MECHANICAL PROVISIONS

1. SCOPE OF WORK

A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS

A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. FLEXIBLE DUCT WORK

A. FLEXIBLE TYPE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERIAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.
B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 6 LINEAR FEET PER RUN.
C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

5. DUCTWORK

A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS.
B. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.
C. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
D. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS, SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.
F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES.DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.
H. ALL EXPOSED SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY LINED WITH A 1" ACOUSTICAL DUCT LINER UNLESS OTHERWISE NOTED ON THE DRAWINGS.

6. DRAINAGE PIPING

A. (CONDENSATE) SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT JOINTS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN, ROOF DRAIN OR INDIRECT WASTE DRAIN.

7. HVAC CONTROLS

A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

8. ELECTRICAL

A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

9. PIPE SUPPORTS

A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

10. GAS PIPING

A. PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS.
WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE RUNOUT, A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 9" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.

11. MISCELLANEOUS

A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.
COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS.
C. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT.
E. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

MECHANICAL PROVISIONS CONTINUED

12. TESTING AND BALANCING

A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

13. GUARANTEE

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
B. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

SEQUENCE OF OPERATIONS
RTU-1 and RTU-2
Building Automation System Interface:
The GCPLD currently has a Trane Tracer BAS and will be referenced in this document as the BAS. The Building Automation System (BAS) will send the controller Occupied Bypass, Morning Warm-up / Pre-Cool, Occupied / Unoccupied and Heat / Cool modes. If a BAS is not present, or communication is lost with the BAS the controller will operate using default modes and setpoints.
Occupied Mode:
During occupied periods, the supply fan will run continuously and the outside air damper will open to maintain minimum ventilation requirements. The DX cooling and gas heat will stage to maintain the occupied space temperature setpoint. If economizing is enabled the outside air damper will modulate to maintain the occupied space temperature setpoint.

Note: RTU-2 shall have a manual override switch at the sensor location.

UnoccupiedMode:
When the space temperature is below the unoccupied heating setpoint of 60.0 deg. F (adj.) the supply fan will start, the outside air damper will remain closed and the gas heat will be enabled. When the space temperature rises above the unoccupied heating setpoint of 60.0 deg. F (adj.) plus the unoccupied differential of 4.0 deg. F (adj.) the supply fan will stop and the gas heat will be disabled.
When the space temperature is above the unoccupied cooling setpoint of 85.0 deg. F (adj.) the supply fan will start, the outside air damper will open if economizing is enabled and remain closed if economizing is disabled and the DX cooling will be enabled. When the space temperature falls below the unoccupied cooling setpoint of
85.0 deg. F (adj.) minus the unoccupied differential of 4.0 deg. F (adj.) the supply fanwill stop, the DX cooling will be disabled and the outside air damper will close.
OptimalStart:
The BAS will monitor the scheduled occupied time, occupied space setpoints and space temperature to calculate when the optimal startoccurs.
Morning Warm-UpMode:
During optimal start, if the space temperature is below the occupied heating setpoint a morning warm-up mode will be activated. When morning warm-up is initiated the unit will enable the heating and supply fan. The outside air damper will remain closed. When the space temperature reaches the occupied heating setpoint (adj.), the unit will transition to the occupied mode.
Pre-Cool Mode:
During optimal start, if the space temperature is above the occupied cooling setpoint, pre-cool mode will be activated. When pre-cool is initiated the unit will enable the fan and cooling or economizer. The outside air damper will remain closed, unless economizing. When the space temperature reaches occupied cooling setpoint (adj.), the unit will transition to the occupied mode.
OptimalStop:
The BAS will monitor the scheduled unoccupied time, occupied setpoints and space temperature to calculate when the optimal stop occurs. When the optimal stop mode is active the unit controller will maintain the space temperature to the space temperature offset setpoint.
OccupiedBypass:
The BAS will monitor the status of the "on" and "cancel" buttons of the space temperature sensor. When an occupied bypass request is received from a space sensor, the unit will transition from its current occupancy mode to occupied bypass mode and the unit will maintain the space temperature to the occupied setpoints(adj.).
Cooling Mode:
The unit controller will monitor space temperature and space temperature cooling setpoint to determine when to initiate requests for cooling. When the space temperature rises above the space temperature cooling setpoint, the unit controller will modulate the economizer or stage the mechanical cooling On or Off as required to maintain the space temperature cooling setpoint. The first compressor will energize after its minimum 3-minute off time has expired. The supply fan will modulate above minimum speed to meet zone requirements. If additional cooling capacity is required the next stage of cooling will be enabled. Once the space temperature falls below the setpoint the compressors will be deactivated and the fan will modulate to minimum speed.
Heating Mode:
The unit controller will monitor space temperature and space temperature heating setpoint to determine when to initiate requests for heat. When the space temperature drops below the space temperature heating setpoint, the controller will enable the first stage of heat. If additional heating capacity is required the second stage of heat will be enabled. The supply fan will remain at 100% during heating operation. Once the space temperature rises above the setpoint, the heating stages will be disabled and the supply fan speed will vary according to ventilation and cooling modes.

RTU-1 shall have its heating mode sequenced with the existing in-floor radiant heating system such that the radiant floor shall be the first stage of heating and the rooftop heating will be the second stage. Also, that the in-floor heat will be enabled below 20 deg F outside air temperature.

Economizer Control / Reference DryBulb:
The supply air sensor will measure the dry bulb temperature of the air leaving the evaporator coil while economizing. When economizing is enabled and the unit is operating in the cooling mode, the economizer damper will modulate between its minimum position and 100% to maintain the space temperature setpoint. Minimum position will be calculated based on supply fan speed. If the mixed air temperature starts to fall below 53.0 deg. F, the economizer starts to close, at 50.0 deg. F, the damper will be at minimum position. Compressors will be delayed from operating until the economizer has opened to 100% for 5minutes.

Reference Dry Bulb:
Outside air (OA) temperature is compared with a reference dry bulb point. The economizer is enabled when OA temperature is less than reference dry bulb point. The economizer is disabled when OA temperature is greater than reference dry bulb point5.0 deg. F.

Demand Control Ventilation(DCV):
As the supply fan speed command varies between minimum and maximum, the Building Design and DCV Minimum Position Targets will be calculated linearly between the user selected setpoints based on the instantaneous supply fan speed. The Bldg. Design and DCV Minimum Position Targets will be used to calculate the Active OA Damper Minimum Position Target based on CO2 levels relative to the active Design and DCV CO2 setpoints.The Design Minimum and DCV Minimum OA Damper Position setpoints at Minimum Fan Speed Command and the Design Minimum OA Damper Position setpoint at Middle Fan Speed Command will have a range of 0-100% while the Design Minimum and DCV Minimum OA Damper Position setpoints at Full fan speed will have a range of0-50%.

Supply FanOperation:
The supply fan will be enabled while in the occupied mode and cycled on during the unoccupied mode. The unit controller will vary the supply fan speed to optimize minimum fan speed in all cooling modes. A differential pressure switch will monitorthe differential pressure across the fan. If the switch does not open within 40 seconds after a request for fan operation a fan failure alarm will be annunciated, the unit will stop, requiring a manualreset.

Building Pressure Control:
The barometric relief dampers will open with increased building pressure. As the building pressure increases, the pressure in the unit return section also increases, opening the dampers and relieving air.

Smoke Detector Shutdown: The unit will shut down in response to a signal from the smoke detector indicating the presence of smoke. The smoke detector will be interlocked to the unit through the dry contacts of the smoke detector. A manual reset of the smoke detector will be required to restart theunit.

Filter Status:
A differential pressure switch will monitor the differential pressure across the filter when the fan is running. If the switch closes for 2 minutes after a request for fan operation a dirty filter alarm will be annunciated at theBAS.

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PLUMBING SPECIFICATION.

1. SCOPE OF WORK

A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION), ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

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A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. DOMESTIC WATER SUPPLY PIPING

A. UNDERGROUND: PROVIDE TYPE " K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
B. ABOVE GROUND: PROVIDE TYPE " L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS, COPPER OR BRASS FITTINGS. ALL SOLDER TO BE " NO LEAD " TYPE.
C. ALL HOT WATER PIPING TO BE INSULATED WITH 1 " PAINTABLE PVC JACKETS

D. ALL COLD WATER PIPING TO BE INSULATED WITH 1 " PAINTABLE PVC JACKETS

5. SANTARY/STORM DRAINAGE AND VENT PIPING.

A. ABOVE GRADE:
SERVICE WT. CAST IRON WITH NO-HUB JOINTS

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B. BELOW GRADE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS.
C. PVC PIPING SHALL NOT BE USED IN AIR PLENUM CEILINGS AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS, OR FLOORS.
D. DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
E. DRAINAGE PIPING 3 " SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST ¼ " PER FOOT. AND PIPING LARGER THAN 3 " SHALL BE RUN AT A GRADE OF NO LESS THAN 1/8 " PER FOOT.
F. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
G. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.

6. ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER INTERNATIONAL PLUMBING CODE (LATEST EDITION).ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.

7. PIPE SUPPORTS

A. ABOVE GRADE
ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORATED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN INTERNATIONAL PLUMBING CODE (LATEST EDITION).
B. BELOW GRADE
EARTH SHALL BE EXCAVATED TO A MINIMUM DEPTH WITH AN EVEN SURFACE TO INSURE SOLID BEARING OF PIPE FOR ITS ENTIRE LENGTH.
-INTERIOR: THE PIPE SHALL BE INSTALLED (UNLESS OTHERWISE SPECIFIED) A MINIMUM OF 4 INCHES BELOW THE BOTTOM OF THE SLAB AND SHALL NOT BE IN ANY DIRECT CONTACT WITH THE CONCRETE AT ANY POINT.
-EXTERIOR: THE WATER PIPE SHALL HAVE A MINIMUM OF 60 " OF COVER AND THE SANITARY WASTE PIPE SHALL HAVE A MINIMUM OF 24 " OF COVER.

8. MISCELLANEOUS

A. COORDINATE INSTALLATION OF ALL ROOFS FLASHING AT ROOF PENETRATION.
B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS AND DIMENSIONS AT THE JOB SITE.
C. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION. THE EXACT DIMENSIONS OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT THE AVAILABLE SPACE.

9. TESTING

A. PLUMBING SYSTEM SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION).

10. GUARANTEE

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
B. FOR THE SAME PERIOD. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

SEQUENCE OF OPERATION

1.01 VAV AIR HANDLING UNIT WITH ECONOMIZER

A. OCCUPIED COOLING MODE

When the AHU is in the Occupied Cooling Mode, the Supply Fan will operate continuously, the VFD will modulate the supply fan speed as part of a single zone VAV control along with the Cooling Valve, Heating Valve, and Economizer Dampers to modulate in sequence to maintain space temperature.

B. UNOCCUPIED MODE

When the AHU is in the Unoccupied Mode, the Supply Fan will be OFF, Outdoor Air Damper, and Cooling Valve will be closed, and the Heating Valve will be fully open.

C. NIGHT SETBACK / MORNING WARMUP HEATING MODE

When the AHU is in the Night Setback / Morning Warmup Heating Mode, the Supply Fan will operate continuously, the VFD will control the supply fan to full speed, the Outdoor Air Damper and Cooling Valve will be closed, the Return Air Damper will be fully open, and the Heating Valve will modulate to maintain the maximum heating Space Air Temperature setpoint.

D. SUPPLY FAN CONTROL

The Supply Fan will operate continuously whenever the AHU is in either the Occupied Cooling Mode or the Night Setback / Morning Warmup Heating Mode. The Supply Fan will be OFF whenever the AHU is in the Unoccupied Mode, the Stop / Auto interlock is open, the Mixed Air Low Limit is tripped, or the Supply Fan Status indicates a failure (after a two minute delay). The Low Limit and the Fan Failure require a manual reset.

E. VFD SUPPLY FAN SPEED CONTROL CONTROL

When the Supply Fan is ON, the VFD will slowly ramp (adjustable) up to setpoint and modulate to maintain the proper Space temperature with a single zone VAV control algorithm. The VFD will shut down if the Supply Fan is to be OFF or the Duct Static Pressure Sensor fails.

F. ECONOMIZER CONTROL

When the Outdoor Air Temperature is less than the changeover setpoint, the Outdoor Air Damper will modulate between the adjustable minimum position and full open to maintain the Space Air Temperature at the Economizer Setpoint. The Outdoor Air Damper will modulate closed as required (overriding the minimum position) to maintain the Mixed Air Temperature at or above the Mixed Air Setpoint. A manual reset Mixed Air Low Limit will turn the Supply Fan OFF if any 12 inches of its sensing element is below its setpoint.

The Outdoor Air Damper will be set to its adjustable minimum position if the Economizer function is disabled or if the Discharge Air Temperature Sensor has failed. If the AHU is in the Morning Warmup mode, the Supply Fan is OFF or the Mixed Air Temperature Sensor has failed, the Outdoor Air Damper will be closed.

G. HEATING VALVE CONTROL

The Heating Valve will modulate to maintain the Space Air Temperature along with the economizer dampers and cooling coil control valve. The Heating Valve will be closed if the Outdoor Air Damper is open past its minimum position or if the Cooling Valve is open. The Heating Valve will be fully open if the Supply Fan is OFF.

H. COOLING VALVE CONTROL

The Cooling Valve will modulate to maintain the Space Air Temperature along with the economizer dampers and heating coil control valve. The Cooling Valve will be closed if the AHU is in the Heating mode, the Supply Fan is OFF, or the Discharge Air Sensor has failed.

I. BUILDING AUTOMATION SYSTEM INTERFACE

The Building Automation System (BAS) shall send the AHU a Space Air Setpoint. The BAS shall also send Start_up, Occupied, Unoccupied, Morning Warmup, Heating / Cooling, Economizer enable, Timed Override, Startup, Coastdown, Demand Limit, Duty Cycle, Night Setback, Purge, and Priority Shutdown commands.

If communication with the BAS is lost, the AHU uses its default setpoints and operates in the Occupied Cooling mode. The Economizer function is enabled based on the AHU Outdoor Air Temperature Sensor.

J. The following points will be monitored and alarmed at the AHU controller and the BAS:

1. Supply air temp
2. Mixed air temp
3. Outside air temp
4. Space temp
5. Fan status
6. Duct static press.
7. Filter Norm/Dirty
8. Low limit status
9. Damper Min. Pos. %
10. Damper output %
11. Heat output %
12. Cool output %
13. Fan modulation %
14. Heat/cool mode
15. Sensors Norm/Fail status
16. DDC loop parameters

K. The following points will be operator adjustable and/or automatically reset by a BAS program.

1. Space setpoint
2. Economizer setpoint
3. OA changeover
4. Min. Position setpoint
5. Static press. High limit setpoint
6. Damper open/close

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued
1	ADDENDUM #002	9/8/16

HUMPHRIES POLI ARCHITECTS

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by the Architect as instruments of service shall remain the property of the Architect. The Architect shall retain all common law, statutory and other reserved rights, including copyright thereto.

MECHANICAL AND PLUMBING SPECIFICATIONS/SEQUENCE OF OPERATION

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

MPS1-1

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