

# Northeast Metro Tech

Building Committee



DRA

December 10, 2020

# Agenda



- SBC Vote to Approve Prior Minutes
- OPM/Designer Updates
  - Accomplishments to Date
  - PSR Update: Cost Estimates & Schedule
  - Next Steps
- SBC Vote to Approve Preferred Option & Enrollment
- SBC Vote to Approve Submission of PSR

# Key Project Milestones



Northeast Metropolitan  
Regional Vocational  
High School

<b>MSBA Module #2 Forming the Project Team</b>	<b>MSBA Module #3 Feasibility Study</b>	<b>MSBA Module #4 Schematic Design</b>	<b>MSBA Module #5 Funding the Project</b>
<u>AUGUST 2019</u> OPM Selection	<u>JANUARY 2020</u> Begin Feasibility Study	<u>JANUARY 2021</u> Begin Schematic Design	<u>LATE DECEMBER 2021</u> Local funding approval deadline
<u>JANUARY 2020</u> Designer Selection	<u>AUGUST 2020</u> SBC approves PDP Submit PDP to MSBA	<u>JUNE or JULY 2021</u> SBC approves SD/DESE design package	
	<u>SEPTEMBER 2020</u> SC approves Education Plan	<u>JULY 2021</u> Submit SD/DESE to MSBA MSBA FAS Meeting	
	<u>DECEMBER 2020</u> SBC approves PSR Submit PSR to MSBA	<u>AUGUST 2021</u> MSBA BOD approves project scope & budget	
	<u>JANUARY 2021</u> MSBA FAS Meeting		
	<u>FEBRUARY 2021</u> MSBA BOD approves PSR		

## Acronym glossary

BOD – Board of Directors (MSBA)  
DESE – Massachusetts Department of  
Elementary & Secondary Education  
Ed. Plan – Educational Plan  
FAS – Facilities Assessment Subcommittee

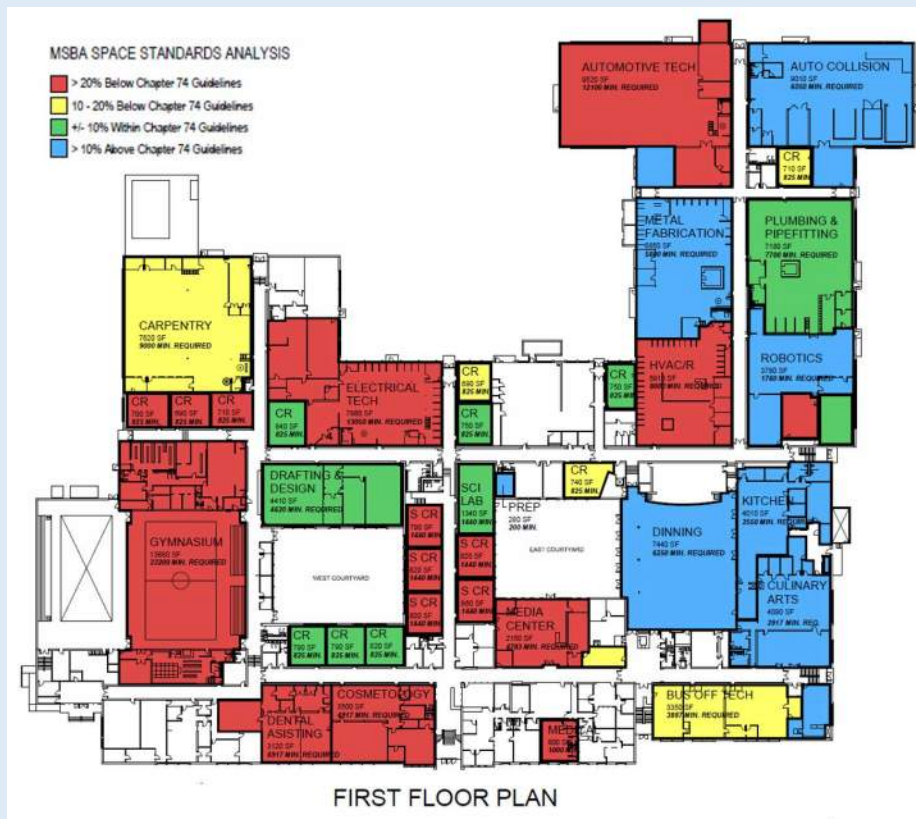
ISS – Initial Space Summary  
MSBA – Mass. School Building Authority  
OPM – Owner's Project Manager  
PDP – Preliminary Design Program  
PSR – Preferred Schematic Report

SBC – School Building Committee  
SC – School Committee  
SD – Schematic Design

# Accomplishments to Date

## Feasibility Study Accomplishments:

- Existing Building Studies Complete





# Accomplishments to Date

## Feasibility Study Accomplishments:

- Existing Building Studies Complete
- Site & Traffic Investigations Completed
- Educational Visioning → Educational Plan → **Develop Preliminary Options**



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**OPTION B.2  
(Add/Reno)**



**OPTION C.1  
(New)**



**OPTION C.2  
(New)**



**OPTION C.3  
(New)**

# Accomplishments to Date



## Feasibility Study Accomplishments:

- Existing Building Studies Complete
- Site & Traffic Investigations Completed
- Educational Visioning → Educational Plan → Develop Preliminary Options
- Chapter 74 Viability Document Submission to DESE (approved 9/15/20)
- Submitted PDP to MSBA: 8/14/2020
- MSBA Accepted Auditorium Space



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- MSBA Accepted Auditorium Space
- **Evaluated Preliminary Options**
- **Identified & Refined Preferred Option**

# to DESE (approved 9/15/20)

## Preliminary Evaluation of Options

Preliminary Evaluation Matrix - Northeast Metro Tech - Concept Options **WORKING DRAFT**

Updated 1/1/2020

Evaluation Criteria	Concept Options						
	MSBA Required Base Report	Renovation		Add/Re-use Options		New Construction Options	
		A	B.1	B.2	C.1	C.2	C.3
Ed Plan Accommodation Compliance w/ Vision	100% compliance with MSBA required base report	100% compliance with MSBA required base report	100% compliance with MSBA required base report	100% compliance with MSBA required base report	100% compliance with MSBA required base report	100% compliance with MSBA required base report	100% compliance with MSBA required base report
Project Cost	Low	Low	Low	Low	Low	Low	Low
Reimbursable Cost	Low	Low	Low	Low	Low	Low	Low
Temporary Costs	Low	Low	Low	Low	Low	Low	Low
Long-term Value	Low	Low	Low	Low	Low	Low	Low
Disruption	Low	Low	Low	Low	Low	Low	Low
Impact on Students	Low	Low	Low	Low	Low	Low	Low
Construction Duration	Low	Low	Low	Low	Low	Low	Low
Phasing	Low	Low	Low	Low	Low	Low	Low
Flexibility	Low	Low	Low	Low	Low	Low	Low
Enrollment Accommodation	Low	Low	Low	Low	Low	Low	Low
Expansion Potential	Low	Low	Low	Low	Low	Low	Low
Operating Costs	Low	Low	Low	Low	Low	Low	Low
Maintenance	Low	Low	Low	Low	Low	Low	Low
Site Access	Low	Low	Low	Low	Low	Low	Low
Safety & Security	Low	Low	Low	Low	Low	Low	Low
Circulation	Low	Low	Low	Low	Low	Low	Low
Final Site Layout	Low	Low	Low	Low	Low	Low	Low
Site Amenities	Low	Low	Low	Low	Low	Low	Low

**Legend**

1 Green  
2 Yellow  
3 Orange  
4 Red

8



# Accomplishments to Date

## Feasibility Study Accomplishments:

- Existing Building Studies Complete
- Site & Traffic Investigations Completed
- Educational Visioning → Educational Plan → Develop Preliminary Options
- Chapter 74 Viability Document Submission to DESE (approved 9/15/20)
- Submitted PDP to MSBA: 8/14/2020
- MSBA Accepted Auditorium Space
- Evaluated Preliminary Options
- **Identified & Refined Preferred Option**
- **Compiled PSR**
- **Ready to Submit PSR to MSBA**



## Preferred Schematic Report

### Goals:

- Summarize Process & Conclusions of the Preliminary Evaluation of Alternatives
- Substantiate & Document the Recommendation of a Preferred Solution

## Preferred Schematic Report

### Content:

- **Introduction**
- **Educational Program- *updated***
  - Space Summary Form- *updated*
- **Final Evaluation of Alternatives**
  - Construction Cost Estimates
- **Preferred Solution**
  - Site Plan, Floor Plans, Massing Diagrams
  - Preliminary LEED scorecard
  - Schedule
- **Local Actions & Approvals**



# Matrix of Options

Northeast Metro Tech

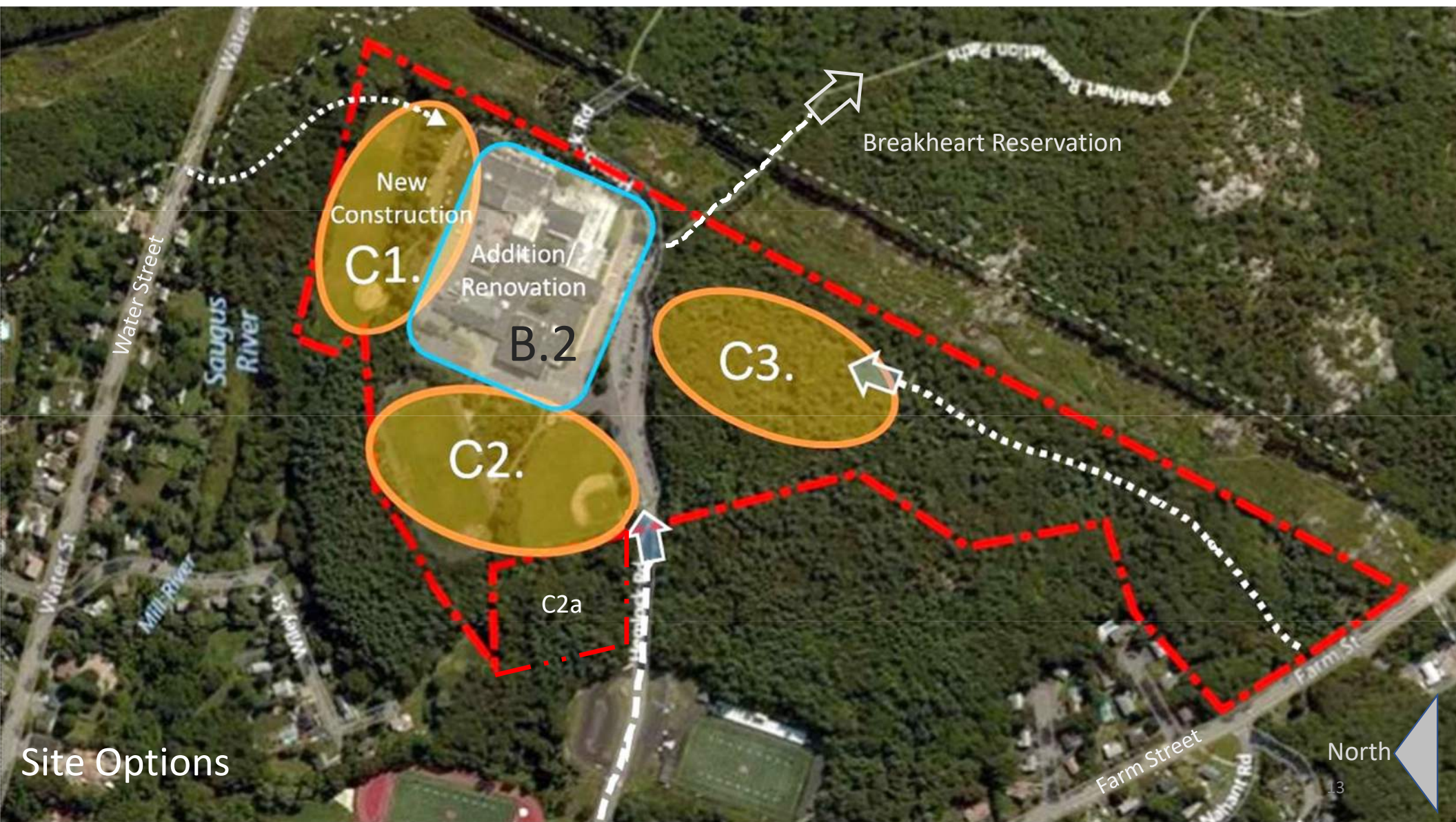


## Matrix of Options *DRAFT*

Updated:  
DRAFT 7.22.2020

Families of Options:

		Families of Conceptual Options								
		MSBA Required	A	B	C			D		
		MSBA Required	Renovation	Add/Reno	New Construction On-Site			New Construction Off-Site		
Enrollment		Base Repair	A.1	B.1	B.2	C.1	C.2.1	C.3.1	C.2.A	?D.1?
a.	1,250 Students	doesn't address any educational deficiencies	X	B.1a	B.2a	C.1a	C.2.1a	C.3.1a	C.2.Aa	D.1a
b.	1,400 Students	X	X	B.1b	B.2b	C.1b	C.2.1b	C.3.1b	C.2.Ab	D.1b
c.	1,600 Students	X	X	B.1c	B.2c	C.1c	C.2.1c	C.3.1c	C.2.Ac	D.1c
d.	1,660 Students	X	X	B.1d	B.2d	C.1d	C.2.1d	C.3.1d	C.2.Ad	D.1d
e.	1,722 Students	X	X	B.1e	B.2e	C.1e	C.2.1e	C.3.1e	C.2.Ae	D.1e



Site Options

North





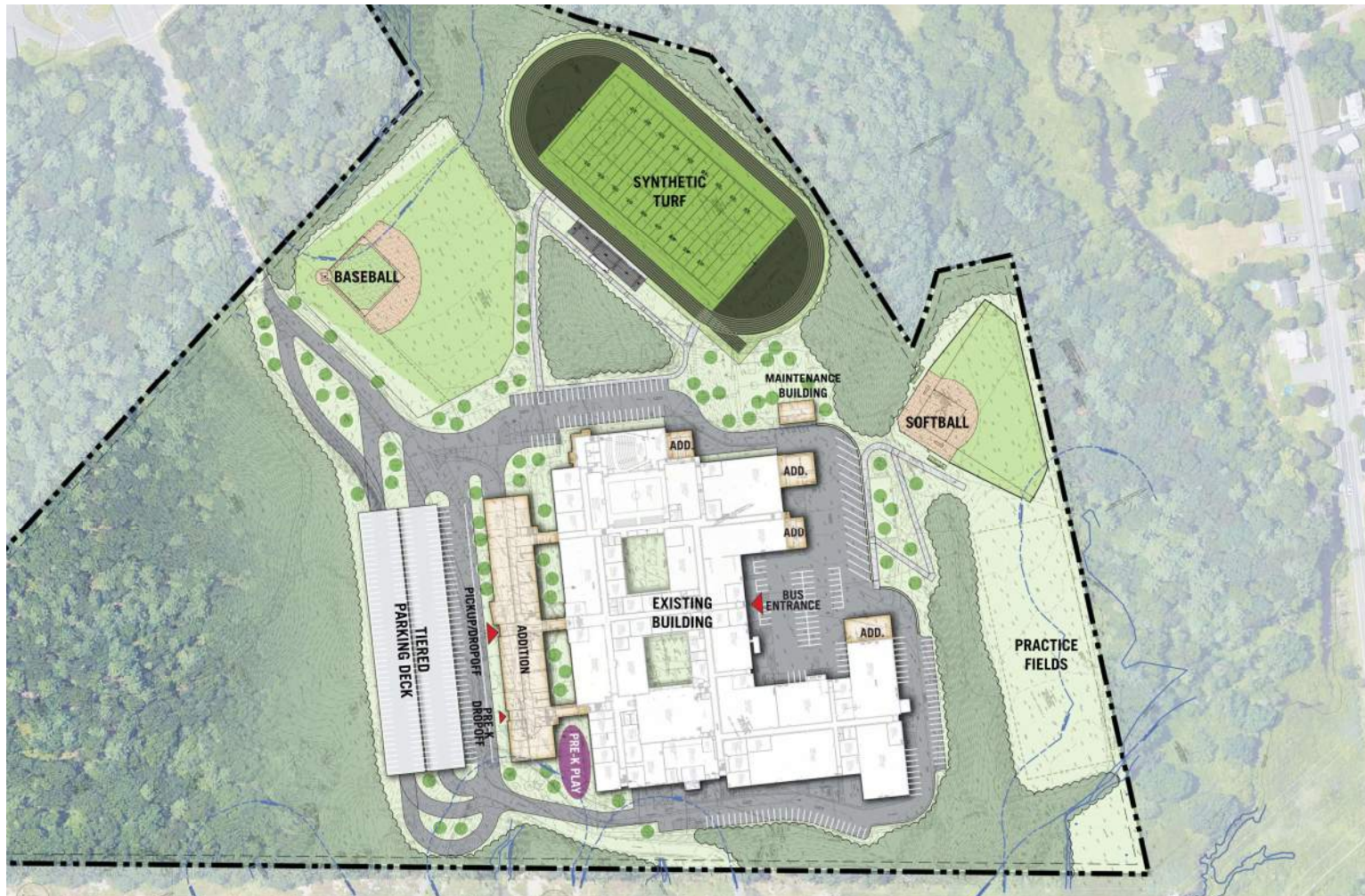




Site Options

North





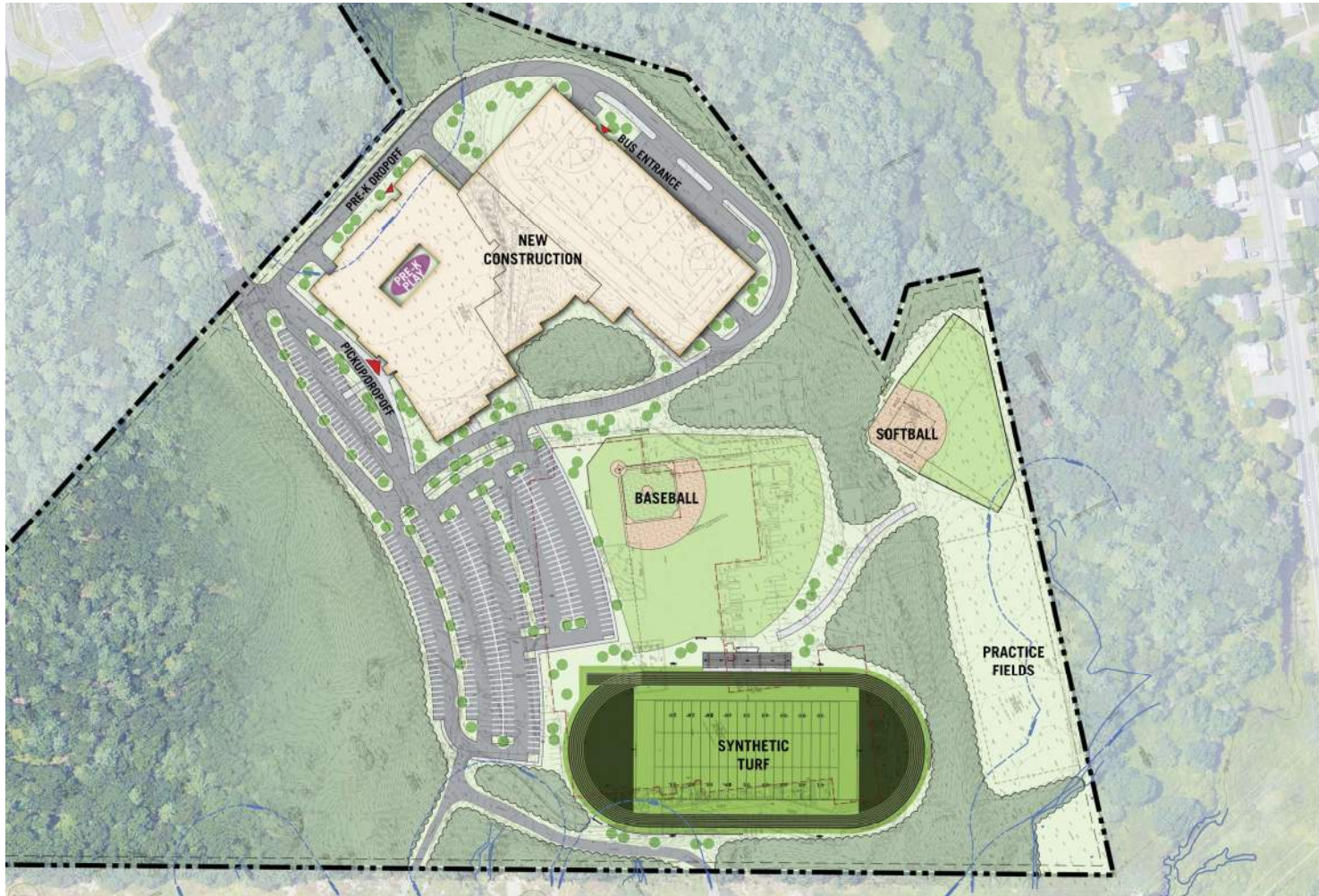
Option B.2





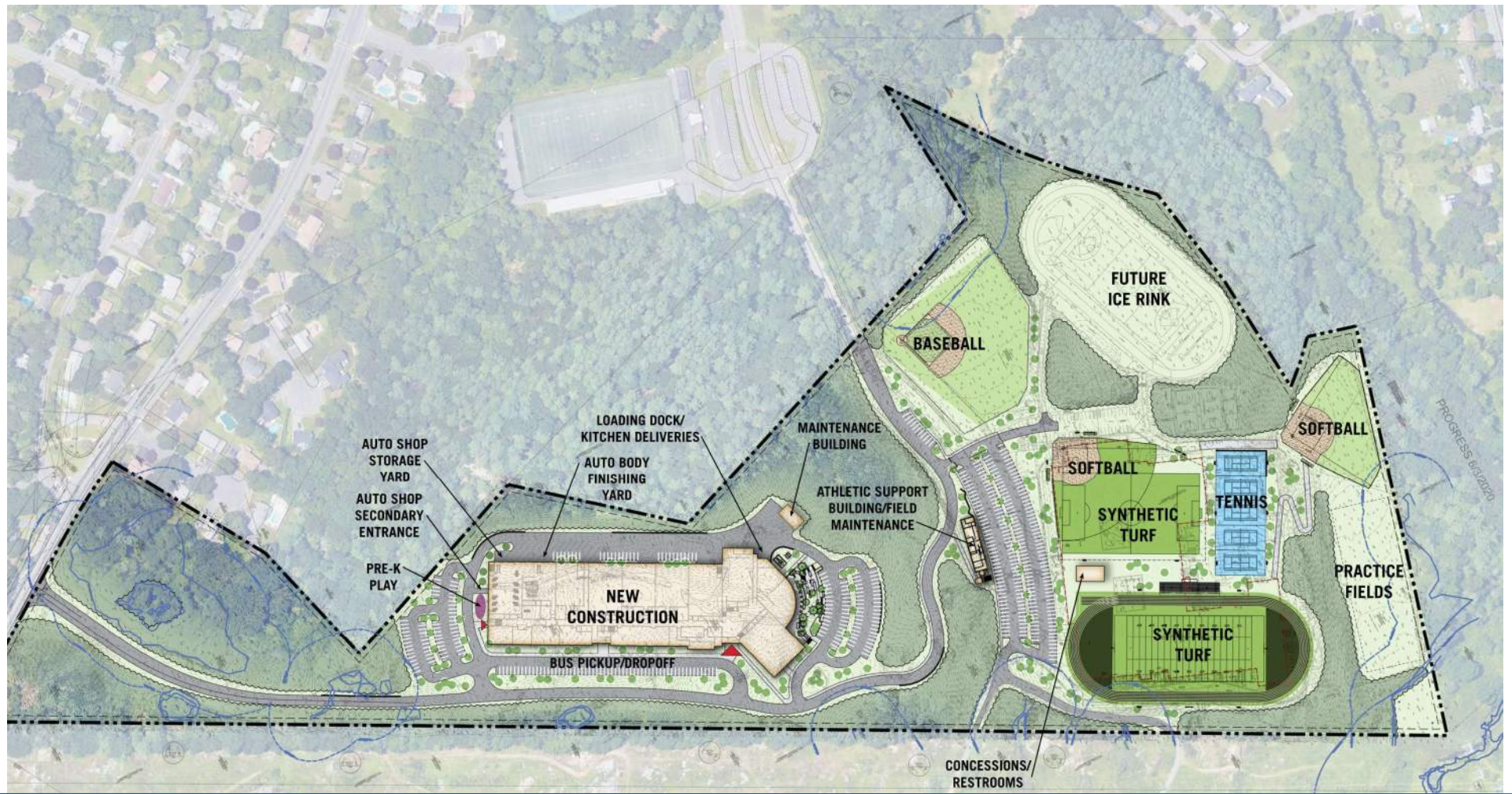
Option C.1





Option C.2





Option C.3

# Preliminary Evaluation of Options

## Criteria

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**Educational:** Plan Accommodation, Compliance with Educational Vision

**Costs:** Project Cost, Reimbursement, Temporary Costs, Long-Term Value

**Disruption:** Impact, Phasing, Construction Duration

**Flexibility:** Design, Enrollment Accommodation, Expansion Potential

**Maintenance:** Operating Costs, Longevity

**Site:** Safety & Security, Access, Amenities



# Preliminary Evaluation of Options

Preliminary Evaluation Matrix - Northeast Metro Tech - Concept Options - **WORKING DRAFT**



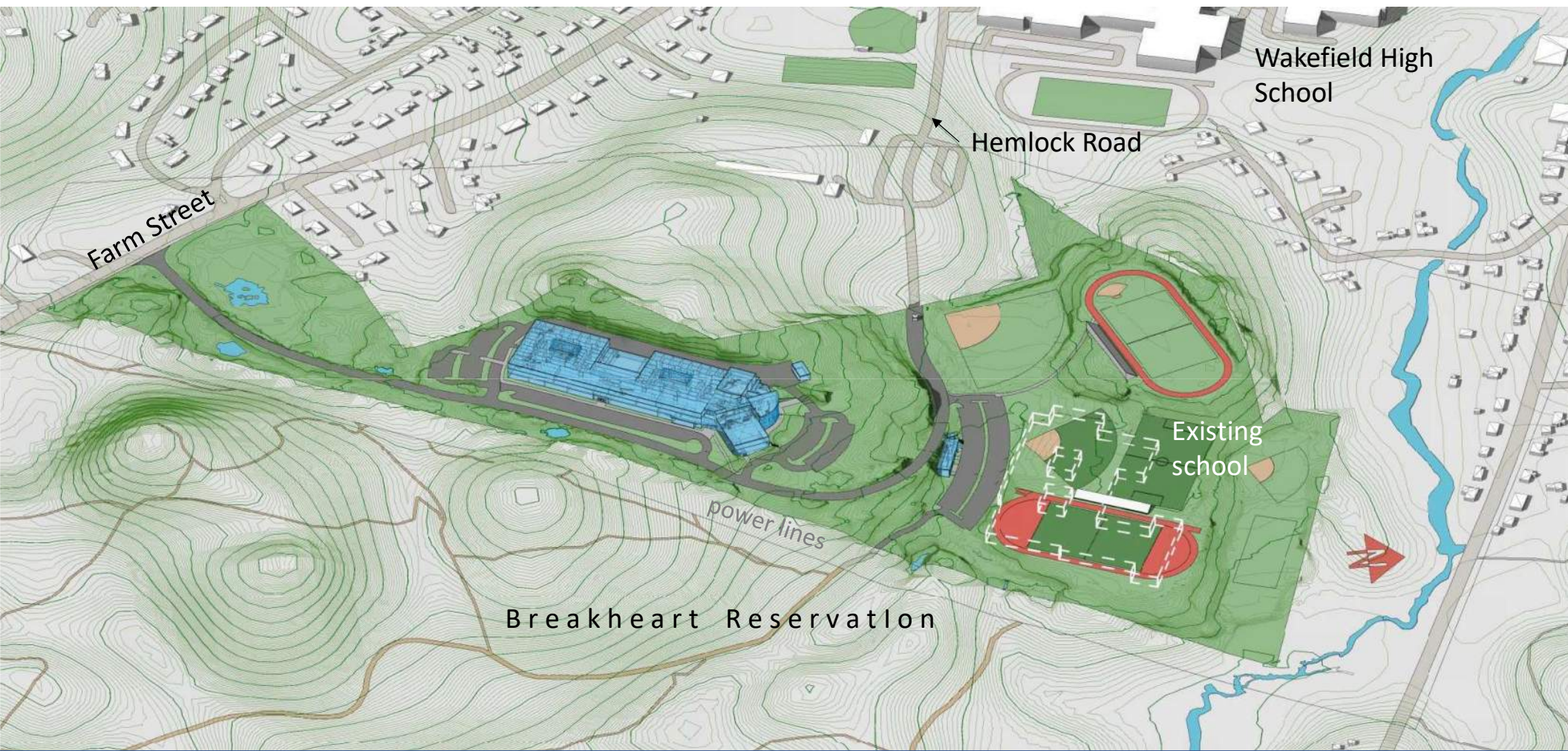
Updated:  
6/22/2020

Evaluation Criteria	Concept Options						
	MSBA Required	Renovation	Add/ Reno Options		New Construction Options		
	Base Repair	A	B.1	B.2	C.1	C.2	C.3
	Construction Duration:	multiple years	multiple years	3+ years	3+ years	2+ years	2+ years
Ed Plan Accomodation Compliance w/ Vision	doesn't address any educational deficiencies	not large enough to address space needs	difficult to accommodate Ed Plan; no Small Learning Communities; poor adjacencies of shops to academic spaces	difficult to accommodate Ed Plan; no Small Learning Communities; poor adjacencies of shops to academic spaces	good Ed Plan conformance; good adjacencies of CTE and academic spaces; no expansion potential; cannot accommodate highest enrollment	fair Ed Plan conformance with Small Learning Communities; uneven distribution of CTE shops; some flexibility and expansion potential	best Ed Plan conformance with Small Learning Communities; adjacencies & project spaces; some flexibility; limited expansion potential
Project Cost Reimbursable Cost Temporary Costs Long-term Value			high temporary costs; structured parking required; slightly higher reimbursement for renovation	high temporary costs; structured parking required; slightly higher reimbursement for renovation	temporary sewer relocation required; tall retaining walls required;	lowest new construction cost	highest blasting & site development (roadwork, utilities) costs; highest long-term value
Disruption Impact on Students Construction Duration Phasing			phased construction adjacent to occupancy; long construction schedule; requires temporary parking	phased construction adjacent to occupancy; long construction schedule; requires temporary parking	some impact to adjacent occupancy; service and utility interruptions	minimal impact to adjacent occupancy; loss of athletic fields during construction; shortest building construction schedule	virtually no impact to existing occupancy; significant sitework requires early construction packages
Flexibility Enrollment Accommodation Expansion Potential			limited flexibility; limited expansion potential; doesn't accommodate higher enrollments	limited flexibility; limited expansion potential; can accommodate higher enrollments	limited flexibility; limited expansion potential; can't accommodate highest enrollments	some flexibility; limited expansion potential; can accommodate higher enrollments	good flexibility; limited expansion potential; can accommodate higher enrollments
Operating Costs Maintenance			most renovation areas will have limited envelope improvements; not all existing utilities will be replaced with new; parking garage has limited longevity	most renovation areas will have limited envelope improvements; not all existing utilities will be replaced with new; parking garage has limited longevity	all new construction & MEP systems; good solar orientation, good thermal envelope	all new construction & MEP systems; good thermal envelope	all new construction & MEP systems; best thermal envelope/ compact footprint
Site Access Safety & Security Circulation			existing car & bus separation and service access; limited parking by event entrance; limited separation of Breakheart traffic	existing car & bus separation; limited parking by event entrance; reduced service access; limited separation of Breakheart traffic	good car & bus separation; parking divides fields; convenient visitor parking, good service access; limited separation from Breakheart traffic	good car & bus separation; convenient visitor parking, good service access; limited separation from Breakheart traffic	new primary access road; good car & bus separation; good separation from Breakheart traffic
Final Site layout Site amenities			all existing fields to be reconstructed within limited area; less than desirable accessibility to fields	all existing fields to be reconstructed within limited area; less than desirable accessibility to fields	New multi-purpose/soccer field, new softball field; renovated track, football, baseball fields. Some accessibility issues remain to upper fields	New track, football, & baseball fields; renovated softball & practice fields. Some accessibility issues remain to lower fields	All new and expanded athletic fields; accessibility from school is less than ideal
Totals							

## Legend

5	positive / most advantageous
4	
3	neutral
2	
1	negative / least advantageous





Option C.3

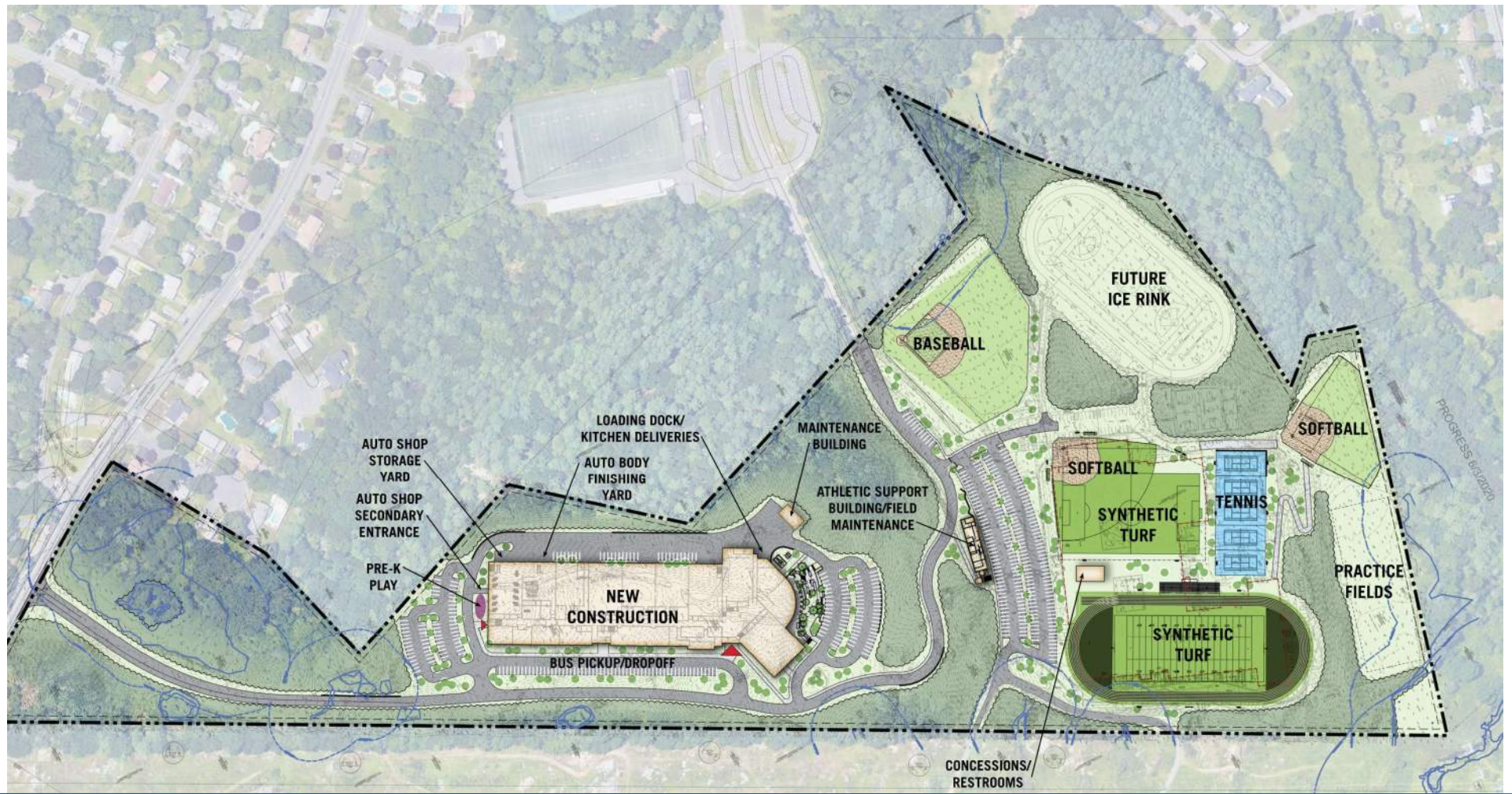


A topographic map of a hillside with green contour lines. A proposed development, labeled 'Option C.3', is shown in the center. It consists of a large rectangular building with a blue roof, surrounded by a dark brown road and parking areas. A smaller blue building is located to the right of the main building. A road, labeled 'Hemlock Road', runs along the top of the hill. The map also shows a small orange area on the right and a red area at the bottom right.

Hemlock Road

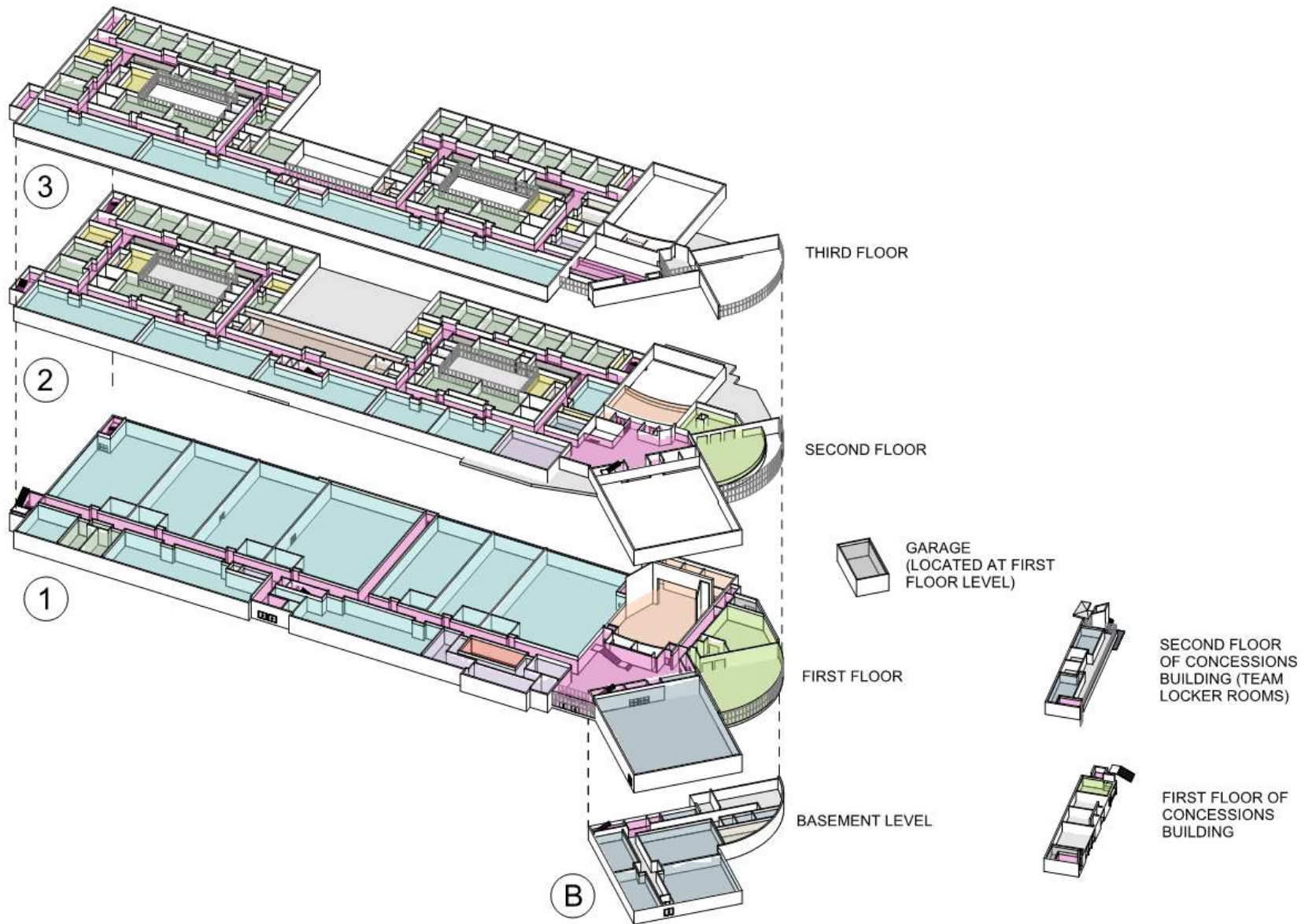
Option C.3

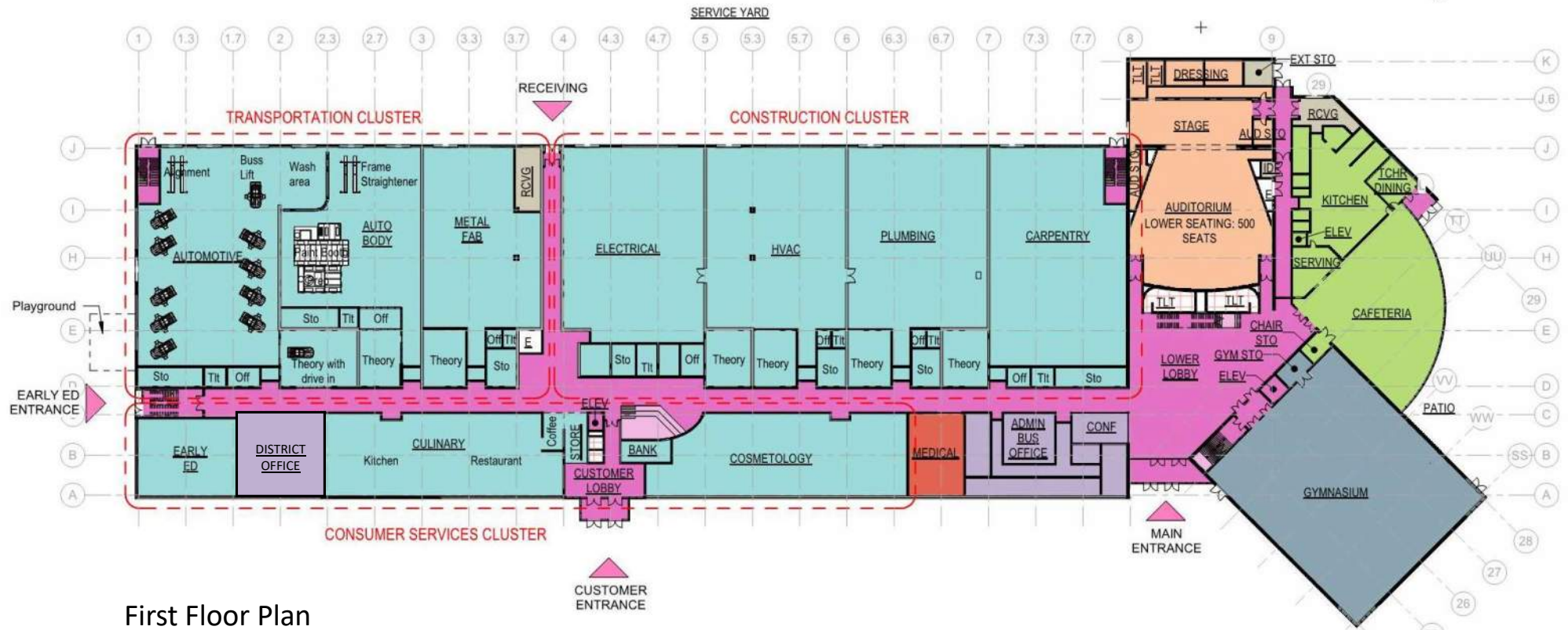




Option C.3







First Floor Plan

Option C.3



Second Floor Plan

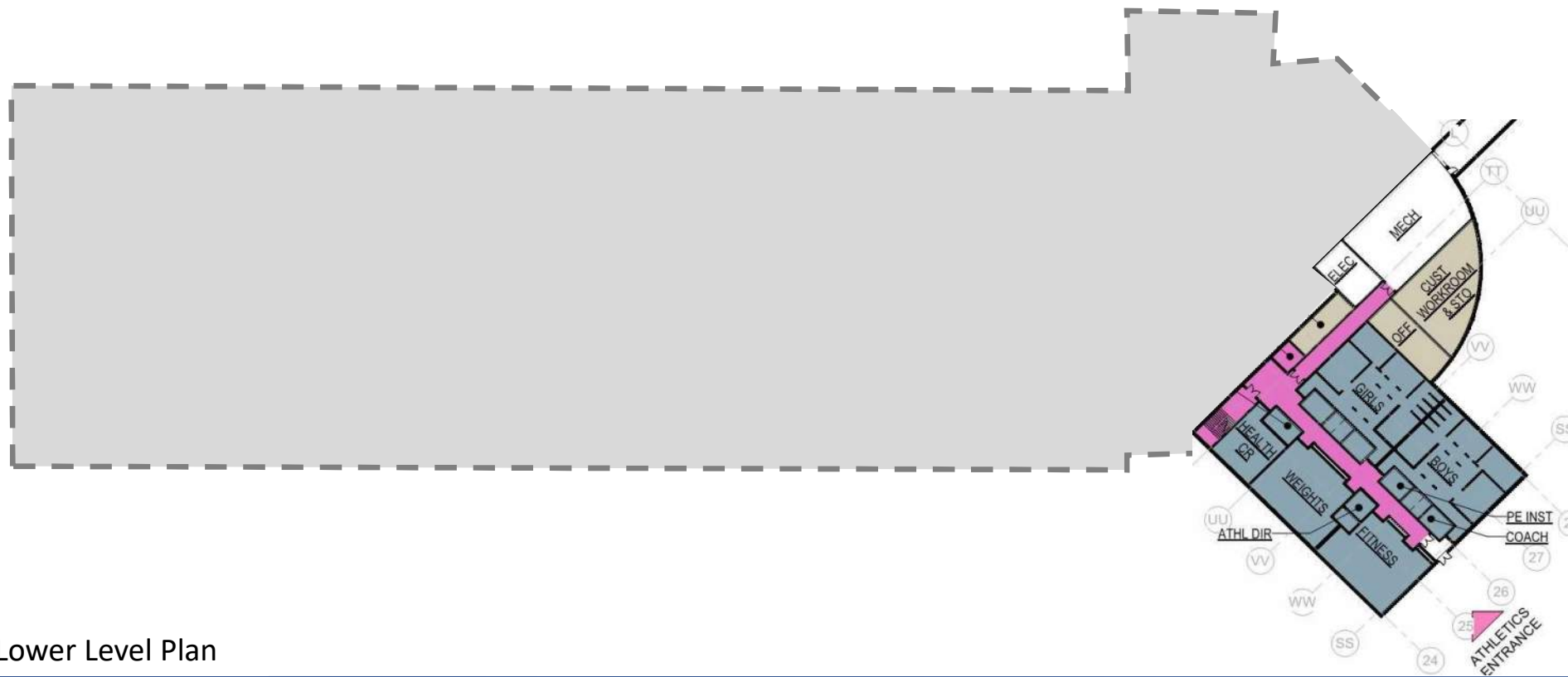
Option C.3





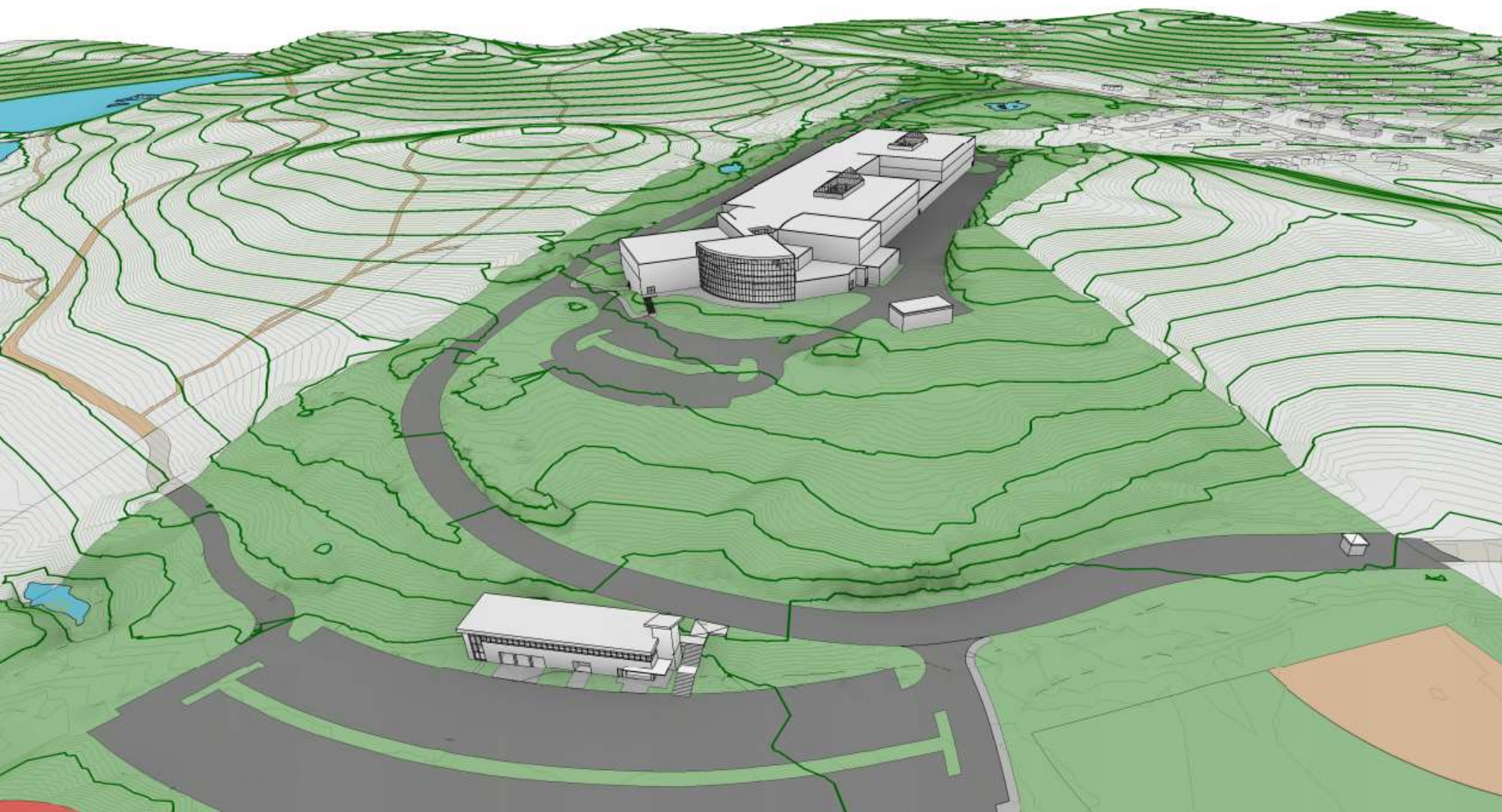
Third Floor Plan

Option C.3

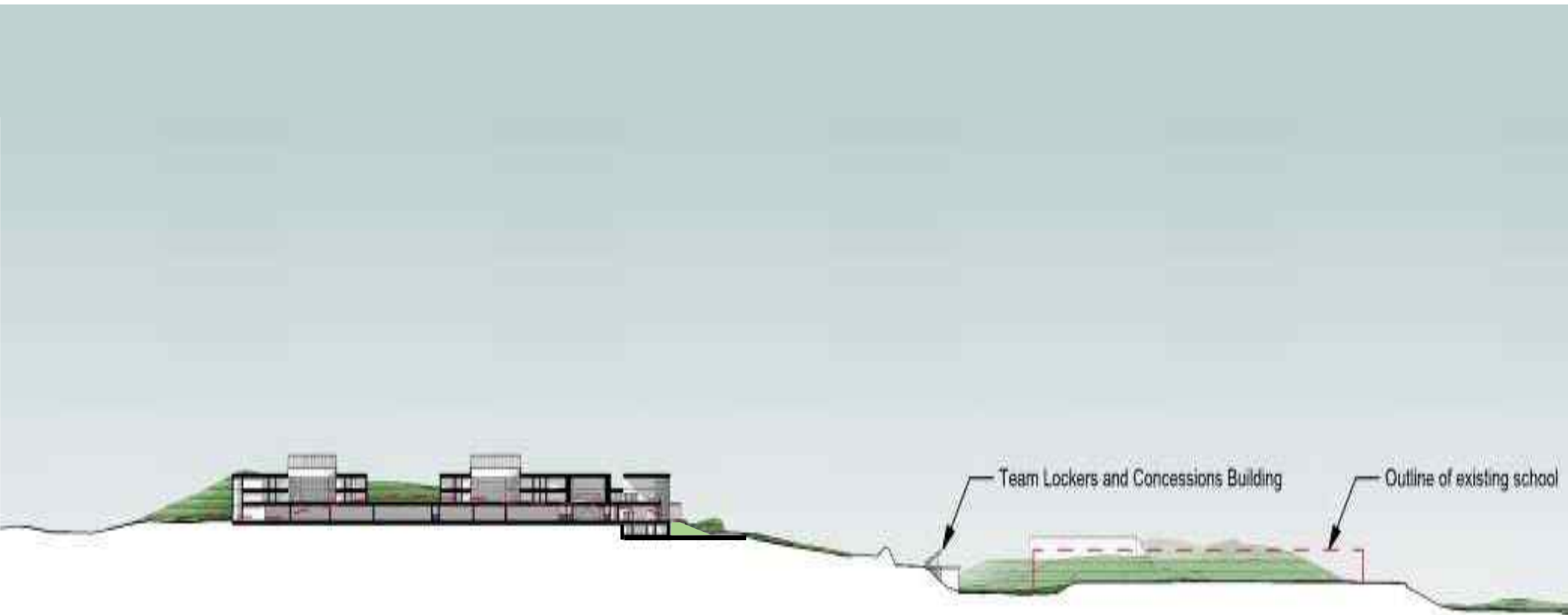


Lower Level Plan

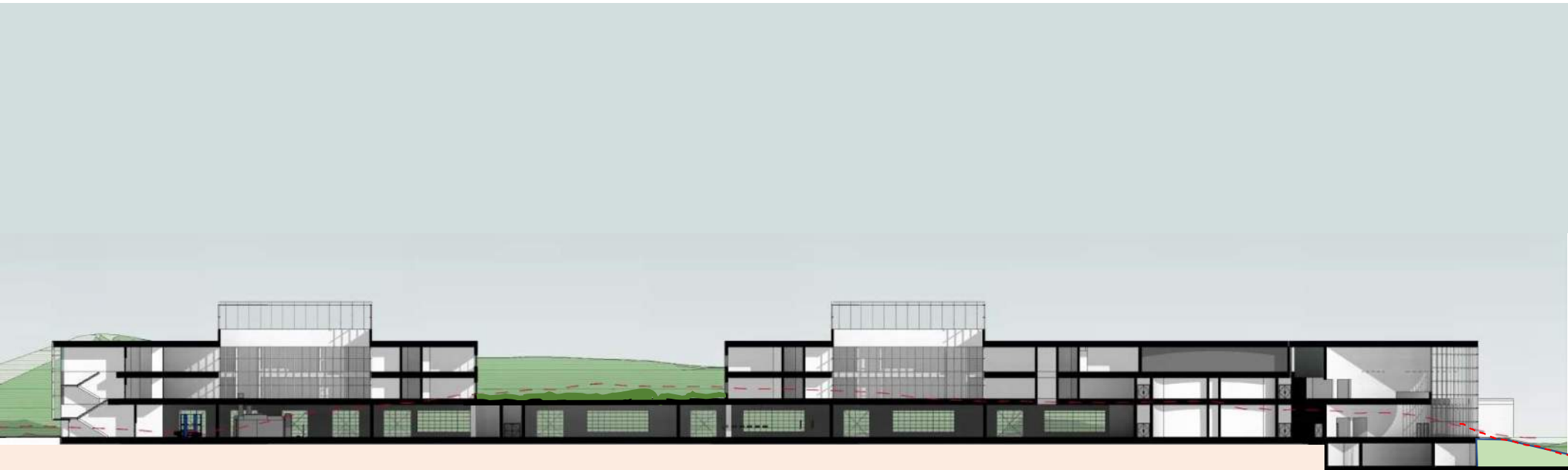
Option C.3







Option C.3



Lower level Locker Rooms

Option C.3



## Preferred Schematic Report

### Content:

- Introduction- *Summary*
  - Response to PDP Comments
- Educational Program- *update*
  - Space Summary Form- *update*
- Final Evaluation of Alternatives
  - Construction Cost Estimates
- Preferred Solution
  - Site Plan, Floor Plans, Massing Diagrams
  - LEED scorecard
  - Schedule
- Local Actions & Approvals

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  - **LEED scorecard**
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# MSBA Process

## LEED Scorecard- Leadership in Energy

40 points = "Green School" (Required)  
50 points, "Silver" = 2 additional reimbursement points

Project Name: **Northeast Metro Tech**  
Date: **November 2020**

**LEED v4 for BD+C: Schools**  
Project Checklist

Y	?	N	Credit	Integrative Process	1
1	0	14	Credit	LEED for Neighborhood Development Location	15
1	0	14	Credit	Sensitive Land Protection	1
1	0	14	Credit	High Priority Site	2
1	0	14	Credit	Surrounding Density and Diverse Uses	5
1	0	14	Credit	Access to Quality Transit	4
1	0	14	Credit	Bicycle Facilities	1
1	0	14	Credit	Reduced Parking Footprint	1
1	0	14	Credit	Green Vehicles	1
10	0	2	Credit	Construction Activity Pollution Prevention	12
10	0	2	Credit	Environmental Site Assessment	1
10	0	2	Credit	Site Assessment	2
10	0	2	Credit	Site Development - Protect or Restore Habitat	1
10	0	2	Credit	Open Space	3
10	0	2	Credit	Rainwater Management	2
10	0	2	Credit	Heat Island Reduction	1
10	0	2	Credit	Light Pollution Reduction	1
10	0	2	Credit	Site Master Plan	1
10	0	2	Credit	Joint Use of Facilities	1
6	0	6	Credit	Outdoor Water Use Reduction	6
6	0	6	Credit	Indoor Water Use Reduction	1
6	0	6	Credit	Building-Level Water Metering	2
6	0	6	Credit	Outdoor Water Use Reduction	7
6	0	6	Credit	Indoor Water Use Reduction	2
6	0	6	Credit	Cooling Tower Water Use - NB: swap CT for WE po 34 "No Cooling Tower"	1
6	0	6	Credit	Water Metering	1
17	5	9	Credit	Fundamental Commissioning and Verification	31
17	5	9	Credit	Minimum Energy Performance	16
17	5	9	Credit	Enhanced Performance	1
17	5	9	Credit	Green Power and Carbon Offsets	2
6	0	7	Credit	Materials and Resources	13
6	0	7	Credit	Storage and Collection of Recyclables	5
6	0	7	Credit	Construction and Demolition Waste Management Planning	2
6	0	7	Credit	Building Life-Cycle Impact Reduction	2
6	0	7	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
6	0	7	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
6	0	7	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
6	0	7	Credit	Construction and Demolition Waste Management	2
8	4	4	Credit	Indoor Environmental Quality	16
8	4	4	Credit	Minimum Indoor Air Quality Performance	2
8	4	4	Credit	Environmental Tobacco Smoke Control	2
8	4	4	Credit	Minimum Acoustic Performance	3
8	4	4	Credit	Enhanced Indoor Air Quality Strategies	1
8	4	4	Credit	Low-Emitting Materials	2
8	4	4	Credit	Construction Indoor Air Quality Management Plan	1
8	4	4	Credit	Indoor Air Quality Assessment	2
8	4	4	Credit	Thermal Comfort	3
8	4	4	Credit	Interior Lighting	1
8	4	4	Credit	Daylight	1
8	4	4	Credit	Quality Views	1
8	4	4	Credit	Acoustic Performance	1
3	1	2	Credit	Innovation	6
3	1	2	Credit	LEED Accredited Professional	5
3	0	1	Credit	Regional Priority	4
3	0	1	Credit	Rainwater Management	1
3	0	1	Credit	Indoor Water Use Reduction	1
3	0	1	Credit	Renewable Energy Production	1
3	0	1	Credit	Regional Priority	1
11	11	11	Credit	TOTALS	110
11	11	11	Credit	Possible Points: 110	110
11	11	11	Credit	Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110	110

# Summary of Costs

Enrollment		B.2	C.1	C.2	C.3
1,250 students	Construction Cost	\$180.9 M	\$207.0 M	\$200.8 M	\$208.8 M
	Project Cost	\$244.4 M	\$270.3 M	\$262.4 M	\$272.6 M
1,400 students	Construction Cost	\$196.2 M	\$221.2 M	\$215.7 M	\$223.4 M
	Project Cost	\$264.7 M	\$288.7 M	\$281.6 M	\$291.4 M
1,600 students	Construction Cost	\$211.1 M	\$243.5 M	\$236.6 M	\$243.5 M
	Project Cost	\$284.6 M	\$317.4 M	\$308.7 M	\$317.4 M
1,660 students	Construction Cost	\$216.4 M	\$247.6 M	\$242.0 M	\$249.0 M
	Project Cost	\$291.7 M	\$322.7 M	\$315.6 M	\$324.5 M
1,722 students	Construction Cost	\$223.3 M	\$252.8 M	\$247.5 M	\$254.3 M
	Project Cost	\$300.8 M	\$329.5 M	\$322.7 M	\$331.4 M



# Summary of Costs

		Cost Summary of Options				DRAFT	
Updated: DRAFT 10-12-2020 Families of Options:		Families of Conceptual Options					
			A	B	C		
		MSBA Required	Renovation	Add/Reno	New Construction On-Site		
		B.2		C.1	C.2	C.3	
		Construction Cost	\$211.1 M	\$243.5 M	\$236.6 M	\$243.5 M	
1,600 students		Project Cost	\$284.6 M	\$317.4 M	\$308.7 M	\$317.4 M	
e.	1,722 Students	Construction Cost PROJECT COST		X	\$203 - \$248 M \$264 - \$335 M	\$219 - \$257 M \$274 - \$335 M	\$223 - \$258 M \$278 - \$336 M

# Option C.3 Potential Construction Schedule



Phase 1: Site Enabling Work (tree clearing, ledge removal)

*Summer – Winter 2022*

Phase 2: Construct New School

*Spring/Summer 2023 – Summer 2025*

Phase 3: Demolish Existing School & Construct New Fields/Outbuildings

*Summer 2025 – Summer 2026*

MSBA Financial Closeout: *Fall 2027*



# Preferred Schematic

## Process

### **Upcoming Meetings:**

- Weekly Project Team
- Bi-Weekly Working Group
- Monthly Building Committee
- Community Meetings
- Conservation Commission
- Geotechnical Investigation
- Local Officials- Building, Fire, Traffic
- Security – Administration, First Responders
- MSBA- Facilities Assessment Subcommittee

# Agenda



- SBC Vote to Approve Prior Minutes
- OPM/Designer Updates
  - Accomplishments to Date
  - PSR Update: Cost Estimates & Schedule
  - Next Steps
- **SBC Vote to Approve Preferred Option & Enrollment**
- **SBC Vote to Approve Submission of PSR**



# Upcoming Challenges



## Upcoming Challenges/Opportunities:

- Public Outreach/Support
- MSBA Facilities Assessment Subcommittee (January 2021)
- MSBA Board of Directors PSR Approval (February 2021)
- Development of Schematic Design (SD) level plans & specifications
- Submit Schematic Design & DESE Package to MSBA/DESE (June/July 2021)
- MSBA Project Scope & Budget Approval (August 2021)
  - Continue to justify as much square footage as possible
  - Work within MSBA grant program to maximize potential reimbursement
- Secure Local Funding (December 2021 deadline)
- Procure Construction Manager for Preconstruction Services

# Northeast Metro Tech

Building Committee

Thank You!

DRA

December 10, 2020