

15-490

EXHIBIT "A"

SPECIFICATIONS FOR TOTAL HVAC SYSTEM MAINTENANCE SUMMIT COUNTY OHIO BUILDING COMPLEX

The Contractor is required to read carefully the specifications for all parts of the work so as to become familiar with the work covered by the contract. The Contractor shall visit the site and familiarize himself with the existing conditions before submitting his bid. No additional compensation will be awarded due to unfamiliarity. It shall be assumed that he has full knowledge of existing conditions and accepts them as is.

General Description of Building and Equipment

The Ohio Building Complex consists of the main office areas, (Building "A" 8 floors, and Building "B" 4 floors), five individual office/shop areas on the Main Street level, and the Summit County Parking Deck office and elevator machine rooms.

Akron Energy System supplies the majority of the cooling requirements supplemented by several back-up and stand alone units. Steam heat exchangers throughout the building supply the hot water for building heating system. A Trend Energy Management Program controls run times of the air handling units and monitors temperatures in various areas of the building.

Major pieces of equipment and approximate quantities are identified in the equipment list.

AREAS TO BE MAINTAINED

171 South Main Street -	Ohio Building – Unoccupied Space
175 South Main Street -	Ohio Building "A" and "B"
183 South Main Street -	HR Dept. /Insurance and Risk Management
189 South Main Street -	Unoccupied Space
191 South Main Street -	Unoccupied Space
193 South Main Street -	Storage Space
200 South High Street -	Summit County Parking Deck Office & Elevator Machine Rooms

GENERAL SPECIFICATIONS

1. GENERAL

It is understood and agreed that the following conditions shall be part of the specifications of this contract. These general specifications shall be binding upon this contractor.

2. DEFINITIONS

Where the word "bidder" is used in the specifications, it shall be understood to mean any contractor submitting a bid to perform the work and supply the materials as defined in these specifications. Where the words "contractor or service company" is used in these specifications, it is understood to mean the successful bidder to whom the service contracted is awarded. Where the word "owner" is used in these specifications, it shall be understood to mean the County of Summit and the duly authorized representative thereof.

3. SCOPE OF WORK

This specification covers five (5) years service to the specified HVAC and associated systems and components thereof at the County of Summit Ohio Building Complex, 175 South Main Street, Akron, Ohio 44308.

4. PROPOSAL REQUIREMENTS

Before submitting a proposal, each bidder must make a careful study of the site and specifications and fully assure himself as to the extent of the work, the type and quality of the materials, and the type and quality of the workmanship required. The bidder must carefully consider and visit the places where the work is to be performed, the materials delivered and, should his proposal be accepted, he will be held responsible for any misunderstandings or error, whether or not it is the result of his unfamiliarity with the work. The proposal for this work must cover all contingencies – including all labor, material, scaffolding, replacement parts, equipment, rigging, tools, transportation, etc. necessary for the complete service on everything described, shown, or reasonably implied herein.

These specifications include all labor, materials, equipment, replacement parts, etc. necessary to keep all systems in good operating condition satisfactory to the owner. All items of labor, material or equipment not specifically required by the specifications but incidental to or necessary for the proper operation of the HVAC systems or reasonably implied in connection therewith, shall be furnished as if specifically required by the specifications.

The right is reserved to furnish any detail drawings which, in the judgment of the owner may be necessary.

5. DISCREPANCIES

In the case of any discrepancies, the subject shall be referred to the owner for decisions and the owner's decision shall be binding, and without such decision, adjustments shall not be made by the contractor save at his own risk.

6. SUMMIT COUNTY REPRESENTATIVES

The Summit County representatives shall be the following and shall be called in the order noted below.

Roger Huffman (330) 643-2809
Jon Holland (330) 926-2492

7. BIDDER QUALIFICATIONS

The following requirements shall be considered as the minimum standards for a service company to be considered as qualified to provide services under this contract and shall be a prerequisite to any award:

- A. A period of ten (10) years' experience in the performance of HVAC maintenance as specified shall be considered a minimum. Bidder must submit evidence of years of experience with his bid.
- B. The service company shall maintain a field office and/or warehouse that are within fifty (50) miles of the facility to be serviced under this specification. Bidder must submit address of said facility with his bid.
- C. A minimum of two (2) local HVAC mechanics and (2) local Electronic Technicians employed by the service company shall be residents in an area within a maximum of a fifty (50) mile radius of the facility to be serviced. Bidder must submit the names and cities of residence of these individuals with his bid.
- D. Services that are to be provided shall be performed by qualified and trained service personnel that are directly employed by the service company. Subcontracting portions of the system or services requested in this specification shall not be allowed without prior consent.

- E. The service company shall submit with his bid evidence of at least five (5) documented full-service maintenance contracts similar to that of this specification with documented continuous full service for at least five (5) years. This evidence shall include name, address, phone number, length of contract and type of equipment covered.
- F. The service company shall submit with his bid evidence of at least four (4) customers with whom he has completed a full responsibility contract similar to that of this specification for at least one (1) year in excess of \$20,000. This evidence must include at least name, address, phone number and type of equipment maintained.
- G. The service company shall submit with their bid evidence that indicates the use of a uniform detailed method by which preventative maintenance tasks are defined, scheduled, recorded, updated and processed. The service company's preventative maintenance program shall be a computer-generated based on manufacturer's recommended maintenance procedures and shall include provisions to build a historical data bank of all equipment being maintained. Simple hand-scheduled programs are not acceptable.
- H. The service company's service mechanics must use and submit to the owner upon completion of each service call, copies of the computer-generated sheets defining the tasks performed on each piece of equipment. The service company must submit with his bid sample sheets of these tasking sheets.
- I. A copy of the preventative maintenance work order form, which the service company plans to use, shall be submitted with his bid package and must be approved by the owner.
- J. The service company shall submit with their bid, resumes of all personnel to be associated with this contract. Minimum resumes required are:
 - 1. HVAC Mechanic – (2)
 - 2. Service Manager – (1)
 - 3. Electronic Technician – (2)

8. PARTS REPLACEMENT

- A. All parts, components or devices for the mechanical systems that are worn or are not in proper operational condition shall be repaired and/or replaced with new parts, components or devices of the same OEM manufacturer.

- B. When equipment or parts are replaced in their entirety and a newer design of this device is available and is functionally equivalent and compatible, the device of the newer design shall be used as a replacement.
- C. All repair and replacement parts, components and devices for the mechanical systems and equipment as listed shall be supplied by the service company and shall be included in the cost of the service program.
- D. All miscellaneous parts and supplies necessary to maintain the mechanical systems and equipment shall be supplied by the service company and shall be included in the cost of the service program: belts, valve packing, lubricants, tools, paints, refrigerant, test instruments, meters, etc.
- E. The service company shall not be made responsible for repairs or replacements necessitated by reason of negligence or misuse of the equipment by other than the service company, or by reason of any other cause beyond the control of the service company except ordinary wear and tear.

9. SCOPE

The contractor shall be responsible for maintaining original design performance (O.D.P.) conditions for all equipment and systems covered under this specification. The Contractor accepts all equipment and systems as is upon submitting this maintenance proposal.

Design, installation labor and materials required to keep systems at O.D.P. are the responsibility of the Contractor and shall be affected at no additional charge to the owner. All HVAC equipment, appurtenant devices and systems that are related to the HVAC systems are the equipment to be maintained. The equipment not to be maintained under this contract are such items as foundations, structural supports, domestic water lines, drains, gas lines, unit cabinets, piping, electrical services (power), etc. Contract for HVAC maintenance will be awarded to include:

- HVAC Preventative Maintenance
- HVAC Emergency Maintenance
- HVAC Equipment Repair
- HVAC Equipment Testing & Calibration
- HVAC Water Treatment Service
- HVAC Filter Service
- Facility Management System Preventative Maintenance
- Facility Management System Repairs
- Facility Management System Software Upgrades
- Emergency Generator Preventative Maintenance

Emergency Generator Repair
Automatic Temperature Control Maintenance and Repair

10. CLEANING

Upon completion of any work, the work area shall be cleaned of all refuse caused by work performed under this contract.

11. RUBBISH

The Contractor shall not allow waste materials or rubbish caused by his employees to accumulate in or about the premises but shall have same properly removed.

12. EMERGENCIES

Because of the nature of the owner's facility, the contractor will be required to commence corrective action within two (2) hours of receipt of notification by telephone or otherwise from the owner that such an emergency exists. Failure of the contractor to adequately respond to emergency situations within the terms of the service contract will be grounds for the owner to seek assistance from whatever means available and back charge the associated charges to the contractor.

13. SERVICE HOURS

The Contractor shall respond to emergency calls 24 hours per day, 365 days per year, at no additional cost to the owner.

14. PERFORMANCE REVIEW

- A. The owner's agent may review at any time the service provided and reports submitted to verify that the preventative maintenance is in fact being properly and adequately performed. Any lack of maintenance service complaints or deficiencies in the performance of the services shall be submitted to the service company in writing for correction.
- B. For problems or deficiencies of significant importance or of a continual nature, a time period for compliance shall be established after discussion and mutual agreement. Failure of the service company to correct the deficiencies within the time period agreed upon shall constitute cause for termination of the services and/or withholding of payment.

15. EQUIPMENT OUTAGES

In the event equipment must be shut down for an extended period of time, the County of Summit shall be notified immediately of the delay and the measures being taken to put the equipment back in service. During situations involving extended outages of critical equipment, it shall be the contractor's responsibility to do whatever is necessary to minimize the delay.

16. EQUIPMENT MAINTENANCE SERVICE

- A. The specific quantities and sizes of major pieces of equipment shall be listed separately on the equipment list attached.
- B. The responsibility of the service company shall not be limited only to these major pieces of equipment as shown on the equipment list, but shall also include all appurtenant devices and systems that are related to heating, ventilating and air conditioning systems.
- C. The maintenance and preventative maintenance includes all parts, materials and labor necessary to perform the service and, in addition, any necessary replacement of any units.

Heating System – Heat exchangers, heating coils, expansion tanks, steam traps, strainers, unit heaters, cabinet heaters, duct heaters, fin tube heaters, regulators, relief valves, flash tanks, thermometers, pumps, valves, electric coils, vents, check valves, pressure reducing stations, chemical shot feeders, motors, water treatment and related heating equipment.

Cooling System –purge units compressors, condensers, pumps, fans, valves, thermometers, coils, tubes, terminal units, motors, VF drives, flex couplings, water treatment and related cooling equipment.

Air Handling System – Fans, motors, variable speed drives, air grills, plenums, drain pans, registers, air filters, dampers, linkages, make-up air units, mixing boxes, fan coil units, and other related system components.

Temperature Control System – Thermostats, pressure controls, relays, limits, valve operators, damper motors, humidity controls, timers, stepper switches, contactors, controllers, recorders, control panels, gauges, air compressors, control air piping, dryers, solenoid valves, control valves, sensors, photo cells, fuses, air vents, static probes, transformers, electronic and pneumatic controlled valves, air sensors, pump sequencing systems, air separators, actuators, limit switches, temperature transmitters, thermocouples (RTD), DPS sensors, differential pressure transmitters, flow meters, temperature sensors, pressure gauges, temperature gauges and other control related equipment.

Facility Management System – All components of Trend Building Supervisor System, to include main panel, transformers, power modules, controllers, circuit boards, indoor and outdoor sensors, contactors, relays, c-bus, coils, software and programming. Not included are the system computer, monitor, printer and consumables.

Trane Vari Trac II control panel, all components of system including circuit boards, relays, transformers, fuses, contactors, software, programming, etc.

Trane Tracer System and Programmable Control module, all components of system including circuit boards, relays, transformers, fuses, sensors, software, programming, etc.

Armstrong Chilled Water Pump package, all pumps, VF drives, motors, controllers, graphic displays and controllers, programming, valves, suction guides, gauges, strainers, control panels, transmitters, control valves, limit switches, overload protectors, capacitors, heaters, receiver/controllers, A/C reversing motors as well as all interface controls for pumps and drives, all hardware, controllers, programming, software, etc. associated with chilled water pump package.

Caterpillar Model LC5 (375kva) Emergency power generator equipment including transfer switch and operating controls.

Miscellaneous Equipment – Exhaust fans, manual valves, piping on all covered equipment to the first unit isolation valving, float valves, direct expansion valves, thermometers, gauges, magnetic starters, manual motor starters, pump and fan motor starters to their respective motors, check valves, flow valves relief valves stop valves, freeze stats, gate valves, wheel valves, Belimo valves, butterfly valves, isolation valves, triple duty valves, drain valves, all valves, pressure reducing control valves, pressure reducing/sustaining valves, throttle valves, three-way control valves, diverting valves, two-way modulating control valves, three-way modulating diverting valves, control valves, spring loaded check valves, strainers, filters, Flo Trex valves, air separators, actuators, temperature transmitters, pressure relief valves, flow transmitters, pressure gauges, temperature gauges, PRV's, glycol, refrigerant, refrigerant piping and insulation and other related HVAC equipment.

17. EQUIPMENT NOT INCLUDED

- A. Maintenance services including repair labor and parts replacement for portions of the systems and equipment that are non-maintainable are not required or included as part of this specification.
- B. Excluded items shall be considered as: Foundations, structural supports, fan ductwork, domestic water lines, drains, etc only.
- C. This specification covers only equipment listed herein and/or in place at the time of the bidders' meeting. In the event the system is altered, changed, or if any equipment is added or not included in this specification, then that portion shall be added or deleted as required and shall be in accordance with this specification.
- D. Service resulting from vandalism, misuse, abuse, operator error or site-related problems.
- E. The chilled water piping system is supplied by the Akron Energy Systems supplied district chill water system; no water treatment is required during the cooling season.

18. SERVICES INCLUDED

- A. The Contractor shall be responsible for scheduling of the preventative maintenance and task functions to be performed on each scheduled call by calendar periods and operating hours as pertinent to each task. Master records shall be maintained in the owner's office and such schedules will be adhered to.
- B. The Contractor shall have in his possession specific maintenance and repair procedures and parts lists for all equipment to be maintained.
- C. As work is scheduled, the contractor shall issue to the mechanic the recommended maintenance procedures and a listing of any special lubricants, tools, etc. that is required for proper maintenance of the equipment involved.
- D. As work is performed, it shall be checked off on the service sheets and then kept on file by the Contractor with a copy being left with the owner. The Department of Physical Plants reserves the right to have access to the contractor's files within 48 hours of notification. These files must be kept for the life of the contract. This and all other work is to be performed in a professional manner by properly trained personnel. All maintenance shall include parts, labor and materials. Preventative maintenance calls shall include checking

the performance of all components and testing, adjusting, calibrating and cleaning of all system components.

- E. The Contractor shall report to the owner daily when on the job. After each service call, a service report shall be left with the owner detailing work accomplished. Two of the scheduled service calls shall include the systems startup and shutdown for the appropriate season.
- F. The Contractor shall provide maintenance and repair service to keep subject equipment in good operating condition as follows:
 - 1. Furnish and install as required all replacement and repair parts and/or system components.
 - 2. Furnish as required all labor, refrigerant, material, parts, components and supplies including freight and delivery. Note – all refrigeration controls are the responsibility of the contractor. In the event of damage caused by compressor failure, electric starters, isolation switches, etc., will also be the responsibility of the contractor.

19. SPECIAL INCLUSIONS

Repair and replacement of all moving parts which suddenly or accidentally fail including gears, motors, stators, bearings, shafts, contactors, etc. Also included is any sudden or accidental failure of tubes, cracking of vessels and refractories and resulting damage to other equipment. Anticipated equipment repairs and correctional steps determined to be required as the result of diagnostic tests are also included.

20. FACILITY MANAGEMENT SYSTEM

Any and all software revisions as designated by the manufacturer during the term of this contract shall be implemented and utilized as soon as they are commercially available at no additional cost to the County of Summit.

21. PREVENTATIVE MAINTENANCE

In addition to the established preventative maintenance program, the service company shall include as a part of their service:

- 1. The Owner will determine the seasonal startup and shutdown dates for filling and draining the chilled water system and required chilled water coils and lines. The service company shall perform the startup/shutdown within seven days after notification.

COMPREHENSIVE ANNUAL INSPECTION – AIR HANDLING UNIT

FAN AND MOTOR

1. Verify operation of system motor, gages, etc.
2. Inspect flexible connections and ductwork for damage and leaks – repair as required.
3. Inspect tension on drive and fan belts, and change as needed.
4. Lubricate fan shaft bearings.
5. Lubricate motor bearings.
6. Lubricate dampers.
7. Clean intake screen on motor.
8. Inspect fan wheel for free rotation, cracks and alignment.
9. Inspect for vibration and unusual noises.
10. Inspect coils for water leaks.
11. Report condition of dampers.
12. Test securing of guards, doors and panels.
13. Inspect all major stop valves and report condition.
14. Inspect all structural elements for corrosion and damage.
15. Report condition of coils – clean/dirty – clean as required.

STARTER

1. Inspect wiring for secureness and damage.
2. Megger motor at starter and record readings.
3. Inspect switch gear, starter and contactor points.
4. Inspect starter for signs of wear, arcing, overheating, burns, etc.
5. Inspect electrical connections for tightness and absence of moisture.
6. Measure and record operating voltage.
7. Measure and record operating amperage.

OPERATIONAL INSPECTIONS – AIR HANDLING UNIT

FAN AND MOTOR

1. Verify operation of system motor, gages, etc.
2. Inspect tension on drive and fan belts, and change as needed.
3. Lubricate fan shaft bearings.
4. Lubricate motor bearings.
5. Lubricate dampers.
6. Inspect for vibrations and unusual noises.

7. Inspect coils for water leaks.
8. Report condition of dampers
9. Report condition of coils – clean/dirty.
10. Report condition of motor windings – clean/dirty.
11. Clean intake screen on motor.

STARTER

1. Inspect starter for signs of wear, arcing, overheating, burns, etc.
2. Measure and record operating amperage.

COMPREHENSIVE ANNUAL INSPECTION – PUMP

1. Inspect for vibrations, unusual noises, odors, etc.
2. Inspect mounting points for secureness and tighten.
3. Inspect packing; adjust to a slow drip if necessary.
4. Inspect mechanical seal.
5. Verify flow in sealing/flushing line.
6. Lubricate coupling.
7. Lubricate motor bearings.
8. Inspect system for leaks in piping, flange connections, etc.
9. Lubricate pump bearings.
10. Inspect motor windings for dirt buildup.
11. Clean ventilation openings (grills and/or screens).
12. Visually inspect coupling.

STARTER OR CONTACTOR

1. Inspect wiring for secureness and damage, and record condition.
2. Megger motor at starter and record reading.
3. Clean enclosure.
4. Tighten terminal connections at starter.
5. Inspect contacts for signs of wear, arcing, overheating, etc., and record condition.
6. Measure operating amperage and record readings.

OPERATIONAL TEST

1. Inspect level in system expansion tank and record reading.
2. Record discharge pressure.
3. Measure operating voltage and record reading.
4. Test accuracy of all pressure gages.
5. Record suction pressure.

OPERATIONAL INSPECTION – PUMP

1. Inspect for vibrations, unusual noises, odor, etc.
2. Inspect packing; adjust to a slow drip if necessary.
3. Inspect mechanical seal.
4. Verify flow in sealing/flushing line.
5. Lubricate coupling.
6. Lubricate motor bearings.
7. Inspect system for leaks in piping, flange connections, etc., and record condition.
8. Lubricate pump bearings.
9. Clean ventilation openings (grills and/or screens).
10. Visually Inspect coupling.

STARTER OR CONTACTOR

1. Inspect contacts for signs of wear, arcing, overheating, etc., and record condition.
2. Measure operating amperage and record reading.

OPERATIONAL TEST

1. Inspect level in system expansion tank and record reading.
2. Record suction and discharge pressures.

COMPREHENSIVE ANNUAL INSPECTION – EMERGENCY GENERATOR

ENGINE

1. Measure and record coolant level.
2. Inspect hoses, piping, and connections for tightness.
3. Inspect fan belt for wear and proper tension.
4. Determine fan operation and wear condition for report.
5. Clean and inspect intake air filtering system.
6. Change oil and oil filters.
7. Examine condition of exhaust system.
8. Inspect fuel supply system.
9. Measure antifreeze concentration.
10. Lubricate fan drive bearing.

DIESEL ENGINE

1. Change fuel filters.
2. Inspect and adjust rack on unit injector of fuel distributor pump according to manufacturer's instruction.
3. Inspect governor and adjust as needed.

CONTROLS, SAFETIES, AND CHARGING SYSTEM

1. Visually inspect panel interior for signs of system leaks or problems.
2. Verify proper operation of alarm indicators.
3. Check gages against operating conditions.
4. Measure and report status of battery electrolyte.
5. Report water level and corrective measures, if any.
6. Verify and record battery charging rate and voltage.
7. Examine condition of battery posts and cables, and remove corrosion.
8. Verify operation of low oil level and low water indicators.
9. Verify over speed and reverse power indicators.
10. Confirm operation of alarm silence, alarm horn and alarm reset.
11. Verify high temperature indicator.

GENERATOR

1. Clean, inspect and report condition of brushes regarding wear and tension.
2. Clean and examine appearance of generator windings and report.
3. Visually inspect commutator and collector rings and report condition. Follow manufacturer's adjustment procedure if necessary.

OPERATIONAL INSPECTION – EMERGENCY GENERATOR

ENGINE

1. Measure and record coolant level.
2. Inspect hoses, piping and connections for tightness.
3. Inspect fan belt for wear and proper tension.
4. Determine fan operation and report.

CONTROLS, SAFETIES AND CHARGING SYSTEM

1. Visually inspect panel interior for signs of system leaks or problems.
2. Verify proper operation of alarm indicators.
3. Check gages against operating conditions.
4. Measure and report status of battery electrolyte.
5. Report water level and corrective measures, if any.
6. Examine condition of battery posts and cables, and remove corrosion.

GENERATOR

1. Inspect brushes for wear and check for proper tension. Report condition.
2. Examine appearance of generator windings and report.
3. Visually inspect commutator and collector rings. Report condition.

OPERATIONAL TEST

1. Manually start and transfer to line.
2. Measure and record oil level.
3. Read and record oil and water temperature.
4. Confirm and record all operating temperatures, pressures, amperage, control panel readings, etc.

COMPREHENSIVE ANNUAL INSPECTION – HEAT EXCHANGER

1. Check control set point.
2. Verify operation of control valve.
3. Confirm flow level through heat exchanger.
4. Perform operation test.
5. Test pressure control switch.
6. Try lever test safety valve.

COMPREHENSIVE ANNUAL INSPECTION – WATER HEATER

1. Manually flush and try lever test pressure relief valve.
2. Open and close isolation valves and check piping and valves for leaks.
3. Record hot water supply temperature.
4. Bottom-blow heater tank to remove sediment.
5. Check all wiring, insulation, and connections on heater and controls.
6. Check safety power cutoff on heater.
7. Inspect flue system.
8. Test operation of automatic vent dampers.
9. Test flame failure protection device.

COMPREHENSIVE ANNUAL INSPECTIONS – EXPANSION TANK UNIT

1. Check air pressure.
2. Inspect connecting piping for leaks.
3. Confirm proper water level indication at sight glass.
4. Charge tank to adjust water level, if necessary.
5. Inspect overflow drain function.
6. Test float valve operation.
7. Test operation of automatic fill system.

COMPREHENSIVE INSPECTION AND CALIBRATION – AUTOMATIC TEMPERATURE CONTROLS

AIR COMPRESSOR

1. Drain tank and check traps.
2. Change oil and check oil pressure.
3. Check belt and sheaves; change as required.
4. Change suction filter semi-annually.
5. Inspect unloader and check valve.
6. Inspect high pressure safety valve.
7. Analyze motor operating conditions and lubricate.
8. Check PE switch, starter and alternator.
9. Record compressor run time.
10. Record oil carryover rate. **

REFRIGERATED AIR DRYER

1. Check refrigerant pressure and record.
2. Record refrigerant temperature.
3. Brush condenser and cover grills as required.
4. Operate drain trap and bypass valves.

FILTER AND PRESSURE REDUCING STATION

1. Inspect coalescent filters and change.
2. Inspect charcoal filter and change.
3. Record pressure reducing valve setting, adjust as required.
4. Operate drain trap and bypass valves.

CHILLER, CONVERTOR, PUMPS AND ZONE CONTROLS

1. Check and calibrate all controllers.
2. Calibrate all transmitters and set receiver gages, as required.
3. Check all PE switches.
4. Check all control valves.
5. Check all pilot positioners.
6. Check auxiliary control devices.

FAN SYSTEMS AND HVAC UNIT CONTROLS

1. Review sequence of operation.
2. Check operation of all dampers and lubricate.
3. Check pilot positioners, calibrate.
4. Calibrate all controllers at least once annually.
5. Calibrate all transmitters and set receiver gauges, as required.

6. Check all solenoid air valves, PE switches and air valves for proper operation.
7. Check auxiliary control devices.

ROOM-TERMINAL UNIT CONTROLS

1. Check all room stats and calibrate at least once annually.
2. Check operation of unit coil steam traps.
3. Check operation of all dampers.
4. Check all PE switches, solenoid air valves and limit controls.
5. Check operation of auxiliary devices.

TERMINAL UNITS

Boxes – Mixing and Variable Air Volume (without Fan)

1. Inspect box for ductwork connection.
2. Lubricate and adjust dampers and linkage.
3. Verify operation of control.

Electric Duct Heaters

1. Inspect coil for damage to element.
2. Inspect isolators for damage or cracks.
3. Brush coil. Remove dust and debris (where accessible).
4. Torque heating terminals
5. Verify operation of control.
6. Verify staging of heating elements.

Induction Units

1. Visually inspect coil. Clean as required.
2. Check and clean drains and drain pans.

OPERATIONAL INSPECTIONS - AUTOMATIC TEMPERATURE CONTROL

A. DIRECT DIGITAL CONTROL, MICRO PROCESSOR BASED SYSTEM

Any and all software revisions as designated by the manufacturer and requested by the Owner during the term of this contract shall be implemented and utilized as soon as they are commercially available AT NO ADDITIONAL COST to the County of Summit.

1. The Contractor shall provide a TRAINED TECHNICIAN to perform services as outlined below:

a. Semi-Annually

1. Verify regulated power assembly and battery voltages, adjust as required.
2. Insure cabinet is a earth ground potential
3. Verify proper system electrical ground isolation.
4. Inspect and secure interconnecting cables and electrical connections.
5. Via CDB, exercise all control devises with manual command functions and verify proper response of field hardware. Check all alarms and overrides using the scan functions.

Note: Review specific alarm override conditions with County of Summit personnel.

6. Clean external surfaces of the panel enclosure and associated field equipment units.

Note: Some of this equipment is in a highly-restricted area and may require pre-scheduling.

7. Exercise point value display and PCR diagnostic self-test.
8. Test and verify operation of UPS equipment for emergency operation of OWS. Replace parts as necessary.

b. Annually:

1. Inspect interior surfaces and components of the panel enclosure and associated field equipment unit and clean if required. Insure all mounted devices and plug-in components are securely in place.
 2. Evaluate binary and analog points for proper operation and reporting. At the CDB, make a general performance review of all points.
 3. Check each individual critical point. Determine new or revised calibration coefficients as required. Make adjustments to connected FEU/field hardware as required.
 4. ENTER REVISED CALIBRATION COEFFICIENTS INTO SOFTWARE after completing critical point procedures.
 5. Review control loop for proper operation; i.e., controlled positions are stable at set point. If necessary, verify or adjust tuning constants, set points, parameter values and reset schedules.
 6. Record any parameter values which are different than those shown on the metasys program listing.
 7. Permanently record all changes in CPU program and on back-up discs.
2. REPAIR All repair labor and materials associated with the building operation control systems are to be included in this contract.

B. AIR FILTER SERVICE

1. Contractor shall provide air filter service which includes labor, frames, and replacement filter media and other materials necessary for this service. Replacement shall be as needed, with a minimum of four (4) changes per year for the pre-filters and one (1) per year for the annual filters.

2. Air Filters:

- a. Filters shall be extended surface, pleated panel disposable filters.
- b. Replacement filters are to be as recommended by the equipment manufacturer and must fit properly so as not to allow the passage of air around them.
- c. A wire grid shall be bonded to the leaving air side of the filter to support the media and to maintain the uniform shape of the pleats.
- d. The frame shall be two pieces, die-cut from heavy duty chipboard, one on the entering air side and one on the leaving air side. Then assembled, the two mating halves of the frame shall overlap to provide a double wall on all four sides. The pleated media rack shall be bonded to the inside of the frame, forming a totally unitized construction and providing a positive seal against leakage.
- e. Average efficiency shall be 25 to 30% based on ASHREA 52-76 test method. Performance tolerances shall conform to Section 7.4 of AR1 Standard 850-78.
- f. Filters shall be U.L. Class 2 approved band listed. Testing and performance shall be according to U.L. Standard 900.

NOTE: Accessibility to filters in some air handling units is very limited and special; multiple smaller filters may be required.

C. COOLING COIL DRAIN PANS

Pans are to be inspected on a monthly basis to ensure that they are draining properly and do not contain biological growth. Pans are to be cleaned and disinfected quarterly during filter changing.

D. EMERGENCY SERVICE

PREVENTATIVE MAINTENANCE AND EMERGENCY SERVICE CALL

1. The Service Company shall schedule and perform the preventative maintenance services on no less than a monthly basis.
 - a. After each service call a service report shall be left with the Owner detailing the work accomplished.
 - b. Two of the scheduled service calls shall include the system start-up and the system shut-down, for the appropriate season.
2. The Service Company shall provide emergency service on an as required basis. Emergency service shall be considered as calls in addition to the scheduled preventative maintenance calls.
 - a. All labor, overtime, travel costs, parts, supplies and any other expenses incurred and expended on such a call shall be provided by the Service Company and shall be included in the cost of the service program.
 - b. The emergency service shall be provided as often as needed, on a 24-hour basis, weekends and legal holidays included.
 - c. The Service Company shall be capable of having personnel on site and commencing corrective action to an emergency situation within two (2) hours.
 - d. Emergency service response system shall be professionally manned telephone answering service. Automatic answering/recording machines or home telephone numbers are not acceptable.

E. MAINTENANCE PROCEDURES AND RECORDS

1. The Service Company shall utilize computer generated preventative maintenance directions, which indicate task functions to be performed on each scheduled service call, as determined by calendar periods, operating hours, (runtime), manufacturer's recommendations, and historical data bank, if available.

2. As work is due, the Service Company shall issue, to his mechanic on the job, the necessary and appropriate recommended maintenance procedures and a listing of any special lubricants, tools, etc., that are required for proper maintenance of the apparatus concerned.
3. The Service Company's administration system shall provide for continuous updating of maintenance procedures and frequencies. Breakdown experience and frequency shall determine the on-site material inventory level and preventative maintenance frequencies.
4. During the course of the service program, the Service Company shall advise and assist in the determination of improvements to the mechanical system that shall conserve energy and minimize utility expenditures.

F. PERFORMANCE REVIEW

1. The Owner's agent may review, at any time, the services provided and reports submitted, to verify that the preventative maintenance is, in fact, being properly and adequately performed. Any lack of maintenance service, complaints, or deficiencies in the performance of the services shall be submitted to the Service Company in writing for correction.
2. For problems or deficiencies of significant importance or of a continual nature, a time period of compliance shall be established after discussion and mutual agreement. Failure of the Service Company to correct the deficiencies within the time period agreed upon shall constitute cause for termination of the services and/or withholding of payment.

G. PARTS AND COMPLETE REPLACEMENTS

1. The Contractor will repair or replace worn parts or complete components with new parts. Reconditioned components may be used only when delivery time of new components is excessive, and it is mandatory to get a piece of equipment in operation.
2. Damage obviously due to vandalism will be reimbursable by the County of Summit Department of Physical Plants to the Contractor for replacement parts used plus the labor necessary to install parts.

H. PARTS INVENTORY

1. ON-SITE: The Contractor shall maintain an on-site inventory of maintenance and replacement parts for each type of machine, in an area designated by the agent of the County of Summit.

This inventory shall contain at a minimum: (3) of each type of thermostats, (1) oil filter cartridge, (1) intake air filter cartridge, (2) universal sensors, (1) set of belts for each size of air handling units, (3) diaphragms for valve actuators or replacement valve actuators, (3) diaphragms for damper actuators or replacement damper actuators, 100 feet of polyethylene tubing, (2) pints compressor oil, (40) 12 vcd plug in relays (for use in energy management system), (1) E/P solenoid valve, miscellaneous pneumatic fittings, (1) mixed air low limit thermostat, (1) processor controller board (master).

The Contractor shall obtain all other needed parts in the quickest way possible at no additional cost to the County.

The above listed parts must meet the parts requirements as specified elsewhere in this specification.

2. TRUCK OR LOCAL WAREHOUSE INVENTORY: To assure the quickest repair time possible, the Contractor must maintain an inventory on the local service trucks or in the local warehouse consisting of a minimum of: (1) field interface controller, (1) control display board, (2) regulated power assemblies, (2) back-up batteries for digital system controllers, (2) electric to pneumatic analog transducers, (2) pressure to electric analog transducers, (1) process control board, (2) application specific controllers, (6) bulb temperature element sensors, (4) 120v to 24 vac transformers, (1) transmitter/receiver board, (1) communication enhancement board, (2) backup batteries to be replaced bi-annually.

The above listed parts must meet the part requirements as specified elsewhere in this specification.

I. SPECIAL CONDITIONS

5. Freeze Protection is the responsibility of the Contractor.

The service company shall be required to drain and blow out the cooling coils designated by the owner.

6. Annual calibration of each thermostat, safety and operating control.
7. Monthly inspection of steam traps during the heating season.
8. Annual inspection and testing of relief valves.
9. Clean/vacuum fin tubing/coils as needed for efficient heat transfer.

22. EMERGENCY SERVICE

The service company shall provide emergency service on an as-required basis. Emergency service shall be considered as calls in addition to the scheduled preventative maintenance calls.

- A. All labor, overtime, travel costs, parts, supplies and any other expenses incurred and expended on such a call shall be provided by the service company as shall be included in the cost of the service.
- B. The emergency service shall be provided as often as needed on a 24-hour basis – weekends and holidays included.
- C. The service company shall be capable of responding to an emergency situation within two (2) hours.

23. PARTS AND COMPLETE REPLACEMENTS

- A. The Contractor will repair or replace worn parts or complete components with new parts. Reconditioned components may be used only when delivery time of new components is excessive and it is mandatory to get a piece of equipment in operation.
- B. Damage obviously due to vandalism will be reimbursable by the County of Summit, Department of Physical Plants, to the contractor for replacement parts used plus the labor necessary to install.

24. SPECIAL CONDITIONS

- A. The Contractor shall not be required to install new equipment or additional controls as recommended by any governmental authority. Contractor shall be reimbursed for any expenses, parts or labor, which is incurred because of the above-mentioned work.
- B. The Contractor shall coordinate as required all mandated pressure vessel inspections at no additional cost to the owner.

- C. It is agreed that the County of Summit agent will provide general access to all devices, which are to be serviced. The contractor shall be free to start and stop all primary equipment incidental to the operation of the mechanical system(s) as arranged with and directed by the County of Summit agent or other duly authorized representative. The County of Summit agent will take responsibility for equipment malfunction where such access is denied.
- D. The Contractor shall not be liable for any loss, delay, injury or damage, whether direct or consequential, that may be caused by conditions beyond the contractor's direct control including, but not limited to, acts of government, strikes, lockouts, fire, explosion, theft, riot, civil commotion, war, malicious mischief, floods and other acts of God.
- E. The following items pertaining to the system are not included under this agreement:
 - 1. The replacement of heating, cooling and ventilating equipment such as fan ductwork, tanks, etc., unless damaged by the contractor during performance of his work.
 - 2. Maintenance or repair of electrical wiring (other than as related to control system); plumbing, oil storage tanks, oil and/or gasoline and domestic water lines.

25. GENERAL CONDITIONS

- 1. This maintenance contract shall begin as soon thereafter as possible, and continue for a period of five (5) years. The County of Summit Department of Physical Plants may terminate this contract at any time by giving thirty (30) days written notice by certified mail. Should cancellation occur, a refund of the sum paid by the County of Summit Department of Physical Plants would be pro-rated on the basis of unused portion of the contract period paid for. No service charge, handling fees or other penalties for cancellation will be accessible.
- 2. Both parties must agree that the contract is not transferable or assignable.

3. It is further understood that no other agreement – oral or written – expressed or implied – shall limit or qualify the terms of this agreement unless such additional agreement is accepted in writing by both parties.
4. It should be further understood that, should any major components of the system be replaced by the County of Summit agent, a credit shall be issued by the contractor pro-rated over the period of time in the contract period during which service and repair of the new equipment is covered by the manufacturer's or installer's warranty.

EQUIPMENT LIST

<u>MAKE</u>	<u>MODEL/SERIAL NO.</u>	<u>LOCATION</u>
DUNHAM – BUSH – COOLING UNIT	CC800/706 2380188A83C	OBA – BASEMENT RM B3
DUNHAM – BUSH – COOLING UNIT	CC800/706 2380188A83C	OBA – BASEMENT RM B4
COMFORT AIR – COOLING UNIT	DW86-10 187011104411	OBA – BASEMENT RM B8
TRANE – FAN COIL UNIT		BASEMENT 171 S. MAIN
TYPHOON – HEATING/COOLING UNIT (SPLIT SYSTEM) OUTDOOR SECTION	S24CL-6 H91006730 V24CU-6	BASEMENT 171 S. MAIN CHURCH ST. PIT
PERIMETER & CEILING FIN		171 S. MAIN
DEVILBISS AIR COMPRESSOR	TAP-5050 4117	OBA – BASEMENT RM B21
JOHNSON SYSTEMS AIR COMPRESSOR	JUBN-5044 369	OBA – BASEMENT RM B21
HANKISON INTERNATIONAL AIR DRYER SYSTEM	PR15 0352-1A-9802-100 G	OBA – BASEMENT RM B21
STEAM RETURN TANK		OBA – BASEMENT RM B21
SPIREX/SARCO PRESSURE REDUCING VALVE (W/HONEYWELL ELECT. REMOTE TEMP. CONTROLLER)		OBA – BASEMENT RM B22

FLASH TANK
ARMSTRONG 105 GALLON EXPANSION TANK
ARMSTRONG 6-INCH AIR SEPARATOR
TWO (2) CHILLED WATER PUMPS & MOTORS
TWO (2) VF DRIVES
ARMSTRONG CHILLED WATER PUMP PACKAGE SYSTEM
A O SMITH 120 GALLON ELECTRIC HOT WATER TANK
TRANE A.H.U. W/R.A.F.
TRANE FAN COIL UNIT
TRANE VAV UNITS
TRANE A.H.U. CLIMATE CHANGER
CATERPILLAR GENERATOR (375KVA)
TRANE FAN COIL UNIT (IN CEILING)
TRANE AIR HANDLING UNIT
H.W. FAN COIL UNIT
AIR HANDLING UNIT

CCDB10CE0A/K81C19566

L8-B K78L44941

S/N# G5A03192

E-2

OBA - BASEMENT RM B22
OBA BASEMENT PUMP RM.
OBA BASEMENT PUMP RM.
OBA BASEMENT PUMP RM.
OBA BASEMENT PUMP RM.
OBA BASEMENT PUMP RM.
OBA BASEMENT PUMP RM.
OBA BASEMENT RM. B21
OBA 1ST FL 171 S. MAIN
OBA 1ST FL 171 S. MAIN
OBA 171 S. MAIN
OBA 1ST FL MECH RM
OBA 1ST FL MECH/ELEC RM
OBA 1ST FL RM 101A
OBA 183 S. MAIN - PERSONNEL
OBB 189 S. MAIN
OBB 189 S. MAIN (FRONT AREA)

TACO AIR SEPARATOR	Y1531 AC4F-1	INTERSTITIAL
EXPANSION TANK		INTERSTITIAL
TRANE CHILLER	6 CAB 401MCNER 42K	INTERSTITIAL
TRANE CONDENSER	CAUB-C4042BOO	OBB ROOF
(2) TACO C.W. PUMPS		INTERSTITIAL
JOHNSON PUMP SEQUENCER SYSTEM		INTERSTITIAL
TRANE A.H.U. W/R.A.F.	M14-B K78L44938	OBA 3 RD FL MECH RM
ABB VFD MOTOR DRIVE-SUPPLY	ACH550	OBA 3RD FL MECH RM
ABB VFD MOTOR DRIVE-RETURN	ACH550	OBA 3RD FL MECH RM
TACO H.W.C. PUMP		OBA 3 RD FL MECH RM
TACO HEAT EXCHANGER	Y0982 B6208-5A	OBA 3 RD FL MECH RM
TACO AIR SEPARATOR	Y1500 AC-2F-1	OBA 3 RD FL MECH RM
EXPANSION TANK		OBA 3 RD FL MECH RM
TRANE A.H.U. W/R.A.F.	LPCAF10F1HOLL	OBA 3 RD FL MECH RM (DATA)
TACO HEAT EXCHANGER	8412S	OBA FOR SKYWALK
WEINMAN H.W.C. PUMP	2095CV	OBA FOR SKYWALK

TACO AIR SEPARATOR	Y2793 AC2F	OBA FOR SKYWALK
EXPANSION TANK		OBA FOR SKYWALK
EMERSON-LIEBERT A.H.U. (A)	CO9D8E0025	OBB 3 RD FL (COMPUTER RM)
EMERSON-LIEBERT A.H.U. (B)	CO9D8E0025	OBB 3 RD FL (COMPUTER RM)
H.W. UNIT HEATER		OBB 3 RD FL LOADING DOCK
DUNHAM-BUSH H.W. HEATER	H175C 881050679	OBB 3 RD FL DELQ. TAX
MCQUAY A.H.U.	LSL 104CV 3XF00621-06	OBB 3 RD FL DELQ. TAX
TRANE FAN COIL UNIT		OBA 4 TH FL TELE RM
TRANE A.H.U. W/R.A.F.	M14B K78L44937	OBA 4 TH FL MECH RM
ABB VFD MOTOR DRIVE-SUPPLY	ACH550	OBA 4TH FL MECH RM
ABB VFD MOTOR DRIVE-RETURN	ACH550	OBA 4TH FL MECH RM
(2) TACO H.W.C. PUMPS		OBA 4 TH FL MECH RD
(2) TACO HEAT EXCHANGERS		OBA 4 TH FL MECH RM
(2) TACO AIR SEPARATORS		OBA 4 TH FL MECH RM
(2) EXPANSION TANKS		OBA 4 TH FL MECH RM

TRANE A.H.U. W/R.A.F.	PCC33ASSSSSSSSSC15 B78D00854	OBB ROOF B BLDG UNIT
ABB VFD MOTOR DRIVE-SUPPLY	ACH550	OBB ROOF B BLDG UNIT
ABB VFD MOTOR DRIVE-RETURN	ACH550	OBB ROOF B BLDG UNIT
TRANE A.H.U.	PCC14ASCSASS5A27 B78D00853	OBB ROOF 4 TH FL ATRIUM
TRANE FAN COIL UNIT (IN CEILING)		OBA TELECOM RM FOR BANK
TRANE A.H.U. W/R.A.F.	M14-B K78B313622	OBA 5 TH FL MECH RM
TACO H.W.C. PUMP		OBA 5 TH FL MECH RM
TACO AIR SEPARATOR	AC2-1 K371 NB489	OBA 5 TH FL MECH RM
TACO HEAT EXCHANGER	Y049 B6208-A	OBA 5 TH FL MECH RM
EXPANSION TANK		OBA 5 TH FL MECH RM
TRANE-STEAM UNIT	UHSA018S8AAAA D84K08390	OBA 5 TH FL
CARRIER 4 TON A.H.U. SPLIT SYSTEM AIR HANDLER CONDENSOR	FB4ANF048 3297A22914 38CKC048 0798E17864	OBA 5 TH FL DATA RM OBB ROOF

MCQUAY A.H.U. W/R.A.F.	MSL122DV 3WH00456-04	OBA 6 TH FL MECH RM
ABB VFD MOTOR DRIVE-SUPPLY	ACH550	OBA 6 TH FL MECH RM
ABB VFD MOTOR DRIVE-RETURN	ACH 550	OBA 6 TH FL MECH RM
MCQUAY H.W. FAN UNIT	UHH016BJ 7WE0004100	OBA 6 TH FL MECH RM
MCQUAY A.H.U. W/R.A.F.	MSL122DV 3WH00457-04	OBA 7 TH FL MECH RM
TACO H.W.C. PUMP	1619C2N3	OBA 7 TH FL MECH RM
TACO AIR SEPARTOR	AC2F	OBA 7 TH FL MECH RM
TACO HEAT EXCHANGER	66210S	OBA 7 TH FL MECH RM
MCQUAY H.W.FAN UNIT	UHH016BJ 7WE0003700	OBA 7 TH FL MECH RM
TACO EXPANSION TANK	CAX42	OBA 7 TH FL MECH RM
TRANE A.H.U.	PCC14A1D3A2A6A32 B77C00531	OBA ROOF (FOR 8 TH FL)
ABB VFD MOTOR DRIVE-SUPPLY	ACH550	OBA ROOF (FOR 8 TH FL)
TACO H.W.C. PUMP	120 B4RD 6/90	OBA 8 TH FL MECH RM
TACO HEAT EXCHANGER	B6210-SA X915NB1826	OBA 8 TH FL MECH RM
TACO AIR SEPARATOR	AC2-1 X369NB433	OBA 8 TH FL MECH RM

EXPANSION TANK		OBA 8 TH FL MECH RM
TRANE STEAM HEATER		OBA PENTHOUSE
REZNOR GAS UNIT HEATER		OBA PENTHOUSE
TACO AIR SEPARATOR	AC8-1 X953NB1297	OBA PENTHOUSE
EXPANSION TANK		OBA PENTHOUSE
16 EXHAUST FANS		OBA ROOF
2 EXHAUST FANS		PENTHOUSE ROOF
4 EXHAUST FANS		OBB ROOF
SARCO PRESSURE REDUCING STATION	700120-85 91115-2 PILOT TYPE D BODY	OBB BASEMENT
SARCO DIAL-MATIC 25 SERIES REGULATOR		OBB BASEMENT
A O SMITH 80 GALLON ELECTRIC HOT WATER TANK		OBB BASEMENT
TRANE AIR TITE AH UNIT		PARK DECK OFFICE-LVL 3A
TRANE HEAT PUMP SECTION		PARK DECK-LVL 3A
TRANE AIR TITE AH UNIT		PARK DECK-2B ELEV MACH RM
TRANE HEAT PUMP SECTION		PARK DECK-LVL 2B
TRANE AIR TITE AH UNIT		PARK DECK-3A ELEV MACH RM
TRANE HEAT PUMP SECTION		PARK DECK-LVL 3A

CARRIER A.H.U. SPLIT SYSTEM
AIR HANDLER

MODEL # FX4ANF042
SER. # 1700AO3883

OBA 5TH FLOOR CEILING

CONDENSOR – CARRIER WEATHER
MAKER

MODEL # 38TXAO43200
SER. # 2988E04626

OBB – UPPER ROOF

WHIRLPOOL A/C UNIT

MODEL 3 ACM102XJO
SER. # QK1625850

OBA – ELEV. MACHINE ROOM

A/C UNIT - WHIRLPOOL

MODEL #
SER. #

OBB – ELEV. MACHINE ROOM

MISCELLANEOUS

ALL GAS, ELECT., STEAM & HOT WATER HEATERS

THRU-OUT BLDG. COMPLEX

ALL VAV BOXES – (APPROX. 203)

THRU-OUT BLDG. COMPLEX

ALL FAN COIL UNITS & REHEAT COILS

THRU-OUT BLDG. COMPLEX

ALL FIN TUBING, BASEBOARD & PERIMETER HEAT

THRU-OUT BLDG. COMPLEX

ALL EXHAUST FANS

THRU-OUT BLDG. COMPLEX

ALL PNEUMATIC, ELECT., ELECTRONIC THERMOSTATS	THRU-OUT BLDG. COMPLEX
ALL CONDENSATE PUMPS	THRU-OUT BLDG. COMPLEX
ALL AUTOMATIC TEMPERATURE COMTROLS	THRU-OUT BLDG. COMPLEX
ALL MECH., ELECT. & DIGITAL TIME CLOCKS, PROGRAMMABLE TIME CLOCKS	THRU-OUT BLDG. COMPLEX
TREND BUILDING MANAGEMENT SYSTEM	THRU-OUT BLDG. COMPLEX
TREND TOUCHVIEW ELECTRONIC SENSORS	THRU-OUT BLDG. COMPLEX



INTEROFFICE MEMORANDUM

TO: Mary Spaugy, Law Department
Shannon McNulty, Purchasing Department

FROM: Jon Holland, Physical Plants Department

SUBJECT: Five (5) Year Ohio Building HVAC Maintenance Service

DATE: October 30, 2015

CC:

Please place a request for advertisement for the Five (5) Year Full Maintenance Service for the HVAC Equipment at the Ohio Building on the November 9, 2015 Council agenda. The Request for Legislature, Legislative Summary Sheet, Request for Procurement Form and the bid specifications are attached for your review.

If you need any additional information regarding this matter, you can reach me at 330-926-2492.

JH

Enclosures