

Stone Jail Energy Audit
June 10, 2008
Executive Summary

The Stone Jail, built in 1852, has an energy usage of \$.55 per sq. ft.-year. This is very low when compared to other buildings in the county. This is due to the excellent operation of the building by Judy Michelson and her staff. Temperatures are kept to a minimum during unoccupied hours and only to comfort levels during occupied hours. Some reductions up to 5% may be possible. This would result in a savings of over \$40.00 per year.

The stone structure of the jail allows it to store heat and cooling effectively. By keeping cooling at 74°F during occupied hours and at 84°F during unoccupied hours A/C usage can be kept to a minimum. Keeping heating to 78°F in the winter and turning it off during unoccupied hours can save additionally. As long as the excellent administration continues, a programmable thermostat is not a cost effective alternative.

Submitted by: Curtis Putnam

Recommendations from Energy Audit of Stone Jail
June 10, 2008

- Adjust thermostat settings to allow for unoccupied times.
- Summer 73°F occupied and 83°F unoccupied.
- Winter 78°F occupied and turn off heat when unoccupied.
- Install programmable thermostat (If cost effective).

2. ANNUAL ELECTRIC USE AND COST

Include Electrical Demand, if applicable

Building Historic Stone Tail		Address 28 Stone Tail street		Year of Record From 4-671 4-08 To							
Account Number 1424085007		Meter Number 05710574		Utility Dominion							
Maximum kW Demand W/O charge (Schedule 100) 15000 kWh/month		Minimum Power Factor W/O charge ~NA				Building size (sqft) 1500					
Meter Read From	Meter Read To	1	2	3	4	5	6	7	8	9	10
		KWh Used	KWh/gross sq.ft. **	Annual (EUI) BTU/sqft (000)	Energy Cost	KW-KVA Demand	Fixed Service Cost	P.F. * and Demand Cost***	Total Cost		
4-23	5-18	11					5.50		4.76		
5-18	6-22	212							16.79		
6-22	7-23	490							45.93		
7-23	8-22	685							65.48		
8-22	9-20	460							45.79		
9-20	10-22	93							13.64		
10-22	11-21	251							27.48		
11-19	12-19	1270							116.72		
12-19	1-25	2558							229.47		
1-25	2-21	1267							116.42		
2-21	3-25	1039							96.46		
3-25	4-23	492							48.58		
TOTAL		8828	5.8053	2086	761.58	-0-	166.00	-0-	827.58		

Comments:

$EUI = 20,086 \frac{BTU}{sq.ft. - yr}$

Conversion: 3413 BTU/kWh

*KW - Kilowatts, KVA - Kilo-Volt-ampere, KWH - Kilowatt hour, P.F. - Power Factor

**Total annual kWh divided by the building's gross sq. ft.

***If demand and/or power factor are metered and billed, energy cost here.

$Cost = 1,552 / sqft - yr$

