

KENILWORTH SD 38 - SUSTAINABILITY AUDIT



Pillar 1 - Building Efficiency -Energy Reduction Strategies

Strategy No.	Building Zone	Room Locations	Strategy Type	Recommendation	Method	Decision Factors					
						Accomplish Time	Cost	Disruption to Operations	Improve IAQ	Energy Reduction Level	Feasibility for Payback
1	1970 Addition	All Areas	Variable Air Volume (VAV)	To reduce energy consumption and improve thermal comfort, any future air handling unit or rooftop unit replacements should consider incorporating VAV control strategies.	Replace the existing three air handlers serving the 1970 addition with a single central VAV air handler with zone terminal units with hot water reheat coils. A single central VAV system will eliminate the current simultaneous heating and cooling of the same space, reduce the overall fan energy, and cooling energy consumed. A properly operating VAV system will eliminate all high humidity conditions in the occupied spaces served by the system, improving occupant comfort.	Mid term	\$700K	Medium	Yes	Moderate	High
2	All portions	Various	HVAC System Commissioning	To reduce energy consumption and improve indoor air quality, any future air handling unit, rooftop unit, or unit ventilator replacements should consider incorporating commissioning strategies.	Engage a commissioning agent to perform retro-commissioning on all mechanical system. This will identify the current sequence of operation employed by all mechanical equipment, and verify that all equipment and control devices are operating as intended. Adjustments to the current sequence of operation can then be identified and implemented to optimize the system operation and efficiency.	Near term	\$50K	Low	Yes	Moderate	High
3	All portions	All areas	Condensing Water Heater	To reduce natural gas use, replace the current atmospheric domestic hot water heater	Replace the current atmospheric domestic hot water heater with a self-contained tank type sealed combustion condensing hot water heater. A condensing water heater operated at ~95% peak thermal efficiency compared to standard amphoteric water heater at ~80% thermal efficiency, reducing the amount of natural gas used to heat the domestic hot water. Eliminating the remote storage tank eliminates energy lost from circulation piping to the mechanical room, and eliminates a circulation pump further reducing energy spent heating hot water.	Near term	\$25K	Low	No	Moderate	High

