



Brownsville Independent School District

Agenda Category: General Function Board of Education Meeting: 11/05/2025

Item Title: CSP #22-148C Lucio MS HVAC Upgrades, X Action
Phase I (Package 1) Project Information
Substantial Completion Discussion

BACKGROUND:

CSP#22-148C Lucio MS HVAC Upgrades, Phase I (Package 1) Project, is ready for Substantial Completion acceptance by the Brownsville ISD Board of Trustees. The Project Engineer, General Contractor and, BISD Facilities Department Administration staff conducted a walk-thru to provide a Punch List. As a result, the Administration recommends substantial completion acceptance for this project.

Attached for reference find the following document(s).

Lucio MS HVAC Upgrades, Phase I (Package 1) Project:

- AIA Document G704-2017
- Punch List
- Commissioning Report
- CSP #22-148C

FISCAL IMPLICATIONS:

None

RECOMMENDATION:

Recommend approval to authorize the Lucio MS HVAC Upgrades, Phase I (Package 1) Project, under CSP # 22-148C, as substantially complete.

Alonso Guerrero

Submitted by: Health Services & Operations

Alonso Guerrero

Recommended by: Health Services & Operations

Mary D. Garza

Mary D. Garza

Approved by: Interim-Chief Financial Officer

Approved for Submission to Board of Education:

Dr. Jesus H. Chavez, Superintendent

When Necessary, Additional Background May Follow This.

AIA Document G704 – 2017

Certificate of Substantial Completion

PROJECT: (name and address) ESSER III Phase I HVAC Upgrades Phase I Eddie Lucio Middle School	CONTRACT INFORMATION: Contract For: CSP 22-148C Eddie Lucio Middle School Date: 10/03/2022	CERTIFICATE INFORMATION: Certificate Number: 001 Date: 04/15/2024
OWNER: (name and address) Brownsville Independent School District 1900 E. Price Road Brownsville, Texas 78521	ARCHITECT: (name and address) Halff Associates, Inc. (as Consultant not Architect) 5000 West Military Highway Suite 100 McAllen, Texas	CONTRACTOR: (name and address) Central Air and Heating Services, Inc. 3028 Wilson Road Harlingen, Texas 78552

The Work identified below has been reviewed and found, to the Architect's best knowledge, information, and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated below is the date established by this Certificate.
(Identify the Work, or portion thereof, that is substantially complete.)
All project work

Halff Associates, Inc. (as Consultant not Architect)		Gabriel Benavides, PE Vice President Director of MEP	04/15/2024
ARCHITECT (Firm Name)	SIGNATURE	PRINTED NAME AND TITLE	DATE OF SUBSTANTIAL COMPLETION

WARRANTIES

The date of Substantial Completion of the Project or portion designated above is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

(Identify warranties that do not commence on the date of Substantial Completion, if any, and indicate their date of commencement.)
Punch list items reported on 02/09/2024.

WORK TO BE COMPLETED OR CORRECTED

A list of items to be completed or corrected is attached hereto, or transmitted as agreed upon by the parties, and identified as follows:
(Identify the list of Work to be completed or corrected.)

Punch list items reported on 02/09/2024.

New RTU and DOAS controls integration into exiting ALC Controls System.

The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment, whichever occurs first. The Contractor will complete or correct the Work on the list of items attached hereto within thirty (30) days from the above date of Substantial Completion.

Cost estimate of Work to be completed or corrected: \$20,000

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work, insurance, and other items identified below shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should review insurance requirements and coverage.)

The Owner and Contractor hereby accept the responsibilities assigned to them in this Certificate of Substantial Completion:

CAHS	<u>Colin Eubanks</u>	Colin Eubanks (PM)	04/15/2024
CONTRACTOR (Firm Name)	SIGNATURE	PRINTED NAME AND TITLE	DATE
Brownsville I.S.D.	<u>Manuel Hinojosa</u>	Manuel Hinojosa, FAIA	May 14, 2025
OWNER (Firm Name)	SIGNATURE	PRINTED NAME AND TITLE	DATE



Punch List

To: Fernando Villarreal **Date:** 11/1/2023
From: Luis E Hernandez Nava **AVO:** 45813.005
Email: lhernandeznava@halff.com **Project:** HVAC Upgrades at Lucio
Contract for: BISD ESSER HVAC Upgrades at Lucio Middle School

The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

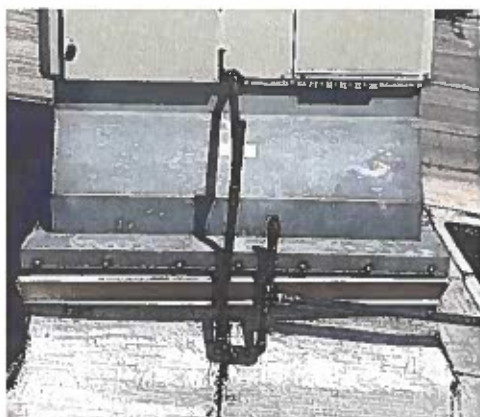
ITEM NO.	LOCATION (AREA)	DESCRIPTION	COMPLETION DATE	A/E CHECK DATE
1.	Main Roof	<ul style="list-style-type: none">The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight.The General Contractor shall fix all condensate drain lines as per the mechanical detail shown on the plans. Currently, most units are missing vents on p-traps.DOAS – Confirm all condensate lines are correctly connected to the equipment. Condensate water is present around the unit.The General Contractor shall provide a new set of air filters. The filters provided are dirty.		
2.	Athletics	<ul style="list-style-type: none">The General Contractor shall confirm all RTU curb adapters and curbs		

ITEM NO.	LOCATION (AREA)	DESCRIPTION	COMPLETION DATE	A/E CHECK DATE
		<p>are properly weathertight.</p> <ul style="list-style-type: none"> The General Contractor shall confirm that all P-traps were installed as per the mechanical detail shown on the plans. The vent closer to the unit should be closed to avoid bringing unconditioned outdoor air. The General Contractor shall provide a new set of air filters. The filters provided are dirty. 		
3.	Offices and Choir Roof	<ul style="list-style-type: none"> The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight. The General Contractor shall confirm that all P-traps were installed as per the mechanical detail shown on the plans. The vent closer to the unit should be closed to avoid bringing unconditioned outdoor air into the space. The General Contractor shall provide a new set of air filters. The filters provided are dirty. 		
4.	Attic Space	<ul style="list-style-type: none"> The General Contractor shall confirm that all VAV boxes and duct penetrations through the wall are weathertight sealed. 		

☐ Attachments

SIGNED: Luis E. Hernandez Nava, PE

COPIES: ☐ Owner ☐ Contractor ☒ File



Final Commissioning Report

Prepared for:

BISD – Lucio Middle School



Friday, March 14, 2025

1025 Morningside Rd, Brownsville, Tx 78521

Texas Board of Professional Engineers

Registered Firm #F-312



Scope of Services for BISD – Commissioning

SCOPE OF WORK

Commissioning shall be provided by the Commissioning Agent (CxA), Halff Associates, Inc., to confirm the installed system's compliance with the Construction Documents for operation capacity and compliance with the project's Sequences of Operations (SOO).

- Confirmation of Owner-Provided-Requirements (OPR)
- Establishing communication between CxA and contractors
- Verification of integration between the DDC system and the connected equipment
- Graphics review of the BAS system for accuracy and usefulness
- Periodic sampling of the Test, Adjust, and Balance (TAB)
- Construction Document's SOO review
- Trend comparison between BAS and CxA's independent readings
- Witness Manufacturer's required startup of equipment
- Observe functional testing of equipment in compliance with the SOO



Commissioning Team Contact Information

Team Member	Company	Contact Person	Office #	Mobile #	Email Address
Owner	Brownsville Independent School District	Manuel Hinojosa	956-698-2400		Mhinojosa1@bisd.us
Engineer of Record	Halff	Luis Hernandez Nava	956-664-0286		lhernandeznava@halff.com
Commissioning Agent	Halff	Dean Lizzotte	956-664-0286	956-369-9253	Dlizzotte@halff.com
General Contractor	Central Air and Heating	Colin Eubanks	926-428-4509	956-572-1738	colin.eubanks@cahsinc.com
Mechanical SubCon	Central Air and Heating	Colin Eubanks	926-428-4509	956-572-1738	colin.eubanks@cahsinc.com
Electrical SubCon	Pete's Electric LLC		956-230-8340		PETEELECTRICCO@AOL.COM
Controls SubCon	Automated Logic	Raul Gonzalez	210-825-9354		raul.gonzalez@carrier.com
Test and Balance SubCon	Testing & CX Service	Art Olivares	956-874-5889		art@testandcx.com

3



Pre-functional Startup Testing

Introduction

The purpose of the pre-functional start-up testing is to verify that installation checklists and proper start-up protocols are followed. This allows for an alignment of the Owner's project requirements with the contractor's work. Any identified issues shall be documented in the issues and resolutions log for either the commissioning progress report or the final commissioning report. The pre-functional start-up scripts shall be provided by the equipment manufacturer.

Communication

Documentation for pre-functional startup checklists is attached and represents manufacturers recommended practices for start-up. The documents shall be signed by the Cx agent, owner's representative, and contractor representative. An example of an Issues and Resolutions Log is also attached.

Procedures

1. The Contractor shall perform the startup while the CxA witnesses and observes the operation.
2. If any issues occur, they shall be promptly documented into the Issues and Resolution Log.
3. The potential resolution shall be submitted.
4. After the issue has been resolved the process shall be re-attempted.
5. If startup completes without any reported issues then the document shall be signed by witnessing parties: the CxA, the Contractor's representative, and the Owner's representative.

Notes: Any equipment started without witnessing by the CxA shall be documented



Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION														
RTU Number		DOAS-400				Control System type		DDC						
Model Number		OAND600E4-DD1C400JN-D3K00AL0002000E0B1A0				Ambient Temperature		72						
Serial Number		0A337173-4-1				Heat Fuel Type		N/A						
C/N Number						Air Filter Type ^{24x24x2, 12x24x2}		Pleated						
						Air Filter Condition		Dirty						
ELECTRICAL SYSTEM														
Unit Voltage and Phase		460v 3ph				T1 Transformer Output Voltage		27.2						
Incoming Voltage Reading L1-L2		489v				T18 Transformer Output Voltage		26.0						
Incoming Voltage Reading L1-L3		486v				T43 Transformer Output Voltage		27.7						
Incoming Voltage Reading L2-L3		487v												
PRODIGY CONTROLLER							THERMOSTAT / DDC CONTROLS							
Completed Guided Setup		N/A				Controller Manufacturer		Trane						
Prodigy Unit Report Included		NO				Controller Model Number		UC600						
Prodigy Board Software Version#		6.03				Controller Serial Number		Could not read tag						
Display Software Version#						Network Address		33004						
COOLING SYSTEM														
Blower Motor	Horse Power	5	Rotation Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T		
	High Speed	NA		4.0a	4.2a	4.0a	Return			Supply				
	Low Speed	NA												
Compressor	Stage 1	NA		18.9a	18.1a	16.7a	124psig	270psig	72	65				
	Stage 2	NA		12.0	9.4a	12.7a	118psig	257psig	72	58				
	Stage 3	NA												
	Stage 4	NA												
HEATING SYSTEM														
GAS							ELECTRIC							
Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat	Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High										
1	N/a	1					-	1	34.8	35.0	34.7	72	87	
2	N/a	2						2						
OUTDOOR AIR														
Outdoor Air type						Power Exhaust Installed								
Econ Operation Mode						Power Exhaust Type								
OPERATIONAL RUN TEST														
Run test cooling system						Run test free cooling								
Run test heating system						Run test power exhaust								
NOTES & DEFICIENCIES														

Halff Cx Agent

Signed*: 

Name: Luis Hernandez

Company: Halff

Date: 2-7-24

Phone/Emails: _____

*Initiating Authority

General Contractors Representative

Signed: _____

Name: Mike Rodriguez

Company: Cahs

Date: 02/07/2024

Phone/Emails: _____

Owners Representative

Signed: _____

Name: _____

Company: _____

Date: _____

Phone/Emails: _____



Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION														
RTU Number		RTU-03-315				Control System type		DDC						
Model Number		THC037E4RBA2D00E1A1A6B00H000B0000				Ambient Temperature		73						
Serial Number		231813395L				Heat Fuel Type		N/A						
C/N Number						Air Filter Type		20x30x2		Pleated				
						Air Filter Condition		Dirty						
ELECTRICAL SYSTEM														
Unit Voltage and Phase		460v 3PH.				T1 Transformer Output Voltage		27.2v						
Incoming Voltage Reading L1-L2		487v				T18 Transformer Output Voltage		N/a						
Incoming Voltage Reading L1-L3		486v				T43 Transformer Output Voltage		N/a						
Incoming Voltage Reading L2-L3		487v												
PRODIGY CONTROLLER						THERMOSTAT / DDC CONTROLS								
Completed Guided Setup		N/A				Controller Manufacturer		Trane						
Prodigy Unit Report Included		NO				Controller Model Number		Reliatel						
Prodigy Board Software Version#		8.00.0025				Controller Serial Number								
Display Software Version#						Network Address		33031						
COOLING SYSTEM														
Blower Motor	Horse Power	3/4	Rotation Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T		
	High Speed	NA					Return			Supply				
	Low Speed	NA		1.0a	1.0a	N/a								
Compressor	Stage 1	NA		3.7a	3.6a	3.7a	115psig	312psig	69	45				
	Stage 2	NA												
	Stage 3	NA												
	Stage 4	NA												
HEATING SYSTEM														
GAS								ELECTRIC						
Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat	Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High										
1	N/a	1	-	-	-		-	1	7.4a	7.4a	7.4a	73	82	
2	N/a	2						2						
OUTDOOR AIR														
Outdoor Air type								Power Exhaust Installed						
Econ Operation Mode								Power Exhaust Type						
OPERATIONAL RUN TEST														
Run test cooling system								Run test free cooling						
Run test heating system								Run test power exhaust						
NOTES & DEFICIENCIES														

Halff Cx Agent

Signed*:

Name:

Company:

Date:

Phone/Emails:

*Including Authority

General Contractors Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Owners Representative

Signed:

Name:

Company:

Date:

Phone/Emails:



Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION														
RTU Number		RTU-03-411				Control System type		DDC						
Model Number		THC037E4RBA2D00E1A1A6B00H000B0000				Ambient Temperature		73						
Serial Number		231813418L				Heat Fuel Type		N/A						
C/N Number						Air Filter Type		20x30x2		Pleated				
						Air Filter Condition		Dirty						
ELECTRICAL SYSTEM														
Unit Voltage and Phase		460v 3PH.				T1 Transformer Output Voltage		27.2v						
Incoming Voltage Reading L1-L2		487v				T18 Transformer Output Voltage		N/a						
Incoming Voltage Reading L1-L3		486v				T43 Transformer Output Voltage		N/a						
Incoming Voltage Reading L2-L3		488v												
PRODIGY CONTROLLER						THERMOSTAT / DDC CONTROLS								
Completed Guided Setup		N/A				Controller Manufacturer		Trane						
Prodigy Unit Report Included		NO				Controller Model Number		Reliatel						
Prodigy Board Software Version#		8.00.0025				Controller Serial Number								
Display Software Version#						Network Address		33008						
COOLING SYSTEM														
Blower Motor	Horse Power	3/4	Rotation Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T		
	High Speed	NA					Return			Supply				
	Low Speed	NA		1.4a	1.4a	N/a								
Compressor	Stage 1	NA		3.4a	3.5a	3.7a	118psig	268psig	70.7	50				
	Stage 2	NA												
	Stage 3	NA												
	Stage 4	NA												
HEATING SYSTEM														
GAS								ELECTRIC						
Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat	Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High										
1	N/a	1	-	-	-		-	1	7.4a	7.3a	7.4a	73	85	
2	N/a	2						2						
OUTDOOR AIR														
Outdoor Air type								Power Exhaust Installed						
Econ Operation Mode								Power Exhaust Type						
OPERATIONAL RUN TEST														
Run test cooling system								Run test free cooling						
Run test heating system								Run test power exhaust						
NOTES & DEFICIENCIES														

Halff Cx Agent

Signed:

Name:

Company:

Date:

Phone/Emails:

*Initiating Authority

General Contractors Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Owners Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Luiz E. Hernandez
Luiz Hernandez
 Halff
 2-7-24

Mike Rodriguez
 Cahs
 02/07/2024



Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION														
RTU Number		RTU-04-BOYS 4				Control System type		DDC						
Model Number		THC047E4RBA2EC0E1A1A6B00HA000C0000				Ambient Temperature		75						
Serial Number		232810962L				Heat Fuel Type		N/A						
C/N Number						Air Filter Type		16x25x2		Pleated				
						Air Filter Condition		Dirty						
ELECTRICAL SYSTEM														
Unit Voltage and Phase		460v 3PH.				T1 Transformer Output Voltage		26.4v						
Incoming Voltage Reading L1-L2		482v				T18 Transformer Output Voltage		N/a						
Incoming Voltage Reading L1-L3		482v				T43 Transformer Output Voltage		N/a						
Incoming Voltage Reading L2-L3		483v												
PRODIGY CONTROLLER						THERMOSTAT / DDC CONTROLS								
Completed Guided Setup		N/A				Controller Manufacturer		Trane						
Prodigy Unit Report Included		NO				Controller Model Number		Reliatel						
Prodigy Board Software Version#		8.00.0025				Controller Serial Number								
Display Software Version#						Network Address								
COOLING SYSTEM														
Blower Motor	Horse Power	1	Rotation Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T		
	High Speed	NA					Return			Supply				
	Low Speed	NA		3.2a	3.2a	N/a								
Compressor	Stage 1	NA		4.2a	4.2a	3.7a	135.7psig	267.6psig	69	55.7				
	Stage 2	NA												
	Stage 3	NA												
	Stage 4	NA												
HEATING SYSTEM														
GAS							ELECTRIC							
Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat	Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High										
1	N/a	1	-	-	-		-	1	7.4a	7.3a	7.3a	70	74	
2	N/a	2						2						
OUTDOOR AIR														
Outdoor Air type						Power Exhaust Installed								
Econ Operation Mode						Power Exhaust Type								
OPERATIONAL RUN TEST														
Run test cooling system						Run test free cooling								
Run test heating system						Run test power exhaust								
NOTES & DEFICIENCIES														

Halff Cx Agent

Signed*: Luis Hernandez

Name: Luis Hernandez

Company: Halff

Date: 2-7-24

Phone/Emails: _____

*Initiating Authority

General Contractors Representative

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Name: Mike Rodriguez

Company: Cahs

Date: 02/07/2024

Phone/Emails: _____

Owners Representative

Signed: _____

Name: _____

Company: _____

Date: _____

Phone/Emails: _____



Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION														
RTU Number		RTU-04-BOYS P				Control System type		DDC						
Model Number		THC047E4RBA2EC0E1A1A6B00HA000C0000				Ambient Temperature		74						
Serial Number		232810963L				Heat Fuel Type		N/A						
C/N Number						Air Filter Type 16x25x2		Pleated						
						Air Filter Condition		Dirty						
ELECTRICAL SYSTEM														
Unit Voltage and Phase		460v 3PH.				T1 Transformer Output Voltage		26.4v						
Incoming Voltage Reading L1-L2		484v				T18 Transformer Output Voltage		N/a						
Incoming Voltage Reading L1-L3		486v				T43 Transformer Output Voltage		N/a						
Incoming Voltage Reading L2-L3		484v												
PRODIGY CONTROLLER							THERMOSTAT / DDC CONTROLS							
Completed Guided Setup		N/A				Controller Manufacturer		Trane						
Prodigy Unit Report Included		NO				Controller Model Number		Rliatel						
Prodigy Board Software Version#		8.00.0025				Controller Serial Number								
Display Software Version#						Network Address								
COOLING SYSTEM														
Blower Motor	Horse Power	1	Rotation Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T		
	High Speed	NA	1.4a	1.4a	N/a	Return	Supply							
	Low Speed	NA												
Compressor	Stage 1	NA	4.4a	3.6a	3.6a	133psig	258psig	67	56					
	Stage 2	NA												
	Stage 3	NA												
	Stage 4	NA												
HEATING SYSTEM														
GAS								ELECTRIC						
Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat	Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High										
1	N/a	1	-	-	-		-	1	7.3a	7.2a	7.3	69	76	
2	N/a	2						2						
OUTDOOR AIR														
Outdoor Air type						Power Exhaust Installed								
Econ Operation Mode						Power Exhaust Type								
OPERATIONAL RUN TEST														
Run test cooling system						Run test free cooling								
Run test heating system						Run test power exhaust								
NOTES & DEFICIENCIES														

Halff Cx Agent

Signed*:

Name:

Company:

Date:

Phone/Emails:

*Initiating Authority

General Contractors Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Owners Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Luis Hernandez
Luis Hernandez
Halff
2-7-24

Mike Rodriguez
Cahs
02/07/24



Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION														
RTU Number		RTU-06-CHOIR			Control System type		DDC							
Model Number		TSJ072A4SOC02C0E0A1A1A004000000000000B0			Ambient Temperature		74							
Serial Number		232814541L			Heat Fuel Type		N/A							
C/N Number					Air Filter Type		18x24x2, 12x24x2		Pleated					
					Air Filter Condition		Dirty							
ELECTRICAL SYSTEM														
Unit Voltage and Phase		460v 3PH.			T1 Transformer Output Voltage		28.3a							
Incoming Voltage Reading L1-L2		483v			T18 Transformer Output Voltage		28.3a							
Incoming Voltage Reading L1-L3		482v			T43 Transformer Output Voltage		27.9a							
Incoming Voltage Reading L2-L3		483v												
PRODIGY CONTROLLER						THERMOSTAT / DDC CONTROLS								
Completed Guided Setup		N/A			Controller Manufacturer		Trane							
Prodigy Unit Report Included		NO			Controller Model Number		Symbio 700							
Prodigy Board Software Version#					Controller Serial Number		232509107							
Display Software Version#					Network Address									
COOLING SYSTEM														
Blower Motor	Horse Power		Rotation Verified	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T			
	High Speed	NA				Return			Supply					
	Low Speed	NA	1.0a	1.0a	1.0a									
Compressor	Stage 1	NA		3.3a	3.7a	3.7a	120psig	245psig	70	55				
	Stage 2	NA												
	Stage 3	NA												
	Stage 4	NA												
HEATING SYSTEM														
GAS								ELECTRIC						
Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat	Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High										
1	-	1	-	-	-		-	1	11a	10.9a	10.9a	72	74	
2	-	2						2						
OUTDOOR AIR														
Outdoor Air type					Power Exhaust Installed									
Econ Operation Mode					Power Exhaust Type									
OPERATIONAL RUN TEST														
Run test cooling system					Run test free cooling									
Run test heating system					Run test power exhaust									
NOTES & DEFICIENCIES														

Halff Cx Agent

Signed*:

Name:

Company:

Date:

Phone/Emails:

*Issuing Authority

General Contractors Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Owners Representative

Signed:

Name:

Company:

Date:

Phone/Emails:

Chris Hernandez
Chris Hernandez
Halff
2/09/24

Mike Rodriguez

CAHS

02/07/2024



Graphics Review

Introduction

The purpose of the graphics review is to align the Controls Subcontractor with the Owner's project requirements. The review shall examine the general aesthetics of the BAS system, verification that all the equipment is readily available, and reporting accuracy. The graphics review requires the CxA to receive access to the BAS during and after installation.

Communication

Documentation for pre-graphics review is attached. The documents after the competition shall be signed by the CxA, Owner's representative, and Contractor representative. An example of a Issues and Resolutions Log is also attached.

Procedures

1. Access to the project's BAS
2. Analysis shall be performed for any graphical glitches or major issues.
3. The individual views shall be compared against the installed schedules to verify if all the proper equipment is on the screen.
4. The information on the BAS shall be compared to the information from the installed equipment itself or if available testing instrumentation.
5. The alarms shall then be tested to verify proper setup.
6. Any identified issues shall be documented in the Issues and Resolutions Log.
7. If resolved the building automation system shall be reviewed once more.
8. When the review has been completed the document shall be signed by the witnessing parties including up to the CxA, the Owner's representative, and the Contractor's representative.


Notes: The CxA shall need remote access to the BAS during and after the graphics review.

Graphics Review

Job Name	Lucio Middle School			
	Yes	No	N/A	Initials
Are all the VFDs displayed on the screen?			X	DEL
Are all dedicated outside air systems displayed on the screen?	X		X	DEL
Are all pumps displayed on the screen?			X	DEL
Are all chillers displayed on the screen?			X	DEL
Are all the fan arrays displayed on the screen?			X	DEL
Are all rooftop units displayed?	X			DEL
Are all boilers displayed on the screen?			X	DEL
Are all water coils displayed on the screen?			X	DEL
Are all flow rates displayed on the screen?			X	DEL
Are all pressures displayed on the screen?			X	DEL
Are all maintenance reminders displayed on the screen?			X	DEL
Do the graphics make sense for the general user?	X			DEL
Do all the alarms display accurately and prominently?	X			DEL

Notes:
Temperature and relative humidity sensors need to be verified. Some reading appears to be out of range compared to actual space temperature

Halff Cx Agent

Signed*: 
 Name: Dean Wizzotte
 Company: Halff
 Date: 3/8/25
 Phone/Emails: d1.wizzotte@halff.com

*Initiating Authority

Controls Contractors Representative

Signed: _____
 Name: _____
 Company: _____
 Date: _____
 Phone/Emails: _____

Owners Representative

Signed: _____
 Name: _____
 Company: _____
 Date: _____
 Phone/Emails: _____

Unit Status

Date: 3/9/2025

AVO: 45830.004

Project: BISD Morningside Elementary

Contract for: Brownsville ISD

The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Unit	Comments
RTU-06-HALL	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-06-CHOIR	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-06-ENSEMBLE	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-04-OFFICE	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-06-GIRLS PE	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-04-BOYS ATH	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-04-BOYS PE	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-04-WEIGHTS	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.

Unit	Comments
RTU-03-300	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-301	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-302	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-303	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-304	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-305	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-306	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-307	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-308	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-309	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-310	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-311	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-312	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.

[illegible]

Unit	Comments
RTU-03-411	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-412	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-413	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-414	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
RTU-03-415	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
DOAS-100	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
DOAS-200	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
DOAS-300	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.
DOAS-400	Unit appears to be cooling, temperature and relative humidity sensors calibration to be verified. Values appear to be outside of typical setpoint range.



Sequence of Operations Review and Verification

Introduction

The purpose of the sequence of operations review is to verify that the equipment functions normally during intended conditions. The SOO review and data logger confirmation must be performed after TAB and controls subcontractors have concluded their work.

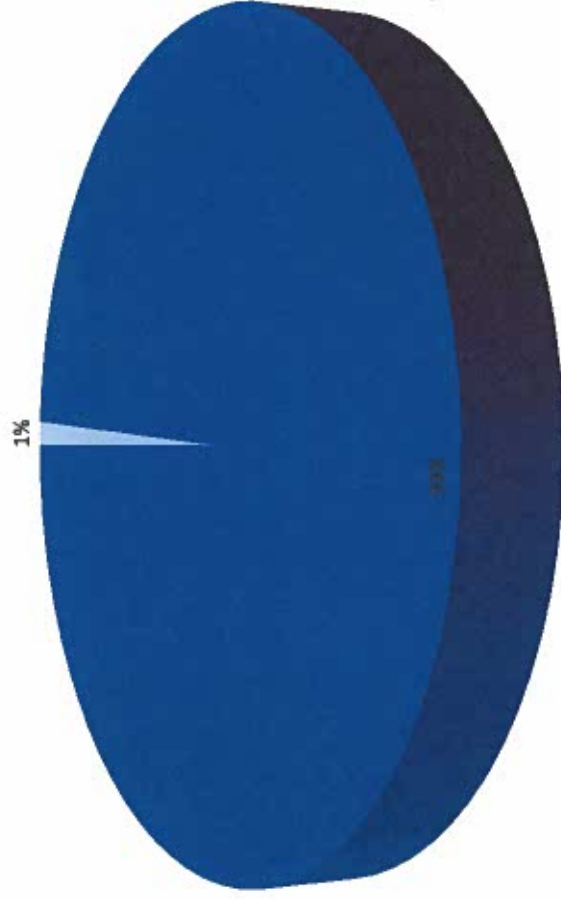
Communication

The documents after the completion shall be signed by the CxA, the Owner's representative, and the Contractor representative. The Issues and Resolution Log is attached.

Procedures

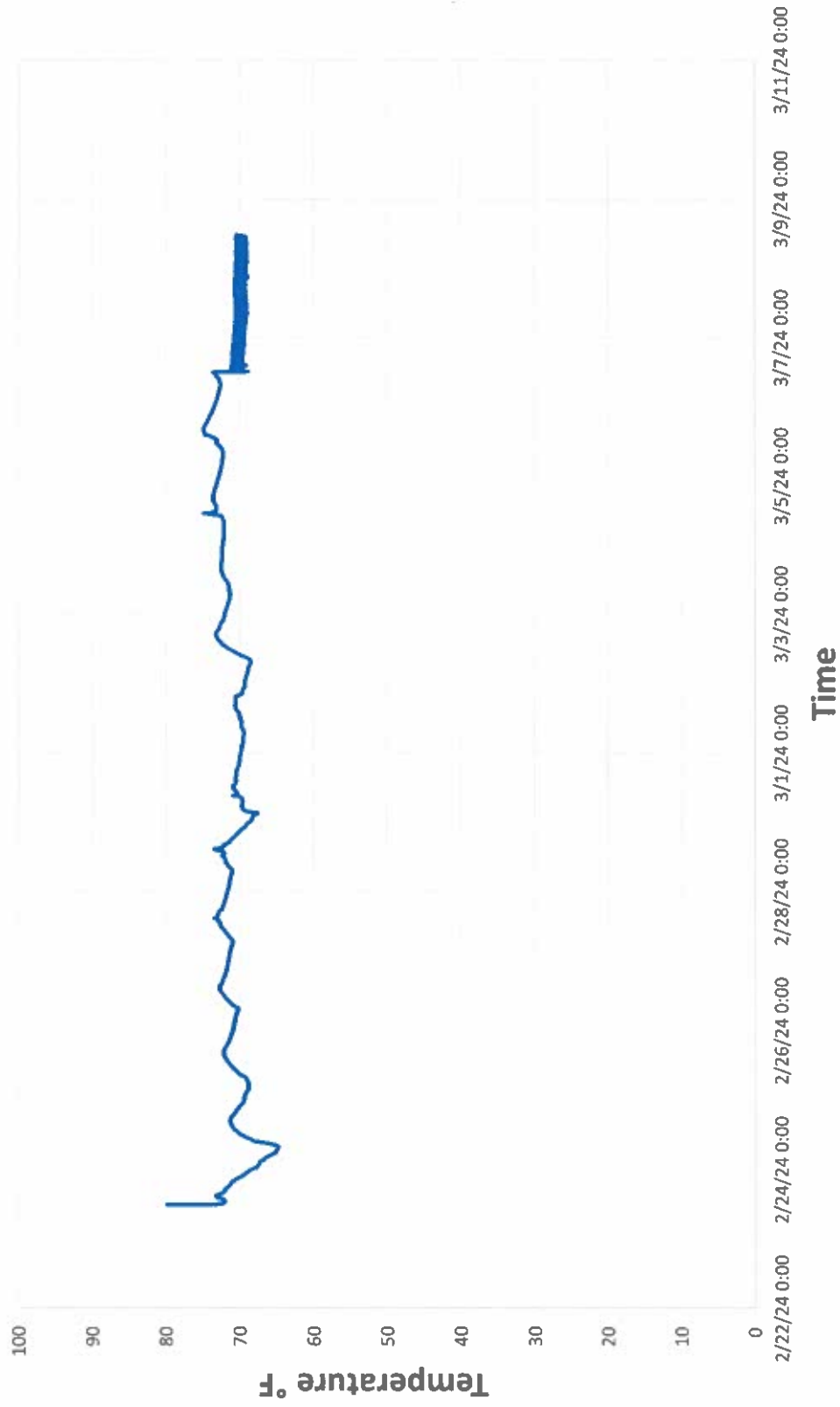
1. First, a sample of equipment is taken from the schedule.
2. The controls sequences for the selected sample are tested and verified per the Construction Documents.
3. The data collected shall span a month after the completion of the SOO review.
4. The CxA shall review the data from the BAS and the CxA data loggers for the same areas to ensure the HVAC system stability.

OVERALL RELATIVE HUMIDITY Room 412

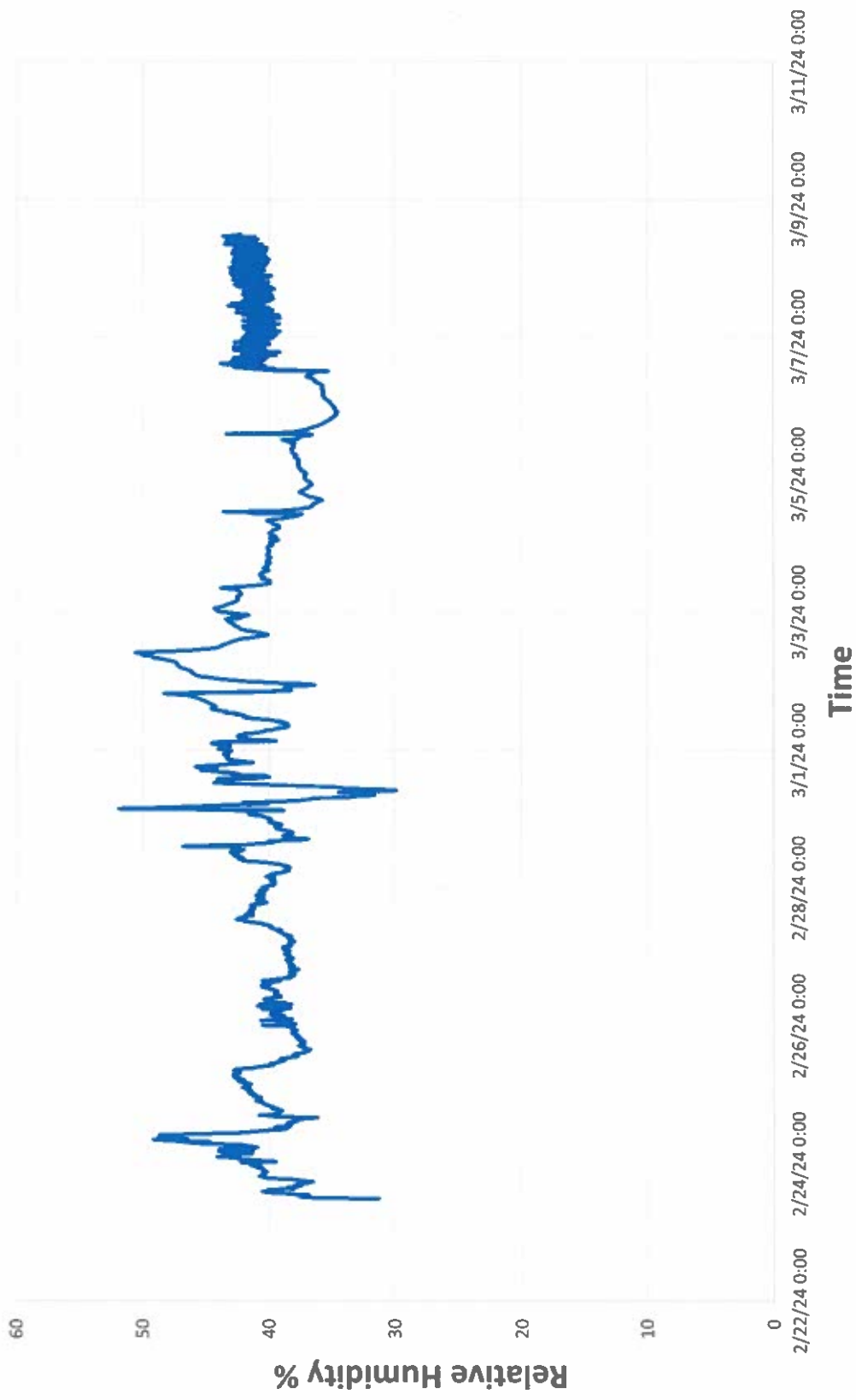


■ # of time RH $>$ 60% : ■ # of time RH was \leq 60% :

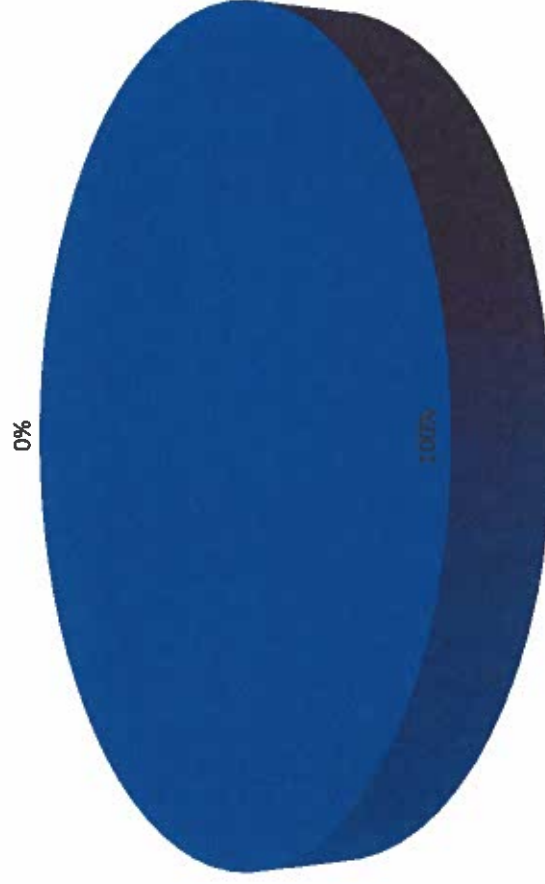
Time vs Temperature
Room 302



Time vs Relative Humidity %
Room 302



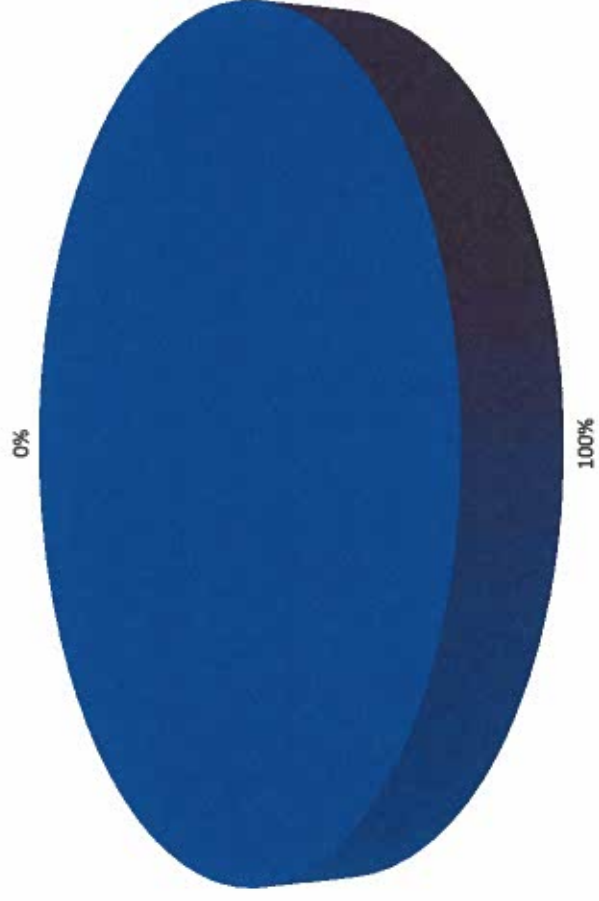
UNOCCUPIED RELATIVE HUMIDITY (6PM-6AM) Room 302



■ # of time RH > 60% : ■ # of time RH was ≤ 60% :

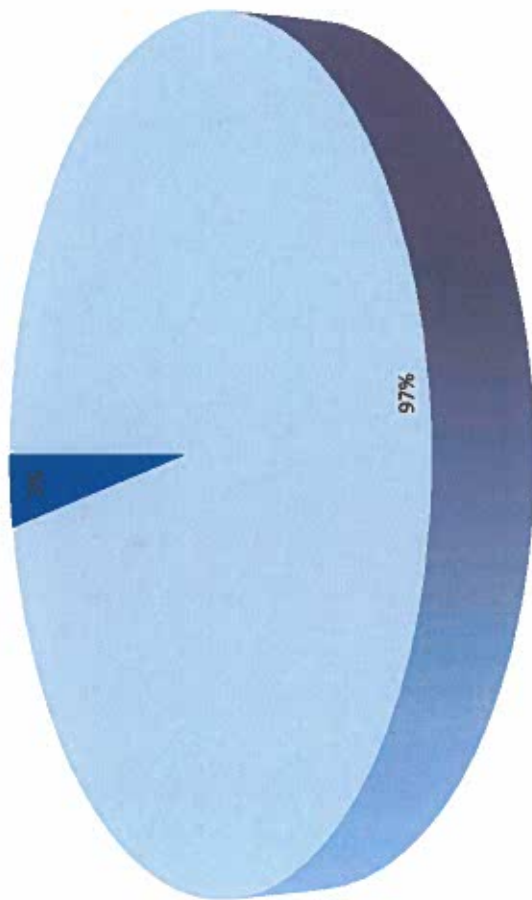
OVERALL RELATIVE HUMIDITY

Room 302



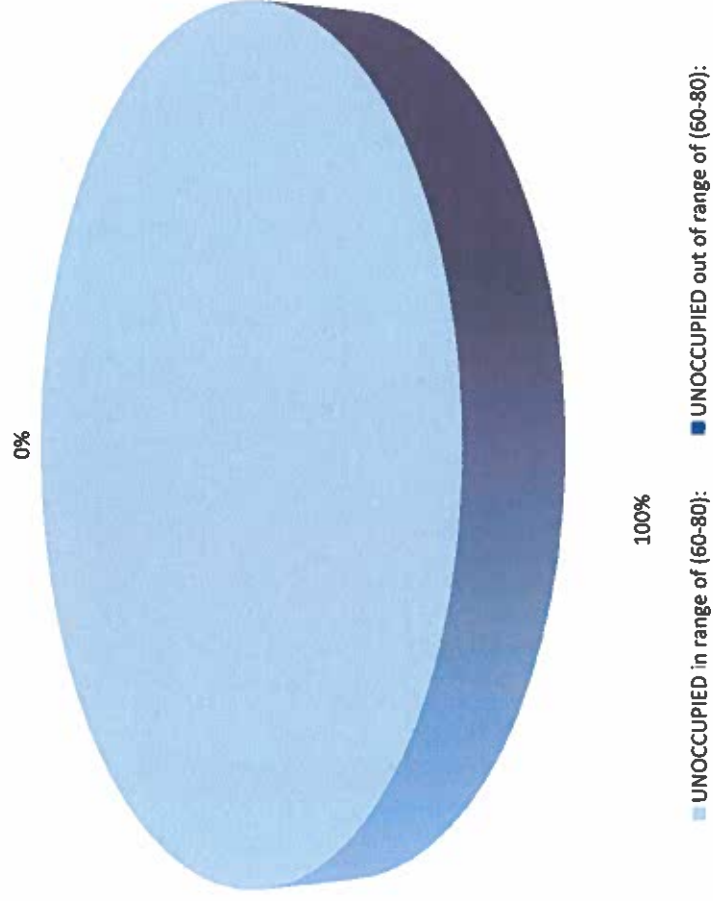
■ # of time RH > 60% : ■ # of time RH was ≤ 60% :

TEMPERATURE RANGE FROM 6AM-6PM Room 302

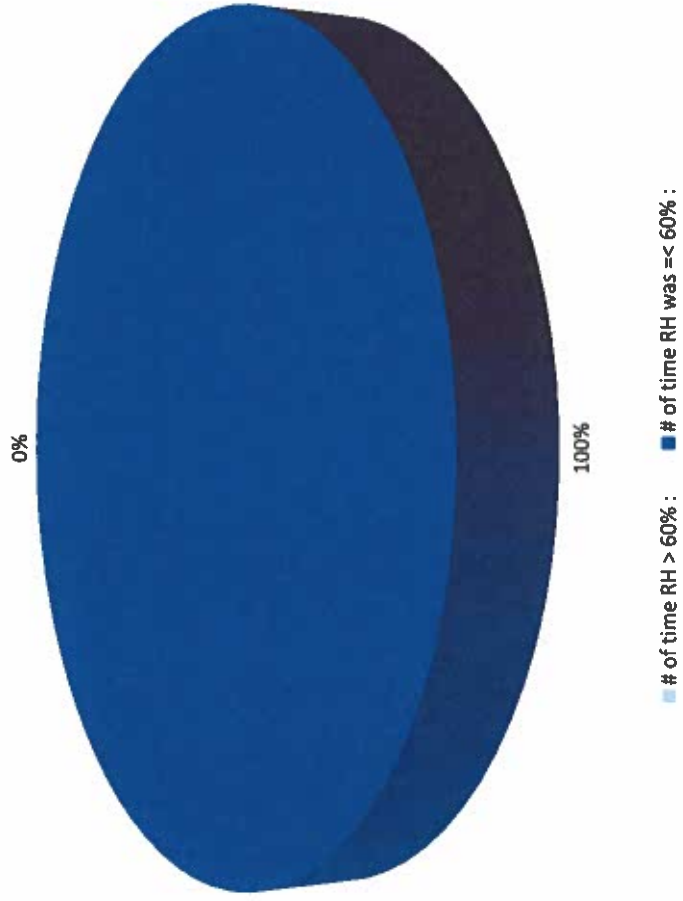


■ OCCUPIED in range of (69-75): ■ OCCUPIED out of range of (69-75):

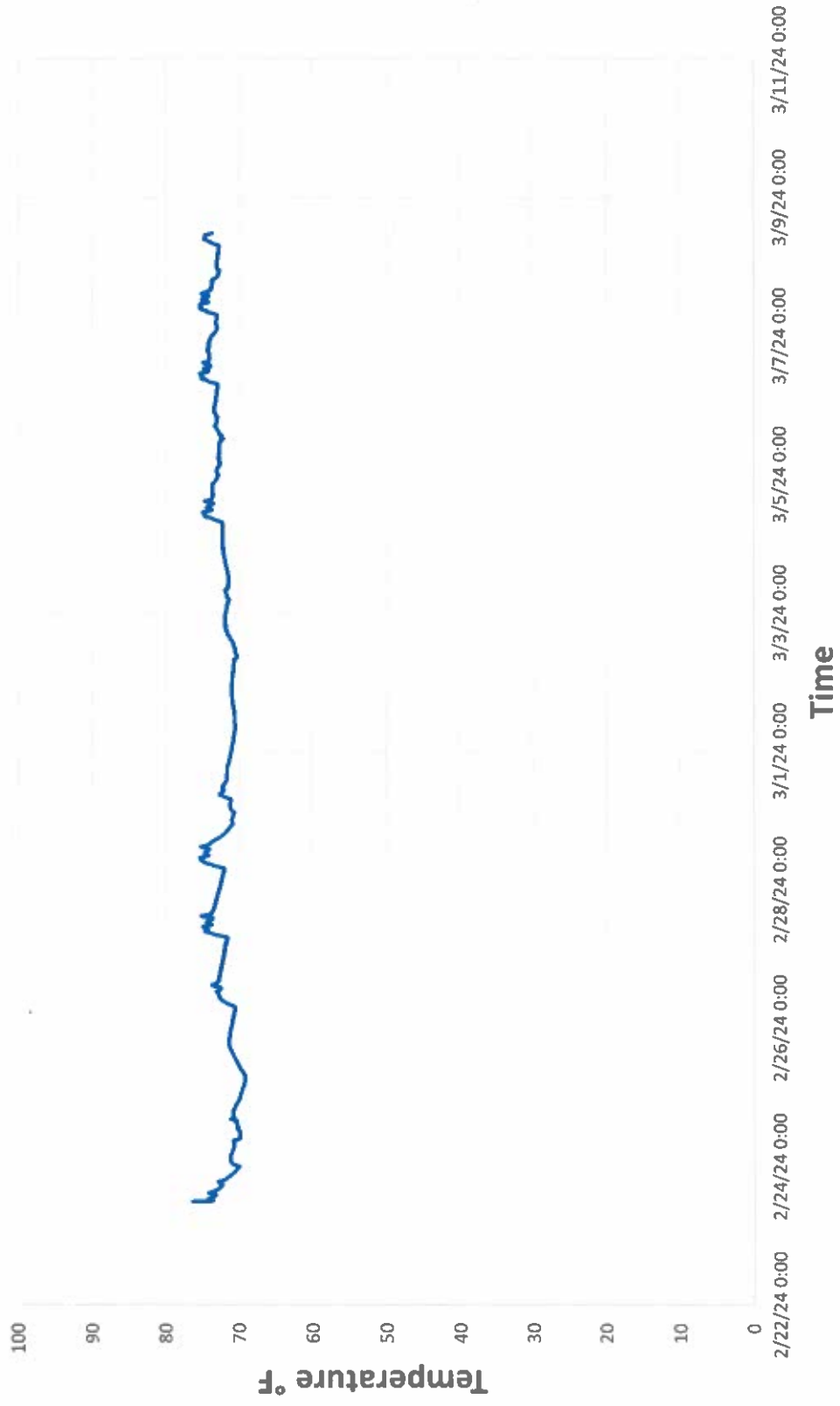
TEMPERATURE RANGE FROM 6PM-6AM Room 302



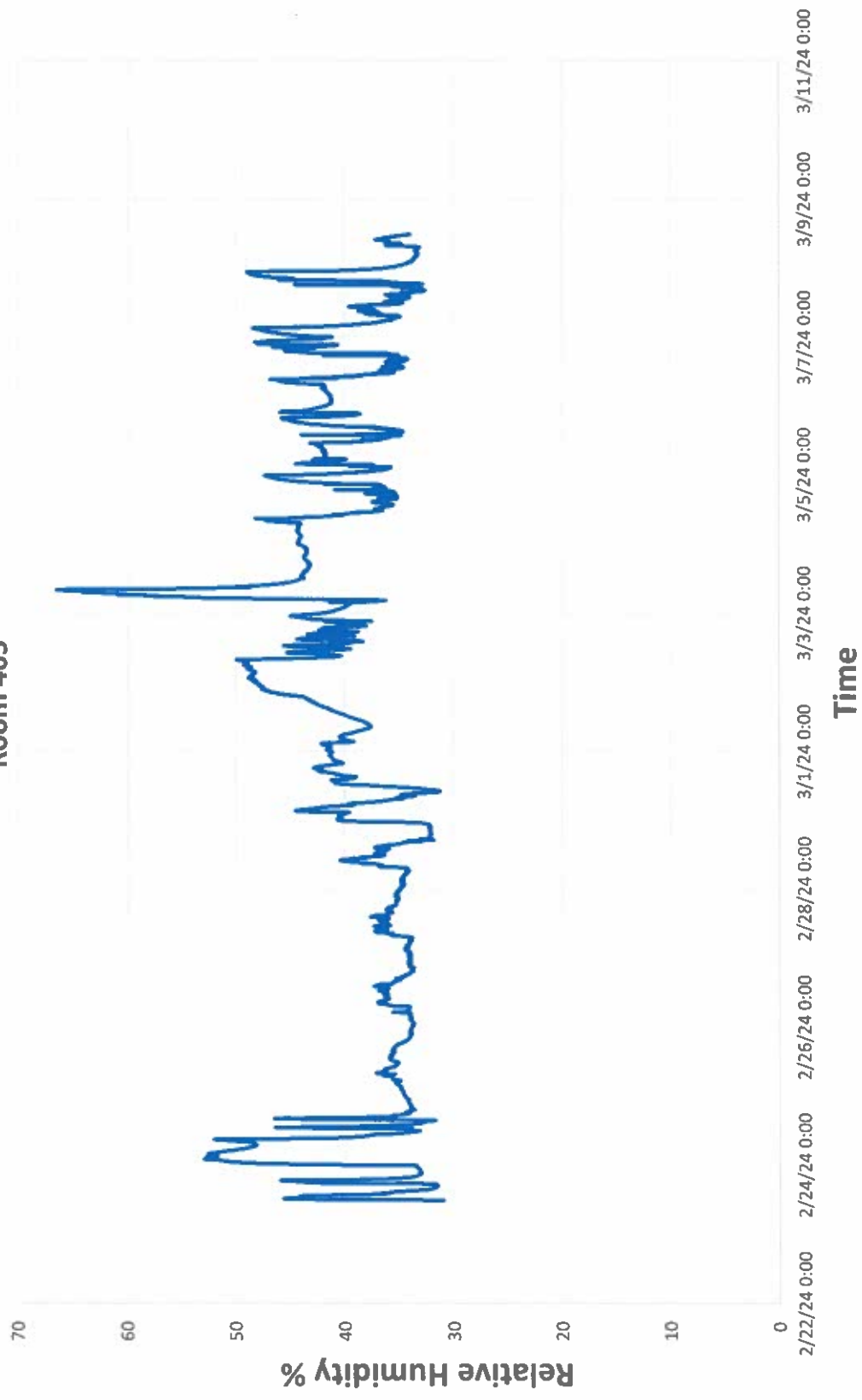
OCCUPIED RELATIVE HUMIDITY (6AM-6PM) Room 302



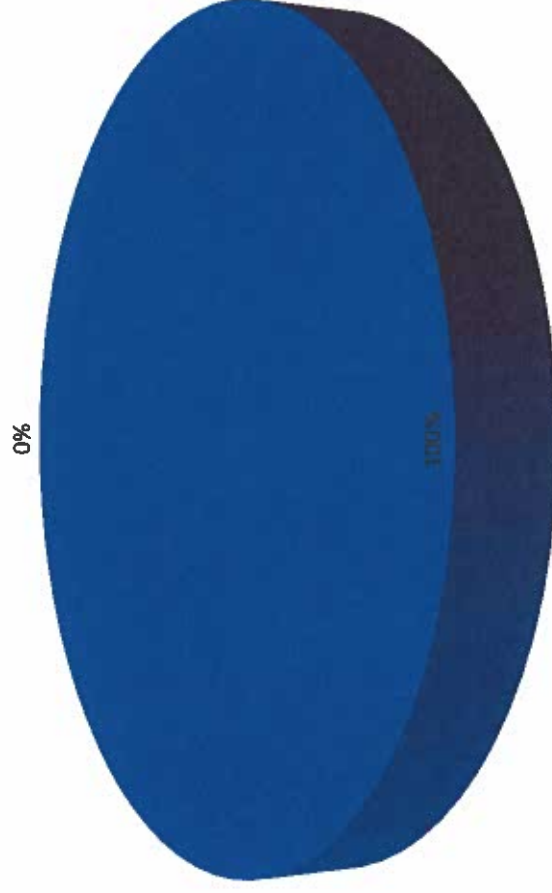
Time vs Temperature
Room 405



Time vs Relative Humidity %
Room 405

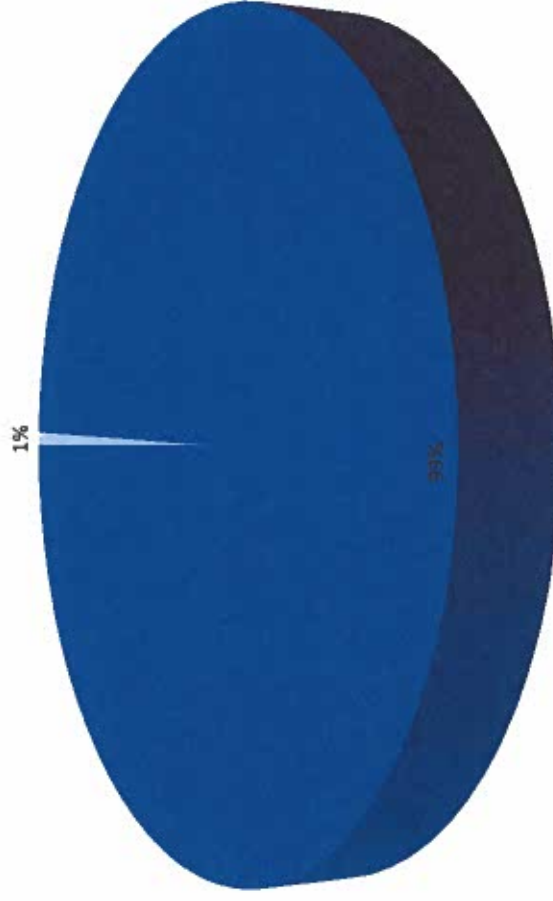


UNOCCUPIED RELATIVE HUMIDITY (6PM-6AM) Room 405



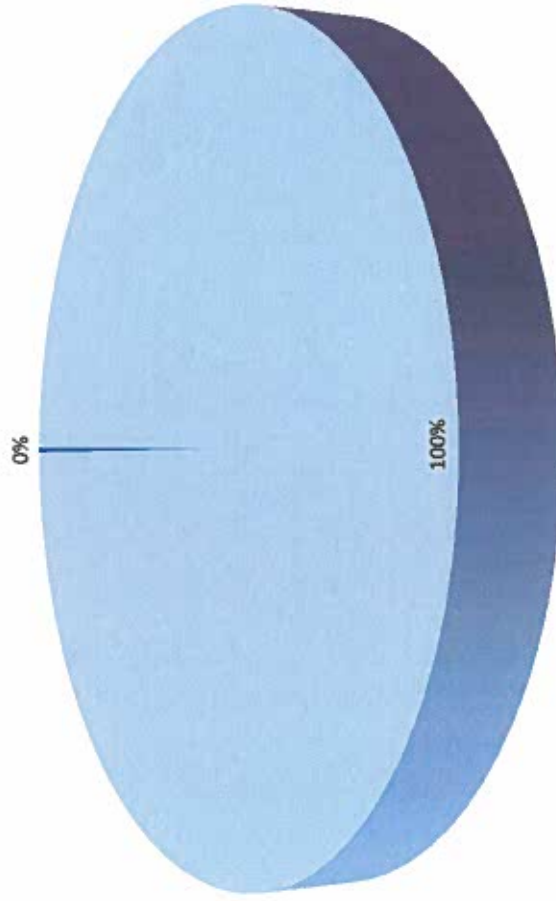
■ # of time RH > 60% : ■ # of time RH was ≤ 60% :

OVERALL RELATIVE HUMIDITY Room 405



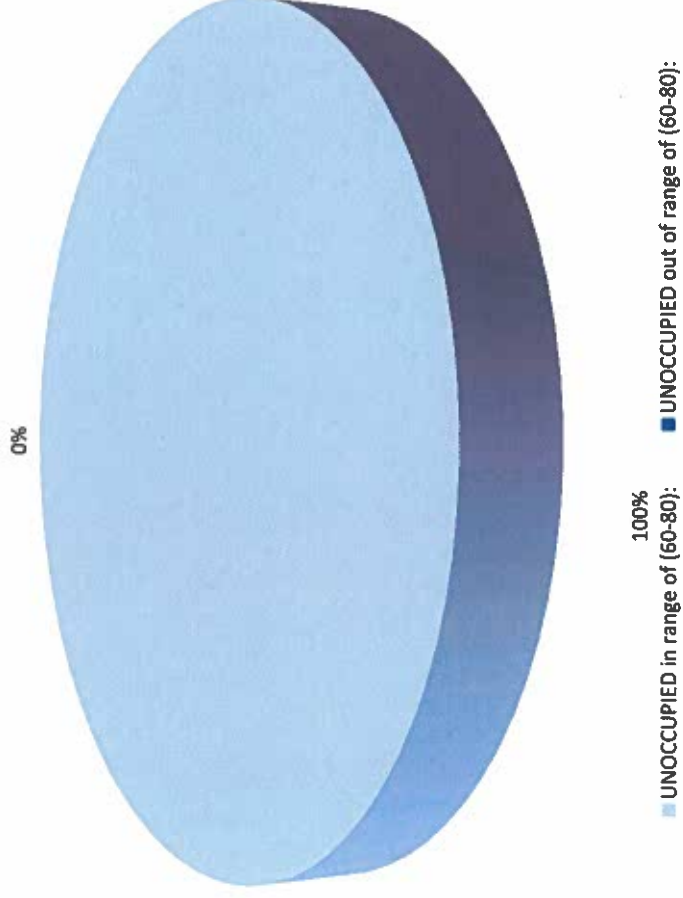
■ # of time RH > 60% : ■ # of time RH was ≤ 60% :

TEMPETURE RANGE FROM 6AM-6PM Room 405

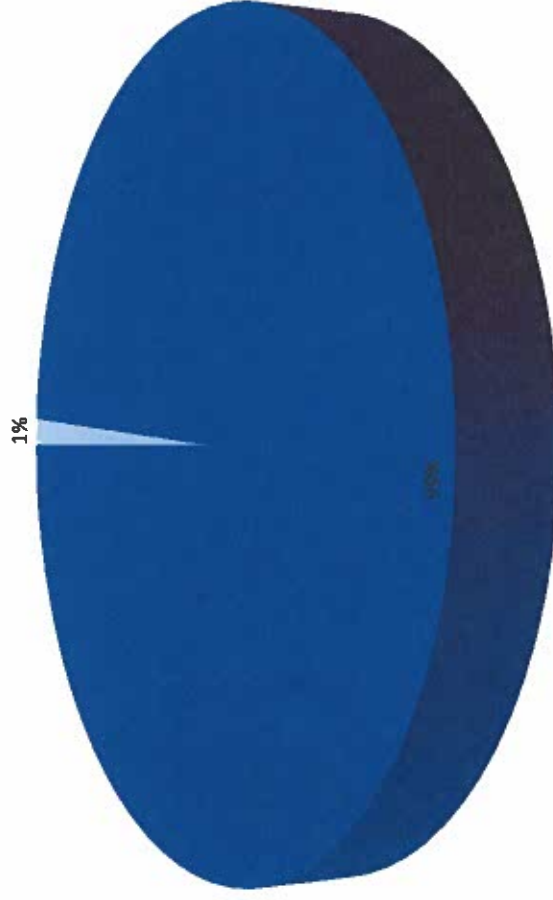


■ OCCUPIED in range of (69-75): ■ OCCUPIED out of range of (69-75):

TEMPERATURE RANGE FROM 6PM-6AM Room 405

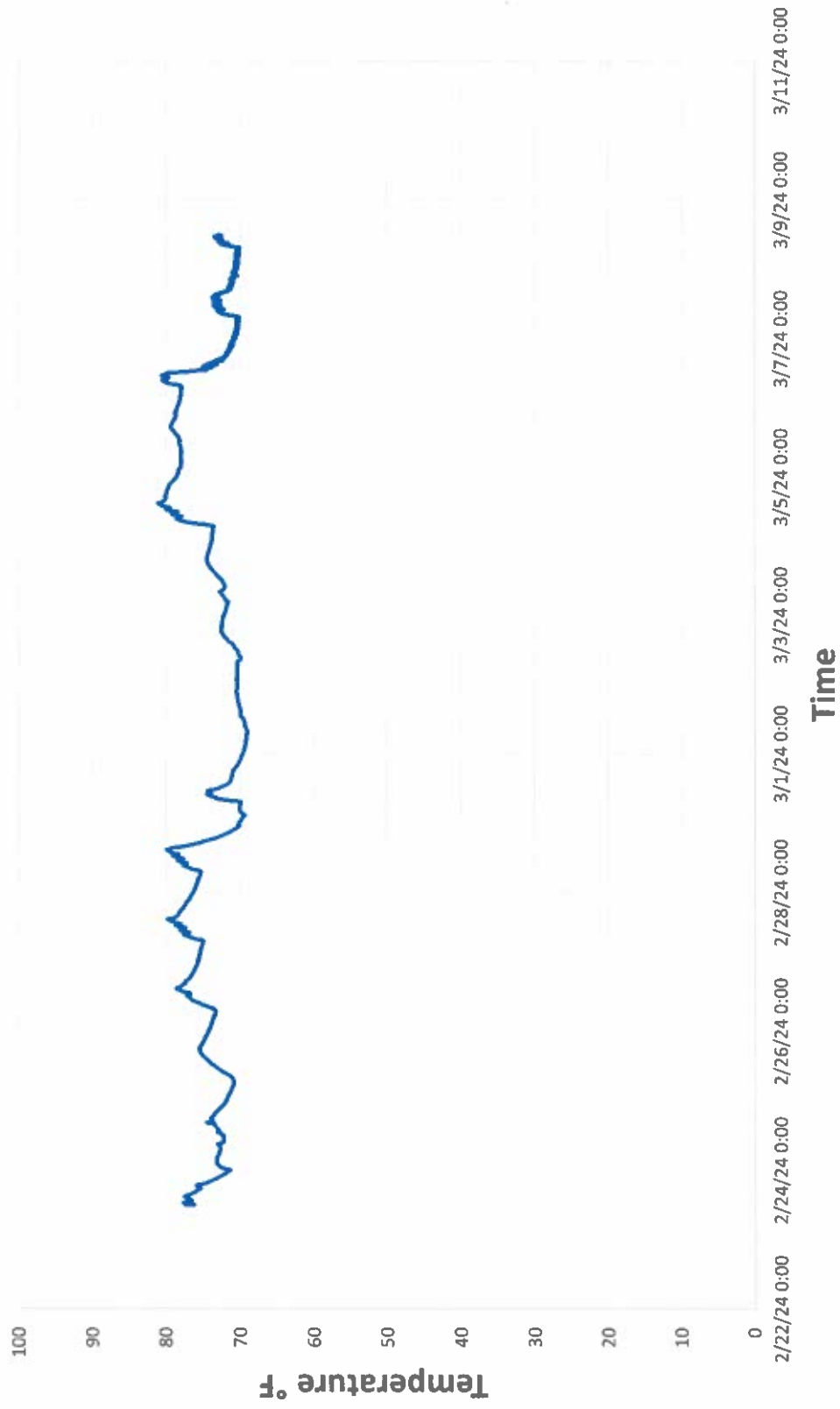


OCCUPIED RELATIVE HUMIDITY (6AM-6PM) Room 405

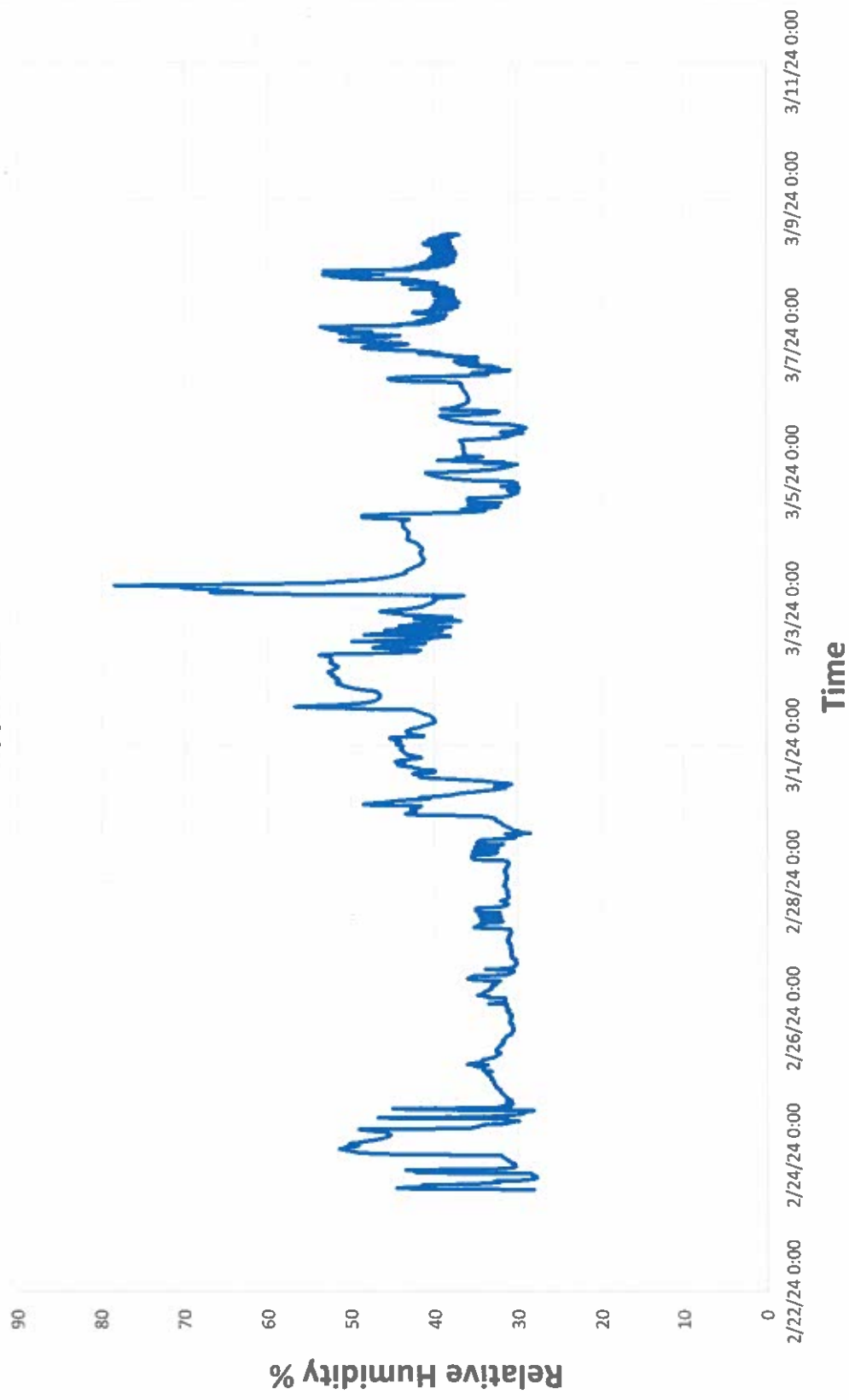


■ # of time RH $> 60\%$: ■ # of time RH was $\leq 60\%$:

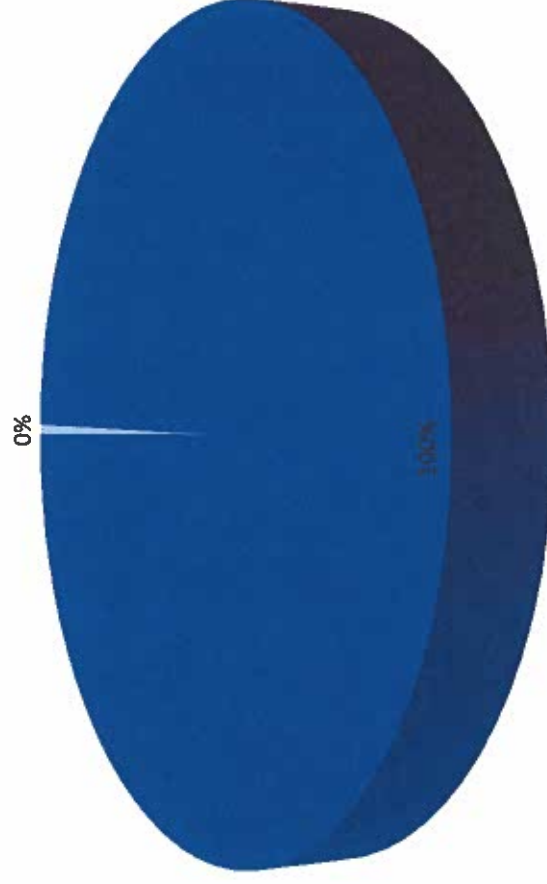
Time vs Temperature
Room 412



Time vs Relative Humidity %
Room 412

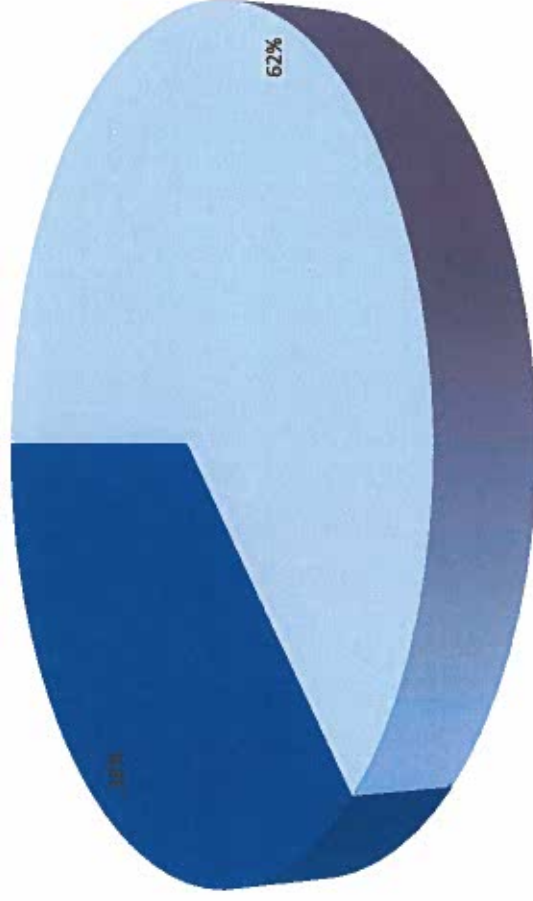


UNOCCUPIED RELATIVE HUMIDITY (6PM-6AM) Room 412



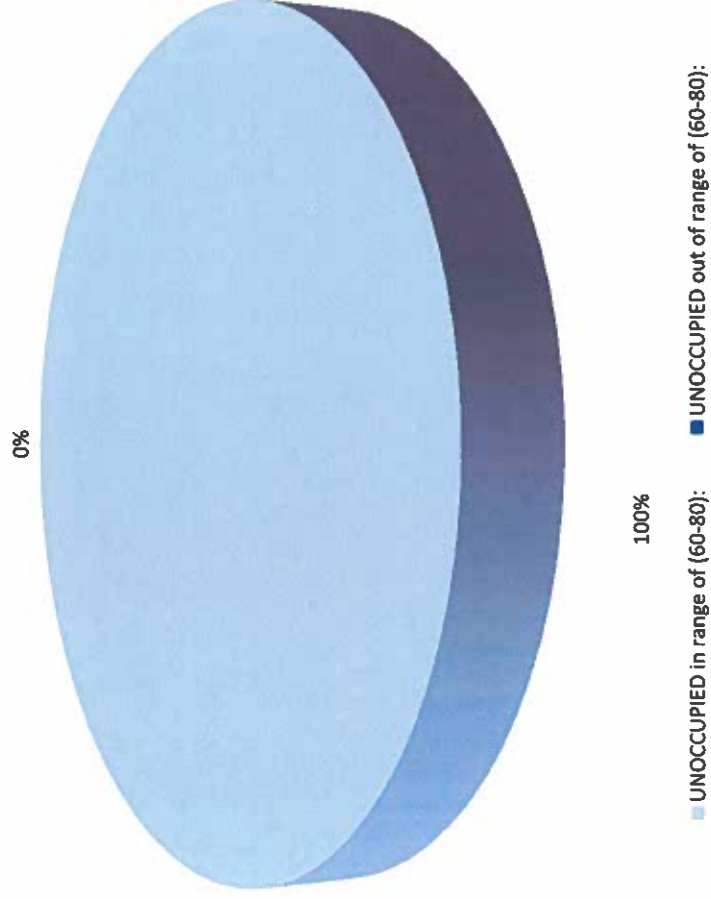
■ # of time RH > 60% : ■ # of time RH was ≤ 60% :

TEMPERATURE RANGE FROM 6AM-6PM Room 412

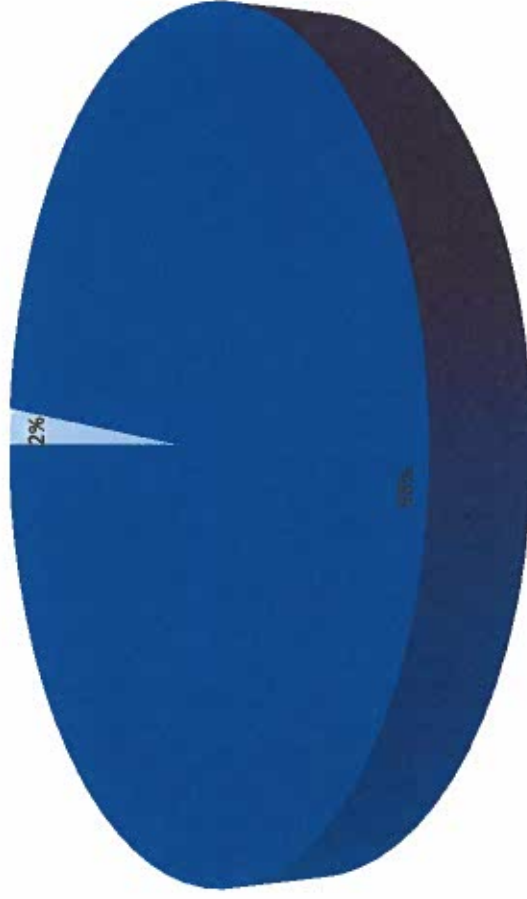


■ OCCUPIED in range of (69-75): ■ OCCUPIED out of range of (69-75):

TEMPERATURE RANGE FROM 6PM-6AM Room 412



**OCCUPIED RELATIVE HUMIDITY
(6AM-6PM)
Room 412**



■ # of time RH > 60% : ■ # of time RH was ≤ 60% :



All ways forward.

WARRANTY

Installed at: **Lucio** Elementary School
300 N. Vermillion Rd
Brownsville, Texas 78521

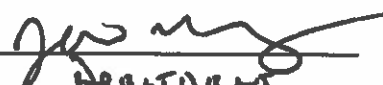
Dates of Substantial Completion: March 11, 2024

Central Air & Heating Service will provide a 1-year comprehensive warranty on all products and equipment installation services provided under this contract from the dates above for each area as indicated. This warranty is restricted and governed by the Warranty Coverage Guideline (see reverse) and by the warranty certificates provided by the manufacturer enclosed.

- Trane, warranty included in closeout documentation.

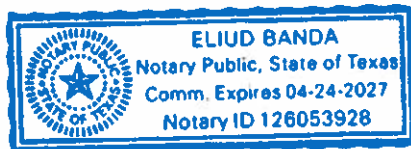
Warranty Service will only be performed during normal working hours 8:00 – 5:00 Monday thru Friday.

Warranty Service calls must be phoned in to:
Central Air & Heating Service, Inc.
Commercial Service Department
956-428-4509

Signature 
Title PRESIDENT
Date 4-3-2024

STATE OF Texas
COUNTY OF Cameron

Acknowledged before me this 3rd day of April, 2024 by Jeff D. Matz (name),
President (job title), of CAHS (company name).




NOTARY PUBLIC, STATE OF TEXAS

Warranty Coverage Guidelines

This document is to be utilized as a guideline for customers to clarify what labor and material costs are covered by the warranty and subsequently when a customer can expect to be billed for labor and material during a warranty period.

Warranty labor and parts are for equipment failure due to faulty parts or components or failure due to the installation technique of Central Air & Heating Service.

Not covered by warranty labor: Calls for repair or service after normal working hours and during holidays. All warranty is to be performed during normal working hours.

Not covered by warranty labor or parts:

1. **ACTS OF GOD:** Damages and or repairs necessary to equipment or devices as a result of natural disasters, Rainstorms, electrical storms, hurricanes, etc...
2. **ELECTRICAL:** Surges, Power outages, tripped breakers after power outages or surges. Damaged Equipment or components due to aforementioned.
3. **MAINTENANCE ITEMS:** Equipment failure or component failure due to lack of maintenance, Dirty Coils, Loose belts, loose connections, dirty filters, stopped up drains, missing covers, missing caps, rust and corrosion due to exposure to chemicals and gases.
4. **Misuse and abuse:** stripped screws, broken access levers and hinges, etc. are not covered under warranty and any equipment failure or malfunction resulting from these items is not covered.
5. **Failure due to owner repairs and or maintenance:** rewiring or wiring around safeties, improper belts, filters, etc.
6. **Failures due to owner programming or scheduling** which would change or alter initial commissioning of equipment.
7. **Service Charges:** CAHS will charge for dispatching a technician and his/her associated labor for all time incurred for responding to call (Service charge), Travel time, diagnosing problem and advising customer of corrective action taken or necessary repairs resulting from any of the items above 1-6.

It is in the Customer's best interest to perform a preliminary investigation and visual diagnostic of equipment and controls to verify that equipment is turned on, thermostat is set correctly, controls are asking equipment to run, filters, belts and drains are all in maintained condition, panels are all on, electrical voltages are correct and that there is no obvious reason for the unit not performing prior to requesting a call for service. Firstly, all this information would help in diagnosis and secondly, it may prevent unnecessary charges to the customer.



Brownsville Independent School District

Agenda Category: Bids / Proposals Board of Education Meeting: 06/23/2022

Item Title: CSP #22-148C ESSER Lucio MS X Action
HVAC Upgrades Phase 1 (Package 1) Project Information
Discussion

BACKGROUND:

On May 26, 2022, BISD Purchasing Department received and opened bid packages from one (1) vendor for CSP #22-148C ESSER Lucio MS HVAC Upgrades Phase 1 (Package 1) project. On June 15, 2022, the ranking committee members evaluated the one (1) qualified vendor and selected Central Air and Heating Services, Inc. (CAHS) of Harlingen, Texas, which has received the highest-ranking scores and is recommended for the Construction Services. Administration recommends approving Central Air and Heating Services, Inc. for Construction Services for the project as mentioned above in the amount not to exceed \$2,990,437.00. The construction project is scheduled to achieve substantial completion in Two Hundred Fifteen days (215) contingent upon equipment delivery from the Notice to Proceed date. For reference, please find the attached documents as follows:

- Department Recommendation Forms
- The Bid Tabulation Sheet
- The average ranking scores for the one (1) competitive sealed proposal received
- The bid opening report received from submitted vendors
- Agenda – Project Authorization and Delivery method from Board of Trustees

FISCAL IMPLICATIONS:

ESSER III Fund 282 – \$2,990,437.00

RECOMMENDATION:

Recommend awarding of CSP #22-148C ESSER Lucio MS HVAC Upgrades Phase 1 (Package 1) project to Central Air and Heating Services, Inc. (CAHS) of Harlingen, Texas in the amount not to exceed \$2,990,437.00, to authorize the Administration to enter negotiations, and to execute the contract. ESSER III Fund 282.

Fernando E Villarreal / Rosario Peña
 Submitted by: Principal / Purchasing Director

Manuel Hinojosa, FAIA / David Robledo
 Recommended by: District Architect / CFO

Dr. Nellie Cantu

Approved by: Deputy Superintendent

Approved for Submission to Board of Education:

Dr. René Gutiérrez
 Superintendent

When Necessary, Additional Background May Follow This.