

CAPITAL IMPROVEMENT PLAN

Summary

The Capital Improvement Plan (CIP) document is intended to be a continual “work in progress” to be used by the Town of Needham and the school district as a tool to assist them in planning for future improvements. This report reflects our assessment of the buildings and a recommended Capital Improvement Plan based on that assessment and includes collaborative meetings with Town and school officials. The cost estimates included herein are strictly placeholders; once a decision is made as to a specific scope and extent of the Work to be performed a more detailed review of the scope of work should be made to refine the estimates.

The CIP, included in the following pages, prioritizes the building needs into seven categories. These categories are used to place individual recommendations identified in the facilities assessment report. The definitions for each category is outlined below:

1) **Health, Safety, & Welfare:**

- Health: addresses health and environmental issues relating to the temperature, humidity, and quality of air, provisions for personal hygiene and non-toxic materials or finishes;
- Safety: relates to safety from accidental injury or death, (i.e. prevention or elimination of hazards in the event of fire or electrical malfunction)
- Welfare: relates to the emotional well-being for living, learning, and working in a space as well as the provisions of equal access, natural light and views to the outside.

2) **Code Compliance:** outlines items that do not meet the current code regulations and *should* be upgraded, but do not fall into the same level of priority as those identified in Health, Safety and Welfare. Items listed in this category do *not* include *all* non-compliant code items as many items are considered “grandfathered” and are assumed to have been compliant at the time of construction.

3) **Functional Use of the Building (aka Space Utilization):** this category notes items that influence the functional use of the building and the group that it serves. These items can include the size and proportion of a space in relation to its intended use. It can also include the location of the space in relation to other adjacent spaces and the ability to use that space to meet the educational needs of the users.

4) **Handicap Accessibility:** items that are not compliant with Americans with Disabilities Act (ADA) or Massachusetts Architectural Access Board (MAAB) requirements and are not included in previous categories are included here. Compliance for providing equivalent accommodations for the disabled are required by law, however providing compliance for the entire building or for

specific areas of the building may not be triggered until impacted by cost or scope of other work done in the building.

- 5) **Maintenance:** the ongoing maintenance of a structure is important to its ability to function and serve its patrons; items noted in this category aid in the continued functionality of the building structure and systems as well as preservation of building materials and finishes to maximize their life cycle.
- 6) **Energy Efficiency / Energy Saving:** is the design and the specification of materials and systems that minimize the consumption of energy. This category includes energy efficiency suggestions that can save operating costs over the life of the building and/or reduce the amount of energy consumed.
- 7) **Hazardous Material Abatement:** assumptions are made regarding the types of hazards that may exist in the materials found in the building based on the age of the materials and the extent of renovations and abatement that have been done in the past. Comprehensive testing must be done prior to the start of any construction. Materials that are in good condition and have not been disturbed do not present a health issue. The estimated dollar amount that is given in the C.I.P. is based on the expectation that once construction begins, testing and removal of suspect materials will need to take place. An allowance is included based on the assessment of which materials have already been tested, which ones are suspect and which may be impacted by the expected scope of work. A comprehensive NESHAP inspection should be performed, which would provide a more accurate hazardous materials abatement costs and scope.

Mitchell Capital Improvement

	Mitchell Elementary School	CIP 2011-2015	Building Renovations
1	Health, Safety & Welfare		
	Develop code analysis review of exit paths for occupant load at each exit. (analysis is required for items 1.02-1.05, 1.07, 1.09, 1.10, and 1.16)	\$5,000	
1.01			
*	1.02 Re-purpose existing bathrooms / storage closets in room #6, build wall and add door for use as tutoring area, re-purpose existing bathrooms / storage closets in classrooms 124 & 125 and expand SPED tutoring space (*1.01)	\$113,000	
*	1.03 Review and propose solution (if required) for corridor in the 1968 wing that exceeds 20' allowable distance (per current code) (*1.01)	(not included in cost)	
*	1.04 Provide a clear path of egress to all exits, relocate computers and furniture as required in the library and classrooms. (*1.01)		\$9,000
*	1.05 Replace or retrofit existing doors in corridor of the 1968 wing with fire rated doors with proper latching hardware and if hold opens are provided they must be tied into the fire alarm system (*1.01)		\$44,000
	1.06 Replace exterior door frames that have rusted or rotted with new door frames	Work Already Funded by Town	
	1.07 Remove steel gate from corridor outside of cafeteria	\$1,000	
	1.08 Provide additional storage (10 x 10) for desk and furniture storage (remove storage from corridors)		\$16,000
	1.09 Remove teaching areas from corridors	(not included in cost)	
*	1.10 Evaluate the location of EXIT signs, add, replace, and relocate as required - provide LED signs where required (*1.01, 1.16)	\$11,000	
	1.11 Repair all exterior landings at exit doors (25% in CIP)	\$3,000	\$8,000
	1.12 Provide handrails at all stairs and ramps, replace existing handrails with code compliant handrails	\$3,000	\$8,000
	1.13 Replace existing guardrails at stair with current code compliant guardrails		\$8,000
*	1.14 Install sprinkler system throughout the building (would require 100% of 1.23)		\$820,000

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	Termite & Pest Control and replacement of existing damaged materials including built in cabinets	Work In Progress Summer 2011	
* 1.15	Review and correct door swing directions and hardware along the path of egress (* I.01, I.10)		\$49,000
1.16	Replace finned tubed radiators / convectors - entire school		\$86,000
1.17	Replace steam and hot water piping distribution		\$430,000
1.18	Remove existing underground oil tank, provide abatement of the area, and fill in with like material (*6.01)		\$35,000
* 1.19	Rebalance existing unit ventilators, replace ventilators that are not adequately venting the space	\$31,000	
1.20	Insulate roof area of 1949 structure		\$667,000
1.21	Install gutters and downspouts and / or replace existing to prevent roof leaks and redirect water to prevent the seeping of water under existing exterior doors (25% in CIP)	\$13,000	\$40,000
1.22	Remove damaged plaster ceiling and ceiling tiles, repair any on going leaking (if any) and replace ceiling tiles and plaster with new materials to match existing (25% in CIP)	\$27,000	\$80,000
1.23	Insulate exterior walls		\$603,000
1.24	Repair issues concerning lack of sufficient heat in the 1968 wing	\$39,000	
1.25	Replace existing window frames and glazing with insulated windows		\$1,631,000
1.26	Consultant review of on-site pedestrian and vehicle circulation, improve pick up and drop off procedures and verify safety		\$8,000
* 1.27	Address remote location of HC parking and access to building (* I.27)		\$19,000
1.28	Repair exterior ramps and stairs, provide handrails at each location		\$28,000
1.29	Provide ventilation in the 1958 boys bathroom	\$15,000	
1.30	Replace emergency battery wall units	\$9,000	
1.31			

2	Code Compliance (items not noted above)		
2.01	Add containment for fuel oil in the boiler room. Install detection interlock to boiler room sump pump with level alarm to contain a fuel oil spill event	\$21,000	
2.02	Provide lighting controls to meet current energy code requirements	\$64,000	
2.03	Re-pipe the kitchen waste system and provide a new grease interceptor	\$18,000	
3	Functional Use of Building (Impact on Learning - below MSBA standards)		
3.01	Library / Media space is undersized		tbd
3.02	Art and music rooms are undersized per MSBA requirements and rooms are not handicap accessible.		tbd
3.03	Provide a self contained special education area		tbd
3.04	Existing gymnasium is undersized per MSBA requirements		tbd
3.05	Review all day kindergarten program, provide additional kindergarten rooms as required (2 restrooms, drinking fountain and hand washing sink @ min. 1000 sf ea.)		tbd
3.06	Replace electrical panels and service distribution equipment		\$276,000
3.07	Replace lighting in the cafeteria and gym		\$59,000
*	Install additional outlets in existing classrooms (4 per class) (* outlets required for additional technology - See Footnote # 6	\$91,000	
3.09	General Office, Administration & Health Office are undersized per MSBA standards and for current functionality		tbd
3.10	Provide handicap accessibility to administration area		\$52,000
3.11	Provide additional storage areas		\$30,000

4	Handicap Accessibility (includes only items not noted above)		
*	4.01 Provide accessible route from hc parking to building (*1.27,1.28)		\$18,000
*	4.02 Renovate 6 existing restrooms to meet ADA / MAAB and provide 2 additional "Staff Only" accessible restrooms (*5.04)		\$220,000
	4.03 Renovate classrooms to meet ADA / MAAB (provide clear floor area at doors)		\$168,000
	4.04 Provide ADA / MAAB compliant lockers		\$9,000
	4.05 Provide ADA / MAAB compliant signage		\$30,000
5	Maintenance - Extending the Life of the Building (includes only items not noted above)		
	5.01 Replace domestic water service		\$35,000
	5.02 Replace domestic water distribution system, add a duplex arrangement of water heaters		\$214,000
	5.03 Repair minor sections of corroded piping of the sanitary waste and vent system (50% in CIP)	\$13,000	\$13,000
	5.04 Replace all plumbing fixtures with new water saving fixtures		\$121,000
	5.05 Replace fire alarm control panel (for expansion)		\$21,000
	5.06 Replace damaged exterior vents and provide protection grills to prevent further damage	\$26,000	
6	Energy Efficiency / Energy Saving (includes only items not noted above)		
	6.01 Convert to natural gas including new high efficiency condensing boilers and associated system- remove existing boilers and switch school over from steam to hydronic heating		\$147,000
	6.02 Provide central cooling system		\$685,000

6.03	Adjust controls to reduce air temperature during school vacation weeks		\$9,000
6.04	Provide improved security access control system at all exit doors, including video cameras		\$110,000
7	Hazardous Materials Abatement		
	For any renovation project, include an allowance to address abatement of asbestos		
	7.01 containing materials and pcb's, lead containing paint renovation requirements	\$31,000	\$451,000
	TOTALS	\$534,000	\$7,257,000
FOOTNOTES			
	* Indicates that item must or should be done in combination with other items listed		
	1. Cost Estimates have been prepared by PM&C. Costs are conceptual in nature, are for comparison purposes only and are not intended for use in construction. They are based on current market conditions in June 2011 and must be adjusted for inflation and construction market conditions for each year beyond this date. No cost for phasing or portable classrooms has been included.		
	2. An Allowance has been provided for Hazardous Materials abatement (asbestos, lead, pcb). The actual cost depends on the scope and extent of the work performed as well as any additional testing that may be necessary as part of the scope of the work.		
	3. GC Overhead & Profit and estimated Soft Costs and Owner's Contingency have been included in these figures.		
	4. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.		
	5. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.		
	6. Due to the limitations for expansion of the existing electrical panels, in order to add electrical outlets, the school must either: 1) Reduce electrical demands (ie. eliminate A/C, small refrigerators, microwaves, etc.) or 2) Upgrade/replace electrical service and distribution panels per 3.06		

Hillside Capital Improvement

	Hillside Elementary School	CIP 2011-2015	Building Renovations
1	Health, Safety & Welfare		
	1.01 Consultant review of on-site pedestrian and vehicle circulation, improve pick up and drop off procedures and verify safety		\$8,000
	1.02 Develop code analysis review of exit paths, occupant load, and travel distance, provide clear paths of travel, remove storage from all stairwells, remove teaching areas from corridors		\$9,000
	1.03 Verify LED Exit signs are installed at all exits and along exit path. Add, replace, and relocate as required. Estimate 5 locations for either new or upgrade of existing.	Work Already Funded by Town	
	1.04 Modify swing direction of doors where required along exit path. Replace door and hardware at 5 locations; connect to fire alarm system. Coordinate with code analysis noted in 1.02		\$35,000
	1.05 Review exterior paths of egress, repair exterior landings at doors, steps, handrails and paths of travel		\$17,000
	1.06 Provide lockable cabinets at all electrical panels located in common areas	\$9,000	
	1.07 Investigate and correct the source of flooding in the trench area, improve site drainage and foundation drainage. Provide a sump pump and means for water to be pumped directly out of the tunnel not through the classroom or spaces on the first floor - allowance	\$121,000	
*	1.08 Relocate existing outlets and data ports (estimate 4 ea per room) in kindergarten rooms to avoid the use of light troths as raceways and the hazards associated with the current tangle of wires and cords that are draped in front of doors and along the wall surface (*3.05, 3.06 may be required if additional outlets are needed) See Footnote # 6	\$14,000	
*	1.09 Provide additional outlets, or relocated existing outlets (estimate 4 per crm) in classrooms to avoid tripping hazards caused by the cords stretched across the floor (*3.05, 3.06 may be required for additional outlets)- See Footnote #6	\$63,000	
*	1.10 Remove existing underground oil tank, replace with double walled tank (reduce estimate by cost of dw tank if I.11 is implemented)		\$52,000
*	1.11 Convert to natural gas including new high efficiency condensing boilers and associated system- remove existing boilers (See *I.10)		\$144,000
	1.12 Replace unit ventilators and wall exhausters with new unit ventilators and exhaust system electronically connected to ventilators		\$122,000

1.13	Replace finned tubed radiators		\$28,000
1.14	Replace piping in trenches		\$131,000
1.15	Replace emergency battery wall units that have reached the end of their useful life	Work Already Funded by Town	
1.16	Replace light fixture lens covers that are broken	\$18,000	
1.17	Install sprinkler system through out the school		\$745,000
1.18	Remove all damaged ceiling tiles and replace with new tiles	\$26,000.00	\$77,000.00
1.19	Repair or replace materials damaged by previous leaking	\$44,000	
1.20	Repair flooring where damaged including stair treads or risers	\$124,000	
2	Code Compliance (items not noted above)		
2.01	Install oil detection interlock to boiler room sump pump with level alarm	\$21,000	
2.02	Review air intake in the boiler room, correct air intake quantity as required	\$14,000	
2.03	Provide lighting controls to meet current code requirements		\$62,000
2.04	Install new code compliant guard rails and handrails at each stair - 3 locations	\$32,000	
3	Functional Use of Building (Impact on Learning - below MSBA standards)		
3.01	Increase storage capacity to avoid the use of hallways and egress paths being used for overflow storage		\$15,000
3.02	Add security cameras or other means of monitoring entrances and exit doors throughout the building (providing new security head equipment & cctv cameras)		\$47,000
*	Provide improved security access control system at all exit doors, (upgrading existing with new door contacts) (*not required if 3.02 is installed)	\$16,000	
3.04	Re-pipe the kitchen waste system and provide a new grease interceptor to comply with the current plumbing code	\$18,000	
3.05	Replace electrical panel boards and main service distribution equipment		\$270,000
3.06	Replace incoming electrical service		\$140,000

4 Handicap Accessibility (includes only items not noted above)			
	Modify restrooms on each floor to provide one accessible restroom per sex at each level - handicap restrooms in the modular buildings comply with ADA however these are considered temporary		\$112,000
*	4.01 structures (* to be combined with 5.01)		
	4.02 Add elevator to access the library and provide connection between floors (3 stop elevator)		\$436,000
	4.03 Upgrade door hardware and clearances to comply with ADA / MAAB standards		\$115,000
	4.04 Provide ADA / MAAB compliant lockers		\$8,000
	4.05 Provide ADA / MAAB signage		\$29,000
5 Maintenance - Extending the Life of the Building (includes only items not noted above)			
	Replace water closets, urinals, lavatories, janitor sinks and classroom fixtures with newer and more water efficient models		\$135,000
	5.01		
	5.02 Replace domestic water distribution system		\$206,000
	5.03 Replace water service		\$87,000
		Work in Progress for Summer 2011	
	5.04 Replace domestic water heater		
	5.05 Replace natural gas piping		\$35,000
	5.06 Modify existing sanitary waste and vent piping		\$41,000
	5.07 Repair and maintain roof drainage	\$26,000	
*	5.08 Provide central cooling system and remove existing AC window units (alternate to 5.12)		\$70,000
	Convert to natural gas including new high efficiency condensing boilers and associated system- remove existing boilers and switch school over from steam to hydronic heating		alternate to 1.11
*	5.1 Remove steam radiators (*5.09)		\$26,000
*	5.11 Retrofit lighting and switching, add daylight harvesting controls (*cost of 2.03 would be eliminated with this option)		\$498,000
*	5.12 Remove existing AC window units, replace with new ac units (2 per classroom) add 4 additional classroom ac units @ 2/ per classroom (alternate to 5.08)	\$ 68,000.00	

6	Energy Efficiency / Energy Saving (includes only items not noted above)		
6.01	Remove existing glazing and exterior wall panel system and replace with insulated panels and glazing		\$1,125,000
6.02	Provide insulation at floor slabs and roof area of the modular units		\$24,000
7	Hazardous Materials Abatement		
7.01	Abate all materials in areas of repair, demolition, and / or construction (Allowance)	\$16,000	\$164,000
	TOTALS	\$630,000	\$5,013,000
FOOTNOTES			
*	Indicates that item is related to or must be done in combination with other items listed		
<p>1. Cost Estimates have been prepared by PM&C. Costs are conceptual in nature, are for comparison purposes only and are not intended for use in construction. They are based on current market conditions in June 2011 and must be adjusted for inflation and construction market conditions for each year beyond this date. No cost for phasing or portable classrooms has been included.</p> <p>2. An Allowance has been provided for Hazardous Materials abatement (asbestos, lead, pcb). The actual cost depends on the scope and extent of the work performed as well as any additional testing that may be necessary as part of the scope of the work.</p> <p>3. GC Overhead & Profit and estimated Soft Costs and Owner's Contingency have been included in these figures.</p> <p>4. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.</p> <p>5. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.</p> <p>6. Due to the limitations for expansion of the existing electrical panels, in order to add electrical outlets, the school must either: 1) Reduce electrical demands (ie. eliminate A/C, small refrigerators, microwaves, etc.) or 2) Upgrade/replace electrical service and distribution panels per 3.05 and 3.06</p>			