

CITY OF NEWTON

IN BOARD OF ALDERMEN

SPECIAL JOINT MEETING

PUBLIC FACILITIES AND FINANCE COMMITTEES AGENDA

MONDAY, JUNE 16, 2014

7:00 PM
Room 222

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#220-14 HIS HONOR THE MAYOR requesting authorization to transfer the sum of one hundred thousand dollars (\$100,000) from the Human Resources Full-time Salaries Account to the following accounts:

Newton Public Schools Water\$50,000
City Hall Electricity\$50,000
06/02/14 @ 10:05 AM]

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#221-14 HIS HONOR THE MAYOR requesting authorization to appropriate and expend the sum of two million six hundred ten thousand dollars (\$2,610,000) from bonded indebtedness for the purpose of completing energy efficiency projects at several municipal and school buildings in accordance with the City's Capital Improvement Plan. 06/02/14 @ 10:05 AM]

All other items before the Committees will be held without discussion.

Respectfully Submitted,

Deborah Crossley, Chairman
Public Facilities Committee

Leonard J. Gentile, Chairman
Finance Committee



SETTI D. WARREN
MAYOR

City of Newton, Massachusetts
Office of the Mayor

#220-14
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RECEIVED
Newton City Clerk
2014 JUN -2 AM 10:05
David A. Olson, CMC
Newton, MA 02459

June 02, 2014

Honorable Board of Aldermen
Newton City Hall
1000 Commonwealth Avenue
Newton, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Board docket for consideration a request to transfer the sum of \$100,000 from Acct # 0110901-511001 Human Resources Salaries to the following accts:

\$50,000	0111504-5230	Newton Public Schools Water, and
\$50,000	0111506-5210	City Hall Electricity

Thank you for your consideration of this matter.

Very truly yours,

Setti D. Warren
Mayor

1000 Commonwealth Avenue Newton, Massachusetts 02459

www.newtonma.gov



DEDICATED TO COMMUNITY EXCELLENCE



SETTI D. WARREN
MAYOR

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June 02, 2014

Honorable Board of Aldermen
Newton City Hall
1000 Commonwealth Avenue
Newton, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Board docket for consideration a request to authorize the following appropriation and authorize a general obligation borrowing of an equal amount for the purpose of completing energy efficiency projects at several municipal and school buildings in accordance with the City's Capital Improvement Plan.

<u>Item</u>	<u>Amount</u>
Energy Efficiency Projects	\$2,610,000

Thank you for your consideration of this matter.

Very truly yours,

Setti D. Warren
Mayor

1000 Commonwealth Avenue Newton, Massachusetts 02459

www.newtonma.gov



DEDICATED TO COMMUNITY EXCELLENCE



CITY OF NEWTON
PUBLIC BUILDINGS DEPARTMENT
 52 ELLIOT STREET
 NEWTON HIGHLANDS, MA 02461-1605

MEMO

TO: Josh Morse
 Commissioner of the Public Buildings Department
 FROM: Bill Ferguson
 Energy Project Manager

May 30, 2014

RE: Construction Funds for Energy Efficiency Upgrades at 18 buildings- FY15 CIP.

I am writing this memo to request \$2,609,844 from the FY 2015 CIP Energy Efficiency Program to implement energy efficiency conservation measures at 17 buildings. These buildings include twelve schools and five other City owned buildings. I am requesting these funds now in order to help us take advantage of the summer construction window, especially in the schools.

These energy efficiency projects will save the city money, improve the working environment and learning environment for employees, students and the public, and will reduce our carbon foot print. The projects that are included in this request will save \$292,410 in annual energy costs at today's energy prices. We will also be rewarded with \$504,546 in utility incentives. This results in a 5.8 year simple payback with energy and maintenance savings included. At the increased energy prices that we will be paying beginning in FY16, this payback is estimated at 4.6 years. In this respect our timing is perfect. We will be able to offset some of our imminent energy cost increases with reductions in our energy consumption.

In order to try to put the impact of these projects in context, I have prepared the following statistics:

- the buildings included in this request represent 38% of the total square footage owned by the City and 69% of the square footage of all the building in our energy efficiency plan,
- the kWh savings equal 7% of our total electricity use,
- the therm savings represent 7.5% of our total natural gas use,
- and we will be converting two additional buildings from oil to natural gas.

Following the process that was established for Cabot Elementary School and the Newton Free Library energy projects, the Public Buildings Department, in collaboration with our "Preferred Vendor" NStar, will make the improvements which are briefly described below.

1. Lighting fixture retrofits. We will be converting interior and exterior lighting to high efficiency long lasting LED lights.
2. Lighting controls. We will be adding occupancy sensors to all spaces including classrooms, conference rooms and offices. We will also be adding dimming controls to the first row of lights in each classroom to make more effective use of smart boards. We will also be adding controls to exterior lights.
3. Energy Management Systems will be installed to control boilers and ventilation equipment; and for room temperature control and set back.
4. Stream traps will be replaced and vacuum condensate return systems will be restored to save energy and improve building comfort through better balancing of heat distribution.
5. Air sealing and weatherization treatments will be undertaken.
6. The requested funds include a contingency of 10% of the project cost in order to address related repairs that we expect to discover during the implementation of these projects. This particularly relates to needed repairs of unit ventilators in classrooms which are integral to the cost saving identified above.

Should you have any questions or concerns regarding the above, please let me know.

Cc: Maureen Lemieux, Chief Financial Officer
 Alex Valcarce Director of Project Management

FACILITY LOCATION	ENERGY CONSERVATION MEASURES	PROJECT COSTS			ENERGY SAVINGS			RETURN ON INVESTMENT			
		PROJECT COST	INSTAR ELECTRIC INCENTIVE	GRID GAS INCENTIVE	CUSTOMER NET COST	KWH REDUCTION	Therm REDUCTION	Oil Use REDUCTION	ANNUAL ENERGY SAVINGS	MAINTENANCE SAVINGS	PAYBACK IN YEARS (energy & maint)
1 Franklin Elementary School	LED Lighting Upgrades	\$63,936	\$19,083		44,853.00	63,609	-	\$9,223	\$505	22%	4.6
2 Franklin Elementary School	EMS - Exhaust Fan (6) & Steam Plant Control	\$99,943	\$3,219	\$13,179	83,545.00	10,729	7,531	\$11,421	\$	14%	7.3
3 Franklin Elementary School	EMS - Temperature Setback - Unit Ventilator Control (25)	\$93,387	\$	\$9,669	83,718.00	-	5,525	\$7,238	\$	9%	11.6
4 Franklin Elementary School	Steam Traps and vacuum return system restoration	\$85,000	\$	\$11,226	73,774.00	-	6,415	\$8,404	\$	11%	8.8
5 Franklin Elementary School	Weatherization	\$89,164	\$	\$18,643	70,521.00	-	10,653	\$13,955	\$	20%	5.1
	SUBTOTAL	\$481,430	\$72,301	\$52,717	\$36,412.00	74,938	30,124	\$50,241	\$505	14%	7.7
1 Newton Fire Station #2	LED Lighting Upgrades	\$20,085	\$7,522	\$	12,563.00	25,072	-	\$3,635	\$919	36%	2.8
2 Newton Fire Station #2	Weatherization	\$33,654	\$	\$	33,654.00	-	-	\$3,295	\$	10%	10.2
	SUBTOTAL	\$53,739	\$7,522	\$	46,217.00	25,072	0	\$6,930	\$919	17%	5.9
1 Crafts St DPW	LED Lighting Upgrades	\$60,995	\$22,521	\$	38,474.00	75,069	-	\$10,885	\$1,320	32%	3.2
2 Crafts St DPW	Estar Transformers Replacement	\$11,774	\$2,582	\$	9,193.00	8,605	-	\$1,248	\$	14%	7.4
3 Crafts St DPW	Prescriptive Gas - Low Flow Aerators	\$46	\$	\$119	(73.00)	-	68	\$89	\$	-122%	-0.8
4 Crafts St DPW	Prescriptive Gas - Low Flow Showerheads	\$78	\$	\$182	(104.00)	-	104	\$136	\$	-130%	-0.8
5 Crafts St DPW	Base EMS System	\$68,990	\$4,190	\$4,559	60,241.00	13,966	2,605	\$5,438	\$	9%	11.1
	SUBTOTAL	\$141,885	\$29,292	\$4,860	107,731.00	97,640	2,777	\$17,796	\$1,320	18%	5.6
1 Williams Elementary	LED Lighting Upgrades	\$67,646	\$22,817	\$	44,830.00	76,055	-	\$11,028	\$2,541	30%	3.3
2 Williams Elementary	Prescriptive Gas - Low Flow Aerators	\$264	\$	\$684	(420.00)	-	391	\$512	\$	-122%	-0.8
3 Williams Elementary	Weatherization	\$4,520	\$	\$658	3,862.00	-	376	\$493	\$	13%	7.8
	SUBTOTAL	\$72,430	\$22,817	\$1,342	46,272.00	76,055	767	\$12,033	\$2,541	30%	3.3
1 Underwood Elementary	LED Lighting Upgrades	\$63,596	\$16,960	\$	46,636.00	56,532	-	\$8,197	\$2,095	22%	4.5
2 Underwood Elementary	Prescriptive Gas - Low Flow Aerators	\$425	\$	\$1,101	(675.00)	-	629	\$824	\$	-122%	-0.8
3 Underwood Elementary	Weatherization	\$5,752	\$	\$667	5,085.00	-	381	\$499	\$	10%	10.2
4 Underwood Elementary	Front-End EMS System, boiler controls	\$34,824	\$397	\$4,828	29,599.00	1,323	2,759	\$3,806	\$	13%	7.8
	Controls for Existing Unit Ventilators with Pneumatic Transducer for control of the Steam Valve,	\$66,362	\$752	\$6,802	58,808.00	2,507	3,887	\$5,455	\$	9%	10.8
	Restore vacuum condensate return system, repair or replace steam traps, and control of boiler room pneumatic zone valves	\$93,388	\$1,059	\$7,628	84,701.00	3,530	4,359	\$6,222	\$	7%	13.6
	SUBTOTAL	\$267,147	\$49,168	\$14,296	\$244,584.00	151,882	24,015	\$45,704	\$2,095	12%	8.1
1 Countryside Elementary	Prescriptive Gas - Low Flow Aerators	\$494	\$	\$1,279	(785.00)	-	731	\$958	\$	-122%	-0.8
2 Countryside Elementary	Front-End EMS - Steam Plant	\$49,935	\$5,588	\$3,355	40,992.00	18,628	1,917	\$5,212	\$	13%	7.9

FACILITY LOCATION	ENERGY CONSERVATION MEASURES	PROJECT COSTS			ENERGY SAVINGS			RETURN ON INVESTMENT				
		PROJECT COST	INSTAR INCENTIVE	NETGAS INCENTIVE	CUSTOMER NET COST	KWH RE-DUCTION	Thermal RE-DUCTION	OIL Use RE-DUCTION	ANNUAL ENERGY SAVINGS	MAINTENANCE SAVINGS	PAYBACK IN YEARS (energy & maint)	
3 Countryside Elementary	Unit Ventilator Control	\$45,336	\$5,069	\$3,043	37,223.00	16,898	1,739		\$4,728	\$	13%	7.9
	Control of Air Handling Units, Rooftop Units, Exhaust Fans and Electric Baseboard Heat	\$59,200	\$6,626	\$3,978	48,596.00	22,088	2,273		\$6,180	\$	13%	7.9
	SUBTOTAL	\$104,536	\$11,695	\$6,991	85,819.00	38,986	4,012		\$10,908	\$	13%	7.9
1 Memorial Spaulding	Prescriptive Gas - Low Flow Aerators	\$563	\$	\$1,458	(895.00)	-	833		\$1,091	\$	-122%	-0.8
	Weatherization	\$6,220	\$	\$826	5,394.00	-	472		\$618	\$	-	8.7
	SUBTOTAL	\$6,783	\$	\$2,284	4,499.00	0	1305		\$1,710	0	36%	2.6
1 Bigelow Middle	Refrigeration ECM Motors and Evap Controls	\$1,946	\$2,633	\$	(687.00)	8,776	-		\$1,273	0	-185%	-0.5
	Unit Ventilator Control	\$140,609	\$4,446	\$9,511	126,652.00	14,820	5,435		\$9,269	0	7%	13.7
	SUBTOTAL	\$142,555	\$13,979	\$9,511	125,965.00	14,820	5,435		\$10,542	0	7%	13.6
1 Peirce School	LED Exterior lighting and controls	\$33,743	\$7,727	\$	26,016.00	25,757			\$ 3,348	\$ 568	15%	6.6
	Energy Management System	\$99,998	\$3,331	\$ 17,882	78,785.50	16,653	10,218		\$ 24,991	\$	32%	3.2
	SUBTOTAL	\$133,741	\$11,058	\$17,882	104,666.50	42,410	10,218		\$28,339	\$568	19%	5.3
1 Newton Senior Center	Air Sealing	\$5,816	\$	\$ 355	5,460.75	203			\$ 453	\$	8%	12.1
	Wireless Pneumatic T-stats	\$27,179	\$	\$ 3,155	24,023.75	1803			\$ 4,021	\$	17%	6.0
	SUBTOTAL	\$32,995	\$	\$3,510	27,484.50	1,986	0		\$8,472	0	8%	12.6
1 Lincoln-Elliott Elementary	Oil to Gas Conversion	\$40,000	\$	\$	40,000.00	25,000			\$	\$		
		\$209,086	\$11,058	\$21,392	175,636.00	42,410	12,224		\$2,813	\$568	19%	5.3
	SUBTOTAL	\$249,086	\$11,058	\$21,392	175,636.00	67,410	12,224		\$3,626	\$1,136	19%	5.3
1 Newton Senior Center	LED Interior Lighting Upgrades	\$15,449	\$2,546	\$	12,903.00	8,487			\$1,103	\$884	15%	6.5
	LED Exterior Lighting Upgrades	\$8,265	\$2,392	\$	5,874.00	7,972			\$1,036	\$59	19%	5.4
	SUBTOTAL	\$23,714	\$4,938	\$	18,777.00	16,459	0		\$2,139	\$943	16%	6.9
1 Lincoln-Elliott Elementary	LED Exterior Lighting Upgrades	\$6,304	\$4,226	\$	2,078.00	14,086	0		\$2,030	\$78	101%	1
		\$6,304	\$4,226	\$	2,078.00	14,086	0		\$2,030	\$78	101%	1
	SUBTOTAL	\$12,608	\$8,452	\$	4,156.00	28,172	0		\$4,060	\$156	12%	8.3
1 Public Bldgs Dept.	LED Interior Lighting Upgrades	\$17,455	\$1,847	\$	15,608.00	6,155			\$831	\$200	10%	9.8
	LED Exterior Lighting Upgrades	\$1,643	\$828	\$	815.00	2,759			\$372	\$59	53%	1.9
	SUBTOTAL	\$19,098	\$2,675	\$	16,423.00	8,914	0		\$1,203	\$259	10%	10
1 Elliot St. DPW OPS Center	LED Interior Lighting Upgrades	\$19,907	\$5,202	\$	14,705.00	17,339			\$2,341	\$578	20%	5
	LED Exterior Lighting Upgrades	\$2,196	\$1,021	\$	1,175.00	3,403			\$459	\$59	44%	2.3
	SUBTOTAL	\$22,103	\$6,223	\$	15,880.00	20,742	0		\$2,800	\$637	22%	4.6
1 Newton South - 2014	Automatic Motion Controls	\$3,942	\$1,928	\$	2,015.00	6,425			\$867	\$	43%	2.3
	Conversion from oil fired steam boiler to gas fired unit heaters	\$84,082	\$	\$7,438	76,645.00	0	4,250	6,137	\$13,550	\$2,500	21%	4.8
	SUBTOTAL	\$88,024	\$	\$7,438	79,290.00	6,425	4,250	6,137	\$17,417	\$2,500	21%	4.8
1 Newton South - 2014	LED Interior Lighting Upgrades	\$92,681	\$40,607	\$	52,074.00	135,357			\$17,055	\$2,867	38%	2.6
	Automatic Motion Controls	\$9,663	\$5,572	\$	4,091.00	18,572			\$2,340	\$	57%	1.7
	SUBTOTAL	\$102,344	\$46,179	\$	56,165.00	153,929	0		\$19,395	\$2,867	38%	2.6
1 Newton South - 2015	LED Interior Lighting Upgrades	\$59,549	\$41,298	\$	18,251.00	137,661			\$17,345	\$1,118	101%	1
		\$59,549	\$41,298	\$	18,251.00	137,661			\$17,345	\$1,118	101%	1

FACILITY LOCATION	ENERGY CONSERVATION MEASURES	PROJECT COSTS				ENERGY SAVINGS				RETURN ON INVESTMENT		
		PROJECT COST	NSTAR ELECTRIC INCENTIVE	NGRID GAS INCENTIVE	CUSTOMER NET COST	KWH REDUCTION	Therm REDUCTION	OIL Use REDUCTION	ANNUAL ENERGY SAVINGS	MAINTENANCE SAVINGS	PAYBACK IN YEARS	ROI (energy & maint)
Newtown South -2015	Automatic Motion Controls	\$4,519	\$3,695	\$	824.00	12,318	-	-	\$1,552	\$	188%	0.5
		\$24,972	\$23,652	\$	1,320.00	78,840	-	-	\$9,934	\$	753%	0.1
		\$55,933	\$18,123	\$	37,810.00	60,411	-	-	\$7,612	\$1,294	24%	4.2
		\$13,956	\$5,141	\$	8,815.00	17,136	-	-	\$2,159	\$	24%	4.1
		\$281,273	\$138,089	\$	123,185.00	460,295	-	-	\$57,997	\$9,279	51%	1.9
		\$60,812	\$10,462	\$	50,350.00	34,872	-	-	\$4,708	\$2,087	13%	7.4
		\$11,557	\$3,452	\$	8,105.00	11,508	-	-	\$1,554	\$	19%	5.2
Countrywide	LED Exterior Lighting Upgrades	\$6,637	\$5,029	\$	1,608.00	16,762	-	-	\$2,263	\$59	144%	0.7
		\$79,006	\$18,943	\$	60,063.00	63,142	0	0	\$9,574	\$2,746	18%	5.6
		\$99,684	\$9,810	\$	89,874.00	32,699	-	-	\$4,421	\$3,652	9%	11.1
Bigelow Middle -1st Fir & GR	Automatic Motion Controls	\$26,914	\$6,628	\$	20,286.00	22,092	-	-	\$2,987	\$	15%	6.8
		\$13,784	\$8,699	\$	5,085.00	28,996	-	-	\$3,920	\$59	78%	1.3
		\$140,382	\$25,136	\$	115,246.00	33,787	0	0	\$11,226	\$3,711	13%	7.7
Oak Hill Middle -1st & GR Flrs	Automatic Motion Controls	\$99,075	\$12,924	\$	86,151.00	43,081	-	-	\$6,066	\$4,094	12%	8.5
		\$38,978	\$7,032	\$	31,946.00	23,440	-	-	\$3,300	\$	10%	9.7
		\$7,445	\$2,326	\$	5,119.00	7,753	-	-	\$1,092	\$59	22%	4.4
Oak Hill Middle School	LED Exterior Lighting Upgrades	\$145,498	\$22,282	\$	123,216.00	74,274	0	0	\$10,458	\$4,153	32%	3.4
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Contingency (10%)		\$	237,259									4.6
Payback with energy & maint. savings at FY 2015/2016 energy costs												
Contingency amount not included in payback because these primarily for normal maintenance items.												