

Blue cells are scope items in development for Phase 4 and beyond;  
 Numbers indicate phase during which this scope was installed.

	A / Administration	AF / Foundation	B / Business	C / Security	CCTE / Center for Career & Tech. Ed.	D / Planetarium	G / Gymnasium	H / Student Services (HUB)	I / Industrial Complex	K / Karchner Agri. Tech. Bldg	L / Library	M / Maintenance	M-1 / Ag Resource	M-2 / Grounds Maint.	N / Ag Tech Center	O / Observatory	P / Performing Arts	S-T / Lee R. Thornton Center & WISE	U / Utility Building	V / Vocational Building	W / CH2M Hill Technology Center	Central systems	Across Campus
<b>Lighting</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Interior Lighting Retrofits	1					1 & 2	1			1					1	1 & 2			1				
Interior Lighting Occupancy Controls	1	1	1		1	1	1			1				1	1	1			1				
Indoor courtyard/arbooretum lighting upgrade																	1						
Exterior Lighting & Controls		1	1	1		1	1	1	1		1	1	1	1	1	1	1	1	1	1	1		1
Animated roadside display retrofit (to LED)																						1	
<b>Mechanical</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Optimize Refrigeration System							1																
Replace freezer and refrigerator																							
Domestic Hot Water Boiler Replacement						1																	
Heating Boiler Replacement										1						1						2	
De-centralize heating plant (central steam to individual boilers)	1						1												1				
Optimize Chilled Water Systems			1				1											1					
Lab Fume Hood Upgrades																	1						
HVAC Replacements						2	2						2		2	2			1		2		
Piping Replacement																	2						
Irrigation Pump Replacement & Modification																							
Add Cooling in key IT rooms & closets																						2	
<b>Building Automation System (BAS)</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace obsolete stand-alone controls with new controls integrated with the campus-wide Automated Logic HVAC control system		2				1	1	2		1				2	1	1	1	1	1	1	2		
Demand-controlled ventilation						1	1									1	1						
Integrate classroom scheduling with HVAC control system to reduce energy use from conditioning unoccupied rooms during the day																							
<b>Electrical</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace failing VFDs																							
Replace lighting surge protection equipment								2															
<b>Solar Photovoltaic</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100 kW crystalline photovoltaic array			3																				
<b>Security</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
CCTV cameras																							2
<b>Building Core &amp; Shell Modifications</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
damaging irreplaceable materials. Necessary for HVAC work, simplified lighting.																1							
Scanning & Digitization of all historical building drawings																						2	
Structural/envelope improvements																							
Window tinting to reduce solar gain/overheating																							
<b>Metering</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Install Sub-meters																							2
Expand metering reporting system to "widgets" for administration and general public																							3
<b>Annual Building Savings Totals:</b>	\$19,234	\$1,395	\$9,747	\$339	\$0	\$1,250	\$11,559	\$53,258	\$5,485	\$548	\$18,532	\$1,653	\$450	\$91	\$1,033	\$229	\$28,650	\$30,412	\$2,063	\$22,653	\$11,251	\$23,000	\$3,855

Total Annual Savings:  
**\$246,687**