

Lincoln Public School- Lincoln, MA

School Committee Meeting

July 11, 2011



omr architects

Values of the School Building Committee

The Lincoln School Building Committee is committed to:

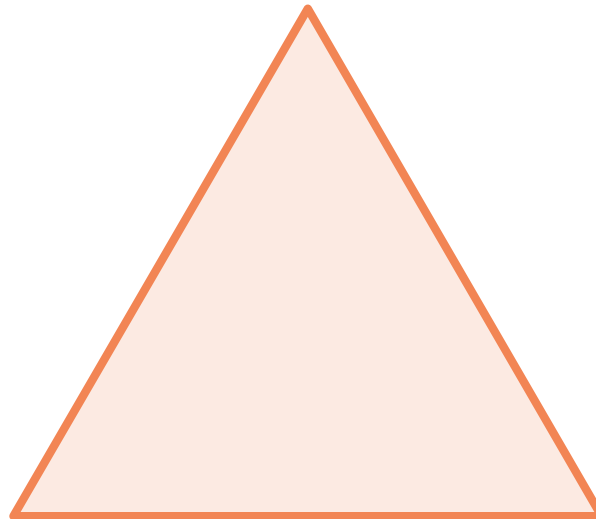
- **Education of the Whole Child**
- **Excellence in Teaching**, including respect for varied **Learning Styles**
- **Diversity** and **Inclusiveness**
- **Fiscal Responsibility**
- **School and Campus** as a Major **Focal Point of Community Life**
- **Environmental Responsibility** and **Sustainability**
- **Architectural Attractiveness**, exterior and interior

Goals of the School Building Committee

Process

- **Transparency** and Dialogue
- **Communication** and Outreach
- **Collaboration with MSBA**

Educational Goals



Community Goals

Building & Site Goals

A Sampling of the Goals of the SBC

Educational

- Allows for **Programmatic Flexibility and Diversity**
- Accommodates **Current and Future enrollment**
- Enhances **Student and Staff Collaboration**
- Preserves **ecological and recreation opportunities**
- Integrates and co-locates **Pre-K program**

Community

- Maximize **Use of Existing** Buildings
- Meets **Lincoln's Energy Performance Guidelines** (Architecture 2030)
- Maximizes **cost benefit trade-offs**
- Provides for **after school and intergenerational community use**
- **Minimizes Construction Disruption**

Building & Site Goals

- Provides **Adaptable Cafeteria and Food Service** facilities
- Maximizes use of **Natural Day Lighting**
- **Centrally locates Community and Administrative** spaces
- Provides **Logical, Clear and Secure Interior Circulation**
- **Addresses Building Deficiencies and Systems**
- **Connects Interior with Outdoor Environment**
- Allows for **Future Technology**
- Provides **Operational Efficiency and Affordability**
- Improves **Site Circulation, Security, Parking and Access**
- **Minimizes Adverse Effects on Abutter and Natural Surroundings**
- Provides **Future Expansion Potential**

Summary of Preliminary Alternatives



APPROACH 3B

Project Cost: \$51.0 M

Construction: 30 mo

- Minor renovation of all existing building space
- Building envelope meets standard requirements, typically
- Reduces existing Media Center with other space
- Two new smaller Cafeterias plus one cooking and one serving kitchen
- Internal connection to Field House
- New Pre-K classrooms in renovated space
- Some new Elementary and Middle School classrooms
- Retains existing site organization/ circulation with minor site repairs
- Two separate school entrances, plus two community entrances



APPROACH 5B

Project Cost: \$58.5 M

Construction: 24 mo

- Full renovation of existing spaces that will remain
- Improved building envelope
- Reduces existing Media Center with other space
- New Cafeteria and Kitchen
- One new Gymnasium teaching station
- Internal connection to Field House
- New Pre-K classrooms in new space
- Mostly new Classrooms and Administration
- New site organization/circulation
- Two separate school entrances, plus one community entrance



Difference = \$7.5 M

MA-CHPS Green School Process

CHPS Verified:

35 points for renovation
40 points for new construction
(MSBA Requirement)

CHPS Leader:

45 points for renovation
50 points for new construction
(Qualifies for a possible, additional
2% reimbursement from the MSBA)

Collaborative - High Performance Schools (CHPS)											
PROJECT APPLICATION: Lincoln Public Schools											
CHPS Scorecard											
If your project is ready to be designed and reviewed, notify CHPS by filling in the registration form below. On this document, you should have provided a project name, a description of the project, a list of the design team, and a list of the construction team. It is best for the construction team to be notified as early as possible. Check with CHPS for alternative, equivalent substitutes that may be acceptable.											
SECTION	PROJECT NAME	DESCRIPTION	DESIGN TEAM	CONSTRUCTION TEAM	STATUS	POINTS CLAIMED	POINTS AVAILABLE	INTEGRATION & INNOVATION	INDOOR ENVIRONMENTAL QUALITY	ENERGY	WATER
INTEGRATION & INNOVATION (15 possible points)											
INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION
INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION	INTEGRATION
INDOOR ENVIRONMENTAL QUALITY (20 possible points)											
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ENERGY (20 possible points)											
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ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY	ENERGY
WATER (10 possible points)											
WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
SITE (10 possible points)											
SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE
SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE	SITE
MATERIALS & WASTE MANAGEMENT (10 possible points)											
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OPERATIONS & MAINTENANCE (10 possible points)											
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TOTAL POINTS POSSIBLE (125)											
TOTAL POINTS POSSIBLE (125)						0					

Integration & Innovation

Indoor Environmental Quality

Energy

Water

Site

Materials & Waste Management

Operations & Maintenance

127 Points Possible

OPTION 3B

Initial Score = 45

Verified (Required): 35

Leader (addit. 2% reimb.): 45

OPTION 5B

Initial Score = 80

Verified (Required): 40

Leader (addit. 2% reimb.): 50

Utility Cost Analysis

LINCOLN PUBLIC SCHOOLS - BUILDING APPROACH ENERGY CONSUMPTION SUMMARY

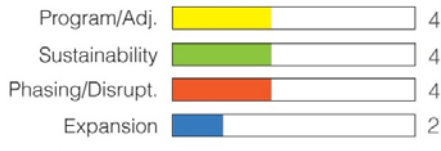
APPROACH	ANNUAL ELECTRICAL COST	ANNUAL GAS COST	ANNUAL TOTAL UTILITY COST	ANNUAL UTILITY COST (\$/SF)	REMARKS
Current	\$92,104	\$132,750	\$224,854	\$1.63	<ol style="list-style-type: none"> 1. Existing Building and Envelope (138,000 s.f.) 2. Existing hot water coil heating unit ventilators 3. Existing hot water coil heating AHU's 4. Existing hot water coil heating/dx cooling AHU with terminal VAV's with hot water reheat coils 5. Existing standard efficiency cast-iron gas-fired boilers 6. Existing lighting systyems
3B	\$127,853	\$102,172	\$230,025	\$1.51	<ol style="list-style-type: none"> 1. Minor addition/minor renovation. 2. Minimal envelope upgrades. 3. New high-efficiency gas-fired condensing boilers 4. Refurbished existing equipment. 5. New high performance lighting systems.
5B	\$146,452	\$46,146	\$192,598	\$1.26	<ol style="list-style-type: none"> 1. Major addition/minor renovation. 2. Superior performance envelope upgrades. 3. New high-efficiency gas-fired condensing boilers. 4. New high-efficiency HVAC equipment and controls with cooling. 5. New high performance lighting systems.

Note: All values were calculated based upon energy model calculations from building approach 5B life-cycle cost analysis report and actual utility bills provide by the owner. Percentages have been applied based on alternate energy model runs and past project data for alternate building approaches.

Approach 3B: Minor Addition, Minor Renovation

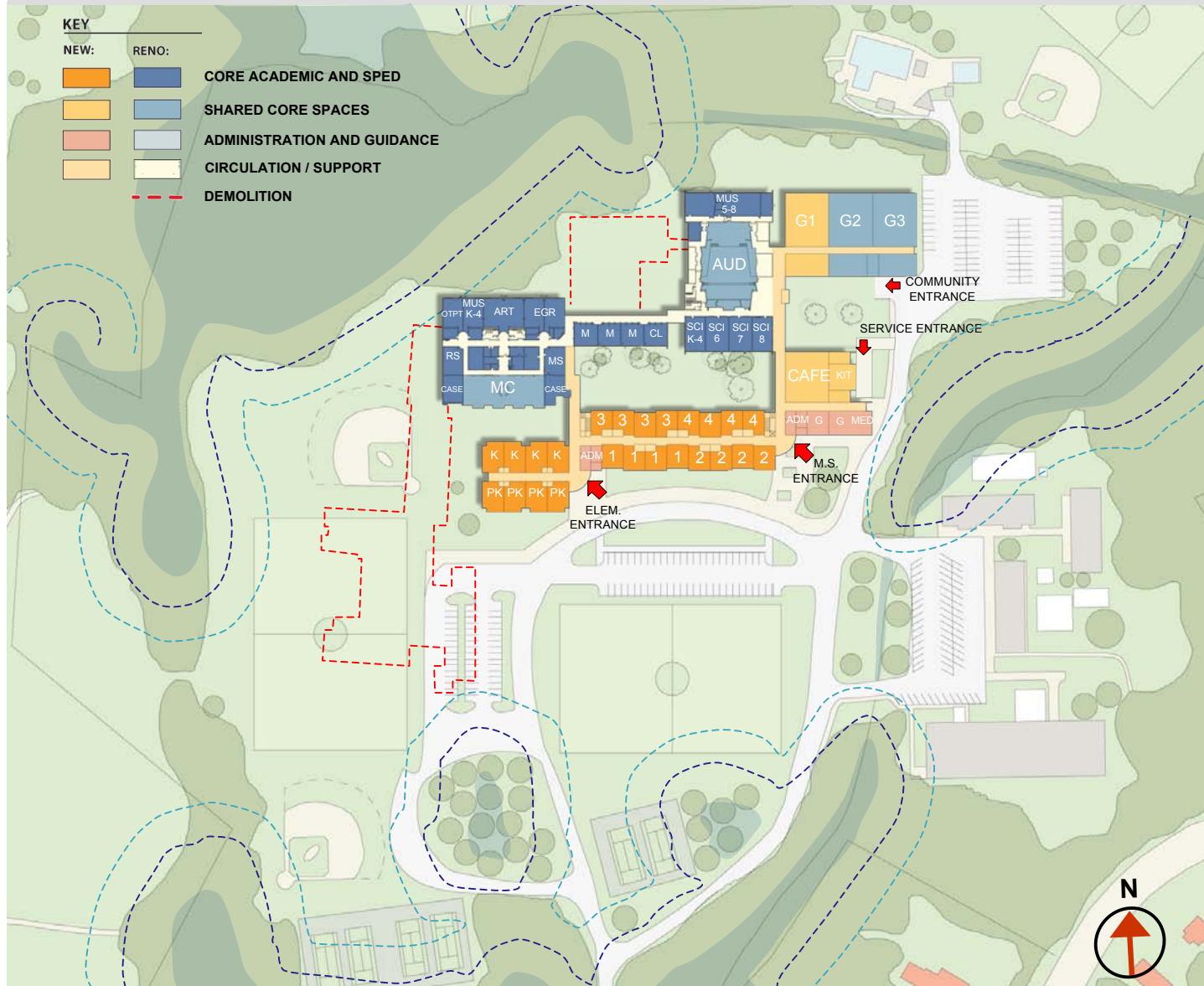


- Renovation Scope:
- Building Code Compliance
- MAAB/ ADA Compliance
- Address Structural Seismic and Snow Load code issues
- Address Basic Site Issues
- Address Basement Flooding Issues
- New Windows, as required
- Clad, Repaint, Repair Exterior, as required
- New Roofs
- Haz Mat Abatement
- Improvements to MEP Systems
- New Fire Protection, Fire Detection and Security Systems
- New Ceilings
- Partial New Finishes
- Reduces Existing Media Center w/ new program
- Two new smaller Cafeterias (1) Cooking, (1) Serving Kitchen
- Addresses Field House Connection



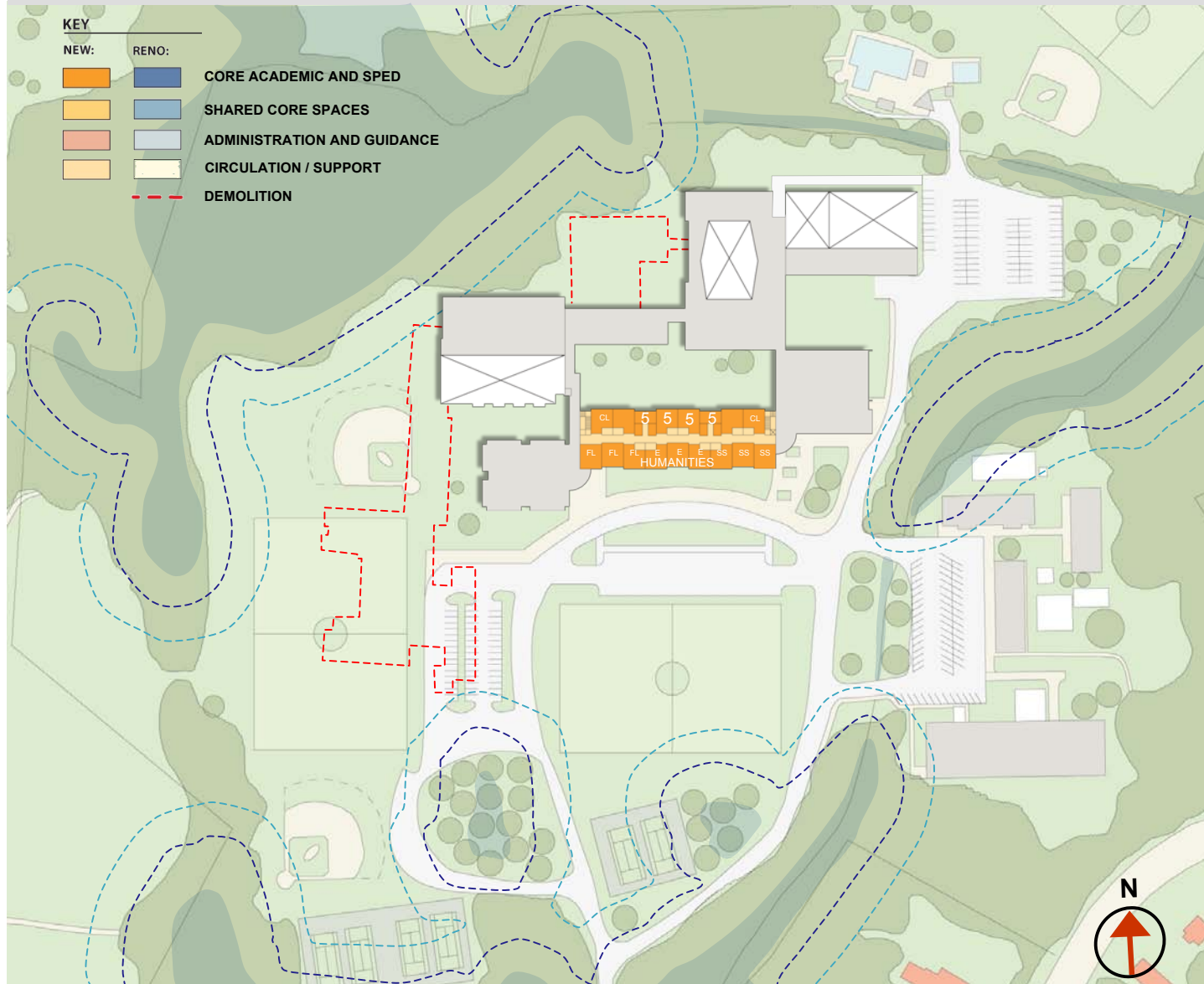
Project Cost: 51.0 M
Duration: 30 months

Approach 5B: 2 Story Major Addition, Major Renovation



- Full Renovation of Existing to Remain
- Mostly New Academics & Support
- Two Story Addition
- Organize Elementary and Middle by floor
- New Gym Teaching Station
- Retain Existing Auditorium, Reed, and Link Building
- New “façade” on school
- Compact Transformation
- Swing space for Phasing
- Discreet Service Entrance
- Creates “Community Center” for Town

Approach 5B: 2 Story Major Addition, Major Renovation



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Project Cost: 58.5 M
Duration: 24 months

Summary of Preliminary Alternatives



APPROACH 3B

Project Cost: \$51.0 M
Construction: 30 mo



APPROACH 5B

Project Cost: \$58.5 M
Construction: 24 mo



Difference = \$7.5 M (13%)

Goals and Values Evaluation:

Educational Goals:	130	-----	167	(170 Possible)
Community Goals:	60	-----	150	(155 Possible)
Building Goals:	101	-----	237	(245 Possible)
Site Goals:	69	-----	108	(110 Possible)
Total:	360	-----	662	(680 Possible)
	(53%)		(97%)	

Thank You



Summary of Building Code Compliance

521 CMR: Architectural Access Board (MAAB) (Handicapped Accessibility)

- All new buildings must fully comply (i.e., site access, toilets, plumbing fixtures, exterior and interior doors and hardware, etc.)
- New additions must fully comply
- If the renovation exceeds 30% (\$6.6M approx.) of full and fair cash value (\$22.0M approx.) of the existing school building:
 - Renovations, alterations and repairs must fully comply
 - Entire existing building must fully comply
- Work performed over time/multiple permits: Total Cost = 36 month period

Summary of Building Code Compliance

2009 International Building Code

- Additions – Must comply with the requirements for new construction
 - Existing building and new addition together must be no less conforming
- Alterations – Should be no less compliant than existing building (w/ limitations)
- Repairs w/ permit – Must comply with applicable code at time of the original construction
- Repairs w/out permit – These are not subject to requirements of repair projects
- Structural Compliance must happen: (seismic and live loads)
 - If the renovation exceeds 50% aggregate area of the building
 - If 30% of the floor and roof are involved in the structural alteration
 - If one of the above two are triggered then structure must be upgraded to meet 75% of the code standard for new construction
- In addition, the following codes have similar requirements:
 - Fire Code
 - Fuel and gas
 - Mechanical Plumbing
 - Property Maintenance
 - Sewage Disposal

Summary of Building Code Compliance

M.G.L. c. 148, Automatic Sprinklers

- Uniformly applied to all cities and towns
- All additions, renovations to existing buildings exceeding in the aggregate 7,500 SF must comply.

K-8 Building Project

Cost Range & Projected MSBA Reimbursement

Estimated Project Cost	40,000,000	50,000,000	58,500,000	60,000,000
MSBA Reimbursement Rate	45%	45%	45%	45%
MSBA Reimbursement Amount	(18,000,000)	(22,500,000)	(26,325,000)	(27,000,000)
Net Project Cost	22,000,000	27,500,000	32,175,000	33,000,000

K-8 Building Project

- **Financing Assumptions**

- Hybrid Amortization
 - Level debt for 5 years, equal principal thereafter
- 30 Year Term
- BAN in FY13 & FY14
 - Interest rate assumption: 2.5% and 3% respectively
- Bond in FY15
 - Interest rate assumption: 6%
- Stabilization Fund Offset
 - In FY15- Peak Year
 - Range of Offset -\$227,000 to \$400,000
 - **Used \$400,000 for tax impact purposes.**
- Tax Impact
 - Median house value \$851,500

K-8 Building Project

Projected Tax Impact -School Project Only

	\$40M Project		\$50M Project		\$58.5M Project		\$60M Project	
FY	\$Increase	% Increase	\$Increase	% Increase	\$Increase	% Increase	\$Increase	% Increase
FY13	\$ 131	1.18%	\$ 162	1.46%	\$ 189	1.70%	\$ 193	1.73%
FY14	\$ 307	2.76%	\$ 383	3.44%	\$ 447	4.02%	\$ 458	4.12%
FY15	\$ 759	6.82%	\$ 945	8.49%	\$ 1,107	9.95%	\$ 1,132	10.17%
FY16	\$ 759	6.82%	\$ 945	8.49%	\$ 1,103	9.91%	\$ 1,132	10.17%
FY17	\$ 759	6.82%	\$ 945	8.49%	\$ 1,103	9.91%	\$ 1,130	10.16%
FY18	\$ 759	6.82%	\$ 945	8.49%	\$ 1,103	9.91%	\$ 1,129	10.15%
FY19	\$ 759	6.82%	\$ 947	8.51%	\$ 1,103	9.91%	\$ 1,134	10.19%
FY20	\$ 970	8.72%	\$ 1,208	10.86%	\$ 1,410	12.67%	\$ 1,445	12.99%

K-8 Building Project

Projected Tax Impact -School Project Only

Year Over Year change in Debt Service -School only

	\$40M Project		\$50M Project		\$58.5M Project		\$60M Project	
FY	\$Increase	% Increase	\$Increase	% Increase	\$Increase	% Increase	\$Increase	% Increase
FY13	\$ 131	1.18%	\$ 162	1.46%	\$ 189	1.70%	\$ 193	1.73%
FY14	\$ 176	1.58%	\$ 221	1.99%	\$ 258	2.32%	\$ 265	2.38%
FY15	\$ 452	4.06%	\$ 562	5.05%	\$ 660	5.93%	\$ 674	6.06%
FY16	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%
FY17	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%
FY18	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%
FY19	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%
FY20	\$ 211	1.90%	\$ 260	2.34%	\$ 306	2.75%	\$ 310	2.79%

K-8 Building Project

- **Potential Cost Mitigation Strategies**

- Stabilization Offset
 - Range \$227K-\$400K
 - Used \$400,000 for tax impact purposes
- CPA Offset- ?
 - Town Office Renovation Debt
 - K-8 School Building

K-8 Building Project

- **Reasons for Changes in Combined Tax Impact**

- FY17 Town Office Renovation Debt converts from level payment to equal principal
- FY20 School Building Project debt converts form level payment to equal principal
- Debt Retirement Schedule
 - See chart below for debt retirement dates & amounts

FY	Description of Debt Retiring	Amount of Debt Service Retiring
2013	Codman Pool	\$ 20,980
2013	LS New Facility \$1M Bond	\$ 27,000
2014	Is New Facility \$14M Bond	\$ 224,000
2015	EMS Ambulance	\$ 41,000
2015	Bemis Hall Renovations/Fire Truck	\$ 81,600
2018	Fire Engine #2	\$ 46,575
2018	Fire Pumper/Tanker	\$ 20,700
2019	FY09 Road Project	\$ 547,700
2020	FY09 Road Project	\$ 154,500
2020	IT Strategic Plan	\$ 51,625
2021	MacDowell Land Acquisition	\$ 77,438

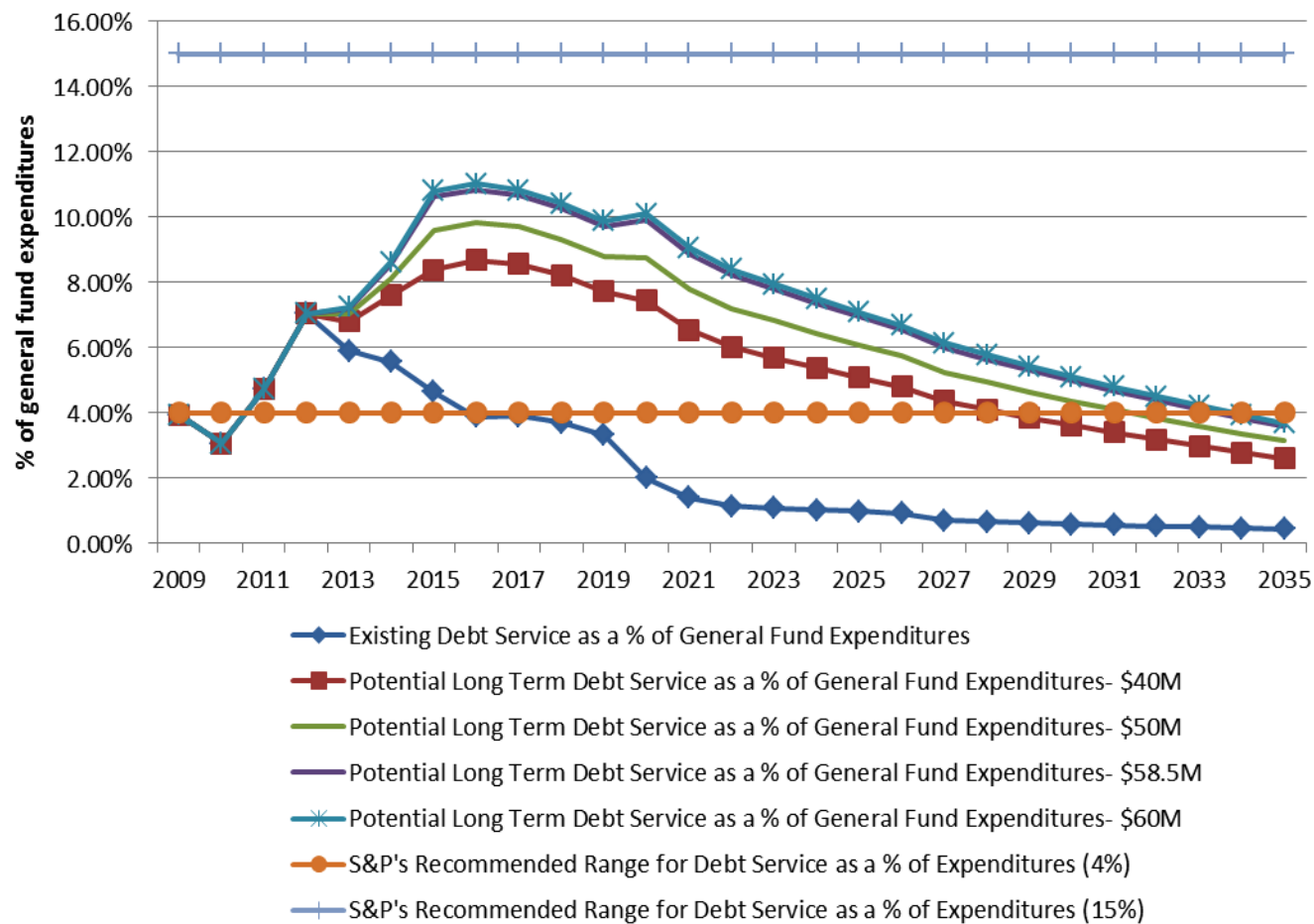
K-8 Building Project

Projected Tax Impact Including Reductions in Other Debt Service

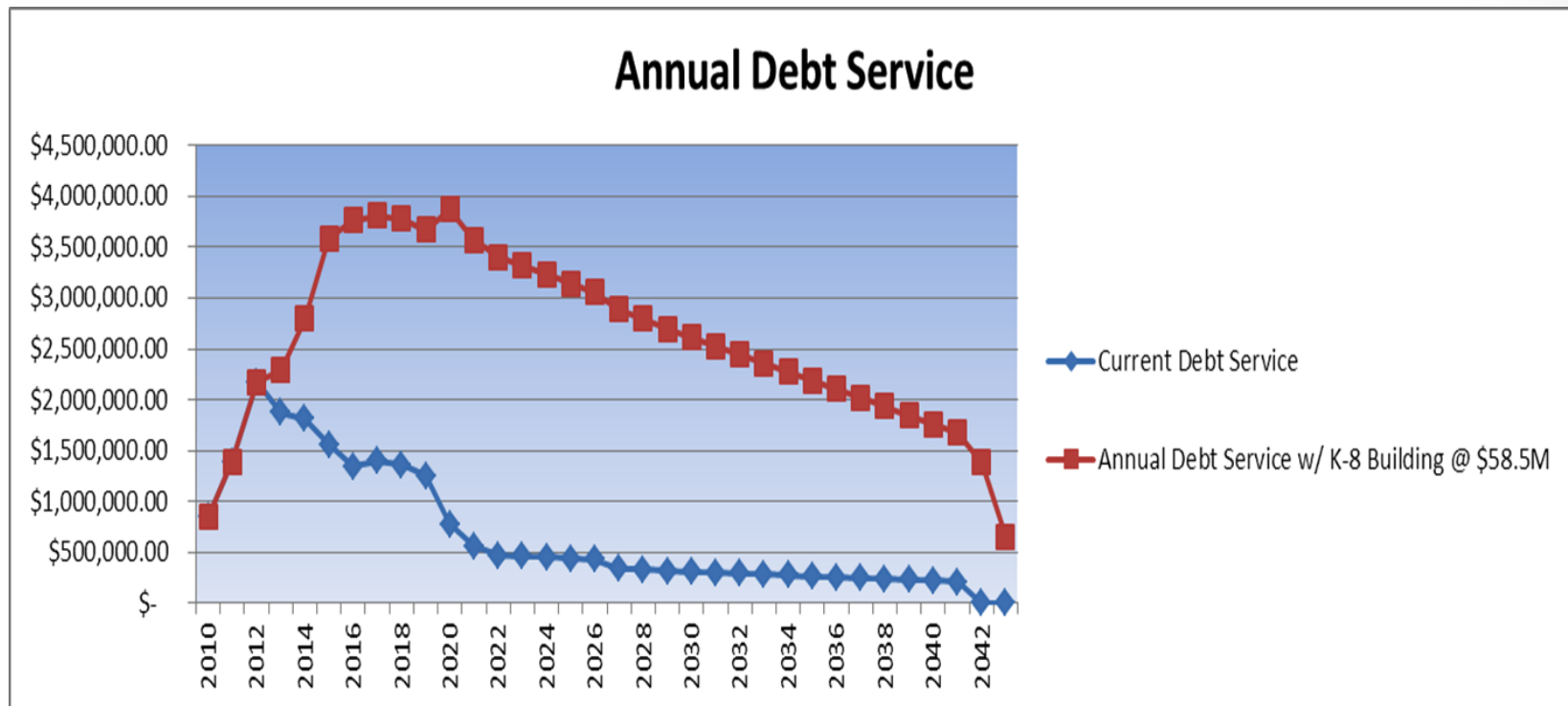
	\$40M Project		\$50M Project		\$58.5M Project		\$60M Project	
FY	\$Increase	%Increase	\$Increase	%Increase	\$Increase	%Increase	\$Increase	%Increase
FY13	\$ (4)	-0.04%	\$ 24	0.22%	\$ 54	0.49%	\$ 58	0.52%
FY14	\$ 149	1.34%	\$ 193	1.73%	\$ 231	2.08%	\$ 237	2.13%
FY15	\$ 336	3.02%	\$ 446	4.01%	\$ 544	4.89%	\$ 558	5.02%
Stab Offset	\$ (183)	-1.64%	\$ (183)	-1.64%	\$ (183)	-1.64%	\$ (183)	-1.64%
Net Impact FY15	\$ 153	1.38%	\$ 263	2.37%	\$ 361	3.25%	\$ 375	3.37%
FY16	\$ 85	0.76%	\$ 85	0.76%	\$ 81	0.73%	\$ 85	0.76%
FY17	\$ 22	0.20%	\$ 22	0.20%	\$ 22	0.20%	\$ 20	0.18%
FY18	\$ (16)	-0.14%	\$ (16)	-0.14%	\$ (16)	-0.14%	\$ (16)	-0.14%
FY19	\$ (47)	-0.42%	\$ (44)	-0.40%	\$ (47)	-0.42%	\$ (42)	-0.38%
FY20	\$ (9)	-0.08%	\$ 40	0.36%	\$ 86	0.77%	\$ 90	0.81%
FY21	\$ (125)	-1.12%	\$ (130)	-1.17%	\$ (135)	-1.21%	\$ (136)	-1.22%
FY22	\$ (64)	-0.58%	\$ (70)	-0.63%	\$ (75)	-0.67%	\$ (76)	-0.68%
FY23	\$ (29)	-0.26%	\$ (35)	-0.31%	\$ (40)	-0.36%	\$ (41)	-0.37%
FY24	\$ (29)	-0.26%	\$ (35)	-0.31%	\$ (40)	-0.36%	\$ (41)	-0.37%

K-8 Building Project

Debt Service as a % of General Fund Expenditures (General Fund Expenditures projected to grow at 3.0% per year)



K-8 Building Project



K-8 Building Project

Town of Lincoln							
Debt Capacity Forecast							
	2,012	2,013	2,014	2,015	2,016	2,017	2,018
General Fund Expenditures (2.5% annual growth)	30,799,149	31,569,128	32,358,356	33,167,315	33,996,498	34,846,410	35,717,570
Debt service @ 15% -Maximum	4,619,872	4,735,369	4,853,753	4,975,097	5,099,475	5,226,962	5,357,636
Proposed Debt Service (incl school proj @ \$58.5M)	2,171,098	2,288,464	2,793,499	3,984,089	3,760,939	3,809,971	3,774,804
Difference in Proposed vs. Maximum	2,448,774	2,446,905	2,060,254	991,008	1,338,536	1,416,991	1,582,832
Principal amount of Additional Debt Capacity	10,600,000						
Debt Service per year on principal amount	989,333.33 968,133.33 946,933.33 925,733.33						
Capacity remaining @ 15% Max after additional debt service	1,675 370,402 470,057 657,098						

Assumptions:

\$10,600,000 Bond:

30 Year Term

6% Interest Rate

Equal Principal Amortization