
SECTION 4.1 **MASTER PLAN OPTIONS**

PROCESS

The Options development first took the form of what possibilities existed at each of the three school sites: Pompositticut, Center and Hale. These were classified as “Component Options”. Component options could have sub options that reflect different grade configurations or building sizes.

The combination of Component Options that work to form a possible solution for the PreK- 8 system are then referred to as “Scenarios”.

Developing and exploring Options for the schools included varying combinations of the following variables: Existing Sites; Grade Configurations; Renovations of building(s); Additions and Renovations of building(s); New Construction; Needs vs. Wants

Component Options were discussed in detail with the SBTF before moving forward to develop Scenarios.

COMPONENT OPTIONS:

Pompositticut

P1A	Pompo renovations only – renovations within the existing building foot print (grades 1 – 2)
P1B	Pompo renovations only – renovations within the existing building foot print (grades PreK - 1)
P1C/D	Pompo renovations only – renovations within the existing building foot print, reviewed maintaining/eliminating the corridor partitions (grades PreK - 1)
P1E	Pompo renovations only – renovations within the existing building, use only part of the building, turn over remainder of building for other uses (grades Pre-K – K)
P2A	Pompo additions and renovations – (grades PreK – 2)
P2B	Pompo additions and renovations – (grades K – 2)
P3A	New building for grades PreK – 2 -Use the Pompo site but not the

Pompositticut

	building
P3B	New building for grades K – 2 -Use the Pompo site but not the building
P4	Do not use Pompo building or site for school use

Center

C1A	Center renovations only – renovations within the existing building foot print (grades 3 – 5)
C1B	Center renovations only – renovations within the existing building foot print (grades 3 – 4)
C1C	Center renovations only – renovations within the existing building foot print (Early Childhood Center grades PreK – 1)
C2A	Center additions and renovations – (grades 3 – 5)
C2B	Center additions and renovations – (grades 2 – 5)
C2C	Center additions and renovations – (grades 2 – 4)
C2D	Center additions and renovations – (grades PreK – 5)
C2E	Center additions and renovations – (grades PreK – 5)
C2D	Center additions and renovations – (grades PreK – 5, existing bldg for 4 – 5, new bldg for PreK - 3)
C2F	Center additions and renovations – (grades 1 – 5, existing bldg for 1 – 2, new bldg for 3 – 5)
C3A	New Building - Use the Center site but not the building (grades 3 – 5)
C3B	New Building - Use the Center site but not the building (grades PreK – 5)
C3C	New Early Childhood Center on Center site (grades PreK – 1)
C3A	New Building - Use the Center site but not the building (grades 2 – 5)

Hale

- H1 Status Quo – How many students does the current building accommodate?
- H2 Hale additions and renovations – How many students can be planned for and for which grades

New Building Site(s)

- S1 New building at the Center School / Hale site

SCENARIOS

Seven scenarios were developed in both spread sheet form and graphically to demonstrate the building areas needed; the approximate site coverage and a possible design parti for each.

These scenarios combined component options from above to address the Pre-K -8 grades and populations

Through a series of SBTF meetings as well as community meetings, the pros and cons were discussed along with the possible site and building configurations. The process reduced the Scenarios to #1 Heavy and #3

The SBTF recommended proceeding with Scenario 3 that renovates the existing Center School building to accommodate Grades 4 – 5, and constructs an addition behind the school to accommodate Grades PreK – 3 and the core spaces of cafeteria, gymnasium, library and administration.

	Pompo Site	Center Site	Hale Site	Totals
Scenario 1 Heavy				
Component				
Scenario	P1D Heavy	C2B	H1	
Grades Served	PreK - 1	2 - 5	6 - 8	PreK - 8
Total Area	36,415	65,358	71,750	173,523
Scenario 1 Light				
Component				
Scenario	P1D Light	C2B	H1	
Grades Served	PreK - 1	2 - 5	6 - 8	PreK - 8
Total Area	36,415	65,358	71,750	173,523
Scenario 2				
Component				
Scenario	P4	C2D	H1	
Grades Served	decommission	PreK - 5	6 - 8	PreK - 8
Total Area	0	102,573	71,750	174,323
Scenario 3				
Component				
Scenario	P4	C2E	H1	
Grades Served	decommission	PreK - 5	6 - 8	PreK - 8
Total Area	0	102,573	71,750	174,323
Scenario 4				
Component				
Scenario	P4	C3B	H1	
Grades Served	decommission	PreK - 5	6 - 8	PreK - 8
Total Area	0	102,573	71,750	174,323
Scenario 5				
Component				
Scenario	P1D	C3D	H1	
Grades Served	PreK - 1	2 - 5	6 - 8	PreK - 8
Total Area	36,415	71,048	71,750	179,213
Scenario 6				
Component				
Scenario	P4	C3C + C2B	H1	
Grades Served	abandon	PreK - 5	6 - 8	PreK - 8
Total Area	0	108,378	71,750	180,128
Scenario 7				
Component				
Scenario	P1E	C2F	H1	
Grades Served	PreK - K	1 - 5	6 - 8	PreK - 8
Total Area	36,415	81,312	71,750	189,477

Option	Description	Grade Levels Served	# of Students	# of Reg Classrooms	Existing Area Renovations	New Construction	Approx. Gross Area	Cost	Pros	Cons
Pompositticut School										
P1A	Renovation within the existing building footprint	1 - 2	214 +/-	11	36,415	0	36,415			5 Classrms undersized; Likely other program compromises; Combined Gym / Cafeteria; No flexibility for expansion; No room for PreK or K
P1B	Renovation within the existing building footprint	PreK - 1	239 +/-	11	36,415	0	36,415		Some flexibility for growth	4 Classrms undersized; Combined Gym / Cafeteria; Larger than necessary for the grades served
P1C	Renovation within the existing building footprint	PreK - 1	239 +/-	11	36,415	0	36,415		Reuse of existing building, addition of grade PK	Loss of grade 2
P1D	Renovation within the existing building footprint	PreK - 1	239 +/-	11	36,415	0	36,415		Reuse of existing building, addition of grade PK	Loss of grade 2
P1E	existing building footprint using only part of the building - remainder turned over for other	PreK - K	132 +/-	7	36,415	0	36,415		Keeps the building as a school; allows for future expansion	
P2A	Additions and Renovations for PreK - 2	PreK - 2	346 +/-	18	36,415	20,800	57,215			See P2B for size of smaller building; Site is likely too small to support an addition of the size required to support PreK - 2
P2B	Additions and Renovations for K - 2	K - 2	321 +/-	16	36,415	19,200	55,615			4 Classrms undersized; Likely other program compromises; Site is likely too small to support an addition of the size required to support PreK - 2
P3A	New Building for: Grades PreK - 2	PreK - 2	346 +/-	18	0	61,510	61,510		2 story building makes better use of the site	Requires moving students off site for the construction period
P3B	New Building for: Grades K - 2	K - 2	321 +/-	16	0	59830	59830		2 story building makes better use of the site	Requires moving students off site for the construction period
P4	Don't Use Pompo Bldg.	NA	NA	NA	NA	NA	NA	NA		

SECTION 4.1
MASTER PLAN OPTIONS

Option	Description	Grade Levels Served	# of Students	# of Reg. Classrooms	Existing Area Renovations	New Construction	Approx. Gross Area	Cost	Pros	Cons
CENTER SCHOOL										
C1A	Renovation within the existing building foot print	3 - 5	321 +/-	15	34,258	0	34,258			All classrooms undersized; Undersized administration, medical, custodial, OT/PT: No: Sped support, music, band, art, library, computer classroom, separate gym
C1B	Renovation within the existing building foot print	3 - 4	210 +/-	11	34,258	0	34,258			No 5th grade, All classrooms undersized; Undersized administration, medical, custodial, OT/PT, speech, remedial reading: No: Sped support, band, separate gym
C1C	Renovation within the existing building foot print Early Childhood Center	PreK - 1	239 +/-	11	34,258	0	34,258		Early Childhood Center, can be used with other Center site component options	some undersized spaces, 1st grade classrooms = 868 sf +/-, only 4 kindergarten rooms
C2A	Additions and Renovations for Grades 3 - 5	3 - 5	321 +/-	15	34,258	20,300	54,558			Can only be used with P3A
C2B	Additions and Renovations for Grades 2 - 5	2 - 5	428 +/-	21	34,258	31,100	65,358			
C2C	Additions and Renovations for Grades 2 - 4	2 - 4	321 +/-	15	34,258	20,300	54,558			
C2D	Additions and Renovations for Grades PK - 5; Exist for PreK-1; New Bldg for 2-5	PreK - 5	660	33	34,258	68,315	102,573		Single campus, No compromises to Educational Program	
C2E	Additions and Renovations for Grades PK - 5; Exist for 4-5; New Bldg for PreK-3	PreK - 5	660	33	34,258	68,315	102,573			
C2F	Additions and Renovations for Grades 1 - 5; Exist for 1-2; New Bldg for 3-5	1 - 5	535	26	34,258	47,054	81,312			
C3A	New Building for: Grades 3 - 5	3 - 5	321 +/-	32	0	63,452	63,452		No compromises to Educational Program	Can only be used with P3A
C3B	New Building for: Grades PreK - 5	PreK - 5	660	33	0	102,573	102,573		No compromises to Educational Program	
C3C	New Early Childhood Center on Center Site	PreK - 1	239 +/-	11	0	43,020	43,020			Can only be used with C2B
C3D	New Building for Grades 2-5	2 - 5	428 +/-	21	0	71,048	71,048			Can only be used with C2B

Option	Description	Grade Levels Served	# of Students	# of Reg Classrooms	Existing Area Renovations	New Construction	Approx. Gross Area	Cost	Pros	Cons
HALE MIDDLE SCHOOL										
H1	Additions to accommodate projected 6 - 8 population and new support space, return the Cafeteria to its original square footage	6 - 8	300 - 319	17	64,650	7,100	71,750		Only minor renovations required	
H2	Additions to accommodate projected 5 - 8 population and new support space, return the Cafeteria to its original square footage	5 - 8	400 - 419	21	64,650	11,860	76,510		Only minor renovations required	
Currently 13 regular classrooms										



PHASE 1

- STUDENTS REMAIN IN CENTER AND POMPO
- CONSTRUCT ADDITION AT CENTER

PHASE 2

- MOVE GRADES 3—5 INTO NEW ADDITION AND PORTABLE CLASSROOMS
- RENOVATE CENTER

PHASE 3

- MOVE K—2 TO CENTER AND PORTABLE CLASSROOMS
- RENOVATE POMPO (MOVE PORTABLES TO HALE)
- WHEN POMPO IS COMPLETE, MOVE GRADES K—2 BACK TO POMPO AND BRING PRE-K FROM DISTRICT

LEGEND

- EXISTING BUILDING TO BE RENOVATED
- NEW CONSTRUCTION
- BUILDING TURNED OVER TO THE TOWN
- POSSIBLE CLASSROOM EXPANSION

Scenario One Two Site Proposal

Stow Schools Master Plan Stow, Massachusetts



PHASE 1

- CONSTRUCT NEW ADDITION
- GRADES 3—5 TO REMAIN IN CENTER

PHASE 2

- GRADES K—2 TO REMAIN AT POMPO
- GRADES 3—5 TO MOVE INTO NEW ADDITION
- RENOVATE CENTER
- AT COMPLETION OF PROJECT REARRANGE GRADES TO PERMANENT CONFIGURATION
- BRING PREK FROM DISTRICT
- TURN POMPO OVER TO THE TOWN



LEGEND

- EXISTING BUILDING TO BE RENOVATED
- NEW CONSTRUCTION
- BUILDING TURNED OVER TO THE TOWN
- POSSIBLE CLASSROOM EXPANSION

Scenario Three One Site Proposal

Stow Schools Master Plan Stow, Massachusetts

SECTION 4.2 COST ANALYSIS

In the course of the study, SMMA explored various Options for satisfying the educational school building needs of the school system, all options were estimated on a unit rate basis. The preferred options we further developed to include more detail.

The total Project Costs are comprised of “hard” and “soft” costs. Hard costs include all direct construction costs, general contractor’s overhead and profit and contingencies. Soft costs include non direct construction costs such as furnishings and equipment; computers and other technology; design fees, Owners Project Manager fees; Clerk of Works, site survey & borings; hazardous material and geotechnical testing and monitoring; and other construction phase testing, etc.

All costs identified are based upon unit rates per square foot based upon current prevailing rates for construction in this market and represents a reasonable opinion of cost. Costs vary due to fluctuating markets conditions; lack of surplus bidders; perception of risk and material availability.

Escalation costs were factored into the two preferred options only based upon the timeline noted in section 4.3. This escalation assumed 8% per annum from Stow Town Meeting in May to the midpoint of construction since all estimated construction costs were based upon a January 2007 publicly bid project.

ALTERNATIVE CONSTRUCTION

The SBTF expressed an interest in exploring alternative construction methods to accomplish the project. These could include pre-engineered steel structures or pre-fabricated modular construction.

Pre-engineered steel structures are most often used for large span open areas. The gym and cafeteria may be places where this method can be further explored.

The committee did have a representative of Kullman Buildings present pre-fabricated modular construction techniques and methods. The methodology does appear to be realistic with respect to achieving the type of classroom spaces desired (not long span spaces).

The cost of this type of modular construction does appear to be similar to that of conventional construction. Since the erection time is shorter, there may be some financial savings.

The representative noted that they construct buildings only, still requiring a General Contractor for foundations, site work and other related activities.

What needs to be explored further (primarily by the vendor) is how this construction type can work within the Massachusetts bid laws.

The SBTf felt that further exploration of alternative construction methodology should be left up to the School Building Committee, yet to be formed.

SECTION 4.2.1 PROJECT BUDGET

Attached is the anticipated project budget for Scenarios 1 and 3 in January 2007 bid dollars and escalated to the midpoint of construction dollars.

Preliminary Project Budget

Pompo & Center Schools - Scenario 1 (Two Sites Scenario)

Stow, MA

January 2007 Dollars (without Escalation)

Date: 4.23.07

Estimated General Construction Cost			Phase I costs Design & Bidding		Phase II costs Construction	
a.) Building construction Cost, including site, asbestos removal, portables - P1D & C2B	\$22,313,104					100%
b.) Construction Contingency (8% of ECC)	\$1,785,048					100%
c.) Design Contingency (5% of ECC) (included in a.)	\$0					100%
d.) Commissioning (\$1/ sf) (included in a.)	\$101,773					100%
e.) Construction testing	\$100,000					100%
f.) Septic Upgrades (included in a.)	\$0					
g.) Utility backcharges	TBD					100%
h.) Escalation (8% from TM in May '07 to Midpoint of Const. in Sept '10)						100%
		\$24,299,925				
Estimated Costs for Furnishings and Equipment						
a.) Educational Furnishings and Equipment (FFE) (\$1,300 x 660 students)	\$858,000					100%
b.) Technology Equipment (\$1,300 x 660 students)	\$858,000					100%
c.) Library Books (assumes 50% replacement)	\$100,000	\$1,816,000				100%
Architects/Engineers Basic Design Services						
a.) Basic Services Fee - Includes all disciplines design through Contract Administration	\$1,785,048		\$1,249,534	70%		30%
b.) Additional services to be determined upon scheme selection						
Topographic survey	\$25,000		\$25,000	100%		
Geotechnical Investigation	\$30,000		\$30,000	100%		
Food Service Design	\$15,000		\$12,000	80%		20%
Acoustic Design	\$5,000		\$4,000	80%		20%
Detailed Cost Estimating	\$50,000		\$50,000	100%		
On Site Traffic Design (included in basic services)	\$0		\$0	100%		
Off Site Traffic Study (TBD)	\$0		\$0	100%		
Off Site Traffic Design (TBD)	\$0		\$0	80%		20%
Hardware Consultancy (included in a.)	\$0		\$0	100%		
Structural Peer Review	\$5,000		\$5,000	100%		
Site Permitting (planning board, con com)	\$40,000		\$40,000	100%		
Permitting - (Level of effort TBD)	\$0		\$0	100%		
Hazardous Material Consultant	\$15,000		\$6,000	40%		60%
FF&E Design	\$51,480		\$10,296	20%		80%
A/E Reimbursable Expenses	\$150,000		\$105,000	70%		30%
Technology Equipment Design	\$51,480		\$10,296	20%		80%
Technology Infrastructure Design - included in basic service	\$0		\$0	100%		
Total Basic and Additional Services Fee	\$2,223,008	\$2,223,008	\$1,547,126			
Owner Costs						
a.) Clerk of Works (included in OPM)	\$0		\$0	0%		100%
b.) Owner's Project Manager (ECC x 3%)	\$669,393		\$200,818	30%		70%
c.) Advertising expenses	\$5,000		\$5,000	100%		
d.) Printing of bid and construction documents	\$15,000		\$15,000	100%		100%
e.) Moving Expenses	\$30,000		\$0	0%		100%
Total Owner Costs	\$719,393	\$719,393	\$220,818			
TOTAL ESTIMATED PROJECT COST - PRE-ESCALATION			\$29,058,327			
All costs in January 2007 bid dollars						
Total of Phase 1 Costs			\$1,767,944			

Preliminary Project Budget

Pompo & Center Schools - Scenario 1 (Two Sites Scenario)

Stow, MA

January 2007 Dollars (Escalated to September 2010)

Date: 4.23.07

Estimated General Construction Cost				Phase I costs Design & Bidding		Phase II costs Construction	
a.) Building construction Cost, including site, asbestos removal, portables - P1D & C2B	\$22,313,104						100%
b.) Construction Contingency (8% of ECC)	\$1,785,048						100%
c.) Design Contingency (5% of ECC) (included in a.)	\$0						100%
d.) Commissioning (\$1/ sf) (included in a.)	\$101,773						100%
e.) Construction testing	\$100,000						100%
f.) Septic Upgrades (included in a.)	\$0						
g.) Utility backcharges	TBD						100%
h.) Escalation (8% from TM in May '07 to Midpoint of Const. in Sept '10)	\$6,544,530						100%
		\$30,844,455					
Estimated Costs for Furnishings and Equipment							
a.) Educational Furnishings and Equipment (FFE) (\$1,300 x 660 students)	\$858,000						100%
c.) Technology Equipment (\$1,300 x 660 students)	\$858,000						100%
e.) Library Books (assumes 50% replacement)	\$100,000	\$1,816,000					100%
Architects/Engineers Basic Design Services							
a.) Basic Services Fee - Includes all disciplines design through Contract Administration	\$1,785,048			\$1,249,534	70%		30%
b.) Additional services to be determined upon scheme selection							
Topographic survey	\$25,000			\$25,000	100%		
Geotechnical Investigation	\$30,000			\$30,000	100%		
Food Service Design	\$15,000			\$12,000	80%		20%
Acoustic Design	\$5,000			\$4,000	80%		20%
Detailed Cost Estimating	\$50,000			\$50,000	100%		
On Site Traffic Design (included in basic services)	\$0			\$0	100%		
Off Site Traffic Study (TBD)	\$0			\$0	100%		
Off Site Traffic Design (TBD)	\$0			\$0	80%		20%
Hardware Consultancy (included in a.)	\$0			\$0	100%		
Structural Peer Review	\$5,000			\$5,000	100%		
Site Permitting (planning board, con com)	\$40,000			\$40,000	100%		
Permitting - (Level of effort TBD)	\$0			\$0	100%		
Hazardous Material Consultant	\$15,000			\$6,000	40%		60%
FF&E Design	\$51,480			\$10,296	20%		80%
A/E Reimbursable Expenses	\$150,000			\$105,000	70%		30%
Technology Equipment Design	\$51,480			\$10,296	20%		80%
Technology Infrastructure Design - included in basic service	\$0			\$0	100%		
Total Basic and Additional Services Fee	\$2,223,008	\$2,223,008		\$1,547,126			
Owner Costs							
a.) Clerk of Works (included in OPM)	\$0			\$0	0%		100%
b.) Owner's Project Manager (ECC x 3%)	\$669,393			\$200,818	30%		70%
d.) Advertising expenses	\$5,000			\$5,000	100%		
e.) Printing of bid and construction documents	\$15,000			\$15,000	100%		100%
f.) Moving Expenses	\$30,000			\$0	0%		100%
Total Owner Costs	\$719,393	\$719,393		\$220,818			
TOTAL ESTIMATED PROJECT COST - PRE-ESCALATION		\$35,602,857					
Total of Phase 1 Costs				\$1,767,944			

Preliminary Project Budget

Pompo & Center Schools - Scenario 3 (One Site Scenario)

Stow, MA

January 2007 Dollars (without Escalation)

Date: 4.23.07

Estimated General Construction Cost			Phase I costs Design & Bidding		Phase II costs Construction	
a.) Building construction Cost, including site, asbestos removal, portables - P4 & C2E	\$22,833,209					100%
b.) Construction Contingency (8%) (included in a.)	\$1,826,657					100%
c.) Design Contingency (5% of ECC) (included in a.)	\$0					100%
d.) Commissioning (\$1/ sf) (included in a.)	\$102,573					100%
e.) Construction testing (included in a.)	\$100,000					100%
f.) Septic Upgrades (included in a.)	\$0					
g.) Utility backcharges	TBD					100%
h.) Escalation (8% from TM in May '07 to Midpoint of Const. in Jan '10)						100%
		\$24,862,439				
Estimated Costs for Furnishings and Equipment						
a.) Educational Furnishings and Equipment (FFE) (\$1,300 x 660 students)	\$858,000					100%
b.) Technology Equipment (\$1,300 x 660 students)	\$858,000					100%
c.) Library Books (assumes 50% replacement)	\$100,000	\$1,816,000				100%
Architects/Engineers Basic Design Services						
a). Basic Services Fee - Includes all disciplines design through Contract Administration	\$1,826,657		\$1,278,660	70%		30%
b). Additional services to be determined upon scheme selection						
Topographic survey	\$25,000		\$25,000	100%		
Geotechnical Investigation	\$30,000		\$30,000	100%		
Food Service Design	\$15,000		\$12,000	80%		20%
Acoustic Design	\$5,000		\$4,000	80%		20%
Detailed Cost Estimating	\$50,000		\$50,000	100%		
On Site Traffic Design (included in basic services)	\$0		\$0	100%		
Off Site Traffic Study (TBD)	\$0		\$0	100%		
Off Site Traffic Design (TBD)	\$0		\$0	80%		20%
Hardware Consultancy (included in a.)	\$0		\$0	100%		
Structural Peer Review	\$5,000		\$5,000	100%		
Site Permitting (planning board, con com)	\$40,000		\$40,000	100%		
Permitting - (Level of effort TBD)	\$0		\$0	100%		
Hazardous Material Consultant	\$15,000		\$6,000	40%		60%
FF&E Design	\$51,480		\$10,296	20%		80%
A/E Reimbursable Expenses	\$150,000		\$105,000	70%		30%
Technology Equipment Design	\$51,480		\$10,296	20%		80%
Technology Infrastructure Design - included in basic service	\$0		\$0	100%		
Total Basic and Additional Services Fee	\$2,264,617	\$2,264,617	\$1,576,252			
Owner Costs						
a.) Clerk of Works (included in OPM)	\$0		\$0	0%		100%
b.) Owner's Project Manager (ECC x 3%)	\$684,996		\$205,499	30%		70%
c.) Advertising expenses	\$5,000		\$5,000	100%		
d.) Printing of bid and construction documents	\$15,000		\$15,000	100%		100%
e.) Moving Expenses	\$30,000		\$0	0%		100%
Owner Costs Total	\$734,996	\$734,996	\$225,499			
TOTAL ESTIMATED PROJECT COST			\$29,678,052			
All costs in January 2007 bid dollars						
Total of Phase 1 Costs			\$1,801,751			

Preliminary Project Budget

Pompo & Center Schools - Scenario 3 (One Site Scenario)

Stow, MA

January 2007 Dollars (Escalated to January 2010)

Date: 4.23.07

Estimated General Construction Cost			Phase I costs Design & Bidding		Phase II costs Construction	
a.) Building construction Cost, including site, asbestos removal, portables - P4 & C2E	\$22,833,209					100%
b.) Construction Contingency (8%) (included in a.)	\$1,826,657					100%
c.) Design Contingency (5% of ECC) (included in a.)	\$0					100%
d.) Commissioning (\$1/ sf) (included in a.)	\$102,573					100%
e.) Construction testing (included in a.)	\$100,000					100%
f.) Septic Upgrades (included in a.)	\$0					
g.) Utility backcharges	TBD					100%
h.) Escalation (8% from TM in May '07 to Midpoint of Const. in Jan '10)	\$5,397,405					100%
		\$30,259,844				
Estimated Costs for Furnishings and Equipment						
a.) Educational Furnishings and Equipment (FFE) (\$1,300 x 660 students)	\$858,000					100%
b.) Technology Equipment (\$1,300 x 660 students)	\$858,000					100%
c.) Library Books (assumes 50% replacement)	\$100,000	\$1,816,000				100%
Architects/Engineers Basic Design Services						
a). Basic Services Fee - Includes all disciplines design through Contract Administration	\$1,826,657		\$1,278,660	70%		30%
b). Additional services to be determined upon scheme selection						
Topographic survey	\$25,000		\$25,000	100%		
Geotechnical Investigation	\$30,000		\$30,000	100%		
Food Service Design	\$15,000		\$12,000	80%		20%
Acoustic Design	\$5,000		\$4,000	80%		20%
Detailed Cost Estimating	\$50,000		\$50,000	100%		
On Site Traffic Design (included in basic services)	\$0		\$0	100%		
Off Site Traffic Study (TBD)	\$0		\$0	100%		
Off Site Traffic Design (TBD)	\$0		\$0	80%		20%
Hardware Consultancy (included in a.)	\$0		\$0	100%		
Structural Peer Review	\$5,000		\$5,000	100%		
Site Permitting (planning board, con com)	\$40,000		\$40,000	100%		
Permitting - (Level of effort TBD)	\$0		\$0	100%		
Hazardous Material Consultant	\$15,000		\$6,000	40%		60%
FF&E Design	\$51,480		\$10,296	20%		80%
A/E Reimbursable Expenses	\$150,000		\$105,000	70%		30%
Technology Equipment Design	\$51,480		\$10,296	20%		80%
Technology Infrastructure Design - included in basic service	\$0		\$0	100%		
Total Basic and Additional Services Fee	\$2,264,617	\$2,264,617	\$1,576,252			
Owner Costs						
a.) Clerk of Works (included in OPM)	\$0		\$0	0%		100%
b.) Owner's Project Manager (ECC x 3%)	\$684,996		\$205,499	30%		70%
c.) Advertising expenses	\$5,000		\$5,000	100%		
d.) Printing of bid and construction documents	\$15,000		\$15,000	100%		100%
e.) Moving Expenses	\$30,000		\$0	0%		100%
Owner Costs Total	\$734,996	\$734,996	\$225,499			
TOTAL ESTIMATED PROJECT COST			\$35,075,457			
Total of Phase 1 Costs			\$1,801,751			

SECTION 4.2.2 CONSTRUCTION COSTS

Attached is the estimated construction costs (ECC) for Scenarios 1 and 3 in January 2007 bid dollars, no escalation is factored into these numbers.

Pompositicut and Center Elementary Schools Stow, Massachusetts

Symmes Maini & McKee Associates, Inc. / SMMA

MASTER PLAN CONSTRUCTION COST SUMMARY

4.23.07

MASTER PLAN CONSTRUCTION COST SUMMARY

Project: Stow Elementary Schools

Location: Stow, MA

INTRODUCTION

This Detailed Estimate has been established for the additions and renovations of the proposed Pompositticut and Center Schools including associated site works in accordance with conceptual drawings prepared by SMMA.

This estimate is based upon references from similar projects recently bid in the Commonwealth of Massachusetts under the public bidding laws of MGL Chapter 149.

BRIEF DESCRIPTION OF PROJECT

This project comprises of renovation and additions to the Center School and renovated or decommissioning of the Pompositticut school to accommodate a total of 660 students with core space to accomodate 700 students. The existing buildings are single story and the proposed additions are one and two stories.

BASIS FOR PRICING

All costs contained herein are SMMA's opinion of probable costs and represents our best judgment as a Consultants familiar with the construction industry. These costs are dependent on the final selection of specification, design, procurement.

EXCLUDED

Items that are not considered in this estimate include, but are not limited to:

1. Land acquisition and real estate fees
2. Utility company back charges
3. Escalation

MASTER PLAN CONSTRUCTION COST SUMMARY

in January 2007 Dollars (No escalation)

Project: Stow Elementary Schools

Location: Stow, MA

Architect: SMMA

Date: 4.23.07

	School Area (sq ft)	Cost per Sq ft	Total
<u>Scenario 1</u>			
Renovate Pompo (PID)	36,415	185	6,719,148
Renovate Center (C2B/E)	34,258	148	5,081,081
Addition to Center (C2B)	31,100	338	10,512,875
Anticipated Construction Cost \$	101,773	219	22,313,104
<u>Scenario 3</u>			
Decommission Pompo (P4)	36,415	-	-
Renovate Center (C2B/E)	34,258	148	5,081,081
Addition to Center (C2E)	68,315	260	17,752,128
Anticipated Construction Cost \$	102,573	223	22,833,209

<div> <div> Project: Location: Architect: </div> <div> MASTER PLAN CONSTRUCTION COST SUMMARY Stow Pompositticut Elementary School Stow, MA Existing Building - Renovation Only (P1D) SMMA </div> <div> Date: 04.01.07 </div> </div>								
	Element	Elemental Cost		Element Amount		Rate per sf GFA		%
		Quantity	Unit Rate	Sub-Total	Total	Sub-Total	Total	
A10	FOUNDATIONS				-		\$ -	0.0
1010	Standard Foundations	- sf	0.00	-		0.00		
1030	Slab on grade	- sf	0.00	-		0.00		
B10	STRUCTURE				-		\$ -	0.0
1010	Upper floor construction	- sf	0.00	-		0.00		
1020	Roof construction	- sf	0.00	-		0.00		
B20	EXTERIOR CLOSURE				116,000		\$ 3.18	2.9
2010	Exterior walls	13,000 sf	6.00	78,000		2.14		
2020	Windows	5,000 sf	4.00	20,000		0.55		
2030	Exterior doors	12 lvs	1500.00	18,000		0.49		
B30	ROOFING				550,565		\$ 15.12	13.8
3010	Roof Coverings	36,415 sf	11.00	400,565		11.00		
3020	Roof Openings	0 ea	0.00	-		0.00		
3025	Projections & Canopies	1,000 sf	150.00	150,000		4.12		
C10	INTERIOR CONSTRUCTION				318,000		\$ 8.73	8.0
1010	Partitions	15,000 sf	18.00	270,000		7.41		
1020	Doors	40 lvs	1200.00	48,000		1.32		
C20	STAIRCASES				-		\$ -	0.0
2010	Stair Construction	- flights	0.00	-		0.00		
2020	Stair Finishes	- sf	0.00	-		0.00		
C30	INTERIOR FINISHES				346,320		\$ 9.51	8.7
3010	Wall Finishes	55,000 sf	1.00	55,000		1.51		
3020	Floor Finishes	36,415 sf	5.00	182,075		5.00		
3030	Ceiling Finishes	36,415 sf	3.00	109,245		3.00		
D10	VERTICAL MOVEMENT				-		\$ -	0.0
1010	Elevators	- elv	-	-		0.00		
D15	MECHANICAL				1,201,695		\$ 33.00	30.2
20	Plumbing	36,415 sf	6.00	218,490		6.00		
30	HVAC (Limited AC)	36,415 sf	22.00	801,130		22.00		
40	Fire protection	36,415 sf	5.00	182,075		5.00		
D50	ELECTRICAL				582,640		\$ 16.00	14.6
5010	Service & distribution	36,415 sf	5.00	182,075		5.00		
5020	Lighting & power	36,415 sf	6.00	218,490		6.00		
5030	Communications & Data	36,415 sf	5.00	182,075		5.00		
E10	EQUIPMENT				182,075		\$ 5.00	4.6
1010	Institutional	36,415 sf	5.00	182,075		5.00		
E20	FURNISHINGS				218,490		\$ 6.00	5.5
2010	Fixed Furnishings	36,415 sf	6.00	218,490		6.00		
F20	DEMOLITION				467,933		\$ 12.85	11.7
1010	Abatement	36,415 sf	7.85	285,858		7.85		
1020	Demolition - Selective	36,415 sf	5.00	182,075		5.00		
	NET BUILDING COST			\$	3,983,718		\$ 109.40	100.0
G	SITE DEVELOPMENT				695,600		\$ 19.10	50.0
10	Site Preparation	376,000 sf	0.75	282,000		7.74		
20	Site Improvements	376,000 sf	0.30	112,800		3.10		
30	Mechanical Utilities	376,000 sf	0.30	112,800		3.10		
40	Electrical Utilities	376,000 sf	0.50	188,000		5.16		
50	Title V Improvements	1 ls	0.00	-		0.00		
H	PHASING				696,000		\$ 19.11	50.0
10	Modular's	1 ls		696,000		19.11		
	NET CONSTRUCTION COST			\$	5,375,318		\$ 147.61	100.0
Z	GEN CONDITIONS OH&P				1,075,064		\$ 29.53	80.0
1	General Conditions	14.00%		752,545		20.67		
2	Overheads & profit	6.00%		322,519		8.86		
Z10	CONTINGENCIES				268,766		\$ 7.38	20.0
11	Design & Pricing	5.00%		268,766		7.38		
	TOTAL CONSTRUCTION COST			\$	6,719,148		\$ 184.52	100.0
	GROSS FLOOR AREA	36,415 sf	TOTAL COST	\$	6,719,148		\$ 184.52	100.0
ELEMENTAL COST PLAN								

<div> <div> Project: Location: Architect: </div> <div> MASTER PLAN CONSTRUCTION COST SUMMARY Stow Center Elementary School Stow, MA Existing Building - Addition Only (C2B) SMMA </div> <div> Date: 04.01.07 </div> </div>									
	Element	Elemental Cost		Element Amount		Rate per sf GFA			
		Quantity	Unit Rate	Sub-Total	Total	Sub-Total	Total		
A10	FOUNDATIONS				531,300		\$ 17.08	8.9	
1010	Standard Foundations	23,100	sf	14.00	323,400	10.40			
1030	Slab on grade	23,100	sf	9.00	207,900	6.68			
B10	STRUCTURE				709,500		\$ 22.81	11.9	
1010	Upper floor construction	8,000	sf	16.50	132,000	4.24			
1020	Roof construction	23,100	sf	25.00	577,500	18.57			
B20	EXTERIOR CLOSURE				1,340,000		\$ 43.09	22.4	
2010	Exterior walls	15,000	sf	55.00	825,000	26.53			
2020	Windows	10,000	sf	50.00	500,000	16.08			
2030	Exterior doors	10	lvs	1500.00	15,000	0.48			
B30	ROOFING				404,100		\$ 12.99	6.8	
3010	Roof Coverings	23,100	sf	11.00	254,100	8.17			
3020	Roof Openings	0	ea	0.00	-	0.00			
3025	Projections & Canopies	1,000	sf	150.00	150,000	4.82			
C10	INTERIOR CONSTRUCTION				480,000		\$ 15.43	8.0	
1010	Partitions	30,000	sf	14.00	420,000	13.50			
1020	Doors	50	lvs	1200.00	60,000	1.93			
C20	STAIRCASES				56,000		\$ 1.80	0.9	
2010	Stair Construction	4	flights	9500.00	38,000	1.22			
2020	Stair Finishes	1,200	sf	15.00	18,000	0.58			
C30	INTERIOR FINISHES				354,900		\$ 11.41	5.9	
3010	Wall Finishes	50,000	sf	1.50	75,000	2.41			
3020	Floor Finishes	31,100	sf	5.00	155,500	5.00			
3030	Ceiling Finishes	31,100	sf	4.00	124,400	4.00			
D10	VERTICAL MOVEMENT				80,000		\$ 2.57	1.3	
1010	Elevators	1	elv	80,000	80,000	2.57			
D15	MECHANICAL				964,100		\$ 31.00	16.1	
20	Plumbing	31,100	sf	5.00	155,500	5.00			
30	HVAC (Limited AC)	31,100	sf	22.00	684,200	22.00			
40	Fire protection	31,100	sf	4.00	124,400	4.00			
D50	ELECTRICAL				590,900		\$ 19.00	9.9	
5010	Service & distribution	31,100	sf	5.00	155,500	5.00			
5020	Lighting & power	31,100	sf	7.00	217,700	7.00			
5030	Communications & Data	31,100	sf	7.00	217,700	7.00			
E10	EQUIPMENT				155,500		\$ 5.00	2.6	
1010	Institutional	31,100	sf	5.00	155,500	5.00			
E20	FURNISHINGS				311,000		\$ 10.00	5.2	
2010	Fixed Furnishings	31,100	sf	10.00	311,000	10.00			
F20	DEMOLITION				-		\$ -	0.0	
1010	Abatement	-	sf	9.50	-	0.00			
1020	Demolition - Selective	-	sf	8.00	-	0.00			
	NET BUILDING COST				\$ 5,977,300		\$ 192.20	100.0	
G	SITE DEVELOPMENT				2,153,000		\$ 32.94	88.5	
10	Site Preparation	326,000	sf	1.50	489,000	7.48			
20	Site Improvements	326,000	sf	1.20	391,200	5.99			
30	Mechanical Utilities	326,000	sf	1.40	456,400	6.98			
40	Electrical Utilities	326,000	sf	1.40	456,400	6.98			
50	Title V Improvements	1	ls	360000.00	360,000	5.51			
H	PHASING				280,000		\$ 4.28	11.5	
10	Modular's	1	ls		280,000	4.28			
	NET CONSTRUCTION COST				\$ 8,410,300		\$ 229.42	100.0	
Z	GEN CONDITIONS OH&P				1,682,060		\$ 54.09	80.0	
1	General Conditions	14.00%			1,177,442	37.86			
2	Overheads & profit	6.00%			504,618	16.23			
Z10	CONTINGENCIES				420,515		\$ 13.52	20.0	
11	Design & Pricing	5.00%			420,515	13.52			
	TOTAL CONSTRUCTION COST				\$ 10,512,875		\$ 297.03	100.0	
	GROSS FLOOR AREA	31,100	sf	TOTAL COST	\$ 10,512,875		\$ 297.03	100.0	
ELEMENTAL COST PLAN									

<div> <div> <div>Project:</div> <div>Location:</div> <div>Architect:</div> </div> <div> <div>MASTER PLAN CONSTRUCTION COST SUMMARY</div> <div>Stow Center Elementary School</div> <div>Stow, MA</div> <div>SMMA</div> </div> <div> <div>Existing Building - Renovation Only (C2B/E)</div> <div>Date: 04.01.07</div> </div> </div>								
	Element	Elemental Cost		Element Amount		Rate per sf GFA		%
		Quantity	Unit Rate	Sub-Total	Total	Sub-Total	Total	
A10	FOUNDATIONS				-		\$ -	0.0
1010	Standard Foundations	- sf	0.00	-		0.00		
1030	Slab on grade	- sf	0.00	-		0.00		
B10	STRUCTURE				-		\$ -	0.0
1010	Upper floor construction	- sf	0.00	-		0.00		
1020	Roof construction	- sf	0.00	-		0.00		
B20	EXTERIOR CLOSURE				499,000		\$ 14.56	12.3
2010	Exterior walls	12,000 sf	15.00	180,000		5.25		
2020	Windows	7,000 sf	40.00	280,000		8.17		
2030	Exterior doors	26 lvs	1500.00	39,000		1.14		
B30	ROOFING				526,838		\$ 15.38	13.0
3010	Roof Coverings	34,258 sf	11.00	376,838		11.00		
3020	Roof Openings	0 ea	0.00	-		0.00		
3025	Projections & Canopies	1,000 sf	150.00	150,000		4.38		
C10	INTERIOR CONSTRUCTION				192,000		\$ 5.60	4.7
1010	Partitions	8,000 sf	18.00	144,000		4.20		
1020	Doors	40 lvs	1200.00	48,000		1.40		
C20	STAIRCASES				-		\$ -	0.0
2010	Stair Construction	- flights	0.00	-		0.00		
2020	Stair Finishes	- sf	0.00	-		0.00		
C30	INTERIOR FINISHES				329,064		\$ 9.61	8.1
3010	Wall Finishes	55,000 sf	1.00	55,000		1.61		
3020	Floor Finishes	34,258 sf	5.00	171,290		5.00		
3030	Ceiling Finishes	34,258 sf	3.00	102,774		3.00		
D10	VERTICAL MOVEMENT				-		\$ -	0.0
1010	Elevators	- elv	-	-		0.00		
D15	MECHANICAL				1,130,514		\$ 33.00	27.8
20	Plumbing	34,258 sf	6.00	205,548		6.00		
30	HVAC (Limited AC)	34,258 sf	22.00	753,676		22.00		
40	Fire protection	34,258 sf	5.00	171,290		5.00		
D50	ELECTRICAL				548,128		\$ 16.00	13.5
5010	Service & distribution	34,258 sf	5.00	171,290		5.00		
5020	Lighting & power	34,258 sf	6.00	205,548		6.00		
5030	Communications & Data	34,258 sf	5.00	171,290		5.00		
E10	EQUIPMENT				171,290		\$ 5.00	4.2
1010	Institutional	34,258 sf	5.00	171,290		5.00		
E20	FURNISHINGS				205,548		\$ 6.00	5.1
2010	Fixed Furnishings	34,258 sf	6.00	205,548		6.00		
F20	DEMOLITION				462,483		\$ 13.50	11.4
1010	Abatement	34,258 sf	9.50	325,451		9.50		
1020	Demolition - Selective	34,258 sf	4.00	137,032		4.00		
	NET BUILDING COST			\$	4,064,865		\$ 118.65	100.0
G	SITE DEVELOPMENT				-		\$ -	0.0
10	Site Preparation					0.00		
20	Site Improvements					0.00		
30	Mechanical Utilities					0.00		
40	Electrical Utilities					0.00		
50	Title V Improvements					0.00		
H	PHASING				-		\$ -	0.0
10	Modular's					0.00		
	NET CONSTRUCTION COST			\$	4,064,865		\$ 118.65	0.0
Z	GEN CONDITIONS OH&P				812,973		\$ 23.73	80.0
1	General Conditions	14.00%		569,081		16.61		
2	Overheads & profit	6.00%		243,892		7.12		
Z10	CONTINGENCIES				203,243		\$ 5.93	20.0
11	Design & Pricing	5.00%		203,243		5.93		
	TOTAL CONSTRUCTION COST			\$	5,081,081		\$ 148.31	100.0
	GROSS FLOOR AREA	34,258 sf		TOTAL COST	\$ 5,081,081		\$ 148.31	100.0
ELEMENTAL COST PLAN								

<div> <div> Project: Location: Architect: </div> <div> MASTER PLAN CONSTRUCTION COST SUMMARY Stow Center Elementary School Stow, MA Existing Building - Addition Only (C2E) SMMA </div> <div> Date: 04.01.07 </div> </div>									
	Element	Elemental Cost		Element Amount		Rate per sf GFA			
		Quantity	Unit Rate	Sub-Total	Total	Sub-Total	Total		
A10	FOUNDATIONS				922,300		\$ 13.50	7.8	
1010	Standard Foundations	40,100	sf	14.00	561,400	8.22			
1030	Slab on grade	40,100	sf	9.00	360,900	5.28			
B10	STRUCTURE				1,336,048		\$ 19.55	11.2	
1010	Upper floor construction	20,215	sf	16.50	333,548	4.88			
1020	Roof construction	40,100	sf	25.00	1,002,500	14.67			
B20	EXTERIOR CLOSURE				2,138,000		\$ 31.29	18.0	
2010	Exterior walls	24,000	sf	55.00	1,320,000	19.32			
2020	Windows	16,000	sf	50.00	800,000	11.71			
2030	Exterior doors	12	lvs	1500.00	18,000	0.26			
B30	ROOFING				741,100		\$ 10.85	6.2	
3010	Roof Coverings	40,100	sf	11.00	441,100	6.46			
3020	Roof Openings	0	ea	0.00	-	0.00			
3025	Projections & Canopies	2,000	sf	150.00	300,000	4.39			
C10	INTERIOR CONSTRUCTION				1,172,000		\$ 17.16	9.9	
1010	Partitions	70,000	sf	14.00	980,000	14.35			
1020	Doors	160	lvs	1200.00	192,000	2.81			
C20	STAIRCASES				56,000		\$ 0.82	0.5	
2010	Stair Construction	4	flghts	9500.00	38,000	0.56			
2020	Stair Finishes	1,200	sf	15.00	18,000	0.26			
C30	INTERIOR FINISHES				794,835		\$ 11.63	6.7	
3010	Wall Finishes	120,000	sf	1.50	180,000	2.63			
3020	Floor Finishes	68,315	sf	5.00	341,575	5.00			
3030	Ceiling Finishes	68,315	sf	4.00	273,260	4.00			
D10	VERTICAL MOVEMENT				80,000		\$ 1.17	0.7	
1010	Elevators	1	elv	80,000	80,000	1.17			
D15	MECHANICAL				2,117,765		\$ 31.00	17.8	
20	Plumbing	68,315	sf	5.00	341,575	5.00			
30	HVAC (Limited AC)	68,315	sf	22.00	1,502,930	22.00			
40	Fire protection	68,315	sf	4.00	273,260	4.00			
D50	ELECTRICAL				1,297,985		\$ 19.00	10.9	
5010	Service & distribution	68,315	sf	5.00	341,575	5.00			
5020	Lighting & power	68,315	sf	7.00	478,205	7.00			
5030	Communications & Data	68,315	sf	7.00	478,205	7.00			
E10	EQUIPMENT				341,575		\$ 5.00	2.9	
1010	Institutional	68,315	sf	5.00	341,575	5.00			
E20	FURNISHINGS				888,095		\$ 13.00	7.5	
2010	Fixed Furnishings	68,315	sf	13.00	888,095	13.00			
F20	DEMOLITION				-		\$ -	0.0	
1010	Abatement	-	sf	9.50	-	0.00			
1020	Demolition - Selective	-	sf	8.00	-	0.00			
	NET BUILDING COST				\$ 11,885,703		\$ 173.98	100.0	
G	SITE DEVELOPMENT				2,316,000		\$ 22.59	100.0	
10	Site Preparation	326,000	sf	1.60	521,600	5.09			
20	Site Improvements	326,000	sf	1.40	456,400	4.45			
30	Mechanical Utilities	326,000	sf	1.50	489,000	4.77			
40	Electrical Utilities	326,000	sf	1.50	489,000	4.77			
50	Title V Improvements	1	ls	360000.00	360,000	3.51			
H	PHASING				-		\$ -	0.0	
10	Modular's	1	ls		-	0.00			
	NET CONSTRUCTION COST				\$ 14,201,703		\$ 196.57	100.0	
Z	GEN CONDITIONS OH&P				2,840,340		\$ 41.57	80.0	
1	General Conditions	14.00%			1,988,238	29.10			
2	Overheads & profit	6.00%			852,102	12.47			
Z10	CONTINGENCIES				710,085		\$ 10.39	20.0	
11	Design & Pricing	5.00%			710,085	10.39			
	TOTAL CONSTRUCTION COST				\$ 17,752,128		\$ 248.53	100.0	
	GROSS FLOOR AREA	68,315	sf	TOTAL COST	\$ 17,752,128		\$ 248.53	100.0	
ELEMENTAL COST PLAN									

SECTION 4.3 TIMELINES

Symmes Maini & McKee Associates (SMMA) developed several schedules to address the estimated durations of each scenario and the overall impact on project costs due to escalation.

The attached schedules are a result of numerous discussions which reviewed in detail the possibility of commencing multiple projects at the same time, using rented facilities for swing space and reducing the impact on students and staff. Ultimately the committee decided that the best option for the Town was to leap frog the construction process to reduce the number of modular classrooms required and minimize the disruption for the occupant of the buildings.

Graphical timelines are included for Scenarios 1 and 3 only.

Scenario 1

Pompo to be comprehensively renovated for grades PreK through 1. This brings the PreK program back from the District. Center School to be comprehensively renovated and added to, to serve grades 2 through 5.

Phase 1 (C2B)

- Students to remain in Pompo and Center
- Construct addition at Center

Construction of this Phase 1 is expected to be approximately 12 to 14 months

Phase 2 (C2B)

- Move grades 3 through 5 into new addition and add some portables
- Renovate Center School

Construction of this Phase 2 is expected to be approximately 12 to 14 months

Phase 3 (P1D)

- Move grades K through 2 from Pompo to the renovated Center School and some portables
- Renovate Pompo (move portable classrooms to Hale)
- When the renovations at Pompo are complete, move grades K through 1 back to Pompo
- Bring the PreK program back from the District

Construction of this Phase 3 is expected to be approximately 14 months

Scenario 3

Center School to be comprehensively renovated and added to, to serve all grades, PreK through 5.

Phase 1 (C2E)

- Students to remain in Pompo and Center
- Construct addition at Center

Construction of this Phase 1 is expected to be approximately 18 months

Phase 2 (C2E)

- Grades K through 2 to remain at Pompo
- Grades 3 through 5 to move into the new addition
- Renovate Center School
- At the completion of the project, re-arrange grades to their permanent configuration
- Bring the PreK program back from the District
- Turn Pompo over to the Town

Construction of this Phase 2 is expected to be approximately 12 to 14 months

SCENARIO 1 TIME LINE

5/18/2007

SCENARIO 3 TIME LINE

