

Concord Middle School Building Committee
Meeting Minutes
April 23, 2020

PRESENT: Laurie Hunter, Tim Hult, Dawn Guarriello, Court Booth, Heather Bout, Pat Nelson, Matt Root, Susan Bates, Charles Parker, Stephen Crane, Justin Cameron, Russ Hughes, Jared Stanton, Chris Popov.

ABSENT: John Harris, Frank Cannon

PRESENT FROM HILL INTERNATIONAL: Peter Martini, Mike Carroll, Andy Vo, Mark Morin

PRESENT FROM SMMA/EWING COLE: Phil Poinelli, Kristen Olsen, Matt Rice, Martine Dion, Keith Fallon.

MEETING ORGANIZER: Chris Carmody

Call to Order

Tim Hult called the meeting to order at 7:40 A.M. via Zoom Virtual Conference call. A recording of the meeting will be made available at the Concord Public School's project page and Town of Concord's website.

Approval of Minutes

Tim Hult requested approval of School Building Committee and Subcommittee meeting minutes. Results are listed below:

- Approval of the Building Committee Meeting Minutes from March 26, 2020 was motioned by Court Booth and seconded by Dawn Guarriello. A roll call vote of committee members yield a unanimous approval.
- Approval of the Design Subcommittee Meeting Minutes from February 16, March 25, and April 15, 2020 was motioned by Dawn Guarriello and seconded by Chris Popov. A roll call vote of committee members yielded a unanimous approval.
- Approval of the Communications Subcommittee Meeting Minutes from December 16, 2019, January 22 and February 27, 2020 was motioned by Pat Nelson and seconded by Heather Bout. A roll call vote of committee members yielded a unanimous approval.

Feasibility Estimating Update

Mike Carroll presented reconciled estimates from SMMA's estimator AM Fogarty and Hill's estimator PM+C. The estimators evaluated four site concepts along with enhanced building and sustainability pricing options. Each of the site concepts totaled 144,005 GSF and assumed Chapter 149 project delivery method. Mike Carroll clarified that the enhanced building and sustainability pricing options were broken out to evaluate costs and potential return on investment. Tim Hult further clarified the baseline building and enhanced options do not reflect the committee's commitment to the items addressed. Summary of total

project costs per concept is shown below in the table. Further detail can be found in the attached reconciled estimate.

<u>Concept #1</u>	<u>Concept #2</u>	<u>Concepts #3</u>	<u>Concept #4</u>
Double Bar	Pods	Tree Top Teams	Pinwheel
\$115,518,488	\$109,392,301	\$109,552,756	\$110,257,670

Design Update

Ewing Cole presented updates of the site concepts. Keith Fallon indicated the updates made to Concepts 1, 3 and 4 were motivated by team/class synergy and solar orientation in response to discourse in prior Design Subcommittee meetings. For clarification, Keith reiterated that these design updates are not reflected in the current estimates. Summary of changes is listed below. Further detail can be found in the attached presentation slides.

1. Concept #1 Double Bar
 - a. Interior courtyards were removed to reduced exterior wall SF
2. Concept #2 Pods
 - a. No modifications made
3. Concept #3 Tree Top Teams
 - a. Classroom wing reorganized to improve team/grade continuity.
 - b. Rotated building to allow for better solar orientation.
 - c. Removed interior courtyard to reduce exterior wall SF.
4. Concept #4 Pinwheel
 - a. Minor modifications made to improve the desired “town hall” centralized space.
 - b. Building footprint rotated on site for improved solar orientation.

Laurie Hunter provided a summary of her discussions with the Education Team and Design Subcommittee. Laurie communicated that options 3 and 4 were the preference purely from an educational stand point.

Stephen Crane requested a motion to select Concept #3 as the concept that best meets the educational program and to further instruct the design team to focus on Concept #3 in advance of the next meeting on April 30, 2020. Chris Popov seconded the motion. A roll call vote of committee members yield a unanimous approval.

Value Management Log

Mike Carroll presented the current status of the Value Management Log. First draft of the value engineering items were organized by potential impact on educational planning and sustainability (descending from least impactful to most impactful). Dawn requested the project team modify the VE Log to concentrate on major line items that will bring the project back on budget. Hill and SMMA will continue develop value engineering items and evaluate costs in advance on the next meeting on April 30, 2020.

Upcoming Meetings

The next CMSBC Meeting will be held via Zoom Conferencing on April 30 2020 at 7:30AM. A recording of the meeting will be made available at the Concord Public School's project page and Town of Concord's website.

Adjournment

Tim Hult requested the meeting adjournment at 9:43AM. Court Booth made the motion to adjourn, Dawn Guarriello seconded the motion. The motion carried unanimously.

APPROVED



		<i>Concept 1 Double Bar</i>	<i>Concept 2 Pods</i>	<i>Concept 3 Tree Tops Teams</i>	<i>Concept 4 Pinwheel</i>
PROGRAM					
	Enrollment	700	700	700	700
	Total Area of New Construction	144,005 sf	144,005 sf	144,005 sf	144,005 sf
	Construction Start	Fall 2021	Fall 2021	Fall 2021	Fall 2021
	Construction Duration	2 Years	2 Years	2 Years	2 Years
	Completion	Fall 2023	Fall 2023	Fall 2023	Fall 2023
DESIGN CONSTRUCTION COSTS ESTIMATES					
	New Construction Costs	\$69,474,616	\$65,635,980	\$65,717,723	\$66,178,215
	Design Contingency	\$9,031,700	\$8,532,677	\$8,543,304	\$8,603,168
	Escalation	\$4,168,477	\$3,938,159	\$3,943,063	\$3,970,693
	GCs, GRs, Insurance Fee, & Bond	\$9,920,975	\$9,372,818	\$9,384,491	\$9,450,249
	Total Cost assuming Chapter 149	\$92,595,768	\$87,479,634	\$87,588,581	\$88,202,325
	Cost per Square Foot	\$643 /sf	\$607 /sf	\$608 /sf	\$612 /sf
ADMINISTRATION					
	Legal Fees	\$40,000	\$40,000	\$40,000	\$40,000
	Other Admin Fees	\$150,000	\$150,000	\$150,000	\$150,000
	Owner's Project Manager	\$3,240,852	\$3,061,787	\$3,065,600	\$3,087,081
	Subtotal	\$3,430,852	\$3,251,787	\$3,255,600	\$3,277,081
ARCHITECTURE & ENGINEERING					
	Architect	\$9,259,577	\$8,747,963	\$8,758,858	\$8,820,233
	Construction Testing	\$175,000	\$175,000	\$175,000	\$175,000
	Printing	\$25,000	\$25,000	\$25,000	\$25,000
	Other Administrative Costs	\$60,000	\$60,000	\$60,000	\$60,000
	Misc. Specialties Design Consultants	\$100,000	\$100,000	\$100,000	\$100,000
	FF&E Design, Receipt and direction	\$150,000	\$150,000	\$150,000	\$150,000
	Hazardous Materials	\$150,000	\$150,000	\$150,000	\$150,000
	GTECH/GeoEnvironmental	\$100,000	\$100,000	\$100,000	\$100,000
	Site Survey	\$50,000	\$50,000	\$50,000	\$50,000
	Subtotal	\$10,069,577	\$9,557,963	\$9,568,858	\$9,630,233
MISCELLANEOUS PROJECT COSTS					
	Utility Company Fees	\$200,000	\$200,000	\$200,000	\$200,000
	Commissioning	\$200,000	\$200,000	\$200,000	\$200,000
	Other Project Costs - mailing moving	\$200,000	\$200,000	\$200,000	\$200,000
	Subtotal	\$600,000	\$600,000	\$600,000	\$600,000
FURNISHINGS & EQUIPMENT					
	FFE Allowance (carry \$2000/stdnt vs MSBA \$1200)	\$2,000 /student	\$1,400,000	\$1,400,000	\$1,400,000
	Technology (carry \$2000/stdnt vs MSBA \$1200)	\$2,000 /student	\$1,400,000	\$1,400,000	\$1,400,000
	Subtotal	\$2,800,000	\$2,800,000	\$2,800,000	\$2,800,000
OWNER'S CONTINGENCY					
	Percentage of Construction Cost	5.5%	\$5,092,767	\$4,811,380	\$4,817,372
	Percentage of Soft Cost	5.5%	\$929,524	\$891,536	\$892,345
					\$4,851,128
					\$896,902
PROJECT BUDGET					
	PROJECT TOTALS	\$115,518,488	\$109,392,301	\$109,522,756	\$110,257,670
	Soft Cost %	24.76%	25.05%	25.04%	25.01%
	Chapter 149A Increase	7.5%	\$124,182,374	\$117,596,723	\$117,736,963
					\$118,526,995



Pricing Options

				144,005. sf		144,005. sf				
				PM+C (Hill)		AM Fogarty (SMMA)		DELTA		
	Program Area	QTY	Unit	Unit Cost	Cost	QTY	Unit	Unit Cost	Cost	PMC-AMF
Site Options										
S1	Alternate for septic system nitrogen removal down to 10 mg/l (this cost is at least \$200,000+) Site is within groundwater overlay district and near Town Water Land with municipal well. This may be in addition to the septic components discussed above.				\$365,580				\$332,500	\$33,080
S2	Include 3 tennis courts (24,000 sf) in lieu of the 24,000 sf Open Lawn Intramural Area.				\$291,816				\$346,327	-\$54,511
S3	Include 28,350 sf of porous pavement substituted for an equivalent portion of the Bituminous Concrete Pavement for Roadways noted above.				\$153,203				\$47,132	\$106,071
S4	Additional EMS access to the backside of the building. Assume approximately 700' x 20'				\$118,475				\$100,800	\$17,675
Building Options										
Gymnasium - Base = 6,000 sqft HS Main Court w/ 200 Person Bleacher										
A1	8,600sf Gymnasium - HS Regulation main basketball court, (2) non-regulation cross courts, bleacher seating +/-320 people.				\$1,124,032				\$1,040,000	\$84,032
A2	13,400sf Gymnasium - High School sized main court, (2) regulation HS cross courts and bleacher seating for +/- 200 people.				\$3,399,116				\$3,478,000	-\$78,884
Performance Space - Base = Cafetorium w/ 1,600 NSF Stage										
B1	Black Box - 4,000 NSF theater w/ 750 NSF Support Space. +/- 400 person seating capacity.				\$1,915,043				\$1,811,250	\$103,793
B2	1-Grade Level Auditorium - 3,600 NSF w/ 750 NSF Support Space. +/- 275 person Seat Capacity.				\$3,232,268				\$3,262,500	-\$30,232
B3	2-Grade Level Auditorium - 6,600 NSF w/ 750 NSF Support Space. +/- 550 person Seat Capacity.				\$5,461,418				\$5,512,000	-\$50,582
Enhanced Sustainability Options (Architectural)										
A1	Adjust Roof Insulation from 8" ci poly-isocyanurate:									
	a. to 10" ci poly-isocyanurate.									
	Concept #1	86,564	SF	\$3.50	\$194,771				\$195,723	-\$952
	Concept #2		SF		\$0				\$182,406	-\$182,406
	Concept #3								\$204,100	-\$204,100
	Concept #4								\$252,870	-\$252,870
A2	Adjust Wall Insulation from 6" mineral wool									
	a. to 8" mineral wool									
	Concept #1	78,715	SF	\$2.00	\$157,430				\$198,913	-\$41,483
	Concept #2								\$150,650	-\$150,650
	Concept #3								\$151,241	-\$151,241
	Concept #4								\$140,628	-\$140,628



Pricing Options

						144,005. sf					
						PM+C (Hill)					
						144,005. sf					
						AM Fogarty (SMMA)				DELTA	
	Program Area	QTY	Unit	Unit Cost	Cost	QTY	Unit	Unit Cost	Cost	PMC-AMF	
A3	Adjust AVB from Typical type GCP VPL 50 with transition strips (Note code requires an airtight taped AVB New C406 requires 0.25 cfm/SF @ 75 PA)										\$0
	a. increasing taping by 10%										\$0
	Concept #1	78,715	Sf	\$0.50	\$39,358				\$104,691		-\$65,334
	Concept #2								\$79,289		-\$79,289
	Concept #3								\$79,601		-\$79,601
	Concept #4								\$74,015		-\$74,015
A4	Under slab insulation Adjust from 2" extruded polystyrene inside foundation wall and 4ft in under slab. 1" extruded polystyrene under remainder of slab										
	a. to 3" outside foundation wall & 3" fully continuous underslab										
	Concept #1	1	LS	\$139,912.00	\$139,912				\$275,582		-\$135,670
	Concept #2								\$289,434		-\$289,434
	Concept #3								\$237,055		-\$237,055
	Concept #4								\$337,446		-\$337,446
A5	Adjust windows from High Performance double glazed (U-value of 0.32 or better, unit U-value of 0.25 or better, SHGC 0.37)										\$0
	a. To High Performance triple glazed (U-value of 0.22 or better, unit U-value of 0.14, SHGC 0.35) with 3 panes of glass (Note Curtain wall in aluminum, but punch windows have been changed to Fiberglass)										
	Concept #1	33,735	SF	\$20.00	\$674,700				\$790,184		-\$115,484
	Concept #2								\$594,211		-\$594,211
	Concept #3								\$596,605		-\$596,605
	Concept #4								\$553,513		-\$553,513
A6	Adjust windows from High Performance double glazed (U-value of 0.32 or better, unit U-value of 0.25 or better, SHGC 0.37)								\$0	\$0	\$0
	a. To High Performance triple glazed (U-value of 0.22 or better, unit U-value of 0.14, SHGC 0.35) with 2 panes of glass and a "light pane" (non-glass) as the middle layer (Note Curtain wall in aluminum, but punch windows have been changed to Fiberglass)										
	Concept #1	33,735	SF	\$14.00	\$472,290				\$655,577		-\$183,287
	Concept #2								\$492,266		-\$492,266
	Concept #3								\$494,261		-\$494,261
	Concept #4								\$458,351		-\$458,351
A7	Adjust windows from High Performance double glazed (U-value of 0.32 or better, unit U-value of 0.25 or better, SHGC 0.37)										
	a. To High Performance triple glazed (U-value of 0.14 Passive House Certified Glazing systems**, unit SHGC 0.35)										
	Concept #1	33,735	SF	\$35.00	\$1,180,725				\$2,893,202		-\$1,712,477



Pricing Options

						144,005. sf				144,005. sf					
						PM+C (Hill)				AM Fogarty (SMMA)				DELTA	
	Program Area	QTY	Unit	Unit Cost	Cost	QTY	Unit	Unit Cost	Cost	QTY	Unit	Unit Cost	Cost	PMC-AMF	
	Concept #2												\$2,185,523	-\$2,185,523	
	Concept #3												\$2,194,168	-\$2,194,168	
	Concept #4												\$2,038,558	-\$2,038,558	
A8	Adjust Window to Wall ratio from 30% of the exterior wall area is glazing systems of which: 50% of punched window and 50% of Curtain wall.														
	a. To Wall ratio of 25% of the exterior wall area is glazing systems of which: 50% of punched window and 50% of Curtain wall														\$0
	Concept #1	1	LS	\$166,000.00	-\$166,000								-\$383,851	\$217,851	
	Concept #2												-\$508,205	\$508,205	
	Concept #3												-\$306,780	\$306,780	
	Concept #4												-\$533,810	\$533,810	
A9	Price aluminum-clad window in-lieu of base system														
	Concept #1	33,735	SF	\$12.00	\$404,820								\$336,517	\$68,303	
	Concept #2												\$254,861	-\$254,861	
	Concept #3												\$255,859	-\$255,859	
	Concept #4												\$237,904	-\$237,904	
A10	Concept 4 Pinwheel (only Concept 4) - Add Inhab/green roof												\$1,549,450		
	Enhanced Sustainability Options (Plumbing)														\$260,000
P1	Adjust bathroom fixtures from standard low flow fixtures			In Base	\$0			In Base	\$0				\$0	\$0	
P2	Include a 15,000-gallon rainwater harvesting system, complete. Assume fiberglass tank, below-ground filtration system, submersible pump system, and calming inlets.				\$260,000								\$0	\$260,000	
	Enhanced Sustainability Options (HVAC)														\$55,025
M1	Adjust base HVAC System to VRF and DOAS				-\$288,010				-\$1,046,971				-\$1,046,971	\$758,961	
M2	Adjust base HVAC System to Geothermal/Radiant Flrs & DOAS Displacement				\$3,600,125				\$5,664,391				\$5,664,391	-\$2,064,266	
M3	Adjust size of HVAC Systems down due to accepting options A1- A5 Assumed System Heating and cooling adjusted by XXXX												\$95,763		
	a. Base System													\$0	
	b. M1 Option				\$200,000									\$200,000	
	c. M2 Option				\$210,000									\$210,000	
M4	Adjust size of HVAC Systems down due to accepting options A1-A4 & A6 Assumed System Heating and cooling adjusted by XXXX												\$143,645		
	a. Base System													\$0	
	b. M1 Option													\$0	
	c. M2 Option													\$0	
M5	Adjust size of HVAC Systems down due to accepting options A1-A4 & A7 Assumed System Heating and cooling adjusted by XXXX												\$56,525		
	a. Base System													\$0	
	b. M1 Option													\$0	
	c. M2 Option													\$0	



Pricing Options

		144,005. sf				144,005. sf				DELTA
		PM+C (Hill)				AM Fogarty (SMMA)				PMC-AMF
	Program Area	QTY	Unit	Unit Cost	Cost	QTY	Unit	Unit Cost	Cost	
M6	Adjust size of HVAC Systems down due to accepting option A8 Assumed System Heating and cooling adjusted by XXXX								\$56,525	
	a. Base System									\$0
	b. M1 Option									\$0
	c. M2 Option									\$0
M7	Adjust size of HVAC Systems down due to accepting option A9 Assumed System Heating and cooling adjusted by XXXX								\$56,525	
	a. Base System									\$0
	b. M1 Option									\$0
	c. M2 Option									\$0
Enhanced Sustainability Options (Electrical)										\$55,025
E1	Adjust base Plug load Controls from 50% Plug load controls to									
	a. 75% Plug Load Controls (may not have any cost impact)	1	LS	\$15,000.00	\$15,000				\$56,525	-\$41,525
E2	Adjust base building lighting controls to include coordination with light sensors and daylighting (In Base)	144,005	SF	In Base	\$0			In Base	\$0	\$0
E3	Adjust window shades to include automatic shades, with lighting control and daylight sensing	33,735	SF	\$25.00	\$843,375				\$369,075	\$474,300
E4	Adjust specifications on equipment to higher energy efficiency requirements.	1	LS	\$40,000.00	\$40,000					\$40,000
E5	Generator Requirements = 300 kw included in base - increase to 500 kw for electric heat				\$160,000				\$465,500	-\$305,500
E6	Adjust electrical systems to include photovoltaics to cover up to 50% of the mean energy requirements (600 kw to power 50% Building)				\$3,108,000				\$2,354,100	\$753,900
E7	Adjust electrical systems to include photovoltaics to cover up to 100% of the mean energy requirements. (1.2MW to power Building)				\$6,216,000				\$5,226,900	\$989,100
E8	Adjust photovoltaic system to include onsite battery storage								\$166,250	-\$166,250
										\$0
Net Zero Building (including A1, A2, A4, A5, M1, & E1)										
	Concept 1				\$893,803				\$469,956	\$423,847
Passive House Building (including A1, A2, A3, A4, A6, A8, M2, & E1)										\$0
	Concept 1				\$4,452,886				\$6,767,550	-\$2,314,665

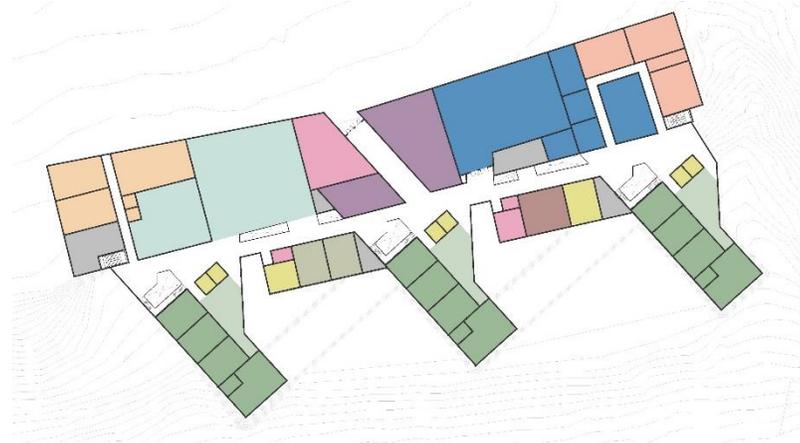
OPTIONS

COMPARATIVE SLIDE

OPTION 1 - DOUBLE BAR



OPTION 2 - PODS



OPTION 3 - TREETOP TEAMS



OPTION 4 - PINWHEEL



OPTION 1

DOUBLE BAR



OPTION 1

PLAN PROGRESS COMPARISON

FEB 13TH



APRIL 15TH



MARCH 25TH



OPTION 1

Legend

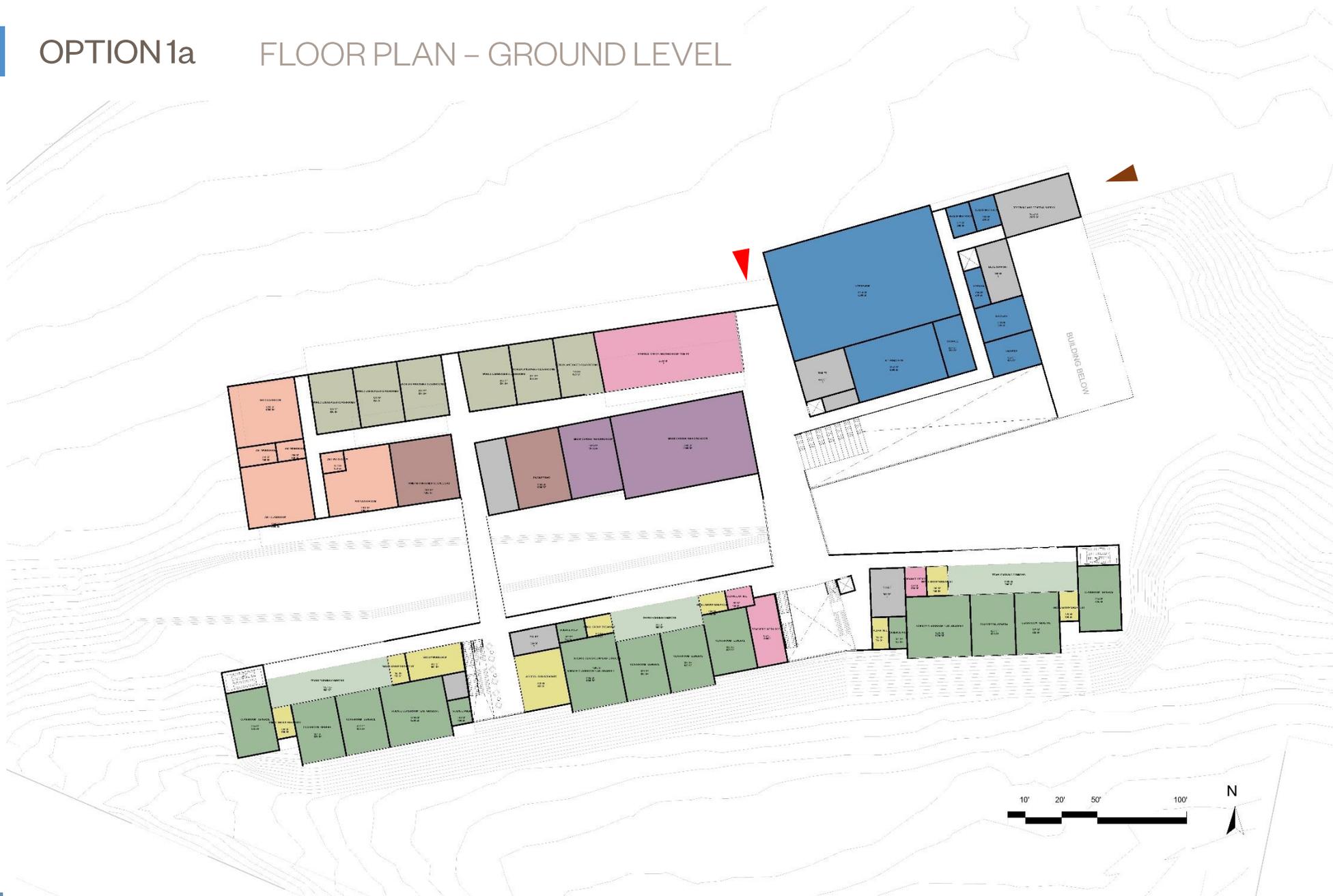
- 1 BUILDING
- 2 BUS DROP OFF
- 3 VAN DROP OFF
- 4 PARENT DROP OFF
- 5 SEPTIC AREA
- 6 BIORETENTION
- 7 OUTDOOR LEARNING AREA
- 8 GRASSLAND
- 9 SHRUBLAND TRANSITION
- 10 WOODLAND (UNDISTURBED)
- 11 PARKING
- 12 FIELD HOCKEY
- 13 TENNIS
- 14 SOCCER
- 15 BASEBALL
- 16 SOFTBALL

Site Highlights

- 19.10% IMPERVIOUS
- 175 +/- PARKING SPACES
- ATHLETIC FACILITIES:
 - BASEBALL
 - SOFTBALL
 - FIELD HOCKEY
 - TENNIS
 - SOCCER (2)



OPTION 1a FLOOR PLAN – GROUND LEVEL



- Auditorium
- Physical Ed
- Media Center
- Art
- Tech/Vocation
- Music
- Team/Core
- Special Ed
- World Language
- Admin
- Cafe

OPTION 2

PODS

FEB 13TH



MARCH 25TH



OPTION 2

Legend

- 1 BUILDING
- 2 BUS DROP-OFF
- 3 VAN DROP-OFF
- 4 PARENT DROP-OFF
- 5 OUTDOOR LEARNING AREA
- 6 BIORETENTION
- 7 GRASSLAND
- 8 SHRUBLAND TRANSITION
- 9 WOODLAND (UNDISTURBED)
- 10 PARKING
- 11 FIELD HOCKEY
- 12 TENNIS
- 13 SOCCER
- 14 BASEBALL
- 15 SOFTBALL

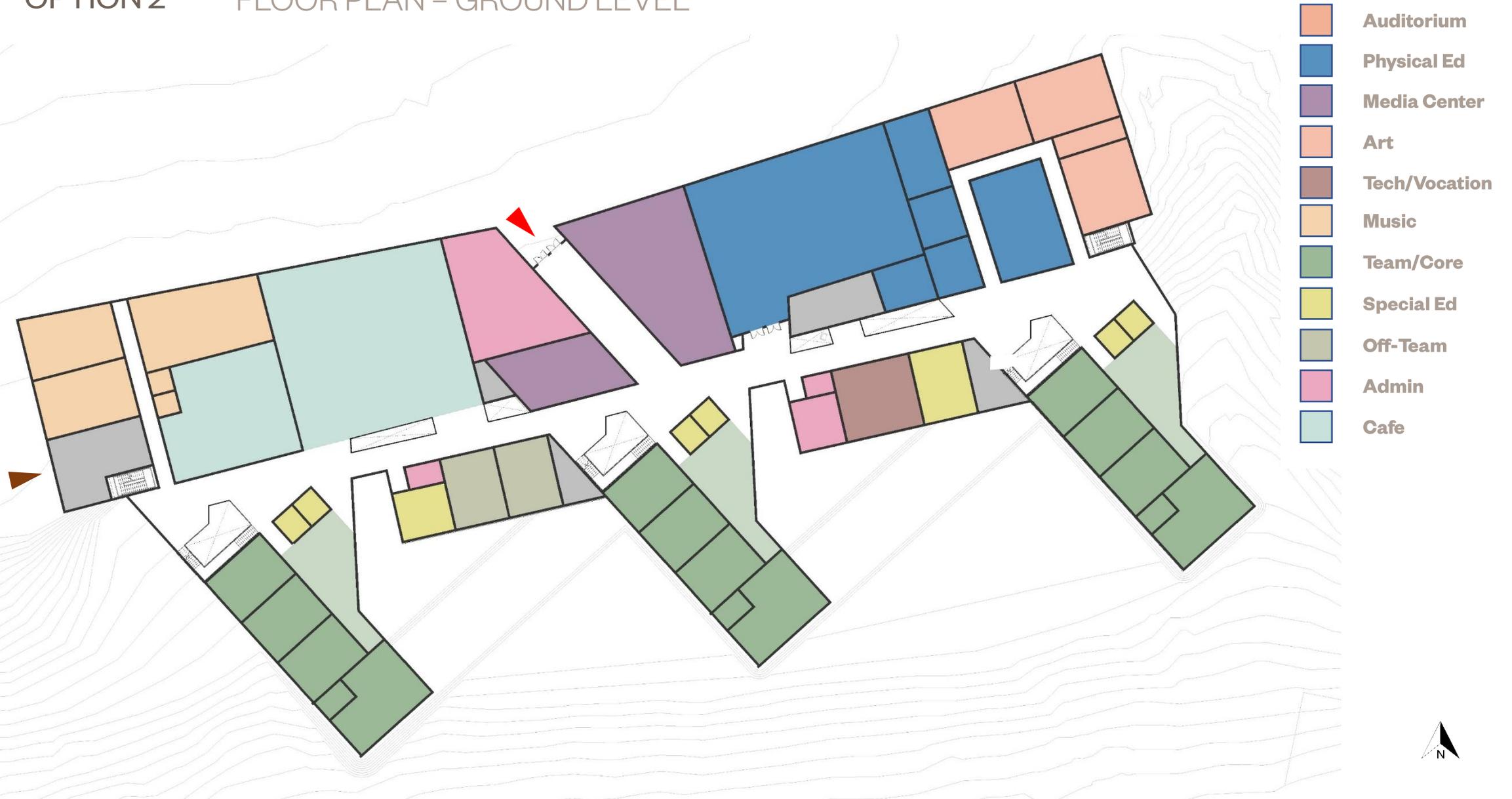
Site Highlights

- 18.10% IMPERVIOUS
- 175 +/- PARKING SPACES
- ATHLETIC FACILITIES:
 - BASEBALL
 - SOFTBALL
 - FIELD HOCKEY
 - TENNIS
 - SOCCER (2)



OPTION 2

FLOOR PLAN – GROUND LEVEL



OPTION 3

TREETOP TEAMS

OPTION 3

PLAN PROGRESS COMPARISON

FEB 13TH



MARCH 25TH



APRIL 15TH



OPTION 3

Legend

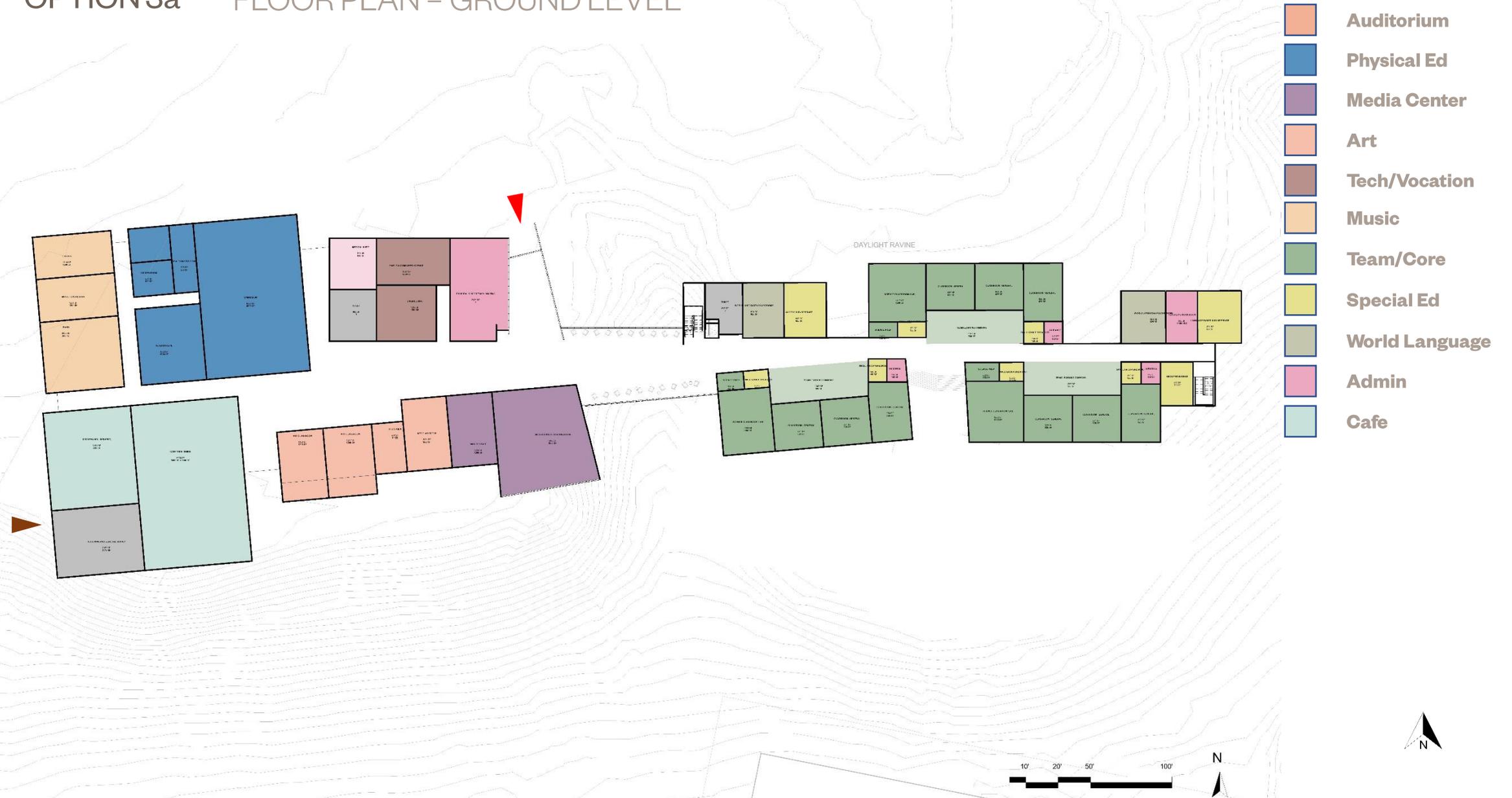
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- 2 BUS DROP OFF
- 3 VAN DROP OFF
- 4 PARENT DROP OFF
- 5 SEPTIC AREA
- 6 BIORETENTION
- 7 OUTDOOR LEARNING AREA
- 8 GRASSLAND
- 9 SHRUBLAND TRANSITION
- 10 WOODLAND (UNDISTURBED)
- 11 PARKING
- 12 FIELD HOCKEY
- 13 TENNIS
- 14 SOCCER
- 15 BASEBALL
- 16 SOFTBALL

Site Highlights

- 17.20% IMPERVIOUS
- 165 +/- PARKING SPACES
- ATHLETIC FACILITIES:
 - BASEBALL
 - SOFTBALL
 - FIELD HOCKEY
 - TENNIS
 - SOCCER (2)



OPTION 3a FLOOR PLAN - GROUND LEVEL



- Auditorium
- Physical Ed
- Media Center
- Art
- Tech/Vocation
- Music
- Team/Core
- Special Ed
- World Language
- Admin
- Cafe

OPTION 4

PINWHEEL



OPTION 4

PLAN PROGRESS COMPARISON

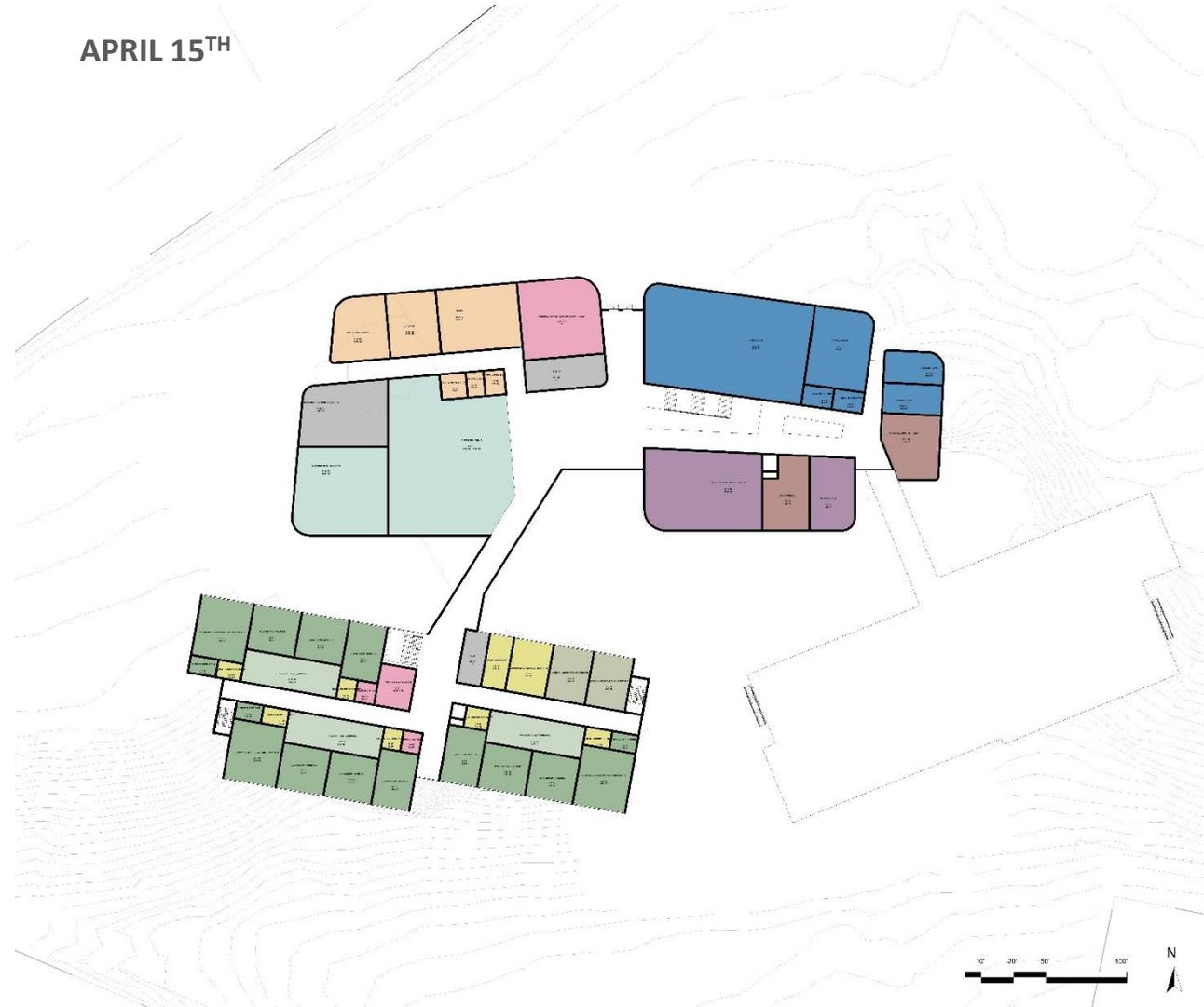
FEB 13TH



MARCH 25TH



APRIL 15TH



OPTION 4

Legend

- 1 BUILDING
- 2 BUS DROP OFF
- 3 VAN DROP OFF
- 4 PARENT DROP OFF
- 5 SEPTIC AREA
- 6 BIORETENTION
- 7 OUTDOOR LEARNING AREA
- 8 GRASSLAND
- 9 SHRUBLAND TRANSITION
- 10 WOODLAND (UNDISTURBED)
- 11 PARKING
- 12 FIELD HOCKEY
- 13 TENNIS
- 14 SOCCER
- 15 BASEBALL
- 16 SOFTBALL

Site Highlights

- 17.80% IMPERVIOUS
- 183 +/- PARKING SPACES
- ATHLETIC FACILITIES:
 - BASEBALL
 - SOFTBALL
 - FIELD HOCKEY
 - TENNIS
 - SOCCER (2)



OPTION 4a FLOOR PLAN - GROUND LEVEL



- Auditorium
- Physical Ed
- Media Center
- Art
- Tech/Vocation
- Music
- Team/Core
- Special Ed
- World Language
- Admin
- Cafe



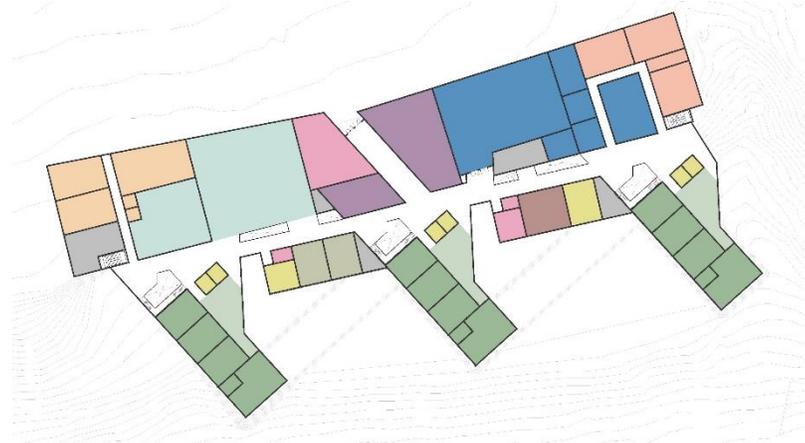
OPTIONS

COMPARATIVE SLIDE

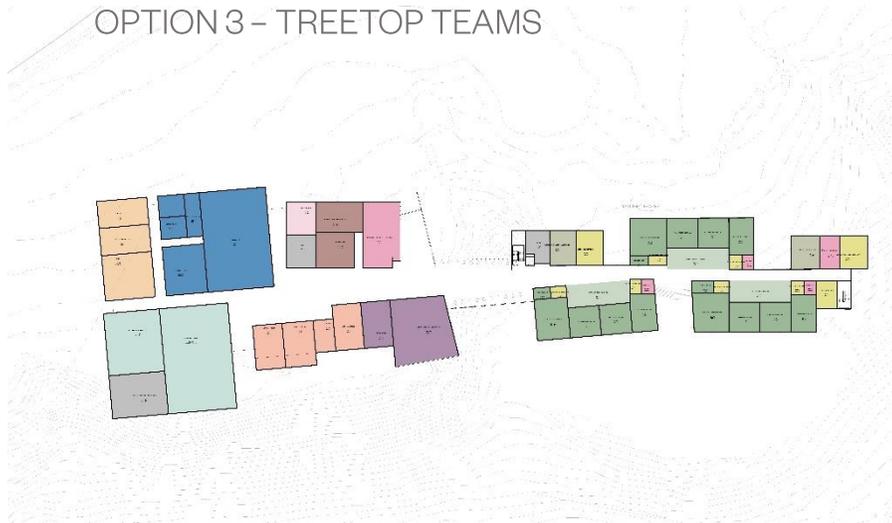
OPTION 1a - DOUBLE BAR



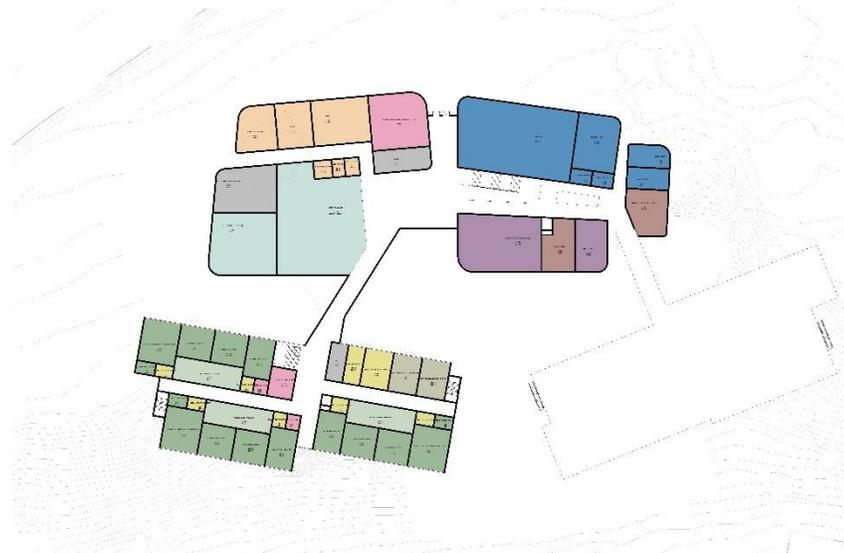
OPTION 2 - PODS



OPTION 3 - TREETOP TEAMS



OPTION 4 - PINWHEEL





Value Management Log



Feasibility Design Documents

A	B	C	D	E	F	G	H	I	J	K (I-J)	L	M	N
Item #	VE/VM Item	Trade	Ed Prog.	Sustain	Risks/Impacts	Comments	Ball In Court	Estimated Value (AM Fogarty) ^{1,2}	Cost to implement	Net Savings (AM Fogarty)	Status	Accepted Value	Rejected Value
01.	LEVEL 1												
02.	Adjust 50% of all concrete walks onsite to Asphalt walks	Site/ concrete	NO	PTNL	Some impact to the design. Asphalt could have overall shorter life expectancy?	Attempt to keep front-of-house walkways concrete and keep asphalt walkways to back-of-house areas. (parking lots, fields etc.)		(\$110,825)		(\$110,825)	Pending	\$0	\$0
03.	Change Unit Pavers to Scored Concrete (33,500 SF)	Site/ Concrete/ Landscaping	NO	NO	Some impact to the design. Visually this is a down grade. Could have overall shorter life expectancy?			(\$435,500)		(\$435,500)	Pending	\$0	\$0
04.	Remove 2-of-3 Passenger Elevators from Concept #1 only	Architectural	NO	NO	Remaining elevator would have shared function as passenger and service elevator.			(\$400,000)		(\$400,000)	Pending	\$0	\$0
05.	Remove 1-of-3 Passenger Elevators Concept #1 only	Architectural	NO	NO	Some impacts on design, especially circulation for HCP occupants.			(\$200,000)		(\$200,000)	Pending	\$0	\$0
06.	Reduction in LF of Granite Curbs. Replace with cape cod berm.	Site	NO	NO	Maintenance issues generally tied to replacement of granite with flexible material			(\$114,000)		(\$114,000)	Pending	\$0	\$0
07.	Reduction in LF of Granite Curbs. Replace with concrete.	Site	NO	NO	Maintenance issues generally tied to replacement of granite with concrete.			(\$84,000)		(\$84,000)	Pending	\$0	\$0
08.	Reduction in LF of Granite Curbs. Replace with sloped granite.	Site	NO	NO				(\$24,000)		(\$24,000)	Pending	\$0	\$0
09.	Adjust/reduce flat field drainage system	Site	NO	NO	Would effect the drainage performance of the athletic fields.			(\$159,648)		(\$159,648)	Pending	\$0	\$0
10.	Target 10% savings in light fixture costs	Electrical	NO	PTNL	Aesthetics and material could be effected with this approach.			(\$31,600)		(\$31,600)	Pending	\$0	\$0
11.	Adjust detail at fascia trim to be more economical (Target 50%)	Architectural/ Roofing	NO	NO	could impact design, may lead to a less desirable detail depending on selections made.			(\$187,575)		(\$187,575)	Pending	\$0	\$0
12.	Review alternative flooring finish options	Architectural/ Roofing	NO	PTNL	Alternative flooring options may differ in install, life-span, quality, maintenance.			\$0		\$0	Pending	\$0	\$0
13.	Review whether alternative to removal and replacement of unsuitable soils below SOG is possible (option such as Geo-Pier)	Site	NO		Option may not be feasible upon further investigation.	Geotech engineer to review and advise whether soil improvement is a possible option. Estimators to confirm whether this approach		\$0		\$0	Pending	\$0	\$0
14.	Reduce owners soft cost contingency from 5.5% to 5%		NO	NO				\$0		\$0	Pending	\$0	\$0
15.	Reduce design contingency from 13% to 12%		NO	NO				(\$2,348,585)		(\$2,348,585)	Pending	\$0	\$0
16.	LEVEL 2												
17.	Look for alternatives to metal panel and curtain wall systems. Evaluate if Curtain wall could be adjusted to storefront in some locations.	Curtain Wall / Metal Panels	NO	PTNL	Storefront will need to meet thermal performance, which will require upgrades to typical system and raise perceived base cost. Stretch Code thermal performance Assembly U-value at minimum.			\$0		\$0	Pending	\$0	\$0
18.	Specify architectural panel material to be used target lower cost alternative such as high density fiber cement	Curtain Wall / Metal Panels	NO	PTNL		Estimators to confirm savings to move from porcelain panel cost to high density fiber cement panels		(\$476,928)		(\$476,928)	Pending	\$0	\$0
19.	Look for alternatives to metal panel and curtain wall systems. Evaluate if Curtain wall could be adjusted to punched windows in some locations.	Curtain Wall / Metal Panels	NO	PTNL	Could effect the overall design intent, downgrades, depending on the options presented.			\$0		\$0	Pending	\$0	\$0



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20.	Adjustment between percentage of brick and metal panels	Architectural/ Masonry	NO	PTNL	Could effect exterior wall performance depending on selections made.			\$0		\$0	Pending	\$0	\$0
21.	Review options to adjust ceramic Tile scope, reduce areas, adjust materials, adjust assumptions etc...	Architect/ Ceramic Time	NO	NO	Reduction of tile would more than likely be replaced by less durable drywall finish. If areas area not chosen wisely it could cause higher operational/ maintenance in the long run.			\$0		\$0	Pending	\$0	\$0
22.	Adjust window/wall ratio from 30% to 25%	Curtain Wall/ Windows	PTNL	PTNL	Reduce overall daylight & views in spaces. Has the potential to effect design intent			(\$382,109)		(\$382,109)	Pending	\$0	\$0
23.	Adjust window/wall ratio from 30% to 22%	Curtain Wall/ Windows	PTNL	PTNL	Reduce overall daylight & views in spaces. Has the potential to effect design intent			(\$400,000)		(\$400,000)	Pending	\$0	\$0
24.	Adjust base windows from Aluminum to Fiberglass	Curtain Wall/ Windows	NO	PTNL	Options are comparable, Fiberglass tends to have higher efficiency values.			\$0		\$0	Pending	\$0	\$0
25.	Review lightweight concrete and moisture mitigation versus standard weight concrete with reduced mitigation	Architectural/ Structural	NO	NO	Moisture mitigation would require additional costs	Requires more technical review		\$0		\$0	Pending	\$0	\$0
26.	Reduce typ. floor to floor heights to 14' (Base 15')	Architectural/ Structural	NO	NO	Would reduce overall exterior wall SF, Structure and interior volumes. Potential for cost savings and HVAC efficiency			(\$65,000)		(\$65,000)	Pending	\$0	\$0
27.	Reduce typ. floor to floor heights to 13'6 (Base 15')	Architectural/ Structural	NO	NO	Would reduce overall exterior wall SF, Structure and interior volumes. Potential for cost savings and HVAC efficiency. Option dependent on HVAC System Selection			(\$65,000)		(\$65,000)	Pending	\$0	\$0
28.	Reduce clear dimension to underside of gymnasium structure from 28'-0" to 25'-0".	Architectural/ Structural	NO	NO	Would reduce overall exterior wall SF, Structure and interior volumes. Potential for cost savings and HVAC efficiency.			(\$22,500)		(\$22,500)	Pending	\$0	\$0
29.	Reduce Parapet from 3' to 2', to top of steel to top of coping, and includes depth for deck, insulation, membrane, flashing, counter flashing, and coping	Architectural/ Structural	NO	NO	Would reduce overall exterior wall SF. Potential for cost savings.			\$0		\$0	Pending	\$0	\$0
30.	Review partition layout to avoid spray fire proofing. Is this feasible with calculated fire rated partitions locations?	Architectural	NO	NO	Selectively placed FR partitions could eliminate the requirement for spray fire proofing. Potential for cost savings.	Will require further technical review including code consultant		\$0		\$0	Pending	\$0	\$0
31.	Eliminate Site Pedestrian Bridge	Site	NO	NO		Area will need to be replaced with paver system (or VE resultant equivalent) given the location of the bridges in front of the school main entrance.		(\$236,250)		(\$236,250)	Pending	\$0	\$0
32.	Target planting costs reduction of 10%	Site/ Landscape	NO	PTNL	Could reduce scale/quantity of plantings on site			(\$24,500)		(\$24,500)	Pending	\$0	\$0
33.	Target planting costs reduction of 25%	Site/ Landscape	NO	PTNL	Could reduce scale/quantity of plantings on site			(\$61,250)		(\$61,250)	Pending	\$0	\$0
34.	Verify with AHJ if fire loop is required. If not eliminate. (1,200 LF)	Fire Protection	NO	NO				(\$105,000)		(\$105,000)	Pending	\$0	\$0
35.	Reduce/Eliminate interior courtyards	Architectural	PTNL	PTNL	Could reduce natural lighting available to interior spaces. Could reduce overall exterior wall SF. Interior courtyards decrease thermal/HVAC efficiencies . Courtyards present premiums on maintenance/operations .			\$0		\$0	Pending	\$0	\$0



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36.	Adjust HVAC system to more efficient displacement system (DOAS)	HVAC	NO	YES		Displacement is a current system option; can be separated from geothermal and radiant.		\$0		\$0	Pending	\$0	\$0
37.	Reduce parking quantity by 10%	Site	NO	YES	Would possibly require variance.			\$0		\$0	Pending	\$0	\$0
38.	Cost debrief identified premium with anticipated cost of interior construction and finishes. Quantify, define and adjust premium.	interiors	NO	NO	May decrease durability; increase maintenance			\$0		\$0	Pending	\$0	\$0
39.	Maintain existing field hockey and softball field in current condition	Site	NO	NO				\$0		\$0	Pending	\$0	\$0
55.	Evaluate/Reduce AV Package allowance for each classroom.	Electrical	PTNL	NO				\$0		\$0	Pending	\$0	\$0
40.	LEVEL 3												
41.	Reduction in Gross SF (140,000 SF)	Architectural	PTNL	NO	Could effect SF available for educational spaces. Would present costs benefits of an overall smaller structure			(\$764,955)		(\$764,955)	Pending	\$0	\$0
42.	Reduction in Gross SF (130,000 SF)	Architectural	PTNL	NO	Could effect SF available for educational spaces. Would present costs benefits of an overall smaller structure			(\$2,674,955)		(\$2,674,955)	Pending	\$0	\$0
43.	Reduction in Gross SF (MSBA 120,267SF)	Architectural	PTNL	NO	Could effect SF available for educational spaces. Would present costs benefits of an overall smaller structure			(\$4,533,958)		(\$4,533,958)	Pending	\$0	\$0
44.	Reduce LF of Folding Partitions to 60LF per Team (Base=+/-90LF)	Architectural	YES	NO	Reduction of classroom flexibility with adjacent open spaces. Reduction in steel and material costs could present cost savings.			(\$743,600)		(\$743,600)	Pending	\$0	\$0
45.	Reduce LF of Folding Partitions to 30LF per Team (Base=+/-90LF)	Architectural	YES	NO	Reduction of classroom flexibility with adjacent open spaces. Reduction in steel and material costs could present cost savings.			(\$773,300)		(\$773,300)	Pending	\$0	\$0
46.	Remove all folding partitions (Base=30,000SF)	Architectural	YES	NO	Reduction of classroom flexibility with adjacent open spaces. Reduction in steel and material costs could present cost savings.			(\$80,300)		(\$80,300)	Pending	\$0	\$0
47.	Use a combination of sliding or swinging 8'-0" storefront doors as opposed to operable walls.	Architectural	YES	NO				\$0		\$0	Pending	\$0	\$0
48.	Remove Air Conditioning	HVAC	PTNL	PTNL	Would expose spaces to higher temperatures during peak seasons. Could impact summer programs.	Not preferable, based on prior experience with Concord Alcott.		(\$560,000)		(\$560,000)	Pending	\$0	\$0
49.	Removal of (1) Soccer Field (45,000 sqft)	Site	YES	PTNL	Would reduce athletic program available to school and town. Could minimize overall site impacted by construction. Reduced operational costs.			(\$300,000)		(\$300,000)	Pending	\$0	\$0
50.	Removal of Intramural Area (24,00SF)	Site	YES	PTNL	Would reduce athletic program available to school and town. Could minimize overall site impacted by construction. Reduced operational costs.			(\$158,400)		(\$158,400)	Pending	\$0	\$0



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51.	Furnish Athletic Fields via Alternate Project	Site	PTNL	NO				(\$2,000,000)		(\$2,000,000)	Pending	\$0	\$0
52.	Shift building Northwest to mitigate issues related to the site grades and mitigate amount of site being addressed	Site	NO	NO	Could minimize site prep. Building could have more of a presence on main road.			\$0		\$0	Pending	\$0	\$0
53.	Adjust building footprint to reduce ledge removal	Site	NO					\$0		\$0	Pending	\$0	\$0
54.	Adjust building to more efficient footprint	Architectural	PTNL	PTNL	More efficient footprint may reduce lighting to interior spaces. Efficiencies in construction with simpler forms could present cost savings. Thermal efficiencies could also be realized.			\$0		\$0	Pending	\$0	\$0
								\$0		\$0	Pending	\$0	\$0
TOTALS								(\$18,523,738)	\$0	(\$18,523,738)		\$0	\$0

- Notes:
1. Estimated values utilized Concept #2 Pods as baseline.
 2. Estimated values are not inclusive of Indirect GC and contingency costs.

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