONS. ALL REFINISHING SHALL BE APPROVED BY THE ARCHITECT.
- (8) CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE INSTALLATION OF THE AIR DISTRIBUTION SYSTEM SHOWN. DUCTWORK, DUCT ACCESSORIES AND CONTROLS SHOWN AND REQUIRED SHALL BE SUPPLIED AND INSTALLED. ALL INSTALLATION WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES, INCLUDING NFFA 90A AND 90B. (NFPA 90A: STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS) (NFPA 90B: STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS)
- (9) CONTRACTOR SHALL BALANCE ALL AIR DISTRIBUTION SYSTEMS TO ACHIEVE THE AIR VOLUME REQUIREMENTS INDICATED. BALANCING SHALL INCLUDE ADJUSTMENT OF ALL MANUAL VOLUME DAMPERS, SHUTTER DAMPERS, ZONE DAMPERS (IF REQUIRED), BUTTERFLY DAMPERS AND INDIVIDUAL DIFFUSER VOLUME DAMPERS (FINAL BALANCING ONLY). CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A COMPLETE BALANCING REPORT WHICH INCLUDES, VOLUME, ROOM REFERENCE AND ZONE VOLUME TOTALS.

 (10) MOUNT ALL THERMOSTATS (SENSORS) 48" ABOVE THE FINISHED FLOOR LEVEL. THERMOSTATS SHOWN SHALL BE IN CONTROL OF THE ZONE SYSTEM WHICH IS SUPPLYING AIR TO THE AREA WHERE THE THERMOSTAT IS LOCATED. CONTRACTOR SHALL SUPPLY AND INSTALL ALL CONTROL VOLTAGE WIRING AND CONDUIT FOR THERMOSTAT (DDC CONTROL) INSTALLATION.
- (11) CONTRACTOR SHALL INSTALL NEW REFRIGERANT PIPING FLUSH WITH THE BUILDING STRUCTURE AND MECHANICAL ROOM BOUNDARIES AS SHOWN. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WORK WITH DUCTS AND ELECTRICAL CONDUIT. MECHANICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK SCOPE OF OTHER TRADES AND PARTICIPATE IN COORDINATING ALL CONSTRUCTION EFFORTS.
- (12) ALL PIPING SHALL BE INSULATED AND JACKETED. REFER TO THE SPECIFICATIONS. THE CONDENSING AND ROOF TOP CONDENSER COILS ARE TO BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.
 (13) PROVIDE SMOKE DETECTOR AND SHUTDOWN CONTROLS ON AIR HANDLERS AND SUPPLY FANS.
- SMOKE DETECTORS SHALL BE PROVIDED BY ELECTRICAL AND INSTALLED BY MECHANICAL. COORDINATE TO PROVIDE A COMPLETE SYSTEM. PROVIDE BOTH SUPPLY AND RETURN SIDE DEVICES.

 (14) ALC CONTROLLERS IN NEMA 4 ENCLOSURE WIRED STOP/ START AND BUILDING SUPPLY AND RETURN TEMPERATURE SENSORS.

(15) FILTER INSTALLATION AND REPLACEMENT

- A. INSTALL CONSTRUCTION RETURN FILTER AT EACH RETURN GRILLE BEFORE OPERATING PERMANENT AIR HANDLERS DURING CONSTRUCTION.

 B.REPLACE FILTERS AFTER COMPLETING CONSTRUCTION AND BEFORE CONDUCTING BUILDING FLUSH-OUT.
- B.REPLACE FILTERS AFTER COMPLETING CONSTRUCTION AND BEFORE CONDUCTING BUILDING FLUSH-OUT.

 1.REPLACE CONSTRUCTION RETURN FILTERS WITH FLUSH-OUT RETURN FILTERS.

 2.REPLACE SUPPLY FILTERS.

MEC	CHANICAL SYMBOL LEGEND	MECHANICAL ABBREVIATIONS					
	TAG — A 325(2) — QUANTITY SECK SIZE — 10"Ø(D) — OPPOSED BLACE DAMPER	A/C AD AFF AHU APPROX ARCH	AIR CONDITIONED ACCESS DOOR ABOVE FINISHED FLOOR AIR HANDLING UNIT APPROXIMATE ARCHITECTURAL	MAX MBD MD MECH MIN MS	MAXIMUM MANUAL BALANCING DAMPER MOTORIZED DAMPER MECHANICAL MINIMUM MOTOR STARTER		
CONICAL DUCT	FLEXIBLE DUCT ROUND SHEET-METAL DUCT BALANCING DAMPER	BDD BHP BTU CFM CH CHP	BACK DRAFT DAMPER BRAKE HORSEPOWER BRITISH THERMAL UNIT CUBIC FEET PER MINUTE CHILLER CHILLED WATER PUMP	NA NC NIC NO NTS	NOT APPLICABLE NORMALLY CLOSED NOT IN CONTRACT NORMALLY OPEN NOT TO SCALE OUTSIDE AIR		
B2 MH107	———— DETAIL NUMBER ————————————————————————————————————	CLG CWP CO CT CU CW	CEILING CONDENSER WATER PUMP CLEANOUT COOLING TOWER CONDENSING UNIT COLD WATER CENTER LINE	OAH OBD OC P PBD	OUTSIDE AIR INTAKE HOOD OPPOSED BLADE DAMPER ON CENTER PUMP PARALLEL BLADE DAMPER		
	PERFORATED INNER METAL LINER, WHERE INDICATED (DOUBLE WALL)	DB DIA DN DWG	DRY BULB DIAMETER DOWN DRAWING	PP PRESS PRV PSIG	PRIMARY CHILLED WATER PUMP PRESSURE PRESSURE REDUCING VALVE POUNDS PER SQUARE INCH (GAUGE)		
	— HIDDEN DUCT (FOR CLARITY) SUPPLY AIR GRILLE	DX EAT EDH EF ELEC	DIRECT EXPANSION ENTERING AIR TEMPERATURE ELECTRIC DUCT HEATER EXHAUST FAN ELECTRICAL	R RA RE: 4M7.01 RET RH	RETURN (AIR DEVICE) RETURN AIR REFER TO DETAIL 4, SHEET M7.01 RETURN RELATIVE HUMIDITY		
E -	SUPPLY AIR GRILLE-SLOT DIFFUSER	ELEV F FC	ELEVATION DEGREES FAHRENHEIT FAN COIL	RHD RPM RTU	RELATIVE HUMIDITY RELIEF HOOD REVOLUTIONS PER MINUTE ROOF TOP UNIT		
	RETURN AIR GRILLE ALL RETURN AIR DUCT DROPS TO INCLUDE A MANUAL DAMPER	FD FLEX FLG FLR	FIRE DAMPER W/ DUCT ACCESS DOOR FLEXIBLE FLANGE FLOOR	S SA SCH SCHP	SUPPLY (AIR DEVICE) SUPPLY AIR SCHEDULE SECONDARY CHILLED WATER PUMP		
	THERMOSTAT TEMPERATURE SENSOR TEMPERATURE OVERRIDE SENSOR/SWITCH	FPM FT FS	FEET PER MINUTE FEET, FOOT FLOW SWITCH	SD SEC SF	SMOKE DAMPER SECOND SUPPLY FAN		
FD FSD	FIRE DAMPER W/ ACCESSIBLE DUCT ACCESS DOOR FIRE/SMOKE DAMPER W/ ACCESSIBLE DUCT ACCESS DOOR	GAL GALV GPM	GALLON GALVANIZED GALLONS PER MINUTE	SMACNA SP	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION STATIC PRESSURE		
⇒ı	FLOW DIRECTION	HB HP HR	HOSE BIBB HORSEPOWER HEAT PUMP (WATER SOURCE)	SPEC SF STD	SPECIFICATION SQUARE FOOT STANDARD		
C+	PIPE DROP	HR HVAC	HOUR HEATING/VENTILATING/ AIR CONDITIONING	TEMP T'STAT TYP	TEMPERATURE THERMOSTAT TYPICAL		
0+	PIPE RISE	HWP HZ ID	HOT WATER PUMP HERTZ INSIDE DIAMETER	UF UH	UNDER FLOOR UNIT HEATER		
	RETURN AIR DUCT RISE/DROP	IE IN	INVERT ELEVATION (FLOW LINE) INCHES INSULATION	UL VEL VENT	UNDERWRITERS LABORATORIES VELOCITY VENTILATE		
	SUPPLY AIR DUCT RISE/DROP	INSUL IN WG KW	INCHES OF WATER KILOWATT(S)	VENT VF VOL VOLT	VENTILATE VENTILATION FAN VOLUME VOLTAGE		
	WALL OR FLOOR SLEEVE CHILLED WATER SUPPLY/RETURN PIPING	LAT LB	LEAVING AIR TEMPERATURE	W W/	WIDE, WIDTH WITH		
CHWR CHWR	CHILLES TO MERCOOL ELIPTETORIST II INCO	L	LOUVER	WB W/O	WET BULB WITHOUT		



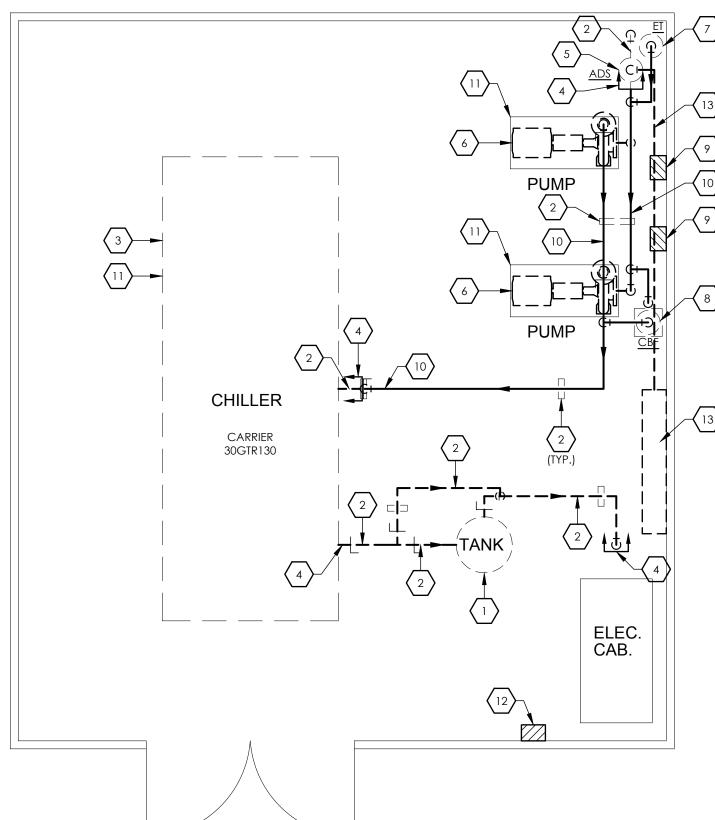
SEQUENCE OF OPERATION: CHILLED WATER SYSTEMS

A. CHILLED WATER SYSTEMS SHALL BE ENABLED TO OPERATE WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 65°F, OR WHEN ONE UNIT REQUIRING CHILLED WATER IS INDICATED TO BE OPERATIONAL,

OR AS REQUIRED TO MAINTAIN SPACE HUMIDITY PARAMETERS. C. WHEN THE CHILLER CONTROL PANEL IS ENABLED, THE BAS SHALL OPEN THE CHILLER ISOLATION VALVES. AFTER A USER ADJUSTABLE DELAY, THE PRIMARY CHILLED WATER PUMP SHALL START. AFTER PROOF OF PRIMARY CHILLED WATER FLOW, THE CHILLER WILL START. THE BAS SHALL MONITOR AND DISPLAY PUMP COMMAND AND STATUS. THE BAS WILL GENERATE AN ALARM IF THE PUMP FAILS TO RUN OR IF THE CHILLER CONTROLS INDICATE AN ALARM, CHILLER ISOLATION VALVES WILL CLOSE UPON CHILLER SHUT-DOWN AFTER A USER ADJUSTABLE DELAY. ALL CHILLER ISOLATION VALVE DELAY TIMES SHALL BE SET APPROPRIATELY TO ALLOW FOR ORDERLY CHILLED WATER SYSTEM START-UP, SHUTDOWN AND SEQUENCING.

E. FOR AIR COOLED CHILLERS, EACH OF THE PRIMARY CHILLED WATER PUMPS, AND ASSOCIATED

AIR COOLED CHILLER SHALL BE STARTED BY THE BAS ON A LEAD/ LAG BASIS. THE DISCHARGE WATER TEMPERATURE FROM THE CHILLERS SHALL BE CONTROLLED BY THE CHILLER CONTROLS. THE BAS SHALL SEND A CHILLED WATER SUPPLY TEMPERATURE SETPOINT COMMAND TO THE CHILLER CONTROL PANEL(S). THE SETPOINT SHALL BE CAPABLE OF BEING RESET FROM 42°F CHS TEMPERATURE, AT 85°F OAT, TO 50°F CHS, AT 60°F OAT. THE INITIAL SETPOINT FOR THE CHILLED WATER SUPPLY TEMPERATURE SHALL BE 44°F. THE BAS WILL GENERATE AN ALARM IF THE CHILLED WATER SUPPLY TEMPERATURE INCREASES ABOVE THE INDICATED HIGH



GENERAL DEMOLITION NOTES

- A. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE WILL BE REQUIRED TO PROPERLY BID THE DEMOLITION WORK.
- B. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL AND/OR RELOCATION OF HVAC FIXTURES AND EQUIPMENTS AND ASSOCIATED SERVICES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE ARCHITECTURAL DOCUMENTS IN ADDITION TO THE DIVISION 15 AND 16 DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK.
- WHERE EQUIPMENT IS INDICATED OR REQUIRED TO BE REMOVED, THE ASSOCIATED SERVICES SHALL BE CAPPED AT A CONCEALED LOCATION.
- WHERE SERVICES RUN ABOVE INACCESSIBLE CEILINGS OR IN WALLS WHICH ARE TO REMAIN UNDISTURBED, SERVICES SHALL BE CAPPED AT CONCEALED LOCATION AND ABANDONED
- Where the removal of equipment renders equipment downstream inoperable, Services shall BE EXTENDED TO THE DOWNSTREAM EQUIPMENT SO THAT THE FIXTURES ARE LEFT IN OPERATING
- G. COORDINATE DEMOLITION OF DIVISION 15 SYSTEMS AS REQUIRED WITH ALL OTHER TRADES.
- H. ALL EXISTING H.V.A.C. AND EQUIPMENT REMOVED DURING CONSTRUCTION THAT ARE NOT TO BE REUSED SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY
- WHERE EXISTING EQUIPMENT IS TO BE RELOCATED, BE CAUTIOUS TO PREVENT DAMAGE DURING THE REMOVAL AND REINSTALLATION. WHERE DAMAGE OCCURS, THE EQUIPMENT SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION AND APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE
- EXISTING EQUIPMENT TO BE REUSED SHALL BE CLEANED AND REPAIRED AT THE DISCRETION OF THE ARCHITECT WHERE APPLICABLE.
- K. ALL DEVICES ATTACHED TO WALLS OR CEILINGS SHALL BE REMOVED PER DEMOLITION NOTE A L WHETHER SHOWN ON DRAWINGS OR NOT.

KEYED NOTES: MECHANICAL DEMOLITION

- $_1$ \rangle existing buffer tank to be removed and returned to owner. To be REPLACED WITH NEW TANK.
- $_2$ angle existing chilled water lines, insulation, and aluminum jacket to be REMOVED. ALL EXISTING PIPE STANDS TO BE REMOVED AND REPLACED WITH NEW. FIELD VERIFY HEIGHT AND QUANTITY.
- 3 CHILLER TO BE REMOVED AND RETURNED TO OWNER (IF OWNER SO DESIRES).
- \langle 4 \rangle CHILLED WATER LINES TO BE REMOVED UP TO THIS POINT.....
- $\overbrace{\hspace{0.1cm}5\hspace{0.1cm}}$ existing air-dirt separator to be removed and returned to owner. To
- 6 EXISTING PRIMARY PUMPS TO BE REMOVED AND RETURNED TO OWNER (IF OWNER SO DESIRES) AS WELL AS ALL ASSOCIATED ACCESSORIES.
- 7 \rangle EXISTING EXPANSION TANK TO BE REMOVED AND RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 8 EXISTING CHEMICAL BYPASS POT FEEDER TO BE REMOVED AND RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 9 EXISTING MOTOR STARTERS TO BE RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 10 Existing Chilled water line and associated accessories to remain.
- $\langle 11 \rangle$ CONCRETE PADS TO REMAIN.
- EXISTING HVAC CONTROLS ENCLOSURE TO BE REMOVED AND RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 13 \rangle REMOVE ALL EXISTING MAKE-UP WATER SYSTEM AND DISPOSE OF. TO BE REPLACED WITH NEW.

HVAC CONTROLS GENERAL NOTES:

- (1) PROVIDE WITH NEW HVAC CONTROLS ENCLOSURE TO COMFORTABLY FIT EXISTING CONTROLLERS IN. FIELD VERIFY SIZE (APPROXIMATE 30"X30"X4" NEMA 4-ENCLOSURE)
- (2) DISCONNECT OLD EQUIPMENT AND RECONNECT TO NEW. GENERAL CONTRACTOR TO COORDINATE TYPE OF INTERFACE REQUIRED FOR EACH PIECE OF EQUIPMENT. REPLACE EXISTING WIRE AND SENSOR WITH NEW EQUIPMENT.
- (3) VFD SPEED IS TO BE USED FOR BALANCING PURPOSES. TO BE ON/ OFF OPERATION (AS PER EXISTING) WITH ADDITION OF SOFT START.
- (4) BACNET COMMUNICATION TO/FROM CHILLER NEEDS TO BE IMPLEMENTED TO <u>READ</u> ALARMS, DIAGNOSTICS & STATUS FOR ALL INTERNAL CONDITIONS. PROVIDE ADDITIONAL HARDWARE/WIRING TO ADD THIS FUNCTIONALITY. UPDATE GRAPHICS TO INCLUDE BACNET POINTS RUN EXISTING SEQUENCE OF OPERATIONS.

KEYED NOTES: MECHANICAL

- \langle $_1$ \rangle new pumps reference schedules. Mount to existing pad.
- $\langle 2 \rangle$ NEW EXPANSION TANK, REFERENCE SCHEDULES.
- PIPE DROP INTO SUCTION GUIDE OF PUMP, PROVIDE W/ ALL GAUGES AND SENSOR PORTS AS SHOWN ON DETAIL 06.

4 NEW BUFFER TANK, REFERENCE SCHEDULES. PROVIDE WITH NEW CONCRETE PAD.

- 5 NEW AIR-DIRT SEPARATOR, REFERENCE SCHEDULES.
- 6 NEW CHEMICAL BYPASS POT FEEDER, REFERENCE SCHEDULES.
- 7 PROVIDE WITH NEW CHILLED WATER PIPING, INSULATION, AND PIPE JACKETING TO MATCH EXISTING. TIE INTO EXISTING PIPING/ EXISTING CHILLER. 8 PROVIDE WITH NEW CHILLED WATER PIPE SUPPORTS WHERE INDICATED, TO MATCH EXISTING.
- 9 PLACE NEW CHILLER ON EXISTING CONCRETE PAD.
- CHILLED WATER SUPPLY/RETURN LINES TO DROP FROM OVERHEAD HEIGHT DOWN INTO CHILLER'S CHILLED WATER SERVICE INLET/OUTLET.
- $\langle 11 \rangle$ NEW CHILLED WATER PIPING UP TO THIS EXTENT. 12 TIE NEW PIPING INTO EXISTING PIPING.
- 13 PROVIDE NEW VFD, REFER TO VFD SCHEDULES.
- NEW HVAC CONTROLS ENCLOSURE. COORDINATE WITH HVAC CONTROLS VENDOR FOR REQUIRED SIZE, TO BE NEMA 4.
- $\langle 15 \rangle$ provide with new make-up water system with new water meter and BACKFLOW PREVENTER. TIE INTO AIR-DIRT SEPERATOR.

GYM MECHANICAL YARD REMODEL PLAN SCALE: 1/4"=1'-0"



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GYM MECHANICAL YARD DEMOLITION PLAN SCALE: 1/4"=1'-0"

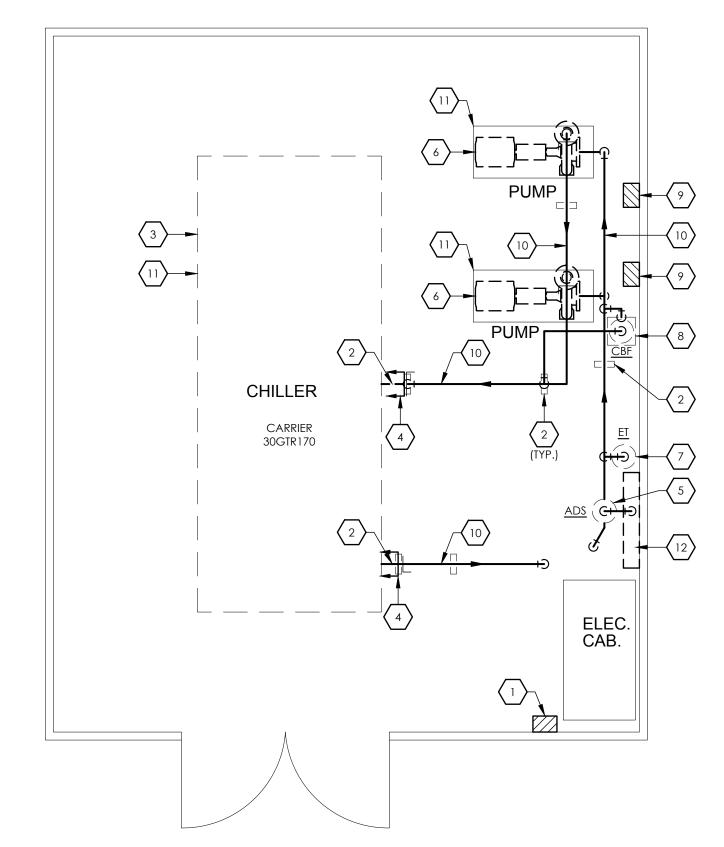
C. WHEN THE CHILLER CONTROL PANEL IS ENABLED, AND AFTER A USER ADJUSTABLE DELAY, THE PRIMARY CHILLED WATER PUMP SHALL START. AFTER PROOF OF PRIMARY CHILLED WATER FLOW, THE CHILLER WILL START. THE BAS SHALL MONITOR AND DISPLAY PUMP COMMAND AND STATUS. THE BAS WILL GENERATE AN ALARM IF THE PUMP FAILS TO RUN OR IF THE CHILLER CONTROLS INDICATE AN ALARM. CHILLER ISOLATION VALVE DELAY TIMES SHALL BE SET APPROPRIATELY TO

ALLOW FOR ORDERLY CHILLED WATER SYSTEM STARTUP, SHUTDOWN AND SEQUENCING.

E. FOR AIR COOLED CHILLERS, EACH OF THE PRIMARY CHILLED WATER PUMPS, AND ASSOCIATED

AIR COOLED CHILLER SHALL BE STARTED BY THE BAS ON A LEAD/ LAG BASIS.

F. THE DISCHARGE WATER TEMPERATURE FROM THE CHILLERS SHALL BE CONTROLLED BY THE CHILLER CONTROLS. THE BAS SHALL SEND A CHILLED WATER SUPPLY TEMPERATURE SETPOINT COMMAND TO THE CHILLER CONTROL PANEL(S). THE SETPOINT SHALL BE CAPABLE OF BEING RESET FROM 42°F CHS TEMPERATURE, AT 85°F OAT, TO 50°F CHS, AT 60°F OAT. THE INITIAL SETPOINT MAY BE BASED ON BUILDING LOAD/ DEMAND. THE BAS WILL GENERATE AN ALARM IF THE CHILLED WATER SUPPLY TEMPERATURE INCREASES ABOVE THE INDICATED HIGH LIMIT.



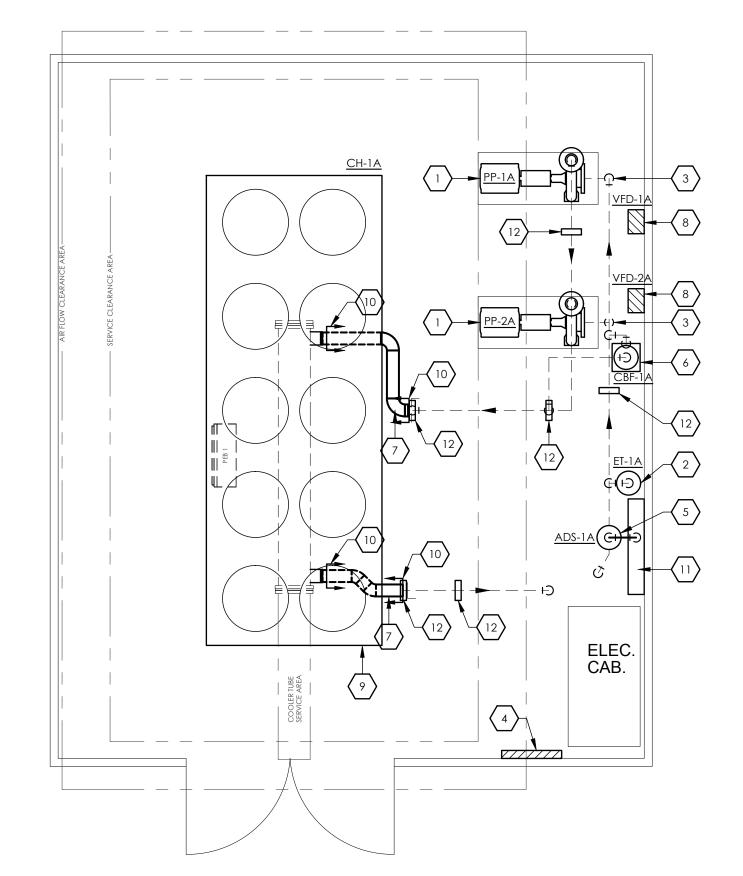
GENERAL DEMOLITION NOTES

CAPPED AT A CONCEALED LOCATION.

- A. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE WILL BE REQUIRED TO PROPERLY BID THE DEMOLITION WORK.
- B. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL AND/OR RELOCATION OF HVAC FIXTURES AND EQUIPMENTS AND ASSOCIATED SERVICES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- C. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE ARCHITECTURAL DOCUMENTS IN ADDITION TO THE DIVISION 15 AND 16 DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK.
 D. WHERE EQUIPMENT IS INDICATED OR REQUIRED TO BE REMOVED, THE ASSOCIATED SERVICES SHALL BE
- E. WHERE SERVICES RUN ABOVE INACCESSIBLE CEILINGS OR IN WALLS WHICH ARE TO REMAIN UNDISTURBED, SERVICES SHALL BE CAPPED AT CONCEALED LOCATION AND ABANDONED
- F. WHERE THE REMOVAL OF EQUIPMENT RENDERS EQUIPMENT DOWNSTREAM INOPERABLE, SERVICES SHALL BE EXTENDED TO THE DOWNSTREAM EQUIPMENT SO THAT THE FIXTURES ARE LEFT IN OPERATING
- G. COORDINATE DEMOLITION OF DIVISION 15 SYSTEMS AS REQUIRED WITH ALL OTHER TRADES.
- H. ALL EXISTING H.V.A.C. AND EQUIPMENT REMOVED DURING CONSTRUCTION THAT ARE NOT TO BE REUSED SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
- I. WHERE EXISTING EQUIPMENT IS TO BE RELOCATED, BE CAUTIOUS TO PREVENT DAMAGE DURING THE REMOVAL AND REINSTALLATION. WHERE DAMAGE OCCURS, THE EQUIPMENT SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION AND APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
- J. EXISTING EQUIPMENT TO BE REUSED SHALL BE CLEANED AND REPAIRED AT THE DISCRETION OF THE ARCHITECT WHERE APPLICABLE.
- K. ALL DEVICES ATTACHED TO WALLS OR CEILINGS SHALL BE REMOVED PER DEMOLITION NOTE A L WHETHER SHOWN ON DRAWINGS OR NOT.

KEYED NOTES: MECHANICAL DEMOLITION

- EXISTING HVAC CONTROLS ENCLOSURE TO BE REMOVED AND RETURNED TO
- 2 EXISTING CHILLED WATER LINES, INSULATION, AND ALUMINUM JACKET TO BE REMOVED. ALL EXISTING PIPE STANDS TO BE REMOVED AND REPLACED WITH NEW. FIELD VERIFY HEIGHT AND QUANTITY.
- 3 CHILLER TO BE REMOVED AND RETURNED TO OWNER (IF OWNER SO DESIRES).
- CHILLED WATER LINES TO BE REMOVED UP TO THIS POINT.....
- 5 EXISTING AIR-DIRT SEPARATOR TO BE REMOVED AND RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 6 EXISTING PRIMARY PUMPS TO BE REMOVED AND RETURNED TO OWNER (IF OWNER SO DESIRES) AS WELL AS ALL ASSOCIATED ACCESSORIES.
- 7 EXISTING EXPANSION TANK TO BE REMOVED AND RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 8 EXISTING CHEMICAL BYPASS POT FEEDER TO BE REMOVED AND RETURNED TO OWNER. TO BE REPLACED WITH NEW.
- 9 EXISTING MOTOR STARTERS TO BE RETURNED TO OWNER. TO BE REPLACED WITH
- $\left\langle 10 \right\rangle$ EXISTING CHILLED WATER LINE AND ASSOCIATED ACCESSORIES TO REMAIN.
- $\left\langle 11\right\rangle$ CONCRETE PADS TO REMAIN.
- REMOVE ALL EXISTING MAKE-UP WATER SYSTEM AND DISPOSE OF. TO BE REPLACED WITH NEW.



HVAC CONTROLS GENERAL NOTES:

- (1) PROVIDE WITH NEW HVAC CONTROLS ENCLOSURE TO COMFORTABLY FIT EXISTING CONTROLLERS IN. FIELD VERIFY SIZE (APPROXIMATE 30"X30"X4" NEMA 4-ENCLOSURE)
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- (3) VFD SPEED IS TO BE USED FOR BALANCING PURPOSES. TO BE ON/ OFF OPERATION (AS PER EXISTING) WITH ADDITION OF SOFT START.
- (4) BACNET COMMUNICATION TO/FROM CHILLER NEEDS TO BE IMPLEMENTED TO <u>READ</u> ALARMS, DIAGNOSTICS & STATUS FOR ALL INTERNAL CONDITIONS. PROVIDE ADDITIONAL HARDWARE/WIRING TO ADD THIS FUNCTIONALITY. UPDATE GRAPHICS TO INCLUDE BACNET POINTS RUN EXISTING SEQUENCE OF OPERATIONS.

KEYED NOTES: MECHANICAL

1) NEW PUMPS REFERENCE SCHEDULES. MOUNT TO EXISTING PAD.

2 NEW EXPANSION TANK, REFERENCE SCHEDULES.

PIPE DROP INTO SUCTION GUIDE OF PUMP. PROVIDE W/ ALL GAUGES AND SENSOR PORTS AS SHOWN ON DETAIL 06.

4 NEW HVAC CONTROLS ENCLOSURE. COORDINATE WITH HVAC CONTROLS VENDOR FOR REQUIRED SIZE, TO BE NEMA 4.

5 NEW AIR-DIRT SEPARATOR, REFERENCE SCHEDULES.

6 NEW CHEMICAL BYPASS POT FEEDER, REFERENCE SCHEDULES.

7 TIE NEW PIPING INTO EXISTING PIPING.

8 PROVIDE NEW VFD, REFER TO VFD SCHEDULES.

9 PLACE NEW CHILLER ON EXISTING CONCRETE PAD.

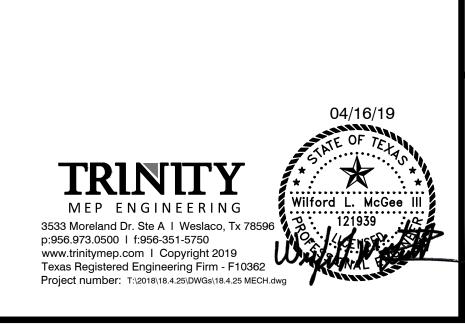
 $\overline{10}$ NEW CHILLED WATER PIPING UP TO THIS EXTENT.

PROVIDE WITH NEW MAKE-UP WATER SYSTEM WITH NEW WATER METER AND BACKFLOW PREVENTER. TIE INTO AIR-DIRT SEPERATOR.

PROVIDE WITH NEW CHILLED WATER PIPE SUPPORTS WHERE INDICATED, TO MATCH EXISTING.

COSMETOLOGY MECHANICAL YARD DEMOLITION PLAN SCALE: 1/4"=1'-0"

2 COSMETOLOGY MECHANICAL YARD REMODEL PLAN SCALE: 1/4"=1'-0"



PROJECT #: 18.4.25

CHECKED BY: WM,LM

DATE: 04/16/19

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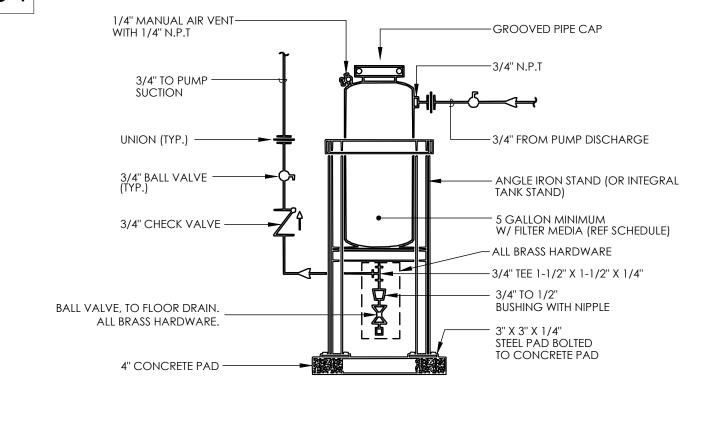
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REVISION:



CHILLED WATER SYSTEM MAKE UP WATER

FULL SIZE PIPE TO FLOOR DRAIN

PRESSURE REDUCING VALVE SET AT 35 PSIG

1-1" QUICK FILE BYPASS

1-4" MAKE-UP WATER LINEC

FROM REDUCED PRESSURE

BACKFLOW PREVENTER (RE: PLUMBING DRAWINGS)

NOTE: REMOVE EXISTING
MAKE-UP WATER SETUP AND

PROVIDE NEW AS DETAILED

ABOVE. ALL PIPING TO BE

TYPE 'L' COPPER.

ALL BRASS HARDWARE

 \bigcirc

VALVE SET AT 40 PSIG

TO AIR DIRT SEPARATOR -

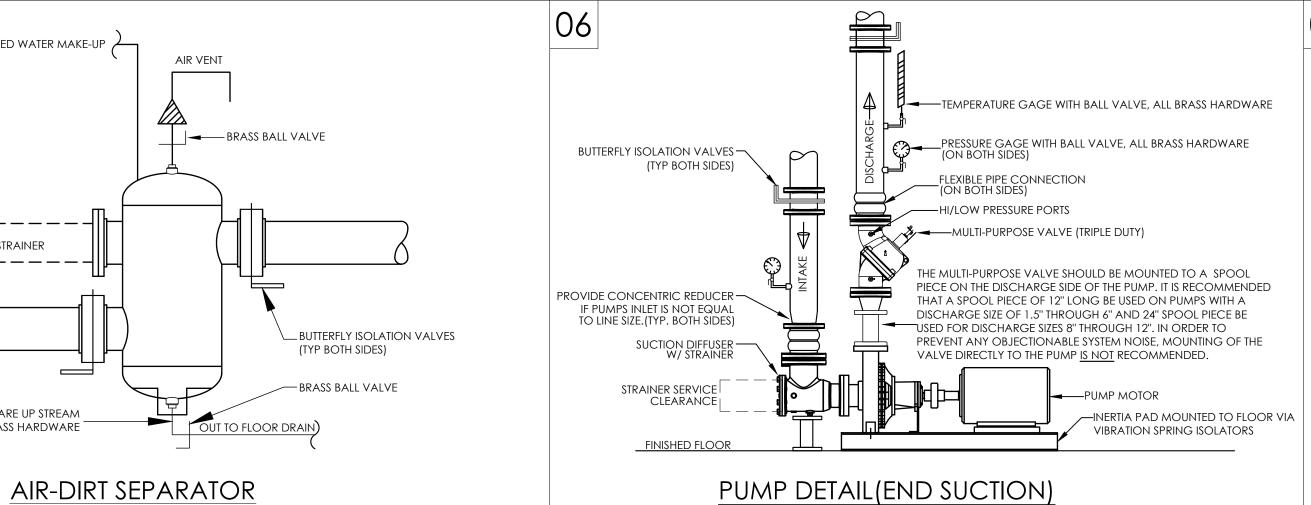
05. INSULATE TANK AS PER CHILLED WATER PIPING INSULATIONS SPECIFICATION

ALL BRASS HARDWARE

PRESSURE GAUGE

ALL BRASS HARDWARE

CHEMICAL BYPASS FEEDER



PIPE SUPPORT

NOTE: MECHANICAL CONTRACTOR TO COORDINATE WITH HVAC CONTROLS

CONTRACTOR TO PROVIDE ALL CHILLER

WATER PORTS REQUIRED FOR CONTROL

ADDITIONALLY BACNET COMMUNICATION

IMPLEMENTED TO <u>READ</u> ALARMS, DIAGNOSTICS & STATUS FOR ALL INTERNAL CONDITIONS. PROVIDE ADDITIONAL HARDWARE/WIRING TO ADD THIS

SENSORS TO MATCH EXISTING.

TO/FROM CHILLER NEEDS TO BE

FUNCTIONALITY.

CHILLED WATER LINE AT CHILLERS

CHILLED WATER MAKE-UP

STRAINER

ALL PIPES AND HARDWARE UP STREAM

OF VALVE TO BE ALL BRASS HARDWARE

3-WAY CONTROL VALVE (BY OTHERS) PT TEST PORT-SHUT-OFF VALVE -AUTOMATIC FLOW LIMITER -SHUT-OFF VALVE ¬ HOSE END DRAIN VALVE w/CAP & STRAP INTEGRAL STRAINER -HYDRONIC COIL CONNECTION (3-WAY) AUTOMATIC BALANCING

BRASS BALL VALVE LIFTING RING PRESSURE GAGE _ ALL BRASS HARDWARE 3/4" FROM SUCTION — CHARGING VALVE SIDE OF PUMP BLADDER TYPE EXPANSION TANK, — SEE SCHEDULES FOR SIZES PROVIDE OPENING IN THE MOUNTING RING TO ALLOW ACCESS FOR THE DRAIN VALVE ALL PIPES AND HARDWARE UP STREAM 3/4" BALL VALVE ALL BRASS HARDWARE OF VALVE TO BE ALL BRASS. 3/4" DRAIN LINE, ROUTE TO FLOOR DRAIN EXPANSION TANK DETAIL

									7.010/////	O B/ (L/ (INOIINO									
AIR-COOLED CHILLER SCHEDULE PUMPS SCHEDULE				VFD SCHEDULE			POT FEEDER SCHEDULE		ULE	AIR/DIRT SEPARATOR			BUFFER TANK		EXPANSION TANK				
TAG	CH-1A (Cosmetology)	CH-1C (Gymnasium)) TAG P	PP-1A,2A	PP-1C,2C	SERVES	PP-1A,2A	PP-1C,2C	TAG	CBF-1A	CBF-1C	TAG AD	-1A ADS	i-1C TA	AG	BT-1	TAG	ET-1A	ET-1C
TYPE	SCROLL	SCROLL	LOCATION ME	ECH YARD	MECH YARD	QUANTITY	2	2	TYPE	CHEM BYPASS	CHEM BYPASS	DESCRIPTION AIR &	OIRT SEP AIR & D	OIRT SEP	TYPE	BAFFLED	TYPE	BLADDER	BLADDER
PHYSICAL PARAMETERS			SERVICE CH-	-1A(Cosmo)	CH-1C(Gym)	DETAILS AND ACCESSORIES			TANK VOLUME (GAL)	5	5	MAX. PRESS DROP (FT HEAD)	.5 3	.5	TANK VOLUME (GAL)	150	TANK VOLUME (GAL)	57	57
NOMINAL CAPACITY (TONS)	160	130	TYPE END	D SUCTION	END SUCTION	HP	10	7.5	CONSTRUCTION MATERIAL	. CARBON STEEL	CARBON STEEL	MAX FLOW (GPM)	20 24	40	DIMENSIONS	30"x60"	DIMENSIONS	20"X64"	20"X64"
CAPACITY AT DESIGN CONDITIONS (TONS)	144.6	120.4	PUMP DETAILS AND ACCESSORIES			INPUT VOLTAGE	480/3	480/3	SUSPENDED/FLOOR MOUNTED	FLOOR MOUNTED	FLOOR MOUNTED	ASME DESIGN WORKING PRESS 125	PSIG 125	PSIG	ASME PRESSURE RATING (PSI)	125	ACCEPTANCE VOLUME (GAL)	57	57
ENTERING WATER TEMP (DEG F)	56	56	FLOW (GPM)	290	240	MOUNTING SURFACE	WALL	WALL	ASME PRESSURE RATING (PSI)	200	200	INLET/OUTLET SIZE 4	/4" 4".	/4"	MAX OPERATING PRES. (PSI)	150	ASME PRESSURE RATING (PSI)	125	125
LEAVING WATER TEMP (DEG F)	44	44	DESIGN HEAD (FT.)	90	65	ENCLOSURE	NEMA 4X	NEMA 4X	MAX DRY WEIGHT (LBS)	50	50				INLET/OUTLET	4"/4"	MAX OPERATING PRES. (PSI)	125	125
FOULING FACTOR	0.0001	0.0001	PUMP EFF. (%)	71%	77%	DDC SYSTEM INTERFACE	(SEE NOTE 3)	bacnet/lon				MANUFACTURER TA	CO TAI	CO		1	FACTORY PRE-CHARGED (PSI)	12	12
EVAP CONFIG	1 PASS	1 PASS	MOTOR TYPE NEM	MA PREMIUM	NEMA PREMIUM				MANUFACTURER	GRISWOLD	GRISWOLD	MODEL 490	4AD 490	4AD	MANUFACTURER	TACO			
DESIGN FLOW RATE (GPM)	290	240	MOTOR POWER	10 HP	7.5 HP	MANUFACTURER	YASKAWA	YASKAWA	MODEL	FB5	FB5		•		MODEL	BTH0150F04-125N	MANUFACTURER	TACO	TACO
MIN WATER FLOW RATE (GPM)	192	156	MOTOR SPEED 12	1760 RPM	1760 RPM	MODEL	Z1000	Z1000			•	NOTES:					MODEL	CA215	CA215
DESIGN PRESS. DROP FT. WATER	5.4	8.01	IMPELLER DIA. (IN.)	10.3"	8.1"	NOTES	1,2,3,4	1,2,3,4	NOTES:			01. WITH AIR VENT		0.	11. PROVIDE W/ GROOVED CONNECTI	ilons.			
DETAILS AND ACCESSORIES			SUCTION SIZE (IN.)	3"	3"		_	_	01. PROVIDE W/ GROOVED PIPE CAP	CLOSURE (ON TOP))	02. GROOVED CONNECTION, 125 PSI ASME CO	DE & STAMPED.		22. INSULATE TANK AS PER CHILLED WA		01. FULL ACCEPTANCE BLADDER, ASME C	CODE & STAMPE	<u>-</u> D
AMBIENT DB (°F)	103	103	DISCHARGE (IN.)	2.5"	2.5"	NOTES:			02. PROVIDE W/ STAINLESS STEEL BASK	,	•	03. TACO, SPIROTHERM ARE ONLY ACCEPTABLE			INSULATIONS SPECIFICATION.				
KW INPUT (MAX)	191.5 KW	162.3 KW	VOLTS/PHASE	480/3	480/3	01. PROVIDE VFD W/ INTEGRAL BYPAS	S AND DISCONNEC	CT.	POLYESTER FILTER BAGS (25 MICRO			04. HIGH EFF. AIR/DIRT SEPARATION, W/ COELES				,			
VOLTS / PHASE	460/3	460/3			<u> </u>	OO VED SHALL BE BBOVIDED BY MECH	ANIICAL CONTRAC	CTOD & WIDED	1 OLILOILK HEILK DAGS (25 MICK	2143 MAAJ.		OT. HIGH LIT. AIR/DIKT SEI ARAHON, W/ COLLE	CITYO IIVI. MILDIA	_			1		

3/4" FPT BRASS PLUGS.

03. PROVIDE W/ (TWO) VALVES W/ 3/4" NPT CONNECTIONS AND (TWO)

04. INSULATE ALL BYPASS CHILLED WATER LINES AND ENTIRE POT FEEDER

AS PER CHILLED WATER PIPING INSULATIONS SPECIFICATION.

MIN. FULL LOAD EFFICIENCY @ ARI (EE MIN. PART LOAD EFFICIENCY @ ARI (IPLV

11. SINGLE POINT POWER OF CONNECTION WITH FACTORY CIRCUIT BREAKER. 02. PROVIDE COMPLETE CONDENSER COIL COATING WITH MINIMUM 5,000 HR SALT SPRAY RATING PER ASTMB117 COATING TO BE UV RESISTANT.

460/3

SINGLE POINT

329/350

17.08

CARRIER

10,300 LBS

SINGLE POINT

277/300

16.66

8,100 LBS

MANUFACTURER

02. PROVIDE W/ MOTOR SHAFT GROUDING RINGS.

DUTY VALVE & ISOLATION VALVE ON PUMP DISCHARGE OUTLET.

DIFFUSER ON PUMP SUCTION INLET.

TACO

F12510C

F12511D

B. PROVIDE HVAC CONTROLS COMMUNICATION INTERFACE CARD - COORDINATE REQUIREMENTS WITH

POWER CONNECTION

CKT 1 MCA/MOCP

MAX OPER. WEIGHT

EXISTING CONTROLS MANUFACTURER & STANDARDS. 04. PROVIDE 120V CONVENIENCE GFI DUPLEX RECEPTACLE, UNIT POWERED.

05. PROVIDE 5-YR ENTIRE UNIT PARTS, LABOR AND REFRIGERANT WARRANTY.

06. PROVIDE WITH HUMAN INTERFACE PANEL.

07. PROVIDE LOUVERED HAIL GUARDS FOR EXPOSED COILS AND SECURITY GRILLES PROTECTING COMPRESSORS

08. PROVIDE WITH LOW NOISE FANS AND SOUND ENHANCMENT PACKAGE 09. PROVIDE PHASE AND UNDER/OVER VOLTAGE PROTECTION.

O. PROVIDE W/ HIGH EFFICIENCY CHILLERS.

1. PROVIDE W/ FACTORY INSTALLED FLOW SWITCHES.

12. CHILLER CONDENSER COIL TO BE CONSTRUCTED OF COPPER TUBING W/ ALUMINUM FINS, MICROCHANNEL

COILS WILL NOT BE ACCEPTED.

3. PROVIDE W/ VARIABLE SPEED CONDENSER FANS.

14. PROVIDE W/ FACOTRY FREEZE PROTECTION & SUCTION LINE INSULATION.

15. CHILLER TO USE ELECTRONIC EXPANSION VALVES, TXVs WILL NOT BE ACCEPTED.

16. MECHANICAL CONTRACTOR TO PROVIDE & MOUNT CHILLER ON 2" TALL VIBRATION PADS EQUAL TO 'NRC ELASTOMERIC PAD' ISOLATORS BY 'VMC GROUP' OR 'KIP ELASTOMERIC COATED FIBERGLASS PAD' ISOLATORS BY 'KINETICS NOISE CONTROL'.

1. PROVIDE W/ PREMIUM EFFICIENT MOTOR, EQUAL TO BALDOR SUPER E+. CHILLED WATER VALVE SCHEDULE 3. MECHANICAL CONTRACTOR TO PROVIDE VFD W/ MANUAL BYPASS & DISCONNECT. ELECTRICAL CONTRACTOR TO MOUNT & WIRE VFD. 04. PROVIDE W/ ISOLATION VALVE, CONCENTRIC REDUCER & SUCTION 5. PROVIDE W/ PIPING SPOOL PIECE, CONCENTRIC REDUCER, TRIPLE-

2. VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR & WIRED

EXISTING HVAC CONTROLS. COORDINATE W/ EXISTING CONDITIONS

03. PROVIDE W/ ANY DDC INTERFACE REQUIRED FOR CONTROL BY

4. MOUNT VFD's ON MECHANICAL YARD WALL, REPLACING EX. MS.

BY ELECTRICAL CONTRACTOR.

CHILLED WATER PIPING

PIPING SUPPORT, MATCH EXISTING HEIGHT.

TAG	VLV-1A	VLV-2A	VLV-1B	VLV-1C	VLV-2C	VLV-3C	VLV-4C
SERVICE	AHU-1A	AHU-2A	AHU-1B	AHU-1C	AHU-2C	AHU-3C	AHU-4C
TYPE	3-WAY	3-WAY	3-WAY	3-WAY	3-WAY	3-WAY	3-WAY
PHYSICAL PARAMETERS							
GPM	58.0	79.0	146.0	37.0	80.0	80.0	37.0
SIZE	1.5"	1.5"	2"	1.5"	2"	2"	1.5"
Cv	29	46	83	19	46	46	19
dP (PSI)	4	4	4	4	4	4	4
PIPE	2.5" *(note 2)	2.5" *(note 2)	3" *(note 2)	2" *(note 2)	2.5" *(note 2)	2.5" *(note 2)	2" *(note 2)
MANUFACTURER	BELIMO	BELIMO	BELIMO	BELIMO	BELIMO	BELIMO	BELIMO
MODEL	B339	B341	B352	В3	В3	B349	B338
NOTES	ALL	ALL	ALL	ALL	ALL	ALL	ALL

01. VALVE SIZES BASED ON 12° (DEGREE DELTA) ?T.

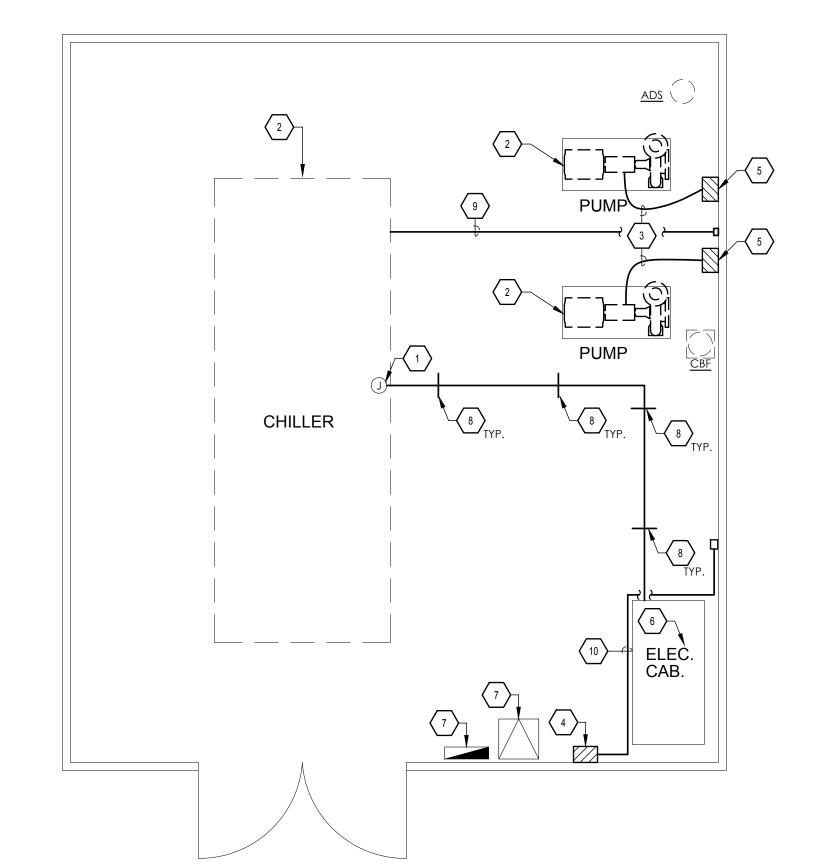
02. CONTRACTOR TO FIELD VERIFY SIZE OF EXISTING PIPE NEW VALVES ARE TO BE INSTALLED ON & WHETHER VALVE IS MIXING OR DIVERTING

03. MECHANICAL CONTRACTOR TO PROVIDE & INSTALL VALVES AND ACTUATORS.

04. BELIMO CHARACTERIZED CONTROL VALVE WITH MODULATING, NON-FAILSAFE ACTUATORS.



E1.



GYM MECHANICAL YARD DEMOLITION PLAN
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES: (TO ALL SHEETS)

- A. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE MECHANICAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE WILL BE REQUIRED TO PROPERLY BID THE DEMOLITION WORK.
- B. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL EQUIPMENT AND ASSOCIATED CONDUCTORS, CONDUIT, BOXES, ETC. TO PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- C. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE MECHANICAL DOCUMENTS IN ADDITION TO THE DIVISION 16 DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK
- D. WHERE DEVICES OR EQUIPMENT ARE INDICATED OR REQUIRED TO BE REMOVED, THE ASSOCIATED BOXES, CONDUIT, AND CONDUCTORS SHALL BE REMOVED BACK TO THEIR SOURCE.
- E. WHERE DEVICES OR EQUIPMENT ARE INDICATED OR REQUIRED TO BE RELOCATED, THE ASSOCIATED BOXES, CONDUIT, AND CONDUCTORS SHALL BE REMOVED BACK TO A CONCEALED JUNCTION BOX AND NEW PRODUCTS SHALL BE USED TO EXTEND THE SERVICE TO THE NEW LOCATION.
- F. ALL DEVICES ATTACHED TO WALLS OR CEILINGS SHALL BE REMOVED PER DEMOLITION NOTE A L WHETHER SHOWN ON DRAWINGS OR NOT.
- G. WHERE THE REMOVAL OF DEVICES OR EQUIPMENT RENDERS EQUIPMENT DOWNSTREAM INOPERABLE, SERVICE SHALL BE EXTENDED TO THE DOWNSTREAM DEVICE OR EQUIPMENT SO THAT THE DEVICE OR EQUIPMENT IS LEFT IN OPERATING CONDITION.
- H. COORDINATE DEMOLITION OF DIVISION 16 SYSTEMS AS REQUIRED WITH ALL OTHER TRADES.
- I. ALL EXISTING ELECTRICAL EQUIPMENT, CONDUIT AND WIRING REMOVED DURING CONSTRUCTION NO LONGER REQUIRED AS PART OF AN ACTIVE SYSTEM AND NOT TO BE REUSED SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
- J. WHERE EXISTING EQUIPMENT IS TO BE RELOCATED, EXTREME CARE SHALL BE TAKEN TO PREVENT DAMAGE DURING THE REMOVAL AND REINSTALLATION. WHERE DAMAGE OCCURS, THE EQUIPMENT SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION AND APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
- K. EXISTING DEVICES AND/OR EQUIPMENT TO BE REUSED SHALL BE CLEANED AND REPAIRED AT THE DISCRETION OF THE ARCHITECT WHERE APPLICABLE.

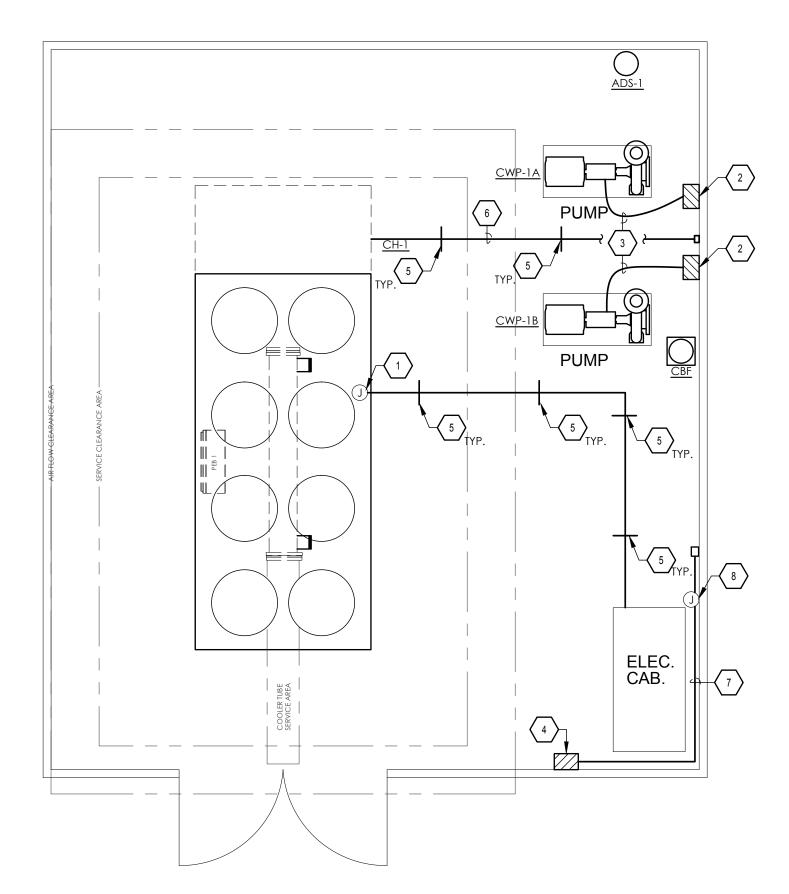
KEYED NOTES: DEMOLITION

L. ALL DEVICES WITH AN "EX" SYMBOL ARE EXISTING TO REMAIN.

- EXISTING ELECTRICAL CONNECTION TO BE DISCONNECT AND RECONNECT FOR NEW CHILLER. COORDINATE WITH MECHANICAL CONTRACTOR.
- 2 EXISTING MECHANICAL EQUIPMENT TO BE REMOVED, REFER TO MECHANICAL DOCUMENTS.
- 3 EXISTING ELECTRICAL CONNECTION TO PUMP TO BE REMOVED.
- EXISTING HVAC CONTROLS ENCLOSURE TO BE REMOVED. ELECTRICAL CIRCUIT/ DEVICE TO BE REUSED FOR NEW HVAC CONTROLS. ELECTRICAL CIRCUIT AND DEVICE TO BE RELOCATED INTO NEW CONTROL ENCLOSURE. COORDINATE WITH MECHANICAL DOCUMENTS.
- EXISTING MOTOR STARTERS TO BE REPLACED WITH NEW VFD. REUSE EXISTING ELECTRICAL CIRCUIT FOR NEW VFD. COORDINATE WITH MECHANICAL DOCUMENTS.

 \langle 6 \rangle EXISTING ELECTIRCAL SWITHCHBOARD TO REMAIN, 480/277V,3Ø,4W.

- $\left\langle 7\right\rangle$ existing electrical gear to remain.
- 8 EXISTING PIPE SUPPORTS SHALL BE REPLACED WITH NEW. REFER TO REMODEL PLANS.
- 9 EXISTING CONDUIT ON FLOOR LEVEL SHALL BE ELEVATED WITH PIPE SUPPORTS ALONG EXISTING PATH. REFER TO REMODEL PLANS.
- 10 EXISTING CONDUIT SHALL BE REROUTED. REFER TO REMODEL PLANS.



2 GYM MECHANICAL YARD REMODEL PLAN SCALE: 1/4"=1'-0"

GENERAL ELECTRICAL NOTES (TO ALL SHEETS)

- A. ARRANGE FOR SOURCES OF TEMPORARY CONSTRUCTION SERVICES. SUCH SERVICES SHALL BE NOMINALLY 120/240V, 1-PHASE, 3-WIRE FROM WHICH A COMPLETE SYSTEM OF TEMPORARY POWER AND LIGHTING SHALL BE PROVIDED FOR ALL CONSTRUCTION NEEDS.
- B. CONTRACTOR IS RESPONSIBLE TO VERIFY AND COORDINATE WITH EXISTING/NEW UNDERGROUND UTILITIES PRIOR TO ANY WORK.
- C. CONTRACTOR IS RESPONSIBLE CALL DIG-TESS; 1-1800-DIG-TESS 2-BUSINESS DAYS IN ADVANCE.
- D. ALL ELECTRICAL EQUIPMENT OUTDOORS SHALL BE RATED TYPE NEMA 3R UNLESS OTHERWISE NOTED.
- E. CONTRACTOR SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES. ALL WORK SHALL CONFORM TO NATIONAL ELECTRICAL CODES AND ALL OTHER AUTHORITY HAVING JURISDICTION. OBTAIN PERMITS AND PAY ALL FEES. PERFORM MODIFICATIONS TO MEET CODE AND ORDINANCE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER, ARCHITECT OR ENGINEER. VERIEY PRIOR TO BID DATE
- F. VERIFY AT JOB SITE THE EXACT LOCATIONS OF STRUCTURAL MEMBERS SUCH AS BEAMS, COLUMNS, ETC. TO LOCATE EQUIPMENT CONDUIT, PANELS AND DEVICES. IF DEVIATIONS FROM THE DRAWING ARE NECESSARY TO MEET STRUCTURAL CONDITIONS MAKE DEVIATIONS WITHOUT ADDITIONAL COST, TO OWNER, ARCHITECT, OR ENGINEER.
- G. IN COOPERATION WITH OTHER CONTRACTORS, DETERMINE THE EXACT LOCATION OF EQUIPMENT AND DEVICES AND CONNECTIONS THERETO BY REFERENCE TO THE SUBMITTALS AND ROUGH-IN DRAWINGS, AND BY MEASUREMENTS AT THE SITE. REFER TO ALL OTHER TRADES SUBMITTAL FOR ELECTRICAL INFORMATION.
- H. GROUND ENTIRE ELECTRICAL SYSTEM IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- I. VERIFY AT JOB SITE GENERAL WORK TO BE DONE AS SPECIFIED, AS NOTED, OR AS REQUIRED FOR INSTALLATION ELECTRICAL SYSTEMS PRIOR TO SUBMISSION OF BIDS.
- J. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND EQUIPMENT TO BE REMOVED AND REPLACED BEFORE SUBMITTING HIS BID.
- K. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SMALL SCALE ONLY. THEY CONVEY THE INTENT OF THE WORK BUT DO NOT SHOW DETAIL SUCH AS JUNCTION AND PULL BOXES REQUIRED BY THE SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE(NEC). PROVIDE ALL MATERIALS AND METHODS CALLED FOR IN THE SPECIFICATIONS AND AS REQUIRED IN THE NEC TO PROVIDE A COMPLETE INSTALLATION OF ALL WORK.
- L. ALL WIRING SHALL BE COPPER.
- M. ALL SLEEVES, PENETRATIONS, ETC. SHALL BE SEALED SOLID NON-SHRINKING MATERIAL IMMEDIATELY UPON FILLING OF THE OPENING WITH PIPE OR CONDUIT.
- N. ALL UNISTRUT USED SHALL BE GALVANIZED.

KEYED NOTES: REMODEL

- 1 RECONNECT EXISTING ELECTRICAL CIRCUIT TO NEW CHILLER UNIT.
- 2 Install New VFD, provided be mechanical contractor. Install VFD at existing location.
- 3 PROVIDE 4#10,1#10G,3/4"C FROM NEW VFD TO PUMP.
- 4 RELOCATE EXISTING ELECTRICAL TO NEW CONTROL ENCLOSURE LOCATION.
- NEW PIPE SUPPORTS TO REPLACE EXISTING. PIPE SUPPORT SHALL BE EQUAL TO MIRO INDUSTRIES #8-BASE STRUT-12, BASE SHALL BE POLYCARBONATE AND ALL METAL PARTS SHALL BE STAINLESS STEEL. CONTRACTOR SHALL FIELD VERIFY EXISTING HEIGHT CONDITIONS TO MATCH FOR NEW SUPPORTS. IF CONDUIT IS ON THE FLOOR LEVEL, VERIFY WITH OWNER FOR HEIGHT.
- 6 CONDUIT SHALL BE ELEVATED ALONG EXISTING PATH, VERIFY WITH OWNER FOR DESIRED HEIGHT.
- 7 REROUTED CONTROLS CONDUIT. FIELD VERIFY EXISTING CONDITIONS AND COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ANY WORK.
- 8 PROVIDE NEMA-3R J-BOX FOR REROUTED CONTROLS CONDUIT. FIELD VERIFY EXISTING CONDITIONS AND COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ANY WORK.



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F. VERIFY AT JOB SITE THE EXACT LOCATIONS OF STRUCTURAL MEMBERS SUCH AS BEAMS, COLUMNS, ETC. TO LOCATE EQUIPMENT CONDUIT, PANELS AND DEVICES. IF DEVIATIONS FROM THE DRAWING ARE NECESSARY TO MEET STRUCTURAL CONDITIONS MAKE DEVIATIONS WITHOUT ADDITIONAL COST, TO OWNER, ARCHITECT, OR ENGINEER.

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KEYED NOTES: REMODEL

igg(1igg) RECONNECT EXISTING ELECTRICAL CIRCUIT TO NEW CHILLER UNIT.

2) INSTALL NEW VFD, PROVIDED BE MECHANICAL CONTRACTOR. INSTALL VFD AT EXISTING LOCATION.

3 PROVIDE 4#10,1#10G,3/4"C FORM NEW VFD TO PUMP.

4 RELOCATE EXISTING ELECTRICAL TO NEW CONTROL ENCLOSURE LOCATION.

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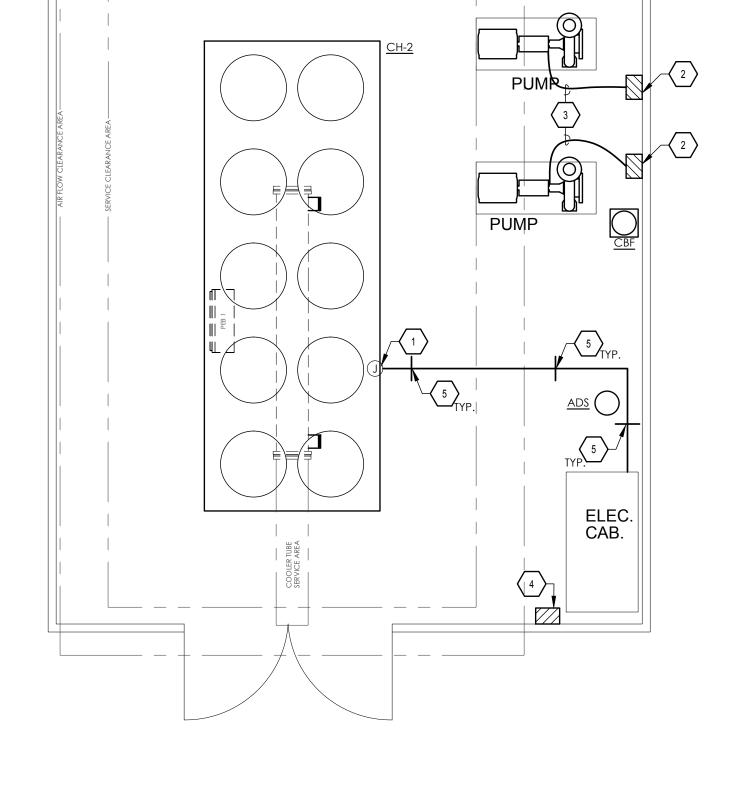
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- L. ALL DEVICES WITH AN "EX" SYMBOL ARE EXISTING TO REMAIN.

KEYED NOTES: DEMOLITION

- 1) EXISTING ELECTRICAL CONNECTION TO BE DISCONNECT AND RECONNECT FOR NEW CHILLER. COORDINATE WITH MECHANICAL CONTRACTOR.
- 2 EXISTING MECHANICAL EQUIPMENT TO BE REMOVED, REFER TO MECHANICAL DOCUMENTS.
- 3 EXISTING ELECTRICAL CONNECTION TO PUMP TO BE REMOVED.
- 4 EXISTING HVAC CONTROLS ENCLOSURE TO BE REMOVED. ELECTRICAL CIRCUIT/ DEVICE TO BE REUSED FOR NEW HVAC CONTROLS. ELECTRICAL CIRCUIT AND DEVICE TO BE RELOCATED INTO NEW CONTROL ENCLOSURE. COORDINATE WITH MECHANICAL DOCUMENTS.
- EXISTING MOTOR STARTERS TO BE REPLACED WITH NEW VFD. REUSE EXISTING ELECTRICAL CIRCUIT FOR NEW VFD. COORDINATE WITH MECHANICAL DOCUMENTS.
- 6 EXISTING ELECTIRCAL SWITHCHBOARD TO REMAIN, 480/277V,3Ø,4W.
- 7 EXISTING ELECTRICAL GEAR TO REMAIN.
- 8 EXISTING PIPE SUPPORTS SHALL BE REPLACED WITH NEW AT EXISTING LOCATIONS. REFER TO REMODEL PLANS.





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

COSMETOLOGY MECHANICAL YARD DEMOLITION PLAN

CHILLER

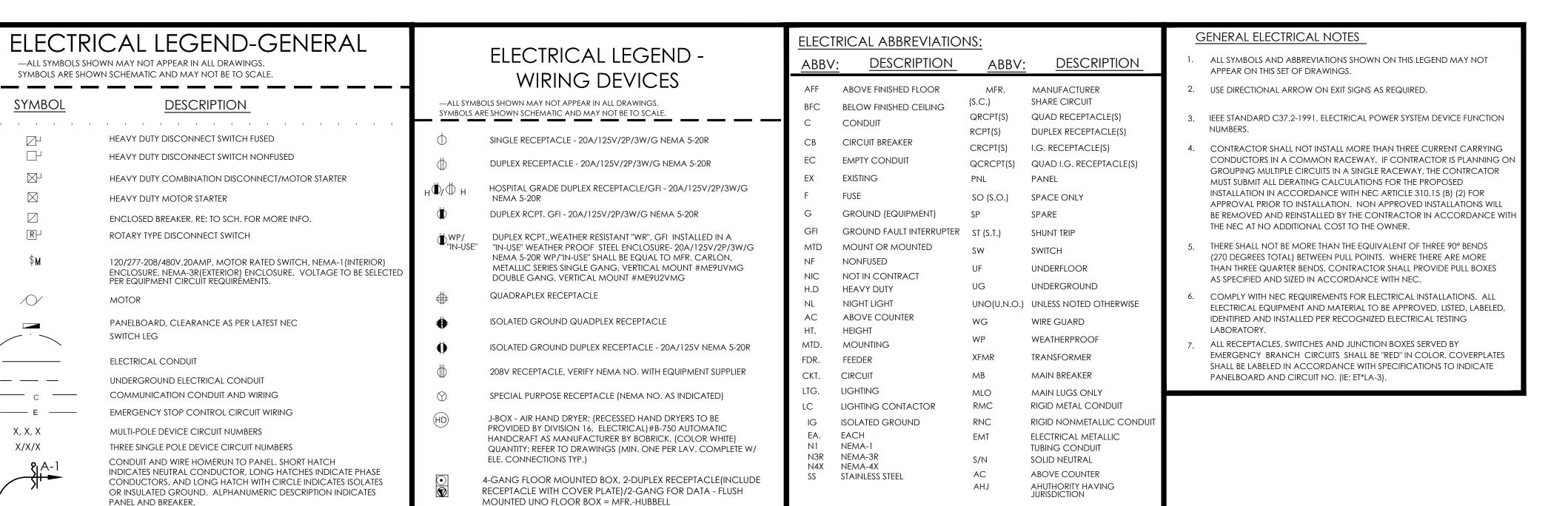
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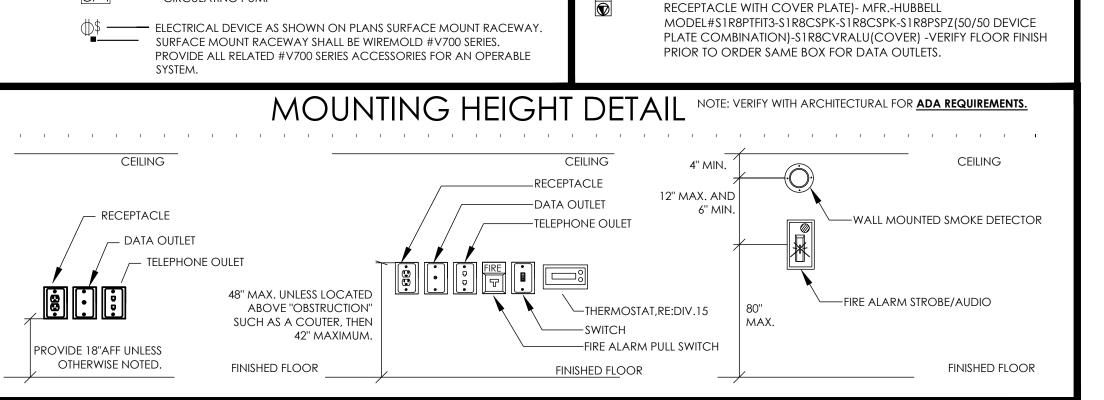


1.) 48" AFF INDICATES TO TOP OF DEVICE;

15" AFF INDICATES TO BOTTOM OF DEVICE;

ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.

AC INDICATES 6" ABOVE COUNTER TO BOTTOM OF DEVICE.



MODEL#CFB4G30CR-24GCVRNK(COVER)-(2)FBMPDUP-FBMP6KS

6-GANG FLOOR MOUNTED BOX, 2-DUPLEX RECEPTACLE(INCLUDE

MODEL#CFB6G30CR-CFBS1R8CVRALU(COVER)-(3)FBMPDUP-FBMP6 -CFBHB2(MULTISERVICE STEEL RECESSED FLOOR BOX-VERIFY FLOOR

6" FIRE RATED POKE-TRHOUGHS BOX, 2-DUPLEX RECEPTACLE(INCLUDE

MODEL#\$1R6PTFIT-\$1R6SPE-\$1R6SPL-\$1R6SPH(50/50 DEVICE PLATE

COMBINATION)-S1R6CVRALU(COVER) -VERIFY FLOOR FINISH PRIOR

6" FIRE RATED POKE-TRHOUGHS BOX, FURNITURE FEED,- MFR.-HUBBELL

8" FIRE RATED POKE-TRHOUGHS BOX, 2-DUPLEX RECEPTACLE(INCLUDE

MODEL#\$1R6PTFFALU(ALUMINUM COVER) -VERIFY FLOOR FINISH

RECEPTACLE WITH COVER PLATE)/2-GANG FOR DATA - FLUSH

FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.

FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.

MOUNTED UNO FLOOR BOX = MFR.-HUBBELL

RECEPTACLE WITH COVER PLATE)- MFR.-HUBBELL

TO ORDER SAME BOX FOR DATA OUTLETS.

PRIOR TO ORDER.

-CFBHB2(MULTISERVICE STEEL RECESSED FLOOR BOX-VERIFY FLOOR

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.

MOTOR

SWITCH LEG

ELECTRICAL CONDUIT

PANEL AND BREAKER.

MECHANCIAL DIVISION.

MINIMUM OF 4" SQUARE

CIRCULATING PUMP

— DETAIL NUMBER

--- SHEET NUMBER

INDICATES PANEL AND BREAKER.

SYMBOL

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X, X, X

X/X/X

SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

DESCRIPTION

HEAVY DUTY DISCONNECT SWITCH FUSED

HEAVY DUTY MOTOR STARTER

ROTARY TYPE DISCONNECT SWITCH

PER EQUIPMENT CIRCUIT REQUIRÉMENTS.

UNDERGROUND ELECTRICAL CONDUIT

MULTI-POLE DEVICE CIRCUIT NUMBERS

COMMUNICATION CONDUIT AND WIRING

EMERGENCY STOP CONTROL CIRCUIT WIRING

THREE SINGLE POLE DEVICE CIRCUIT NUMBERS

JUNCTION BOX - SIZE & MOUNTING AS REQUIRED

LIGHTING CONTACTOR, NEMA-1, W/H.O.A. SWITCH

PHOTO CELL(MFR.INTERMATIC #K4136M)

TIME CLOCK (MFR.TORK#7202Z)

UNDERGROUND CONDUIT AND WIRE HOMERUN TO PANEL. SHORT

PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATED OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION

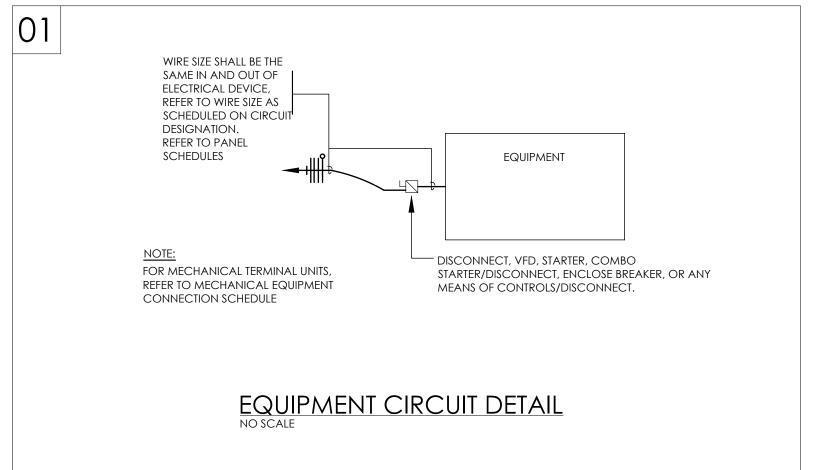
THERMOSTAT WALL MOUNTED - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX. COORDINATE EXACT LOCATION AND HEIGHT WITH

HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE

PANELBOARD, CLEARANCE AS PER LATEST NEC

HEAVY DUTY DISCONNECT SWITCH NONFUSED

ENCLOSED BREAKER, RE: TO SCH. FOR MORE INFO.



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