



KENTUCKY COMMUNITY AND TECHNICAL COLLEGE SYSTEM

REQUEST FOR PROPOSAL ADDENDUM

SOLICITAION NO.:	RFP-0305
ADDENDUM NO.:	3
RFP ISSUE DATE:	December 15, 2023
ADDENDUM DATE:	February 21, 2024
OPENING DATE:	*EXTENDED* MARCH 4, 2024, 4:00PM EST

The following information is being provided in response to questions received for this RFP:

- 1) Date Revision: **RFP proposal due date has been extended to MARCH 4, 2024, 4:00PM EST.**
- 2) During the Prebid it was stated that any open work orders, at the time of contract change over, would be the responsibility of the current contractor. Please confirm if this is correct.
 - a. *That is **not** correct. KCTCS will require the current provider to complete workorders with parts ordered or work orders currently in progress. All others will become the responsibility of the provider awarded a contract from RFP-0305 on July 1, 2024 (RFP-0305, 5.05 B). KCTCS did state that RFP-0305 has been changed to add the responsibility of finishing all submitted workorders at the end of the currently advertised RFP remain assigned to the maintenance provider until completion (RFP-0305, 2.09 A).*
- 3) We assume that the current work order listing will be provided to the awarded contract at the time of contract turnover. Please advise that this will occur.
 - a. *Yes, Prior to the July 1, 2024 start KCTCS will hold a "kick off" meeting to insure BAS and Workorder System access. This can be scheduled once a contract has been awarded.*
- 4) How will the cost be handled if there are service calls that occur due to uncompleted work orders from the previous contractor?
 - a. *All buildings will be "as is" on July 1, 2024 and become the responsibility of the new provider. If there are workorders that KCTCS believes the current vendor has shown negligence in completing KCTCS will offer the current provider an opportunity to correct, if a correction is not provided KCTCS will allow the new provider to invoice KCTCS and then deduct the cost for the work from the last payment to the current provider.*
- 5) It was stated that for any obsolete equipment parts etc., i.e. comfort point controls, that the successful contractor would be responsible for only the cost of the obsolete part and that any additional cost for the upgrade would be paid by KCTCS. Please confirm that this is correct.
 - a. *This applies only to controls equipment that is no longer available (Honeywell Comfort Point, etc) and systems that will not allow for the integration of a comparable device by another manufacturer. In that specific instance where a total replacement of the entire BAS would be the only option, KCTCS will only hold the provider to the cost of the failed devices, not the total replacement of the building automation system.*

- 6) When the RFP describes Preventative Maintenance plan PM, it states that it includes filter changes, water treatment and replacing normal consumables. Please further define what are “normal consumables”. Are belts considered normal consumables?
- a. Yes belts are considered “normal consumables”. KCTCS requires that all PM work be fulfilled to the requirements of the original equipment manufacturer.*
- 7) Please further clarify who bears the responsibility for Geothermal loop cleanup. It was stated there were a few dirty systems in the portfolio.
- a. If a geothermal loop is found to be “dirty” during the first test KCTCS will be responsible for having the system flushed and tested before treatment becomes the responsibility of the maintenance provider. This does not relieve the provider from the responsibility of failed equipment related to the geothermal system unless it is proven that contamination is the cause of failure.*
- 8) During the Prebid it was stated that the demarcation points for responsibility are as follows.
- Piping past first valve is excluded from contract.
 - * *All piping between a piece of equipment to and including the first means of shutoff or disconnect will be included in the contract.*
 - All duct work is excluded from contract.
 - * *Correct*
 - All power wiring before the point of entry to the equipment is excluded from the contract. i.e. disconnects are not included unless it is an integral part of the equipment.
 - * *Correct*
 - All control wiring is excluded.
 - * *Control wiring outside of equipment is excluded, control wiring that is an integral part of equipment or inside of equipment is covered.*
 - Pneumatic piping and tubing.
 - * *Building pneumatic piping/tubing is not covered, but tubing inside of equipment, or exposed and accessible near a controlled device should be. KCTCS’ intent here is for the provider to not be responsible for difficult to access leaks inside walls, ceilings or buried underground, and for KCTCS not to receive invoices for small leaks that could easily be accessed at an actuator etc., just because “pneumatic tubing is not covered”.*
 - Refrigerant piping outside of the units.
 - * *Correct*
- Please confirm that these are correct.
- 9) At the Prebid it was stated that any exhaust system that where single point of use i.e. welding smoke eaters are the responsibility of KCTCS but if a system served multiple locations, it was the responsibility of the contractor. Please confirm if this is correct.
- a. Systems integrated into the building are covered. Point of use exhaust systems whether single or double arm are not covered.*
- 10) It is stated that the air compressors for pneumatic temperature controls are included and are the responsibility of the contractor. Please confirm that the air compressor for training use i.e. auto shop, welding shop are not included in this contract.
- a. All air compressors that were installed as part of an engineered capital project and installed during the initial construction or a renovation of the building are covered. This includes compressors for building controls and training shop air of all types. Only compressors that are not a part of the building design and are considered “shop specific equipment” are excluded.*

- 11) 51.2 F states that Jace procurement is the responsibility of the owner. Does that mean that any Jace replacement parts will be turned in and paid for by KCTCS?
- a. *KCTCS will procure all JACEs per the provided specifications from the maintenance provider or their sub-contractor. The cost for this JACE is the responsibility of the maintenance provider and will be deducted from their monthly payment.*
- 12) Regarding any existing equipment warranties, i.e. compressor warranties. Can KCTCS provide a list of all warranties that are in place with expiration dates?
- a. *This information is not readily available. KCTCS Facilities can work with the awarded supplier on an as needed basis.*
- 13) Page 5 states “Do not bind paper together with an adhesive or mechanism such as wire, staple, comb, ring, or strip. Page 9 states “All documents submitted with the proposal should be bound in a single volume except as otherwise specified” How should we submit a hard copy?
- a. *Hard copy responses can be submitted in a 3-ring binder, large binder clip, or envelope. This is so the RFP response can be scanned/uploaded to KCTCS record retention. Hard copy RFP response is not required if the RFP response is uploaded to the Bid Locker site as instructed on page (5), Section C, Option 1.*
- 14) Page 3, Number 2, point 3, states “may submit one RFP response to include one or both of two geographic regions of coverage”
“Consideration will be given to proposals which offer cost reductions for the award of both regions”
If bidding both regions, how do you advice for us to present a “cost reduction” if granted both regions?
- a. *Offerors should respond with pricing for individual buildings within each region. Should multiple regions be considered for an award with one supplier, then pricing (if reduced) should be reflected for each building.*
- 15) Page 23, Section 52, Point A. With communication to regions being one point of contact, is the region each school (16) or East/West region (2)?
- a. *KCTCS prefers there to be one person of contact for all contract interpretation issues or disputes and who oversees the providers covered area(s). This person will work with the KCTCS Maintenance Contract Administrator or KCTCS Regional Project Managers. All contract interpretation and disputes will be handled at this level and should not be decided nor communicated by the technicians in the field.*
 - b. *At the regional college level KCTCS allows KCTCS regional project managers and college maintenance personnel to communicate with regional lead persons and the maintenance provider technicians on workorder clarification issues specific to their college(s).*
- 16) Elizabethtown is showing 13 buildings on the “Building Inventory” but we were only provided with equipment lists for 10 buildings. The buildings are “Lincoln Trail Area Development District”, “ECTC BlueovalSK On-Site Training Center”, and “Rock Church”
- a. See Attachment A (Rock Church), Attachment B (LTADD), Attachments C.1 & C.2 for the Blueoval equipment.
 - i. **Blueoval building note: Attachments C.1 & C.2 are design documents only and what is installed could be slightly different. The first year will be PM only until the 1 year warranty ends, estimated April 2025. The Blueoval building estimated final completion estimated 2 months.**
- 17) South Central – There was an equipment listing for the Main Bldg, Bldg 50 shows 11 boilers and various other equipment. No one seems to know anything about this building. Would you please clarify if this building exists and if so, where is it located?
- a. *The building 0500 tab was included on the Southcentral equipment list by mistake. The 0500 list in the Southcentral equipment inventory is from previous RFPs and a collection of multiple buildings, please disregard this list entirely.*
 - b. *Building 0500 is the Main building at Ashland and you should use the “0500” tab on the Ashland equipment list only for your proposal.*

18) Please confirm anticipated contract length?

a. Please refer to page 10 of the RFP, Section 18, TERM OF CONTRACT

The contract resulting from this solicitation shall be for a period of one year (12 months) with the possibility of annual renewals for future periods. Renewal is not guaranteed but may be executed by mutual agreement. The contract will have 6 optional 12-month renewals.

19) Confirm this is a site based service solution with technicians full time at locations and not a route service model.

a. This is a means and methods part of the proposal that will be considered during evaluation process. Due to the size and complexity of our buildings, KCTCS prefers to build relationships with our vendors to prevent delays in service due to unfamiliarity with our equipment locations and history. Proposals will not be excluded should a vendor propose a route service model if it can be proven that the service level can be maintained without the need for refamiliarization of the technicians each visit.

20) Confirm service scope only relates to HVAC Service and Controls. Confirm all other maintenance such as general (i.e. painting, drywall patching, etc.) is handled by in-house College Maintenance team. Items outside of HVAC and controls.

a. The scope of RFP-0305 covers multiple types of equipment, systems, and controls. This includes but is not limited to HVAC equipment, refrigeration equipment, domestic water equipment, generators. It is not limited to only HVAC and HVAC controls. Painting and patching are not a usual part of this contract and would only be expected if the damage was caused by negligence on the providers behalf.

21) Please provide a comprehensive points lists for all existing BAS systems.

a. This is a list of about 98,000 points and growing. Once a contract is awarded, the new provider will be given access to the Building Automation System sufficient to review this information and time with the KCTCS Master Systems Integrator to build familiarity within our system.

22) What, if any, is the expectation for staff coverage for PTO or absences etc.

a. KCTCS expects there to be a plan in place for 100 percent coverage available at all times should an emergency arise. It is the reasonability of the provider to determine how coverage will be maintained during these times.

23) What are programming hours and please identify occupancy / use by building on campuses.

a. Class hours and building occupancy vary greatly at each college and each semester, however most buildings are open Monday to Friday 7am to 5pm. Hours may change during the summer and on holidays. KCTCS will update these times and dates at each monthly meeting. In the past KCTCS also has not restricted the maintenance providers from accessing our buildings during times the college may be closed.

24) Is there a current PM Schedule or are we to fully develop one.

a. Not at this time. KCTCS is working to develop an equipment tracking system that will include a PM schedule connected to the KCTCS workorder system. There has not yet been an established timeline for this to be complete and running.

25) What is the envisioned reporting structure? Who will the provider's site management report? In short, who on your side will oversee the contract?

a. The KCTCS Maintenance Contract Administrator, currently that role is filled by Jeff Hall.

26) Please clarify if we are to provide all materials, supplies and parts for maintenance.

a. Maintenance provider is required to supply all materials and parts for the contract unless stated otherwise in the contract.

27) How are we to handle repairs? Is it expected that we cover all HVAC related repairs no matter end of life, major failure or cost etc.?

a. Please review sections 5.02b, 5.07 and 5.08 in the RFP-0305.

- 28) What are the planned operational hours of all the facilities?
a. Most are Monday to Friday, 7am to 5pm local time (of the college location) but can vary by location and time of the year. KCTCS is also willing to accommodate work outside these times.
- 29) Please advise if there is an expectation of a Facility Condition assessment and or Life Cycle Analysis? Are we to include pricing for such?
a. There is not, and pricing is not requested.
- 30) Is there any expectation of work or project filing by the provider? i.e. permitting, design fees and filing for a project such as chiller replacement.
a. All cost associated with a covered replacement are the responsibility of the provider.
- 31) Please confirm if we are to provide any 24/7 coverage for HVAC service and operation.
a. Please review sections 7.01 and 7.02 in the RFP-0305.
- 32) Are there any Collective Bargaining Agreements to consider in this exercise?
a. No
- 33) Regarding employee compensation. If we migrate any current employees under **(supplier)** and not just fill open posts, is it desired that all staff be kept 100% whole, or can local area rates be applied? Please provide current staff roster with roles and current rates of pays and benefits enrollments for ALL roles currently employed including vacant positions.
a. Not applicable
- 34) Are we to develop an all-encompassing maintenance plan. To do this we need to carry out asset identification and tagging of actual installed mechanical, electrical, and plumbing (MEP) equipment and plant and populate into a CMMS platform. Are we to include these as part of our proposal? **Note. Provided Asset Inventory is not reflective of new facilities.**
a. The development of a maintenance plan is not part of this RFP. KCTCS is working to develop tagging and a preventive maintenance plan outside of this RFP.
- 35) Please confirm your desire for properly populated and fully commissioned CMMS?
 If a system is in place, what is it and what modules are currently in place? PM; Requested; Event
➤ KCTCS currently uses Arcibus FMworks module.
 If a system is in place, can we receive a summary of all work orders performed in the past full year. Such report to show work by type, completion rates and total hours and material spend.
➤ Some of this data will not be available but KCTCS will provide an excel file with what is available.
 Can we be provided a guest admin password?
➤ Not at this time.
 If a system is in place and is due to be removed, can we receive an MEP asset dump in excel?
➤ The current system will remain.
 Will the existing system remain and be paid for by the College/
➤ Yes
- 36) To correctly populate a CMMS, it is essential to carry out asset tagging. **Should contractors include costs for this vital service or is there MEP asset information in place and up to date?**
 If yes, please provide in excel. A comprehensive asset list (Excel preferable) is needed of all major maintainable equipment. A summary is fine showing something like the following for site / each building – a data dump in excel from existing CMMS would be good too:
a. KCTCS does not have a current asset tracking system in place.

Description / Type	Quantity
Air Compressor Assy.	
Air Dryer	
Air Handler	

Description / Type	Quantity
Anslu System	
Backflow Preventer	
Boiler	
Chemical Neutralization Trap / Tank	
Chiller	
Condenser	
Cooling Tower Assy.	
Domestic Water Duplex / Triplex	
Ductless or Mini Split System	
Electric Mains	
Electric Panel	
Elevator	
Emergency Light	
Escalator?	
Exhaust Fan	
Exit Lights	
Fan Coil Unit	
Fire Damper	
Fire Extinguisher	
Fire Pump	
Genset	
Grease Trap	
Heat Exchanger?	
Heat Pump?	
Heat Recovery / Dehumidifier Unit	
Hydrant	
Interior Fire Alarm	
Kitchen Hood	
Lab Hood	
Make Up Air	
Motor	
Pool System	
Pump Assy.	
Return Air Fan	
Roof Top or Packaged Unit	
RTU DX	
Security Systems / Central Station	
Sewage Ejection System	
Sink	
Sprinkler / Standpipe	
Storage Tank	
Supply Vent Fan	
Transfer Switch	
Transformer	
Unit Heater	
Univent	
Urinal	
Variable Freq. Drives	
Water Closet / Bowl	
Water Fountain	
Water Heater	
Water Softener	
Water Treatment Center	

EXAMPLE OF WHAT WE (Vendor) ARE SEEKING TO AFFORD ACCURATE PM & CONTRACT COSTING

- 37) Please provide any info associated with planned operations budget for the campus.
a. The information requested is not available at this time. Please propose the best value your firm has to offer.
- 38) Please provide, if possible and readily available, the past two (2) years utility information for gas, water and electricity by building. If not, then actual spends.
a. Access to the CEMCS (Commonwealth Energy Management and Control System) will be granted to the awarded contract.
- 39) Who should financially handle contracts for special third-party vendors - Provider holds contracts and pays or you hold contracts and chosen contractor manages and helps negotiate? **Essentially, is it desired that all contract costs to reside with the provider and be invoiced for total monthly all-inclusive service?**

Question applies to contracts such as: (indicate who is to hold what)

Object	Service Provider	Institution
Water treatment		
Vertical Transportation - elevators		
Waste Management		
Pest Control		
Environmental / Backflows		
MRI – CAT Scan Integrity Tests		
Kitchen Equipment / Grease traps		
Gensets – Load Testing & Service		
Interior Fire Alarms / Life Safety Equipment incl. extinguishers, EM & Exit Lights etc.		
Medical Gases		
Surgical Vacuum		
Sprinkler / Standpipes Test & Service incl. Fire Pumps		
Chiller Special Service incl. eddy currents etc.		
Boiler Special Service (tune ups, insurance inspections & emissions test)		
Building Automation or any aged controls		
Security Cameras and Access Controls		

a. The provider initiates and holds any additional contracts with sub-contractors required to perform the work described in RFP-0305 and is responsible for all financial agreements related to these agreements.

- 40) Please provide list of current vendors, scope and frequency of service and annual cost?
a. Information can be obtained through submitting an Open Records Request through the KCTCS Office of General Counsel. <https://systemoffice.kctcs.edu/about/open-access-to-information/open-records-request.aspx>
- 41) Please state if any MWBE participation requirements are desired or expected?
a. Not required.
- 42) Please confirm if we are to include **ALL Equipment & Supplies** for Maintenance services and requested work orders?
 *Does this include vehicles?
 *Should we provide all lifts, and specialized maintenance shop, test and diagnostic tooling?
a. Yes, all required transportation, and specialized equipment is the responsibility of the provider.
- 43) Will there be any attic stock / supplies available for contractor use the first year?
a. No

- 44) Will there be any commissioning carried out as part of the overall project. Who will do post construction flushes and cleaning?
a. Commissioning is not part of this RFP unless it is required due to the replacement of a covered piece of equipment. Any required labor and supplies, including flushing/cleaning due to a covered equipment failure is the responsibility of the maintenance provider.
- 45) Is there any need to include costs or capabilities to manage future major or medium sized projects? Is there a life cycle study we can see?
a. No
- 46) How is environmental remediation to be handled. Is there an expectation for the provider to carry out the work? How is repeat mitigation to be handled. What is the College commitment to restore / replace defective climate control equipment and systems?
a. Environmental remediation is not a part of this RFP and does not need to be considered. KCTCS at this time makes no commitment to replace/restore climate-controlled equipment or systems, however KCTCS does at their discretion update various equipment and/or systems and will work with the provider to insure these new items are covered.
- 47) How do you currently review, analyze and report utilities - in view of maintaining ongoing energy use data? Will this be under the contractor? Should we include a module to track all utilities?
a. KCTCS is required by KRS 56.782 to utilize the Commonwealth Energy Management and Control System.
- 48) Please confirm any LEED or Historical Registry designations.
a. This information is not necessary for responding to RFP-0305.
- 49) Please include current contract terms and conditions currently in use.
a. Any current contract terms and conditions are not applicable to providing a response to this RFP.
- 50) What is current contract Annual Amount as of 2023?
a. The information requested is not available at this time. Please propose the best value your firm has to offer.

The time to submit questions for this Request for Proposal has now expired. No further questions will be accepted.

Bidders must acknowledge receipt of this and any addenda either with solicitation or by separate letter or email prior to award of contract. If by separate letter, the following information should be placed in the lower left-hand corner of the envelope:

RFP No.: RFP-0305
Title: MECHANICAL MAINTENANCE SERVICES

Name of Firm: _____

Authorized Signature: _____

ATTACHMENT A

ELIZABETHTOWN COMMUNITY & TECHNICAL COLLEGE

INST.#	68040
CAMPUS #:	Elizabethtown
BLDG:	Rock Church
BLDG. #	613 College Street Rd.

ID	Equipment Description	# of units	Manufacturer	Equipment Location	Equipment Size	Model #	Serial #	Year in Service
	Straight AC with Gas furnace for heat	1	Frigidaire	Exterior		FS3BC-060KA	FSA050600528	
	Straight AC with Gas furnace for heat	1	Frigidaire			Label not Present: (Need tools to open equipment and gather additional data).	Label not Present: (Need tools to open equipment and gather additional data).	

ATTACHMENT B

ELIZABETHTOWN COMMUNITY & TECHNICAL COLLEGE

INST.#	68040
CAMPUS #:	Elizabethtown
BLDG:	LTADD
BLDG. #	601 College Street Rd.

ID	Equipment Description	# of units	Manufacturer	Equipment Location	Equipment Size	Model #	Serial #	Year in Service
	Heat Pump with electric EMC heat	1	York	Exterior		YHJF30S41S1A	W1B4459893	
	Heat Pump with electric EMC heat	1	Goodman			ASZ130361AA	901606898	
	Heat Pump with electric EMC heat	1	Daikin			DZ16SA0361BC	1812071875	
	Heat Pump with electric EMC heat	1	Daikin			DZ16SA0481BB	1711451426	
	Heat Pump with electric EMC heat	1	Daikin			DZ16SA0601BA	1605077815	
	Heat Pump with electric EMC heat	1	Goodman			GSZ130601AB	1009004366	

OUTSIDE AIR UNIT SCHEDULE (PART 1)																																					
G MARK	MANUFACTURER	MODEL	LOCATION	PHYSICAL DATA				AIRFLOW CONDITIONS				SUPPLY FAN						EXHAUST FAN				DX COOLING COIL				DX COIL (WSP-HEATING MODE)											
				LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	WEIGHT (LBS)	SA (CFM)	SA ESP (W/C)	RA CFM	MAX CFM	# OF FANS	T.S.P (IN WG)	RPM	HP	VOLT.	PH.	VFD	OP. FREQ.	MAX CFM	# OF FANS	T.S.P. (IN WG)	RPM	HP	VFD	CFM	TOTAL COOLING CAP. (MBH)	SENSIBLE COOLING CAP. (MBH)	EAT (DBWB) (°F)	LAT (DBWB) (°F)	TON	GPM	CFM	EAT (DB) (°F)	LAT (DB) (°F)	GPM	TOTAL HEATING CAP. (MBH)
OA-1	AADN	M2-H-018-R-3-A-B-0-C-0	MECHANICAL MEZZANINE	23' - 10"	6' - 0"	8' - 8"	8210	6500	2	5900	6500	1	3.52	1799	7.69	460 V	3	Yes	60	5200	1	2.62	1504	4.51	Yes	6500	254.7	164.07	75.0/62.0	53.20/53.03	20	90	6500	70.0/58.0	91.6/61.08	90	250.75
OA-2	AADN	M2-H-018-R-3-A-B-0-C-0	MECHANICAL MEZZANINE	23' - 10"	6' - 0"	8' - 8"	8209	5700	2	5200	5700	1	3.26	1668	6.15	460 V	3	Yes	60	5200	1	2.62	1504	4.51	Yes	6500	254.7	164.07	75.0/62.0	53.20/53.03	20	90	6500	70.0/58.0	91.6/61.08	90	250.75

OUTSIDE AIR UNIT SCHEDULE (PART 2)										
G MARK	MANUFACTURER	MODEL	LOCATION	QTY	PRE-FILTERS (SA AND EA)	EST. ELECTRICAL DATA				REMARKS
						VOLTAGE	FLA	MCA	MOP	
OA-1	AADN	M2-H-018-R-3-A-B-0-C-0	MECHANICAL MEZZANINE	1	4" 80-85% Pleated Filter / 2" 30% Pleated Filter	460	66	71	80	ALL
OA-2	AADN	M2-H-018-R-3-A-B-0-C-0	MECHANICAL MEZZANINE	1	4" 80-85% Pleated Filter / 2" 30% Pleated Filter	460	66	71	80	ALL

- REMARKS
1. PROVIDE NEC COMPLIANT DISCONNECT MEANS.
 2. PROVIDE WITH VFD.
 3. SCHEDULE IS FOR REFERENCE ONLY. OA-1 AND OA-2 WERE PROVIDED IN PHASE 1 OF PROJECT.

WATER SOURCE HEAT PUMP SCHEDULE																																			
G MARK	MANUFACTURER	MODEL #	TYPE	NOM. CFM	ESP (IN WG.)	GPM	WATER PD (FT. H2O)	COMPRESSOR TYPE	WEIGHT (LB)	DIMENSIONS (IN)				ELECTRICAL				HEATING CAPACITY (MBH)				HEATING				COOLING				REMARKS					
										LENGTH	WIDTH	HEIGHT	VOLTAGE	HZ	PHASE	MCA	MOP	EAT (DB) (°F)	EWT (°F)	HEAT OF ABSORPTION (MBH)	COP @ AHRI	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EAT (DB)	EAT (WB)	EWT (°F)	HEAT OF REJECTION	EER @ AHRI							
HHP-12	Climate Master	TS-012	HORIZONTAL	420	0.25	3.00	3.00	1-STAGE SCROLL	160	34.5	24.4	21.6	265 V	60	1	6.4 A	15	11.8	68	45	12.8	4.1	8.9	11.8	80	67	85	14.8	13.2	1					
HHP-18	Climate Master	TS-018	HORIZONTAL	650	0.25	4.50	3.10	1-STAGE SCROLL	257	44.6	24.4	25.6	265 V	60	1	13.7 A	20	16.9	68	45	12.8	4.1	13.3	18.3	80	67	85	22.9	14.1	1					
HHP-24	Climate Master	TE-026	HORIZONTAL	800	0.50	6.00	3.10	2-STAGE SCROLL	298	48.5	24.4	25.6	265 V	60	1	14.6 A	20	24.2	68	45	18.8	4.5	17.2	25.7	80	67	85	30.9	16.5	1					
HHP-30	Climate Master	TE-028	HORIZONTAL	1000	0.50	7.50	3.50	2-STAGE SCROLL	298	48.5	24.4	25.6	265 V	60	1	14.6 A	20	30.1	68	45	24.8	4.7	16.4	30.2	80	67	85	34.6	16.8	1					
HHP-36	Climate Master	TE-038	HORIZONTAL	1200	0.50	9.00	5.80	2-STAGE SCROLL	359	50.5	27.4	30.6	265 V	60	1	19.5 A	30	<varies>	68	45	28.8	4.8	26.2	39.5	80	67	85	47.2	17.4	1					
VHP-024																																			
VHP-36	Climate Master	TE-038	VERTICAL	1200	0.50	9.00	5.80	2-STAGE SCROLL	359	50.5	27.4	30.6	265 V	60	1	19.5 A	30	36.5	68	45	28.8	4.8	26.2	39.5	80	67	85	47.2	17.4	1					
VHP-150	Climate Master	TL-150	VERTICAL	5000	1.00	31.25	11.30	2-STAGE SCROLL	700	79.0	53.1	34.0	460 V	60	3	28.5 A	45	148.4	68	45	110.2	3.9	105.7	149.2	80	67	85	188.9	12.8	ALL					

- REMARKS
1. PROVIDE NEC COMPLIANT DISCONNECT MEANS.
 2. PROVIDE WITH VFD.
 3. SCHEDULE IS FOR REFERENCE ONLY. OA-1 AND OA-2 WERE PROVIDED IN PHASE 1 OF PROJECT.

WATER SOURCE HEAT PUMP RUNOUT SCHEDULE			
MARK	HPS/HPRR BRANCH PIPING SIZE (Ø)	CD (Ø)	
HHP-012	1"	3/4"	
HHP-018	1"	3/4"	
HHP-024	1 1/4"	3/4"	
HHP-036	1 1/4"	1"	
HHP-048	1 1/2"	1"	
HHP-060	1 1/2"	1"	
HHP-072	2"	1 1/4"	
VHP-09	3/4"	3/4"	
VHP-012	1"	3/4"	
VHP-018	1"	3/4"	
VHP-024	1 1/4"	3/4"	
VHP-036	1 1/4"	1"	
VHP-048	1 1/2"	1"	
VHP-060	1 1/2"	1"	
VHP-150	2 1/2"	1 1/4"	

HYDRONIC PUMP SCHEDULE																
G MARK	MANUFACTURER	MODEL	TYPE	SERVICE	WEIGHT (LBS)	GPM	HEAD (FT)	VFD	HP	BRAKE HP	EFFICIENCY(%)	RPM	VOLTAGE	PHASE	FREQUENCY	REMARKS
P-1A	BELL & GOSSETT	E-1510 3BD	BASE MOUNTED	BUILDING	398	400	55	YES	10	6.8	76.7	1650	480 V	3	60	ALL
P-1B	BELL & GOSSETT	E-1510 3BD	BASE MOUNTED	BUILDING	398	400	55	YES	10	6.8	76.7	1650	480 V	3	60	ALL

- REMARKS
1. PROVIDE NEC COMPLIANT DISCONNECT MEANS.
 2. PROVIDE VARIABLE FREQUENCY DRIVE.

HVLS FAN SCHEDULE								
MARK	MANUFACTURER	MODEL #	TYPE	WEIGHT	ELECTRICAL DATA			REMARKS
					FLA	VOLTAGE	PHASE	
HVLS-1	GREENHECK	DC-5-12-13LV	High Volume, Low Speed Ceiling Fan	100	5 A	115 V	1	

SPLIT SYSTEM INDOOR UNIT SCHEDULE											
MARK	MODEL #	MANUF.	DIMENSIONS (IN.)			AIRFLOW (CFM)	ELECTRICAL			REMARKS	
			LENGTH	WIDTH	HEIGHT		VOLTAGE	PHASE			
SS-1	FTX24NM/JU	DAIKIN	39	10	12	27	745	208 V	1	ALL	

SPLIT SYSTEM CONDENSING UNIT SCHEDULE															
MARK	MANUF.	MODEL #	DIMENSIONS (IN.)				WEIGHT (LBS)	TOTAL COOLING (BTU/HR)	SENSIBLE COOLING (BTU/HR)	HEATING CAPACITY (BTU/HR)	ELECTRICAL				REMARKS
			LENGTH	WIDTH	HEIGHT	DEPTH					MCA	MOP	VOLTAGE	PHASE	
CU-1	DAIKIN	RX24NM/JU	34	13	28	108	21200	15760	24000	18 A	20	208 V	1	ALL	

- REMARKS
1. PROVIDE NEC COMPLIANT DISCONNECT MEANS.
 2. CONDENSING UNIT POWERS INDOOR UNIT.

LOOP FILTER SCHEDULE							
MARK	MANUFACTURER	MODEL	GPM	FILTER	P.D. (PSI)	SIZE	REMARKS
LF-1	HARMSCO	WB 90-SC2	40	HC/90-50	1.25	15"X15"	ALL

- REMARKS
1. PROVIDE 1" DRAIN LINE AND 1" BALL VALVE. ROUTE TO NEAREST FLOOR DRAIN.
 2. APPROVED MANUFACTURERS ARE HARMSCO, LAKOS, AND J.L. WINGERT.

ELECTRIC HEATER SCHEDULE											
MARK	MODEL #	MANUF.	DIMENSIONS (IN.)			WATTS	AIRFLOW (CFM)	ELECTRICAL			REMARKS
			LENGTH	WIDTH	HEIGHT			VOLTAGE	E MCA	PHASE	
EH-1	5100	TASKMASTER	14	7	18	3300	400	277 V	12 A	1	1,2,3,4,6
EHC-1	CP RADIANT CEILING PANEL	MARKEL	48	24	6	750	0	277 V	3 A	1	1,2,3,5,7

- REMARKS
1. PROVIDE NEC COMPLIANT DISCONNECT MEANS.
 2. PROVIDE THERMAL OVERLOAD PROTECTION.
 3. COLOR TO BE SELECTED BY ARCHITECT.
 4. PROVIDE WALL MOUNT ACCESSORIES AND MOUNT A MINIMUM OF 7'-0" AFF.
 5. PROVIDE RADIANT CEILING PANEL HEATER AND COORDINATE WITH CEILING PLAN FOR MOUNTING TYPE.
 6. PROVIDE WITH REMOTE MOUNTED THERMOSTAT.
 7. PROVIDE WITH REMOTE MOUNTED TEMPERATURE SENSOR WIRED TO TWO RADIANT PANELS IN VESTIBULE.

LOUVER SCHEDULE										
MARK	MANUFACTURER	MODEL	DESCRIPTION	SERVICE	CFM	SIZE	FREE AREA (SQ. FT)	VELOCITY (FPM)	P.D. (IN)	REMARKS
L-1	RUSKIN	ELF-375DX	HEAVY GAUGE ALUMINUM, 4" THICK, LOUVER	VHP-150 RETURN	5000	72"X48"	13.05	385	0.03	ALL

- REMARKS
1. COLOR AND FINISH SHALL BE SELECTED BY THE ARCHITECT.
 2. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL SECTIONS AND ELEVATIONS.

REGISTERS, GRILLES, AND DIFFUSERS												
MARK	MANUFACTURER	MODEL #	TYPE	GRILLE SIZE	DUCT INLET SIZE	DUCT BRANCH SIZE	MAX CFM	P.D.	NOISE CRITERIA	THROW PATTERN	REMARKS	
E-5	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	6" DIA.	6" DIA.	100	0.05	25	-	ALL	
E-6	TITUS	350FL	ALUMINUM 3/4" FIXED DEFLECTION RETURN GRILLE	36"X16"	36"X16"	WALL MOUNTED	1600	0.05	20	-	ALL	
R-1	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	6" DIA.	6" DIA.	100	0.05	25	-	ALL	
R-2	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	8" DIA.	8" DIA.	225	0.05	25	-	ALL	
R-3	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	10" DIA.	10" DIA.	400	0.05	25	-	ALL	
R-4	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	12" DIA.	12" DIA.	600	0.05	25	-	ALL	
R-5	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	14" DIA.	14" DIA.	1000	0.05	25	-	ALL	
R-6	TITUS	350FL	ALUMINUM 3/4" FIXED DEFLECTION RETURN GRILLE	36"X10"	36"X10"	DUCT MOUNTED	1200	0.06	17	-	ALL	
S-1	TITUS	OMNI-AA	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	6" DIA.	6" DIA.	100	0.02	10	4-WAY	ALL	
S-2	TITUS	OMNI-AA	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	8" DIA.	8" DIA.	225	0.05	10	4-WAY	ALL	
S-3	TITUS	OMNI-AA	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	10" DIA.	10" DIA.	400	0.09	17	4-WAY	ALL	
S-4	TITUS	OMNI-AA	ALUMINUM ADJUSTABLE SQUARE DIFFUSER	24"X24"	12" DIA.	12" DIA.	600	0.14	21	4-WAY	ALL	
S-5	TITUS	DL	ALUMINUM DRUM LOUVER	20"X10"	20"X10"	DUCT MOUNTED	440	0.03	10	15 DEG	ALL	
S-6	TITUS	300FL	ALUMINUM LOUVERED SUPPLY GRILLE	14"X10"	16"X12"	14"X10"	300	0.02	10	22-DEG	ALL	
T-1	TITUS	50F	ALUMINUM 1/2" EGG CRATE	24"X24"	24"X24"	22"X12"	1500	0.05	25	-	ALL	

- REMARKS
1. COLOR AND FINISH SHALL BE SELECTED BY ARCHITECT.
 2. PROVIDE INTEGRAL FILTERS FOR ALL RETURN GRILLES SERVED BY HORIZONTAL HEAT PUMPS. REFER TO FLOORPLANS.

DRAWING INFORMATION		KCTCS - ECTC CONSTRUCT ON-SITE TRAINING CENTER - PHASE 2	
A & E FILE NO	2142	GLENDALE, KY	
DRAWING DATE	1.30.23	MECHANICAL SCHEDULES	
DRAWN BY	ADM	DRAWING NO.	
CHECKED BY	BH	M9.0	
PHASE	RTA	AS BUILT DATE	
RTA DATE	1.30.23	DECA LOG #	
		COMMONWEALTH OF KENTUCKY FINANCE AND ADMINISTRATION CABINET DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES DIVISION OF ENGINEERING & CONTRACT ADMINISTRATION FRANKFORT, KENTUCKY	
		212 North Upper Street Lexington, Kentucky 40507 p. 859.252.6664 www.omniarchitects.com	
REVISION HISTORY OF THIS DRAWING			
NO.	DATE	DESCRIPTION OF REVISIONS	DATE
1	-	-	5
2	-	-	6
3	-	-	7
4	-	-	8

EXPANSION TANK SCHEDULE									
MARK	MANUFACTURER	MODEL #	TYPE	SERVICE	PHYSICAL SIZE	CAPACITY			REMARKS
						TANK VOLUME (GALS)	ACCEPTANCE VOLUME (GALS)	AIR CHARGE PRESSURE (PSI)	
ET-1	TACO	CA-90	VERTICAL	GEO THERMAL	20"X20"X32"	23.0	23.00	15.00	ALL



- REMARKS
1. SECURE ON 4" TALL CONCRETE PAD.
 2. COORDINATE CHARGE PRESSURE WITH SYSTEM PRESSURE. SET AT 15 PSI UNLESS COORDINATION OR MANUFACTURER RECOMMENDATIONS DEEM AN APPROPRIATE CHARGE SETTING THAT VARIES FROM LISTED
 3. ACCEPTABLE MANUFACTURERS ARE TACO, BELL&GOSSETTE, GRUNDFOS, AND ARMSTRONG.

AIR SEPARATOR SCHEDULE								
MARK	MANUFACTURER	MODEL #	SERVICE	DESIGN FLOW (GPM)	MAX FLOW (GPM)	INLET PIPE SIZE (HD)	WATER PRESSURE DROP (FT)	REMARKS

- REMARKS
1. ACCEPTABLE MANUFACTURERS ARE BELL&GOSSETT, TACO, GRUNDFOS, AND ARMSTRONG.
 2. NO STRAINER.

CHEMICAL POT FEEDER SCHEDULE							
MARK	MANUFACTURER	MODEL	FILTER	MAX PSI	CAPACITY (GAL)	SIZE (HXD)	REMARKS
CF-1	NEPTUNE	DBF-SHP	NONE	300	5.0	30"X10"	ALL

- REMARKS
1. SECURE ON 4" TALL CONCRETE PAD.
 2. ACCEPTABLE MANUFACTURERS ARE NEPTUNE, HARMSCO, LACO, AND J.L. WINGERT.

	DRAWING INFORMATION		KCTCS - ECTC CONSTRUCT ON-SITE TRAINING CENTER - PHASE 2			
	A & E FILE NO	2142	LENDALE, KY			
	DRAWING DATE	1.30.23	MECHANICAL SCHEDULES			DRAWING NO.
	DRAWN BY	ADM	ACCOUNT NO	COMMONWEALTH OF KENTUCKY FINANCE AND ADMINISTRATION CABINET DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES DIVISION OF ENGINEERING & CONTRACT ADMINISTRATION FRANKFORT, KENTUCKY		
CHECKED BY	BH	470-CA7Z-E141-00				M9.1
PHASE	RTA					AS BUILT DATE
RTA DATE	1.30.23					DECA LOG #
				212 North Upper Street Lexington, Kentucky 40507 p. 859.252.6664 www.omniarchitects.com		
REVISION HISTORY OF THIS DRAWING						
	DATE	DATE	DESCRIPTION OF REVISIONS	DATE	DESCRIPTION OF REVISIONS	DATE
1	-	-	5			
2	-	-	6			
3	-	-	7			
4	-	-	8			