Brownsville Independent School District

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

Item Title: CSP #22-148B El Jardin E.S. HVAC Upgrades, Phase I (Package I) Project Substantial Completion

X Action
___ Information
___ Discussion

BACKGROUND:

CSP#22-148B El Jardin E.S. HVAC Upgrades, Phase I (Package I) 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).
El Jardin E.S. HVAC Upgrades, Phase I (Package 1) Project:

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

FISCAL IMPLICATIONS:

None

RECOMMENDATION:

Recommend approval to authorize the El Jardin E.S. HVAC Upgrades, Phase I (Package 1) Project, under CSP # 22-148B, as substantially complete.

Alonso Guerrero
Submitted by: Health Services & Operations

Alonso Guerrero
Recommended by: Health Services & Operations

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 El Jardin Elementary School	**CONTRACT INFORMATION:** Contract For: CSP 22-148B El Jardin Elementary 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 01/31/2024.

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 01/31/2024.

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: $5,000

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

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Punch List

To:	Manuel Hinojosa	**Date:**	2/1/2024
From:	Luis E Hernandez Nava	**AVO:**	45813.003
Email:	lhernandeznava@halff.com	**Project:**	HVAC Upgrades at El Jardin
Contract for:	BISD ESSER HVAC Upgrades at El Jardin Elementary		

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	All buildings	• Add a dehumidification sequence to all RTUs.		
2	All buildings	• The GFCI convenience outlets are missing from all RTUs (except the ones at the Classroom Wing). For locations, please refer to drawing E1.01.		
3	All buildings	• Provide identification labels to all units as per specification 230553.		
4	All buildings	• P-traps should have vents closer to the unit closed to avoid bringing unconditioned outdoor air to the unit.		
5	All buildings	• The General Contractor shall insulate and watertight seal all roof curbs. Confirm all roof curbs and adapters are properly airtight sealed. Air leakage was confirmed during the site visit observation.		
6	All buildings	• The General Contractor shall confirm that the unit and access door panel are properly sealed. Condensation is present in the compressor's cabinet.		

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ITEM NO.	LOCATION (AREA)	DESCRIPTION	COMPLETION DATE	A/E CHECK DATE
7		• Provide Test and Balance report.		
8	Class Wing	• RTU-13-608/640/612 missing convenience outlet. • GC to confirm that all units have installed supply and return smoke detectors.		
9	Building A	• RTU-05-102 outside air damper not operable. Pending wiring connections.		
10	Building B	• GC to confirm that all units have installed supply and return smoke detectors.		
11	Building C	• RTU-04-105 is pending outside air damper and hinged access doors.		

☐ Attachments

SIGNED: Luis E. Hernandez Nava, PE

COPIES: ☐ Owner ☐ Contractor ☒ File

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Punch List

To:	Manuel Hinojosa	**Date:**	2/1/2024
From:	Luis E Hernandez Nava	**AVO:**	45813.003
Email:	lhernandeznava@halff.com	**Project:**	HVAC Upgrades at El Jardin
Contract for:	BISD ESSER HVAC Upgrades at El Jardin Elementary		

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4	All buildings	• P-traps should have vents closer to the unit closed to avoid bringing unconditioned outdoor air to the unit.		
5	All buildings	• The General Contractor shall insulate and watertight seal all roof curbs. Confirm all roof curbs and adapters are properly airtight sealed. Air leakage was confirmed during the site visit observation.		
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8	Class Wing	• RTU-13-608/640/612 missing convenience outlet. • GC to confirm that all units have installed supply and return smoke detectors.		
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10	Building B	• GC to confirm that all units have installed supply and return smoke detectors.		
11	Building C	• RTU-04-105 is pending outside air damper and hinged access doors.		

☐ Attachments

SIGNED: Luis E. Hernandez Nava, PE

COPIES: ☐ Owner ☐ Contractor ☒ File

Final
Commissioning Report

Prepared for:

BISD – El Jardin Elementary School

halff

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		PETESELECTRICCO@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

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Commissioning Communications Log

Description	Date	Form of Communication	Sent To	Sent By
Initial Cx Plan		Email	Fernando Villarreal	Dean Lizzotte
Pre-functional testing	1/21/24	Site Visit	Colin Eubanks	Luis Hernandez Nava
Preliminary Cx Plan	8/2/24	Email	Colin Eubanks	Dean Lizzotte
Final Cx Report	3/14/25	Email	Manuel Hinojosa	Dean Lizzotte

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 contractor from 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

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Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION

RTU Number	Rtu-04-104	Control System type	DDC
Model Number	4TCY5048A1000AC	Ambient Temperature	74
Serial Number	224214343L	Heat Fuel Type	N/A
C/N Number		Air Filter Type18x18x2	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM

Unit Voltage and Phase	208-230 1ph.	T1 Transformer Output Voltage	25.3v
Incoming Voltage Reading L1-L2	241.9v	T18 Transformer Output Voltage	N/a
Incoming Voltage Reading L1-L3	N/a	T43 Transformer Output Voltage	N/a
Incoming Voltage Reading L2-L3	N/a		

PRODIGY CONTROLLER

Completed Guided Setup	N/A
Prodigy Unit Report Included	NO
Prodigy Board Software Version#	6.05
Display Software Version#	

THERMOSTAT / DDC CONTROLS

Controller Manufacturer	Trane
Controller Model Number	UC600
Controller Serial Number	E23C19018
Network Address	

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
								Return	Supply	
	High Speed	NA	1.7a	1.7a	N/a					
	Low Speed	NA								
Compressor	Stage 1	NA	8.7a	8.6a	4.5a	138.0psig	275.4psig	71.0	52f	
	Stage 2	NA								
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS

Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High			
1	N/a	1					-
2	N/a	2					

ELECTRIC

Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
1	16.6a	17.0a	N/a	74	87	
2						

OUTDOOR AIR

Outdoor Air type		Power Exhaust Installed	
Econ Operation Mode		Power Exhaust Type	

OPERATIONAL RUN TEST

Run test cooling system	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: Luis E Hernandez
Name: Luis Hernandez Nava
Company: Halff
Date: 1/31/24
Phone/Emails: lhernandez nava@halff.com
*Initiating Authority

General Contractors Representative
Signed: MR
Name: Mike Rodriguez
Company: Cahs
Date: 01/31/24
Phone/Emails:

Owners Representative
Signed:
Name:
Company:
Date:
Phone/Emails:

HALFF

Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION

RTU Number	RTU-04-211	Control System type	DDC
Model Number	4TCY5048A1000AC	Ambient Temperature	73
Serial Number	224610208L	Heat Fuel Type	N/A
C/N Number		Air Filter Type18x18x2	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM

Unit Voltage and Phase	208-230v 1ph.	T1 Transformer Output Voltage	26.0a
Incoming Voltage Reading L1-L2	244.3v	T18 Transformer Output Voltage	N/a
Incoming Voltage Reading L1-L3	N/a	T43 Transformer Output Voltage	N/a
Incoming Voltage Reading L2-L3	N/a		

PRODIGY CONTROLLER

Completed Guided Setup	N/A
Prodigy Unit Report Included	NO
Prodigy Board Software Version#	6.05
Display Software Version#	

THERMOSTAT / DDC CONTROLS

Controller Manufacturer	Trane
Controller Model Number	UC600
Controller Serial Number	E22L05939
Network Address	23022

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
								Return	Supply	
	High Speed	NA	1.3a	1.3a	N/a					
	Low Speed	NA								
Compressor	Stage 1	NA	9.3a	9.0a	4.6a	130.6psig	276.8psig	72f	54f	
	Stage 2	NA								
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS

Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High			
1	N/a	1					-
2	N/a	2					

ELECTRIC

Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
1	17.4a	16.9a	N/a	74	85	
2						

OUTDOOR AIR

Outdoor Air type		Power Exhaust Installed	
Econ Operation Mode		Power Exhaust Type	

OPERATIONAL RUN TEST

Run test cooling system	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: Luis E Vda
Name: Luis Hernandez Nava
Company: Halff
Date: 1/31/24
Phone/Emails: lhernandez nava@halff.com
*Initiating Authority

General Contractors Representative
Signed:
Name: Mike Rodriguez
Company: CAHS
Date: 01/31/24
Phone/Emails:

Owners Representative
Signed:
Name:
Company:
Date:
Phone/Emails:

HALFF

Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION

RTU Number	RTU-04-213	Control System type	DDC
Model Number	4TCY5048A1000AC	Ambient Temperature	73
Serial Number	224314461L	Heat Fuel Type	N/A
C/N Number		Air Filter Type18x18x2	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM

Unit Voltage and Phase	208-230v 1ph	T1 Transformer Output Voltage	25.7v
Incoming Voltage Reading L1-L2	241.6v	T18 Transformer Output Voltage	N/a
Incoming Voltage Reading L1-L3	N/a	T43 Transformer Output Voltage	N/a
Incoming Voltage Reading L2-L3	N/a		

PRODIGY CONTROLLER

Completed Guided Setup	N/A
Prodigy Unit Report Included	NO
Prodigy Board Software Version#	6.05
Display Software Version#	

THERMOSTAT / DDC CONTROLS

Controller Manufacturer	Trane
Controller Model Number	UC600
Controller Serial Number	E22L05966
Network Address	23021

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
								Return	Supply	
	High Speed	NA								
	Low Speed	NA	1.1a	1.1a	N/a					
Compressor	Stage 1	NA	9.3a	9.3a	4.5a	130.4psig	282.7psig	70.2f	50.6f	
	Stage 2	NA								
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS

Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High			
1	N/a	1					-
2	N/a	2					

ELECTRIC

Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
1	16.9a	16.7a	N/a	73	85	
2						

OUTDOOR AIR

Outdoor Air type		Power Exhaust Installed	
Econ Operation Mode		Power Exhaust Type	

OPERATIONAL RUN TEST

Run test cooling system	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: Luis E Hernandez
Name: Luis Hernandez Jr.
Company: Halff
Date: 1/31/24
Phone/Emails: lhernandez@halff.com
*Initiating Authority

General Contractors Representative
Signed:
Name: Mike Rodriguez
Company: Cahs
Date: 01/31/24
Phone/Emails:

Owners Representative
Signed:
Name:
Company:
Date:
Phone/Emails:

HALFF

Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION

RTU Number	RTU-04-502	Control System type	DDC
Model Number	4TCY5048A1000AC	Ambient Temperature	69
Serial Number	224414116L	Heat Fuel Type	N/A
C/N Number		Air Filter Type18x18x2	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM

Unit Voltage and Phase	208-230 1ph	T1 Transformer Output Voltage	25.7v
Incoming Voltage Reading L1-L2	242.1v	T18 Transformer Output Voltage	N/a
Incoming Voltage Reading L1-L3	N/a	T43 Transformer Output Voltage	N/a
Incoming Voltage Reading L2-L3	N/a		

PRODIGY CONTROLLER

Completed Guided Setup	N/A
Prodigy Unit Report Included	NO
Prodigy Board Software Version#	6.03
Display Software Version#	

THERMOSTAT / DDC CONTROLS

Controller Manufacturer	Trane
Controller Model Number	UC600
Controller Serial Number	E22L05971
Network Address	22020

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
								Return	Supply	
	High Speed	NA	1.5a	1.5a	N/a					
	Low Speed	NA								
Compressor	Stage 1	NA	8.5a	8.2a	4.6a	124.5psig	248.2psig	69	50	
	Stage 2	NA								
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS

Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High			
1	N/a	1					-
2	N/a	2					

ELECTRIC

Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
1	16.8a	16.4a	N/a	71	85	
2	-	-	-			

OUTDOOR AIR

Outdoor Air type		Power Exhaust Installed	
Econ Operation Mode		Power Exhaust Type	

OPERATIONAL RUN TEST

Run test cooling system	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: [signature]
Name: Fernando Hernandez
Company: Halff
Date: 1/31/24
Phone/Emails: [illegible]
*Initiating Authority

General Contractors Representative
Signed: [signature]
Name: Mike Rodriguez
Company: Cahs
Date: 01/31/24
Phone/Emails:

Owners Representative
Signed:
Name:
Company:
Date:
Phone/Emails:

HALFF

Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION

RTU Number	RTU-05-101	Control System type	DDC
Model Number	4TCY5060A1000AB	Ambient Temperature	79.5F
Serial Number	225011961L	Heat Fuel Type	N/A
C/N Number		Air Filter Type 18x18x2	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM

Unit Voltage and Phase	208-230v, 1ph.	T1 Transformer Output Voltage	25.8v
Incoming Voltage Reading L1-L2	242.2v	T18 Transformer Output Voltage	N/a
Incoming Voltage Reading L1-L3	N/a	T43 Transformer Output Voltage	N/a
Incoming Voltage Reading L2-L3	N/a		

PRODIGY CONTROLLER

Completed Guided Setup	N/A
Prodigy Unit Report Included	NO
Prodigy Board Software Version#	6.05
Display Software Version#	

THERMOSTAT / DDC CONTROLS

Controller Manufacturer	Trane
Controller Model Number	UC600
Controller Serial Number	E22E07676
Network Address	21002

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
								Return	Supply	
	High Speed	NA	1.7a	1.7a	N/a					
	Low Speed	NA								
Compressor	Stage 1	NA	10.6a	10.9a	6.3a	116.9psig	271.9psig	69.7	51f	
	Stage 2	NA								
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS

Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High			
1	N/a	1					-
2	N/a	2					

ELECTRIC

Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
1	16.6a	16.7a	N/a	71	85	
2						

OUTDOOR AIR

Outdoor Air type		Power Exhaust Installed	
Econ Operation Mode		Power Exhaust Type	

OPERATIONAL RUN TEST

Run test cooling system	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: Luis E Hernandez
Name: Luis Hernandez Nava
Company: Halff
Date: 1/31/24
Phone/Emails: LHernandezNava@Halff.com
*Initiating Authority

General Contractors Representative
Signed:
Name: Mike Rodriguez
Company: CAHS
Date: 01/31/24
Phone/Emails:

Owners Representative
Signed:
Name:
Company:
Date:
Phone/Emails:

HALFF

Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION			
RTU Number	Rtu-13-681012	Control System type	DDC
Model Number	TSJ150A3SOG02C0E0A1A1A0C400000000000000C0	Ambient Temperature	71f
Serial Number	232913276L	Heat Fuel Type	N/A
C/N Number		Air Filter Type 18x18x2 . 18x24x2	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM			
Unit Voltage and Phase	208-230v 3ph	T1 Transformer Output Voltage	23.7v
Incoming Voltage Reading L1-L2	210.4v	T18 Transformer Output Voltage	23.7v
Incoming Voltage Reading L1-L3	209.6v	T43 Transformer Output Voltage	23.7v
Incoming Voltage Reading L2-L3	209.8v		

PRODIGY CONTROLLER		THERMOSTAT / DDC CONTROLS	
Completed Guided Setup	N/A	Controller Manufacturer	Trane
Prodigy Unit Report Included	NO	Controller Model Number	Symbio
Prodigy Board Software Version#	3.00.0012	Controller Serial Number	232101405
Display Software Version#		Network Address	22028

COOLING SYSTEM

		Rotation Verified	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Suction Pressure	Discharge Pressure	Temperature Readings All Stages		Delta T
								Return	Supply	
Blower Motor	Horse Power 5									
	High Speed	NA	7.0a	7.0a	7.2a					
	Low Speed	NA								
Compressor	Stage 1	NA								
	Stage 2	NA	6.4a	6.9a	7.1a	129.4psig	260.8psig	71.3f	52.5f	
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS								ELECTRIC						
Stage	Inlet Pressure	Stage	Manifold Pressure Low	Manifold Pressure High	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
1	N/a	1					-	1						
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	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: Luis E Hernandez
Name: Luis Hernandez Neira
Company: Halff
Date: 3/5/21
Phone/Emails: lhernandez@halff.com
*Initiating Authority

General Contractors Representative
Signed: _____
Name: _____
Company: _____
Date: _____
Phone/Emails: _____

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

HALFF

Pre-Functional Checklist-Roof Top Unit

UNIT INFORMATION

RTU Number	RTU-04-503	Control System type	DDC
Model Number	4TCY5048A1000AC	Ambient Temperature	69f
Serial Number	224611920L	Heat Fuel Type	N/A
C/N Number		Air Filter Type18x18	Pleated
		Air Filter Condition	Dirty

ELECTRICAL SYSTEM

Unit Voltage and Phase	208-230v 1ph	T1 Transformer Output Voltage	25.4v
Incoming Voltage Reading L1-L2	242.4	T18 Transformer Output Voltage	N/a
Incoming Voltage Reading L1-L3	N/a	T43 Transformer Output Voltage	N/a
Incoming Voltage Reading L2-L3	N/a		

PRODIGY CONTROLLER

Completed Guided Setup	N/A
Prodigy Unit Report Included	NO
Prodigy Board Software Version#	6.03
Display Software Version#	

THERMOSTAT / DDC CONTROLS

Controller Manufacturer	Trane
Controller Model Number	UC600
Controller Serial Number	E22LO594
Network Address	22021

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
								Return	Supply	
	High Speed	NA	1.8a	1.9a	N/a					
	Low Speed	NA								
Compressor	Stage 1	NA	8.1a	8.6a	4.6a	126psig	238psig	70	51f	
	Stage 2	NA								
	Stage 3	NA								
	Stage 4	NA								

HEATING SYSTEM

GAS

Stage	Inlet Pressure	Stage	Manifold Pressure		Return Temp	Supply Temp	Temp Rise Full Heat
			Low	High			
1	N/a	1	-	-	-		-
2	N/a	2					

ELECTRIC

Electric Heat Stage	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Full Heat
1	16.9a	16.8a	N/a	71	85	
2						

OUTDOOR AIR

Outdoor Air type		Power Exhaust Installed	
Econ Operation Mode		Power Exhaust Type	

OPERATIONAL RUN TEST

Run test cooling system	Yes	Run test free cooling	
Run test heating system	Yes	Run test power exhaust	

NOTES & DEFICIENCIES

Halff Cx Agent
Signed*: Luis Hernandez Marq
Name: Luis Hernandez Marq
Company: Halff
Date: 1/31/24
Phone/Emails: lhernandez@halff.com
*Initiating Authority

General Contractors Representative
Signed: MR
Name: Mike Rodriguez
Company: CAHS
Date: 01/31/24
Phone/Emails: M.rodriguez@cahsir

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

halff

Graphics Review

Introduction

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

Communication

Attached is the documentation for pre-graphics review. After the completion, the documents shall be signed by the CxA, the Owner's representative, and the Contractor's representative. An example of an Issues and Resolutions Log is also attached.

Procedures

1. Access to the project's BAS
2. The CxA shall review any graphical glitches or significant issues.
3. The CxA will review individual views and compare them against the installed schedules to verify if all the proper equipment is on the screen.
4. The CxA will review the information on the BAS and compare it to the information from the installed equipment itself or if available, testing instrumentation.
5. The CxA shall test alarms specified under the sequence of operations to verify proper setup.
6. The CxA will document any identified issues in the Issues and Resolutions Log.
7. If resolved, the CxA will log into the BAS and review the information again to confirm functionality.
8. Once the review has been completed, the document shall be signed by the witnessing parties, including the CxA, the Owner's representative, and the Contractor's representative.

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

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Graphics Review

Job Name	El Jardin Elementary 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	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
				DEL

Notes:

Halff Cx Agent
Signed*: [signature]
Name: Dean Lizotte
Company: Halff
Date: 3/6/25
Phone/Emails: [illegible]
*Initialing Authority

Controls Contractors Representative
Signed: _____
Name: _____
Company: _____
Date: _____
Phone/Emails: _____

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

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.

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Unit Status

Date: 3/9/2025

AVO: 45813.03

Project: BISD El Jardin 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.

ITEM NO.	LOCATION	UNIT	TEMP	RH %	COMMENT
Building A					
1.	Unit 100	RTU-05-100	77.2	33.6	N/A
2.	Unit 101	RTU-05-101	75	39.5	N/A
3.	Unit 102	RTU-05-102	73	34.2	N/A
Building C					
4.	CR 103	RTU-04-103	--	--	BAS not showing Temp or RH
5.	CR 104	RTU-04-104	78.1	42.6	N/A
6.	CR 105	RTU-04-105	70.9	41	N/A
7.	CR 106	RTU-04-106	79.6	43.5	N/A
Building B					
8.	Café 1	RTU-07-CAFE1	73.7	55.1	N/A
9.	Café 2	RTU-07-CAFE2	73.7	39.1	N/A
10.	Café 3	RTU-07-CAFE3	73.7	41.1	N/A
11.	Café 4	RTU-07-CAFE4	74.8	54.2	N/A
Building D					
12.	CR 206	RTU-04-206	76.3	48.6	N/A
13.	CR 208	RTU-04-208	77.7	45.9	N/A
14.	CR 209	RTU-05-209	75.2	47.8	N/A
15.	CR 210	RTU-04-210	74.2	52.3	N/A
16.	CR 211	RTU-04-211	76.7	44.7	N/A
17.	CR 212	RTU-04-212	76	42.7	N/A
18.	CR 213	RTU-04-213	75.8	47.6	N/A
19.	CR 214	RTU-04-214	75.2	38.6	N/A
20.	CR 215	RTU-04-215	75.1	41.4	N/A

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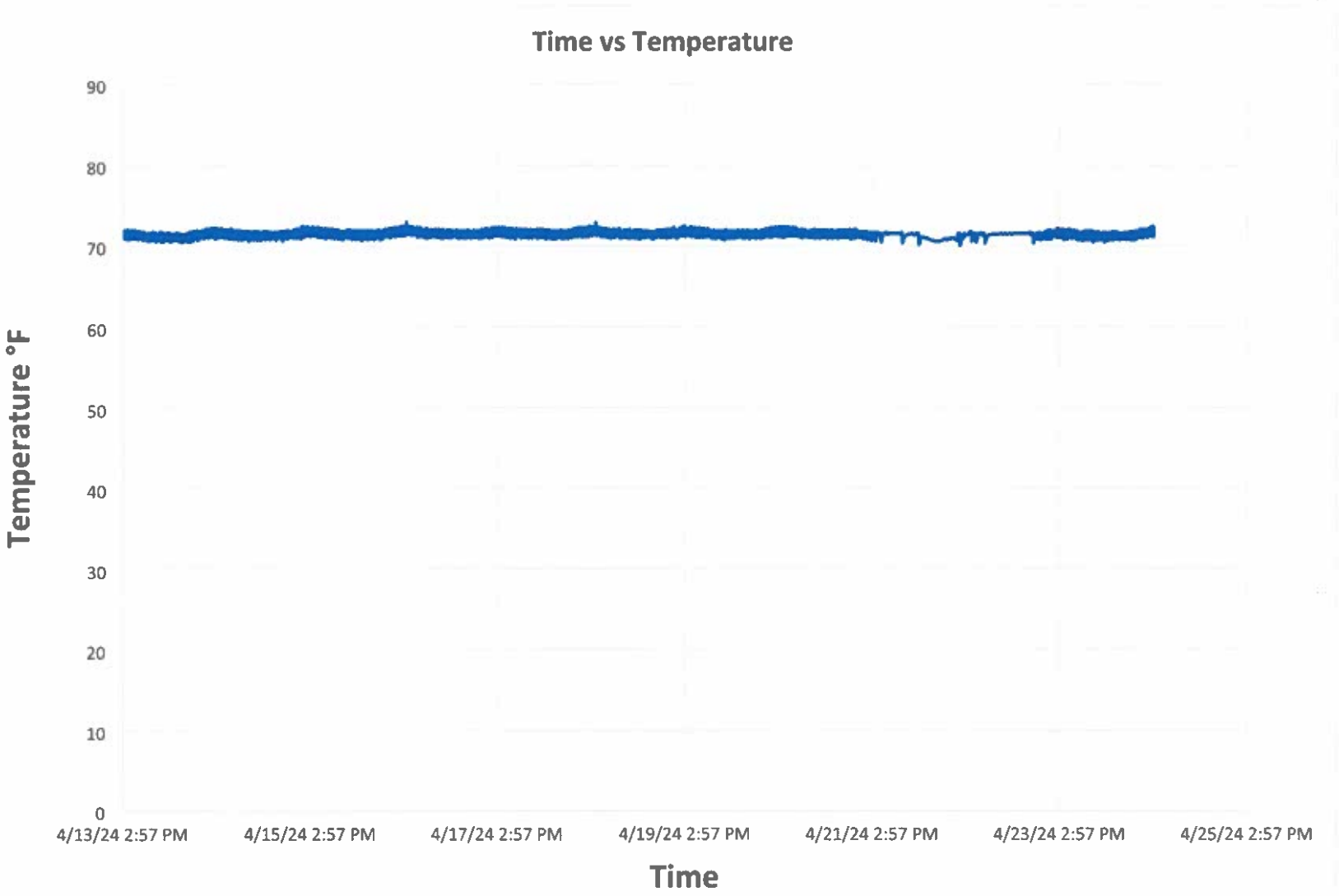
ITEM NO.	LOCATION	UNIT	TEMP	RH %	COMMENT
21.	CR 216	RTU-04-216	74.7	42.2	N/A
Building F					
22.	Unit 500	RTU-04-500	74.2	53.6	N/A
23.	Unit 501	RTU-04-501	74	52.9	N/A
24.	Unit 502	RTU-04-502	77.2	50.2	N/A
25.	Unit 503	RTU-04-503	75.8	38.1	N/A
26.	Unit 504	RTU-04-504	78.7	44.6	N/A
27.	Unit 505	RTU-04-505	75.9	51.8	N/A
28.	Unit 506	RTU-04-506	74.1	49.2	N/A
Building E					
29.	Unit 601	RTU-04-Lounge and RR	72.8	56	N/A
30.	Unit 602	RTU-04-602/604/606	72.7	56.6	N/A
31.	Unit 603	RTU-04-601/603/605	70.4	56.7	N/A
32.	Unit 604	RTU-04-608/610/612	73.2	55.8	N/A
33.	Unit 605	RTU-04-607/609/611	76.6	57.8	N/A

halff

El Jardin Hobos Data

July 5, 2024

(Room #102)

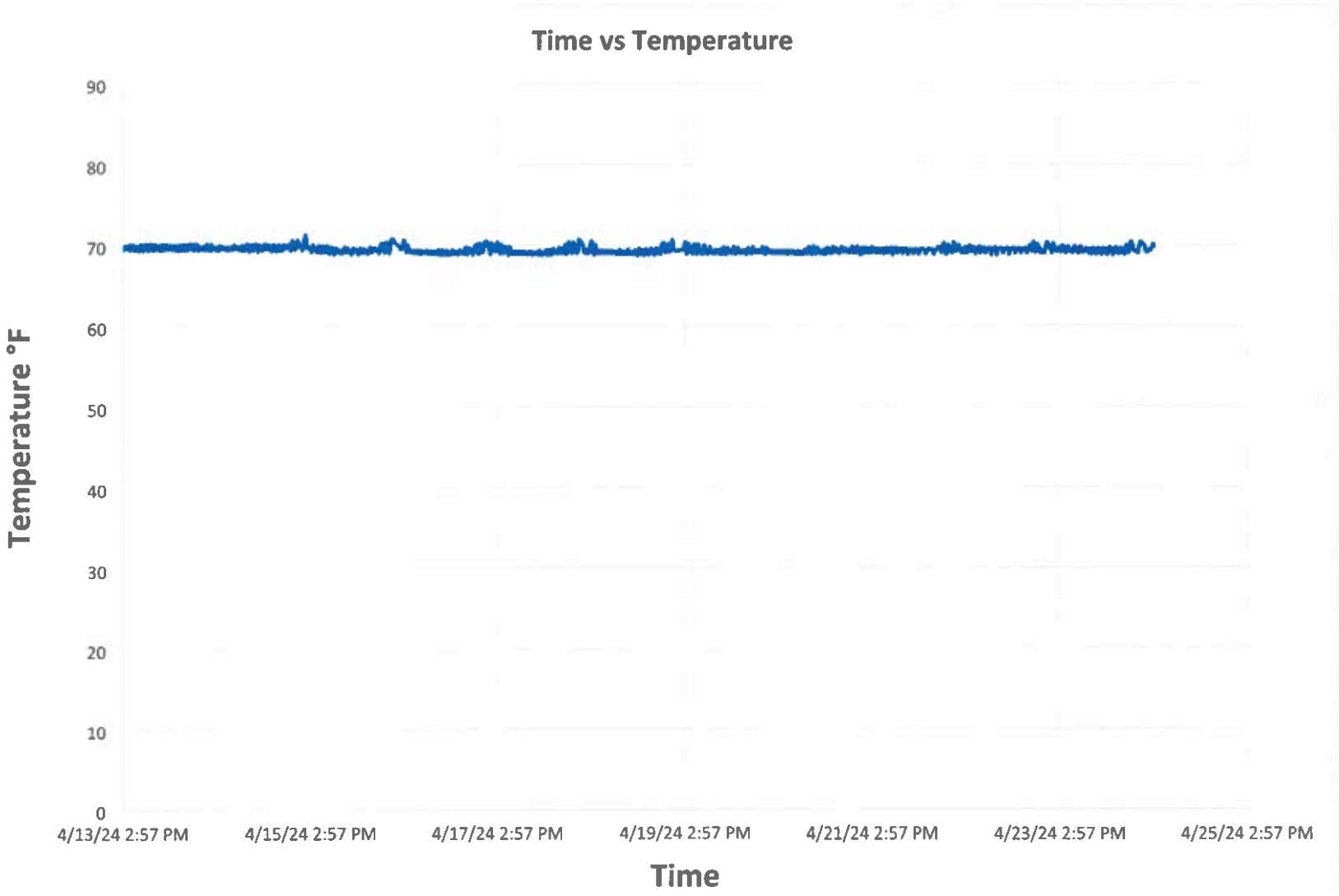


halff

El Jardin Hobos Data

July 5, 2024

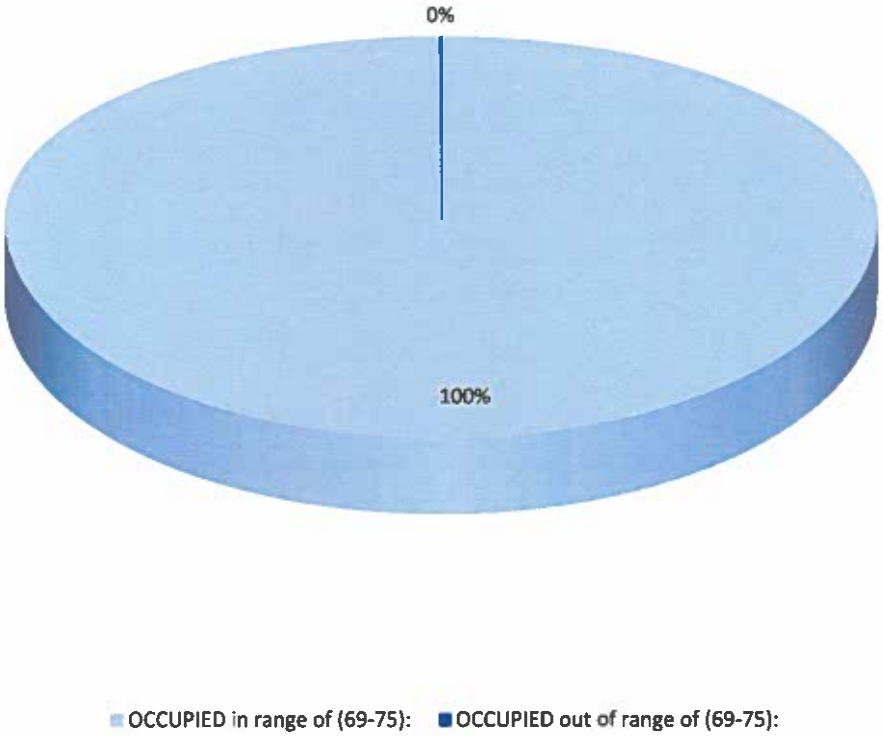
(Room #105)



El Jardin Hobos Data

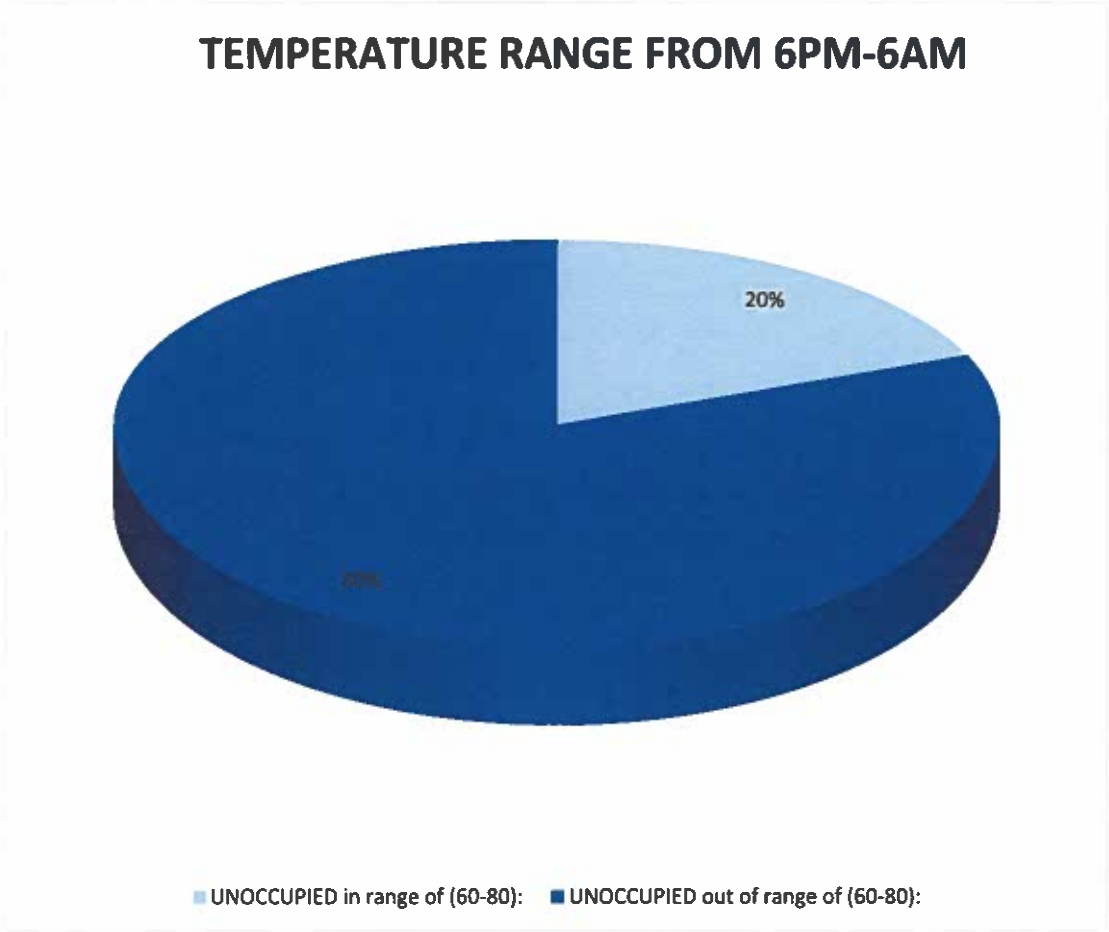
July 5, 2024

TEMPERATURE RANGE FROM 6AM-6PM



El Jardin Hobos Data

July 5, 2024



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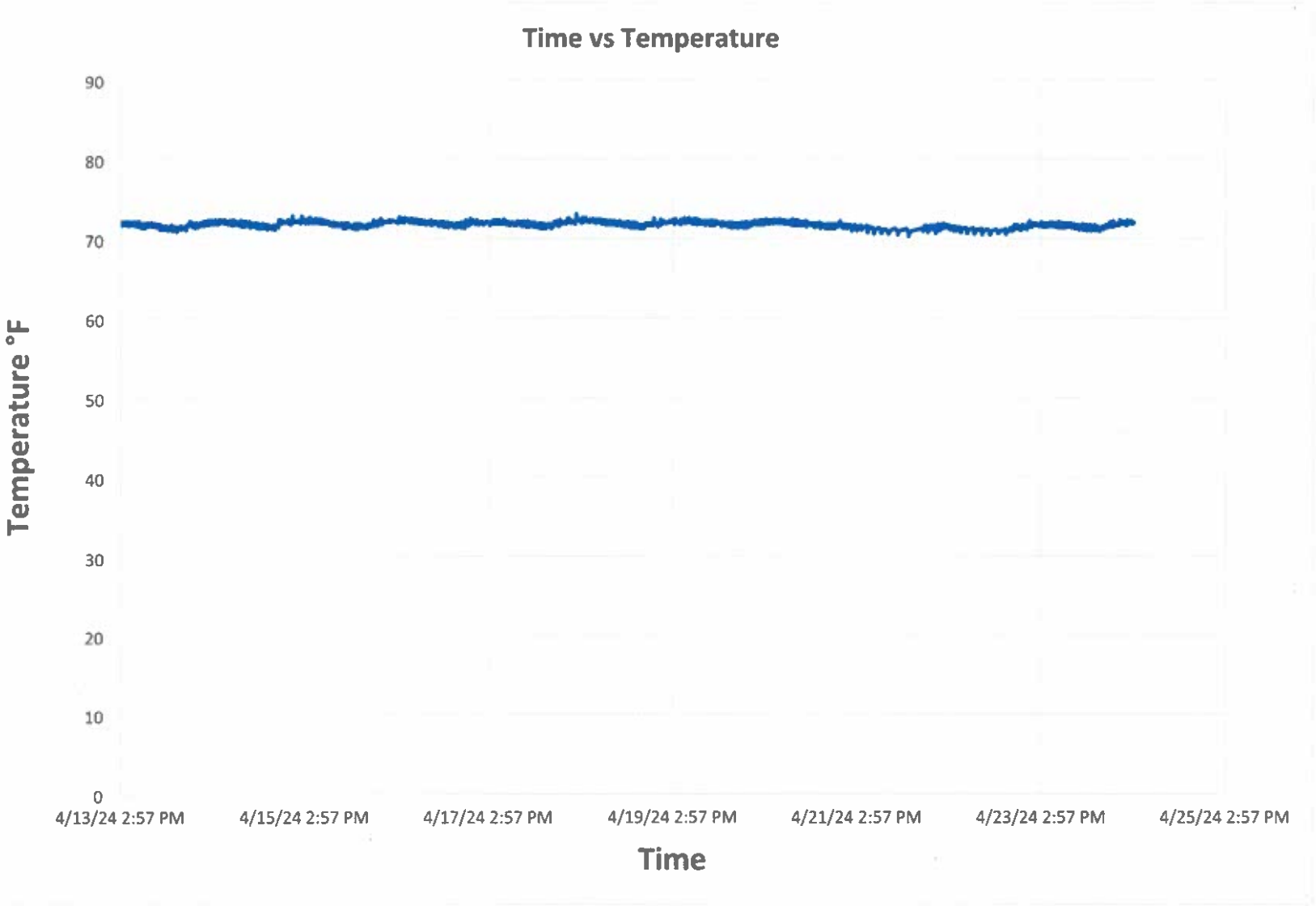
El Jardin Hobos Data

July 5, 2024

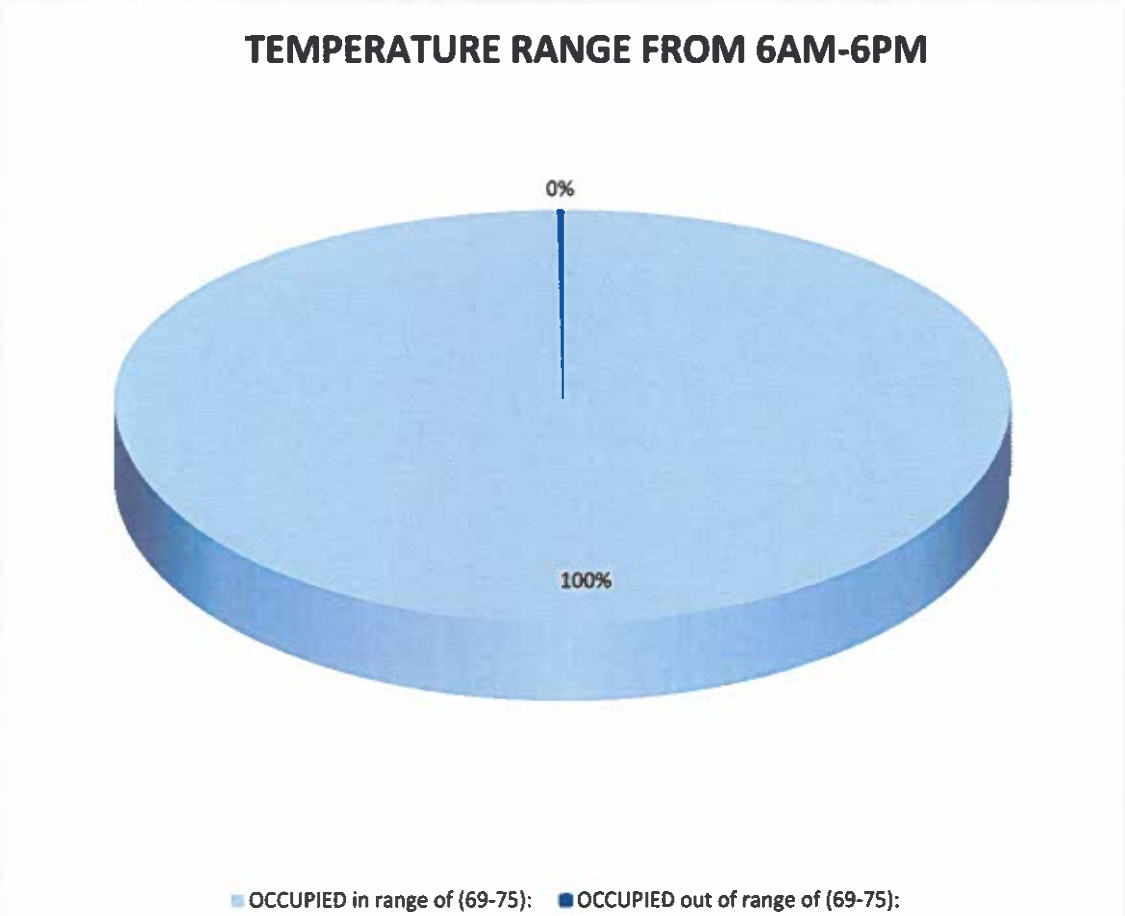
(Room #207)



El Jardin Hobos Data

July 5, 2024

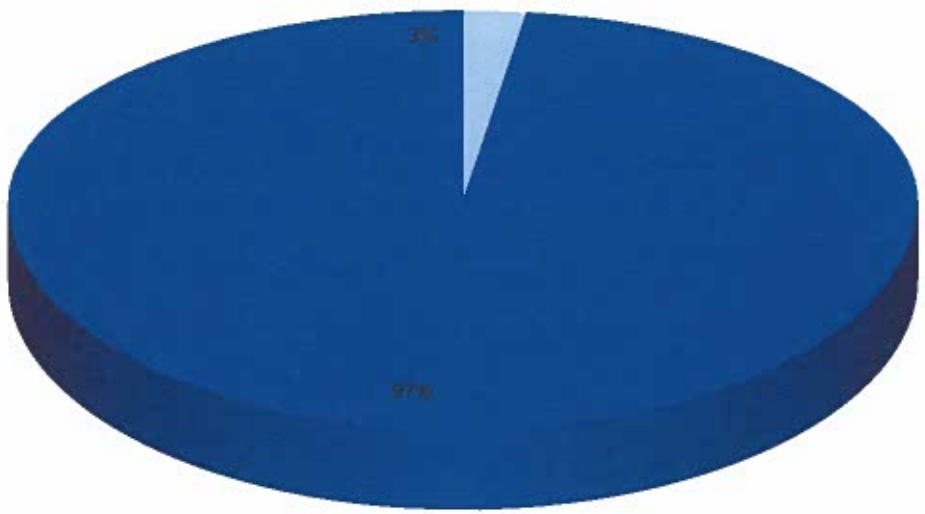
TEMPERATURE RANGE FROM 6AM-6PM



El Jardin Hobos Data

July 5, 2024

TEMPERATURE RANGE FROM 6PM-6AM

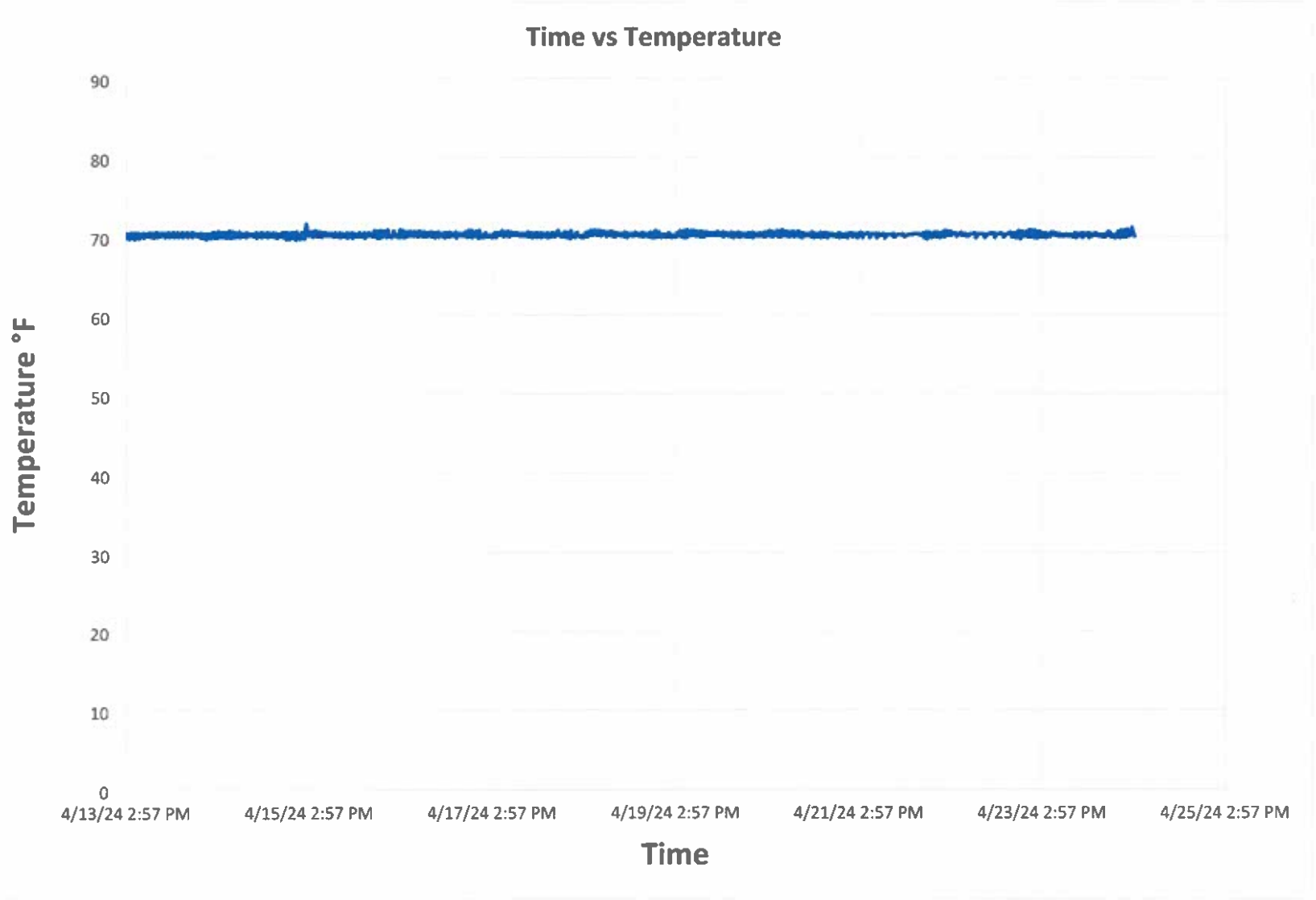


halff

El Jardin Hobos Data

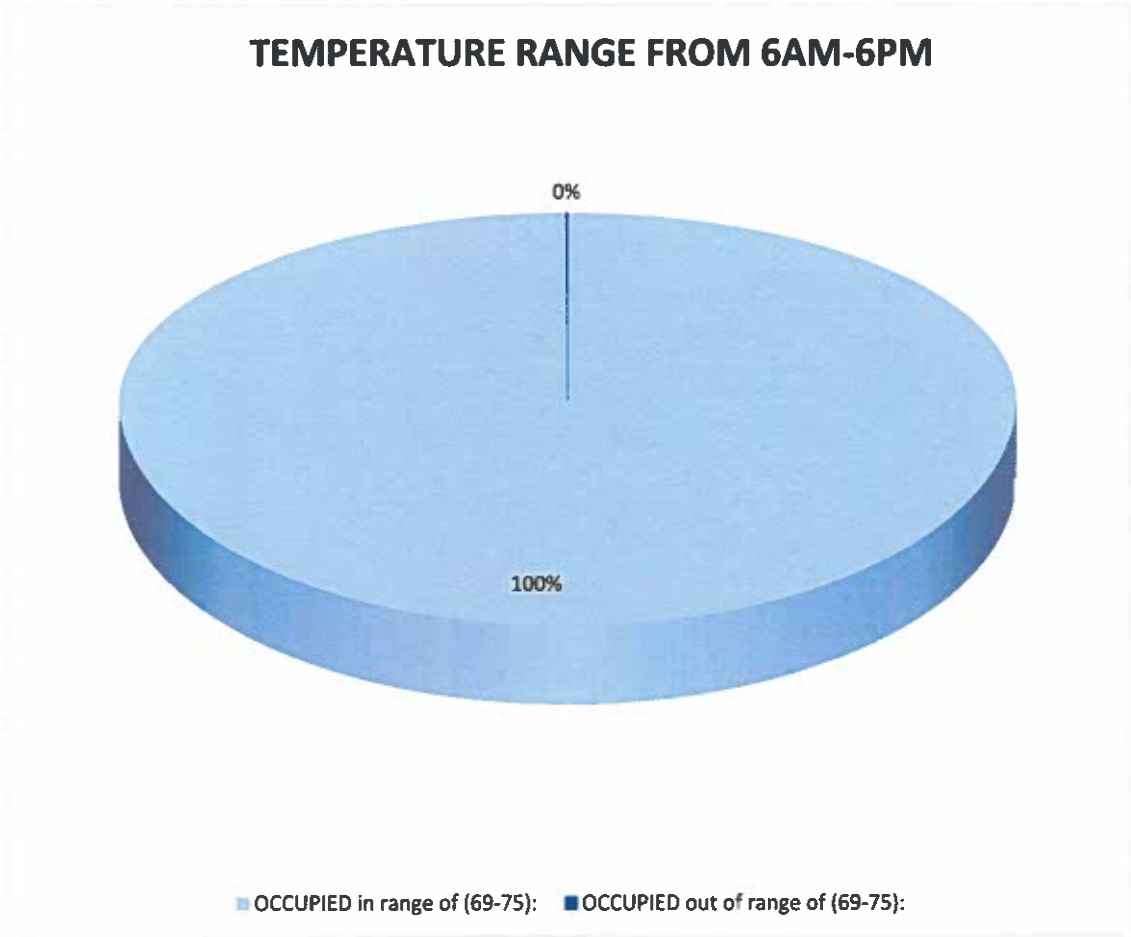
July 5, 2024

(Room #217



El Jardin Hobos Data

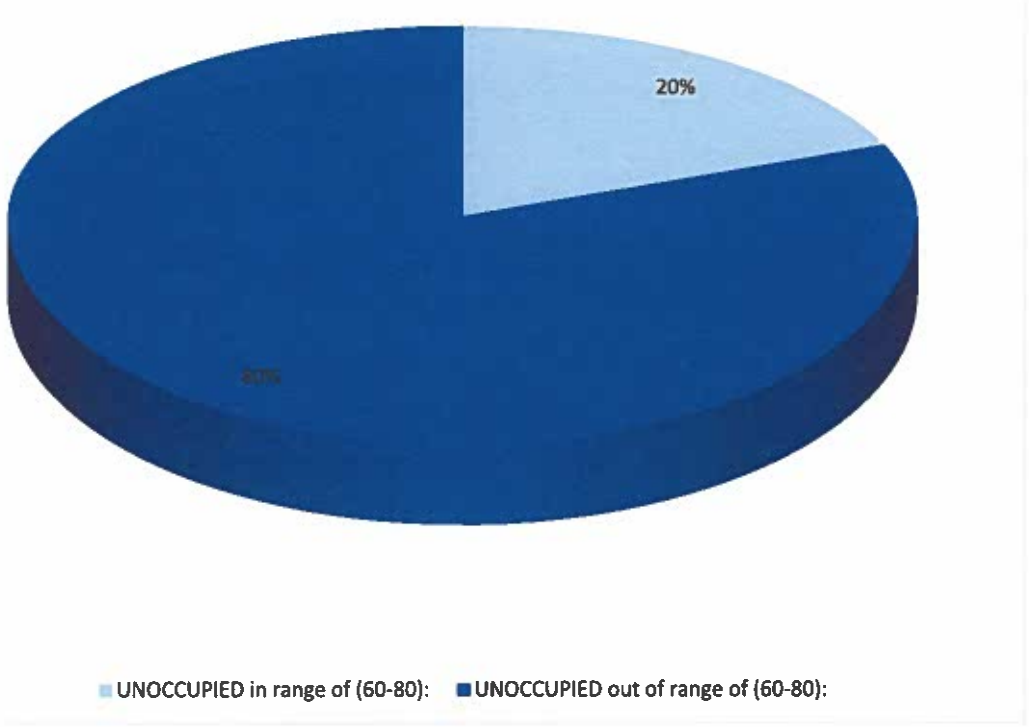
July 5, 2024



El Jardin Hobos Data

July 5, 2024

TEMPERATURE RANGE FROM 6PM-6AM



Brownsville Independent School District

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

Item Title: CSP #22-148B ESSER El Jardin ES HVAC Upgrades Phase 1 (Package 1) Project

X Action
___ Information
___ Discussion

BACKGROUND:

On May 26, 2022, BISD Purchasing Department received and opened bid packages from one (1) vendor for CSP #22-148B ESSER El Jardin ES 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 $1,791,352.00. 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 – $1,791,352.00

RECOMMENDATION:

Recommend awarding of CSP #22-148B ESSER El Jardin ES HVAC Upgrades Phase 1 (Package 1) project to Central Air and Heating Services, Inc. (CAHS) of Harlingen, Texas in the amount not to exceed $1,791,352.00, 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

6/16/22

Approved for Submission to Board of Education:

Dr. René Gutiérrez
Superintendent

When Necessary, Additional Background May Follow This.