

Southwest Texas Junior College
Performance Contract
Uvalde, Texas

Midterm Review

Scope Summary

Base Project

Lighting will be upgraded as detailed below, improving overall color rendering and lighting efficacy. Light levels will comply with Illuminating Engineering Society (IES) standards whereby existing fixture configuration permits. Lamps and ballasts removed from the buildings will be collected and disposed of properly. This retrofit will meet the need to move the campus from T-12 lamps with magnetic ballasts to T-8 lamps with electronic ballasts.

Lighting Retrofits:

- Crystal City Campus
- Del Rio Campus
 - Administration Building
 - Academic Building
 - SRSU Administration Building
 - SRSU Technical Services Building
 - SRSU Academic Building
 - SRSU Faculty Office Building
- Eagle Pass Campus
 - Administration Building
 - Bermea Building A
 - SRRGC Building B
 - Library & Class Room Building C
 - SRRGC Building D
 - Technical Building E
- Uvalde Campus
 - 01 – Anderson Building
 - 03 – E. P. Richarz Building
 - 05 – Auto/Body Building
 - 06 – Garner Science Building
 - 09 – Kincaid Building
 - 10 – Tate Fine Arts Building
 - 11 – Espinosa Building
 - 12 – J. Richarz Admin Building
 - 13 – LaForge Hall
 - 14 – Will C. Miller Library
 - 15 – Maintenance Building
 - 17 – Miller Building Educational Annex
 - 18 – Matthews Student Center
 - 19 – Memorial Building
 - 20 – Fly Building
 - 21 – Wagner Building
 - 22 – Welding Building
 - 23 – Witt Building
 - 24 – Flores Building
 - 26 – Wildlife/Aviation Building
 - 29 – Transportation Building



ET best
guess
3.5%
1.5 million ypd
three savings

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Building Automation System

A Schneider Electric Building Automation System (BAS) is to be installed at the facilities listed below. This system will include control and monitoring parameters as outlined below for each facility. The BAS will be controllable from a central workstation located on the customer's WAN/LAN (See Schedule F of contract), and a desktop computer will be supplied by ESCO (owned by customer), which will provide continuous access to the system with a user-friendly graphical Windows interface. A web enabled interface will also be included to provide web access to the system for up to 7 simultaneous users. Control zones will be programmed for temperature setup and temperature setback (as stated in Section II-H of contract), along with unoccupied dew point setup monitoring, and optimized schedules. Permanent scheduling, holiday scheduling, and temporary scheduling capabilities for each control zone will be provided.

*+FAO + TEMP ?
SETPTS not included + HD% of BAS cost*

ESCO will provide site-specific on-site training for BAS operation. This includes, but is not limited to, system architecture, controller and override panel operation, service tool usage, control drawings, device replacement, product overview and demonstration, logging on and off, system passwords, screen layout, software toolbars and menus, graphic page navigation and use, scheduling (regular, temporary, and special), and basic troubleshooting.

The facilities included are:

Crystal City Campus

- not much Domingo here

Del Rio Campus:

- Administration (Del Rio Building)
- Nursing
- Main Building (Student Center)
- SRSU Administration
- SRSU Technical Services
- SRSU Academic Building
- SRSU Faculty Office Building

Eagle Pass Campus:

- Administration Building
- Bermea Building A
- SRRGC Building B
- Library & Class Room Building C
- SRRGC Building D
- Technical Building E

Uvalde Campus:

- 01 – Anderson Building
- 03 – E. P. Richarz Building
- 05 – Auto/Body Building
- 06 – Garner Science Building
- 09 – Kincaid Building
- 10 – Tate Fine Arts Building
- 11 – Espinosa Building
- 12 – J. Richarz Admin Building
- 13 – LaForge Hall
- 14 – Will C. Miller Library
- 15 – Maintenance Building
- 17 – Miller Building
- 18 – Matthews Student Center
- 19 – Memorial Building
- 20 – Fly Building
- 21 – Wagner Building
- 22 – Welding Building
- 23 – Witt Building
- 26 – Wildlife/Aviation Building
- 29 – Transportation Building
- 30 – Daycare Center
- 31 – Kirchner & Powers Child Development Center
- 33 – Art Building

At the following facilities, the existing control systems will remain in place; temperature setpoints will be adjusted and occupancy schedules will be optimized to ensure optimal energy usage:

Uvalde Campus:

- 24 – Flores Building
- 25 – SRSU Rio Grande Building

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Personal Computer (PC) Power Management

PC power management software will be installed to effectively monitor and control the SWTJC 1399 personal computers. This system will allow run the computers in a standby mode when unoccupied to maximize operational efficient and minimize energy use. The quantity of computers is listed below:

- Crystal City Campus – 99 computers
- Del Rio Campus – 252 computers
- Eagle Pass Campus – 295 computers
- Uvalde Campus – 753 computers

Power Factor Correcting Capacitors

Power Factor correcting capacitors will be installed on the main electric meter at the Uvalde campus. This will correct the low power factor and eliminate the billing penalties from the utility company (AEP).

Mechanical Equipment Replacement

Split System Heat Pump Replacements

Remove nine existing split system heat pumps and replace with nine new split system heat pumps at the following buildings:

- Matthews Student Center - one unit serving the Bluebonnet room, one unit serving the kitchen, one unit serving the Ballroom, and one unit serving the Conference Area.
- Miller Library – One unit upstairs and one unit downstairs
- Tate Building – Two units on the West side of the building, and one unit on the South Side.

The existing units have reached or exceeded the end of their useful life. The new units will be multi-stage, or variable capacity heat pumps. Existing auxiliary electric resistance heat will remain and be re-used. In all cases, both the indoor air handling unit, and the outdoor condensing unit will be replaced.

Split System to Package Unit Conversion

Remove existing Split System serving the Matthews Student Center Cafeteria and replace with a new Packaged Unit. New supply and return ductwork will be installed from the outdoor packaged unit and will tie into the existing supply and return ductwork located in the adjacent mechanical room.

The existing unit has reached the end of its useful life, additionally the large open combustion natural gas heat exchanger does not meet current codes. The air handling unit is also suspended in a storage area making it difficult to maintain.

Packaged Rooftop Unit Replacement

Remove three existing packaged rooftop units (DX cooling/gas heating) at La Forge Hall and replace with three new packaged rooftop heat pump units with auxiliary heat.

The existing units have reached the end of their useful life.

Natural Gas Heating Unit Replacements

Remove two existing natural gas fired heating units serving the La Forge Hall Gymnasium and replace with two new natural gas fired heating units.

The existing units have reached the end of their useful life

* < Look into A/C in gym > *

< Look into back-up A/C in server farm >

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SWTJC Midterm Review Summary of Utility Cost Reduction Measures and Estimated Project Totals

UCRM No.	UCRM Title	Electric Energy (kWh/yr)	Demand (kW/yr)	Annual Savings				One Time Rebate (\$)	Total (\$)	Simple Payback (yrs)	Estimated System Useful Life (yrs)
				Electric (\$/yr)	Nat. Gas (MCF/yr)	Nat. Gas (\$/yr)	Total (\$)				
1	BAS Upgrades	530,200	0	\$ 34,500	280	\$ 3,300	\$ 37,800	\$ 556,000	14.7	15.0	
2	Lighting Retrofits	574,800	1,537	\$ 47,440	-76	\$ (960)	\$ 46,480	\$ 30,000	14.7	15.0	
3	Lighting Occupancy Sensors <i>cut by more than 1/2</i>	143,700	0	\$ 11,860	-19	\$ (240)	\$ 11,620	\$ 5,000	32.7	15.0	
4	Power Factor Correction	0	0	\$ 8,500	0	\$ -	\$ 8,500	\$ 13,000	1.5 *	15.0	
5	PC Power Management	284,000	0	\$ 16,400	0	\$ -	\$ 16,400	\$ 36,000	2.2 *	15.0	
6	Mechanical Replacements	158,950	0	\$ 9,200	0	\$ -	\$ 9,200	\$ 15,000			
Utility Assessment Report Cost											
Conceptual Engineering Cost											
Final Engineering Cost											
Measurement and Verification Setup and M&V During Construction											
Tools, Storage, etc											
Construction Bonding Cost											
Project Warranty											
First Year of Measurement & Verification (ie First Year PASS)											
Project Total		\$ 1,691,650	1,537	\$ 127,900	165	\$ 2,100	\$ 130,000	\$ 50,000		\$2,395,000 - \$2,595,000	
3rd Party Engineering Review											

David Kivatt

Best Guess So far (cost)

Savings per year

etc

etc

Southwest Texas Junior College

Major Milestone Summary Project Timeline

TIMELINE

Date	Milestone	Elapsed Days
3/6/2012	IGA contract signed	0
3/26/2012	IGA Kickoff Meeting	20
4/5/2012	30%/Scoping Meeting	30
4/6/2012	Detailed Field Audits Start	1
5/8/2012	60%/Client Commitment Meeting	32
5/9/2012	Final Scope Development Commences	1
5/14/2012	Final Sub Walks	7
5/17/2012	Scoping Board Meeting	3
5/24/2012	90% Proposal to Internal Committee	10
5/25/2012	3rd Party Engineering Review Starts	1
5/25/2012	Finalize Financing Method	0
6/8/2012	3rd Party Engineering Review Completed	14
6/22/2012	100% Proposal Completed and submitted to SWTJC board	14
6/28/2012	SWTJC Board Meeting	13
6/28/2012	Construction Phase Begins	1

5.78Pd

6/11
Final #'s
to E+H

Get E+H
to 5/17 Board
meetings

Proprietary and Confidential

