

Woodbridge School District Beecher Road School



Building Committee for the Beecher Road School Renovation Project

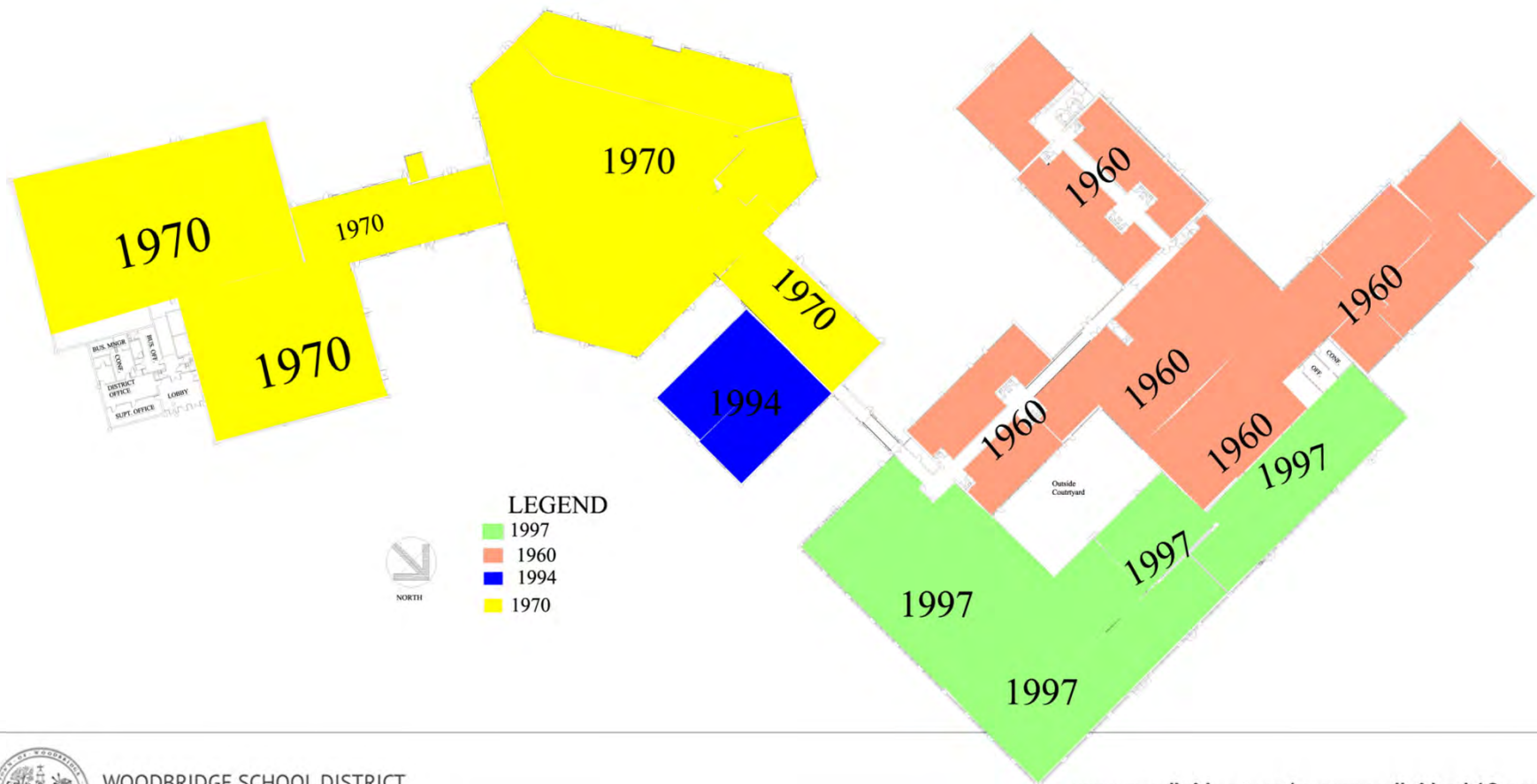
Appointed by the Board of Selectmen, November 2011

- **Jeffrey Kaufman**, Chairman
(member of the WBOE, 1992-2001)
- **Sheila McCreven**, Secretary
(member of the WBOE, 2005-13)
- **Gregory Coyne**
(member of the BOS, 2009-13)
- **Andrew Esposito, Jr.**
(member of the BOF, 2009-present)
- **Jason Pfannenbecker**
(member of the Beecher PTO, 2006-present)



Beecher Road School Construction Timeline

174,635 square foot elementary school, originally constructed in 1960, with additions in 1970, 1994, and 1997.



Existing Conditions

Building systems are antiquated, date back to 1960's & 70's and have reached the end of their useful life.



Thermal Infrared Scans

Image of Facade in A, B & C Wings



The 1960'S original building façade is failing.

- Single pane windows, with metal frames.
- Failed caulking.

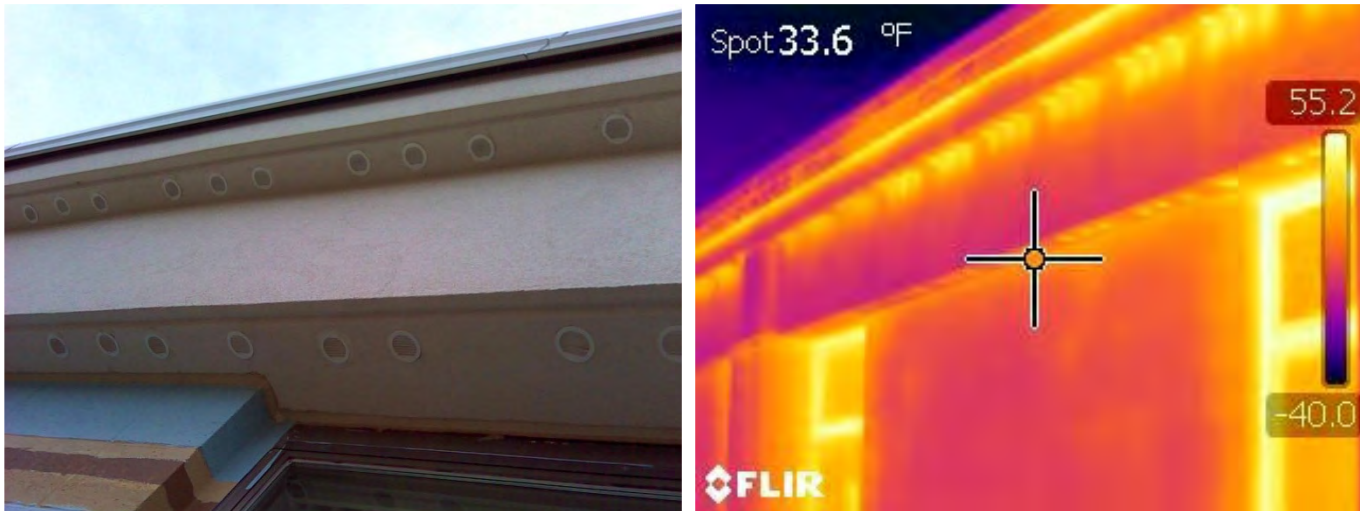


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BEECHER ROAD SCHOOL

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Thermal Infrared Scans

Images of Soffit Vents on S Wing



Soffit vents purpose is not understood. It is a significant source of heat loss.



Project Scope of Work

- Building Envelope Improvements
- New Hi-Efficiency Gas Boilers
- Mechanical Equipment Upgrade
- BMS Controls
- Lighting Controls
- Micro-Turbine
- Solar PV Panels
- Wind Turbine Power
- Security Upgrades



New Pool Cover



Roof Replacement – A, B and C Wing

Roof Replacement on A, B & C wings- ~49,000 SF

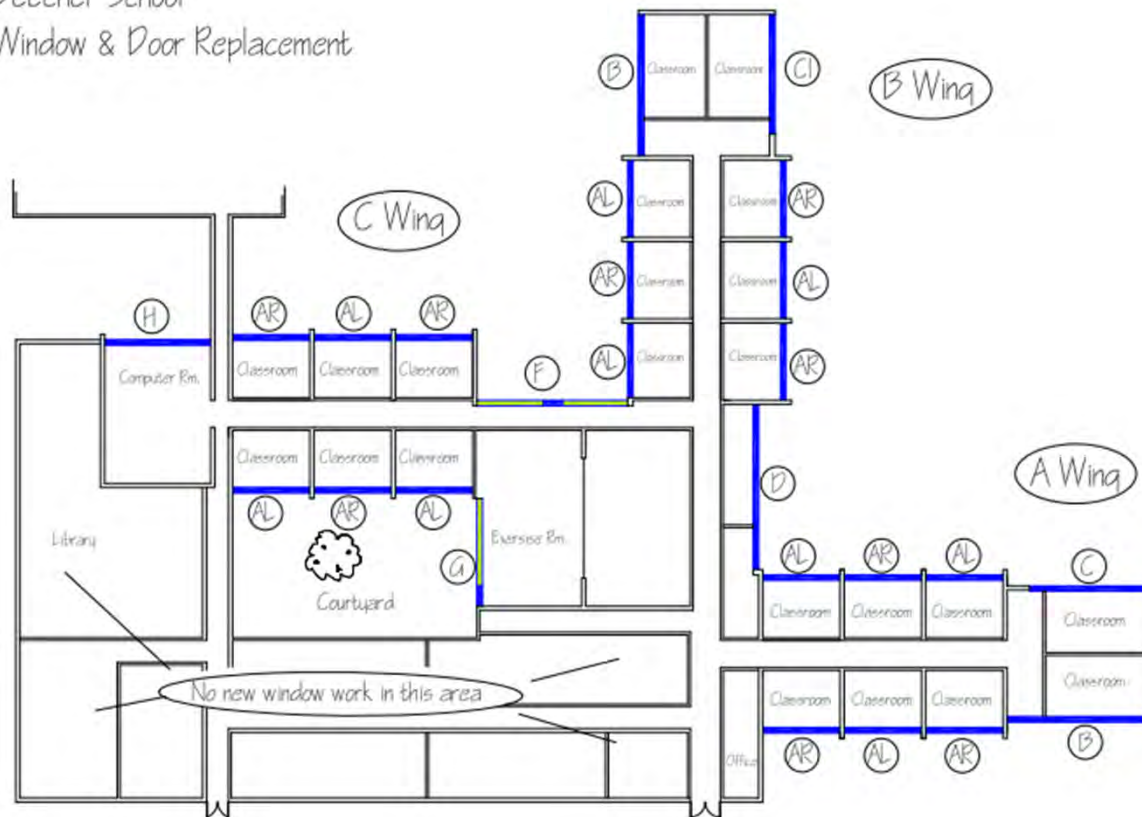


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A-B-C Wing (Curtain Wall Replacement)

A & A Window Products
Beecher School
Window & Door Replacement



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Mechanical Scope – Boiler Plant

Replace the existing boilers with three (3) new 2,000 MBH, high efficiency gas-fired condensing boilers.



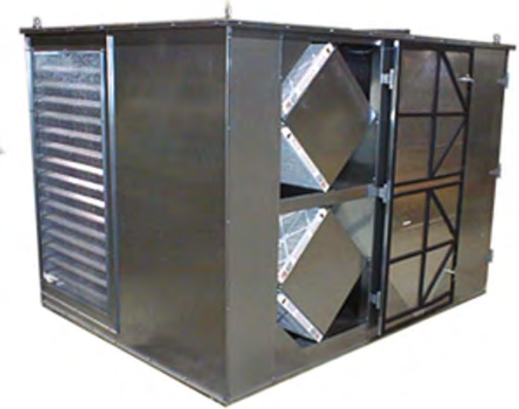
Approved on November 5



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Mechanical Scope



Energy Recovery Ventilator



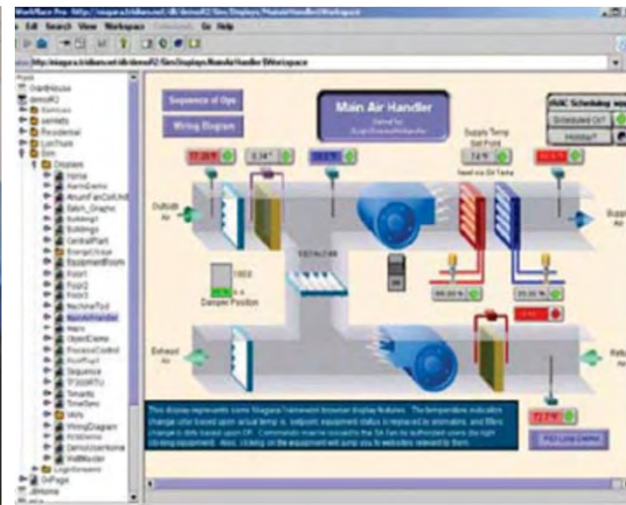
Air-cooled Chiller Unit



Pool Dehumidification Unit



HVAC Controls Upgrades – DDC Controls



Lighting & Lighting Controls



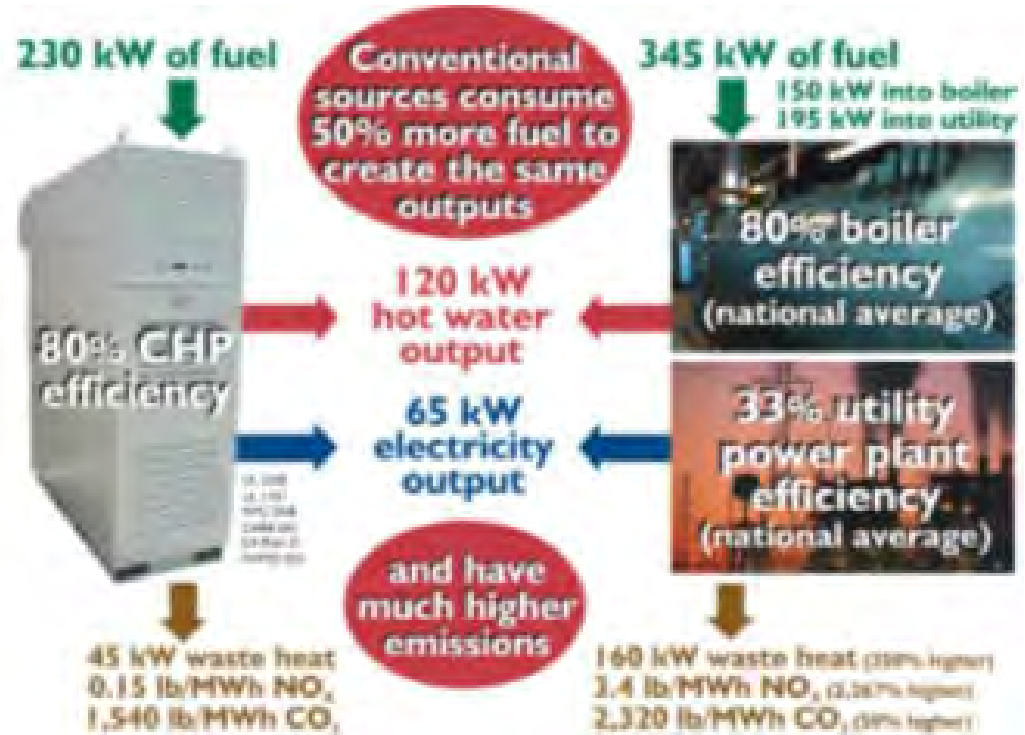
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Micro-Turbine



65 kW Micro-Turbine



Renewable Projects



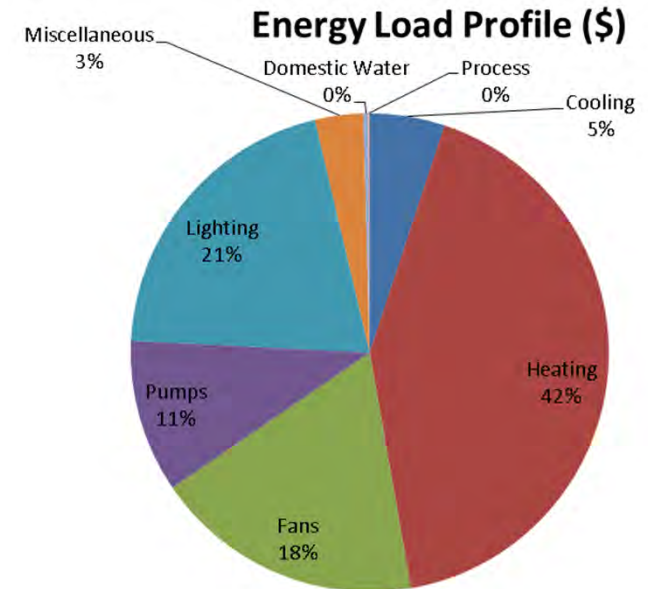
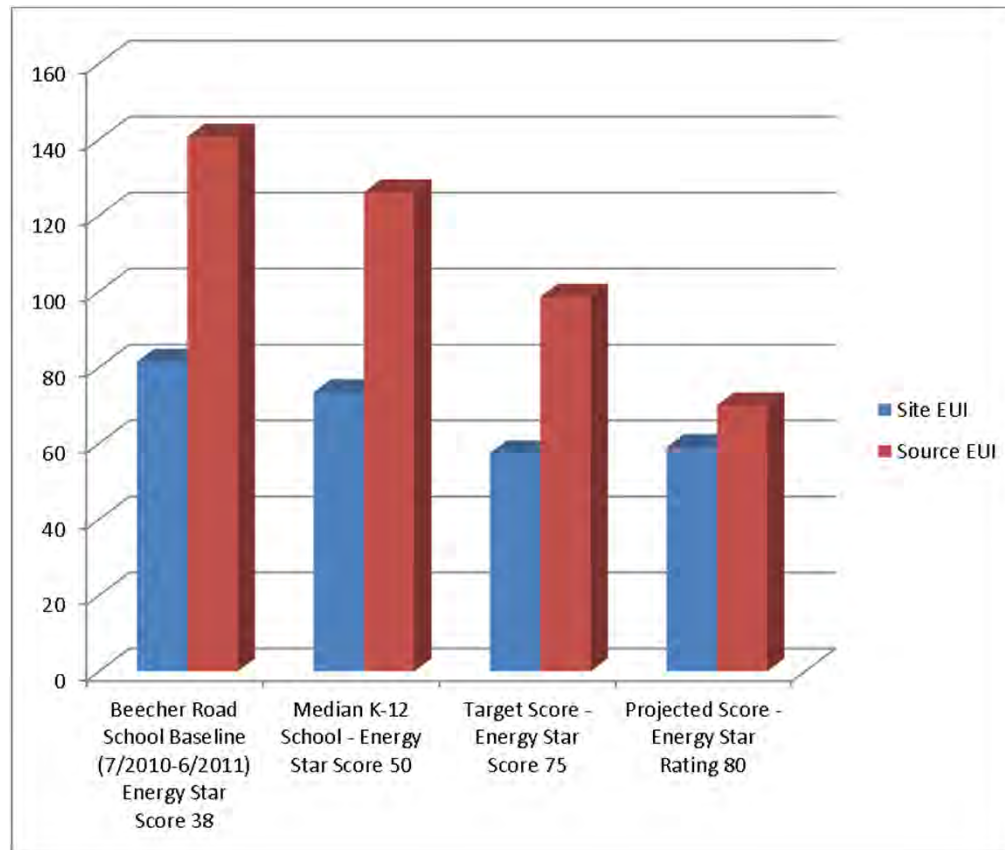
50 kW Solar Panel Array



4 kW Wind Turbines



Energy Use Intensity (EUI):



We ranked BRS's energy usage using the EPA's Portfolio Manager national database.

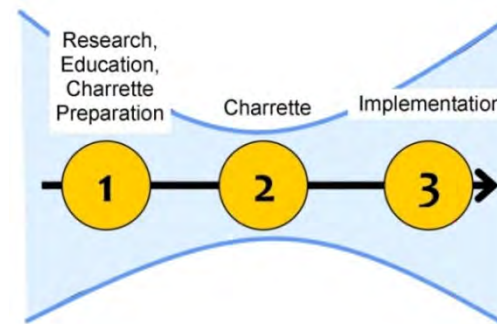


LEED for Schools – Gold?!



- *What is LEED?*
- LEED is the USGBC Green Building Rating System defining what is **green**.

Sustainable Sites		Possible Points: 24	Materials and Resources, Continued		Possible Points: 19
Y	SS-1 Construction Activity Pollution Prevention	1	Y	MR-2 Materials Reuse	1 to 2
Y	SS-2 Environmental Site Assessment	1	Y	MR-3 Recycled Content	1 to 2
1	SS-3 Site Selection	1	Y	MR-4 Regional Materials	1 to 2
1	SS-4 Development Density and Community Connectivity	1	Y	MR-5 Rapidly Renewable Materials	1
1	SS-5 Brownfield Redevelopment	1	Y	MR-6 Certified Wood	1
4	SS-6 Alternative Transportation—Public Transportation Access	4	Y	MR-7 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.1 Alternative Transportation—Bicycle Storage and Changing R	1	Y	MR-8 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.2 Alternative Transportation—Low-Emitting and Fuel-Efficient V	1	Y	MR-9 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-6.3 Alternative Transportation—Parking Capacity	2	Y	MR-10 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.4 Alternative Transportation—Protect or Restore Habitat	1	Y	MR-11 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.5 Site Development—Maximize Open Space	1	Y	MR-12 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.6 Stormwater Design—Quantity Control	1	Y	MR-13 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.7 Stormwater Design—Quality Control	1	Y	MR-14 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.8 Heat Island Effect—Non-roof	1	Y	MR-15 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.9 Heat Island Effect—Roof	1	Y	MR-16 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.10 Light Pollution Reduction	1	Y	MR-17 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.11 Site Master Plan	1	Y	MR-18 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-6.12 Joint Use of Facilities	1	Y	MR-19 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-7 Water Efficiency	2	Y	MR-20 Low-Volatile Organic Compounds (VOC) Content	1
Y	SS-7.1 Water Use Reduction—20% Reduction	1	Y	MR-21 Low-Volatile Organic Compounds (VOC) Content	1
4	SS-7.2 Water Efficient Landscaping	2 to 4	Y	MR-22 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-7.3 Innovative Wastewater Technologies	2	Y	MR-23 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-7.4 Water Use Reduction	2 to 4	Y	MR-24 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-7.5 Process Water Use Reduction	1	Y	MR-25 Low-Volatile Organic Compounds (VOC) Content	1
5	SS-8 Energy and Atmosphere	5	Y	MR-26 Low-Volatile Organic Compounds (VOC) Content	1
Y	SS-8.1 Fundamental Commissioning of Building Energy Systems	1	Y	MR-27 Low-Volatile Organic Compounds (VOC) Content	1
Y	SS-8.2 Minimum Energy Performance	1	Y	MR-28 Low-Volatile Organic Compounds (VOC) Content	1
Y	SS-8.3 Fundamental Refrigerant Management	1	Y	MR-29 Low-Volatile Organic Compounds (VOC) Content	1
5	SS-8.4 Optimize Energy Performance	1 to 5	Y	MR-30 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-8.5 On-Site Renewable Energy	1 to 5	Y	MR-31 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-8.6 Enhanced Commissioning	2	Y	MR-32 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-8.7 Enhanced Refrigerant Management	1	Y	MR-33 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-8.8 Measurement and Verification	2	Y	MR-34 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-8.9 Green Power	2	Y	MR-35 Low-Volatile Organic Compounds (VOC) Content	1
5	SS-9 Materials and Resources	5	Y	MR-36 Low-Volatile Organic Compounds (VOC) Content	1
Y	SS-9.1 Storage and Collection of Recyclables	1	Y	MR-37 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-9.2 Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 2	Y	MR-38 Low-Volatile Organic Compounds (VOC) Content	1
1	SS-9.3 Building Reuse—Maintain 50% or Interior Non-Structural Eler	1	Y	MR-39 Low-Volatile Organic Compounds (VOC) Content	1
2	SS-9.4 Construction Waste Management	1 to 2	Y	MR-40 Low-Volatile Organic Compounds (VOC) Content	1



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Summary: Project Goals

- Improve Building's Energy Performance.
- Enhance Indoor Environmental Quality.
- Achieve A High Performance Building.
- Set Sights High - Leave Legacy for Community.



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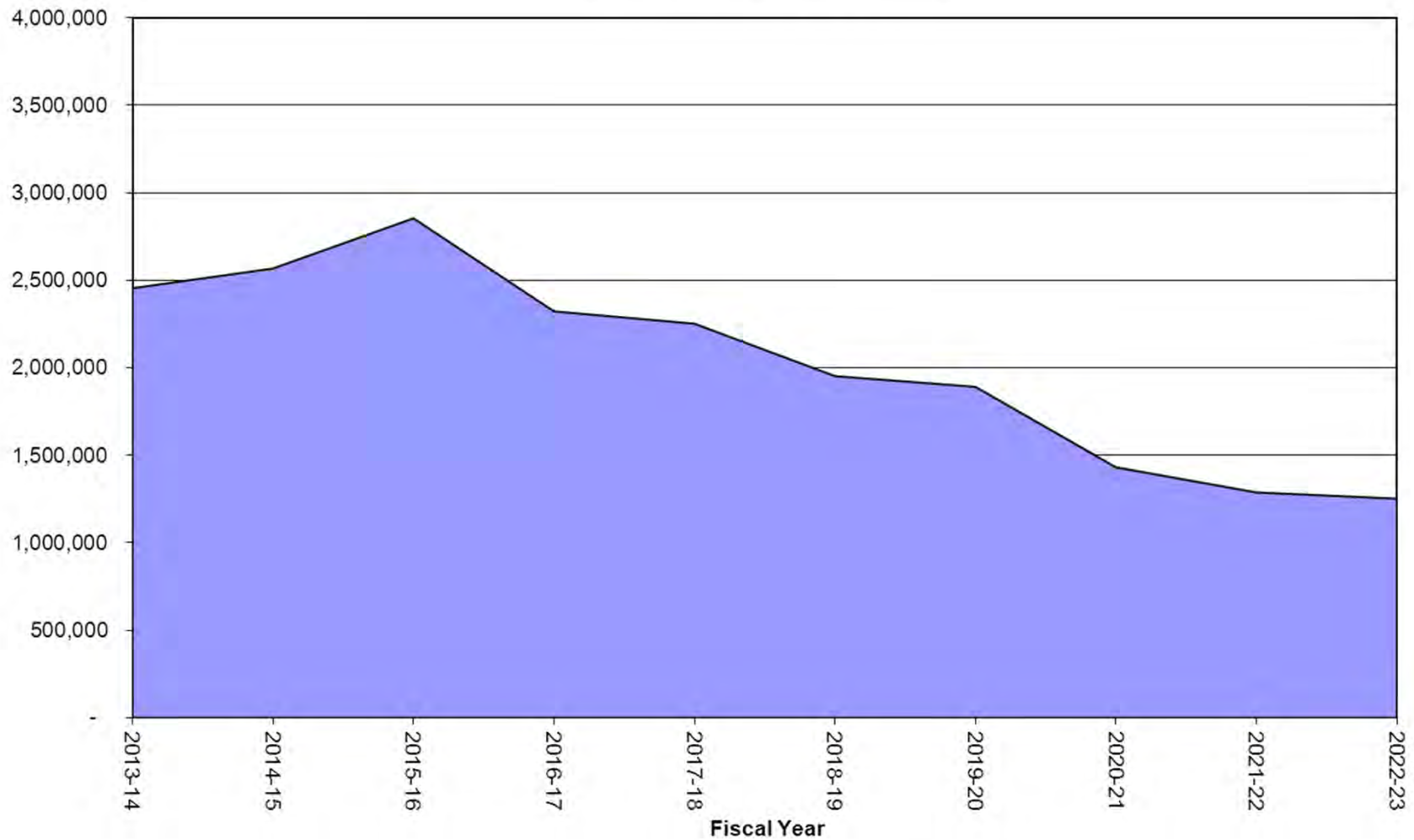


Existing Town Debt

- FY2014 debt service - \$2,454,861
- Includes Bonds for the new fire station, open space, Beecher south roof, library, soil remediation, and '96 Beecher addition
- Includes notes for the Woodbridge Country Club acquisition and Public Works Facility
- Town indebtedness @ 6/30/13 - \$23,375,000



Town of Woodbridge Existing Direct Debt Service FY2014 through FY2023



The EXISTING DEBT illustrated above includes all of the Town's current issued debt including notes for the Public Works Facility and the Woodbridge Country Club Aquisition.



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Overlapping Amity Debt

- Town is responsible for percent of Amity's indebtedness called overlapping debt
- based on Town's contribution to the Amity operating budget currently at 29.726%
- Town's portion of Amity debt as of 6/30/2013 is approximately \$15.7M
- As of 6/30/2013, Town's direct and overlapping debt is \$39.1M

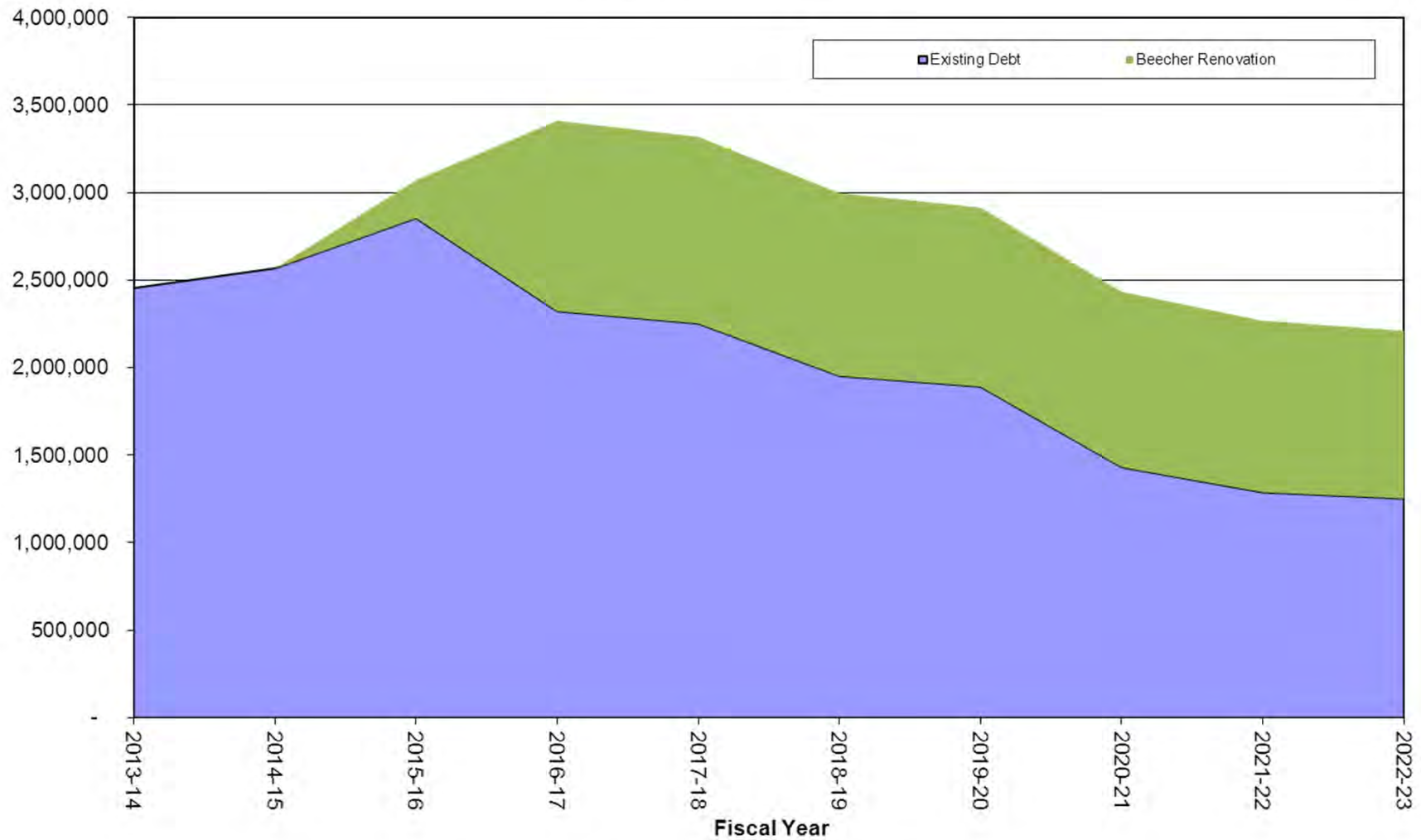


BRS Project Financing Assumptions

- Project budget - \$13.2M
- Permanent financing scheduled for July 2016
- Budget does not include possible grant or utility incentives – estimated at \$300,000 to \$400,000
- Bond issue term of 20 years
- Anticipated interest rate is 3.25%
- Total principal borrowed - \$13.3M
- Total interest paid - \$4.6M
- Principal and interest - \$17.9M
- Annual debt service for FY17 (year 1 of 20 year repayment) estimated to be \$1,088,486 or .83 mills



Town of Woodbridge Debt Service FY2014 through FY2023



The EXISTING DEBT illustrated above includes all of the Town's current issued debt including notes for the Public Works Facility and the Woodbridge Country Club Aquisition.



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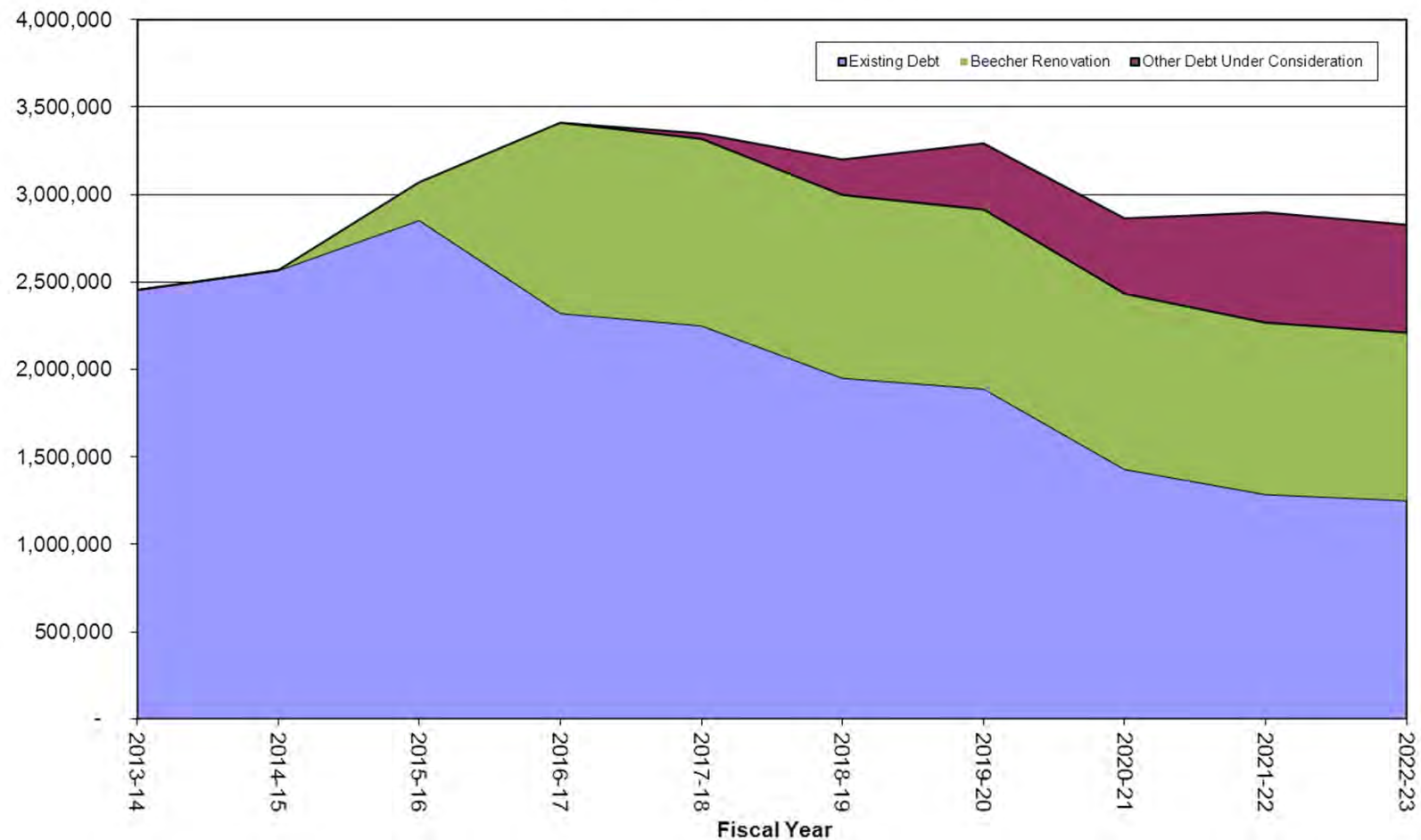
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Other Proposed Town Debt

- Proposed debt includes projects in FY14 6-year capital plan to be financed by bonds:
 - Police station renovation phase I (\$2.5M)
 - Police station renovation phase II (\$2.7M)
 - Open space purchases (\$3M)



Town of Woodbridge Debt Service FY2014 through FY2023



The EXISTING DEBT illustrated above includes all of the Town's current issued debt including notes for the Public Works Facility and the Woodbridge Country Club Aquisition.

The DEBT UNDER CONSIDERATION includes projects in the six year capital improvement program proposed to be financed by issuing bonds. (Police Renovations and Open Space) NOT INCLUDED herein is Woodbridge's share of debt service from projects currently financed or proposed in the Amity Regional School District.



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Cash Flow and Tax Impact over 20 yrs

- Total principal and interest: \$17.9M
 - Approximate energy savings: (\$2.9M)
 - Maintenance and monitoring: \$0.8M
 - Budget impact: \$15.8M
-
- Tax impact for home valued at \$450,000 (assessed at \$315,000) is an average of \$195 per year over life of debt issue



Impact

- School for the future
- Top 20% energy
- 20-25 year life
- Vision for the town



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View Project Videos
www.energysystemsgroup.com/woodbridge



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