

# **SOUTH HILLS VILLAGE AIR HANDLER UNIT** **TENANT BULLETIN**

## **Temperature Controls**

(9/25/2009)

This bulletin is to advise you of the fees and responsibilities associated with the tenant's temperature controls.

### **Tenant Responsibility:**

1. Unit power is by tenant. Tenant to provide permanent power prior to Roth Bros. commissioning.
  - a. A power whip (wires enclosed in some form of flexible protection) from the units disconnect or a dedicated circuit from the tenants breaker panel must be in place prior to installation.
2. Tenant shall provide a 2" x 4" junction box mounted vertical with conduit stubbed to ceiling space for each temperature sensor (installed by division 16). **The location of this box must be the same as the location indicated of the final approved construction drawings. If relocation is necessary then this must be approved by the landlord and a change order issued by the tenant before the sensor will be moved.**
3. Tenant shall have ceiling, walls, ductwork and electrical equipment powered to HVAC equipment completed and ready for installation.
4. Tenant will manually open chilled water valves 100% before performing final system flushing.
5. CA/Tenant shall provide 72 hour written notice by tenant's contractor to Roth Bros., Inc. when tenant space is ready for temperature controls installation.
6. Tenant shall provide the following information for equipment purchase:
  - a. Tenant name and space number
  - b. Number AHU units.
  - c. AHU Submittals for units to be installed
  - d. GPM per AHU
  - e. Estimated start time.
  - f. Estimated completion date.
  - g. General contractor name and phone number
  - h. Mechanical contractor name and phone number.
7. Fax copy of all completed items to Roth at 330-799-3369 or email to *JBelcastro@rothbros.com*.

**Note:** If Roth Bros. or their subcontractor responds to tenant's request for temperature control installation and the above requirements are not complete or requires partial installation of the control system or any problems are created by other contractors the applicable fees will be billed. See Appendix VI.

### **Roth Bros. Responsibility:**

1. Provide Andover controller per unit.
2. Provide space temperature sensor per unit.
3. Provide supply air temperature sensor per unit.
4. Provide mixed air temperature sensor per unit.
5. Provide outside air temperature sensor per unit.
6. Provide following protection devices: duct low temperature (freezestat), duct high temperature (firestat), and duct smoke detector.
7. Provide control transformer.
8. Provide all control cable.
9. Provide chilled water valve.
10. Provide outside air/return air damper actuator.
11. Provide return water temperature sensor for all tenants.
12. All programming.
13. System commissioning.
14. Provide as-built drawing.
15. Provide installation labor after Tenant Electrical and Mechanical Rough in.  
See below Appendix I and III.
16. Tie-in of junction box to Landlord's system.

### **Simon Responsibility:**

1. Facilitate work between tenant contractor and Roth Bros.

### **EXCLUSIONS:**

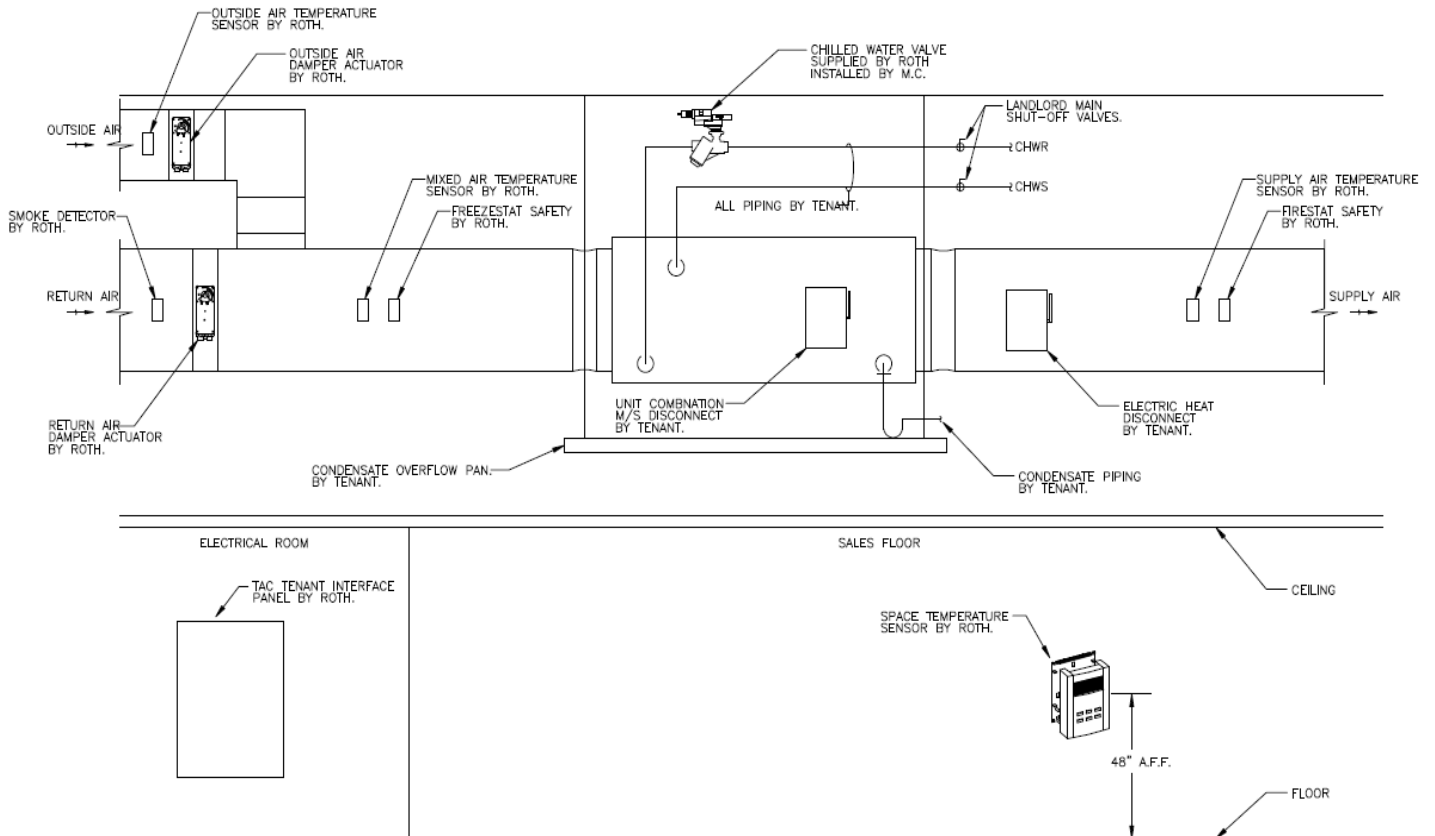
The following items are not included:

1. Air Handler Coil Unit supplied by owner
2. Fire Alarm tie-in
3. Installation of Air Handler Unit
4. Air and water balance (by Simon contractor)
5. Disconnect/Motor Starter for unit
6. After hours labor (All after hours labor will not commence until a signed purchase order has been sent to Roth Bros., Inc.)
7. Any scope deviations from the final bid set of Tenant Drawings provided to Roth by Tenant Architect or Engineers.

After Grand Opening or Partial Opening, additional fees will be applied.

# Appendix I

## Typical Unit Layout



See appendix III for installation and supplier responsibilities.

## Appendix II

### EMS Equipment Specification and Cost Breakdown

Item	Note	Qty	Device	First Unit Cost	Cost Additional per AHU Unit
1	3	1	i2814 Fan Coil Andover controller	\$1100/unit (i2814)	\$1000/unit (i2814)
2	3	2	480/277/120/24 Transformer	\$75/unit	\$75/unit
3	3	1	Enclosure/Interface Panel Components	\$400/unit	\$400/unit
3	3	1	TTS-Led-1 Andover Led Digital Display Sensor(Optional from TTS-S)	\$45/unit	\$45/unit
4	3	1	Discharge Temp sensor	\$15/unit	\$15/unit
5	3	1	Mixed Air Temp sensor	\$70/unit	\$70/unit
6	3	1	Outside Air Temp sensor	\$15/unit	\$15/unit
7	3	1	CHW Return Temp Sensor (1 <sup>st</sup> unit)	\$20/unit	n/a
8	3	1	Freezestat	\$200/unit	\$200/unit
9	3	1	Firestat	\$50/unit	\$50/unit
10	3	1	Smoke detector	\$200/unit	\$200/unit
11	3	1	Fan Status CT	\$30/unit	\$30/unit
12	3	3	Fan/Control/Protection relays	\$155/unit	\$155/unit
13	3	2	Damper Actuator	\$500/unit	\$500/unit
14	3	1	Control Valve	\$350/unit	\$350/unit
15	2	250'	Infinet Communication Cable Model#D-73601-OR "Great Lakes Wire & Cable"	\$50/unit	\$50/unit
16	1	1000'	Control Cable: 2 conductor, 18 awg, plenum, stranded	\$225/unit	\$225/unit
17	1	500'	Control Cable: 4 conductor, 18 awg, plenum, stranded	\$225/unit	\$225/unit
18	3		<b>Installation labor</b>	\$2900/unit	\$2000/unit
19	3		Control engineering labor	\$300/unit	\$160/unit
20	3		Commissioning labor	\$600/unit	\$400/unit
21	3		Programming labor	\$350/unit	\$160/unit
22	3		Panel Labor	\$300/unit	\$300/unit
			Travel	\$300/unit	\$150/unit
			Total if purchased through Roth	\$8,475/unit	\$6,775/unit

\*\*If a retail space requires a BTU Meter, please refer to Appendix III.

**Notes:**

1. Tenant may purchase from other vendor.
2. If infinet communication cable is not purchased through Roth Bros., Inc., contractor must follow cable specification. Please have Roth Bros., approve cable prior to purchase.
3. Item supplied by Roth Bros., Inc. – No Exception

Roth contact information:

**Roth Bros., Inc.**

**Jason Belcastro**

**3821 Crum Road**

**Youngstown, Ohio 44515**

**Toll Free: 800-872-7684**

**Office: 330-270-2537**

**Fax: 330-799-3369**

## Appendix III

### Responsibility Matrix

<b>Task Description</b>	<b>Tenant Mech. Furnish</b>	<b>Tenant Mech. Install</b>	<b>Roth DDC Furnish</b>	<b>Roth Elec. DDC Install</b>	<b>Tenant Elect. Furnish</b>	<b>Tenant Elect. Install</b>
<b>HVAC Controls</b>						
Hardware (Control Panels)			x	x		
PCIV 2 way CHW Control Valve		x	x			
Conduits and back box for T-Stat/Sensor					x	x
BAS Communication cabling			x	x		
120v to Control Panel					x	x
<b>AHUs</b>	x	x				
Duct Heater	x	x				
Minimum OA Damper provided	x	x				
All Other Control Dampers or VAV/FPB's	x	x	x			
Control Valves		x	x			
Starters and or Contactors	x			x		
Test and Balance	x					
<b>Terminal Boxes VAV / FPB</b>	x	x				
DDC Controller			x	x		
Flow Transmitter			x	x		
Flow Cross	x	x				
120v/240v/277v/480v to Control Panel					x	x
Conduits and back box for T-Stat/Sensor					x	x
Test and Balance	x	x				
<b>Fan Coil Units</b>						
Conduits and back box for T-Stat/Sensor					x	x
120v/240v/277v/480v to Control Panel					x	x
CHW Control Valves	x	x				
Test and Balance	x	x				
<b>Fire Alarm System / Smoke Detectors</b>						
Hardware - Smoke Duct Detectors			x	x		
Addressable equipment shut down relays					x	x
Power / Shutdown Cabling					x	x
Remote Reset	x					x
<b>Commissioning</b>	x	x	x	x	x	x

## Appendix IV

### Potential construction change order items

<b>Description of problem</b>	<b>Cost/event</b>
Transformer replaced due to Tenant improper Power Wiring	\$140.00
Replace Andover Microprocessors Controllers	\$350.00
Rewire units contactors	\$75.00
Rewire Unit Factory Controls due to Tenant altering	\$75.00
Remobilization to site after the Initial Installation Checkout *	\$500.00
Replace the Rewired Damage Cabling (Comm or other)	\$90.00
Rework Factory Mounted Dampers not to Simon Spec	\$65.00
Power Control Box (Item #1 Bulletin #2 of Simon TC Doc.)	\$125.00
Adding Space Sensor if initial rough in was not performed	\$90.00
Premium Labor	\$87.00
Lift charge if not provided by Tenant G.C.	\$125.00

\* Not a per unit charge See Change Order below.





General Contractor - \_\_\_\_\_

Representative - \_\_\_\_\_

Mechanical Contractor - \_\_\_\_\_

Representative - \_\_\_\_\_

Electrical Contractor - \_\_\_\_\_

Representative - \_\_\_\_\_