


Qty. (2) Carrier Water Cooled Variable Speed Screw Chiller (CH-1, 2 ALTERNATE BID) including the following:

- Carrier chiller model 23XRV
- Sized for 300 tons
- Dual-rotor screw compressor
- Stacked configuration
- Unit mounted VFD (refrigerant cooled)
- Freestanding line reactor
- 460 volt/3 phase/60 hertz power
- Chiller control panel
- BACnet interface control package
- R-134a refrigerant  shipped charged in machine
- Refrigerant isolation valve package
- Full factory acoustic insulation
- Soleplate package
- Grooved connections
- 3-way head pressure control valve, *shipped loose for mounting and wiring by others*
- Chiller shipped completely assembled
- Carrier commercial service startup

Excludes: Installation, miscellaneous insulation, power wiring, controls and accessories other than those listed in this proposal, ventilation system, self-contained breathing apparatus & alarm system, handling in field, storage tanks, pumpout units, spare parts or gasket kits, service, and/or components or features other than above.

Qty. (2) Multistack Water-Cooled, Oil-Free Flooded Centrifugal Chiller (Tagged: CH-1, 2 BASE BID) including the following:

- Model MS0292
- Sized for 300 tons

- R-134A Refrigerant
- Turbocor oil-free centrifugal compressors
- Integrated refrigerant cooled variable speed drive
- ASME certified horizontal shell & tube heat exchangers
- 2 1/2" diameter enhanced & rifled copper tubes
- Evaporator insulated with 2 1/2" closed cell foam insulation
- Electronic expansion valves
- Condenser mounted refrigerant level sensor
- FlexSys control system
- 15" TFT touch screen
- Advanced fault & trend graphing
- Bacnet interface
- Single point power connection
- 3-way head pressure control valve, *shipped loose for mounting and wiring by others*
- Factory authorized startup

*Excludes: Installation, seismic restraints, pressure relief piping external to chiller, **refrigerant monitor**, additional power or control accessories or wiring, vibration isolators, spare parts, external piping or valves, additional filters, service or maintenance work, and/or any other components than listed above*

Qty (4) Temtrol Air Handling Units (Tagged: AH-1, 2, 3, 4) including the following:

*****NOTE: VFDs & AFM PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR*****

- Outdoor unit construction
- 2 1/2" double wall cabinet
- Double wall access doors
- Minimum OSA and economizer openings
 - Dedicated OSA tunnel for installation of AFM - *AFM provided and installed **BY OTHERS***
- Ruskin CD50 aluminum airfoil dampers and rain resistant storm louvers
- 4' MERV 8 filters
- Filter rack with Dwyer magnahelic pressure gauge

- Mixing baffles
- Hot water coil
- Chilled water coil
- Space between coils for sliding rack provided and installed BY OTHERS
- Direct drive PF09 supply and exhaust fans
 - Vertical, zero-effect backdraft dampers
- Premium efficiency Baldor TEAO supply and exhaust fan motors
- Motor overload panel for each fan section
- LED lights and switch
- 120 volt GFCI receptacle, *120 volt power by others*
- Ventilated controls cabinet
- Roof curb
- 460 volt/3 phase/60 hertz power

*Exclusions: Installation, spare parts other than above, **airflow monitors, VFDs, M&W of VFDs, DDC controls, M&W of controls, piping, valves, damper actuators, smoke detectors, M&W of smoke detectors, rigging, external spring isolators, powder coat finish, wiring or field labor or equipment not described above.***

Qty (3) Makeup Air Units (Tagged: MAU-1, 2, 3) including the following:

*****NOTE: VFDs PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR*****

- Outdoor unit construction
- 2 $\frac{29}{8}$ double wall cabinet
- Double wall access doors
- Aluminum OSA airfoil damper and rain hood
- 2' MERV 8 filters
- Hot water coil
- Chilled water coil
- Space between coils for sliding rack provided and installed **BY OTHERS**
- Direct drive plenum type supply fan
- Premium efficiency fan motor

- 120 volt GFCI receptacle, 120 volt power by others
- Roof curb
- 460 volt/3 phase/60 hertz power

Exclusions: Installation, spare parts other than above, VFDs, M&W of VFDs, DDC controls, M&W of controls, piping, valves, damper actuators, smoke detectors, M&W of smoke detectors, rigging, external spring isolators, powder coat finish, wiring or field labor or equipment not described above.

Qty. (1) Evapco Cooling Towers (Tagged: CT-1, 2) including the following:

- Model USS-29-921L
- 316 stainless steel upper construction
- 316 stainless steel cold water basin
- 2 cell tower designed for independent cell operation
- Inverter duty fan motor
- Ladder w/ 3ft extension
- Vibration switch
- Sump sweeper piping (high flow eductors)
- Basin heaters w/ contactor
- Mechanical float type water level controller
- Equalizer connection
- 460 volt/60 hertz/3 phase power
- Startup

Excludes: Installation, fan cowl extension, external service platform, gear drive, motor davit, low sound fans, sound attenuators, safety cage, bypass connection, extra connections, crossover stairs, and components other than above.

Qty (2) Puroflux Centrifugal Separator Package System (Tagged: TFS - 1, 2) including the following:


- Model PF-64-020
- Sized for 110 GPM
- Centrifugal separator
- Close-coupled end suction pump with TEFC motor

- NEMA 4X fiberglass control enclosure
- Pump disconnect and starter with HOA switch
- Fusion bonded polyester coated carbon steel skid
- Inlet and outlet pressure gauges
- Electric automatic purge valve

Excludes: Installation, closed recovery vessel, removable flanged dome, stainless steel construction, and/or components other than above.

Qty. (11) ABB Variable Frequency Drives (VFD-1 thru 11) including the following:

- Tags: VFD-1 thru 5
 - 25 HP drive
- Tags: VFD-6 thru 9
 - 5 HP drive
- Tags: VFD-10, 11
 - 10 HP drive
- ACH550 drive
- NEMA-1 indoor rated cabinet
- Circuit breaker disconnect
- 3% line reactor, *shipped loose for installation by others*
- 480 volt/3 phase/60 hertz power
- Startup by factory authorized representative

Excludes: Installation, extended warranty, drive fusing, bypass, LonWorks control interface, NEMA  12, 3R or 4 enclosures, features and/or components other than above.

Qty (2) Lochinvar CREST Commercial Boiler (Tagged: B-1, 2) including the following:


- 2000 MBH input
- Up to 96.2% thermal efficiency (AHRI)
- Up to 99% thermal efficiency in low temperature applications
- Modulating burner with up to 25:1 turndown

- Direct spark ignition
- Low-NOx operation
- Sealed combustion
- Low gas pressure operation
- ASME $\frac{2}{1}$ H $\frac{2}{1}$ stamped heat exchanger
- 316L stainless steel fire tubes
- 160 psi working pressure
- ON/OFF switch
- Adjustable high limit with manual reset
- Low water cutoff with manual reset and test
- High and low gas pressure switches with manual reset
- Low air pressure switches
- Condensate trap with blocked drain switch
- Drain valve
- System sensor
- Outdoor air sensor
- Inlet and outlet temperature sensors
- High voltage terminal strip
- Low voltage terminal strip
- Downstream gas test cocks
- ASME relief valve
- Condensate Neutralization Kit
- Temperature and pressure gauge
- Zero clearances to combustible materials
- Individual flue vents for each boiler to discharge through roof of building
- 10-year limited warranty
- 1-year limited warranty on parts
- SMART TOUCH touchscreen operating control features:
 - 8 $\frac{2}{1}$ LCD display
 - Cascading sequencer for up to 8 boilers
 - Cascade multiple sized boilers

- Efficiency optimized cascade
- BMS integration with 0-10VDC input
- BACnet MSTP communication
- Outdoor reset control with outdoor air sensor
- Password security
- Domestic hot water prioritization
- Data logging
- Programmable system efficiency optimizers
- 3 pump control

Excludes: Installation, fittings, temperature and pressure gauges external to boiler, alarm bell, SMART SYSTEM PC Software, common vent kits, dual vent gas train, electrical options (208 volt / 3 phase, 480 volt / 3phase, 600 volt / 3 phase) propane fuel, vibration isolation, seismic restraints, any option not listed above.

Qty(2) Jeremias Double Wall Exhaust Stacks including the following:

- For B-1, 2
- Model DWKL
- Category IV
- UL-1738 listed
- 444 stainless steel inner
- 430 stainless steel outer jacket
- 1-1/4"  fiber insulation
- Stainless steel fittings, supports, guide rings, accessories

Excludes: Installation, or components other than above.

Qty (9) Taco FI Frame-Mounted End Suction Pump (Tagged: PP-1, 2; CHP-1, 2; CWP-1, 2, 3; HWP-1, 2) including the following:

- Tags: PP-1, 2
 - 450GPM @ 25TDH

- ODP motor, 5 HP, 1750 RPM
- 5 $\frac{29}{8}$ Suction, 4 $\frac{29}{8}$ Discharge
- Tags: CHP-1, 2
 - 900GPM @ 80TDH
 - ODP motor, 25 HP, 1750 RPM
 - 6 $\frac{29}{8}$ Suction, 5 $\frac{29}{8}$ Discharge
- Tags: CWP-1, 2,3
 - 900GPM @ 70TDH
 - ODP motor, 25 HP, 1150 RPM
 - 6 $\frac{29}{8}$ Suction, 5 $\frac{29}{8}$ Discharge
- Tags: HWP-1, 2
 - 225 GPM @ 85 TDH
 - ODP motor, 10 HP, 1750 RPM
 - 3 $\frac{29}{8}$ Suction, 2.5 $\frac{29}{8}$ Discharge
- Bronze fitted construction
- Cast iron casing
- Bronze impeller
- Carbon steel shaft with bronze shaft sleeve
- Mechanical seal
- Flexible coupling
- Bronze wear ring
- Suction diffuser
- Structural steel base with integral drain pan
- 460 volt/60 hertz/3 phase power

Excludes: Installation, startup, extended warranty, all bronze construction, non-standard seals, flexible connectors, suction diffusers, TEFC motors, stainless steel shaft, 250# flanges, VFDs, starters, triple-duty valves and/or components other than above.

Qty (2) Taco 1900 Series In-Line Pump (Tagged: BP-1, 2) including the following:

- Tags: BP-1, 2
 - 75 GPM @ 25TDH

- 2 $\frac{29}{1}$ Suction, 2 $\frac{29}{1}$ Discharge
- ODP motor, 1 HP, 1750 RPM
- Alloy steel shaft with cupro-nickel shaft sleeve
- Bronze impeller
- Mechanical seal
- 460 volt/60 hertz/3 phase power

Excludes: Installation, startup, extended warranty, all bronze construction, non-standard seals, flexible connectors, suction diffusers, premium efficiency motors, stainless steel shaft, flush lines, VFD $\frac{29}{1}$ s, starters, triple-duty valves and/or components other than above.

Qty (2) Taco 5900 Flexbalance Series Combination Bridge / Air Separators (TAGGED: AS-1, 2) including the following:

- AS-1: 4 $\frac{29}{1}$
- AS-2: 8 $\frac{29}{1}$
- Flanged connections
- Internal perforated stainless steel baffles
- Automatic air vent
- Blow down valve
- ASME construction
- 125 PSI working pressure

Excludes: Installation, removable cover, piping, fittings, armaflex insulation, seismic restraints and/or components other than above

Qty (2) Taco CA Expansion Tanks (Tagged: ET-1, 2) including the following:

- Model 140-125
 - 37 gallon tank volume
- Model 500-125
 - 132 gallon tank volume
- Full acceptance tanks
- Heavy-duty butyl rubber bladder, removable for inspection

- Full acceptance vessel
- Fabricated steel shell, designed and constructed per ASME
- 125 PSI working pressure
- 240²⁹/₈F maximum operating temperature

Excludes: Installation, piping, fittings, higher working pressures or temperatures, seismic restraints, automatic air vents, blow-down valves and/or components other than above.

LG Multi-V VRF System (Tagged: CU/IU) including the following:

- Qty. (1) Air Cooled Outdoor Condensing Units (Tagged: CU-1.1):
 - Nominal 24 Tons
 - Heat pump
 - Inverter scroll compressors
 - HiPOR (high pressure oil return)
 - Smart oil control
 - Brushless digitally controlled condenser fans
 - 460 volt/60 hertz/3 phase power
- Qty. (10) Indoor Units (Tagged: IU-1.1 thru 4.2):
 - Ceiling ducted unit
 - Filter boxes
 - Auto operation
 - Fan speed control
 - Programmable controllers
 - 208 volt/60 hertz/1 phase power
- AC Smart system controller w/LCD touch screen
- BACnet gateway
- Warranty: 5 year parts & 7 year compressor
- Factory authorized startup

Excludes: Installation, line sets, refrigerant trim charges, spring isolators, roof curbs, extended warranty, refrigeration specialties, and/or components other than above.

Qty (1) Chromalox Unit Heater (Tagged: UH-1) including the following:

- Model LUH
- 2,600 watts heating capacity
- 277 volt/60 hertz/1 phase power
- Sub-divided circuits with individual fuse protection
- Integral 120V control transformer
- Heavy duty magnetic contactors
- Thermal cutouts/Auto reset
- Field convertible
- Wall bracket
- Power disconnect kit
- Thermostat kit

Excludes: Installation, and/or components other than above.

Qty (121) Enviro-Tec Single Duct Variable Air Volume Boxes (Tagged: TU) including the following:

- Model SDR
- 22 gauge galvanized steel casing construction
- 1/2" thick closed cell foam insulation
- Low leakage damper
- FlowStar airflow sensor
- Hot water reheat coil
- Disconnect
- Controls enclosure
- 50VA transformer
- Hanger brackets
- Factory mounting of contractor supplied controls
- Coil connection kit:
 - Automatic balancing valve

- Y-strainer with blowdown
- Ball valves

Excludes: Installation, startup, seismic restraints, actuators, control valves, DDC controls, mounting and wiring of controls, double wall construction, thermostat, sound attenuators, spare filters, electric heat, condensate pumps, smoke detectors and/or components other than above.

Qty (1) Enviro-Tec Belt Drive Horizontal Fan Coil (Tagged: FC-1.1) including the following:

- Horizontal configuration
- Rear return/front supply
- Galvanized casing construction
- Hinged access door with lift and turn fasteners
- Standard 1 in. fiberglass insulation
- 2 in. throwaway filter
- Chilled water coil
- Stainless steel drain pan
- Belt driven, forward curved fan
- Unit mounted disconnect switch
- Motor starter and fusing
- Controls transformer and terminal strip
- 115 volt/1 phase/60 hertz power
- Coil connection kit including:
 - 24 $\frac{29}{8}$ braided stainless steel hoses
 - Automatic flow regulator valve with PT ports
 - Ball valves
 - Y-strainer with blowdown valve

Excludes: Installation, startup, mixing box, seismic restraints, double wall construction, 3-speed motor controller, actuators, DDC controls, thermostat, control valves, spare filters, non-standard insulation, auxiliary drain pan, electric heat, condensate overflow switch, condensate pumps, smoke detectors and/or components other than above.

Qty (5) Enviro-Tec High Performance Fan Coils (Tagged: FC-1.2 thru 6) including the following:

- Qty (3) Model HPP (FC-1.2, 3, 4)
 - Horizontal plenum return design
- Qty (2) Model HPE (FC-1.5, 6)
 - Horizontal exposed cabinet design
 - Single deflection return grille/Double deflection discharge grille
 - Hot water coil
- Galvanized steel construction
- ARI 440 certified and labeled
- Chilled water coil
- $\frac{29}{16}$ thick fiberglass insulation
- Hanger mounting brackets
- 2 $\frac{29}{16}$ pleated MERV 8 filters
- Stainless steel drain pan
- 3-speed ECM fan motor
- Removable fan/motor deck for service
- Disconnect switch
- Controls transformer and terminal strip
- 115 volt/1 phase/60 hertz power
- Coil connection kit including:
 - 24 $\frac{29}{16}$ braided stainless steel hoses
 - Automatic flow regulator valve with PT ports
 - Ball valves
 - Y-strainer with blowdown valve

Excludes: Installation, startup, control valves, seismic restraints, dampers, actuators, DDC controls, 3-speed motor controller, thermostat, spare filters, non-standard insulation, auxiliary drain pan, condensate overflow switch, electric heat, mixing box for HPE units, condensate pumps, starter, VFDs, smoke detectors and/or components other than above.