

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 386,750

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 2.3 NEW ADDITION								
57	B1010 FLOOR CONSTRUCTION	2,886	tns		-			
58	<u>Floor Structure - Steel:</u>							
59	Steel beams and columns to new addition; 15#/SF	1,802	tns	3,800.00	6,847,600			
60	Premium for HSS	451	tns	300.00	135,300			
61	Shear studs	48,057	ea	2.50	120,143			
62	<u>Floor Structure</u>							
63	2" 18 Ga. Metal galvanized floor Deck	240,286	sf	3.75	901,073			
64	WWF reinforcement	276,329	sf	0.80	221,063			
65	Concrete Fill to metal deck; 6" Light Weight	5,607	cy	160.00	897,120			
66	Place and finish concrete	240,286	sf	2.00	480,572			
67	Rebar to decks	72,086	lbs	1.20	86,503			
68	Misc. angles	240,286	sf	0.50	120,143			
69	<u>Miscellaneous</u>							
70	Fire proofing to columns and beams	240,286	sf	2.25	540,644			
71	Intumescent paint	1	ls	25,000.00	25,000			
72	Fire stopping floors	240,286	sf	1.00	240,286			
73	SUBTOTAL					10,615,447		
74								
75	B1020 ROOF CONSTRUCTION							
76	<u>Roof Structure - Steel:</u>							
77	Steel beams and columns to new addition; 14#/SF	1,084	tns	3,800.00	4,119,200			
78	Premium for HSS	271	tns	300.00	81,300			
79	Exposed steel	1	ls	50,000.00	50,000			
80	<u>Roof Structure</u>							
81	Acoustic deck allowance	8,000	sf	7.00	56,000			
82	3" 20 Ga. galvanized Metal Roof Deck	138,464	sf	4.00	553,856			
83	<u>Miscellaneous</u>							
84	Concrete under RTU's	15,000	sf	8.00	120,000			
85	Fire proofing to columns, beams and deck	138,464	sf	3.00	415,392			
86	SUBTOTAL					5,395,748		
87								
88	TOTAL - SUPERSTRUCTURE						\$16,011,195	
89								
90								
91	B20 EXTERIOR CLOSURE							
92								
93	B2010 EXTERIOR WALLS							
94	Exterior Wall Area - Solid Assume 70%	120,257	sf					
95								
96	042000 MASONRY							
97	Brick veneer, 3 color; 75% of solid area	90,193	sf	40.00	3,607,720			
98	Staging to exterior wall	120,257	sf	4.00	481,028			
99								
100	055000 MISC. METALS							
101	Stainless steel sign at main entrance	1	ls	15,000.00	15,000			
102								
103								
104	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
105	Air barrier	120,257	sf	6.50	781,671			
106	Air barrier/flashing at windows	30,317	lf	6.25	189,481			
107	Miscellaneous sealants to closure	120,257	sf	1.00	120,257			
108								
109	072100 THERMAL INSULATION							
110	Insulation	120,257	sf	2.25	270,578			
111								

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

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OPTION 2.3 NEW ADDITION								
112	076400 CLADDING							
113	Metal panel; 25% of solid area	30,064	sf	75.00	2,254,800			
116	092900 GYPSUM BOARD ASSEMBLIES							
118	6" metal stud backup	120,257	sf	11.00	1,322,827			
119	Gypsum Sheathing	120,257	sf	2.75	330,707			
120	Drywall lining to interior face of stud backup	120,257	sf	3.30	396,848			
121								
122	SUBTOTAL					9,770,917		
123								
124	B2020 WINDOWS							
125	Exterior Wall Area - Glazed Assume 30%	51,539	sf					
126								
127	061000 ROUGH CARPENTRY							
128	Wood blocking at openings	30,317	lf	14.00	424,438			
129								
130	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
131	Backer rod & double sealant	30,317	lf	8.50	257,695			
132								
133	080001 METAL WINDOWS							
134	Windows, double glazed; 20% of glazed area	10,308	sf	90.00	927,720			
135	Curtainwall, double glazed; 80% of glazed area	41,231	sf	120.00	4,947,720			
136	Sunshades; horizontal	1	ls	75,000.00	75,000			
137								
138	089000 LOUVERS							
139	Louvers	250	sf	65.00	16,250			
140	SUBTOTAL					6,648,823		
141								
142	B2030 EXTERIOR DOORS							
143	Glazed entrance doors including frame and hardware; double door	8	pr	8,000.00	64,000			
144	HM doors, frames and hardware- Double	4	pr	2,000.00	8,000			
145	Backer rod & double sealant	240	lf	4.00	960			
146	Wood blocking at openings	240	lf	3.00	720			
147	SUBTOTAL					73,680		
148								
149	TOTAL - EXTERIOR CLOSURE						\$16,493,420	
150								
151								
152	B30 ROOFING							
153								
154	B3010 ROOF COVERINGS							
155	New roofing complete	146,464	sf	20.00	2,929,280			
114	Roof equipment screen	1	ls	350,000	350,000			
115	Green roof	15,000	sf	35.00	525,000			
115	Roof soffits	1	ls	2,000,000	2,000,000			
156	SUBTOTAL					5,804,280		
157								
158	B3020 ROOF OPENINGS							
159	Skylights, allow	1	ls	750,000.00	750,000			
160	Roof hatch	1	loc	2,500.00	2,500			
161	SUBTOTAL					752,500		
162								
163	TOTAL - ROOFING						\$6,556,780	
164								
165								
166	C10 INTERIOR CONSTRUCTION							
167								
168	C1010 PARTITIONS							

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OPTION 2.3 NEW ADDITION								
169	Miscellaneous partitions/glazed partitions/borrowed lights/blocking etc.	386,750	gsf	22.00	8,508,500			
170	SUBTOTAL					8,508,500		
171								
172	C1020 INTERIOR DOORS							
173	Interior doors, frames and hardware	386,750	gsf	5.00	1,933,750			
174	SUBTOTAL					1,933,750		
175								
176	C1030 SPECIALTIES / MILLWORK							
177	Toilet Partitions and accessories	386,750	gsf	0.80	309,400			
178	Backer panels in electrical closets	1	ls	1,000.00	1,000			
179	Marker boards/tackboards in classrooms, offices, conference rooms, library and MP rooms	386,750	sf	1.00	386,750			
180	Room Signs	386,750	gsf	0.40	154,700			
181	Fire extinguisher cabinets	129	ea	350.00	45,150			
182	Lockers	386,750	gsf	1.60	618,800			
183	Janitors Work Shop Accessories	1	ls	1,500.00	1,500			
184	Janitors Closet Accessories	3	rms	300.00	900			
185	<i>Media</i>							
186	Reception desks	4	loc	25,000	100,000			
187	Railings to open to below areas	1	ls	100,000	100,000			
188	Library shelving at perimeters 7' Tall				F,F & E			
189	Library shelving at perimeters 3' Tall				F,F & E			
190	Miscellaneous wood trim	386,750	gsf	0.50	193,375			
191	Display cases	386,750	gsf	0.25	96,688			
192	Miscellaneous metals throughout building	386,750	sf	1.50	580,125			
193	Miscellaneous sealants throughout building	386,750	sf	1.25	483,438			
194	SUBTOTAL					3,071,826		
195								
196	TOTAL - INTERIOR CONSTRUCTION						\$13,514,076	
197								
198								
199	C20 STAIRCASES							
200								
201	C2010 STAIR CONSTRUCTION							
202	Metal pan stair; egress stair	12	flt	25,000.00	300,000			
203	Main staircase	1	flt	250,000.00	250,000			
204	Commons steps	2	loc	5,000.00	10,000			
205	Concrete fill to stairs	12	flt	2,000.00	24,000			
206	SUBTOTAL					584,000		
207								
208	C2020 STAIR FINISHES							
209	High performance coating to stairs including all railings etc.	12	flt	3,000.00	36,000			
210	Rubber tile at stairs - landings	1,200	sf	10.00	12,000			
211	Rubber tile at stairs - treads & risers	1,440	lft	19.06	27,446			
212	SUBTOTAL					75,446		
213								
214	TOTAL - STAIRCASES						\$659,446	
215								
216								
217	C30 INTERIOR FINISHES							
218								
219	C3010 WALL FINISHES							
220	Wall finishes	386,750	sf	6.00	2,320,500			
221	SUBTOTAL					2,320,500		
222								
223	C3020 FLOOR FINISHES							
224	Floor finishes	386,750	sf	11.00	4,254,250			
225	SUBTOTAL					4,254,250		

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OPTION 2.3 NEW ADDITION								
226	C3030 CEILING FINISHES							
227	Ceiling finishes	386,750	sf	10.00	3,867,500			
228								
229	SUBTOTAL					3,867,500		
230								
231	TOTAL - INTERIOR FINISHES						\$10,442,250	
232								
233								
234	D10 CONVEYING SYSTEMS							
235								
236	D1010 ELEVATOR							
237	New four stop elevator	2	ea	180,000.00	360,000			
238	SUBTOTAL					360,000		
239								
240	TOTAL - CONVEYING SYSTEMS						\$360,000	
241								
242								
243	D20 PLUMBING							
244								
245	D20 PLUMBING, GENERALLY							
246	Plumbing allowance	386,750	gsf	12.00	4,641,000			
247	SUBTOTAL					4,641,000		
248								
249	TOTAL - PLUMBING						\$4,641,000	
250								
251								
252	D30 HVAC							
253								
254	D30 HVAC, GENERALLY							
255	HVAC allowance for Geothermal wells; based 400 wells each 400 ft deep	1	ls	4,000,000.00	4,000,000			
256	HVAC allowance	386,750	gsf	45.00	17,403,750			
257	SUBTOTAL					21,403,750		
258								
259	TOTAL - HVAC						\$21,403,750	
260								
261								
262	D40 FIRE PROTECTION							
263								
264	D40 FIRE PROTECTION, GENERALLY							
265	Fire pump	1	ls	100,000.00	100,000			
266	Fire protection system	386,750	gsf	4.70	1,817,725			
267	SUBTOTAL					1,917,725		
268								
269	TOTAL - FIRE PROTECTION						\$1,917,725	
270								
271								
272	D50 ELECTRICAL							
273								
274								
275	D5010 ELECTRICAL WORK							
276	Allowance for PV systems	1	ls	4,000,000.00	4,000,000			
277	Complete electrical systems	386,750	gsf	34.00	13,149,500			
278	SUBTOTAL					17,149,500		
279								
280	TOTAL - ELECTRICAL						\$17,149,500	
281								
282								
283	E10 EQUIPMENT							
284								
285	E10 EQUIPMENT, GENERALLY							
286	Theatrical Equipment Stage curtains, rigging and controls (Auditorium & Lecture Hall)	1	ls	350,000.00	350,000			

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OPTION 2.3 NEW ADDITION								
287	Theatrical AV allowance (Auditorium & Lecture Hall)	1	ls	200,000.00	200,000			
288	Kitchen equipment	1	ls	550,000.00	550,000			
289	Fume hoods	9	ea	15,000.00	135,000			
290	Kiln	1	ea	5,000.00	5,000			
291	Allowance for new manual operable partitions in Cafeteria & Classrooms	356	lf	700.00	249,200			
292	Allowance for miscellaneous equipment; projection screens, residential appliances, loading dock equipment, wood workshop etc	1	ls	150,000.00	150,000			
293	Loading dock equipment	1	ls	20,000.00	20,000			
294	Electrically operated projection screens	1	loc	15,000.00	15,000			
295	SUBTOTAL					1,674,200		
296								
297	TOTAL - EQUIPMENT						\$1,674,200	
298								
299								
300	E20 FURNISHINGS							
301								
302	E2010 FIXED FURNISHINGS							
303	Entry mats & frames - recessed with carpet/rubber strips	500	sf	55.00	27,500			
304	Window blinds	54,539	sf	7.00	360,773			
305	Auditorium seats	600	seat	350.00	210,000			
306	Lecture hall seats	150	seat	250.00	37,500			
307	Counters, base cabinets, tall storage in classrooms and other rooms	386,750	gsf	10.00	3,867,500			
308	SUBTOTAL					4,503,273		
309								
310	E2020 MOVABLE FURNISHINGS							
311	All movable furnishings to be provided and installed by owner							
312	SUBTOTAL					NIC		
313								
314	TOTAL - FURNISHINGS						\$4,503,273	
315								
316								
317	F10 SPECIAL CONSTRUCTION							
318								
319	F10 SPECIAL CONSTRUCTION							
320	No items in this section							
321	SUBTOTAL							
322								
323	TOTAL - SPECIAL CONSTRUCTION							
324								
325								
326	F20 SELECTIVE BUILDING DEMOLITION							
327								
328	F2010 BUILDING ELEMENTS DEMOLITION							
329	Demolition to make connection to existing building	1	ls	100,000.00	100,000			
330	SUBTOTAL					\$100,000		
331								
332	F2020 HAZARDOUS COMPONENTS ABATEMENT							
333	See main summary for HazMat allowance						See Summary	
334	SUBTOTAL							
335								
336	TOTAL - SELECTIVE BUILDING DEMOLITION						\$100,000	

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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SITework OPTION 2.3

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G SITEWORK

G10 SITE PREPARATION & DEMOLITION

Site construction fence/barricades	8,200	lf	12.00	98,400			
Site construction fence gates/entrance	2	ea	15,000.00	30,000			
Pavement/curbing removal, crush and re-use for sub-base	200,000	sf	1.00	200,000			
Walkways	1	ls	30,000.00	30,000			
Miscellaneous demolition	1	ls	150,000.00	150,000			
<u>Site Earthwork</u>							
Strip Topsoil and remove; 6" thick	19,889	cy	12.00	238,668			
Fine grading	1,000,000	sf	0.20	200,000			
Cut and Fill; assumed AV 2ft; balanced site	74,074	cy	8.00	592,592			
Silt fence/erosion control, wash bays, stock piles	8,200	lf	12.00	98,400			
Silt fence maintenance and monitoring	1	ls	60,000.00	60,000			
<u>Hazardous Waste Remediation</u>							
Dispose/treat contaminated soils					NIC		
SUBTOTAL						1,698,060	

G20 SITE IMPROVEMENTS

<u>Asphalt Paving; parking lot and roadway</u>							
gravel base; 12" thick	370,000						
asphalt; 4" thick	13,704	cy	40.00	548,160			
VGC	41,111	sy	25.00	1,027,775			
Road markings/signage	7,286	lf	38.00	276,868			
<u>Pedestrian Paving</u>							
Concrete paving							
gravel base; 8" thick	744	cy	35.00	26,040			
4" concrete paving	30,000	sf	7.00	210,000			
<u>Concrete pavers</u>							
<u>Concrete pavers</u>							
sand bedding; 1" thick	133	cy	40.00	5,320			
Precast concrete pavers	45,000	sf	16.00	720,000			
gravel base; 8" thick	1,117	cy	35.00	39,095			
concrete base; 4" thick	45,000	sf	5.00	225,000			
<u>Site Improvements</u>							
Flag pole 50' high	1	ea	6,500.00	6,500			
Concrete retaining walls					Assumed not required		
6' chain-link fence	8,200	lf	50.00	410,000			
Double gates	1	ea	2,500.00	2,500			
Wood screen privacy fence 8'	50	lf	100.00	5,000			
Double gates	1	ea	2,500.00	2,500			
Benches	15	ea	2,800.00	42,000			
Bike racks	1	ls	30,000.00	30,000			
Ornamental trash/recycling receptacles	10	ea	800.00	8,000			
Monumental signage	1	ls	40,000.00	40,000			
Way finding signage	1	ls	60,000.00	60,000			
Other site improvements; walls, fences etc.	1	ls	1,500,000	1,500,000			
<u>Multi-purpose fields</u>							
Crushed stone - 12" thick	19,074	cy	40.00	762,960			
Sports seeding	515,000	sf	0.50	257,500			
Line markings - Allowance	1	ls	15,000.00	15,000			
Football goals	2	loc	3,000.00	6,000			
Soccer goals (movable) - Allowance	3	loc	10,000.00	30,000			
20' sports netting	1	ls	50,000.00	50,000			
Baseball/softball backstop	3	loc	40,000.00	120,000			
SUBTOTAL						6,456,218	
<u>Landscaping</u>							
Topsoil -modify existing topsoil	19,889	cy	26.00	517,114			
Lawn - loam & seed	485,000	sf	0.25	121,250			
Planting allowance	1	ls	300,000.00	300,000			

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SITework OPTION 2.3							
63	Irrigation at sports fields	515,000	sf	1.00	515,000		
64	Allowance for new well	1	ls	150,000.00	150,000		
65	SUBTOTAL					1,603,364	
67	G30 CIVIL MECHANICAL UTILITIES						
68	<u>Utilities - Enabling</u>						
69	Allowance for temporary utilities etc.	1	ls	150,000.00	150,000		
70	<u>Water supply; Pricing includes E&B and bedding</u>						
71	New DI piping; 8"	200	lf	100.00	20,000		
72	New DI piping; 8" Fire	4,300	lf	100.00	430,000		
73	Connect to existing	1	loc	10,000.00	10,000		
74	FD connection	1	ea	2,000.00	2,000		
75	Gate valves	8	ea	750.00	6,000		
76	Fire hydrant	14	ea	5,000.00	70,000		
77	Fire hydrant; relocate existing	1	ea	3,500.00	3,500		
78	<u>Sanitary; Pricing includes E&B and bedding</u>						
79	Manholes	4	ea	4,000.00	16,000		
80	Grease trap	1	ea	15,000.00	15,000		
81	8" PVC	300	lf	60.00	18,000		
82	Connect to existing drain	1	ea	3,000.00	3,000		
83	Relocate existing sewer system	1	ls	250,000.00	250,000		
84	<u>Storm water; Pricing includes E&B and bedding</u>						
85	Allowance to modify existing drainage systems	370,000	sf	7.00	2,590,000		
86	Perforated pipe @ recharge systems and crushed stone base under fields	515,000	sf	4.00	NR		
87	<u>Gas service</u>						
88	E&B trench for new gas pipe - install by plumbing	250	lf	25.00	6,250		
89	SUBTOTAL					3,589,750	
91	G40 ELECTRICAL UTILITIES						
92	<u>Power</u>						
94	Utility co. backcharges, allow	1	ls	30,000.00	30,000		
95	Connections at existing manhole					Utility co.	
96	Manhole	1	ls	8,500.00	8,500		
97	Connections in manhole	1	ls	3,500.00	3,500		
98	Primary ductbank 2-5" ductbank, empty, allow	1700	lf	120.00	204,000		
99	Transformer by utility company					By Utility Co.	
100	Transformer pad	1	ea	2,500.00	2,500		
101	Secondary service	60	lf	1,100.00	66,000		
102	<u>Communications</u>						
103	Connection at riser pole, allow	1	ea	1,500.00	1,500		
104	Telecom ductbank 4-4", allow	1700	lf	152.00	258,400		
105	<u>Site Lighting</u>						
106	Varsity baseball sports lighting (allow)	1	ls	120,000.00	120,000		
107	Softball sports lighting (allow)	1	ls	90,000.00	90,000		
108	Site Parking lighting (allow)	1	ls	350,000.00	350,000		
109	SUBTOTAL					1,134,400	
TOTAL - SITE DEVELOPMENT							\$14,481,792

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EVALUATION OF EXISTING CONDITIONS

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FINAL EVALUATION OF ALTERNATIVES

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PREFERRED SOLUTION

3.3.5

LOCAL ACTIONS & APPROVALS

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GFA 62,300

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
OPTION 2.4 RENOVATION					
A10 FOUNDATIONS					
A1010	Standard Foundations	\$35,000			
A1020	Special Foundations	\$0			
A1030	Lowest Floor Construction	\$75,000	\$110,000	\$1.77	0.8%
B10 SUPERSTRUCTURE					
B1010	Upper Floor Construction	\$0			
B1020	Roof Construction	\$50,000	\$50,000	\$0.80	0.4%
B20 EXTERIOR CLOSURE					
B2010	Exterior Walls	\$1,083,000			
B2020	Windows/Curtainwall	\$589,164			
B2030	Exterior Doors	\$58,796	\$1,730,960	\$27.78	12.8%
B30 ROOFING					
B3010	Roof Coverings	\$1,447,600			
B3020	Roof Openings	\$10,000	\$1,457,600	\$23.40	10.8%
C10 INTERIOR CONSTRUCTION					
C1010	Partitions	\$560,700			
C1020	Interior Doors	\$186,900			
C1030	Specialties/Millwork	\$379,615	\$1,127,215	\$18.09	8.3%
C20 STAIRCASES					
C2010	Stair Construction	\$0			
C2020	Stair Finishes	\$0	\$0	\$0.00	0.0%
C30 INTERIOR FINISHES					
C3010	Wall Finishes	\$373,800			
C3020	Floor Finishes	\$685,300			
C3030	Ceiling Finishes	\$498,400	\$1,557,500	\$25.00	11.5%
D10 CONVEYING SYSTEMS					
D1010	Elevator	\$0	\$0	\$0.00	0.0%
D20 PLUMBING					
D20	Plumbing	\$747,600	\$747,600	\$12.00	5.5%
D30 HVAC					
D30	HVAC	\$2,803,500	\$2,803,500	\$45.00	20.7%
D40 FIRE PROTECTION					
D40	Fire Protection	\$292,810	\$292,810	\$4.70	2.2%
D50 ELECTRICAL					
D5010	Electrical Systems	\$2,118,200	\$2,118,200	\$34.00	15.6%
E10 EQUIPMENT					
E10	Equipment	\$276,040	\$276,040	\$4.43	2.0%

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 62,300

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
OPTION 2.4 RENOVATION					
E20 FURNISHINGS					
E2010	Fixed Furnishings	\$62,300			
E2020	Movable Furnishings	NIC	\$62,300	\$1.00	0.5%
F10 SPECIAL CONSTRUCTION					
F10	Special Construction	\$750,000	\$750,000	\$12.04	5.5%
F20 SELECTIVE BUILDING DEMOLITION					
F2010	Building Elements Demolition	\$455,688			
F2020	Hazardous Components Abatement	\$0	\$455,688	\$7.31	3.4%
TOTAL DIRECT COST (Trade Costs)			\$13,539,413	\$217.33	100.0%

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3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

12-Feb-18

PSR Estimate

GFA 62,300

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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OPTION 2.4 RENOVATION

GROSS FLOOR AREA CALCULATION

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First Floor 51,700
Second Floor 10,600

TOTAL GROSS FLOOR AREA (GFA)	62,300 sf					
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A10 FOUNDATIONS

A1010 STANDARD FOUNDATIONS

Repair cracks and resurface exposed concrete foundations	1	ls	35,000	35,000		
SUBTOTAL					35,000	

A1020 SPECIAL FOUNDATIONS

No work in this section
 SUBTOTAL

A1030 LOWEST FLOOR CONSTRUCTION

Cutting and patching for MEP	1	ls	15,000.00	15,000		
New slab at bathrooms and shower areas	3,000	sf	20.00	60,000		
SUBTOTAL					75,000	

TOTAL - FOUNDATIONS	\$110,000					
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B10 SUPERSTRUCTURE

B1010 FLOOR CONSTRUCTION

SUBTOTAL

B1020 ROOF CONSTRUCTION

Support framing for new MEP systems	1	ls	50,000.00	50,000		
SUBTOTAL					50,000	

TOTAL - SUPERSTRUCTURE	\$50,000					
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B20 EXTERIOR CLOSURE

B2010 EXTERIOR WALLS

Repair and repaint exterior walls- brick; assume 100%	25,200	sf				
	25,200	sf	32.00	806,400		
Repairs to precast concrete panels, fins and banding	1	ls	75,000.00	75,000		
Clean all exterior walls; includes staging	25,200	sf	8.00	201,600		
SUBTOTAL					1,083,000	

B2020 WINDOWS/CURTAINWALL

Replace existing translucent panels	6,798	sf	80.00	543,840		
Backer rod & double sealant	3,777	lf	9.00	33,993		
Wood blocking at openings	3,777	lf	3.00	11,331		
SUBTOTAL					589,164	

B2030 EXTERIOR DOORS

Replace exterior single door	3	ea	2,100.00	6,300		
Replace exterior double door	4	pr	4,000.00	16,000		
Replace overhead doors; 8'x8'	2	ea	7,040.00	14,080		
Replace overhead doors; 12'x15'	1	ea	19,800.00	19,800		
Backer rod & double sealant	218	lf	9.00	1,962		

G. COST ESTIMATE / Design Team



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

12-Feb-18

PSR Estimate

GFA 62,300

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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OPTION 2.4 RENOVATION

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Wood blocking at openings	218	lf	3.00	654		
SUBTOTAL						58,796

TOTAL - EXTERIOR CLOSURE						\$1,730,960
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B30 ROOFING

B3010 ROOF COVERINGS

Replace existing roofing systems	51,700	sf	28.00	1,447,600		
SUBTOTAL						1,447,600

B3020 ROOF OPENINGS

Replace roof ladders/hatches etc.	1	ls	10,000.00	10,000		
SUBTOTAL						10,000

TOTAL - ROOFING						\$1,457,600
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C10 INTERIOR CONSTRUCTION

C1010 PARTITIONS

Allowance to modify existing walls and add new walls	62,300	gsf	6.00	373,800		
Seismic upgrades	62,300	gsf	3.00	186,900		
SUBTOTAL						560,700

C1020 INTERIOR DOORS

Adjust door openings, install new door frame to meet code requirements (door carried below)	62,300	gsf	3.00	186,900		
SUBTOTAL						186,900

C1030 SPECIALTIES / MILLWORK

Toilet Partitions and accessories	62,300	gsf	0.80	49,840		
New markerboards/tackboards	62,300	gsf	1.00	62,300		
Replace athletic lockers - allowance	1	ls	25,000.00	25,000		
New guardrail at Fieldhouse bleachers	150	lf	200.00	30,000		
Allowance for miscellaneous specialties; wall protection, fire extinguishers etc	1	ls	10,000.00	10,000		

055000 MISCELLANEOUS METALS

Miscellaneous metals throughout building	62,300	sf	1.50	93,450		
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061000 ROUGH CARPENTRY

Rough blocking	62,300	sf	0.15	9,345		
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070001 WATERPROOFING, DAMPPROOFING AND CAULKING

Miscellaneous sealants throughout building	62,300	sf	1.25	77,875		
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101400 SIGNAGE

Code compliant signage	62,300	sf	0.35	21,805		
SUBTOTAL						379,615

TOTAL - INTERIOR CONSTRUCTION						\$1,127,215
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C20 STAIRCASES

C2010 STAIR CONSTRUCTION

SUBTOTAL						-
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3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

12-Feb-18

PSR Estimate

GFA 62,300

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DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 2.4 RENOVATION						
C2020 STAIR FINISHES						
SUBTOTAL					-	
TOTAL - STAIRCASES						
C30 INTERIOR FINISHES						
C3010 WALL FINISHES						
Allowance for wall finishes	62,300	gsf	6.00	373,800		
SUBTOTAL					373,800	
C3020 FLOOR FINISHES						
Allowance for floor finishes	62,300	gsf	11.00	685,300		
SUBTOTAL					685,300	
C3030 CEILING FINISHES						
Allowance for ceiling finishes	62,300	gsf	8.00	498,400		
SUBTOTAL					498,400	
TOTAL - INTERIOR FINISHES						\$1,557,500
D10 CONVEYING SYSTEMS						
SUBTOTAL					-	
TOTAL - CONVEYING SYSTEMS						
D20 PLUMBING						
D20 PLUMBING, GENERALLY						
Plumbing allowance	62,300	gsf	12.00	747,600		
SUBTOTAL					747,600	
TOTAL - PLUMBING						\$747,600
D30 HVAC						
D30 HVAC, GENERALLY						
HVAC allowance	62,300	gsf	45.00	2,803,500		
SUBTOTAL					2,803,500	
TOTAL - HVAC						\$2,803,500
D40 FIRE PROTECTION						
D40 FIRE PROTECTION, GENERALLY						
New fire protection system	62,300	sf	4.70	292,810		
SUBTOTAL					292,810	
TOTAL - FIRE PROTECTION						\$292,810
D50 ELECTRICAL						
D5010 ELECTRICAL WORK						
Complete electrical systems	62,300	gsf	34.00	2,118,200		
SUBTOTAL					2,118,200	

G. COST ESTIMATE / Design Team



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

12-Feb-18

PSR Estimate GFA 62,300

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION 2.4 RENOVATION							
TOTAL - ELECTRICAL							\$2,118,200
E10 EQUIPMENT							
E10 EQUIPMENT, GENERALLY							
	Gym wall pads	1	ls	20,000.00	20,000		
	Basketball backstops; swing up; electric operated	6	loc	10,000.00	60,000		
	Gymnasium dividing net; electrically operated; 60 lf	1	ea	30,000.00	30,000		
	Volleyball net and standards	1	ls	5,000.00	5,000		
	Score boards in Gym & Fieldhouse	2	loc	15,000.00	30,000		
	Telescoping bleachers, electronic retracting (1008 seats)	1	ls	131,040.00	131,040		
	SUBTOTAL					276,040	
TOTAL - EQUIPMENT							\$276,040
E20 FURNISHINGS							
E2010 FIXED FURNISHINGS							
	123553 CASEWORK						
	Allowance for new casework throughout	62,300	gsf	1.00	62,300		
	SUBTOTAL					62,300	
E2020 MOVABLE FURNISHINGS							
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL						NIC
TOTAL - FURNISHINGS							\$62,300
F10 SPECIAL CONSTRUCTION							
F10 SPECIAL CONSTRUCTION							
	Pool upgrades	1	ls	750,000.00	750,000		
	SUBTOTAL					750,000	
TOTAL - SPECIAL CONSTRUCTION							\$750,000
F20 SELECTIVE BUILDING DEMOLITION							
F2010 BUILDING ELEMENTS DEMOLITION							
	Remove exterior glazing	6,798	sf	6.00	40,788		
	Remove roofing	51,700	sf	2.00	103,400		
	Interior demolition	62,300	gsf	4.00	249,200		
	Temporary enclosures/protection	62,300	sf	1.00	62,300		
	SUBTOTAL					455,688	
F2020 HAZARDOUS COMPONENTS ABATEMENT							
	See summary						
	SUBTOTAL						
TOTAL - SELECTIVE BUILDING DEMOLITION							\$455,688

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 389,500

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
OPTION 2.4 NEW ADDITION					
A10 FOUNDATIONS					
A1010	Standard Foundations	\$2,129,300			
A1020	Special Foundations	\$7,500,375			
A1030	Lowest Floor Construction	\$2,785,595	\$12,415,270	\$31.87	9.5%
A20 BASEMENT CONSTRUCTION					
A2010	Basement Excavation	\$0			
A2020	Basement Walls	\$0	\$0	\$0.00	0.0%
B10 SUPERSTRUCTURE					
B1010	Upper Floor Construction	\$11,936,356			
B1020	Roof Construction	\$5,240,800	\$17,177,156	\$44.10	13.2%
B20 EXTERIOR CLOSURE					
B2010	Exterior Walls	\$10,544,059			
B2020	Windows	\$7,343,438			
B2030	Exterior Doors	\$73,680	\$17,961,177	\$46.11	13.8%
B30 ROOFING					
B3010	Roof Coverings	\$5,261,000			
B3020	Roof Openings	\$752,500	\$6,013,500	\$15.44	4.6%
C10 INTERIOR CONSTRUCTION					
C1010	Partitions	\$8,569,000			
C1020	Interior Doors	\$1,947,500			
C1030	Specialties/Millwork	\$3,092,250	\$13,608,750	\$34.94	10.4%
C20 STAIRCASES					
C2010	Stair Construction	\$584,000			
C2020	Stair Finishes	\$75,446	\$659,446	\$1.69	0.5%
C30 INTERIOR FINISHES					
C3010	Wall Finishes	\$2,337,000			
C3020	Floor Finishes	\$4,284,500			
C3030	Ceiling Finishes	\$3,895,000	\$10,516,500	\$27.00	8.1%
D10 CONVEYING SYSTEMS					
D1010	Elevator	\$360,000	\$360,000	\$0.92	0.3%
D20 PLUMBING					
D20	Plumbing	\$4,674,000	\$4,674,000	\$12.00	3.6%
D30 HVAC					
D30	HVAC	\$21,527,500	\$21,527,500	\$55.27	16.5%
D40 FIRE PROTECTION					
D40	Fire Protection	\$1,930,650	\$1,930,650	\$4.96	1.5%
D50 ELECTRICAL					

G. COST ESTIMATE / Design Team



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

12-Feb-18

PSR Estimate

GFA 389,500

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
OPTION 2.4 NEW ADDITION					
D5010	Complete System	\$17,243,000	\$17,243,000	\$44.27	13.2%
E10 EQUIPMENT					
E10	Equipment	\$1,674,200	\$1,674,200	\$4.30	1.3%
E20 FURNISHINGS					
E2010	Fixed Furnishings	\$4,559,361			
E2020	Movable Furnishings NIC		\$4,559,361	\$11.71	3.5%
F10 SPECIAL CONSTRUCTION					
F10	Special Construction	\$0	\$0	\$0.00	0.0%
F20 HAZMAT REMOVALS					
F2010	Building Elements Demolition	\$25,000			
F2020	Hazardous Components Abatement	\$0	\$25,000	\$0.06	0.0%
TOTAL DIRECT COST (Trade Costs)			\$130,345,510	\$334.65	100.0%

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 389,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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OPTION 2.4 NEW ADDITION

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GROSS FLOOR AREA CALCULATION

Ground Floor	119,300
First Floor	95,500
Second Floor	91,800
Third Floor	82,900

TOTAL GROSS FLOOR AREA (GFA)	389,500 sf
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A10 FOUNDATIONS

A1010 STANDARD FOUNDATIONS

Grade beams; 5ft x 12"	371	cy	700.00	259,700
Grade tie beams; 5ft x 12"	446	cy	700.00	312,200
Pile caps	1,052	cy	800.00	841,600
Allowance for misc. pile caps, grade beams etc. including E+B	119,300	sf	6.00	715,800

SUBTOTAL 2,129,300

A1020 SPECIAL FOUNDATIONS

Driven piles mobilization and testing	1	ls	150,000.00	150,000
Steel piles	86,475	vlf	85.00	7,350,375

SUBTOTAL 7,500,375

A1030 LOWEST FLOOR CONSTRUCTION

<u>New Structural Slab, 12" thick</u>	119,300	sf		-
Ordinary Fill, 6"	2,209	cy	16.00	35,344
Crushed stone, 6"	2,209	cy	35.00	77,315
Rigid insulation; 40 psi	119,300	sf	2.15	256,495
Vapor barrier	119,300	sf	0.80	95,440
Compact existing sub-grade	119,300	sf	0.55	65,615
Formwork	778	lf	12.00	9,336
Rebar, 6#/SF	715,800	lbs	1.20	858,960
Concrete - 12" thick; 4,000 psi	4,639	cy	120.00	556,680
Placing concrete	4,639	cy	90.00	417,510
Finishing and curing concrete	119,300	sf	3.00	357,900

Miscellaneous

Patch slab at foundations in existing building				W/Reno
New Elevator pit				W/Reno
New loading dock	1	ls	40,000.00	40,000
Equipment pads	1	ls	15,000.00	15,000

SUBTOTAL 2,785,595

TOTAL - FOUNDATIONS	\$12,415,270
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A20 BASEMENT CONSTRUCTION

A2010 BASEMENT EXCAVATION

No Work in this section

SUBTOTAL -

A2020 BASEMENT WALLS

No Work in this section

SUBTOTAL -

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA

389,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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OPTION 2.4 NEW ADDITION

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TOTAL - BASEMENT CONSTRUCTION

B10 SUPERSTRUCTURE

		14,70	lbs/sf		-		
B1010 FLOOR CONSTRUCTION		2,862	tns		-		
	<u>Floor Structure - Steel:</u>						
	Steel beams and columns to new addition; 15#/SF	2,027	tns	3,800.00	7,702,600		
	Premium for HSS	507	tns	300.00	152,100		
	Shear studs	54,040	ea	2.50	135,100		
	<u>Floor Structure</u>						
	2" 18 Ga. Metal galvanized floor Deck	270,200	sf	3.75	1,013,250		
	WWF reinforcement	310,730	sf	0.80	248,584		
	Concrete Fill to metal deck; 6" Light Weight	6,305	cy	160.00	1,008,800		
	Place and finish concrete	270,200	sf	2.00	540,400		
	Rebar to decks	81,060	lbs	1.20	97,272		
	Misc. angles	270,200	sf	0.50	135,100		
	<u>Miscellaneous</u>						
	Fire proofing to columns and beams	270,200	sf	2.25	607,950		
	Intumescent paint	1	ls	25,000.00	25,000		
	Fire stopping floors	270,200	sf	1.00	270,200		
	SUBTOTAL					11,936,356	
B1020 ROOF CONSTRUCTION							
	<u>Roof Structure - Steel:</u>						
	Steel beams and columns to new addition; 14#/SF	835	tns	3,800.00	3,173,000		
	Premium for HSS	209	tns	300.00	62,700		
	Exposed steel	1	ls	50,000.00	50,000		
	<u>Roof Structure</u>						
	Acoustic deck allowance	8,000	sf	7.00	56,000		
	3" 20 Ga. galvanized Metal Roof Deck	111,300	sf	4.00	445,200		
	<u>Miscellaneous</u>						
	Premium for overhangs	1	ls	1,000,000	1,000,000		
	Concrete under RTU's	15,000	sf	8.00	120,000		
	Fire proofing to columns, beams and deck	111,300	sf	3.00	333,900		
	SUBTOTAL					5,240,800	
	TOTAL - SUPERSTRUCTURE						\$17,177,156

B20 EXTERIOR CLOSURE

B2010 EXTERIOR WALLS							
	Exterior Wall Area - Solid Assume 70%	129,787	sf				
042000 MASONRY							
	Brick veneer, 3 color; 75% of solid area	97,340	sf	40.00	3,893,600		
	Staging to exterior wall	129,787	sf	4.00	519,148		
055000 MISC. METALS							
	Stainless steel sign at main entrance	1	ls	15,000.00	15,000		
070001 WATERPROOFING, DAMPPROOFING AND CAULKING							

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA

389,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 2.4 NEW ADDITION								
111	Air barrier	129,787	sf	6.50	843,616			
112	Air barrier/flashing at windows	32,719	lf	6.25	204,494			
113	Miscellaneous sealants to closure	129,787	sf	1.00	129,787			
114								
115	072100 THERMAL INSULATION							
116	Insulation	129,787	sf	2.25	292,021			
117								
118	076400 CLADDING							
119	Metal panel; 25% of solid area	32,447	sf	75.00	2,433,525			
120								
121	092900 GYPSUM BOARD ASSEMBLIES							
122	6" metal stud backup	129,787	sf	11.00	1,427,657			
123	Gypsum Sheathing	129,787	sf	2.75	356,914			
124	Drywall lining to interior face of stud backup	129,787	sf	3.30	428,297			
125								
126	SUBTOTAL					10,544,059		
127								
128	B2020 WINDOWS							
129	Exterior Wall Area - Glazed Assume 30%	55,623	sf					
130								
131	061000 ROUGH CARPENTRY							
132	Wood blocking at openings	32,719	lf	14.00	458,066			
133								
134	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
135	Backer rod & double sealant	32,719	lf	8.50	278,112			
136								
137	080001 METAL WINDOWS							
138	Windows, double glazed; 20% of glazed area	11,125	sf	90.00	1,001,250			
139	Curtainwall, double glazed; 80% of glazed area	44,498	sf	120.00	5,339,760			
140	Sunshades; horizontal	1	ls	250,000.00	250,000			
141								
142	089000 LOUVERS							
143	Louvers	250	sf	65.00	16,250			
144	SUBTOTAL					7,343,438		
145								
146	B2030 EXTERIOR DOORS							
147	Glazed entrance doors including frame and hardware; double door	8	pr	8,000.00	64,000			
148	HM doors, frames and hardware- Double	4	pr	2,000.00	8,000			
149	Backer rod & double sealant	240	lf	4.00	960			
150	Wood blocking at openings	240	lf	3.00	720			
151	SUBTOTAL					73,680		
152								
153	TOTAL - EXTERIOR CLOSURE						\$17,961,177	
154								
155								
156	B30 ROOFING							
157								
158	B3010 ROOF COVERINGS							
159	New roofing complete	119,300	sf	20.00	2,386,000			
160	Roof equipment screen	1	ls	350,000.00	350,000			
161	Green roof	15,000	sf	35.00	525,000			
162	Roof soffits/canopies	1	ls	2,000,000	2,000,000			
163	SUBTOTAL					5,261,000		
164								
165	B3020 ROOF OPENINGS							
166	Skylights, allow	1	ls	750,000.00	750,000			
167	Roof hatch	1	loc	2,500.00	2,500			
168	SUBTOTAL					752,500		

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 389,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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OPTION 2.4 NEW ADDITION

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TOTAL - ROOFING							\$6,013,500
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C10 INTERIOR CONSTRUCTION

C1010 PARTITIONS

Miscellaneous partitions/glazed partitions/borrowed lights/blocking etc.	389,500	gsf	22.00	8,569,000		
SUBTOTAL						8,569,000

C1020 INTERIOR DOORS

Interior doors, frames and hardware	389,500	gsf	5.00	1,947,500		
SUBTOTAL						1,947,500

C1030 SPECIALTIES / MILLWORK

Toilet Partitions and accessories	389,500	gsf	0.80	311,600		
Backer panels in electrical closets	1	ls	1,000.00	1,000		
Marker boards/tackboards in classrooms, offices, conference rooms, library and MP rooms	389,500	sf	1.00	389,500		
Room Signs	389,500	gsf	0.40	155,800		
Fire extinguisher cabinets	130	ea	350.00	45,500		
Lockers	389,500	gsf	1.60	623,200		
Janitors Work Shop Accessories	1	ls	1,500.00	1,500		
Janitors Closet Accessories	3	rms	300.00	900		
<i>Media</i>						
Reception desks	4	loc	25,000	100,000		
Railings to open to below areas	1	ls	100,000	100,000		
Library shelving at perimeters 7' Tall					F,F & E	
Library shelving at perimeters 3' Tall					F,F & E	
Miscellaneous wood trim	389,500	gsf	0.50	194,750		
Display cases	389,500	gsf	0.25	97,375		
Miscellaneous metals throughout building	389,500	sf	1.50	584,250		
Miscellaneous sealants throughout building	389,500	sf	1.25	486,875		
SUBTOTAL						3,092,250

TOTAL - INTERIOR CONSTRUCTION							\$13,608,750
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C20 STAIRCASES

C2010 STAIR CONSTRUCTION

Metal pan stair; egress stair	12	flt	25,000.00	300,000		
Main staircase	1	flt	250,000.00	250,000		
Commons steps	2	loc	5,000.00	10,000		
Concrete fill to stairs	12	flt	2,000.00	24,000		
SUBTOTAL						584,000

C2020 STAIR FINISHES

High performance coating to stairs including all railings etc.	12	flt	3,000.00	36,000		
Rubber tile at stairs - landings	1,200	sf	10.00	12,000		
Rubber tile at stairs - treads & risers	1,440	lft	19.06	27,446		
SUBTOTAL						75,446

TOTAL - STAIRCASES							\$659,446
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C30 INTERIOR FINISHES

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3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 389,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 2.4 NEW ADDITION								
226	C3010 WALL FINISHES							
227	Wall finishes	389,500	sf	6.00	2,337,000			
228	SUBTOTAL					2,337,000		
229								
230	C3020 FLOOR FINISHES							
231	Floor finishes	389,500	sf	11.00	4,284,500			
232	SUBTOTAL					4,284,500		
233								
234	C3030 CEILING FINISHES							
235	Ceiling finishes	389,500	sf	10.00	3,895,000			
236	SUBTOTAL					3,895,000		
237								
238	TOTAL - INTERIOR FINISHES						\$10,516,500	
239								
240	D10 CONVEYING SYSTEMS							
241								
242	D1010 ELEVATOR							
243	New four stop elevator	2	ea	180,000.00	360,000			
244	SUBTOTAL					360,000		
245								
246								
247	TOTAL - CONVEYING SYSTEMS						\$360,000	
248								
249								
250	D20 PLUMBING							
251								
252	D20 PLUMBING, GENERALLY							
253	Plumbing allowance	389,500	gsf	12.00	4,674,000			
254	SUBTOTAL					4,674,000		
255								
256	TOTAL - PLUMBING						\$4,674,000	
257								
258								
259	D30 HVAC							
260								
261	D30 HVAC, GENERALLY							
262	HVAC allowance for Geothermal wells; based 400 wells each 400 ft deep	1	ls	4,000,000.00	4,000,000			
263	HVAC allowance	389,500	gsf	45.00	17,527,500			
264	SUBTOTAL					21,527,500		
265								
266	TOTAL - HVAC						\$21,527,500	
267								
268								
269	D40 FIRE PROTECTION							
270								
271	D40 FIRE PROTECTION, GENERALLY							
272	Fire pump	1	ls	100,000.00	100,000			
273	Fire protection system	389,500	gsf	4.70	1,830,650			
274	SUBTOTAL					1,930,650		
275								
276	TOTAL - FIRE PROTECTION						\$1,930,650	
277								
278								
279	D50 ELECTRICAL							
280								
281								
282	D5010 ELECTRICAL WORK							
283	Allowance for PV systems	1	ls	4,000,000.00	4,000,000			
284	Complete electrical systems	389,500	gsf	34.00	13,243,000			
285	SUBTOTAL					17,243,000		
286								
287	TOTAL - ELECTRICAL						\$17,243,000	
288								

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 389,500

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
OPTION 2.4 NEW ADDITION							
E10 EQUIPMENT							
E10 EQUIPMENT, GENERALLY							
	Theatrical Equipment Stage curtains, rigging and controls (Auditorium & Lecture Hall)	1	ls	350,000.00	350,000		
	Theatrical AV allowance (Auditorium & Lecture Hall)	1	ls	200,000.00	200,000		
	Kitchen equipment	1	ls	550,000.00	550,000		
	Fume hoods	9	ea	15,000.00	135,000		
	Kiln	1	ea	5,000.00	5,000		
	Allowance for new manual operable partitions in Cafeteria & Classrooms	356	lf	700.00	249,200		
	Allowance for miscellaneous equipment; projection screens, residential appliances, loading dock equipment, wood workshop etc	1	ls	150,000.00	150,000		
	Loading dock equipment	1	ls	20,000.00	20,000		
	Electrically operated projection screens	1	loc	15,000.00	15,000		
	SUBTOTAL					1,674,200	
TOTAL - EQUIPMENT						\$1,674,200	
E20 FURNISHINGS							
E2010 FIXED FURNISHINGS							
	Entry mats & frames - recessed with carpet/rubber strips	500	sf	55.00	27,500		
	Window blinds	55,623	sf	7.00	389,361		
	Auditorium seats	600	seat	350.00	210,000		
	Lecture hall seats	150	seat	250.00	37,500		
	Counters, base cabinets, tall storage in classrooms and other rooms	389,500	gsf	10.00	3,895,000		
	SUBTOTAL					4,559,361	
E2020 MOVABLE FURNISHINGS							
	All movable furnishings to be provided and installed by owner						NIC
TOTAL - FURNISHINGS						\$4,559,361	
F10 SPECIAL CONSTRUCTION							
F10 SPECIAL CONSTRUCTION							
	No items in this section						
TOTAL - SPECIAL CONSTRUCTION							
F20 SELECTIVE BUILDING DEMOLITION							
F2010 BUILDING ELEMENTS DEMOLITION							
	Demolition to make connection to existing building	1	ls	25,000.00	25,000		
TOTAL						\$25,000	
F2020 HAZARDOUS COMPONENTS ABATEMENT							
	See main summary for HazMat allowance				See Summary		
TOTAL							
TOTAL - SELECTIVE BUILDING DEMOLITION						\$25,000	

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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SITework OPTION 2.4

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G SITEWORK

G10 SITE PREPARATION & DEMOLITION

Site construction fence/barricades	8,200	lf	12.00	98,400
Site construction fence gates/entrance	2	ea	15,000.00	30,000
Pavement/curbing removal, crush and re-use for sub-base	200,000	sf	1.00	200,000
Walkways	1	ls	30,000.00	30,000
Miscellaneous demolition	1	ls	150,000.00	150,000

Site Earthwork

Strip Topsoil and remove; 6" thick	19,889	cy	12.00	238,668
Fine grading	1,000,000	sf	0.20	200,000
Cut and Fill; assumed AV 2ft; balanced site	74,074	cy	8.00	592,592
Silt fence/erosion control, wash bays, stock piles	8,200	lf	12.00	98,400
Silt fence maintenance and monitoring	1	ls	60,000.00	60,000

Hazardous Waste Remediation

Dispose/treat contaminated soils				NIC
SUBTOTAL				1,698,060

G20 SITE IMPROVEMENTS

Asphalt Paving; parking lot and roadway

gravel base; 12" thick	350,000			
asphalt; 4" thick	12,963	cy	40.00	518,520
VGC	38,889	sy	25.00	972,225
Road markings/signage	10,500	lf	38.00	399,000
Concrete pavers	1	ls	30,000.00	30,000

Pedestrian Paving

Concrete paving				
gravel base; 8" thick	744	cy	35.00	26,040
4" concrete paving	30,000	sf	7.00	210,000

Concrete pavers

Concrete pavers				
sand bedding; 1" thick	148	cy	40.00	5,920
Precast concrete pavers	50,000	sf	16.00	800,000
gravel base; 8" thick	1,241	cy	35.00	43,435
concrete base; 4" thick	50,000	sf	5.00	250,000

Site Improvements

Flag pole 50' high	1	ea	6,500.00	6,500
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Concrete retaining walls

6' chain-link fence	8,200	lf	50.00	410,000
Double gates	1	ea	2,500.00	2,500
Wood screen privacy fence 8'	50	lf	100.00	5,000
Double gates	1	ea	2,500.00	2,500
Benches	15	ea	2,800.00	42,000
Bike racks	1	ls	30,000.00	30,000
Ornamental trash/recycling receptacles	10	ea	800.00	8,000
Monumental signage	1	ls	40,000.00	40,000
Way finding signage	1	ls	60,000.00	60,000
Other site improvements; walls, fences etc.	1	ls	1,500,000	1,500,000

Assumed not required

Crushed stone - 12" thick	19,074	cy	40.00	762,960
Sports seeding	515,000	sf	0.50	257,500
Line markings - Allowance	1	ls	15,000.00	15,000
Football goals	2	loc	3,000.00	6,000
Soccer goals (movable) - Allowance	3	loc	10,000.00	30,000
20' sports netting	1	ls	50,000.00	50,000
Baseball/softball backstop	3	loc	40,000.00	120,000
SUBTOTAL				6,603,100

Multi-purpose fields

Crushed stone - 12" thick	19,074	cy	40.00	762,960
Sports seeding	515,000	sf	0.50	257,500
Line markings - Allowance	1	ls	15,000.00	15,000
Football goals	2	loc	3,000.00	6,000
Soccer goals (movable) - Allowance	3	loc	10,000.00	30,000
20' sports netting	1	ls	50,000.00	50,000
Baseball/softball backstop	3	loc	40,000.00	120,000

Landscaping

Topsail -modify existing topsoil	19,889	cy	26.00	517,114
Lawn - loam & seed	485,000	sf	0.25	121,250
Planting allowance	1	ls	300,000.00	300,000

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITework OPTION 2.4							
63	Courtyard allowance	2	loc	100,000.00	200,000		
64	Irrigation at sports fields	515,000	sf	1.00	515,000		
65	Allowance for new well	1	ls	150,000.00	150,000		
66	SUBTOTAL					1,803,364	
67							
68	G30 CIVIL MECHANICAL UTILITIES						
69	<u>Utilities - Enabling</u>						
70	Allowance for temporary utilities etc.	1	ls	150,000.00	150,000		
71	<u>Water supply: Pricing includes E&B and bedding</u>						
72	New DI piping; 8"	200	lf	100.00	20,000		
73	New DI piping; 8" Fire	4,300	lf	100.00	430,000		
74	Connect to existing	1	loc	10,000.00	10,000		
75	FD connection	1	ea	2,000.00	2,000		
76	Gate valves	8	ea	750.00	6,000		
77	Fire hydrant	14	ea	5,000.00	70,000		
78	Fire hydrant; relocate existing	1	ea	3,500.00	3,500		
79	<u>Sanitary: Pricing includes E&B and bedding</u>						
80	Manholes	4	ea	4,000.00	16,000		
81	Grease trap	1	ea	15,000.00	15,000		
82	8" PVC	300	lf	60.00	18,000		
83	Connect to existing drain	1	ea	3,000.00	3,000		
84	Relocate existing sewer system	1	ls	250,000.00	250,000		
85	<u>Storm water: Pricing includes E&B and bedding</u>						
86	Allowance to modify existing drainage systems	350,000	sf	7.00	2,450,000		
87	Perforated pipe @ recharge systems and crushed stone base under fields	515,000	sf	4.00	NR		
88	<u>Gas service</u>						
89	E&B trench for new gas pipe - install by plumbing	250	lf	25.00	6,250		
90	SUBTOTAL					3,449,750	
91							
92	G40 ELECTRICAL UTILITIES						
93	<u>Power</u>						
94	Utility co. backcharges, allow	1	ls	30,000.00	30,000		
95	Connections at existing manhole					Utility co.	
96	Manhole	1	ls	8,500.00	8,500		
97	Connections in manhole	1	ls	3,500.00	3,500		
98	Primary ductbank 2-5" ductbank, empty, allow	1700	lf	120.00	204,000		
99	Transformer by utility company					By Utility Co.	
100	Transformer pad	1	ea	2,500.00	2,500		
101	Secondary service	60	lf	1,100.00	66,000		
102	<u>Communications</u>						
103	Connection at riser pole, allow	1	ea	1,500.00	1,500		
104	Telecom ductbank 4-4", allow	1700	lf	152.00	258,400		
105	<u>Site Lighting</u>						
106	Varsity baseball sports lighting (allow)	1	ls	120,000.00	120,000		
107	Softball sports lighting (allow)	1	ls	90,000.00	90,000		
108	Site Parking lighting (allow)	1	ls	350,000.00	350,000		
109	SUBTOTAL					1,134,400	
110							
111							
112	TOTAL - SITE DEVELOPMENT						\$14,688,674

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LOCAL ACTIONS & APPROVALS

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 422,925

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
OPTION 3.1 NEW SCHOOL					
A10 FOUNDATIONS					
A1010	Standard Foundations	\$3,392,158			
A1020	Special Foundations	\$10,022,285			
A1030	Lowest Floor Construction	\$3,581,490	\$16,995,933	\$40.19	12.0%
A20 BASEMENT CONSTRUCTION					
A2010	Basement Excavation	\$0			
A2020	Basement Walls	\$0	\$0	\$0.00	0.0%
B10 SUPERSTRUCTURE					
B1010	Upper Floor Construction	\$11,871,702			
B1020	Roof Construction	\$5,430,523	\$17,302,225	\$40.91	12.2%
B20 EXTERIOR CLOSURE					
B2010	Exterior Walls	\$10,746,517			
B2020	Windows	\$7,479,480			
B2030	Exterior Doors	\$73,680	\$18,299,677	\$43.27	12.9%
B30 ROOFING					
B3010	Roof Coverings	\$5,958,780			
B3020	Roof Openings	\$752,500	\$6,711,280	\$15.87	4.7%
C10 INTERIOR CONSTRUCTION					
C1010	Partitions	\$9,304,350			
C1020	Interior Doors	\$2,114,625			
C1030	Specialties/Millwork	\$3,340,103	\$14,759,078	\$34.90	10.4%
C20 STAIRCASES					
C2010	Stair Construction	\$584,000			
C2020	Stair Finishes	\$75,446	\$659,446	\$1.56	0.5%
C30 INTERIOR FINISHES					
C3010	Wall Finishes	\$2,537,550			
C3020	Floor Finishes	\$4,652,175			
C3030	Ceiling Finishes	\$4,229,250	\$11,418,975	\$27.00	8.1%
D10 CONVEYING SYSTEMS					
D1010	Elevator	\$360,000	\$360,000	\$0.85	0.3%
D20 PLUMBING					
D20	Plumbing	\$5,075,100	\$5,075,100	\$12.00	3.6%
D30 HVAC					
D30	HVAC	\$23,031,625	\$23,031,625	\$54.46	16.3%
D40 FIRE PROTECTION					
D40	Fire Protection	\$2,087,748	\$2,087,748	\$4.94	1.5%
D50 ELECTRICAL					

G. COST ESTIMATE / Design Team



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 Belmont, MA

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PSR Estimate

GFA 422,925

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
OPTION 3.1 NEW SCHOOL					
D5010	Complete System	\$18,379,450	\$18,379,450	\$43.46	13.0%
E10 EQUIPMENT					
E10	Equipment	\$1,674,200	\$1,674,200	\$3.96	1.2%
E20 FURNISHINGS					
E2010	Fixed Furnishings	\$4,901,094			
E2020	Movable Furnishings	NIC	\$4,901,094	\$11.59	3.5%
F10 SPECIAL CONSTRUCTION					
F10	Special Construction	\$0	\$0	\$0.00	0.0%
F20 HAZMAT REMOVALS					
F2010	Building Elements Demolition	\$0			
F2020	Hazardous Components Abatement	\$0	\$0	\$0.00	0.0%
TOTAL DIRECT COST (Trade Costs)			\$141,655,831	\$334.94	100.0%

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 422,925

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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OPTION 3.1 NEW SCHOOL

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GROSS FLOOR AREA CALCULATION

Ground Floor	154,189
First Floor	103,065
First Floor	103,065
Second Floor	62,606

TOTAL GROSS FLOOR AREA (GFA)	422,925 sf
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A10 FOUNDATIONS

A1010 STANDARD FOUNDATIONS

Allowance for pile caps, grade beams etc.	154,189	sf	22.00	3,392,158	
SUBTOTAL					3,392,158

A1020 SPECIAL FOUNDATIONS

Driven piles; including mobilization	154,189	sf	65.00	10,022,285	
SUBTOTAL					10,022,285

A1030 LOWEST FLOOR CONSTRUCTION

<u>New Structural Slab, 12" thick</u>	154,189	sf		-	
312000 Ordinary Fill, 6"	2,855	cy	16.00	45,680	
312000 Crushed stone, 6"	2,855	cy	35.00	99,925	
312000 Rigid insulation; 40 psi	154,189	sf	2.15	331,506	
023000 Vapor barrier	154,189	sf	0.80	123,351	
312000 Compact existing sub-grade	154,189	sf	0.55	84,804	
033000 Formwork	778	lf	12.00	9,336	
033000 Rebar, 6#/SF	925,134	lbs	1.20	1,110,161	
033000 Concrete - 12" thick; 4,000 psi	5,996	cy	120.00	719,520	
033000 Placing concrete	5,996	cy	90.00	539,640	
033000 Finishing and curing concrete	154,189	sf	3.00	462,567	
<u>Miscellaneous</u>					
Patch slab at foundations in existing building				W/Reno	
New Elevator pit				W/Reno	
New loading dock	1	ls	40,000.00	40,000	
Equipment pads	1	ls	15,000.00	15,000	
SUBTOTAL					3,581,490

TOTAL - FOUNDATIONS	\$16,995,933
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A20 BASEMENT CONSTRUCTION

A2010 BASEMENT EXCAVATION

No Work in this section					
SUBTOTAL					-

A2020 BASEMENT WALLS

No Work in this section					
SUBTOTAL					-

TOTAL - BASEMENT CONSTRUCTION	
--------------------------------------	--

B10 SUPERSTRUCTURE

14.64	lbs/sf	-
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G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA

422,925

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 3.1 NEW SCHOOL								
58	B1010 FLOOR CONSTRUCTION	3,095	tns		-			
59	<u>Floor Structure - Steel:</u>							
60	Steel beams and columns to new addition; 15#/SF	2,016	tns	3,800.00	7,660,800			
61	Premium for HSS	504	tns	300.00	151,200			
62	Shear studs	53,747	ea	2.50	134,368			
63	<u>Floor Structure</u>							
64	2" 18 Ga. Metal galvanized floor Deck	268,736	sf	3.75	1,007,760			
65	WWF reinforcement	309,046	sf	0.80	247,237			
66	Concrete Fill to metal deck; 6" Light Weight	6,271	cy	160.00	1,003,360			
67	Place and finish concrete	268,736	sf	2.00	537,472			
68	Rebar to decks	80,621	lbs	1.20	96,745			
69	Misc. angles	268,736	sf	0.50	134,368			
70	<u>Miscellaneous</u>							
71	Fire proofing to columns and beams	268,736	sf	2.25	604,656			
72	Intumescent paint	1	ls	25,000.00	25,000			
73	Fire stopping floors	268,736	sf	1.00	268,736			
74	SUBTOTAL					11,871,702		
75								
76	B1020 ROOF CONSTRUCTION							
77	<u>Roof Structure - Steel:</u>							
78	Steel beams and columns to new addition; 14#/SF	1,079	tns	3,800.00	4,100,200			
79	Premium for HSS	270	tns	300.00	81,000			
80	Exposed steel	1	ls	50,000.00	50,000			
81	<u>Roof Structure</u>							
82	Acoustic deck allowance	8,000	sf	7.00	56,000			
83	3" 20 Ga. galvanized Metal Roof Deck	146,189	sf	4.00	584,756			
84	<u>Miscellaneous</u>							
85	Concrete under RTU's	15,000	sf	8.00	120,000			
86	Fire proofing to columns, beams and deck	146,189	sf	3.00	438,567			
87	SUBTOTAL					5,430,523		
88								
89	TOTAL - SUPERSTRUCTURE						\$17,302,225	
90								
91								
92	B20 EXTERIOR CLOSURE							
93								
94	B2010 EXTERIOR WALLS							
95	Exterior Wall Area - Solid Assume 70%	132,282	sf					
96								
97	042000 MASONRY							
98	Brick veneer, 3 color; 75% of solid area	99,212	sf	40.00	3,968,480			
99	Staging to exterior wall	132,282	sf	4.00	529,128			
100								
101	055000 MISC. METALS							
102	Stainless steel sign at main entrance	1	ls	15,000.00	15,000			
103								
104								
105	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
106	Air barrier	132,282	sf	6.50	859,833			
107	Air barrier/flashing at windows	33,348	lf	6.25	208,425			
108	Miscellaneous sealants to closure	132,282	sf	1.00	132,282			
109								
110	072100 THERMAL INSULATION							
111	Insulation	132,282	sf	2.25	297,635			
112								

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA

422,925

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 3.1 NEW SCHOOL								
113	076400 CLADDING							
114	Metal panel; 25% of solid area	33,071	sf	75.00	2,480,325			
115								
116	092900 GYPSUM BOARD ASSEMBLIES							
117	6" metal stud backup	132,282	sf	11.00	1,455,102			
118	Gypsum Sheathing	132,282	sf	2.75	363,776			
119	Drywall lining to interior face of stud backup	132,282	sf	3.30	436,531			
120								
121	SUBTOTAL					10,746,517		
122								
123	B2020 WINDOWS							
124	Exterior Wall Area - Glazed Assume 30%	56,692	sf					
125								
126	061000 ROUGH CARPENTRY							
127	Wood blocking at openings	33,348	lf	14.00	466,872			
128								
129	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
130	Backer rod & double sealant	33,348	lf	8.50	283,458			
131								
132	080001 METAL WINDOWS							
133	Windows, double glazed; 20% of glazed area	11,338	sf	90.00	1,020,420			
134	Curtainwall, double glazed; 80% of glazed area	45,354	sf	120.00	5,442,480			
135	Sunshades; horizontal	1	ls	250,000.00	250,000			
136								
137	089000 LOUVERS							
138	Louvers	250	sf	65.00	16,250			
139	SUBTOTAL					7,479,480		
140								
141	B2030 EXTERIOR DOORS							
142	Glazed entrance doors including frame and hardware; double door	8	pr	8,000.00	64,000			
143	HM doors, frames and hardware- Double	4	pr	2,000.00	8,000			
144	Backer rod & double sealant	240	lf	4.00	960			
145	Wood blocking at openings	240	lf	3.00	720			
146	SUBTOTAL					73,680		
147								
148	TOTAL - EXTERIOR CLOSURE						\$18,299,677	
149								
150								
151	B30 ROOFING							
152								
153	B3010 ROOF COVERINGS							
154	New roofing complete	154,189	sf	20.00	3,083,780			
155	Roof equipment screen	1	ls	350,000	350,000			
156	Green roof	15,000	sf	35.00	525,000			
157	Roof soffits	1	ls	2,000,000	2,000,000			
158	SUBTOTAL					5,958,780		
159								
160	B3020 ROOF OPENINGS							
161	Skylights, allow	1	ls	750,000.00	750,000			
162	Roof hatch	1	loc	2,500.00	2,500			
163	SUBTOTAL					752,500		
164								
165	TOTAL - ROOFING						\$6,711,280	
166								
167								
168	C10 INTERIOR CONSTRUCTION							
169								
170	C1010 PARTITIONS							

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 422,925

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 3.1 NEW SCHOOL								
171	Miscellaneous partitions/glazed partitions/borrowed lights/blocking etc.	422,925	gsf	22.00	9,304,350			
172	SUBTOTAL					9,304,350		
174	C1020 INTERIOR DOORS							
175	Interior doors, frames and hardware	422,925	gsf	5.00	2,114,625			
176	SUBTOTAL					2,114,625		
178	C1030 SPECIALTIES / MILLWORK							
179	Toilet Partitions and accessories	422,925	gsf	0.80	338,340			
180	Backer panels in electrical closets	1	ls	1,000.00	1,000			
181	Marker boards/tackboards in classrooms, offices, conference rooms, library and MP rooms	422,925	sf	1.00	422,925			
182	Room Signs	422,925	gsf	0.40	169,170			
183	Fire extinguisher cabinets	141	ea	350.00	49,350			
184	Lockers	422,925	gsf	1.60	676,680			
185	Janitors Work Shop Accessories	1	ls	1,500.00	1,500			
186	Janitors Closet Accessories	3	rms	300.00	900			
187	<i>Media</i>							
188	Reception desks	4	loc	25,000	100,000			
189	Railings to open to below areas	1	ls	100,000	100,000			
190	Library shelving at perimeters 7' Tall					F,F & E		
191	Library shelving at perimeters 3' Tall					F,F & E		
192	Miscellaneous wood trim	422,925	gsf	0.50	211,463			
193	Display cases	422,925	gsf	0.25	105,731			
194	Miscellaneous metals throughout building	422,925	sf	1.50	634,388			
195	Miscellaneous sealants throughout building	422,925	sf	1.25	528,656			
196	SUBTOTAL					3,340,103		
198	TOTAL - INTERIOR CONSTRUCTION						\$14,759,078	
201	C20 STAIRCASES							
203	C2010 STAIR CONSTRUCTION							
204	Metal pan stair; egress stair	12	flt	25,000.00	300,000			
205	Main staircase	1	flt	250,000.00	250,000			
206	Commons steps	2	loc	5,000.00	10,000			
207	Concrete fill to stairs	12	flt	2,000.00	24,000			
208	SUBTOTAL					584,000		
210	C2020 STAIR FINISHES							
211	High performance coating to stairs including all railings etc.	12	flt	3,000.00	36,000			
212	Rubber tile at stairs - landings	1,200	sf	10.00	12,000			
213	Rubber tile at stairs - treads & risers	1,440	lft	19.06	27,446			
214	SUBTOTAL					75,446		
216	TOTAL - STAIRCASES						\$659,446	
219	C30 INTERIOR FINISHES							
221	C3010 WALL FINISHES							
222	Wall finishes	422,925	sf	6.00	2,537,550			
223	SUBTOTAL					2,537,550		
225	C3020 FLOOR FINISHES							
226	Floor finishes	422,925	sf	11.00	4,652,175			
227	SUBTOTAL					4,652,175		

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 422,925

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
OPTION 3.1 NEW SCHOOL								
228	C3030 CEILING FINISHES							
229	Ceiling finishes	422,925	sf	10.00	4,229,250			
230								
231	SUBTOTAL					4,229,250		
232	TOTAL - INTERIOR FINISHES						\$11,418,975	
233								
234								
235								
236	D10 CONVEYING SYSTEMS							
237								
238	D1010 ELEVATOR							
239	New four stop elevator	2	ea	180,000.00	360,000			
240	SUBTOTAL					360,000		
241	TOTAL - CONVEYING SYSTEMS						\$360,000	
242								
243								
244								
245	D20 PLUMBING							
246								
247	D20 PLUMBING, GENERALLY							
248	Plumbing allowance	422,925	gsf	12.00	5,075,100			
249	SUBTOTAL					5,075,100		
250	TOTAL - PLUMBING						\$5,075,100	
251								
252								
253								
254	D30 HVAC							
255								
256	D30 HVAC, GENERALLY							
257	HVAC allowance for Geothermal wells; based 400 wells each 400 ft deep	1	ls	4,000,000.00	4,000,000			
258	HVAC allowance	422,925	gsf	45.00	19,031,625			
259	SUBTOTAL					23,031,625		
260	TOTAL - HVAC						\$23,031,625	
261								
262								
263								
264	D40 FIRE PROTECTION							
265								
266	D40 FIRE PROTECTION, GENERALLY							
267	Fire pump	1	ls	100,000.00	100,000			
268	Fire protection system	422,925	gsf	4.70	1,987,748			
269	SUBTOTAL					2,087,748		
270	TOTAL - FIRE PROTECTION						\$2,087,748	
271								
272								
273								
274	D50 ELECTRICAL							
275								
276								
277	D5010 ELECTRICAL WORK							
278	Allowance for PV systems	1	ls	4,000,000.00	4,000,000			
279	Complete electrical systems	422,925	gsf	34.00	14,379,450			
280	SUBTOTAL					18,379,450		
281	TOTAL - ELECTRICAL						\$18,379,450	
282								
283								
284								
285	E10 EQUIPMENT							
286								
287	E10 EQUIPMENT, GENERALLY							
288	Theatrical Equipment Stage curtains, rigging and controls (Auditorium & Lecture Hall)	1	ls	350,000.00	350,000			

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

GFA 422,925

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST	
OPTION 3.1 NEW SCHOOL								
289	Theatrical AV allowance (Auditorium & Lecture Hall)	1	ls	200,000.00	200,000			
290	Kitchen equipment	1	ls	550,000.00	550,000			
291	Fume hoods	9	ea	15,000.00	135,000			
292	Kiln	1	ea	5,000.00	5,000			
293	Allowance for new manual operable partitions in Cafeteria & Classrooms	356	lf	700.00	249,200			
294	Allowance for miscellaneous equipment; projection screens, residential appliances, loading dock equipment, wood workshop etc	1	ls	150,000.00	150,000			
295	Loading dock equipment	1	ls	20,000.00	20,000			
296	Electrically operated projection screens	1	loc	15,000.00	15,000			
297	SUBTOTAL					1,674,200		
298								
299	TOTAL - EQUIPMENT						\$1,674,200	
300								
301								
302	E20 FURNISHINGS							
303								
304	E2010 FIXED FURNISHINGS							
305	Entry mats & frames - recessed with carpet/rubber strips	500	sf	55.00	27,500			
306	Window blinds	56,692	sf	7.00	396,844			
307	Auditorium seats	600	seat	350.00	210,000			
308	Lecture hall seats	150	seat	250.00	37,500			
309	Counters, base cabinets, tall storage in classrooms and other rooms	422,925	gsf	10.00	4,229,250			
310	SUBTOTAL					4,901,094		
311								
312	E2020 MOVABLE FURNISHINGS							
313	All movable furnishings to be provided and installed by owner							
314	SUBTOTAL					NIC		
315								
316	TOTAL - FURNISHINGS						\$4,901,094	
317								
318								
319	F10 SPECIAL CONSTRUCTION							
320								
321	F10 SPECIAL CONSTRUCTION							
322	No items in this section							
323	SUBTOTAL							
324								
325	TOTAL - SPECIAL CONSTRUCTION							
326								
327								
328	F20 SELECTIVE BUILDING DEMOLITION							
329								
330	F2010 BUILDING ELEMENTS DEMOLITION							
331	SUBTOTAL							
332								
333	F2020 HAZARDOUS COMPONENTS ABATEMENT							
334	See main summary for HazMat allowance				See Summary			
335	SUBTOTAL							
336								
337	TOTAL - SELECTIVE BUILDING DEMOLITION							

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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SITework OPTION 3.1

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62

G	SITework
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G10 SITE PREPARATION & DEMOLITION

Site construction fence/barricades	8,200	lf	12.00	98,400
Site construction fence gates/entrance	2	ea	15,000.00	30,000
Pavement/curbing removal, crush and re-use for sub-base	200,000	sf	1.00	200,000
Walkways	1	ls	30,000.00	30,000
Miscellaneous demolition	1	ls	150,000.00	150,000
<u>Site Earthwork</u>				
Strip Topsoil and remove; 6" thick	19,889	cy	12.00	238,668
Fine grading	1,000,000	sf	0.20	200,000
Cut and Fill; assumed AV 2ft; balanced site	74,074	cy	8.00	592,592
Silt fence/erosion control, wash bays, stock piles	8,200	lf	12.00	98,400
Silt fence maintenance and monitoring	1	ls	60,000.00	60,000
<u>Hazardous Waste Remediation</u>				
Dispose/treat contaminated soils				NIC
SUBTOTAL				1,698,060

G20 SITE IMPROVEMENTS

<u>Asphalt Paving; parking lot and roadway</u>				
Asphalt Paving; parking lot and roadway	350,000			
gravel base; 12" thick	12,963	cy	40.00	518,520
asphalt; 4" thick	38,889	sy	25.00	972,225
VGC	10,500	lf	38.00	399,000
Road markings/signage	1	ls	30,000.00	30,000
<u>Pedestrian Paving</u>				
Concrete paving				
gravel base; 8" thick	744	cy	35.00	26,040
4" concrete paving	30,000	sf	7.00	210,000
<u>Concrete pavers</u>				
Concrete pavers				
sand bedding; 1" thick	133	cy	40.00	5,320
Precast concrete pavers	45,000	sf	16.00	720,000
gravel base; 8" thick	1,117	cy	35.00	39,095
concrete base; 4" thick	45,000	sf	5.00	225,000
<u>Site Improvements</u>				
Flag pole 50' high	1	ea	6,500.00	6,500
Concrete retaining walls				Assumed not required
6' chain-link fence	8,200	lf	50.00	410,000
Double gates	1	ea	2,500.00	2,500
Wood screen privacy fence 8'	50	lf	100.00	5,000
Double gates	1	ea	2,500.00	2,500
Benches	15	ea	2,800.00	42,000
Bike racks	1	ls	30,000.00	30,000
Ornamental trash/recycling receptacles	10	ea	800.00	8,000
Monumental signage	1	ls	40,000.00	40,000
Way finding signage	1	ls	60,000.00	60,000
Other site improvements; walls, fences etc.	1	ls	1,500,000	1,500,000
<u>Multi-purpose fields</u>				
Crushed stone - 12" thick	19,074	cy	40.00	762,960
Sports seeding	515,000	sf	0.50	257,500
Line markings - Allowance	1	ls	15,000.00	15,000
Football goals	2	loc	3,000.00	6,000
Soccer goals (movable) - Allowance	2	loc	10,000.00	20,000
20' sports netting	1	ls	50,000.00	50,000
Baseball/softball backstop	3	loc	40,000.00	120,000
SUBTOTAL				6,483,160
<u>Landscaping</u>				
Topsoil -modify existing topsoil	19,889	cy	26.00	517,114
Lawn - loam & seed	485,000	sf	0.25	121,250
Planting allowance	1	ls	400,000.00	400,000

G. COST ESTIMATE / Design Team



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

12-Feb-18

PSR Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
SITework OPTION 3.1							
63	Irrigation at sports fields	515,000	sf	1.00	515,000		
64	Allowance for new well	1	ls	150,000.00	150,000		
65	SUBTOTAL					1,703,364	
67	G30 CIVIL MECHANICAL UTILITIES						
68	<u>Utilities - Enabling</u>						
69	Allowance for temporary utilities etc.	1	ls	150,000.00	150,000		
70	<u>Water supply; Pricing includes E&B and bedding</u>						
71	New DI piping; 8"	200	lf	100.00	20,000		
72	New DI piping; 8" Fire	4,300	lf	100.00	430,000		
73	Connect to existing	1	loc	10,000.00	10,000		
74	FD connection	1	ea	2,000.00	2,000		
75	Gate valves	8	ea	750.00	6,000		
76	Fire hydrant	14	ea	5,000.00	70,000		
77	Fire hydrant; relocate existing	1	ea	3,500.00	3,500		
78	<u>Sanitary; Pricing includes E&B and bedding</u>						
79	Manholes	4	ea	4,000.00	16,000		
80	Grease trap	1	ea	15,000.00	15,000		
81	8" PVC	300	lf	60.00	18,000		
82	Connect to existing drain	1	ea	3,000.00	3,000		
83	Relocate existing sewer system	1	ls	250,000.00	250,000		
84	<u>Storm water; Pricing includes E&B and bedding</u>						
85	Allowance to modify existing drainage systems	350,000	sf	7.00	2,450,000		
86	Perforated pipe @ recharge systems and crushed stone base under fields	515,000	sf	4.00	NR		
87	<u>Gas service</u>						
88	E&B trench for new gas pipe - install by plumbing	250	lf	25.00	6,250		
89	SUBTOTAL					3,449,750	
91	G40 ELECTRICAL UTILITIES						
92	<u>Power</u>						
94	Utility co. backcharges, allow	1	ls	30,000.00	30,000		
95	Connections at existing manhole					Utility co.	
96	Manhole	1	ls	8,500.00	8,500		
97	Connections in manhole	1	ls	3,500.00	3,500		
98	Primary ductbank 2-5" ductbank, empty, allow	2000	lf	120.00	240,000		
99	Transformer by utility company					By Utility Co.	
100	Transformer pad	1	ea	2,500.00	2,500		
101	Secondary service	60	lf	1,100.00	66,000		
102	<u>Communications</u>						
103	Connection at riser pole, allow	1	ea	1,500.00	1,500		
104	Telecom ductbank 4-4", allow	2000	lf	152.00	304,000		
105	<u>Site Lighting</u>						
106	Varsity baseball sports lighting (allow)	1	ls	120,000.00	120,000		
107	Softball sports lighting (allow)	1	ls	90,000.00	90,000		
108	Site Parking lighting (allow)	1	ls	350,000.00	350,000		
109	SUBTOTAL					1,216,000	
TOTAL - SITE DEVELOPMENT						\$14,550,334	

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3.3.2

EVALUATION OF EXISTING CONDITIONS

3.3.3

FINAL EVALUATION OF ALTERNATIVES

3.3.4

PREFERRED SOLUTION

3.3.5

LOCAL ACTIONS & APPROVALS

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

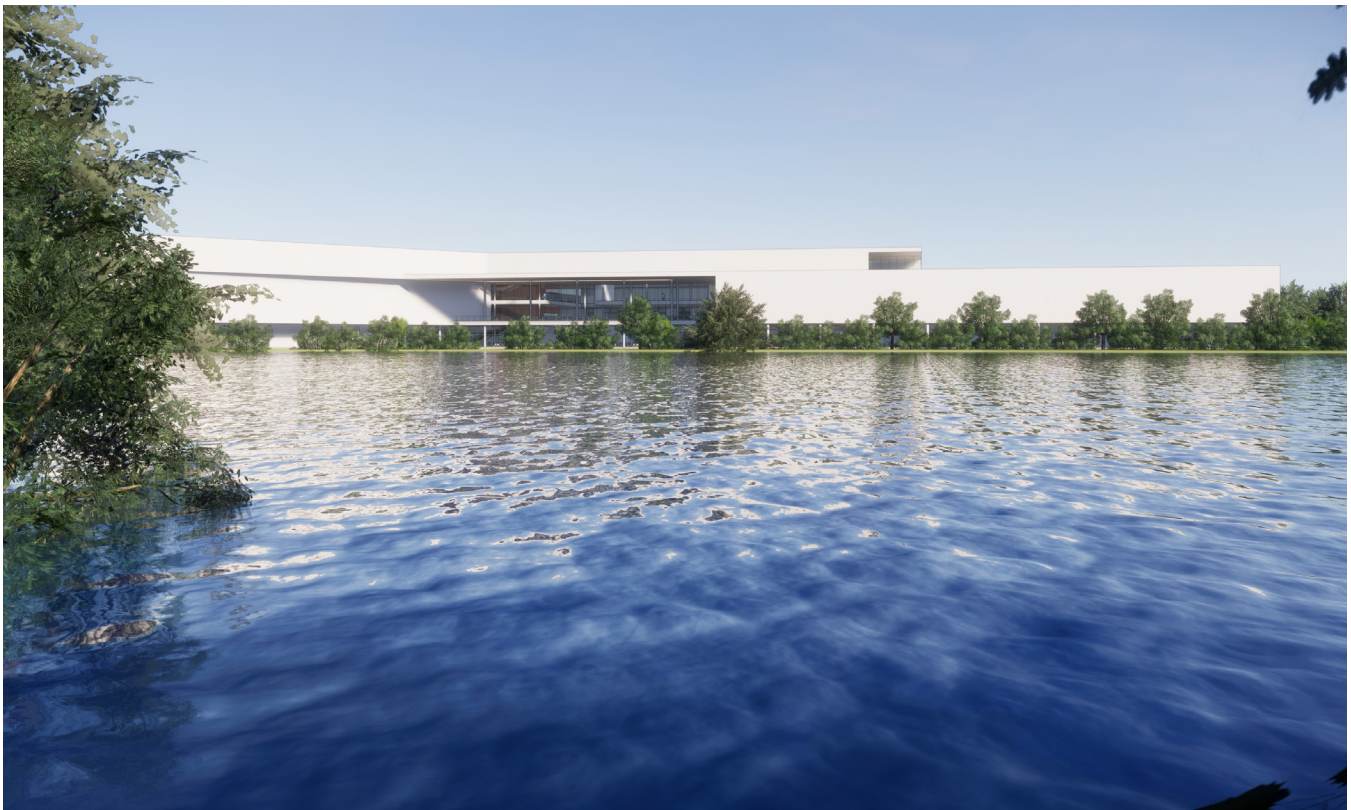
G. COST ESTIMATE / OPM 2.4R1



Belmont High School
Preferred Schematic Option Selection Study
Belmont, MA

April 10, 2018

PSR Option Rev1 Estimate



Architect:

Perkins+Will
225 Franklin St,
Boston, MA 02110
(617) 478-0300

Owner's Project Manager:

Daedalus Projects, Inc.
1 Faneuil Hall Marketplace
South Market Bldg, Suite 4195
Boston, MA 02109
(617) 451 2717

INTRODUCTION

Project Description:

Analysis and comparison of Schematic Design Belmont High School Selection Study Options:

- hazardous material abatement
- partial or entire demolition of existing school building
- renovations, addition, and new construction
- new site utility infrastructure and improvements

PSR Option Rev 1: Minor Renovations and Major Addition, phased

Configuration of School Program applied to Renovation and Addition option:

7-12 High School for 2,215 Students; 445,100gsf

Project Particulars:

Schematic Design Documents received from Perkins+Will

Site Plan and Building Plan Diagrams for Option 1 received April 5, 2018

Detailed quantity takeoffs where possible from design documents and reports

Daedalus Projects, Inc. site visits

Daedalus Projects, Inc. experience with similar projects of this nature

Project Assumptions:

The project will be managed and built by a Construction Manager under a CM at Risk single prime contract

Our costs assume that there will be at least three subcontractors submitting unrestricted bids in each filed sub-trade

Unit rates are escalated to mid-point of construction duration and utilizing prevailing wage labor rates

Operation during normal working hours

Lay-down/storage area, jobsite shed and trailers, and construction site entrance will be located adjacent to Project area

Noise and vibration disturbances are anticipated and will be minimized or avoided during normal business hours

Phasing and logistics will be required where existing school is open and operational

Temporary electrical and water site utility connections will be available. General Conditions value includes utility connections and consumption costs

Existing water pressure is adequate for servicing the new building

Subcontractor's markups are included in each unit rate. These markups cover field and home office overhead and subcontractor's profit

Design and Pricing Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications during the design period

Remainder of General Conditions covers general facilities to support Project, and site office overheads that are not attributable to the direct trade costs

Project Requirements value covers winter conditions, scaffolding, staging and access, temporary protection, and cleaning

Fee markup is calculated on a percentage of direct construction costs

Anticipated start of construction April 2020

Escalation allowance has been calculated at a rate of 3½% per year

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / OPM 2.4R1



Belmont High School

Preferred Schematic Option Selection Study

INTRODUCTION

Construction Cost Estimate Exclusions:

- Work beyond the boundary of the site
- Winter conditions
- Pre-construction services
- Unforeseen Conditions Contingency
- Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying
- Owner's administration; legal fees, advertising, permitting, Owner's insurance, administration, interest expense
- Project costs; utility company back charges prior to construction, construction of swing space and temporary facilities, program related phasing, relocation
- Owner furnished and installed products; computer networking, desks, chairs, furnishings, equipment, artwork, loose case goods and other similar items
- Utility company back charges during construction
- Third Party testing & commissioning
- Wetlands protection or restoration
- Police details and street/sidewalk permits

G. COST ESTIMATE / OPM 2.4R1



GRADES 7-12 MAIN SUMMARY

Preferred Schematic Option Selection Study

ELEMENT			PSR OPTION REV1 Minor Reno/Major Add 445,100 GSF 42 MTH	
Direct Trade Costs Details			\$162,612,267	\$365.34
Building Demolition			\$1,637,185	\$8.50
Hazardous Material Abatement			\$7,100,000	\$27.61
Concord Ave. Traffic Mitigation			\$2,000,000	\$4.49
Direct Trade Details SubTotal			\$173,349,452	\$389.46
Design and Pricing Contingency			\$17,335,000	\$38.95
Direct Trade Cost Total			\$190,684,452	\$428.41
Staffing, Supervision and Management			\$8,190,000	\$18.40
Remainder of General Conditions, Project Requirements			\$5,460,000	\$12.27
Phasing and Logistics			\$2,860,300	\$6.43
General Liability Insurance			\$2,193,000	\$4.93
Performance and Payment Bonds			\$1,907,000	\$4.28
GMP Contingency			\$9,535,000	\$21.42
Fee			\$6,198,000	\$13.92
Estimated Construction Cost Total			\$227,027,752	\$510.06
Escalation from now to start of Construction			\$17,088,000	\$38.39
Estimated Construction Cost at Start of Construction			\$244,116,000	\$548.45

PSR REV 1 / DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / OPM 2.4R1



Belmont High School

Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST SUMMARY

ELEMENT			PSR OPTION REV1 Minor Reno/Major Add 445,100 GSF	
A10 Foundations			\$14,216,828	\$31.94
A SUBSTRUCTURE			\$14,216,828	\$31.94
B10 Superstructure			\$15,862,672	\$35.64
B20 Exterior Closure			\$24,323,016	\$54.65
B30 Roofing			\$9,532,434	\$21.42
B SHELL			\$49,718,122	\$111.70
C10 Interior Construction			\$14,351,188	\$32.24
C20 Stairs			\$790,000	\$1.77
C30 Interior Finishes			\$12,401,525	\$27.86
C INTERIORS			\$27,542,713	\$61.88
D10 Conveying			\$430,000	\$0.97
D20 Plumbing			\$5,341,200	\$12.00
D30 HVAC			\$24,029,500	\$53.99
D40 Fire Protection			\$2,191,970	\$4.92
D50 Electrical			\$18,373,400	\$41.28
D SERVICES			\$50,366,070	\$113.16
E10 Equipment			\$1,862,750	\$4.19
E20 Furnishings			\$4,541,295	\$10.20
E EQUIPMENT & FURNISHINGS			\$6,404,045	\$14.39
G1010 Site Clearing, Site Preparation			\$685,272	\$1.54
G1020 Building Demolition			\$1,637,185	\$3.68
G1020 Site Demolition, Selective Demolition			\$1,070,647	\$2.41
G1030 Earthwork			\$513,184	\$1.15

G. COST ESTIMATE / OPM 2.4R1



Belmont High School

Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST SUMMARY

ELEMENT			PSR OPTION REV1 Minor Reno/Major Add 445,100 GSF		
G1040 Hazardous Material Abatement G10 SITE PREPARATION			\$7,100,000	\$15.95	
G2010 Paving and Surfacing G2040 Site Improvements G2050 Plantings, Soft Landscaping G20 SITE IMPROVEMENTS			\$6,648,712	\$14.94	
G3010 Water Supply and Distribution G3020 Sanitary Sewer System G3030 Stormwater Management System G4010 Site Electrical Utilities G30 SITE MECHANICAL UTILITIES			\$305,660	\$0.69	
			\$659,831	\$1.48	
			\$7,614,203	\$17.11	
			\$417,850	\$0.94	
			\$349,500	\$0.79	
			\$2,366,184	\$5.32	
			\$1,347,650	\$3.03	
			\$4,481,184	\$10.07	
Direct Trade Details SubTotal			\$171,349,452	\$384.97	

PSR REV 1 / DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / OPM 2.4R1



Belmont High School

Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			Minor Reno/Major Add QUANTITY	COST
10				
		<i>Total</i>	445,100	<i>GSF</i>
11		<i>Renovation</i>	64,510	<i>GSF</i>
12		<i>New Construction / Addition</i>	380,590	<i>GSF</i>
13		<i>Building Demolition</i>	192,610	<i>GSF</i>
14				
15		A SUBSTRUCTURE		
16				
17		A10 Foundations		
18		<i>Reinforced concrete pile caps, structural steel piles, structured slab</i>		
19	LF	steel pile, 50-ton; assume 25'long	102,750	\$7,706,250
20	EA	concrete pile; 8x8x4 at clusters, 2x2x2 at single pile	590	\$3,150,600
21	LF	grade beam at perimeter; 5' deep	2,070	\$1,221,300
22	LF	grade beam at slab on grade; assume 60'oc grid	600	\$354,000
23	SF	12" structured slab on grade, 6#/sf reinforcing, vapor barrier, 2" rigid insu	119,300	\$1,431,600
24	CY	compacted granular structural fill; assume 12"	4,639	\$185,578
25		<i>New brace frames in existing to renovation areas</i>		
26	LOC	demo sog for new pile, patch and repair after install	9	\$36,000
27	EA	install new pile and pile cap	9	\$78,300
28	LF	demo sog for new tie beam, patch and repair after install	280	\$53,200
29		<i>New building over Level 2 for Level 3 additions</i>		
30	LOC	demo sog for new pile, patch and repair after install		
31	EA	install new pile and pile cap		
32	LF	demo sog for new tie beam, patch and repair after install		
33		A10 Foundations Total		\$14,216,828
34				
35				
36		B SHELL		
37				
38		B10 Superstructure		
39		<i>New brace frames in existing to renovation areas</i>		
40	TNS	addition of brace frames; assume 2#/sf face area		\$5,000.00
41	SF	new masonry shear wall at existing building		\$25.00
42	EA	Anchor un-reinforced masonry walls to floor & roof structure	477	\$71,550
43	TNS	Reinforce existing roof diaphragms to resist uplift loads; assume 1#/covera	23	\$116,328
44		<i>New building over Level 2 for Level 3 additions</i>		
45	EA	new columns from Level 1 up per floor		\$2,500.00
46	TNS	Structural steel floor framing - 13#/gsf allowance provided		\$3,900.00
47	TNS	15#/gsf allowance provided	1,933	\$7,539,626
48	TNS	above multi-purpose rooms & PE space; 18#/gsf	311	\$1,211,652
49	TNS	Structural steel roof framing - 13#/gsf allowance provided	718	\$2,799,401
50	TNS	15#/gsf @ Gym & mechanical zone/low roof; add 2#/gsf	22	\$103,428
51	SF	5/2" LWT slab on composite metal deck, fireproofing; upper slabs	257,765	\$3,222,063
52	SF	low roof; assume 20% of roof area	22,100	\$276,250

G. COST ESTIMATE / OPM 2.4R1



Belmont High School
Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			Minor Reno/Major Add QUANTITY	COST
53 1½" Type B metal roof deck	SF	\$3.75	119,300	\$447,375
54 5½" LWT slab on metal deck; mech zone assume 5% of roof area	SF	\$12.50	6,000	\$75,000
55 3" Type NA acoustic metal roof deck; Gym	SF	\$7.50		
56 B10 Superstructure Total				\$15,862,672
57				
58 B20 Exterior Closure				
59 Existing exterior façade to remain; repair, repoint, clean	SF	\$40.00	29,385	\$1,175,416
60 remove and replace glazed openings; assume 20%	SF	\$105.00	5,880	\$617,400
61 New façade; masonry, glass, doors	SF	\$140.00	160,930	\$22,530,200
62 B20 Exterior Closure Total				\$24,323,016
63				
64 B30 Roofing				
65 Demo roof for new floor deck	SF	\$15.00		
66 Roofing; assume TPO	SF	\$25.00	110,430	\$2,760,750
67 premium for green roof/teaching area - allowance agreed	AL	\$500,000.00	1	\$500,000
68 add low roof/canopy	AL	\$100.00	20,800	\$2,080,000
69 mechanical zone and screen - qty provided	LF	\$750.00	1,200	\$900,000
70 soffits, fascia	LF	\$425.00	2,175	\$924,184
71 Replace existing roofing w/new	SF	\$30.00	56,000	\$1,680,000
72 Skylight - qty provided	SF	\$125.00	5,500	\$687,500
73 B30 Roofing Total				\$9,532,434
74				
75				
C INTERIORS				
76				
78 C10 Interior Construction				
79 Renovate existing school	GSF	\$32.50	64,510	\$2,096,575
80 Partitions	GSF	\$20.00	377,065	\$7,541,300
81 Doors	GSF	\$4.50	377,065	\$1,696,793
82 Storefront; assume 2% of interior walls	GSF	\$1.75	377,065	\$659,864
83 Specialties	GSF	\$6.25	377,065	\$2,356,656
84 C10 Interior Construction Total				\$14,351,188
85				
86 C20 Stairs				
87 Upgrade existing stair; assume replace railings	FLT	\$15,000.00	1	\$15,000
88 New stairs	FLT	\$35,000.00	11	\$385,000
89 Monumental/Open stair, allow	FLT	\$65,000.00	6	\$390,000
90 C20 Stairs Total				\$790,000
91				
92 C30 Interior Finishes				
93 Renovate existing school	GSF	\$30.00	64,510	\$1,935,300
94 <i>New School Building Construction</i>	GSF		380,590	
95 wall finishes	GSF	\$6.75	380,590	\$2,568,983

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / OPM 2.4R1



Belmont High School

Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			Minor Reno/Major Add QUANTITY	COST
96 flooring	GSF	\$10.75	380,590	\$4,091,343
97 ceiling finishes	GSF	\$10.00	380,590	\$3,805,900
98 C30 Interior Finishes Total				\$12,401,525
99				
100				
101 D SERVICES				
102				
103 D10 Conveying				
104 Elevator; demo and disposal	EA	\$50,000.00	1	\$50,000
105 Elevator; new	EA	\$190,000.00	2	\$380,000
106 D10 Conveying Total				\$430,000
107				
108 D20 Plumbing				
109 Plumbing	GSF	\$12.00	445,100	\$5,341,200
110 D20 Plumbing Total				\$5,341,200
111				
112 D30 HVAC				
113 HVAC	EA	\$45.00	445,100	\$20,029,500
114 Geothermal wells; 6" dia borehole @ 20'oc grid x400' deep	EA	\$10,000.00	400	\$4,000,000
115 D30 HVAC Total				\$24,029,500
116				
117 D40 Fire Protection				
118 Sprinkler Coverage	GSF	\$4.70	445,100	\$2,091,970
119 Fire Pump	EA	\$100,000.00	1	\$100,000
120 D40 Fire Protection Total				\$2,191,970
121				
122 D50 Electrical				
105 Interior Electrical	GSF	\$34.00	445,100	\$15,133,400
124 Roof borne PV system - qty provided	SF	\$36.00	90,000	\$3,240,000
125 D50 Electrical Total				\$18,373,400
126				
127				
128 E EQUIPMENT & FURNISHINGS				
129				
130 E10 Equipment				
131 Renovate existing school	GSF	\$2.50	64,510	\$161,275
105 existing pool; new equipment - allowance agreed	AL	\$750,000.00	1	\$750,000
133 New Construction / Addition	GSF	\$2.50	380,590	\$951,475
134 E10 Equipment Total				\$1,862,750
135				
136				
137 E20 Furnishings				
138 Renovate existing school	GSF	\$5.50	64,510	\$354,805

G. COST ESTIMATE / OPM 2.4R1



Belmont High School
Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			Minor Reno/Major Add QUANTITY	Minor Reno/Major Add COST
139 New Construction / Addition	GSF	\$11.00	380,590	\$4,186,490
140 E20 Furnishings Total				\$4,541,295
141				
142				
143 G10 SITE PREPARATION				
144				
145 G1010 Site Clearing, Site Preparation				
146 Clearing and grubbing	ACRE	\$4,000.00	40	\$160,000
147 Construction fence	LF	\$12.00	11,017	\$132,204
148 Double construction gate	PR	\$2,800.00	4	\$11,200
149 Strip and stockpile existing topsoil; assume avg. 6"	CY	\$8.00	13,383	\$107,064
150 Temporary construction entrance including maintenance	EA	\$9,000.00	4	\$36,000
151 Temp signs	LS	\$1,800.00	2	\$3,600
152 Wash down/re-fueling	SF	\$2.00	6,000	\$12,000
153 Protection of existing to remain	LS	\$35,000.00	1	\$35,000
154 Temporary parking lot	AL	\$15,000.00	1	\$15,000
155 Dewatering	LS	\$35,000.00	1	\$35,000
156 Erosion control barrier	LF	\$12.00	11,017	\$132,204
157 Erosion control barrier at temporary construction period soil stockpile	AL	\$3,500.00	1	\$3,500
158 Inlet protection	AL	\$2,500.00	1	\$2,500
159 G1010 Site Clearing, Site Preparation Total				\$685,272
160				
161 G1020 Building Demolition				
162 Building structure demolition, phased	GSF	\$8.50	192,610	\$1,637,185
163 Building structure demolition	GSF	\$5.75		
164 G1020 Building Demolition Total				\$1,637,185
165				
166 G1020 Site Demolition, Selective Demolition				
167 Selective Site Demolition				
168 saw cut existing pavement	LF	\$12.00	150	\$1,800
169 asphalt pavement	SF	\$1.20	181,037	\$217,244
170 concrete pavement	SF	\$1.75	46,573	\$81,503
171 Cut, cap and remove existing utility	AL	\$50,000.00	1	\$50,000
172 Misc. demolition other than above	AL	\$75,000.00	1	\$75,000
173 Existing school program interior selective demolition	GSF	\$10.00	64,510	\$645,100
174 G1020 Site Demolition, Selective Demolition Total				\$1,070,647
175				
176 G1030 Earthwork				
177 Cut and fill for parking lot	CY	\$11.00	8,284	\$91,124
178 concrete pavement	CY	\$11.00	4,460	\$49,061
179 remainder of site grades	CY	\$10.00	7,519	\$75,191
180 Rough and fine grading	SF	\$0.50	595,617	\$297,809
181 G1030 Earthwork Total				\$513,184

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / OPM 2.4R1



Belmont High School

Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			QUANTITY	Minor Reno/Major Add COST
182 G1040 Hazardous Material Abatement				
183 Removal and disposal of all ACM, PCB and other hazardous materials	AL	\$7,100,000.00	1	\$7,100,000
184 G1040 Hazardous Material Abatement Total				\$7,100,000
185				
186				
187 G20 SITE IMPROVEMENTS				
188				
189 G2010 Paving and Surfacing				
190 Asphalt paving at bus drop-off, deliveries, parent drop-off and parking lot	SF	\$3.15	178,934	\$563,642
191 gravel base to asphalt pavement	CY	\$32.00	7,290	\$233,280
192 paint crosswalk	AL	\$2,500.00	1	\$2,500
193 parking stall	EA	\$35.00	6	\$210
194 HC parking stall	EA	\$85.00	424	\$36,040
195 misc. pavement marking	AL	\$5,000.00	1	\$5,000
196 Patching to existing paving at street	LS	\$5,000.00	1	\$5,000
197 Concrete sidewalk	SF	\$7.25	32,368	\$234,668
198 Intergenerational walking path	SF	\$3.50	16,350	\$57,225
199 Sport walk	SF	\$7.50	3,084	\$23,130
200 curb cut	EA	\$380.00	12	\$4,560
201 Cement concrete entrance	SF	\$30.00	70,443	\$2,113,290
202 Loading dock	SF	\$15.00		
203 Gravel base to concrete pavement	CY	\$30.00	3,529	\$105,870
204 Curbing	LF	\$38.00	9,853	\$374,414
205 <i>Baseball and Softball field:</i>	SF		82,881	
206 Rough/fine grading	SF	\$0.75	82,881	\$62,161
207 Cut and fill	CY	\$12.00	3,592	\$43,104
208 8" Stone base	CY	\$70.00	2,251	\$157,570
209 Sand base	CY	\$80.00	563	\$45,040
210 Underdrain	GSF	\$1.75	82,881	\$145,042
211 Infield surfacing	SF	\$2.50	40,076	\$100,190
212 Sod	SF	\$1.50	42,805	\$64,208
213 Irrigation	SF	\$0.75	42,805	\$32,104
214 Base plate	EA	\$450.00	12	\$5,400
215 Removable foul poles	EA	\$2,500.00	6	\$15,000
216 Removable soccer goal posts	EA	\$1,400.00	3	\$4,200
217 Backstop	SF	\$10.00	3,660	\$36,600
218 <i>Football/Rugby, Lacrosse 01, Soccer field:</i>	SF		282,489	
219 Rough/fine grading	SF	\$0.75	282,489	\$211,867
220 Cut and fill	CY	\$12.00	12,241	\$146,892
221 8" Stone base	CY	\$70.00	7,673	\$537,110
222 Sand base	CY	\$80.00	1,918	\$153,440
223 Underdrain	GSF	\$1.75	282,489	\$494,356
224 Sod	SF	\$1.50	282,489	\$423,734

G. COST ESTIMATE / OPM 2.4R1



Belmont High School
Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			Minor Reno/Major Add QUANTITY	COST
225 Irrigation	SF	\$0.75	282,489	\$211,867
226 G2010 Paving and Surfacing Total				\$6,648,712
227				
228 G2040 Site Improvements				
229 Bioretention terraces	SF	\$35.00	3,836	\$134,260
230 Flag pole w/ foundation	EA	\$7,500.00	1	\$7,500
231 Bench	AL	\$15,000.00	1	\$15,000
232 Bike racks	AL	\$3,500.00	1	\$3,500
233 Metal trash receptacles	EA	\$800.00	8	\$6,400
234 Concrete fill steel bollard	AL	\$12,000.00	1	\$12,000
235 Misc. site improvement other than above	LS	\$100,000.00	1	\$100,000
236 Traffic signs	AL	\$12,000.00	1	\$12,000
237 Building sign	AL	\$15,000.00	1	\$15,000
238 G2040 Site Improvements Total				\$305,660
239				
240 G2050 Plantings, Soft Landscaping				
241 Respread topsoil	CY	\$10.00	13,383	\$133,830
242 Topsoil for planting beds, shrubs and perennials	CY	\$28.00	278	\$7,778
243 Mulch	CY	\$50.00	46	\$2,315
244 Lawn	SF	\$0.40	284,352	\$113,741
245 Sod - Outdoor classroom	SF	\$1.75		
246 New trees	AL	\$156,000.00	1	\$156,000
247 Gardens	SF	\$8.00	29,521	\$236,168
248 Groundcovers	AL	\$10,000.00	1	\$10,000
249 G2050 Plantings, Soft Landscaping Total				\$659,831
250				
251				
252 G30 SITE MECHANICAL UTILITIES				
253				
254 G3010 Water Supply and Distribution				
255 8" T & S & G.	EA	\$4,200.00	1	\$4,200
256 4" Gate	EA	\$1,200.00	1	\$1,200
257 Hydrant and gate	EA	\$2,800.00	4	\$11,200
258 4" CLDI domestic water	LF	\$65.00	50	\$3,250
259 6" CLDI Fire	LF	\$80.00	200	\$16,000
260 8" CLDI fire service and loop	LF	\$95.00	4,000	\$380,000
261 Thrust blocks	LS	\$2,000.00	1	\$2,000
262 G3010 Water Supply and Distribution Total				\$417,850
263				
264 G3020 Sanitary Sewer System				
265 Relocate existing sewer	AL	\$250,000.00	1	\$250,000
266 SMH	EA	\$4,000.00	10	\$40,000
267 1,500 Grease trap	EA	\$7,500.00	1	\$7,500

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / OPM 2.4R1



Belmont High School
Preferred Schematic Option Selection Study

GRADE 7-12 DIRECT TRADE COST DETAILS

ELEMENT	UNIT	UNIT RATE	PSR OPTION REV1	
			Minor Reno/Major Add	QUANTITY COST
268 Pump station	LS	\$30,000.00		
269 3" HDPE sewer force main	LF	\$125.00		
270 8" sewer drain	LF	\$65.00		
271 6" PVC sewer	LF	\$50.00	1,040	\$52,000
272 G3020 Sanitary Sewer System Total				\$349,500
273				
274 G3030 Stormwater Management System				
275 Temporary utilities to cover phasing and logistics - allowance agreed	AL	\$150,000.00	1	\$150,000
276 Bioretention	SF	\$24.00	24,266	\$582,384
277 Bioretention zone	SF	\$5.00	45,015	\$225,075
278 Stormwater base in pavement area	GSF	\$5.00	281,745	\$1,408,725
279 G3030 Stormwater Management System Total				\$2,366,184
280				
281				\$2,216,184
282 G40 SITE ELECTRICAL UTILITIES				
283				
284 G4010 Site Electrical Utilities				
285 <i>Primary and Secondary Service</i>				
286 Utility co. back charges	LS	\$30,000.00	1	\$30,000
287 Electrical primary service riser	LS	\$1,500.00	1	\$1,500
288 Primary ductbank 2-5" ductbank, empty; from East boundary	LF	\$145.00	1,750	\$253,750
289 Transformer by utility company				By Utility Co.
290 Transformer pad	EA	\$3,000.00	1	\$3,000
291 3000A secondary service	LF	\$850.00	60	\$51,000
292 2500A secondary service	LF	\$710.00	290	\$205,900
293 <i>Communications</i>				
294 Communications pole riser	EA	\$1,500.00	1	\$1,500
295 Telecom ductbank 4-4" empty	LF	\$152.00	1,750	\$266,000
296 Site CCTV (Security)	LS	\$35,000.00	1	\$35,000
297 Sport field lighting; baseball, softball	AL	\$200,000.00	1	\$200,000
298 Site lighting and circuitry	LS	\$300,000.00	1	\$300,000
299 G4010 Site Electrical Utilities Total				\$1,347,650
300				
301				
302				



3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



PSR Estimate - Revision 1

**Belmont High School
Design Options - GRADES 7-12**

Belmont, MA

FINAL LEVEL 2 ESTIMATE

PM&C LLC
20 Downer Ave, Suite 1C
Hingham, MA 02043
(T) 781-740-8007
(F) 781-740-1012

Prepared for:

Perkins + Will Architects, Inc.

April 10, 2018

G. COST ESTIMATE / Design Team 2.4R1



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

10-Apr-18

PSR Estimate - Revision 1

MAIN CONSTRUCTION COST SUMMARY

		Gross Floor Area	\$/sf	Estimated Construction Cost
PSR OPTION REVISION 1				
RENOVATIONS TO EXISTING SCHOOL		64,510	\$218.60	\$14,101,622
ADDITIONS		380,590	\$331.35	\$126,107,592
DEMOLISH EXISTING SCHOOL - PARTIAL (phased)		192,610	\$8.00	\$1,540,880
REMOVE HAZARDOUS MATERIALS				\$7,100,000
TRAFFIC MITIGATION at CONCORD AVE				\$2,000,000
SITework				\$14,001,188
SUB-TOTAL		445,100	\$370.37	\$164,851,282
DESIGN AND PRICING CONTINGENCY	10%			\$16,485,128
ESCALATION	12%			\$21,760,369
SUB-TOTAL		445,100	\$456.29	\$203,096,779
GENERAL CONDITIONS (42 MTHS SCHEDULE)				\$8,400,000
GENERAL REQUIREMENTS	4.00%			\$8,123,871
BONDS	0.75%			\$1,523,226
INSURANCE	1.10%			\$2,234,065
PERMIT				Waived
CM FEE	3%			\$6,092,903
CM/GMP CONTINGENCY	2%			\$4,061,936
PHASING PREMIUM	2.0%			\$4,061,936
TOTAL OF ALL CONSTRUCTION		445,100	\$533.80	\$237,594,716

PSR REV 1 / DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



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This PSR cost estimate was produced from drawings, narratives and other documentation prepared by Perkins + Wills Architects Inc. and their design team received April 07, 2018. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, construction manager's overhead, fee and design contingency. Cost escalation assumes start dates indicated.

Bidding conditions are expected to be public bidding under Chapter 149a of the Massachusetts General Laws to pre-qualified construction managers, and pre-qualified sub-contractors, open specifications for materials and manufactures.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

- Relocation of Town wide fiber system
- Land acquisition, feasibility, and financing costs
- All professional fees and insurance
- Site or existing conditions surveys investigations costs, including to determine subsoil conditions
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items as indicated in the estimate
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)
- Construction contingency (GMP Contingency is included)
- Contaminated soils removal

G. COST ESTIMATE / Design Team 2.4R1



Belmont High School
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PSR Estimate - Revision 1

GFA 64,510

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
NEW OPTION RENOVATION					
A10 FOUNDATIONS					
A1010	Standard Foundations	\$35,000			
A1020	Special Foundations	\$0			
A1030	Lowest Floor Construction	\$75,000	\$110,000	\$1.71	0.8%
B10 SUPERSTRUCTURE					
B1010	Upper Floor Construction	\$0			
B1020	Roof Construction	\$50,000	\$50,000	\$0.78	0.4%
B20 EXTERIOR CLOSURE					
B2010	Exterior Walls	\$1,083,000			
B2020	Windows/Curtainwall	\$589,164			
B2030	Exterior Doors	\$58,796	\$1,730,960	\$26.83	12.3%
B30 ROOFING					
B3010	Roof Coverings	\$1,471,400			
B3020	Roof Openings	\$10,000	\$1,481,400	\$22.96	10.5%
C10 INTERIOR CONSTRUCTION					
C1010	Partitions	\$580,590			
C1020	Interior Doors	\$322,550			
C1030	Specialties/Millwork	\$390,777	\$1,293,917	\$20.06	9.2%
C20 STAIRCASES					
C2010	Stair Construction	\$0			
C2020	Stair Finishes	\$0	\$0	\$0.00	0.0%
C30 INTERIOR FINISHES					
C3010	Wall Finishes	\$387,060			
C3020	Floor Finishes	\$709,610			
C3030	Ceiling Finishes	\$516,080	\$1,612,750	\$25.00	11.4%
D10 CONVEYING SYSTEMS					
D1010	Elevator	\$0	\$0	\$0.00	0.0%
D20 PLUMBING					
D20	Plumbing	\$774,120	\$774,120	\$12.00	5.5%
D30 HVAC					
D30	HVAC	\$2,902,950	\$2,902,950	\$45.00	20.6%
D40 FIRE PROTECTION					
D40	Fire Protection	\$303,197	\$303,197	\$4.70	2.2%
D50 ELECTRICAL					
D5010	Electrical Systems	\$2,193,340	\$2,193,340	\$34.00	15.6%
E10 EQUIPMENT					
E10	Equipment	\$366,040	\$366,040	\$5.67	2.6%

PSR REV 1 / DOCUMENTS 3.3.6

PSR REV 1 / 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



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GFA 64,510

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
NEW OPTION RENOVATION					
E20 FURNISHINGS					
E2010	Fixed Furnishings	\$64,510			
E2020	Movable Furnishings	NIC	\$64,510	\$1.00	0.5%
F10 SPECIAL CONSTRUCTION					
F10	Special Construction	\$750,000	\$750,000	\$11.63	5.3%
F20 SELECTIVE BUILDING DEMOLITION					
F2010	Building Elements Demolition	\$468,438			
F2020	Hazardous Components Abatement	\$0	\$468,438	\$7.26	3.3%
TOTAL DIRECT COST (Trade Costs)			\$14,101,622	\$218.60	100.0%

G. COST ESTIMATE / Design Team 2.4R1



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 Design Options - GRADES 7-12
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PSR Estimate - Revision 1

GFA 64,510

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW OPTION RENOVATION						
GROSS FLOOR AREA CALCULATION						
First Floor				52,550		
Second Floor				11,960		
TOTAL GROSS FLOOR AREA (GFA)				64,510	sf	
A10 FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Repair cracks and resurface exposed concrete foundations	1	ls	35,000	35,000		
SUBTOTAL						35,000
A1020 SPECIAL FOUNDATIONS						
No work in this section						
SUBTOTAL						
A1030 LOWEST FLOOR CONSTRUCTION						
Cutting and patching for MEP	1	ls	15,000.00	15,000		
New slab at bathrooms and shower areas	3,000	sf	20.00	60,000		
SUBTOTAL						75,000
TOTAL - FOUNDATIONS						\$110,000
B10 SUPERSTRUCTURE						
B1010 FLOOR CONSTRUCTION						
SUBTOTAL						-
B1020 ROOF CONSTRUCTION						
Support framing for new MEP systems	1	ls	50,000.00	50,000		
SUBTOTAL						50,000
TOTAL - SUPERSTRUCTURE						\$50,000
B20 EXTERIOR CLOSURE						
B2010 EXTERIOR WALLS						
Repair and repoint exterior walls- brick; assume 100%	25,200	sf				
	25,200	sf	32.00	806,400		
Repairs to precast concrete panels, fins and banding	1	ls	75,000.00	75,000		
Clean all exterior walls; includes staging	25,200	sf	8.00	201,600		
SUBTOTAL						1,083,000
B2020 WINDOWS/CURTAINWALL						
Replace existing translucent panels	6,798	sf	80.00	543,840		
Backer rod & double sealant	3,777	lf	9.00	33,993		
Wood blocking at openings	3,777	lf	3.00	11,331		
SUBTOTAL						589,164
B2030 EXTERIOR DOORS						
Replace exterior single door	3	ea	2,100.00	6,300		
Replace exterior double door	4	pr	4,000.00	16,000		
Replace overhead doors; 8'x8'	2	ea	7,040.00	14,080		
Replace overhead doors; 12'x15'	1	ea	19,800.00	19,800		
Backer rod & double sealant	218	lf	9.00	1,962		

PSR REV 1 / DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

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PSR Estimate - Revision 1

GFA 64,510

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
NEW OPTION RENOVATION								
58	Wood blocking at openings	218	lf	3.00	654			
59	SUBTOTAL					58,796		
61	TOTAL - EXTERIOR CLOSURE							\$1,730,960
64	B30 ROOFING							
66	B3010 ROOF COVERINGS							
67	Replace existing roofing systems	52,550	sf	28.00	1,471,400			
68	SUBTOTAL					1,471,400		
70	B3020 ROOF OPENINGS							
71	Replace roof ladders/hatches etc.	1	ls	10,000.00	10,000			
72	SUBTOTAL					10,000		
74	TOTAL - ROOFING							\$1,481,400
77	C10 INTERIOR CONSTRUCTION							
79	C1010 PARTITIONS							
80	Allowance to modify existing walls and add new walls	64,510	gsf	6.00	387,060			
81	Seismic upgrades	64,510	gsf	3.00	193,530			
82	SUBTOTAL					580,590		
84	C1020 INTERIOR DOORS							
85	Adjust door openings, install new door frame to meet code requirements (door carried below)	64,510	gsf	5.00	322,550			
86	SUBTOTAL					322,550		
88	C1030 SPECIALTIES / MILLWORK							
89	Toilet Partitions and accessories	64,510	gsf	0.80	51,608			
90	New markerboards/tackboards	64,510	gsf	1.00	64,510			
91	Replace athletic lockers - allowance	1	ls	25,000.00	25,000			
92	New guardrail at Fieldhouse bleachers	150	lf	200.00	30,000			
93	Allowance for miscellaneous specialties; wall protection, fire extinguishers etc	1	ls	10,000.00	10,000			
95	055000 MISCELLANEOUS METALS							
96	Miscellaneous metals throughout building	64,510	sf	1.50	96,765			
98	061000 ROUGH CARPENTRY							
99	Rough blocking	64,510	sf	0.15	9,677			
101	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
102	Miscellaneous sealants throughout building	64,510	sf	1.25	80,638			
104	101400 SIGNAGE							
105	Code compliant signage	64,510	sf	0.35	22,579			
106	SUBTOTAL					390,777		
108	TOTAL - INTERIOR CONSTRUCTION							\$1,293,917
111	C20 STAIRCASES							
113	C2010 STAIR CONSTRUCTION							
114	SUBTOTAL					-		

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GFA 64,510

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW OPTION RENOVATION							
116	C2020 STAIR FINISHES						
117	SUBTOTAL					-	
118	TOTAL - STAIRCASES						
119	C30 INTERIOR FINISHES						
120							
121	C3010 WALL FINISHES						
122	Allowance for wall finishes	64,510	gsf	6.00	387,060		
123	SUBTOTAL					387,060	
124	C3020 FLOOR FINISHES						
125	Allowance for floor finishes	64,510	gsf	11.00	709,610		
126	SUBTOTAL					709,610	
127	C3030 CEILING FINISHES						
128	Allowance for ceiling finishes	64,510	gsf	8.00	516,080		
129	SUBTOTAL					516,080	
130	TOTAL - INTERIOR FINISHES						
131							\$1,612,750
132	D10 CONVEYING SYSTEMS						
133							
134	SUBTOTAL					-	
135	TOTAL - CONVEYING SYSTEMS						
136	D20 PLUMBING						
137							
138	D20 PLUMBING, GENERALLY						
139	Plumbing allowance	64,510	gsf	12.00	774,120		
140	SUBTOTAL					774,120	
141	TOTAL - PLUMBING						
142							\$774,120
143	D30 HVAC						
144							
145	D30 HVAC, GENERALLY						
146	HVAC allowance; full AC	64,510	gsf	45.00	2,902,950		
147	SUBTOTAL					2,902,950	
148	TOTAL - HVAC						
149							\$2,902,950
150	D40 FIRE PROTECTION						
151							
152	D40 FIRE PROTECTION, GENERALLY						
153	New fire protection system	64,510	sf	4.70	303,197		
154	SUBTOTAL					303,197	
155	TOTAL - FIRE PROTECTION						
156							\$303,197
157	D50 ELECTRICAL						
158							
159	D5010 ELECTRICAL WORK						
160	Complete electrical systems	64,510	gsf	34.00	2,193,340		
161	SUBTOTAL					2,193,340	

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



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Design Options - GRADES 7-12
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GFA 64,510

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW OPTION RENOVATION							
180	TOTAL - ELECTRICAL						\$2,193,340
181							
182							
183	E10 EQUIPMENT						
184							
185	E10 EQUIPMENT, GENERALLY						
186	Gym wall pads	1	ls	20,000.00	20,000		
187	Basketball backstops; swing up; electric operated	6	loc	10,000.00	60,000		
188	Gymnasium dividing net; electrically operated; 60 lf	4	ea	30,000.00	120,000		
189	Volleyball net and standards	1	ls	5,000.00	5,000		
190	Score boards in Gym & Fieldhouse	2	loc	15,000.00	30,000		
191	Telescoping bleachers, electronic retracting (1008 seats)	1	ls	131,040.00	131,040		
192	SUBTOTAL					366,040	
193							
194	TOTAL - EQUIPMENT						\$366,040
195							
196							
197	E20 FURNISHINGS						
198							
199	E2010 FIXED FURNISHINGS						
200							
201	123553 CASEWORK						
202	Allowance for new casework throughout	64,510	gsf	1.00	64,510		
203	SUBTOTAL					64,510	
204							
205	E2020 MOVABLE FURNISHINGS						
206	All movable furnishings to be provided and installed by owner						
207	SUBTOTAL					NIC	
208							
209	TOTAL - FURNISHINGS						\$64,510
210							
211							
212	F10 SPECIAL CONSTRUCTION						
213							
214	F10 SPECIAL CONSTRUCTION						
215	Pool upgrades	1	ls	750,000.00	750,000		
216	SUBTOTAL					750,000	
217							
218	TOTAL - SPECIAL CONSTRUCTION						\$750,000
219							
220							
221	F20 SELECTIVE BUILDING DEMOLITION						
222							
223	F2010 BUILDING ELEMENTS DEMOLITION						
224	Remove exterior glazing	6,798	sf	6.00	40,788		
225	Remove roofing	52,550	sf	2.00	105,100		
226	Interior demolition	64,510	gsf	4.00	258,040		
227	Temporary enclosures/protection	64,510	sf	1.00	64,510		
228	SUBTOTAL					468,438	
229							
230	F2020 HAZARDOUS COMPONENTS ABATEMENT						
231	See summary						
232	SUBTOTAL						
233							
234	TOTAL - SELECTIVE BUILDING DEMOLITION						\$468,438
235							

G. COST ESTIMATE / Design Team 2.4R1



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GFA 380,590

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
NEW OPTION ADDITION					
A10	FOUNDATIONS				
A1010	Standard Foundations	\$2,333,425			
A1020	Special Foundations	\$7,500,375			
A1030	Lowest Floor Construction	\$2,868,983	\$12,702,783	\$33.38	10.1%
A20	BASEMENT CONSTRUCTION				
A2010	Basement Excavation	\$0			
A2020	Basement Walls	\$0	\$0	\$0.00	0.0%
B10	SUPERSTRUCTURE				
B1010	Upper Floor Construction	\$11,573,184			
B1020	Roof Construction	\$4,886,355	\$16,459,539	\$43.25	13.1%
B20	EXTERIOR CLOSURE				
B2010	Exterior Walls	\$8,971,819			
B2020	Windows	\$6,286,665			
B2030	Exterior Doors	\$73,680	\$15,332,164	\$40.29	12.2%
B30	ROOFING				
B3010	Roof Coverings	\$4,600,920			
B3020	Roof Openings	\$752,500	\$5,353,420	\$14.07	4.2%
C10	INTERIOR CONSTRUCTION				
C1010	Partitions	\$8,372,980			
C1020	Interior Doors	\$1,902,950			
C1030	Specialties/Millwork	\$3,653,098	\$13,929,028	\$36.60	11.0%
C20	STAIRCASES				
C2010	Stair Construction	\$834,000			
C2020	Stair Finishes	\$75,446	\$909,446	\$2.39	0.7%
C30	INTERIOR FINISHES				
C3010	Wall Finishes	\$2,283,540			
C3020	Floor Finishes	\$4,186,490			
C3030	Ceiling Finishes	\$3,805,900	\$10,275,930	\$27.00	8.1%
D10	CONVEYING SYSTEMS				
D1010	Elevator	\$400,000	\$400,000	\$1.05	0.3%
D20	PLUMBING				
D20	Plumbing	\$4,567,080	\$4,567,080	\$12.00	3.6%
D30	HVAC				
D30	HVAC	\$21,126,550	\$21,126,550	\$55.51	16.8%
D40	FIRE PROTECTION				
D40	Fire Protection	\$1,888,773	\$1,888,773	\$4.96	1.5%
D50	ELECTRICAL				

PSR REV 1/ DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



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GFA 380,590

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
NEW OPTION ADDITION					
D5010	Complete System	\$16,940,060	\$16,940,060	\$44.51	13.4%
E10 EQUIPMENT					
E10	Equipment	\$1,774,200	\$1,774,200	\$4.66	1.4%
E20 FURNISHINGS					
E2010	Fixed Furnishings	\$4,423,619			
E2020	Movable Furnishings	NIC	\$4,423,619	\$11.62	3.5%
F10 SPECIAL CONSTRUCTION					
F10	Special Construction	\$0	\$0	\$0.00	0.0%
F20 HAZMAT REMOVALS					
F2010	Building Elements Demolition	\$25,000			
F2020	Hazardous Components Abatement	\$0	\$25,000	\$0.07	0.0%
TOTAL DIRECT COST (Trade Costs)			\$126,107,592	\$331.35	100.0%

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GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW OPTION ADDITION

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GROSS FLOOR AREA CALCULATION

Ground Floor	118,565
First Floor	101,825
Second Floor	96,100
Third Floor	64,100

TOTAL GROSS FLOOR AREA (GFA)	380,590 sf
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A10 FOUNDATIONS

A1010 STANDARD FOUNDATIONS

Grade beams; 5ft x 12"	524	cy	700.00	366,800
Grade tie beams; 5ft x 12"	446	cy	700.00	312,200
Pile caps	1,327	cy	800.00	1,061,600
Allowance for misc. pile caps, grade beams etc. including E+B	118,565	sf	5.00	592,825

SUBTOTAL				2,333,425
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A1020 SPECIAL FOUNDATIONS

Driven piles mobilization and testing	1	ls	150,000.00	150,000
Steel piles	86,475	vlf	85.00	7,350,375

SUBTOTAL				7,500,375
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A1030 LOWEST FLOOR CONSTRUCTION

<u>New Structural Slab, 12" thick</u>	118,565	sf		-
Ordinary Fill, 6"	2,196	cy	16.00	35,136
Crushed stone, 6"	2,196	cy	35.00	76,860
Rigid insulation; 40 psi	118,565	sf	2.15	254,915
Vapor barrier	118,565	sf	0.80	94,852
Compact existing sub-grade	118,565	sf	0.55	65,211
Formwork	778	lf	12.00	9,336
Rebar, 6#/SF	711,390	lbs	1.20	853,668
Concrete - 12" thick; 4,000 psi	4,611	cy	120.00	553,320
Placing concrete	4,611	cy	90.00	414,990
Finishing and curing concrete	118,565	sf	3.00	355,695

Miscellaneous

Patch slab at foundations in existing building				W/Reno
New Elevator pit	2	ls	50,000.00	100,000
New loading dock	1	ls	40,000.00	40,000
Equipment pads	1	ls	15,000.00	15,000

SUBTOTAL				2,868,983
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TOTAL - FOUNDATIONS	\$12,702,783
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A20 BASEMENT CONSTRUCTION

A2010 BASEMENT EXCAVATION

No Work in this section

SUBTOTAL				-
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A2020 BASEMENT WALLS

No Work in this section

SUBTOTAL				-
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3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



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Design Options - GRADES 7-12
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GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW OPTION ADDITION

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TOTAL - BASEMENT CONSTRUCTION

B10 SUPERSTRUCTURE

		14.69	lbs/sf		-		
B1010	FLOOR CONSTRUCTION	2,795	tns		-		
	<u>Floor Structure - Steel:</u>						
	Steel beams and columns to new addition; 15#/SF	1,965	tns	3,800.00	7,467,000		
	Premium for HSS	491	tns	300.00	147,300		
	Shear studs	52,405	ea	2.50	131,013		
	<u>Floor Structure</u>						
	2" 18 Ga. Metal galvanized floor Deck	262,025	sf	3.75	982,594		
	WWF reinforcement	301,329	sf	0.80	241,063		
	Concrete Fill to metal deck; 6" Light Weight	6,114	cy	160.00	978,240		
	Place and finish concrete	262,025	sf	2.00	524,050		
	Rebar to decks	78,608	lbs	1.20	94,330		
	Misc. angles	262,025	sf	0.50	131,013		
	<u>Miscellaneous</u>						
	Fire proofing to columns and beams	262,025	sf	2.25	589,556		
	Intumescent paint	1	ls	25,000.00	25,000		
	Fire stopping floors	262,025	sf	1.00	262,025		
	SUBTOTAL					11,573,184	

B1020 ROOF CONSTRUCTION

	<u>Roof Structure - Steel:</u>						
	Steel beams and columns to new addition; 14#/SF	830	tns	3,800.00	3,154,000		
	Premium for HSS	208	tns	300.00	62,400		
	Exposed steel	1	ls	50,000.00	50,000		
	<u>Roof Structure</u>						
	Acoustic deck allowance	8,000	sf	7.00	56,000		
	3" 20 Ga. galvanized Metal Roof Deck	110,565	sf	4.00	442,260		
	<u>Miscellaneous</u>						
	Premium for overhangs; 15 lbs per SF	113	tns	5,000	565,000		
	Steel at rooftop screens	21	tns	5,000	105,000		
	Concrete under RTU's	15,000	sf	8.00	120,000		
	Fire proofing to columns, beams and deck	110,565	sf	3.00	331,695		
	SUBTOTAL					4,886,355	

TOTAL - SUPERSTRUCTURE \$16,459,539

B20 EXTERIOR CLOSURE

B2010	EXTERIOR WALLS						
	Exterior Wall Area - Solid Assume 70%	110,406	sf				
042000	MASONRY						
	Brick veneer, 3 color; 75% of solid area	82,805	sf	40.00	3,312,200		
	Staging to exterior wall	110,406	sf	4.00	441,624		
055000	MISC. METALS						
	Stainless steel sign at main entrance	1	ls	15,000.00	15,000		

G. COST ESTIMATE / Design Team 2.4R1



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

10-Apr-18

PSR Estimate - Revision 1

GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
NEW OPTION ADDITION								
110	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
111	Air barrier	110,406	sf	6.50	717,639			
112	Air barrier/flashing at windows	27,834	lf	6.25	173,963			
113	Miscellaneous sealants to closure	110,406	sf	1.00	110,406			
114								
115	072100 THERMAL INSULATION							
116	Insulation	110,406	sf	2.25	248,414			
117								
118	076400 CLADDING							
119	Metal panel; 25% of solid area	27,602	sf	75.00	2,070,150			
120								
121	092900 GYPSUM BOARD ASSEMBLIES							
122	6" metal stud backup	110,406	sf	11.00	1,214,466			
123	Gypsum Sheathing	110,406	sf	2.75	303,617			
124	Drywall lining to interior face of stud backup	110,406	sf	3.30	364,340			
125								
126	SUBTOTAL					8,971,819		
127								
128	B2020 WINDOWS							
129	Exterior Wall Area - Glazed Assume 30%	47,317	sf					
130								
131	061000 ROUGH CARPENTRY							
132	Wood blocking at openings	27,834	lf	14.00	389,676			
133								
134	070001 WATERPROOFING, DAMPPROOFING AND CAULKING							
135	Backer rod & double sealant	27,834	lf	8.50	236,589			
136								
137	080001 METAL WINDOWS							
138	Windows, double glazed; 20% of glazed area	9,463	sf	90.00	851,670			
139	Curtainwall, double glazed; 80% of glazed area	37,854	sf	120.00	4,542,480			
140	Sunshades; horizontal	1	ls	250,000.00	250,000			
141								
142	089000 LOUVERS							
143	Louvers	250	sf	65.00	16,250			
144	SUBTOTAL					6,286,665		
145								
146	B2030 EXTERIOR DOORS							
147	Glazed entrance doors including frame and hardware; double door	8	pr	8,000.00	64,000			
148	HM doors, frames and hardware- Double	4	pr	2,000.00	8,000			
149	Backer rod & double sealant	240	lf	4.00	960			
150	Wood blocking at openings	240	lf	3.00	720			
151	SUBTOTAL					73,680		
152								
153	TOTAL - EXTERIOR CLOSURE						\$15,332,164	
154								
155								
156	B30 ROOFING							
157								
158	B3010 ROOF COVERINGS							
159	New roofing complete	118,565	sf	20.00	2,371,300			
160	Roof equipment screen; 10 ft high	4,170	sf	65.00	271,050			
161	Green roof/Terrace	13,102	sf	35.00	458,570			
162	Roof soffits/canopies	15,000	sf	100	1,500,000			
163	SUBTOTAL					4,600,920		
164								
165	B3020 ROOF OPENINGS							
166	Skylights, allow	1	ls	750,000.00	750,000			
167	Roof hatch	1	loc	2,500.00	2,500			

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



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GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
NEW OPTION ADDITION								
168	SUBTOTAL					752,500		
169								
170	TOTAL - ROOFING							\$5,353,420
171								
172								
173	C10 INTERIOR CONSTRUCTION							
174								
175	C1010 PARTITIONS							
176	Miscellaneous partitions/glazed partitions/borrowed lights/blocking etc.	380,590	gsf	22.00	8,372,980			
177	SUBTOTAL					8,372,980		
178								
179	C1020 INTERIOR DOORS							
180	Interior doors, frames and hardware	380,590	gsf	5.00	1,902,950			
181	SUBTOTAL					1,902,950		
182								
183	C1030 SPECIALTIES / MILLWORK							
184	Toilet Partitions and accessories	380,590	gsf	0.80	304,472			
185	Backer panels in electrical closets	1	ls	1,000.00	1,000			
186	Marker boards/tackboards in classrooms, offices, conference rooms, library and MP rooms	380,590	sf	1.00	380,590			
187	Room Signs	380,590	gsf	0.40	152,236			
188	Fire extinguisher cabinets	127	ea	350.00	44,450			
189	Lockers	380,590	gsf	1.60	608,944			
190	Janitors Work Shop Accessories	1	ls	1,500.00	1,500			
191	Janitors Closet Accessories	3	rms	300.00	900			
192	<i>Media</i>							
193	Reception desks	4	loc	25,000	100,000			
194	Railings to open to below areas; glass railings	1,913	lf	380	726,940			
195	Library shelving at perimeters 7' Tall				F,F & E			
196	Library shelving at perimeters 3' Tall				F,F & E			
197	Miscellaneous wood trim	380,590	gsf	0.50	190,295			
198	Display cases	380,590	gsf	0.25	95,148			
199	Miscellaneous metals throughout building	380,590	sf	1.50	570,885			
200	Miscellaneous sealants throughout building	380,590	sf	1.25	475,738			
201	SUBTOTAL					3,653,098		
202								
203	TOTAL - INTERIOR CONSTRUCTION							\$13,929,028
204								
205								
206	C20 STAIRCASES							
207								
208	C2010 STAIR CONSTRUCTION							
209	Metal pan stair; egress stair	12	flt	25,000.00	300,000			
210	Main staircase	2	flt	250,000.00	500,000			
211	Commons steps	2	loc	5,000.00	10,000			
212	Concrete fill to stairs	12	flt	2,000.00	24,000			
213	SUBTOTAL					834,000		
214								
215	C2020 STAIR FINISHES							
216	High performance coating to stairs including all railings etc.	12	flt	3,000.00	36,000			
217	Rubber tile at stairs - landings	1,200	sf	10.00	12,000			
218	Rubber tile at stairs - treads & risers	1,440	lft	19.06	27,446			
219	SUBTOTAL					75,446		
220								
221	TOTAL - STAIRCASES							\$909,446
222								
223								
224	C30 INTERIOR FINISHES							

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Belmont High School
Design Options - GRADES 7-12
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GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW OPTION ADDITION							
225	C3010 WALL FINISHES						
226	Wall finishes	380,590	sf	6.00	2,283,540		
228	SUBTOTAL					2,283,540	
229	C3020 FLOOR FINISHES						
230	Floor finishes	380,590	sf	11.00	4,186,490		
232	SUBTOTAL					4,186,490	
233	C3030 CEILING FINISHES						
234	Ceiling finishes	380,590	sf	10.00	3,805,900		
235	SUBTOTAL					3,805,900	
236							
237							
238	TOTAL - INTERIOR FINISHES						\$10,275,930
239							
240							
241	D10 CONVEYING SYSTEMS						
242							
243	D1010 ELEVATOR						
244	New four stop elevator	1	ea	180,000.00	180,000		
245	New four stop freight elevator	1	ea	220,000.00	220,000		
246	SUBTOTAL					400,000	
247	TOTAL - CONVEYING SYSTEMS						\$400,000
248							
249							
250	D20 PLUMBING						
251							
252	D20 PLUMBING, GENERALLY						
253	Plumbing allowance	380,590	gsf	12.00	4,567,080		
254	SUBTOTAL					4,567,080	
255	TOTAL - PLUMBING						\$4,567,080
256							
257							
258							
259	D30 HVAC						
260							
261	D30 HVAC, GENERALLY						
262	HVAC allowance for Geothermal wells; based 400 wells each 400 ft deep	1	ls	4,000,000.00	4,000,000		
263	HVAC allowance; full AC	380,590	gsf	45.00	17,126,550		
264	SUBTOTAL					21,126,550	
265	TOTAL - HVAC						\$21,126,550
266							
267							
268							
269	D40 FIRE PROTECTION						
270							
271	D40 FIRE PROTECTION, GENERALLY						
272	Fire pump	1	ls	100,000.00	100,000		
273	Fire protection system	380,590	gsf	4.70	1,788,773		
274	SUBTOTAL					1,888,773	
275	TOTAL - FIRE PROTECTION						\$1,888,773
276							
277							
278							
279	D50 ELECTRICAL						
280							
281							
282	D5010 ELECTRICAL WORK						
283	Allowance for PV systems	1	ls	4,000,000.00	4,000,000		
284	Complete electrical systems	380,590	gsf	34.00	12,940,060		
285	SUBTOTAL					16,940,060	
286							

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

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PSR Estimate - Revision 1

GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
NEW OPTION ADDITION								
287	TOTAL - ELECTRICAL							\$16,940,060
288								
289								
290	E10 EQUIPMENT							
291								
292	E10 EQUIPMENT, GENERALLY							
293	Theatrical Equipment Stage curtains, rigging and controls (Auditorium & Lecture Hall)	1	ls	350,000.00	350,000			
294	Theatrical AV allowance (Auditorium & Lecture Hall)	1	ls	200,000.00	200,000			
295	Black box allowance	1	ls	100,000.00	100,000			
295	Kitchen equipment	1	ls	550,000.00	550,000			
296	Fume hoods	9	ea	15,000.00	135,000			
297	Kiln	1	ea	5,000.00	5,000			
298	Allowance for new manual operable partitions in Cafeteria & Classrooms	356	lf	700.00	249,200			
299	Allowance for miscellaneous equipment; projection screens, residential appliances, loading dock equipment, wood workshop etc	1	ls	150,000.00	150,000			
300	Loading dock equipment	1	ls	20,000.00	20,000			
301	Electrically operated projection screens	1	loc	15,000.00	15,000			
302	SUBTOTAL					1,774,200		
303								
304	TOTAL - EQUIPMENT							\$1,774,200
305								
306								
307	E20 FURNISHINGS							
308								
309	E2010 FIXED FURNISHINGS							
310	Entry mats & frames - recessed with carpet/rubber strips	500	sf	55.00	27,500			
311	Window blinds	47,317	sf	7.00	331,219			
312	Auditorium seats	740	seat	350.00	259,000			
313	Lecture hall seats	150	seat	250.00	NR			
314	Counters, base cabinets, tall storage in classrooms and other rooms	380,590	gsf	10.00	3,805,900			
315	SUBTOTAL					4,423,619		
316								
317	E2020 MOVABLE FURNISHINGS							
318	All movable furnishings to be provided and installed by owner							
319	SUBTOTAL					NIC		
320								
321	TOTAL - FURNISHINGS							\$4,423,619
322								
323								
324	F10 SPECIAL CONSTRUCTION							
325								
326	F10 SPECIAL CONSTRUCTION							
327	No items in this section							
328	SUBTOTAL							
329								
330	TOTAL - SPECIAL CONSTRUCTION							
331								
332								
333	F20 SELECTIVE BUILDING DEMOLITION							
334								
335	F2010 BUILDING ELEMENTS DEMOLITION							
336	Demolition to make connection to existing building	1	ls	25,000.00	25,000			
337	SUBTOTAL					\$25,000		
338								
339	F2020 HAZARDOUS COMPONENTS ABATEMENT							
340	See main summary for HazMat allowance						See Summary	
341	SUBTOTAL							
342								

G. COST ESTIMATE / Design Team 2.4R1



Belmont High School
 Design Options - GRADES 7-12
 Belmont, MA

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PSR Estimate - Revision 1

GFA 380,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW OPTION ADDITION

343

TOTAL - SELECTIVE BUILDING DEMOLITION							\$25,000
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PSR REV 1 / DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

G. COST ESTIMATE / Design Team 2.4R1



Belmont High School
Design Options - GRADES 7-12
Belmont, MA

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PSR Estimate - Revision 1

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITWORK NEW OPTION							
G SITEWORK							
G10 SITE PREPARATION & DEMOLITION							
	Site construction fence/barricades	8,200	lf	12.00	98,400		
	Site construction fence gates/entrance	2	ea	15,000.00	30,000		
	Pavement/curbing removal, crush and re-use for sub-base	200,000	sf	1.00	200,000		
	Walkways	1	ls	30,000.00	30,000		
	Miscellaneous demolition	1	ls	150,000.00	150,000		
	<u>Site Earthwork</u>						
	Strip Topsoil and remove; 6" thick	22,222	cy	12.00	266,664		
	Fine grading	1,000,000	sf	0.20	200,000		
	Cut and Fill; assumed AV 2ft; balanced site	74,074	cy	8.00	592,592		
	Silt fence/erosion control, wash bays, stock piles	8,200	lf	12.00	98,400		
	Silt fence maintenance and monitoring	1	ls	60,000.00	60,000		
	<u>Hazardous Waste Remediation</u>						
	Dispose/treat contaminated soils					NIC	
	SUBTOTAL						1,726,056
G20 SITE IMPROVEMENTS							
	<u>Asphalt Paving; parking lot and roadway</u>						
	gravel base; 12" thick	220,000					
	asphalt; 4" thick	8,148	cy	40.00	325,920		
	VGC	24,444	sy	25.00	611,100		
	Road markings/signage	9,100	lf	38.00	345,800		
	<u>Pedestrian Paving</u>						
	Concrete paving						
	gravel base; 8" thick	1,117	cy	35.00	39,095		
	4" concrete paving	45,000	sf	7.00	315,000		
	<u>Concrete pavers</u>						
	Concrete pavers						
	sand bedding; 1" thick	148	cy	40.00	5,920		
	Precast concrete pavers	50,000	sf	16.00	800,000		
	gravel base; 8" thick	1,241	cy	35.00	43,435		
	concrete base; 4" thick	50,000	sf	5.00	250,000		
	<u>Site Improvements</u>						
	Flag pole 50' high	1	ea	6,500.00	6,500		
	Concrete retaining walls					Assumed not required	
	6' chain-link fence	8,200	lf	50.00	410,000		
	Double gates	1	ea	2,500.00	2,500		
	Wood screen privacy fence 8'	50	lf	100.00	5,000		
	Double gates	1	ea	2,500.00	2,500		
	Benches	15	ea	2,800.00	42,000		
	Bike racks	1	ls	30,000.00	30,000		
	Ornamental trash/recycling receptacles	10	ea	800.00	8,000		
	Monumental signage	1	ls	40,000.00	40,000		
	Way finding signage	1	ls	60,000.00	60,000		
	Other site improvements; walls, fences etc.	1	ls	1,500,000	1,500,000		
	<u>Multi-purpose fields</u>						
	Crushed stone - 12" thick	11,111	cy	40.00	444,440		
	Sports seeding	300,000	sf	0.50	150,000		
	Line markings - Allowance	1	ls	15,000.00	15,000		
	Football goals	2	loc	3,000.00	6,000		
	Soccer goals (movable) - Allowance	3	loc	10,000.00	30,000		
	20' sports netting	1	ls	50,000.00	50,000		
	Baseball/softball fields	3	loc	100,000.00	300,000		
	Baseball/softball backstop	3	loc	40,000.00	120,000		
	SUBTOTAL						5,988,210
	<u>Landscaping</u>						
	Topsoil -modify existing topsoil	22,222	cy	26.00	577,772		
	Lawn - loam & seed	700,000	sf	0.25	175,000		

G. COST ESTIMATE / Design Team 2.4R1



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Belmont, MA

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITWORK NEW OPTION							
62	Planting allowance	1	ls	300,000.00	300,000		
63	Courtyard allowance	2	loc	100,000.00	200,000		
64	Irrigation at sports fields	300,000	sf	1.00	300,000		
65	Allowance for new well	1	ls	150,000.00	150,000		
66	SUBTOTAL					1,702,772	
67							
68	G30 CIVIL MECHANICAL UTILITIES						
69	<u>Utilities - Enabling</u>						
70	Allowance for temporary utilities etc.	1	ls	150,000.00	150,000		
71	<u>Water supply; Pricing includes E&B and bedding</u>						
72	New DI piping; 8"	200	lf	100.00	20,000		
73	New DI piping; 8" Fire	4,300	lf	100.00	430,000		
74	Connect to existing	1	loc	10,000.00	10,000		
75	FD connection	1	ea	2,000.00	2,000		
76	Gate valves	8	ea	750.00	6,000		
77	Fire hydrant	14	ea	5,000.00	70,000		
78	Fire hydrant; relocate existing	1	ea	3,500.00	3,500		
79	<u>Sanitary; Pricing includes E&B and bedding</u>						
80	Manholes	4	ea	4,000.00	16,000		
81	Grease trap	1	ea	15,000.00	15,000		
82	8" PVC	300	lf	60.00	18,000		
83	Connect to existing drain	1	ea	3,000.00	3,000		
84	Relocate existing sewer system	1	ls	250,000	250,000		
85	<u>Storm water; Pricing includes E&B and bedding</u>						
86	Allowance to modify existing drainage systems	1	ls	2,450,000	2,450,000		
87	Perforated pipe @ recharge systems and crushed stone base under fields	300,000	sf	4.00	NR		
88	<u>Gas service</u>						
89	E&B trench for new gas pipe - install by plumbing	250	lf	25.00	6,250		
90	SUBTOTAL					3,449,750	
91							
92	G40 ELECTRICAL UTILITIES						
93	<u>Power</u>						
94	Utility co. backcharges, allow	1	ls	30,000.00	30,000		
95	Connections at existing manhole					Utility co.	
96	Manhole	1	ls	8,500.00	8,500		
97	Connections in manhole	1	ls	3,500.00	3,500		
98	Primary ductbank 2-5" ductbank, empty, allow	1700	lf	120.00	204,000		
99	Transformer by utility company					By Utility Co.	
100	Transformer pad	1	ea	2,500.00	2,500		
101	Secondary service	60	lf	1,100.00	66,000		
102	<u>Communications</u>						
103	Connection at riser pole, allow	1	ea	1,500.00	1,500		
104	Telecom ductbank 4-4", allow	1700	lf	152.00	258,400		
105	<u>Site Lighting</u>						
106	Varsity baseball sports lighting (allow)	1	ls	120,000.00	120,000		
107	Softball sports lighting (allow)	1	ls	90,000.00	90,000		
108	Site Parking lighting (allow)	1	ls	350,000.00	350,000		
109	SUBTOTAL					1,134,400	
110							
111							
112							
TOTAL - SITE DEVELOPMENT						\$14,001,188	

PSR REV 1 / DOCUMENTS 3.3.6

PSR REV.1/ 3.3.4 REVISED 3.3.7

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

H. PERMITTING REQUIREMENTS

The following permitting requirements applies to all of the options.



OFFICE OF COMMUNITY DEVELOPMENT TOWN OF BELMONT

19 Moore Street
Homer Municipal Building
Belmont, Massachusetts 02478-0900

Telephone: (617) 993-2650 Fax: (617) 993-2651

Building Division
(617) 993-2664
Engineering Division
(617) 993-2665
Planning Division
(617) 993-2666

January 18, 2018

Thomas G. Gatzunis P.E., C.B.O.
Daedalus - Senior Project Manager
1 Faneuil Hall Marketplace
South Market Bldg, Suite 4195
Boston, MA 02109-6117

Dear Mr. Gatzunis:

At your request I solicited municipal departments regarding what permits will be necessary for the proposed Town of Belmont High School Building project. Below is a compilation of responses I received.

Health Department

Annual permits to the high school for their cafeteria and pool.
Prior to signing off a demolition permit, will need to see proof of pest control services and an asbestos abatement report.
Dumpster permits as necessary.

Fire Department

- 1) Hot Work- welding, cutting, soldering etc.
- 2) Fire Alarm System plan review.
- 3) Fire Protection Plan review.
- 4) Temporary Heating (propane) for construction.
- 5) Combustible Fuel storage if Fuel Oil is means of heating/hot water for building.
- 6) Installation of heating unit if oil fired system.

Department of Public Works

Street Opening Permit, trenching permits, and Right of Way Occupancy permits.
Water works services and mains, permits for installations and connections.

Office of Community Development

Planning Board site plan approval.
Possible Zoning Board of Appeals approval (depending on final proposal and Dover Amendment impact).

H. PERMITTING REQUIREMENTS

Historic District Commission review – For White Field House depending on its fate.
Conservation Commission – Notice of Intent / Order of Conditions.
Stormwater Management and Erosion Control permits (the bylaw gives the conservation commission jurisdiction over stormwater management for a Notice of Intent filing. The Engineering Division will issue the erosion control permit).
Sewer and Stormwater connection permits.
Building Permits, Sheet Metal, Plumbing and Gas, and Electrical permits.
Sign permits.

Belmont Light Department

No response received. This is a municipal light department whose role is similar to an NStar or other electricity supplier.

Police Department

No response received. Beyond typical police details, I can't think of any permits they would require.

Please let me know if I can be of further assistance.

Sincerely,



Glenn R. Clancy, P. E.
Director

3.3.3 - FINAL EVALUATION OF ALTERNATIVES

H. PERMITTING REQUIREMENTS

PERMITTING MATRIX

Updated 02/07/2018

Belmont High School, Belmont, MA

Permit	Phase	Jurisdiction
Health Department		
Demolition Permit	CA	Building Dept.
Dumpster Permit	CA	Building Dept.
Fire Department		
Fire Alarm Review	Start of DD's	BFD
Fire Protection Plan Review	Start of DD's	BFD
Temporary Heating for Construction	Start of DD's	BFD
Combustible Fuel Storage	Start of DD's	BFD
Department of Public Works	Start of DD's	BFD
Department of Public Works		
Street Opening Permit	Start of CA	DPW
Trenching Permits	Start of CA	DPW
Right of Way Occupancy Permits	Start of CA	DPW
Water Work services and Mains	Start of CA	DPW
Installation and Connection Permits	Start of CA	DPW
Office of Community Development		
Design and Site Plan Approval	End of DD beginning of CD	Planning Board
Conservation Commission		
Notice of Intent	End of DD beginning of CD	Town of Belmont Conservation Commission
Order of Conditions	End of CD	Town of Belmont Conservation Commission
Engineering Division		
Erosion Control Permits	Start of CA	Town of Belmont Conservation Commission
Sewer and Storm water Connection Permits	End of DD beginning of CD	Engineering Dept.
Building Permits	Start of CA	Building Dept.
Sheet Metal Permit	Start of CA	Building Dept.
Plumbing and Gas Permit	Start of CA	Building Dept.
Electrical Permits	Start of CA	Building Dept.
Sign Permits	Start of CA	Building Inspector

I. CONSTRUCTION SCHEDULE

Please refer to the phasing plans for each options included earlier in this chapter for the Project Design and Construction Schedule.

J. PRELIMINARY DESIGN PRICING

DPI – Belmont HS PSR Sections
3.3.3 J Table of Preliminary Design Pricing

Option (Description)	Total Gross Square Feet	Square Feet of Renovated Space (cost*/SF)	Square Feet of New Construction (Cost*/SF)	Site, building, Takedown, HazMat, Costs	Estimated Total Construction** (Cost*/SF)	Estimated Total Project Costs
Option 1	257,120 SF	257,120 SF	0 SF	\$14,747,909	\$89,192,522	\$111,490,653
Base Repair		433.61 SF	0.00 SF		\$346.89	
Option 2.1	451,800 SF	239,354 SF	212,446 SF	\$34,947,073	\$241,676,850	\$302,096,061
Major Renovation/ Minor Addition		441.20 SF	476.01 SF		\$534.92	
Option 2.3	451,800 SF	65,050 SF	386,750 SF	\$36,266,346	\$245,805,460	\$307,256,825
Minor Renovation/ Major Addition		310.93 SF	489.50 SF		\$544.06	
Option 2.4	451,800 SF	62,300 SF	389,500 SF	\$36,896,842	\$245,770,439	\$307,161,440
Minor Renovation/ Major Addition		315.61 SF	485.78 SF		\$543.98	
Option 2.4R1 ***	445,100 SF	64,510 SF	380,590 SF	\$36,896,842	\$237,594,715	\$295,824,264
Minor Renovation/ Major Addition		315.64 SF	477.45 SF		\$533.80	
Option 3.1	422,925 SF	0 SF	422,925 SF	\$35,557,448	\$235,060,850	\$293,826,063
New Construction		0 SF	471.72 SF		\$555.80	

* Marked Up Construction Costs
** Does not include Construction Contingency
*** **District's Preferred Solution**

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3.3.3 - FINAL EVALUATION OF ALTERNATIVES

J. PRELIMINARY DESIGN PRICING / Cost Reconciliation

PMC/DPI PSR Options Reconciliation

	PMC	DPI	Delta	% delta
Option 1 Repair Only*	\$89,192,523	\$85,541,000	\$3,651,523	4.27%
Option 2.1 Major Reno/Minor Add*	\$241,676,851	\$255,251,000	-\$13,574,149	-5.32%
Option 2.3 Minor Reno/Major Add*	\$245,805,461	\$237,959,000	\$7,846,461	3.30%
Option 2.4 Minor Reno/Major Add*	\$245,770,440	\$246,429,000	-\$658,560	-0.3%
Option 2.4R1 Minor Reno/Major Add**	\$237,594,716	\$244,116,000	-\$6,521,284	-2.7%
Option 3.1 New Construction*	\$235,060,852	\$228,978,000	\$6,082,852	2.66%

Based on PMC PSR Estimate February 9 and 12, 2018*

Based on DPI PSR Estimate February 14, 2018*

Based on PMC PSR Estimate April 10, 2018 **

Based on DPI PSR Estimate April 10, 2018 **

K. QUALITATIVE MATRIX

The Belmont High School Committee worked together to determine the important compliance factors for the Belmont High School project and compiled these factors into the evaluation matrix. The matrix was provided to all committee members for their review and completion. After the committee members completed the forms they had an open conversation to determine

the preferred option. The BHSBC members looked at each issue relative to the building and project site. The matrix, along with the costing information, phasing, impact to students, traffic, educational compliance etcetera, formed the basis for the decision making process. The sum of the matrix evaluations shown below disclosed that Option 2.4 was the preferred option.

PERKINS+WILL
Belmont High School / Evaluation Matrix

OPTIONS

- A.1.1 Renovation Only
- A.2.1 Major Renovation, Minor Addition
- A.2.3 Major Addition, West Addition
- A.2.4 Major Addition, South Addition
- A.3.1 New Construction, West of BHS

	Compliance Factors														Total
	1. Ed Program Compliance	2. Traffic/ Site Circulation	3. Parking	4. Neighborhood Impact/ Shadows	5. Design Flexibility	6. Site Access	7. Phasing Complexity	8. Fields Accommodation	9. Duration Schedule	10. Impact to Students Phasing	11. Sustainability	12. Civic Benefits	13. Permit/ Zoning	14. Rail Impact	
A.1.1 Renovation Only	○	○	◐	◐	○	○	○	◐	○	○	○	◐	●	○	20
A.2.1 Major Renovation, Minor Addition	◐	◐	●	◐	◐	◐	○	◐	○	○	◐	◐	◐	○	25
A.2.3 Major Addition, West Addition	●	●	●	◐	●	◐	◐	●	◐	●	●	●	◐	◐	36
A.2.4 Major Addition, South Addition	●	●	●	●	●	◐	●	●	◐	●	●	●	◐	◐	38
A.3.1 New Construction, West of BHS	●	●	●	○	◐	◐	●	●	●	●	●	○	◐	◐	34

- Fullfills expectations/ minimal impact(3)
- ◐ Neutral(2)
- Fails expectations/ significant impact(1)

Compliance Factors

1. Ed Program Compliance – how effective/efficient can this design be at meeting the Ed Program
2. Traffic/ Site Circulation – how well can the design accommodate good traffic and circulation solutions on site
3. Parking – does the design provide a good solution for distributed parking
4. Neighborhood Impact/ Shadows – how does the physical massing affect the neighborhood
5. Design Flexibility – how accommodating is the design in providing flexibility for changes in use over time
6. Site Access – how accommodating can the site design be when addressing neighborhood traffic issues
7. Phasing Complexity – how challenging will phasing be for construction
8. Fields Accommodation – how well does the site design accommodate the needs of the outside athletic programs
9. Duration Schedule – how much impact does phasing have on the construction schedule for this design
10. Impact to Students Phasing – How does the design solution reduce the impact on student/staff due to construction phasing
11. Sustainability – how accommodating will the design be to achieve high energy efficiency and low operating costs relative to baseline occupancy requirements
12. Civic Benefits – how beneficial to civic uses is this design
13. Permit/ Zoning – how will the process of permitting and zoning approvals be affected by the site/ building design
14. Rail Impact – how will the train noise be perceived inside the building

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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

BELMONT HIGH SCHOOL EDUCATIONAL PROGRAM

Summary and description of the existing educational program and/or new educational vision and specifications, process, etc., Teaching Philosophy Statement (including description of the following):

OVERVIEW

The Belmont Public Schools is an historically high performing district that provides students with high quality and rigorous academic experiences partnered with access to high quality out of classroom learning through co-curricular opportunities, performing arts and athletics. The Town of Belmont has a long history of quality educational outcomes for students who go on to great success in higher education, with a graduation rate of 96%, 79% of our seniors go on to 4 year College/University education, and 75% take at least one AP course during their junior or senior year. All of the above percentages are well above state averages.

The district is currently comprised of four elementary schools serving grades K-4, one middle school serving grades 5-8, and one high school serving grades 9-12. This configuration has been in place since 1997 when the Chenery Middle School opened.

Over the past five years, the Town has experienced a very significant increase in student population. This increase has been both in number of students and the diversity of families. Belmont's proximity to Cambridge and Boston provides an important access point for families to reach the metropolitan Boston area. This feature of Belmont has attracted families from all over the world. We have experienced a town-wide enrollment increase of 105 students per year on average and the MSBA projections indicate this trend to continue. The make-up of our new students shows an increase in non-English speaking families which has increased an average of 25% each year over the last five years (from 180 to 340). The result is that the Chenery Middle School and Belmont High School are above their design capacity and this trend is expected to continue for the next five years and possibly beyond.

The district continues to push for high rigor in schools by providing a meaningful teaching and learning environment that is accessible to all students, and respecting each child as a "whole person." The social emotional brain research we have studied has proven that when we create a culture where all students and staff feel safe, valued, and respected, then the neural pathways of learning open up for students to access and successfully engage

in a rigorous academic experience.

The context of our MSBA Educational Plan is based on our mission to continue to grow this culture in the Belmont Public Schools; however, we are currently constrained by the current space and program limitations that exist across all of K-12 buildings in the district. At every level of the district, the increased enrollment, combined with our priority to build relationships with and engage a growing and complex student body, has resulted in significant challenges.

The following educational program materials are respectfully submitted by a team of Belmont Public Schools educators. The information provided communicates the current educational vision and programming offerings, the constraints that exist in our day to day implementation of this curriculum and pedagogy, as well as the vision for the Belmont Public Schools on behalf of the students, educators and community.

Three project options (grade configurations: 7-12, 8-12, 9-12) were approved by the MSBA for the Town of Belmont to explore. These options were viewed through an educational vision lens reflecting research-based strategies that will engage students and educators in teaching and learning experiences in the present and future. Throughout the process we explored our educational strategic planning with a vision of prioritizing what is best for students and how that work could be operationalized with three different grade configurations.

In January of 2017 the Belmont Public Schools began the process of reflecting, discussing and researching the topic of our current and future educational vision. This work involved three full days of educator planning/visioning meetings and two full days of parent/guardian, student, and educator visioning work. The content of these sessions focused on the educational priorities of the district and our vision of continuing and enhancing the teaching and learning in the Belmont Public Schools. Frank Locker (Education Facilitator) was hired to facilitate these sessions over the course of five months with the community.

In addition to this initial visioning work, the district embarked on the extension of this strategic planning with our Architect, Perkins and Will. In September 2017 we conducted two full days of collaboration with over 70 educators, parents/guardians, and students participating. Utilizing the outcome of our work from the Frank Locker sessions as a foundation, the goal for these two days was to see our vision for the Belmont Public Schools with the lens

A. EDUCATIONAL PROGRAM

of an expanded building in mind. We asked the question: How can we design a new building that can be a teaching tool and facilitating space to meet our educational vision and goals?

Over the last nine months the Belmont Public School has embarked on a significant journey that represents an investment in our children, educators, and our local constituency. The Belmont Public Schools firmly believes that after the seven days of representative visioning work, combined with community engagement meetings, PTO presentations and feedback from all our community stakeholders, we have an educational plan that will serve Belmont students well into the foreseeable future. We are confident that this work will result in a new building that serves as a teaching tool that allows for enhanced teaching and learning and improved outcomes for all students. In January, 2018, the Belmont School Committee unanimously approved the Administration's recommendation of a 7-12 grade configuration for the expanded Belmont High School. The current 5-8 Chenery Middle School will be converted to a 4-6 school (thereby eliminating its overcrowding), and the four elementary school will serve grades K-3, also eliminating overcrowding at the elementary schools.

The school is anticipated to operate as two distinct "schools within a school," one for Grades 7-8 and one for grades 9-12. There will be separate entrances and administrations for the two schools. All students will share the pool, fieldhouse, nursing, music, technology, and commons areas. The two schools will have separate bell schedules. The High School students will have an open campus approach, as they do now, while the 7-8 students will not. The community has overwhelmingly supported this approach. The School Committee voted unanimously to support the 7-12 grade configuration. The extent of mixing will be primarily during the time when 7/8 students go out to elective classes. Joint courses will be provided where appropriate. During the 7 full day Visioning sessions with educators and community members (including students), discussions took place regarding the clear need for careful separation of 7/8 and 9-12 students while allowing opportunities to take advantage of the unique connections that can be achieved with teacher to teacher planning across grades and scheduling and utilizing specialized spaces for students to use. This is the special aspect of the 7-12 program, if not for this combination of grades, 7/8 students may not have access to some of these great teaching spaces and programs. Also, the 7-12 building is a great opportunity to have educators collaborate across grade levels and across disciplines as

they reside in the same building.

VISION FOR TEACHING AND LEARNING

Educational Vision - After the work of visioning with district educators, parents / guardians and students, the district Leadership Council, made up of directors, principals and district administration drafted a Vision for Teaching and Learning statement to guide the work moving forward.

Belmont educators envision teaching and learning in the future will maintain our commitment to rigorous academic content through which students develop the skills of communication, collaboration, creativity, and critical thinking in school communities and learning environments that support the social and emotional development of each student, every day. Learning modalities will include opportunities for students to grapple with ideas, individually and in small groups, as they design, create, synthesize, and make meaning of content that is both meaningful and relevant to curious and engaged students. This will include project-based, thematic, interdisciplinary or inquiry-based learning through which students will discover their passions, sense of purpose, and optimism for their future. Learning will take place in an environment where each student is connected to caring adults, sees him/herself in the content, and feels socially, emotionally, and physically safe and valued for the assets and whole self he/she brings to school each day.

The current philosophy of our teaching and learning at all levels is grounded by the need to create relationships with each other (teacher to teacher, student to teacher, teacher to parent) and to support the learning process through the lens of Social Emotional Learning (SEL). Through our district SEL work over the last three years, we have learned that creating and maintaining trusting, safe, and thoughtful relationships improves school culture. We have also learned through research that this culture of all students "being known" opens up the brain for increased learning capacity. If students feel safe, they do not have to worry about those basic SEL needs and can focus sharply on the educational engagement, instructional content and secure the skills of critical thinking, collaborative partnering, and independent learning. In our work with Frank Locker, we learned that these students will have access to employment opportunities in many jobs that have not yet been created. We believe that by creating a culture that builds the skills for resilience (social competence, problem solving, autonomy, and a sense of purpose) while they learn academic skills and content, students will be prepared for their

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

future success as engaged members of an increasingly complex society. We feel this philosophy allows the teachers to scaffold the content and instructional practices in a way that fosters student growth and development with the high level of rigor that is expected.

The Social Emotional initiative is one that is embedded in every aspect of the school – not just through mental health providers. Teachers, aides, administrators and all staff are trained in skills to engage and interact with children in a way that builds relationships and a feeling of safety for students. This is done through curriculum, teaching practices and intentional and strategic work to focus on school culture.

BELMONT PUBLIC SCHOOLS DISTRICT GRADE CONFIGURATION

The Town of Belmont has four neighborhood district elementary schools, one middle school, and one high school. The current grade configuration of the Belmont Public Schools is comprised of the following:

- 4 K-4 elementary schools serving grades K, 1, 2, 3, and 4 (Collective Enrollment of 1885)
 - One elementary school also serves the Pre-school population
- 1 middle school serving grades 5, 6, 7, and 8 (Enrollment of 1421 – design capacity of 1,200)
- 1 high school serving grades 9, 10, 11, and 12 (Enrollment of 1298)

There has been unprecedented enrollment growth in the Town that is projected to continue. On October 1, 2011 the district had a K-12 enrollment of 3,900 students. The MSBA and the outside demographic company used by Belmont expect the enrollment to increase to 4,888 students by 2024.

Source: McKibben Associates / MSBA

Grade	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Elementary	1785	1824	1836	1805	1832	1830	1827	1823	1820
Middle	1359	1388	1419	1490	1491	1528	1539	1513	1546
BHS	1264	1301	1320	1360	1398	1427	1458	1528	1522
Total	4408	4513	4575	4655	4721	4785	4824	4864	4888

The Town studied three grades configuration options for Belmont High School. The School Committee voted unanimously to build the new Belmont High School to include grades 7-12. Chenery Middle School will become a Grade 4-6 School, and the three elementary schools will become K-3 schools. This will resolve the capacity issues at all six schools for the foreseeable future.

CURRENT HIGH SCHOOL GRADE & SCHOOL CONFIGURATION

Belmont High School opened in 1970 and serves Grades 9-12. The current 257,120 GSF facility serves 1,304 students. Currently, our students are scheduled into a rotating block/mod schedule model with a department-based format.

The current facility and school structure does not foster the opportunity for interdisciplinary and collaborative teaching. It lacks adequate space for large groups of students to work collaboratively across classes. When two classes want to meet, they either open the access door between classrooms and go back and forth, or look for available times when other locations in the school are not occupied. Students who wish to collaborate sit on benches located throughout the building and/or sit on the floor in the hallways. The school is also lacking appropriate spaces for the 60 Belmont High School clubs and activities to meet. Often club members meet in classrooms while teachers are providing additional one-to-one help for students, push benches together in the hallways or find a space outside the building.

Spaces for teacher planning, collaboration and work are inadequate. Each of the major departments (English, foreign language, science and social studies) have a small collaboration space for all department members to share. The space limits collaboration and privacy when speaking and working with colleagues, students and parents/guardians. Other departments either have no space or have a combined storage/office location. To compensate for the lack of collaboration space, book storage rooms are being used as collaboration space. The directors of each department have utilized these spaces to provide student tutoring, storage of department materials, faculty mailroom, copier, and kitchenette needs. Privacy and the ability to appropriately service students' needs are compromised when store rooms are used for collaboration.

The goal of the new Belmont High School is to plan a newly reorganized school which fosters connections in academics and arts.

A. EDUCATIONAL PROGRAM

The new school building will provide:

- flexible classroom space,
- project rooms to support project-based learning,
- teacher planning rooms for the faculty and staff to collaborate within and across disciplines,
- privacy rooms to support students in need of additional academic and/or emotional supports
- flexible conference rooms to support student team meetings and individual parents/guardians meetings,
- innovation labs.

CLASSROOMS

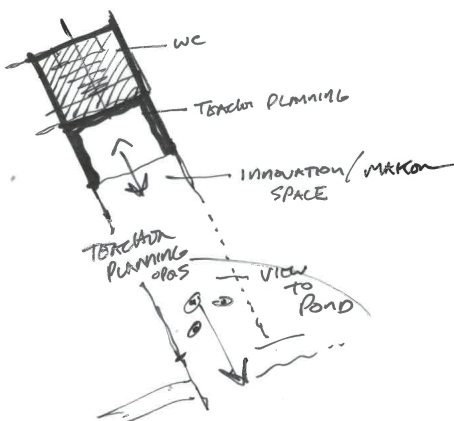
Currently, Belmont High has 53 general classrooms and 10 Science Labs. The Average classroom size is 690 sf, which does not meet current minimum size requirements of the MSBA and class sizes average 25-26 students, with many classes exceeding these averages. Science labs average 1,075 sf (well below the current standard of 1,440 sf), are outdated and are not up to current safety and space standards. While the building has generally been well maintained, floor and ceiling finishes are dated and nearing the end of their useful life. Lighting fixtures are original, and are now 47 years old. Heating and ventilation to the classrooms is via steam to 47 year old unit ventilators controlled by an outdated pneumatic control system.

A healthy, active classroom is a sharing classroom. Students are social beings and should be allowed to form groups, interact to exchange ideas, communicate in various ways and thrive

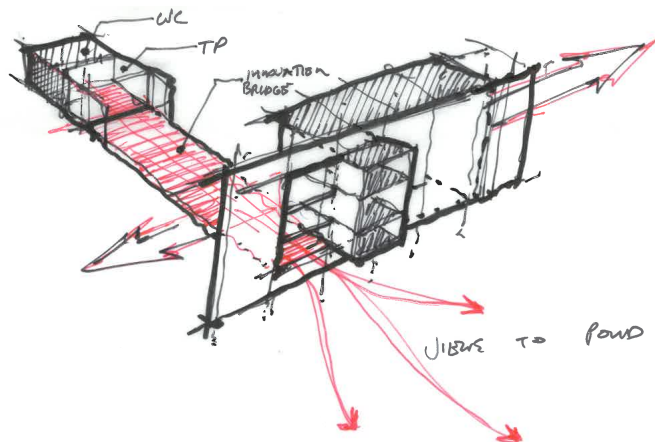
in a room that supports innovative and creative thinking. In a new facility, student classrooms will be looked upon as flexible “think tanks” which foster different learning modalities and social/emotional growth of students. Agile classrooms will give teachers the ability to respond to different students’ needs. These classrooms should include a version of group gathering areas, multiple seating options and a flex area that can be adapted for unique instructional activities. These innovative and creative classrooms will be driven by students’ interests, and the open, flexible spaces would allow students to come together to share, collaborate, innovate, and create.

The 7/8 grade core academic model is a traditional middle school team model. Science, Social Studies, English and Math are all core classes. World language is within the 7/8 side but not scheduled “on Team.”. All electives are off Team. Special education is embedded in and around each Team and grade. The District is planning a hybrid model for grade 9 where this cohort of students is positioned in a manner that allows for deeper personal relationships to be formed and where all students are “known” to at least one adult. The District will maintain the 9th grade students’ ability to access higher level classes and programming. The 10-12 students will be served by Departments that are located strategically allowing educators to continue to explore cross disciplinary work and projects. This work has been ongoing at Belmont High School and the goal and desire is to use the building, the space and its adjacencies as a tool in the teaching, learning and collaborating of both teachers and students.

In addition to collaboration and social/emotional learning, there



Teacher Planning / Innovation Space - Concept Sketch



3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

are aspects of learning that call for quiet, independent study, reflection and processing of information. Breakout rooms, independent study areas and nooks will be incorporated in the new building to foster this style of learning and provide a safe place where students can go when necessary.

Technology integration will be a key aspect of modernizing the classroom design . A technology-modern classroom will allow teachers to use technology as a tool to stimulate curiosity, inspire innovation, creativity, collaboration, critical thinking and spark students' desire to learn. A modern classroom with technological enhancements will place information at students' fingertips and motivate them to research and make discoveries. In addition, technology supports inclusive classrooms as it allows students to move at their own pace whether they are looking for opportunities of enrichment or need assistance to catch up on curriculum.

With additional and modernized spaces, Belmont High School will have the opportunity to work on engaging all learning modalities in a blended-learning environment where students have opportunities to not only learn in multiple styles but are also guided by teachers in completing self-directed inquiry and investigation through research and hands-on activities.

The new Belmont High will have a total of 85 general classrooms, 36 for grades 7-8 and 49 for grades 9-12. There will be a total of 20 science labs (8 for grades 7-9 and 12 for grades 10-12). Each general classroom should be at least 850 sf per the MSBA, and provide a flexible learning environment with minimal built in equipment to allow for changes in the future. Science labs shall meet the minimum space standards of the MSBA for the grades served. To serve our expanding ELL program there will be two sub-

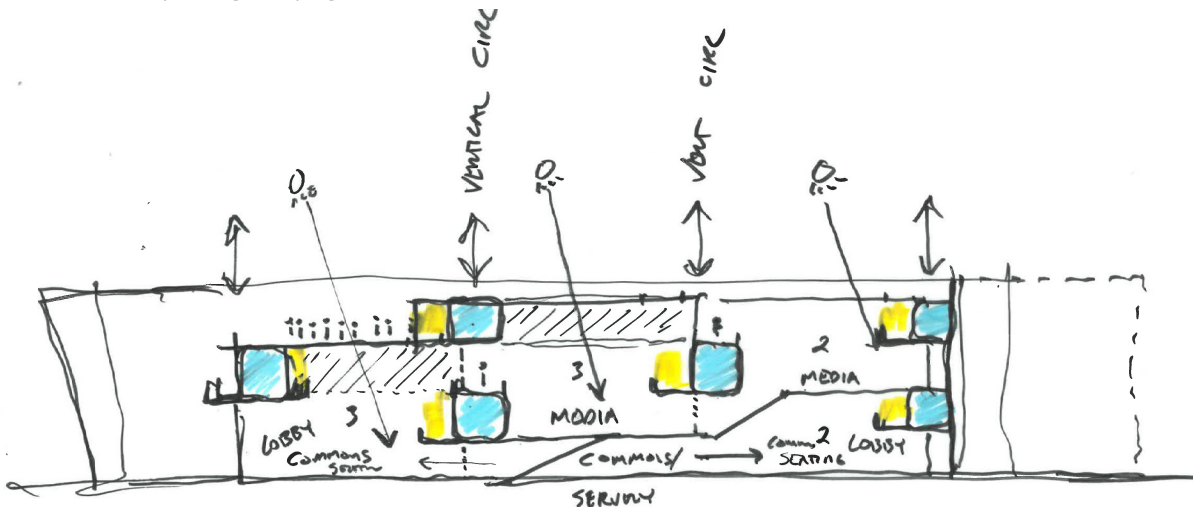
dividable 1,000 sf classrooms.

The PSR REVISION 1 uses the High School Science Classroom Standard of 1,440 sf and Middle School Science Classroom Standard of 1,200. The Prep Rooms associated with the High School Science Classrooms are adjusted to 400 sf per two Science Classrooms. The Middle School Prep Rooms will remain at 200 sf per two Science Classrooms.

For grades 7-8, there will be four clusters at each grade level (total of 8 clusters), serving an average of 96 students. Each cluster will be made up of three general classrooms at 850 sf each, and one 1,200 sf science lab. In addition, there will be one 1,200 sf maker space shared by two clusters. Finally, each grade level will have one 1,200 sf teacher planning area to allow the 16 teachers an opportunity to meet, collaborate and plan their work.

For grades 9-12, the school will be organized by department. There will be four departments, each consisting of nine or ten classrooms. They will also be 850 sf, and should be flexible. Science labs will be 1,440 sf each (per MSBA guidelines) and each pair of labs will share a prep room. Teachers will share classrooms and all classrooms will be flexible for multiple use with a goal of 85% utilization. The District and its consultants will continue to review the proposed schedules to ensure a 85% utilization rate.

The guidance areas for 7/8 will be embedded in the grade / Team areas. The guidance counselor moves to the grade with the students and will change offices after each year to follow the grade cohort of students. The guidance staff in grades 9-12



Building Section - Concept Sketch

A. EDUCATIONAL PROGRAM

will remain in a traditional department-based model. The mental health spaces will be provided to current employees who provide psychological testing and services.

9-12 students have been surveyed about lockers. We found that 50% of our students state they would like to have lockers for the following needs: coats, book bags, storing items of value such as musical instruments, sports equipment, texts and school supplies. Lockers will therefore be provided for 50% of the High School population.

TEACHER PLANNING, ROOM ASSIGNMENT & CLASS SIZE

There are currently no district-wide policies pertaining to Teacher Planning, Room Assignment or Class Size. Teacher planning, however, is provided through the collective bargaining agreement with the Belmont Education Association. Room assignments are made annually by the building principal based on the educational and enrollment needs of the school. Currently, some teachers are provided with individual classrooms; however 29 teachers need to share two or more classrooms. While there is no district policy regarding class size at the high school, practice has been to schedule classes in the range of 22-26 students per class. In the 2017-18 school year, there are ninety-four classes that exceed 26 students (not including performing groups). This represents 25% of the classes at Belmont High School.

Currently, not all departments are afforded a planning room. Departments who do not have a planning room space do this work in their classrooms and are relocated when a class is scheduled in that location. This results in departments that do have a planning room sharing a space that is small and provides no privacy. If a teacher wishes to have a private conversation with a colleague or a meeting/phone conversation with a parent/guardian, they utilize the director's office when it is not occupied. In the new facility, each department will have a common area to collaborate with colleagues across departments and a private area to speak with parents/guardians in person or by phone. Adjacent to the department areas will be a separate work space for students to collaborate with teachers. This would allow teachers to provide additional support for students in need of extra assistance.

LUNCH PROGRAM

Belmont High School has a full lunch program that serves the high school population during the hours of 10:30AM - 1:00PM. Students are not scheduled for lunch but take advantage

of the program during their "free" time in their schedules. Approximately 838 students of the current enrollment participate in the meal program. Belmont High School provides 550-600 lunches per day and 100 breakfast meals per day. Students have multiple options each day for lunch. There are hot lunch lines, a salad bar, a deli area, and pre-packaged foods. Breakfast consists of hot and cold meal options.

Students can access lunch during their unscheduled or split class time. The split class time was created for the 2017-2018 school year because of the overcrowding lunch periods. In order to best service students during peak times, teachers need to interrupt their instruction and allow students to get lunch. Once the lunch time has ended; students then return to class for continuation of the instruction. This modified lunch schedule has resolved some of the overcrowding lunch times at the current level of enrollment. It should be noted that the student population exceeds the seating capacity of the cafeteria space presently and is in need of expansion in order to address the forecasted increase. However it should be noted that the split schedule format is a daily academic interruption and is not ideal for learning.

In the new facility, there will be two lunches session for 7/8 and up to three for 9-12 students. Kitchen and serving space continues to be reviewed with the Food Service Director. This means that the cafeteria will require a capacity of approximately 740 students for lunch. The kitchen will have 4,100 sf including a "scramble" serving area. The cafeteria will also be used for study spaces and after school activities. Chair and table storage should be available to allow for multiple uses of the cafeteria space.

SECURITY

Despite the limits of the aging building, the Belmont High School administration has made efforts to establish practices that ensure the highest level of safety and security for students and staff during the school day and for the community use of the facility after school hours. During the school day, all doors, except one main lobby door, are manually locked at 8:15AM. Visitors must sign in at the greeter's desk in the main lobby. Guests must wear a name badge while in the building and must verbally identify themselves and state their business when questioned. In cooperation with the Belmont Police Department, emergency response plans and lockdown procedures have been established and practiced.

In the expanded Belmont High School, security cameras inside

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and outside the building will be installed. Proper lighting to ensure safety for evening events will be installed in all parking and public areas. A two-way PA system will be included so all students and faculty and staff are informed during the event of an emergency. All doors would have the capability to be electronically locked and unlocked and visitors will be required to gain access to the school by the use of a buzzer and enter through a security vestibule. A new school will have clearly-defined traffic patterns, entry/egress systems, lines of sight, cameras, and other features as recommended by both FEMA and MEMA. Electronic swipe cards will also assist in the volume of requests to enter the building from faculty, staff and students during the school day. Hallway gates will be utilized to help control the student and community use after the school day. District personnel, architectural designers, Belmont Police and emergency experts will work together to ensure that all necessary safety and security features are included in the school renovation/construction

CONFIGURATION # 2 GRADES 7 & 8

CHENERY MIDDLE CORE VALUES AND BELIEFS:

Grade 7 and 8, which are currently part of the Winthrop L. Chenery Middle School, have a related set of beliefs:

The mission of Chenery Middle School is to inspire and support the intellectual, social and emotional growth and well-being of all students in the CMS community. With the support of families, we provide opportunities for students to think, create, reason and problem solve so that they can be positive and productive young adults who are of service to others.

CHENERY MIDDLE SCHOOL STUDENT SKILLS (3RS & 3ES)

At Chenery Middle School we share a set of beliefs and values that inform and guide our words and actions. These core values are represented by our school's motto:

Respectful, Responsible, & Ready to Learn: Everybody. Every Day. Everywhere.

By making these values central to our time together, we will be successful in ensuring the academic, social, and emotional growth of all children.

GRADE & SCHOOL CONFIGURATION

Grades 7-8 are housed at Chenery Middle School (along with Grades 5-6). Chenery opened in 1997. The current facility of approximately 182,000 GSF serves 1,436 students, 344 in Grade

7 and 344 in Grade 8. Currently, our 7th-8th grade students are scheduled into a fixed block schedule model within a team-based format. This structure provides teachers with colleagues from different departments to “wrap around” a group of 100-120 students and ensure their needs are being met in each core classroom.

In Grades 7-8 the current facility and school structure fosters the opportunity for interdisciplinary and collaborative teaching. Team classrooms are located alongside each other and each group of students inhabits one section of the hallway, ensuring that each student is known and “owned.” Each day teachers on a team have a common meeting block -- a Team Meeting with the Assistant Principal, a Team Guidance Meeting, a Team Special Education Meeting, or a Team Choice Meeting (which can be used to plan lessons or simply to meet to discuss their own agenda). The current facility lacks adequate classroom space to effectively house all students; whereas teams used to be made up of 100 students, they are now more likely to be made up of 120-130 students. Whereas class sized used to be closer to 22, it is not uncommon to have classrooms between 27-29 students. Incoming projections suggest these high class sizes will increase if another Team is not added to both grades. We are fortunate to have two of the large, interdisciplinary meeting rooms that BHS lacks and they are used frequently to combine an entire team and conduct an interdisciplinary lesson.

In Grades 7-8 the Custodial and Maintenance staff has been attentive to the building's operational needs. Chenery Middle School is regularly commended for its bright appearance and overall cleanliness, especially considering its excessive use. The building is massively used during after school and weekend hours. It regularly hosts School Committee Meetings, Warrant Committee Meetings, a robust after school program, the Belmont After School Enrichment Collaborative (BASEC), and Saturday Morning Music School, to name just a few. The academic classrooms, programs, and support spaces are well arranged to facilitate efficient functionality of the school -- differing sections of the school can be cordoned off to allow for partial opening of the school during dances, concerts, and/or Chinese School weekend events. There is a relative shortage of storage spaces and office spaces, as many of those original spaces have been turned into alternative learning spaces over the years in response to the growing school population. For example, the science storage room is now a LABBB Collaborative classroom; the former Community Room Annex space and the Small Community Room are now home to

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the KEY Behavioral Program classrooms; the former Lower School Conference Room is now a Special Education Classroom; the rear of the Staff Development Room now houses a small group math space. Because of the cluster configuration at the 7-8 grades, it is anticipated that two tier, 15” wide lockers will be used which can be located in corridors proximate to the cluster in which the child attends.

By moving Grades 7-8 to a new Belmont High School site, renewed space and flexibility will be returned to the Chenery Middle School, and will allow for sufficient space for grades 7 and 8 to expand to a 4-team-per-grade format. It will be possible to reorganize the Chenery Middle School into three grades (grades 4, 5, and 6) and “free up” anywhere between 10-19 spaces. These spaces will allow Chenery to expand to a 4-team-per-grade format to provide appropriate team and class sizes in the face of enrollment that increases annually, will allow the return of conference, meeting, and collaborative spaces to their original purposes, and would allow professionals to have their “own” spaces, rather than having to combine several Special Education Teachers into the same classroom or asking specialists to teach in spaces that were never originally designed to be instructional spaces. It will allow Chenery to create flexible classroom spaces, rooms to support project-based learning, and to better use conference rooms to support student team meetings and individual parents/guardians meetings.

CLASSROOMS

In Grades 7-8 there exists the same need as with High School students: Technology-modern spaces that allow for the formation of groups and sharing of ideas, spaces that foster different learning modalities, and spaces that provide for quiet, independent study and reflection.

TEACHER PLANNING, ROOM ASSIGNMENT & CLASS SIZE:

In Grades 7-8 there are currently no specific policies pertaining to Teacher Planning, Room Assignment or Class Size from either the district-wide or School Committee levels. In practice, however, we follow a few practical “rules of thumb”: Each teacher is provided a single planning period per day as a result of the collective bargaining agreement with the Belmont Education Association. Their other “free” (that is, non-instructional) block of the day is spent in an assigned meeting with either grade-level, team-related, or department groups. Room assignments are

made annually by the building principal based on the educational needs of the school. In 2017-2018, for example, there were 17 classroom changes made to ensure that teacher teams were located in close proximity to each other. Currently, all team classrooms are located proximal to one another to ensure that students’ traveling time between classrooms is minimized. Due to a shortage of locker space -- yet another example of how the number of students has outpaced the original design of the building -- we currently have 38 students inhabiting lockers on a floor other than their classrooms. Whereas the school is designed for 25 students per homeroom, we are now placing upwards of 33 students into some rooms. That means that while we used to assign lockers directly outside of homerooms, now students are more likely to be assigned to a locker further down the hallway from their homeroom. Grade 7 is pushing into the Grade 8 hallway more than ever before. Rather than having one Grade 8 homeroom pushed to the second floor for their lockers, we now have two. The more students we add, the further everyone gets pushed down the line. To the extent possible we did our best to place students close to their homerooms. However, some students are not as close as they used to be. We have measured every open wall space and put in a request for more lockers, but for now we have to live with the insufficient number that we have. Currently, Grade 7-8 teachers are provided with individual classrooms. While there is no district policy regarding class size in Grades 7-8, practice has been to schedule classes in the range of 22-28 students per class.

Currently, there are no teams who are afforded their own planning room. If a teacher wishes to have a private conversation with a colleague or a meeting/phone conversation with a parent/guardian, they utilize a Guidance, Assistant Principal, or the Directors’ office when it is not occupied. It is the goal of the district to expand its capacity for hands on learning with additional sections of elective course offerings which would be inclusive of multipurpose “maker spaces.” We currently have “study halls” in our middle school and we are looking to expand offerings to more children who currently sit idle. The spaces that currently serve our ELL and special education children should be larger in size and more appropriate for teaching and learning. When you walk the halls at Chenery you see many small groups of children learning and collaborating on the hallway floor. The need for team area small group space is essential to the type of student centered teaching methodology currently employed by our educators.

Media spaces at the 7/8 level will be staffed by the media

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specialist and the team teachers (and teacher assistants who work with students). Any and all media equipment, materials, software and technology will be supervised primarily by the media specialist and secondarily by the Team teachers/ staff. The Chenery Middle School media specialist will be moved to the new building. The 4,5, 6 Upper Elementary School will utilize rotating library staff who work with elementary children.

TECHNOLOGY

The vision for technology in the Belmont Public School is that students and staff will have ubiquitous access to the tools of technology and the skills to use them effectively in support of the district Vision for Teaching and Learning.

At Belmont High School, there are six computer labs, plus additional PCs in the library. Every student and most teachers have an iPad. Each classroom has a teacher computer, SMART Board, and wireless access; plus PC access in department offices, Special Education, and ELL areas.

Over the last five years Belmont High has established itself as a one to one device school that infuses technology into every department's curriculum and instructional methodology. The growing need for student collaboration spaces that have technology that can "show" student work on large screens or monitors is essential. Students currently lack sufficient space to show what they have learning via technology or in hands on learning environments. Creating space for this function is to be able to partner technology with kinesthetic learning opportunities for its students.

These spaces would support our physics, technology, art, health, social studies (and more) curricula by enabling teachers and students to express their learning outcomes in more progressive and authentic ways – not all learning should be assessed by a test or quiz.

At Chenery Middle school there are currently five computer labs, 11 iPad carts, and 11 Chromebook carts. Each classroom has a teacher computer, SMART Board and wireless access. Many classrooms have one to two student computers. Most teachers have an iPad. There are an additional 55 iPads distributed among Special Education and ELL support classrooms.

The Chenery is growing its technology capacity through the use of iPads, Smartboards and Chromebooks. The sharing of technology on carts is less than ideal for educators. Having updated

technology features and multipurpose spaces would bring busy middle school students a place to show and demonstrate their learning. The growing technology classes offered at the Chenery are a combination of computer and hands on learning. The current space is limited and constrains the program. The fact that more students could enroll in these types of elective course is restricted by space. Instead students sit in a study hall. Middle school is a place where students need to learn through many modalities; providing technology resourced spaces combined with hands on learning capacity (like maker spaces) is vital.

Both schools have many networked printers, document cameras, AppleTV, complete wireless coverage, websites, e-mail lists, and high-speed internet access.

In the new school, it is anticipated that the technology capabilities will be expanded and modernized. Wireless access points will be located in each classroom and throughout public spaces to permit robust service to all areas of the building. The network will be designed for future expansion and adaptation as technology needs and capabilities expand in the coming years. Charging areas will be made available in areas such as the cafeteria to all students to charge devices safely and securely.

Specific teaching spaces dedicated to technology related education include the following planned spaces: a 1,200 sf Digital Arts laboratory which will provide capability for Animation, Graphics and other courses, a 1,200 sf electronic music classroom, and a 1,200 sf Coding classroom to teach programming and coding which is still increasing in importance. District wide technology support offices and workshops will be located at the High School (as is currently the case), which will facilitate timely, critical network support at the expanded school.

TECHNOLOGY AND INNOVATION SPACES

While Project Based Learning (PBL) can and will take place in classrooms, there are certain specialized projects which require a larger workspace than a typical desk, and require specialized equipment such as laser cutters, fume hoods, and 3D printers. In addition, there will be projects that are developed over a period of several days or even weeks, so space is required for them. In the 7/8 grade spaces the project rooms will function as open learning spaces for student group work, small group instruction, presentation spaces and learning by doing.

The Innovation Labs will be used for specialized design, engineering and construction, such as robotics. Science labs will

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be used for science. The maker spaces in the 7/8 wing will be used as project rooms (see above questions #2) The 9-12 maker spaces will be used for robotics, coding, physics and engineering classes, as well as hands on learning for art and drama. Students in grades 7-12 will have access to these spaces during elective and non- elective blocks. The science labs at the high school level are themed by the type of science programming and will be shared by the science staff. No teacher will have his/her own room, resulting in high utilization rates. Set up, lab preparation, projects and materials will be specific to the lesson of any given unit and period of time. This would make it difficult to dismantle science materials for the use by a non-science teacher / program for a different function.

The Belmont public schools are committed to supporting building essential college and career skills for all our students. 9-12 innovation spaces are used for specific course and program use. These spaces will also serve 7/8 students as elective courses. These 9-12 spaces will be used by an instructor that will be an integral part of scheduling of courses within the BHS program of studies. The 7/8 spaces will be used as project rooms that will also be part of the media function. These spaces will be highly used in a scheduled and ad-hoc manner and scheduled by the Team of teachers to support their classwork, Team work, and interdisciplinary work. Spaces in the 7/8 model will be scheduled for a majority of the day and used informally and /or as necessary for the remainder of the day.

Specifically, the district is focused on creating opportunities for students to learn and practice collaboration, creativity, critical thinking, and communication skills. Best practices for teaching these skills in each of the curricular areas are through direct instruction, frequent student practice, and in the moment feedback. Each subject area teacher will utilize the innovation spaces to support this skills-based work through the application of content knowledge. This work focuses on opportunities for students to grapple with ideas as they design, create, synthesize, and make meaning of content that is both meaningful and relevant to curious and engaged students. The District continually creates more opportunities for students to show mastery of skills and content through real world problem solving, inquiry-based investigation or creation of a product to meet a design challenge. Some examples of the way teachers will be using innovation spaces on a daily basis run the gamut from space for small groups to work through a problem to space for large, interdisciplinary learning opportunities. Here are some examples of work currently

done with students:

- Economic Summit where students learn and practice communication, critical thinking and creative problem-solving skills by engaging in a real-world application of content through an interactive simulation. During the simulation, 75+ students negotiate trade deals while managing trade barriers, tariffs and financial limitations to execute a pre-determined list of imports
- Inquiry circles where students practice critical thinking, collaboration and communication skills by investigating a driving question and creating a product to answer it in a small group
- Video production where: Foreign Language students use authentic resources to demonstrate their communication skills by creating a presentation; ELA and Social Studies students use their knowledge of ancient history to demonstrate their critical thinking, creativity, and collaboration skills by creating a historical skit which connects the literature standards of Greek and Roman myths to historical content
- Presentations where students practice their communication skills (English and foreign language) to demonstrate content knowledge
- Interdisciplinary and thematic art projects where 50 + students practice their creativity, critical thinking and collaboration skills by working in groups to explore how art can be a driver for social change and then create their own art work to drive change in our community
- Trials where: English students learn about specific aspects of our legal system and put characters from literature on trial, engaging with the themes of the novel in an authentic way; Social Studies students reenact historical trials to apply content knowledge and practice communication and critical thinking skills
- Debates and Socratic Seminars where large groups of students debate and discuss issues related to content standards and practice communication and critical thinking skills
- Social Entrepreneurship UN conference where students create a social business project to solve a global challenge, team up to collaborate on writing a social business plan and

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then pitch their business to an audience who chooses which business to invest in.

On the 7/8 side, the District plans to further the existing interdisciplinary work as stated above. This is the current model. The 9-12 departments are piloting cross curricular work and have been pushing for flexible space for this purpose. Teacher planning areas are close to one another providing central gathering areas for teachers to discuss curriculum, instruction and cross over as an outcome of our vision work. The 9-12 area will start departmentalized and the new spaces and adjacencies will yield educator collaboration and cross curricular work. This will allow staff to create a definition of project-based learning that is more about proving a “guiding question” to students and allowing them to research, analyze, and show their learning in different ways in different disciplines.

EDUCATIONAL PROGRAMS IN VISUAL ART

CURRENT PROGRAMS

Visual Art in Grades 9-12 is elective. One year of study in Visual & Performing Arts is the current graduation requirement at Belmont High School, and students complete that year of study in either visual art, music or theater. Our current program includes offerings in Photography (traditional film), Ceramics, Sculpture and Drawing/Painting. During the 2017-18 school year there are 20 sections of Visual Art, each meeting four days per week for 50-75 minutes similar to all classes at BHS. We employ four full-time visual art teachers who work in four separate classrooms, each equipped for a specific discipline and medium.

All students in Grades 7-8 participate in visual art courses during the school day. Each class meets twice per six-day cycle for 50 minutes. During the 2017-18 school year there are 32 sections of Grade 7-8 Visual Art (64 instructional blocks). This is the equivalent of 2.2 FTE dedicated to Grade 7-8 Visual Art. At present, these classes are spread among four full-time art teachers who also teach Grade 5-6. There are currently four art rooms in use at Chenery Middle School, 2.2 of which would be required just for Grade 7-8 Visual Art.

As a result of their contact time with highly-qualified, experienced educators, students in Belmont produce artwork that exhibits a high level of technical skill, creativity, and artistic sensitivity. Each year dozens of Belmont students earn honors from the Boston Globe Scholastic Art Festival. Student artwork is displayed regularly throughout both CMS and BHS, though display space in

both schools is limited. A number of art exhibits over the course of the year thrust student artwork into the spotlight, and most of these exhibits take place outside of school.

This program will include instruction in graphic design, computer animation and related topics. It will include a digital lab with large monitors for both the student and staff, software that will allow easy screen sharing and lighting that will prevent screen glare. Emphasis will be on the processes involved in creation of animation stressing teamwork, storyboarding, creating character, stage design and sound design.

The classes will consist of demonstrations, viewing of related works, hands-on experimentation, and critique. Programs in digital art/graphic design are a part of the National Standards for Art Education (“Contemporary Art Forms”), and the past two BPS Curriculum Review cycles have indicated this as a current area of deficiency. Level 1 courses are designed to provide students with broad skills in this medium and involve a high level of creativity in terms of art-making while also addressing the organizational and commercial applications of Graphic Design. In 2018-19 the District will run two sections of Digital Art/Graphic Design 1, and two sections of Animation 1. Both courses are fully enrolled in the first year of implementation. A Level 2 Digital Art course will be offered in 2019-20.

The District has begun to consolidate its program offerings at BHS in light of the addition of Digital Art to the curriculum. For many years four levels of Ceramics and two levels of Sculpture have been run. Beginning in 2018-19, these two programs (Ceramics & Sculpture) have been combined into one course of study called “3D Art”. This course combines aspects of both ceramics and sculpture and will increase kiln usage on a regular basis.

The District currently employs the use of four kilns for Grades 7-12 (two at Chenery Middle School and two at Belmont High School). There is no anticipated drop-off in the amount of kiln use needed for Grades 7-8 or 9-12. In 2018-19 the district will run five sections of courses at BHS that will require regular kiln use. In addition, 7th and 8th Grade art classes will also require routine access to kilns. The District does not anticipate the addition and growth of the digital art program to pull many students away from the 3D Art (ceramics) program. The Digital Art/Graphic Design and Animation programs appeal to a different type of art student than would typically enroll in a Ceramics class. The technology-

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based art programs are designed to serve students who are not currently enrolled in visual art programs at BHS.

The traditional photography program at BHS has been overenrolled. In 2018-19 over six fully enrolled sections of Photography (three levels) are provided, and there will be dozens of students who will unfortunately not be granted a seat in these classes due to enrollment constraints. All of this is with the addition of Digital Art coursework. Traditional photography, while seemingly out of date to casual photographers who snap photos with smartphones, is incredibly vibrant and expressive art form in our society. The skills and techniques that go into it, from safe handling of chemicals, careful attention to every detail in lighting, and the patience and precision required to develop prints are aspects the District believes will always have a place in its curriculum.

FUTURE PROGRAMS

As enrollment in the Belmont Public Schools continues to rise, we expect the need to continue adding sections of Visual Art at the middle and high school levels. Additionally, we are currently implementing programs in digital art, graphic design and computer animation that will require additional teaching spaces and staff. While our current programs, Grades 7-12, are staffed by 6.2 FTE in visual art, it is evident that enrollment growth and program expansion will require 7.0 FTE. Our current programs (7-12) employ six classrooms each day.

In the expanded school, five 1,200 sf art rooms will be provided to allow instruction in the Visual Arts. These will be supported by adequate storage spaces and workrooms. There will be a dark room to support the currently offered photography program. In addition, two kilns will be provided to support the ceramics program. Over the next decade and beyond, we anticipate that these programs will continue to grow - in part due to increasing enrollment in our schools, but also because we plan to enhance and diversify the kinds of educational experiences we offer to students. While some of the new experiences we offer will attract students from our existing programs, our intent is to make Visual and Performing Arts programs more accessible and engaging to students who may not be involved in our current programs. New space will allow us to increase the number of art classes, thereby engaging more students at all levels (as opposed to study halls at Chenery and unscheduled periods at the high school).

EDUCATIONAL PROGRAMS IN MUSIC

CURRENT PROGRAMS

Music at Belmont High School is elective. One year of study in Visual & Performing Arts is the current graduation requirement at Belmont High School, and students may complete that requirement in either visual art, music or theater. Current offerings at BHS include three bands, three choruses and two orchestras in addition to Music Theory, Guitar, and Music Technology. In 2017-18, BHS provides 11 sections of music courses, employing 1.9 FTE in music faculty. This FTE allocation is currently split among four individuals who teach a wide variety of music curriculum ranging from Grades 5-12.

All students in Grades 7-8 participate in music courses during the school day. Course offerings include performing ensembles - band, chorus, and orchestra - as well as general music experiences (Guitar and World Music). Performing ensembles meet four times per six-day cycle, and general music classes meet twice per cycle. Choruses in Grades 7-8 are split by gender four days per cycle, and meet combined twice per cycle. The 2017-18 offerings in music comprise 70 instructional blocks per cycle, employing 2.3 FTE in music faculty. This FTE allocation is currently split among six individuals who teach a wide variety of music curriculum ranging from Grades 5-12.

Enrollment in the performing ensembles (band, chorus, and orchestra) in Belmont is exceptionally high, and our music program has traditionally been considered one of the most successful in the state. Our largest band includes 120 students, the largest chorus 160, and the largest orchestra consists of over eighty students. Additionally, the music teaching spaces in both existing schools are in constant use after school for a wide variety of activities. For example, the two band rooms in both schools are used at least four days per week after school for Grade 7-12 activities for ensembles ranging in size from 20 to 120 students.

FUTURE PROGRAMS

Program expansion in our general music curriculum will include a greater emphasis on music technology, music production and audio engineering. This will require our music classrooms to be designed with these uses in mind. With continued enrollment growth, we expect that the number of students who participate in band, chorus and orchestra will also increase. For this reason, we have the need for two band rooms of different capacity (120 students for Grades 9-12, 90 students for Grade 7-8), two chorus rooms of different capacity (150+ students and 60 students) and

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one orchestra room (up to 80 students). Furthermore, the way that these classes are being taught will require “breakout spaces” for small/medium sized groups of students (5-20 students). Finally, small ensemble practice rooms should be provided, along with adequate dedicated music storage space to allow for flexibility.

EDUCATIONAL PROGRAMS IN THEATER ARTS

CURRENT PROGRAMS

The Theater Arts program at Belmont High School is a great source of pride for the students, faculty and community at large. In 2017-18, we offer three courses during the school day in addition to a comprehensive after-school theater program (the Performing Arts Company). This program is overseen by one teacher, currently employed as 1.0 FTE.

Though we have offered Theater Arts electives to students in Grades 7-8 in the past, they are not offered during the 2017-18 school year. The Chenery Middle School has added elective courses to reduce the number of students in study halls; but has been unable to provide theater arts programming due to lack of sufficient and appropriate space.

FUTURE PROGRAMS

At the high school level, additional electives in Theater Arts or Television/Film are planned for the 2018/19 school year. The goal of the district is to provide an additional part-time teacher for Grade 7-8 theater, who would also serve as a Technical Director/Facilities Manager for our new performance spaces. The return of Theater Arts electives in Grade 7-8 is a definite area of need, but we are currently limited by a lack of instructional space at Chenery Middle School. In the expanded school, it is expected that there will be at least 2.0 FTEs in the Theater Arts. In the new school. There will be a full Auditorium with a 2,400 sf stage, which will allow for musical theater productions as well as Band, Orchestra and Chorus performances from the stage. In addition, a flexible 3,000 sf Black Box theater should be provided to allow for open mike, small scale and experimental productions and slam poetry and other events. During the school day, this will be a teaching space for Theater Arts.

EDUCATIONAL PROGRAMS IN DANCE

CURRENT PROGRAMS

We currently do not offer curriculum in Dance during the school

day at any grade level due to limited available space, although dance units are a part of the Physical Education curriculum in Grade 7-12. Dance is a major component of the after-school Theater Arts program, and there have been after-school offerings in dance at various times over the past decade.

FUTURE PROGRAMS

Dance is a part of the Massachusetts Frameworks and the National Standards for Arts Education. The Belmont Public Schools is committed to offer dance electives in Grades 7-12 in the expanded school. These will be interdisciplinary courses taught in conjunction with the Physical Education department, and will require a dedicated studio space that is suitable for dance instruction and rehearsal, including a wood floor, mirror walls and a ballet barre. The facility should be adjacent to suitable changing areas to allow for maximum participation time.

Activity Type	Grade Level	Location	Number of Students	Frequency
Marching Band	9-12	Band Room	120	3x/week (Aug.-Nov.)
Jazz Collective	9-12	Band Room	20	3x/week all year
Jazz Band	9-12	Band Room	30	1x/week all year
Jazz Combo	9-12	Music Tech	7	1x/week all year
Madrigal Singers	9-12	Chorus Room	30	1x/week all year
Jazz Choir	9-12	Chorus Room	45	1x/week all year
A Cappella	9-12	Chorus/Tech	60	1x/week all year
Pit Orchestra	9-12	Band Room	30	2x/week (Jan.-March)
Theater	9-12	AUD/Little Theater	150+	4x/week all year
Chamber Orch.	7-8	Orchestra Room	60	1x/week all year
Chamber Singers	7-8	Chorus Room	60	1x/week all year
Honors Band	7-8	Band Room	75	1x/week all year
Jazz Ensemble	7-8	Band Room	35	1x/week all year
Brass Ensemble	7-8	Band Room	25	1x/week all year
Flute Ensemble	7-8	Gen. Music	25	1x/week all year
Double Reed Ens.	7-8	Gen. Music	15	1x/week all year
Jazz Combo	7-8	Gen. Music	12	1x/week all year
Theater	7-8	AUD/Chorus/GM	150	4x week (Jan.-May)

HIGH SCHOOL PHYSICAL EDUCATION PROGRAM OVERVIEW

SCHOOL POPULATION/TEACHERS/CLASSES

At Belmont High School, we utilize a Wellness approach to deliver the programming and curriculum for both the Physical Education and the comprehensive Health Education programs. The high school currently has 4.2 FTE Physical Education faculty members on staff to educate a school population of approximately 1,300 students. We also have a Director of Physical Education that oversees the entire K-12 Physical Education program, whose office is located at the high school. Within the daily schedule each Physical Education/Wellness instructor teaches no more than six classes a day and no less than five. Courses are offered on a quarter, semester and yearly basis.

Belmont Public Schools started with the assumption that the high school schedule and middle school schedule would remain

the same as it is presently working today. This would result in a complex balance of supporting the student body of 2,215 who will be sharing spaces for elective courses like physical education and wellness. The increase teaching stations for physical education would be a key component of our ability to provide programmatic equity and operationally, provide a “class” for students to attend during their elective block. The District has increased staff in this department at both levels over the last two years with the goal of reducing the amount of “frees” at the high school and study halls for 7/8 grades students. The District will have over 8.0 FTEs of wellness and PE teacher positions with the possible need for more staff due to future enrollment projections. These teaching spaces will be well utilized throughout the day by students and educators.

CURRENT PROGRAM OVERVIEW

Students at Belmont High must earn 2 credits per year in Physical Education. Ninth graders must take Wellness 1 in order to fulfill their Physical Education requirement for that year. Tenth grade students must take Positive Decision Making & Life Skills for one Physical education credit and then earn one additional Physical Education credit. In grades 11-12 Physical Education credit is earned through taking a Physical Education activity course during the school day. Each quarter, various courses are offered based on student interest that count toward the Physical Education credit. The courses offered are: Outdoor Pursuits, Mindful Movement, Fitness Group Games, Muscular Strength Training & Body Toning, Team Sports & International Games, Recreational Sports & Lifetime Activities, Sports Medicine/ CPR & First Aid, and “The Mindful Marauders - Emerging Leaders.”

PROPOSED PROGRAM

It is expected that the physical education program will continue in the expended building.

LOCKER ROOMS

Our current female student population is 669. Currently there are inadequate lockers for female students. The lockers will also include seasonal team lockers which will be shared over the course of the year. Lockers for the Physical Education program are needed for a minimum 350 students per semester.

Our current male student population is 631. Lockers for the Physical Education program are needed for a minimum 350 students per semester. There is a teacher’s office that contains a bath/ shower room.

Accompanying wet area and privacy changing are to service the Wellness/PE students, LABBB students as well as afterschool athletics. There is a need for boys & girls lockers on same level, which are accessible without having to enter the field house.

These same spaces are extensively utilized after school for our interscholastic program.

Belmont High School offers an extensive interscholastic athletic program throughout the academic year consisting of 31 sports with 69 levels of competition. Our teams are members of the MIAA and compete in the Middlesex League. In recent years our program competed in numerous State Tournaments at both the Sectional and State Championship level. In the fall Belmont High School has been recognized & honored by the MIAA with their Sportsmanship Award.

Interscholastic sports are offered at the freshman, junior varsity, and varsity levels.

Fall sports are field hockey, cross country, soccer, girls’ swimming & diving, volleyball, golf, cheerleading, and football.

Winter sports include basketball, ice hockey, indoor track, boy’s swimming, and wrestling, and alpine skiing.

Spring sports include baseball, softball, outdoor track, tennis, lacrosse, and rugby.

Each year, approximately 75% of Belmont High School students participate in interscholastic athletics.

In the expanded School, it is anticipated that the existing 30,000 SF Field House will be retained and will continue to be used as a multi-purpose teaching and competition space. In addition, a +/- 6,000 sf gym will be provided with two teaching stations to service the 7-8 grade students. Finally, a 3,000 sf alternative PE space will be provided that will serve the currently offered programs in dance, yoga, cheerleading and wrestling.

SPECIAL EDUCATION

SPECIAL EDUCATION GRADES 9-12

The Special Education Program at BHS encompasses a full range of student support services for students on any type of support plan. These include students with IEPs, students on 504s and students on iCAPS (Individual Curriculum Accommodation Plans). There are presently 143 students served by these programs, with 140-175 students per year typically supported by these resource

rooms, teachers, psychologists, and related service providers.

The program is implemented by 6.6 FTE Special Education Teachers, and 1.76 FTE School Psychologists. Additional related services staff (Speech, OT, and PT) not based at BHS support the delivery of services as needed and warranted by a student's support plan.

The program is primarily inclusion oriented, with the majority of students receiving support within the regular education environment. This model is supported by resource room classes regularly scheduled for students as an elective. These resource rooms are where students receive targeted services and interventions as dictated by their support plan. Currently BHS has seven Designated Resource Rooms. Of these rooms, four serve students requiring more general types of academic support, two are tailored to supporting students with Emotional Difficulties and one is tailored to supporting students with Autism Spectrum Disorders (ASD).

Additionally, the BHS special education program includes two self-contained classrooms, five small offices and one small conference room. One of these classrooms is utilized by our NECC Partner Program to serve our low-functioning ASD students. The other self-contained classroom and two of the small office spaces are utilized by the LABBB Collaborative to provide services to students warranting more restrictive placements. The three remaining offices are used by the two school psychologists and related service providers to deliver their services.

SPECIAL EDUCATION GRADES 7 & 8

The Special Education programs and services at the 7th and 8th grades are designed to meet the support needs of students on IEPs, 504s and ICAPS (Individual Curriculum Accommodation Plans). The program is implemented by 4.5 FTE Special Education Resource Room Teachers, a 0.5 FTE Autism Inclusion Specialist, a 0.5 FTE School Psychologist, a 0.5 FTE School Social Worker, and a 0.33 FTE Speech and Language Therapist. Additional related services staff (OT and PT), not based at CMS, support the delivery of services as needed and warranted by a student's support plan.

Programming at CMS is primarily based on an inclusion model of service delivery. Students receive instruction within general education classes with appropriate aides and supports as determined by a student's IEP, 504s or ICAPs. In addition, most students on IEPs receive services within grade level Resource

Rooms. These Resource Rooms incorporate both small group and individualized instruction.

Currently the 7th and 8th grade special education programs include six designated Resource Room classrooms. Of these rooms, four service students requiring more general types of academic support, one is tailored to supporting students with Emotional Difficulties, and one is tailored to supporting students with Autism Spectrum Disorders.

CMS 7th and 8th grade is also home to two substantially separate classrooms, and one therapy/office, operated by our LABBB Collaborative to provide services to students with moderate to severe developmental disabilities. The three remaining offices at Chenery are used by the school psychologist, the therapeutic school social worker, and the speech and language therapist. The other related service providers share space within available classrooms, offices, or workrooms.

There are presently 78 7th and 8th grade students supported and served by these special education programs and staff.

NEED FOR INCREASED SPACE FOR SPECIAL EDUCATION PROGRAMS AT BHS

There are currently 59 students in grade 7-12 whose needs are being met in OOD placements. Increased space at BHS would allow the district to meet the needs of some of these students in-district. By increasing our classroom capacity for both partially and substantially separate programming, the district would be able to develop more in house programs to support our students. Although Out of District (OOD) placements are used by many districts to meet the needs of students whose disabilities present challenges beyond the expertise or program capacities of their home districts, Belmont has not been able to address the needs of some students due to lack of space to build appropriate programs. These include students with Language Based Learning Disabilities as well as lower functioning ASD students. Additionally, the programs that currently exist to support our ASD students, as well as students with Socio-emotional challenges have grown over the years warranting an increased need for space and ancillary supports. While our LABBB collaborative programs help meet many of these needs, and have programs based within our buildings, some of these needs could be more cost effectively met if there was room to expand.

In the new school, to support the 7-12 program, a total of ten 850 sf classrooms will be provided for special education

instruction, together with six 500 sf Resource Rooms and five small group instruction rooms.

MEDICAL

The medical suite will be a dual space that serves 7/8 on one side and 9-12 on the other. The middle space allows for efficient staffing and use of common medical areas, equipment and supplies.

METCO

Belmont has long been a member of the METCO program, which serves non-white children from Boston. It is a voluntary program intended to expand educational opportunities, increase diversity, and reduce racial isolation, by permitting students in certain cities to attend public schools in other communities that have agreed to participate. In the expanded Belmont High School, we would like to provide an office for the METCO director and an 850 sf METCO classroom. The METCO classroom is used for a wide variety of uses during the school day as well as before and after school, including small group instruction, tutoring and meetings with students.

There are currently 43 METCO students at the High School level and 16 in Grades 7-8. The METCO classroom has been eliminated and replaced with a group instruction room for tutoring during the day and provide a before and after school area for student support (open to all students). The total METCO enrollment for Belmont Public Schools is 102 students. METCO students across the district are included, scheduled, and engaged with all other students. At the high school level, students have a “free period” and students choose to gather in various parts of the building including: the cafeteria, the student center / library, the hallways and or in teacher’s rooms. METCO and non-METCO students currently utilize a small space to gather to study, receive tutoring and to relax given their long day of getting to school, going through a full school day and after school and getting home. The breakdown by grade is the following

Kindergarten - 8 students	Grade 1 – 1 student	Grade 2 – 6 students	Grade 3 – 7 students	Grade 4 – 7 students	Grade 5 – 10 students
Grade 6 – 4 students	Grade 7- 9 students	Grade 8 – 7 students	Grade 9 – 11 students	Grade 10 – 10 students	Grade 11 – 12 students
Grade 12 – 10 students		Total 102			

TRANSPORTATION POLICIES AND PROCEDURES

The Belmont Public Schools provide regular day transportation for students in grades Kindergarten through 12. Students in grades K-6 who live at least two miles from their assigned school are provided busing for free, in accordance with MGL Ch 71, § 68. Busing is offered for a fee of \$575.00 for students in grades K-6 who live less than two miles from school and for students in grades 7-12, regardless of distance from school. The district offers partial or full fee waivers, based on household size and income. Fee waivers may be requested by parents and are reviewed confidentially. Due to limited resources, bus service is not offered in some areas of town at all grades, primarily where students live close to school.

The district contracts with a transportation vendor to provide buses and drivers. The district has utilized six 77-passenger school buses for several years, but has added an additional bus in Fiscal Year 2017 and another in Fiscal Year 2018 (for a total of eight buses) in response to growing enrollment and student ridership. In Fiscal Year 2018 there are 826 students registered for busing (256 elementary, 451 middle, 119 high).

The routes set for the eight buses include routes to transport some elementary students to district schools outside of their regularly-assigned elementary school. As new students continue to move into the town, they are placed in this manner in order to balance class size by grade across all elementary schools within the district.

The district is in the process of reviewing bus routes to decrease the number of stops and make the routes driven more efficient, where possible, in order to expedite the arrival of buses to school. This process is being developed in response to increasing student enrollment and ridership, increasing vehicle traffic in town during rush hour, and in light of the fact that each of the eight buses performs routes at multiple levels (elementary, middle and high).

When the grade configuration at Belmont High School changes as part of the current potential building project, routes will be reviewed and altered as needed.

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

BELMONT HIGH SCHOOL 15 MODULE SCHEDULE

	Monday	Tuesday	Wednesday	Thursday	Friday
7:35—7:59	A1	A2	A3 7:35-7:59	A4	A5
7:59—8:24	B1	B2	B3 7:59-8:24	B4	B5
8:27—8:52	C1	C2	C3 8:26-8:51	C4	C5
8:55—9:20	D1	D2	D3 8:54-9:19	D4	D5
9:23—9:49	E1	E2	E3 9:22-9:47	E4	E5
9:52—10:17	F1	F2	F3 9:49-10:14	F4	F5
10:20—10:45	G1	G2	G3 10:17-10:42	G4	G5
10:48—11:13	H1	H2	H3 10:45-11:10	H4	H5
11:16—11:41	I1	I2	I3 11:12-11:37	I4	I5
11:44—12:09	J1	J2	J3 11:40-12:05	J4	J5
12:12—12:37	K1	K2	K3 12:08-12:33	K4	K5
12:40—1:05	L1	L2	L3 12:36-1:01	L4	L5
1:08—1:33	M1	M2	M3 1:04-1:29	M4	M5
1:36—1:59	N1	N2	Staff Meeting Time	N4	N5
1:59-2:25	O1	O2		O4	O5

A. EDUCATIONAL PROGRAM

CHENERY MIDDLE SCHOOL MONDAY, TUESDAY, THURSDAY, FRIDAY BLOCK SCHEDULE

MONDAY, TUESDAY, THURSDAY, FRIDAY			
Grade 5	Grade 6	Grade 7	Grade 8
Homeroom 7:55-7:58	Homeroom 7:55-7:58	Homeroom 7:55-7:58	Homeroom 7:55-7:58
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block A 8:00 - 8:50	Block A 8:00-8:50	Block A 8:00-8:50	Block A 8:00-8:50
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block B 8:52 - 9:42	Block B 8:52 - 9:42	Block B 8:52- 9:42	Block B 8:52 - 9:42
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block B/C 9:42 -10:07	Block C 9:44-10:34	Block C 9:44-10:34	Block C 9:44-10:34
Block C 10:07 - 10:57	Lunch 10:34-10:59	PASSING TIME	PASSING TIME
Walk Class to Cafe 10:57-11:00	Lunch 11:00-11:25	Block D 10:36-11:26	Block D 10:36-11:26
Lunch 11:00-11:25	Block D 10:59-11:49	PASSING TIME	Lunch 11:26-11:51
Walk Class from Cafe 11:25-11:2	PASSING TIME	Block E 11:28-12:18	Block E 11:51-12:41
Block E 11:28 - 12:18	Block E 11:51-12:41	Block E 11:28-12:18	Block E 11:51-12:41
Block E/F 12:18 - 12:43	PASSING TIME	Lunch 12:18-12:43	PASSING TIME
Block F 12:43 - 1:33	Block F 12:43-1:33	Block F 12:43-1:33	Block F 12:43-1:33
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block G 1:35-2:25	Block G 1:35-2:25	Block G 1:35-2:25	Block G 1:35-2:25

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LOCAL ACTIONS & APPROVALS

3.3.4 - PREFERRED SOLUTION

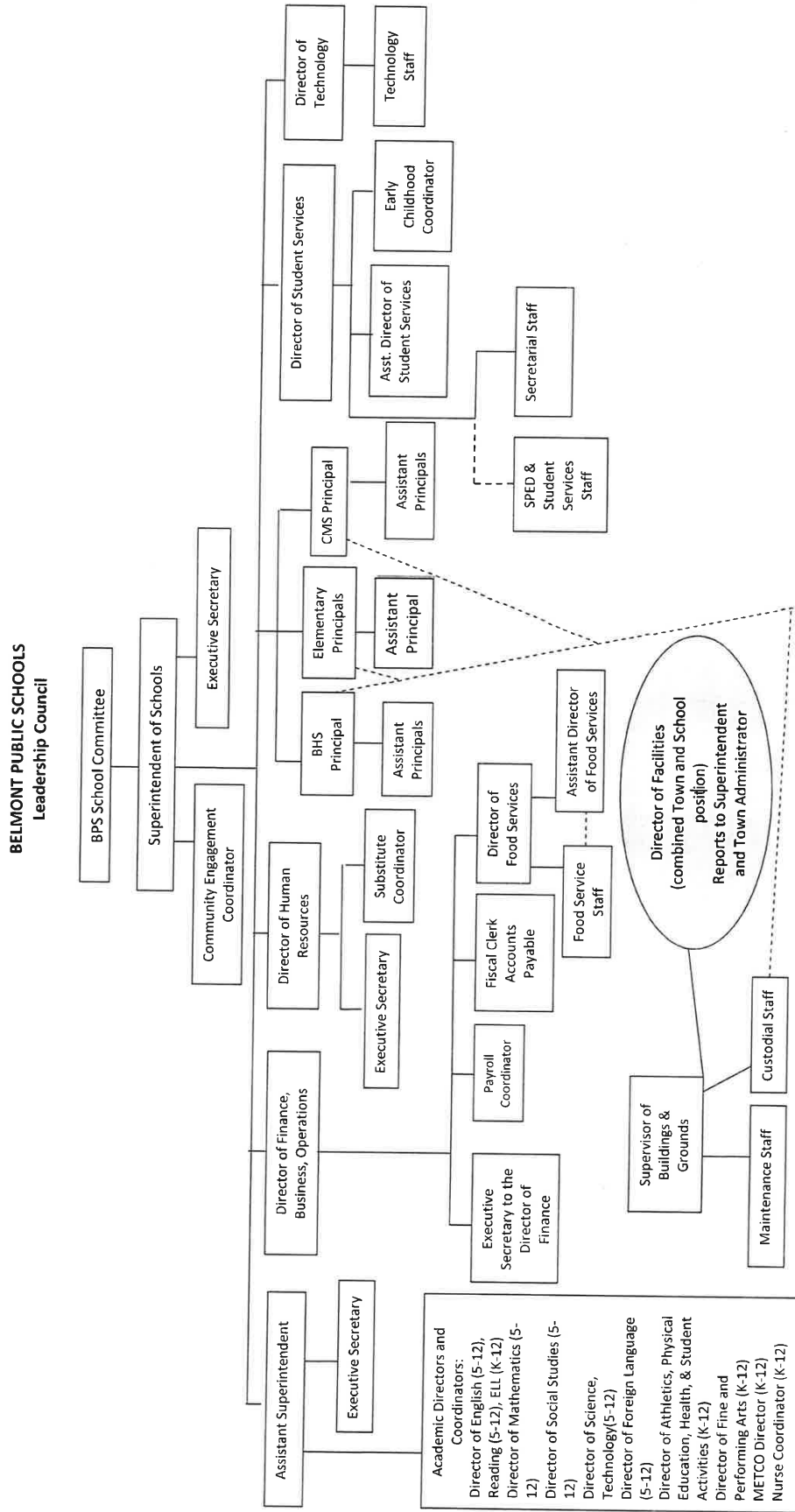
A. EDUCATIONAL PROGRAM

CHENERY MIDDLE SCHOOL MONDAY, TUESDAY, THURSDAY, FRIDAY BLOCK SCHEDULE

WEDNESDAY			
Grade 5	Grade 6	Grade 7	Grade 8
Homeroom 7:55-8:12	Homeroom 7:55-8:12	Homeroom 7:55-8:12	Homeroom 7:55-8:12
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block A 8:14 - 8:52	Block A 8:14-8:52	Block A 8:14-8:52	Block A 8:14-8:52
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block B 8:54-9:32	Block B 8:54-9:32	Block B 8:54-9:32	Block B 8:54-9:32
Block B/C 9:32 - 9:56	PASSING TIME	PASSING TIME	PASSING TIME
Block C 9:56 - 10:34	Block C 9:34-10:12	Block C 9:34-10:12	Block C 9:34-10:12
Walk Class to Cafe 10:34-10:37	Lunch 10:12-10:37	PASSING TIME	PASSING TIME
Lunch 10:37-11:02	Block D 10:37-11:15	Block D 10:14-10:52	Block D 10:14-10:52
Walk Class to Cafe 11:02-11:05	PASSING TIME	PASSING TIME	PASSING TIME
Block E 11:05-11:43	Block E 11:17-11:55	Block E 10:54-11:32	Block E 10:53-11:05
Block E/F 11:43 - 11:57	PASSING TIME	Lunch 11:32-11:57	Lunch 11:05-11:30
Block F 11:57 - 12:35	Block F 11:57-12:35	Block F 11:57-12:35	Block E 11:30-11:56
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block G 12:37-1:15	Block G 12:37-1:15	Block G 12:37-1:15	Block F 11:57-12:35
PASSING TIME	PASSING TIME	PASSING TIME	PASSING TIME
Block G 12:37-1:15	Block G 12:37-1:15	Block G 12:37-1:15	Block G 12:37-1:15

DISTRICT ORGANIZATIONAL CHART

A. EDUCATIONAL PROGRAM



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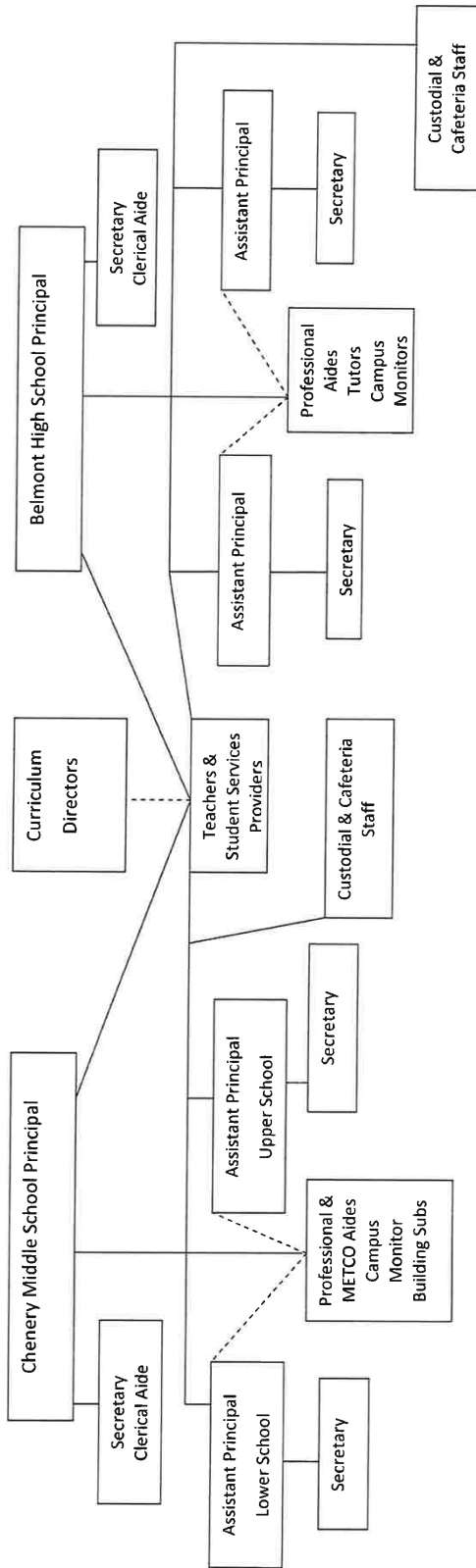
3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

BELMONT HIGH & CHENERY MIDDLE SCHOOL ORGANIZATIONAL CHART

SCHOOL BUILDINGS

Middle and High School

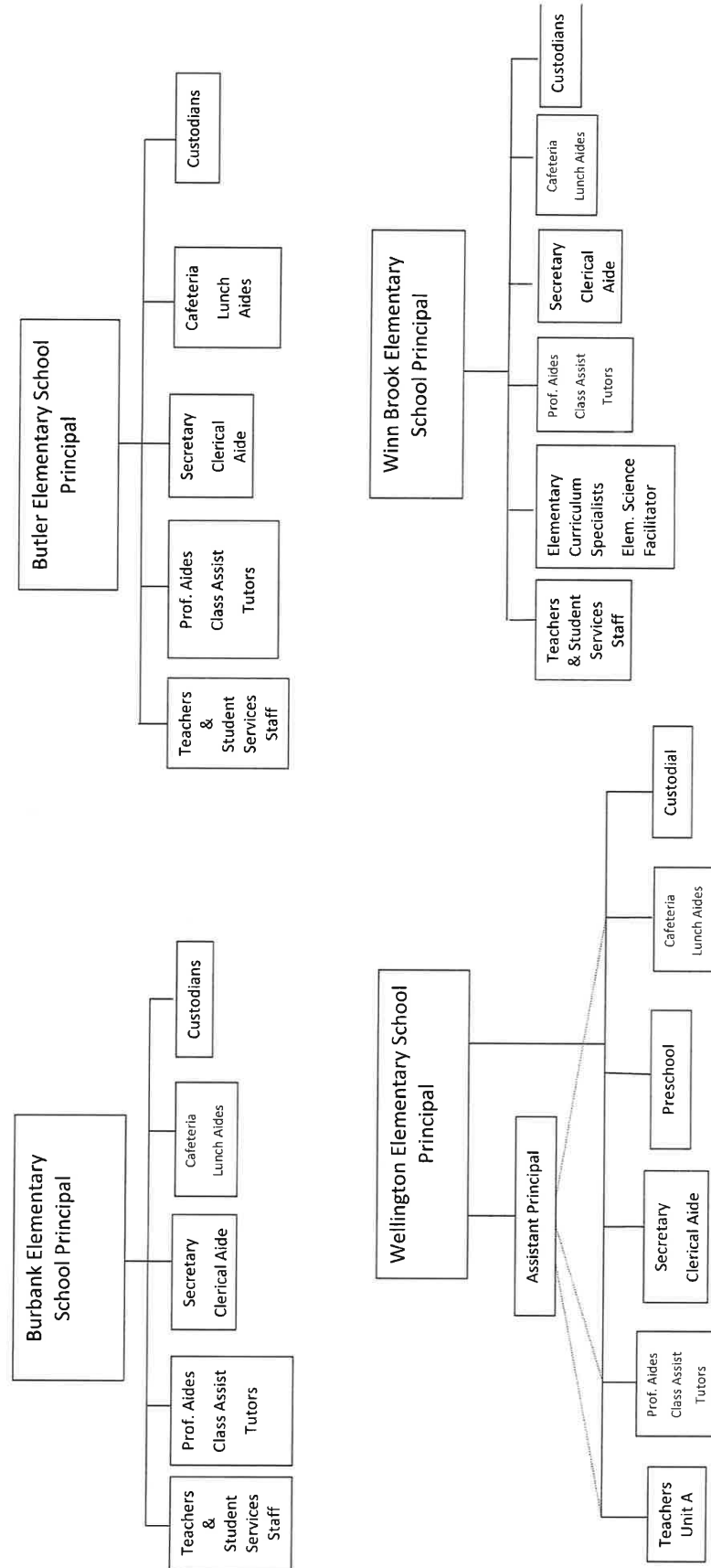


A. EDUCATIONAL PROGRAM

ELEMENTARY SCHOOL ORGANIZATIONAL CHART

SCHOOL BUILDINGS

Elementary



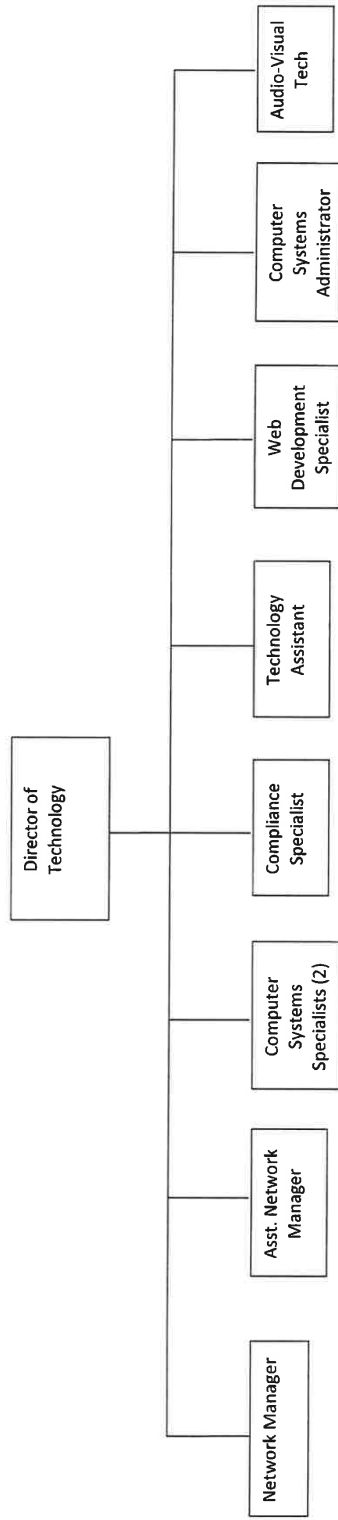
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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

TECHNOLOGY ORGANIZATIONAL CHART

TECHNOLOGY



A. EDUCATIONAL PROGRAM

BPS STAFFING MODEL UNIT A 2017-18

Belmont High School is organized by department while Cheney Middle School is organized by team. Refer to “BPS Staffing Model Unit A 2017-18” below for staffing listing and model of Belmont High School and Belmont Cheney Middle School.

BPS Staffing Model Unit A 2017-2018														Packet #3 Document A		
School	5 Eng/SS	5 Math/Sci	English	Social Studies	Math	Science	Tech Ed	Reading	Special Ed	Music	Art	ELL	Phys Ed/Health	OT	PT	
Cheney	Eaton	Bayardi/Morrow	Lanoix	Panzarella	Vital	Centes	Beche	Mason	Bresnahan	Dagour(4)	Byrnes	Yegen	Chianna	Calden (1.6)	Richards (05)	
	Hynes	Krapp	Salvato	Zmitewski	Coleman	Ligon	Dyer	Watts	Milstein	McLellan	Kelley	Brandt	Schmitt	Smith (1.6)		
	Matthews	Dube	Tracey	Janulewicz	Kausnik	MacAulay			Gannon	Phelps	Libertini		Cocchiola			
	Foundis	Edwards	Niles	Ruane	Michelle	Green			Watkins	Viscardi	Berson		Gonzales			
	Hausman	Helfman	Osborne	Silver	Waters	Nichie			O'Regan	Carson						
	Pulizzi	Khan	Thompson	Semuelo	Communitello	Reginald			Eichenberg	Landers (4)						
	Ferraro	Williams, M	Connors	Tausak	Moyer	Bullard			Cadorette	Reavey(6)						
			Correri	Metter	Golden	Markis			Willis							
			MacKinnon	Blake-Weber	Glick	Markis			Lapolla							
						Huestis (6 coach)			Ahlborn-Hsu							
	School	English	Social Studies	Math	Science	Tech Ed	Science	Not Returning	Reading	Special Ed	Music/Theater	Art	ELL	Phys Ed/Health	OT	PT
High School	Cam (6)	Shea, J (4)	Lints	Partidge		Macnow			Macnow	Ketchen	Milowsky	Murphy	O'Connor	Calden (1.6)		
	Masterson	Shea, J	Olowinski	Chen		McCarthy			McCarthy	Reavey (4)	Larkin		Reynolds	Smith (1.6)		
Richards	Markley	Ziloski/DiFonte	Lovett (8)	Lewis		Bruce			Bruce	Landers (6)	Roy		Martino			
Hurtubise	Schechinger	Pasternak (4)	Shah/Phillips	Kim (2)	McLeod	Bruno			Bruno		English		Asadoorian, S			
Turner	Yazdhiba	Pritchard	Phillips	Elfredh		Electorids			Electorids	Hum (4)			Ginst (2)			
Brow (4)	Comant	Dachoff	Carow	Neuburger												
	Saffier/Rothenberg	Streit	Aller	Abbruzzese					Sullivan (6)	Asadoorian, A (2)						
	Fant	McCabe	Moresco	Defarias					Kristen (4.5+6)							
	Bloom	Golfine	Grossi	Williams												
	Reynolds	White	DeLorio	Lefebvre												
	Lockwood-															
	Santiago	Prevost	Harper	John												
	Bosch	Berkman	Shelli/Carlivati	Loosman												
		Shaw	Pulido	Baker (2)												
		McDevitt (2)	Solitozy (2)													
		Melnikoff (Community Service)														

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM

BPS STAFFING MODEL UNIT A 2017-18

BPS Staffing Model Unit A 2017-2018

School	SLP	Psych	Autism	Guidance	Nurse	Not Returning	Social Wk/A dj	French	Spanish	Latin	Chinese	Library
Chenery	Maggier (4) McCann	Learner Frankhouser (2)		Hawkins Culver Quinn Vestein	Hogrefe/Chan Rimbley (6) Jackman (2)		Lazar	Alexis Pruitt/Tanner (3)	Sanchez Pruitt/Tanner (7) Anderson	Manca	Zhang	Duff, K
High School	Maimon (5)	Glantzbecker Wizantizer (33)		Brown Ross Rowley Jaylor King Riatic	Jackman (5) MacKinnon			Kaiser (6) El-Gamel Sullivan, I. (6)	Gaschnia-Bobrow Fraser/English (8) Sullivan, I. (4) Machtesh Talamas Foley (2) Porter (6)	Brown (6) Dunn	Chung-Swellom (6) Gu (6)	Landry

A. EDUCATIONAL PROGRAM

CHENERY MIDDLE SCHOOL STAFFING LISTING BY TEAM AND PROGRAM FUNCTION

Packet #3
Document B

Grade	Subject	Room	Phone	Subject	Room	Phone	Subject	Room	Phone
5th	Eng/SS	216	8216	ELA	201	8201	English	303	8303
	Math/Sci	217	8217	SS	200	8200	Geography	301	8301
	Eng/SS	219	8219	Science	208	8208	Science	308	8308
	Math/Sci	218	8218	Math	235	8235	Math	302	8302
6th	Eng/SS	221	8221	ELA	207	8207	English	308	8308
	Math/Sci	220	8220	SS	205	8205	Geography	307	8307
	Eng/SS	222	8222	Science	210	8210	Science	310	8310
	Math/Sci	224	8224	Math	203	8203	Math	305	8305
7th	Eng/SS	223	8223	ELA	209	8209	English	311	8311
	Math/Sci	227	8227	SS	214	8214	Geography	315	8315
	Eng/SS	226	8226	Science	215	8215	Science	314	8314
	Math/Sci	229	8229	Math	211	8211	Math	317	8317
8th	Eng/SS	231	8231	Health	103	8103	PE	Gym	6158
	Math/Sci	230	8230	Engineering	119	8119	Health	Gym	6158
	Eng/SS	232	8232	Engineering	117	8117	Music	143	8143
	Math/Sci	233	8233	Library	100	8100	Music/Chorus	144	8144
9th	Eng/SS	234	8234	Art	110	8110	Music/Chorus	141	8141
	Math/Sci	235	8235	Art	113	8113	Band/Music	140	8140
	Eng/SS	236	8236	Art	213	8213	Band/Music	140	8140
	Math/Sci	237	8237	Art	313	8313	Orchestra	Aud.	1011
10th	Eng/SS	238	8238	PE	Gym	6154	Orchestra	Aud.	1011
	Math/Sci	239	8239	PE	Gym	6154	METCO Tutor	Aud.	1011
	Eng/SS	240	8240	Head	Clinic	5806	Staff Support	LCR	6146
	Math/Sci	241	8241	Nurse	Clinic	5806	US Conference Room	LCR	6146
11th	Eng/SS	242	8242	Nurse	Clinic	5806	OT/CSA	Lab	6118
	Math/Sci	243	8243	Nursing	Clinic	5806	Library	Main	5801
	Eng/SS	244	8244	Director	Clinic	5806	Lab 202	Lower	5820
	Math/Sci	245	8245	Director	Clinic	5806	Lab 202	Upper	5830
12th	Eng/SS	246	8246	Mathematics	111	8111	LS Copy Room	6232	6232
	Math/Sci	247	8247	ELL	212	8212	Director's Office	6511	6511
	Eng/SS	248	8248	ELL	212	8212	Director's Office	6511	6511
	Math/Sci	249	8249	ELL	233	8233	Director's Office	6511	6511

Updated 8.1.2017

LOCAL ACTIONS & APPROVALS

PREFERRED SOLUTION

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VISUAL LISTENING : BHS FACULTY

Belmont High School

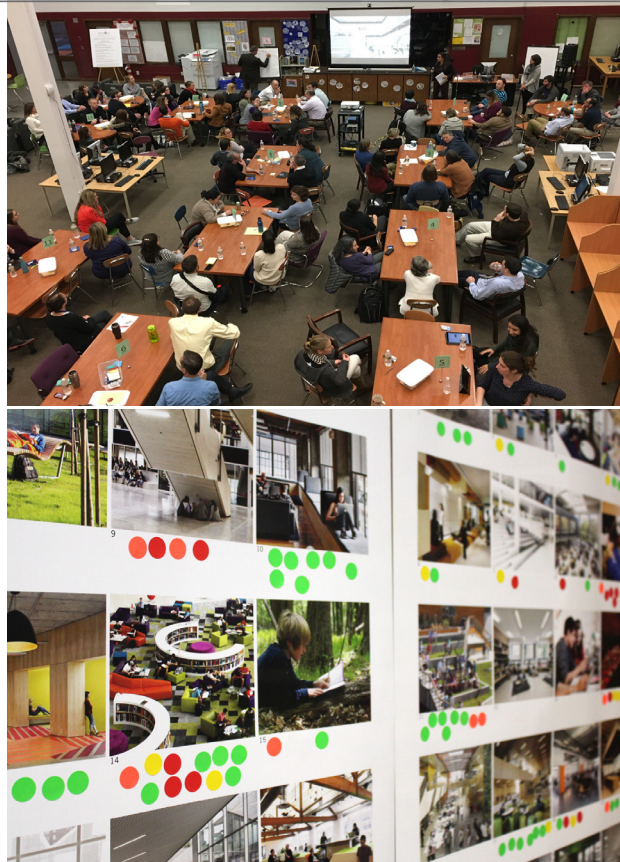
IMAGE FEEDBACK VISUAL LISTENING

Purpose of 'Visioning Listening'

- To gauge feedback from key stakeholders through a selection of varying graphic images intended to describe certain feelings/spacial constructs that could describe potential educational space for this new project.
- This process is intended to begin to clarify who they are and what they are attracted to.
- Images are grouped into nine key categories : **Arts, Environmental Stewardship, Outdoor Learning, Personal Reflection, Socialization, Emotional Response, Athletic+Wellness, Group Learning, and Space for Making**

Rules of Engagement

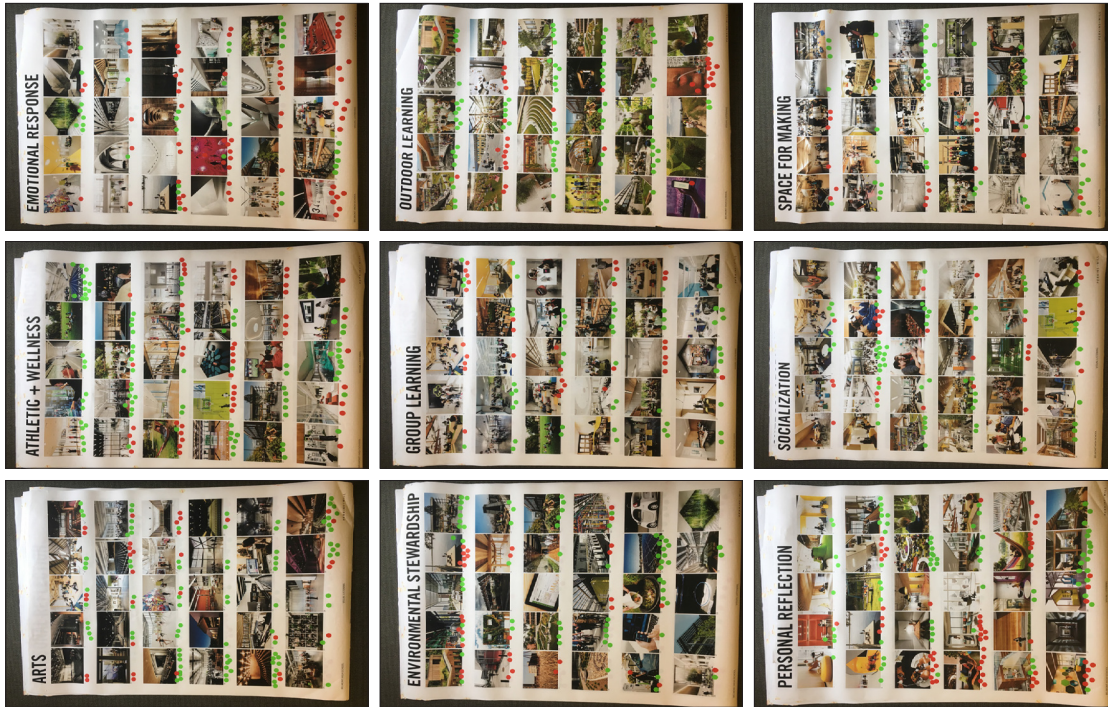
- Grab some Dots :
 - Green (like) and Red (dislike)
- React and pick your favorite (and least favorite) images from each of the eight categories
- P+W will collect data from stakeholder feedback



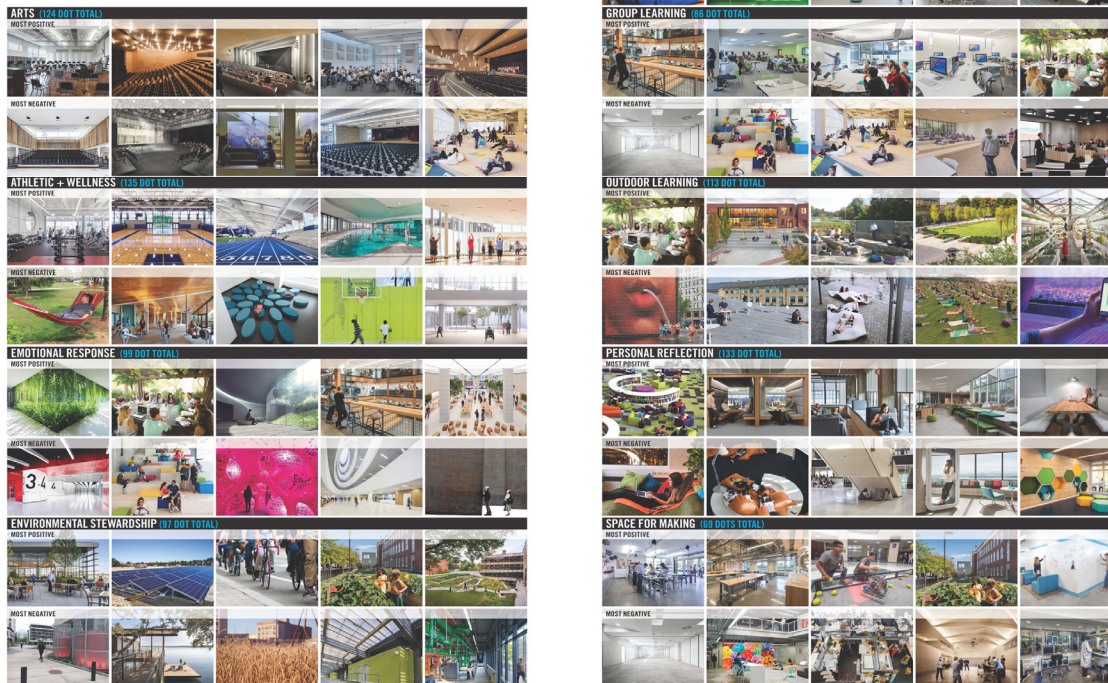
A. EDUCATIONAL PROGRAM / BHS Faculty Visioning

VISUAL LISTENING / BOARDS

● Like
● Dislike



VISUAL LISTENING SUMMARY (TOP 5 / BOTTOM 5)



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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM / CMS Faculty Visioning

VISUAL LISTENING : CMS FACULTY

Belmont High School

IMAGE FEEDBACK VISUAL LISTENING

Purpose of 'Visioning Listening'

- To gauge feedback from key stakeholders through a selection of varying graphic images intended to describe certain feelings/spacial constructs that could describe potential educational space for this new project.
- This process is intended to begin to clarify who they are and what they are attracted to.
- Images are grouped into nine key categories : **Arts, Environmental Stewardship, Outdoor Learning, Personal Reflection, Socialization, Emotional Response, Athletic+Wellness, Group Learning, and Space for Making**

Rules of Engagement

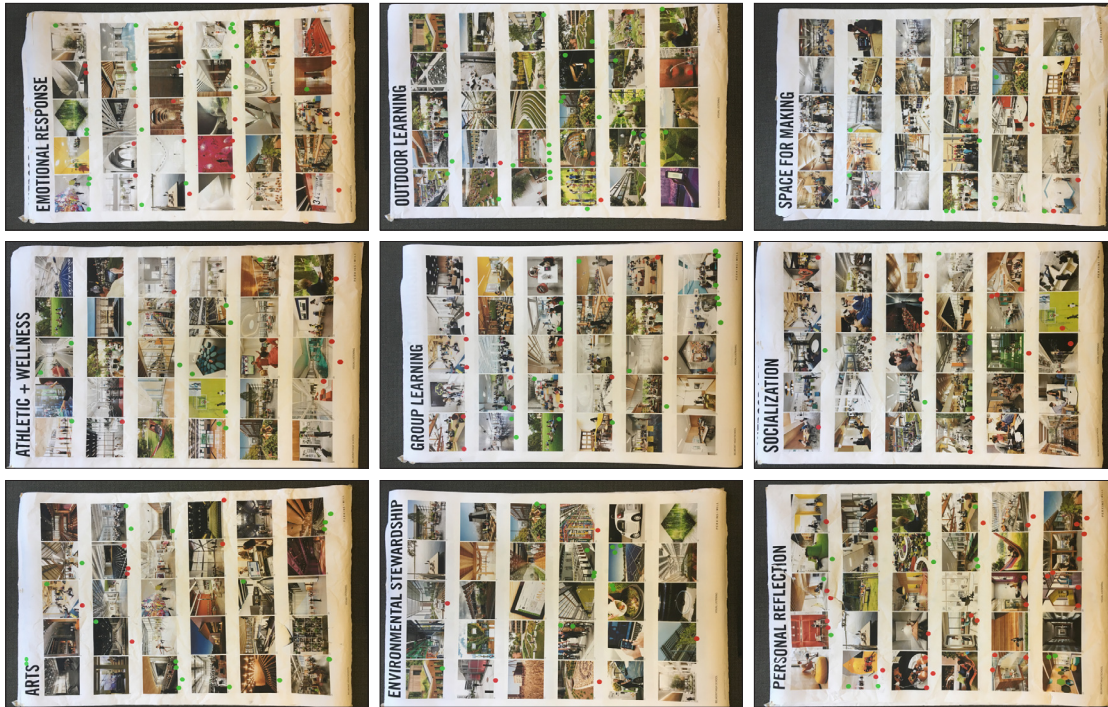
- Grab some Dots :
 - Green (like) and Red (dislike)
- React and pick your favorite (and least favorite) images from each of the eight categories
- P+W will collect data from stakeholder feedback



A. EDUCATIONAL PROGRAM / CMS Faculty Visioning

VISUAL LISTENING / BOARDS

● Like
● Dislike



VISUAL LISTENING SUMMARY (TOP / BOTTOM - RATED IMAGES)

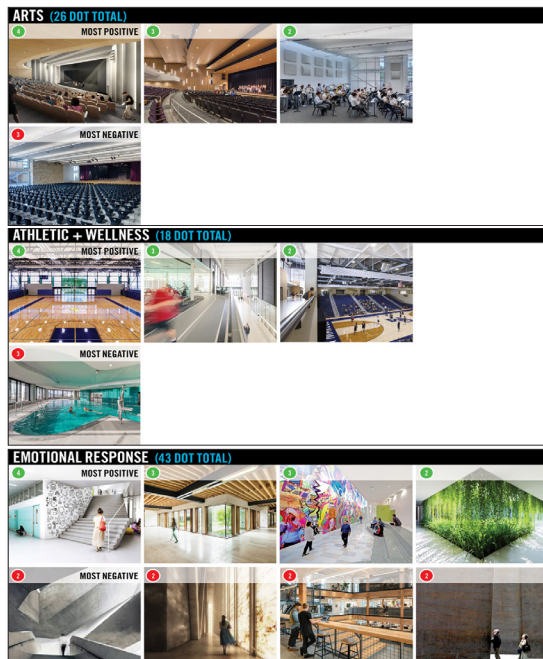


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PREFERRED SOLUTION

LOCAL ACTIONS & APPROVALS

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM / CMS Faculty Visioning

VISUAL LISTENING

SUMMARY (TOP / BOTTOM - RATED IMAGES)



DISCUSSION NOTES

HOW DO WE IMPROVE UPON THESE SPACES?

1. LEARNING COMMONS

- Books, E-Books
- Use Carts, Mobile (currently)
- Teach small groups/classes 4-5 people (quiet) - Collaborate
- Not too much glass – distracting
- Audio Recording, Writing by Audio/Speaking
- Video Production, Green Screen
- More Small Spaces – Safe place for 7-8 people
- Classrooms, Small Group Spaces, Diversity of Space
- Comfy Furniture, Standing Desks, Variety
- Monitor of Space? Dedicated Staff? Supervised? After Hours? Secure
- Space for Books
- Tech Spaces with Acoustic Separation
- Video Production Room
- More Small Spaces for MS Students
- Air Conditioning

2. CIVIC COMMONS - CAFETERIA

- Too Big, Too Loud (currently)
- No Corridors, Need Acoustic Treatment
- Variety of Space to Serve Food
- Cozy Areas, Monitored/Supervised
- Flex Seating/ Bench, Booth Seating
- Recycling
- Smaller Spaces
- Better Access

3. OUTDOORS

- Garage Doors – Art ok, Not great otherwise – distracting in classroom
- One Outdoor Space Per Team, Access to Outside
- Courtyard – Outdoor, Secure
- Roof Garden – Not ideal, Danger, Need Enough Protection
- Working Space Defined – To Write, Think, etc.
- Better Protection for Roofs
- Greenhouse on Roof

4. CLASSROOMS

- Less Glass in Class for MS Students – Distracting!
- Diversity of Organization of Classroom – Flex of Use, Furniture
- Merge Classrooms Together a Possibility
- Moving Partitions that are Acoustic
- Natural Light, Operable Windows, A/C
- Can't Think When it's Too Hot
- Need Control of Natural Light – Glare (Movies, etc.)
- Safe, Efficient Emergency Exit / Process
- Connecting Doors Between Classes
- Differences in Team Classrooms for Flexibility
- Operable Walls
- Window Treatments for Less Distraction

A. EDUCATIONAL PROGRAM / Community Engagement Visioning

PERKINS+WILL

December 18, 2017
 Re: Belmont High School Community Visioning – December 14, 2017

VISUAL LISTENING : MOST LIKED (At least 3 Green Dots)



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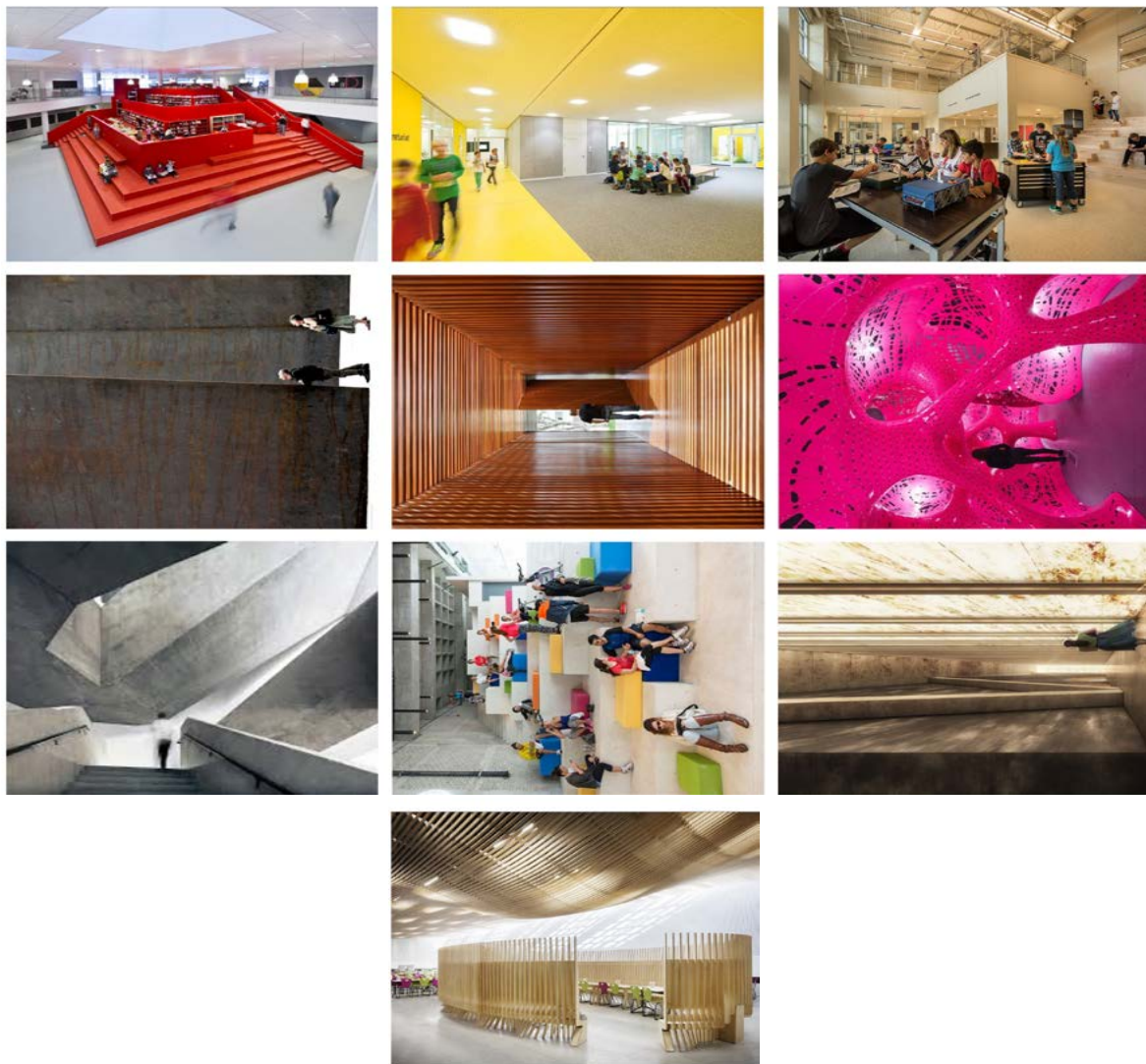
A. EDUCATIONAL PROGRAM / Community Engagement Visioning

PERKINS+WILL

December 18, 2017

Re: Belmont High School Community Visioning – December 14, 2017

VISUAL LISTENING : MOST NOT PREFERRED (*At least 2 Red Dots*)



A. EDUCATIONAL PROGRAM / BHS Faculty “Mash-Up” Exercise



BHS FACULTY : ‘MASH-UP’ EXERCISE

Belmont High School

BHS FACULTY WORKSHOP ‘MASH-UP’ EXERCISE

- **Break up into Working Groups**
- **Question**
 “How can traditional and non-traditional placement of educational spaces support teaching and learning in new ways?”
- **Explore**
 Working groups to prepare adjacency diagrams with educational spaces. Take cut-outs of the major spaces and tape them to a board to create a compelling adjacency diagram.
- **Report Back**
 Each team to present their arrangement and ideas that support their argument.



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A. EDUCATIONAL PROGRAM / BHS Faculty “Mash-Up” Exercise

‘MASH-UP’ EXERCISE / BOARDS



‘MASH-UP’ EXERCISE / BOARDS



A. EDUCATIONAL PROGRAM / BHS Faculty “Mash-Up” Exercise

‘MASH-UP’ EXERCISE SUMMARY

Group 01

- Classrooms should be surrounded by teacher planning spaces.
- Administration and Library Common spaces centrally located in school

Group 02

- Department Directors’ offices should be in/next to department offices (same subject)
- Teacher planning areas should be by subject (location does not matter)
- A common workplace for teachers of all subjects (in addition to dept. / subject offices)
- Interdisciplinary work / Innovation space should be open to surrounding school.
- Administration spaces should be near health/wellness/medical/psych. spaces.
- Technology spaces near Art spaces could create interesting projects and ideas.
- Science of same subject should be located together - to share resources / equipment

Group 03

- U-shaped classroom configuration
- Science and Art facing pond/nature

- Cafeteria commons has connection to pond
- Quiet spaces for students to focus
- Kiln needed for Arts programs
- Protected Bike racks
- More space for restrooms and teacher planning

Group 04

- Art spaces near Robotics could create dynamic projects
- Buffer the acoustics of Art spaces with surrounding school
- Have nurse space near the outdoors - access to athletics
- Administration and Guidance do not need to be together - spread out throughout the school

Group 05

- Maintain current departmental system for academic spaces
- Need Tennis Courts, Daycare
- Administration spaces should be near Guidance and Medical spaces.
- PE spaces should be located near outdoors
- Science Labs to be located together

‘MASH-UP’ EXERCISE SUMMARY

Group 06

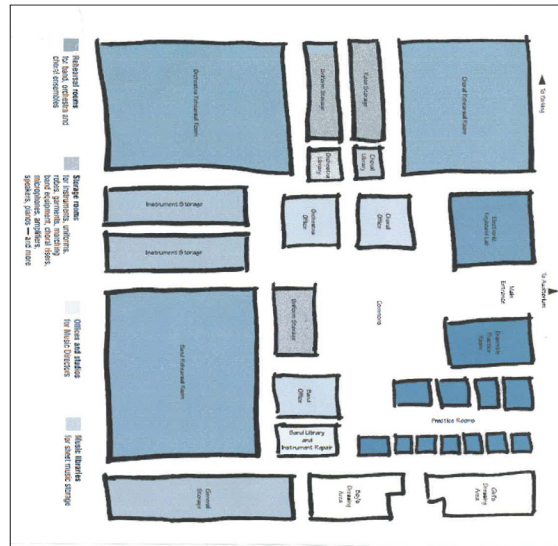
- Integrate Science Labs with the Arts
- Keep current academic Departmental Model
- Teachers need desks/storage in classrooms
- Keep current academic Departmental Model
- Teachers need desks/storage in classrooms

Group 07

- Cafeteria Commons can mix with the Learning Commons
- Have event spaces near parking for high volume outside participation / visiting
- Create ‘fun’ display spaces
- Need a highly flexible / multi-functional space in core of the school
- Recreational space (golf?) on roof terraces
- What recreational do we not have? Outdoor Basketball

Group 08

- Create an ideal / dynamic theater area (see diagram to right)
- Need more storage / changing rooms for Music spaces
- Create a shared Common space on ground level
- Devote one building level to Science / Labs



Idea theater / arts area layout (provided by group 08)

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning



03.22.2018 BUILDING COMMITTEE MTG

BELMONT HIGH SCHOOL

01/ VISIONING RECAP

BELMONT HIGH SCHOOL

PERKINS+WILL

BUILDING COMMITTEE MEETING / MARCH 22, 2018

VISIONING RECAP

09.19.2017 2-DAY BHS VISIONING SESSION

12.13.2017 BHS FACULTY WORKSHOP 01

12.14.2017 COMMUNITY ENGAGEMENT

01.08.2018 CMS FACULTY WORKSHOP

01.31.2018 BHS FACULTY WORKSHOP 02

VISIONING RECAP : COMMON WORKSHOP ACTIVITIES

VISUAL LISTENING	K-12 TRENDS	DEFINE CORE SPACES	ADJACENCY DIAGRAMS
<p>To gauge feedback from key stakeholders through a selection of varying graphic images intended to describe certain feelings/spacial constructs that could describe potential educational space for this new project.</p> <p>Images are grouped into nine key categories :</p> <p>Arts, Environmental Stewardship, Outdoor Learning, Personal Reflection, Socialization, Emotional Response, Athletic+Wellness, Group Learning, and Space for Making</p>	<p>A short discussion that brings the group up-to-date and summarizes innovative educational thinking through the lenses of educational experts that might redefine how new school space supports and responds to a future ready environment. Desired outcomes include:</p> <ul style="list-style-type: none"> • Develop guiding principles • Move educational thinking • Build consensus around future pedagogy • Support new behaviors 	<p>To brainstorm with stakeholder groups on how to define core academic programs that will inform the new school design. The group is asked to call out attributes, ideas, and innovative thoughts that they would like to see in the new school. Examples:</p> <ul style="list-style-type: none"> • How do you define outdoor learning? • How have we emerged from the traditional library? • How do you see the new cafe commons being used? 	<p>The stakeholder group is prompted to define “How can traditional and non-traditional placement of educational spaces support teaching and learning in new ways?” Participants are broken up into working groups to prepare adjacency diagrams with major educational spaces.</p> <p>Each group arranges printed spaces and tapes to a board to create a diagram, then is asked to present their arrangement and ideas that support their argument.</p>
			

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning



09.19.2017 BHS VISIONING SESSION

BELMONT HIGH SCHOOL

VISIONING RECAP

09.19.2017

2-Day Belmont High School Visioning Session

ASPIRATIONS OF BHS

- **Flexibility:** Spaces that support wide range of teaching/learning
- **Environment:** Use of Natural Surroundings, Light, Utilize Roof
- **Social Emotional Learning:** Mindful, Comfortable, Safe, Empathy
- **Community:** Commitment to Collaboration and Serving/Partnering with surrounding Belmont area
- **Professional Development:** Project-based learning, learn from failure, mentorship, outside influence

STORYTELLING SYNOPSIS

- **Learning Outside the Classroom**
- **Collaboration in the Classroom**
- **Critical of Conventional Outlooks**
- **Encourage Risk-Taking/Failure**
- **Authentic Learning - Not Fabricated**

LEARNING POINTS

- **Anticipate Unknown:** Design for Interconnected, Multiple Disciplines
- **Inclusive Design:** Diversity on Display
- **Increase Wellness and Activity**
- **Convergence:** Merging of Approaches and Insights from distinct disciplines
- **Technology:** Determine how technology can support the right pedagogy/ purpose, not other way around.
- **Blended Learning:** Every student has different learning needs - Personalize, build passion.
- **Gen Alpha:** Planning for a generation raised on interactive/interconnected technology - 65% will end up with jobs not yet invented in new economy.
- **Future Student:** Ability to relearn, be creative, be tenacious, be curious, be flexible, take risks and communicate effectively

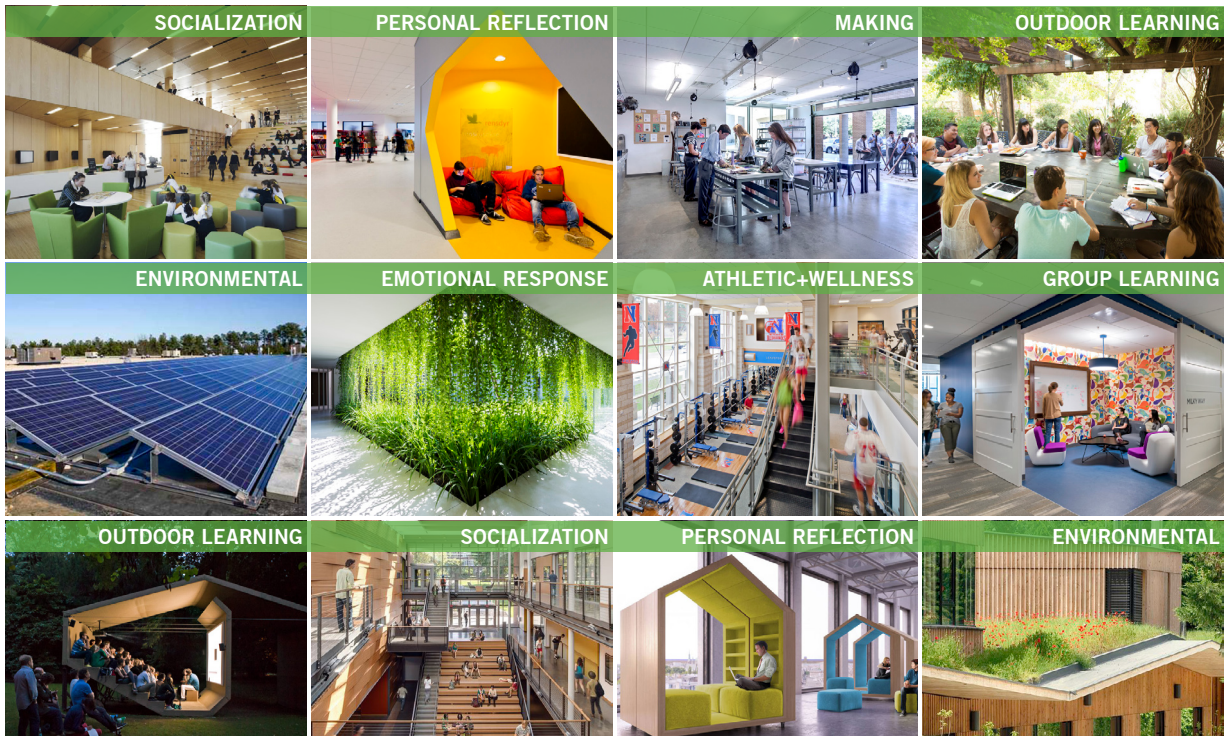
- **Arts:** 'Studio Thinking' teaches how to Observe, Envision, Critique, Express, Explore, Engage, Improve Emotion, Learn from Others
- **SEL:** Reduces Emotional Distress and Negative Behaviors and develops Interpersonal + Intrapersonal skills

CREATING A SENSE OF PLACE, PRIDE, AND CULTURE

- **Events:** 'Band-A-Rama', 'String-A-Rama', and 'Sing-A-Rama', Lillian Blacker Prize
- **Environment:** Claypit Pond, Surrounding Area
- **Activities:** School Trips, Pep Rallies, Activity Fairs, Volunteering, Sports
- **Diversity:** Unity March, Community, ELL
- **Art:** Showcase-Murals, HS Musical
- **Freedom:** Free Periods, Open Campus
- **History:** Farming Community

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning
VISIONING RECAP : MOST POSITIVE VISUAL REACTIONS
 2-Day Belmont High School Visioning Session

09.19.2017



VISIONING RECAP : MOST NEGATIVE VISUAL REACTIONS
 2-Day Belmont High School Visioning Session

09.19.2017

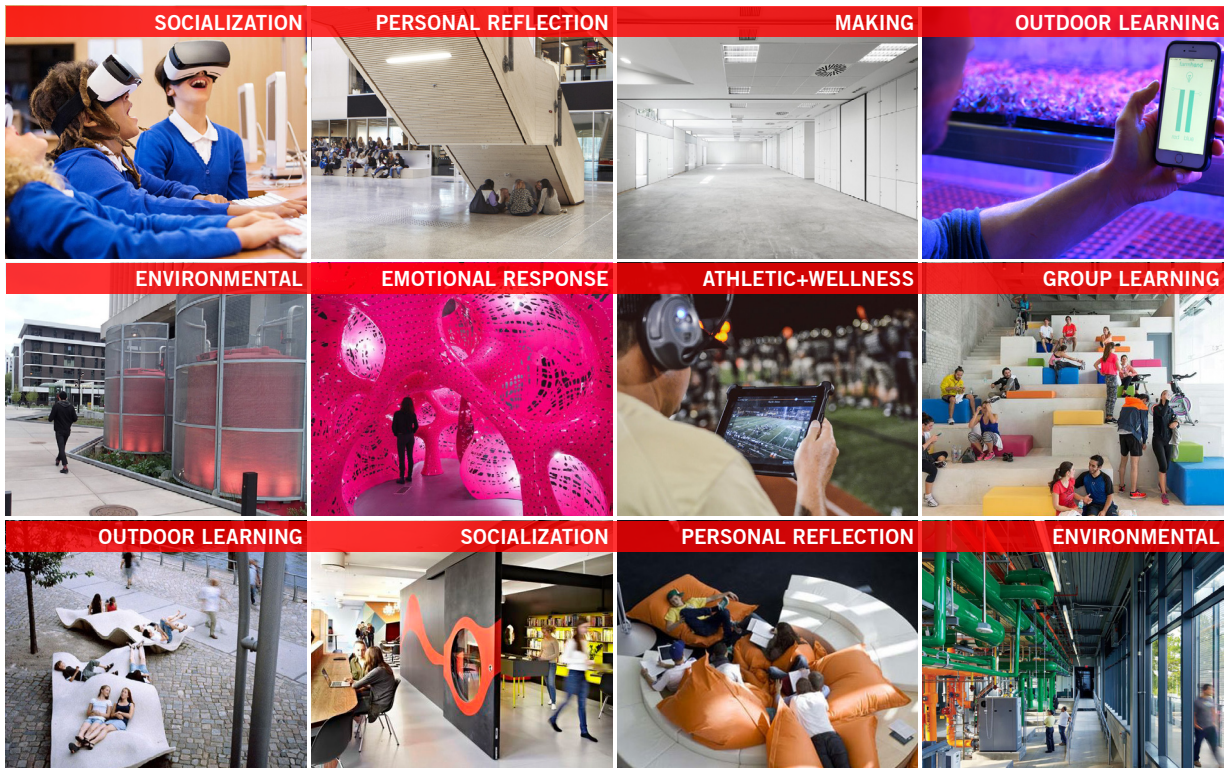


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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning



12.13.2017 BHS FACULTY WORKSHOP 1

BELMONT HIGH SCHOOL

PROMPT : PROVIDE FEEDBACK ON THE FOLLOWING SPACES

12.13.2017

Belmont High School Faculty Workshop 01

LEARNING COMMONS

- Student Display Space
- Furniture that is flexible in the Learning Commons
- Furniture that allows students to plug in their tech devices
- Availability of books
- Air Conditioning
- Low bookshelves on wheels – Flexible
- Civic Use : Space for community meetings with outside access
- Used by faculty – faculty workspace
- Screen for daily announcements
- Separate quiet spaces for students & teachers
- Natural light
- Diversity of spaces (quiet rooms, small group, large group, etc.)
- Ample & secure storage/lockers for student gear
- Direct connection / easy access to outdoor spaces

CIVIC COMMONS / CAFE

- Not a 500 seat space in one area
- Includes smaller spaces / breakout spaces
- High ceilings – better natural lighting
- A space used more than just to eat in
- Better recycling
- Available Composting
- Stage in Commons for performances
- More than one entrance for food servery
- Better ventilation in space
- Multi-use/big corridor with tables out at lunch time, then for other uses
- Growing food – Farm to Table (Roof Gardens?)
- Better traffic patterns

COLLABORATION SPACE

- Private, but visible to students
- Small private spaces for individual work - quiet spaces (soundproof)
- Some individual area / thinking (me) space
- Mental health spaces that allow for group work
- Confidential / private meetings with students
- Flexible space
- Soft seating furniture available
- Big table space - Space to spread out
- Space where you can leave ongoing projects/work
- Departmental collaborative space with space available for interdisciplinary collaboration between departments
- Music in collaboration space - Bluetooth audio
- Everyone to get “own” desk

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

PROMPT : PROVIDE FEEDBACK ON THE FOLLOWING SPACES (CONT.)

12.13.2017

Belmont High School Faculty Workshop 01

OUTDOOR SPACES

- Separate teacher bike parking
- Outdoor classroom space
- Places to eat
- Ropes course
- Art rooms opening to the outside
- Greenhouse / Butterfly Garden
- Provide outdoor basketball courts
- Outdoor Amphitheater
- Lighting needed – Practice fields and parking lots
- Large courtyards – Protected spaces
- Marching band practice space
- Sidewalk chalk areas

- Display on the walls – student work
- Movable walls - Garage doors
- Acoustically separated spaces - soundproof
- Whiteboard / writing surfaces
- Flexible Furniture - Allow students to move and change spaces
- Stand or sit spaces – students need to move around (wellness)
- Soft flooring
- Large spread out space
- Need backpack storage in class – students barely use corridor lockers
- Centralized storage/locker space in school
- Balance – with screening for privacy
- Provide window shades – views can be distracting to students
- One-on-one spaces
- Special ventilation in art / maker spaces



CLASSROOM SPACE

- Need bigger rooms / spaces
- Technology in work spaces
- Desks for lefties
- How do we fit the needs of Belmont?

VISUAL LISTENING : PLACE A GREEN DOT ON YOUR LIKE & RED DOT ON YOUR DISLIKE

12.13.2017

Belmont High School Faculty Workshop 01



● Like
● Dislike

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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

VISIONING RECAP : MOST POSITIVE VISUAL REACTIONS Belmont High School Faculty Workshop 01

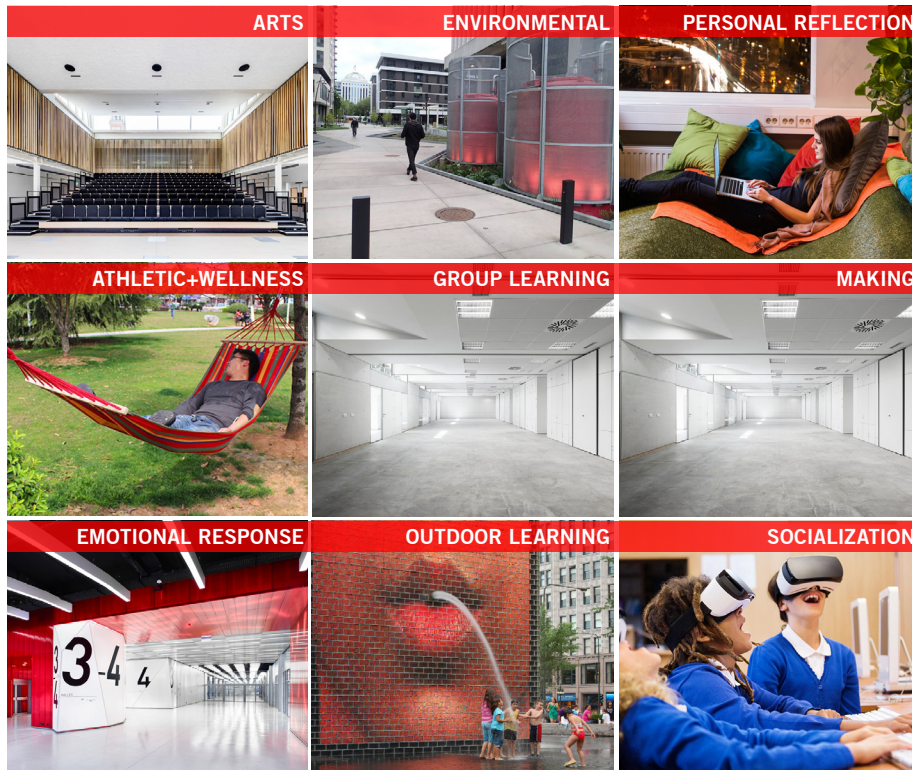
12.13.2017



Like

VISIONING RECAP : MOST NEGATIVE VISUAL REACTIONS Belmont High School Faculty Workshop 01

12.13.2017



Dislike

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning



12.14.2017 COMMUNITY ENGAGEMENT

BELMONT HIGH SCHOOL

PROMPT : PROVIDE FEEDBACK ON THE FOLLOWING SPACES

12.14.2017

Community Engagement Workshop

LEARNING COMMONS

- Ability to connect – Network/Internet connectivity
- No dark spaces
- Some individual spaces / learning spaces
- A diversity of learning spaces
- More collaborative spaces
- Large conference room
- Area for tutoring
- Project team spaces
- Books and variety of other media/ materials
- Variety of media spaces
- Different seating furniture & variety for different learning styles
- Café space
- Media/Editorial spaces and technology
- Movable walls – flexible spaces
- Allow writing on walls
- Lots of natural light

- Extending space to the outside – integrate the outdoors
- Mentoring space
- Not one big space, break-up / distribute areas
- Connectivity to personal devices
- Some space for quiet individual learning
- Some larger collaborative spaces
- Current hours (library): 7:30am – 3:30pm, think about extending hours for afterschool homework, activities
- Project team space with places to make thinking visible – white boards, smart boards
- Include all multimedia: computers, books, cameras, art
- Community space – outside experts and community meetings where students can participate

COLLABORATION SPACE

- Small “low tech” spaces – meeting spaces that are quiet, focused and private - no connectivity with technology
- Informal spaces for people to spontaneously work together, spaces off corridors
- Cross-disciplinary space – large hybrid space for departments to meet/collaborate
- Ability to combine classrooms
- Movable walls
- Flexible & movable furniture
- Places for HS students to work with/ mentor MS students
- Small private spaces for teachers to work one-on-one with students
- Multiple ways to connect spaces and move around the building
- Opportunity for community engagement with students
- Meditative space

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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

PROMPT : PROVIDE FEEDBACK ON THE FOLLOWING SPACES (CONT.)

12.14.2017

Community Engagement Workshop

OUTDOOR SPACE

- Connect the outside to school curriculum – learn about sustainability, science, art, ecosystems, etc.
- Promotes health & wellness with walking paths and meditative retreats
- Integration with the Community Path
- Use and take advantage of the existing pond
- Multiple access points to outdoors, easy accessibility for classes
- Create spaces in environment - Outdoor classrooms
- Greenhouse spaces – learning tool
- Sustainable thinking - View building and site as a complete system
- Beautiful / inspiring landscape design
- Allow students to become stewards of their own environment
- Purposeful gardens – Grow food for Café/Food Pantry, Curriculum
- Recycling and Composting programs

- Expose the utilities – make systems visible for education
- Interior courtyards – protected and allow natural light
- Green roofs

CIVIC COMMONS / CAFE

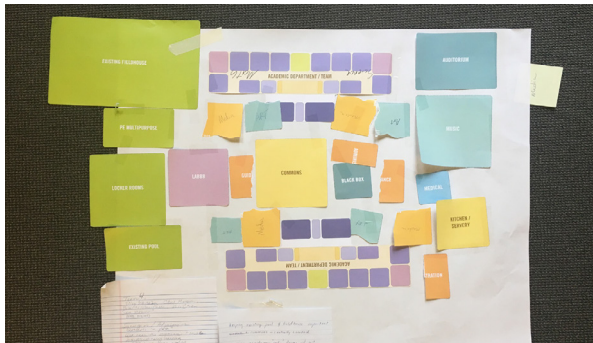
- Café / coffee house style for small group collaborations
- Hierarchy of multiple spaces - not one large (massive) space
- Good acoustic treatment – sound absorbing materials
- Social space (throughout the entire day)
- Maybe one large space – Need large space for big events (multi-use space)
- Small (multiple) performance spaces
- Natural light - Lots of windows
- Connection to outdoors - Outdoor space & seating
- Collaborative space
- Exhibit space



PROMPT : CREATE AN ASPIRATIONAL ADJACENCY DIAGRAM TO ENHANCE EDUCATION

12.14.2017

Community Engagement Workshop



A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

ADJACENCY DIAGRAMS : REPORTING BACK

12.14.2017

Community Engagement Workshop

GROUP 01

- Learning Commons - Centrally Located
- Important to keep existing gym and pool
- Mix academic 'only' spaces and core classrooms with art, music, and media
- Multiple locations for Administration and Guidance

GROUP 02

- Assume keep Fieldhouse and Pool
- Art program adjacent to science labs and courtyards (natural light)
- LABBB near arts and science for academic opportunities
- Music programs near Auditorium
- As much outdoor space as possible between major spaces
- Commons and Auditorium in good position for after school use

GROUP 03

- Keep Athletics together
- Commons are thought of as "student living lounge" – open late for students that spend 16 hours a day at school.
- Wellness and medical are key programs

- "Lounge Learning" spaces make the physical space as comfortable as possible – can be breakout spaces (along corridors).

GROUP 04

- LABBB program needs direct access to outdoors / van drop-off access
- Need separation between upper and lower schools
- Art/Music near science labs
- Varying/hierarchy of big spaces/major programs
- Media/Commons are varying spaces that are broken up throughout building.
- Private / focus spaces near classrooms
- Ability to expand Auditorium into Commons
- Guidance more integrated, not adjoined to admin - more distributed
- Distribute Media Center
- Not long corridors in Academic 'pods'

GROUP 05

- Art is near everything
- Varying Media areas

- Kitchen/Cafeteria connects to greenhouse and outdoors

- Foreign language near commons

GROUP 06

- Commons and Administration: A more integrated student and admin space relationship – create better relationships, chance encounters. Gives the admin a better chance of getting a pulse of the school.
- Commons are where students are most open and relaxed
- Commons and Academic departments: Creates informal meeting spaces, commons could be green spaces (indoor or outdoor)
- Green space/Commons could be prime connector of upper and lower schools
- Guidance is not a silo, thought of as wellness program, related to Art (art therapy) – but needs some privacy for students
- Outdoor spaces near academic program

VISUAL LISTENING : PLACE A GREEN DOT ON YOUR LIKE & RED DOT ON YOUR DISLIKE

12.14.2017

Community Engagement Workshop

Legend: ● Like, ● Dislike

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

VISIONING RECAP : MOST POSITIVE VISUAL REACTIONS

Community Engagement Workshop

12.14.2017



Like

VISIONING RECAP : MOST NEGATIVE VISUAL REACTIONS

Community Engagement Workshop

12.14.2017

* Not enough information to separate by categories



Dislike

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning



01.08.2018 CMS FACULTY WORKSHOP

BELMONT HIGH SCHOOL

PROMPT : PROVIDE FEEDBACK ON THE FOLLOWING SPACES
Chenery Middle School Faculty Workshop

01.08.2018

LEARNING COMMONS

- Still need Books, E-Books
- Use Carts, Mobile (currently)
- Teach small groups/classes 4-5 people (quiet) - Collaborate
- Not too much glass – distracting
- Audio Recording, Writing by Audio/ Speaking
- Video Production, Green Screen
- More Small Spaces – Safe place for 7-8 people
- Classrooms, Small Group Spaces, Diversity of Space
- Comfy Furniture, Standing Desks, Variety
- Monitor of Space? Dedicated Staff? Supervised? After Hours? Secure
- Space for Books
- Tech Spaces with Acoustic Separation
- Video Production Room
- More Small Spaces for MS Students

CIVIC COMMONS / CAFE

- Too Big, Too Loud (currently)
- No Corridors, Need Acoustic Treatment
- Variety of Space to Serve Food
- Cozy Areas, Monitored/Supervised
- Flex Seating/ Bench, Booth Seating
- Recycling programs needed
- Smaller spaces to focus
- Better Accessibility

OUTDOOR SPACE

- Garage Doors – Art ok, Not great otherwise – distracting in classroom
- One Outdoor Space Per Team, Access to Outside
- Courtyard – Outdoor, Secure
- Roof Garden – Not ideal, Danger, Need Enough Protection – Greenhouse Better with Weather
- Working Space Defined – To Write, Think, etc.

- Better Protection for Roofs
- Greenhouse on Roof

CLASSROOMS

- Less Glass in Class for MS Students – Distracting!
- Diversity of Organization of Classroom – Flex of Use, Furniture
- Merge Classrooms Together a Possibility
- Moving Partitions that are Acoustic
- Natural Light, Operable Windows, A/C
- Can't Think When it's Too Hot
- Need Control of Natural Light – Glare (Movies, etc.)
- Safe, Efficient Emergency Exit / Process
- Connecting Doors Between Classes
- Differences in Team Classrooms for Flexibility
- Operable Walls
- Window Treatments for Less Distraction

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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

VISUAL LISTENING : PLACE A GREEN DOT ON YOUR LIKE & RED DOT ON YOUR DISLIKE
 Chenery Middle School Faculty Workshop

01.08.2018



KEY TAKEAWAYS : VISUAL LISTENING

Chenery Middle School Faculty Workshop

01.08.2018



A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

KEY TAKEAWAYS : VISUAL LISTENING

Chenery Middle School Faculty Workshop

01.08.2018

* Not enough information to separate by categories

Dislike



01.31.2018 BHS FACULTY WORKSHOP

BELMONT HIGH SCHOOL

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3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

PROMPT : CREATE AN ASPIRATIONAL ADJACENCY DIAGRAM TO ENHANCE EDUCATION
 Belmont High School Faculty Workshop

01.31.2018



PROMPT : CREATE AN ASPIRATIONAL ADJACENCY DIAGRAM TO ENHANCE EDUCATION
 Belmont High School Faculty Workshop

01.31.2018



A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

ADJACENCY DIAGRAMS : REPORTING BACK

01.31.2018

Belmont High School Faculty Workshop

GROUP 01

- Classrooms should be surrounded by teacher planning spaces.
- Administration and Library Common spaces centrally located in school

GROUP 02

- Department Directors' offices should be in/next to department offices (same subject)
- Teacher planning areas should be by subject (location does not matter)
- A common workplace for teachers of all subjects (in addition to dept. / subject offices)
- Interdisciplinary work / Innovation space should be open to surrounding school.
- Administration spaces should be near health/wellness/medical/psych. spaces.
- Technology spaces near Art spaces could create interesting projects and ideas.
- Science of same subject should be located together - to share resources / equipment

GROUP 03

- U-shaped classroom configuration
- Science and Art facing pond/nature
- Cafeteria commons has connection to pond
- Quiet spaces for students to focus
- Kiln needed for Arts programs
- Protected Bike racks
- More space for restrooms and teacher planning

GROUP 04

- Art spaces near Robotics could create dynamic projects
- Buffer the acoustics of Art spaces with surrounding school
- Have nurse space near the outdoors - access to athletics
- Administration and Guidance do not need to be together - spread out throughout the school

GROUP 05

- Maintain current departmental system for academic spaces
- Need Tennis Courts, Daycare
- Administration spaces should be near Guidance and Medical spaces.
- PE spaces should be located near outdoors
- Science Labs to be located together

GROUP 06

- Keep current academic Departmental Model
- Teachers need desks/storage in classrooms
- Integrate Science Labs with the Arts

ADJACENCY DIAGRAMS : REPORTING BACK

01.31.2018

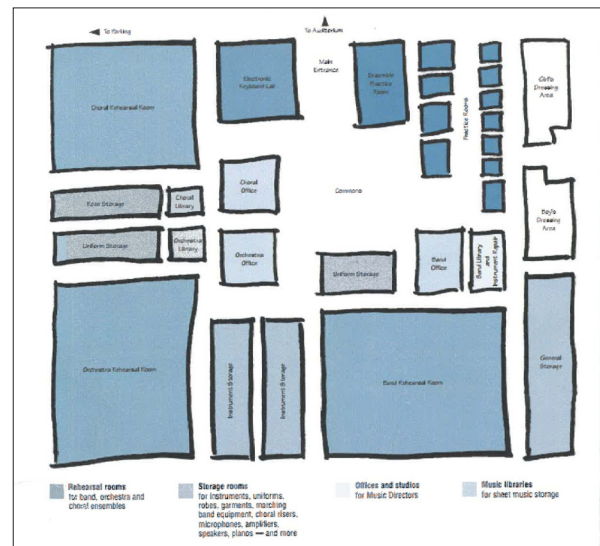
Belmont High School Faculty Workshop

GROUP 07

- Cafeteria Commons can mix with the Learning Commons
- Have event spaces near parking for high volume outside participation / visiting
- Create 'fun' display spaces
- Need a highly flexible / multi-functional space in core of the school
- Recreational space (golf?) on roof terraces
- What recreational do we not have? Outdoor Basketball

GROUP 08

- Create an ideal / dynamic theater area (see diagram to right)
- Need more storage / changing rooms for Music spaces
- Create a shared Common space on ground level
- Devote one building level to Science / Labs



Idea theater / Arts area layout (provided by group 08)

3.3.4 - PREFERRED SOLUTION

A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning



SUMMARY OF WORKSHOPS

BELMONT HIGH SCHOOL

SUMMARY CHENERY MIDDLE SCHOOL WORKSHOP

“Middle-level learners need more than just a “watered-down” version of a high school (the philosophy behind a ‘junior high’ model); they need a building that is crafted around the unique needs of students at this age (the philosophy behind a ‘middle school’ model)”. Those needs include :

1. **Teams** academic organization (over departments)
2. **Safety** (especially the ability to easily supervise the spaces)
3. **Functionality** (giving teachers - if possible - the ability to have control over light, sound, heating/cooling, etc)
+ Prioritizing functionality of the building over beauty, when given the choice
4. **Limited Distractions** (less stimuli overall; especially when it comes to large glass walls)
+ A sensitivity to the social awkwardness and anxiety of middle-level learners (open spaces and a lot of glass in spaces like bathrooms, hallways, recording studios, etc may make them feel like they are ‘on display)
5. **Limited Mixing** with the high school students

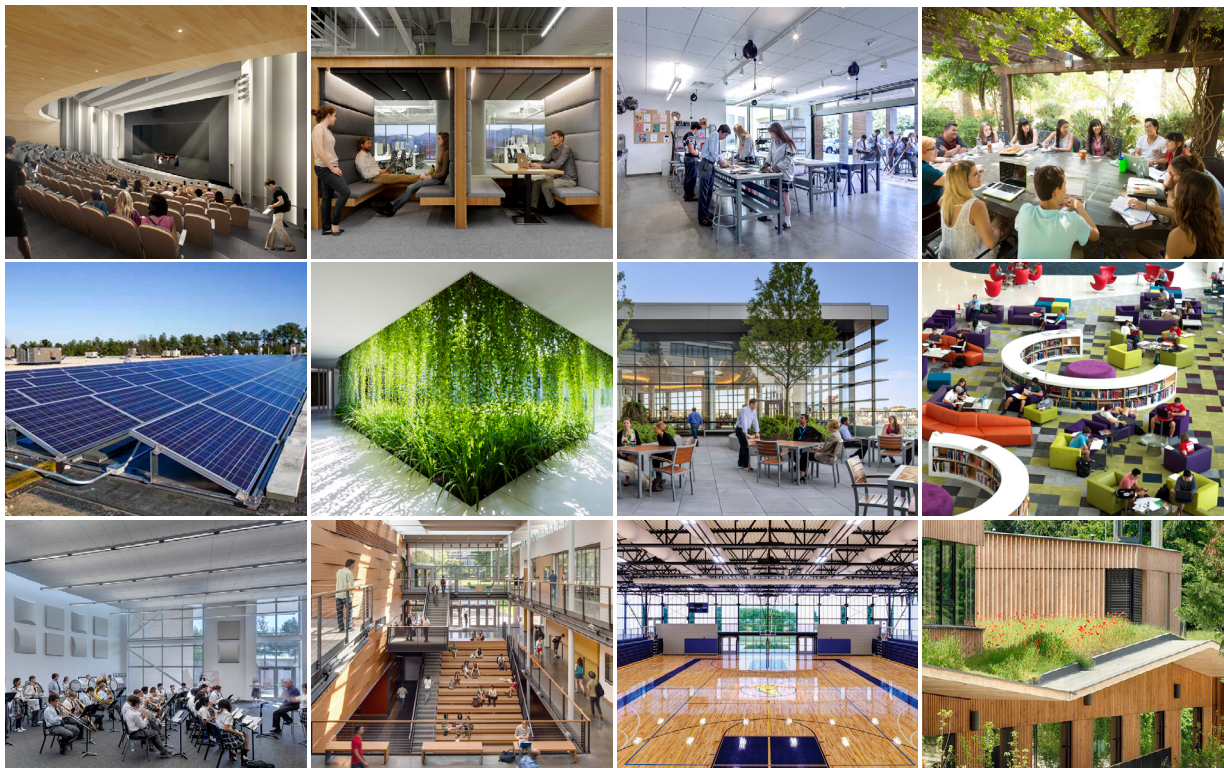
A. EDUCATIONAL PROGRAM REV.2/ BHS Visioning

SUMMARY BELMONT HIGH SCHOOL WORKSHOP

The High School should have its own identity, own entry and environment reflective of the age group. Flexible spaces to learn, think and create. The Big Ideas from the Workshops include :

1. **Flexibility** : Furniture, Classrooms, Movable Walls, Sit/Stand Desks
2. **Connection to Outdoors** : Pond, Roof Gardens, Outdoor Classrooms, Promenade
3. **Teacher Planning Rooms** : Central to Classrooms, Open to Seminar Rooms, Collaboration, Private
4. **Art Integration** : Student Art / Display Space throughout Building
5. **Technology Accessibility** : Seamless Technology throughout Building
6. **Environmental Stewards** : Natural Light, NZE Attitude, Recycling/Compost Programs, Vegetable Gardens
7. **Media Center** : Central locations, Area for MS and HS, Books, Project Rooms, Variety of Seating
8. **Multiple Learning Styles** : Spaces for Collaboration, 'Me' Space, Groups, Private Meeting
9. **Distribution of Faculty** : Distribute Director offices, Assistant Principals, Guidance offices
10. **Hybrid Planning Model** : Allow for Departmental or Interdisciplinary Approach

SUMMARY VISUAL LISTENING : MOST POSITIVE



3.3.7 - PSR REV.2/ 3.3.4 REVISION

B. PREFERRED SOLUTION SPACE SUMMARY REV.2

GRADES 7-12/ 2,215 STUDENTS		Existing Conditions		PROPOSED/ GRADES 7-12		Total		Date: 5/9/2018 Preferred Schematic Report	
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals	Existing to Remain/Renovated		New		(refer to MSBA Educational Program & Space Standard Guidelines)	
				ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES			62,291	0	111,280		111,280	108,910	
<i>(All classrooms of different sizes separately)</i>									
Classroom - (MS: 26 CR 1 World Language - HS: 50 CR 3 Wellness)	860	53	38,571			860	860	83	70,550
Teacher Planning (MS: 492200; HS: @600)	423	12	5,072			200	200	8	1,600
Middle School Teacher Planning						550	550	7	3,850
High School Teacher Planning - (77 stations)						500	500	6	3,000
Small Group Seminar (20-30 seats)						1,200	1,200	8	9,600
Middle School Science Classroom/Lab	1,075	10	10,750			1,440	1,440	12	17,280
High School Science Classroom/Lab	0	6				200	200	4	800
High School Prep Room	184	6	1,101			400	400	6	2,400
High School Prep Room						200	200	1	200
Central Chemical Storage Rm						1,000	1,000	2	2,000
ELL (full size classroom with partition)									
Meth Department Planning (1 @ 504 SF)									
Meth Collaboration (1 @ 382 SF)									
Language Department Planning (1 @ 508 SF)									
Language Collaboration (1 @ 370 SF)									
Language Teacher Workspace (1 @ 130 SF)									
Social Studies Department Planning (1 @ 638 SF)									
Social Studies Collaboration (1 @ 352 SF)									
English Department Planning (1 @ 668 SF)									
English Collaboration (1 @ 359 SF)									
English Department Copy (1 @ 106 SF)									
Science Department Planning (1 @ 700 SF)									
Science Department Collaboration (1 @ 376 SF)									
English Department Director Office	80	1	80						
Social Studies Department Director Office	90	1	90						
Science Department Director Office	105	1	105						
Language Department Director Office	76	1	76						
Meth Department Director Office	87	1	87						
Physics Computer Lab	1,022	1	1,022						
Language Computer Lab	869	1	869						
English Writing Lab	883	1	883						
Growing Room	172	1	172						
Science Storage	223	2	446						
Animal Storage	133	1	133						
Science Computer Lab	709	2	1,417						
Meth Project Room	441	1	441						
Lecture Hall	2,100	1	2,100						
ELL Classroom	770	1	770						
ELL Storage	106	1	106						
MODULAR HIGH SCHOOL									
Classroom (6 @ 807 SF)*									
MIDDLE SCHOOL									
Classroom		31							
ELL Classroom		2							
Key 7-8		2							

*Changes from PSR to PSR REV.2 highlighted in yellow.

3.3.7 - PSR REV.2/ 3.3.4 REVISION

B. PREFERRED SOLUTION SPACE SUMMARY REV.2

GRADES 7-12/ 2,215 STUDENTS		Existing Conditions		PROPOSED/ GRADES 7-12		MSBA Guidelines		Preferred Schematic Report		
BELMONT HIGH SCHOOL		ROOM NFA ¹	# OF RMS	area totals	Existing to Remain/Renovated	New	ROOM NFA ¹	# OF RMS	area totals	Comments
VOCAIONS & TECHNOLOGY				0					25,600	Assumed size: 50% Population - 5 Freshweek
	Tech Cmm. - (E.G. Drafting, Business)								9,600	
	Tech Cmm. - Maker/Innovation-7									
	Tech Cmm. - Maker/Innovation-7									
	Tech Cmm. - Maker/Innovation-8									
	Tech Cmm. - Maker/Innovation-8									
	Tech Cmm. - Digital Arts									
	Tech Cmm. - Electronic Music Classroom									
	Tech Cmm. - Coding									
	Tech Shop - (E.G. Consumer, Wood)									
	Tech Shop - Robotics									
	Tech Shop - Engineering/ Maker (1 MS + 1 HS)									
	Tech Shop - Video Production									
	Tech Shop - Maker/Physics									
	Tech Shop - World Language Lab									
	Tech Shop - Theater Arts									
MIDDLE SCHOOL										
	Tech Ed		2							
HEALTH & PHYSICAL EDUCATION				65,007					26,604	
	Gymnasium - (4 teaching stations and full size competition court)	30,183	1	30,183	45,217		9,425		12,000	
	PE Alternatives - (Weight Room)	1,632	1	1,632					3,000	
	Gym Storeroom	465	4	1,860					300	
	Locker Rooms - Boys / Girls w/ Toilets	5,386	2	10,772	8,430	1	3,975	12,405	12,404	6 is student total
	Phys. Ed. Storage	157	11	1,730	900	1	100	1,000	500	
	Athletic Director's Office	467	1	467					150	
	Health Instructor's Office w/ Shower & Toilet - 1 male, 1 female	209	3	628					250	
	PE Alternatives (Multi-purpose dance, yoga, cheer/lebel)	1,632	1	1,632						
	PE Alternatives (Wrestling 1.5 mats)	1,632	1	1,632						
	Officials Rooms (8 male/8 female/ shower locker, toilet)									
	Trainers Room									
	PE Multipurpose (MS) Reuse Small Gym Existing	5,704	1	5,704						
	First Aid Office / Pool	71	1	71						
	Small Gym/ Reuse for PE Multipurpose (MS) - 2 teaching stations	5,704	1	5,704						
	Trainer	228	1	228						
	Weight Classroom	605	2	1,209						
	Team Uniforms	555	1	555						
	Equipment Storage	390	1	390						
	Willa Field House									
	Trainer Room	100	1	100						
	Locker Room	2,000	1	2,000						
	Storage	920	1	920						
	Coach Offices	100	2	200						
	Toilet rooms (men + women)	300	1	300						
MIDDLE SCHOOL										
	Health Classroom		2							
MEDIA CENTER				6,641					13,744	
	Media Center / Reading Room	6,184	1	6,184					13,744	
	Computer Lab	457	1	457						
AUDITORIUM / DRAMA				11,447					10,400	
	Auditorium	7,898	1	7,898					7,500	20 Enrichment @ 10 SF/Seat - 750 seats MAX
	Stage	2,762	1	2,762					1,600	
	Auditorium Storage								500	
	Make-up / Dressing Rooms	385	1	385					600	
	Controls / Lighting / Projection	27	1	27					200	
	Black Box									

*Changes from PSR to PSR REV.2 highlighted in yellow.

B. PREFERRED SOLUTION SPACE SUMMARY REV.2

ROOM TYPE	Existing Conditions		PROPOSED/ GRADES 7-12		New		Existing to Remain/Renovated		Total		Comments
	ROOM NFA ¹	# OF RMS	ROOM NFA ¹	# OF RMS	ROOM NFA ¹	# OF RMS	ROOM NFA ¹	# OF RMS	ROOM NFA ¹	# OF RMS	
Auditorium Workshop	375	1									
DINING & FOOD SERVICE											
Cafeteria / Student Lounge / Break-out	7,193	1	11,075	1	11,075	1	11,075	1	11,075	1	16,698 3 seatings - 153F per seat
Chair / Table Storage			704	1	704	1	704	1	704	1	
Scramble Seating Area	1,259	1	600	1	600	1	600	1	600	1	
Kitchen	2,495	1	3,515	1	3,515	1	3,515	1	3,515	1	169 SF for 100+ 1 SF/Student Adult
Staff Lunch Room	740	1	804	1	804	1	804	1	804	1	20 SF/Occupant
MEDICAL											
Medical Suite / Toilet	20	2	60	4	240	4	60	4	240	4	
Nurses' Office / Waiting Room	103	2	250	2	500	2	250	2	500	2	
Interview Room			500	5	500	5	500	5	500	5	
Examination Room / Resting - 1 room used for mrg/ame/mothers room	494	1	100	9	900	9	100	9	900	9	
ADMINISTRATION & GUIDANCE											
General Office / Waiting Room / Toilet (1 MS + 1 HS)	20	2	450	2	900	2	450	2	900	2	7,421
Teachers' Mail and Time Room	103	2	200	2	200	2	200	2	200	2	
Duplicating Room			200	2	400	2	200	2	400	2	
Records Room	494	1	100	1	100	1	100	1	100	1	
Principal's Office w/ Conference Area	20	2	375	2	750	2	375	2	750	2	
Principal's Secretary / Waiting	103	2	125	2	250	2	103	2	206	2	
Assistant Principal's Office - AP1			200	3	600	3	200	3	600	3	
Assistant Principal's Office - AP2	494	1	200	2	400	2	200	2	400	2	
Conference Room	103	2	225	2	450	2	225	2	450	2	
Guidance Office	494	1	150	10	1,500	10	150	10	1,500	10	
Guidance Waiting Room	20	2	75	2	150	2	75	2	150	2	
Guidance Storage	103	2	100	2	200	2	100	2	200	2	
Career Center - Place in Learning Commons within sat. footage			704	0	-	0	704	0	-	0	
Teachers' Work Room - Distribute SF to 7 teacher planning areas			1,108	0	-	0	1,108	0	-	0	
AP Secretary MS			100	2	200	2	100	2	200	2	
AP Waiting Area/ HS			50	3	150	3	50	3	150	3	
Conference Room Guidance/HS			250	1	250	1	250	1	250	1	
Guidance Copy area/ HS			100	1	100	1	100	1	100	1	
Director's offices			200	7	1,400	7	200	7	1,400	7	
Accounting			250	0	-	0	250	0	-	0	
School Psychologist	133	2									
Assistant Principal's Office - AP3	139	1									
Visual Performing Arts Director	135	1									
Vault	113	1									
School Resource Office	117	1									
Director Secretary Office	118	1									
Storage	58	2									
MODULAR HIGH SCHOOL											
Break / Copy Room	190	1									
MIDDLE SCHOOL											
Guidance Office		2									
GUSTADAL & MAINTENANCE											
Custodian's Office	685	1			3,457	1			3,457	1	3,457
Custodian's Storage	315	1	150	1	300	1	150	1	300	1	
Recycling Room / Wash			375	1	375	1	375	1	375	1	
Recycling and General Supply	138	1	400	1	400	1	400	1	400	1	
Storage			704	1	704	1	704	1	704	1	
Network / Telecom Room			1,208	1	1,208	1	1,208	1	1,208	1	
Maintenance Equipment	266	1	200	1	200	1	200	1	200	1	
Janitor Closet	41	7	150	1	150	1	150	1	150	1	
Storage	262	3									
Custodial Office / Storage	289	1									

GRADES 7-12/ 2,215 STUDENTS BELMONT HIGH SCHOOL

Date: 5/9/2018 Preferred Schematic Report

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)

PROPOSED/ GRADES 7-12

Existing Conditions

LOCAL ACTIONS & APPROVALS	3.3.5
PREFERRED SOLUTION	3.3.4
FINAL EVALUATION OF ALTERNATIVES	3.3.3
EVALUATION OF EXISTING CONDITIONS	3.3.2
INTRODUCTION	3.3.1
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Version 10.30.2017

3.3.7 - PSR REV.2/ 3.3.4 REVISION

B. PREFERRED SOLUTION SPACE SUMMARY REV.2

ROOM TYPE	Existing Conditions			PROPOSED/ GRADES 7-12			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
	ROOM NFA ¹	# OF RMS	area totals	Existing to Remain/Renovated	New	Total	ROOM NFA ¹	# OF RMS	area totals	Comments
OTHER			16,883						0	
District Offices										
Technology Work Room	413	3	1,240				900	1	900	
Technology Office							150	150	150	
Technology Director Office	303	1	303				400	1	400	
Technology Conf Room	235	1	235				200	1	200	
Technology Server Room	282	2	523							
AV Coordinator	215	1	215							
Equity Academic Center	299	1	299				850	1	850	
Mexico Office	77	1	77				150	1	150	
BEA Office	133	2	265				150	1	150	
Levington Chinese School	423	1	423							
Wood Shop / Office / Storage	2,015	1	2,015				150	1	150	
Food Service Director	192	1	192							
Accounting	113	1	113							
Nurse's Office Waiting (1 district off/inuse school off							150	1	150	
Community Service/Volunteer Office										
Community Service/Volunteer Meeting Space										
Pool Pump Room	7,447	1	7,447	7,447			7,447	1	7,447	
Locker Room / Pool	810	2	1,620				810	2	1,620	
School Store	61	1	61				125	1	125	
Resource Officer	20	2	39				120	1	120	
Storage for Emergency Center							120	1	120	
MODULAR HIGH SCHOOL										
Town Maintenance Office / Storage	206	2	412							
Belmont Office / Storage	209	2	415							
Total Building Net Floor Area (NFA)			208,130				242,449		246,447	
Proposed Student Capacity / Enrollment									2,215	
NON-PROGRAMMED SPACES										
Other Occupied Rooms (list separately)				% of GFA	% of GFA	% of GFA				
Unoccupied MEP/F P Spaces										Non-Programmed space areas are required to be included in the following submittals:
Unoccupied Closets, Supply Rooms & Storage Rooms										Schematic Design Submittal
Toilet Rooms										Design Development Submittal
Circulation (corridors, stairs, ramps & elevators)										60% Construction Documents
Remaining										90% Construction Documents
Total Modular High School Gross Floor Area (GFA)			7,845							Final Construction Documents
Total Building Gross Floor Area (GFA) ²			266,685						387,765	
Grossing factor (GFANFA)									1.48	

¹ Individual Room Net Floor Area (NFA)
² Total Building Gross Floor Area (GFA)
³ Remaining

Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

Includes the entire building gross square footage measured from the outside face of exterior walls

Includes exterior walls, interior partitions, classes, and other areas not listed above. Do not calculate this area. It is assumed to equal the difference between the Total Building Gross Floor Area and area not accounted for above.

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Perkins + Will
 Robert Brown
 May 9th, 2018

Architect Certification

Version
 10.30.2017

*Changes from PSR to PSR REV.2 highlighted in yellow.



LOCAL ACTIONS & APPROVALS					
	PREFERRED SOLUTION	FINAL EVALUATION OF ALTERNATIVES	EVALUATION OF EXISTING CONDITIONS	INTRODUCTION	
3.3.5	3.3.4	3.3.3	3.3.2	3.3.1	TABLE OF CONTENTS

3.3.4 - PREFERRED SOLUTION

C. PREFERRED SOLUTION SPACE SUMMARY / COMMENTS

The OPM, Design Team, the office of the Superintendent, faculty, and administration have been conducting an ongoing review of the educational program and space summary in order to create efficiencies in as many areas as possible and reduce overall building square footage. The discussions include looking at the utilization of all spaces in the space summary to ensure the need relative to the educational program.

PE MULTIPURPOSE (MIDDLE SCHOOL)

The team during the PSR phase determined that it would be more cost effective to reuse the existing small gym. That change is noted in the current space summary and has reduced the required square footage of the PE MULTIPURPOSE ROOM from 6,300 net square feet to 5,704 net square feet. A total reduction of 600 net square feet.

LOCKER ROOMS (BOYS AND GIRLS WITH TOILETS)

The reuse of the existing small gym has triggered available space in the lower level directly below the existing small gym slated for reuse. This space currently accommodates the Boys Locker room and equipment storage. This existing boys locker room and storage area will be repurposed to accommodate the Locker Rooms for Boys and Girls with Toilets. The existing LOCKER ROOMS that are being repurposed below the small gym are totaled at 8,430 net square feet. This 8,430 of renovated area will be combined with 3,975 net square feet of new Locker room space to meet the program requirements of 12,405 net square feet. This renovated space is noted in the Level 2 estimate which reduces the required net square footage of new space for the Boys and Girls Locker Rooms.

PHYSICAL EDUCATION STORAGE

The Physical Education storage space is located in the northeast corner of the main existing large gym to remain. Due to its location it was determined by the team that this space would be renovated to accommodate the new Physical Education Storage needs. The renovated storage area is totaled at 900 net square feet of existing which will be combined with 100 net square feet of new space to meet the program requirements of 1,000 net square feet of PE storage. This renovated space is noted in the Level 2 estimate which reduces the required net square footage of

new space for the Physical Education Storage.

The below summarizes the spaces that deviate from the PSR submission to the PSR REVISION 1 submission dated 4.12.2018.

CORE ACADEMIC SPACES:

PSR: 112,750 SF

PSR REVISED 1: 111,280 SF

TEACHER PLANNING (HIGH SCHOOL):

PSR: 6 rooms @ 500 SF= 3,000 SF

PSR REVISED 1: 7 rooms @ 550 SF= 3,850 SF

After further review of the program it was determined to consolidate Teacher Work room into the Teacher Planning Rooms. One additional Teacher planning space was added to accommodate the 7 departments. The Administration carefully reviewed the amount of teacher planning stations provided to the BHS staff. It was determined that 77 teacher planning stations were required. Each 9-12 faculty member would be provided an area to work, store materials and files in the teacher planning. The Work Room of 1,108 sf was partially distributed into the teacher planning areas.

MIDDLE SCHOOL SCIENCE CLASSROOMS:

PSR: 8 rooms @ 1,440 SF= 11,520 SF

PSR REVISED 1: 8 rooms @ 1,200 SF= 9,600 SF

After further review of the program it was determined that the BHS would follow the MSBA Middle School science guidelines of 1,200 sf per Science Classroom from the High School standards of 1,440 sf.

HIGH SCHOOL PREP ROOMS:

PSR: 6 rooms @ 200 SF= 1,200 SF

PSR REVISED 1: 6 rooms @ 400 SF= 2,400 SF

After an initial reduction from the MSBA standards in the PDP it was determined that compliance to MSBA standards was necessary to maintain prep room functions. Two Science Classrooms will share 1/ 400 sf prep room.

C. PREFERRED SOLUTION SPACE SUMMARY / COMMENTS

CENTRAL CHEMICAL STORAGE ROOM:

PSR: 1 rooms @100 SF= 100 SF

PSR REVISED 1: 1 rooms @ 200 SF= 200 SF

After an initial reduction from the MSBA standards in the PDP it was determined that compliance to MSBA standards was necessary to maintain central chemical storage room functions.

HIGH SCHOOL PREP ROOMS:

PSR: 6 rooms @ 200 SF= 1,200 SF

PSR REVISED 1: 6 rooms @ 400 SF= 2,400 SF

After an initial reduction from the MSBA standards in the PDP it was determined that compliance to MSBA standards was necessary to maintain prep room functions. Two Science Classrooms will share 1/ 400 sf prep room.

SPECIAL EDUCATION SPACES:

PSR: 26,510 SF

PSR REVISED 1: 24,250 SF

The Special Education Director, Middle School Principal, High School Principal, Superintendent, OPM, and Educational Planner reviewed each special education space need in order to reduce program. The largest reductions of square footages are noted in the current middle school LABBB program spaces. The district in the PDP planned on moving the Middle School LABBB spaces to the Belmont High School. It was determined that these spaces will remain at its current location at Chenery Middle School. The type of service delivery for this LABBB student population is not “grade specific” in nature. This decision was jointly made by Belmont Public Schools Special Education Department, Superintendent, Principal and LABBB Director and Chenery LABBB Program Director. Further details on the Special Education program can be found in the PSR REVISED 1 Educational Program. ART

ART AND MUSIC: NO CHANGE

PSR: 16,150 SF

PSR REVISED 1: 16,150 SF

HEALTH AND PHYSICAL EDUCATION

PSR: 54,942 SF

PSR REVISED 1: 54,642 SF

HEALTH INSTRUCTORS OFFICE:

PSR: 4 rooms @ 150 SF

PSR REVISED 1: 2 rooms @ 150 SF

In order to reduce square footage and gain efficiencies the Belmont Administration and Athletic Director determined that the Health Instructor’s office could be reduced to one male and one female area to monitor the boys and girls locker room facilities.

MEDIA CENTER: NO CHANGE

PSR: 13,744 SF

PSR REVISED 1: 13,744 SF

AUDITORIUM / DRAMA: NO CHANGE

PSR: 14,200 SF

PSR REVISED 1: 14,200 SF

DINING AND FOOD SERVICE:

PSR: 16,978 SF

PSR REVISED 1: 16,698 SF

MEDICAL: NO CHANGE

PSR: 2,140 SF

PSR REVISED 1: 2,140 SF

ADMINISTRATION AND GUIDANCE

PSR: 10,062 SF

PSR REVISED 1: 8,200 SF

CAREER CENTER:

PSR: 1 rooms @ 704 SF

PSR REVISED 1: Program put into the media center square footage

It was determined by the review committee that the Career Center square footage would be put into the 13,744 sf

3.3.4 - PREFERRED SOLUTION

C. PREFERRED SOLUTION SPACE SUMMARY / COMMENTS

square footage as a way to reduce total net square footage.

it was determined that a storage room would be required to accommodate some of the Belmont residents in the event of a natural or man-made disaster.

TEACHER'S WORK ROOM:

PSR: 1 rooms @ 1,108 SF

PSR REVISED 1: Line deleted

An extensive analysis was conducted to determine the quantity of faculty members teaching grades 9-12 who would require a work area in the teacher planning room. The faculty members who have an office noted in the program and the middle school teachers who have their own classroom were not in this formula. It was determined that 77 people would require a dedicated area in the teacher planning rooms. The 7 teacher planning spaces were increased from 500 sf to 550 sf to accommodate this need.

DIRECTOR OFFICES:

PSR: 6 rooms @ 200 SF

PSR REVISED 1: 7 rooms @ 200 SF

Upon reviewing the program for the PSR REVISION 1 it was determined that one additional Director's office was needed to accommodate the seven programs verses six that was indicated in the earlier educational program.

ACCOUNTING:

PSR: 1 rooms @ 250 SF

PSR REVISED 1: Removed

Belmont removed this program to reduce net square footage.

CUSTODIAL AND MAINTENANCE:

PSR: 3,437 SF

PSR REVISED 1: 3,437 SF

OTHER:

PSR: 12,412 SF

PSR REVISED 1: 12,532 SF

STORAGE FOR EMERGENCY CENTER

PSR: NONE

PSR REVISED 1: 1 @ 120 SF

After a meeting with Boston Emergency management agency

C. PREFERRED SOLUTION SPACE SUMMARY / COMMENTS



LOCAL ACTIONS &
APPROVALS

3.3.5

PREFERRED SOLUTION

3.3.4

FINAL EVALUATION OF
ALTERNATIVES

3.3.3

EVALUATION OF EXISTING
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3.3.2

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3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY

Per Project Advisory #41, all MSBA Core Program projects must be registered with USGBC LEED-S Version 4 or MA CHPS. The Belmont School Building Committee has chosen to move forward with LEED-S Version 4 and intends to achieve 2% additional reimbursement by achieving a min. of “certified” within that rating system and by exceeding the level of energy efficiency required in the current Massachusetts (base) energy code by 20%.

The Design Team advanced the sustainability goals in the Feasibility Stage in order to allow it equal emphasis with the many other design challenges, and embed the chosen strategies into the overall design to create a more unified whole.

The Design Team needed to first understand where the Town’s priorities lay. To better understand this, a meeting was arranged with members of the Building Committee with sustainable expertise and interest in the sustainability component of the high school design.

In its first presentation to the building committee the Design Team introduced the core concepts of sustainability and showed how they might become integral to student life at the high school, as well as providing long term benefits to the district, defining sustainability as a concept supported by a triad of concerns: the social, the environmental, and the economic.

The idea of sustainability having a social component aligns with the educational programming vision established by the District, whereby creating a shared sense of community and opportunity for curriculum integration parallel the interdisciplinary, shared learning environment the District is creating for the new high school.

The environmental aspects of sustainability are perhaps self evident, addressing CO² emissions, natural habitat, responsible resource use, safe materials, and watershed impact.

Economically, sustainability presents a multitude of issues. The up front capital costs of implementing sustainable strategies can add significantly to project budgets while simultaneously providing long term payback in the form of energy and/or water savings. Other issues to be addressed include maintenance costs, space requirements, adaptability, and ease of maintenance.

During the ensuing discussions it came to light that building efficiency was a prime concern for the community, and should be considered among the highest priorities of any sustainable strategy.

The Design Team prioritized energy and water use as those likely to have the most potential payback and relevance to the community, respectively. Material health, ecosystem health, sustainable infrastructure and building resilience were also presented and discussed as project priorities. The strategies for achieving these goals are outlined as follows:

ENERGY

- An ASHRAE 90.1-2013 baseline model will be created to set an appropriate benchmark for system evaluation with the understanding that the building form and exact size may evolve through the subsequent design phases.
- A number of alternative building systems will be modeled so that relative energy savings can be compared to system first costs in the upcoming phase of design pricing. Energy use intensities (EUI) and estimated operating costs will be determined for these systems.
- Additional stand-alone energy saving strategies will be evaluated and shortlisted as potentially viable options. Each will be further evaluated against their first cost in the SD phase.

WATER

- A LEED V4 baseline water demand estimate will be created in early schematic design to set an appropriate benchmark for water conservation strategy evaluation with the understanding that the building use and exterior demand may evolve through the subsequent design phases.
- Water conservation strategies were outlined and the percent reduction values were estimated per strategy to set project goals for water use reduction.
- A model will be created in early schematic design to evaluate building water demand vs available rainfall over the course of the year. A cistern size that allows for increased water reduction through a rainfall harvesting system will be evaluated and sized with diminished return considered

The energy modeling will consider four scenarios, divided between high performing, high efficiency systems and more conventional high efficiency systems. a Since the MSBA requires the project to attain LEED-S certification at a minimum, that will be established as the baseline for comparison.

The scenarios are as follows:

D. SUSTAINABILITY

1. LEED BASELINE

- Conventional gas-fired hot water boilers
- Water-cooled chiller with cooling tower
- Variable air volume systems serving the classrooms
- Outside air energy recovery for VAV systems where required by ASHRAE 90.1
- Code whole building lighting watt density or 0.99 w/sf.
- Code wall, roof, and fenestration U-values and SHGC.

3. FAN COIL UNITES (HIGH EFFICIENCY)

- Gas-fired condensing hot water boilers
- High efficiency evaporative-cooled chiller
- Fan coil units in the classrooms
- High efficiency 100% outside air energy recovery ventilation units
- Whole building lighting watt density 0.70 w/sf.
- High efficiency wall, roof, and fenestration U-values and SHGC.

2. GROUND SOURCE HEAT PUMP (HIGH PERFORMANCE)

- Vertical ground loop system
- Central water-to water heat pump chillers
- Displacement induction units in the classrooms
- High efficiency 100% outside air energy recovery ventilation unit
- Whole building lighting watt density 0.20 w/sf.
- High efficiency wall, roof, and fenestration U-values and SHGC.

4. CLASSROOM PARTIAL COOLING

- Gas-fired condensing hot water boilers
- Fan coil units in the classrooms
- High efficiency 100% outside air energy recovery ventilation unit w/DX cooling
- Whole building lighting watt density 0.20 w/sf.
- High efficiency wall, roof, and fenestration U-values and SHGC.

The scenario modeling will result in Building Simulation Reports, which will be used for comparison.

NEXT STEPS

A pricing narrative will be formed for each major conservation strategy and the evaluation matrix illustrated in the presentation will be filled in to help the design team and client make decisions based on the overall sustainable goals. The matrix will be updated as energy models and strategies are refined so that sustainable energy and water strategies are executed efficiently. Non-energy and water related sustainable measures will be a focus of early SD conversations.

3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

01.30.2018 BHS STEERING COMMITTEE

BELMONT HIGH SCHOOL

AGENDA

- 01 / Civil Engineering
- 02 / Mechanical
- 03 / Electrical
- 04 / Plumbing + FP
- 05 / IT
- 06 / NZE PROCESS
- 07 / CHPS vs. LEED?



WELL FIELDS CAN BE PLACED UNDER:

- Fields
- Parking
- Roadways
- Landscape areas (No Trees)

WELLHEADS 4'-5' BELOW GRADE

- Coordinate with light pole bases, other utilities, trees
- Spacing and depth determined by geotechnical engineer after test well installed

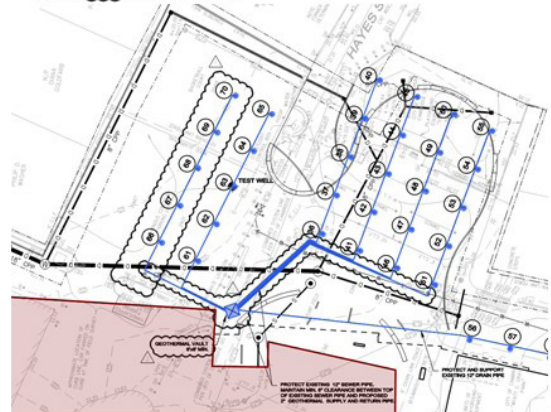
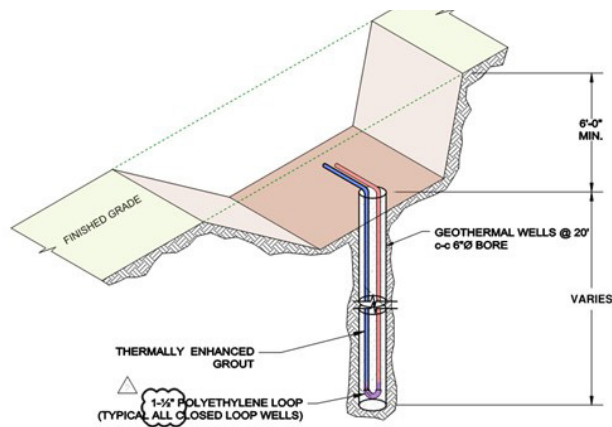


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3.3.5 LOCAL ACTIONS & APPROVALS

3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / STORMWATER GOALS

MEET REGULATORY REQUIREMENTS

- Improve quality of stormwater coming off the site
- Decrease any potential for flooding, either on-site or downstream



INTEGRATE STORMWATER INTO LANDSCAPE

- Avoid creating stormwater systems that take away from the areas available for program or that are not also landscape features
- Decentralized systems situated appropriately around site
- Reuse/reclaim stormwater as required for either building or site program
 - i.e. toilet flushing,
 - mechanical make-up water,
 - site irrigation



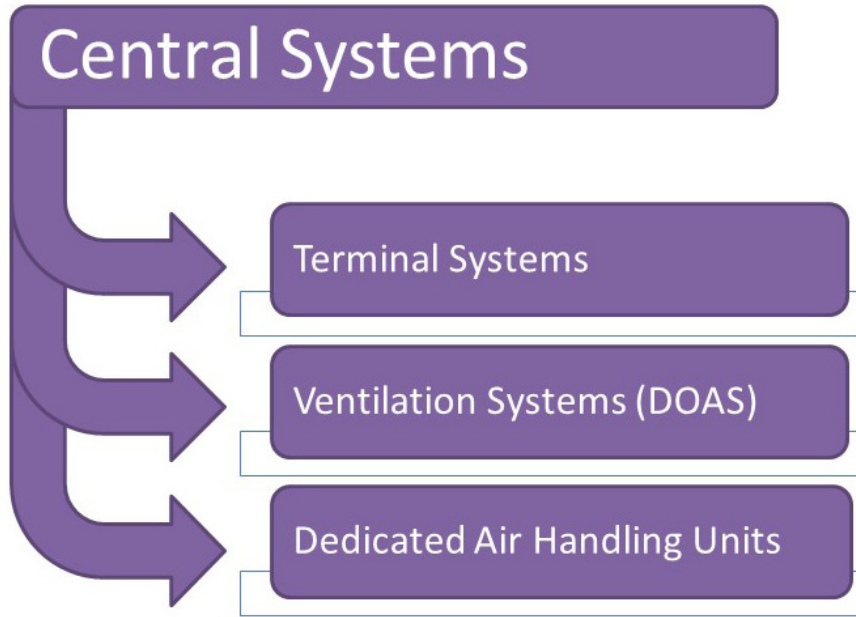
LOOK TO CREATE A LEARNING ENVIRONMENT/OPPORTUNITY



Kroon Hall Water Reuse Feature
Yale University, New Haven, CT



D. SUSTAINABILITY / Building System Meeting
 BELMONT HIGH SCHOOL / HVAC SYSTEMS COMPONENTS



BELMONT HIGH SCHOOL / CENTRAL SYSTEMS

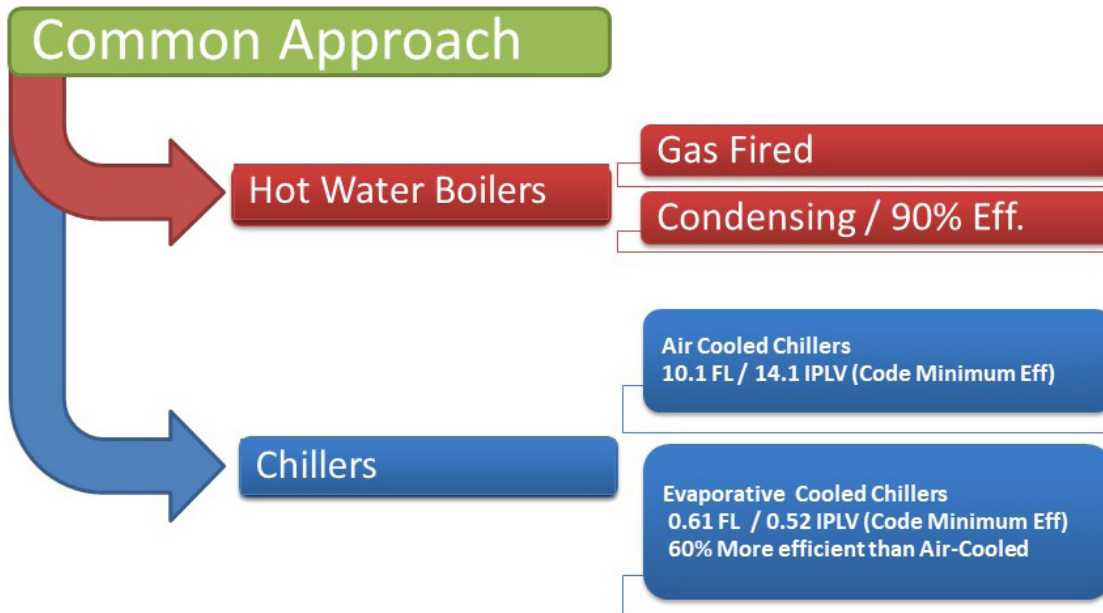


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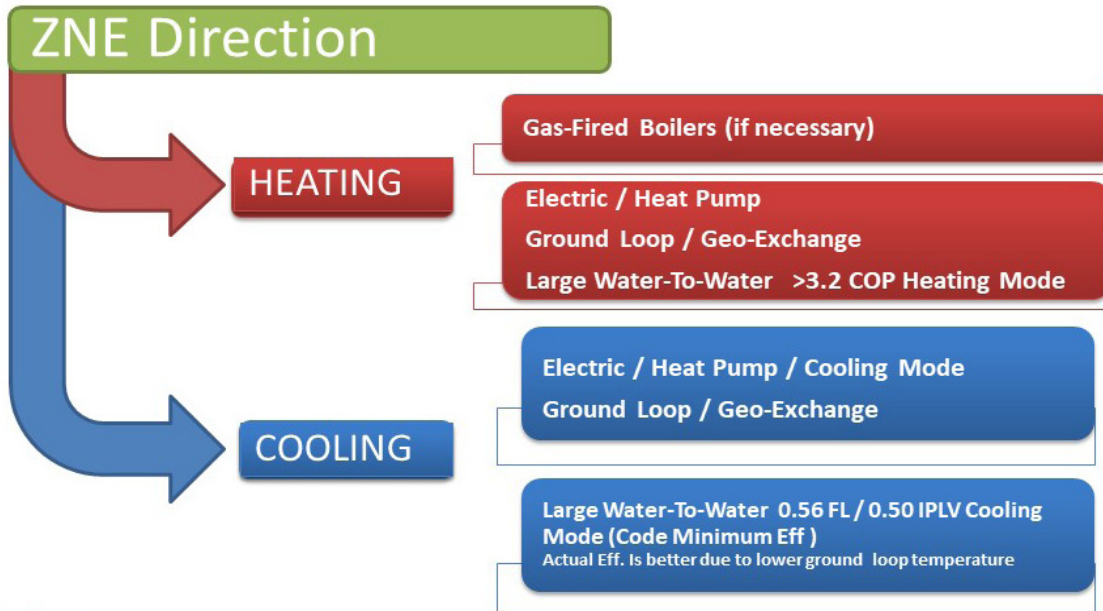
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3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

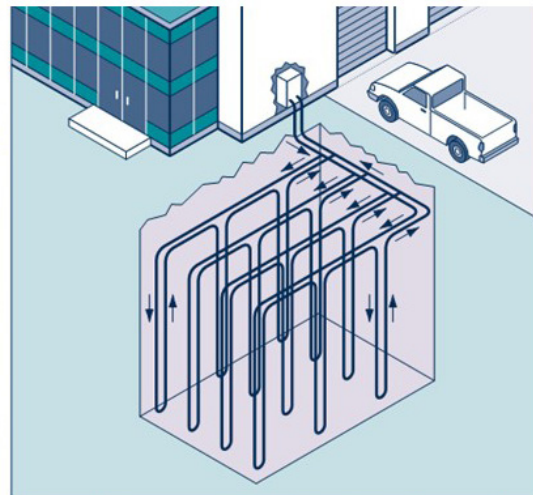
BELMONT HIGH SCHOOL / CENTRAL SYSTEMS



BELMONT HIGH SCHOOL / GEOTHERMAL SYSTEMS



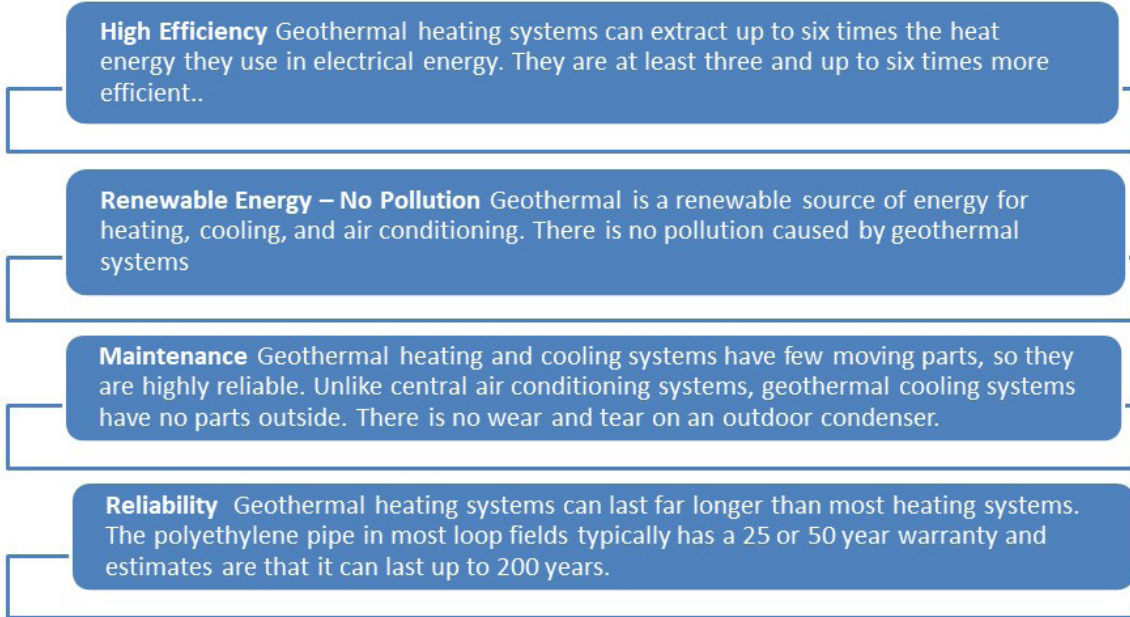
Geothermal heat pumps are among the most energy- and cost-efficient heating and cooling systems available today. They use less electricity and produce fewer emissions than conventional systems, reduce air and water pollution, and provide a comfortable indoor environment for building occupants.



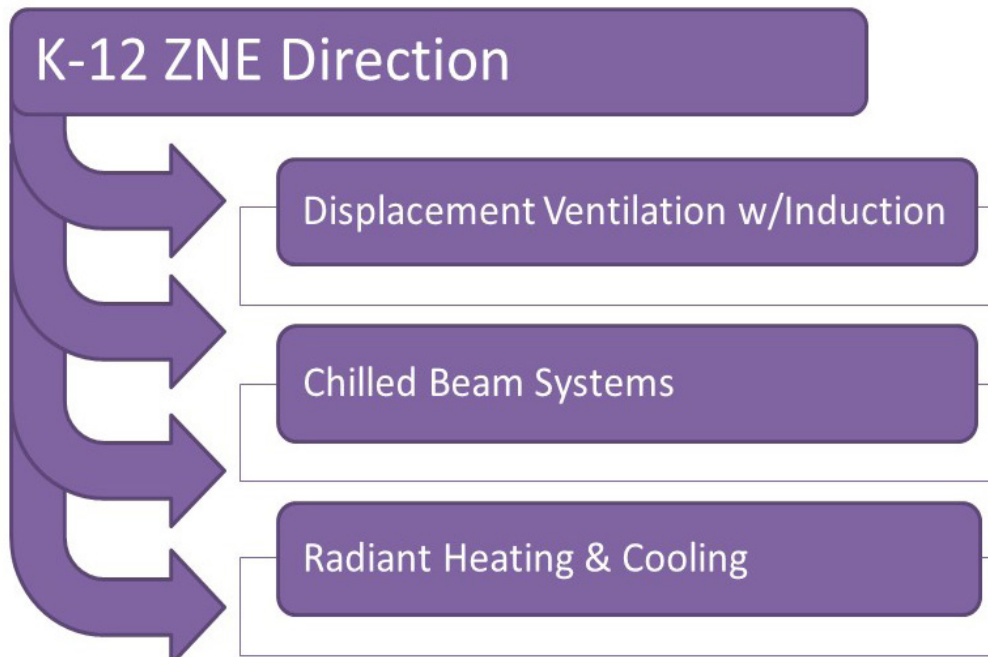
Geothermal heat pumps use the stable temperature of the ground (vertical boreholes typically are 100 to 400 feet deep) as a heat source to warm buildings in winter and as a heat sink to cool them in summer.

D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / GEOTHERMAL SYSTEMS BENEFITS



BELMONT HIGH SCHOOL / TERMINAL SYSTEMS

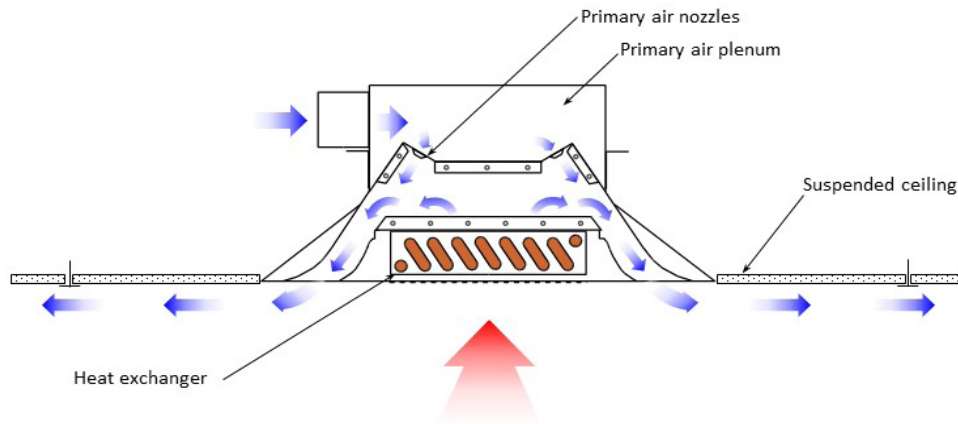


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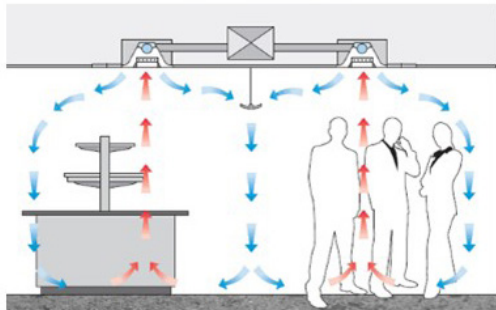
D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - ACTIVE CHILLED BEAM**

- What is an Active Chilled Beam and how does it work?



BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - ACTIVE CHILLED BEAM**



Benefits For Classrooms

- Acoustics
 - Little or no fan noise
 - Low velocity air
- Maintenance
 - No filter changes in occupied areas
 - Dry coils on Chilled Beams, vacuum off dust

D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - ACTIVE CHILLED BEAM**

Why Chilled Beams?

- Reduced Energy Consumption
- Decreased Duct Sizes
- Improved Thermal Comfort
- Air Quality
- Low Noise Levels
- Low Maintenance

BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - DISPLACEMENT W/ INDUCTION**

Benefits



Indoor air quality, silent operation, and thermal comfort are all important design considerations for schools.

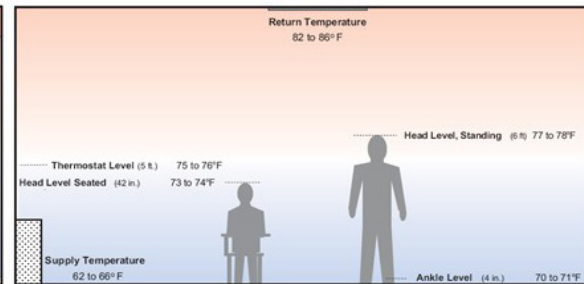
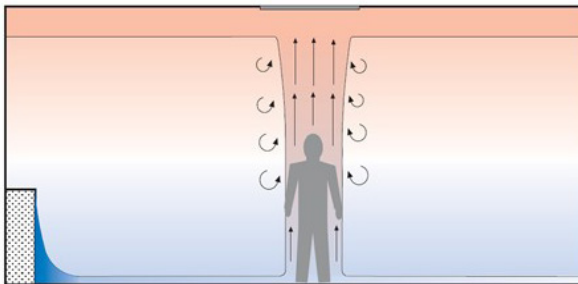
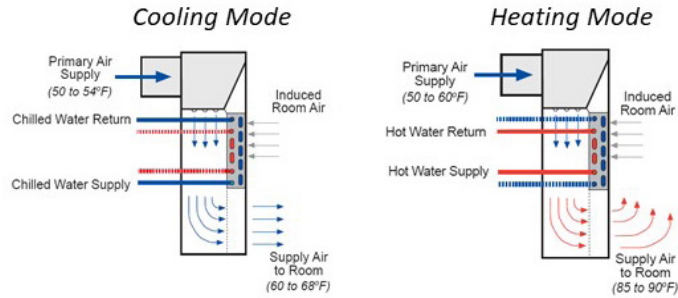
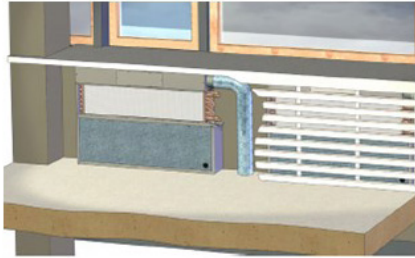
Higher ventilation effectiveness In each unit, outside air is mixed with room air, which is conditioned if required, and directed into the room at floor level and at low velocity. Individual comfort is greatly improved as the upward air flow pattern toward the ceiling exhaust promotes removal of heat-borne contaminants and provides improved IAQ in the occupied zone.

Acoustics DV helps to meet demanding acoustic requirements for classrooms.

3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

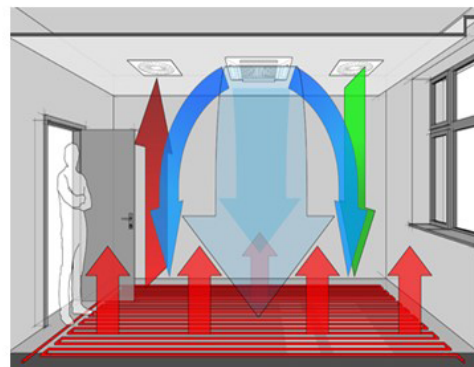
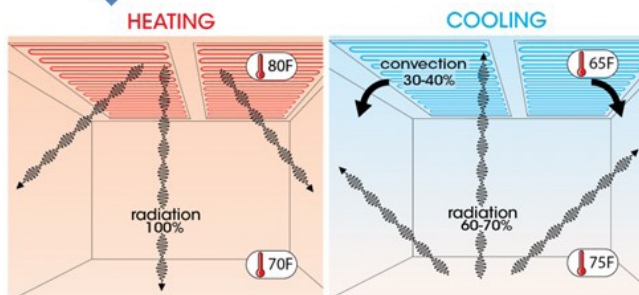
BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - DISPLACEMENT (INDUCTION)**



BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - DISPLACEMENT (INDUCTION)**

Cool or warm water is piped through panels, ceilings or floors to provide radiant thermal comfort to occupants.

- 100% of ventilation air is provided by a Dedicated Outside Air System (DOAS) which can include energy recovery.
- Pumping water is significantly more efficient than using fans to push air, so fan energy is significantly reduced with this system.
- Compatible with other lower energy cooling systems such as indirect evaporative cooling, ground or water source heat pumps, and high efficiency chillers.



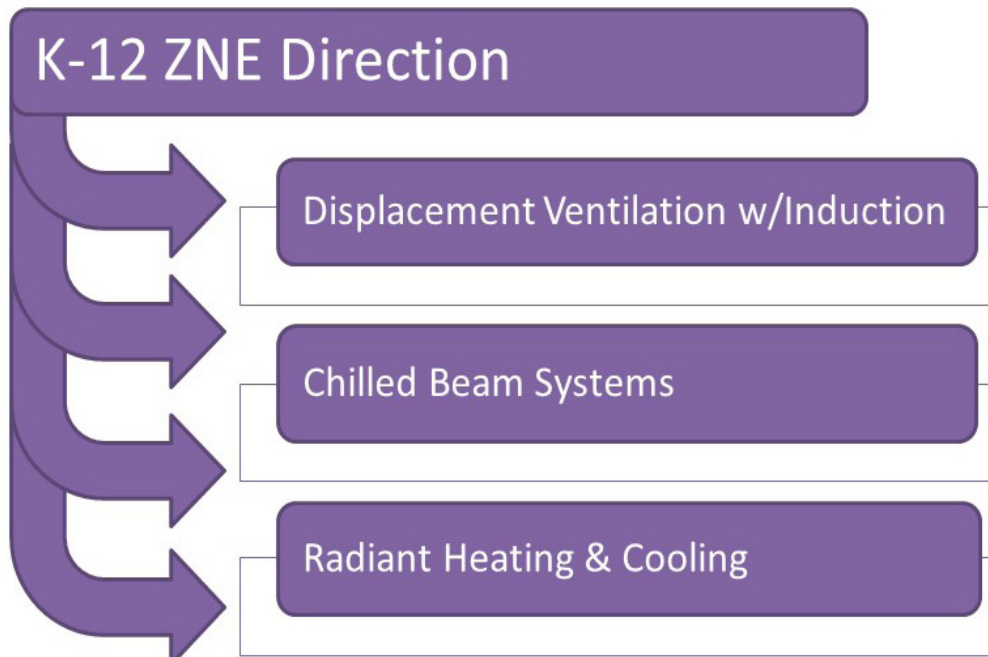
D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS - RADIANT HEATING AND COOLING**



- Energy efficiency – Significant fan energy savings / Energy savings on the order of 10 – 40% compared to overhead VAV systems
- High Level of thermal comfort / Responsive Control
- Smaller AHU & Ductwork
- Significant reduction of riser space
- Quiet Operation
- Low maintenance

BELMONT HIGH SCHOOL / **TERMINAL SYSTEMS**



3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting



BELMONT HIGH SCHOOL / ELECTRICAL SYSTEMS

- New Main Electric Service
- New Emergency Distribution System
- Fire Alarm - Maintain existing where applicable
- Technology per Technology Section
- Integrated Intrusion, Access Control, CCTV, and Alarm System

D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / ELECTRICAL SYSTEMS - SUSTAINABILITY

- Metering and measurement of air conditioning, fans, lighting, and receptacle power
- Plug and process load reductions through the use of vacancy/occupancy sensor controls
- High efficiency lighting systems include LED luminaries throughout the building
- Advanced lighting controls include a low voltage lighting control system with time schedule control for common areas, vacancy/occupancy sensors, and photocells for daylight harvesting
- Exterior building mounted and pole top luminaries will be LED type with full cut-off distribution.
- Empty conduits and space provisions will be provided for future photovoltaic (PV) installations.
- Empty conduit provisions will be provided for future green vehicles charger stations based on two percent of the available parking.



3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / PLUMBING SYSTEMS

WATER CONSERVATION & REDUCING WATER DEMANDS BY:

- Utilize “low-flow” fixtures throughout (new & existing buildings)
- Dual-flush water closets (1.6 gpf - 1.0 gpf)
- Pint-flush urinals / waterless urinals
- Specifying energy efficient kitchen equipment / fixtures
- Utilize “Grey Water System” - Waste water from sinks, showers and kitchen equipment re-used to supply water closets and urinals
- Capture rainwater for re-use in irrigation systems

BELMONT HIGH SCHOOL / FIRE PROTECTION

FIRE PROTECTIONS SYSTEMS

- New service and systems throughout building
- Wet sprinkler system
- Special systems required? IT Rooms, Records Rooms, Unique Storage
- Types of Special Systems
 - Pre-Action
 - Dry
 - Gaseous (Novec 1230, Inergen)



BELMONT HIGH SCHOOL / INFORMATION TECHNOLOGY SYSTEMS

STRUCTURED CABLING

- District Fiber
- New MDF and IDF Buildout
- Latest Standards : Fiber, Category 6A

DATA AND VOICE COMMUNICATIONS

- VoIP System
- Network Hardware
- WLAN
- District Implications

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D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / INFORMATION TECHNOLOGY SYSTEMS

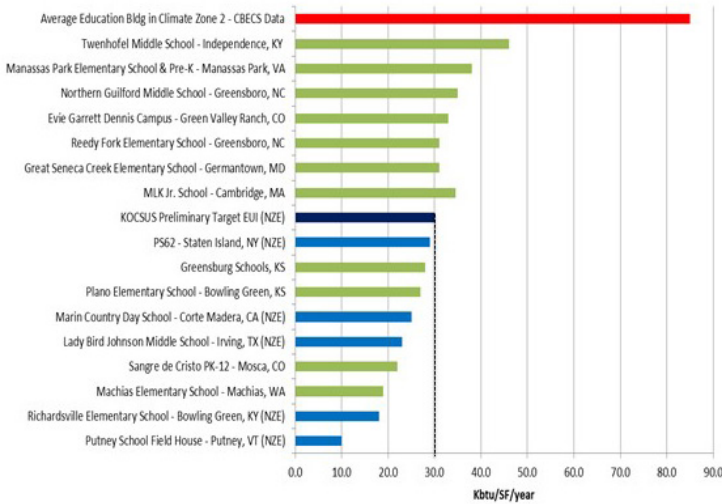
DISTRIBUTED COMMUNICATIONS

- Building-Wide Intercom System
- Classroom Audio Reinforcement
- Digital Signage

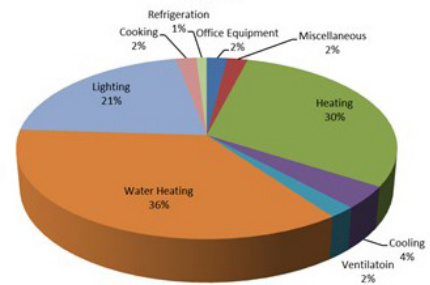


D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / NZE PROCESS : SETTING ENERGY TARGETS



Energy End Use in Educational Bldgs - Climate Zone 2



Source: Energy Information Administration

BENCHMARKING EUI AGAINST SIMILAR PROGRAMS

BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS

Site Energy Capacity



Site Area: 219,324 SF

Sunpower 327W Panels:

of Panels: 11,278
 Array Size: 3688 kW
 Annual Energy 3,991,000 kWh

Generic 300W Panels

of Panels: 11,611
 Array Size: 3483 kW
 Annual Energy 3,761,150 kWh

ENERGY BUDGET

3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

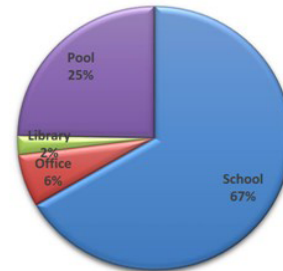
BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS

Energy Budget - High

Enclosed Pool: Maximum Energy

Program	Area (SF)	EUI (kbtu/sf/year)	kbtu/year	kWh/year
School	180,000	30	5,400,000	1,582,186
Office	15,000	35	525,000	153,824
Library	7,500	25	187,500	54,937
Pool	5,000			587,532
Sub-Total	207,500		6,112,500	2,378,478 kWh/year
Contingency	20.0%			475,696 kWh/year
Total	207,500	46.9	9,741,295	2,854,174 kWh/year

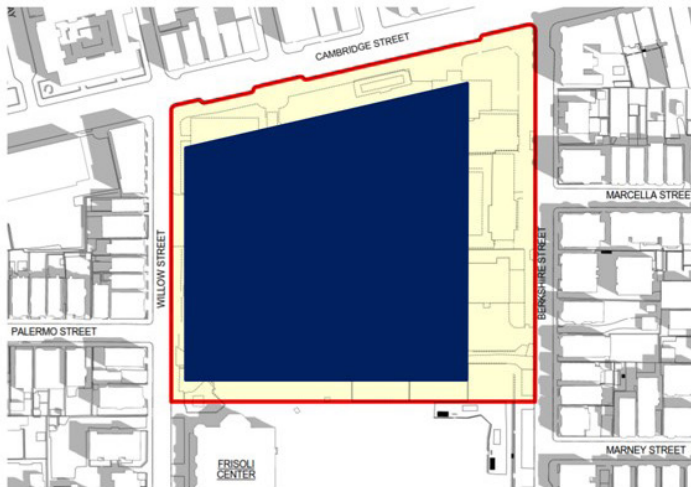
Annual Energy Use Breakdown



ENERGY BUDGET

BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS

Required Capacity



Array Area: **156,900 SF**
Sunpower 327W Panels:
 # of Panels: 8,069
 Array Size: 2639 kW
 Annual Energy 2,855,087 kWh

ENERGY BUDGET

D. SUSTAINABILITY / Building System Meeting

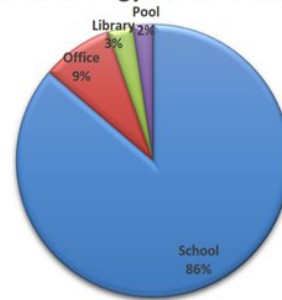
BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS

Energy Budget - Low

Open Pool: Minimum Energy (Not Heated)

Program	Area (SF)	EUI (kbtu/sf/year)	kbtu/year	kWh/year
School	180,000	30	5,400,000	1,582,186
Office	15,000	35	525,000	153,824
Library	7,500	25	187,500	54,937
Pool	5,000			43,506
Sub-Total	207,500		6,112,500	1,834,453 kWh/year
Contingency	20.0%			366,891 kWh/year
Total	207,500	36.2	7,513,184	2,201,343 kWh/year

Annual Energy Use Breakdown



ENERGY BUDGET

BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS

Required Capacity



Array Area: **121,000 SF**
 Sunpower 327W Panels:
 # of Panels: 6,223
 Array Size: 2035 kW
 Annual Energy 2,201,820 kWh

ENERGY BUDGET

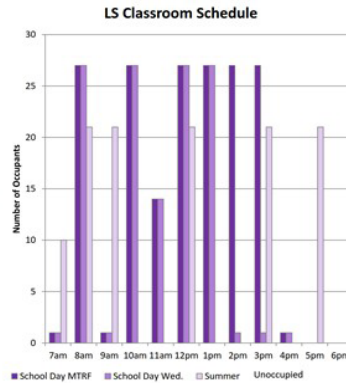
3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS

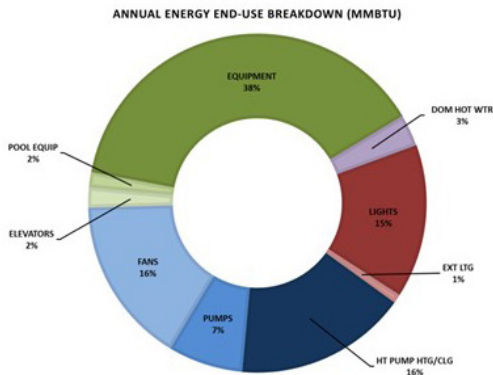
MLK - Lower School Classroom

- General Hours:
 - 7:55am – 3:55pm M,T,R,F
 - 7:55am – 1:55pm Wed.
 - Summer Programs 8am to 5pm but students out of room 50% of time. Only includes 6 classrooms.
- School Year Schedule includes:
 - 30 min lunch (assumed between 11am and 12pm)
 - (1) 45 min out of class period
- No weekend use
- Maximum number of students per room: 25
- Maximum Faculty per room: 2



DETAILED UNDERSTANDING OF PROGRAM & SCHEDULE

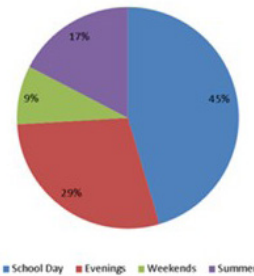
BELMONT HIGH SCHOOL / NZE PROCESS : DETERMINING ENERGY NEEDS



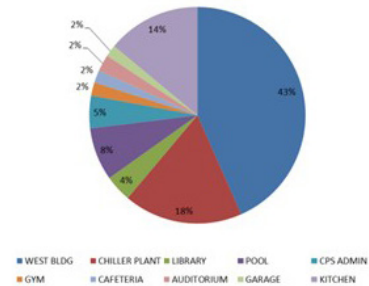
Based on the breakdown of annual energy by end-use, there are four main categories of energy use for the building.

- 42% Equipment, including plug loads, pool pumps and elevators
- 39% HVAC including fans, pumps and heating and cooling energy
- 16% Lighting, including exterior lighting
- 3% Domestic hot water heating.

Energy Model Results	MMBTU	kWh	EUI*
Predicted Annual Energy Use:	6,258	1,834,086	26.9



Annual Energy Consumption by Building Type



DETAILED UNDERSTANDING OF PROGRAM & SCHEDULE

D. SUSTAINABILITY / Building System Meeting

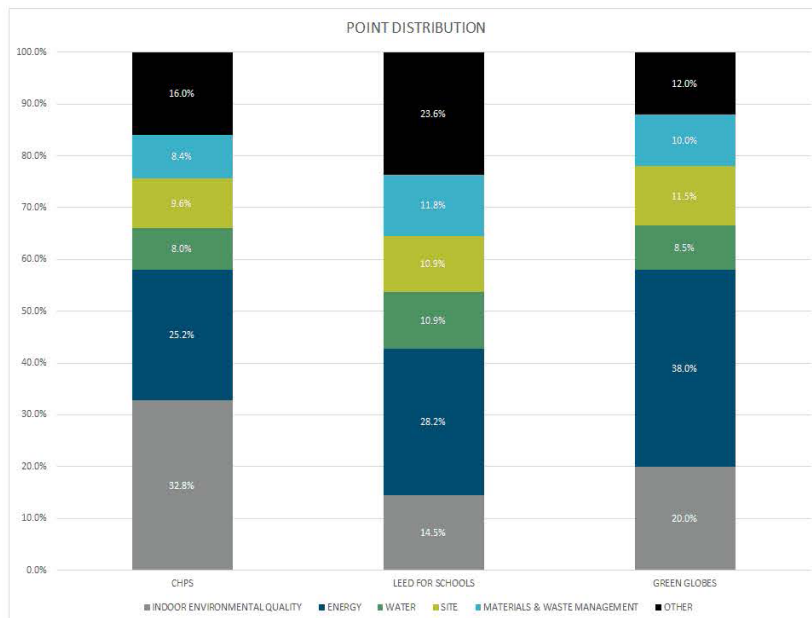


07/ CHPS vs. LEED
BELMONT HIGH SCHOOL

BELMONT HIGH SCHOOL / CHPS vs. LEED

CRITERIA AND ASSOCIATED POINTS

LEED has 9 categories with 110 total points. Green Globes has 7 categories with 1000 total points. CHPS has 7 categories with 250 total points. *The breakdown per program with the associated category weights are shown in the figure below:*



3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Building System Meeting

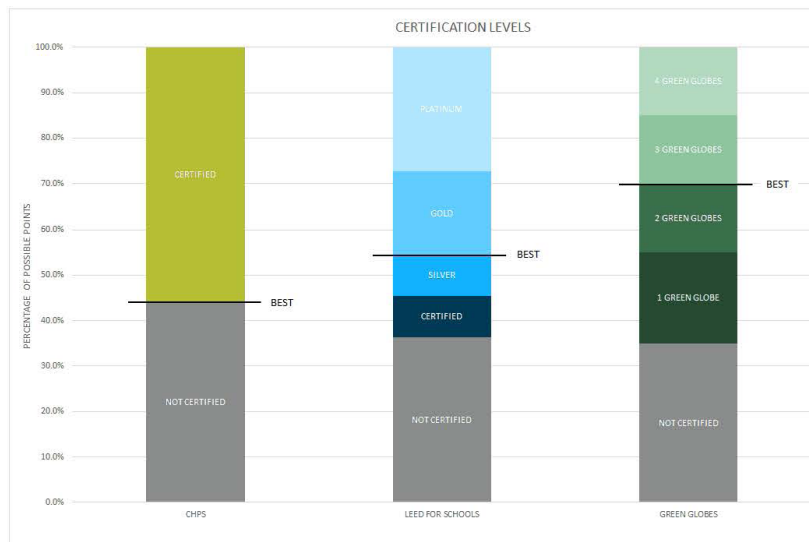
BELMONT HIGH SCHOOL / CHPS vs. LEED

Summary of NE-CHPS, LEED 2009, LEED v4 (new), and ANSI S12.6 (2002 and 2010) – Cavanaugh Tocci Associates, Inc.

Standard	Room Reverberation Limit	Background Sound Limit	Sound Isolation Requirements (Interior Spaces)	Impact Isolation Requirements	Additional Requirements (reverberation)	Additional Requirements (site evaluation)	Notes
NE-CHPS 3.0 Prerequisite EQ 14.0	YES ANSI limits based on classroom volume. Calculations required.	YES 35 dBA Core Classrooms. Calculations required.	YES Isolation ratings are generally lower than the ANSI standard.	YES IIC 45 minimum floor to floor, confirmation required.	Core learning spaces greater than 20k cu.ft. to have reverberation of 1.0 second or less.	Site sound measurements required with narrative as to design to meet a 35 dBA (max.) interior sound level.	
NE-CHPS 3.0 Enhanced Performance Credit EQ 14.1	YES ANSI limits based on classroom volume. Calculations required.	YES 35 dBA Core Classrooms. Calculations required.	YES Isolation ratings are similar to ANSI requirements	YES IIC 45 minimum floor to floor, confirmation required.	Core learning spaces greater than 20k cu.ft. to have reverberation of 1.0 second or less.	Site sound measurements required with narrative as to design to meet a 35 dBA (max.) interior sound level.	
LEED for Schools 2009 EQ/IEQ3 pre-req	YES ANSI standard, with calculations required (Note 1).	YES 45 dBA Core Classrooms.	NO (not required).	NO (IIC not noted as a requirement).	Core learning spaces greater than 20k cu.ft. reverberation of 1.5 second or less.	NO (not required).	1
LEED for Schools 2009 EQ/IEQ Credit 9	YES ANSI standard, with calculations required (Note 1).	YES 40 dBA Core Classrooms.	YES ANSI (except exterior windows, to meet an STC 35 requirement).	NO (IIC not noted as a requirement).	Core learning spaces greater than 20k cu.ft. reverberation of 1.5 second or less.	NO (not required).	1
New LEED for Schools v4 pre-requisite	YES ANSI standard, with calculations required (Note 1).	YES 40 dBA Core Classrooms.	NO (not required).	NO (IIC not noted as a requirement).	Core learning spaces greater than 20k cu.ft. to conform to NRC/CNRC "Acoustical Design of Rooms for Speech."	Review exterior sound levels at site (based on proximity to major noise sources) – some options would require daytime site sound measurements (Note 3).	1, 2, 3, 4
New LEED for Schools v4 (Credit, 1 point)	YES ANSI standard, with calculations required (Note 1).	YES 35 dBA Core Classrooms.	YES Requiring ANSI 2010 standard for interior isolation.	NO (IIC not noted as a requirement).	Core learning spaces greater than 20k cu.ft. to conform to NRC/CNRC "Acoustical Design of Rooms for Speech."	Review exterior sound levels at site (based on proximity to major noise sources) – some options would require daytime site sound measurements (Note 3).	1, 2, 3, 4
ANSI S12.60-2002 (2002 version used up until now in most standards)	YES Reverberation limits based on classroom volume.	YES 35 dBA Core Classrooms.	YES Varies depending on adjacency.	YES IIC 45 between floors for core classrooms.		YES: Recommended isolation levels for exterior sound control.	
ANSI S12.60-2010 (2010 version referenced in LEED V4)	Limits based on classroom volume (no significant revision from the 2002 standard). New provision that classrooms less than 10k cu.ft. shall be readily adaptable to lower reverberation time of 0.3 sec	YES 35 dBA Core Classrooms.	YES Varies depending on adjacency (very slight revisions from the 2002 standard).	YES IIC 45 between floors for core classrooms.		Requires daytime site sound measurements to assess noisiest hour for the average school day, and lists specific requirements for STC/OITC of building envelope	

BELMONT HIGH SCHOOL / CHPS vs. LEED

The amount or percentage of total points awarded to a project determines if that project gets certified, and to what extent. Depending on how many points the school earns in each category, they are able to earn different levels of certification from each program, with the exception of CHPS, which either certifies the building or not. *The table below outlines these different levels of certification, where applicable. In Colorado, the Building Excellence Schools Today (BEST) Program requires the following level of certification: LEED – Gold, Green Globes – 3 globes, and CHPS – Verified Leader. These goals are also noted:*



D. SUSTAINABILITY / Building System Meeting
 BELMONT HIGH SCHOOL / CHPS vs. LEED

Post-Design vs. Design Only Points					
	Post-Design Prerequisites	Points Allocated During/After Construction	Points Based on Design Only	Total Points	Percentage of Post-Design Points
LEED	5	13	97	110	12%
Green Globes	0	29	971	1000	3%
CHPS	7	149	101	250	60%
Notes:	<p><i>CHPS prerequisites have point values that contribute to the 149 shown above. LEED prerequisites have no point value. Green Globes has no prerequisites.</i></p> <p><i>All Green Globes points are dependent on a site assessment conducted after construction. 29 of the points are for commissioning and training done during/after construction. All other points are based on design, with potential to be denied based on actual construction.</i></p> <p><i>LEED has a review stage where certain points are reviewed and awarded after construction.</i></p>				

3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / LEED Checklist



LEED v4 for BD+C: Schools

Project Checklist

Belmont High School

8-Feb-18 / Revised 12-Apr-18 / Revised 09-May-18

Y	?	N		
1	0	0	Credit 1	Integrative Process

7	3	5	Location and Transportation		Possible Points:	15
		15	Credit 1	LEED for Neighborhood Development Location		15
1			Credit 2	Sensitive Land Protection		1
		2	Credit 3	High Priority Site		2
2		3	Credit 4	Surrounding Density and Diverse Uses		5
4			Credit 5	Access to Quality Transit		4
	1		Credit 6	Bicycle Facilities		1
	1		Credit 7	Reduced Parking Footprint		1
	1		Credit 8	Green Vehicles		1

3	6	3	Sustainable Sites		Possible Points:	12
Y			Prereq 1	Construction Activity Pollution Prevention		Required
Y			Prereq 2	Environmental Site Assessment		Required
1			Credit 1	Site Assessment		1
		2	Credit 2	Site Development--Protect or Restore Habitat		2
1			Credit 3	Open Space		1
	3		Credit 4	Rainwater Management		3
	2		Credit 5	Heat Island Reduction		2
	1		Credit 6	Light Pollution Reduction		1
		1	Credit 7	Site Master Plan		1
1			Credit 8	Joint Use of Facilities		1

5	3	4	Water Efficiency		Possible Points:	12
Y			Prereq 1	Outdoor Water Use Reduction		Required
Y			Prereq 2	Indoor Water Use Reduction		Required
Y			Prereq 3	Building-Level Water Metering		Required
1	1		Credit 1	Outdoor Water Use Reduction		2
3		4	Credit 2	Indoor Water Use Reduction		7
1	1		Credit 3	Cooling Tower Water Use		2
	1		Credit 4	Water Metering		1

19	7	2	Energy and Atmosphere		Possible Points:	31
Y			Prereq 1	Fundamental Commissioning and Verification		Required
Y			Prereq 2	Minimum Energy Performance		Required
Y			Prereq 3	Building-Level Energy Metering		Required
Y			Prereq 4	Fundamental Refrigerant Management		Required
6			Credit 1	Enhanced Commissioning		6
11	2		Credit 2	Optimize Energy Performance		16
1			Credit 3	Advanced Energy Metering		1
		2	Credit 4	Demand Response		2
	3		Credit 5	Renewable Energy Production		3
	1		Credit 6	Enhanced Refrigerant Management		1
1	1		Credit 7	Green Power and Carbon Offsets		2

D. SUSTAINABILITY / LEED Checklist



LEED v4 for BD+C: Schools

Project Checklist

Belmont High School

8-Feb-18 / Revised 12-Apr-18 / Revised 09-May-18

4	0	9	Materials and Resources		Possible Points:	13
Y			Prereq 1	Storage and Collection of Recyclables		Required
Y			Prereq 2	Construction and Demolition Waste Management Planning		Required
		5	Credit 1	Building Life-Cycle Impact Reduction		5
1		1	Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations		2
		2	Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials		2
1		1	Credit 4	Building Product Disclosure and Optimization - Material Ingredients		2
2			Credit 5	Construction and Demolition Waste Management		2

9	6	1	Indoor Environmental Quality		Possible Points:	16
Y			Prereq 1	Minimum Indoor Air Quality Performance		Required
Y			Prereq 2	Environmental Tobacco Smoke Control		Required
Y			Prereq 3	Minimum Acoustic Performance		Required
2			Credit 1	Enhanced Indoor Air Quality Strategies		2
2	1		Credit 2	Low-Emitting Materials		3
1			Credit 3	Construction Indoor Air Quality Management Plan		1
2			Credit 4	Indoor Air Quality Assessment		2
0	1		Credit 5	Thermal Comfort		1
2			Credit 6	Interior Lighting		2
	3		Credit 7	Daylight		3
	1		Credit 8	Quality Views		1
		1	Credit 9	Acoustic Performance		1

1	6	0	Innovation		Possible Points:	6
	1		Credit 1	Innovation		1
	1		Credit 2	Innovation		1
	1		Credit 3	Innovation		1
	1		Credit 4	Innovation		1
	1		Credit 5	Innovation		1
	1		Credit *	Innovation		1
				Innovation		1
				Innovation		1
1			Credit 6	LEED Accredited Professional		1

3	0	2	Regional Priority		Possible Points:	4
1			Credit 1	Regional Priority: Specific Credit	Optimized Energy (8 points)	1
		1	Credit 2	Regional Priority: Specific Credit	Building Life-cycle Impact (2 points)	1
		1	Credit 3	Regional Priority: Specific Credit	Site Development-protect and restore (2 points)	1
1			Credit 4	Regional Priority: Specific Credit	Access to Quality Transit	1
1			Credit 5	Regional Priority: Specific Credit	Renewable Energy Production	1
			Credit 6	Regional Priority: Specific Credit		

52	31	26	Total		Possible Points:	110
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Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

3.3.4 - PREFERRED SOLUTION

D. SUSTAINABILITY / Acknowledgement

PERKINS + WILL

May 09 , 2018

Ms. Jess Deleconio
Senior Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

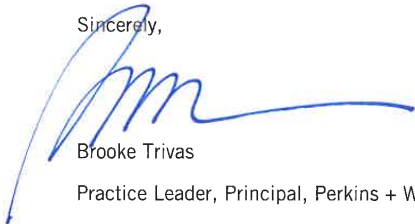
Re: MSBA High Efficiency Green School Program

Dear Ms. Deleconio,

This is an acknowledgement that the Belmont High School District has identified a goal of 2% additional reimbursement from the MSBA High Efficiency Green School Program. As their Designer, I have submitted a completed LEED scorecard showing all prerequisites and 52 attempted points, which will meet that goal.

The scope of work for this project will include the construction elements and performance tasks to achieve that goal, and all subsequent documents, including but not limited to, specifications, drawings, and cost estimates will match the scope of work indicated in the submitted scorecard.

Sincerely,



Brooke Trivas

Practice Leader, Principal, Perkins + Will



LOCAL ACTIONS &
APPROVALS

3.3.5

PREFERRED SOLUTION

3.3.4

FINAL EVALUATION OF
ALTERNATIVES

3.3.3

EVALUATION OF EXISTING
CONDITIONS

3.3.2

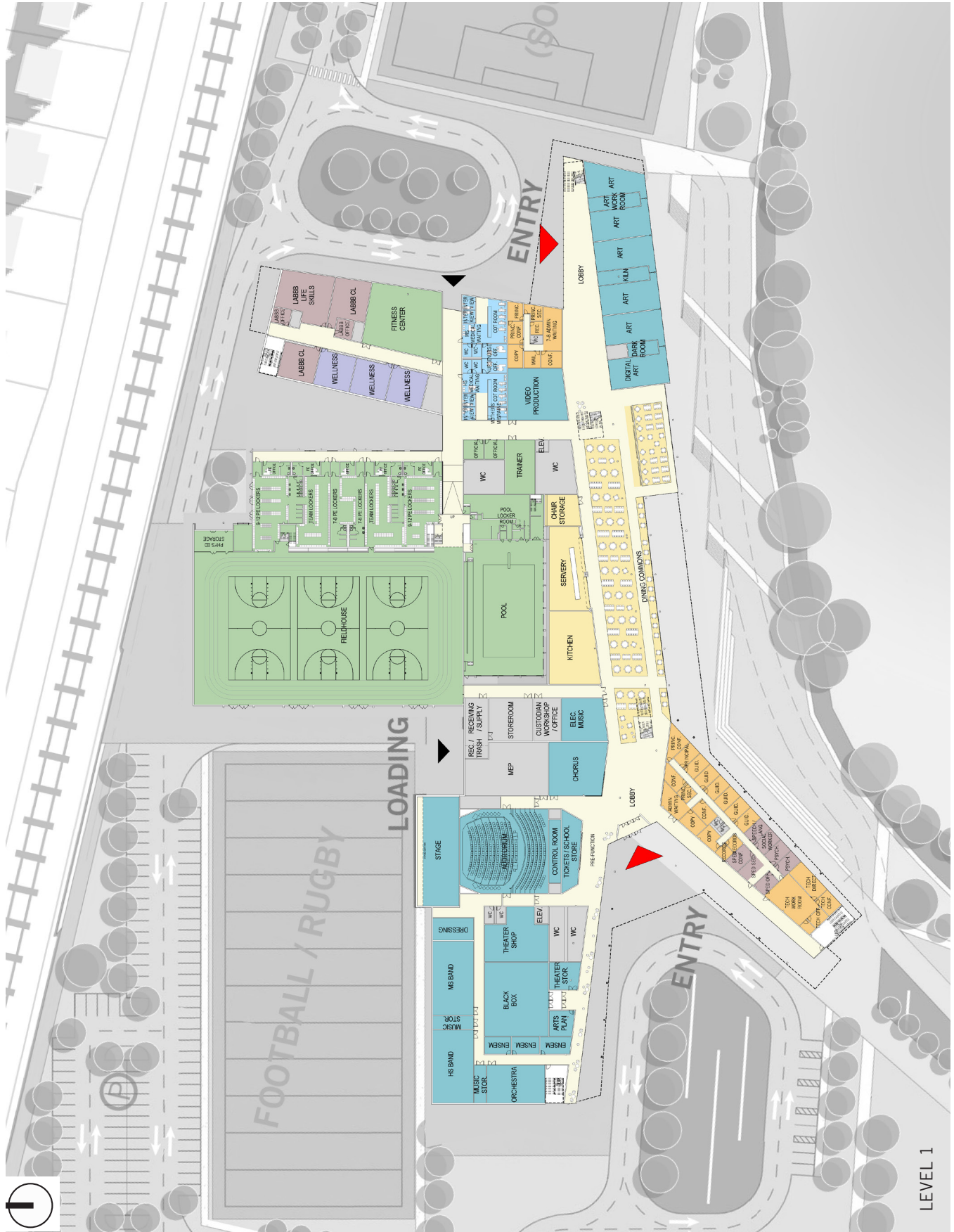
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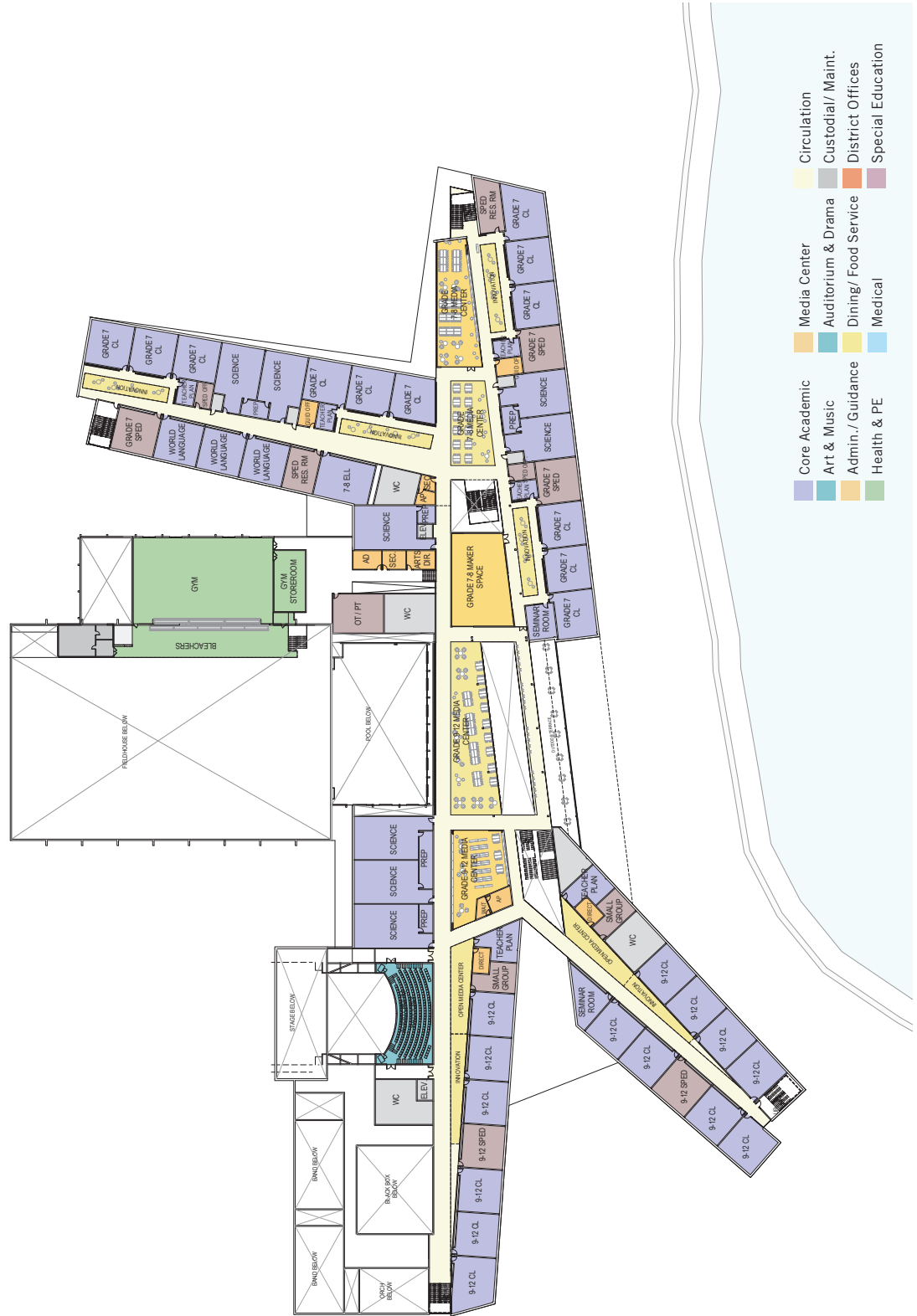
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E. BUILDING PLANS / Level 2



LEVEL 2

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PREFERRED SOLUTION

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3.3.4

FINAL EVALUATION OF ALTERNATIVES

3.3.3

EVALUATION OF EXISTING CONDITIONS

3.3.2

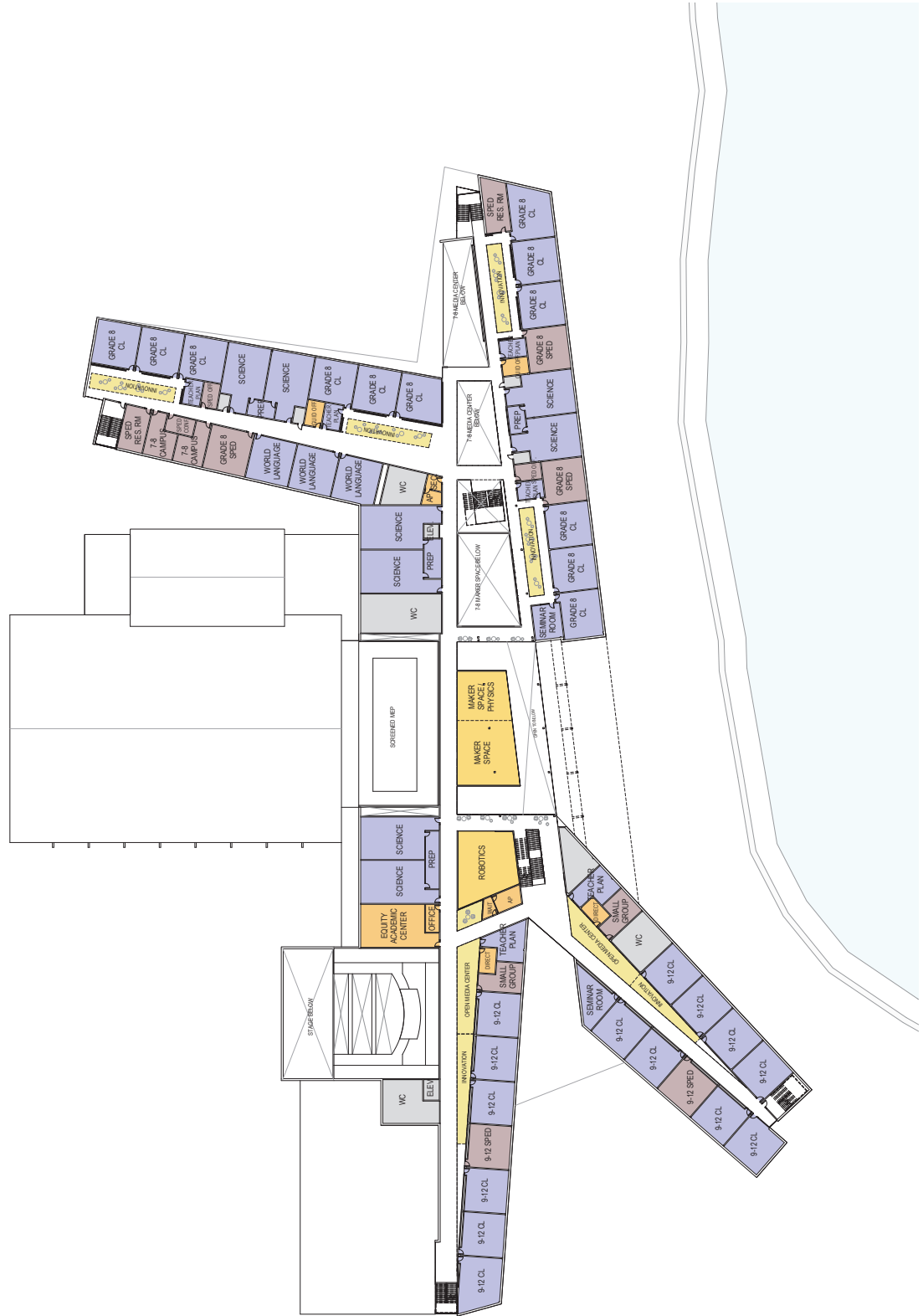
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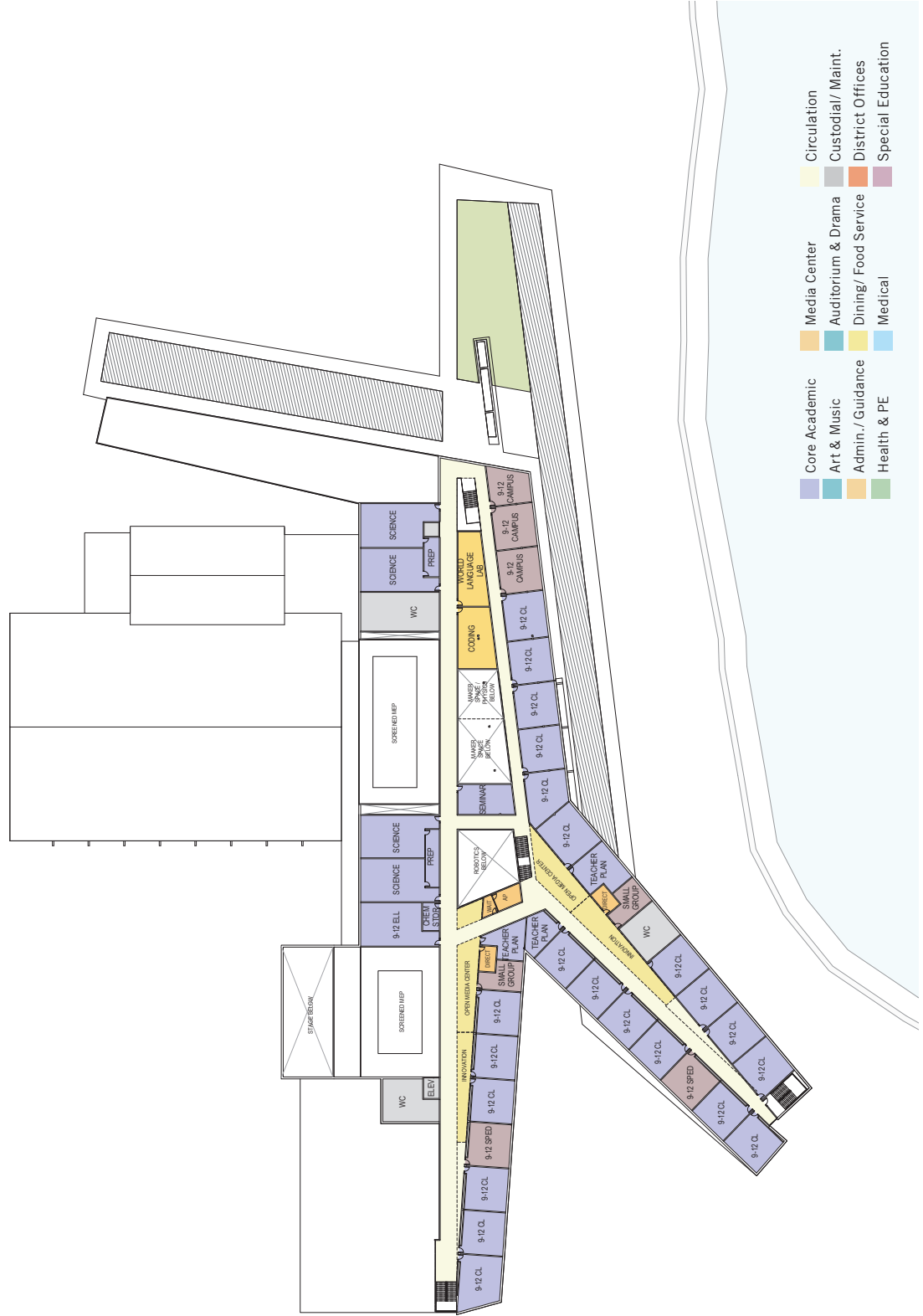
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LEVEL 3



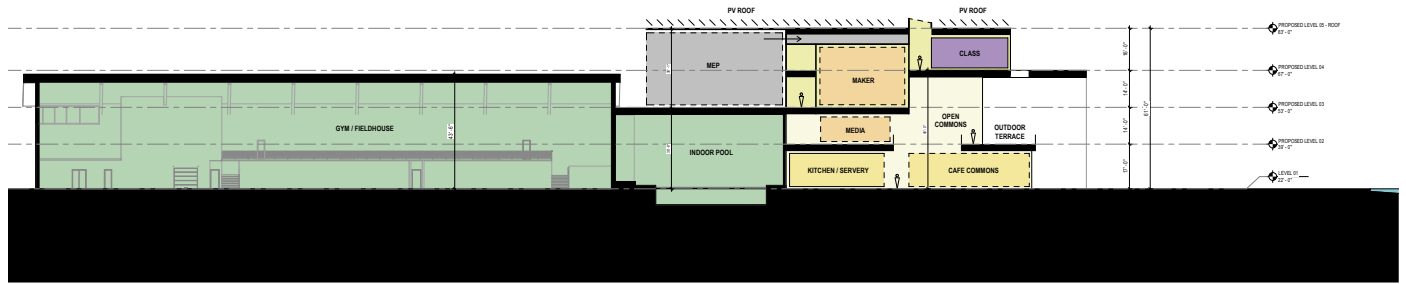
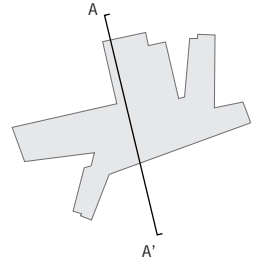
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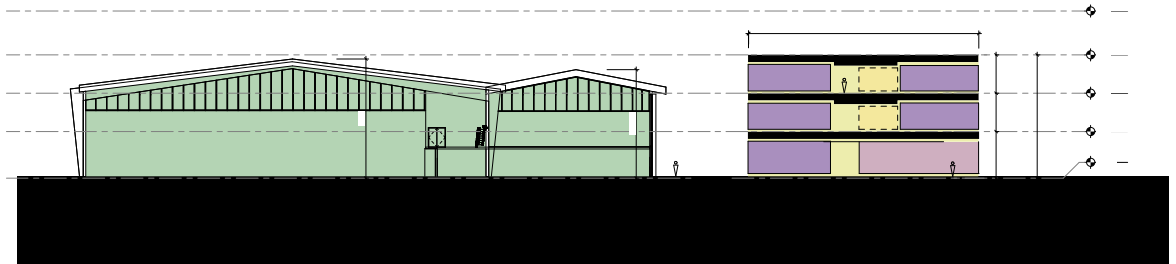
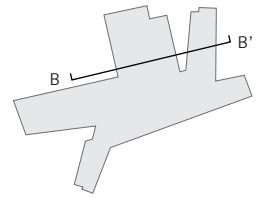
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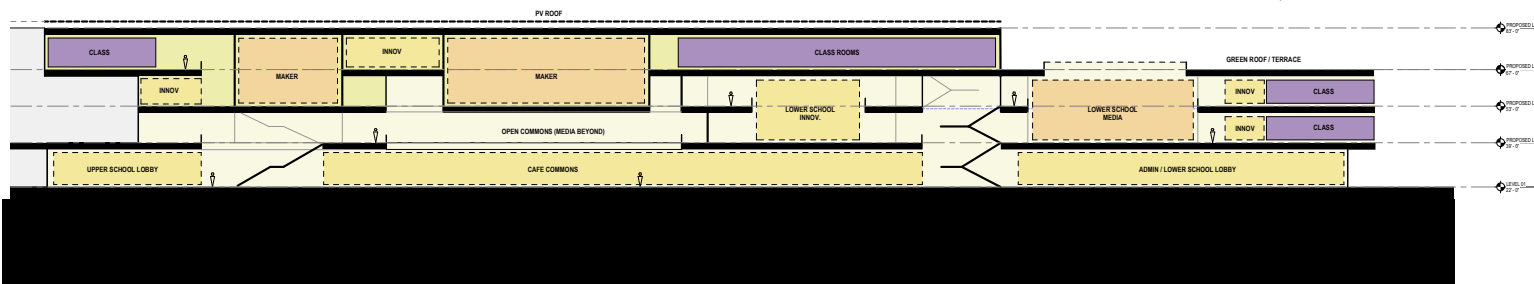
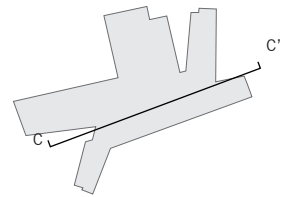
E. BUILDING PLANS / Section



NEW SECTION A-A'



NEW SECTION B-B'



NEW SECTION C-C'



LOCAL ACTIONS &
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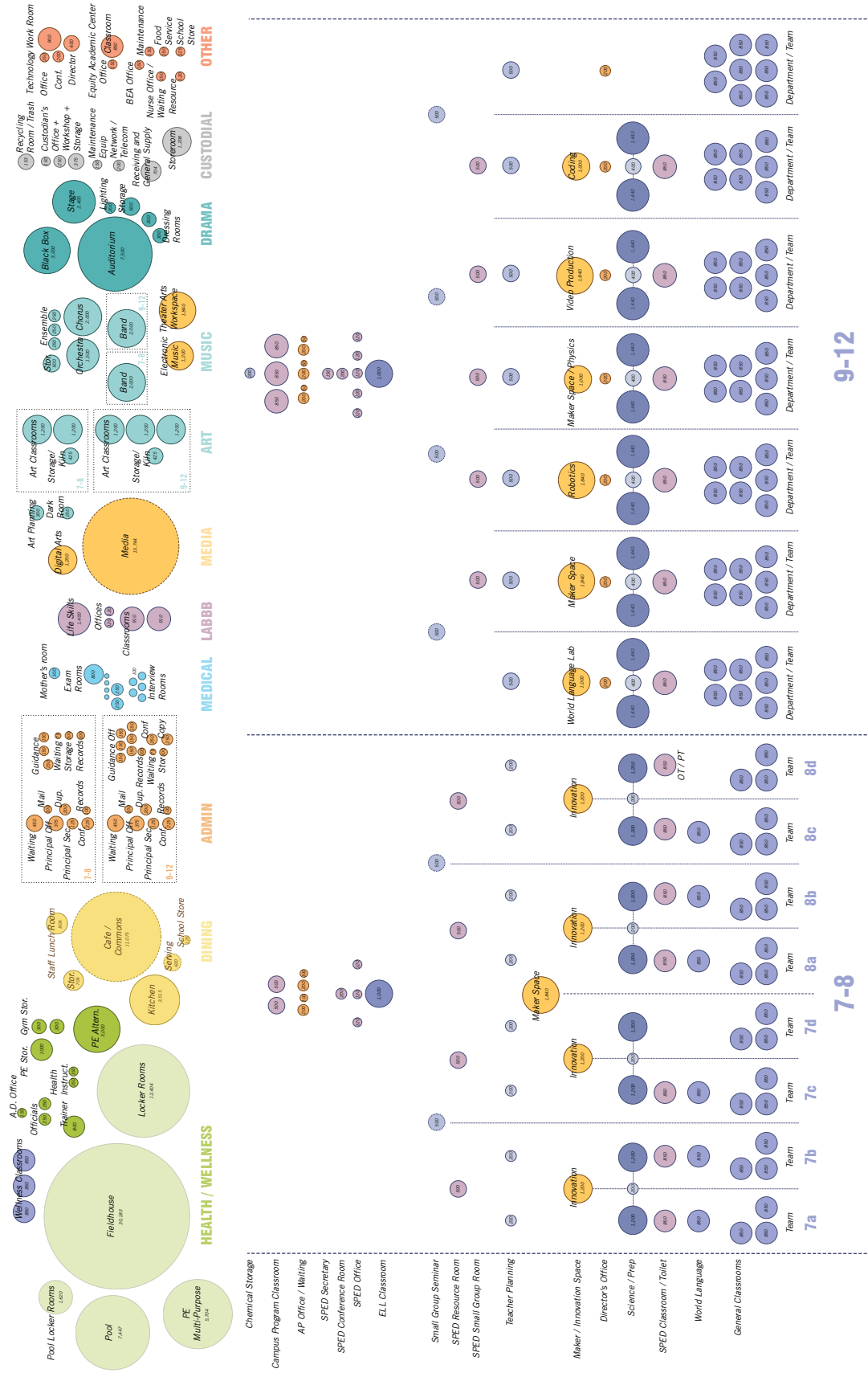
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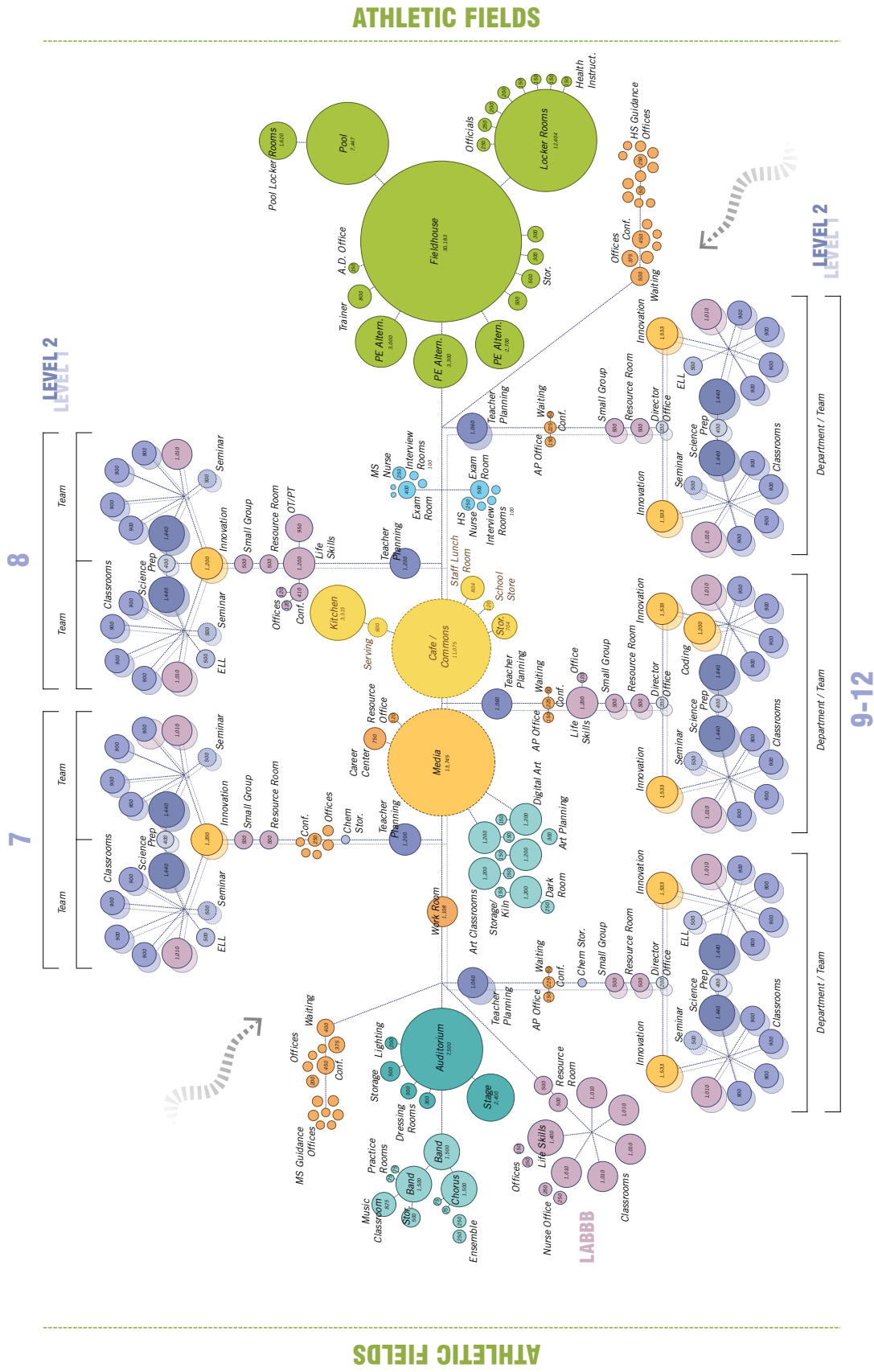
E. BUILDING PLANS / Program Tree

PROGRAM TREE



PROGRAM ADJACENCY

E. BUILDING PLANS / Program Adjacency



8

LEVEL 2

ATHLETIC FIELDS

ATHLETIC FIELDS

LEVEL 2

9-12

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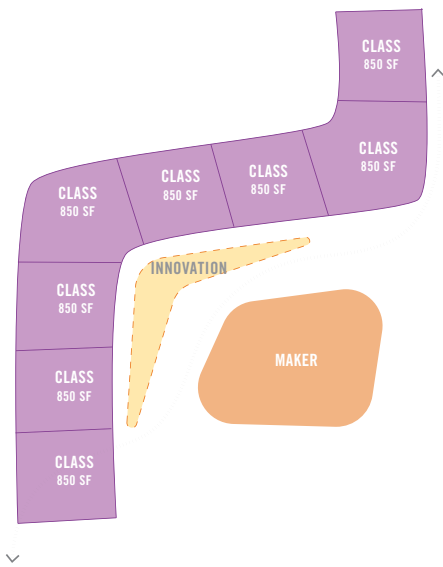
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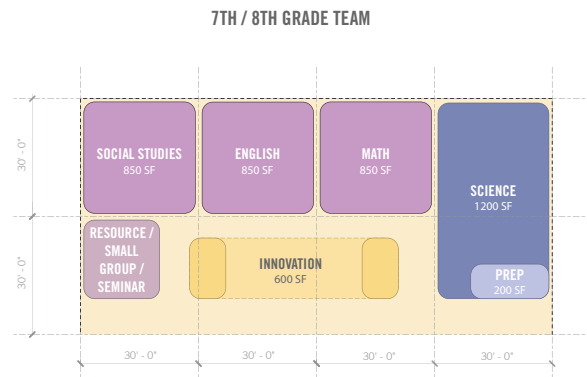
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HIGH SCHOOL



FLEXIBLE RIBBON

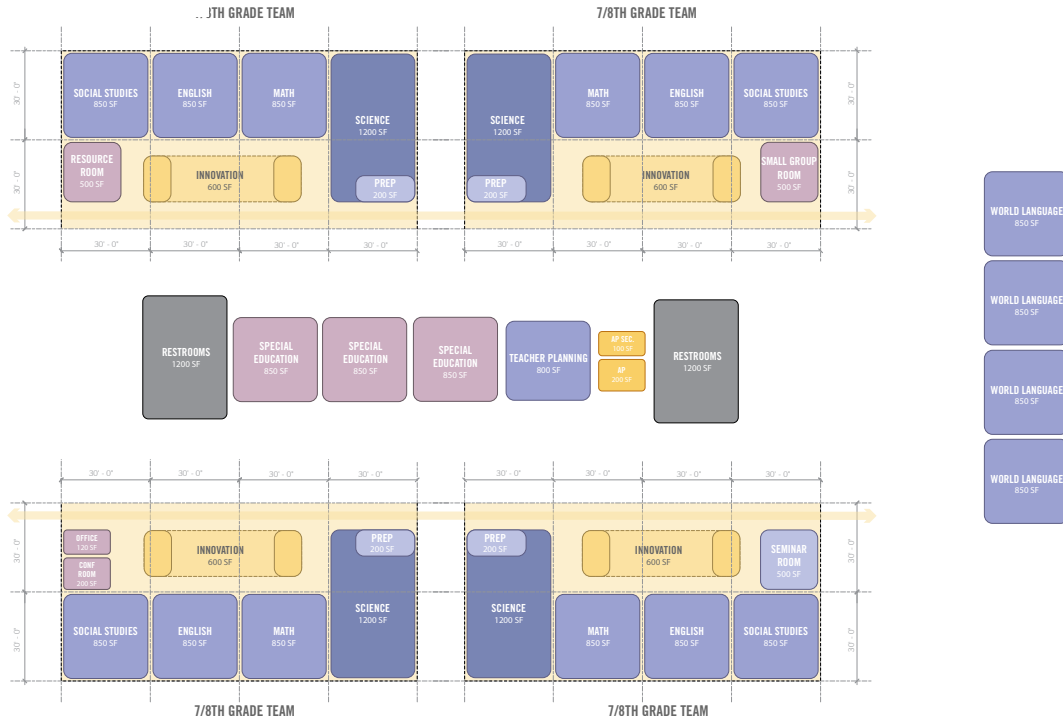
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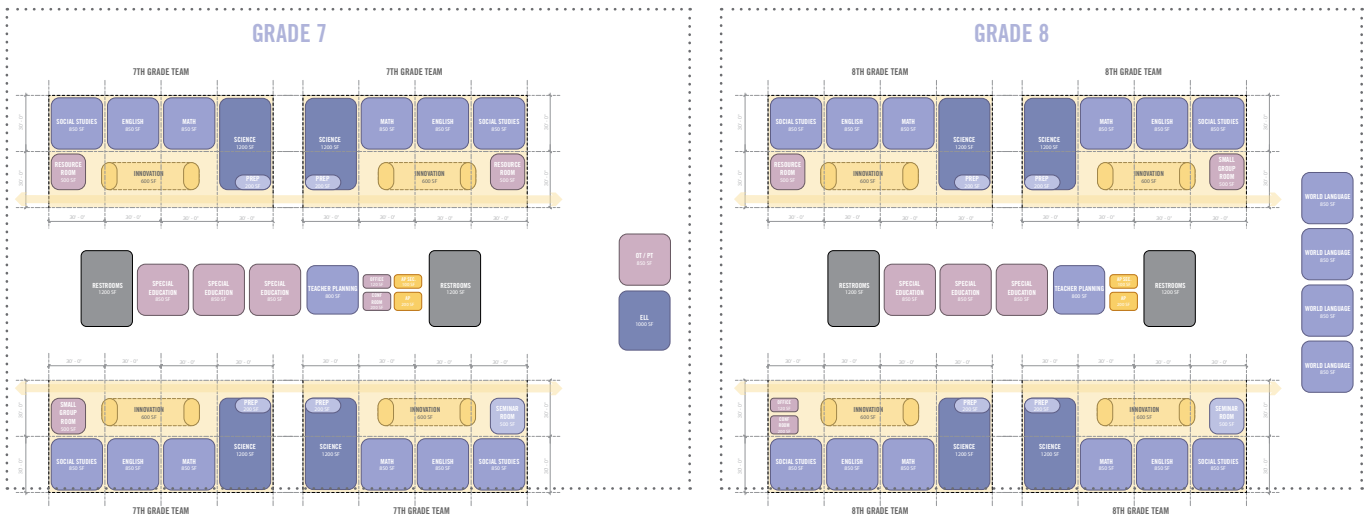
TEAM CLUSTER

E. BUILDING PLANS / Middle School Team Diagrams

7/8TH GRADE PROGRAM



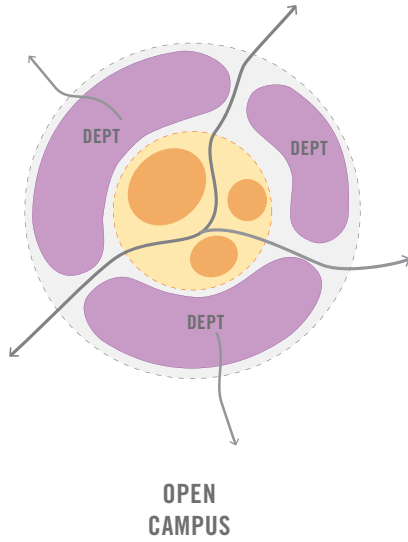
MIDDLE SCHOOL PROGRAM



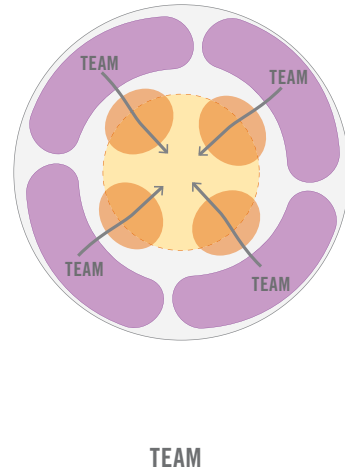
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E. BUILDING PLANS / Conceptual DiagramsModule

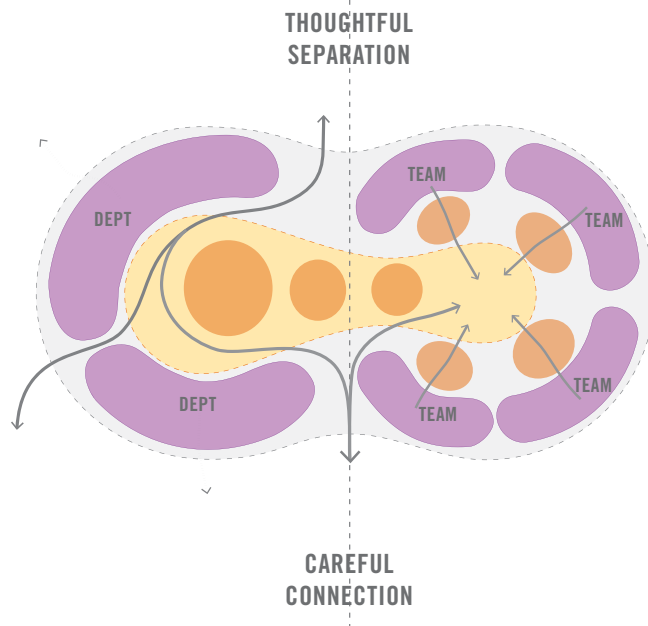
HIGH SCHOOL



MIDDLE SCHOOL



HIGH SCHOOL



E. BUILDING PLANS / Module & Parti

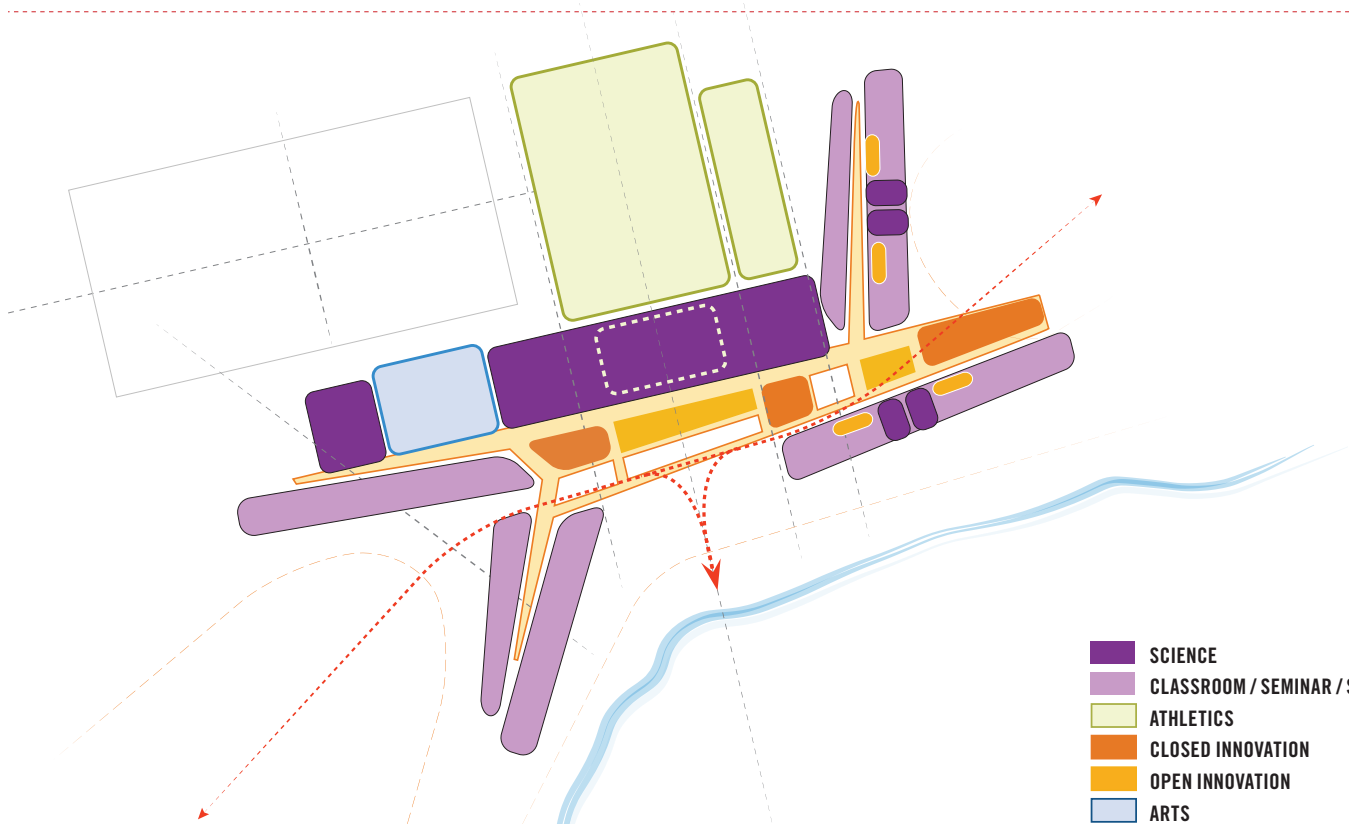
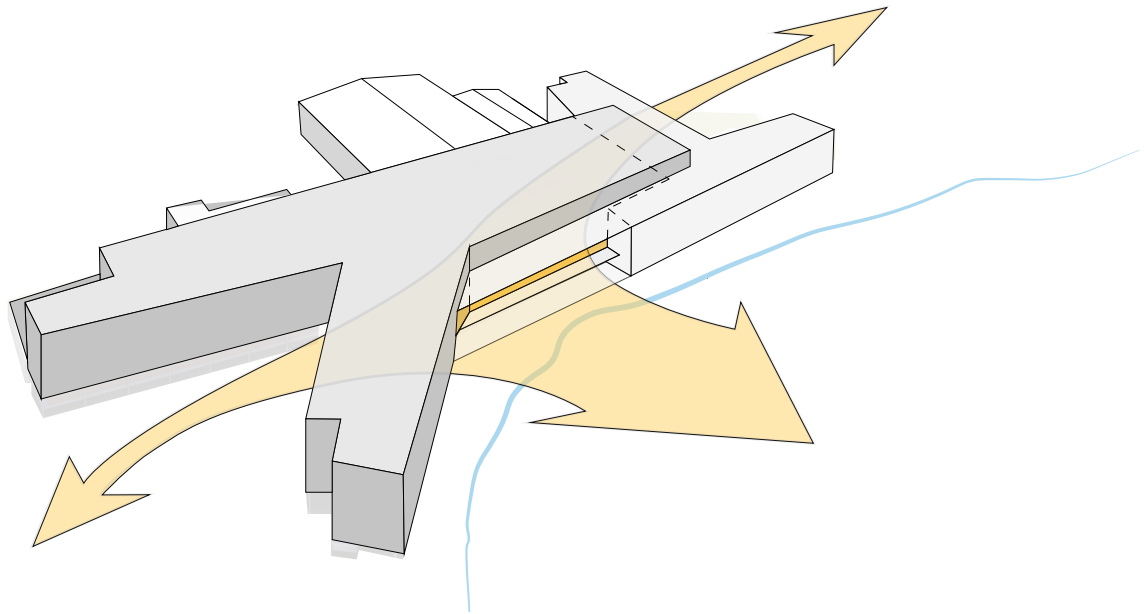
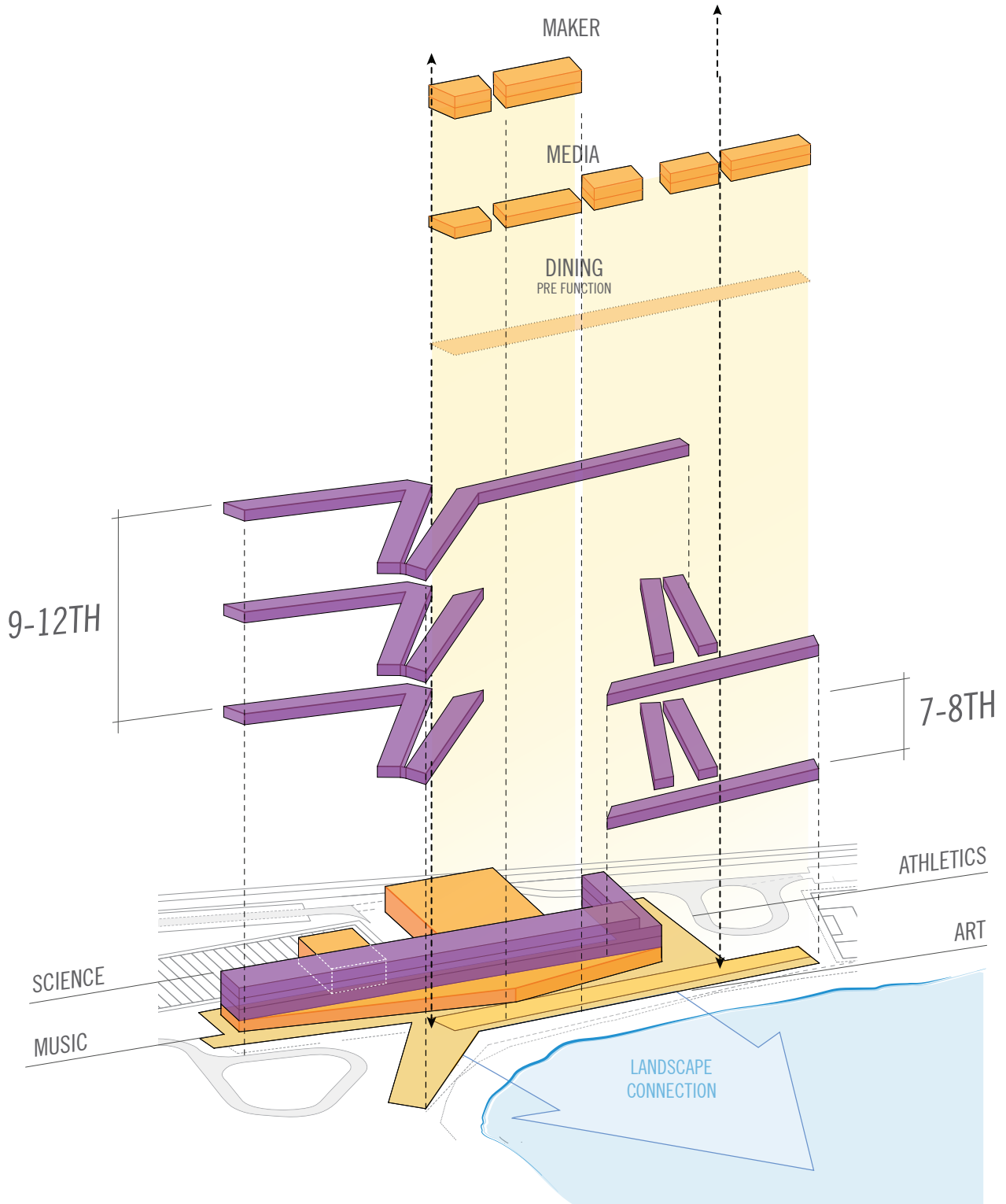


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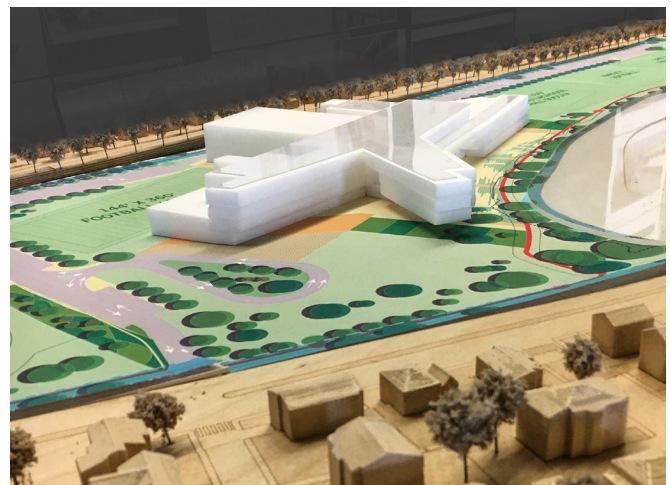
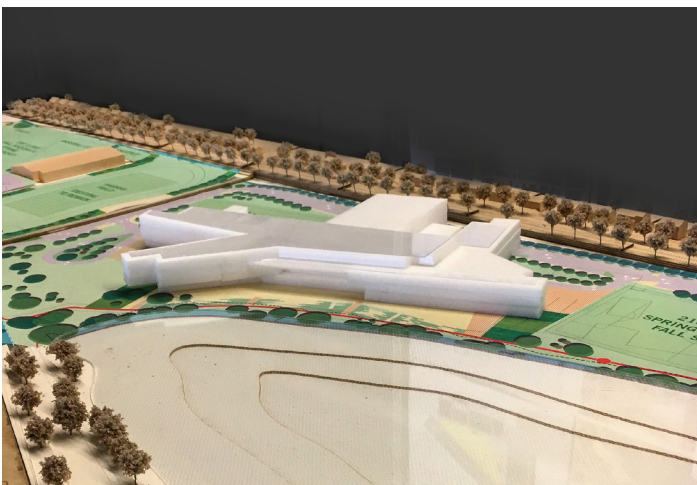
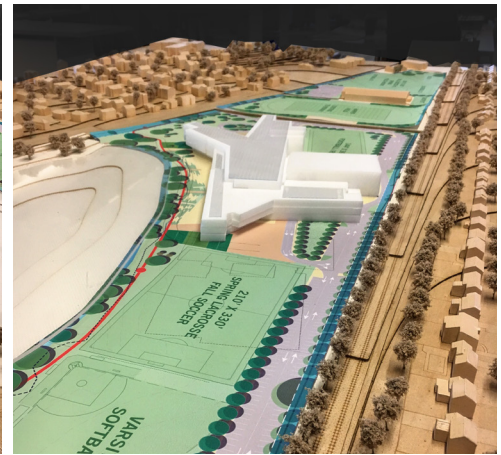
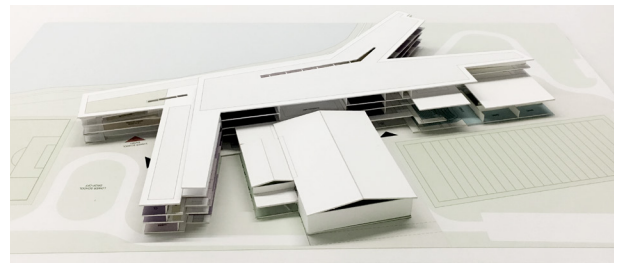
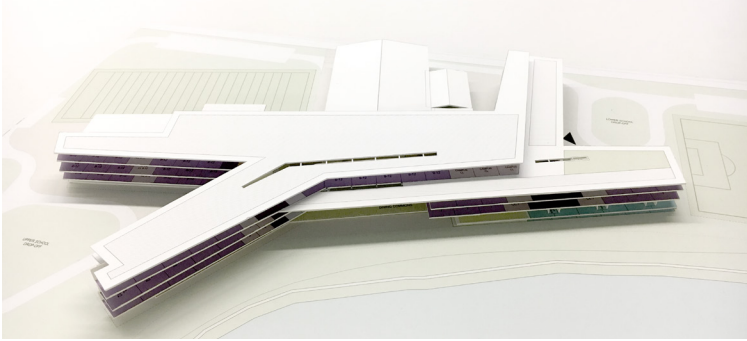
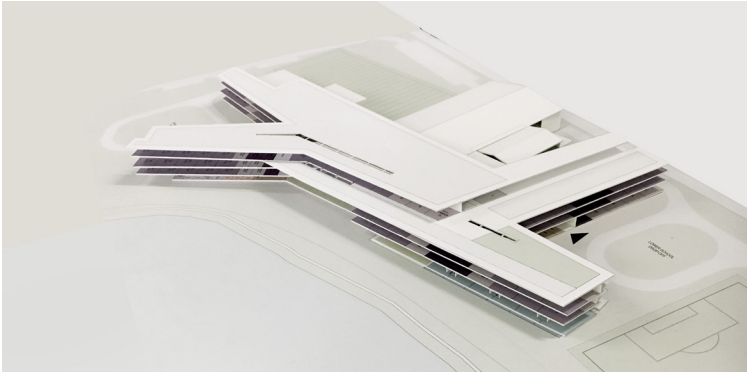
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3.3.4 - PREFERRED SOLUTION

E. BUILDING PLANS / Program Diagram



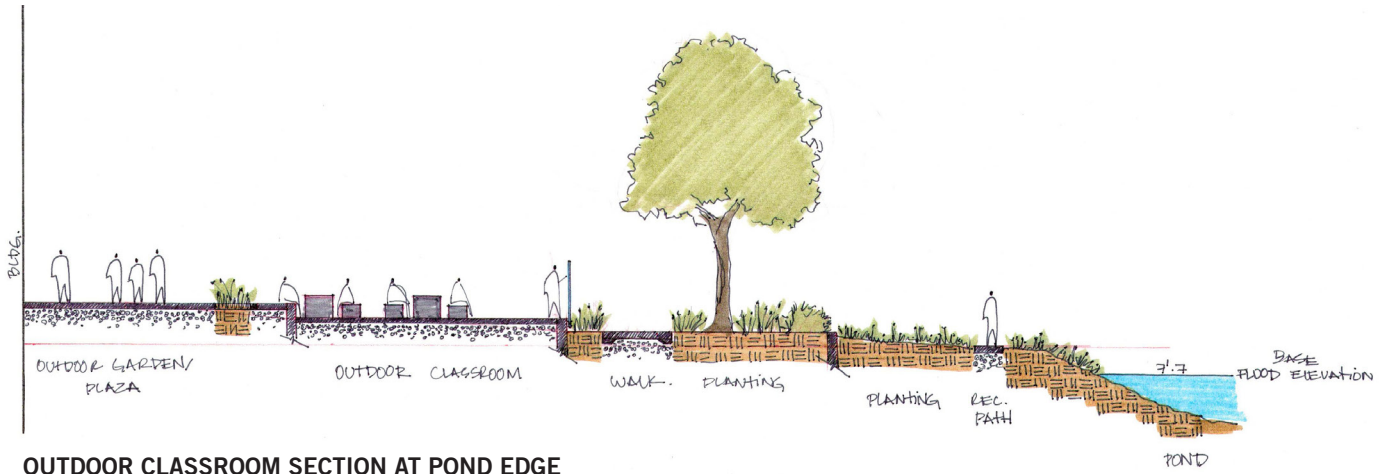
E. BUILDING PLANS / Physical Model



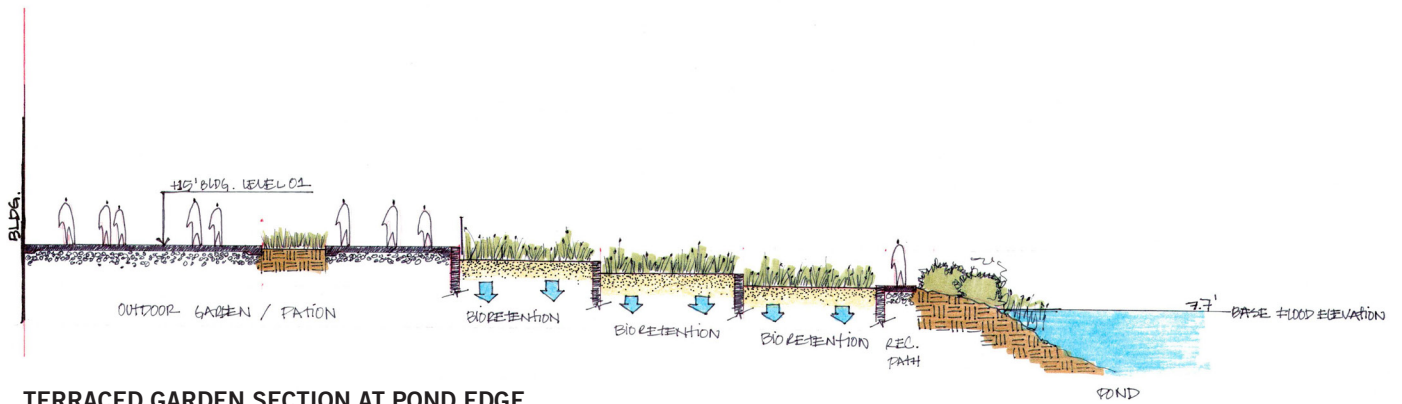
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3.3.4 - PREFERRED SOLUTION

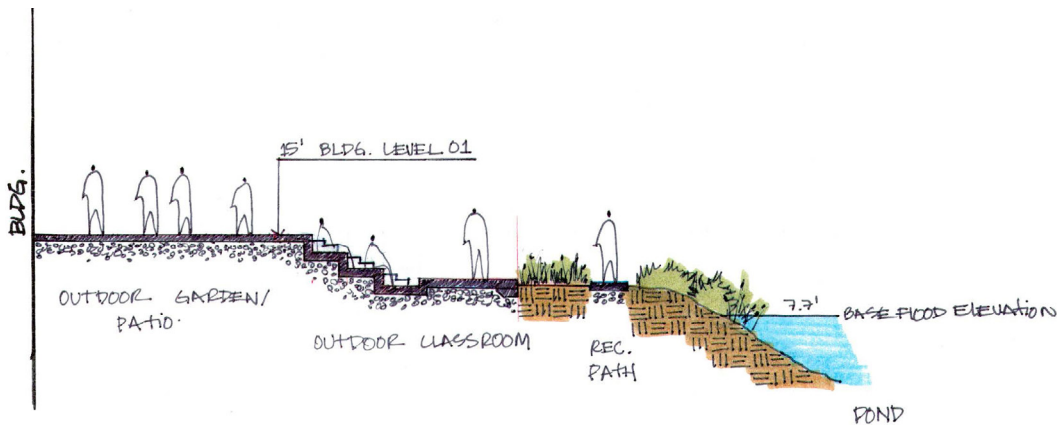
F. SITE PLAN / Site Concept Sections



OUTDOOR CLASSROOM SECTION AT POND EDGE



TERRACED GARDEN SECTION AT POND EDGE



STEPPED SEATING SECTION AT POND EDGE

F. SITE PLAN



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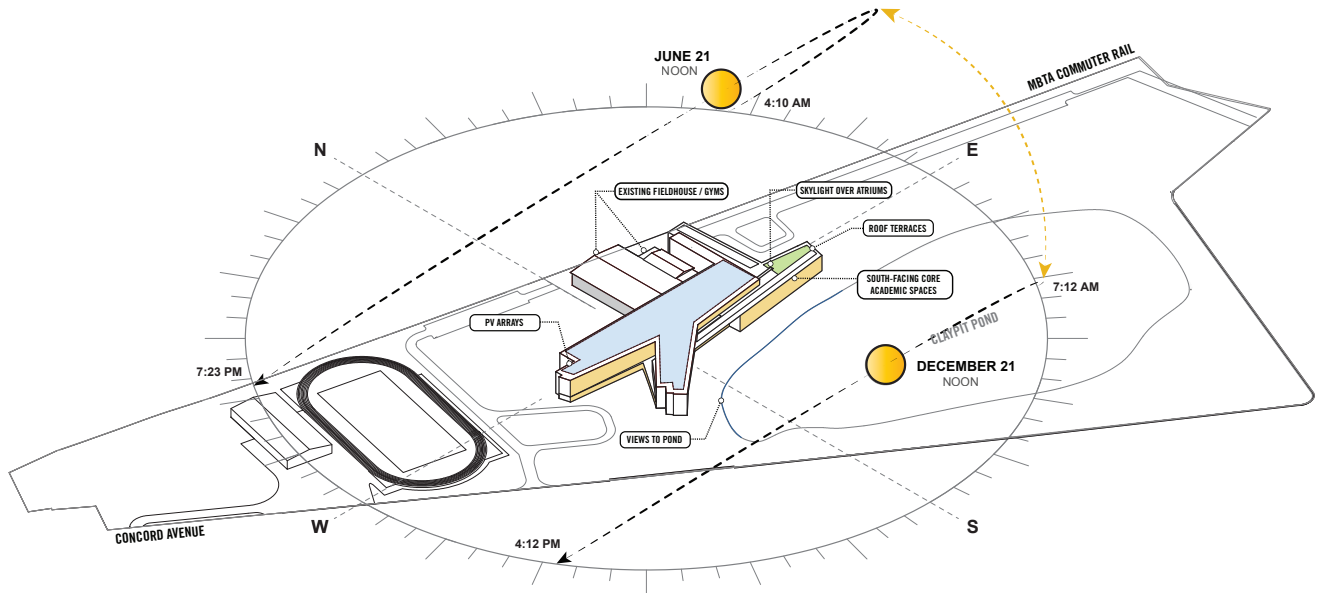
3.3.4 - PREFERRED SOLUTION

F. SITE PLAN

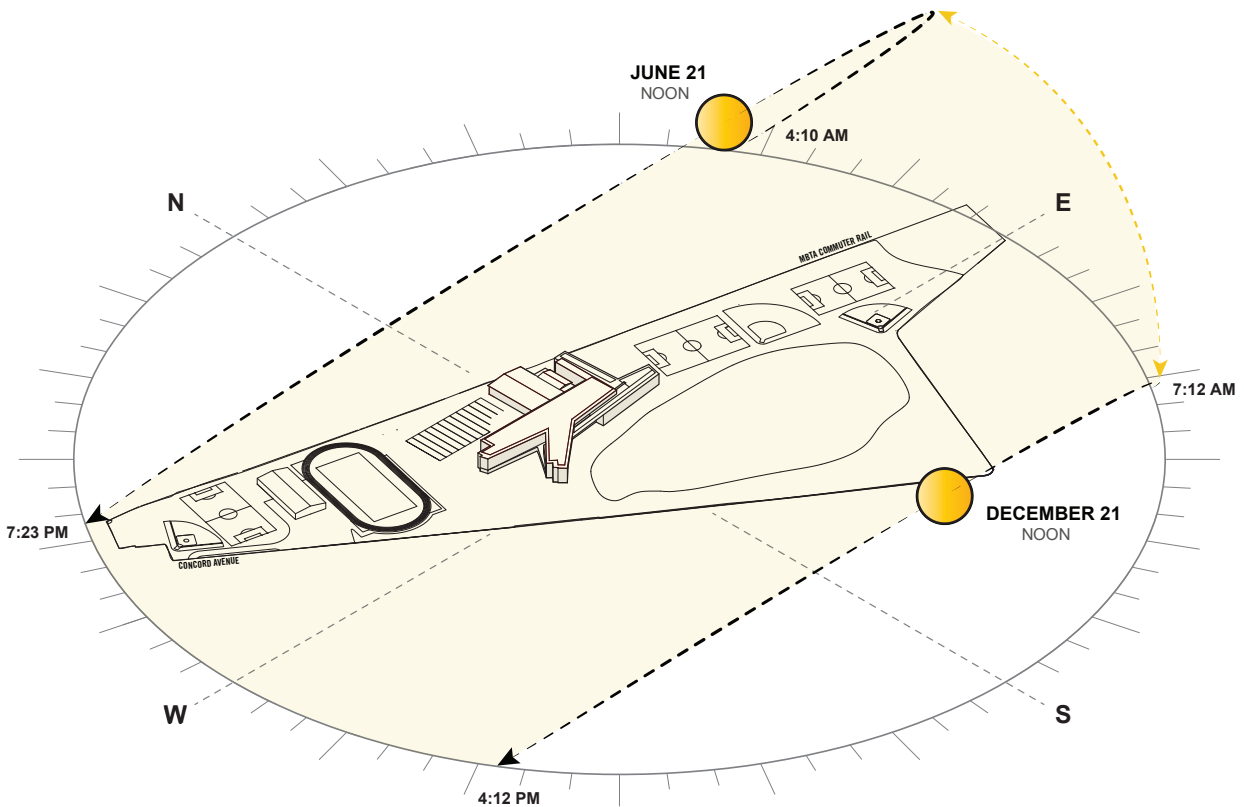


F. SITE PLAN / Site Diagrams

SUN ORIENTATION / BUILDING



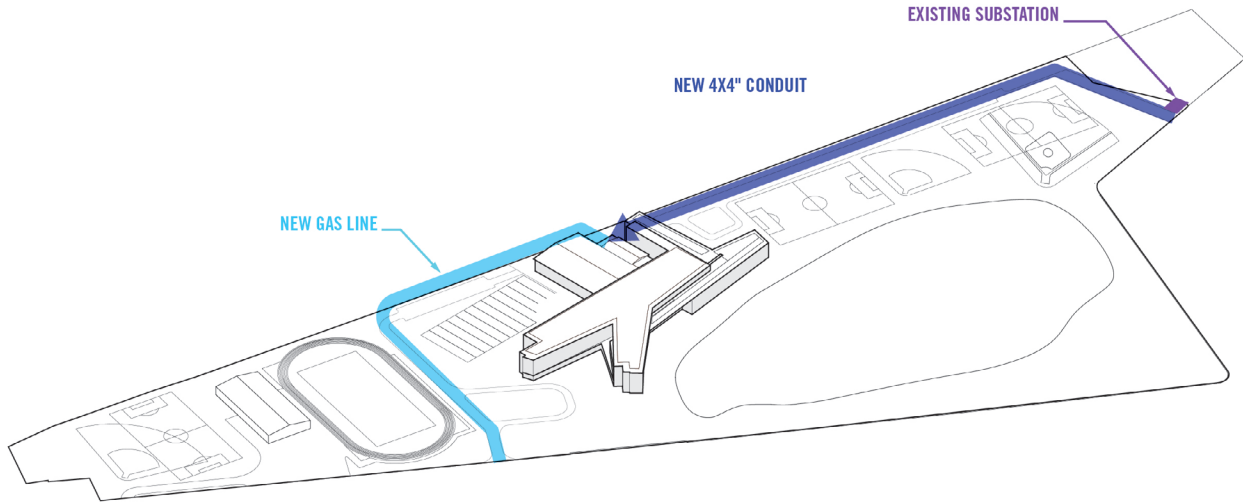
SUN ORIENTATION / SITE



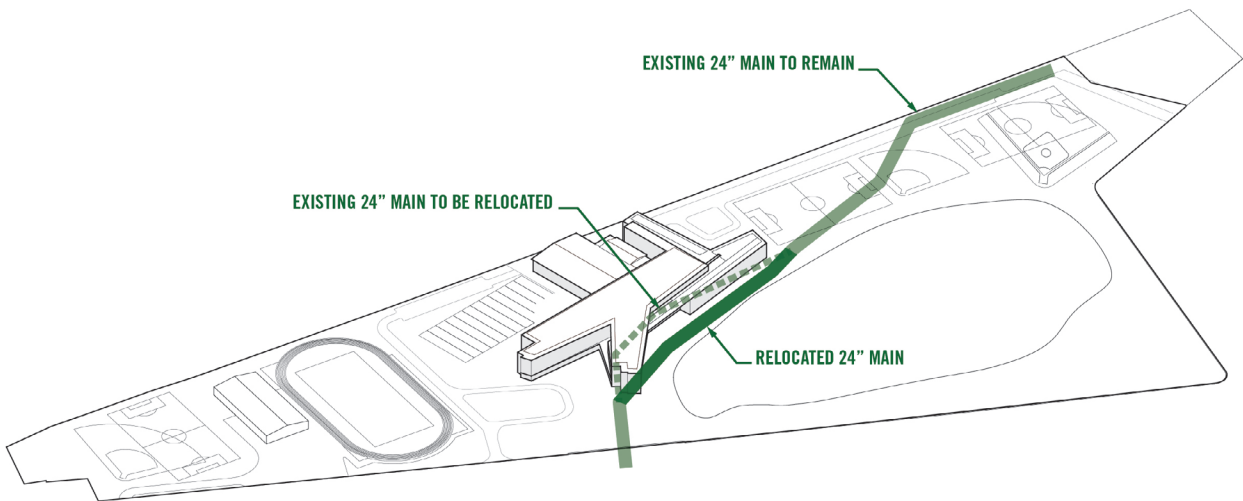
3.3.4 - PREFERRED SOLUTION

F. SITE PLAN / Site Diagrams

UTILITIES / GAS & ELECTRIC

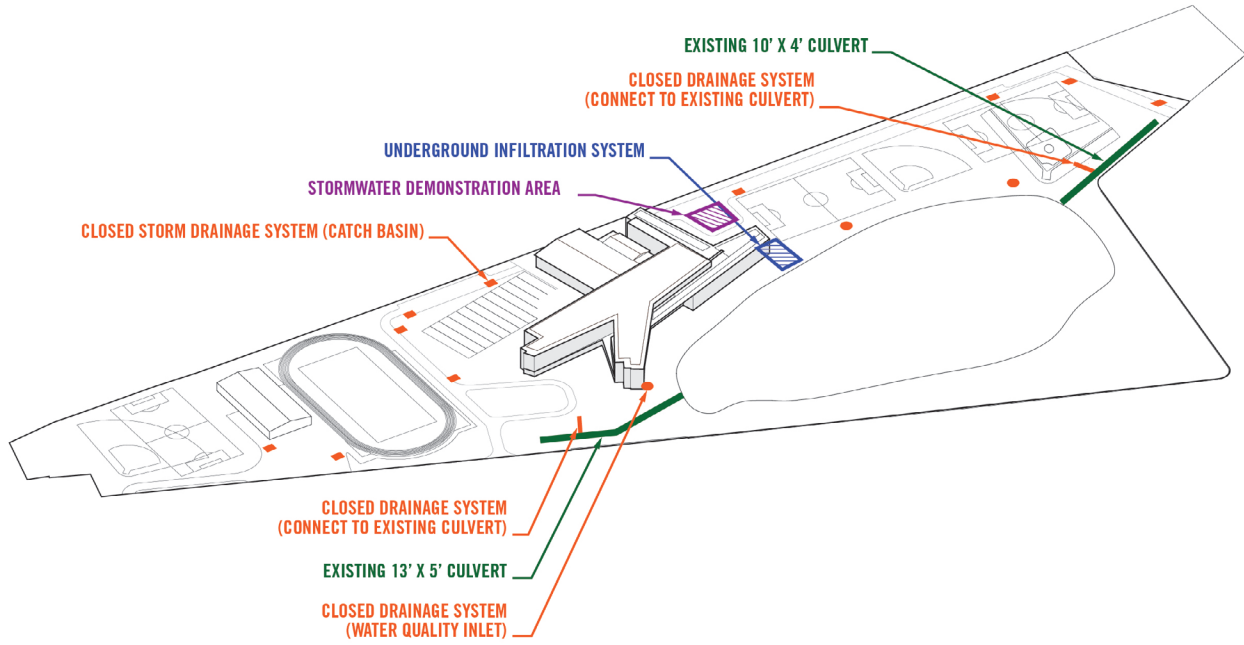


UTILITIES / SEWER

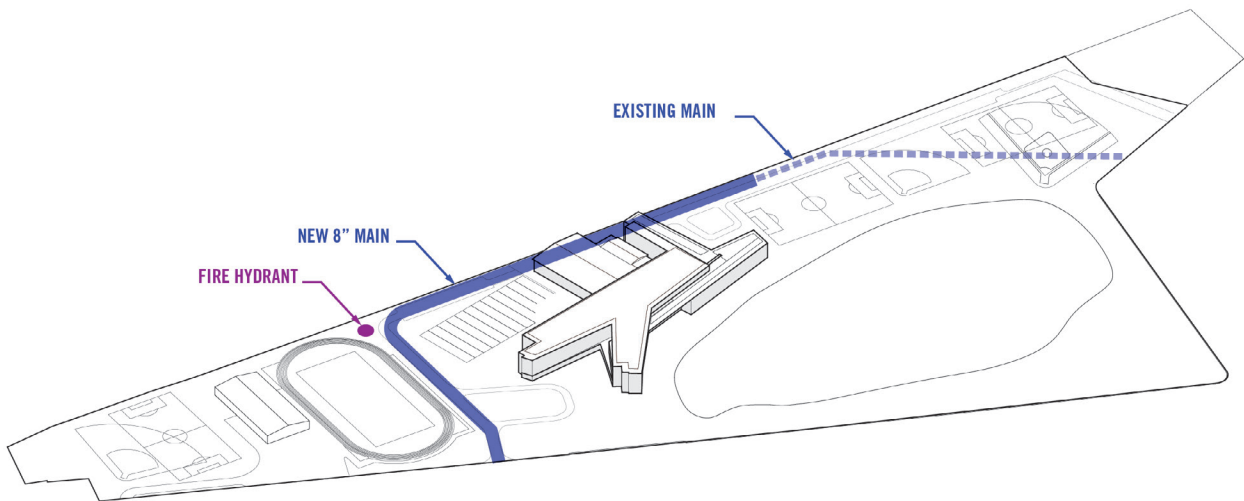


F. SITE PLAN / Site Diagrams

UTILITIES / STORM DRAINAGE



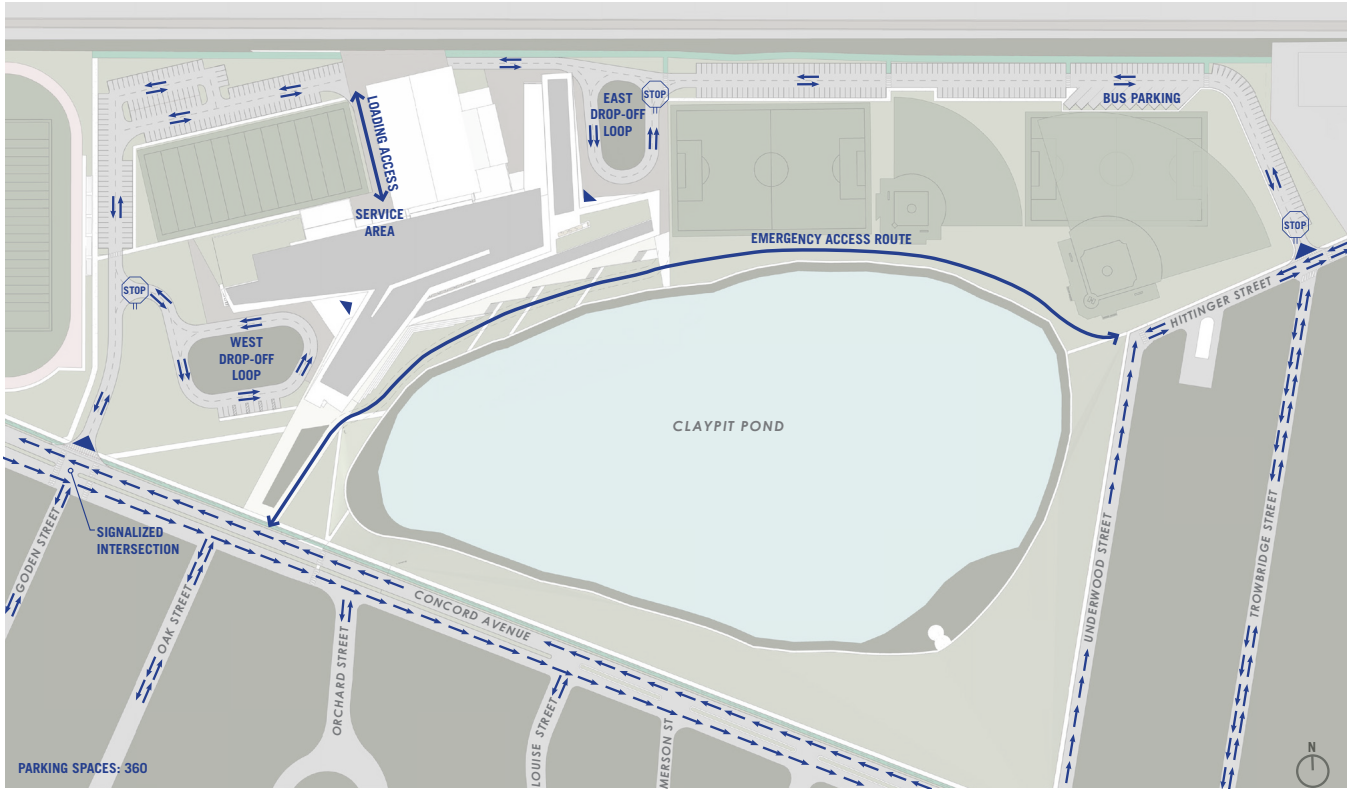
UTILITIES / WATER



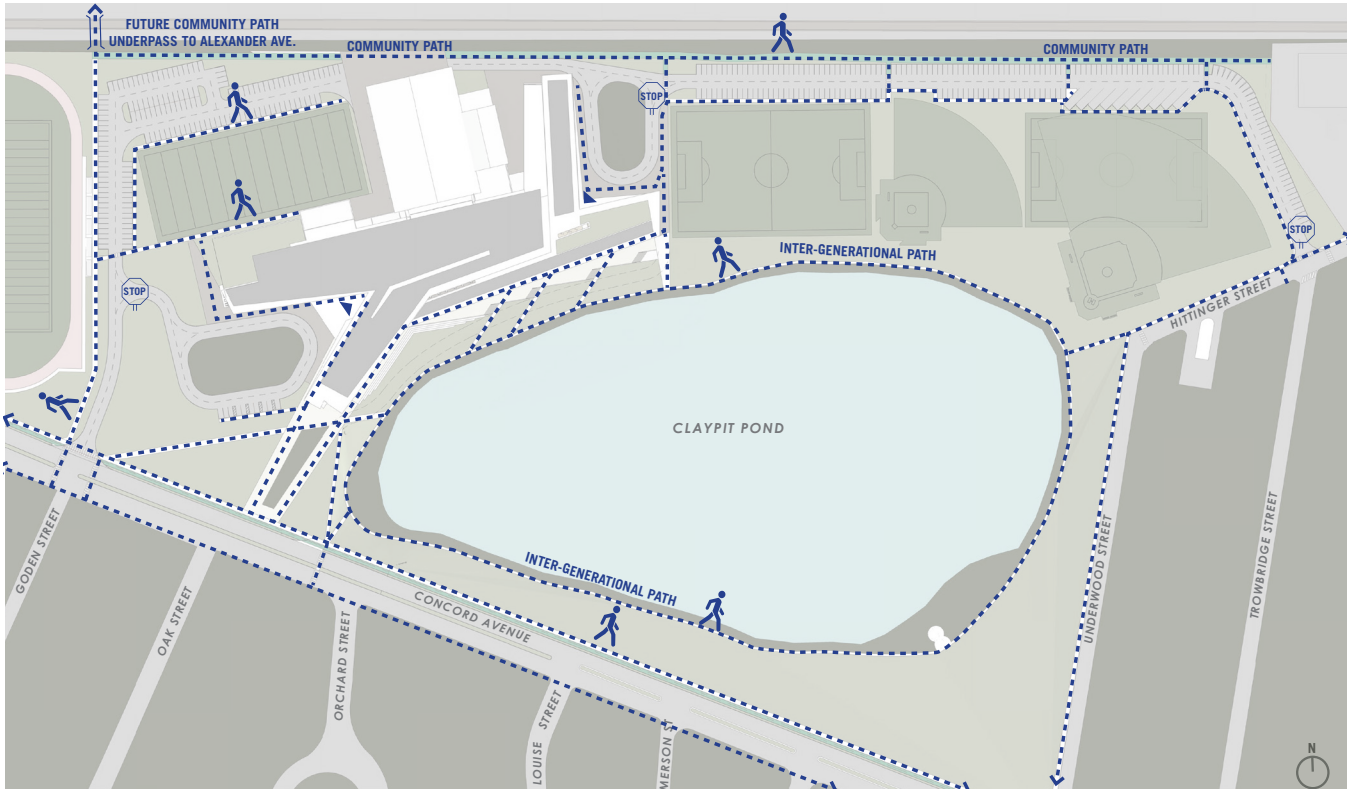
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F. SITE PLAN / Site Diagrams

VEHICULAR CIRCULATION

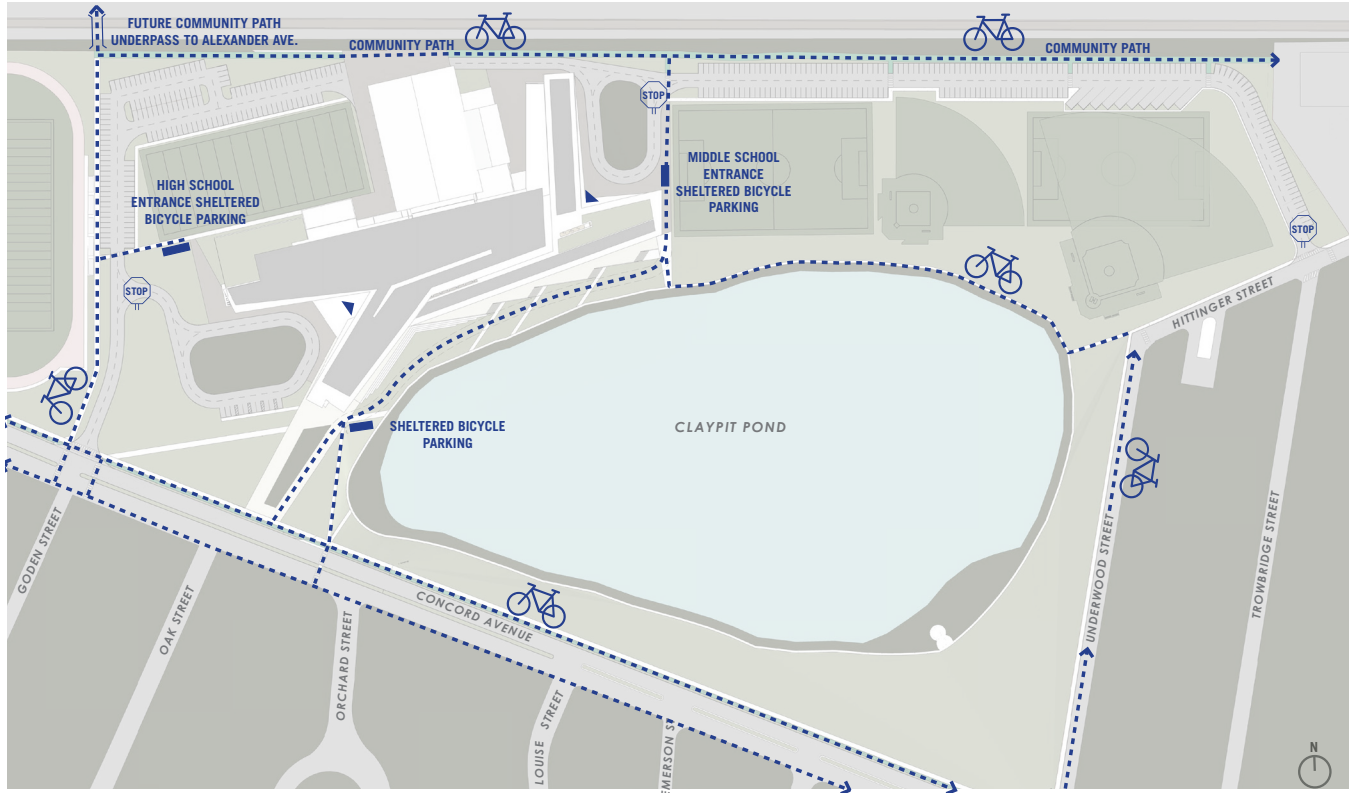


PEDESTRIAN CIRCULATION



F. SITE PLAN / Site Diagrams

BICYCLE CIRCULATION



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ATHLETIC FIELDS / SPRING



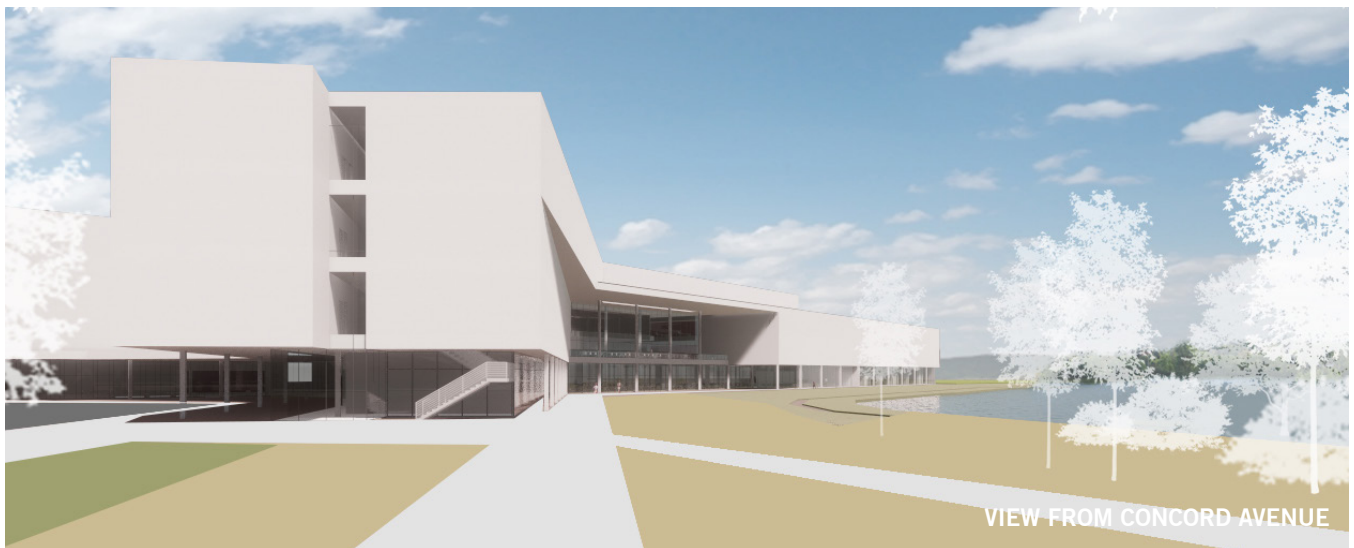
ATHLETIC FIELDS / FALL



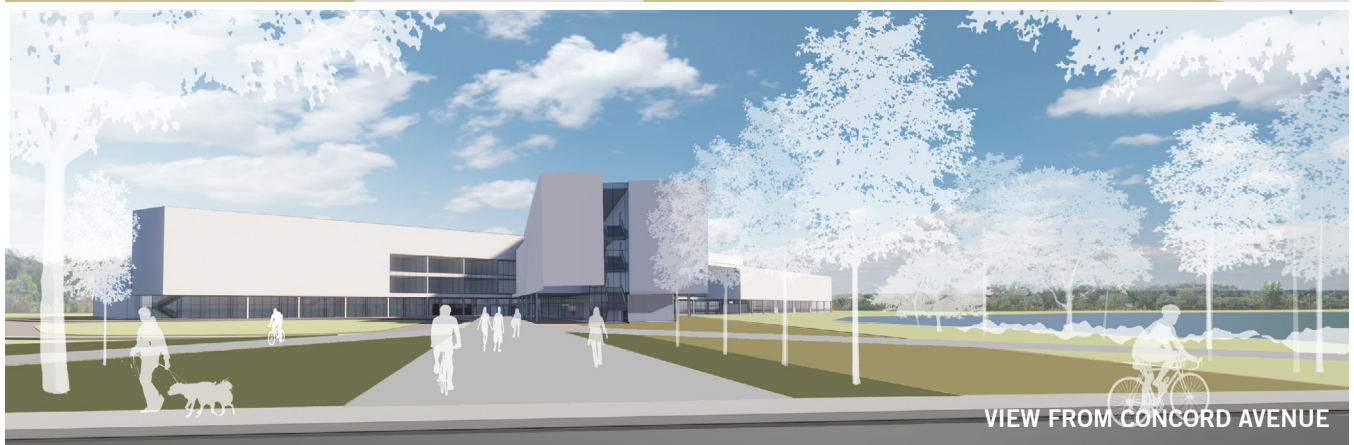
F. SITE PLAN / Renderings



AERIAL VIEW TOWARDS HIGH SCHOOL ENTRY



VIEW FROM CONCORD AVENUE



VIEW FROM CONCORD AVENUE

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EVALUATION OF EXISTING CONDITIONS	3.3.2	
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3.3.4 - PREFERRED SOLUTION

G. BUDGET

PSR 3.3.4 G BUDGET OVERVIEW

Perkins and Will's consultant PM&C prepared a detailed cost estimate for the preferred schematic Option 2.4R1. Daedalus Projects prepared an independent cost estimate. The spread between these two estimates was less than 3%.

ESTIMATED TOTAL CONSTRUCTION COST

\$237.6 M

ESTIMATED TOTAL PROJECT COST

\$295.8 M

ESTIMATED FUNDING CAPACITY

The Town of Belmont intends to issue General Obligation Bonds to fund the Town's share of the total project cost for the new school. The Town's debt limit is \$325,574,620 based on recently released 2016 EQV amounts. The Town has \$79,871,739 in debt outstanding currently, of which \$50,803,723 is self-supporting debt funded by user charges not the tax levy. The Town has an additional \$4,977,489 in authorized and unissued debt. The Town is operating sufficiently below the debt limit so will be able to adequately cover the anticipated bonding needs resulting from an approved project which will be funded through a voter approved debt exclusion.

LIST OF OTHER MUNICIPAL PROJECTS UNDERWAY

As well as the proposed Belmont High School project the Town's Capital Project List includes the following potential projects: Belmont Public Library, Belmont Police Station, Belmont Department of Public Works and the Hockey Rink. Some of these projects are expected to move in the near future. The Library is in the process of forming a building committee and will have a Schematic Design completed in the summer or fall of 2018. This project will be funded by a combination of private fund raising and a Debt Exclusion (with a target date for construction to begin in 2021 or 2022).

A building committee has been formed to plan for interim renovations to the Police Station and the Department of Public Works. The construction for this should begin in 2019 and will most likely be funded by short term borrowing. A plan for full replacement of both of these

facilities is also underway and that construction is planned to happen in about 8 - 10 years (2026 or 2028). The most likely funding source for these two facilities will also be a debt exclusion.

The hockey rink is going to be funded privately and will occur either just before or just after the construction for Belmont High School (both facilities are on the same campus).

DISTRICT'S NOT-TO-EXCEED TOTAL PROJECT BUDGET

It is anticipated that the total project budget for the Preferred Schematic Option 2.4R1 will be in the range of \$290 – 300 M.

The final not to exceed project budget will be established during the Schematic Design Phase prior to the debt exclusion vote.

LOCAL PROCESS FOR FUNDING PROJECT

The borrowing authorization for the new Belmont High School will be through a debt exclusion ballot vote. This debt exclusion ballot is anticipated to occur in November 2018 or April 2019 and requires a simple majority vote for approval.

ESTIMATED IMPACT TO LOCAL PROPERTY TAX

Moody's investment service has assigned an AAA bond rating to the Town of Belmont's outstanding debt.

The Town has provided an analysis of the tax impact to the Residents based on an anticipated Town cost of \$231.8 M. The illustration below shows the impact on the real estate property tax based on a 30-year equal principal bond at a rate of 4.0%.

Principal	\$231.8M
Rate	4.0%
Term	30 years
Per 100k Assessed Value	\$184.00
Cost on \$1.0M (average assessed home value)	\$1,840.00 per year

G. BUDGET

A more detailed analysis of the tax impact to the Town will be conducted when the Total Project Budget is established.

CAPITAL BUDGET WORKSHEET

The required Capital Budget Statement worksheet is included in this section.

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FINAL EVALUATION OF ALTERNATIVES	3.3.3	3.3.2	
EVALUATION OF EXISTING CONDITIONS	3.3.3	3.3.2	
INTRODUCTION	3.3.2	3.3.1	

H. BUDGET STATEMENT / Revenues

Budget Statement for Preferred Schematic - Revenue Belmont High School

February 12, 2018

As reported on the school district's most recent three End of Year Pupil and Financial Reports schedule 1, please update to the 3 latest fiscal year periods and report sources of revenue in the fields below.

	FY15 End of Year Financial Report					FY16 End of Year Financial Report					FY17 End of Year Financial Report						
	Regular Day	Special Education	Occupational Day	Adult Education	Other Programs	Regular Day	Special Education	Occupational Day	Adult Education	Other Programs	Regular Day	Special Education	Occupational Day	Adult Education	Other Programs	Un-distributed	Total
A. Revenue from Local Sources																	
Assessments received by Regional Schools																	
Edo Fund Appropriations																	
Tuition from Other Districts in Comm.																	
Tuition from Other Districts in Other States																	
Previous Year Unexpended Encumbrance (Carry Forward)																	
Transportation Fees																	
Events																	
Rental of School Facilities																	
Other Revenue																	
Medical Care and Assistance																	
Non Revenue Receipts																	
Total Revenue from Local Sources																	
B. Revenue from State Aid																	
School Aid (Chapter 70)																	
Mass School Building Authority - Construction Aid																	
Mass School Building Authority - Construction Aid																	
Public Transportation (Ch. 71, 78A, 78B, 78C)																	
Charter School Reimbursements & Charter Facilities Aid																	
Charter Breaker																	
Foundation Reserve																	
Total Revenue from State Aid																	
C. Revenue from Federal Grants																	
ESSE Administered Grants																	
Direct Federal Grants																	
Total Revenue Federal Grants																	
D. Revenue from State Grants																	
ESSE Administered Grants																	
Other State Grants																	
Total Revenue from State Grants																	
E. Revenue - Revolving & Special Funds																	
Athletic Receipts																	
Receipts																	
Tuition Receipts - School Choice																	
Tuition Receipts - Other																	
Other Local Receipts																	
Other State Receipts																	
Total Revenue Revolving & Special Funds																	
Total Revenue All Sources																	

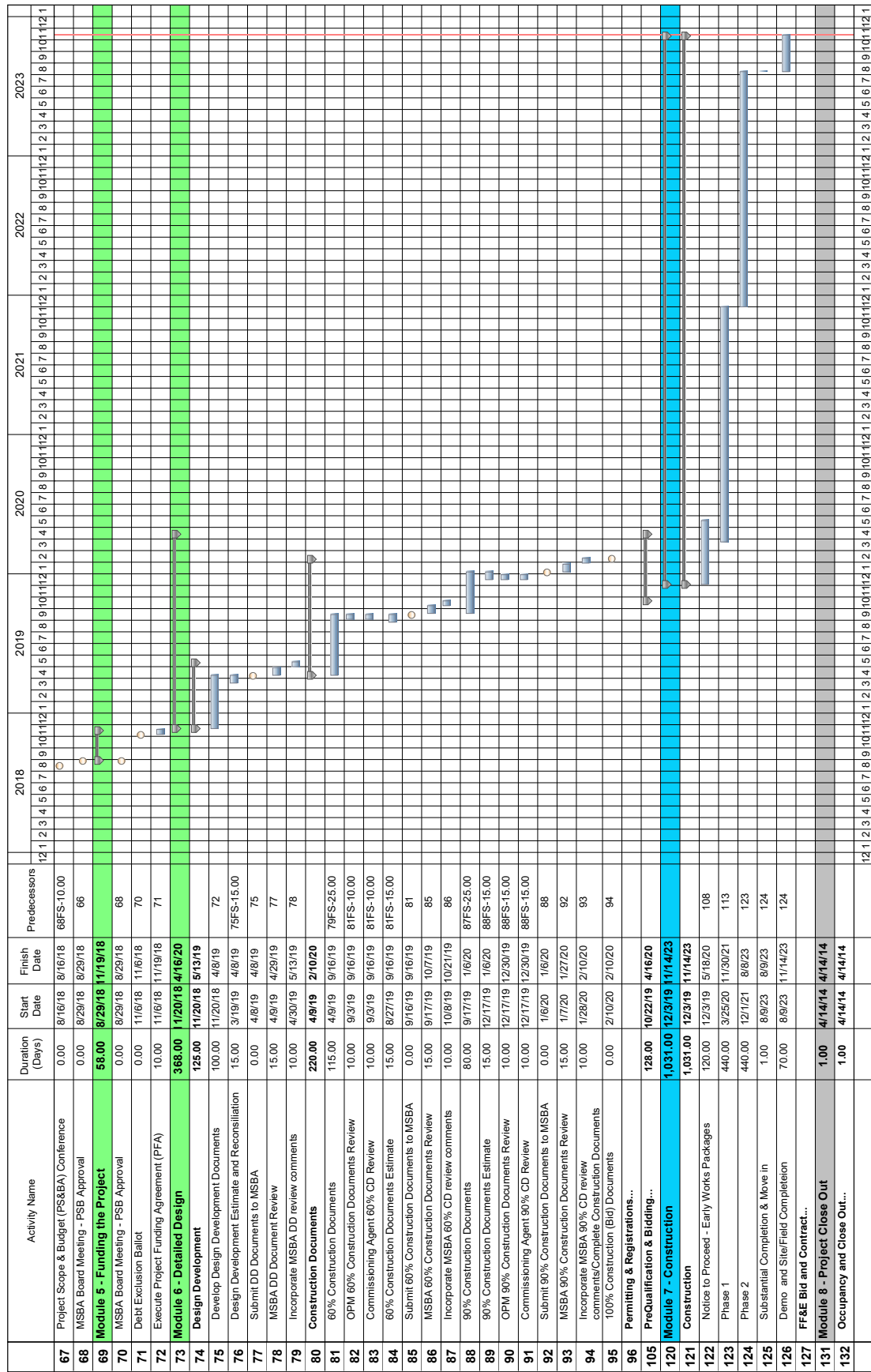
LOCAL ACTIONS & APPROVALS	3.3.5
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EVALUATION OF EXISTING CONDITIONS	3.3.2
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3.3.4 - PREFERRED SOLUTION

I. UPDATED SCHEDULE

		2018												2019												2020												2021												2022												2023											
Activity Name	Duration (Days)	Start Date	Finish Date	Predecessors																																																																					
1 Module 1 - Eligibility Period...	208.00	1/28/16	11/15/16																																																																						
6 Module 2 - Forming the Team...	149.00	1/11/17	8/7/17																																																																						
19 Module 3 - Feasibility Study	208.00	8/21/17	6/6/18																																																																						
20 Preliminary Design Program (PDP)...	119.00	8/21/17	2/1/18																																																																						
31 Preferred Schematic Report (PSR)...	108.00	1/8/18	6/6/18																																																																						
32 Update Evaluation of Existing Conditions	10.00	1/8/18	1/19/18																																																																						
33 Final Evaluation of Alternatives	12.00	1/8/18	1/23/18																																																																						
34 Develop Preferred Solution	55.00	1/24/18	4/10/18	33																																																																					
35 Local Actions and Approvals - SBC meeting to approve PSR Submission	0.00	4/11/18	4/11/18	34																																																																					
36 Submit PSR to MSBA (MSBA Deadline 04/12/18)	0.00	4/12/18	4/12/18	35																																																																					
37 MSBA Staff PSR Review	20.00	4/12/18	5/9/18	36																																																																					
38 Facilities Assessment Sub Committee	0.00	5/9/18	5/9/18	37FS-21.00																																																																					
39 MSBA Board Meeting - Approval to proceed to Schematic Design	0.00	6/6/18	6/6/18																																																																						
40 CM at Risk Application	45.00	3/6/18	5/7/18																																																																						
41 Building Committee Approval of CMR Application	0.00	3/6/18	3/6/18																																																																						
42 Prepare and Submit CM at Risk Application to OIG	5.00	3/6/18	3/12/18																																																																						
43 OIG Initial Review of CMR Application	20.00	3/13/18	4/9/18	42																																																																					
44 OIG complete of CMR Application	20.00	4/10/18	5/7/18	43																																																																					
45 Decision on CMR from OIG	0.00	5/7/18	5/7/18	44																																																																					
46 Construction Manager PreQualification & Selection	39.00	3/14/18	5/7/18																																																																						
47 Advertise CMR Request for Qualification	0.00	3/14/18	3/14/18																																																																						
48 CM prepares Qualifications	15.00	3/14/18	4/3/18	47FS-1.00																																																																					
49 CM's submit Qualifications	0.00	4/3/18	4/3/18	48																																																																					
50 Pre Qualification Committee review CM submissions	5.00	4/4/18	4/10/18	49																																																																					
51 Pre Qualification Committee Meeting & CM Selection	0.00	4/10/18	4/10/18	50FS-1.00																																																																					
52 Notify CM firms of Pre Qualification decision	0.00	4/10/18	4/10/18	51																																																																					
53 Pre Qualified CM's prepare Proposals	15.00	4/10/18	4/30/18	52																																																																					
54 CM's Submit Proposals	0.00	4/30/18	4/30/18	53																																																																					
55 CM Selection Committee review CM submissions	5.00	5/1/18	5/7/18	54																																																																					
56 CM Selection Committee Interview CM's and & CM Selection	0.00	5/7/18	5/7/18	55																																																																					
57 Module 4 - Schematic Design (SD)	121.00	3/14/18	9/29/18																																																																						
58 Develop Schematic Design	45.00	3/14/18	5/15/18																																																																						
59 Schematic Design Estimate and Reconciliation	15.00	5/31/18	6/20/18	61FF-5.00																																																																					
60 Develop Overall Project Budget	5.00	6/14/18	6/20/18	59FS-5.00																																																																					
61 OPM SD Submission Notification to MSBA	1.00	6/27/18	6/27/18	65FS-10.00																																																																					
62 Develop DESE submittal	36.00	4/11/18	5/30/18	63FF																																																																					
63 Submit DESE report to MSBA	0.00	5/30/18	5/30/18	65FS-30.00																																																																					
64 Local Actions and Approvals - SBC meeting to approve SD Submission	0.00	7/9/18	7/9/18	65FS-5.00																																																																					
65 Submit SD to MSBA (MSBA Deadline 07/11/18)	0.00	7/11/18	7/11/18																																																																						
66 MSBA Staff Review	28.00	7/11/18	8/17/18	65																																																																					

I. UPDATED SCHEDULE



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3.3.5 LOCAL ACTIONS & APPROVALS

LOCAL ACTIONS AND APPROVALS CERTIFICATION A

CERTIFIED MEETING MINUTES B

LIST OF MEETING DATES AND AGENDA C



TOWN OF BELMONT
OFFICE OF THE BOARD OF SELECTMEN
455 CONCORD AVENUE
BELMONT, MASSACHUSETTS 02478

Selectmen@belmont-ma.gov

455 CONCORD AVENUE
BELMONT, MA 02478-2573
PHONE (617) 993-2610
FAX (617) 993-2611

BOARD OF SELECTMEN

ADAM DASH, Chair
MARK A. PAOLILLO, Vice Chair
TOM CAPUTO, Selectman

TOWN ADMINISTRATOR

PATRICE GARVIN

ASSISTANT TOWN ADMINISTRATOR

PHYLLIS L. MARSHALL

May 8th, 2018

Ms. Diane Sullivan
Senior Capital Program Manager
40 Broad Street
Boston, Massachusetts 02109

Dear Ms. Sullivan:

The Town of Belmont School Building Committee ("SBC") has completed its review of the Feasibility Study Preferred Schematic Report Revision 2 for the Belmont High School project (the "Project"), and on May 8th, 2018, the SBC voted to approve and authorize the Owner's Project Manager to submit the Feasibility Study related materials to the MSBA for its consideration. A certified copy of the SBC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

Since the MSBA's Board of Directors invited the District to conduct a Feasibility Study on November 09, 2016, the SBC has held thirty six (36) meetings regarding the proposed project, in compliance with the state Open Meeting Law. These meetings include:

1. School Building Committee meeting #10 held at the Homer Municipal Building, Belmont MA at 7:30am on December 08, 2016
2. School Building Committee meeting #11 held at Belmont Town Hall, Belmont MA at 4:30pm on December 22, 2016
3. School Building Committee meeting #12 held at the Homer Municipal Building, Belmont MA at 7:30am on January 05, 2017
4. School Building Committee meeting #13 held at the Homer Municipal Building, Belmont MA at 7:30am on February 02, 2017
5. School Building Committee meeting #14 held at the Homer Municipal Building, Belmont MA at 7:30am on February 17, 2017
6. School Building Committee meeting #15 at the Homer Municipal Building, Belmont MA at 7:30am on March 01, 2017

7. School Building Committee meeting #16 at the Beech Street Center, Belmont MA at 7:00pm on April 06, 2017
8. School Building Committee meeting #17 held at the Homer Municipal Building, Belmont MA at 7:30am on April 13, 2017
9. School Building Committee meeting #18 held at the Homer Municipal Building, Belmont MA at 7:30am on April 20, 2017
10. School Building Committee meeting #19 held at the Beech Street Center, Belmont MA at 6:00pm on May 04, 2017
11. School Building Committee meeting #20 held at the Homer Municipal Building, Belmont MA at 7:30am on June 15, 2017
12. School Building Committee meeting #21 held at the Homer Municipal Building, Belmont MA at 7:30am on July 20, 2017
13. School Building Committee meeting #22 held at the Homer Municipal Building, Belmont MA at 7:30am on August 10, 2017
14. School Building Committee meeting #23 held at the Homer Municipal Building, Belmont MA at 7:30am on August 24, 2017
15. School Building Committee meeting #24 held at the Homer Municipal Building, Belmont MA at 7:30am on September 14, 2017
16. School Building Committee meeting #25 held at the Homer Municipal Building, Belmont MA at 7:30am on October 5, 2017
17. School Building Committee meet #26 (joint meeting with School Committee) held at the Homer Municipal Building, Belmont MA at 7:30am on October 19, 2017
18. School Building Committee meeting #27 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Middle School, Belmont MA at 6:30pm on November 2, 2017
19. School Building Committee meeting #28 (joint meeting with Board of Selectmen and School Committee) held at Belmont High School, Belmont MA at 6:30pm on November 16, 2017
20. School Building Committee meeting #29 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 6:30pm on November 30, 2017
21. School Building Committee meeting #30 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 6:30pm on December 07, 2017
22. School Building Committee meeting #31 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 6:30pm on December 12, 2017
23. School Building Committee meeting #32 (joint meeting with Board of Selectmen and School Committee) held at the Belmont High School, Belmont MA at 7:00pm on December 14, 2017
24. School Building Committee meeting #33 (joint meeting with Board of Selectmen and School Committee) held at the Belmont High School, Belmont MA at 7:00pm on January 9th, 2018

25. School Building Committee meeting #34 held at the Wellington Elementary School, Belmont MA at 6:30pm on January 11th, 2018
26. School Building Committee meeting #35 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 7:00pm on January 16th, 2018
27. School Building Committee meeting #36 held at the Homer Municipal Building, Belmont MA at 7:30am on January 18th, 2018
28. School Building Committee meeting #37 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 7:00pm on January 23rd, 2018
29. School Building Committee meeting #38 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 7:00pm on February 1st, 2018
30. School Building Committee meeting #39 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 7:00pm on February 13th, 2018
31. School Building Committee meeting #40 held at the Homer Municipal Building, Belmont MA at 7:40am on March 6, 2018
32. School Building Committee meeting #41 held at the Beech Street Center, Belmont MA at 7:00pm on March 22, 2018
33. School Building Committee meeting #42 held at the Homer Municipal Building, Belmont MA at 7:40am on March 28, 2018
34. School Building Committee meeting #43 held at the Homer Municipal Building, Belmont MA at 7:30am on April 11, 2018
35. School Building Committee meeting #44 held at the Wellington Elementary School, Belmont MA at 7:00pm on April 26, 2018
36. School Building Committee meeting #45 held at the Chenery Middle School, Belmont MA at 7:00pm on May 8th, 2018

In addition to the SBC meetings listed above, the District seventeen (17) public meetings, which were posted in compliance with the state Open Meeting Law, at which the Project was discussed. These meetings include:

1. New Belmont High School public presentation #2 held Chenery School Belmont MA at 7:00pm on September 19, 2017
2. New Belmont High School public presentation #3 held Beech Street Center, Belmont MA at 1:15pm on October 13, 2017
3. New Belmont High School public presentation #4 held at Belmont High School, Belmont MA at 10am October 28th, 2017
4. New Belmont High School public presentation #5 and interactive design discussion held at Belmont High School, Belmont MA at 7:00pm on December 14th, 2017
5. New Belmont High School Communications Sub Committee held at Burbank Elementary School, Belmont MA at 7:45am on January 29th, 2018

6. New Belmont High School Building Systems and Operation Sub Committee held at Homer Municipal Building, Belmont MA at 1:00pm on January 30th, 2018
7. Belmont Traffic Advisory Committee - Belmont High School Building Committee Presentation held at Homer Municipal Building, Belmont MA at 7:00pm on February 2nd, 2018
8. New Belmont High School Communications Sub Committee held at Burbank Elementary School, Belmont MA at 7:45am on February 5th, 2018
9. New Belmont High School Communications Sub Committee held at Burbank Elementary School, Belmont MA at 7:45am on February 26th, 2018
10. New Belmont High School Communications Sub Committee held at Burbank Elementary School, Belmont MA at 7:45am on March 5th, 2018
11. New Belmont High School Communications Sub Committee held at Burbank Elementary School, Belmont MA at 7:45am on March 19th, 2018
12. New Belmont High School CM at Risk Sub Committee held at Belmont Town Hall, Belmont MA at 7:30am on March 27th, 2018
13. New Belmont High School Building Systems and Operation Sub Committee held at Belmont High School, Belmont MA at 10:00am on April 23rd, 2018
14. Belmont Planning Board – Introduction to the New Belmont High School held at Belmont Town Hall, Belmont MA at 7:00pm on April 24th, 2018
15. New Belmont High School Communications Sub Committee held at Burbank Elementary School, Belmont MA at 7:45am on April 30th, 2018
16. New Belmont High School CM at Risk Sub Committee held at Belmont Town Hall, Belmont MA at 1:00pm on April 30th, 2018
17. New Belmont High School CM at Risk Sub Committee held at Belmont Town Hall, Belmont MA at 7:30am on May 7th, 2018

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at:

1. <http://www.belmont.k12.ma.us/bps/Committee>
2. <http://www.belmont-ma.gov/belmont-high-school-building-committee>
3. <http://www.belmont-ma.gov/belmont-high-school-building-project>

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq.*

If you have any questions or require any additional information, please contact Thomas Gatzunis, Daedalus Projects Inc. tgatzunis@dpi-boston.com or (617) 451 2717.

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.



By: *Adam Oash*

Title: Chief Executive Officer

Date: *5/8/18*

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.



By: *John P. Phelan*

Title: Superintendent of Schools

Date: *5/8/18*

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.



By: *Susan Burgess-Cox*

Title: Chair of the School Committee

Date: *5/8/18*

3.3.5 - LOCAL ACTIONS & APPROVALS

A. LOCAL ACTIONS APPROVALS CERTIFICATION



TOWN OF BELMONT
OFFICE OF THE BOARD OF SELECTMEN
455 CONCORD AVENUE
BELMONT, MASSACHUSETTS 02478

Selectmen@belmont-ma.gov

455 CONCORD AVENUE
BELMONT, MA 02478-2573
PHONE (617) 993-2610
FAX (617) 993-2611

BOARD OF SELECTMEN
JAMES R. WILLIAMS, Chair
MARK A. PAOLILLO, Vice Chair
ADAM DASH, Selectman

TOWN ADMINISTRATOR
PATRICE GARVIN

ASSISTANT TOWN ADMINISTRATOR
PHYLLIS L. MARSHALL

April 11th, 2018

Ms. Diane Sullivan
Senior Capital Program Manager
40 Broad Street
Boston, Massachusetts 02109

Dear Ms. Sullivan:

The Town of Belmont School Building Committee ("SBC") has completed its review of the Feasibility Study *Preferred Schematic Report **Revision 1*** for the Belmont High School project (the "Project"), and on April 11th, 2018, the SBC voted to approve and authorize the Owner's Project Manager to submit the Feasibility Study related materials to the MSBA for its consideration. A certified copy of the SBC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

Since the MSBA's Board of Directors invited the District to conduct a Feasibility Study on November 09, 2016, the SBC has held thirty (33) meetings regarding the proposed project, in compliance with the state Open Meeting Law. These meetings include:

1. School Building Committee meeting #10 held at the Homer Municipal Building, Belmont MA at 7:30am on December 08, 2016
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3. School Building Committee meeting #12 held at the Homer Municipal Building, Belmont MA at 7:30am on January 05, 2017
4. School Building Committee meeting #13 held at the Homer Municipal Building, Belmont MA at 7:30am on February 02, 2017
5. School Building Committee meeting #14 held at the Homer Municipal Building, Belmont MA at 7:30am on February 17, 2017

A. LOCAL ACTIONS APPROVALS CERTIFICATION

6. School Building Committee meeting #15 at the Homer Municipal Building, Belmont MA at 7:30am on March 01, 2017
7. School Building Committee meeting #16 at the Beech Street Center, Belmont MA at 7:00pm on April 06, 2017
8. School Building Committee meeting #17 held at the Homer Municipal Building, Belmont MA at 7:30am on April 13, 2017
9. School Building Committee meeting #18 held at the Homer Municipal Building, Belmont MA at 7:30am on April 20, 2017
10. School Building Committee meeting #19 held at the Beech Street Center, Belmont MA at 6:00pm on May 04, 2017
11. School Building Committee meeting #20 held at the Homer Municipal Building, Belmont MA at 7:30am on June 15, 2017
12. School Building Committee meeting #21 held at the Homer Municipal Building, Belmont MA at 7:30am on July 20, 2017
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15. School Building Committee meeting #24 held at the Homer Municipal Building, Belmont MA at 7:30am on September 14, 2017
16. School Building Committee meeting #25 held at the Homer Municipal Building, Belmont MA at 7:30am on October 5, 2017
17. School Building Committee meet #26 (joint meeting with School Committee) held at the Homer Municipal Building, Belmont MA at 7:30am on October 19, 2017
18. School Building Committee meeting #27 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Middle School, Belmont MA at 6:30pm on November 2, 2017
19. School Building Committee meeting #28 (joint meeting with Board of Selectmen and School Committee) held at Belmont High School, Belmont MA at 6:30pm on November 16, 2017
20. School Building Committee meeting #29 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 6:30pm on November 30, 2017
21. School Building Committee meeting #30 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 6:30pm on December 07, 2017
22. School Building Committee meeting #31 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 6:30pm on December 12, 2017
23. School Building Committee meeting #32 (joint meeting with Board of Selectmen and School Committee) held at the Belmont High School, Belmont MA at 7:00pm on December 14, 2017

3.3.5 - LOCAL ACTIONS & APPROVALS

A. LOCAL ACTIONS APPROVALS CERTIFICATION

24. School Building Committee meeting #33 (joint meeting with Board of Selectmen and School Committee) held at the Belmont High School, Belmont MA at 7:00pm on January 9th, 2018
25. School Building Committee meeting #34 held at the Wellington Elementary School, Belmont MA at 6:30pm on January 11th, 2018
26. School Building Committee meeting #35 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 7:00pm on January 16th, 2018
27. School Building Committee meeting #36 held at the Homer Municipal Building, Belmont MA at 7:30am on January 18th, 2018
28. School Building Committee meeting #37 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 7:00pm on January 23rd, 2018
29. School Building Committee meeting #38 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 7:00pm on February 1st, 2018
30. School Building Committee meeting #39 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 7:00pm on February 13th, 2018
31. School Building Committee meeting #40 held at the Homer Municipal Building, Belmont MA at 7:40am on March 6, 2018
32. School Building Committee meeting #41 held at the Beech Street Center, Belmont MA at 7:00pm on March 22, 2018
33. School Building Committee meeting #42 held at the Homer Municipal Building, Belmont MA at 7:40am on March 28, 2018

In addition to the SBC meetings listed above, the District held four (4) public meetings, which were posted in compliance with the state Open Meeting Law, at which the Project was discussed. These meetings include:

1. New Belmont High School public presentation #2 held Chenery School Belmont MA at 7:00pm on September 19, 2017
2. New Belmont High School public presentation #3 held Beech Street Center, Belmont MA at 1:15pm on October 13, 2017
3. New Belmont High School public presentation #4 held at Belmont High School, Belmont MA at 10am October 28th, 2017
4. New Belmont High School public presentation #5 and interactive design discussion held at Belmont High School, Belmont MA at 7:00pm on December 14th, 2017

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at:

1. <http://www.belmont.k12.ma.us/bps/Committee>
2. <http://www.belmont-ma.gov/belmont-high-school-building-committee>
3. <http://www.belmont-ma.gov/belmont-high-school-building-project>

A. LOCAL ACTIONS APPROVALS CERTIFICATION

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq.*

If you have any questions or require any additional information, please contact Thomas Gatzunis, Daedalus Projects Inc. tgatzunis@dpi-boston.com or (617) 451 2717.

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.



By:

Title: Chief Executive Officer

Date: 4/11/18

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.



By:

Title: Superintendent of Schools

Date: 4/11/18

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.



By:

Title: Chair of the School Committee

Date: 4-11-18

3.3.5 - LOCAL ACTIONS & APPROVALS

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION



TOWN OF BELMONT
OFFICE OF THE BOARD OF SELECTMEN
455 CONCORD AVENUE
BELMONT, MASSACHUSETTS 02478

Selectmen@belmont-ma.gov

455 CONCORD AVENUE
BELMONT, MA 02478-2573
PHONE (617) 993-2610
FAX (617) 993-2611

BOARD OF SELECTMEN
JAMES R. WILLIAMS, Chair
MARK A. PAOLILLO, Vice Chair
ADAM DASH, Selectman

TOWN ADMINISTRATOR
PATRICE GARVIN

ASSISTANT TOWN ADMINISTRATOR
PHYLLIS L. MARSHALL

February 13, 2018

Ms. Diane Sullivan
Senior Capital Program Manager
40 Broad Street
Boston, Massachusetts 02109

Dear Ms. Sullivan:

The Town of Belmont School Building Committee ("SBC") has completed its review of the Feasibility Study *Preferred Schematic Report* for the Belmont High School project (the "Project"), and on February 13th, 2018, the SBC voted to approve and authorize the Owner's Project Manager to submit the Feasibility Study related materials to the MSBA for its consideration. A certified copy of the SBC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

Since the MSBA's Board of Directors invited the District to conduct a Feasibility Study on November 09, 2016, the SBC has held thirty (30) meetings regarding the proposed project, in compliance with the state Open Meeting Law. These meetings include:

1. School Building Committee meeting #10 held at the Homer Municipal Building, Belmont MA at 7:30am on December 08, 2016
2. School Building Committee meeting #11 held at Belmont Town Hall, Belmont MA at 4:30pm on December 22, 2016
3. School Building Committee meeting #12 held at the Homer Municipal Building, Belmont MA at 7:30am on January 05, 2017
4. School Building Committee meeting #13 held at the Homer Municipal Building, Belmont MA at 7:30am on February 02, 2017
5. School Building Committee meeting #14 held at the Homer Municipal Building, Belmont MA at 7:30am on February 17, 2017

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

6. School Building Committee meeting #15 at the Homer Municipal Building, Belmont MA at 7:30am on March 01, 2017
7. School Building Committee meeting #16 at the Beech Street Center, Belmont MA at 7:00pm on April 06, 2017
8. School Building Committee meeting #17 held at the Homer Municipal Building, Belmont MA at 7:30am on April 13, 2017
9. School Building Committee meeting #18 held at the Homer Municipal Building, Belmont MA at 7:30am on April 20, 2017
10. School Building Committee meeting #19 held at the Beech Street Center, Belmont MA at 6:00pm on May 04, 2017
11. School Building Committee meeting #20 held at the Homer Municipal Building, Belmont MA at 7:30am on June 15, 2017
12. School Building Committee meeting #21 held at the Homer Municipal Building, Belmont MA at 7:30am on July 20, 2017
13. School Building Committee meeting #22 held at the Homer Municipal Building, Belmont MA at 7:30am on August 10, 2017
14. School Building Committee meeting #23 held at the Homer Municipal Building, Belmont MA at 7:30am on August 24, 2017
15. School Building Committee meeting #24 held at the Homer Municipal Building, Belmont MA at 7:30am on September 14, 2017
16. School Building Committee meeting #25 held at the Homer Municipal Building, Belmont MA at 7:30am on October 5, 2017
17. School Building Committee meet #26 (joint meeting with School Committee) held at the Homer Municipal Building, Belmont MA at 7:30am on October 19, 2017
18. School Building Committee meeting #27 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Middle School, Belmont MA at 6:30pm on November 2, 2017
19. School Building Committee meeting #28 (joint meeting with Board of Selectmen and School Committee) held at Belmont High School, Belmont MA at 6:30pm on November 16, 2017
20. School Building Committee meeting #29 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 6:30pm on November 30, 2017
21. School Building Committee meeting #30 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 6:30pm on December 07, 2017
22. School Building Committee meeting #31 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 6:30pm on December 12, 2017
23. School Building Committee meeting #32 (joint meeting with Board of Selectmen and School Committee) held at the Belmont High School, Belmont MA at 7:00pm on December 14, 2017

3.3.5 - LOCAL ACTIONS & APPROVALS

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

24. School Building Committee meeting #33 (joint meeting with Board of Selectmen and School Committee) held at the Belmont High School, Belmont MA at 7:00pm on January 9th, 2018
25. School Building Committee meeting #34 held at the Wellington Elementary School, Belmont MA at 6:30pm on January 11th, 2018
26. School Building Committee meeting #35 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 7:00pm on January 16th, 2018
27. School Building Committee meeting #36 held at the Homer Municipal Building, Belmont MA at 7:30am on January 18th, 2018
28. School Building Committee meeting #37 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 7:00pm on January 23rd, 2018
29. School Building Committee meeting #38 (joint meeting with Board of Selectmen and School Committee) held at the Wellington Elementary School, Belmont MA at 7:00pm on February 1st, 2018
30. School Building Committee meeting #39 (joint meeting with Board of Selectmen and School Committee) held at the Chenery Middle School, Belmont MA at 7:00pm on February 13th, 2018

In addition to the SBC meetings listed above, the District held four (4) public meetings, which were posted in compliance with the state Open Meeting Law, at which the Project was discussed. These meetings include:

1. New Belmont High School public presentation #2 held Chenery School Belmont MA at 7:00pm on September 19, 2017
2. New Belmont High School public presentation #3 held Beech Street Center, Belmont MA at 1:15pm on October 13, 2017
3. New Belmont High School public presentation #4 held at Belmont High School, Belmont MA at 10am October 28th, 2017
4. New Belmont High School public presentation #5 and interactive design discussion held at Belmont High School, Belmont MA at 7:00pm on December 14th, 2017

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at:

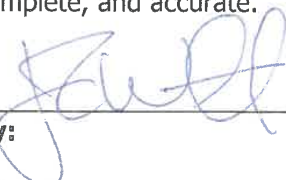
1. <http://www.belmont.k12.ma.us/bps/Committee>
2. <http://www.belmont-ma.gov/belmont-high-school-building-committee>
3. <http://www.belmont-ma.gov/belmont-high-school-building-project>

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq.*

If you have any questions or require any additional information, please contact Thomas Gatzunis, Daedalus Projects Inc. tgatzunis@dpi-boston.com or (617) 451 2717.

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

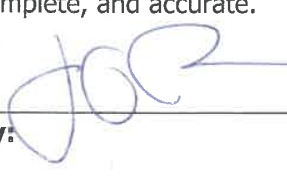
By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: 

Title: Chief Executive Officer

Date:

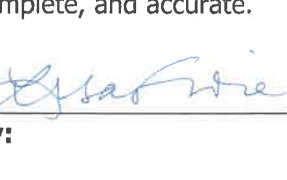
By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: 

Title: Superintendent of Schools

Date: 2/14/18

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: 

Title: Chair of the School Committee

Date: 2/14/18

3.3.5 - LOCAL ACTIONS & APPROVALS

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

BELMONT PUBLIC SCHOOLS

JOHN P. PHELAN
SUPERINTENDENT OF SCHOOLS
(617) 993-5401

JANICE G. DARIAS
ASSISTANT SUPERINTENDENT
FOR CURRICULUM & INSTRUCTION
(617) 993-5410



644 PLEASANT STREET
BELMONT, MASSACHUSETTS 02478-2589
(617) 993-5400
FAX (617) 993-5409

ANTHONY R. DI COLOGERO
DIRECTOR OF FINANCE,
BUSINESS & OPERATIONS
(617) 993-5430
FAX (617) 993-5439

MARY PEDERSON
DIRECTOR OF HUMAN RESOURCES
(617) 993-5425

February 5, 2018

Ms. Diane Sullivan
Senior Capital Program Manager
40 Broad Street
Boston, Massachusetts 02109

Dear Ms. Sullivan:

The Town of Belmont School Committee ("SC") understands a proposed change to existing grade structure is being proposed in the *Preferred Schematic Report* for the Belmont High School project (the "Project"), and on January 23, 2018, the SC voted to approve and authorize the proposed change to the existing grade structure for the following reason: *{the Belmont Public School supports the change from a building with grades 9-12 to a school with grades 7-12; as this structure will support a smooth and successful academic and social emotional transition for our students to our high school setting while taking advantage of the shared learning and programming spaces and experiences we can provide them in our educational vision.}* as described in the Feasibility Study related materials. A certified copy of the SC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

The SC has held fifteen (15) meetings regarding the proposed change to existing grade structure as related to the proposed Project, in compliance with the state Open Meeting Law. These meetings include:

1. Belmont School Committee meeting held at the School Administration Building, Belmont MA at 6:00pm on July 6th, 2017. Belmont High School Building Committee Update.
2. Belmont School Committee meeting held at the School Administration Building, Belmont MA at 6:30pm on August 30th, 2017. Superintendent of Schools Update on schedule and enrollment.

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

3. Belmont School Committee meeting held at the Chenery Middle School, Belmont MA at 7:00pm on September 12th, 2017. Belmont High School Building Committee Update.
4. Belmont School Committee meeting held at the Chenery Middle School, Belmont MA at 7:00pm on September 26th, 2017. Belmont High School Building Committee Update.
5. Belmont School Committee meeting held at the Chenery Middle School, Belmont MA at 7:00pm on October 10th, 2017. Superintendent of Schools Update on High School Educational Visioning.
6. Belmont School Committee meeting held at the Shelburne Community Center, Roxbury MA at 6:30pm on October 24th, 2017. Superintendent of Schools report on enrollment.
7. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Chenery Middle School, Belmont MA at 6:30pm on November 2nd, 2017. Discussion on Project Schedule, Space Summary, Building Options and Project Costs.
8. Belmont School Committee meeting held at the Chenery Middle School, Belmont MA at 7:00pm on November 28th, 2017. Superintendent of Schools Update on High School Grade Configuration
9. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Wellington Elementary School, Belmont MA at 6:30pm on November 30th, 2017. Review and approval to submit Preliminary Design Proposal to MSBA.
10. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Wellington Elementary School, Belmont MA at 6:30pm on December 7th, 2017. Discussion on sustainable design features on the proposed New HS.
11. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Chenery Middle School, Belmont MA at 7:00pm on December 12th, 2017. Grade configuration presentation.
12. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Belmont High School, Belmont MA at 7:00pm on December 14th, 2017. Community Engagement #5.
13. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Belmont High School, Belmont MA at 6:30pm on January 9th, 2018. Update on grade configuration.
14. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Chenery Middle School, Belmont MA at 6:30pm on January 16th, 2018. Review of proposed building options and project costs.
15. Joint Belmont School Committee, Belmont School Building Committee and Belmont Board of Selectmen meeting held at the Wellington Elementary School,

3.3.5 - LOCAL ACTIONS & APPROVALS

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

Belmont MA at 6:00pm on January 23rd, 2018. School Committee vote on grade configuration.

In addition to the SBC meetings listed above, the District held four (4) public meetings, which were posted in compliance with the state Open Meeting Law, at which the Project was discussed. These meetings include:

1. New Belmont High School public presentation #2 held Chenery School Belmont MA at 7:00pm on September 19, 2017
2. New Belmont High School public presentation #3 held Beech Street Center, Belmont MA at 1:15pm on October 13, 2017
3. New Belmont High School public presentation #4 held at Belmont High School, Belmont MA at 10am October 28, 2017
4. New Belmont High School public presentation #5 and interactive design discussion held at Belmont High School, Belmont MA at 7:00pm on December

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at:

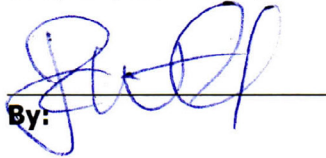
1. <http://www.belmont.k12.ma.us/bps/Committee>
2. <http://www.belmont-ma.gov/belmont-high-school-building-committee>
3. <http://www.belmont-ma.gov/belmont-high-school-building-project>

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq.*

If you have any questions or require any additional information, please contact Thomas Gatzunis, Daedalus Projects Inc. tgatzunis@dpi-boston.com or (617) 451 2717.

A. LOCAL ACTIONS AND APPROVALS CERTIFICATION

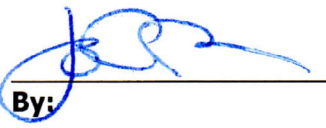
By signing this Grade Reconfiguration and Districting Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: 

Title: Chief Executive Officer

Date: 2/13/19

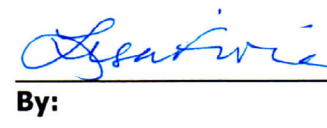
By signing this Grade Reconfiguration and Districting Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: 

Title: Superintendent of Schools

Date:

By signing this Grade Reconfiguration and Districting Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: 

Title: Chair of the School Committee

Date: 2/12/18

LOCAL ACTIONS & APPROVALS	3.3.5
PREFERRED SOLUTION	3.3.4
FINAL EVALUATION OF ALTERNATIVES	3.3.3
EVALUATION OF EXISTING CONDITIONS	3.3.2
INTRODUCTION	3.3.1
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3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

BELMONT HIGH SCHOOL BUILDING COMMITTEE
COMMUNITY ENGAGEMENT #5
December 14, 2017
BELMONT HIGH SCHOOL
7:00 PM

RECEIVED
TOWN CLERK
BELMONT, MA

2018 JAN 16 PM 2:03

[Meeting #32]

Committee Members Attending:

Chair Lovallo; Members: Pat Bruschi, Diane Miller, Jamie Shea, John Phelan, Adam Dash, Tom Caputo, Chris Messer, Robert McLaughlin, Dan Richards, Phyllis Marshall, and Emma Thurston

Board of Selectmen: Chair Williams and Selectman Dash

From Daedalus: Tom Gatzunis and Shane Nolan

From Perkins+Will: Brooke Trivas, Chris Karlson, Laura Pomarico, Patrick Cunningham

Approximately 60 members from the General Public were in attendance.

The meeting was called to order by Chair Lovallo for the BHS Building Committee and by Chair Williams for the Board of Selectmen at 7:02 p.m.

Approval of Minutes

Ms. Bruschi made a motion to approve the minutes of 12/7/2017, the motion was seconded by Phyllis Marshall. The motion passed unanimously.

A motion to approve the minutes of 12/12/2017 was made by Ms. Shea, the motion was seconded by Ms. Miller. The motion passed unanimously.

Approval of Two Invoices:

1. Ms. Marshall made a motion to recommended approval of an invoice for Perkins + Will in the amount of \$90,000; the motion was seconded by Mr. Messer. The motion passed unanimously.

2. Ms. Marshall made a motion to recommend approval of an invoice for Daedalus Projects in the amount of \$18,040; the motion was seconded by Mr. Richards. The motion passed unanimously.

Next Meetings

Chair Lovallo advised all present that the next meetings of the BHSBC will be on January 9, 2018 in the High School auditorium. The topic will be district grade configuration. There will be a traffic presentation on January 11, 2018 in the Wellington School cafeteria.

Presentation (copy attached)

I. Brainstorming

FINAL

B. CERTIFIED MEETING MINUTES

a. Learning Commons

Chair Lovallo provided opening remarks, reviewed the agenda for the evening, and provided background information. Ms. Trivas prompted audience member to think about the Learning Commons and for them to indicate what should or should be incorporated into them. Audience members provided their comments, which were captured on flip charts for P+W to incorporate into their design.

b. Collaboration

The group was then asked to perform the same exercise for collaboration spaces. Audience members provided their comments, which were captured on flip charts for P+W to incorporate into their design.

c. Café Commons

The group was asked to provide their input for the Café and Commons spaces(s) within the new building. Audience members provided their comments, which were captured on flip charts for P+W to incorporate into their design.

d. Outdoor Learning

The group was asked to finally provide their input for the outdoor learning opportunities. Audience members provided their comments, which were captured on flip charts for P+W to incorporate into their design.

II. Working Groups

a. Adjacency Diagrams

Ms. Trivas informed the audience that the next sessions would require them to prepare adjacency diagrams based on what their thoughts were regarding which major learning centers should be connected and why. At the conclusion of this exercise, each group reported back with their recommendations. The results were retained by P+W for inclusion in their design.

b. Site Plans

In the final exercise of the evening, the group was asked to mark up any of the site plans that they had comments on. Audience members provided their comments, which were captured on flip charts for P+W to incorporate into their design.

III. Visual Listening

P+W had placed image boards in the back of the room. Audience members were asked to place green dots on items that they liked and red dots on items that they did not want to see incorporated into the new school design. This was an ongoing exercise conducted throughout the evening. The final results were captured by P+W for inclusion in the design of the new school.

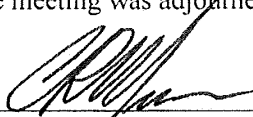
Adjourn

FINAL

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

The meeting was adjourned at 9:05 p.m.


Secretary, BHSBC – Chris Messer
1/12/18

B. CERTIFIED MEETING MINUTES

BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
January 9, 2018
Belmont High School Auditorium
7:00 PM

RECEIVED
TOWN CLERK
BELMONT, MA

2018 JAN 17 PM 1:59

TABLE OF CONTENTS

Meeting #33

BHS Building Committee Members Attending:

Chair Lovallo; Members: Adam Dash, Tom Caputo, Bob McLaughlin, John Phelan, Chris Messer, Dan Richards, Pat Bruschi, Emma Thurston, Diane Miller, and Jamie Shea

BHSBC Members Absent: Phyllis Marshall, Joe DeStefano, Joel Mooney

Board of Selectmen Attending: Chair Jim Williams and Adam Dash

Board of Selectmen Absent: Mark Paolillo

School Committee Attending: Chair Lisa Fiore, Susan Burgess-Cox, Catherine Bowen, Thomas Caputo, Andrea Prestwich, and Murat Bicer

The meeting was a joint meeting with the School Committee and Board of Selectmen in which the Belmont High School Building Committee was presented an overview of the District Grade Configuration work that the School Department has been undertaking.

1. Call to Order

The Belmont High School Building Committee meeting was called to order at 7:05 p.m. by Chair Lovallo. A count of attendees totaled 73 in addition to the Building Committee, School Committee, and Board of Selectmen.

2. Presentation of Grade Configuration Options by School Department

Superintendent John Phelan presented the School Department work on district configuration studies. Mr. Phelan explained how the High School configuration affects the entire K-12 district and the School Department has been examining what those possible impacts will be.

Mr. Phelan explained the possible District grade configurations that fall into 5 categories:

1. Option 1: K-4, 5-8, 9-12 (existing conditions)
2. Option 2: K-4, 5-7, 8-12 (8, 9-12)
3. Option 3: K-4, 5-7, 8-12 (8-9, 10-12)
4. Option 4: K-3, 4-6, 7-12 (7-8, 9-12)
5. Option 5: K-3, 4-6, 7-12 (7-9, 10-12)

Mr. Phelan briefly reviewed the work that was done with visioning, surveys, meetings, etc. Much of this work was previously presented at the December 9th meeting. Mr. Phelan then cited some of the research that the School Department has read regarding grade configurations and number of moves from K-12. Several articles spoke to the impact to students socially and academically. Mr. Phelan

FINAL

Page 1

INTRODUCTION

3.3.1

EVALUATION OF EXISTING CONDITIONS

3.3.2

FINAL EVALUATION OF ALTERNATIVES

3.3.3

PREFERRED SOLUTION

3.3.4

LOCAL ACTIONS & APPROVALS

3.3.5

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

noted that there was no consistency in the actual grade groupings. Rather, the articles generally stated that as much as a school move has an impact on students, the greater impact is the *environment that is created* for those students. This can have more of an impact on the students than the move itself.

Mr. Phelan noted that the School Department has reviewed the grade configuration options through the lens of educational appropriateness, space needs (both short term and long term), financial costs to Town (both short term and long term), and timeline to meet the District's challenges. Mr. Phelan noted that at this time, the preferred configuration has consistently been 7-12, although no decisions have been made and the School Department continues to discuss all three options.

Mr. Phelan then answered questions from the School Committee and the public regarding this presentation.

3. Presentation of Lower School Space Options by School Department

Mr. Phelan explained that the School Department retained the Design firm of SMMA to perform studies on the remaining District schools (the 4 elementary schools and the middle school) to provide recommendations for properly accommodating the students that do not get located at the new High School. He noted that they have examined the schools, met with principals and staff, and explored options in the district for building adjustments to meet the growing student enrollment.

The assumptions used included:

- 360 students in each grade level
- no modular classrooms
- all schools accommodating art, music, physical education, special education, EL's and LABBB

Each elementary school will contain a maker/innovation space to support the planned learning path at the upper levels. Chenery and Wellington will retain their Community rooms.

Classroom population is to be based on the room sizes and uses MSBA guidelines which limits classroom sizes to 23 students (with appropriate space) except for K which is limited to 18. These numbers are in line with the Belmont class size guidelines.

Considering those factors when one examines the entire district, the schools become "right-sized" which Mr. Phelan explains is the adjustment necessary to meet the target criteria. Existing schools will then see a reduction in student capacity from today's number requiring more classrooms to be added to the District. The net total number of students in K-8 requiring new space accommodating is 704 – with 318 students requiring new space at the Chenery School and 386 at the four elementary schools.

Mr. Phelan then explained that SMMA examined all 5 Options for the HS project (explained previously) and offered solutions for space needs in the remaining 5 buildings. A 6th option was added, which was a new elementary school, however Mr. Phelan noted that there is currently no space available in Belmont to construct a new elementary school. He explained that the 6th option would allow K-5 in the elementary schools, 6-8 in the middle school, and 9-12 in the high school.

Mr. Phelan then summarized each solution by option. Some areas require light renovation, which can include minor changes such as modifying interior classroom setups. Some areas require

B. CERTIFIED MEETING MINUTES

comprehensive renovations, which involve moving walls and MEP systems, possible additions to cafeteria and gym, and upgrades for ADA. A summary of the solutions followed:

Option 1:

- renovations in Burbank along with an addition
- renovations in Butler along with an addition
- no work in Wellington, renovation in Winn Brook
- renovations in Chenery along with addition
- **total project cost is \$54-\$66M**

Option 2/3 (A):

- renovations in Burbank along with an addition
- renovations in Butler along with an addition
- no work in Wellington
- renovation in Winn Brook
- no work in Chenery
- **total project cost is \$39.5-\$47.5M**

Option 2/3 (B):

- renovations in Burbank
- renovations in Butler
- no work in Wellington
- renovation in Winn Brook along with addition
- no work in Chenery
- **total project cost is \$41-\$48.5M**

Option 4/5:

- renovations in Burbank
- renovations in Butler
- no work in Wellington
- renovation in Winn Brook
- renovations in Chenery
- **total project cost is \$18-\$25.5M**

Option 6:

- renovations in Burbank
- renovations in Butler
- no work in Wellington
- renovation in Winn Brook
- renovations in Chenery
- construction of a new school
- **total project cost is \$72-\$82.5M**

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

Mr. Phelan noted that there is currently no vehicle for moving any of these projects forward. There is no committee formed, no funding in place for design, and there are other projects currently in the Belmont pipeline. Therefore, the reality is that these solutions outlined above will not come to fruition until well after the HS is complete. He also noted that for Option 4/5, the solution to accommodate the anticipated students in the current buildings, with no requirement for capital projects, seems possible given that the schools will all see a reduction in population and the needed adjustments can be reduced and/or phased in the future.

Mr. Phelan then answered questions from the School Committee and the public regarding this presentation.

4. Discussion of School Impact

Mr. Phelan asked principals of four of the District's six schools to comment on the challenges they see currently in their school, the opportunities that the "right sizing" of their school will bring, and their opinion of the configuration options being proposed. The following principals provided comments:

Dr. Tricia Clifford, Burbank Principal
Janet Carey, Winn Brook Principal
Dan Richards, Belmont High School Principal
Michael McAllister, Chenery Middle School Principal

Mr. Phelan then answered questions from the School Committee and the public regarding this presentation.

5. Related Meeting Documents

1. Presentation Slides on District Configuration prepared by School Department
2. Presentation Slides on Grade Configuration Study prepared by SMMA


4. End Meeting

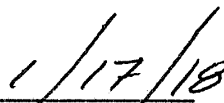
The meeting ended at 9:00 p.m. by Mr. McLaughlin

Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary


Date

B. CERTIFIED MEETING MINUTES

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
January 11, 2018
Wellington School Cafeteria
6:30 PM**

RECEIVED
TOWN CLERK
BELMONT, MA

2018 FEB -5 PM 2:31

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Meeting #34

Committee Members Attending:

Chair Lovallo; Members: Chris Messer, Adam Dash, John Phelan, Tom Caputo, Pat Brusch, Dan Richards, Bob McLaughlin, Diane Miller, Emma Thurston, Jamie Shea, Joe DeStefano (arrived at 7:20 p.m.)

From Daedalus: Tom Gatzunis, Shane Nolan

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn

Mr. Jason Schrieber - from Nelson Nygaard

BHSBC Members Absent: Joel Mooney, Phyllis Marshall

School Committee Members Attending: Catherine Bowen, (Tom Caputo), Susan Burgess-Cox

Board of Selectmen Attending: Chair Jim Williams and Adam Dash
[Chair Williams called the BOS to order at 6:50 p.m.]

Approximately 30 members from the General Public were in attendance.

I. Call to Order

The BHSBC meeting was called to order at 6:35 p.m. by Chair Lovallo. He noted that Mr. Gerry Boyle recently retired from his position as Facilities Director and that his retirement leaves a void with the BHSBC Secretary position. He then reviewed the agenda for the evening's meeting. He noted that Ms. Marshall is absent, but that three invoices would be processed tonight.

II. Appointment of Officers

Chair Lovallo reviewed the BHSBC Secretary's responsibilities.

Ms. Brusch moved: To nominate Mr. Chris Messer as Secretary of the BHSBC.
The motion passed unanimously.

Chair Lovallo reviewed the Vice Chair's responsibilities.

Mr. McLaughlin moved: To nominate Ms. Pat Brusch as Vice Chair of the BHSBC.
The motion passed unanimously.

III. Minutes of Previous Meetings

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INTRODUCTION

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EVALUATION OF EXISTING
CONDITIONS

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FINAL EVALUATION OF
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PREFERRED SOLUTION

3.3.4

LOCAL ACTIONS &
APPROVALS

3.3.5

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

Chair Lovallo noted that the Minutes of January 9 will be sent out for BHSBC review soon. However, the following set is ready for approval:

Mr. McLaughlin moved: To approve the Minutes of **12/14/17**.
The motion passed unanimously.

IV. Treasurer's Report

Chair Lovallo informed the Committee that the following Invoices are ready for their approval:

Invoice 1 - \$11,030

Ms. Bruschi moved: To approve the Invoice of \$11,030.00 from Daedalus.
The motion passed unanimously.

Invoice 2 - \$90,000

Mr. McLaughlin moved: To approve the Invoice of \$90,000 from Perkins + Will.
The motion passed unanimously.

Invoice 3 - \$765.00

Mr. McLaughlin moved: To approve the Invoice of \$765.00 for Minute's Recording, from Ms. Lisa Gibalerio.
The motion passed unanimously.

V. Public Meeting Schedule Update

Chair Lovallo reviewed several of the upcoming meetings:

Tues., January 16, 7:00 p.m.	Design Solutions with feedback from previous meeting
Thurs., January 18, 7:30 a.m.	Review of Design Solutions, thus far, and Survey Feedback Summary
Tues., January 23, 7:00 p.m.	Grade Configuration and Design Option Decision
Thurs., February 1, 6:30 p.m.	Review of draft Preferred Schematic Report
Tues., February 13, 7:00 p.m.	Approval of Final Preferred Schematic Report

VI. Traffic Update – Report Summary

Chair Lovallo noted that Ms. Trivas has met with several town departments concerning issues relating to traffic.

Mr. Schrieber summarized the Site Access Analysis Traffic Report concerning the current BHS. He noted that many site visits occurred to observe the flow of traffic, the numbers of vehicles, bike activity, walking routes, MBTA activity, U-turns, crosswalk conflicts, etc. Also analyzed were crash data, parking lot numbers, and delays and queues. He noted that peak morning time for traffic is from about 7:20 to 7:40 a.m. He highlighted the areas that queue up intensely. He noted that about 60% of faculty and students are driving (or being dropped off), with the remaining 40% walking, biking, etc.

B. CERTIFIED MEETING MINUTES

He reviewed nine potential improvement recommendations that have come out of the last several months of traffic analysis:

1. Adding a Traffic Signal to the Goden/Concord intersection
2. Implementing two full-access site driveways (distributes the traffic more evenly)
3. Providing drop-off loops internal to the site (to prevent queues)
4. Providing walking and transit access
5. Enhanced biking access
6. Adding on-site parking
7. Shorter delay and queues at key intersections, e.g., Concord/Goden, Concord/Underwood, Underwood/Hittenger
8. Neutral impacts to Hittenger & Brighton
9. Enhanced emergency vehicle circulation

These improvements, he said, will increase safety and add benefits for not only the school community, but also the community as a whole.

He then applied the nine improvements to the various design scenarios (specifically the four design options that are currently on the table).

Questions

Chair Lovallo asked about the recommendations concerning Goden Street (light signal). Mr. Schrieber noted that Goden is already heavily traversed with cars (as it provides the Concord Ave cross-over), U-turns, and walkers, etc. so that it made sense to focus on Goden to improve safety. He explained how the traffic volume would be calmed; he noted that there are several ways in which the signal could be designed.

BOS Chair Williams also asked about the Goden recommendation and expressed concern about the cut-through use to get to the Chenery. Mr. Schrieber said that the signal could reduce (control) traffic on Goden. BOS Chair Williams asked several follow-up questions concerning Hittenger St., the MBTA train, the Alexander Street tunnel, etc.

III. Comments and Questions from Belmont Residents

Ms. Anne Marie Mahoney, 24 Goden Street, made several points about traffic on Goden Street. She noted that this neighborhood was constructed before there were even cars. Goden is too narrow for the traffic it receives and over 20 cars are backed up every single day. A light will not fix the traffic on Goden, it will, in fact, increase the traffic on Goden. She suggested opening up the medians to Concord from the other side streets: Orchard, Oak, Myrtle, etc. That, she said, would mitigate the traffic on Goden. Mr. Schrieber responded to some of the concerns raised by Ms. Mahoney.

Selectman Dash, a Goden Street resident, asked a series of questions concerning the Goden Street recommendations. Mr. Schrieber responded to some of the concerns raised by Selectman Dash. The topic of making Goden Street a one-way was raised.

Ms. Chris Kochem, Town Meeting Member Precinct 8, spoke to the evening traffic on Concord/Goden. She asked about the Channing Road access to the new school via Alexander Ave. Chair Lovallo noted that the BHSBC is not analyzing Alexander Ave. as it is not a part of the new

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3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

building project.

Ms. Miller asked about adding more bussing options to the new building as a way to mitigate traffic from the north side as well as to mitigate community-wide traffic.

Mr. David Otte, 9 Goden Street, said that all of the high school traffic is being placed on to Goden Street. He asked several questions pertaining to cross traffic and added that adding two grades to the high school will definitely increase traffic in the area. How could it not? he asked.

Ms. Thurston asked about the Hittenger flow of traffic to Brighton, Baker, and Concord. She expressed concern about the intense traffics on these streets during morning and evening times.

Dr. Ana Abrams, 15 Goden Street, spoke to the unsafe walking conditions in the area. She suggested that the streets be restricted more than they presently are. She agreed that the streets cannot take more traffic than they currently are exposed to. She said she would favor a light on Goden, but only if it increased pedestrian safety. Mr. Schrieber stated that perhaps a signal at Goden/Concord would make the intersection more safe for walkers.

Ms. Kate Bowen, SC Member, asked about staggering the start times. She also asked about other safety concerns for pedestrians, e.g., bump-outs, congestion under the bridge, traffic calming initiatives, etc.

Ms. Anne Paulson, School Street, said she hopes town-wide solutions can be brainstormed for Belmont as a whole. Cambridge, she said, has initiated some successful traffic calming mitigations. She said it looks like cars are being *encouraged* to drive to the BHS site, not discouraged from driving. Mr. Schrieber agreed that biking and walking should be encouraged.

Mr. McLaughlin noted that Cottage and Goden are the only ways to get to the Center and to the Hill. He asked why the medians from the other streets, e.g., Oak, Myrtle, etc. can't be opened up to Concord. Mr. Schrieber said that Goden can be managed without opening the other medians.

Mr. Camille Fuleihan, 3 Sandrick Road, spoke to the cut-through traffic from Route 2 that is causing problems. The cut-through traffic is the main problem and only Belmont residents should be allowed to drive through Belmont. Belmont should have busses continually dropping kids off and picking kids up from the high school.

Ms. Jane Otte, Goden Street, asked why the Alexander Street tunnel is not a part of this project? Chair Lovallo provided some background information on this issue.

Mr. Russell Mann agreed that cut-through traffic is a major public health and quality of life problem for Belmont. This issue should be a top priority for Belmont.

Superintendent Phelan noted that there are now eight busses in Belmont. Each bus costs about \$60-70K annually. He then explained the laws around bussing as well as bussing fees. The fees are high, he said, and that could be why more people don't have their children take the bus. Ms. Bowen (SC member) directed several bussing questions to Mr. Phelan.

Mr. Fred Paulson, TMM Pct. 1, suggested that the BHSBC will need to answer these questions and concerns before Town Meeting and the town vote on these issues. The Selectmen, the School

B. CERTIFIED MEETING MINUTES

Committee, and the Building Committee will need to address these issues. Chair Lovallo noted that these issues have been focused on and will continue to be focused on. He then asked several clarifying questions which Mr. Schrieber addressed.

Ms. Gretchen McClain, School Street, noted that these plans seem to be creating a lot of traffic on School Street/Goden Street. Bussing, she said, is not always an option because the high school students have such varying schedules. She requested that other traffic options are explored.

Mr. Al [?], 311 Brighton Street, reiterated that the issue of cut-through traffic needs to be addressed. Even if there are no cars at the high school, traffic will still be a major issue.

BOS Chair Williams spoke to the overlap concerning traffic issues. Many groups in town are concerned with traffic. He suggested that Mr. Schrieber present his analysis to the Traffic Advisory Committee.

Mr. Caputo asked if the traffic mitigation has a definitive due date or if solutions can be brainstormed as the project evolves. Chair Lovallo noted that the MSBA is expecting to know the definition of the project this summer. Therefore, many of these issues need to be resolved sooner rather than later – although some issues will continue to be worked out.

XII. Next Full Building Committee Meeting

Tuesday, January 16, 2018 at 7:00 p.m.
Chenery Middle School, Community Room

XIII. Related Meeting Documents

1. Belmont High School Site Access Analysis
2. BHSBC Meeting Summary
3. BHSBC Minutes Draft 12/14/17

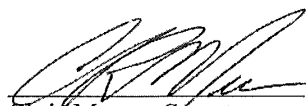
XIV. End Meeting

The meeting ended at 8:59 p.m. by Mr. McLaughlin

Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary

2/5/18
Date

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
January 16, 2018
Chenery Middle School
7:00 PM**

RECEIVED
TOWN CLERK
BELMONT, MA

2018 FEB -5 PM 2: 31

Meeting #35

Committee Members Attending:

Chair Lovallo; Members: Adam Dash, John Phelan, Tom Caputo, Pat Bruschi, Phyllis Marshall, Bob McLaughlin, Joe DeStefano, Joel Mooney, Diane Miller, Chris Messer, Emma Thurston, Jamie Shea

Patrice Garvin (Town Administrator)

From Daedalus: Tom Gatzunis, Shane Nolan

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn

BHSBC Member Absent: Dan Richards

School Committee Members Attending: Catherine Bowen, [Tom Caputo], Andrea Prestwich, Susan Burgess-Cox [The SC called their meeting to order at 7:12 p.m.]

There were roughly 30 citizens in attendance at this meeting.

I. Call to Order

The meeting was called to order at 7:04 p.m. by Chair Lovallo. He briefly reviewed the evening's agenda and then introduced Belmont's new Town Administrator, Ms. Patrice Garvin, to the BHSBC, et al. Mr. Messer updated the BHSBC on the handouts that were prepared for tonight's meeting.

II. Minutes of Previous Meetings

Mr. McLaughlin moved: To approve the Minutes of 1/9/18.
The motion passed unanimously.

III. Comments from Belmont Residents

Ms. Anne Paulson, School Street, asked about pedestrian and biking access. Specifically, she asked when these issues, as they relate to the BHS project, would be addressed again by the Committee? Chair Lovallo provided some information on what would happen next, namely that the Traffic Advisory Committee will meet to discuss the traffic recommendations that were explored at the BHSBC meeting of January 11, 2018.

Ms. Tara Donner, Belmont parent and a teacher outside the Belmont school district, asked if the costs associated with turning the Chenery into an elementary school had been explored. She stated that the younger kids are not being given full consideration. Mr. Phelan provided some information, although he stated that he has not priced out a K-6 option for the Chenery. She stated that research has shown that additional school transitions negatively impact children. She said the information regarding grade

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B. CERTIFIED MEETING MINUTES

configuration options has not been presented to the public in an unbiased way. She said she hopes the issue is given more attention going forward.

IV. Update on Project Costs (Tom Gatzunis)

Mr. Gatzunis reviewed the three grade configurations (7-12, 8-12, 9-12) as well as the various options for the new project, e.g., major renovation, partial renovation, new construction, etc. He reviewed potential construction costs, noting that the construction rates are increasing about 4% annually. He said the average cost is \$550.00 per square foot of building construction, when considering current local MSBA school building costs on average, plus adjustments for specific building and site impacts, and adjustment for inflation. The MSBA will only reimburse up to \$326.00 per square foot of eligible building components. The 7-12 option will be the most expensive, as it entails the biggest size building.

He noted that the current MSBA agreement with Belmont is to reimburse for 36.89% of *eligible* costs. There are costs that are ineligible for reimbursement. He reviewed areas that might be deemed ineligible, as well as costs that might be capped. The estimated net cost to Belmont is about 74% of the total project cost, based on the anticipated final reimbursement rate from the MSBA and historical information from the MSBA.

Mr. Gatzunis's handout included the price to taxpayers for each of the various options.

V. Funding the Project (Floyd Carman)

Mr. Carman reviewed the tax impact ranges based on the various construction options. The total cost of the project ranges from a low of \$318.9M to a high of \$402.1M. Regarding tax impact from the Belmont High School Project only, the average assessed property value in Belmont is \$1M, therefore the low impact annual cost will be \$1,460.00 to a high cost impact of \$1,840.00 – per property owner. This is at an estimated 4% borrowing rate, over 30 years.

Chair Lovallo noted that better cost numbers will not be identified until this summer. Mr. Carman stressed the need for a cash flow report; the cash flow report, he said, will be important when the project is bonded.

Audience Comments

Mr. Charles Smart, 71 Elizabeth Road, asked two clarifying questions about the tax impact. It was determined that, if the home assessments go up, the amount of taxes paid for the Belmont High School Project stays the same. Mr. Carman agreed with that statement.

Ms. Heather Barr (?), asked about the bonding mechanism as well as the costs of upgrading the elementary schools. Will those costs be tied in to the high school? Mr. Carman stated that it depends how those costs are bonded. Chair Lovallo noted that the fiscal impact of the elementary school improvements that Superintendent Phelan presented on January 9, 2018 are not part of the Belmont High School Project and will have to be managed separately from the new BHS project. However, at this time there is no mechanism in place in Belmont to move those elementary school improvements forward.

VI. Costs for K-8 Schools (John Phelan)

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Mr. Phelan reviewed costs, spanning several grade configuration options, for “right sizing” the lower grade schools. (The full PowerPoint slide set from January 9, 2018 is on both the BPS and BHSBC website.) Total project costs for the new building, *combined with* the right-sizing costs, is not a realistic summary because a plan to execute the right-sizing of the K-8 schools does not exist. Furthermore, funding has not been identified for any of the lower grade right-sizing projects.

Mr. Phelan added that, even with the 7-12 grade configuration option for the new building, there is still a \$18M-\$25.5M cost to right-size the elementary buildings (K-3) and to make Chenery a 4-6 school. Chair Lovallo asked: if the 7-12 solution for the HS is chosen, can the District execute the K-8 space needs without the cost of this right-size solution? Mr. Phelan responded that he can open the doors to the K-8 schools and accommodate the anticipated student enrollment in the remaining five school buildings should that 7-12 configuration be chosen, without the right-size solution being executed as described by SMMA.

VII. Preliminary Site Design Updates (Brooke Trivas)

Ms. Trivas began by reviewing the four main options for the new building:

- 2.1 Major Reno/Add
- 2.3 Reno/Major Add
- 2.4 Reno/Major Add
- 3.1 New Construction

She noted where the plans have been updated since the BHSBC meeting held at the end of November, based on comments received from the Committee and public. She briefly reviewed some of the pros/cons of the 4 options. For example, new construction does not take the pool into consideration.

Both Mr. Kuhn and Mr. Cunningham provided additional information on the four options, outlined above. They each discussed pros/cons as well as the impact on phasing during the construction process. Mark-up photos of the potential designs/site plans were reviewed. Bicycle and pedestrian access as well as landscaping possibilities were also reviewed. Gym, Auditorium, and Field House locations vis-a-vis class-room space, green space, and Concord Ave. were also explored for the various options.

Ms. Trivas noted that the options outlined above can be re-worked to keep the positive elements and attempt to eliminate the elements that are not liked. Therefore, it may be that an option that *combines* some of the above is what is ultimately moved forward. However, the basic design integrity would need to be maintained and the final design would need to be rational execution of the positive elements.

The BHSBC asked questions and offered comments on the various design options.

Selectman Dash asked process and timing questions related to the next steps and votes on design/site selection. He also stated his thoughts on the four proposed designs and site locations. Ms. Trivas stated that the traffic issues related to the project will not be decided by choosing a design or site location.

Chair Lovallo stressed that traffic flow, pedestrian, and bike issues will continue to be explored. Mr.

B. CERTIFIED MEETING MINUTES

McLaughlin asked about the financial implications of the options, as well as the square footage, and he specifically asked when the information would be forthcoming concerning a particular design option's impact on the building's operational costs. Mr. Cunningham responded that he anticipates that the operational and maintenance costs for all four solutions appear to be cost-neutral.

Chair Lovallo noted that the BHSBC will continue this dialogue on Thursday morning.

XII. Next BHSBC Meetings

Thursday, January 18, 2018 at 7:30 a.m.
Tuesday, January 23, 2018 at 7:00 p.m.

XIII. Other/New Business

Chair Lovallo noted that there is an Evaluation sheet pertaining to the design / site selection options. He requested that Committee members fill out the form and be prepared to discuss it.

XIV. Related Meeting Documents

1. January 9, 2018 Minutes
2. Summary of Potential K-8 Costs for Right Sizing Schools
3. PDP Site Strategies Matrix
4. Concept Cost Summary PDP
5. BHS Proposed Building Configurations
6. BHS Building Project (tax impact)
7. Evaluation Matrix

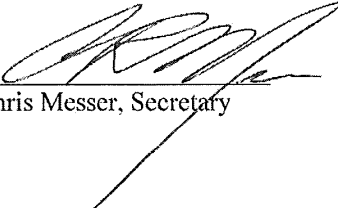
XV. End Meeting

The meeting ended at 8:55 p.m. by Mr. McLaughlin.

Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary

Date 2/5/18

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

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**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
January 18, 2018
Homer Building Gallery
7:30 AM**

2018 FEB -5 PH 2: 31

Meeting #36

Committee Members Attending:

Chair Lovallo; *Members:* Adam Dash (left at 8:50 a.m.), John Phelan, Tom Caputo, Pat Bruschi, Phyllis Marshall, Bob McLaughlin, Joel Mooney (left at 8:20 a.m.), Diane Miller, Chris Messer, Jamie Shea, Emma Thurston (arrived at 8:01 a.m.)

From Daedalus: Tom Gatzunis

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn

BHSBC Members Absent: Dan Richards, Joe DeStefano

I. Call to Order

The meeting was called to order at 7:34 a.m. by Chair Lovallo.

Invoice 1: Daedalus (Geotechnical Services) \$1,504.45

Mr. Mooney moved: To approve the Invoice of \$1,504.45.
The motion passed unanimously.

II. Community Input Survey Report (Diane Miller)

Ms. Miller briefly reviewed the survey data from the report's executive summary. She noted that the survey was online for 8 weeks and it received almost 1,800 responses, with almost half of the respondents being students. Students expressed concern about rats in the building and the overall condition of the building, as well as space/lighting issues and the need for more quiet spaces (and a library space). They named performing arts and athletic facilities as priorities and they expressed a desire to be a part of the decision-making process. Other respondent groups (parents, teachers, etc.) named dealing with enrollment as a top priority.

She reviewed data highlights from the survey questions.

Chair Lovallo noted that the data will be put online and will be forwarded to Perkins+Will.

The BHSBC briefly discussed the survey results, specifically other ways to receive community feedback on the building project. Mr. Gatzunis suggested that the major questions/concerns raised in the survey be responded to. Ms. Marshall agreed and added that, along with providing project updates, the group should attempt to be responsive to the survey. Chair Lovallo suggested that a student focus group be formed as a way to continue to get more student feedback. Ms. Bruschi added that it is time to engage a broader range of residents more fully – Town Meeting members and parents have been enrolled in the process, she said, but more could be done to involve older residents.

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B. CERTIFIED MEETING MINUTES

Issues dealing with *how* to involve a broader range of community members were briefly explored.

Chair Lovallo stated that perhaps it is time for the BHSBC Communications Working Group to become an official BHSBC subcommittee, which means posting meetings, holding meetings in public places, taking meeting minutes, filing meeting minutes, etc. The Subcommittee distinction (versus Working Group) was explored.

Ms. Brusch moved: That the BHSBC Chair create a *Communications Subcommittee* of the BHSBC.

The motion passed with 11 members in favor and one member abstaining.

III. Discussion on Preliminary Site Designs

Mr. Mooney began this portion of the meeting by providing feedback on the preliminary site design options. He requested that street-level sight lines be further developed for C2.3 and C2.4. Mr. McLaughlin suggested that it be confirmed (very soon) that these sites are possible (from a hazardous waste/geotechnical perspective) to put a building. The placement of the rink, in relation to the placement of the fields, was briefly explored. Mr. Cunningham explained the 100-year floodplain guidelines. These guidelines will impact the ground level design, overall elevation levels, drainage, resilience issues, etc. The 500-year floodplain guidelines were briefly discussed as well.

Superintendent Phelan stated that he believes option C2.1 is not workable because of the phasing issues; C3.1 falls off because it does not allow for a pool or a field house. This leaves C2.4 or C2.3 as viable options, with C2.4 as his first choice.

Chair Lovallo discussed the process around choosing the design site option. The vote does not have to be unanimous but should have a majority of BHSBC members in favor of it. He said he hopes that Committee members can support the *process*, even if the design site selection does not go his/her way. The process could be simple elimination. Mr. Caputo asked a question about the Atrium space in the center of the building in C2.4. He noted that these spaces can be loud. Mr. Cunningham responded to the acoustics issue.

The Committee discussed whether or not taking a straw poll today would be helpful. (A straw poll was not taken.)

Mr. McLaughlin expressed his preference for C2.4 but added that the Committee must keep its eye on the cost of this project. The cost and the fiscal impact on residents will have a lot to do with getting this project passed. Mr. Gatzunis clarified the estimated cost scenarios that are available. Each design has different costs associated with it and the calculus is more than just construction price per square foot times the total square footage. Each design option does not cost the same, as they have different elements. And some of these elements have not even been selected yet. As time goes on, the cost estimate will become more precise.

Ms. Thurston added that the grade-configuration determination impacts both the design selection and the cost. If grade 8-12 is selected, money will need to be spent in dealing with enrollment at the lower grades. Mr. Messer added that the building's design should blend in with the town's overall aesthetics. He also raised a concern about space gaps. Chair Lovallo stated that a downside of C2.3 is that it has an imposing L corridor that will be prominent to Concord Ave. Ms. Shea agreed about the L shape

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3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

and its imposing view to Concord Ave. and added that, as a BHS teacher, C2.4 is a better educational design.

Ms. Brusch asked to have the differences between C2.3 and C2.4 made more clear. Can the positive elements of both these designs be brought together, she asked, to create a C2.3/4?

Chair Lovallo informed the BHSBC that, after the vote on Tuesday night, he will ask the Committee to vote to establish the formation of another Subcommittee: Building Operations and Systems. He also informed the Committee that the Evaluation sheets (on the four design options) will need to be collected and incorporated into the final report.

IV. Next Building Committee Meeting (Joint Meeting with BOS and SC)

Tuesday, January 23, 2018 at 7:00 p.m.

X. Related Meeting Documents

1. Initial Community Input Survey

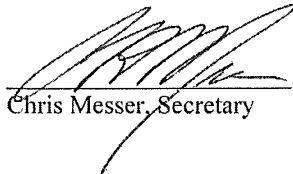
XI. Adjournment

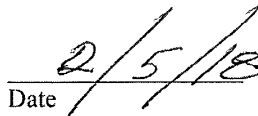
The meeting ended at 9:11 a.m. by Mr. McLaughlin.

Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary


Date

B. CERTIFIED MEETING MINUTES

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
January 23, 2018
Wellington School Cafeteria
7:00 PM**

RECEIVED
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2018 FEB -5 PM 2: 31

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Meeting #37

Committee Members Attending:

Chair Lovallo; Members: Adam Dash, John Phelan, Tom Caputo, Pat Brusch, Dan Richards, Phyllis Marshall, Bob McLaughlin, Joe DeStefano, Joel Mooney, Diane Miller, Chris Messer, Emma Thurston, Jamie Shea

Patrice Garvin, Town Administrator

From Daedalus: Tom Gatzunis

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn

BHSBC Members Absent: [none]

School Committee (SC) Members Attending: Chair Lisa Fiore, Catherine Bowen, (Tom Caputo), Andrea Prestwich, Susan Burgess-Cox, Murat Bicer
[Chair Fiore called the SC to order at 7:06 p.m.]

Board of Selectmen Attending: Chair Jim Williams, Mark Paolillo (arrived 7:29 p.m.) and Adam Dash
[Chair Williams called the BOS to order at 7:06 p.m.]

There were roughly 85 citizens in attendance at this meeting.

I. Call to Order

The meeting was called to order at 7:06 p.m. by Chair Lovallo. Chair Lovallo reviewed the agenda and he stated his hope that the dialogue (and engagement with the community) would continue to be open and respectful.

II. Comments from Belmont Residents

Ms. Hyon-Jee Voigt stated that the decisions made tonight will impact the younger students in Belmont. These decisions could negatively impact the growth of the community as well.

Ms. Gerri Cummings, a lifetime resident of Belmont, stated that she is not interested in supporting a new high school; Belmont students are doing well with the current high school.

Ms. Ellen Schreiber thanked all the committees involved who have worked on this project. This has been a transparent and informative process.

Mr. Justin [Backley? sp?], stated that the overall new building costs are a concern, and perhaps the

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INTRODUCTION

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EVALUATION OF EXISTING
CONDITIONS

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FINAL EVALUATION OF
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3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

public should be able to comment *after* the discussion pertaining to costs. The price of the building is a concern for the community, he said, even if it is an investment in the future.

Mr. Jack Weis asked whether the project is at greater risk of failing at the polls if the most expensive grade configuration option is put forth to the voters. Perhaps the grade 9-12 option would stand a better chance of passing, he wondered.

Ms. Fitzie Cowing, BHS graduate and Belmont parent, spoke to her concern about the Brendan Grant Memorial Baseball Field. Brendan's memory needs to be preserved wherever the new baseball field is relocated to. She also requested that consideration be paid to other sentimental aspects of the current building. Chair Lovallo commented that the Building Committee is very sensitive of the Brendan Grant Memorial Field and contacted the Brendan Grant Foundation at the onset of design. The Foundation is aware that the Brendan Grant Memorial Field is moving and continues to provide comments to the Building Committee.

III. Project Costs

Chair Lovallo provided some background information on the cost factors of the project. He spoke to the many factors that impact the cost of the project. There are construction costs as well as project costs. Project costs include construction costs ("hard costs"), but also encompass many other cost components. He then explained how the construction cost estimates are arrived at during this phase of estimation – mainly they are derived from the square footage of the project, which is controlled by the MSBA. He explained several other factors that impact the cost of the project, including the escalation costs.

The building committee, he said, is working very hard to control the costs. A better-defined cost estimation should be known over the next few months. He explained that the MSBA will define its reimbursement of eligible costs, which will help identify Belmont's contribution. The MSBA has a construction cost cap as well as exclusions, i.e., things they will not reimburse for. The current estimated reimbursement rate for Belmont is roughly 36.89 percent, and is based on socioeconomics and demographics.

Ms. Shea summarized that the project cost is driven by construction costs, which are based on square footage. She then asked: to reduce the size of the building, and therefore reduce the costs, would the predicted enrollment need to decrease? Chair Lovallo agreed that the building size (square footage) is based on enrollment.

Member McLaughlin noted that if the grade configuration for the new building is 7-12, Belmont will save money by not needing to build an elementary school. Mr. Phelan agreed and noted that a grade 9-12 school will not handle the enrollment issues at the lower grades; in that scenario, costs incurred to handle lower-grade enrollment would be around \$54-56M. Even if the new building is grades 7-12, some right-sizing would be needed at the Chenery and elementary levels, costing about \$18M. He noted that it would not be possible to build an elementary school near the high school; in fact, no space has been identified in Belmont where an elementary school could be built.

Mr. McLaughlin then spoke to the tax impact (an average of \$1,800 per year for 30 years) and added that the new high school would likely increase home values in Belmont.

Mr. Phelan added that, while there is financial help from the MSBA to fund a new high school, there
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B. CERTIFIED MEETING MINUTES

are no corresponding vehicles to fund the building of a new elementary school or make additions to the existing schools. The grade 7-12 option may therefore provide the best and most cost-effective option to the community.

Mr. Gatzunis spoke to the MSBA process for supporting another elementary school. It would be a very long way down the road, he said, and could not even begin until the high school process comes to completion.

The BHSBC and SC discussed issues relating to the potential costs of the various design options.

Preliminary Design Program (PDP) Comments from the MSBA

Mr. Gatzunis noted that the MSBA's comments on the recently submitted PDP report were not at all atypical. The MSBA asked for some clarification on certain points. The responses will be submitted in the Preferred Schematic Report (PSR) document.

IV. Subcommittee on Building Systems and Operations

Chair Lovallo explained what this subcommittee might be responsible for and why it is necessary at this stage in the process.

Member McLaughlin moved: To form a Subcommittee on Building Systems and Operations. The motion passed unanimously.

V. Preliminary Site Design Updates

Ms. Trivas explained the MSBA requirements around the various design options. She explained some of the differences among the options. The pool and the field house would not be allowed in the option that is total new construction C3.1. She explained the work that has been ongoing with various consultants, e.g., landscape, traffic, ZNE, etc. The playing fields (except the tennis courts) are accommodated within the new options. It was noted that the designs would continue to evolve and that conversations related to traffic would also continue.

Mr. McLaughlin raised several issues relating to phasing, which drives much of the decision-making process. He advised that it might be cheaper to separately fund a new pool, rather than to finance an expensive building, in order to save the existing pool. He said that he favors options C2.3 and C2.4.

Ms. Trivas briefly reviewed some of the points of the four design options.

Mr. Phelan noted that community feedback has been incorporated into the design options. He agreed that the staging of the work is a very important consideration and has a high education value to it. He said that he also favors C2.3 and C2.4. Both of these options have profound educational benefits for students as well as teachers. Ms. Shea concurred with Mr. McLaughlin and Mr. Phelan's reasons for favoring C2.3 and C2.4. She said C2.4 provides multi-age educational opportunities. Ms. Miller explained why she prefers the C2.4 option, e.g., open spaces, natural light.

Selectman Dash expressed his thoughts on the four options. C2.4 is more circular in design, keeps more greenery intact, and does not hug Concord Ave.

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B. CERTIFIED MEETING MINUTES

Chair Lovallo noted that the School Committee would now opine on the grade configuration options: 9-12, 8-12, 7-12.

VI. Selection of Grade Configuration (School Committee)

Superintendent Phelan spoke to many of the challenges facing the school district over the years. He acknowledged the community for its commitment to education. He then reviewed the historical district-wide enrollment growth as well as the enrollment forecasts, which clearly continue to trend upwards. He described the impact on the lower grades (as well as some of the cost implications) of each of the grade configuration options. He outlined several challenges of only building a 9-12/8-12 building. He then outlined his support for and the overall benefits of the 7-12 configuration option.

SC Chair Fiore then asked for a motion in support of the Superintendent's grade configuration recommendation – 7-12.

SC Member Caputo moved: That the SC accept the Superintendent's recommendation for a 7-12 grade configuration option for the BHS project as required by the MSBA.

The SC then discussed the grade 7-12 option and how they came to support this grade configuration.

The motion passed unanimously.

[The SC adjourned at 9:18 p.m.]

VII. Selection of Preferred Solution (BHSBC)

Member McLaughlin moved: To instruct the design team to pursue the C2.4 proposal.
The motion passed unanimously.

Chair Lovallo thanked the Superintendent and the SC for all of their efforts.

VIII. Next Full Building Committee Meeting

Thursday, February 1, 2018 at 6:30 p.m.

X. Related Meeting Documents

1. Concept Cost Summary - PDP
2. BHS Design Selection Options

XI. End Meeting

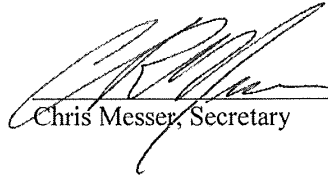
The meeting ended at 9:22 p.m. by Mr. McLaughlin.

Respectfully submitted by:

Lisa Gibalerio

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B. CERTIFIED MEETING MINUTES

Approved: 
Chris Messer, Secretary

Date 2/5/18

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B. CERTIFIED MEETING MINUTES

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
DRAFT MEETING MINUTES
February 1, 2018
Wellington School Community Room
6:30 PM**

Meeting #38

Committee Members Attending:

Chair Lovallo; Members: Adam Dash, John Phelan, Patrice Garvin, Tom Caputo, Pat Brusch, Phyllis Marshall, Bob McLaughlin, Joe DeStefano, Joel Mooney, Diane Miller, Chris Messer, Emma Thurston, Jamie Shea

From Daedalus: Shane Nolan

From Perkins+Will: Brooke Trivas, Rick Kuhn

BHSBC Members Absent: Dan Richards

School Committee Members Attending: (Tom Caputo), Susan Burgess-Cox

Board of Selectmen Attending: Chair Jim Williams, Adam Dash
[Chair Williams called the BOS to order at 6:36 p.m.]

There were roughly four citizens in attendance at this meeting.

I. Call to Order

The meeting was called to order at 6:36 p.m. by Chair Lovallo. He reviewed the evening's agenda and then turned to the first item.

II. Minutes of Previous Meetings

Mr. McLaughlin moved: To approve the Minutes of 1/11/18, 1/16/18, 1/18/18, 1/23/18.
The motion passed unanimously.

III. Comments from Belmont Residents

No comments this evening.

IV. Preliminary Site Design Updates

Ms. Trivas noted that one site plan, one building plan, and one grade configuration will be focused on going forward. She noted that there is a site plan [C2.4] which is continuing to develop and is currently focusing on traffic, bus zones, drop off areas, parking, athletic fields, etc.

Chair Lovallo reviewed some of the parking lot space data. Parking for this project will need to accommodate staff for grades 7-12 and upper class students. Overall, there are 430 (?) spaces being planned for throughout the campus. He added that he and Ms. Brusch will meet soon with the

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B. CERTIFIED MEETING MINUTES

Planning Board to review the project and to touch base on the schematic design process.

Ms. Shea raised the topic of the Brendan Grant Memorial Field and asked what considerations have been taken to preserve this memorial field. Chair Lovallo explained that the BHSBC has been, from the very beginning of the process, in contact with the Brendan Grant Foundation. He reviewed the elements of the field, e.g., drainage, lighting, field layout, etc. Some of these issues are under the School Committee’s purview. The Brendan Grant Foundation would like to collaborate with the BHSBC and the SC throughout the schematic design process. Mr. Phelan reiterated that the communication has been ongoing with Mr. Grant and the Foundation. He said it has been helpful to have Mr. Davis, BHS’s Athletic Director, included in the conversations.

Ms. Shea then asked about the placement of tennis courts, which are not currently on the site plan. Mr. Phelan said that there will be a tennis team and that the other tennis courts, across town, would need to be utilized.

Returning to the site plan, Mr. Trivas highlighted the green space that surrounds the building and keeps the parking area on the North side near the tracks. Ms. Miller noted that the parking is centralized on the East side but that the building entrances are on the West side; this will lead to a longer walk for the high school students (which is good for exercise), and brings the upper school students closer to the lower school. It was noted that the School Department may designate the student parking areas.

Issues and questions relating to parking logistics were explored.

Ms. Trivas reviewed the flow of bikes, walkers, and cars. Chair Lovallo noted that the Traffic Advisory Committee (TAC) has retained a traffic engineer to work with the BHSBC on traffic flow. The first meeting will be held next week, after which, other groups will be involved in the process. Selectman Dash noted that the flow of traffic, once it is determined, will impact the parking planning. Ms. Trivas noted that the traffic flow is still under analysis; nothing is final at this point.

Ms. Trivas then reviewed the “academic neighborhood diagram”, e.g., where classrooms, innovation spaces, shared spaces, breakout spaces, teacher planning spaces, circulation space, learning commons, etc. might be located. Stairs, bathrooms, elevators are all being placed in the building, as well. Both the student and faculty experiences are being taken into consideration as the planning process continues. Chair Lovallo asked about BHSBC input versus School Department input in making these types of building design decisions. Mr. Phelan noted that the Leadership Council is meeting and exploring with faculty what the impact of this new configuration means. This will require interface with the design team. He explained what this process might look like going forward, over the next few months. Chair Lovallo requested periodic updates on what the Leadership Council is discussing and deciding throughout this process. Mr. Phelan agreed and added that there will need to be a myriad of ways to involve the school staff, the BHSBC, and the community in this ongoing dialogue.

Ms. Trivas explained the process by which the various spaces (classrooms, innovation spaces, shared spaces, breakout space, teacher planning spaces, circulation space, learning commons, etc.) will be designed. She then discussed proposed ceiling heights and the items that will need to be placed on the roof. The square footage of the building is fairly set, she said, so if one area is enlarged, another area will need to be made smaller.

The BHSBC asked various questions and offered insights pertaining to the preliminary design plan.

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B. CERTIFIED MEETING MINUTES

V. Discussion of Preferred Schematic Report (PSR) Submission

Chair Lovallo noted that the PSR is due on Friday, February 16, 2018 and consists of multiple sections (see handout #4.) The BHSBC will vote on the PSR when it meets next week (2/13/18).

Chair Lovallo then reviewed the five PSR sections:

1. **Introduction**
(MSBA inquiries/PDP review, project schedule update)
2. **Evaluation of Existing Conditions**
(traffic report)
3. **Final Evaluation of Alternatives**
(building options, new cost estimate, structural/mechanical components, Qualitative Matrix)
4. **Preferred Solution**
(sustainability evaluation - Leeds, educational program, space summary)
5. **Local Actions Approval Certifications**
(regulatory approvals, meeting minutes)

Chair Lovallo spent a few minutes reviewing the project schedule update, including the MSBA's approval vote date (August 29, 2018) and the Town of Belmont's vote (November 6, 2018).

VI. Next Full Building Committee Meeting

Tuesday, February 13, 2018 at 7:00 at CMS Community Room to approve the PSR

Ms. Bruschi noted that the Board of Selectmen will need to vote, over the summer, to place the BHS debt exclusion on the ballot. Chair Lovallo read the Wellington School debt exclusion ballot question and noted that the wording for the BHS ballot question would be similar.

VII. Other/New Business

BSO Update: Chair Lovallo noted that the Building Systems and Operations (BSO) Subcommittee has met to discuss temperature control, air conditioning, lighting, mechanical systems, energy efficiencies (plug load), etc.

PR Update: Ms. Shea noted that the Public Relations subcommittee met recently and heard from a concerned citizen. The BHS video is in process and the BHSBC website is coming along.

VIII. Related Meeting Documents

1. Meeting Minutes: 1/11/18, 1/16/18, 1/18/18, 1/23/18
2. Perkins + Will Site Plan documentation
3. Summary Project Schedule
4. PSR Schedule/Outline

B. CERTIFIED MEETING MINUTES

IX. End Meeting

The meeting ended at 8:20 p.m. by Mr. McLaughlin.

Respectfully submitted by:

Lisa Gibalerio

Approved:

Chris Messer, Secretary

Date

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B. CERTIFIED MEETING MINUTES

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES**

**February 13, 2018
Chenery Middle School
7:00 PM**

RECEIVED
TOWN CLERK
BELMONT, MA
2018 MAR -6 AM 9:40

Meeting #39

Committee Members Attending:

Chair Lovallo; Members: Adam Dash, John Phelan (left at 8:12 p.m.), Tom Caputo, Pat Bruschi, Phyllis Marshall, Bob McLaughlin, Joel Mooney, Diane Miller, Chris Messer, Emma Thurston, Jamie Shea

From Daedalus: Tom Gatzunis

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn

BHSBC Members Absent: Joe DeStefano, Dan Richards, Mike McAllister

School Committee Members Attending: Catherine Bowen, (Tom Caputo), Susan Burgess-Cox

Board of Selectmen Attending: Chair Jim Williams, Adam Dash
[Chair Williams called the BOS to order at 7:04 p.m.]

One citizen was in attendance at this meeting.

I. Call to Order

The meeting was called to order at 7:04 p.m. by Chair Lovallo. He reviewed the evening's agenda and turned to the first item.

II. Minutes of Previous Meetings

Mr. McLaughlin moved: To approve the Minutes of 2/1/18.
The motion passed unanimously.

III. Treasurer's Report

Ms. Marshall informed the Committee that the following Invoices are ready for their approval:

Invoice 1: Daedalus \$23,910.33 (a portion of the feasibility study and a portion of the geo-technical service)

Mr. McLaughlin moved: To approve the Invoice of \$23,910.33.
The motion passed unanimously.

Invoice 2: Perkins + Will \$101,102.73

Mr. McLaughlin moved: To approve the Invoice of \$101,102.73.

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B. CERTIFIED MEETING MINUTES

The motion passed unanimously.

Invoice 3: Minutes Recording 12 Hours \$360.00

Mr. McLaughlin moved: To approve the Invoice of \$360.00.
The motion passed unanimously.

Chair Lovallo then reviewed the amount submitted to the MSBA as well as the amount that has been reimbursed (at a rate of 36.89%).

IV. Comments from Belmont Residents

No comments this evening.

V. Discussion of Preferred Schematic Report (PSR) Submission

Chair Lovallo explained that four section drafts of the PSR have been issued to the BHSBC, via email, for its review. He then reviewed the four sections and noted where feedback was submitted from the MSBA. Chair Lovallo touched on the response to new design Option 2.1.a (section 3.3.1). The reasons why this design option was not tenable were briefly reviewed.

Regarding section 2, he noted that part of this section pertains to traffic. Chair Lovallo noted he and Ms. Bruschi met with the Traffic Advisory Committee last week and that the Traffic Advisory Committee will meet again on March 8 to discuss the traffic conditions in and around the school building project. He added that he and Ms. Bruschi also met with the Planning Board (PB) last week and will meet again with the PB.

The third section, he noted, contains an update on the project's cost as well as cost estimates for the building's sustainability components. The BHSBC briefly discussed Zero Net Energy (ZNE) and its impact on the building project. Mr. Mooney explained the next steps of the geotechnical and environmental testing at the footprint of the new building. Testing will consist of a series of borings where the soil characteristics will be evaluated, including the environmental characteristics of the samples. Work on site is expected to occur in March so that information can be provided to the design team by April. This information will include site-specific parameters for geothermal wells.

The next section, Chair Lovallo explained, reviews the site, the fields, etc. Option of C2.4. Mr. Cunningham explained some of the images that look at the inside of the building (section studies). Mr. Phelan discussed potential layouts for the 7-12 grade configuration, e.g., 7-9 together and 10-12 together, or 7-8 and 9-12, etc. He is currently soliciting feedback from the staff on this topic.

Chair Lovallo explained a bit about geothermal energy and air distribution (chilled beam).

The last section was briefly reviewed, e.g., the letter to Ms. Diane Sullivan (with a listing of the BHSBC meetings).

VI. Approval Action of PSR Submission to MSBA

Chair Lovallo reviewed the wording for the motion.

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

Mr. McLaughlin moved: To approve action on the PSR submission to the MSBA.
The motion passed unanimously.

The Board of Selectman passed the same motion.

VII. Next Full Building Committee Meeting

Chair Lovallo noted that the BHSBC has now completed its efforts on Module 3. He thanked the Committee as well as Perkins+Will (the design team) and Daedalus (the OPM). Schematic Design (Module 4) is the next phase that the Committee will undertake.

Next meetings: March 6 (Tuesday) and March 22 (Thursday) 2018 at 7:30 a.m.

Chair Lovallo noted that some topics that will need to be addressed (in Module 4) include: construction contract procurement, site flooding, system resiliency, visual imaging, types of lockers, athletic/music storage space, bathrooms/equality, teacher spaces, etc.

VIII. Designing the Future Ready School

Chair Lovallo noted that we do know the purpose of the building, the use of the spaces, the sizes of the spaces, and their adjacencies, however what the building will look like is not yet known.

Ms. Trivas reviewed a presentation concerning the design of the *Future Ready School*. She reviewed the following concepts:

- *who* is the school being designed for?
- *what* we know and *what* we don't know about the future
- *where* are we designing this space and *where* does learning occur?
- *when* – the *when* is now, and she finished by asking:
- *how* will we plan for and inspire the next generation of students?

Chair Lovallo noted that this undertaking is a good stepping-stone for preparing students for higher education. The BHCBC briefly discussed the concepts presented by Ms. Trivas. Ms. Shea offered her perspective as a BHS teacher. She spoke to the benefits of flexible spaces for teaching.

BOS Chair Williams raised the topic of what this new building will be named, given that it combines middle and high school. Chair Lovallo stated that a name has not yet been identified but that this issue will continue to be further explored. He noted that the project will be a focal point for the community. The School Department, he added, will definitely continue to explore an appropriate name for the 7-12 building.

Chair Lovallo thanked the Board of Selectmen and the School Committee for joining in the last several months of Joint meetings. Ms. Shea thanked Chair Lovallo on behalf of the BHSBC.

IX. Other/New Business

Chair Lovallo stated that there is no new business.

X. Related Meeting Documents

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B. CERTIFIED MEETING MINUTES

1. PSR Introduction District Response
2. Daedalus Concept Cost Summary
3. Daedalus Total Project Cost Summary
4. C2.4 Site Plan Images
5. Letter to Ms. Diane Sullivan (a listing of BHSBC meetings)

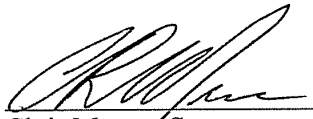
XI. End Meeting

The meeting ended at 8:38 p.m. by Mr. McLaughlin.

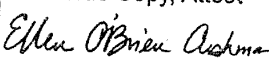
Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary

3/6/18
Date

A True Copy, Attest

Town Clerk of Belmont, MA

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
March 6, 2018
Homer Building Gallery
7:30 AM**

RECEIVED
TOWN CLERK
BELMONT, MA

2018 APR -5 PM 2:50

Meeting #40

Committee Members Attending:

Chair Lovallo; Members: Adam Dash, John Phelan (left at 8:27 a.m.), Mike McAllister, Tom Caputo, Phyllis Marshall, Bob McLaughlin, Joe DeStefano (left at 9:06 a.m.), Diane Miller, Chris Messer, Emma Thurston, and Jamie Shea

From Daedalus: Tom Gatzunis, Richard Marks, and Shane Nolan

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Christopher Karlson, and Rick Kuhn

BHSBC Members Absent: Pat Brusch, Joel Mooney, Dan Richards,

I. Call to Order

The meeting was called to order at 7:33 a.m. by Chair Lovallo. He then reviewed the agenda, welcomed Mr. Mike McAllister (Principal of the Chenery Middle School) to the BHSBC table, and turned to the first item on the agenda.

II. Minutes of Previous Meetings

Mr. McLaughlin moved: To approve the Minutes of 2/13/18.
The motion passed unanimously.

III. Treasurer's Report

Ms. Marshall informed the Committee that there are no Invoices ready for approval this morning. She briefly reviewed what has been spent and what has been submitted for reimbursement at this point. The unencumbered value is approximately \$82,736, and it is expected that some encumbered funds will be released due to less scope for website design and visioning from Frank Locker. This is estimated to be about \$13,000, bringing the total unencumbered value to approximately \$95,000.

IV. Update on PSR Report Submission

Chair Lovallo reviewed the next steps on the PSR submission. Mr. Nolan provided some details on the MSBA process with regard to the schematic design. Ms. Trivas also weighed in on the MSBA's role, at this point, in the process. She noted that there is an upcoming presentation with the MSBA as well as a conference call. The MSBA's comments on the PSR report will be helpful, she said, and this feedback will be factored into the presentation. It is during this phase that the MSBA begins to dive more deeply into the details of the design. Ms. Trivas noted that preferred options and critical adjacencies are being worked on and that other data regarding traffic and the pond are also being looked at.

B. CERTIFIED MEETING MINUTES

Superintendent Phelan explained that while the community seems to feel connected in to the BHSBC process, the educators need to be brought in as well. A working group of 19 teachers will begin meeting every other week to explore issues relating to the 7-12 grade configuration. Other groups of teachers will also be brought together to explore the BHS project.

Chair Lovallo noted that site analysis (pertaining to the soil) will occur this month. Superintendent Phelan provided a brief ice rink update. The incinerator site is being explored as a potential rink location. There is another space on campus that works well for the rink, but it impacts the JV baseball field, which will likely need to be relocated off site.

Mr. McLaughlin noted that a report (from about 10 years ago) does exist; this report concluded that a rink cannot be placed on the Incinerator Site due to financial challenges with the construction complexities.

V. Comments from Belmont Residents

Ms. Amy Tannenbaum, 21 Goden Street, spoke to her neighborhood's concerns on traffic. The neighborhood is not feeling particularly heard. Having Goden Street as an entry/exit way for the new high school is not feasible. Goden Street is already a traffic mess. She reviewed the many reasons why Goden Street is not appropriate for the entry/exit way. She asked – Is this the best option? Who is exploring the other alternatives for an entry/exit way to the high school? What will be done to make the street safe for walkers, bikers, and those who live on Goden Street?

Chair Lovallo noted that there are many discussions on traffic happening. The high school project is five-years out – what, he asked, will happen to address traffic congestion in the meantime? He noted that he was at a recent Traffic Advisory Committee (TAC) presentation to hear their thoughts on traffic issues across town. This Thursday, TAC is holding a public forum and residents will be able to express their traffic concerns. Many issues relating to traffic will continue to be explored and have been explored. He assured Ms. Tannenbaum that the Goden Street concerns have been heard, and in fact, have been imparted to the TAC.

Ms. Tannenbaum followed up with a comment focused on the exploration of other viable entry/exit options. She stated that she would like to see *evidence* that other options are being thoroughly studied.

The BHSBC briefly discussed issues relating to traffic and its impact on the schematic design phase. Chair Lovallo reiterated that the TAC is looking to come up with a holistic approach to address the town's traffic issues as a whole. Traffic can't be addressed neighborhood by neighborhood. To do so just pushes the traffic around without solving any of the issues.

VI. Public Relations (PR) Update

Ms. Shea reviewed the five areas that the PR group has been focusing on:

1. community uses of the new building
2. 21st Century Learning
3. the design concepts
4. abutter concerns (traffic, rats, shading)
5. virtual tours

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

She suggested that these topics could be grouped together and explored at community forums. She described ways in which the community can be more fully engaged in the process and in the above noted discussion points.

Mr. McLaughlin noted that the *cost* of the project should be included among the five items she outlined above. Furthermore, the project needs to be referred to as something other than the new “high school”. It is now encompassing more than a traditional high school. Mr. Gatzunis noted that the MSBA will continue to refer to this project as the Belmont High School project. It will be up to the community to re-brand the name to include that this project is actually encompassing *two* buildings.

Superintendent Phelan added that considerable thought has been given to the naming of the project - given that the configuration will be grades 7-12. One possibility is to call the building the “Belmont Academy” with an upper and lower school distinction. He then spoke to the advantages of the 7-12 grade configuration. The naming of the school is not the responsibility of the Building Committee and is the responsibility of the School Department and School Committee.

The BHSBC discussed issues relating to what the new project will be called -- in order to encompass the grade 7-12 model. The BHSBC also discussed how the cost issue can be addressed, e.g., that it is costly to build in Massachusetts, that the building will encompass grades 7-12, and that the *alternatives* to this project to address enrollment (e.g., building a new elementary school, adding an addition to the Chenery Middle School) will likely cost more money as they lack MSBA reimbursement.

VII. Schematic Design Schedule

Chair Lovallo reviewed the timeline over the next several months, e.g., budget submission, schematic design, etc.

VIII. Construction Contract Procurement Chapter 149 versus 149A

Chair Lovallo introduced Mr. Richard Marks (Daedalus President and Project Executive) who will lead the Construction Contract Procurement discussion. Mr. Marks explained the distinction between hiring the Construction Manager At Risk (Ch. 149A.) as opposed to Design-Bid-Build (Ch. 149).

He reviewed the pros and the cons of each method. He noted that CM at Risk tends to have more benefits (efficiency and procedurally) especially for projects that cost over \$100 million dollars. CM at Risk change orders tend to be less than Design-Bid-Build. He also reviewed other CM at Risk projects across the state.

Chair Lovallo added that CM at Risk seems to be the option he is seeing on public projects across the state. This method is more rigorous and the detailed accounting process is helpful throughout the building process. He stated that it is beneficial to be able to select the construction team. He noted that CM at Risk is also better for the phasing of the building.

Both Chair Lovallo and Mr. Marks expressed their support for the Ch. 149A option. Ms. Trivas agreed and stated her support for and the benefits of the CM at Risk option. Both Mr. McLaughlin and Mr. DeStefano concurred and expressed their support for this option, however, both added that obtaining the *right* CM personnel will be key. Mr. Marks explained the process for obtaining the CM at Risk, e.g., submitting an RFQ -- which begins the bidding process.

B. CERTIFIED MEETING MINUTES

Chair Lovallo further outlined the process of obtaining the CM at Risk as well as what follows for their scope at Schematic Design: estimating the cost of the project, finalizing the schedule, developing detailed site and construction logistics plans, and value engineering. He said a subcommittee will need to be formed once the CM at Risk option is approved.

Mr. McLaughlin moved: To pursue the CM at Risk option (Chapter 149A) and to proceed immediately on this.

The motion passed unanimously.

Chair Lovallo requested that a subcommittee be formed.

Mr. McLaughlin moved: To form a CM at Risk subcommittee that Chair Lovallo will appoint. The motion passed unanimously.

Chair Lovallo thanked Mr. Marks. He also noted that the appropriate “conflict of interest forms” for himself and Mr. Mooney will be signed and submitted.

IX. Design Resiliency 101

Ms. Trivas introduced her colleague, Mr. Chris Karlson, who has been involved in the “visioning” process.

Mr. Cunningham reviewed the concept of resilient design, which pertains to stressors and shocks (e.g., storms, power outages, extreme temperatures, extreme rainfall, flooding – from sea level rise) that will potentially stress the building and its inhabitants. He explained each stressor’s impact on the building/inhabitants and noted that these stressors are happening more frequently. The building can be designed in a more resilient way to mitigate the community’s vulnerability. He discussed the available options to make the building more resilient and he explored various mechanical contingencies that can be put in place, e.g., generator backup, a place to hold people and serve food, etc.

X. Visioning Recap – this item will be postponed to the next meeting

XI. Next Full Building Committee Meeting

Thursday, March 22, 2018 (21st Century Learning) 7:00 p.m., location TBD

XII. Other/New Business

None.

XIII. Related Meeting Documents

1. Design-Bid Build versus CM at Risk
2. Approved Construction Manager-at-Risk list per Inspector General
3. BHS Total Project Cost Summary
4. Meeting agenda

XIV. Adjournment

FINAL

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3.3.5 - LOCAL ACTIONS & APPROVALS

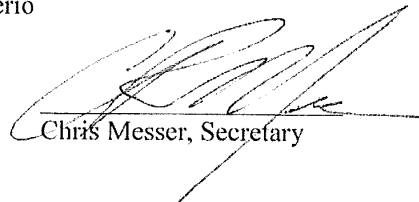
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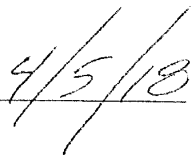
The meeting ended at 9:35 a.m. by Mr. McLaughlin.

Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary


Date

B. CERTIFIED MEETING MINUTES

RECEIVED
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BELMONT, MA

**BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
March 22, 2018
Beech Street Center
7:00 PM**

2018 APR -5 PM 2: 51

Meeting #41

Committee Members Attending:

Chair Lovallo; Members: John Phelan, Tom Caputo, Pat Bruschi, Phyllis Marshall, Bob McLaughlin, Joe DeStefano, Joel Mooney, Diane Miller, Chris Messer, Emma Thurston, Jamie Shea

From Daedalus: Tom Gatzunis, Shane Nolan

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn, Chris Karlson

BHSBC Members Absent: Adam Dash, Mike McAllister, Dan Richards

There were about 25 residents in attendance.

1. Call to Order

The meeting was called to order at 7:05 p.m. by Chair Lovallo. He reviewed the evening's agenda and then turned to the first item.

2. Visioning Recap

Mr. Karlson noted that several "Visioning" sessions (pertaining to the new building) have taken place over the six past months. He reviewed highlights of the components of the common workshop activities: visual listening, K-12 educational trends, defining core spaces, and exploring "adjacency" diagrams. He summarized the most positive visual reactions to the options presented in the workshops, which include: an abundance of natural light, outdoor access, open space, and greenery. He also reviewed highlights of feedback from the faculty (both high and middle school levels) as well as feedback from the community engagement workshops held last fall. Art integration, diverse learning spaces, and sustainability were favored aspects overall.

3. Belmont's Vision for 21st Century Learning

Ms. Shea recapped last fall's community survey. There were about 1,800 responses – 45% of which were high school students. Enrollment challenges were among the top priorities in designing the new building from both the community and faculty perspectives, while students valued the arts and athletics. Transparency and community engagement were also top priorities.

Superintendent Phelan spoke to the fact that the new building will need to address the operational needs of the entire town. District-wide enrollment challenges will be met by creating a grade 7-12 building; doing so will free up space in other schools which will be made available for lower grades – which are facing burgeoning enrollment. He reviewed the role of the education and the top six skills that our students will need to master for future employment. He then reviewed his vision for teaching and learning in the 21st century: rigorous academic content, social/emotional development – as well as

FINAL

Page 1

PSR REV 1/ DOCUMENTS

PSR REV.1/ 3.3.4 REVISED

3.3.6

3.3.7

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

the ability to design, create, synthesize, and make meaning of content.

Ms. Shea offered her perspective, as a former middle school teacher and a current high school teacher (BHS/Social Studies), on what is needed to support the educational vision, with real world application. She briefly summarized the research in the field as it relates to the educational vision. She reviewed examples (in science, social studies, English, etc.) that are moving toward this vision, but are limited by the current building's constraints. She reviewed the kinds of spaces that would support the educational vision, e.g., break out spaces, maker spaces, project rooms, etc.

Superintendent Phelan added that kids are spilling over into the hallways throughout the district, not just at BHS. Space is needed and the capacity for space will be created across the district, as a result of the 7-12 configuration.

Chair Lovallo noted that a lot of input has gone into and continues to go into the *design* of the new building.

4. Comments from Belmont Residents

Mr. Daryl King, Pct. 1, reiterated that the survey highlighted that the issue of sustainability was a top priority among the kids. It's the kids who will have to deal with the operating costs of an inefficient building, down the road.

Mr. McLaughlin noted that, while the 21st Century vision sounds terrific, he requested to hear the cost impacts of these visioning concepts. Chair Lovallo replied that this analysis would come, but not necessarily at tonight's meeting.

5. Design Update

Ms. Trivas noted that the Preferred Schematic Design report was submitted in February. She reviewed some of the design priorities, e.g., biking/walking safety, traffic mitigation issues, upper/lower school entrances, "massing" and how it relates to Concord Ave., and parking lot placement. She noted that the further development of the project is continuing to occur on a daily basis.

Mr. Kuhn reviewed the Media Terrace and the Pinwheel organizational designs. Mr. Cunningham reviewed the level 1 and 2 plans of the Pinwheel. He then explained the organizational diagram of the Media Terrace for the lower and upper school.

Ms. Trivas explained the Hybrid design option that is also under consideration. The Hybrid option combines the favored aspects of the Pinwheel and the Media Terrace. This option is likely to be more efficient and cost effective. Mr. Kuhn explained the main components of the Hybrid: contiguous central space, collocated science wing, singular scale on pond, etc. Mr. Cunningham reviewed the floor plan of the Hybrid as well as the positive aspects of the Media Terrace and Pinwheel that were retained to create the Hybrid option. Ms. Trivas added that this plan is very preliminary and has not been thoroughly vetted.

The BHSBC briefly discussed the Hybrid option. Mr. Phelan stated that the practical programmatic needs of the students have been incorporated into this model. He spoke favorably of this new option. From an educational perspective, he said, it is an effective use of the space.

B. CERTIFIED MEETING MINUTES

6. Comments from Belmont Residents

Ms. Mary Lewis stated that the public really needs to hear what is currently missing with the current building. This needs to be better communicated to the community as there is a lot of misinformation out there. The cost of the building is a concern to the community. She suggested that a version of tonight's presentation needs to go to the PTA/PTOs.

Mr. Bill Anderson asked about the district's projected enrollment capacity in six years, when the doors open to the new building. Chair Lovallo noted that enrollment studies have been undertaken and the district's enrollment will likely continue to climb. He spoke to the issue of capacity and design enrollment. Mr. Phelan noted that he feels comfortable with the 7-12 grade configuration option, given the enrollment projections for the district.

Ms. Trivas asked for the BHSBC's feedback on the three options: Pinwheel, Media Terrace, and Hybrid. More detailed dimensions of the buildings, she said, will be available at the next meeting.

Feedback (via thumbs up, thumbs neutral, and thumbs down) was provided on the three options.

Mr. Phelan stated that the overall building's scheduling, travel spaces, flow of student traffic, and shared spaces are concepts that are being considered and discussed at this time. Chair Lovallo then explained possibilities around potential construction and phasing options. He and Ms. Trivas noted some of the work that is currently happening around the high school, e.g., borings, surveying, etc.

7. Minutes of Previous Meetings

Ms. Shea moved: To approve the Minutes of 3/6/18.
The motion passed unanimously.

8. Treasurer's Report

Ms. Marshall informed the Committee that the following Invoices are ready for their approval:

Invoice 1: Mr. Frank Locker, Educational Consultant (Visioning Work)

Mr. Mooney moved: To approve the Invoice of \$3,000.
The motion passed unanimously.

Invoice 2: Perkins+Will (Schematic Design Work)

Mr. McLaughlin moved: To approve the Invoice of \$120,000.
The motion passed unanimously.

Invoice 3: Lisa Gibalerio (Minutes Recording)

Mr. Mooney moved: To approve the Invoice of \$825.00.
The motion passed unanimously.

9. CMR Procurement Schedule

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

Chair Lovallo explained that the subcommittee will meet regarding the CM at Risk procurement. Mr. Nolan added details to the selection process. This is a two-phase process:

1. RFQ - Request for Qualifications
2. RFP – Request for Proposal

He reviewed the schedule of what will happen at upcoming meetings, leading up to the issuing of the RFP. He explained the ranking process and the reviewing of the proposals. In early May, a shortlist of firms will be interviewed, and around May 9, a firm should be on board.

Chair Lovallo clarified that the bid will be for the *cost of the CMR services*; the bid is not for the total cost/price of the building.

10. Traffic Solutions Work Plan

Chair Lovallo reviewed a 10-step process to develop a Traffic Solutions Work Plan – which includes a list of upcoming meeting dates.

11. Schematic Design Meeting

Chair Lovallo outlined the next set of meetings concerning the BHSBC's schematic design phase.

12. Next Full Building Committee Meetings

Wednesday, March 28, 2018 at 7:30 a.m.

Wednesday, April 11, 2018 at 7:30 a.m.

13. Other/New Business

None.

14. Related Meeting Documents

1. Perkins+Will handout on the design options
2. Schematic Design Traffic Solutions Work Plan
3. The Role of Schools
4. Schematic Design Public Meeting Summary
5. Projected CMR Timeline & Schedule

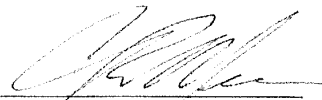
15. Adjournment

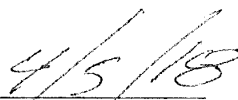
The meeting ended at 8:57 p.m. by Mr. McLaughlin.

Respectfully submitted by:

Lisa Gibalerio

B. CERTIFIED MEETING MINUTES

Approved: 
Chris Messer, Secretary


Date

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

BELMONT HIGH SCHOOL BUILDING COMMITTEE
FINAL MEETING MINUTES
March 28, 2018
Homer Building Gallery
8:30 AM

RECEIVED
TOWN CLERK
BELMONT, MA

2018 APR 11 PM 2:11

Meeting #42

Committee Members Attending:

Chair Lovallo; Members Adam Dash, John Phelan, Mike McAllister, Tom Caputo, Pat Brusch, Phyllis Marshall, Bob McLaughlin, Joe DeStefano, Joel Mooney, Diane Miller, Chris Messer, Jamie Shea

From Daedalus: Tom Gatzunis

From Perkins+Will: Brooke Trivas, Patrick Cunningham, Rick Kuhn

BHSBC Members Absent: Emma Thurston, Dan Richards

I. Call to Order

The meeting was called to order at 8:30 a.m. by Chair Lovallo. He reviewed the morning's agenda and then turned to the first item.

II. Design Update

Chair Lovallo noted that there has been a lot of discussion concerning the three design options. This morning gives the committee an opportunity to continue discussing the options.

Ms. Trivas agreed that this is a great time for the BHSBC to offer its thoughts, issues, and concerns. Mr. DeStefano expressed his concern for the height between floor levels. He said 18 feet seems very high. Ms. Trivas explained why heights between floor levels and particularly at the first floor are high, which has to do with the programs offered on the first floor, e.g., band, chorus, etc. Ceiling height and issues related to the proposed building height were explored. Concerns were expressed with the floor-to-floor heights shown as 18 feet, 14 feet, 14 feet and 16 feet for floor levels from first to roof. The space needed for "mechanicals" was therefore explained: there needs to be at least 4 feet between the top of the ceiling and the floor above to accommodate the mechanicals (wires, pipes, vents, etc.); this is separate from the floor-to-ceiling height (for which the typical MSBA target is 10 feet); thus, for example, a floor-to-ceiling proposal of 14-10-10-12 feet for four floors might actually imply a floor-to-floor proposal of 18-14-14-16 feet. Mr. Cunningham noted that some inches could be shaved off, which will impact the overall cost of the project. However, it could create costs and issues in other areas. It's a balancing act, Mr. Gatzunis offered. He agreed that there are diminishing advantages to cutting the floor-to-floor height, as doing so will have an impact elsewhere.

Ms. Brusch added a point about lighting via natural daylight. What works on paper, she said, is not always what works in reality. Natural light was a priority at the Wellington, but window shades often need to be drawn in order to see the Smart Board and the computer screens.

Mr. Phelan spoke to the size of the classrooms as it relates to the height of the ceilings. He advocated for the higher ceilings, as it makes the classrooms feel more spacious. Mr. Cunningham noted that the

B. CERTIFIED MEETING MINUTES

MSBA looks for typical classroom ceiling heights to be in the 10-foot range, which is what P+W is targeting for this project.

Ms. Shea agreed that screens are hard to see with natural light, however, she said that students will be using the hallway space to learn and meet and small groups and hallway spaces should be bright, open and comfortable. She then explained why she liked the Hybrid design (innovation spaces, ability to collaborate with other teaches, etc.).

Mr. McAllister spoke to the potential space as it supports existing programs. He raised the point of small spaces being exchanged for larger spaces. He also brought up his experience with the spiral staircase at the Chenery; specifically the issue of projectiles being tossed around. Mr. Phelan summarized how the space needed (in terms of overall square footage) supports the number of students, the programs, and the practicality and usefulness of the space. The hybrid model pulls together the best points of the three design options. There is no “extra space”, he said – it is all accounted for with teachers, students, and programs. The square-footage will continue to be analyzed, added Chair Lovallo, in terms of volume, effectiveness, purpose, light, etc. We are trying to achieve consensus around which design to move forward with, he said.

Ms. Miller asked about the potential for *community-wide* uses for the new building. Mr. Phelan explained ways in which the public can use various spaces in the building. The space will offer rental opportunity as well, he said. Selectman Dash expressed his support for the Hybrid design. He added that this may be his last meeting as a Board of Selectman representative and he thanked the BHSBC for its work on the project.

IV. Minutes of Previous Meetings

Ms. Brusich moved: To approve the Minutes of 3/22/18.
The motion passed unanimously.

V. Treasurer’s Report

Ms. Marshall informed the Committee that the following Invoice is ready for their approval:

Invoice 1: Daedalus \$33,720

Ms. Marshall moved: To approve the Invoice of \$33,720
The motion passed unanimously.

VI. Next Full Building Committee Meeting

Wednesday, April 11, 2018 at 7:30 a.m. Homer Municipal Building, 3rd Floor Gallery
(bathrooms and lockers will be discussed)

III. Comments from Belmont Residents

There were no residents in attendance.

II. Design Update (continued)

3.3.5 - LOCAL ACTIONS & APPROVALS

B. CERTIFIED MEETING MINUTES

Ms. Shea spoke to the community uses of the building.

VII. Other/New Business

Chair Lovallo provided a quick MSBA update. The PSR report was submitted last month. The MSBA has requested a design update. The Education plan will be re-submitted again, as well. At the end of June, there is an MSBA Board meeting.

XIII. Related Meeting Documents

1. Perkins+Will design handout

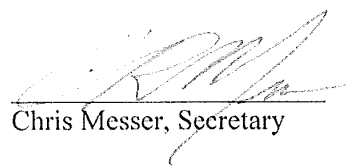
IX. Adjournment

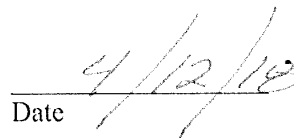
The meeting ended at 9:15 a.m. by Ms. Shea.

Respectfully submitted by:

Lisa Gibalerio

Approved:


Chris Messer, Secretary


Date

C. LIST OF MEETING DATES AND AGENDA

BELMONT HIGH SCHOOL BUILDING COMMITTEE

PSR Public Meeting Summary

- Sustainability Presentation and Discussion
December 7th 6:30 p.m. – Joint Meeting
Wellington Elementary School, Cafeteria
Discussion of sustainability options to consider for new High School
- District Configuration Presentation – (School Committee Meeting)
December 12th 7:00 p.m. – Joint Meeting
Chenery Middle School, Community Room
Presentation of district configuration options being considered as part of the High School project
- Community Engagement #5 – Design Workshop
December 14th 7:00 p.m. (Tours at 6:00) – Joint Meeting
Belmont High School, Cafeteria
Hands-on design workshop approach to exploring building design options for the new High School
- District Configuration Community Discussion – (School Committee Meeting)
January 9th 7:00 p.m. – Joint Meeting
Belmont High School, Auditorium
Open Belmont Community forum on district configuration options
- Traffic Presentation and Discussion
January 11th 6:30 p.m. – Joint Meeting
Wellington Elementary School, Cafeteria
Review and discuss traffic solutions proposed for various High School site design solutions
- Preliminary Design Update from Design Workshop – Joint Meeting
January 16th 7:00 p.m.
Chenery Middle School, Community Room
Review and comment on design solutions incorporating feedback from previous Design Workshop
- Grade Configuration Selection and Preliminary Design Option Selection
January 23rd 7:00 p.m. – Joint Meeting
Chenery Middle School, Community Room
School Committee decision on grade configuration and Building Committee decision on design option
- Preferred Schematic Report Presentation
February 1st 6:30 p.m. – Joint Meeting
Wellington Elementary School, Community Room
Review of draft Preferred Schematic Report to be submitted to MSBA
- Preferred Schematic Report Approval
February 13th 7:00 p.m. – Joint Meeting
Chenery Middle School, Community Room
Final review and approval of Preferred Schematic Report for MSBA Board review

