TANK SCHEDULE

MARK	T-1	T-2	T-3
SERVES	CWS/R	CWS/R	CS/R
LOCATION	SEE PLANS	SEE PLANS	SEE PLANS
CONFIGURATION	(1)	(1)	(6)
CAPACITY (GALLONS)	320	320	1,400 (10)
WEIGHT (LBS)	750	750	–
DIMENSIONS (DIAxH)(IN)	36x84	36x84	(11)
MANUFACTURER	(2)	(2)	(12)
MODEL NUMBER	–	–	–
REMARKS	(3)(4)(5)	(3)(4)(5)	(7)(8)(9)(13)

REMARKS:
(1.) VERTICAL CHILLED WATER BUFFER TANK WITH CENTER BAFFLE PLATE.
(2.) WHEELER TANK MANUFACTURING, INC.
(3.) TANK TO BE CONSTRUCTED AND STAMPED PER ASME CODE, SECTION VIII, DIV. 1 2010E/2011A.
(4.) PROVIDE WITH RING BASE.
(5.) PROVIDE WITH 4" CWS INLET AND OUTLET CONNECTIONS.
(6.) FIBERGLASS STORAGE TANK OPEN TO ATMOSPHERE.
(7.) PROVIDE SINGLE WALL ASTM-D-3299 COMPLIANT FIBERGLASS TANK WITH COREZYN 8301 LINER RESIN AND ISOPHATHALIC STRUCTURAL RESIN. PROVIDE WITH RIB REINFORCEMENT IN MULTIPLE SECTIONS TO FIT THROUGH A 48" WIDE DOOR OPENING AND NO LONGER THAN 96" IN LENGTH. CONTRACTOR TO FIELD INSTALL PER MANUFACTURER'S RECOMMENDATIONS. INSTALL TANK ON A FRIDAY AFTERNOON WITH A MINIMUM 7-DAY NOTICE TO OWNER AND PROVIDE FUME VENTILATION TO OUTDOORS WITH PORTABLE FANS BLOWING TO OUTSIDE VIA THE STAIRS FROM THE BASEMENT TO THE FIRST FLOOR/OUTDOORS. ALLOW FANS TO OPERATE OVER WEEKEND AND COORDINATE FAN OPERATION AND BUILDING SECURITY ISSUES WITH OWNER.
(8.) PROVIDE WITH (2) 8" CS INLET W/ FRP DOWN PIPE.STILLING CHAMBER, 8" VENT, 2" OVERFLOW, 2" DRAIN, 1" MAKE-UP WATER, 3" TOP WATER LEVEL CONTROLLER CONNECTIONS AND ONE 24" DIAMETER MANWAY OPENING. PROVIDE WITH GALVANIZED STEEL BOLTS AND NUTS. SEE PIPING DIAGRAM 1/M200 FOR ADDITIONAL INFORMATION.
(9.) PROVIDE WITH WATER LEVEL CONTROLLER CAPABLE OF PROVIDING ON, OFF, HIGH, LOW, AND GROUND LEVEL SENSORS AND PROVIDE A 110V MAKE-UP WATER SOLENOID VALVE. SEE PIPING DIAGRAM 1/M200 FOR ADDITIONAL INFORMATION.
(10.) WATER VOLUME LOCATED BELOW THE CS INLET AND OVERFLOW CONNECTION OF THE TANK. TANK HAS A NOMINAL CAPACITY OF 2,154 GALLONS.
(11.) LENGTH = 96", WIDTH = 72", HEIGHT = 72"
(12.) EDWARDS FIBERGLASS.
(13.) SEE SPECIFICATION SECTION 236516 FOR ADDITIONAL REQUIREMENTS.

PUMP SCHEDULE

MARK		P-3	P-4	P-5
SERVES		CWS/R	CS/R	CS/R
LOCATION		SEE PLANS	SEE PLANS	SEE PLANS
TYPE		END SUCTION	END SUCTION	END SUCTION
FLOW (GPM)		300	450	450
TOTAL HEAD (FEET)		75	60	60
SHUT-OFF HEAD (FEET)		88	74	74
MIN. EFFICIENCY (%)		76.8	79.4	79.4
FLUID		WATER	WATER	WATER
MOTOR DATA	HP	10	10	10
	RPM	1750	1750	1750
	VOLTS	208	208	208
	PHASE	3	3	3
SUCTION SIZE (IN)		3	4	4
DISCHARGE SIZE (IN)		2.5	3	3
IMPELLER DIA. (IN)		9.25	8.625	8.625
MANUFACTURER		B&G	B&G	B&G
MODEL NUMBER		1510-2 1/2BB	1510-3BC	1510-3BC
REMARKS		(1)(2)(3)	(1)	(1)

REMARKS:
(1.) PROVIDE WITH PREMIUM EFFICIENCY MOTOR.
(2.) PROVIDE WITH INVERTER DUTY MOTOR FOR VARIABLE FLOW CHILLED WATER SYSTEM.
(3.) PROVIDE MOTOR WITH SHAFT GROUNDING KIT, AEGIS SGR OR EQUAL.

COOLING TOWER SCHEDULE

MARK		CT-1	–
SERVES		CS/R	–
LOCATION		SEE PLANS	–
CONFIGURATION		COUNTERFLOW	–
NOMINAL TONNAGE CAPACITY		150	–
FLOW (GPM)		438(9)	–
ENTERING WATER TEMP. (F)		95	–
LEAVING WATER TEMP. (F)		85	–
AMBIENT TEMP. (WB)(F)		78	–
AIR FLOW (CFM)		39,200	–
DRIFT RATE (%)		0.001	–
INLET NOZZLE PRESSURE DROP (PSI)		2.8	–
MOTOR DATA	HP	10	–
	VOLTS	208	–
	PHASE	3	–
	TYPE	(1)	–
	CONTROL DEVICE	VFC-CT1	–
OPERATING WEIGHT (LBS)		5,000	–
DIMENSIONS (LxWxH)(IN.)		90x102x129	–
ACCESSORIES		(2)(3)(4)	–
MANUFACTURER		EVAPCO	–
MODEL NUMBER		AT-19-48	–
REMARKS		(5)(6)(7)(8)(10)(11)	–

REMARKS:
(1.) PROVIDE WITH BELT DRIVE, INVERTER DUTY, PREMIUM EFFICIENT MOTOR AND ONE SPARE MOTOR AND BELT.
(2.) PROVIDE WITH REMOTE SUMP TRASH SCREEN.
(3.) PROVIDE WITH LOOSE EXTERNAL ACCESS LADDER FOR FIELD INSTALLATION.
(4.) PROVIDE WITH FACTORY MOUNTED FAN VIBRATION SWITCH, BUT FIELD WIRING SHALL BE COORDINATED TO BE DONE BY THE ELECTRICAL CONTRACTOR.
(5.) PROVIDE WITH 304 STAINLESS STEEL COLD WATER BASIN.
(6.) PROVIDE WITH OVERSIZED OUTLET FOR REMOTE SUMP.
(7.) PROVIDE WITH MODULAR FILL MEDIA.
(8.) PROVIDE MOTOR WITH SHAFT GROUNDING KIT, AEGIS SGR OR EQUAL.
(9.) PROVIDE COOLING TOWER WITH CAPACITY TO GO UP TO 450 GPM.
(10.) PROVIDE WITH A MAXIMUM COOLING TOWER DRAIN DOWN CAPACITY OF 329 GALLONS.
(11.) SEE SPECIFICATION SECTION 236516 FOR ADDITIONAL REQUIREMENTS.

CHILLER SOUND CRITERIA SCHEDULE

TOTAL dBA	64.5
FREQUENCY Hz	POWER dB re 1X10e-12 WATT
63	62
125	62.5
250	62.5
500	61
1000	60
2000	57
4000	54
8000	50
REMARKS	(1)(2)(3)

REMARKS:
(1) SOUND PRESSURE LEVELS AT 1 METER, dB PER AHRI 575.
(2) SOUND PRESSURE LEVELS WITH CHILLER ACOUSTICAL PANELS.
(3.) SUBSTITUTE EQUIPMENT SHALL MEET THE SCHEDULED SOUND CRITERIA.

WATER COOLED CHILLER SCHEDULE

MARK		CH-1
SERVES		CWS/R
LOCATION		SEE PLANS
CAPACITY (TONS)		149.8
COMPRESSOR TYPE		SCROLL
NUMBER OF COMPRESSORS		6
STEPS UNLOADING		6
REFRIGERANT		R-410A
MINIMUM NPLV		0.58
SOUND PRESSURE LEVEL (dBA)		(1)
CHILLED WATER DATA	EWT (°F)	54
	LWT (°F)	42
	WPD (FT.)	11.8
	GPM (MAX/MIN)	300/70
	FOULING FACTOR	0.0001
CONDENSER WATER DATA	EWT (°F)	85
	LWT (°F)	95
	WPD (FT.)	16.2
	GPM	438
	FOULING FACTOR	0.00025
ELECTRICAL DATA	UNIT KW	–
	VOLTS	208
	PHASE	3
	MCA	419
	FUSE/BREAKER AMPS	500
DIMENSIONS (LxWxH) (IN)		147x58x77
OPERATING WEIGHT (LBS)		6,000
MANUFACTURER		MULTISTACK
(NUMBER OF MODULES) MODEL NUMBER		(3) MS050XC2
REMARKS		(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)(13)(14)(15)(16)

REMARKS:
(1) SEE CHILLER SOUND CRITERIA SCHEDULE.
(2) PROVIDE WITH SINGLE POINT POWER CONNECTION AND JUNCTION BOX.
(3) PROVIDE WITH FACTORY CHILLED WATER AND CONDENSER WATER DIFFERENTIAL PRESSURE FLOW SWITCHES.
(4) PROVIDE WITH FACTORY INSTALLED EVAPORATOR AND CONDENSER INSULATION.
(5) PROVIDE WITH ONE YEAR ALL PARTS AND LABOR WARRANTY AND FIVE YEAR COMPRESSOR WARRANTY.
(6) PROVIDE WITH MANUFACTURER CHECK, TEST, AND START-UP.
(7) PERFORMANCE BASED ON ARI STANDARD 550/590.
(8) PROVIDE WITH 304 STAINLESS STEEL CONDENSER SUPPLY AND RETURN HEADERS.
(9) PROVIDE WITH 30 MESH CONDENSER STRAINER AND MULTIFLUSH DEBRIS REMOVAL SYSTEM WITH SOLENOID VALVE, SEE DETAIL 4/M201.
(10) PROVIDE WITH BACNET CONTROLS INTERFACE FOR CONNECTION TO BMS.
(11) PROVIDE WITH POWER PHASE MONITORS.
(12) PROVIDE WITH 4"x4"x4" STEEL RAILS AND NEOPRENE PADS.
(13) PROVIDE WITH ACOUSTICAL PANELS.
(14) PROVIDE WITH VARIABLE FLOW CHILLED WATER ISOLATION CONTROL VALVES FOR EACH CHILLER MODULE.
(15) PROVIDE TOTAL ACCESS DESIGN WITH ISOLATION VALVES BETWEEN THE HX'S AND WATER SUPPLY MAINS FOR HX ISOLATION AND REMOVAL WITHOUT SHUTTING DOWN THE CHILLER.
(16) SEE SPECIFICATION SECTION 236429 FOR ADDITIONAL REQUIREMENTS.

VARIABLE FREQUENCY CONTROLLER SCHEDULE

MARK		VFC-CT1	VFC-P3	–	–
SERVES		CT-1	P-3	–	–
LOCATION		SEE PLANS	SEE PLANS	–	–
ELECTRICAL DATA	CONNECTED MOTOR HP	10	10	–	–
	VOLTAGE	208	208	–	–
	PHASE	3	3	–	–
REMARKS		(1)(2)(3)	(1)(2)(3)	–	–

REMARKS:
(1.) PROVIDE WITH DISCONNECT.
(2.) PROVIDE WITH MANUAL BYPASS.
(3.) PROVIDE WITH BACNET CONTROLS INTERFACE FOR CONNECTION TO BMS.

PLUMBING EQUIPMENT AND CONNECTION SCHEDULE

SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS

MARK	DESCRIPTION	BASIS OF DESIGN	CONNECTION DETAILS			
ED-1 FLOOR DRAIN	COMPLY WITH ASME A112.21.1M. CAST IRON BODY AND TRAP, AND MEDIUM DUTY 8" DIAMETER CAST IRON GRATE.	JR SMITH 2110	WASTE	VENT	CW	HW
			2"	2"	–	–
			REMARKS			
			.			
ES-1 FLOOR SINK	COMPLY WITH ASME A112.21.1M. 6" DEEP CAST IRON FLANGED RECEPTOR WITH SEEPAGE VALVES, AND ACID RESISTANT COATED INTERIOR. 8 1/2" SQUARE NICKEL BRONZE RIM AND SECURED 1/2 GRATE AND SOLID BOTTOM PORTED SEDIMENT BUCKET WITH STAINLESS STEEL MESH SCREENS	JR SMITH 3101	WASTE	VENT	CW	HW
			4"	2"	–	–
			REMARKS			
			.			
ES-2 FLOOR SINK	COMPLY WITH ASME A112.21.1M. 6" DEEP CAST IRON FLANGED RECEPTOR WITH SEEPAGE VALVES, AND ACID RESISTANT COATED INTERIOR. 12 1/2" SQUARE NICKEL BRONZE RIM AND SECURED 1/2 GRATE AND SOLID BOTTOM PORTED SEDIMENT BUCKET WITH STAINLESS STEEL MESH SCREENS	JR SMITH 3141	WASTE	VENT	CW	HW
			4"	2"	–	–
			REMARKS			
			.			
PH-1 POST HYDRANT	AUTOMATIC DRAINING, NONFREEZE, LOCKABLE BACKFLOW PROTECTED YARD HYDRANT. NPS 3/4" MINIMUM THREADED INLET, NONREMOVABLE, DRAINABLE HOSE CONNECTION, BACKFLOW PREVENTER COMPLYING WITH ASSE 1052, AND GARDEN HOSE THREADS COMPLYING WITH ASME B1.20.7 ON OUTLET.	WOODFORD Y2	WASTE	VENT	CW	HW
			–	–	3/4"	–
			REMARKS			
			.			
EW-1 EMERGENCY EYEWASH	CAPACITY: DELIVER POTABLE WATER AT RATE NOT LESS THAN 0.4 GPM FOR AT LEAST 15 MINUTES. SUPPLY PIPING: NPS 1/2" CHROME-PLATED BRASS OR STAINLESS STEEL WITH FLOW REGULATOR, STAY-OPEN CONTROL VALVE, AND TWIN AERATED OUTLETS. CONTROL-VALVE ACTUATOR: TRIGGER BAR. RECEPTOR: STAINLESS-STEEL BOWL. DRAIN PIPING: NPS 1 1/4" MINIMUM, CHROME-PLATED BRASS, RECEPTOR DRAIN, TRAP, WASTE TO WALL, AND WALL FLANGE COMPLYING WITH ASME A112.18.2M.	SPEAKMAN SE-505	WASTE	VENT	CW	HW
			–	–	–	–
			REMARKS			
			1/2" TEMPERED WATER CONNECTION.			
WTE-1 WATER TEMPERING EQUIPMENT	THERMOSTATIC MIXING VALVE DESIGNED TO PROVIDE 85°F (ADJUSTABLE) POTABLE WATER AT EMERGENCY PLUMBING FIXTURES, TO COMPLY WITH ANSI STANDARD Z358.1 AND IN CASE OF UNIT FAILURE TO CONTINUE COLD-WATER FLOW, WITH UNION CONNECTIONS, CONTROLS, DISCHARGE THERMOMETER, AND ROUGH BRONZE FINISH.	SPEAKMAN SE-370	WASTE	VENT	CW	HW
			–	–	1/2"	1/2"
			REMARKS			
			INSTALL VALVE WITH INLET CHECK VALVES AND WITHIN 4'-10' OF THE EMERGENCY FIXTURE BEING SERVED.			

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS and clearances from ARCHITECTURAL, STRUCTURAL, shop and other appropriate drawings or at site. Lay out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes. Verify non-interference with other work. DO NOT FABRICATE PRIOR TO VERIFICATION OF CLEARANCE FOR ALL TRADES. READ SPECIFICATIONS.

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MECHANICAL SCHEDULES

STATE OF NEBRASKA BEATRICE STATE DEVELOPMENTAL CENTER BUILDING NO. 4 CHILLER REPLACEMENT

BEATRICE NEBRASKA

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