



Mary Ann Williams
Project Executive

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253 Summer Street
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Summary of Green Charette Input Meeting Notes
Winthrop High School
March 21, 2013

Attendees:

Owner

Winthrop: Peter Gill, Town Council President, Brian Perrin, Winthrop Police and School Committee, Vice-Chair, John Macero, Superintendent, Mary Lou Osborne, Co-Chair SBC, Martha Kelleher, MS Principal, Gerry Boyle, Facilities, Custodial Staff, etc.

Owner's Project Manager

Skanska USA Building: Mary Ann Williams

Design Team

HMFH Architects: Chin Lin, Tina Stanislaski, George Metzger
GGC (MEP Engineers)
Samiotis (Civil Engineer)

National Grid

Customer Energy Solutions: Mark Stafford, Lead Account Executive Architect & Engineer Program

INTRODUCTION and OVERVIEW (Attached):

- Green Charette
- What is LEED?
- Why LEED?
- Credit Library

ENERGY EFFICIENT / SUSTAINABILITY INITIATIVES

- Develop a design that is high in quality, energy efficient, cost-effective, and meets the needs of the Educational program.
- Develop a design that conforms to the Massachusetts High Performance Green Schools Guidelines (MA-CHPS Guidelines) or LEED-Schools standards. Winthrop School Building Committee voted to proceed with LEED 2009 for Schools New Construction Standards.
- Develop accurate and complete cost estimates, including life cycle costs of operating the school as it relates to future operational and capital budgets

- Identify community concerns that may impact study options, including septic disposal, conservation and environmental considerations. Winthrop has adopted the Massachusetts Stretch Code and is a Green Community.

PROJECT GOALS:

- 1) **Energy Performance:** Maximizing efficiency reduces operational costs and increases NGRID participation and potentially increases MSBA reimbursement rate.
- 2) **Winthrop** has adopted the **Stretch Code** and is a **Green Community** 20% better than base rate
- 3) **Maximize NGRID Incentive Program:** Some premium to be paid for the cost of a more efficient system. Reimbursement on differential costs up to 90% → Goal 90%
- 4) **Limit Water Usage**

Sustainable Sites – Possible Points 24

- Balanced site: cut and fill plan
- Rammed Aggregate piers – extract, crush, mix into soil and improves soil base

Water Efficiency – Possible Points 11

Winthrop is an MWRA Community Converting Irrigation to non-MWRA resources

- Innovative Wastewater Technologies Water use reduction raise to 30% → Rain water cistern
- Water efficient drought resistant landscaping and pervious pavement
- Meter on the sewer
- Potable water for washing hands

Energy and Atmosphere – Possible Points 33

NGRID Customer Energy Solutions Incentive Program

Optimize Energy Performance - Energy Consumption Measures (ECM)

- a) Utility Rate will be lower
- b) NGRID Study: will split cost of 3rd Party Energy Modeler with Town
- c) Money comes from NGRID at end of the project after verification of performance goals whereas reimbursement will go to the Town and not the School Budget or Project Budget
 - i) Electric buy down period (Payback) typically 2 years
 - ii) Gas buy down period (Payback) typically 9-10 years
- d) Program established to assist communities financially
- e) Energy Modeling – 3rd Party Modeler set up baseline (NGRID/Winthrop Cost)
- f) Energy Model – Building Envelop, Lighting, Air Conditioning, pumps, motors to establish an offer for numbers of energy measures → 30% Goal
- g) One energy model to be conducted during Schematic Design (50%) to look at Life Cycle Costs
- h) One model at 95% Construction Documents
- i) Complete commissioning, measurement and verification process

NGRID Building Operations and Maintenance Program

NGRID has a Building Operations and Maintenance Program available for other buildings in town.

GEO-Thermal Heat Pumps

NGRID supports Geo-Thermal but does not support solar as it is not as efficient as everyone believes. Constant temperature of the ground acts as a heat sink. Not paying for a boiler or chilled water system and circulating water with heat exchange. Need to address soil issues if contamination or remediation is necessary

Materials and Resources – Possible Points 13

- Storage and collection of recyclables
- Construction Waste Management
- No Fly Ash in slabs

Indoor Environmental Quality – Possible Points 19

Increased ventilation (**Indoor Air Quality**)

Basis of Design:

Displacement Ventilation (Comfortable and quite classrooms) Zone of comfort

Displacement Ventilation works because envelop systems improved over last 10 years and got tighter and lighting loads got lighter (better windows and insulation).

- As temperature rises humidity lowers.
- Upward moving air pushes warmer air upward
- Diffuser pulls that warmer air out of the room
- Highest oxygen content coming in

Maintenance Goals for Systems “Keep it simple”: Operational simplicity on the mechanical side and more complexity on the controls side to move airflow better for better Indoor Air Quality. Displacement ventilation has simple control valve and fin-tube radiation. A single common platform for controls should be specified for an “open system” rather than “proprietary system”.

Innovation and Design Process – Possible Points 6

- Green Maintenance – simplify maintenance Rubber vs Vinyl
- Additional Acoustics (Airport/Massport – could improve R-value Question for Bob DeLeo)
- Windows (Airport/Massport – could improve R-value Question for Bob DeLeo)
- Elevate transformer and other equipment that normally sits on the ground reducing maintenance and down time

Regional Priority Credits – Possible Points 4

- PVA Photovoltaics – Not supported by NGRID
- Brownfield remediation
- Storm water management
- Reduce Heat island Affect Green roof / Reflective Roof