OPM SUBMITTAL REVIEW & COORDINATION

RESPONSE TO MSBA SCHEMATIC DESIGN REVIEW

6A.2.1 - 04

ATTACHMENT A
MODULE 4 – SCHEMATIC DESIGN REVIEW COMMENTS

District: Northeast Metropolitan Regional Vocational District
School: Northeast Metropolitan Regional Vocational Technical High School
Owner's Project Manager: PMA Consultants, LLC
Designer Firm: Drummey Rosane Anderson, Inc.
Submittal Due Date: July 7, 2021
Submittal Received Date: July 7, 2021
Review Date: July 14- August 4, 2021 **Received:** August 6, 2021
Reviewed by: H. Valdez, M. Deslauriers, C. Alles, F. Bradley, K. Brown
Response: ***August 20, 2021***

MSBA REVIEW COMMENTS

The following comments[1] on the Schematic Design submittal are issued pursuant to a review of the project submittal document for the new construction of the proposed project and presented as a Schematic Design submission in accordance with the MSBA Module 4 Guidelines.

4.1 SCHEMATIC DESIGN SUBMITTAL

Overview of the Schematic Design Submittal	Complete	Provided; *Refer to comments following each section*	Not Provided; *Refer to comments following each section*	Receipt of District's Response; *To be filled out by MSBA Staff*
Schematic Design Submittal Notification	☒	☐	☐	☐
OPM Certification of Completeness and Conformity	☒	☐	☐	☐
4.1.1 DESE Submittal	☐	☒	☐	☐
4.1.2 Schematic Design Binder	☐	☒	☐	☐
4.1.3 Schematic Design Project Manual	☐	☒	☐	☐
4.1.4 Schematic Design Drawings	☐	☒	☐	☐

Note that Module Four states that "MSBA will not accept incomplete submittals, submittals that have not been reviewed by the OPM or submittals for which the estimated project costs exceed the District's project budget. Updates to the Total Project Budget that do not reflect the scope and schedule represented in the Schematic Design submittal will not be accepted. All value engineering activities must be complete, and the results incorporated into the Schematic Design documentation prior to being submitted to the MSBA."

[1] The written comments provided by the MSBA are solely for purposes of determining whether the submittal documents, analysis process, proposed planning concept and any other design documents submitted for MSBA review appear consistent with the MSBA's guidelines and requirements, and are not for the purpose of determining whether the proposed design and its process may meet any legal requirements imposed by federal, state or local law, including, but not limited to, zoning ordinances and by-laws, environmental regulations, building codes, sanitary codes, safety codes and public procurement laws or for the purpose of determining whether the proposed design and process meet any applicable professional standard of care or any other standard of care. Project designers are obligated to implement detailed planning and technical review procedures to effect coordination of design criteria, buildability, and technical adequacy of project concepts. Each city, town and regional school district shall be solely responsible for ensuring that its project development concepts comply with all applicable provisions of federal, state, and local law. The MSBA recommends that each city, town and regional school district have its legal counsel review its development process and subsequent bid documents to ensure that it is in compliance with all provisions of federal, state and local law, prior to bidding. The MSBA shall not be responsible for any legal fees or costs of any kind that may be incurred by a city, town or regional school district in relation to MSBA requirements or the preparation and review of the project's planning process or plans and specifications.

4.1.1 DESE SUBMISSION

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Cover Letter	☒	☐	☐	☐
2	Special Education Delivery Methodology Letter	☒	☐	☐	☐
3	Signed Educational Space Summary	☒	☐	☐	☐
4	Floor Plans	☒	☐	☐	☐
5	Special Education Adjacency Table	☒	☐	☐	☐

MSBA Review Comments:

This information has been transmitted to DESE for review and approval. **Acknowledged.**

No further review comments for this section.

4.1.2 SCHEMATIC DESIGN BINDER

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response *To be filled out by MSBA Staff*
1	Introduction				
	a) Summary of the MSBA approved Preferred Schematic	☒	☐	☐	☐
	b) Community outreach overview	☒	☐	☐	☐
	c) The District's Total Project Budget for the proposed project	☐	☒	☐	☐
	d) Updated description of the project	☒	☐	☐	☐
	e) Site Plan, Floor Plans, and Elevations	☒	☐	☐	☐
	f) A copy of the MSBA Preferred Schematic Report review and corresponding District response	☒	☐	☐	☐
2	Final Design Program				
	a) General and specific architectural characteristics desired	☐	☒	☐	☐
	b) Educational space summary spreadsheets	☐	☒	☐	☐
	c) Narrative of how the proposed educational space summary supports the educational program	☒	☐	☐	☐
	d) Instructional technology (existing and proposed)	☒	☐	☐	☐
	e) Functional relationships and critical adjacencies that informed the basis of design	☐	☒	☐	☐
	f) Security and visual access requirements	☐	☒	☐	☐

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response *To be filled out by MSBA Staff*
	g) Site development requirements	☐	☒	☐	☐
	h) Description of desired features of the school	☒	☐	☐	☐
3	Traffic Analysis	☐	☒	☐	☐
4	Environmental and Existing Building Assessment	☐	☒	☐	☐
5	Geotechnical and Geo-environmental Analysis	☐	☒	☐	☐
6	Code Analysis and List of Permitting and other Regulatory Filing Requirements	☒	☐	☐	☐
7	Utility Analysis and Soils Analysis for on-site septic/sewage treatment facilities	☒	☐	☐	☐
8	Massing Study	☒	☐	☐	☐
9	Narrative Building Systems Descriptions				
	a) Sustainable design elements	☐	☒	☐	☐
	b) Building structure	☒	☐	☐	☐
	c) Plumbing and HVAC	☒	☐	☐	☐
	d) Fire Protection	☒	☐	☐	☐
	e) Verify adequate water capacity for new system	☒	☐	☐	☐
	f) Confirm if a fire pump will be required	☒	☐	☐	☐
	g) Electrical	☐	☒	☐	☐
	h) Information Technology	☒	☐	☐	☐
10	Sustainable Building Design Guideline Documents	☐	☒	☐	☐
11	Analysis of the design's compliance with ADA and the MAAB	☒	☐	☐	☐
12	Timeline associated with filing the Project Notification Form with Massachusetts Historical Commission ("MHC") and obtaining MHC approval prior to construction bids.	☐	☒	☐	☐
13	Room Data Sheets	☒	☐	☐	☐
14	Proposed construction methodology (DBB / CMR)	☒	☐	☐	☐
15	District's anticipated reimbursement rate w/ incentive points	☐	☒	☐	☐
16	Total Project Budget spreadsheet and summary of cost reconciliation of the Designer's and OPM's estimates.	☐	☒	☐	☐
17	Designer's Construction Cost Estimate	☐	☒	☐	☐
18	Independent OPM Construction Cost Estimate	☐	☒	☐	☐
19	Updated Project Work Plan – indicating changes	☒	☐	☐	☐
	a) Project Directory	☒	☐	☐	☐
	b) Roles and Responsibilities	☒	☐	☐	☐

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response *To be filled out by MSBA Staff*
	c) Communications and Document Control Procedures	☒	☐	☐	☐
	d) Designer's Work Plan Project Schedule	☒	☐	☐	☐
20	Local Actions and Approvals Certification				
	a) Completed and signed certification	☒	☐	☐	☐
	b) SBC meeting dates, agendas, and attendees	☒	☐	☐	☐
	c) Certified SBC meeting notes with vote language and vote results	☒	☐	☐	☐
	d) Description of materials presented at such SBC meetings and where those materials may be viewed	☒	☐	☐	☐

MSBA Review Comments:

1c) Refer to section 4.1.2 item 16 for comments related to the proposed total project budget. **Design Team Response: Acknowledged.**

2a) Optimal solar orientation of the proposed building appears to be compromised due to: 1) construction phasing (the existing building is located on the ideal portion of the site); 2) the remaining site is narrow and restricts optimal orientation; and, 3) site topography limits buildable area on the site. In the response to this review, describe design measures that can be developed in following phases to mitigate limited direct natural daylighting, excessive glare and solar heat gain. **Design Team Response: During the upcoming phases of design the following measures will be investigated to mitigate excessive glare and solar heat gain while optimizing natural daylighting: sunscreens, appropriately sized and configured roof overhangs, glass types, window sizes and configurations. The Design Team will utilize 3-D building modeling and daylight simulation software. Input will also be sought from lighting consultants.**

2b) Please refer to detailed comments in 'Attachment B'.

2e) The MSBA notes that the Transportation Cluster on the lower level of the proposed building, which includes the auto collision and auto technology vocational spaces, is located directly beneath the auditorium space on the first level of the proposed building. In response to these review comments, please provide additional information that describes any noise reduction features planned to control the noise transmission that will occur between the auto tech and collision shops and the auditorium directly above. **Design Team Response: The Design Team has successful experience in dealing with this configuration of sensitive educational space above potentially noisy CTE shops, such as Automotive Technology. The strategies to be utilized include: Installation of a sound transmission barrier ceiling consisting of two layers of 5/8" gyp board on sound isolation clips, 6" batt insulation, additional insulation above the main structural floor slab and the toping slab (this insulation may also help to form the floor profile at the Auditorium seating and Stage). The combination of these measures and potentially other additional techniques will be under consideration in the upcoming design**

phases as DRA continues to work with Acentech, the Acoustical Consultants for the Project, to develop a detailed approach to mitigate nose transmission at the shop areas.

2f) The information provided includes the involvement of the Wakefield Police and Fire Departments in security protocol for the school. Please confirm this includes emergency medical services personnel. **Design Team Response: The Wakefield Fire Department is the liaison to emergency medical personnel and represented their interests at the initial security discussion. The Design Team will insure that emergency medical personnel are also included in the subsequent planned security discussions during the upcoming design phases.**

Additionally, the submission also confirms that all visitors will be required to use the main entrance during the main hours of operation. However, the visual aids provided indicate there are two additional entrances that are accessible: the customer entrance for the cosmetology and culinary arts programs, and the entrance for the auditorium and gymnasium. Please confirm the security protocol for those entrances. **Design Team Response: The following operating protocols have been discussed with the District:**

The Customer Service entrance will be normally locked after morning arrival times. On the days and times when the Culinary Arts restaurant and/ or the Cosmetology salon are scheduled to be opened to the public, the outer vestibule doors will be monitored by the adjacent shops. Visitors to those spaces (generally by appointment) will be buzzed into the Customer Service lobby by the adjacent shop personnel. The inner vestibule doors connecting to the rest of the school will remain locked (access will be by swipe card only). Visitors in the lobby will only be able to access the restaurant and salon where they will be greeted and served by students as part of their training.

The Events entrance serving the Gymnasium and Auditorium will be normally locked after morning arrival daily. Visitors will be directed to the Main entrance by appropriate site and building signage.

2g) The submittal indicates that there are more parking spaces in the project scope than required by zoning. In response to these review comments, please confirm the minimum number of parking spaces required for the proposed project and indicate how the final number of proposed parking spaces will be determined. **Design Team Response: Per zoning regulations, the parking count for the school shall be calculated as follows:**

Staff requirement: 2 spaces for every 3 staff members. The school staff is targeted at 227 members. 227*.667 = 151 spaces

Student requirement: 1 space for each 6 seats in the largest area of assembly. The school is designed for 1,600 students. 1,600* 1/6 = 267 spaces.

418 total spaces are required by zoning for students and staff.

The current school has 432 parking spaces.

The new design is providing 483 total parking spaces. The spaces break down as follows:

12 dedicated spaces for the Breakheart Reservation (no school parking allowed)

10 spaces for school visitors

10 spaces for electrical vehicle charging (LEED credit requirement)

20 spaces for the fleet of school vehicles.

Due to the regional range of students and staff that will attend this school, we are providing an additional 10 student and 3 staff parking spaces (277 student, 154 staff). This totals 483 parking spaces incorporated into the design.
During the existing conditions phase we interviewed the Administration, including the Head of Maintenance for the school and they indicated that the current amount of parking for the school is not adequate for the student and staff levels. This information was taken into consideration during the parking design. We are providing 51 more stalls than the current school provides. During the upcoming design development phase the Design Team will confirm these totals with the Owner and will resolve the breakdown and location of visitor, staff and students spaces.

3) According to the information provided in the traffic analysis, an additional traffic signal is recommended as part of the proposed project. In response to these review comments, please confirm the timeline anticipated for this work and confirm that all work outside the site boundaries has been itemized in the District's total project budget. Please note that all project costs outside the site boundaries have been deemed ineligible for reimbursement. Please acknowledge. **Team Response: The timeline of this work remains under review as we seek input and recommendations from Gilbane, the selected Construction Manager. We acknowledge that all project costs outside the site boundaries will not be eligible for reimbursement; and note that the costs associated with this work fit well-within the ineligible site costs category in the District's total project budget.**

4) In response to these review comments, please provide a narrative that confirms the scope of work associated with future radon testing and mitigation. Additionally, confirm the anticipated project costs for this work has been included in the total project budget submitted to the MSBA. **Design Team Response: Radon mitigation has been included in the scope of construction work. The system will utilize the network of under-slab drainage pipes and crushed stone beds to collect potential radon gas. Any gas collected will be vented by gravity through the building by approximately 24 vertical riser pipes through the roof. Before project closeout, the system will be reviewed and indoor air-quality testing performed to determine if the system requires supplemental exhaust fans. The cost of this system, including an allowance for testing has been included in the total project budget.**

5) The MSBA notes that according to the geotechnical report, rock blasting is a required site development cost for the project. While this is referenced in the CMR cost estimate, please confirm the Designer's estimate and the total project budget submitted also includes this work. **Design Team Response: The cost of rock blasting has been included in the Designer's construction cost estimate and included in the total project budget.**

9a) The Sustainable Design building narrative was not found in the submittal. Please provide in response to these review comments. **Design Team Response: Please see Sustainable Design narrative attached to these responses.**

9g) In response to these review comments, please confirm the minimum size requirements for the elevators that are being included in the proposed project. Provide additional information that confirms the elevator type, number of floors each elevator will service, and documents the need for oversized passenger elevators being used in the proposed project. **Design Team Response:**

Two passenger elevators are proposed for this project. One elevator will be located by the Main entrance lobby and will serve all four levels at that end of the building. It is proposed to be 3,500-pound capacity. The second elevator will be located at the Events lobby and will serve all five levels at that end of the building. This elevator is proposed to be 5,000-pound capacity and will be sized to accommodate stretchers and oversized materials and equipment that may be needed on the upper-level Career Technical shops. Robotics on level four, for example occasionally uses 4' x 8' sheets of plywood; and Design & Visual Communications on level two occasionally requires delivery of paper printing supplies on pallets. The costs associated with these proposed elevators are included in the current construction cost estimates.

10) The District and its consultants are targeting 5 points in Credit EAc1 for Enhanced Commissioning. Note that per the updated commissioning process for MSBA-funded projects, the commissioning consultant's contract includes a scope of work achieving 6 points in Credit EAc1. In response to these review comments, please confirm the District will provide an updated LEED v4 for BD+C: Schools scorecard in the Detailed Design submittal. Please reference Project Advisory 63 for more information. Upon assignment of an MSBA commissioning consultant, the targeted points and scope of work should be discussed and coordinated. **Design Team Response: Acknowledged, the Design Team will include an updated LEED scorecard in the Detailed Design submittal after discussion and coordination with MSBA-assigned commissioning consultant.**

12) The information provided in the project schedule indicates a Project Notification Form ("PNF") was submitted to the Massachusetts Historical Commission ("MHC") on June 25, 2020. Please note MHC approval is required prior to construction bids. The District should keep the MSBA informed of any decisions and/or proposed actions and should confirm that the proposed project is in conformance with Massachusetts General Law 950, CRM 71.00. Please acknowledge. **Design Team Response: Acknowledged.**

15) Please note that the District's base reimbursement rate for calendar year 2021 is 73.26%. Please acknowledge. **Team Response: Acknowledged.**

16) The proposed total project budget continues to be reviewed and will be further discussed with the project team leading up to a potential MSBA staff recommendation. However, during this time MSBA staff will be requesting clarifying information regarding the potential use of construction alternates which have conflicting references in the submission and are not identified in the District's version of the total project budget spreadsheet. Also, as referenced in the Preferred Schematic Report review comments, the District must identify the design and construction costs associated with the three out-buildings being proposed as part of this project. Please also note that for future projects, the District's version of the total project budget spreadsheet submitted with the schematic design is a draft and will be completed by the MSBA and is not required to be signed by District representatives. Please acknowledge.

Team Response: Potential future alternates were identified within the Schematic Design submittal; however, the project remains within the District's budget and the alternates may

only be needed if Design Development costs appear to be in danger of exceeding the total project budget beyond what can be accounted for through design and escalation contingencies. The potential alternates were included to demonstrate to the MSBA that, if absolutely needed, the project team is able to make future cuts that do not directly impact educational delivery to students.

Please note that construction and design costs associated with the three out-buildings were in fact itemized within the total project budget spreadsheet that was included in the Schematic Design submission.

We acknowledge the MSBA's note regarding future draft project budget spreadsheet submittals.

17,18) Reference to a value engineering effort is indicated but no detailed breakdown was found in this submission. Please provide in response to these review comments. Note items evaluated and accepted as value engineering items should be provided with schematic design and all future project submittals. Please acknowledge.

Team Response: We acknowledge the MSBA's statement above.

We have realized after further review that the construction cost estimate reconciliation narrative may have led to some confusion. A traditional value engineering process was not required as the project was confirmed to be on budget through the clarification of materials, methods and clarification of design intent. Real-time collaborative cost estimate revision/iteration process took place continuously from 6/14/21 through 6/28/2021 and was then supplemented by a comparatively minor value engineering exercise and clarification of design intent. As stated within the aforementioned narrative, the largest measures that impacted the estimates did not actually involve any changes to the drawings or specifications, but rather changes to assumptions by the construction cost estimators.

Due to the iterative nature of the estimating-related components of the exercise, not all changes were tabulated; however, PMA did note the following:

- **Structural steel unit pricing adjustment to be consistent with recent 149A buys [approx. $1.5M savings pre-markup]**
- **Clarification of design intent where drawings unclear; and similarly, revising overly conservative target values for scope not yet fully defined. Examples include:**
    - **(Scope clarity example #1): The overhead structure for the dugout was not fully detailed/described in the drawings, so the estimators originally made conservative assumptions. Superintendent DiBarri clarified that dugouts should be simple overhead structure that perhaps would provide an opportunity for carpentry students to upgrade further in future [Approximate $100k savings pre-markups]**
    - **(Scope clarity example #2): Cost estimators assumed rigid under-slab insulation required along entire building footprint; designer clarified only required to have 2' strip along perimeter of exterior walls [Approximate $400k savings pre-markups]**

    - **(Target value reduction example #1): The landscape architect was hopeful to be able to reuse the ledge that will be blasted to build the potential new school into the hillside, potentially fashioning large boulders into bench-seating. Upon discussions with their regular site subcontractors, Gilbane informed the team that this would be much more cost prohibitive than the design team had hoped, and the cost to perform this work was estimated at over $1M pre-markups. The targeted value was reduced to under $250k. [Approximate $1m+ savings pre-markups]**
    - **(Target value reduction example #2): Gilbane subcontractors provided feedback on lineal metal ceiling unit pricing; previously carried at $75/sf; revised to $50/sf [Approximate $400k savings pre-markups]**
    - **(Target value reduction example #3): Reduction of lighting pricing by $1 per building sf. [Approximate $400k savings pre-markups]**
- **Reduce CM Contingency by 0.25% [~$500k reduction pre-markups]**
- **Reduce Design Contingency & Escalation: [~$1M reduction pre-markups]**
- **Eliminate double-counted scope, shift equipment/technology to FFE/Tech budgets**

Actual value management considerations presented to the Superintendent were site-focused when possible and include the following examples:

- **Reduce bleachers to 750 seats [$312k reduction pre-markups]**
- **Reduce overall size of team room building [~$823k reduction pre-markups]**
- **Reduce vehicular concrete from 8" to 6"; change from concrete to bituminous pavement; reduce extents of vertical granite curbing; replace some concrete sidewalks with asphalt [~$400k reduction pre-markups]**
- **Revise exterior granite wall veneers to cast in place concrete [~$323k reduction pre-markups]**
- **Replace phenolic panels in cafeteria, auditorium, corridors, etc. with thin porcelain tile, paint, or Plyboo wall panels [~$1.33M reduction pre-markups]**
- **Revise HVAC system from air source hydronic heat pumps to VRF systems (while maintaining energy efficiency goals) [~$2.23M reduction pre-markups]**
- **Eliminate sports field lighting [~$550k+ reduction pre-markups]**
- **Target 25% reduction of theatrical lighting/sound equipment [$75k reduction pre-markups]**
- **Target reduction in stage curtains and rigging [$200k reduction pre-markups]**
- **Use aluminum conductors on feeders / aluminum bussing in switchboards/panelboards/transformer cores [$230k reduction pre-markups]**

No further review comments for this section.

4.1.3 SCHEMATIC DESIGN PROJECT MANUAL

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Outline specifications in Uniformat Divisions	☒	☐	☐	☐
2	Itemization of all proprietary items (if any) with an explanation of each, explanation of the public interest for each item, and certification of local authorization that each item complies with state and local regulations, policies and guidelines.	☐	☒	☐	☐

MSBA Review Comments:

2) Several single source manufacturers were found within the outline specifications. Please note that in subsequent phases of design the specifications should include three named manufacturers for all products. **Design Team Response: Acknowledged.**

Regarding proprietary items: Proprietary items were indicated for access control and closed-circuit television components. In subsequent phases of design, if proprietary products are being used as part of the proposed project, provide a final list identifying all proposed proprietary items (if any) with an affidavit which shall indicate that an elected body of the district (school committee, city or town council, or selectmen, but not ad-hoc building committee) has been presented with proposals for proprietary requirements approval action, has had an opportunity to investigate, or to require staff or consultant investigation upon each item so proposed, and has majority voted in an open public session that it is in the public interest to do so. Provide MSBA with a certified copy of the elected body vote when it is available. Please acknowledge. **Design Team Response: Acknowledged.**

Also, the specifications include detailed information for photovoltaic panels. However, it is understood that photovoltaic arrays are not included as part of this project. Please clarify/coordinate in subsequent versions of the specifications. **Design Team Response: Acknowledged, this will be clarified in future submittals.**

No further review comments for this section.

4.1.4 SCHEMATIC DESIGN DRAWINGS

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Existing site plan	☒	☐	☐	☐
2	Site development plan	☐	☒	☐	☐
3	Schematic building floor plans	☒	☐	☐	☐
4	Interior elevations of a typical general classroom, and typical Science Classroom/Lab as applicable.	☒	☐	☐	☐
5	Schematic exterior building elevations	☒	☐	☐	☐

MSBA Review Comments:

2) Please note that that rendering drawing R-100 indicates the soccer/softball field to include synthetic turf and landscape drawing L-304 indicates natural grass for this field. Please clarify and coordinate in future submittals. **Design Team Response: Acknowledged, this will be clarified in future submittals.**

No further review comments for this section.

Additional Comments:

- *On February 11, 2021, the MSBA Board of Directors approved the District's Preferred Option C3.c for a 383,000 square foot new construction option with an estimated total project cost of $317,422,620. This Schematic Design submittal under review shows this same option currently as a 386,630 square foot new construction option with an estimated total project cost of $317,422,620. This represents an increase of 3,630 square feet and no change in the total project cost.* **Design Team Response: Acknowledged.**

End

Northeast Metro Tech
Schematic Design Binder
4.1.2-09c – Building Systems Narratives

Sustainable Design Elements

The following building assemblies, components and strategies will continue to be evaluated during the upcoming detailed design phase and developed to achieve the optimal sustainability levels for this project:

- Highly efficient building envelope components including; insulation and windows
- Maximize sustainable site strategies: Compact footprint, minimal site disturbance, impervious area, best stormwater management
- Consider owning vs leasing rooftop photo-voltaic panels to generate on-site solar energy
- Maximize number of high-efficiency LED light fixtures throughout building
- HVAC equipment motors to be highest efficiency feasible
- Optimize solar building-orientation within site limitations to maximize daylighting and passive heating
- Utilize native plantings to minimize need for irrigation
- Encourage carpooling and use of electric vehicles with preferred parking spaces and charging stations
- Require construction waste-stream management to maximize re-use and recycling and to reduce burden on land fills
- Utilize certified low VOC paints and finish materials
- Integrate teaching sustainability principles into the High School curriculum
- Make the building itself be a learning tool with signage, transparency, and visibility of building systems and sustainable strategies
- Encourage connection to adjacent Breakheart Reservation to integrate the natural environment into the High School curriculum

The project team has established a minimum sustainability goal of achieving LEED Silver with the option of considering LEED Gold.

ATTACHMENT B
MODULE 4 – SCHEMATIC DESIGN SPACE SUMMARY REVIEW

District: Northeast Metropolitan Regional Vocational District
School: Northeast Metropolitan Regional Vocational Technical High School
Owner's Project Manager: PMA Consultants, LLC
Designer Firm: Drummey Rosane Anderson, Inc.
Submittal Due Date: July 7, 2021
Submittal Received Date: July 7, 2021
Review Date: July 7- August 4, 2021 **Received:** August 6, 2021
Reviewed by: S. Fallon, A. Alves, F. Bradley, C. Alles, J. Jumpe **Design Team responses:** *August 20, 2021*

The following comments[1] on the Schematic Design submittal are issued pursuant to a review of the project submittal document for the new construction of the proposed project and presented as a Schematic Design submission in accordance with the MSBA Module 4 Guidelines.

The MSBA considers it critical that the Districts and their Designers aggressively pursue design strategies to achieve compliance with the MSBA guidelines for all proposed projects in the new program and strive to meet the gross square footage allowed per student and the core classroom space standards, as outlined in the guidelines. The MSBA also considers its stance on core classroom space critical to its mission of supporting the construction of successful school projects throughout the Commonwealth that meet current and future educational demands. The MSBA does not want to see this critical component of education suffer at the expense of larger or grander spaces that are not directly involved in the education of students.

The following review is based on a new construction project with an agreed upon design enrollment of 1,600 students in grades 9-12. The MSBA notes in the submittal that the District currently pairs 9th and 11th grade students and 10th and 12th grade students when scheduling vocational programming. To determine a full-time equivalent ("FTE") enrollment that reflects the week-on/ week-off schedule, the MSBA considered enrollments over the last three years and flexibility for future leadership should a schedule be implemented that pairs the 9th and 10th grade students.

[1] The written comments provided by the MSBA are solely for purposes of determining whether the submittal documents, analysis process, proposed planning concept and any other design documents submitted for MSBA review appear consistent with the MSBA's guidelines and requirements, and are not for the purpose of determining whether the proposed design and its process may meet any legal requirements imposed by federal, state or local law, including, but not limited to, zoning ordinances and by-laws, environmental regulations, building codes, sanitary codes, safety codes and public procurement laws or for the purpose of determining whether the proposed design and process meet any applicable professional standard of care or any other standard of care. Project designers are obligated to implement detailed planning and technical review procedures to effect coordination of design criteria, buildability, and technical adequacy of project concepts. Each city, town and regional school district shall be solely responsible for ensuring that its project development concepts comply with all applicable provisions of federal, state, and local law. The MSBA recommends that each city, town and regional school district have its legal counsel review its development process and subsequent bid documents to ensure that it is in compliance with all provisions of federal, state and local law, prior to bidding. The MSBA shall not be responsible for any legal fees or costs of any kind that may be incurred by a city, town or regional school district in relation to MSBA requirements or the preparation and review of the project's planning process or plans and specifications.

Review of the last three years of enrollment as reported to DESE revealed that 9th and 10th grade students represented 53% of the total population on average. Please note, the MSBA will base its evaluation of proposed spaces using a total enrollment number of 1,600, or FTE number of 848 students by category as presented below. ***Design Team Response: Acknowledged***

The following review is based on a revised space summary that was provided to the MSBA by electronic mail on August 3, 2021. The MSBA noted some minor discrepancies in the totals included in the submitted space summary and it appears that the MSBA Guidelines columns in the submitted space summary have been altered. The review notes below are based on an unaltered space values as included in the MSBA Space Summary Template for high school projects. The MSBA noted a total discrepancy in the net floor area of 24 nsf. ***Design Team Response: Noted discrepancies seem to be a result of rounding; when accurate <u>total</u> areas for multiple spaces are divided by the number of such spaces; eg: 30,870 total sf for 36 General classrooms results in a <u>rounded</u> net area per classroom of 858 sf reported on the space summary (as opposed to 857.5).***
Confirm that future space summary submittals will not include altered guidelines values. ***Design Team Response: Confirmed***

The MSBA review comments are as follows:

- **Core Academic** – This category is evaluated based on the FTE enrollment. The District is proposing a total of 51,463 net square feet (nsf) which exceeds the MSBA guidelines by 11,085 nsf for the FTE enrollment. The proposed area in this category has increased by 1,585 nsf since the Preferred Schematic Report submittal. This increase is primarily due to the relocation of the Health Classroom (750 sf) in this category from the Health & Physical Education category as directed by the MSBA, and other minor layout and design revisions. The proposed spaces include:
    - (36) 858 nsf General Classrooms totaling 30,888 nsf;
    - (3) 1,192 nsf Teacher Planning / Workrooms totaling 3,576 nsf;
    - (3) 663 nsf Small Group Seminar / Collaborate Spaces totaling 1,989 nsf;
    - (8) 1,440 nsf Science Classrooms / Labs totaling 11,520 nsf which meets the guidelines.;
    - (4) 400 nsf Prep Rooms totaling 1,600 nsf which meets the guidelines.;
    - (1) 200 nsf Central Chemical Storage Room totaling 200 nsf which meets the guidelines.; and
    - (1) 940 nsf Language Lab / Distance Learning totaling 940 nsf.

  As stated in the PSR Review Comments, based on the nature of the District's proposed delivery of their Chapter 74 and Vocations and Technology Programs, the MSBA accepted a variation to the full-time equivalent up to 10,543 nsf. Please note all square footage in excess of 10,543 above MSBA guidelines for the FTE enrollment will be considered ineligible for reimbursement. No further action required. ***Design Team Response: Acknowledged***

- **Special Education** – This category is evaluated based on the total enrollment. The District is proposing a total of 7,070 net square feet (nsf) which is 9,040 nsf below the MSBA guidelines based on the total enrollment. The proposed area in this category has increased by 300 nsf since the Preferred Schematic Report submittal. This increase is primarily due to the inclusion of two Adjustment Counselors offices. Although these offices are reported to partially support students who receive special education services, this category is for space dedicated exclusively to the delivery of special education services, therefore these two offices should continue to be carried under the Administration and Guidance category in subsequent submittals. Please provide an updated space summary template in response to these review comments. ***Design Team Response: Please see updated Space Summary template attached to these responses.***
  Please note that the Special Education program is subject to approval by the Department of Elementary and Secondary Education (DESE) and that formal approval of the District's proposed Special Education program is a prerequisite for executing a Project Funding Agreement with the MSBA. ***Design Team Response: Acknowledged***

- **Art & Music** – The District is proposing no spaces dedicated exclusively to art, music, or drama programs, and intends to continue to use the Auditorium to support an after school offering as is currently practiced. As stated in the PSR review comments, the MSBA accepts this variation to the guidelines. No further action required. ***Design Team Response: Acknowledged***

- **Voc-Tech** – This category is based on the FTE Enrollment. The District is proposing a combined total of 127,755 nsf which exceeds the MSBA guidelines by 119,115 nsf for the FTE enrollment. The proposed area in this category has increased by 1,552 nsf since the Preferred Schematic Report submittal. The District has indicated this increase is primarily due to minor layout and design revisions. for this category has also been adjusted based upon the District's updated Chapter 74 Viability Document submission. The MSBA notes the District is proposing (19) nineteen Chapter 74 Programs, which includes (16) sixteen existing programs and (3) three new programs. These programs include:
  - Automotive Collision Repair
  - Automotive Technology
  - Business Office Technology
  - Carpentry
  - Cosmetology
  - Culinary Arts
  - Dental Assisting
  - Design & Visual Communications
  - Drafting & Design
  - Early Childhood Education
  - Electrical Technology
  - Health Assisting
  - HVAC Technology
  - Metal Fabrication
  - Plumbing & Pipefitting

- Robotics & Automation
- Biotechnology (new)
- Marketing (new)
- Medical Assisting (new)

Based on the inclusion of the District's Chapter 74 programming, the MSBA accepts a variation to the full-time equivalent up to 119,115 nsf. No further action required. ***Design Team Response: Acknowledged***

- **Health and Physical Education** – This category is evaluated based on the FTE Enrollment. The District is proposing a total of 25,753 nsf which exceeds the MSBA guidelines by 4,804 nsf for the FTE enrollment. The proposed area in this category has increased by 593 nsf since the Preferred Schematic Report submittal. The District has indicated this increase is primarily due to minor layout and design revisions and slight programmatic adjustments. Based on additional information submitted regarding physical education requirements and electives the MSBA accepts an 851 nsf variation to the guidelines associated with locker room area for an adjusted MSBA eligible total of 21,800 nsf based on the FTE enrollment. The proposed program exceeds the adjusted guidelines by 3,953 nsf. Please note that all square footage in excess of adjusted MSBA guidelines based on the FTE enrollment will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- **Media Center** – This category is evaluated based on the FTE Enrollment. The District is proposing a total of 5,456 nsf which exceeds the MSBA guidelines by 256 nsf for the FTE enrollment. The proposed area in this category has increased by 255 nsf since the Preferred Schematic Report submittal. This increase is primarily due to design revisions and modifications in spaces. The MSBA does not object to the inclusion of additional square footage in this category, however, please note square footage in excess of the MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- **Auditorium / Drama** – This category is evaluated based on the total enrollment. The District is proposing a total of 10,506 nsf which exceeds the MSBA guidelines by 106 nsf for the total enrollment. The proposed area in this category has increased by 106 nsf since the Preferred Schematic Report submittal. The District has indicated this increase is primarily due to minor layout and design revisions. The MSBA does not object to the inclusion of additional square footage in this category, however, please note square footage in excess of the MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- **Dining & Food Service** – This category is evaluated based on the total enrollment. The District is proposing a total of 13,180 nsf which exceeds the MSBA guidelines by 480 nsf for the total enrollment. The proposed area in this category has decreased by 120 nsf since the Preferred Schematic Report

submittal. This decrease is primarily due to the elimination of a second dining area with a satellite kitchen and serving area. As stated in the PSR Review Comments, the MSBA does not object to the additional space, however, square footage in excess of the MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- **Medical** – This category is evaluated based on the total enrollment. The District is proposing a total of 1,342 nsf which is 68 nsf below the MSBA guidelines for the total enrollment. The MSBA accepts this variation to the guidelines. No further action required. ***Design Team Response: Acknowledged***

- **Administration & Guidance** – This category is evaluated based on the total enrollment. The District is proposing a total of 8,198 nsf which exceeds the MSBA guidelines by 2,403 nsf for the total enrollment. The proposed area in this category has decreased by 582 nsf since the Preferred Schematic Report submittal. As stated in the PSR Review Comments the MSBA does not object to including additional administration space in this category: however, please note all square footage in excess of MSBA guidelines, including the 300 nsf for Adjustment Counselors offices in the Special Education Category above, which should be included in this category of spaces in future submittals, will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- **Custodial & Maintenance** – This category is evaluated based on the total enrollment. The District is proposing a total of 3,844 nsf which exceeds the MSBA guidelines by 1,019 nsf for the total enrollment. The proposed area in this category has increased by 106 nsf since the Preferred Schematic Report submittal. The District has indicated this increase is primarily due to minor layout and design revisions. As stated in the PSR comments, the MSBA does not object to the District providing these additional spaces in the project, however, any square footage beyond that included in the guidelines will be considered ineligible for reimbursement. Please acknowledge ***Design Team Response: Acknowledged***

- **Other** - The District is proposing a total of 2,357 nsf which exceeds the MSBA guidelines. The proposed area in this category has decreased by 4,878 nsf since the Preferred Schematic Report submittal. This decrease is primarily due to the removal of the square footage for all outbuildings and site support structures from the space summary template. The MSBA notes the following spaces are proposed:

    - Adult Ed Office and Storage – (1) 455 nsf space
    - Superintendent's Office – (1) 260 nsf space
    - Superintendent's Assistant – (1) 125 nsf space
    - Business Office Suite – (7) 151 nsf rooms totaling 1,057 nsf

    As stated in the PSR review comments, the MSBA does not object to including these spaces but please note that these spaces will be considered ineligible for reimbursement. Additionally, please note the MSBA does not object to the District providing outbuildings and additional site support structures in the

project; however, the project costs must be itemized in the District's total project budget template and will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- Safety Resource Officer – (1) 120 nsf space
- In-House Suspension – (1) 340 nsf space

The MSBA considers these areas eligible for reimbursement. ***Design Team Response: Acknowledged***

- **Total Building Net Floor Area** – The District is proposing a total of 256,924 nsf which exceeds the MSBA guidelines by 75,409 nsf for the total enrollment and exceeds the MSBA guidelines by 141,095 nsf for the FTE enrollment. The proposed area has decreased by 1,908 nsf since the Preferred Schematic Report submittal. As noted above: Core Academic, Voc-Tech, Health & P.E., and Media Center categories were evaluated based on the FTE enrollment. Based on the comments provided above, the MSBA accepts this variation to guidelines; however, certain square footage indicated in the categories above will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

- **Total Building Gross Floor Area** – The District is proposing a total of 386,630 gsf which exceeds the MSBA guidelines by 127,430 nsf for the total enrollment and exceeds the MSBA guidelines by 209,549 nsf for the FTE enrollment. The proposed area has decreased by 1,620 gsf since the Preferred Schematic Report submittal. Based on the comments provided above, the MSBA accepts this variation to guidelines; however, certain square footage indicated in the categories above will be considered ineligible for reimbursement. Please acknowledge. ***Design Team Response: Acknowledged***

Please note that upon moving forward into subsequent phases of the proposed project, the Designer will be required to provide, with each submission, a signed, updated space summary that reflects the design and demonstrates that the design remains, except as agreed to in writing by the MSBA, in accordance with the guidelines, rules, regulations and policies of the MSBA. The MSBA Guidelines columns in subsequent space summary submittals may not be modified, please note that modified space summaries will be returned to the District and MSBA review will continue its review upon receipt of an updated space summary in which the Guidelines are not modified. Additionally, should the updated space summary demonstrate changes to the previous space summary include a narrative description of the change(s) and the reason for the proposed changes to the project. Please acknowledge. ***Design Team Response: Acknowledged***

Proposed Space Summary - High Schools

Rev. June 30, 2021

1,600 Students

Date: 8/9/2021 Schematic Design

	Northeast Metro Tech	**Existing Conditions**			**PROPOSED**									**Difference to MSBA Guidelines**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
					Existing to Remain/Renovated			**New**			**Total**									
	ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA1**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
1	**CORE ACADEMIC SPACES**			**29,600**			**0**			**51,445**			**51,445**			**-25,015**			**76,460**	
2	***(List classrooms of different sizes separately)***																			
3	Classroom - General	797	26	20,710			0	858	36	30,870		36	30,870		-18	(15,030)	850	54	45,900	825 SF min - 950 SF max
4	Teacher Planning/ **Workrooms**-- 136, 136A, 210	253	3	760			0	1,192	**3**	3,575		**3**	3,575		-51	(1,825)	100	54	5,400	
5	Small Group Seminar/ **Collaborative Space**						0	663	**3**	1,990		**3**	1,990		-1	(10)	500	4	2,000	
6	Science Classroom / Lab	1,340	1	1,340			0	**1,440**	8	**11,520**		8	11,520		-6	(8,640)	1,440	14	20,160	3 x85% ut=20 Seats-1 per /day/student
7	Prep Room	280	1	280			0	**400**	**4**	**1,600**		**4**	1,600		-10	(1,200)	200	14	2,800	
8	Science Classrooms **incl STEM**	814	8	6,510			0								0	-				
9	Central Chemical Storage Rm	0	0	0				**200**	1	**200**		1	200		0	-	200	1	200	
10	Health CR/ Team Meeting Room							750	**1**	750		**1**	750		1	750				
11	Language Lab/ Distance Learning	0	0	0				940	1	940		1	940		1	940				
12	**SPECIAL EDUCATION**			**2,900**			**0**			**7,070**			**7,070**			**-9,040**			**16,110**	
13	***(List classrooms of different sizes separately)***																			
14	Self-Contained SPED						0	950	0	0		0	0		-11	(10,450)	950	11	10,450	825-950 SF equal to surrounding classrooms
15	Self-Contained SPED Toilet						0	60	0	0		0	0		-11	(660)	60	11	660	
16	Resource Room - 124E,127C **Learning Center**	115	2	230			0	850	4	3,400		4	3,400		-1	900	500	5	2,500	1/2 size Genl. Clrm.
17	Small Group Room - 124D **Academic Support** Reading, Speech, ELL	160	1	160			0	500	4	2,000		4	2,000		-1	(500)	500	5	2,500	1/2 size Genl. Clrm.
18	**Tutorial/** Assessment, Psychologist							150	4	600		4	600							
19	**Adjustment Counselors**							150	**2**	**300**		**2**	**300**							
20	**SpEd Office** - 124A,124B,124C,126B,127B Dir+2 asst.	206	5	1,030				150	3	450		3	450							
21	**SpEd Conference Room**							320	1	320		1	320							
22	SpEd Classrooms - 126A,127A	740	2	1,480																
23																				
24	**ART & MUSIC**			**0**			**0**			**0**			**0**			**-8,275**			**8,275**	
25	Art Classroom - 25 seats						0		0	0		0	0		-3	(3,600)	1,200	3	3,600	Assumed use - 25% Population - 5 times/week
26	Art Workroom w/ Storage & kiln						0		0	0		0	0		-3	(450)	150	3	450	
27	Band - 50 - 100 seats						0		0	0		0	0		-1	(1,500)	1,500	1	1,500	Assumed use - 25% Population - 5 times/week
28	Chorus - 50 - 100 seats						0		0	0		0	0		-1	(1,500)	1,500	1	1,500	
29	Ensemble						0		0	0		0	0		-1	(200)	200	1	200	
30	Music Practice						0		0	0		0	0		-7	(525)	75	7	525	
31	Music Storage						0		0	0		0	0		-1	(500)	500	1	500	
32																				
33	**VOCATIONS & TECHNOLOGY**			**94,540**			**0**			**127,755**			**127,755**			**111,915**			**15,840**	
34	Technology/Engineering Rooms- PLTW						0	1,435	1	1,435		1	1,435		-10	(14,405)	1,440	11	15,840	Assumed use - 100% Population - 5 times/week, 825 SF - 2,000 SF
35	Automotive Collision Repair ***(incl. Rel CR**, typ.)*			9,190				7,580	1	7,580		1	7,580		1	7,580				
36	Automotive Technology			10,090				12,615	1	12,615		1	12,615		1	12,615				
37	Business Office Technology *(2200sf min; **incl Bank**)*			4,240				3,180	1	**3,180**		1	**3,180**		1	3,180				
38	Carpentry			8,520				10,280	1	10,280		1	10,280		1	10,280				
39	Cosmetology			3,920				5,890	1	5,890		1	5,890		1	5,890				
40	Culinary Arts			5,120				6,000	1	6,000		1	6,000		1	6,000				
41	Dental Assisting			1,620				6,500	1	6,500		1	6,500		1	6,500				
42	Design & Visual Communications			7,170				5,240	1	5,240		1	5,240		1	5,240				
43	Drafting & Design			4,460				4,580	1	4,580		1	4,580		1	4,580				
44	Early Childhood Education *(1500sf min)*			2,800				2,060	1	2,060		1	2,060		1	2,060				
45	Electrical Technology			7,790				12,335	1	12,335		1	12,335		1	12,335				
46	Health Assisting			4,160				5,790	1	5,790		1	5,790		1	5,790				
47	HVAC Technology			6,120				9,140	1	9,140		1	9,140		1	9,140				
48	Metal Fabrication			7,120				7,400	1	7,400		1	7,400		1	7,400				
49	Plumbing & Pipefitting			8,160				8,665	1	8,665		1	8,665		1	8,665				
50	Robotics & Automation			4,060				5,175	1	5,175		1	5,175		1	5,175				
51	new-Biotechnology							5,135	1	5,135		1	5,135		1	5,135				
52	new-Marketing *(2200sf min; **incl Store**)*							2,975	1	**2,975**		1	**2,975**		1	2,975				
53	new-Medical Assisting							5,780	1	5,780		1	5,780		1	5,780				
54																				
55	**HEALTH & PHYSICAL EDUCATION**			**14,150**			**0**			**25,750**			**25,750**			**590**			**25,160**	Excess PE Spaces Policy
56	Gymnasium - 174	8,110	1	8,110			0	12,375	1	12,375		1	12,375		0	375	12,000	1	12,000	
57	PE Alternatives - 171 Fitness Center & Weights	1,140	1	1,140			0	1,493	2	2,985		2	2,985		1	(15)	3,000	1	3,000	
58	Gym Storeroom - 170C	120	1	120			0	495	1	495		1	495		0	195	300	1	300	

Proposed Space Summary - High Schools

Rev. June 30, 2021

1,600 Students

Date: 8/9/2021 Schematic Design

	Northeast Metro Tech	**Existing Conditions**			**PROPOSED**									**Difference to MSBA Guidelines**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
					Existing to Remain/Renovated			**New**			**Total**									
	ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA1**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
59	Locker Rooms - Boys / Girls w/ Toilets	3,940	1	3,940			0	2,858	2	**5,715**		2	**5,715**		1	(3,245)	8,960	1	8,960	5.6 sf/student total
60	**Satelite Locker Rooms**							1,363	2	**2,725**		2	**2,725**							
61	Phys. Ed. Storage & Closets - 172G,172H, 172N,	115	2	230			0	275	1	275		1	275		0	(225)	500	1	500	
62	Athletic Director's Office - 172C	140	1	140			0	170	1	170		1	170		0	20	150	1	150	
63	**Officials/ Trans Locker Rm w/ Shower & Toilet**							80	**1**	**80**		**1**	**80**		1	80				
64	PE Instructor **& Coach** Offices w/ Shower & Toile	115	2	230			0	185	4	740		4	740		3	490	250	1	250	
65	Health CR/ Team Mtg. Rm (see Core Academic)																			
66	Trainer 172I	240	1	240				190	1	190	+	1	190							
67	**MEDIA CENTER**			**2,910**			**0**			**5,455**			**5,455**			**-4,445**			**9,900**	
68	Media Center / Reading Room 174A	2,150	1	2,150			0	4,150	1	4,150		1	4,150		0	(5,750)	9,900	1	9,900	
69	Workroom 174C	400	1	400			0	320	1	320			320		0	320				
70	Office, Conf.,printer- 174B,174D, 174E	120	3	360				160	1	160		1	160		1	160				
71	**Small Group Rooms**							117	3	350		3	350		3	350				
72	Project Room/ **TV studio**/ Storage							475	1	475		1	475		1	475				
73	**AUDITORIUM / DRAMA**			**1,630**			**0**			**10,505**			**10,505**			**105**			**10,400**	Excess Auditorium Spaces Policy
74	(Auditorium) Presentation/ Performance Space						0	7,475	1	7,475		1	7,475		0	(25)	7,500	1	7,500	2/3 Enrollment @ 10 SF/Seat - 750 seats MAX
75	Stage - 119B	1,510	1	1,510			0	1,610	1	1,610		1	1,610		0	10	1,600	1	1,600	
76	Auditorium Storage - 119T	120	1	120			0	580	1	580		1	580		0	80	500	1	500	
77	Make-up / Dressing/ Green Rooms						0	303	2	605		2	605		0	5	300	2	600	
78	Controls / Lighting / Projection						0	235	1	235		1	235		0	35	200	1	200	
79																				
80	**DINING & FOOD SERVICE**			**12,280**			**0**			**13,180**			**13,180**			**480**			**12,700**	
81	Cafeteria / Student Lounge / Break-out - 119A	7,440	1	7,440			0	7,990	**1**	7,990		**1**	7,990		0	(10)	8,000	1	8,000	3 seatings - 15SF per seat
82	Chair / Table Storage - 119S,119U, 119V	300	1	300			0	500	1	500		1	500		0	(50)	550	1	550	
83	Scramble Serving Area - 119P	420	1	420			0	**1,025**	1	**1,025**		1	**1,025**		0	425	600	1	600	
84	**Satelite Serving Area**							300	**0**	**0**		**0**	**0**		0	-				
85	Kitchen - 119C, 119D, 119E, 119F, 119G, 119H,	4,120	1	4,120			0	**3,035**	1	**3,035**		1	**3,035**		0	135	2,900	1	2,900	1600 SF for first 300 + 1 SF/student Add'l
86	**Satelite Kitchen**							600	**0**	**0**		**0**	**0**		0	-				
87	Staff Lunch Room		0				0	630	1	630		1	630		0	(20)	650	1	650	20 SF/Occupant
88	**MEDICAL**			**800**			**0**			**1,340**			**1,340**			**-70**			**1,410**	
89	Medical Suite Toilets - 178D, 178E	45	2	90			0	73	2	145		2	145		1	85	60	1	60	
90	Nurses' Office / Waiting Room 178A, 178B	650	1	650			0	192	3	**575**		3	**575**		2	325	250	1	250	
91	Interview/ Exam Room	0	0	0			0	120	3	360		3	360		-1	(40)	100	4	400	
92	Resting	30	2	60			0	260	**1**	260		**1**	260		-6	(440)	100	7	700	
93																				
94	**ADMINISTRATION & GUIDANCE**			**6,970**			**0**			**8,195**			**8,195**			**2,400**			**5,795**	
95	General Office / Waiting / Tlt 175,175A,175H, 129	870	1	870			0	170	**4**	680		**4**	680		3	(120)	800	1	800	
96	Teachers' Mail and Time Room 175K ??	240	1	240			0	100	1	100		1	100		0	-	100	1	100	
97	Duplicating Room						0	240	1	240		1	240		0	40	200	1	200	
98	Records Room (Vault) 175E	190	1	190			0	200	1	200		1	200		0	-	200	1	200	
99	Principal's Office w/ Conf. Area & Tlt - 175F, 175C	360	1	360			0	255	1	255		1	255		0	(120)	375	1	375	
100	Principal's Secretary / Waiting - 175M	70	1	70			0	130	1	130		1	130		0	5	125	1	125	
101	Assistant Principal's Office - AP1 - 101,101B	470	1	470			0	153	2	305		2	305		1	155	150	1	150	
102	Assistant Principal's Offices - Voc.Deans, Academic Prog. Coordinator, Co-Op 175R,	123	3	370			0	155	**4**	**620**		**4**	**620**		2	320	150	2	300	
103	Supervisory & Paraprofessional Offices; incl: Attendance, Reception 175B, 175C, 175D, 183	155	4	620			0	121	4	485		4	485		3	365	120	1	120	
104	Department Head Offices 163B, 187A, 187B, 187C,188, 189, 201A	134	7	940			0	120	7	840		7	840		7	840				
105	Safety Resource Officer ***[see Other]***														0	-				
106	In-House Suspension 139 ***[see Other]***														0	-				
107	Conference Rooms - 175N, 180	440	2	880			0	323	**3**	**970**		**3**	**970**		2	520	450	1	450	
108	Guidance/ **Adj,** Diversity Offices - 175O,175Q,175	126	8	1,010			0	158	**8**	**1,260**		**8**	**1,260**		0	60	150	8	1,200	
109	Guidance Waiting Room - 175P	280	1	280			0	100	**0**	**0**		**0**	**0**		-1	(100)	100	1	100	
110	Guidance Storeroom	0	0	0			0	100	1	100		1	100		0	-	100	1	100	
111	Career Center/ Classroom - 112	670	1	670				985	1	985		1	985		0	435	550	1	550	
112	Records Room							225	1	225		1	225		0	-	225	1	225	
113	Teachers' Work Rm, Dig.Lrn'g Mgr*(w/ Media Ctr)*							800	1	800		1	800		0	-	800	1	800	
114																				
115																				
116																				
117																				
118																				
119	**CUSTODIAL & MAINTENANCE**			**9,950**			**0**			**3,845**			**3,845**			**1,020**			**2,825**	
120	Custodian's Office - 137G, 019FB	230	2	460			0	140	1	140		1	140		0	(10)	150	1	150	

Proposed Space Summary - High Schools

Rev. June 30, 2021

1,600 Students

Date: 8/9/2021 Schematic Design

	Northeast Metro Tech	**Existing Conditions**			**PROPOSED**									**Difference to MSBA Guidelines**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
					Existing to Remain/Renovated			**New**			**Total**									
	ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA1**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
121	Custodian's Workshop & Toilet - 137, 137G	2,240	1	2,240			0	475	1	475		1	475		0	225	250	1	250	
122	Custodian's Storage - 194A,194B,194C,192C,19	35	12	420			0	330	1	330		1	330		0	(45)	375	1	375	
123	Recycling Room / Trash - 119O	80	1	80			0	360	1	360		1	360		0	(40)	400	1	400	
124	Receiving and General Supply - 137A, 137E	725	2	1,450			0	428	3	1,285		3	1,285		2	735	550	1	550	
125	Storeroom - 137B, 137C, 137D, 137E, 137F, 011	164	7	1,150			0	**333**	3	**1,000**		3	**1,000**		2	100	900	1	900	
126	Network - Telecom Room & Offices - 177A, 77B,	216	5	1,080			0	200	1	255		1	255		0	55	200	1	200	
127	Maintenance Storage & Staff Lunch / Lounge - 18	439	7	3,070				0	0	0										
128	**OTHER**			**10,420**			**0**			**2,360**			**2,360**			**2,360**			**0**	
129	Other (specify): Bank 192G (Bus. Tech)	80	1	80			0	**600**	**0**	**0**		**0**	**0**		0	-				
130	School Store (Marketing)							**300**	**0**	**0**		**0**	**0**		0	-				
131	Adult Ed Offices & Storage 185, 185A, 186, 186A	90	5	450				455	1	455		1	455		1	455				
132	Superintendent's Office & Tlt - 178A	470	1	470				260	1	260		1	260		1	260				
133	Superintendent's Assistant							125	1	125		1	125		1	125				
134	Business Office suite, HR 175AA,175BB,175CC,	150	7	1,050				151	7	1,060		7	1,060		7	1,060				
135	Safety Resource Officer	100	1	100			0	120	1	120		1	120		1	120				
136	In-House Suspension 139	340	1	340			0	340	1	340		1	340		1	340				
137																				
138	Maintenance Garage (out-building)							1,800	**0**	**0**		**0**	**0**		0	-				
139	Field Maint. Garage & Stor.(Sat.Locker Rm.)(out-bldg)							2,725	**0**	**0**		**0**	**0**		0	-				
140	Concession/ Public Toilets (out-building)							1,400	**0**	**0**		**0**	**0**		0	-				
141	Pool, Office, Storage, & Mechanical	7,930	1	7,930				0	0	0		0	0		0	-				
142																				
143	Total Building Net Floor Area (NFA)			**186,150**			**0**			**256,900**			**256,900**			72,025			**184,875**	
144																				
145																Full-Time-Equivalent Academic students:			**848**	162
146	Proposed Student Capacity / Enrollment															Total students			**1,600**	*225*
147																				
148	**NON-PROGRAMMED SPACES**					% of GFA	**0**		% of GFA	**129,730**		% of GFA	**129,730**							
149	Other Occupied Rooms (list separately)					#DIV/0!			0%			0%	**0**							Non-Programmed space areas are
150						#DIV/0!			0%			0%	**0**							required to be included in the
151	Vocational Offices (non Ch.74 space)					#DIV/0!			1%	2,560		1%	**2,560**							following submittals:
152						#DIV/0!			0%			0%	**0**							Schematic Design Submittal
153	Unoccupied MEP/FP Spaces					#DIV/0!			3%	10,280		3%	**10,280**							Design Development Submittal
154	Unoccupied Closets, Supply Rooms & Storage Rooms					#DIV/0!			0%	1,030		0%	**1,030**							60% Construction Documents
155	Toilet Rooms					#DIV/0!			1%	4,375		1%	**4,375**							90% Construction Documents
156	Circulation (corridors, stairs, ramps & elevators)					#DIV/0!			20%	77,430		20%	**77,430**							Final Construction Documents
157	Remaining[3]					#DIV/0!	**0**		9%	**34,055**		9%	**34,055**							
158																				
159	Total Building Gross Floor Area (GFA)[2]			**239,444**			0			386,630			**386,630**	242		127,430			**259,200**	*360,000*
160	*(excluding outbuildings)*																			
161	Grossing factor (GFA/NFA)			**1.29**			**-**			**1.50**			**1.50**						**1.40**	*1.50*
162																				

163
164

[1] **Individual Room Net Floor Area (NFA)** net square

166
167

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

169

[3] **Remaining** Includes exterior walls, interior partitions, chases, 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.

171

Architect Certification

I hereby

Name of Architect Firm: **Drummey Rosane Anderson, Inc.**

Name of Principal Architect: **Carl Franceschi**

Signature of Principal Architect:

Date: **8/18/2021**