

Summary Energy Performance Report

Facilities included: New Providence Group

Located in:

Date Generated: 9/4/10

Number of facilities: 6

	Year ending 5/2010
Total Floorspace (sq. ft.)	94,100
Average Rating	64
Number of Facilities with a Rating	2
Number of Non-ratable Facilities*	4
Total Site Energy Use (kBtu)	12,679,956
Total Weather Normalized Source Energy Use (kBtu)	27,886,772
Average Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	296.4
Average Site Energy Intensity (kBtu/Sq. Ft.)	134.7
Total Site Electric Use (kWh)	2,010,781
Total Site Natural Gas Use (Therms)	58,192
Average Actual Annual Source Energy Intensity (kBtu/Sq. Ft.)	308.3

*Non-ratable buildings are defined as buildings that currently are ineligible to receive the ENERGY STAR rating due to its operating characteristics and/or building type.

Summary Energy Performance Report

Facilities included: New Providence Group

Located in:

Date Generated: 9/4/10

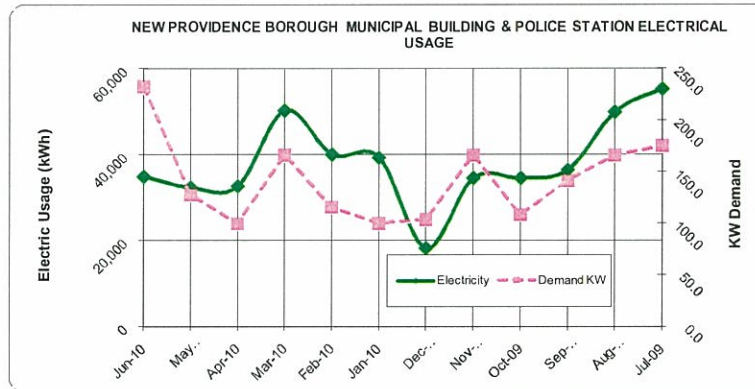
Facility Name	Facility Address	Year ending 5/2010 Facility Floorspace	Year ending 5/2010 Rating	Year ending 5/2010 Average Site Energy Intensity (kBtu/Sq. Ft.)	Year ending 5/2010 Average Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	Year ending 5/2010 Site Electric Use (kWh)	Year ending 5/2010 Site Natural Gas Use (Therms)
New Providence Boro - Dept. of Public Works	10 Park Place New Providence, NJ 07974	15000	N/A	375.9	982.2	1,239,690	14,086
New Providence Boro - Fire House	175 Floral Ave New Providence, NJ 07974	11000	N/A	185.1	328.2	191,248	13,835
New Providence Boro - Memorial Public Library	377 Elkwood Ave New Providence, NJ 07974	13900	N/A	9.8	19.2	16,461	804
New Providence Boro - Municipal Building	360 Elkwood Ave New Providence, NJ 07974	40400	71	97.7	189	471,698	23,368
New Providence Boro - Rescue Squad	7 Academy Street New Providence, NJ 07974	5800	N/A	74.5	135	45,099	2,781
New Providence Boro - Senior Center	15 Fourth Street New Providence, NJ 07974	8000	31	61.4	107.3	46,584	3,319

Buildings	Electric - JCP&L				Natural Gas - PSE&G			
	Account	Annual Consumption	Annual Cost	\$ / kWh	Account	Annual Consumption	Annual Cost	\$ / Therms
MUNICIPAL BUILDING	100007011230	458,232	\$78,153.71	\$0.171	67 061 552 09	22,832	\$25,991.63	\$1.138
	100041706019	10,284	\$2,072.27	\$0.202	NA			
RESCUE SQUAD	100068940368	44,000	\$7,617.52	\$0.173	65 678 585 08	2,724	\$3,182.21	\$1.168
DEPT OF PUBLIC WORKS & WWTP*	100006942740	1,212,344	\$196,602.11	\$0.162	67 037 666 06	10,379	\$12,055.94	\$1.162
	NA				67 434 566 08	1,257	\$1,587.47	\$1.263
	100049158601	220	\$82.54	\$0.375	66 763 854 06	2,209	\$2,639.13	\$1.195
PUBLIC LIBRARY	100006969065	15,794	\$2,807.47	\$0.178	67 697 409 07	785	\$949.34	\$1.209
SENIOR CENTER	100007052499	45,480	\$8,687.44	\$0.191	68 988 549 09	3,244	\$3,803.72	\$1.173
FIRE HOUSE	100007300773	193,664	\$32,288.29	\$0.167	66 336 644 00	13,500	\$15,298.78	\$1.133
	TOTAL	1,980,018	\$328,311.35	\$0.166	TOTAL	56,930	\$ 65,508.22	\$1.170

* WWTP Combined with Dept of Public Works on utility billing

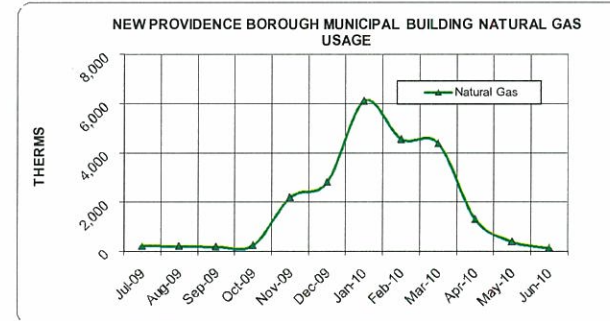
Facility Name Municipal Building & Police Station
 Company JCP&L
 Account# 100007011230
 Meter# G28742708
 Tariff/Rate General Service Secondary 3 Phase

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/26/2010	6/25/2010	230.9	34,832	\$5,985.69	\$0.172
Electricity	kWh	4/26/2010	5/25/2010	126.7	32,272	\$5,917.88	\$0.183
Electricity	kWh	3/26/2010	4/25/2010	98.6	32,592	\$5,542.66	\$0.170
Electricity	kWh	2/26/2010	3/25/2010	165.1	50,282	\$8,118.41	\$0.161
Electricity	kWh	1/26/2010	2/25/2010	114.6	40,052	\$6,477.29	\$0.162
Electricity	kWh	12/26/2009	1/25/2010	98.9	39,322	\$6,453.50	\$0.164
Electricity	kWh	11/26/2009	12/25/2009	102.7	18,192	\$3,148.18	\$0.173
Electricity	kWh	10/26/2009	11/25/2009	165.1	34,512	\$5,438.73	\$0.158
Electricity	kWh	9/26/2009	10/25/2009	107.2	34,512	\$5,576.56	\$0.162
Electricity	kWh	8/26/2009	9/25/2009	140.5	36,432	\$6,572.82	\$0.180
Electricity	kWh	7/26/2009	8/25/2009	165.1	49,920	\$8,987.00	\$0.180
Electricity	kWh	6/26/2009	7/25/2009	174.1	55,312	\$9,934.99	\$0.180
TOTALS/AVERAGE				140.8	458,232	\$78,153.71	\$0.171



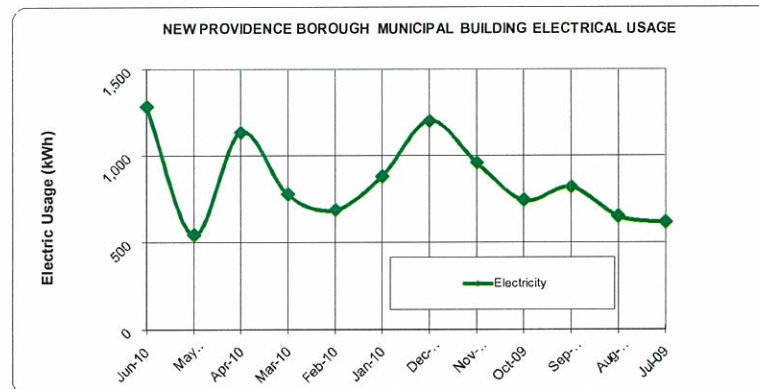
Facility Name Municipal Building
 Company PSE&G
 Account# 67 061 552 09 / 12 292 576 08
 Meter# 3275255
 Tariff/Rate LVG PoD ID PG000009908872601768

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/10/2010	6/9/2010	NA	140	\$204.69		\$1.462
Natural Gas	Therms	4/10/2010	5/9/2010	NA	406	\$405.31		\$0.998
Natural Gas	Therms	3/10/2010	4/9/2010	NA	1,323	\$1,145.54		\$0.866
Natural Gas	Therms	2/10/2010	3/9/2010	NA	4,382	\$4,973.26		\$1.135
Natural Gas	Therms	1/10/2010	2/9/2010	NA	4,560	\$5,426.15		\$1.190
Natural Gas	Therms	12/10/2009	1/9/2010	NA	6,112	\$1,950.06	\$4,716.46	\$1.091
Natural Gas	Therms	11/10/2009	12/9/2009	NA	2,815	\$1,331.36	\$1,905.42	\$1.150
Natural Gas	Therms	10/10/2009	11/9/2009	NA	2,201	\$1,217.19	\$1,358.62	\$1.170
Natural Gas	Therms	9/10/2009	10/9/2009	NA	257	\$125.21	\$184.64	\$1.206
Natural Gas	Therms	8/10/2009	9/9/2009	NA	195	\$117.60	\$148.81	\$1.366
Natural Gas	Therms	7/10/2009	8/9/2009	NA	215	\$119.18	\$263.94	\$1.782
Natural Gas	Therms	6/10/2009	7/9/2009	NA	226	\$120.15	\$278.04	\$1.762
TOTALS/AVERAGE				NA	22,832	\$17,135.70	\$8,855.93	\$1.138



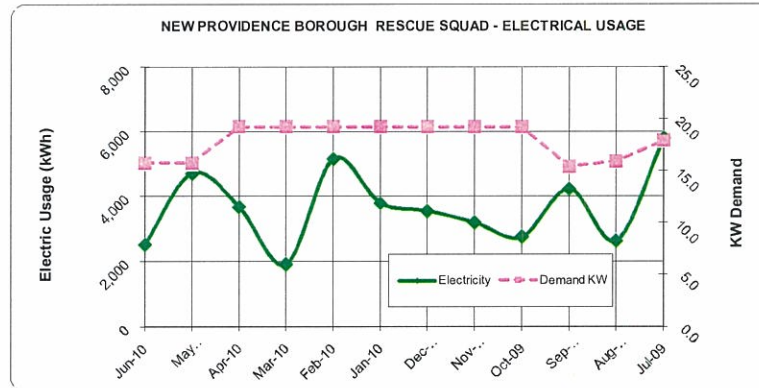
Facility Name Municipal Building
 Company JCP&L
 Account# 100041706019
 Meter# G18824473
 Tariff/Rate General Service Secondary

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/26/2010	6/25/2010	NA	1,284	\$254.50	\$0.198
Electricity	kWh	4/26/2010	5/25/2010	NA	542	\$109.68	\$0.202
Electricity	kWh	3/26/2010	4/25/2010	NA	1,134	\$218.90	\$0.193
Electricity	kWh	2/26/2010	3/25/2010	NA	775	\$155.61	\$0.201
Electricity	kWh	1/26/2010	2/25/2010	NA	685	\$139.14	\$0.203
Electricity	kWh	12/26/2009	1/25/2010	NA	880	\$177.04	\$0.201
Electricity	kWh	11/26/2009	12/25/2009	NA	1,201	\$231.28	\$0.193
Electricity	kWh	10/26/2009	11/25/2009	NA	959	\$187.99	\$0.196
Electricity	kWh	9/26/2009	10/25/2009	NA	741	\$146.05	\$0.197
Electricity	kWh	8/26/2009	9/25/2009	NA	818	\$174.71	\$0.214
Electricity	kWh	7/26/2009	8/25/2009	NA	650	\$142.43	\$0.219
Electricity	kWh	6/26/2009	7/25/2009	NA	615	\$134.94	\$0.219
TOTALS/AVERAGE				NA	10,284	\$2,072.27	\$0.202



Facility Name Rescue Squad
 Company JCP&L
 Account# 100068940368
 Meter# G28658760
 Tariff/Rate General Service Secondary

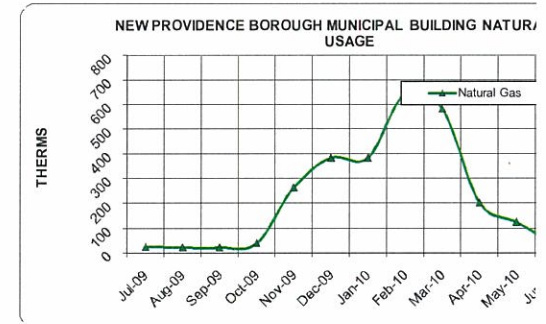
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/27/2010	6/26/2010	15.6	2,520	\$480.23	\$0.191
Electricity	kWh	4/27/2010	5/26/2010	15.6	4,720	\$794.03	\$0.168
Electricity	kWh	3/27/2010	4/26/2010	19.1	3,680	\$614.19	\$0.167
Electricity	kWh	2/27/2010	3/26/2010	19.1	1,920	\$361.16	\$0.188
Electricity	kWh	1/27/2010	2/26/2010	19.1	5,160	\$837.61	\$0.162
Electricity	kWh	12/27/2009	1/26/2010	19.1	3,800	\$635.73	\$0.167
Electricity	kWh	11/27/2009	12/26/2009	19.1	3,560	\$604.98	\$0.170
Electricity	kWh	10/27/2009	11/26/2009	19.1	3,200	\$533.17	\$0.167
Electricity	kWh	9/27/2009	10/26/2009	19.1	2,760	\$471.64	\$0.171
Electricity	kWh	8/27/2009	9/26/2009	15.3	4,240	\$743.98	\$0.175
Electricity	kWh	7/27/2009	8/26/2009	15.8	2,640	\$515.25	\$0.195
Electricity	kWh	6/27/2009	7/26/2009	17.8	5,800	\$1,025.55	\$0.177
TOTALS/AVERAGE				18.0	44,000	\$7,617.52	\$0.173



Facility Name Rescue Squad
 Company PSE&G
 Account# 65 678 585 08 / 12 292 495 08
 Meter# 3471305
 Tariff/Rate GSG (HTG)

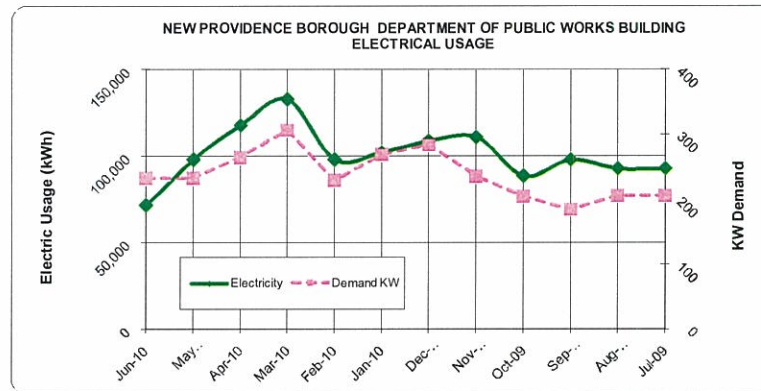
PoD ID PG00001112751501779

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/11/2010	6/10/2010	NA	38	\$48.05		\$1.264
Natural Gas	Therms	4/11/2010	5/10/2010	NA	125	\$130.52		\$1.044
Natural Gas	Therms	3/11/2010	4/10/2010	NA	202	\$211.85		\$1.049
Natural Gas	Therms	2/11/2010	3/10/2010	NA	582	\$690.91		\$1.187
Natural Gas	Therms	1/11/2010	2/10/2010	NA	643	\$802.63		\$1.248
Natural Gas	Therms	12/11/2009	1/10/2010	NA	382	\$163.80	\$258.87	\$1.106
Natural Gas	Therms	11/11/2009	12/10/2009	NA	382	\$163.80	\$258.87	\$1.106
Natural Gas	Therms	10/11/2009	11/10/2009	NA	263	\$115.23	\$162.44	\$1.056
Natural Gas	Therms	9/11/2009	10/10/2009	NA	39	\$22.52	\$27.77	\$1.289
Natural Gas	Therms	8/11/2009	9/10/2009	NA	22	\$17.14	\$16.71	\$1.539
Natural Gas	Therms	7/11/2009	8/10/2009	NA	22	\$17.05	\$26.91	\$1.998
Natural Gas	Therms	6/10/2009	7/10/2009	NA	24	\$17.67	\$29.47	\$1.964
TOTALS/AVERAGE				NA	2,724	\$2,401.17	\$781.04	\$1.168



Facility Name Department of Public Works
 Company JCP&L
 Account# 100006942740
 Meter# G15120045
 Tariff/Rate General Service Secondary 3 Phase

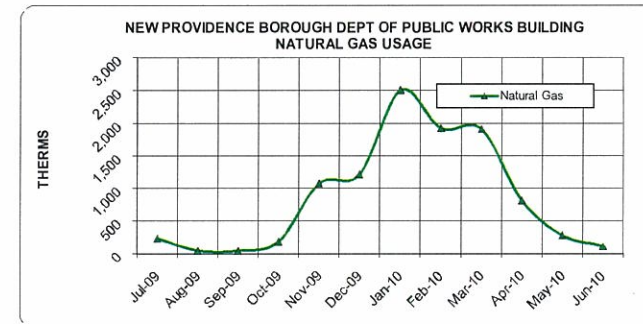
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/26/2010	6/25/2010	230.9	71,652	\$12,403.20	\$0.173
Electricity	kWh	4/26/2010	5/25/2010	230.9	97,892	\$15,567.28	\$0.159
Electricity	kWh	3/26/2010	4/25/2010	262.7	117,732	\$18,527.60	\$0.157
Electricity	kWh	2/26/2010	3/25/2010	304.2	132,732	\$21,113.66	\$0.159
Electricity	kWh	1/26/2010	2/25/2010	227.5	98,052	\$15,760.55	\$0.161
Electricity	kWh	12/26/2009	1/25/2010	267.2	102,212	\$16,437.78	\$0.161
Electricity	kWh	11/26/2009	12/25/2009	282.4	108,612	\$17,584.69	\$0.162
Electricity	kWh	10/26/2009	11/25/2009	233.9	111,012	\$17,054.19	\$0.154
Electricity	kWh	9/26/2009	10/25/2009	203.2	88,772	\$13,751.98	\$0.155
Electricity	kWh	8/26/2009	9/25/2009	182.9	97,892	\$16,162.88	\$0.165
Electricity	kWh	7/26/2009	8/25/2009	204.3	92,892	\$16,119.15	\$0.174
Electricity	kWh	6/26/2009	7/25/2009	204.3	92,892	\$16,119.15	\$0.174
TOTALS/AVERAGE				236.7	1,212,344	\$196,602.11	\$0.162



Facility Name Department of Public Works
 Company PSE&G
 Account# 67 037 666 06 / 12 291 567 12
 Meter# 2123671
 Tariff/Rate LVG

PoD ID PG000010882067101754

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/10/2010	6/9/2010	NA	121	\$189.97		\$1.570
Natural Gas	Therms	4/10/2010	5/9/2010	NA	281	\$309.09		\$1.100
Natural Gas	Therms	3/10/2010	4/9/2010	NA	815	\$746.05		\$0.915
Natural Gas	Therms	2/10/2010	3/9/2010	NA	1,912	\$2,217.71		\$1.160
Natural Gas	Therms	1/10/2010	2/9/2010	NA	1,928	\$2,354.77		\$1.221
Natural Gas	Therms	12/10/2009	1/9/2010	NA	2,502	\$2,768.60		\$1.107
Natural Gas	Therms	11/10/2009	12/9/2009	NA	1,218	\$633.18	\$824.33	\$1.197
Natural Gas	Therms	10/10/2009	11/9/2009	NA	1,074	\$606.51	\$662.62	\$1.182
Natural Gas	Therms	9/10/2009	10/9/2009	NA	190	\$117.01	\$136.60	\$1.335
Natural Gas	Therms	8/10/2009	9/9/2009	NA	51	\$99.98	\$38.99	\$2.725
Natural Gas	Therms	7/10/2009	8/9/2009	NA	53	\$100.02	\$65.35	\$3.120
Natural Gas	Therms	6/10/2009	7/9/2009	NA	234	\$121.10	\$64.06	\$0.791
TOTALS/AVERAGE				NA	10,379	\$10,263.99	\$1,791.95	\$1.162

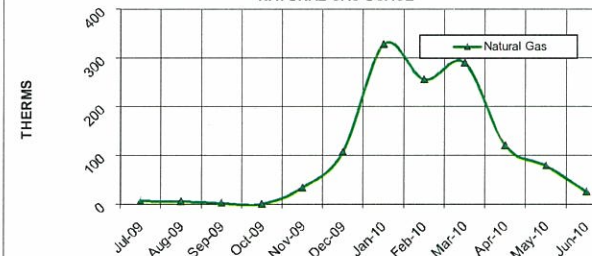


Facility Name Department of Public Works
 Company PSE&G
 Account# 67 434 566 08
 Meter# 1519157
 Tariff/Rate GSG (HTG)

PoD ID PG000010638863001816

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Delivery Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/10/2010	6/9/2010	NA	26	\$35.77		\$1.376
Natural Gas	Therms	4/10/2010	5/9/2010	NA	79	\$86.41		\$1.094
Natural Gas	Therms	3/10/2010	4/9/2010	NA	120	\$129.73		\$1.081
Natural Gas	Therms	2/10/2010	3/9/2010	NA	290	\$350.00		\$1.207
Natural Gas	Therms	1/10/2010	2/9/2010	NA	256	\$325.01		\$1.270
Natural Gas	Therms	12/10/2009	1/9/2010	NA	328	\$393.89		\$1.201
Natural Gas	Therms	11/10/2009	12/9/2009	NA	107	\$53.61	\$72.26	\$1.176
Natural Gas	Therms	10/10/2009	11/9/2009	NA	34	\$24.10	\$21.19	\$1.332
Natural Gas	Therms	9/10/2009	10/9/2009	NA	1	\$40.82	\$0.00	flat rate
Natural Gas	Therms	8/10/2009	9/9/2009	NA	3	\$11.12	\$2.39	\$4.503
Natural Gas	Therms	7/10/2009	8/9/2009	NA	6	\$12.09	\$7.69	\$3.297
Natural Gas	Therms	6/10/2009	7/9/2009	NA	7	\$12.42	\$8.97	\$3.056
TOTALS/AVERAGE				NA	1,257	\$1,474.97	\$112.50	\$1.263

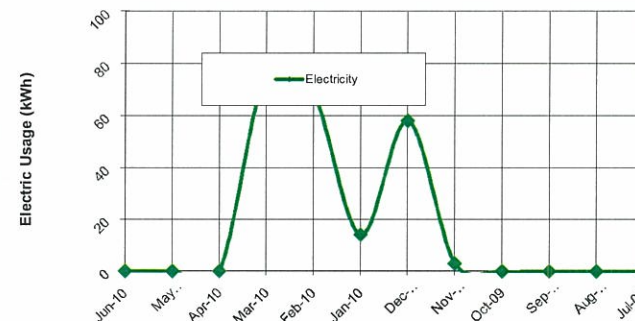
NEW PROVIDENCE BOROUGH DEPT OF PUBLIC WORKS BUILDING
NATURAL GAS USAGE



Facility Name Department of Public Works - WWTP
 Company JCP&L
 Account# 100049158601
 Meter# L85976001
 Tariff/Rate General Service Secondary

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/26/2010	6/25/2010	NA	0	\$3.25	Flat rate
Electricity	kWh	4/26/2010	5/25/2010	NA	0	\$3.25	Flat rate
Electricity	kWh	3/26/2010	4/25/2010	NA	0	\$3.25	Flat rate
Electricity	kWh	2/26/2010	3/25/2010	NA	77	\$18.40	\$0.239
Electricity	kWh	1/26/2010	2/25/2010	NA	68	\$16.79	\$0.247
Electricity	kWh	12/26/2009	1/25/2010	NA	14	\$6.01	\$0.429
Electricity	kWh	11/26/2009	12/25/2009	NA	58	\$14.76	\$0.254
Electricity	kWh	10/26/2009	11/25/2009	NA	3	\$3.83	\$1.277
Electricity	kWh	9/26/2009	10/25/2009	NA	0	\$3.25	Flat rate
Electricity	kWh	8/26/2009	9/25/2009	NA	0	\$3.25	Flat rate
Electricity	kWh	7/26/2009	8/25/2009	NA	0	\$3.25	Flat rate
Electricity	kWh	6/26/2009	7/25/2009	NA	0	\$3.25	Flat rate
TOTALS/AVERAGE				NA	220	\$82.54	\$0.375

NEW PROVIDENCE BOROUGH DPW BUILDING & WWTP ELECTRICAL USAGE



Facility Name Department of Public Works - WWTP

Company PSE&G

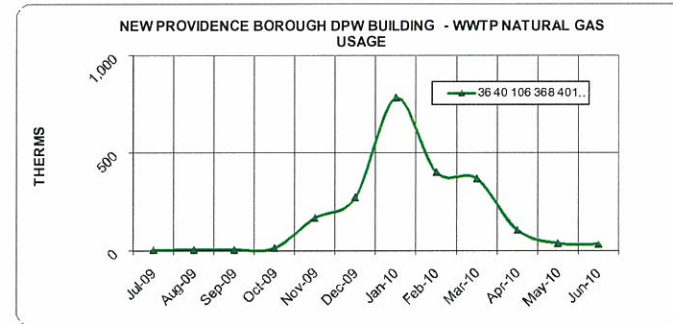
Account# 66 763 854 06 / 12 291 750 16

Meter# 1972090

Tariff/Rate GSG (HTG)

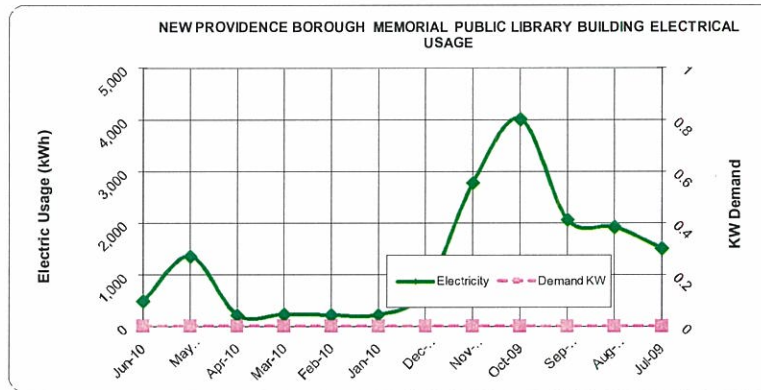
PoD ID PG000009178255701844

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/9/2010	6/8/2010	NA	36	\$46.01		\$1.278
Natural Gas	Therms	4/9/2010	5/8/2010	NA	40	\$48.33		\$1.208
Natural Gas	Therms	3/9/2010	4/8/2010	NA	106	\$116.21		\$1.096
Natural Gas	Therms	2/9/2010	3/8/2010	NA	368	\$441.34		\$1.199
Natural Gas	Therms	1/9/2010	2/8/2010	NA	401	\$505.29		\$1.260
Natural Gas	Therms	12/9/2009	1/8/2010	NA	782	\$911.05		\$1.165
Natural Gas	Therms	11/9/2009	12/8/2009	NA	273	\$120.64	\$184.51	\$1.118
Natural Gas	Therms	10/9/2009	11/8/2009	NA	168	\$77.86	\$103.37	\$1.079
Natural Gas	Therms	9/9/2009	10/8/2009	NA	15	\$14.81	\$10.51	\$1.688
Natural Gas	Therms	8/9/2009	9/8/2009	NA	7	\$12.46	\$5.57	\$2.576
Natural Gas	Therms	7/9/2009	8/8/2009	NA	7	\$12.42	\$8.97	\$3.056
Natural Gas	Therms	6/9/2009	7/8/2009	NA	6	\$12.09	\$7.69	\$3.297
TOTALS/AVERAGE				NA	2,209	\$2,318.51	\$320.62	\$1.195



Facility Name Memorial Public Library
 Company JCP&L
 Account# 10 00 08 3642 65
 Meter# A26801895
 Tariff/Rate General Service Secondary

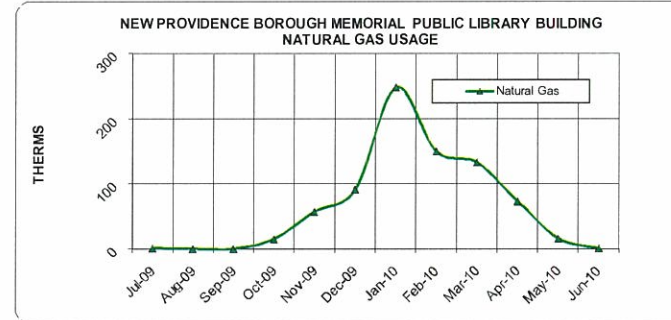
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/24/2010	6/23/2010	NA	499	\$101.24	\$0.203
Electricity	kWh	4/24/2010	5/23/2010	NA	1,360	\$266.22	\$0.196
Electricity	kWh	3/24/2010	4/23/2010	NA	229	\$48.22	\$0.211
Electricity	kWh	2/24/2010	3/23/2010	NA	242	\$50.83	\$0.210
Electricity	kWh	1/24/2010	2/23/2010	NA	228	\$48.48	\$0.213
Electricity	kWh	12/24/2009	1/23/2010	NA	235	\$49.67	\$0.211
Electricity	kWh	11/24/2009	12/23/2009	NA	694	\$140.46	\$0.202
Electricity	kWh	10/24/2009	11/23/2009	NA	2,786	\$446.35	\$0.160
Electricity	kWh	9/24/2009	10/23/2009	NA	4,017	\$619.30	\$0.154
Electricity	kWh	8/24/2009	9/23/2009	NA	2,068	\$376.36	\$0.182
Electricity	kWh	7/24/2009	8/23/2009	NA	1,921	\$362.06	\$0.188
Electricity	kWh	6/24/2009	7/23/2009	NA	1,515	\$298.28	\$0.197
TOTALS/AVERAGE				NA	15,794	\$2,807.47	\$0.178



Facility Name Memorial Public Library
 Company PSE&G
 Account# 67 697 409 07 / 12 292 599 10
 Meter# 3442447
 Tariff/Rate GSG (HTG)

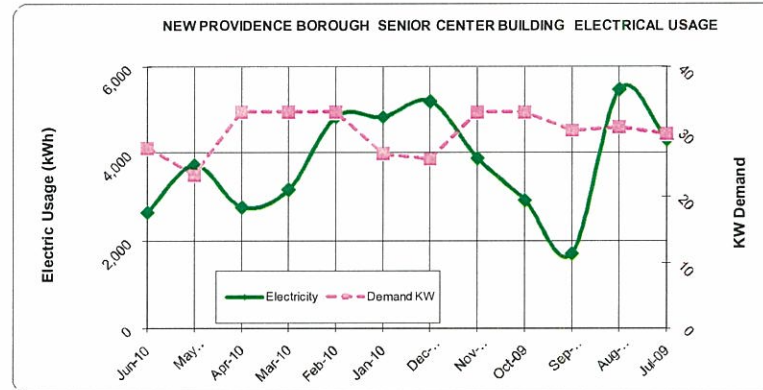
PoD ID PG000010894417401864

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/12/2010	6/15/2010	NA	1	\$11.22		\$11.220
Natural Gas	Therms	4/10/2010	5/12/2010	NA	16	\$25.26		\$1.579
Natural Gas	Therms	3/10/2010	4/9/2010	NA	73	\$82.94		\$1.136
Natural Gas	Therms	2/10/2010	3/9/2010	NA	133	\$165.96		\$1.248
Natural Gas	Therms	1/10/2010	2/9/2010	NA	150	\$194.97		\$1.300
Natural Gas	Therms	12/10/2009	1/9/2010	NA	248	\$111.14	\$123.45	\$0.946
Natural Gas	Therms	11/10/2009	12/9/2009	NA	91	\$46.96	\$61.74	\$1.195
Natural Gas	Therms	10/10/2009	11/9/2009	NA	57	\$33.12	\$35.31	\$1.201
Natural Gas	Therms	9/10/2009	10/9/2009	NA	15	\$14.80	\$10.50	\$1.687
Natural Gas	Therms	8/10/2009	9/9/2009	NA	0	\$10.12	\$0.00	flat rate
Natural Gas	Therms	7/13/2009	8/9/2009	NA	0	\$10.12	\$0.00	flat rate
Natural Gas	Therms	6/10/2009	7/13/2009	NA	1	\$10.45	\$1.28	\$11.730
TOTALS/AVERAGE				NA	785	\$717.06	\$232.28	\$1.209



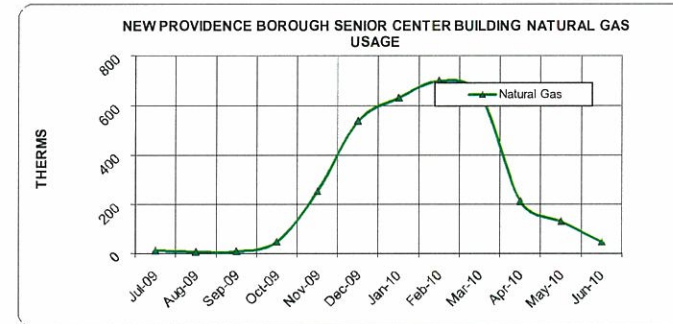
Facility Name Senior Center
 Company JCP&L
 Account# 100007052499
 Meter# G21188887
 Tariff/Rate General Service Secondary 3 Phase

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/27/2010	6/26/2010	27.2	2,640	\$588.16	\$0.223
Electricity	kWh	4/27/2010	5/26/2010	23.2	3,720	\$684.98	\$0.184
Electricity	kWh	3/27/2010	4/26/2010	32.8	2,760	\$533.46	\$0.193
Electricity	kWh	2/27/2010	3/26/2010	32.8	3,160	\$592.22	\$0.187
Electricity	kWh	1/27/2010	2/26/2010	32.8	4,840	\$842.16	\$0.174
Electricity	kWh	12/27/2009	1/26/2010	26.4	4,840	\$876.22	\$0.181
Electricity	kWh	11/27/2009	12/26/2009	25.6	5,200	\$919.14	\$0.177
Electricity	kWh	10/27/2009	11/26/2009	32.8	3,880	\$680.12	\$0.175
Electricity	kWh	9/27/2009	10/26/2009	32.8	2,920	\$545.84	\$0.187
Electricity	kWh	8/27/2009	9/26/2009	30.0	1,720	\$474.14	\$0.276
Electricity	kWh	7/27/2009	8/26/2009	30.5	5,480	\$1,068.34	\$0.195
Electricity	kWh	6/27/2009	7/26/2009	29.5	4,320	\$882.66	\$0.204
TOTALS/AVERAGE				29.9	45,480	\$8,687.44	\$0.191



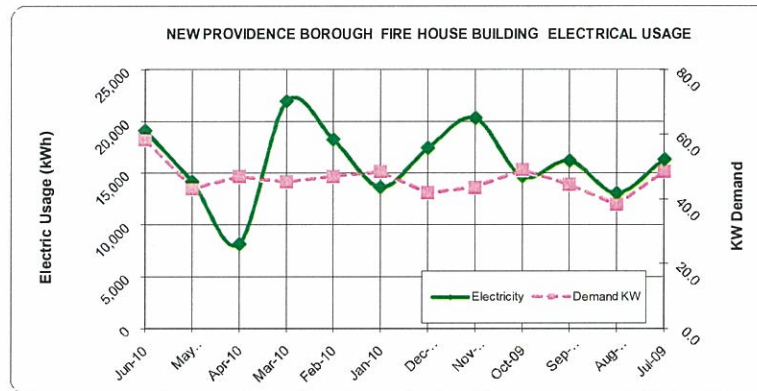
Facility Name Senior Center
 Company PSE&G
 Account# 68 988 549 09 / 12 291 373 00
 Meter# 2579540
 Tariff/Rate GSG PoD ID PG00000990878601754

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/11/2010	6/10/2010	NA	48	\$57.28		\$1.193
Natural Gas	Therms	4/11/2010	5/10/2010	NA	131	\$136.50		\$1.042
Natural Gas	Therms	3/11/2010	4/10/2010	NA	214	\$223.94		\$1.046
Natural Gas	Therms	2/11/2010	3/10/2010	NA	648	\$768.24		\$1.186
Natural Gas	Therms	1/11/2010	2/10/2010	NA	701	\$873.62		\$1.246
Natural Gas	Therms	12/11/2009	1/10/2010	NA	633	\$755.48		\$1.193
Natural Gas	Therms	11/11/2009	12/10/2009	NA	539	\$229.76	\$364.81	\$1.103
Natural Gas	Therms	10/11/2009	11/10/2009	NA	254	\$112.98	\$156.67	\$1.062
Natural Gas	Therms	9/11/2009	10/10/2009	NA	48	\$25.53	\$34.53	\$1.251
Natural Gas	Therms	8/11/2009	9/10/2009	NA	9	\$13.13	\$7.16	\$2.254
Natural Gas	Therms	7/11/2009	8/10/2009	NA	7	\$12.42	\$8.97	\$3.056
Natural Gas	Therms	6/11/2009	7/10/2009	NA	12	\$13.73	\$8.97	\$1.892
TOTALS/AVERAGE				NA	3,244	\$3,222.61	\$581.11	\$1.173



Facility Name Fire House
 Company JCP&L
 Account# 100007300773
 Meter# G28125165
 Tariff/Rate General Service Secondary 3 Phase

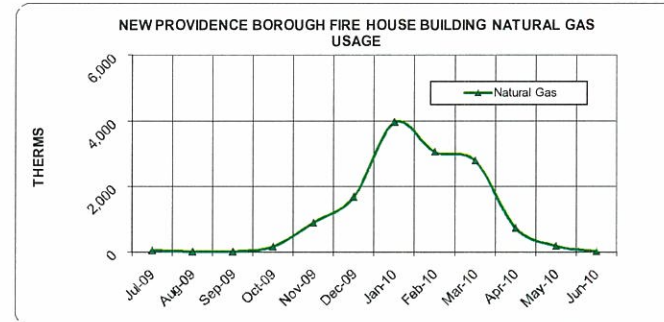
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	5/27/2010	6/26/2010	58.0	19,124	\$3,314.74	\$0.173
Electricity	kWh	4/27/2010	5/26/2010	42.9	14,184	\$2,312.55	\$0.163
Electricity	kWh	3/27/2010	4/26/2010	46.6	8,204	\$1,490.00	\$0.182
Electricity	kWh	2/27/2010	3/26/2010	45.0	21,934	\$3,460.60	\$0.158
Electricity	kWh	1/27/2010	2/26/2010	46.7	18,284	\$2,979.18	\$0.163
Electricity	kWh	12/27/2009	1/26/2010	48.2	13,684	\$2,315.63	\$0.169
Electricity	kWh	11/27/2009	12/26/2009	41.7	17,444	\$2,828.82	\$0.162
Electricity	kWh	10/27/2009	11/26/2009	43.3	20,364	\$3,144.54	\$0.154
Electricity	kWh	9/27/2009	10/26/2009	48.8	14,714	\$2,411.29	\$0.164
Electricity	kWh	8/27/2009	9/26/2009	44.2	16,240	\$2,857.18	\$0.176
Electricity	kWh	7/27/2009	8/26/2009	38.1	13,124	\$2,261.64	\$0.172
Electricity	kWh	6/27/2009	7/26/2009	48.2	16,364	\$2,912.12	\$0.178
TOTALS/AVERAGE				44.9	193,664	\$32,288.29	\$0.167



Facility Name Fire House
 Company PSE&G
 Account# 66 336 644 00 / 12 348 002 09
 Meter# 25997654
 Tariff/Rate LVG

PoD ID PG0000009677670301806

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	Supplier Cost	\$/Therm
Natural Gas	Therms	5/10/2010	6/9/2010	NA	22	\$111.53		\$5.070
Natural Gas	Therms	4/10/2010	5/9/2010	NA	180	\$232.09		\$1.289
Natural Gas	Therms	3/10/2010	4/9/2010	NA	725	\$673.10		\$0.928
Natural Gas	Therms	2/10/2010	3/9/2010	NA	2,776	\$3,213.31		\$1.158
Natural Gas	Therms	1/10/2010	2/9/2010	NA	3,048	\$3,660.41		\$1.201
Natural Gas	Therms	12/10/2009	1/9/2010	NA	3,954	\$1,312.45	\$2,273.04	\$0.907
Natural Gas	Therms	11/10/2009	12/9/2009	NA	1,679	\$868.28	\$1,136.52	\$1.194
Natural Gas	Therms	10/10/2009	11/9/2009	NA	883	\$717.25	\$545.12	\$1.430
Natural Gas	Therms	9/10/2009	10/9/2009	NA	159	\$113.11	\$113.97	\$1.428
Natural Gas	Therms	8/10/2009	9/9/2009	NA	10	\$95.00	\$7.96	\$10.296
Natural Gas	Therms	7/10/2009	8/9/2009	NA	14	\$95.33	\$16.66	\$7.999
Natural Gas	Therms	6/10/2009	7/9/2009	NA	50	\$99.56	\$14.09	\$2.273
TOTALS/AVERAGE				NA	13,500	\$11,191.42	\$4,107.36	\$1.133



LIGHTING INVENTORY SUMMARY
Borough of New Providence - Municipal Building
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	39,916
Proposed Energy Usage (Watts)	31,529
Energy Saved (Watts)	8,387
Annual Kilowatt Hours Saved (kWh)	29,355

FINANCIAL DATA

Annual Existing Energy Cost	\$	23,889.73
Annual Proposed Energy Cost	\$	18,870.11
Annual Energy Savings	\$	5,019.62
Additional Energy Savings (Occupancy Sensors)	\$	-
Total Energy Savings	\$	5,019.62
Initial Project Cost	\$	11,363.63
Utility Rebate (Based on NJ Smart Start Approval)	\$	-
Project Cost	\$	11,363.63

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	44%
Payback (Years)	2.26
10 Year Savings	\$ 50,196.20
10-Year Cumulative Positive Cash Flow	\$ 38,832.57

Borough of New Providence - Municipal Building	
360 Elkwood Avenue	
New Providence, NJ 07974	
Jim Johnston	
908-337-8699	

New Jersey

UTILITY ACCOUNT NUMBER	N/A
BUILDING TYPE	Municipal Building
SQUARE FOOTAGE	40,400

L.N.#	FL.#	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Future Code	Exist. Qty	Exist. Ev. Wt.	Foot Candle	Total Ev. Wt.	Existing Amt. Cost	Replacement Fixture Description	No. Replace	Net Replace Amount	Repl. Qty	Repl. Ev. Wt.	Total Ev. Wt.	Proposed Amt. Cost	Cost Hours	Ev. Wt. Saved	kWh Saved	0.15\$/kWh	Annual Est. Savings	Annual Cost Savings
1	3	Municipal / Engineering		Engineering Office	3L F32T8 2x4		10	96		960	\$574.56	3L F32T8 25w Relamp Only		\$ -	10	75	750	\$448.88	3500	210	735	125.685	\$ 125.69	
2	3	Municipal / Engineering		File Room	3L F32T8 2x4		3	96		288	\$172.37	3L F32T8 25w Relamp Only		\$ -	3	75	225	\$134.66	3500	63	220.5	37.7055	\$ 37.71	
3	3	Municipal / Engineering		Construction Official	3L F32T8 2x4		3	96		288	\$172.37	3L F32T8 25w Relamp Only		\$ -	3	75	225	\$134.66	3500	63	220.5	37.7055	\$ 37.71	
4	3	Municipal / Engineering		Construction Official	2L F17T8 2x2		1	34		34	\$20.35	No Measure		\$ -	1	34	34	\$20.35	3500	0	0	0	\$ -	
5	3	Municipal / Engineering		Inspector Office	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
6	3	Municipal / Engineering		Hall	2L F17T8 2x2		11	34		374	\$223.84	No Measure		\$ -	11	34	374	\$223.84	3500	0	0	0	\$ -	
7	3	Municipal / Engineering		Conference Room A	3L F32T8 2x4		4	96		384	\$229.82	3L F32T8 25w Relamp Only		\$ -	4	75	300	\$179.55	3500	84	294	50.274	\$ 50.27	
8	3	Municipal / Engineering		Conference Room B	3L F32T8 2x4		4	96		384	\$229.82	3L F32T8 25w Relamp Only		\$ -	4	75	300	\$179.55	3500	84	294	50.274	\$ 50.27	
9	3	Municipal / Engineering		Kitchen	2L F17T8 2x2		2	34		68	\$40.70	No Measure		\$ -	2	34	68	\$40.70	3500	0	0	0	\$ -	
10	3	Municipal / Engineering		Mayor's Office	3L F32T8 2x4		4	96		384	\$229.82	3L F32T8 25w Relamp Only		\$ -	4	75	300	\$179.55	3500	84	294	50.274	\$ 50.27	
11	3	Municipal / Engineering		Community Services	3L F32T8 2x4		1	96		96	\$57.46	3L F32T8 25w Relamp Only		\$ -	1	75	75	\$44.89	3500	21	73.5	12.5685	\$ 12.57	
12	3	Municipal / Engineering		Examination Room	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
13	3	Municipal / Engineering		Nurse's Office	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
14	3	Municipal / Engineering		Community Services Lobby	2L F17T8 2x2		3	34		102	\$61.05	No Measure		\$ -	3	34	102	\$61.05	3500	0	0	0	\$ -	
15	3	Municipal / Engineering		Stairwell A	2L F32T8 Wrap		2	64		128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16.758	\$ 16.76	
16	3	Municipal / Engineering		Bathroom	2L F32T8 2x4		1	64		64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8.379	\$ 8.38	
17	3	Municipal / Engineering		Bathroom Hall	2L F17T8 2x2		1	34		34	\$20.35	No Measure		\$ -	1	34	34	\$20.35	3500	0	0	0	\$ -	
18	3	Municipal / Engineering		Stairwell B	2L F32T8 Wrap		2	64		128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16.758	\$ 16.76	
19	3	Municipal / Engineering		Storage	1L 100w A		1	100		100	\$59.85	1L 20w Spring CFL		\$ -	1	20	20	\$11.97	3500	80	280	47.88	\$ 47.88	
20	3	Municipal / Engineering		Storage	2L F32T8 Wrap		1	64		64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8.379	\$ 8.38	
21	3	Municipal / Engineering		Phone Closet	1L F32T8 Strip		1	32		32	\$19.15	1L F32T8 25w Relamp Only		\$ -	1	25	25	\$14.96	3500	7	24.5	4.1895	\$ 4.19	
22	2	Administration		Janitor's Closet	1L 100w A		1	100		100	\$59.85	1L 20w Spring CFL		\$ -	1	20	20	\$11.97	3500	80	280	47.88	\$ 47.88	
23	2	Administration		Hall	2L F17T8 2x2		13	34		442	\$264.54	No Measure		\$ -	13	34	442	\$264.54	3500	0	0	0	\$ -	
24	2	Administration		Women's Room	1L 40w G40 Vanity		3	40		120	\$71.82	No Measure		\$ -	3	40	120	\$71.82	3500	0	0	0	\$ -	
25	2	Administration		Women's Room	3L F32T8 2x4		1	96		96	\$57.46	3L F32T8 25w Relamp Only		\$ -	1	75	75	\$44.89	3500	21	73.5	12.5685	\$ 12.57	
26	2	Administration		Conference Room	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
27	2	Administration		Conference Room	2L F32T8 2x4		2	64		128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16.758	\$ 16.76	
28	2	Administration		Conference Room	1L 23w PAR38		3	23		69	\$41.30	No Measure		\$ -	3	23	69	\$41.30	3500	0	0	0	\$ -	
29	2	Administration		Administration Office	3L F32T8 2x4		9	96		864	\$517.10	3L F32T8 25w Relamp Only		\$ -	9	75	675	\$403.99	3500	189	661.5	113.1165	\$ 113.12	
30	2	Administration		Borough Admin Office	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
31	2	Administration		Borough Clerk Office	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
32	2	Administration		Mail/Copy Room	2L F32T8 2x4		4	64		256	\$153.22	2L F32T8 25w Relamp Only		\$ -	4	50	200	\$119.70	3500	56	196	33.516	\$ 33.52	
33	2	Administration		Phone Closet	1L F32T8 Strip		1	32		32	\$19.15	1L F32T8 25w Relamp Only		\$ -	1	25	25	\$14.96	3500	7	24.5	4.1895	\$ 4.19	
34	2	Administration		Mens Room	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
35	2	Administration		Tax Collector	3L F32T8 2x4		6	96		576	\$344.74	3L F32T8 25w Relamp Only		\$ -	6	75	450	\$269.33	3500	120	441	75.411	\$ 75.41	
36	2	Administration		Computer Room	2L F32T8 2x4		2	64		128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16.758	\$ 16.76	
37	2	Administration		Payroll	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
38	2	Administration		Assessor	3L F32T8 2x4		4	96		384	\$229.82	3L F32T8 25w Relamp Only		\$ -	4	75	300	\$179.55	3500	84	294	50.274	\$ 50.27	
39	2	Administration		Assessor	1L 65w R30 Track		6	65		390	\$233.42	1L 15w R30 CFL		\$ -	6	15	90	\$53.87	3500	300	1050	179.55	\$ 179.55	
40	2	Administration		Stairwell A	4L F32T8 Wrap		2	128		256	\$153.22	4L F32T8 25w Relamp Only		\$ -	2	100	200	\$119.70	3500	56	196	33.516	\$ 33.52	
41	2	Administration		Stairwell B	4L F32T8 Wrap		2	128		256	\$153.22	4L F32T8 25w Relamp Only		\$ -	2	100	200	\$119.70	3500	56	196	33.516	\$ 33.52	
42	G	Administration		Main Lobby	2L F17T8 2x2		9	34		306	\$183.14	No Measure		\$ -	9	34	306	\$183.14	3500	0	0	0	\$ -	
43	G	Administration		Main Lobby	2L F32T8 Wrap		8	64		512	\$306.43	2L F32T8 25w Relamp Only		\$ -	8	50	400	\$239.40	3500	112	392	67.032	\$ 67.03	
44	G	Administration		Vestibule	4L F32T8 Wrap		1	128		128	\$76.61	4L F32T8 25w Relamp Only		\$ -	1	100	100	\$59.85	3500	28	98	16.758	\$ 16.76	
45	G	Administration		Mens Room	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
46	G	Administration		Women's Room	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
47	G	Administration		Elevator Room	1L 13w Spring CFL		1	13		13	\$7.78	No Measure		\$ -	1	13	13	\$7.78	3500	0	0	0	\$ -	
48	G	Board of Education		Mail	2L F17T8 2x2		2	34		68	\$40.70	No Measure		\$ -	2	34	68	\$40.70	3500	0	0	0	\$ -	
49	G	Board of Education		Open Office	3L F32T8 2x4		2	96		192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25.137	\$ 25.14	
50	G	Board of Education		Open Office	1L F32T8 Strip		20	32		632	\$407.95	1L F32T8 25w Relamp Only		\$ -	28	25	650	\$389.03	3500	182	637	108.927	\$ 108.93	
51	G	Board of Education		Secretary	3L F32T8 2x4		3	96		288	\$172.37	3L F32T8 25w Relamp Only		\$ -	3	75	225	\$134.66	3500	63	220.5	37.7055	\$ 37.71	
52	G	Board of Education		Superintendent	3L F32T8 2x4		3	96		288	\$172.37	3L F32T8 25w Relamp Only		\$ -	3	75	225	\$134.66	3500	63	220.5	37.7055		

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist. Qty	Exist. Fix Wts	Foot Candle	Total Fix Wts	Existing Ap. Cost	Replacement Fixture Description	NU Rebate Code	NU Rebate Amount	Repl. Qty	Repl. Fix Wts	Total Fix Wts	Proposed Ap. Cost	Op. Hours	Fix Wts Saved	kWh Saved	0.15\$/kWh	Annual Elec. Savings	Annual Savings
68	G	Police Department		Dispatch	2L F32T8 2x4		7	64	448	\$268.13	2L F32T8 25w Relamp Only		\$ -	7	50	350	\$209.48	3500	98	343	58,653	\$	58.65	
69	G	Police Department		Dispatch Bathroom	1L F32T8 Strip		1	32	32	\$19.15	1L F32T8 25w Relamp Only		\$ -	1	25	25	\$14.96	3500	7	24.5	4,189.5	\$	4.19	
70	G	Police Department		Dispatch Storage	2L F32T8 Wrap		1	64	64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8,379	\$	8.38	
71	G	Police Department		Dispatch Hall	3L F32T8 2x4		3	96	288	\$172.37	3L F32T8 25w Relamp Only		\$ -	3	75	225	\$134.66	3500	63	220.5	37,705.5	\$	37.71	
72	G	Police Department		Booking	3L F32T8 2x4		1	96	96	\$57.46	3L F32T8 25w Relamp Only		\$ -	1	75	75	\$44.89	3500	21	73.5	12,568.5	\$	12.57	
73	G	Police Department		Computer Room	3L F32T8 2x4		1	96	96	\$57.46	3L F32T8 25w Relamp Only		\$ -	1	75	75	\$44.89	3500	21	73.5	12,568.5	\$	12.57	
74	G	Police Department		Cell 1	2L F32T8 1x4		1	64	64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8,379	\$	8.38	
75	G	Police Department		Cell 2	2L F32T8 1x4		1	64	64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8,379	\$	8.38	
76	G	Police Department		Cell 3	2L F32T8 1x4		1	64	64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8,379	\$	8.38	
77	G	Police Department		Garage	2L F32T8 Wrap		10	64	1024	\$612.66	2L F32T8 25w Relamp Only		\$ -	10	50	800	\$478.80	3500	224	784	134,064	\$	134.06	
78	G	Police Department		Garage	4L F32T8 Wrap		2	128	256	\$153.22	4L F32T8 25w Relamp Only		\$ -	2	100	200	\$119.70	3500	56	196	33,516	\$	33.52	
79	G	Police Department		Hall	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
80	G	Police Department		Womens Locker/Bath	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
81	G	Police Department		Professional Standards Office	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
82	G	Police Department		Mens Locker	3L F32T8 2x4		6	96	576	\$344.74	3L F32T8 25w Relamp Only		\$ -	6	75	450	\$269.33	3500	126	441	75,411	\$	75.41	
83	G	Police Department		Community Services	2L F32T8 2x4		4	64	256	\$153.22	2L F32T8 25w Relamp Only		\$ -	4	50	200	\$119.70	3500	56	196	33,516	\$	33.52	
84	G	Police Department		Community Services	2L F17T8 2x2		3	34	102	\$61.05	No Measure		\$ -	3	34	102	\$61.05	3500	0	0	0	\$	-	
85	G	Police Department		Server Room	2L F17T8 2x2		2	34	68	\$40.70	No Measure		\$ -	2	34	68	\$40.70	3500	0	0	0	\$	-	
86	G	Police Department		Captain's Office	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
87	G	Police Department		Copy Room	2L F32T8 2x4		2	64	128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16,758	\$	16.78	
88	G	Police Department		Main Offices	3L F32T8 2x4		4	96	384	\$229.82	3L F32T8 25w Relamp Only		\$ -	4	75	300	\$179.55	3500	84	294	50,274	\$	50.27	
89	G	Police Department		Deputy Chief	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
90	G	Police Department		Patrol Division	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
91	G	Police Department		Chief of Police	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
92	G	Police Department		Kitchen	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
93	G	Police Department		Conference Room	3L F32T8 2x4		4	96	384	\$229.82	3L F32T8 25w Relamp Only		\$ -	4	75	300	\$179.55	3500	84	294	50,274	\$	50.27	
94	G	Police Department		Side Entrance	2L F17T8 2x2		1	34	34	\$20.35	No Measure		\$ -	1	34	34	\$20.35	3500	0	0	0	\$	-	
95	G	Police Department		Storage	2L 13w Spring CFL		2	26	52	\$31.12	No Measure		\$ -	2	13	26	\$15.56	3500	26	91	15,561	\$	15.56	
96	G	Police Department		Firearms	2L 13w Spring CFL		2	26	52	\$31.12	No Measure		\$ -	2	13	26	\$15.56	3500	26	91	15,561	\$	15.56	
97	G	Courts		Judge's Chambers	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
98	G	Courts		Court Administrator	3L F32T8 2x4		6	96	576	\$344.74	3L F32T8 25w Relamp Only		\$ -	6	75	450	\$269.33	3500	126	441	75,411	\$	75.41	
99	G	Courts		Council Chambers	3L F32T8 2x4		26	96	2496	\$1,493.86	3L F32T8 25w Relamp Only		\$ -	26	75	1950	\$1,167.08	3500	546	1911	326,781	\$	326.78	
100	G	Courts		Meeting Room	3L F32T8 2x4		12	96	1152	\$689.47	3L F32T8 25w Relamp Only		\$ -	12	75	900	\$536.65	3500	252	882	150,822	\$	150.82	
101	G	Courts		Hall	3L F32T8 2x4		10	96	960	\$574.56	3L F32T8 25w Relamp Only		\$ -	10	75	750	\$448.88	3500	210	735	125,685	\$	125.69	
102	G	Courts		Women's Room	2L F32T8 Wrap		6	64	384	\$229.82	2L F32T8 25w Relamp Only		\$ -	6	50	300	\$179.55	3500	84	294	50,274	\$	50.27	
103	G	Courts		Men's Room	2L F32T8 Wrap		5	64	320	\$191.52	2L F32T8 25w Relamp Only		\$ -	5	50	250	\$149.63	3500	70	245	41,895	\$	41.90	
104	G	Courts		Hall	1L 15w R30 CFL		14	15	210	\$125.69	No Measure		\$ -	14	15	210	\$125.69	3500	0	0	0	\$	-	
105	G	Courts		Arts/Games	2L F32T8 2x4		13	64	832	\$497.95	2L F32T8 25w Relamp Only		\$ -	13	50	650	\$389.03	3500	162	637	108,927	\$	108.93	
106	G	Courts		Rec Offices	3L F32T8 2x4		7	96	672	\$402.19	3L F32T8 25w Relamp Only		\$ -	7	75	525	\$314.21	3500	147	514.5	87,079.5	\$	87.08	
107	G	Courts		Rec Offices	2L F17T8 2x2		2	34	68	\$40.70	No Measure		\$ -	2	34	68	\$40.70	3500	0	0	0	\$	-	
108	G	Courts		Rec Center Director	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
109	G	Courts		Stage	1L 42w Spring CFL		10	42	420	\$251.37	No Measure		\$ -	10	42	420	\$251.37	3500	0	0	0	\$	-	
110	G	Courts		Stage Storage	1L 42w Spring CFL		2	42	84	\$50.27	No Measure		\$ -	2	42	84	\$50.27	3500	0	0	0	\$	-	
111	G	Courts		Gym	1L 42w Spring CFL		19	42	798	\$477.60	No Measure		\$ -	19	42	798	\$477.60	3500	0	0	0	\$	-	
112	G	Courts		Gym Supply Room	1L 42w Spring CFL		6	42	252	\$150.82	No Measure		\$ -	6	42	252	\$150.82	3500	0	0	0	\$	-	
113	G	Courts		Supply Closet	3L F32T8 2x4		2	96	192	\$114.91	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$89.78	3500	42	147	25,137	\$	25.14	
114	G	Courts		Hall	3L F32T8 2x4		11	96	1056	\$632.02	3L F32T8 25w Relamp Only		\$ -	11	75	825	\$493.76	3500	231	808.5	138,253.5	\$	138.25	
115	G	Courts		Weight Room	2L F32T8 1x4		6	64	384	\$229.82	2L F32T8 25w Relamp Only		\$ -	6	50	300	\$179.55	3500	84	294	50,274	\$	50.27	
116	G	Courts		Supply Closet	1L F32T8 Strip		2	32	64	\$38.30	1L F32T8 25w Relamp Only		\$ -	2	25	50	\$29.93	3500	14	49	8,379	\$	8.38	
117	G	Courts		Archive Room	1L F32T8 Strip		2	32	64	\$38.30	1L F32T8 25w Relamp Only		\$ -	2	25	50	\$29.93	3500	14	49	8,379	\$	8.38	
118	G	Courts		Gym Lobby	2L 13w Spring CFL		4	26	104	\$62.24	No Measure		\$ -	4	13	52	\$31.12	3500	52	182	31,122	\$	31.12	
119	G	Courts		Electrical Room	2L F32T8 Wrap		2	64	128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16,758	\$	16.78	
120	G	Courts		Rec Stairs	4L F32T8 Wrap		3	128	384	\$229.82	4L F32T8 25w Relamp Only		\$ -	3	100	300	\$179.55	3500	84	294	50,274	\$	50.27	
121	LL	Courts		Archive Room	2L F32T8 Wrap		10	64	640	\$383.04	2L F32T8 25w Relamp Only		\$ -	10	50	500	\$299.25	3500	140	490	83,79	\$	83.79	
122	LL	Courts		Utilities	2L F32T8 Wrap		2	64	128	\$76.61	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$59.85	3500	28	98	16,758	\$	16.78	
123	LL	Courts		Office	2L F32T8 Wrap		1	64	64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8,379	\$	8.38	
124	LL	Courts		Office Stairs	1L 200w A		1	200	200	\$119.70	1L 42w Spring CFL		\$ -	1	42	42	\$25.14	3500	158	553	94,563	\$	94.56	
125	LL	Courts		Boiler Room	1L 42w Spring CFL		2	42	84	\$50.27	No Measure		\$ -	2	42	84	\$50.27	3500	0	0	0	\$	-	
126	LL	Courts		Boiler Room	2L F32T8 Strip		1	64	64	\$38.30	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$29.93	3500	14	49	8,379	\$	8.38	
127	LL	Courts		Storage	1L 23w Spring CFL		2	23	46	\$27.53	No Measure		\$ -	2	23	46	\$27.53	3500	0	0	0	\$	-	
128	LL	Courts		BOE Special Services	2L F32T8 Wrap		17	64	1088	\$651.17	2L F32T8 25w Relamp Only		\$ -	17	50	850	\$508.73	3500	238	833	142,443	\$	142.44	
129	LL	Courts		BOE Special Services Confer	2L F32T8 2x4		4	64	256	\$153.22	2L F32T8 25w Relamp Only		\$ -	4	50	200	\$119.70	3500	56	196	33,516	\$	33.52	
130	LL	Courts		Cafeteria	1L 14w G30 CFL		4	14	56	\$33.52</														

Name:	Borough of New Providence - Municipal Building
Address:	300 Elkwood Avenue
City, St.	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8690

LN #	FL #	Replacement Fixture Description	Repl Qty	Qty Adj	Future / Balance	Cost To	Qty Imp	F32T8 25W LAMP	Cost Imp	Qty Adj	F32T8 25W LAMP	Cost Adj	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Cost Total	NON UNION	
																	Unit Cost	Unit Tot. Cost
1	3	3L F32T8 25w Relamp Only	10	10		\$ -	30	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 90.00	\$ -	\$ 117.00	\$ 12.00	\$ 120.00
2	3	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
3	3	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
4	3	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	3	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
6	3	No Measure	11	11		\$ -	11		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	3	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
8	3	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
9	3	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	3	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
11	3	3L F32T8 25w Relamp Only	1	1		\$ -	3	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 12.00
12	3	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
13	3	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
14	3	No Measure	3	3		\$ -	3		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	3	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
16	3	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
17	3	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	3	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
19	3	1L 20w Spring CFL	1	1		\$ -	1	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
20	3	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
21	3	1L F32T8 25w Relamp Only	1	1		\$ -	1	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 3.00	\$ -	\$ 3.90	\$ 12.00	\$ 12.00
22	2	1L 20w Spring CFL	1	1		\$ -	1	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
23	2	No Measure	13	13		\$ -	13		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	2	No Measure	3	3		\$ -	3		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	2	3L F32T8 25w Relamp Only	1	1		\$ -	3	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 12.00
26	2	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
27	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
28	2	No Measure	3	3		\$ -	3		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
29	2	3L F32T8 25w Relamp Only	9	9		\$ -	27	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 81.00	\$ -	\$ 105.30	\$ 12.00	\$ 108.00
30	2	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
31	2	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
32	2	2L F32T8 25w Relamp Only	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
33	2	1L F32T8 25w Relamp Only	1	1		\$ -	1	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 3.00	\$ -	\$ 3.90	\$ 12.00	\$ 12.00
34	2	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
35	2	3L F32T8 25w Relamp Only	6	6		\$ -	18	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 54.00	\$ -	\$ 70.20	\$ 12.00	\$ 72.00
36	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
37	2	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
38	2	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
39	2	1L 15w R30 CFL	6	6		\$ -	6	15W R30 CFL	\$ 10.00	0		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 10.00	\$ 60.00
40	2	4L F32T8 25w Relamp Only	2	2		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 24.00
41	2	4L F32T8 25w Relamp Only	2	2		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 24.00
42	G	No Measure	9	9		\$ -	9		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
43	G	2L F32T8 25w Relamp Only	8	8		\$ -	16	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 48.00	\$ -	\$ 62.40	\$ 12.00	\$ 96.00
44	G	4L F32T8 25w Relamp Only	1	1		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 12.00
45	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
46	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
47	G	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
48	G	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
50	G	1L F32T8 25w Relamp Only	20	20		\$ -	20	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 78.00	\$ -	\$ 101.40	\$ 12.00	\$ 312.00
51	G	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
52	G	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
53	G	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
54	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
55	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
56	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
57	G	3L F32T8 25w Relamp Only	1	1		\$ -	3	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 12.00
58	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
59	G	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
60	G	3L F32T8 25w Relamp Only	1	1		\$ -	3	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 12.00
61	G	3L F32T8 25w Relamp Only	13	13		\$ -	39	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 117.00	\$ -	\$ 152.10	\$ 12.00	\$ 156.00
62	G	4L F32T8 25w Relamp Only	18	18		\$ -	72	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 216.00	\$ -	\$ 280.80	\$ 12.00	\$ 216.00
63	G	3L F32T8 25w Relamp Only	6	6		\$ -	18	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 54.00	\$ -	\$ 70.20	\$ 12.00	\$ 72.00
64	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
65	G	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
66	G	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
67	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00

LN #	FL #	Replacement Fixture Description	Repl Qty	qty fix	Fixture / Ballast	cost fix	qty imp	Lamp / Sensor	cost imp	qty ref	Ballast / PowerPac	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sell Total	Labor Cost	Labor Tot Cost
68	G	2L F32T8 25w Relamp Only	7	7		\$ -	14	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 42.00	\$ -	\$ 54.00	\$ 12.00	\$ 84.00
69	G	1L F32T8 25w Relamp Only	1	1		\$ -	1	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 3.00	\$ -	\$ 3.00	\$ 12.00	\$ 12.00
70	G	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
71	G	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
72	G	3L F32T8 25w Relamp Only	1	1		\$ -	3	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 12.00
73	G	3L F32T8 25w Relamp Only	1	1		\$ -	3	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 12.00
74	G	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
75	G	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
76	G	3L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
77	G	2L F32T8 25w Relamp Only	16	16		\$ -	32	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 96.00	\$ -	\$ 124.80	\$ 12.00	\$ 192.00
78	G	4L F32T8 25w Relamp Only	2	2		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 24.00
79	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
80	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
81	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
82	G	3L F32T8 25w Relamp Only	6	6		\$ -	18	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 54.00	\$ -	\$ 70.20	\$ 12.00	\$ 72.00
83	G	2L F32T8 25w Relamp Only	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
84	G	No Measure	3	3		\$ -	3		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
85	G	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
86	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
87	G	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
88	G	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
89	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
90	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
91	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
92	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
93	G	3L F32T8 25w Relamp Only	4	4		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 48.00
94	G	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
95	G	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
96	G	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
97	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
98	G	3L F32T8 25w Relamp Only	6	6		\$ -	18	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 54.00	\$ -	\$ 70.20	\$ 12.00	\$ 72.00
99	G	3L F32T8 25w Relamp Only	26	26		\$ -	78	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 234.00	\$ -	\$ 304.20	\$ 12.00	\$ 312.00
100	G	3L F32T8 25w Relamp Only	12	12		\$ -	36	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 108.00	\$ -	\$ 140.40	\$ 12.00	\$ 144.00
101	G	3L F32T8 25w Relamp Only	10	10		\$ -	30	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 90.00	\$ -	\$ 117.00	\$ 12.00	\$ 120.00
102	G	2L F32T8 25w Relamp Only	6	6		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 72.00
103	G	2L F32T8 25w Relamp Only	5	5		\$ -	10	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 12.00	\$ 60.00
104	G	No Measure	14	14		\$ -	14		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
105	G	2L F32T8 25w Relamp Only	13	13		\$ -	26	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 78.00	\$ -	\$ 101.40	\$ 12.00	\$ 156.00
106	G	3L F32T8 25w Relamp Only	7	7		\$ -	21	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 63.00	\$ -	\$ 81.90	\$ 12.00	\$ 84.00
107	G	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
108	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
109	G	No Measure	10	10		\$ -	10		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
110	G	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
111	G	No Measure	19	19		\$ -	19		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
112	G	No Measure	6	6		\$ -	6		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
113	G	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
114	G	3L F32T8 25w Relamp Only	11	11		\$ -	33	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 99.00	\$ -	\$ 128.70	\$ 12.00	\$ 132.00
115	G	2L F32T8 25w Relamp Only	6	6		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 72.00
116	G	1L F32T8 25w Relamp Only	2	2		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 24.00
117	G	1L F32T8 25w Relamp Only	2	2		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 24.00
118	G	No Measure	4	4		\$ -	4		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
119	G	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
120	G	4L F32T8 25w Relamp Only	3	3		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 36.00
121	LL	2L F32T8 25w Relamp Only	10	10		\$ -	20	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 12.00	\$ 120.00
122	LL	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
123	LL	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
124	LL	1L 42w Spring CFL	1	1		\$ -	1	42W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
125	LL	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
126	LL	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
127	LL	No Measure	2	2		\$ -	2		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
128	LL	2L F32T8 25w Relamp Only	17	17		\$ -	34	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 102.00	\$ -	\$ 132.60	\$ 12.00	\$ 204.00
129	LL	2L F32T8 25w Relamp Only	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
130	LL	No Measure	4	4		\$ -	4		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
131	LL	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
132	LL	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
133	LL	2L F32T8 25w Relamp Only	3	3		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 36.00
													\$ -	\$ 3,375.00	\$ -	\$ 4,387.50	Total	\$ 5,130.00
													With Tax		\$ 4,694.63	CONT	\$ -	
													Equipment		\$ -			
													Total Labor:		\$ 6,669.00			
													Total project		\$ 11,363.63			

LIGHTING INVENTORY SUMMARY
Borough of New Providence - Library
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	28,972
Proposed Energy Usage (Watts)	21,515
Energy Saved (Watts)	7,457
Annual Kilowatt Hours Saved (kWh)	29,828

FINANCIAL DATA

Annual Existing Energy Cost	\$	20,628.06
Annual Proposed Energy Cost	\$	15,318.68
Annual Energy Savings	\$	5,309.38
Additional Energy Savings (Occupancy Sensors)	\$	-
Total Energy Savings	\$	5,309.38
Initial Project Cost	\$	8,578.13
Utility Rebate (Based on NJ Smart Start Approval)	\$	-
Project Cost	\$	8,578.13

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	62%
Payback (Years)	1.62
10 Year Savings	\$ 53,093.84
10-Year Cumulative Positive Cash Flow	\$ 44,515.71

13,900

908-337-8699

Total kWh Saving	29,828.00
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Name:	Borough of New Providence - Library
Address:	360 Elkwood Avenue
City, St.	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8699

																	NON UNION	
LN #	FL #	Replacement Fixture Description	Repl Qty	qty fix	Fixture / Ballast	cost fix	qty imp	Lamp / Glass	cost imp	qty air	Ballast / Newwork	cost air	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sub Total	Labor Cost	Labor Tot. Cost
1	1	20w CFL Spring	4	4		\$ -	4	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 40.00
2	1	4L F32T8 25w Relamp Only	74	74		\$ -	206	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 888.00	\$ -	\$ 1,154.40	\$ 12.00	\$ 888.00
3	1	4L F32T8 25w Relamp Only	9	9		\$ -	36	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 108.00	\$ -	\$ 140.40	\$ 12.00	\$ 108.00
5	1	2L F32T8 25w Relamp Only	24	24		\$ -	48	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 288.00
6	1	3L PL-L 40W/841/4P/IS/ 25W Relamp Only	16	16		\$ -	48	25W PL-L LAMP	\$ 10.00	0		\$ -	\$ -	\$ 480.00	\$ -	\$ 624.00	\$ 12.00	\$ 192.00
7	1	3L PL-L 40W/841/4P/IS/ 25W Relamp Only	1	1		\$ -	3	25W PL-L LAMP	\$ 10.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 36.00	\$ 12.00	\$ 12.00
7	1	3L PL-L 40W/841/4P/IS/ 25W Relamp Only	8	8		\$ -	24	25W PL-L LAMP	\$ 10.00	0		\$ -	\$ -	\$ 240.00	\$ -	\$ 312.00	\$ 12.00	\$ 96.00
7	1	4L F32T8 25w Relamp Only	54	54		\$ -	216	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 648.00	\$ -	\$ 842.40	\$ 12.00	\$ 648.00
8	1	4L F32T8 25w Relamp Only	4	4		\$ -	16	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 48.00	\$ -	\$ 62.40	\$ 12.00	\$ 48.00
9	1	4L F32T8 25w Relamp Only	20	20		\$ -	80	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 240.00	\$ -	\$ 312.00	\$ 12.00	\$ 240.00
10	1	20w CFL Spring	1	1		\$ -	1	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
11	1	20w CFL Spring	1	1		\$ -	1	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
12	1	4L F32T8 25w Relamp Only	1	1		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 12.00
13	1	1L F32T8 25w Relamp Only	1	1		\$ -	1	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 3.00	\$ -	\$ 3.90	\$ 12.00	\$ 12.00
14	1	4L F32T8 25w Relamp Only	1	1		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 12.00
15	1	1L F32T8 25w Relamp Only	1	1		\$ -	1	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 3.00	\$ -	\$ 3.90	\$ 12.00	\$ 12.00
16	1	4L F32T8 25w Relamp Only	1	1		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 12.00
18	B	4L F32T8 25w Relamp Only	8	8		\$ -	32	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 96.00	\$ -	\$ 124.80	\$ 12.00	\$ 96.00
19	B	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
20	B	4L F32T8 25w Relamp Only	1	1		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 12.00
21	B	20w CFL Spring	2	2		\$ -	2	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 20.00
22	B	20w CFL Spring	4	4		\$ -	4	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 40.00
23	B	3L PL-L 40W/841/4P/IS/ 25W Relamp Only	4	4		\$ -	12	25W PL-L LAMP	\$ 10.00	0		\$ -	\$ -	\$ 120.00	\$ -	\$ 156.00	\$ 12.00	\$ 48.00
24	B	3L PL-L 40W/841/4P/IS/ 25W Relamp Only	6	6		\$ -	18	25W PL-L LAMP	\$ 10.00	0		\$ -	\$ -	\$ 180.00	\$ -	\$ 234.00	\$ 12.00	\$ 72.00
													\$ -	\$ 3,408.00		\$ 4,430.40	Total	\$ 2,952.00
															With Tax	\$ 4,740.53	CONT	\$ -
															Equipment		\$	-
															Total Labor:		\$	3,837.60
															Total project		\$	8,578.13

LIGHTING INVENTORY SUMMARY
Borough of New Providence - DPW
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	12,034
Proposed Energy Usage (Watts)	8,104
Energy Saved (Watts)	3,930
Annual Kilowatt Hours Saved (kWh)	13,905

FINANCIAL DATA

Annual Existing Energy Cost	\$	7,173.85
Annual Proposed Energy Cost	\$	4,921.24
Annual Energy Savings	\$	2,252.61
Additional Energy Savings (Occupancy Sensors)	\$	-
Total Energy Savings	\$	2,252.61
Initial Project Cost	\$	7,758.09
Utility Rebate (Based on NJ Smart Start Approval)	\$	1,160.00
Project Cost	\$	6,598.09

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	34%
Payback (Years)	2.93
10 Year Savings	\$ 22,526.10
10-Year Cumulative Positive Cash Flow	\$ 15,928.01

Borough of New Providence - DPW**360 Elkwood Avenue****New Providence, NJ 07974****New Jersey****Jim Johnston****908-337-8699****UTILITY ACCOUNT NUMBER****BUILDING TYPE****SQUARE FOOTAGE****N/A****DPW****11,000**

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist Qty	Exist Fix Wts	Foot Candle	Total Fix Wts	Existing An. Cost	Replacement Fixture Description	NJ Rebate Code	NJ Rebate Amount	Repl Qty	Repl Fix Wts	Total Fix Wts	Proposed An. Cost	Op. Hours	Fix Wts Saved	kWh Saved	0.15/kWh	Annual Elec. Savings	Annual Series Savings							
1	1			Sign Shop	2L F96T12 Strip		5	158		790	\$575.91	2L F96T8/Electronic - Relamp and Reballast	10	\$ 50.00	5	118	590	\$430.11	4500	200	900	145.8	\$ 145.80								
2	1			Mechanical Bay	2L F96T12 Strip		12	158		1896	\$1,382.18	2L F96T8/Electronic - Relamp and Reballast	10	\$ 120.00	12	118	1416	\$1,032.26	4500	480	2160	349.92	\$ 349.92								
3	1			Mechanical Bay	2L F34T12 1x4		4	80		320	\$233.28	2L F32T8/Electronic - Relamp and Reballast	10	\$ 40.00	4	50	200	\$145.80	4500	120	540	87.48	\$ 87.48								
4	1			Tool Room	4L F34T12 2x4		3	160		480	\$349.92	4L F32T8/Electronic - Relamp and Reballast	20	\$ 60.00	3	100	300	\$218.70	4500	180	810	131.22	\$ 131.22								
5	1			Tool Room	2L F34T12 2x4		1	80		80	\$58.32	2L F32T8/Electronic - Relamp and Reballast	10	\$ 10.00	1	50	50	\$36.45	4500	30	135	21.87	\$ 21.87								
6	1			Bathroom/Lockers	2L F34T12 2x4		2	80		160	\$116.64	2L F32T8/Electronic - Relamp and Reballast	10	\$ 20.00	2	50	100	\$72.90	4500	60	270	43.74	\$ 43.74								
7	1			Road Maintenance Bay 1	2L F96T12 Strip		6	158		948	\$691.09	2L F96T8/Electronic - Relamp and Reballast	10	\$ 60.00	6	118	708	\$516.13	4500	240	1080	174.96	\$ 174.96								
8	1			Road Maintenance Bay 2	2L F96T12 Strip		4	158		632	\$460.73	2L F96T8/Electronic - Relamp and Reballast	10	\$ 40.00	4	118	472	\$344.09	4500	160	720	116.64	\$ 116.64								
9	1			Road Maintenance Bay 3	2L F96T12 Strip		6	158		948	\$691.09	2L F96T8/Electronic - Relamp and Reballast	10	\$ 60.00	6	118	708	\$516.13	4500	240	1080	174.96	\$ 174.96								
10	1			Open Office Area	4L F34T12 2x4		6	160		960	\$466.56	4L F32T8/Electronic - Relamp and Reballast	20	\$ 120.00	6	100	600	\$291.60	3000	360	1080	174.96	\$ 174.96								
11	1			Jim's Office	4L F34T12 2x4		4	160		640	\$311.04	4L F32T8/Electronic - Relamp and Reballast	20	\$ 80.00	4	100	400	\$194.40	3000	240	720	116.64	\$ 116.64								
12	1			Hall	2L F34T12 2x4		4	80		320	\$155.52	2L F32T8/Electronic - Relamp and Reballast	10	\$ 40.00	4	50	200	\$97.20	3000	120	360	58.32	\$ 58.32								
13	1			Hall	2L FB34 U6 T12 2x2		1	80		80	\$38.88	2L FB32T8 U6/Electronic - Relamp and Reballast	10	\$ 10.00	1	50	50	\$24.30	3000	30	90	14.58	\$ 14.58								
14	1			Conference	4L F34T12 2x4		8	160		1280	\$622.08	4L F32T8/Electronic - Relamp and Reballast	20	\$ 160.00	8	100	800	\$388.80	3000	480	1440	233.28	\$ 233.28								
15	1			Lockers	4L F34T12 2x4		8	160		1280	\$622.08	4L F32T8/Electronic - Relamp and Reballast	20	\$ 160.00	8	100	800	\$388.80	3000	480	1440	233.28	\$ 233.28								
16	1			Boiler Room	1L 60w A		3	60		180	\$87.48	20w CFL Spring		\$ -	3	20	60	\$29.16	3000	120	360	58.32	\$ 58.32								
17	1			Kitchen	4L F34T12 2x4		1	160		160	\$77.76	4L F32T8/Electronic - Relamp and Reballast	20	\$ 20.00	1	100	100	\$48.60	3000	60	180	29.16	\$ 29.16								
18	1			Bathroom	2L F34T12 2x4		1	80		80	\$38.88	2L F32T8/Electronic - Relamp and Reballast	10	\$ 10.00	1	50	50	\$24.30	3000	30	90	14.58	\$ 14.58								
19	1			Back Area	4L F34T12 2x4		2	160		320	\$77.76	4L F32T8/Electronic - Relamp and Reballast	20	\$ 40.00	2	100	200	\$48.60	1500	120	180	29.16	\$ 29.16								
20	1			Files	4L F34T12 2x4		3	160		480	\$116.64	4L F32T8/Electronic - Relamp and Reballast	20	\$ 60.00	3	100	300	\$72.90	1500	180	270	43.74	\$ 43.74								
										12,034	\$7,173.85											\$ 1,160.00	KW SAVED >>>>				3.93	13905	2252.61	\$ 2,252.61	\$ -

Electric Rate: \$0.162**8104 \$4,921.2360****Total Cost Savings \$ 2,252.61****Total kWh Savings 13,905.00**

Name:	Borough of New Providence - DPW
Address:	360 Elkwood Avenue
City, St.	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8699

																	NON UNION	
LN #	FL #	Replacement Fixture Description	Repl Qty	qty fix	Fixture / Ballast	cost fix	qty imp	Lamp / Socket	cost imp	qty rel	Reflector / Power Pack	cost rel	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sell Total	Labor Cost	Labor Tot. Cost
1	1	2L F96T8/Electronic - Relamp and Reballast	5	5	2L F96T8 ELECTRONIC BALLAST	\$ 25.00	10	F96T8 59W LAMP	\$ 8.00	0		\$ -	\$ 125.00	\$ 80.00	\$ -	\$ 266.50	\$ 55.00	\$ 275.00
2	1	2L F96T8/Electronic - Relamp and Reballast	12	12	2L F96T8 ELECTRONIC BALLAST	\$ 25.00	24	F96T8 59W LAMP	\$ 8.00	0		\$ -	\$ 300.00	\$ 192.00	\$ -	\$ 639.60	\$ 55.00	\$ 660.00
3	1	2L F32T8/Electronic - Relamp and Reballast	4	4	2L F32T8 ELECTRONIC BALLAST	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 48.00	\$ 24.00	\$ -	\$ 93.60	\$ 25.00	\$ 100.00
4	1	4L F32T8/Electronic - Relamp and Reballast	3	3	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 45.00	\$ 36.00	\$ -	\$ 105.30	\$ 30.00	\$ 90.00
5	1	2L F32T8/Electronic - Relamp and Reballast	1	1	2L F32T8 ELECTRONIC BALLAST	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
6	1	2L F32T8/Electronic - Relamp and Reballast	2	2	2L F32T8 ELECTRONIC BALLAST	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00
7	1	2L F96T8/Electronic - Relamp and Reballast	6	6	2L F96T8 ELECTRONIC BALLAST	\$ 25.00	12	F96T8 59W LAMP	\$ 8.00	0		\$ -	\$ 150.00	\$ 96.00	\$ -	\$ 319.80	\$ 55.00	\$ 330.00
8	1	2L F96T8/Electronic - Relamp and Reballast	4	4	2L F96T8 ELECTRONIC BALLAST	\$ 25.00	8	F96T8 59W LAMP	\$ 8.00	0		\$ -	\$ 100.00	\$ 64.00	\$ -	\$ 213.20	\$ 55.00	\$ 220.00
9	1	2L F96T8/Electronic - Relamp and Reballast	6	6	2L F96T8 ELECTRONIC BALLAST	\$ 25.00	12	F96T8 59W LAMP	\$ 8.00	0		\$ -	\$ 150.00	\$ 96.00	\$ -	\$ 319.80	\$ 55.00	\$ 330.00
10	1	4L F32T8/Electronic - Relamp and Reballast	6	6	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	24	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 90.00	\$ 72.00	\$ -	\$ 210.60	\$ 30.00	\$ 180.00
11	1	4L F32T8/Electronic - Relamp and Reballast	4	4	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	16	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 60.00	\$ 48.00	\$ -	\$ 140.40	\$ 30.00	\$ 120.00
12	1	2L F32T8/Electronic - Relamp and Reballast	4	4	2L F32T8 ELECTRONIC BALLAST	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 48.00	\$ 24.00	\$ -	\$ 93.60	\$ 25.00	\$ 100.00
13	1	2L FB32T8 U6/Electronic - Relamp and Reballast	1	1	2L F32T8 ELECTRONIC BALLAST	\$ 12.00	2	FB32T8 U6 25W LAMP	\$ 6.00	0		\$ -	\$ 12.00	\$ 12.00	\$ -	\$ 31.20	\$ 25.00	\$ 25.00
14	1	4L F32T8/Electronic - Relamp and Reballast	8	8	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	32	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 120.00	\$ 96.00	\$ -	\$ 280.80	\$ 30.00	\$ 240.00
15	1	4L F32T8/Electronic - Relamp and Reballast	8	8	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	32	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 120.00	\$ 96.00	\$ -	\$ 280.80	\$ 30.00	\$ 240.00
16	1	20w CFL Spring	3	3		\$ -	3	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 10.00	\$ 30.00
17	1	4L F32T8/Electronic - Relamp and Reballast	1	1	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 15.00	\$ 12.00	\$ -	\$ 35.10	\$ 30.00	\$ 30.00
18	1	2L F32T8/Electronic - Relamp and Reballast	1	1	2L F32T8 ELECTRONIC BALLAST	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
19	1	4L F32T8/Electronic - Relamp and Reballast	2	2	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 30.00	\$ 24.00	\$ -	\$ 70.20	\$ 30.00	\$ 60.00
20	1	4L F32T8/Electronic - Relamp and Reballast	3	3	4L F32T8 ELECTRONIC BALLAST	\$ 15.00	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 45.00	\$ 36.00	\$ -	\$ 105.30	\$ 30.00	\$ 90.00
													\$ 1,506.00	\$ 1,062.00	\$ -	\$ 3,338.40	Total	\$ 3,220.00
													With Tax		\$ 3,572.09	CONT	\$ -	
															Equipment	\$ -		
															Total Labor:	\$ 4,186.00		
															Total project	\$ 7,758.09		
NEW JERSEY SMART START REBATE																	\$ 1,160.00	

LIGHTING INVENTORY SUMMARY
Borough of New Providence - Wastewater Treatment
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	4,464
Proposed Energy Usage (Watts)	1,552
Energy Saved (Watts)	2,912
Annual Kilowatt Hours Saved (kWh)	13,104

FINANCIAL DATA

Annual Existing Energy Cost	\$	3,254.26
Annual Proposed Energy Cost	\$	1,131.41
Annual Energy Savings	\$	2,122.85
Additional Energy Savings (Occupancy Sensors)	\$	-
Total Energy Savings	\$	2,122.85
Initial Project Cost	\$	1,816.07
Utility Rebate (Based on NJ Smart Start Approval)	\$	194.00
Project Cost	\$	1,622.07

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	131%
Payback (Years)	0.76
10 Year Savings	\$ 21,228.48
10-Year Cumulative Positive Cash Flow	\$ 19,606.41

Borough of New Providence - Wastewater Treatment
360 Elkwood Avenue
New Providence, NJ 07974

New Jersey

Jim Johnston
908-337-8699

UTILITY ACCOUNT NUMBER
BUILDING TYPE
SQUARE FOOTAGE

N/A
Wastewater Treatment
4,000

D.N.	FL #	Section/ Building	Room #	Room Description	Existing Fixture Description	Fixture Code	Exist Qty	Exst. Ft/Candl	Ft/Candl	Total Ft/Wb	Existing An. Cost	Replacement Fixture Description	Nr Rebate Code	Nr Rebate Amount	Rest Qty	Repl Ft/Wb	Total Ft/Wb	Proposed An. Cost	Cd Hazard	Ex-Wb Saved	PWH Saved	0.15\$/Wb	Annual Exc. Savings	Annual Smt Savings
8	1	Processing Facility		Switchgear	1L 100w A		3	100	300	\$218.70	20W CFL		\$ -	3	20	60	\$43.74	4500	240	1080	174.96	\$	174.96	
10	1	Bathing Facility		Bath	1L 100w A		1	100	100	\$72.90	20W CFL		\$ -	1	20	20	\$14.58	4500	90	360	58.32	\$	58.32	
12	1	Processing Facility		Sub-Level 1	1L 100w A		6	100	600	\$437.40	20W CFL		\$ -	6	20	120	\$87.48	4500	480	2160	348.92	\$	348.92	
13	1	Processing Facility		Sub-Level 2	1L 100w A		6	100	600	\$437.40	20W CFL		\$ -	6	20	120	\$87.48	4500	480	2160	348.92	\$	348.92	
14	1	Processing Facility		Sub-Level 3	1L 100w A		4	100	400	\$291.60	20W CFL		\$ -	4	20	80	\$58.32	4500	320	1440	233.28	\$	233.28	
4	1	Offices		Boiler/Mechanical Area	1L 100w A Exp. Proof		4	100	400	\$291.60	20W CFL		\$ -	4	20	80	\$58.32	4500	320	1440	233.28	\$	233.28	
6	1	Exterior		Container Tower	1L 120w PAR38 Halogen		2	120	240	\$174.96	23W PAR38 CFL	7	\$ 14.00	2	23	46	\$33.53	4500	194	873	141.426	\$	141.43	
5	1	Exterior		Container Tower	1L 200w A		1	200	200	\$145.80	42W CFL		\$ -	1	42	42	\$30.62	4500	158	711	115.182	\$	115.18	
15	1	Processing Facility		Garage	1L 200w A		2	200	400	\$291.60	42W CFL		\$ -	2	42	84	\$61.24	4500	316	1422	230.364	\$	230.36	
7	1	Processing Facility		Entrance	2L F34 T12 1x4		1	68	68	\$49.57	2L F32T8 25W RELAMP & REBALLAST	10	\$ 10.00	1	50	50	\$36.45	4500	18	81	13.122	\$	13.12	
9	1	Processing Facility		Switchgear	2L F34 T12 1x4		3	68	204	\$148.72	2L F32T8 25W RELAMP & REBALLAST	10	\$ 30.00	3	50	150	\$109.35	4500	54	243	39.366	\$	39.37	
11	1	Processing Facility		Shop	2L F34 T12 1x4		1	68	68	\$49.57	2L F32T8 25W RELAMP & REBALLAST	10	\$ 10.00	1	50	50	\$36.45	4500	18	81	13.122	\$	13.12	
1	1	Offices		Entrance	2L F34 T12 Vapor Title		3	68	204	\$148.72	2L F32T8 25W RELAMP & REBALLAST	10	\$ 30.00	3	50	150	\$109.35	4500	54	243	39.366	\$	39.37	
2	1	Offices		Office	2L F34 T12 Vapor Title		9	68	612	\$446.15	2L F32T8 25W RELAMP & REBALLAST	10	\$ 90.00	9	50	450	\$328.05	4500	162	729	118.098	\$	118.10	
3	1	Offices		Bath	2L F34 T12 Vapor Title		1	68	68	\$49.57	2L F32T8 25W RELAMP & REBALLAST	10	\$ 10.00	1	50	50	\$36.45	4500	18	81	13.122	\$	13.12	
										4,464	\$3,254.26													
														\$ 194.00										
																				KW SAVED >>>>				\$ -

Electric Rate:	\$0.162
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1552

KW SAVED >>>>

2.91

	13104
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2122.848

8	\$ 2,122.85
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5	\$ -
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\$1,131.4080

0

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Total Cost Savings:

\$ 2,122.85

35

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Total kWh Savings:

13,104.00

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Name:	Borough of New Providence - Wastewater Treatment
Address:	360 Elkwood Avenue
City, St:	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8699

LN #	FL #	Replacement Fixture Description	Repl Qty	Fixture / Ballast	cost fix	qty amp	Fixture / Ballast	cost amp	qty ref	Reflector Overhead	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Cost Total	Labor Cost	Labor Tot. Cost
8	1	20W CFL	3	3	\$ -	3	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 30.00	\$ 10.00	\$ 30.00
10	1	20W CFL	1	1	\$ -	1	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
12	1	20W CFL	6	6	\$ -	6	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 10.00	\$ 60.00
13	1	20W CFL	6	6	\$ -	6	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 10.00	\$ 60.00
14	1	20W CFL	4	4	\$ -	4	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 40.00
4	1	20W CFL	4	4	\$ -	4	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 40.00
6	1	23W PAR38 CFL	2	2	\$ -	2	23W PAR38 CFL	\$ 10.00	0		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 20.00
5	1	42W CFL	1	1	\$ -	1	42W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
15	1	42W CFL	2	2	\$ -	2	42W CFL	\$ 10.00	0		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 20.00
7	1	2L F32T8 25W RELAMP & REBALLAST	1	1	2L F32 T8 ELECTRONIC BALLAST	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0	\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
9	1	2L F32T8 25W RELAMP & REBALLAST	3	3	2L F32 T8 ELECTRONIC BALLAST	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	0	\$ -	\$ 36.00	\$ 18.00	\$ -	\$ 70.20	\$ 25.00	\$ 75.00
11	1	2L F32T8 25W RELAMP & REBALLAST	1	1	2L F32 T8 ELECTRONIC BALLAST	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0	\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
1	1	2L F32T8 25W RELAMP & REBALLAST	3	3	2L F32 T8 ELECTRONIC BALLAST	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	0	\$ -	\$ 36.00	\$ 18.00	\$ -	\$ 70.20	\$ 25.00	\$ 75.00
2	1	2L F32T8 25W RELAMP & REBALLAST	9	9	2L F32 T8 ELECTRONIC BALLAST	\$ 12.00	18	F32T8 25W LAMP	\$ 3.00	0	\$ -	\$ 108.00	\$ 54.00	\$ -	\$ 210.60	\$ 25.00	\$ 225.00
3	1	2L F32T8 25W RELAMP & REBALLAST	1	1	2L F32 T8 ELECTRONIC BALLAST	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0	\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
												\$ 216.00	\$ 398.00	\$ -	\$ 798.20	Total	\$ 740.00
												With Tax		\$ 854.07	CONT	\$ -	
															Equipment	\$ -	
															Total Labor:	\$ 962.00	
															Total project	\$ 1,816.07	
												NEW JERSEY SMART START REBATE				\$ 194.00	

LIGHTING INVENTORY SUMMARY
Borough of New Providence - EMS / Rescue Squad
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	7,941
Proposed Energy Usage (Watts)	4,778
Energy Saved (Watts)	3,163
Annual Kilowatt Hours Saved (kWh)	7,481

FINANCIAL DATA

Annual Existing Energy Cost	\$	3,066.77
Annual Proposed Energy Cost	\$	1,808.89
Annual Energy Savings	\$	1,257.88
Additional Energy Savings (Occupancy Sensors)	\$	36.33
Total Energy Savings	\$	1,294.21
Initial Project Cost	\$	8,127.90
Utility Rebate (Based on NJ Smart Start Approval)	\$	510.00
Project Cost	\$	7,617.90

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	17%
Payback (Years)	6.06
10 Year Savings	\$ 12,578.83
10-Year Cumulative Positive Cash Flow	\$ 4,960.93

Borough of New Providence - EMS / Rescue Squad
360 Elkwood Avenue
New Providence, NJ 07974

New Jersey

Jim Johnston
908-337-8699

UTILITY ACCOUNT NUMBER
BUILDING TYPE
SQUARE FOOTAGE

N/A
EMS
5,800

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist. Qty.	Exist. Fix Wts	Foot Candle	Total Fix Wts	Existing An. Cost	Replacement Fixture Description	N0 Rebate Code	N0 Rebate Amount	Repl. Qty.	Repl. Fix Wts	Total Fix Wts	Proposed An. Cost	Op. Hours	Fix Wts Saved	kWh Saved	0-15 kWh	Annual Elec. Savings	Annual Sens. Savings
1	1			Bays	175w Metal Halide		9	205		1845	\$957.56	New 4L F32T8 Vapor-Tight Wrap	50	\$ 450.00	9	100	900	\$487.10	3000	945	2835	490.455	\$ 490.46	
2	1			Operations Office	3L F32T8 2x4 Parabolic		2	96		192	\$66.43	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$51.90	2000	42	84	14.532	\$ 14.53	
3	1			Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 15.57
4	1			Laundry Room	3L F32T8 2x4 Parabolic		2	96		192	\$66.43	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$51.90	2000	42	84	14.532	\$ 14.53	
5	1			Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 15.57
6	1			Hall	2L F40 Blax 2x2		2	80		160	\$55.36	2L PL-L 40W/841/4P/IS/ 25W Relamp Only		\$ -	2	50	100	\$34.60	2000	60	120	20.76	\$ 20.76	
7	1			Records Room	3L F32T8 2x4 Parabolic		2	96		192	\$66.43	3L F32T8 25w Relamp Only		\$ -	2	75	150	\$51.90	2000	42	84	14.532	\$ 14.53	
8	1			Electrical Room	2L F32T8 Wrap		2	64		128	\$44.29	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$34.60	2000	28	56	9.688	\$ 9.69	
9	1			Storage	2L FB32 U6 T8 2x2		1	64		64	\$22.14	2L FB32T8 U6 25w Relamp Only		\$ -	1	50	50	\$17.30	2000	14	28	4.844	\$ 4.84	
10	1			Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 5.19
11	1			Cleaning Supplies	2L F32T8 Wrap		1	64		64	\$22.14	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$17.30	2000	14	28	4.844	\$ 4.84	
12	1			Stairs	2L PL-C CF26 41K		2	52		104	\$35.98	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only		\$ -	2	42	84	\$29.06	2000	20	40	6.92	\$ 6.92	
13	1			Stairs	1L 60w A		3	60		180	\$62.28	14w CFL Spring		\$ -	3	14	42	\$14.53	2000	138	276	47.748	\$ 47.75	
14	2			Kitchen	1L 60w A		3	60		180	\$62.28	14w CFL Spring		\$ -	3	14	42	\$14.53	2000	138	276	47.748	\$ 47.75	
15	2			Kitchen	1L 100w A		2	100		200	\$69.20	20w CFL Spring		\$ -	2	20	40	\$13.84	2000	160	320	55.36	\$ 55.36	
16	2			Kitchen	2L PL-C CF26 41K		6	52		312	\$107.95	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only		\$ -	6	42	252	\$87.19	2000	60	120	20.76	\$ 20.76	
17	2			Lounge	2L F40 Blax 2x2		8	80		640	\$221.44	2L PL-L 40W/841/4P/IS/ 25W Relamp Only		\$ -	8	50	400	\$138.40	2000	240	480	83.04	\$ 83.04	
18	2			Office	2L F40 Blax 2x2		8	80		640	\$221.44	2L PL-L 40W/841/4P/IS/ 25W Relamp Only		\$ -	8	50	400	\$138.40	2000	240	480	83.04	\$ 83.04	
19	2			Conference	2L F40 Blax 2x2		22	80		1760	\$608.96	2L PL-L 40W/841/4P/IS/ 25W Relamp Only		\$ -	22	50	1100	\$380.60	2000	660	1320	228.36	\$ 228.36	
20	2			Cleaning Supplies	2L F32T8 Wrap		1	64		64	\$22.14	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$17.30	2000	14	28	4.844	\$ 4.84	
21	2			Mens	2L F32T8 Wrap		2	64		128	\$44.29	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$34.60	2000	28	56	9.688	\$ 9.69	
22	2			Mens	2L PL-C CF26 41K		2	52		104	\$35.98	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only		\$ -	2	42	84	\$29.06	2000	20	40	6.92	\$ 6.92	
23	2			Womens	2L F32T8 Wrap		2	64		128	\$44.29	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$34.60	2000	28	56	9.688	\$ 9.69	
24	2			Womens	2L PL-C CF26 41K		2	52		104	\$35.98	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only		\$ -	2	42	84	\$29.06	2000	20	40	6.92	\$ 6.92	
25	2			Hall	2L F40 Blax 2x2		7	80		560	\$193.76	2L PL-L 40W/841/4P/IS/ 25W Relamp Only		\$ -	7	50	350	\$121.10	2000	210	420	72.66	\$ 72.66	
										7,941	\$3,066.77													

Name:	Borough of New Providence - EMS / Rescue Squad
Address:	300 Elkwood Avenue
City, St:	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8699

																	NON UNION	
LN #	PL #	Replacement Fixture Description	Rcpt Qty	Qty Fxd	Fixture / Ballast	cost fix	Qty Imp	Lamp / Sensor	cost lamp	Qty Ref	Reflector / Power Pack	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sub Total	Labor Cost	Labor Tot. Cost
1	1	New 4L F32T8 Vapor-Tight Wrap	9	9	4L F32T8 25W VAPOR-TIGHT WRAP FIXTURE	\$250.00	9		\$ -	0		\$ -	\$ 2,250.00	\$ -	\$ -	\$ 2,925.00	\$ 125.00	\$ 1,125.00
2	1	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
3	1	Q/S WALL	1	1		\$ -	1	Q/S WALL	\$ 55.00	0		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
4	1	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
5	1	Q/S WALL	1	1		\$ -	1	Q/S WALL	\$ 55.00	0		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
6	1	2L PL-L 40W/841/4P/IS/ 25W Relamp Only	2	2		\$ -	4	25W 2ft PL-L BIAx LAMP	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 12.00	\$ 24.00
7	1	3L F32T8 25w Relamp Only	2	2		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 24.00
8	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
9	1	2L FB32T8 U6 25w Relamp Only	1	1		\$ -	2	FB32T8 U6 25W LAMP	\$ 6.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 12.00
10	1	Q/S WALL	1	1		\$ -	1	Q/S WALL	\$ 55.00	0		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
11	1	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
12	1	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only	2	2		\$ -	4	21W PL-C LAMP	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 12.00	\$ 24.00
13	1	14w CFL Spring	3	3		\$ -	3	14W CFL	\$ 10.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 10.00	\$ 30.00
14	2	14w CFL Spring	3	3		\$ -	3	14W CFL	\$ 10.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 10.00	\$ 30.00
15	2	20w CFL Spring	2	2		\$ -	2	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 20.00
16	2	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only	6	6		\$ -	12	21W PL-C LAMP	\$ 10.00	0		\$ -	\$ -	\$ 120.00	\$ -	\$ 156.00	\$ 12.00	\$ 72.00
17	2	2L PL-L 40W/841/4P/IS/ 25W Relamp Only	8	8		\$ -	16	25W 2ft PL-L BIAx LAMP	\$ 10.00	0		\$ -	\$ -	\$ 160.00	\$ -	\$ 208.00	\$ 12.00	\$ 96.00
18	2	2L PL-L 40W/841/4P/IS/ 25W Relamp Only	8	8		\$ -	16	25W 2ft PL-L BIAx LAMP	\$ 10.00	0		\$ -	\$ -	\$ 160.00	\$ -	\$ 208.00	\$ 12.00	\$ 96.00
19	2	2L PL-L 40W/841/4P/IS/ 25W Relamp Only	22	22		\$ -	44	25W 2ft PL-L BIAx LAMP	\$ 10.00	0		\$ -	\$ -	\$ 440.00	\$ -	\$ 572.00	\$ 12.00	\$ 264.00
20	2	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
21	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
22	2	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only	2	2		\$ -	4	21W PL-C LAMP	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 12.00	\$ 24.00
23	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
24	2	2L PL-C 26W/841/XEW/4P/ALTO 21W Relamp Only	2	2		\$ -	4	21W PL-C LAMP	\$ 10.00	0		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 12.00	\$ 24.00
25	2	2L PL-L 40W/841/4P/IS/ 25W Relamp Only	7	7		\$ -	14	25W 2ft PL-L BIAx LAMP	\$ 10.00	0		\$ -	\$ -	\$ 140.00	\$ -	\$ 182.00	\$ 12.00	\$ 84.00
													\$ 2,250.00	\$ 1,539.00	\$ -	\$ 4,925.70	Total	\$ 2,198.00
													With Tax		\$ 5,270.50	CONT	\$ -	
													Equipment		\$ -			
													Total Labor:		\$ 2,857.40			
													Total project		\$ 8,127.90			
													NEW JERSEY SMART START REBATE		\$ 510.00			

LIGHTING INVENTORY SUMMARY
Borough of New Providence - Fire House
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	10,779
Proposed Energy Usage (Watts)	5,454
Energy Saved (Watts)	5,325
Annual Kilowatt Hours Saved (kWh)	21,300

FINANCIAL DATA

Annual Existing Energy Cost	\$ 7,200.37
Annual Proposed Energy Cost	\$ 3,643.27
Annual Energy Savings	\$ 3,557.10
Additional Energy Savings (Occupancy Sensors)	\$ -
Total Energy Savings	\$ 3,557.10
Initial Project Cost	\$ 10,225.84
Utility Rebate (Based on NJ Smart Start Approval)	\$ 1,200.00
Project Cost	\$ 9,025.84

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	39%
Payback (Years)	2.54
10 Year Savings	\$ 35,571.00
10-Year Cumulative Positive Cash Flow	\$ 26,545.16

Borough of New Providence - Fire House
360 Elkwood Avenue
New Providence, NJ 07974
Jim Johnston
908-337-8699

New Jersey

UTILITY ACCOUNT NUMBER	N/A
BUILDING TYPE	Fire House
SQUARE FOOTAGE	11,000

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist Qty	Exist Fix Wts	Foot Candle	Total Fix Wts	Existing An. Cost	Replacement Fixture Description	N1 Reball Code	N1 Reball Amount	Repl Qty	Repl Fix Wts	Total Fix Wts	Proposed An. Cost	Op. Hours	Fix Wts Saved	kWh Saved	@ 15 kWh	Annual Ene. Savings	Annual Cost Savings
1	3			Womens Room	2L F17T8 2x2		1	34		34	\$22.71	No Measure		\$ -	1	34	34	\$22.71	4000	0	0	0	\$ -	
2	3			Social Hall	2L F32T8 2x4		18	64		1152	\$769.54	2L F32T8 25w Relamp Only		\$ -	18	50	900	\$601.20	4000	252	1008	168.336	\$	168.34
3	3			Lounge	3L F32T8 2x4		3	96		288	\$192.38	3L F32T8 25w Relamp Only		\$ -	3	75	225	\$150.30	4000	63	252	42.084	\$	42.08
4	3			Stairwells	2L F32T8 Wrap		10	64		640	\$427.52	2L F32T8 25w Relamp Only		\$ -	10	50	500	\$334.00	4000	140	560	93.52	\$	93.52
5	3			Kitchen	2L F32T8 2x4		6	64		384	\$256.51	2L F32T8 25w Relamp Only		\$ -	6	50	300	\$200.40	4000	84	336	56.112	\$	56.11
6	2			Office	2L F32T8 2x4		2	64		128	\$85.50	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$66.80	4000	28	112	18.704	\$	18.70
7	2			Board Room	2L F32T8 2x4		2	64		128	\$85.50	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$66.80	4000	28	112	18.704	\$	18.70
8	2			Chief's Office	2L F32T8 2x4		2	64		128	\$85.50	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$66.80	4000	28	112	18.704	\$	18.70
9	3			Weight Room	2L F32T8 2x4		1	64		64	\$42.75	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$33.40	4000	14	56	9.352	\$	9.35
10	2			Bath Room	2L F17T8 Wrap		1	34		34	\$22.71	No Measure		\$ -	1	34	34	\$22.71	4000	0	0	0	\$ -	
11	2			Hall	2L PL-13w Recessed Can		5	13		65	\$43.42	No Measure		\$ -	5	13	65	\$43.42	4000	0	0	0	\$ -	
12	1			Dispatch	2L F17T8 2x2		3	34		102	\$68.14	No Measure		\$ -	3	34	102	\$68.14	4000	0	0	0	\$ -	
13	3			Hall	2L PL-13w Recessed Can		14	13		182	\$121.58	No Measure		\$ -	14	13	182	\$121.58	4000	0	0	0	\$ -	
14	3			Mens Room	2L F17T8 2x2		1	34		34	\$22.71	No Measure		\$ -	1	34	34	\$22.71	4000	0	0	0	\$ -	
15	1			Apparatus Floor	1L 250w MH 2x2 Troffer		24	288		6912	\$4,617.22	New 4L F32T8 2x4 Troffer	50	\$ 1,200.00	24	100	2400	\$1,603.20	4000	4512	18048	3014.016	\$	3,014.02
16	1			Hose Drying Room	2L F32T8 Wrap		4	64		256	\$171.01	2L F32T8 25w Relamp Only		\$ -	4	50	200	\$133.60	4000	56	224	37.408	\$	37.41
17	1			Electrical/Generator Room	2L F32T8 Wrap		2	64		128	\$85.50	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$66.80	4000	28	112	18.704	\$	18.70
18	1			Bath Room	1L 60w A		1	60		60	\$40.08	1L 14w Spring CFL		\$ -	1	14	14	\$9.35	4000	46	184	30.728	\$	30.73
19	1			Closet	1L 60w A		1	60		60	\$40.08	1L 14w Spring CFL		\$ -	1	14	14	\$9.35	4000	46	184	30.728	\$	30.73
Electric Rate: \$0.167										10,779	\$7,200.37			\$ 1,200.00				KW SAVED >>>>		5.33	21300	3557.1	\$ 3,557.10	\$ -
														5454				\$3,643.2720					Total Cost Savings	\$ 3,557.10
																							Total kWh Savings	21,300.00

Name:	Borough of New Providence - Fire House
Address:	360 Elkwood Avenue
City, St.	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8699

LN #	FL #	Replacement Fixture Description	Repl. Qty	Qty Inst	Fixture / Ballast	cost fix	Qty Imp	Lamp / Sensor	cost imp	Qty Ref	Reflector / Power Risk	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material S/H Cost Total	NON UNION	
																	Labor Cost	Labor Tot. Cost
1	3	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	3	2L F32T8 25w Relamp Only	18	18		\$ -	36	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 108.00	\$ -	\$ 140.40	\$ 12.00	\$ 216.00
3	3	3L F32T8 25w Relamp Only	3	3		\$ -	9	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 27.00	\$ -	\$ 35.10	\$ 12.00	\$ 36.00
4	3	2L F32T8 25w Relamp Only	10	10		\$ -	20	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 12.00	\$ 120.00
5	3	2L F32T8 25w Relamp Only	6	6		\$ -	12	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 72.00
6	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
7	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
8	2	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
9	3	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
10	2	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	2	No Measure	5	5		\$ -	10		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	1	No Measure	3	3		\$ -	3		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	3	No Measure	14	14		\$ -	28		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	3	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	1	New 4L F32T8 2x4 Troffer	24	24	4L F32T8 25W 2X4 TROFFER	\$175.00	24		\$ -	0		\$ -	\$ 4,200.00	\$ -	\$ -	\$ 5,460.00	\$ 100.00	\$ 2,400.00
16	1	2L F32T8 25w Relamp Only	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
17	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
18	1	1L 14w Spring CFL	1	1		\$ -	1	14W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
19	1	1L 14w Spring CFL	1	1		\$ -	1	14W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
													\$ 4,200.00	\$ 329.00	\$ -	\$ 5,887.70	Total	\$ 3,020.00
													With Tax		\$ 6,290.84	CONT	\$ -	
													Equipment		\$ -		\$ -	
													Total Labor:		\$ 3,026.00		\$ 3,026.00	
													Total project		\$ 10,225.84		\$ 10,225.84	
													NEW JERSEY SMART START REBATE		\$ 1,200.00		\$ 1,200.00	

LIGHTING INVENTORY SUMMARY
Borough of New Providence - Senior Center
360 Elkwood Avenue
New Providence, NJ 07974

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	7,455
Proposed Energy Usage (Watts)	4,671
Energy Saved (Watts)	2,784
Annual Kilowatt Hours Saved (kWh)	11,136

FINANCIAL DATA

Annual Existing Energy Cost	\$	5,695.62
Annual Proposed Energy Cost	\$	3,568.64
Annual Energy Savings	\$	2,126.98
Additional Energy Savings (Occupancy Sensors)	\$	-
Total Energy Savings	\$	2,126.98
Initial Project Cost	\$	2,665.96
Utility Rebate (Based on NJ Smart Start Approval)	\$	245.00
Project Cost	\$	2,420.96

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	88%
Payback (Years)	1.14
10 Year Savings	\$ 21,269.76
10-Year Cumulative Positive Cash Flow	\$ 18,848.80

Borough of New Providence - Senior Center
360 Elkwood Avenue
New Providence, NJ 07974

New Jersey

Jim Johnston
908-337-8699

UTILITY ACCOUNT NUMBER
BUILDING TYPE
SQUARE FOOTAGE

N/A

Senior Center

8,000

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist. Qty.	Exist. Fix Wts.	Foot Candle	Total Fix Wts.	Existing An. Cost	Replacement Fixture Description	NJ Rebate Code	NJ Rebate Amount	Repl. Qty.	Repl. Fix Wts.	Total Fix Wts.	Proposed An. Cost	Op. Hours	Fix Wts Saved	kWh Saved	0.15/kWh	Annual Elec. Savings	Annual Ser. Savings
1	1			Computer Room	2L F32T8 2x4		9	64		576	\$440.06	2L F32T8 25w Relamp Only		\$ -	9	50	450	\$343.80	4000	126	504	96.264	\$ 96.26	
2	1			Computer Room	1L 75w R38		1	75		75	\$57.30	1L 23w R38 CFL	7	\$ 7.00	1	23	23	\$17.57	4000	52	208	39.728	\$ 39.73	
3	1			Recreation Room	1L 75w R38		8	75		600	\$458.40	1L 23w R38 CFL	7	\$ 56.00	8	23	184	\$140.58	4000	416	1664	317.824	\$ 317.82	
5	1			Recreation Room	1L 75w R38		3	75		225	\$171.90	1L 23w R38 CFL	7	\$ 21.00	3	23	69	\$52.72	4000	156	624	119.184	\$ 119.18	
6	1			Social Hall and Annex	2L F32T8 2x4		36	64		2304	\$1,760.26	2L F32T8 25w Relamp Only		\$ -	36	50	1800	\$1,375.20	4000	504	2016	385.056	\$ 385.06	
7	1			Social Hall and Annex	1L 65w R30		22	65		1430	\$1,092.52	1L 15w R30 CFL	7	\$ 154.00	22	15	330	\$252.12	4000	1100	4400	840.4	\$ 840.40	
7	1			Office	2L F32T8 2x4		2	64		128	\$97.79	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$76.40	4000	28	112	21.392	\$ 21.39	
7	1			Main Lobby	2L F32T8 2x4		8	64		512	\$391.17	2L F32T8 25w Relamp Only		\$ -	8	50	400	\$305.60	4000	112	448	85.568	\$ 85.57	
8	1			Library	2L F32T8 2x4		4	64		256	\$195.58	2L F32T8 25w Relamp Only		\$ -	4	50	200	\$152.80	4000	56	224	42.784	\$ 42.78	
9	1			Library	1L 75w R38		1	75		75	\$57.30	1L 23w R38 CFL	7	\$ 7.00	1	23	23	\$17.57	4000	52	208	39.728	\$ 39.73	
10	1			Coat Room	2L F32T8 2x4		1	64		64	\$48.90	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$38.20	4000	14	56	10.696	\$ 10.70	
11	1			Mens Room	2L F32T8 2x4		2	64		128	\$97.79	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$76.40	4000	28	112	21.392	\$ 21.39	
12	1			Womens Room	2L F32T8 2x4		2	64		128	\$97.79	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$76.40	4000	28	112	21.392	\$ 21.39	
13	1			TV Room	2L F17T8 2x2		12	34		408	\$311.71	No Measure		\$ -	12	34	408	\$311.71	4000	0	0	0	\$ -	
14	1			Kitchen	2L F17T8 2x2		1	34		34	\$25.98	No Measure		\$ -	1	34	34	\$25.98	4000	0	0	0	\$ -	
15	1			Kitchen	2L F32T8 2x4		3	64		192	\$146.69	2L F32T8 25w Relamp Only		\$ -	3	50	150	\$114.60	4000	42	168	32.088	\$ 32.09	
16	1			Mechanical Room 1	2L F32T8 2x4		2	64		128	\$97.79	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$76.40	4000	28	112	21.392	\$ 21.39	
18	1			Mechanical Room 1	2L F32T8 2x4		2	64		128	\$97.79	2L F32T8 25w Relamp Only		\$ -	2	50	100	\$76.40	4000	28	112	21.392	\$ 21.39	
19	1			Storage Closet	2L F32T8 2x4		1	64		64	\$48.90	2L F32T8 25w Relamp Only		\$ -	1	50	50	\$38.20	4000	14	56	10.696	\$ 10.70	
										7,455	\$5,695.62													
														\$ 245.00										
																				KW SAVED >>>>				
																				2.78	11136	2126.976	\$ 2,126.98	\$ -

Electric Rate: \$0.191

4671

\$3,568.6440

Total Cost Savings \$ 2,126.98

Total kWh Savings 11,136.00

Name:	Borough of New Providence - Senior Center
Address:	360 Elkwood Avenue
City, St.	New Providence, NJ 07974
Contact:	Jim Johnston
Phone:	908-337-8699

																NON UNION		
LN #	FL #	Replacement Fixture Description	Rcpt Qty	qty fix	Fixture / Ballast	cost fix	qty imp	Lamp / Socket	cost imp	qty ref	Reflector / PowerPack	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sell Total	Labor Cost	Labor Tot Cost
1	1	2L F32T8 25w Relamp Only	9	9		\$ -	18	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 54.00	\$ -	\$ 70.20	\$ 12.00	\$ 108.00
2	1	1L 23w R38 CFL	1	1		\$ -	1	23W R38 CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
3	1	1L 23w R38 CFL	8	8		\$ -	8	23W R38 CFL	\$ 10.00	0		\$ -	\$ -	\$ 80.00	\$ -	\$ 104.00	\$ 10.00	\$ 80.00
5	1	1L 23w R38 CFL	3	3		\$ -	3	23W R38 CFL	\$ 10.00	0		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 10.00	\$ 30.00
6	1	2L F32T8 25w Relamp Only	36	36		\$ -	72	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 216.00	\$ -	\$ 280.80	\$ 12.00	\$ 432.00
7	1	1L 15w R30 CFL	22	22		\$ -	22	15W R30 CFL	\$ 10.00	0		\$ -	\$ -	\$ 220.00	\$ -	\$ 286.00	\$ 10.00	\$ 220.00
7	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
7	1	2L F32T8 25w Relamp Only	8	8		\$ -	16	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 48.00	\$ -	\$ 62.40	\$ 12.00	\$ 96.00
8	1	2L F32T8 25w Relamp Only	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
9	1	1L 23w R38 CFL	1	1		\$ -	1	23W R38 CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
10	1	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
11	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
12	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
13	1	No Measure	12	12		\$ -	12		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	1	No Measure	1	1		\$ -	1		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	1	2L F32T8 25w Relamp Only	3	3		\$ -	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 36.00
16	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
18	1	2L F32T8 25w Relamp Only	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
19	1	2L F32T8 25w Relamp Only	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
													\$ -	\$ 782.00	\$ -	\$ 1,016.60	Total	\$ 1,214.00
													With Tax	\$	1,087.76	CONT	\$	-
															Equipment	\$	-	
															Total Labor:	\$	1,578.20	
															Total project	\$	2,665.96	
															NEW JERSEY SMART START REBATE		\$	245.00

Air Handling Units - AHUs																		
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Serial	Quantity	Cooling Technology	Supply Air CFM	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Age	Estimated Service Life	Efficiency	Con trols	Notes:
MUNICIPAL BUILDING		ROOF	OFFICES	RTU	CARRIER	48JE028-510BB	420AF7723	2	DX	9000	25	NATURAL GAS	425	9	15	10.0		
MUNICIPAL BUILDING	4	ROOF	REC CENTER	RTU	CARRIER	48HJE008G	4201031229	1	DX	2900	7.5	NATURAL GAS	98.4	9	15	11		
MUNICIPAL BUILDING	3	ROOF	CHAMBER OF COMERCE	RTU	CARRIER	48HG016A	4201F171269	1	DX	5700	15	NATURAL GAS	328	9	15	9.5		
MUNICIPAL BUILDING		ROOF	POLICE	RTU	CARRIER	48TJF020-S70AA	1206F87472	1	DX	6600	18	NATURAL GAS	291	9	15	8.7		
MUNICIPAL BUILDING	1	ROOF	MAIN ENTRANCE	RTU	CARRIER	48HJE008G	4201G31230	1	DX	2900	7.5	NATURAL GAS	98.4	9	15	11		
MUNICIPAL BUILDING	7	ROOF	OLD EMS	RTU	CARRIER	48GS-024060301	4301G11476	1	DX	1000	2	NATURAL GAS	48.4	9	15	11		
MUNICIPAL BUILDING		ROOF	BOARD OF ED	RTU	LENNOX	CHA24-953-1Y	5696J01516	1	DX	2900	7.5	ELECTRIC	10 KW	14	15	10		
MUNICIPAL BUILDING		COURTYARD	OFFICES	SPLIT AC UNIT	TURBOAIR	TAS-09EH0	NA	1	DX	400	0.75	ELECTRIC	1.1 KW	10+	15	11		
MUNICIPAL BUILDING		OFFICES		SPLIT AC UNIT	MITSHIBUSHI	PK30	NA	1	DX	1300	2.5	ELECTRIC	NA	10+	15	11		
MUNICIPAL BUILDING		OFFICES		SPLIT AC UNIT	MITSHIBUSHI	PK31	NA	1	DX	1000	1.5	ELECTRIC	NA	10+	15	11		

Boilers														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
MUNICIPAL BUILDING	B-1,2	MER	BUILDING STEAM	FIRE TUBE BOILERS	CLEAVER BROOKS	CB-200-60	2	NATURAL GAS	2,511,000		22	25	85%	2 HP BLOWER MOTOR
												25		

Heating Hot Water Pumps															
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service
MUNICIPAL BUILDING	P 1-3	MER	BOILERS	CONDENSATE RETURN PUMPS	AO SMITH	P48H2EB7	3	NA	NA	1/2	STD	1800	N	22	20

DOMESTIC HOT WATER														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
MUNICIPAL BUILDING		MER	BUILDING DHW	NATURAL GAS FIRED DOMESTIC HOT WATER TANK	1	RHEEM	21VR75	NATURA L GAS	75			16	30	* DHW RESET
MUNICIPAL BUILDING		MER	BUILDING DHW	ELECTRIC DOMESTIC HOT WATER TANK	1	RHEEM	62D-30V	ELECTRIC	30	4.5 kW		20+	30	

Other Mechanical Equipment														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
MUNICIPAL BUILDING		MER		AIR COMPRESSOR	1	SPEEDAIRE	3Z190D							2 HP MOTOR

Air Handling Units - AHUs															
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Serial	Quantity	Cooling Technology	Supply Air CFM	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Age	Estimated Service Life
RESCUE SQUAD		ROOF	BUILDING	RTU	TRANE	YSC120A3	701101397	1	DX	3600	10	NATURAL GAS	175	3	15
RESCUE SQUAD		ROOF	BUILDING	RTU	TRANE	YSC036A3	701101312	1	DX	1300	3	NATURAL GAS	48	3	15
RESCUE SQUAD		ROOF	KITCHEN	MAKE UP AIR UNIT	RUPP	R76	601142	1	na	2000	2000 CFM	NATURAL GAS	13	3	15

DOMESTIC HOT WATER														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
Rescue Squad		Storage	Building DHW	DHW Heater	1	Rheem	No Access	Natural Gas				2	30	

Kitchen Equipment Inventory List			
EQUIPMENT	MANUFACTURER	QUANTITY	ESTIMATED SERVICE LIFE
Dishwasher	HOBART	1	15
GAS STOVE	GARLAND	1	12
Refrigerator	TRUE	1	12
FREEZER	TRUE	1	
Snack Machine			

Air Handling Units - AHUs															
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Age	Estimated Service Life	Efficiency
SENIOR		MER	BUILDING AC	AHU	TEMPSTAR	NTC615-KJA1	5	DX	2000	5	NATURAL GAS	150	15+	15	8.9
SENIOR		GROUND	BUILDING AC	SPLIT AC UNIT	HERITAGE 10	20017RE4F	1	DX	400	1	ELECTRIC		5+	15	8.9
SENIOR		GROUND	BUILDING AC	SPLIT AC UNIT	CARRIER	NO ACCESS	3	DX	2900	7.5	ELECTRIC		15+	15	8.9
DOMESTIC HOT WATER															
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	Age	Estimated Service Life	Notes			
SENIOR CENTER		MER	BUILDING DHW	DOMESTIC WATER HEATER	1	RHEEM	21X40	NATURAL GAS	40	12	30				

Other Mechanical Equipment														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
PUBLIC WORKS / WASTEWATER TREATMENT CENTER				AIR COMPRESSORS	2									
PUBLIC WORKS / WASTEWATER TREATMENT CENTER			OFFICE	PACKAGED TERMINAL AC UNITS	5									

Misc Pumps											
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	HP	Efficiency	Motor RPM	VFD?
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	FLOW TO SUMMIT	BASEMENT	vfd	PUMPS	WEG	NA	1	200	95 4/5		YES
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	FLOW TO SUMMIT	BASEMENT	vfd	PUMPS	MARATHON ELECTRIC	445T5	1	200	STD		YES
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	SLUDGE GRINDER	BASEMENT		PUMPS	UNIGLO	324T	2	25	STD		
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	TRANSFER PUMPS	BASEMENT		PUMPS	CONTINENTAL	WCV184	2	3	STD		
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	SECOND STAGE PUMPS	BASEMENT	vfd	PUMPS	GE MOTORS	1286VP16	2	15	91		YES
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	STAGE	BASEMENT		PUMPS	US ELECTRIC	H01199	3	60	95		

Air Handling Units - AHUs														
Bldg	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Age	Estimated Service Life	Efficiency
PUBLIC WORKS / WASTEWATER TREATMENT CENTER	OFFICES	OFFICES	PACKAGED TERMINAL AC UNIT	NA	NA	5	DX	4000	1	ELECTRIC	NA	20+	15	8.1

Boilers														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
PUBLIC WORKS / WASTEWATER TREATMENT CENTER		MER	BUILDING HHW	Cast Iron Sectional Boiler	HB Smith	GB100 W-9	1	NATURAL GAS	200 MBH	164 MBH	16	25	82%	
PUBLIC WORKS / WASTEWATER TREATMENT CENTER		MER	BUILDING HHW	Cast Iron Sectional Boiler	CROWN BOILER	JBF-92SPD	1	NATURAL GAS	300 MBH		13	25	85%	

DOMESTIC HOT WATER														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
PUBLIC WORKS / WASTEWATER TREATMENT CENTER		CEILING	BUILDING DHW	ELECTRIC DOMESTIC HOT WATER HEATER	2	RHEEM	NO ACCESS	ELECTRIC	10	2.0 kW		10+	30	

Air Handling Units - AHUs														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Serial	Quantity	Cooling Technology	Supply Air CFM	Cooling Capacity (Tons)	Heating Technology	Age	Efficiency
FIREHOUSE	ACC - 1	2ND FL DECK	FIREHOUSE	SPLIT AC UNIT	TRANE	TTA048C300A0	J35245970	1	DX	1600	4	NATURAL GAS	6	8.9
FIREHOUSE	ACC - 2	2ND FL DECK	FIREHOUSE	SPLIT AC UNIT	TRANE	TTA090C300A0	J35118944	1	DX	2900	7.5	NATURAL GAS	6	8.9
FIREHOUSE	ACC - 3	2ND FL DECK	FIREHOUSE	SPLIT AC UNIT	TRANE	TTA0180C300A0	J41198606	1	DX	5700	15	NATURAL GAS	6	8.3
FIREHOUSE	AHU-1	ATTIC	FIREHOUSE	AHU	TRANE	CLIMATE CHANGER	K94H58042	1		2000		NATURAL GAS	6	NA
FIREHOUSE	AHU-2	ATTIC	FIREHOUSE	AHU	TRANE	CLIMATE CHANGER	K94H58100	1		2000		NATURAL GAS	6	NA
FIREHOUSE	AHU-3	ATTIC	FIREHOUSE	DUCT FURNACE	TRANE	GLNDO22AFF10000	A00C10517	1		5556		NATURAL GAS	6	NA
FIREHOUSE	AHU-4	ATTIC	FIREHOUSE	DUCT FURNACE	TRANE	GLND012AFD10000	A94G41637	1		3086		NATURAL GAS	6	NA

DOMESTIC HOT WATER												
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	Estimated Service Life	Notes
FIREHOUSE		MER	BUILDING DHW	NATURAL GAS FIRED DHW	1	RHEEM	41V50	NATURAL GAS	50		30	

Air Handling Units - AHUs															
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Serial	Quantity	Cooling Technology	Supply Air CFM	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Age	Estimated Service Life
LIBRARY		ROOF	LIBRARY	RTU	LENNOX	LGA036H2	5604G0456J	1	DX	1300	3	NATURAL GAS	62.4	6	15
LIBRARY		ROOF	LIBRARY	RTU	LENNOX	LGA102H2	5604G04337	1	DX	3200	8.5	NATURAL GAS	192	6	15
LIBRARY		ROOF	LIBRARY	RTU	LENNOX	LGA090H2	5604F04326	1	DX	2900	7.5	NATURAL GAS	192	6	15
LIBRARY		GROUND	LIBRARY	SPLIT AC	CARRIER	38AKS034	781897	1	DX	10500	30	NATURAL GAS	NA	10+	15

Boilers														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
LIBRARY		MER	BUILDING HHW	CAST IRON SECTIONAL BOILER	WEIL MCLAIN	LGB BOILER 7	1	NATURAL GAS	632	549	23	25	87%	
												25		

DOMESTIC HOT WATER														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
LIBRARY		MER	BUILDING DHW	ELECTRIC DHW HEATER	1	RHEEM	RH20	ELECTRIC	30	4.5		5	30	

	Energy Conservation Measures (ECM)	Buildings	Energy Savings			Gross Installation Costs*	Rebates/ Incentive	Avoided Cost	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	Internal Rate of Return (IRR)	Measure Life	Lifecycle Savings	CO2 Savings (lbs)
			kWh	kW	Therms												
1	Domestic Hot Water Optimization	Municipal Building	0	0.00	440	\$50	\$0	0	\$50	\$500	\$0	\$500	0.1	1000.0%	12	\$4,927	3
2	Programmable Thermostats	Library	21,590	0.00	130	\$530	\$300	0	\$230	\$3,995	\$0	\$3,995	0.1	1737.0%	15	\$47,462	8
3	Install Vendmisers	Firehouse	2,355	0.05	0	\$360	\$0	0	\$360	\$390	\$0	\$390	0.9	108.3%	15	\$4,296	1
3	Install Vendmisers	Public Works Department	1,180	0.02	0	\$180	\$0	0	\$180	\$190	\$0	\$190	0.9	105.6%	15	\$2,088	0
3	Install Vendmisers	Municipal Building	1,180	0.02	0	\$360	\$0	0	\$360	\$200	\$0	\$200	1.8	55.5%	15	\$2,028	0
4	Lighting Upgrade	Municipal Building	29,355	8.39	0	\$11,360	\$0	0	\$11,360	\$5,020	\$0	\$5,020	2.3	42.9%	10	\$31,462	10
4	Lighting Upgrade	Library	29,830	7.45	0	\$8,580	\$0	0	\$8,580	\$5,310	\$0	\$5,310	1.6	61.4%	10	\$36,715	10
4	Lighting Upgrade	Firehouse	21,300	5.32	0	\$10,225	\$1,200	0	\$9,025	\$3,560	\$0	\$3,560	2.5	37.9%	10	\$21,343	7
4	Lighting Upgrade	Senior Center	11,140	2.78	0	\$2,665	\$245	0	\$2,420	\$2,130	\$0	\$2,130	1.1	87.9%	10	\$15,749	4
4	Lighting Upgrade	Rescue Squad	7,480	3.16	0	\$8,130	\$510	0	\$7,620	\$1,290	\$0	\$1,290	5.9	10.9%	10	\$3,384	2
4	Lighting Upgrade	Public Works Department	13,905	3.93	0	\$7,760	\$1,160	0	\$6,600	\$2,250	\$0	\$2,250	2.9	32.0%	10	\$12,593	5
4	Lighting Upgrade	Wastewater Treatment Center	13,100	2.91	0	\$1,820	\$190	0	\$1,630	\$2,120	\$0	\$2,120	0.8	130.0%	10	\$16,454	4
5	Install Timer on Hot Water Heaters	Public Works Department	400	0.01	0	\$160	\$0	0	\$160	\$60	\$0	\$60	2.7	36.6%	12	\$437	0
5	Install Timer on Hot Water Heaters	Municipal Building	310	0.01	0	\$160	\$0	0	\$160	\$50	\$0	\$50	3.2	29.9%	12	\$338	0
5	Install Timer on Hot Water Heaters	Library	310	0.01	0	\$160	\$0	0	\$160	\$60	\$0	\$60	2.7	36.6%	12	\$437	0
6	Weatherstripping	Firehouse	3,810	0.00	420	\$2,800	\$0	0	\$2,800	\$1,110	\$0	\$1,110	2.5	38.1%	10	\$6,669	4
6	Weatherstripping	Municipal Building	480	0.00	50	\$700	\$0	0	\$700	\$160	\$0	\$160	4.4	18.8%	10	\$665	0
6	Weatherstripping	Senior Center	240	0.00	30	\$350	\$0	0	\$350	\$80	\$0	\$80	4.4	18.8%	10	\$332	0
7	Demand Control Ventilation	Library	37,740	0.00	1,970	\$28,310	\$0	0	\$28,310	\$9,100	\$0	\$9,100	3.1	31.6%	15	\$80,325	24
7	Demand Control Ventilation	Municipal Building	37,520	0.00	1,960	\$23,400	\$0	0	\$23,400	\$6,900	\$0	\$6,900	3.4	28.8%	15	\$58,972	24
7	Demand Control Ventilation	Firehouse	12,010	0.00	630	\$17,550	\$0	0	\$17,550	\$2,700	\$0	\$2,700	6.5	12.9%	15	\$14,682	8
7	Demand Control Ventilation	Rescue Squad	7,570	0.00	390	\$11,700	\$0	0	\$11,700	\$1,800	\$0	\$1,800	6.5	12.9%	15	\$9,788	5
8	Install Insulation on HHW Pipes	Municipal Building	0	0.00	20	\$90	\$0	0	\$90	\$20	\$0	\$20	4.5	20.9%	15	\$149	0
9	Replace Electric Unit Heaters with Hot Water Coil	Municipal Building	31,590	0.00	-1,270	\$26,740	\$0	0	\$26,740	\$3,960	\$0	\$3,960	6.8	12.2%	15	\$20,534	3
10	Premium Efficiency Motors	Wastewater Treatment Center	13,550	1.91	0	\$17,840	\$850	0	\$16,990	\$2,200	\$0	\$2,200	7.7	11.8%	22	\$18,071	4
11	Replace HW fan coil units with Gas Radiant Heaters	Public Works Department	0	0.00	3,340	\$35,480	\$0	0	\$35,480	\$3,880	\$0	\$3,880	9.1	9.0%	20	\$22,245	20
12	Replace Window AC Unit	Public Works Department	150	0.02	0	\$250	\$0	0	\$250	\$20	\$0	\$20	12.5	-3.9%	10	-\$79	0

BOROUGH OF NEW PROVIDENCE - ECM Summary by payback

Prepared by Dome-Tech, Inc.

	Energy Conservation Measures (ECM)	Buildings	Energy Savings			Gross Installation Costs*	Rebates/ Incentive	Avoided Cost	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	Internal Rate of Return (IRR)	Measure Life	Lifecycle Savings	CO2 Savings (lbs)
			kWh	kW	Therms												
13	Heat Pump AC Unit Replacement	Municipal Building	7,535	1.25	0	\$26,570	\$570	25,870	\$130	\$1,300	\$0	\$1,300	0.1	1000.0%	15	\$15,389	2
14	Install Higher Efficiency RTU - Comparision	Municipal Building	4,940	0.82	0	\$30,300	\$1,620	28,300	\$380	\$800	\$0	\$800	0.5	210.5%	15	\$9,170	2
15	Replace Aging RTU with High Efficiency Units	Library	15,090	2.50	0	\$76,200	\$3,970	71,300	\$930	\$2,700	\$0	\$2,700	0.3	290.3%	15	\$31,302	5
15	Replace Aging RTU with High Efficiency Units	Municipal Building	28,560	4.73	0	\$157,130	\$8,460	146,680	\$1,990	\$4,900	\$0	\$4,900	0.4	246.2%	15	\$56,506	9
15	Replace Aging RTU with High Efficiency Units	Senior Center	8,290	1.37	0	\$80,710	\$4,090	75,660	\$960	\$1,600	\$0	\$1,600	0.6	166.7%	15	\$18,141	3
16	Replace RTU electric reheat Coil with Natural Gas fired RTU	Municipal Building	2,925	0.00	-120	\$13,070	\$200	0	\$12,870	\$370	\$0	\$370	34.8	-9.0%	15	-\$8,453	0
17	PTAC Upgrade	Public Works Department	480	0.00	0	\$6,300	\$650	5,300	\$350	\$100	\$0	\$100	3.5	27.9%	15	\$844	0
18	High Efficiency Condensing Boiler Replacement	Wastewater Treatment Center	0	0.00	420	\$6,420	\$300	3,650	\$2,470	\$490	\$0	\$490	5.0	19.6%	25	\$6,062	2
18	High Efficiency Condensing Boiler Replacement	Public Works Department	0	0.00	230	\$4,310	\$300	3,190	\$820	\$270	\$0	\$270	3.0	32.9%	25	\$3,882	1
18	High Efficiency Condensing Boiler Replacement	Municipal Building	0	0.00	1,770	\$368,030	\$5,000	326,930	\$36,100	\$2,010	\$0	\$2,010	18.0	2.7%	25	-\$1,100	10
18	High Efficiency Condensing Boiler Replacement	Library	0	0.00	890	\$159,720	\$1,000	147,425	\$11,295	\$1,080	\$0	\$1,080	10.5	8.2%	25	\$7,511	5
19	Window Replacement	Municipal Building	2,150	0.00	780	\$255,290	\$0	0	\$255,290	\$1,260	\$0	\$1,260	202.6	-16.1%	20	-\$236,544	5
19	Window Replacement	Library	90	0.00	30	\$15,440	\$0	0	\$15,440	\$50	\$0	\$50	308.8	-18.4%	20	-\$14,696	0
19	Window Replacement	Public Works Department	170	0.00	460	\$80,290	\$0	0	\$80,290	\$270	\$0	\$270	297.4	-18.2%	20	-\$76,273	3
Totals			368,325	46.67	12,570	\$1,497,490	\$30,615	\$834,305	\$632,570	\$76,255	\$0	\$76,255	8.3	9.8%	18	\$402,712	195
BMS SYSTEM ENERGY CONSERVATION MEASURES ARE NOT COUNTED TOWARD THE TOTALS																	
20	Install BMS System	Municipal Building	99,660	0.00	5,010	\$159,880	\$0	0	\$159,880	\$21,040	\$0	\$21,040	7.6	10.0%	15	\$91,294	62
21	Optimize Time of Day Schedules	Municipal Building	55,990	0.00	2,920	\$2,400	\$0	0	\$2,400	\$12,900	\$0	\$12,900	0.2	537.5%	15	\$151,599	36
22	Temperature Setpoint Optimization	Rescue Squad	1,000	0.00	0	\$100	\$0	0	\$100	\$300	\$0	\$300	0.3	300.0%	15	\$3,481	0
22	Temperature Setpoint Optimization	Firehouse	4,150	0.00	0	\$500	\$0	0	\$500	\$700	\$0	\$700	0.7	140.0%	15	\$7,857	1
22	Temperature Setpoint Optimization	Municipal Building	4,930	0.00	140	\$2,400	\$0	0	\$2,400	\$1,000	\$0	\$1,000	2.4	41.4%	15	\$9,538	2
23	Exhaust Fan Time of Day	Municipal Building	910	0.00	0	\$1,080	\$0	0	\$1,080	\$180	\$0	\$180	6.0	14.5%	15	\$1,069	0

Notes:

1. KW - Where Zero (0) values are shown in the table there is no demand reduction for this measure.

2. Rebates- Where Zero (0) values are shown in the table we could not find any rebates of other financial incentives that are currently available for this measure.

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 1 – Domestic Hot Water Optimization

Estimated Implementation Costs

Domestic Hot Water Optimization								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Reset Domestic Hot Water Temperature		1		-	50	50	50
TOTAL								\$ 50

Estimated Savings

OPTIMIZE DOMESTIC HOT WATER SYSTEM							
3. Price of Electricity, \$/kWh (blended rate)					\$0.171		
5. Price of Natural Gas, \$/therm					\$1.138		
				Existing Condition	Proposed System	Savings	
Annual Domestic Water Usage for Sinks, gal				769,000	769,000		
Percentage of Hot Water per Sink Usage				50%	50%		
Annual Hot Water Usage for Sinks, gal				384,500	384,500	-	
Annual Gas Usage, therms				3,044	2,603	441	
Annual Cost and Savings, \$				\$ 3,464	\$ 2,963	\$ 501	
1. Assume the existing faucet flow rate is 2 gpm and each occupants uses the faucet for 2 minute(s) per day. Total occupants per the building is 769. Reference: Water Use and Conservation, 1st Ed, Table 2.2 pg25, table 2.10 pg77, & table 2.15 pg103, WaterFlow Press, 2001							
2. Assume existing gas fired hot water heaters have a thermal efficiency of 0.80.							
3. Assume incoming city water temperature is 55F							
4. Existing supply setpoint is 129F							
5. Proposed supply setpoint is 120F							
6. There is no demand reduction for this measure							
7. No rebates or other financial incentives were available for this measure							

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 3 – Install Vendmisers

Estimated Implementation Costs

VENDINGMISERS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	2	179	358	-	-	358
	TOTAL							\$ 358

Estimated Savings

VENDING MACHINE POWER MANAGEMENT SYSTEM						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Soda Machine Power Consumption				100%	56%	
Run Hours				8,760	8,760	
Annual Peak Demand Reduction (kW)				0.06	0.03	0.02
Annual Energy Consumption (kWh)				2,102	925	1,177
Annual Cost and Savings, \$				\$ 360	\$ 158	\$ 201
1. Run hours based on fan motors being run 8760 hrs						
2. Sample Calculations Below						
Vending Machine Count	1					
Annual Run-Time Factor	60%					
VendMiser Installation Savings	0					
Soda Machine Power Consumption, kw	0.40					
Annual Savings %	56%					
Annual Energy Savings	\$201					
Analysis Spreadsheet						
3. No rebates or other financial incentives were available for this measure						
4. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet						

ECM# 4 - Lighting Upgrades – Costs & Savings are listed in the Lighting Summary & Inventory

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 6 – Install Weatherstripping

Estimated Implementation Costs

Weatherstripping								
N/N	DESCRIPTION OF	UNIT	QTY	MATERIAL		LABOR		TOTAL
	WORK			PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	2	200	400	150	300	700
	TOTAL							\$ 700

Estimated Savings

SAVINGS FROM WEATHERSTRIPPING DOORS						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Number of Doors				2	2	
Estimated Infiltration Rate per Door, CFM				106	21	
Annual Cooling Infiltration Hours, OAT > 80F				800	800	
Annual Heating Infiltration Hours, OAT < 55F				500	500	
Annual Cooling Load, kBTU				4,757	951	
Annual Cooling Electrical Consumption, kWh				595	119	476
Annual Heating Load, kBTU				5,145	938	
Annual Heating Natural Gas Consumption, therms				64.32	11.72	53
Annual Cost and Savings, \$				\$ 175	\$ 34	\$ 141
1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12						
2. Estimated hours of infiltration was based on all hours below 55F and above 80F for the region.						
3. It is assumed that each door has a leakage area of 45 square inches (15 linear feet by 1/4 in). Vestibule doors are not included.						
4. A 60% load factor was used when calculating the existing leakage rate.						
5. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.						
6. The average outside air temperature above 80F during the year is 86F. The average outside air temperature below 55F is 39F.						
7. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of 80%.						
8. New weatherstripping is assumed to reduce infiltration by 80%.						
9. There is no demand reduction for this measure						
10. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 5 – Install Timer on Hot Water Heaters

Estimated Implementation Costs

Domestic Hot Water Timer								
N/N	DESCRIPTION OF	UNIT	QTY	MATERIAL		LABOR		TOTAL
	WORK			PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation of Domestic Hot Water Timer		1	60	60	100	100	160
	TOTAL							\$ 160

Estimated Savings

DOMESTIC HOT WATER TIMER					
3. Price of Electricity, \$/kWh (blended rate)				\$0.171	
5. Price of Natural Gas, \$/therm				\$1.138	
				Existing Condition	Proposed System
					Savings
Annual Peak Demand Reduction (kW)				0.01	0.00
Annual Electric Standby Losses kWh				379	65
Annual Cost and Savings, \$				\$ 65	\$ 11
					\$ 54
1. Sample Calculations Below					
QTY	1				
Insulation R Value, hr·ft ² ·°F/Btu	6				
Tank Height, inches	36				
Tank Diameter, inches	20.5				
Tank Temperature, deg F	120				
Ambient Temperature, deg F	65				
Standby Loss (Btu-hr)	148				
Current Standby Hours	8760				
Timer Hours	1505				
Standby Loss Savings (Btu)	222009				
Electric Savings (kWh)	65				
Electric Unit Cost (\$/kWh)	0.171				
Annual Savings	11				
Annual Electric Standby Losses kWh, Existing	379				
2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commision: Appendix					
3. No rebates or other financial incentives were available for this measure					

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 8 – Install Insulation on HHW Pipes
Estimated Implementation Costs

Increase Insulation for DHW Pipes							
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR	
				PER UNIT	TOTAL	PER UNIT	TOTAL
1	Install 1" Pipe Insulation	sf	40	2.31	92	-	-
	Other Estimated Implementation Costs						-
	TOTAL						\$ 92

Estimated Savings

Increase insulation on DHW piping							
3. Price of Electricity, \$/kWh (blended rate)				\$0.171			
5. Price of Natural Gas, \$/therm				\$1.138			
				Existing Condition	Proposed System	Savings	
Number of Ft of uninsulated pipe				40	40		
Inches of insulation				0	1		
Annual Btu losses				6,575,696	4,626,264	1,949,432	
Annual Therms lost				66	46	19	
Annual Cost and Savings, \$				\$ 75	\$ 53	\$ 22	
1. Assumes HHW supply temp on 130 degrees F							
2. Assumes 40 feet of 2.00 inch pipe.							
3. There is no demand reduction for this measure							
4. No rebates or other financial incentives were available for this measure							
5. See Sample Calculation Below							
Current Operation with DHW Temp of 130 deg F							
OA Temp	DHW Temp	Radiant Losses** btu/ft/hr	Radiant Losses** btu/ft/hr	Bin Hours	Existing BTU's Losses	Proposed BTU's Losses	Saved BTU's Losses
0	130	23	16	4	3616	2544	1072
5	130	23	16	13	11752	8268	3484
10	130	23	16	37	33448	23532	9916
15	130	23	16	102	92208	64872	27336
20	130	23	16	193	174472	122748	51724
25	130	23	16	315	284760	200340	84420
30	130	23	16	559	505336	355524	149812
35	130	23	16	688	621952	437568	184384
40	130	23	16	796	719584	506256	213328
45	130	23	16	763	689752	485268	204484
50	130	23	16	760	687040	483360	203680
55	130	23	16	728	658112	463008	195104
60	130	23	16	709	640936	450924	190012
65	130	23	16	767	693368	487812	205556
70	130	23	16	840	759360	534240	225120
75	130	23	16	657			
80	130	23	16	454			
85	130	23	16	243			
90	130	23	16	95			
95	130	23	16	30			
100	130	23	16	4			
105	130	23	16	0			
Total BTU's					6575696	4626264	1949432

ECM# 7 – Demand Control Ventilation

Estimated Implementation Costs

Demand Controlled Ventilation								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	CO2 Sensors & Control Wiring	EA	4	375	1,500	625	2,500	4,000
2	RA / OA Dampers & Actuators	EA (avg)	4	1,250	5,000	750	3,000	8,000
3	Controllers	EA	4	1,500	6,000	600.0	2,400	8,400
4	Electrical Work	EA	4	250	1,000	500.0	2,000	3,000
	Other Estimated Implementation Costs							-
	TOTAL							\$ 23,400

Estimated Savings

Temperature Set Point Optimization						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting				70-75	75	\$800
Space Heating Temperature Setting				70-75	70	\$200
Annual Electric Savings (kWh)				4,933		4,933
Annual Gas Savings (Therms)				140		140
Annual Cost and Savings, \$						\$ 1,000
1. Daily run hours are based on 180 days, 9 hour days						
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.						
3. Assumed 20 CFM/Student						
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

ECM# 9 – Replace Electric Unit Heaters with Hot Water Coil

Estimated Implementation Costs

Electric Baseboard - Cabinet Unit Heater - Unit Heater to HHW								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Fin Tubed Radiation Units	LF	36	14.80	533	8.60	310	842
2	Hydronic Piping 2"	LF	1,000	6.40	6,400	7.45	7,450	13,850
3	HHW Pumps	ea	-	3,350	-	405	-	-
4	Electric/Controls	ls	-	10,000	-	7,500	-	-
	Other Estimated Implementation Costs							12,044
	TOTAL							\$ 26,736

Estimated Savings

REPLACE ELECTRIC UNIT HEATERS WITH HHW COIL						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Annual Op Cost				\$ 5,402	\$ 1,443	
Run Hours				1,170	1,170	
Annual Peak Demand Reduction (kW)				2.6	0.0	2.55
Annual Electric Consumption (kWh)				31,590		31,590
Annual Gas Consumption (therms)					1,268	(1,268)
Annual Cost and Savings, \$				\$ 5,402	\$ 1,443	\$ 3,959
1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors. 2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet 3. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 13 – Heat Pump AC Unit Replacement

Estimated Implementation Costs

Heat Pump SEER AC Unit Replacement								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2-ton Heat Pump	ea	2	5,003	10,005	795	1,590	11,595
2	3-ton Heat Pump	ea	1	5,648	5,648	690	690	6,338
3	4-ton Heat Pump	ea	-	6,294	0	795	0	-
4	5-ton Heat Pump	ea	-	6,939	0	860	0	-
6	6-ton Heat Pump	ea	-	7,585	0	860	0	-
7	7.5-ton Heat Pump	ea	-	8,230	0	860	0	-
	Other Estimated Implementation Costs							8,636
	TOTAL GROSS IMPLEMENTATION COST							\$ 26,569
	Avoided Cost							\$ 25,869
	New Jersey Smart Start Rebate							567

Estimated Savings

Replace aging Heat Pumps with higher efficiency units								
3. Price of Electricity, \$/kWh (blended rate)			\$0.171					
5. Price of Natural Gas, \$/therm			\$1.138					
			Existing Condition		Proposed System		Savings	
Total Tons			7		7			
SEER			13.0		17.0			
Annual Run Hours			574		574			
Annual Peak Demand Reduction (kW)			5.3		4.1		1.25	
Annual kWh			32,023		24,488		7,535	
Annual Cost and Savings, \$			\$ 5,476		\$ 4,188		\$ 1,300	
1. Cost per kWh and therm prices taken from "# Constants" sheet.								
2. Run hours based on bin data and time of day factor.								
3. Assumed 2 - 3 Ton Heat Pumps thoroughout building								
4. See Sample Calculations below								
Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost	
COURTYARD	2	4,956	13.0	17.0	2153	\$ 368	\$ 200	
OFFICES	3	4,956	13.0	17.0	3229	\$ 552	\$ 300	
OFFICES	2	4,956	13.0	17.0	2153	\$ 368	\$ 200	
Total	7				7535	\$ 1,288	\$ 700	
5. Coincidence Factor for peak kW reduction taken from United Illuminated Company: 2005 Coincidence Factor St								
6.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER								
7. Proposed SEER/EER Ratings taken from Carrier Air Cooled Heat Pumps								

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 15 - At EOL, Upgrade Aging AHUs with High Efficiency Units

Estimated Implementation Costs

Replace Aging AHU SEER with High Efficiency Units								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
3	7.5-ton PRTU w/ Gas Heat & Econ	ea	3	7,150	21,450	970	2,910	24,360
2	15-ton PRTU w/ Gas Heat & Econ	ea	2	14,400	28,800	1,225	2,450	31,250
7	25-ton PRTU w/ Gas Heat & Econ	ea	2	23,500	47,000	1,725	3,450	50,450
Other Estimated Implementation Costs								51,073
TOTAL GROSS IMPLEMENTATION COST								\$ 157,133
Avoided Cost								\$ 146,683
New Jersey Smart Start Rebate								8,465

Estimated Savings

Replace aging AHUs with higher efficiency units							
3. Price of Electricity, \$/kWh (blended rate)				\$0.171			
5. Price of Natural Gas, \$/therm				\$1.138			
				Existing Condition	Proposed System	Savings	
Total Tons				105	105		
SEER				10.5	12.6		
Annual Run Hours				1,163	1,163		
Annual Peak Demand Reduction (kW)				24.1	19.4	4.73	
Annual kWh				145,456	116,901	28,555	
Annual Cost and Savings, \$				\$ 24,873	\$ 19,990	\$ 4,900	
1. Cost per kWh and therm prices taken from "# Constants" sheet.							
2. Run hours based on bin data and time of day factor.							
3. Assumed 10 - 15 Ton RTUs thoroughout building							
4. See Sample Calculations below							
Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
OFFICES	25	1,163	9.5	12.6	9036	\$ 1,545	\$ 2,500
REC CENTER	7.5	1,163	10.1	12.3	1854	\$ 317	\$ 750
CHAMBER OF COMERCE	15	1,163	10.8	12.3	2364	\$ 404	\$ 1,500
POLICE	15	1,163	10.8	12.3	2364	\$ 404	\$ 1,500
MAIN ENTRANCE	7.5	1,163	10.1	12.3	1854	\$ 317	\$ 750
OLD EMS	2	1,163	13.0	14.3	195	\$ 33	\$ 200
BOARD OF ED	7.5	1,163	10.1	12.3	1854	\$ 317	\$ 750
OFFICES (2)	25	1,163	9.5	12.6	9036	\$ 1,545	\$ 2,500
Total	79.5				19520	\$ 3,338	\$ 7,950
Factor Study							
6.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER							
7. Proposed SEER/EER Ratings taken from Lennox Strategos Series							

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 14 - Install Higher Efficiency RTUs - Comparison

Estimated Implementation Costs

Install Higher Efficiency AHU SEER - COMPARISON								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	10-ton PRTU w/ Gas Heat & Econ	ea	2	9,175	18,350	1,050	2,100	20,450
	Other Estimated Implementation Costs							9,848
	TOTAL GROSS COST							\$ 30,298
	Avoided Cost							\$ 28,298
	New Jersey Smart Start Rebate							\$ 1,620

Estimated Savings

Replace aging AHUs with higher efficiency units - COMPARISION							
3. Price of Electricity, \$/kWh (blended rate)				\$0.171			
5. Price of Natural Gas, \$/therm				\$1.138			

ECM# 16 – Replace RTU Electric Reheat Coil with Natural gas fired RTU

Estimated Implementation Costs

Replace Electric reheat coil with Natural Gas fired RTU - Fuel Switch								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
3	7.5-ton PRTU w/ Gas Heat & Econ	ea	1	7,150	7,150	970	970	8,120
8	Gas Piping	LS	1	300	300	400	400	700
	Other Estimated Implementation Costs							4,247
	TOTAL							\$ 13,067
	New Jersey Smart Start Rebate							600
	TOTAL INCREMENTAL COST							1,642

Estimated Savings

REPLACE RTU ELECTRIC REHEAT COIL WITH NATURAL GAS FIRED RTU - FUEL SWITCH						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Annual Op Cost				\$ 500	\$ 134	
Run Hours				1,170	1,170	
Annual Peak Demand Reduction (kW)				0.2	0.0	0.24
Annual Electric Consumption (kWh)				2,925		2,925
Annual Gas Consumption (therms)					117	(117)
Annual Cost and Savings, \$				\$ 500	\$ 134	\$ 367
1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.						
2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet						
3. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 21- Window Replacement

Estimated Implementation Costs

Upgrade Windows								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Demolition/removal old windows	sf	496			1.25	620	620
2	Install dbl glazed, alum dbl hung windows	sf	496	400	198,400	19	9,399	207,799
	Other Estimated Implementation Costs							46,869
	TOTAL							\$ 255,288

Estimated Savings

Window Upgrade / Replacement					
3. Price of Electricity, \$/kWh (blended rate)					
				\$0.171	
5. Price of Natural Gas, \$/therm					
				\$1.138	
			Existing Condition	Proposed System	Savings
R-Value of Windows			1.1	2.6	
Annual heating loss, therms			1,242	458	784
Annual additional cooling, kWh			3,407	1,256	2,150
Annual Natural Gas Cost and Savings, \$			\$ 1,413	\$ 521	\$ 892
Annual Electric Cost and Savings, \$			\$ 583	\$ 215	\$ 368
Annual Cost and Savings, \$			\$ 1,996	\$ 736	\$1,260
1. Old windows are single glazed, no coating with storm window.					
2. Assumes old windows experience 50% infiltration factor.					
3. Assumes new windows are double glazed with low E coating, no storm window.					
4. Assumes new windows experience 14% infiltration factor.					
5. Sample Calculations Below					
Quantity	24				
Sq. Ft. / Window	33				
Total Area (Sq. Ft.)	496				
HEATING		COOLING			
Heating Degree Days	4022	Cooling Degree Days	1379		
Heating Plant Efficiency	0.80	Cooling Plant SEER	10		
Natural Gas Cost, \$/therm	\$ 1.138	Electric Cost, \$/kWh	\$ 0.171		
Existing Windows		Existing U Value		0.91	
Existing U Value	0.91	Existing Infiltration Factor	0.5		
Existing Infiltration Factor	0.5	Annual Additional Cooling Cost	\$ 44.69		
Annual Heating Loss Cost	\$108.42				
New Windows		New Windows			
Proposed U Value	0.38	Proposed U Value	0.38		
Proposed Infiltration Factor	0.14	Proposed Infiltration Factor	0.14		
Annual Heating Loss Cost	39.985	Annual Additional Cooling Cost	16.48022		
	0				
Heating Savings	\$ 68.44	Cooling Savings	\$ 28.21		
			Total Savings	\$ 96.64	
6. There is no demand reduction for this measure					
7. No rebates or other financial incentives were available for this measure					

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 22 - Install BMS System

Estimated Implementation Costs

BUILDING MANAGEMENT SYSTEM								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Host Computer, Materials and Labor	ea	1	9,363	9,363	-	-	9,363
2	DCV - See DCV Below	ea	1	23,400	23,400	-	-	23,400
3	TOD Optimization - BMS Programming - See TOD Optimization Below	ea	1	2,400	2,400	-	-	2,400
4	Temperature Setpoint Optimization - BMS Programming - See TOD Optimization Below	ea	1	2,400	2,400	-	-	2,400
4	Exhaust Fan TOD - See Exhaust Fan TOD Below	ea	1	1,080	1,080	-	-	1,080
5	BMS Setup: Install sensors and controllers for RTU's - 6 points per RTU	ea	48	256	12,288	891	42,768	55,056
6	BMS Setup: Install sensors and controllers for Exhaust Fan TOD	ea	5	256	1,280	891	4,455	5,735
	Other Estimated Implementation Costs							60,446
	TOTAL							\$ 159,880

Estimated Savings

BUILDING MANAGEMENT SYSTEM			
3. Price of Electricity, \$/kWh (blended rate)	\$0.171		
5. Price of Natural Gas, \$/therm	\$1.138		
	Existing Condition	Proposed System	Savings
Time of Day Optimization - Electric Savings (kWh)	149,302	93,314	55,988
Time of Day Optimization - Gas Savings (therms)	7,782	4,864	2,918
Demand Control Ventilation - Electric Savings (kWh)	136,132	106,028	30,104
Demand Control Ventilation - Gas Savings (therms)	7,095	5,526	1,569
Exhaust TOD - Electric Savings (kWh)	3,240	2,025	1,215
Setpoint Optimization - Electric Savings (kWh)	4,933		4,933
Setpoint Optimization - Gas Savings (therms)	140		140
Annual Energy Consumption (kWh)	293,608	201,367	92,241
Annual Energy Consumption (therms)	15,017	10,390	4,627
Annual Cost and Savings, \$	\$ 67,297	\$ 46,257	\$ 21,039
1. Assume existing systems run 24 hrs a day all year w hen outside air temperature is above 65F. 2. Assume the proposed systems operate during a 12 hour window every weekday w hen the outside air temperature (OAT) is above 65F and during unoccupied hours w hen the OAT is above 75F. 3. Load factor calculation represents the percentage of time w hen the units operate at full load during the operation schedule. 4. It is assumed that all heat pump units run at a combined derated efficiency of 13 EER. 5. There is no demand reduction for this measure 6. No rebates or other financial incentives w ere available for this measure			

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 23 - Optimize Time of Day Schedules
Estimated Implementation Costs

TOD Optimization								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming - See Setpoint Opt		16		-	150	2,400	2,400
	TOTAL							\$ 2,400

Estimated Savings

Time of Day Optimization						
3. Price of Electricity, \$/kWh (blended rate)					\$0.171	
5. Price of Natural Gas, \$/therm					\$1.138	
				Existing Condition	Proposed System	Savings
Annual Run Hours				4,320	2,700	1,620
Annual Electric Use (kWh)				149,302	93,314	55,988
Annual Natural Gas Use (therms)				7,782	4,864	2,918
						-
Annual Cost and Savings, \$				\$ 34,386	\$ 21,491	\$ 12,900
1. Daily run hours are reduced from 18.5 hours to 15 hours.						
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.						
3. See Sample Calculations Below						
Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
48JE028-510BB	OFFICES	9000	0.75	0.49	0.31	\$ 2,718
48HJE008G	REC CENTER	2900	0.75	0.49	0.31	\$ 876
48HG016A	AMBER OF COME	5700	0.75	0.49	0.31	\$ 1,721
48TJF020-S70AA	POLICE	6600	0.75	0.49	0.31	\$ 1,993
48HJE008G	MAIN ENTRANCE	2900	0.75	0.49	0.31	\$ 876
48GS-024060301	OLD EMS	1000	0.75	0.49	0.31	\$ 302
CHA24-953-1Y	BOARD OF ED	2900	0.75	0.49	0.31	\$ 876
TAS-09EH0	COURTYARD	400	0.75	0.49	0.31	\$ 121
PK30	OFFICES	1300	0.75	0.49	0.31	\$ 393
PK31	OFFICES	1000	0.75	0.49	0.31	\$ 302
48JE028-510BB	OFFICES (2)	9000	0.75	0.49	0.31	\$ 2,718
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
0	0	0	0	0.00	0.00	\$ -
Hours of Operation	On	Off	Hrs/Day			
Existing	5	23.5	18.5			
Proposed	6	21	15			
3. There is no demand reduction for this measure						
4. No rebates or other financial incentives were available for this measure						

ECM# 24 - Temperature Setpoint Optimization

Estimated Implementation Costs

Temperature Setpoint Optimization								
N/N	DESCRIPTION OF	UNIT	QTY	MATERIAL		LABOR		TOTAL
	WORK			PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming (assumes incorporated)	Hrs	16		-	150	2,400	2,400
	Other Estimated Implementation Costs							-
	TOTAL							\$ 2,400

Estimated Savings

Temperature Set Point Optimization						
3. Price of Electricity, \$/kWh (blended rate)					\$0.171	
5. Price of Natural Gas, \$/therm					\$1.138	
				Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting				70-75	75	\$800
Space Heating Temperature Setting				70-75	70	\$200
Annual Electric Savings (kWh)				4,933		4,933
Annual Gas Savings (Therms)				140		140
Annual Cost and Savings, \$						\$ 1,000
1. Daily run hours are based on 180 days, 9 hour days						
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.						
3. Assumed 20 CFM/Student						
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 25 - Exhaust Fan Time of Day

Estimated Implementation Costs

Exhaust Fan TOD Optimization								
N/N	DESCRIPTION OF	UNIT	QTY	MATERIAL		LABOR		TOTAL
	WORK			PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming - See Setpoint Opt		8		-	135	1,080	1,080
	TOTAL							\$ 1,080

Estimated Savings

Exhaust Fan Time of Day Optimization						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Annual Run Hours				4,320	2,700	1,620
Annual Electric Use (kWh)				3,240	2,025	906
						-
Annual Cost and Savings, \$				\$ 554	\$ 399	\$ 155
1. Daily run hours are reduced from 24 hours to 1 hours.						
2. Assumed Fans are equipped with 1/4 HP Motors						
3. See Sample Calculations Below						
Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
EF - 1	General Exhaust	0.25	0.75	4320	2700	\$ 39
EF - 2	General Exhaust	0.2	0.75	4320	2700	\$ 31
Hours of Operation	On	Off	Hrs/Day			
Existing	5	23.5	18.5			
Proposed	6	21	15			
3. There is no demand reduction for this measure						
4. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 15 – High Efficiency Condensing Boiler Replacement

Estimated Implementation Costs

Condensing Boiler								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2.5 MBTU High Eff Gas Boiler	ea	2	20,100	40,200	15,000	30,000	70,200
2	Demo Existing Boilers	ls	1	4,000	4,000	12,000	12,000	16,000
3	Fin Tubed Radiation Units	LF	1,855	14.80	27,454	8.60	15,953	43,407
4	Hydronic Piping 2"	LF	3,710	6.40	23,744	7.45	27,640	51,384
5	HHW Pumps	ea	1	3,350	3,350	405	405	3,755
6	Electric/Controls	ls	1	10,000	10,000	7,500	7,500	17,500
	Other Estimated Implementation Costs							165,786
	TOTAL GROSS IMPLEMENTATION COST							\$ 368,031
	Avoided Cost							\$ 326,930
	NJ SMART START REBATE							\$ 5,000

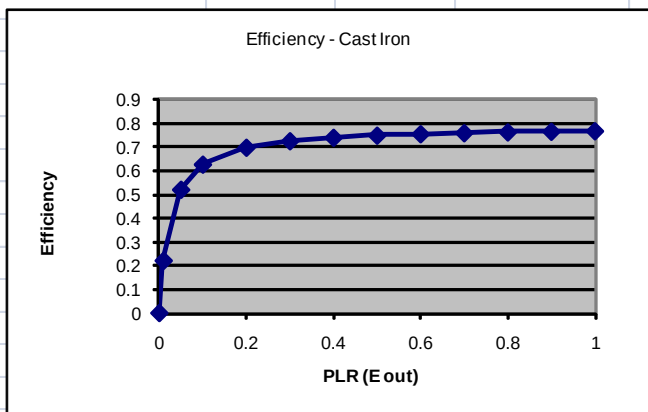
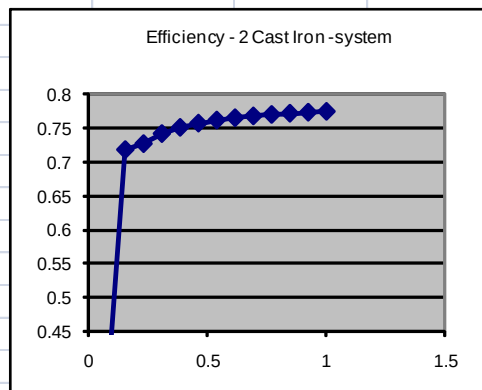
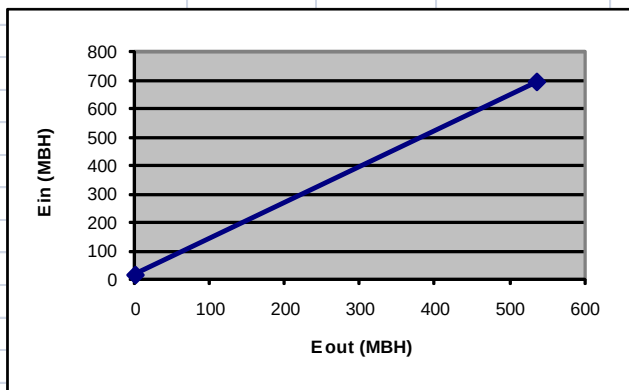
Estimated Savings

SAVINGS FROM HIGH EFFICIENCY CONDENSING BOILER						
3. Price of Electricity, \$/kWh (blended rate)				\$0.171		
5. Price of Natural Gas, \$/therm				\$1.138		
				Existing Condition	Proposed System	Savings
Boiler Plant Capacity, kBTU				2,500	2,500	
Hours of Operation				4,214	4,214	
Seasonal Efficiency				85%	93%	
Annual Gas Consumption, therms				14,916	13,149	1,767
Annual Cost and Savings, \$				\$ 16,974	\$ 14,964	\$ 2,011
1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.						
2. Sample Calculation Below						
Single Boiler:						
	Gas Fuel					
Eff 100%	0.8			E out		Ein
E in 100%	5000 MBH			0		125
E out 100%	4000 MBH			4000		5000
SBL (% Ein)	3%					
SBL	125 MBH					
Min E out	20%	1000				
Comb, Eff	83%					
m slope=	1.21875					
INDIVIDUAL BOILER						
			linear realtion			
Eout (Load)	PLR	E in	Efficiency			
0	0%	125	0%			
40	1%	174	23%			
200	5%	369	54%			
400	10%	613	65%			
800	20%	1,100	73%			
1,200	30%	1,588	76%			
3,400	85%	4,269	80%			
2,000	50%	2,563	78%			
2,400	60%	3,050	79%			
2,800	70%	3,538	79%			
3,200	80%	4,025	80%			
3,600	90%	4,513	80%			
4,000	100%	5,000	80%			

BOROUGH OF NEW PROVIDENCE MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

COMBINED SYSTEM BOILER PART LOAD							
Capacity of each	2500						
No. of Boilers	1						
Total Capacity	2500						
Avg Load Factor	14%						
		No. of	Load	per boiler	plant	0	Gas
Load	PLR	Boilers	per boiler	E in	E in	Efficiency	Therm
2,500	100%	1	338	536	536	63%	70
2,308	92%	1	312	505	505	62%	1,196
2,115	85%	1	286	473	473	60%	828
1,923	77%	1	260	441	441	59%	1,236
1,731	69%	1	234	410	410	57%	1,910
1,538	62%	1	208	378	378	55%	2,031
1,346	54%	1	182	346	346	52%	1,774
1,154	46%	1	156	315	315	49%	1,231
1,000	38%	1	135	290	290	47%	1,129
1,000	31%	1	135	290	290	47%	1,103
1,000	23%	1	135	290	290	47%	1,083
1,000	15%	1	135	290	290	47%	1,326
							14,916

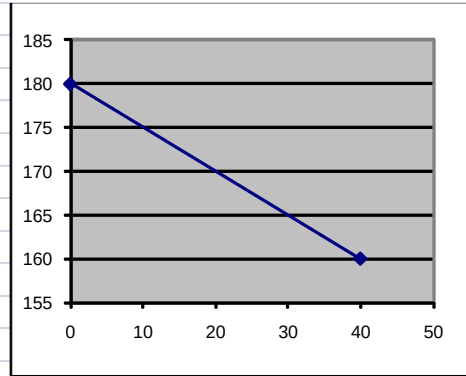


	Fuel Source	Gas	
	# Days perWeek in Ope	7	
Temp	6-9pm	Op Hrs	Plant
Bin	Mon-Sun	M-F	LOAD
0	13	13	100%
15	237	237	92%
20	175	175	85%
25	280	280	77%
30	466	466	69%
35	537	537	62%
40	512	512	54%
45	391	391	46%
50	390	390	38%
55	381	381	31%
60	374	374	23%
65	458	458	15%
0	0	0	8%
0	Total	4214	0%

BOROUGH OF NEW PROVIDENCE MUNICIPAL BUILDING CALCULATIONS

Prepared by Dome-Tech, Inc.

Max Load	2500	MBH					
Condensing Boiler Capacity	2500	MBH Each					
# Boilers	1						
Plant Capacity	2500						
RESET SCHEDULE		OA	SWT				
		0	180				
		40	160				
	Reset Slope	-0.5					
ASSUMPTION							
	OAT	SWT	RWT	Zone Load %	LOAD	Load/Boiler	% Load
	0.85	179.58	159.73	100%	2,500	2,500	100%
	5.85	177.08	158.14	92%	2,308	2,308	92%
	10.85	174.58	156.55	85%	2,115	2,115	85%
	15.85	172.08	154.96	77%	1,923	1,923	77%
	20.85	169.58	153.37	69%	1,731	1,731	69%
	25.85	167.08	151.78	62%	1,538	1,538	62%
	30.85	164.58	150.18	54%	1,346	1,346	54%
	35.85	162.08	148.59	46%	1,154	1,154	46%
	40.85	159.58	147.00	38%	962	962	38%
	45.85	157.08	145.41	31%	769	769	31%
	50.85	154.58	143.82	23%	577	577	23%
(1) 2500 Boilers			Load Factor	23%	Op Hrs	Gas	
Zone Load	No Boilers	Plant Load %	Eff %	E out	M-F 6-9pm	Therm	
2,500	1	100%	93%	620	13	81	
2,308	1	92%	93%	572	237	1,356	
2,115	1	85%	93%	524	175	917	
1,923	1	77%	93%	476	280	1,333	
1,731	1	69%	93%	428	466	1,995	
1,538	1	62%	93%	380	537	2,043	
1,346	1	54%	93%	333	512	1,703	
1,154	1	46%	93%	285	391	1,113	
962	1	38%	93%	237	390	924	
769	1	31%	93%	190	381	722	
577	1	23%	93%	142	374	532	
						13,149	



ECM# 4 - Lighting Upgrades – Costs & Savings are listed in the Lighting Summary & Inventory

ECM# 6 – Install Weatherstripping

Estimated Implementation Costs

Weatherstripping								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	1	200	200	150	150	350
	TOTAL							\$ 350

Estimated Savings

SAVINGS FROM WEATHERSTRIPPING DOORS						
3. Price of Electricity, \$/kWh (blended rate)				\$0.191		
5. Price of Natural Gas, \$/therm				\$1.173		
				Existing Condition	Proposed System	Savings
Number of Doors				1	1	
Estimated Infiltration Rate per Door, CFM				106	21	
Annual Cooling Infiltration Hours, OAT > 80F				800	800	
Annual Heating Infiltration Hours, OAT < 55F				500	500	
Annual Cooling Load, kBTU				2,378	476	
Annual Cooling Electrical Consumption, kWh				297	59	238
Annual Heating Load, kBTU				2,573	469	
Annual Heating Natural Gas Consumption, therms				32.16	5.86	26
Annual Cost and Savings, \$				\$ 95	\$ 18	\$ 76
1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12						
2. Estimated hours of infiltration was based on all hours below 55F and above 80F for the region.						
3. It is assumed that each door has a leakage area of 45 square inches (15 linear feet by 1/4 in). Vestibule doors are not included.						
4. A 60% load factor was used when calculating the existing leakage rate.						
5. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.						
6. The average outside air temperature above 80F during the year is 86F. The average outside air temperature below 55F is 39F.						
7. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of 80%.						
8. New weatherstripping is assumed to reduce infiltration by 80%.						
9. There is no demand reduction for this measure						
10. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
SENIOR CENTER CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 7 – Demand Control Ventilation
Estimated Implementation Costs

Demand Controlled Ventilation								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	CO2 Sensors & Control Wiring	EA	9	375	3,375	625	5,625	9,000
2	RA / OA Dampers & Actuators	EA (avg)	9	1,250	11,250	750	6,750	18,000
3	Controllers	EA	9	1,500	13,500	600.0	5,400	18,900
4	Electrical Work	EA	9	250	2,250	500.0	4,500	6,750
	Other Estimated Implementation Costs							-
	TOTAL							\$ 52,650

Estimated Savings

Demand Control Ventilation						
3. Price of Electricity, \$/kWh (blended rate)				\$0.191		
5. Price of Natural Gas, \$/therm				\$1.173		
				Existing Condition	Proposed System	Savings
Total (CFM)				20,000	20,000	
Average Cost Per CFM				\$2.384	\$1.874	
Run Hours				2,160	2,160	
Estimated Electric Use (kWh)				189,072	148,639	40,433
Estimated Natural Gas Use (therms)				9,855	7,747	2,107
						-
Annual Cost and Savings, \$				\$ 47,672	\$ 37,478	\$ 10,200
1. Assumes 100% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; %OA = 100% for bin ranges >70 2. Assumes 20% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; % OA = 20% for bin range >70 3. Run hours based on bin data and time of day factor. 4. See Sample Calculation below						
Unit	Serves	TOD Factor	Total CFM	Current \$/CFM1	DCV \$/CFM2	Estimated Savings
AHU	NTC615-KJA1	0.247	2000	\$ 2.38	\$ 1.87	\$ 1,019
SPLIT AC UNIT	20017RE4F	0.247	1300	\$ 2.38	\$ 1.87	\$ 663
SPLIT AC UNIT	NO ACCESS	0.247	2900	\$ 2.38	\$ 1.87	\$ 1,478
AHU	NTC615-KJA1	0.247	2000	\$ 2.38	\$ 1.87	\$ 1,019
AHU	NTC615-KJA1	0.247	2000	\$ 2.38	\$ 1.87	\$ 1,019
AHU	NTC615-KJA1	0.247	2000	\$ 2.38	\$ 1.87	\$ 1,019
AHU	NTC615-KJA1	0.247	2000	\$ 2.38	\$ 1.87	\$ 1,019
SPLIT AC UNIT	NO ACCESS	0.247	2900	\$ 2.38	\$ 1.87	\$ 1,478
SPLIT AC UNIT	NO ACCESS	0.247	2900	\$ 2.38	\$ 1.87	\$ 1,478
Total			20000			\$ 10,195
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
SENIOR CENTER CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 15 – Replace Aging RTU with High Efficiency Units

Estimated Implementation Costs

Replace Aging AHUs with High Efficiency Units								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton PRTU w/ Gas Heat & Econ	ea	1	3075	3,075	690	690	3,765
2	5-ton PRTU w/ Gas Heat & Econ	ea	5	4,475	22,375	795	3,975	26,350
3	7.5-ton PRTU w/ Gas Heat & Econ	ea	3	7,150	21,450	970	2,910	24,360
	Other Estimated Implementation Costs							26,232
	TOTAL GROSS IMPLEMENTATION COST							\$ 80,707
	Avoided Cost							\$ 75,657
	New Jersey Smart Start Rebate							4,091

Estimated Savings

Replace aging AHUs with higher efficiency units							
3. Price of Electricity, \$/kWh (blended rate)				\$0.191			
5. Price of Natural Gas, \$/therm				\$1.173			
				Existing Condition	Proposed System	Savings	
Total Tons				51	51		
SEER				12.0	13.6		
Annual Run Hours				1,163	1,163		
Annual Peak Demand Reduction (kW)				10.1	8.8	1.37	
Annual kWh				61,149	52,856	8,293	
Annual Cost and Savings, \$				\$ 11,679	\$ 10,095	\$ 1,600	
1. Cost per kWh and therm prices taken from "# Constants" sheet.							
2. Run hours based on bin data and time of day factor.							
3. Assumed 10 - 15 Ton RTUs throughout building							
4. See Sample Calculations below							
Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
AHU	5	1,163	13.0	14.3	488	\$ 93	\$ 500
	3	1,163	13.0	14.3	293	\$ 56	\$ 300
SPLIT AC UN							
SPLIT AC UN	7.5	1,163	10.1	12.3	1854	\$ 354	\$ 750
AHU	5	1,163	13.0	14.3	488	\$ 93	\$ 500
AHU	5	1,163	13.0	14.3	488	\$ 93	\$ 500
	5	1,163	13.0	14.3	488	\$ 93	\$ 500
AHU							
AHU	5	1,163	13.0	14.3	488	\$ 93	\$ 500
Total	35.5				4586	\$ 876	\$ 3,550
Coincidence Factor Study							
6.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER							
7. Proposed SEER/EER Ratings taken from Lennox Strategos Series							

ECM# 4 - Lighting Upgrades – Costs & Savings are listed in the Lighting Summary & Inventory

ECM# 8 – Demand Control Ventilation

Estimated Implementation Costs

Demand Controlled Ventilation								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	CO2 Sensors & Control Wiring	EA	2	375	750	625	1,250	2,000
2	RA / OA Dampers & Actuators	EA (avg)	2	1,250	2,500	750	1,500	4,000
3	Controllers	EA	2	1,500	3,000	600.0	1,200	4,200
4	Electrical Work	EA	2	250	500	500.0	1,000	1,500
	Other Estimated Implementation Costs							-
	TOTAL							\$ 11,700

Estimated Savings

Demand Control Ventilation						
3. Price of Electricity, \$/kWh (blended rate)				\$0.173		
5. Price of Natural Gas, \$/therm				\$1.168		
				Existing Condition	Proposed System	Savings
Total (CFM)				3,600	3,600	
Average Cost Per CFM				\$2.211	\$1.719	
Run Hours				2,160	2,160	
Estimated Electric Use (kWh)				34,033	26,462	7,571
Estimated Natural Gas Use (therms)				1,774	1,379	395
						-
Annual Cost and Savings, \$				\$ 7,960	\$ 6,189	\$ 1,800
1. Assumes 100% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; %OA = 100% for bin ranges >						
2. Assumes 20% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; % OA = 20% for bin range >70						
3. Run hours based on bin data and time of day factor.						
4. See Sample Calculation below						
Unit	Serves	TOD Factor	Total CFM	Current \$/CFM1	DCV \$/CFM2	Estimated Savings
YSC120A3	BUILDING	0.247	3600	\$ 2.21	\$ 1.72	\$ 1,771
0	0	0.000	0	\$ -	\$ -	\$ -
Total			3600			\$ 1,771
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
RESCUE SQUAD CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 24 – Temperature Setpoint Optimization

Estimated Implementation Costs

Temperature Setpoint Optimization								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Re-programming - Programmable Thermostat	Hrs	2		-	50	100	100
	Other Estimated Implementation Costs							-
	TOTAL							\$ 100

Estimated Savings

Set Point Optimization						
3. Price of Electricity, \$/kWh (blended rate)				\$0.173		
5. Price of Natural Gas, \$/therm				\$1.168		
				Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting				70-75	75	\$200
Space Heating Temperature Setting				70-75	70	\$100
Annual Electric Savings (kWh)				996		996
Annual Cost and Savings, \$						\$ 300
1. Daily run hours are based on 180 days, 9 hour days						
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.						
3. Assumed 20 CFM/Student						
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

Prepared by Dome-Tech, Inc.

Estimated Implementation Costs

[illegible]

Prepared by Dome-Tech, Inc.

ECM# 4 - Lighting Upgrades – Costs & Savings are listed in the Lighting Summary & Inventory

BOROUGH OF NEW PROVIDENCE
LIBRARY CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 5 – Install Timer on Hot Water Heaters

Estimated Implementation Costs

Install Timer on Domestic Hot Water Heater								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation of Domestic Hot Water Timer		1	60	60	100	100	160
	Other Estimated Implementation Costs							-
	TOTAL							\$ 160

Estimated Savings

INSTALL TIMER ON DOMESTIC HOT WATER HEATER						
3. Price of Electricity, \$/kWh (blended rate)				\$0.178		
5. Price of Natural Gas, \$/therm				\$1.209		
				Existing Condition	Proposed System	Savings
Annual Peak Demand Reduction (kW)				0.01	0.00	0.01
Annual Electric Standby Losses kWh				379	65	314
Annual Cost and Savings, \$				\$ 67	\$ 12	\$ 56
1. Sample Calculations Below						
QTY	1					
Insulation R Value, hr·ft ² ·°F/Btu	6					
Tank Height, inches	36					
Tank Diameter, inches	20.5					
Tank Temperature, deg F	120					
Ambient Temperature, deg F	65					
Standby Loss (Btu-hr)	148					
Current Standby Hours	8760					
Timer Hours	1505					
Standby Loss Savings (Btu)	222009					
Electric Savings (kWh)	65					
Electric Unit Cost (\$/kWh)	0.178					
Annual Savings	12					
Annual Electric Standby Losses kWh, Existing	379					
2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commision: Appendix						
3. No rebates or other financial incentives were available for this measure						

ECM# 7 – Demand Control Ventilation

Estimated Implementation Costs

Demand Controlled Ventilation								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	CO2 Sensors & Control Wiring	EA	4	375	1,500	625	2,500	4,000
2	RA / OA Dampers & Actuators	EA (avg)	4	1,250	5,000	750	3,000	8,000
3	Controllers	EA	4	1,500	6,000	600.0	2,400	8,400
4	Electrical Work	EA	4	250	1,000	500.0	2,000	3,000
	Other Estimated Implementation Costs							4,914
	TOTAL							\$ 28,314

Estimated Savings

Demand Control Ventilation						
3. Price of Electricity, \$/kWh (blended rate)				\$0.178		
5. Price of Natural Gas, \$/therm				\$1.209		
				Existing Condition	Proposed System	Savings
Total (CFM)				17,900	17,900	
Average Cost Per CFM				\$2.278	\$1.770	
Run Hours				2,160	2,160	
Estimated Electric Use (kWh)				169,220	131,478	37,742
Estimated Natural Gas Use (therms)				8,820	6,853	1,967
						-
Annual Cost and Savings, \$				\$ 40,784	\$ 31,688	\$ 9,100
1. Assumes 100% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; %OA = 100% for bin ranges >70						
2. Assumes 20% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; % OA = 20% for bin range >70						
3. Run hours based on bin data and time of day factor.						
4. See Sample Calculation below						
Unit	Serves	TOD Factor	Total CFM	Current \$/CFM1	DCV \$/CFM2	Estimated Savings
LENNOX	LGA036H2	0.247	1300	\$ 2.28	\$ 1.77	\$ 661
LENNOX	LGA102H2	0.247	3200	\$ 2.28	\$ 1.77	\$ 1,626
LENNOX	LGA090H2	0.247	2900	\$ 2.28	\$ 1.77	\$ 1,474
CARRIER	38AKS034	0.247	10500	\$ 2.28	\$ 1.77	\$ 5,336
Total			17900			\$ 9,096
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

ECM# 15 - At EOL, Upgrade Aging RTUs with High Efficiency Units

Estimated Implementation Costs

AHU SEER Upgrade								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton PRTU w/ Gas Heat & Econ	ea	1	3,075	3,075	690	690	3,765
3	7.5-ton PRTU w/ Gas Heat & Econ	ea	1	7,150	7,150	970	970	8,120
1	8.5-ton PRTU w/ Gas Heat & Econ	ea	1	8,150	8,150	1,050	1,050	9,200
8	30-ton PRTU w/ Gas Heat & Econ	ea	1	28,300	28,300	2,050	2,050	30,350
	Other Estimated Implementation Costs							24,768
	TOTAL GROSS IMPLEMENTATION COST							\$ 76,203
	Avoided Cost							\$ 71,303
	New Jersey Smart Start Rebate							3,969

Estimated Savings

Replace aging AHUs with higher efficiency units							
3. Price of Electricity, \$/kWh (blended rate)				\$0.178			
5. Price of Natural Gas, \$/therm				\$1.209			
				Existing Condition	Proposed System	Savings	
Total Tons				49	49		
SEER				10.7	12.9		
Annual Run Hours				1,163	1,163		
Annual Peak Demand Reduction (kW)				11.5	9.0	2.50	
Annual kWh				69,401	54,311	15,090	
Annual Cost and Savings, \$				\$ 12,353	\$ 9,667	\$ 2,700	
1. Cost per kWh and therm prices taken from "# Constants" sheet.							
2. Run hours based on bin data and time of day factor.							
3. Assumed 10 - 15 Ton RTUs throughout building							
4. See Sample Calculations below							
Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
LIBRARY	3	1,163	13.0	14.3	293	\$ 52	\$ 300
	8.5	1,163	10.1	12.3	2101	\$ 374	\$ 850
LIBRARY							
LIBRARY	7.5	1,163	10.1	12.3	1854	\$ 330	\$ 750
LIBRARY	30	1,163	9.5	12.6	10843	\$ 1,930	\$ 3,000
Total	49				15090	\$ 2,686	\$ 4,900
Coincidence Factor Study							
6.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER							
7. Proposed SEER/EER Ratings taken from Lennox Strategos Series							

BOROUGH OF NEW PROVIDENCE
LIBRARY CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 19- Window Replacement

Estimated Implementation Costs

Windows Replacement								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Demolition/removal old windows	sf	30			1.25	38	38
2	Install dbl glazed, alum dbl hung windows	sf	30	400	12,000	19	569	12,569
	Other Estimated Implementation Costs							2,835
	TOTAL							\$ 15,441

Estimated Savings

Window Upgrade / Replacement						
3. Price of Electricity, \$/kWh (blended rate)				\$0.178		
5. Price of Natural Gas, \$/therm				\$1.209		
				Existing Condition	Proposed System	Savings
R-Value of Windows				1.1	2.6	
Annual heating loss, therms				51	19	32
Annual additional cooling, kWh				140	52	88
Annual Natural Gas Cost and Savings, \$				\$ 62	\$ 23	\$ 39
Annual Electric Cost and Savings, \$				\$ 25	\$ 9	\$ 16
Annual Cost and Savings, \$				\$ 87	\$ 32	\$ 55
1. Old windows are single glazed, no coating with storm window.						
2. Assumes old windows experience 50% infiltration factor.						
3. Assumes new windows are double glazed with low E coating, no storm window.						
4. Assumes new windows experience 14% infiltration factor.						
5. Sample Calculations Below						
Quantity	2					
Sq. Ft. / Window	15					
Total Area (Sq. Ft.)	30					
HEATING		COOLING				
Heating Degree Days	4022	Cooling Degree Days	1379			
Heating Plant Efficiency	0.80	Cooling Plant SEER	10			
Natural Gas Cost, \$/therm	\$ 1.209	Electric Cost, \$/kWh	\$ 0.178			
Existing Windows		Existing U Value	0.91			
Existing U Value	0.91	Existing Infiltration Factor	0.5			
Existing Infiltration Factor	0.5	Annual Additional Cooling Cost	\$ 24.92			
Annual Heating Loss Cost	\$ 61.71					
New Windows	0	New Windows				
Proposed U Value	0.38	Proposed U Value	0.38			
Proposed Infiltration Factor	0.14	Proposed Infiltration Factor	0.14			
Annual Heating Loss Cost	22.7569586	Annual Additional Cooling Cost	9.19009728			
	0					
Heating Savings	\$ 38.95	Cooling Savings	\$ 15.73			
		Total Savings	\$ 54.68			
6. There is no demand reduction for this measure						
7. No rebates or other financial incentives were available for this measure						

ECM# 18 – High Efficiency Condensing Boiler Replacement

Estimated Implementation Costs

Condensing Boiler								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	1 MBTU High Eff Gas Boiler	ea	1	29,270	29,270	15,000	15,000	44,270
2	Demo Existing Boilers	ls	1	4,000	4,000	12,000	12,000	16,000
3	Piping Modifications	ls	1	4,000	4,000	6,000	6,000	10,000
4	Electric/Controls	ls	1	10,000	10,000	7,500	7,500	17,500
5								
6					-		-	-
Other Estimated Implementation Costs								71,947
TOTAL GROSS IMPLEMENTATION COST								\$ 159,717
Avoided Cost								\$ 147,425
NET IMPLEMENTATION COST								\$ 12,295
NJ SMART START REBATE								\$ 1,000

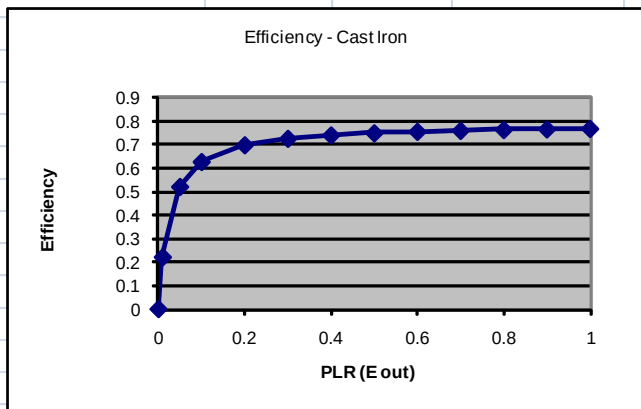
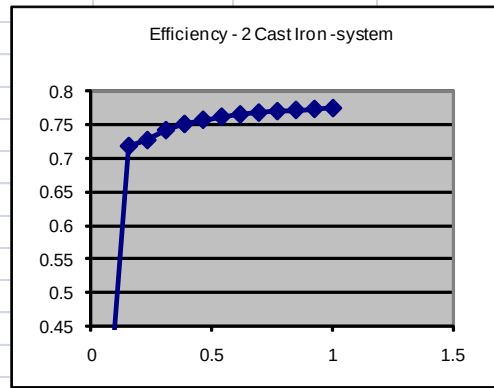
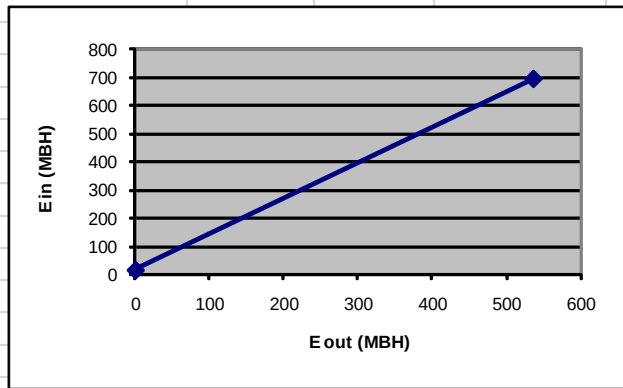
Estimated Savings

SAVINGS FROM HIGH EFFICIENCY CONDENSING BOILER					
3. Price of Electricity, \$/kWh (blended rate)				\$0.178	
5. Price of Natural Gas, \$/therm				\$1.209	
				Existing Condition	Proposed System
Boiler Plant Capacity, kBTU				632	632
Hours of Operation				4,214	4,214
Seasonal Efficiency				85%	93%
Annual Gas Consumption, therms				3,782	2,891
Annual Cost and Savings, \$				\$ 4,573	\$ 3,495
					\$ 1,078
1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.					
2. Sample Calculation Below					
Single Boiler:					
	Gas Fuel				
E _{ff} 100%	0.85			E _{out}	E _{in}
E _{in} 100%	632 MBH			0	15.8
E _{out} 100%	537 MBH			537.2	632
SBL (% E _{in})	3%				
SBL	15.8 MBH				
Min E _{out}	20%	126.4			
Comb, E _{ff}	88%				
m slope=	1.147058824				
INDIVIDUAL BOILER					
			linear realtion		
E _{out} (Load)	PLR	E _{in}	Efficiency		
0	0%	16	0%		
5	1%	22	24%		
27	5%	47	58%		
54	10%	77	69%		
107	20%	139	77%		
161	30%	201	80%		
457	85%	540	85%		
269	50%	324	83%		
322	60%	386	84%		
376	70%	447	84%		
430	80%	509	84%		
483	90%	570	85%		
537	100%	632	85%		

BOROUGH OF NEW PROVIDENCE LIBRARY CALCULATIONS

Prepared by Dome-Tech, Inc.

COMBINED SYSTEM BOILER PART LOAD							
Capacity of each	632						
No. of Boilers	1						
Total Capacity	632						
Avg Load Factor	20%						
Load	PLR	No. of Boilers	Load per boiler	per boiler E in	plant E in	0 Efficiency	Gas Therm
632	100%	1	126	161	161	79%	21
583	92%	1	117	150	150	78%	355
535	85%	1	107	138	138	77%	242
486	77%	1	97	127	127	76%	357
438	69%	1	88	116	116	75%	541
389	62%	1	78	105	105	74%	564
340	54%	1	68	94	94	73%	481
292	46%	1	58	83	83	71%	323
243	38%	1	49	72	72	68%	279
194	31%	1	39	60	60	64%	230
146	23%	1	29	49	49	59%	184
126	15%	1	25	45	45	56%	205
							3,782

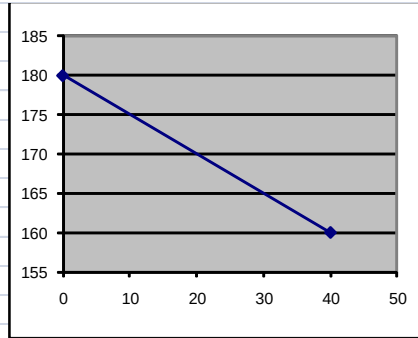


Fuel Source		Gas	
# Days per Week in Ope		7	
Temp	6-9pm	Op Hrs	Plant
Bin	Mon-Sun	M-F	LOAD
0	13	13	100%
15	237	237	92%
20	175	175	85%
25	280	280	77%
30	466	466	69%
35	537	537	62%
40	512	512	54%
45	391	391	46%
50	390	390	38%
55	381	381	31%
60	374	374	23%
65	458	458	15%
0	0	0	8%
0	Total	4214	0%

BOROUGH OF NEW PROVIDENCE LIBRARY CALCULATIONS

Prepared by Dome-Tech, Inc.

Max Load	632	MBH						
Condensing Boiler Capacity	632	MBH Each						
# Boilers	1							
Plant Capacity	632							
RESET SCHEDULE		OA	SWT					
		0	180					
		40	160					
	Reset Slope	-0.5						
ASSUMPTION								
	OAT	SWT	RWT	Zone Load %	LOAD	Load/Boiler	% Load	Zone Load
	0.85	179.58	159.73	100%	632	632	100%	632
	5.85	177.08	158.14	92%	583	583	92%	583.3846154
	10.85	174.58	156.55	85%	535	535	85%	534.7692308
	15.85	172.08	154.96	77%	486	486	77%	486.1538462
	20.85	169.58	153.37	69%	438	438	69%	437.5384615
	25.85	167.08	151.78	62%	389	389	62%	388.9230769
	30.85	164.58	150.18	54%	340	340	54%	340.3076923
	35.85	162.08	148.59	46%	292	292	46%	291.6923077
	40.85	159.58	147.00	38%	243	243	38%	243.0769231
	45.85	157.08	145.41	31%	194	194	31%	194.4615385
	50.85	154.58	143.82	23%	146	146	23%	145.8461538
	55.85	152.08	142.23	15%	126	#DIV/0!	#DIV/0!	97.23076923
	60.85	149.58	140.64	8%	126	#DIV/0!	#DIV/0!	48.61538462
	65.85	147.08	139.05	0%	0	0	0	0
								0%
	(1) 632 Boilers		Load Factor	20%	Op Hrs	Gas		0%
Zone Load	No Boilers	Plant Load %	Eff %	E out	M-F 6-9pm	Therm		0%
632	1	100%	93%	136	13	18		0
583	1	92%	93%	126	237	298		0
535	1	85%	93%	115	175	201		0
486	1	77%	93%	105	280	293		0
438	1	69%	93%	94	466	438		0
389	1	62%	93%	84	537	449		0
340	1	54%	93%	73	512	374		0
292	1	46%	93%	63	391	245		0
243	1	38%	93%	52	390	203		0
194	1	31%	93%	42	381	159		0
146	1	23%	93%	31	374	117		0
97	0	#DIV/0!	94%	21	458	95		0
49	0	#DIV/0!	96%	10	0	0		0
						2,891		0



DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 2 – Install Vendmisers - DPW

Estimated Implementation Costs

VENDINGMISERS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	1	179	179	-	-	179
	TOTAL							\$ 179

Estimated Savings

VENDING MACHINE POWER MANAGEMENT SYSTEM						
3. Price of Electricity, \$/kWh (blended rate)				\$0.162		
5. Price of Natural Gas, \$/therm				\$1.162		
				Existing Condition	Proposed System	Savings
Soda Machine Power Consumption				100%	56%	
Run Hours				8,760	8,760	
Annual Peak Demand Reduction (kW)				0.06	0.03	0.02
Annual Energy Consumption (kWh)				2,102	925	1,177
Annual Cost and Savings, \$				\$ 341	\$ 150	\$ 191
1. Run hours based on fan motors being run 8760 hrs						
2. Sample Calculations Below						
Vending Machine Count	1					
Annual Run-Time Factor	60%					
VendMiser Installation Savings	0					
Soda Machine Power Consumption, kw	0.40					
Annual Savings %	56%					
Annual Energy Savings	\$191					
Analysis Spreadsheet						
3. No rebates or other financial incentives were available for this measure						
4. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet						

ECM# 4 - Lighting Upgrades – Costs & Savings are listed in the Lighting Summary & Inventory

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 6 – Install Timer on Hot Water Heaters - DPW

Estimated Implementation Costs

Domestic Hot Water Timer								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation of Domestic Hot Water Timer		1	60	60	100	100	160
	Other Estimated Implementation Costs							-
	TOTAL							\$ 160

Estimated Savings

INSTALL TIMER ON DOMESTIC HOT WATER HEATER						
3. Price of Electricity, \$/kWh (blended rate)				\$0.162		
5. Price of Natural Gas, \$/therm				\$1.162		
				Existing Condition	Proposed System	Savings
Annual Peak Demand Reduction (kW)				0.01	0.00	0.01
Annual Electric Standby Losses kWh				480	83	398
Annual Cost and Savings, \$				\$ 78	\$ 13	\$ 64
1. Sample Calculations Below						
QTY	2					
Insulation R Value, hr·ft ² ·°F/Btu	6					
Tank Height, inches	26					
Tank Diameter, inches	18					
Tank Temperature, deg F	120					
Ambient Temperature, deg F	65					
Standby Loss (Btu-hr)	187					
Current Standby Hours	8760					
Timer Hours	1505					
Standby Loss Savings (Btu)	281573					
Electric Savings (kWh)	83					
Electric Unit Cost (\$/kWh)	0.162					
Annual Savings	13					
Annual Electric Standby Losses kWh, Existing	480					
2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix						
3. No rebates or other financial incentives were available for this measure						

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 10 – Premium Efficiency Motors - WWTC

Estimated Implementation Costs

Premium Efficiency Motors - WASTEWATER TREATMENT CENTER								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	200	HP Prem Eff Moto	1	7,708	7,708	828	828	8,536
2	25	HP Prem Eff Moto	1	1,374	1,374	166	166	1,540
3	15	HP Prem Eff Moto	1	893	893	129	129	1,022
4								
	Other Estimated Implementation Costs							6,746
	TOTAL							\$ 17,843

Estimated Savings

SAVINGS FROM PREMIUM EFFICIENCY MOTORS - WWTC															
3. Price of Electricity, \$/kWh (blended rate)			\$0.162												
5. Price of Natural Gas, \$/therm			\$1.162												
					ESTIMATED RUN TIME		FULL LOAD NOMINAL EFFICIENCY (%)		ELECTRIC CONSUMPTION (kWh)		SAVINGS		NJCE REBATE	Peak Demand Reduction	
TAG	LOCATION	SERVICES	HP	RPM	AVG HRS	LOAD FACTOR	EXISTIN G	PROPOS ED	EXISTIN G	PROPOS ED	kWh	\$	\$	kW	
FLOW TO SUMMIT	WASTEWATER TREATMENT CENTER	FLOW TO SUMMIT	200		1,800	1,460	100%	90.2%	95.8%	193,199	181,906	11,293	\$ 1,830	\$ 630	1.6
SLUDGE GRINDER	WASTEWATER TREATMENT CENTER	SLUDGE GRINDER	25		1,800	2,920	100%	90.2%	93.6%	48,300	46,545	1,754	\$ 284	\$ 117	0.2
SECOND STAGE PUMPS	WASTEWATER TREATMENT CENTER	SECOND STAGE PUMPS	15		1,800	2,388	100%	91.0%	93.0%	23,492	22,986	505	\$ 82	\$ 104	0.1
										TOTAL	13,553	\$ 2,196	\$ 851	1.9	
1. Existing equipment data listed in italics were estimated due to unavailable information.															
2. It is assumed that the breakhorse power of all motors is 80% of the nameplate horsepower.															
3. Only the major motors were sampled for this calculations.															
4. Run hours base on winter bin hours															
5. Coincidence Factor for peak kW reduction taken from United Illuminated Company: 2005 Coincidence Factor Study															

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 11 – Replace HW fan coil units with Gas Radiant Heaters - DPW

Estimated Implementation Costs

Replace Unit Heaters w/ IR Radiant Heaters								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	IR Radiant Tube Heaters	ea	5	3,500	17,500	1,600	8,000	25,500
	Other Estimated Implementation Costs							9,983
	TOTAL							\$ 35,483

Estimated Savings

Replace HW fan coil Units with Gas Radiant Heaters							
3. Price of Electricity, \$/kWh (blended rate)				\$0.162			
5. Price of Natural Gas, \$/therm				\$1.162			
				Existing Condition	Proposed System	Savings	
Annual Run Hours				3,470	3,470	0	hours
Annual Gas Use (therms)				9,733	6,397	3,337	Cost
Annual Cost and Savings, \$				\$ 11,310	\$ 7,433	\$ 3,877	Savings
1. Existing Condition assumes convective loss/thermal stratification due to large volume areas (high bay/ceiling) and overhead door opening.							

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 12 – Replace Window AC Unit - DPW

Estimated Implementation Costs

REPLACING WINDOW AC UNITS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Window AC Unit	Unit	1	200	200	50	50	250
	Other Estimated Implementation Costs							-
	TOTAL							\$ 250

Estimated Savings

SAVINGS FROM WINDOW AC UNITS UPGRADE - DPW						
3. Price of Electricity, \$/kWh (blended rate)			\$0.162			
5. Price of Natural Gas, \$/therm			\$1.162			
			Existing Condition	Proposed System	Savings	
Number of Units			1	1		
Capacity per Unit, Tons			0.8	0.8		
Total Capacity, Tons			1	1		
Assumed Efficiency, SEER			8.0	10.1		
Total Hours of Normal Operation, hrs			1,021	1,021		
Cooling Load Factor			60%	60%		
Annual Cooling Production, ton-hours			490	490		
Annual Cooling Load, kBTU			5,881	5,881		
Annual Peak Demand Reduction (kW)			0.1	0.1	0.02	
Annual Electrical Consumption, kWh			735	582	153	
Annual Cost and Savings, \$			\$ 119	\$ 94	\$ 25	
1. Assume existing systems runs all year w hen outside air temperature (OAT) is above 65F from Monday through Friday.						
2. Both conditions are simulated w ith non-programmable thermostats.						
3. Load factor calculation represents the percentage of time w hen the unit operates at full load.						
4. It is assumed that the old systems have a 10% derated efficiency of 8 SEER.						
5. Assume the new units have an effieciency of 10.1 EER.						
6. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commision: Appendix A Measure Analysis Spreadsheet						
7. No rebates or other finanical incentives w ere available for this measure						

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 17 - At EOL, Upgrade Aging PTAC Units with High Efficiency Units

Estimated Implementation Costs

PTAC SEER Upgrade								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	1-ton PTAC	ea	5	750	3,750	100	500	4,250
	Other Estimated Implementation Costs							2,047
	TOTAL GROSS IMPLEMENTATION COST							\$ 6,297
	Avoided Cost							\$ 5,297
	New Jersey Smart Start Rebate							650

Estimated Savings

Replace aging PTACs with higher efficiency units						
3. Price of Electricity, \$/kWh (blended rate)				\$0.162		
5. Price of Natural Gas, \$/therm				\$1.162		
				Existing Condition	Proposed System	Savings
Total Tons				10	10	
SEER				13.0	14.3	
Annual Run Hours				574	574	
Annual kWh				5,308	4,825	483
Annual Cost and Savings, \$				\$ 860	\$ 782	\$ 100
1. Cost per kWh and therm prices taken from "# Constants" sheet.						
2. Run hours based on bin data and time of day factor.						

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 19 - Window Replacement - DPW

Estimated Implementation Costs

Upgrade Windows								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Demolition/removal old windows	sf	156			1.25	195	195
2	Install dbl glazed, alum dbl hung windows	sf	156	400	62,400	19	2,956	65,356
3	Demolition/removal old doors	ea	-	-	-	130	-	-
4	Install dbl glazed, alum doors	ea	-	3,125	-	19	-	-
	Other Estimated Implementation Costs							14,741
	TOTAL							\$ 80,292

Estimated Savings

Window Upgrade / Replacement						
3. Price of Electricity, \$/kWh (blended rate)				\$0.162		
5. Price of Natural Gas, \$/therm				\$1.162		
				Existing Condition	Proposed System	Savings
R-Value of Windows				1.1	2.6	
Annual heating loss, therms				265	98	168
Annual additional cooling, kWh				728	268	460
Annual Natural Gas Cost and Savings, \$				\$ 308	\$ 114	\$ 195
Annual Electric Cost and Savings, \$				\$ 118	\$ 43	\$ 74
Annual Cost and Savings, \$				\$ 426	\$ 157	\$ 269
1. Old windows are single glazed, no coating with storm window. 2. Assumes old windows experience 50% infiltration factor. 3. Assumes new windows are double glazed with low E coating, no storm window. 4. Assumes new windows experience 14% infiltration factor. 5. Sample Calculations Below						
Quantity	13					
Sq. Ft. / Window	12					
Total Area (Sq. Ft.)	156					
HEATING		COOLING				
Heating Degree Days	4022	Cooling Degree Days	1379			
Heating Plant Efficiency	0.80	Cooling Plant SEER	10			
Existing Windows		Existing U Value	0.91			
Existing U Value	0.91	Existing Infiltration Factor	0.5			
Existing Infiltration Factor	0.5	Annual Additional Cooling Cost	\$ 117.93			
Annual Heating Loss Cost	\$ 308.40					
New Windows	0	New Windows				
Proposed U Value	0.38	Proposed U Value	0.38			
Proposed Infiltration Factor	0.14	Proposed Infiltration Factor	0.14			
Annual Heating Loss Cost	113.735854	Annual Additional Cooling Cost	43.49290982			
	0					
Heating Savings	\$ 194.66	Cooling Savings	\$ 74.44			
		Total Savings	\$ 269.10			
6. There is no demand reduction for this measure						
7. No rebates or other financial incentives were available for this measure						

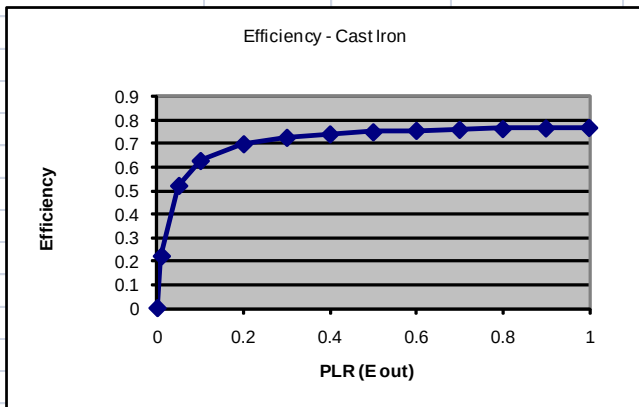
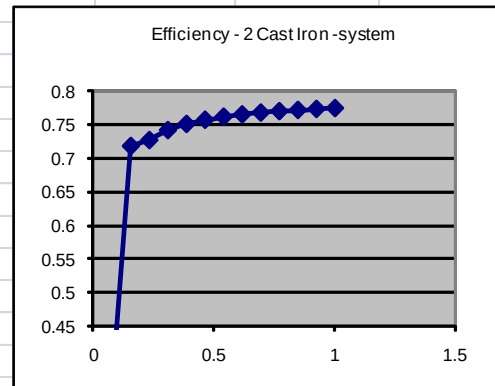
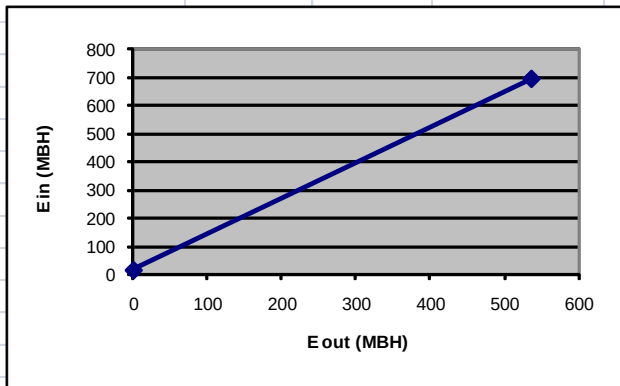
ECM# 18 – High Efficiency Condensing Boiler Replacement – DPW

		Condensing Boiler - DPW						
N/N	DESCRIPTION OF	UNIT	QTY	MATERIAL		LABOR		TOTAL
	WORK			PER UNIT	TOTAL	PER UNIT	TOTAL	
1	165 MBH High Eff Gas Boiler	ea	1	3,061	3,061	500	500	3,561
	Other Estimated Implementation Costs							748
	TOTAL							\$ 4,309
	Avoided Cost							\$ 3,189
	New Jersey Smart Start Rebate							\$ 300

SAVINGS FROM HIGH EFFICIENCY CONDENSING BOILER - DPW					
3. Price of Electricity, \$/kWh (blended rate)			\$0.162		
5. Price of Natural Gas, \$/therm			\$1.162		
			Existing Condition	Proposed System	Savings
Boiler Plant Capacity, kBTU			165	165	
Hours of Operation			4,214	4,214	
Seasonal Efficiency			85%	93%	
Annual Gas Consumption, therms			988	755	233
Annual Cost and Savings, \$			\$ 1,147	\$ 877	\$ 271
1. Assume the boilers have a temperature reset schedule w here the hot water is supplied at 180F/160F w hen it is 0F/40F outside.					
2. Sample Calculation Below					
Single Boiler:					
	Gas Fuel				
Eff 100%	0.85		E out		Ein
E in 100%	165 MBH		0		4.125
E out 100%	140 MBH		140.25		165
SBL (% Ein)	3%				
SBL	4.125 MBH				
Min E out	20%	33			
Comb, Eff	88%				
m slope=	1.147058824				
INDIVIDUAL BOILER					
			linear realltion		
Eout (Load)	PLR	E in	Efficiency		
0	0%	4	0%		
1	1%	6	24%		
7	5%	12	58%		
14	10%	20	69%		
28	20%	36	77%		
42	30%	52	80%		
119	85%	141	85%		
70	50%	85	83%		
84	60%	101	84%		
98	70%	117	84%		
112	80%	133	84%		
126	90%	149	85%		
140	100%	165	85%		

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

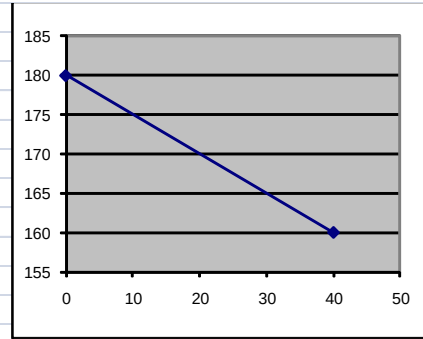
COMBINED SYSTEM BOILER PART LOAD							
Capacity of each	165						
No. of Boilers	1						
Total Capacity	165						
Avg Load Factor	20%						
Load	PLR	No. of Boilers	Load per boiler	per boiler E in	plant E in	0 Efficiency	Gas Therm
165	100%	1	33	42	42	79%	5
152	92%	1	30	39	39	78%	93
140	85%	1	28	36	36	77%	63
127	77%	1	25	33	33	76%	93
114	69%	1	23	30	30	75%	141
102	62%	1	20	27	27	74%	147
89	54%	1	18	25	25	73%	125
76	46%	1	15	22	22	71%	84
63	38%	1	13	19	19	68%	73
51	31%	1	10	16	16	64%	60
38	23%	1	8	13	13	59%	48
33	15%	1	7	12	12	56%	54
							988



Fuel Source	Gas		
# Days perWeek in Ope	7		
Temp	6-9pm	Op Hrs	Plant
Bin	Mon-Sun	M-F	LOAD
0	13	13	100%
15	237	237	92%
20	175	175	85%
25	280	280	77%
30	466	466	69%
35	537	537	62%
40	512	512	54%
45	391	391	46%
50	390	390	38%
55	381	381	31%
60	374	374	23%
65	458	458	15%
0	0	0	8%
0	Total	4214	0%

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

Max Load	165	MBH						
Condensing Boiler Capacity	165	MBH Each						
# Boilers	1							
Plant Capacity	165							
RESET SCHEDULE		OA	SWT					
		0	180					
		40	160					
Reset Slope		-0.5						
ASSUMPTION								
	OAT	SWT	RWT	Zone Load %	LOAD	Load/Boiler	% Load	Zone Load
	0.85	179.58	159.73	100%	165	165	100%	165
	5.85	177.08	158.14	92%	152	152	92%	152.3076923
	10.85	174.58	156.55	85%	140	140	85%	139.6153846
	15.85	172.08	154.96	77%	127	127	77%	126.9230769
	20.85	169.58	153.37	69%	114	114	69%	114.2307692
	25.85	167.08	151.78	62%	102	102	62%	101.5384615
	30.85	164.58	150.18	54%	89	89	54%	88.84615385
	35.85	162.08	148.59	46%	76	76	46%	76.15384615
	40.85	159.58	147.00	38%	63	63	38%	63.46153846
	45.85	157.08	145.41	31%	51	51	31%	50.76923077
	50.85	154.58	143.82	23%	38	38	23%	38.07692308
	55.85	152.08	142.23	15%	33	#DIV/0!	#DIV/0!	25.38461538
	60.85	149.58	140.64	8%	33	#DIV/0!	#DIV/0!	12.69230769
	65.85	147.08	139.05	0%	0	0	0	0
								0%
	(1) 165 Boilers		Load Factor	20%	Op Hrs	Gas		0%
Zone Load	No Boilers	Plant Load %	Eff %	E out	M-F 6-9pm	Therm		0%
165	1	100%	93%	36	13	5		0
152	1	92%	93%	33	237	78		0
140	1	85%	93%	30	175	53		0
127	1	77%	93%	27	280	77		0
114	1	69%	93%	25	466	114		0
102	1	62%	93%	22	537	117		0
89	1	54%	93%	19	512	98		0
76	1	46%	93%	16	391	64		0
63	1	38%	93%	14	390	53		0
51	1	31%	93%	11	381	41		0
38	1	23%	93%	8	374	31		0
25	0	#DIV/0!	94%	5	458	25		0
13	0	#DIV/0!	96%	3	0	0		0
						755		0



DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

ECM# 18 – High Efficiency Condensing Boiler Replacement – WWTC

Estimated Implementation Costs

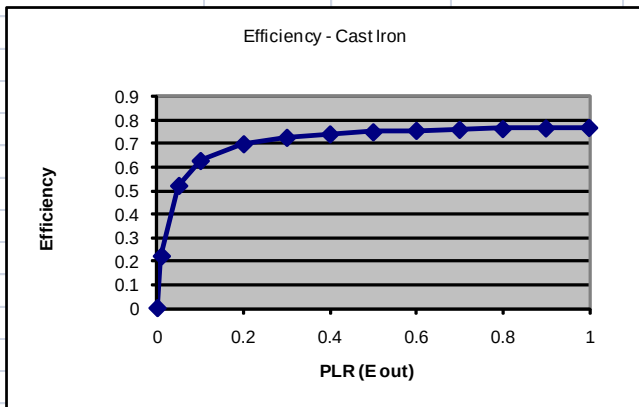
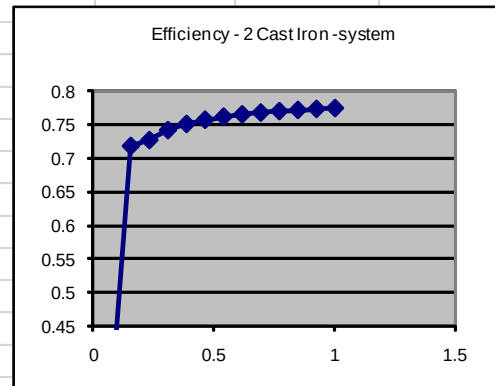
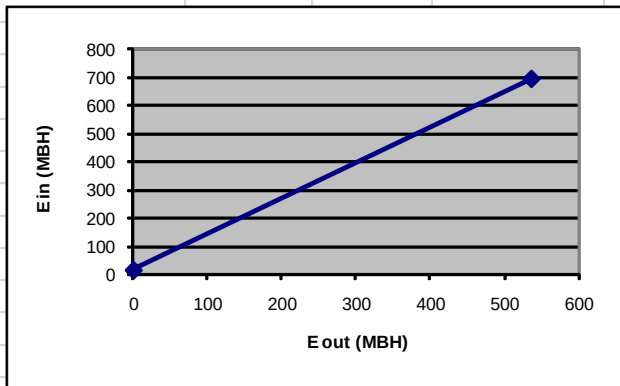
Condensing Boiler - WASTEWATER TREATMENT CENTER								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	300 MBH High Eff Gas Boiler	ea	1	4,809	4,809	500	500	5,309
	Other Estimated Implementation Costs							1,115
	TOTAL GROSS IMPLEMENTATION COST							\$ 6,424
	Avoided Cost							\$ 3,654
	New Jersey Smart Start Rebate							\$ 300

Estimated Savings

SAVINGS FROM HIGH EFFICIENCY CONDENSING BOILER - WWTC						
3. Price of Electricity, \$/kWh (blended rate)				\$0.162		
5. Price of Natural Gas, \$/therm				\$1.162		
				Existing Condition	Proposed System	Savings
Boiler Plant Capacity, kBTU				300	300	
Hours of Operation				4,214	4,214	
Seasonal Efficiency				85%	93%	
Annual Gas Consumption, therms				1,795	1,372	423
Annual Cost and Savings, \$				\$ 2,086	\$ 1,594	\$ 492
1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.						
2. Sample Calculation Below						
Single Boiler:						
	Gas Fuel					
Eff 100%	0.85			E out		Ein
E in 100%	300 MBH			0		7.5
E out 100%	255 MBH			255		300
SBL (% Ein)	3%					
SBL	7.5 MBH					
Min E out	20%	60				
Comb, Eff	88%					
m slope=	1.147058824					
INDIVIDUAL BOILER						
			linear relation			
Eout (Load)	PLR	E in	Efficiency			
0	0%	8	0%			
3	1%	10	24%			
13	5%	22	58%			
26	10%	37	69%			
51	20%	66	77%			
77	30%	95	80%			
217	85%	256	85%			
128	50%	154	83%			
153	60%	183	84%			
179	70%	212	84%			
204	80%	242	84%			
230	90%	271	85%			
255	100%	300	85%			

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

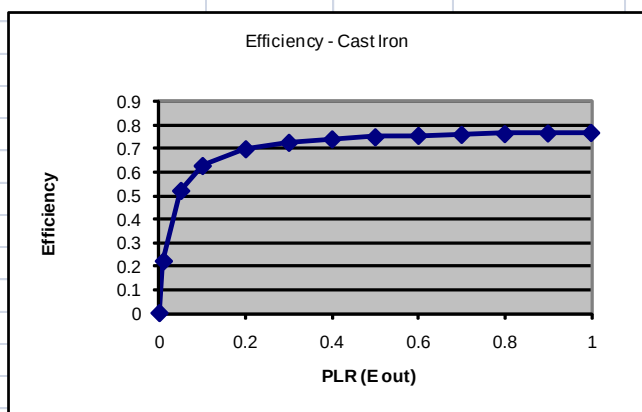
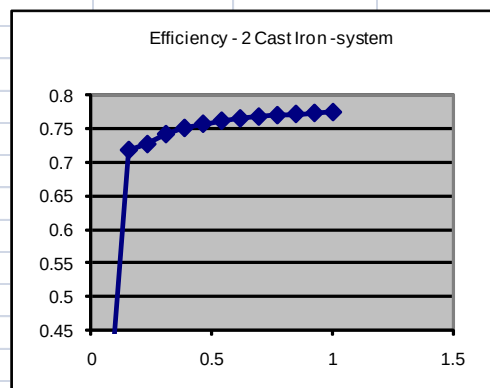
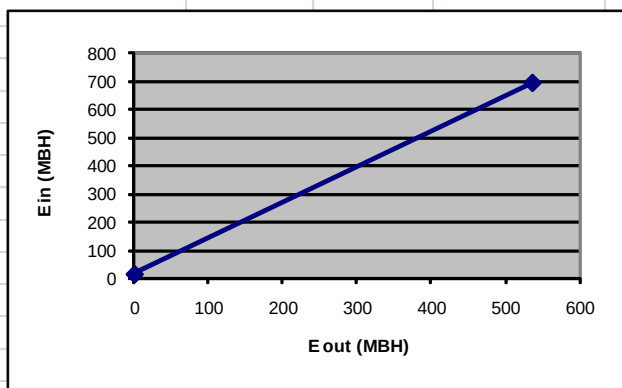
COMBINED SYSTEM BOILER PART LOAD							
Capacity of each	165						
No. of Boilers	1						
Total Capacity	165						
Avg Load Factor	20%						
Load	PLR	No. of Boilers	Load per boiler	per boiler E in	plant E in	0 Efficiency	Gas Therm
165	100%	1	33	42	42	79%	5
152	92%	1	30	39	39	78%	93
140	85%	1	28	36	36	77%	63
127	77%	1	25	33	33	76%	93
114	69%	1	23	30	30	75%	141
102	62%	1	20	27	27	74%	147
89	54%	1	18	25	25	73%	125
76	46%	1	15	22	22	71%	84
63	38%	1	13	19	19	68%	73
51	31%	1	10	16	16	64%	60
38	23%	1	8	13	13	59%	48
33	15%	1	7	12	12	56%	54
							988



Fuel Source	Gas		
# Days perWeek in Ope	7		
Temp	6-9pm	Op Hrs	Plant
Bin	Mon-Sun	M-F	LOAD
0	13	13	100%
15	237	237	92%
20	175	175	85%
25	280	280	77%
30	466	466	69%
35	537	537	62%
40	512	512	54%
45	391	391	46%
50	390	390	38%
55	381	381	31%
60	374	374	23%
65	458	458	15%
0	0	0	8%
0	Total	4214	0%

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

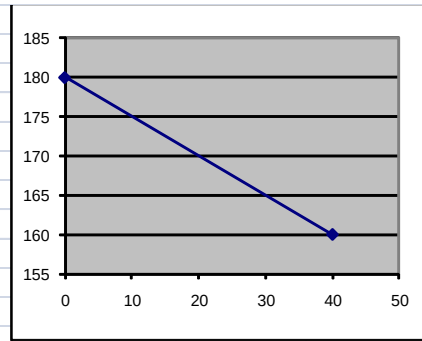
COMBINED SYSTEM BOILER PART LOAD							
Capacity of each	300						
No. of Boilers	1						
Total Capacity	300						
Avg Load Factor	20%						
Load	PLR	No. of Boilers	Load per boiler	per boiler E in	plant E in	0 Efficiency	Gas Therm
300	100%	1	60	76	76	79%	10
277	92%	1	55	71	71	78%	168
254	85%	1	51	66	66	77%	115
231	77%	1	46	60	60	76%	169
208	69%	1	42	55	55	75%	257
185	62%	1	37	50	50	74%	268
162	54%	1	32	45	45	73%	228
138	46%	1	28	39	39	71%	154
115	38%	1	23	34	34	68%	132
92	31%	1	18	29	29	64%	109
69	23%	1	14	23	23	59%	87
60	15%	1	12	21	21	56%	97
							1,795



Fuel Source	Gas		
# Days perWeek in Ope	7		
Temp	6-9pm	Op Hrs	Plant
Bin	Mon-Sun	M-F	LOAD
0	13	13	100%
15	237	237	92%
20	175	175	85%
25	280	280	77%
30	466	466	69%
35	537	537	62%
40	512	512	54%
45	391	391	46%
50	390	390	38%
55	381	381	31%
60	374	374	23%
65	458	458	15%
0	0	0	8%
0	Total	4214	0%

DEPARTMENT OF PUBLIC WORKS AND WASTE WATER TREATMENT CENTER
CALCULATIONS

Max Load	300	MBH						
Condensing Boiler Capacity	300	MBH Each						
# Boilers	1							
Plant Capacity	300							
RESET SCHEDULE		OA	SWT					
		0	180					
		40	160					
Reset Slope		-0.5						
ASSUMPTION								
	OAT	SWT	RWT	Zone Load %	LOAD	Load/Boiler	% Load	Zone Load
	0.85	179.58	159.73	100%	300	300	100%	300
	5.85	177.08	158.14	92%	277	277	92%	276.9230769
	10.85	174.58	156.55	85%	254	254	85%	253.8461538
	15.85	172.08	154.96	77%	231	231	77%	230.7692308
	20.85	169.58	153.37	69%	208	208	69%	207.6923077
	25.85	167.08	151.78	62%	185	185	62%	184.6153846
	30.85	164.58	150.18	54%	162	162	54%	161.5384615
	35.85	162.08	148.59	46%	138	138	46%	138.4615385
	40.85	159.58	147.00	38%	115	115	38%	115.3846154
	45.85	157.08	145.41	31%	92	92	31%	92.30769231
	50.85	154.58	143.82	23%	69	69	23%	69.23076923
	55.85	152.08	142.23	15%	60	#DIV/0!	#DIV/0!	46.15384615
	60.85	149.58	140.64	8%	60	#DIV/0!	#DIV/0!	23.07692308
	65.85	147.08	139.05	0%	0	0	0	0
								0%
	(1) 300 Boilers		Load Factor	20%	Op Hrs	Gas		0%
Zone Load	No Boilers	Plant Load %	Eff %	E out	M-F 6-9pm	Therm		0%
300	1	100%	93%	65	13	8		0
277	1	92%	93%	60	237	141		0
254	1	85%	93%	55	175	96		0
231	1	77%	93%	50	280	139		0
208	1	69%	93%	45	466	208		0
185	1	62%	93%	40	537	213		0
162	1	54%	93%	35	512	178		0
138	1	46%	93%	30	391	116		0
115	1	38%	93%	25	390	96		0
92	1	31%	93%	20	381	75		0
69	1	23%	93%	15	374	56		0
46	0	#DIV/0!	94%	10	458	45		0
23	0	#DIV/0!	96%	5	0	0		0
						1,372		0



BOROUGH OF NEW PROVIDENCE
FIREHOUSE CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 3 – Install Vendmisers

Estimated Implementation Costs

VENDINGMISERS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	2	179	358	-	-	358
	TOTAL							\$ 358

Estimated Savings

VENDING MACHINE POWER MANAGEMENT SYSTEM						
3. Price of Electricity, \$/kWh (blended rate)				\$0.167		
5. Price of Natural Gas, \$/therm				\$1.133		
				Existing Condition	Proposed System	Savings
Soda Machine Power Consumption				100%	56%	
Run Hours				8,760	8,760	
Annual Peak Demand Reduction (kW)				0.12	0.05	0.05
Annual Energy Consumption (kWh)				4,205	1,850	2,355
Annual Cost and Savings, \$				\$ 702	\$ 309	\$ 393
1. Run hours based on fan motors being run 8760 hrs						
2. Sample Calculations Below						
Vending Machine Count	2					
Annual Run-Time Factor	60%					
VendMiser Installation Savings	0					
Soda Machine Power Consumption, kw	0.40					
Annual Savings %	56%					
Annual Energy Savings	\$393					
Analysis Spreadsheet						
3. No rebates or other financial incentives were available for this measure						
4. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet						

ECM# 4 - Lighting Upgrades – Costs & Savings are listed in the Lighting Summary & Inventory

BOROUGH OF NEW PROVIDENCE
FIREHOUSE CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 5 – Install Weatherstripping

Estimated Implementation Costs

Weatherstripping								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	8	200	1,600	150	1,200	2,800
	TOTAL							\$ 2,800

Estimated Savings

SAVINGS FROM WEATHERSTRIPPING DOORS
--

3. Price of Electricity, \$/kWh (blended rate) \$0.167
5. Price of Natural Gas, \$/therm \$1.133

	Existing Condition	Proposed System	Savings
Number of Doors	8	8	
Estimated Infiltration Rate per Door, CFM	212	42	
Annual Cooling Infiltration Hours, OAT > 80F	800	800	
Annual Heating Infiltration Hours, OAT < 55F	500	500	
Annual Cooling Load, kBTU	38,053	7,611	
Annual Cooling Electrical Consumption, kWh	4,757	951	3,805
Annual Heating Load, kBTU	41,163	7,501	
Annual Heating Natural Gas Consumption, therms	514.54	93.76	421
Annual Cost and Savings, \$	\$ 1,377	\$ 265	\$ 1,112

1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12
2. Estimated hours of infiltration was based on all hours below 55F and above 80F for the region.
3. It is assumed that each door has a leakage area of 45 square inches (15 linear feet by 1/4 in). Vestibule doors are not included.
4. A 60% load factor was used when calculating the existing leakage rate.
5. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.
6. The average outside air temperature above 80F during the year is 86F. The average outside air temperature below 55F is 39F.
7. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of 80%.
8. New weatherstripping is assumed to reduce infiltration by 80%.
9. There is no demand reduction for this measure
10. No rebates or other financial incentives were available for this measure

BOROUGH OF NEW PROVIDENCE
FIREHOUSE CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 8 – Demand Control Ventilation
Estimated Implementation Costs

Demand Controlled Ventilation							
DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
			PER UNIT	TOTAL	PER UNIT	TOTAL	
CO2 Sensors & Control Wiring	EA	3	375	1,125	625	1,875	3,000
RA / OA Dampers & Actuators	EA (avg)	3	1,250	3,750	750	2,250	6,000
Controllers	EA	3	1,500	4,500	600.0	1,800	6,300
Electrical Work	EA	3	250	750	500.0	1,500	2,250
Other Estimated Implementation Costs							-
TOTAL							\$ 17,550

Estimated Savings

Demand Control Ventilation						
3. Price of Electricity, \$/kWh (blended rate)			\$0.167			
5. Price of Natural Gas, \$/therm			\$1.133			
			Existing Condition	Proposed System	Savings	
Total (CFM)			8,600	8,600		
Average Cost Per CFM			\$2.137	\$1.661		
Run Hours			2,160	2,160		
Estimated Electric Use (kWh)			53,886	41,873	12,013	
Estimated Natural Gas Use (therms)			2,809	2,182	626	
					-	
Annual Cost and Savings, \$			\$ 12,181	\$ 9,466	\$ 2,700	
1. Assumes 100% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; %OA = 100% for bin ranges >70						
2. Assumes 20% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; % OA = 20% for bin range >70						
3. Run hours based on bin data and time of day factor.						
4. See Sample Calculation below						
Unit	Serves	TOD Factor	Total CFM	Current \$/CFM1	DCV \$/CFM2	Estimated Savings
0	0	0.000	0	\$ -	\$ -	\$ -
ACC - 2	090C30	0.247	2900	\$ 2.14	\$ 1.66	\$ 1,382
ACC - 3	0180C30	0.247	5700	\$ 2.14	\$ 1.66	\$ 2,716
0	0	0.247	0	\$ 2.14	\$ 1.66	\$ -
0	0	0.247	0	\$ 2.14	\$ 1.66	\$ -
0	0	0.247	0	\$ 2.14	\$ 1.66	\$ -
0	0	0.247	0	\$ 2.14	\$ 1.66	\$ -
0	0	0.247	0	\$ 2.14	\$ 1.66	\$ -
0	0	0.247	0	\$ 2.14	\$ 1.66	\$ -
Total			8600			\$ 4,097
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

BOROUGH OF NEW PROVIDENCE
FIREHOUSE CALCULATIONS

Prepared by Dome-Tech, Inc.

ECM# 24 – Temperature Setpoint Optimization

Estimated Implementation Costs

Temperature Setpoint Optimization								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Re-Programming Thermostats	Hrs	4		-	50	200	200
2	Programmable Thermostats	EA	3	100	300	0	0	300
	Other Estimated Implementation Costs							-
	TOTAL							\$ 500

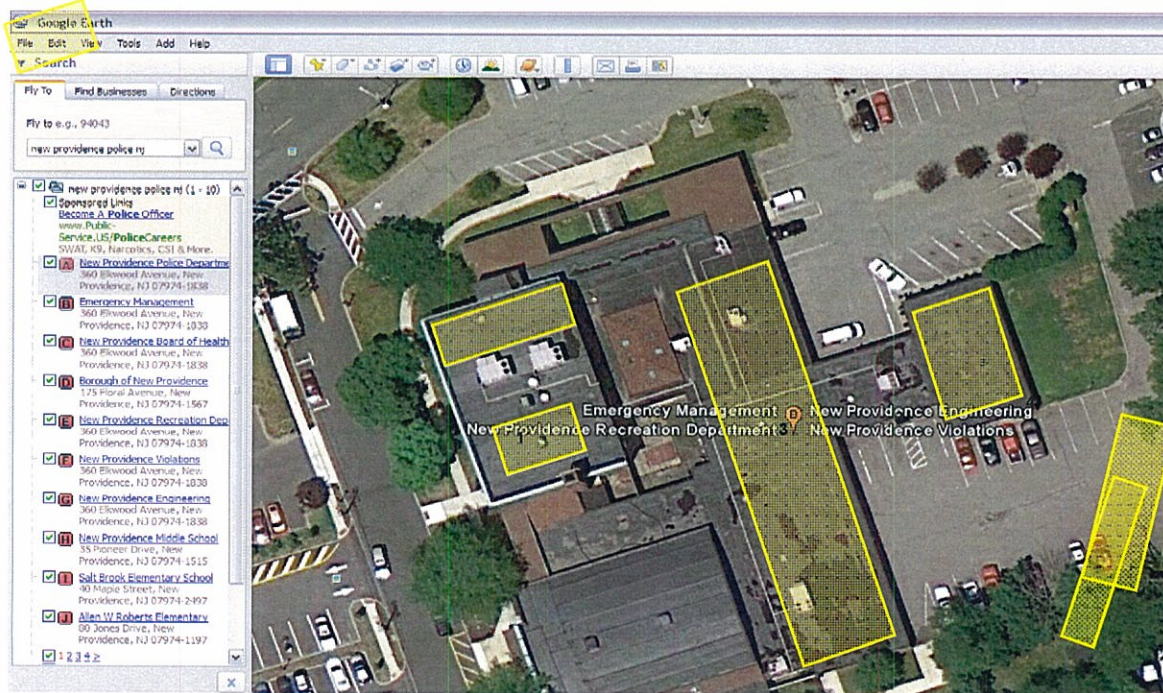
Estimated Savings

Set Point Optimization						
3. Price of Electricity, \$/kWh (blended rate)				\$0.167		
5. Price of Natural Gas, \$/therm				\$1.133		
				Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting				70-75	75	\$700
Space Heating Temperature Setting				70-75	70	\$0
Annual Electric Savings (kWh)				4,148		4,148
Annual Cost and Savings, \$						\$ 700
1. Daily run hours are based on 180 days, 9 hour days						
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.						
3. Assumed 20 CFM/Student						
5. There is no demand reduction for this measure						
6. No rebates or other financial incentives were available for this measure						

Solar PV System - New Providence - MUNICIPAL BUILDING

Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	25	10	107	50			
Panel Count (calculated)	7.3	2.9	31.2	14.6	0.0	0.0	
Panel Count (actual)	7	2	31	14	0	0	
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	45	45	25	22			
Panel Count (calculated)	8.8	8.8	4.9	4.3	0.0	0.0	
Panel Count (actual)	8	8	4	4	0	0	
Gross Panel Qty	56	16	124	56	0	0	
Panel Reduction %	75%	75%	70%	75%	70%	0%	
Net Panel Qty	42	12	87	42	0	0	183
							Total
System Capacity, kw	10	3	20	10	0	0	42
Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	10,182	2,909	21,042	10,182	0	0	44,314



Solar PV System - New Providence - LIBRARY

Performed By Dome-Tech Energy Advisors

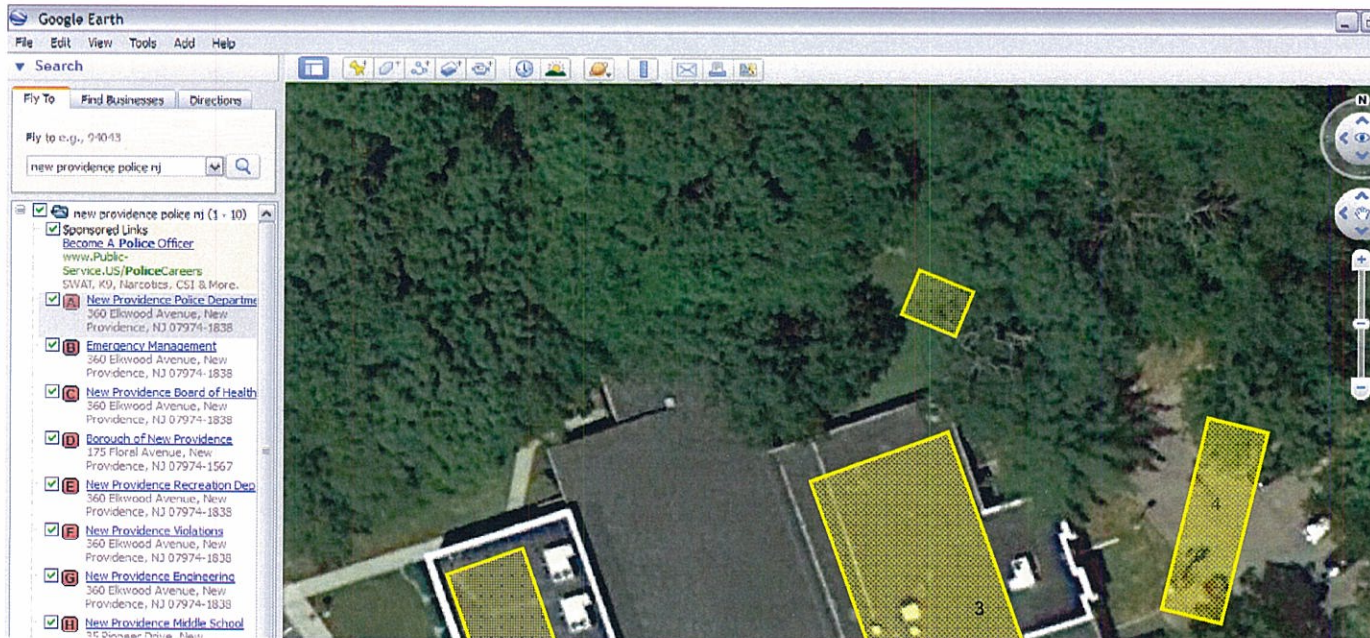
	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	25	36	61				
Panel Count (calculated)	7.3	10.5	17.8	0.0	0.0	0.0	
Panel Count (actual)	7	10	17	0	0	0	

	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	12	12	20				
Panel Count (calculated)	2.3	2.3	3.9	0.0	0.0	0.0	
Panel Count (actual)	2	2	3	0	0	0	

Gross Panel Qty	14	20	51	0	0	0	
Panel Reduction %	75%	75%	70%	70%	70%	0%	
Net Panel Qty	11	15	36	0	0	0	61
							<u>Total</u>

System Capacity, kw	2	3	8	0	0	0	14
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Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	2,545	3,636	8,654	0	0	0	14,836



Solar PV System - New Providence - WWTC

Performed By Dome-Tech Energy Advisors

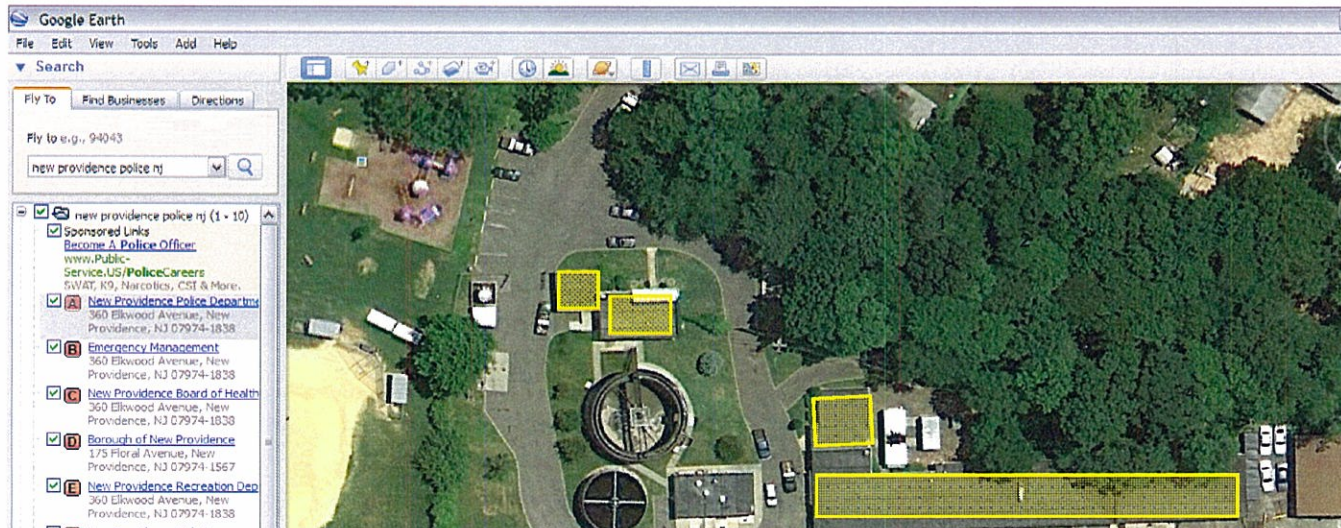
	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	20	25	50	40	90		
Panel Count (calculated)	5.8	7.3	14.6	11.7	26.2	0.0	
Panel Count (actual)	5	7	14	11	26	0	

	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	25	40	35	250	200		
Panel Count (calculated)	4.9	7.8	6.8	48.9	39.1	0.0	
Panel Count (actual)	4	7	6	48	39	0	

Gross Panel Qty	20	49	84	528	1014	0	
Panel Reduction %	75%	75%	70%	70%	70%	0%	
Net Panel Qty	15	37	59	370	710	0	1,190
							Total

System Capacity, kw	3	8	14	85	163	0	274
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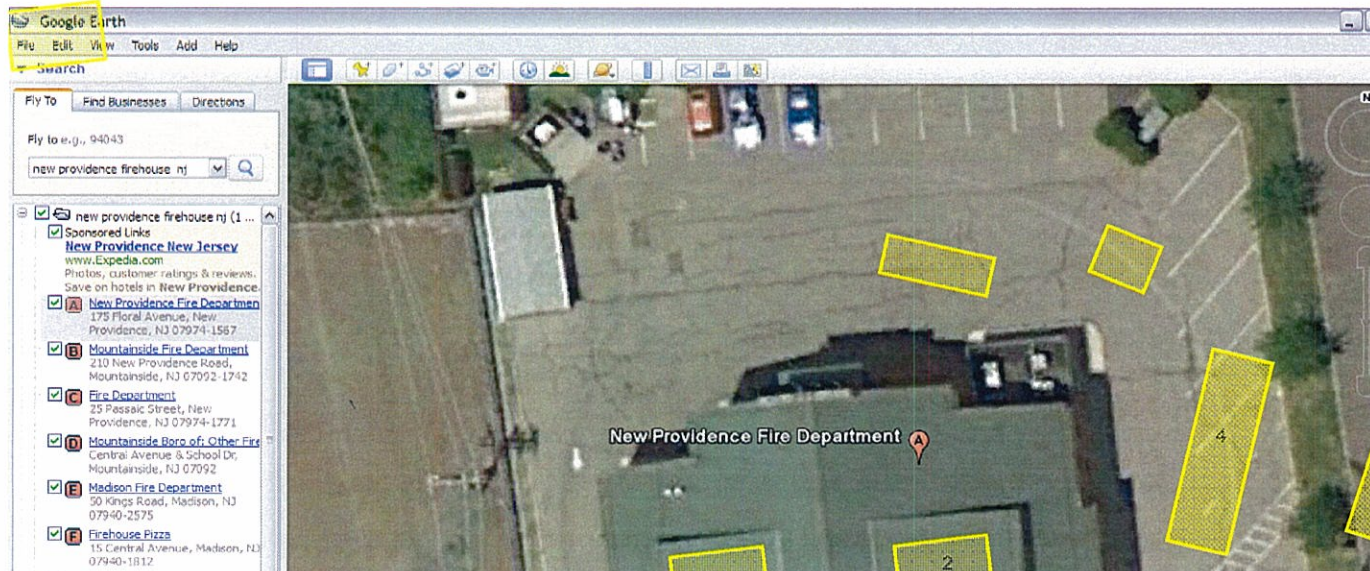
Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	3,636	8,909	14,254	89,598	172,070	0	288,468



Solar PV System - New Providence - FIREHOUSE

Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	20	20					
Panel Count (calculated)	5.8	5.8	0.0	0.0	0.0	0.0	
Panel Count (actual)	5	5	0	0	0	0	
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	30	30					
Panel Count (calculated)	5.9	5.9	0.0	0.0	0.0	0.0	
Panel Count (actual)	5	5	0	0	0	0	
Gross Panel Qty	25	25	0	0	0	0	
Panel Reduction %	75%	75%	70%	70%	70%	0%	
Net Panel Qty	19	19	0	0	0	0	38
							<u>Total</u>
System Capacity, kw	4	4	0	0	0	0	9
Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	4,545	4,545	0	0	0	0	9,091



Solar PV System - New Providence - RESCUE SQUAD

Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	41						
Panel Count (calculated)	11.9	0.0	0.0	0.0	0.0	0.0	
Panel Count (actual)	11	0	0	0	0	0	

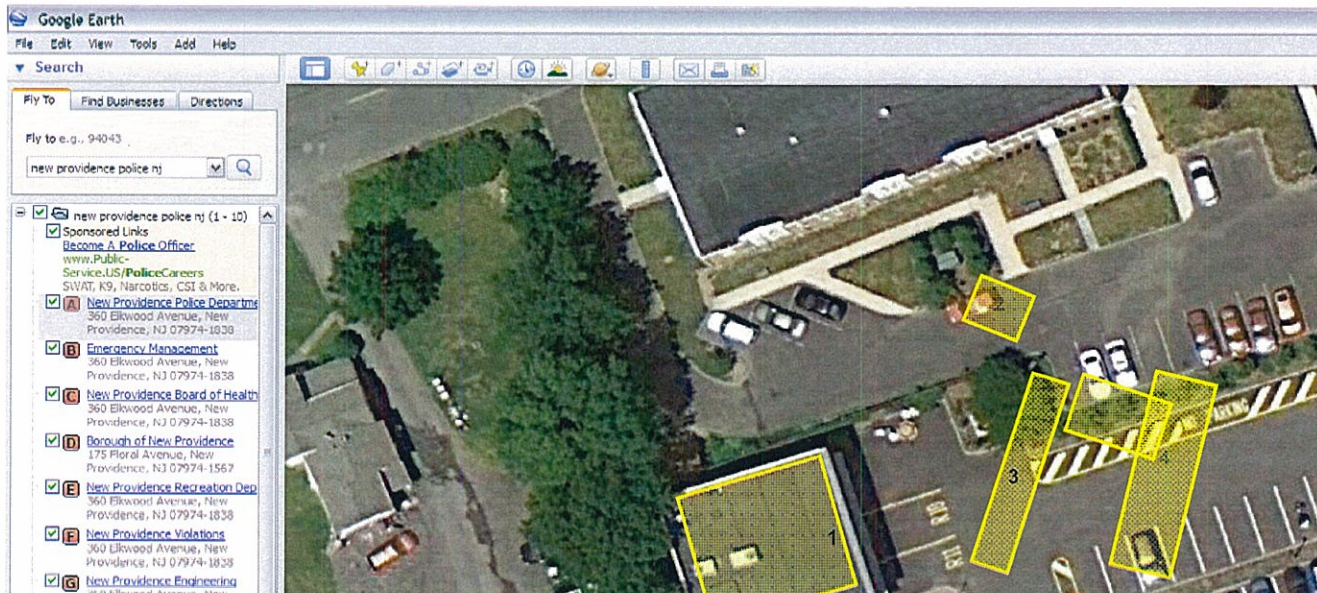
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	45						
Panel Count (calculated)	8.8	0.0	0.0	0.0	0.0	0.0	
Panel Count (actual)	8	0	0	0	0	0	

Gross Panel Qty	88	0	0	0	0	0	
Panel Reduction %	70%	75%	70%	70%	70%	0%	
Net Panel Qty	62	0	0	0	0	0	62

Total

System Capacity, kw	14	0	0	0	0	0	14
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Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	14,933	0	0	0	0	0	14,933



Solar PV System - New Providence - Senior Center

Performed By Dome-Tech Energy Advisors

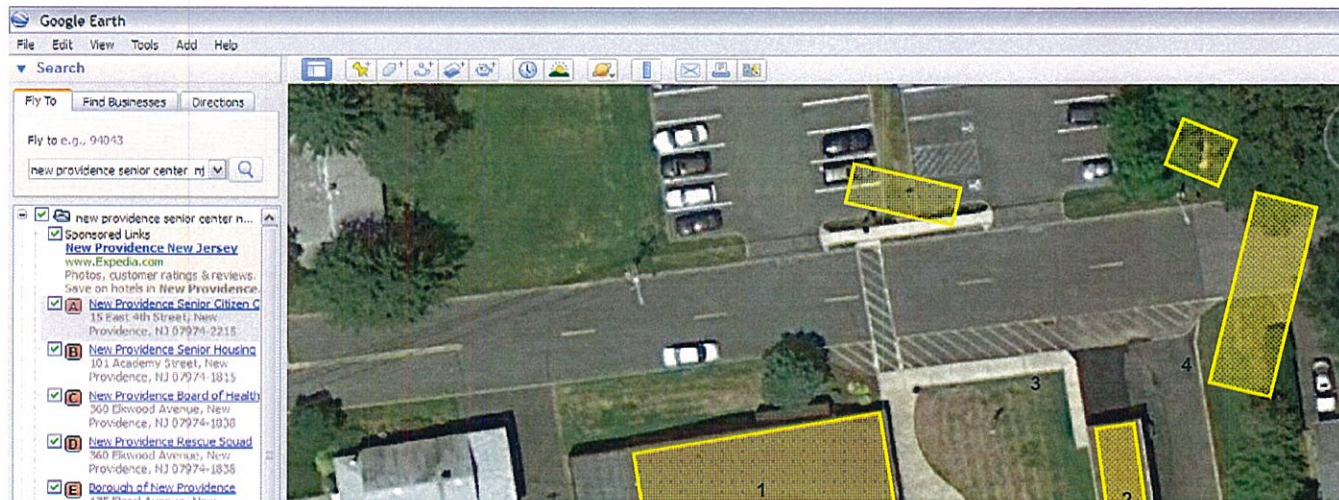
	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	30	55					
Panel Count (calculated)	8.7	16.0	0.0	0.0	0.0	0.0	
Panel Count (actual)	8	16	0	0	0	0	

	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	70	13					
Panel Count (calculated)	13.7	2.5	0.0	0.0	0.0	0.0	
Panel Count (actual)	13	2	0	0	0	0	

Gross Panel Qty	104	32	0	0	0	0	
Panel Reduction %	75%	75%	70%	70%	70%	0%	
Net Panel Qty	78	24	0	0	0	0	102
							Total

System Capacity, kw	18	6	0	0	0	0	23
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Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	18,909	5,818	0	0	0	0	24,727



Wind Analysis - New Providence
Performed By Dome-Tech Energy Advisors

Average Wind Speed	4.6	4.6	5.8
Annual Electric Use, kwh	1,224,480	1,224,480	1,224,480
Electric Cost	\$0.16/kWh	\$0.16/kWh	\$0.16/kWh

Name	New Providence Department of Public Works	
Annual Electric Use, kwh	1,224,480	
Electric Cost, kwh	\$	0.162

	Micro	Traditional 5.2 kw	Traditional 50 kw
Number of Units	20	2	1
kW Capacity, per Unit	1 Kw	5.2 Kw	50.0 Kw
kW Capacity, Total	20 Kw	10 Kw	50 Kw
Annual Production Per Unit	742 Kwh	5,857 Kwh	110,472 Kwh
Annual Production Total	14,843 Kwh	11,713 Kwh	110,472 Kwh
Annual Savings	\$2,405	\$1,898	\$17,896
Installed Cost per Unit	\$6,500		
Installed Cost per Kw		\$6,000	\$5,000
Gross Installed Cost	\$130,000	\$62,400	\$250,000
NJ Incentive	\$47,498	\$37,483	\$98,436
Net Installed Cost	\$82,502	\$24,917	\$151,564
Simple PayBack	34.3	13.1	8.5
% Energy Use	1.2%	1.0%	9.0%

Monthly Averaged Wind Speed At 10 m Above The Surface Of The Earth For Terrain Similar To Airports (m/s)

Latitude	Longitude	January	February	March	April	May	June	July	August	September	October	November	December
40.42	-74.24	5.14	5.19	5.28	5.03	4.42	4.09	3.74	3.66	3.88	4.26	4.87	5.1

avg
4.56

Monthly Averaged Wind Speed At 50 m Above The Surface Of The Earth (m/s)

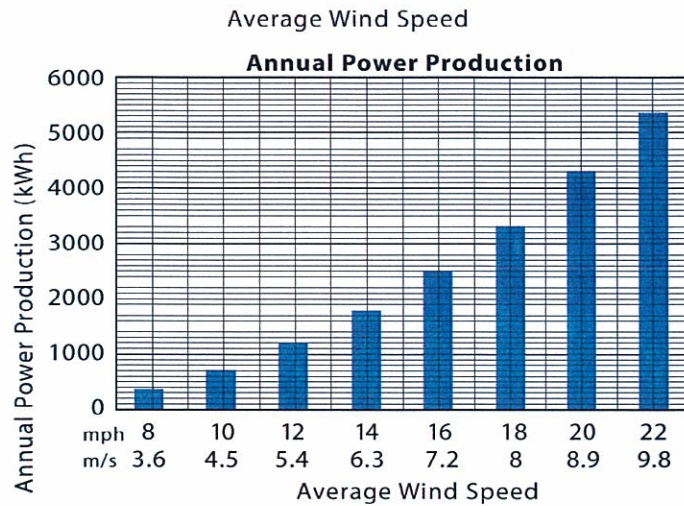
Latitude	Longitude	January	February	March	April	May	June	July	August	September	October	November	December
40.42	-74.24	6.51	6.57	6.68	6.37	5.59	5.18	4.73	4.63	4.91	5.39	6.17	6.45

avg
5.77

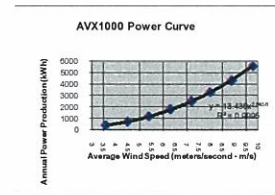
Latitude 40 42 N
Longitude 74 24 W
NASA Surface meteorology and Solar Energy: Data Subset
http://eosweb.larc.nasa.gov/cgi-bin/sse/subset.cgi?email=k_mccarthy@dome-tech.com
UN k_mccarthy@dome-tech.com
PW dometech

http://www.awea.org/smallwind/toolbox/TOOLS/fs_safety.asp

AVX1000 Power Curve



m/s	annual kwh
3.6	390
4.5	710
5.4	1200
6.3	1800
7.2	2500
8	3300
8.9	4300
9.8	5550

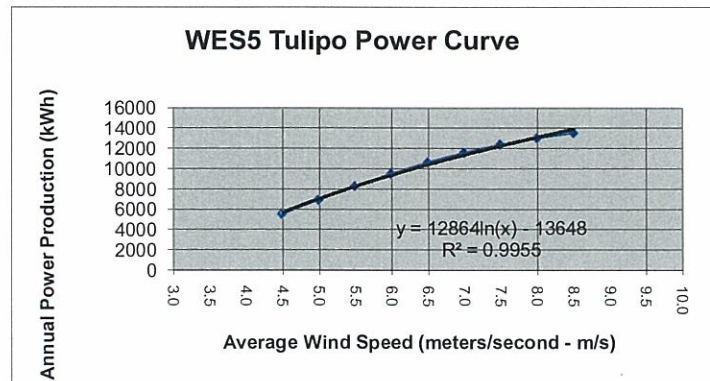


$y = 13.436x^{2.6458}$
 $R^2 = 0.9995$

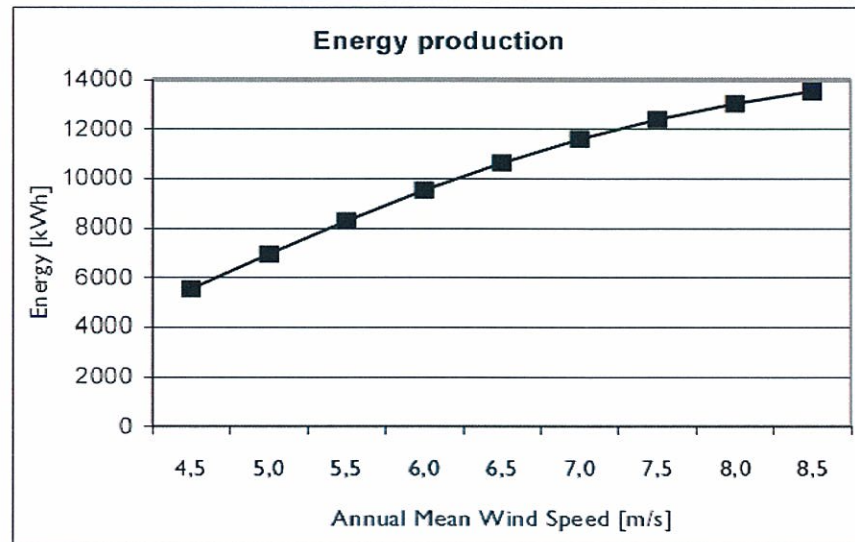
Average Wind Speed * Has to be greater than 2.2 m/s
 Annual Power Producti 742.2

<http://www.prevailingwindpower.com/1000AVX.pdf>

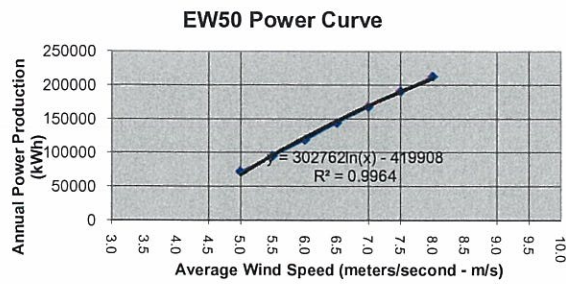
WES5 Tulipo



Wind speed [m/s]	Energy [kWh]
4,5	5541
5,0	6947
5,5	8294
6,0	9534
6,5	10638
7,0	11593
7,5	12391
8,0	13036
8,5	13534



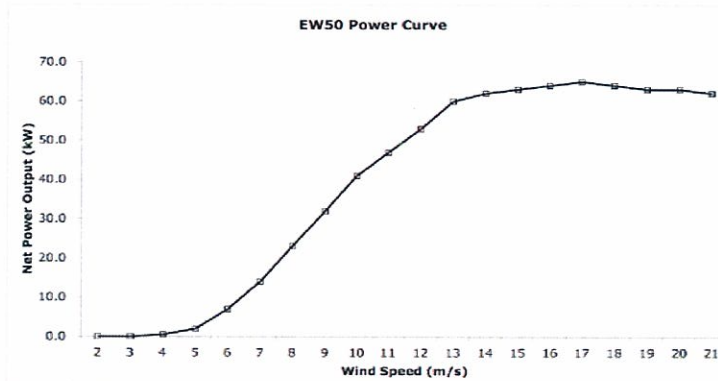
m/s	nnual kwh
5.0	72000
5.5	95000
6.0	119000
6.5	144000
7.0	168000
7.5	191000
8.0	213000



<http://www.entegritywind.com/pdfs/EW50-Specs.pdf>

EW50 Power Curve, 60hz

Wind Speed (m/s)	Wind Speed (mph)	Power (kW)
2	4.5	0
3	6.7	0
4	8.9	0.5
5	11.2	2.0
6	13.4	7.0
7	15.6	14.0
8	17.9	23.0
9	20.1	32.0
10	22.4	41.0
11	24.6	47.0
12	26.8	53.0
13	29.1	60.0
14	31.3	62.0
15	33.5	63.0
16	35.8	64.0
17	38.0	65.0
18	40.2	64.0
19	42.5	63.0
20	44.7	62.0
21	46.9	61.9



Expected Annual Net Energy Production (AEP)

Average Annual Wind Speed (m/s)	Average Annual Wind Speed (mph)	AEP Sea Level (kWh)
5	11.2	72,000
5.5	12.3	95,000
6	13.4	119,000
6.5	14.5	144,000
7	15.6	168,000
7.5	16.8	191,000
8	17.9	213,000