

Two Story Office Energy Audit

May 13, 2008

Executive Summary

The Two Story Office is a small adjunct office building, built in the 1960's. It has a current combined (oil and electricity) energy usage of \$4.43 per sq. ft. per year. This is very high compared to other County buildings. This high figure may be related to an inefficient and defective furnace which was replaced this year in April. Few opportunities exist for building modifications that will result in significant savings. It is currently used by the Housing Foundation. The building is unoccupied several days per week and could easily be shut down for days at a time. This would result in significant savings. Energy reductions in the range of 20% or more could be achieved.

The primary savings would result from directing the occupants to shut off heating, lighting and A/C units when the building is going to be unoccupied for more than 8 hours. This should be monitored by staff as well. There is a dehumidifier available to reduce any moisture problems. Covering A/C units in the winter and making sure that the windows are properly weather stripped and caulked will help. Some upgrade to insulation may yield cost effective savings, this yet to be determined. A different/better use of this space could be considered.

Submitted by: Curtis Putnam

Recommendations from Energy Audit of Two Story Office
May 13, 2008

- Weather strip and caulk windows
- Cover window units during winter
- Regularly check thermostats for proper settings.
- Heat and A/C left on during unoccupied periods.
- Instruct occupants to turn off heat, lights and A/C when leaving the building unoccupied.
- Use daylight when possible.
- Consider removing two lamps and associated ballast from downstairs lighting.
- Add new insulation to roof to meet recommended standard? (Check the cost effectiveness of this.)

2. ANNUAL ELECTRIC USE AND COST
Include Electrical Demand, if applicable

Building		Address		Year of Record					
Two Story Office		222 Main Street Plymouth		From 2071 2081 To					
Account Number		Meter Number		Utility					
1134080009		0105836433		Dominion					
Maximum kW Demand W/O charge			Minimum Power Factor W/O charge			Building size (sqft)			
						435			
1	2	3	4	5	6	7	8	9	10
Meter Read Date From	Date To	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
2-27	3-27	311							22,553
3-27	4-27	215							16,155
4-27	5-25	161							12,552
5-25	6-27	297							23,511
6-27	7-27	620							58,922
7-27	8-27	930							86,944
8-27	9-21	631							59,883
9-21	10-23	567							49,889
10-23	11-28	320							33,553
11-28	12-27	359							36,944
12-27	1-30	457							45,017
1-30	02-27	239							26,413
TOTAL		5647	11.623	39,598.6					472,066

Comments:

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.

