Somerville High School
Alternative 4b: 4/11/2016 Plan First Floor
Alternative 4b:

1. Academic “wrapper” – Opened
2. Liner/Centers – LGI/Daylighting/Vertical Linkage
3. Bridges – Commons Areas
Alternative 4b: Daylighting
Alternative 4b: 1st Floor

Athletics
Dining Commons
Semi-Public Programs
Alternative 4b: Lower Level Plan

Next Wave
Alternative 4b: 2nd Floor

Technology & Mathematics
- Electricity
- ISSN
- Math
- Business Labs
- Physics

Performing Art
Alternative 4b: 3rd Floor

Humanities
- English
- Social Studies
- Language
- ELL
- Life Skills

Media Center
Alternative 4b: 4th Floor

Fine Arts & Technology
- 2D & 3D Art
- Digital Art
- Graphic Design
- Drafting
- Photography

Health & Sciences
- Biology
- Chemistry
- Dental
- Health
- Medical Lab Technology
Alternative 4b: 5th Floor Plan

Freshman Academy
- English
- Social Studies
- Language
- SPED
- Math
- Science General
- Commons Space & Media
Alternative 4b Roof Plan
Alternative 4b: Images
Alternative 4b: Images
Alternative 4b: Images
Alternative 4b: Sketches
Alternative 4b: Sketches
Alternative 4b: Site Plan
Alternative 4b: Phasing Considerations
Alternative 4b

Phasing Considerations

• PHASE 1: Programs Affected
  • New STEAM FAB LAB
  • Machine Shop
  • Metal Fab Shop
  • Carpentry
  • Drafting
  • AutoTech
  • Cosmetology
  • Culinary
  • Fitness PE storage AD office
  • Medical suite and CHA
  • Healthcare
  • Graphic arts
  • Electrical
  • ISSN
  • Career service CTE offices
  • Field house

• PHASE 2: Programs Affected
  • Media center
  • TV studio
  • Weight room
  • Health and fashion
  • Life skills
  • English/social studies
  • 30 CRs equivalents (TBD)
  • Band

• PHASE 3:
  • Demolition of Remaining 1929 Wings
  • Stabilization of 1895
  • Construct Parking Structure & Fields

Disruptions

• Access to field house/egress
• Lower level shop loading area
• Toilets
Swing Space

Swing Space:
- Cummings
- St. Anne’s
- Modulars

Contractor Lay Down space:
- Homans Site (NA)
- Community Path/Hillside
- Adjacent to Library parking lot/Playground
- Medford Street
Planning for the Community Path & Site Sections
Existing High School Site

Site Section:
ALT 4B - SITE SECTION B - AT 1895/1914 STRUCTURE AND PARKING GARAGE

SCALE: 1" = 40'-0"
Building Section

ALT 4B - SITE SECTION E - AT NEW SIX STORY ADDITION

SCALE: 1" = 40'-0"
Alternative 4b:
Sustainable Design
Sustainable Design

- How does one view and pursue sustainability?

- Green Charette during SD Phase

Cost Effective

Sustainability

Long Term Environmental Impact

Educational Benefits
Green schools required for all new construction to receive state funding
  - LEED v4 for Schools Certified – 40 points out of 110 meets this threshold (Required)

MSBA Reimbursement Budget based on Project Cost
  - Additional Reimbursement of 2% for reaching:
    - LEED v4 for Schools Silver - 50 points out of 110
    - 6 Points in Energy Optimization
      (16% better performance than a baseline building)
CURRENT LEED PROJECTIONS

- Our most current estimates place us having:
  - 58 Points that are Likely
  - 41 Points that are Maybes
  - 11 Points that we are not pursuing

- Based on experience, a 6 point buffer (we have 8) is a good margin of error to ensure the project meets targeted certification

Somerville High School
Sustainable Design Overview
**CURRENT LEED SCORECARD:**

**Sustainable Design Overview**

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**Somerville High School**

**Project Name:** Somerville High School

**LEED for K-12: New Construction and Major Renovation - Schools**

**Somerville Add/Remi Preliminary Scorecard**

**Date:** 10/15/2014

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### LEED for K-12: New Construction and Major Renovation - Schools

#### Sustainable Design Overview

**Certification Level:**

- **Certified** 40 to 49 points
- **Silver** 50 to 59 points
- **Gold** 60 to 79 points
- **Platinum** 80 to 110

**Possible Points: 110**

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### Materials and Resources

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<th>Possible Points</th>
<th>Required</th>
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### Indoor Environmental Quality

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### Innovation

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### Regional Priority

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**Total**

58  23  18  11

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**Notes:**

- **LEED Certification:** Certified 40 to 43 points, Silver 50 to 59 points, Gold 60 to 79 points, Platinum 80 to 110.
Integrative Process
(New Credit and Credit Category for 1 Point)

- Credit targets the intent of LEED – integrated design and frontloaded collaboration
  - “Encourages early analysis of energy and water systems to inform design”
- Simple box energy model to assess load reduction opportunities
- Preliminary water budget analysis that documents at least one source of reduction
- Analyses are used to inform the Owner’s Project Requirements (OPR), the Basis of Design (BOD), and the eventual design of the project
Location and Transportation

- Credits are awarded based on how people move to and from the project site
- May obtain extra points from the green line extension
- Bike storage will be built into the building plan
- Preferred parking for Green Vehicles and E/V Charging
Sustainable Sites

- Credits are awarded based on site design, community integration, and habitat preservation
- Community use of facilities planned
- Strategies for reducing heat island effect will be integrated
- Reduction of nocturnal light pollution
- Site open space will be a goal but inhibited by large turf areas

Somerville High School
Sustainable Design Overview

Photo copyright: SMMA
Water Efficiency

- Credits are awarded based on indoor and outdoor water use.
- No irrigation water use is a common strategy.
- Increased focus on indoor water use reduction, including kitchen equipment.
- Includes water use sub-metering.
- Potential credit points for water use reduction in projects with cooling towers.

Somerville High School
Sustainable Design Overview

Turner Falls High School
Photo copyright: SMMA
Energy Efficiency

- Credits are awarded based on energy optimization
- Demand Response participation will be investigated
- Enhanced Commissioning, including envelope commissioning, will be provided through the MSBA
- Energy efficiency will be a focal point
- Renewable energy is a possible path to earn more points
Materials and Resources

- Credits are awarded based on material optimization and waste reduction
- Life cycle impact of structure and enclosure to be evaluated
- Recycling program is a prerequisite
- Construction waste will be minimized
- Many new product standards likely not accessible due to publicly bid project and requirement for 3 equal products

Somerville High School

Sustainable Design Overview
Indoor Environmental Quality

- Credits are awarded based on healthy and comfortable interiors
- Low VOC materials will be specified
- Access to natural light and views will be considered
- Thermal comfort controls will be provided
- Acoustic performance a prerequisite
- No smoking on campus
- High quality lighting will be used
- Sufficient fresh air will create a well ventilated building
Innovation in Design and Regional Priority

- Credits are awarded for innovative practices and targeting credits that are regionally prioritized.
- Up to the project team to pick the innovation and pilot credits.
- The US Green Building Council chooses regional priorities based off project location.
Schedule & Next Steps
Frequently Asked Questions:

Q: Where can I obtain more information about the project?

A: A project web site has been established for the project, and will be continuously updated with project information. The web site address is:

http://www.somervillema.gov/highschool/
Thank you!