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APPROVED  
9/11/2013  
WBC

WELLINGTON SCHOOL BUILDING COMMITTEE  
MINUTES  
December 5, 2012  
School Administration Building Conference Room  
7:30 AM

**Meeting #160**

Committee Members Attending: Joe Barrell, John Bowe, Patricia Brusch, Laurie Graham, Mark Haley, Bill Lovallo, Eric Smith

Clerk: Chris Kochem

Guests: Susan Carey

*Mark Haley, Chair, called the meeting to order at 7:40 a.m.*

**Discussion of Ongoing Work**

Bill Lovallo reported on the punch list for the Wellington School. He had a conference call with Skanska about progress through the last week. A lot of progress has been made and, so as not to interfere with school activities, there will be one last effort to complete the work over the winter break and have all projects done by the end of December.

- The assistant principal's office is almost done.
- The access panel for the gymnasium smoke detector should be done soon.
- The outside roof top screening, baffling, etc. will be done over the winter break, assuming weather conditions will allow it.
- Landscaping - the landscaping contractor said that some trees have had to be replaced and the warranty for these items will be begin anew.
- Package of submittal information (manuals and paperwork) for the playground had been furnished.
- Lobby floor - Fred Domenici (Belmont Public Schools) has approved the lobby floor. With the use over the last year, the floor has developed a nice patina. The stair risers have been cleaned and touched up.
- Small children's play area - fencing with double gates for the play area at the lower school playground was installed.
- Kitchen freezer has not been resolved. Dan Lanneville of Skanska is still working on this.
- Commissioning Report - two items have not been closed out because GGD has to review operation sequences prepared by NB Kenney. Burnell recently discovered that the controls have not been working properly during the unoccupied setting. Fred Domenici has the top Burnell staff member coming to look at the way the system works. Once these items have been completed, the Commissioning Report will then be submitted to the town of Belmont for the final Certificate of Occupancy.
- Playground Slide - there was a brief discussion about a slide that has been recalled by the US Consumer Product Safety Commission. The Wellington has a slide that may be similar to this particular slide so it has been restricted by the school. Amy Spangler sent an email to the community about not using the slide until this issue has been resolved.
- Couple of expansion joints that have to be resolved. The exterior joints require an additional piece

- of prefinished metal to complete the cover which will be installed by Skanska's contractor.
- Metal pieces for the inside of the windows will be installed to match the window trim finish and cover the unfinished wall surfaces that can be seen through the window when looking from the outside.
  - Window screens are all done and the shades are all operational.
  - Electric shades in the cafeteria – remote needs to be replaced.

**CHPS Certification** – in order to complete the certification, the commissioning report has to be completed and two items on operational use are needed from Fred Domenici. Laurie Graham is working to finish the documentation to send to the MSBA.

**Temporary Certificate of Occupancy** – an updated Temporary Certificate of Occupancy has been issued – there are seven items that need to be completed before a permanent Certificate of Occupancy can be issued.

### **Rooftop Noise Mitigation**

Bill Lovallo had a scheduled meeting with the Planning Board on October 23 but did not have enough progress done so the meeting date was changed to December 11. Some of the neighbors were disappointed that the meeting was rescheduled. Unfortunately, there is not a lot of progress that has been done so Mr. Lovallo will give an oral update and ask for a continuance to February. The plan is to get things done on the roof by the end of this year, then have Acentech schedule some readings, then send the report to the Planning Board at its February meeting.

Bill Lovallo has heard from two of the neighbors that there does not seem to be a decrease in the sound. Operationally, Fred Domenici is getting better at managing the system. Mr. Lovallo is optimistic that the fin tube radiation is operating at night (rather than the RTU's). Mr. Domenici reports that, even though his monitor is saying that the system is shut down, there is operation taking place – he is working with Burnell to figure this out. Mr. Lovallo is hopeful that the baffles will really help to reduce the exhaust noise on the RTU's.

Susan Carey (neighbor) asked how there can be any certainty to that, when the controls say that the RTU's are off, that they are really off. Bill Lovallo said that Fred Domenici is in training to be sure he understands how to operate and get the key reports from the system.

Susan Carey reported that the Orchard Street side of the Wellington School was lit each night over the Thanksgiving weekend. Mr. Lovallo noted that the lighting has controls and should be managed by the school department.

8:25 a.m. – Joe Barrell left the meeting.

**Solar Panels** – Laurie Graham presented information about proposed solar installations in the Belmont Public Schools.

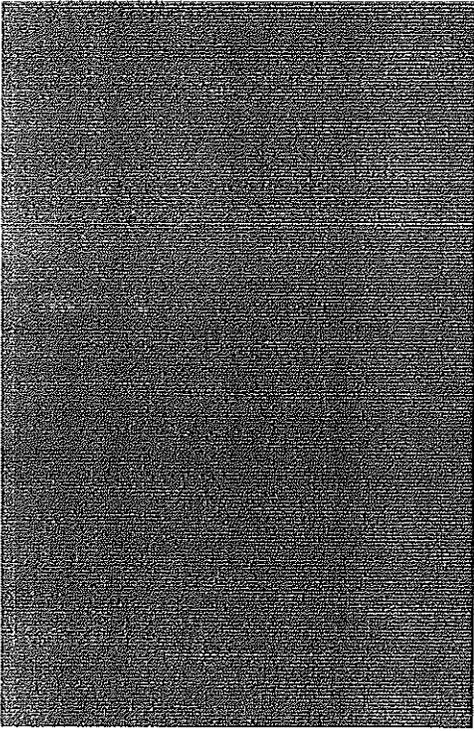
The next meeting of the WBC will be January 9, 2013 at 7:30 a.m. in the SAB.

*Laurie Graham made a motion to adjourn the meeting at 8:40 a.m. The motion was seconded by Pat Bruschi and unanimously approved.*

Respectfully submitted,

A handwritten signature in blue ink that reads "Mark x Haley". The signature is written in a cursive style with a large, stylized 'H'.

Mark Haley, Chair



# Solar PV Installation at Belmont Public Schools

Presentation to:  
Belmont School Committee  
November 20, 2012

## Review of Solar procurement

- Done through PPA (purchase power agreement).
- Procure solar using investment of the developer.
- Buy solar output from the panels on the school roofs—continue to buy remainder of electricity needs from BMLD.
- Solar developer keeps government tax subsidies and SRECs.



# How we arrived where we are

- Meet with internal Belmont stakeholders
  - Staff
  - Permanent Building Committee
- Eliminate Town buildings—focus on schools
- Hired technical consultant (Cadmus)(through MAPC)
- Release RFP—mandatory pre-bid conference/site visit
- Review RFP responses—interviews of responding firms
- Further in-house (staff, Town consultant) conversations regarding roof conditions.
- In-house financial analysis (by Cadmus)
- Recommendations: Broadway Electric and Wellington

# Why the Wellington

- Primary limiting factor is the age and condition of the roofs.
- Wellington is "solar ready." (Russo-Barr--Town roofing consultant).
- BHS roof is in bad condition
  - No capital budget for roof repairs prior to solar.
  - Including the cost of roof repairs in the PPA would make solar uneconomic.
- Butler, Burbank, Winn Brook, Chenery roofs are too old to be solar ready—too new to economically merit replacement or rehab.



# Why Broadway Electric

- Three good RFP responses—Broadway Electric best meets particular needs of BPS.
  - Broadway Electric is well-established local firm that has considerable solar credentials.
  - Broadway Electric only firm to offer a PPA price that was less than the discounted BMLD price to BPS.
  - Broadway Electric has immediate access to financing—has multi-faceted firm that offers lower long-term risk to BPS.
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# Wellington solar economics

- Solar at the Wellington is a break-even financial proposition.
- Solar PV will produce between 1/5 and 1/4 of electricity used at the Wellington (23%).
- At current BMLD rates (and moderate price escalations), slight annual budget advantage.
- Price increases other than normal energy price increases will improve the economics.
  - Substation will increase rate advantage more.
  - Move to fully-cost-based pricing will increase rate advantage more.
- Future costs of generation environmental compliance will increase rate advantage more.



## Identified longer-term non-solar concerns

- Advisory Group has identified certain long-term concerns surfaced by solar inquiries:
- Conditions of BPS roofs are questionable—heading toward crisis response.
- The substantial BMLD discount provided to Town and BPS buildings may not be sustainable.
- Inconsistent with BMLD move toward fully-cost-based pricing.
- BMLD currently in preparation of “cost-of-service” study.



# Recommendations

- Select Broadway Electric to enter into contract negotiations for Solar at the Wellington.
- As roofs are repaired/replaced at the remaining schools, wrap Solar into future roof projects.
- Seek short-term Capital Budget funding for roof condition survey.

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# Working Group for Dr. Kingston

- Tony DiCologero (BPS Finance Director)
- Roger Colton (Energy Committee co-chair)
- Jenny Fallon (ESCO Committee chair)
- Steve Klionsky (utility legal counsel)

With additional thanks for help/advice from:

- Kellie Hebert
- Pat Brusch (Permanent Building Committee)
- Kevin Looney



<b>Wellington</b>			
Broadway Electric			111.65 Solar Only kW (DC)
<b>Energy Use and Slar Generation</b>			
Building Energy Use (kWh/yr)			582,536
Solar Generation (kWh/yr)			133,273
<b>Solar Energy Value</b>			
	kWh	Rate	Value
Offset	132,118	\$0.08734	\$11,539
<u>Net Metered</u>	<u>1,155</u>	<u>\$0.05586</u>	<u>\$65</u>
Total	133,273		\$11,604
<b>Solar Energy Cost</b>			
	kWh	Rate	Value
Solar PPA	133,273	\$0.08150	\$10,862
<b>Net Savings (1st Year)</b>			<b>\$742</b>

**Wellington****Bidder: Broadway Renewable Strategies**

111.65 kW

Year	Energy Generation (kWh)	Savings		PPA Cost		Net Savings(\$)
		Average Grid & Net Metering Rate	Savings	PPA Rate	PPA Cost	
1	133,273	\$0.087	\$11,604	\$0.0815	\$10,862	\$742
2	132,610	\$0.089	\$11,777	\$0.0831	\$11,024	\$753
3	131,950	\$0.091	\$11,953	\$0.0848	\$11,188	\$764
4	131,294	\$0.092	\$12,131	\$0.0865	\$11,355	\$776
5	130,641	\$0.094	\$12,312	\$0.0882	\$11,525	\$787
6	129,991	\$0.096	\$12,496	\$0.0900	\$11,697	\$799
7	129,344	\$0.098	\$12,682	\$0.0918	\$11,871	\$811
8	128,700	\$0.100	\$12,872	\$0.0936	\$12,049	\$823
9	128,060	\$0.102	\$13,064	\$0.0955	\$12,228	\$835
10	127,423	\$0.104	\$13,259	\$0.0974	\$12,411	\$848
11	126,789	\$0.106	\$13,457	\$0.0993	\$12,596	\$860
12	126,158	\$0.108	\$13,658	\$0.1013	\$12,784	\$873
13	125,531	\$0.110	\$13,861	\$0.1034	\$12,975	\$886
14	124,906	\$0.113	\$14,068	\$0.1054	\$13,169	\$900
15	124,285	\$0.115	\$14,278	\$0.1075	\$13,365	\$913
16	123,666	\$0.117	\$14,491	\$0.1097	\$13,565	\$927
17	123,051	\$0.120	\$14,708	\$0.1119	\$13,767	\$940
18	122,439	\$0.122	\$14,927	\$0.1141	\$13,973	\$954
19	121,830	\$0.124	\$15,150	\$0.1164	\$14,181	\$969
20	121,224	\$0.127	\$15,376	\$0.1187	\$14,393	\$983
TOTALS	2,543,163		\$268,123		\$250,979	\$17,144

*No discounting*

1. SITE

Wellington

2. BIDDER Broadway Electric 111.65 Solar Only

KW (DC)

3. INPUTS

**PV System**

Annual Energy Generation (kWh) 133,273 Source: Broadway proposal  
Annual System Degredation 0.5%

**Electric Rates**

All-In Energy (\$/kWh) \$0.08734 Source: Electrical bill March 2012  
All-In Energy Rate Escalation 2.0% Source: EIA Projection  
1st Year PPA Rate (\$/kWh) \$0.0815 Source: Broadway proposal (option (2) - no roof repairs)  
PPA Rate Escalation 2.0%  
Net Metering Rate \$0.05586 Assumed to be same as Generation Charge. (Belmont Phase II)  
Net Metering Rate Escalation 2.0% Same as All-in Energy Rate Escalation

**Building Energy Use (kWh/month)**

Jan	46,560	83,200	SEPT
Feb	52,602	68,720	OCT
Mar	43,954	66,240	NOV
Apr	52,904	60,000	DEC
May	45,408	52,240	JAN
Jun	52,422	43,600	FEB
Jul	50,286	52,640	MAR
Aug	52,160	45,120	APR
Sep	46,560	52,080	MAY
Oct	46,560	50,000	JUNE
Nov	46,560		
Dec	46,560		

Note: 46,560 kWh used for Sept - Dec and Jan for Wellington  
279360 46560

582,536 0.228781

**Building Energy Use Distribution**

Business Days	Energy	77%	Days	250
Weekends & Holidays		23%		115