EASTERN MIDDLE SCHOOL

Major Capital Project Feasibility Study

Prepared for
Montgomery County Public Schools

September 16 2025

Prepared By:

SMOLEN • EMR • ILKOVITCH ARCHITECTS

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Introduction

Eastern Middle School

300 University Boulevard E
Silver Spring, Maryland 20901

Montgomery County Board of Education

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Mr. Daniel Lee	Project Manager, Department of Planning and Construction
Ms. Robin O'Hara	Senior Planner, Department of Planning and Construction

Introduction

Eastern Middle School is located at 300 University Boulevard, East in Silver Spring, Maryland. Smolen Emr Ilkovitch Architects (SEI) conducted this study at the request of Montgomery County Public Schools (MCPS). All work for this study was performed under the advisement and direction of the MCPS Department of Planning and Construction.

Participation

The Feasibility Study participants reviewed revised and approved the design approaches for a Major Capital Project at Eastern Middle School through a series of work sessions. These sessions occurred on March 4, March 24, April 29 and May 28, 2025. The proposed designs are a result of the participants suggestions and guidance during the feasibility study process.

Feasibility Study Participants

Lisa Shorts	Principal	Eastern Middle School
Jessica Apple	Parent	Eastern Middle School
Asuncion Benitez	Community Member	
Alex Berman	Community Member	
Virginia Contreros	Neighbor	
Ludmilla DeBord	Staff	Eastern Middle School
Milla DeBord	Community Member	
Laura Desobry	Staff	Eastern Middle School
Alba Diaz	Community Member	
Tanushree Dutta Isaccman	Community Member	
Aaron Emmel	Community Member	
Charles Feamster	Assistant Principal	Eastern Middle School
Chester Fernando	Architect	SEI Architects
Dave Fischer	Vice President	SEI Architects
Amy Fitzgibbons	PTSA	Eastern Middle School
Jerry Gao	Staff	Eastern Middle School
Jerry Guo	Staff	Eastern Middle School
Amy Hartung	Staff	Eastern Middle School
Rebecca Henson	Community Member	
Melissa Herazo	Community Member	

Introduction (Continued)

TingTing Hu	Community Member	
Christina Hughes	Staff	Eastern Middle School
Ran Ilkovitch	President	SEI Architects
Eva Ingram	Student	Eastern Middle School
Carlton Ingram	Community Member	
Rahm Isaacman	Student	Eastern Middle School
Michael Jacknis	Community Member	
Caleb Kaba	Student	Eastern Middle School
Jane Kim	Community Member	
Daniel Lee	Project Manager	MCPS, Department of Planning and Construction
Sean Lindaman	Civil Engineer	Clark Azar & Associates
Khanh Luong	Community Member	
Joyce McDonough	Community Member	
Krystal McGee	Planner	SEI Architects
Rachel Moorin	Neighbor	
Emma Morales	Community Member	
Julie Morris	Director	MCPS, Department of Planning and Construction
Jo Anne Murray	School Facilities Architect	Maryland State Department of Education, Office of School Facilities
Daniel Nakamura	Neighbor	
Zachary Nelson	Staff	Eastern Middle School
Robin O'Hara	Senior Planner	MCPS, Department of Planning and Construction
Sarah Ovedraego	Student	Eastern Middle School
Michelle Pendaruis	Neighbor	
Kerry Penney	Staff	Eastern Middle School
Abbie Petit	Staff/Parent	Eastern Middle School
Jim Quinn	Neighbor	
Emily May Rogers	Community Member	
Ann Roldan	Staff	Eastern Middle School
Adrian Saunders	Project Manager	MCPS, Department of Planning and Construction
Jennie Saunders	Community Member	
Jillian Storms	Director	Maryland State Department of Education, Office of School Facilities
Mariana Straathof	Staff	Eastern Middle School
Diane Straub	Staff	Eastern Middle School

Introduction (Continued)

Kesa Summers	Staff	Eastern Middle School
Carisa Vercaza-Peralta	Staff	Eastern Middle School
Matthew White	Staff	Eastern Middle School
Rui Zhang	Staff	Eastern Middle School

Executive Summary

Purpose

The purpose of this feasibility study was to explore options for a Major Capital Project at Eastern Middle School. Options will accommodate the educational specifications developed by Montgomery County Public Schools (MCPS), dated November 13, 2024. The design capacity of the school will be increased to 1,097 students, with a core capacity of 1,200 students. The study process evaluated a series of potential approaches that would satisfy the requirements of the educational specifications and space summary. The intent of this study is to provide MCPS with considerations and construction costs associated with the implementation of each proposed option.

Background/History

Location: 300 University Boulevard E, Silver Spring, Maryland 20901
Cluster: Montgomery Blair High School

History and Square Footage of Existing Building:

1951	Original Construction	84,486 square feet
1958	Classroom Addition	23,975 square feet
1963	Library Addition (Music Suite)	10,373 square feet
1975	Media Center Addition	16,001 square feet
2001	Admin and Cafeteria/Kitchen Addition	17,295 square feet
	Total	152,130 square feet

Site Size: 14.51 acres

Current and Projected School Capacity and Student Enrollment:

	Actual	Projections				
	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Program Capacity	1012	1012	1012	1012	1012	1012
Enrollment	1015	1025	1034	1037	1039	1019
Space Available/Deficit	(3)	(13)	(22)	(25)	(27)	(7)

Number of Relocatable Classrooms: 0
Current Parking Spaces: 123

Executive Summary (Continued)

Methodology:

The existing school was evaluated by the design team to determine the most advantageous approach to achieving the proposed programmed spaces. Additionally, the study indicates the impact, if any, that can be reasonably expected as a result of each proposed option. The evaluation is based on compliance with Montgomery County Public Schools educational specifications.

The study is based on the following four step process:

Step 1: Information Gathering & Evaluation

- Compare existing building program versus project goals and educational specifications
- Evaluate existing building and site issues
- Perform code analysis / review
- Produce building specific diagrams
- Analyze site plan

Step 2: Concept Design

- Create concept bubble diagrams depicting general planning concepts
- Committee input is applied to the diagrams
  - Combinations of preferred features
  - Incorporate committee input
  - Development of refined approaches

Step 3: Development of Plan Options

- Concepts are refined into formal plan approaches and are technically scrutinized
- Engineering disciplines are applied
- Code compliance
- Cost estimating
- Sustainability, energy conservation and life cycle cost analysis
- Construction schedule, duration, and phasing plan

Step 4: Technical Report Preparation

- Prepare Board of Education materials and brochures
- Prepare IAC feasibility study submission

Executive Summary (Continued)

Overview

Eastern Middle School is comprised of the original building constructed in 1951 with additions in 1958, 1963, 1975 and 2001. The main level of the 1950s construction utilizes concrete floor structure above a crawl space, The remaining additions utilize concrete slab on grade on the main level. The second story and roofs are supported by a combination of load-bearing masonry walls and steel framing. The existing envelope displays signs of degradation, and occupants attest to water and pest infiltration. The existing Heating, Ventilation and Air-Conditioning (HVAC) system is beyond its expected lifespan, leading to significant occupant comfort concerns.

The site is relatively flat, with steep slopes at the eastern property edges to connect down to the neighboring properties. The bus loop, accessed off of East Franklin Street is adequately sized. The student drop off loop is accessed from both University Boulevard and East Franklin Street, with a single exit onto East Franklin. The convergence of traffic within this loop causes extensive backups during arrival and dismissal.

The feasibility study process culminated with four (4) approaches to a major capital project at Eastern Middle School. All approaches result in a new Eastern Middle School in line with the project Educational Specifications. New HVAC, Electrical, Plumbing, Information Technology, Communication, Life Safety and Security systems are provided in each approach. The existing building envelope will be replaced in any area of renovation.

The approaches vary in their scale of intervention. Approach 1 proposes a 'Renewal' scope. The existing building footprint is maintained, and all square footage of the building is renovated. No additions are included within this approach. Approaches 2 and 3 investigate 'Renovation / Addition' scopes. Approach 2 demolishes approximately 25% of the existing building and constructs additions to achieve the Educational Specification area. Approach 3 demolishes approximately 60% of the existing building, and constructs additions to achieve the Educational Specification area. Approach 4 constructs a 'Replacement' facility which involves 100% demolition of existing building.

Executive Summary (Continued)

Approach 1 - Renewal (0% Demolition)

Approach 1 leaves the existing building footprint intact. The building is renovated in full, including the replacement of the exterior envelope. The site and building programs required in the educational specifications will be provided, although Physical Education and Building Services spaces will not achieve all of the spatial requirements. All systems, finishes and equipment will meet MCPS standards.

Executive Summary (Continued)

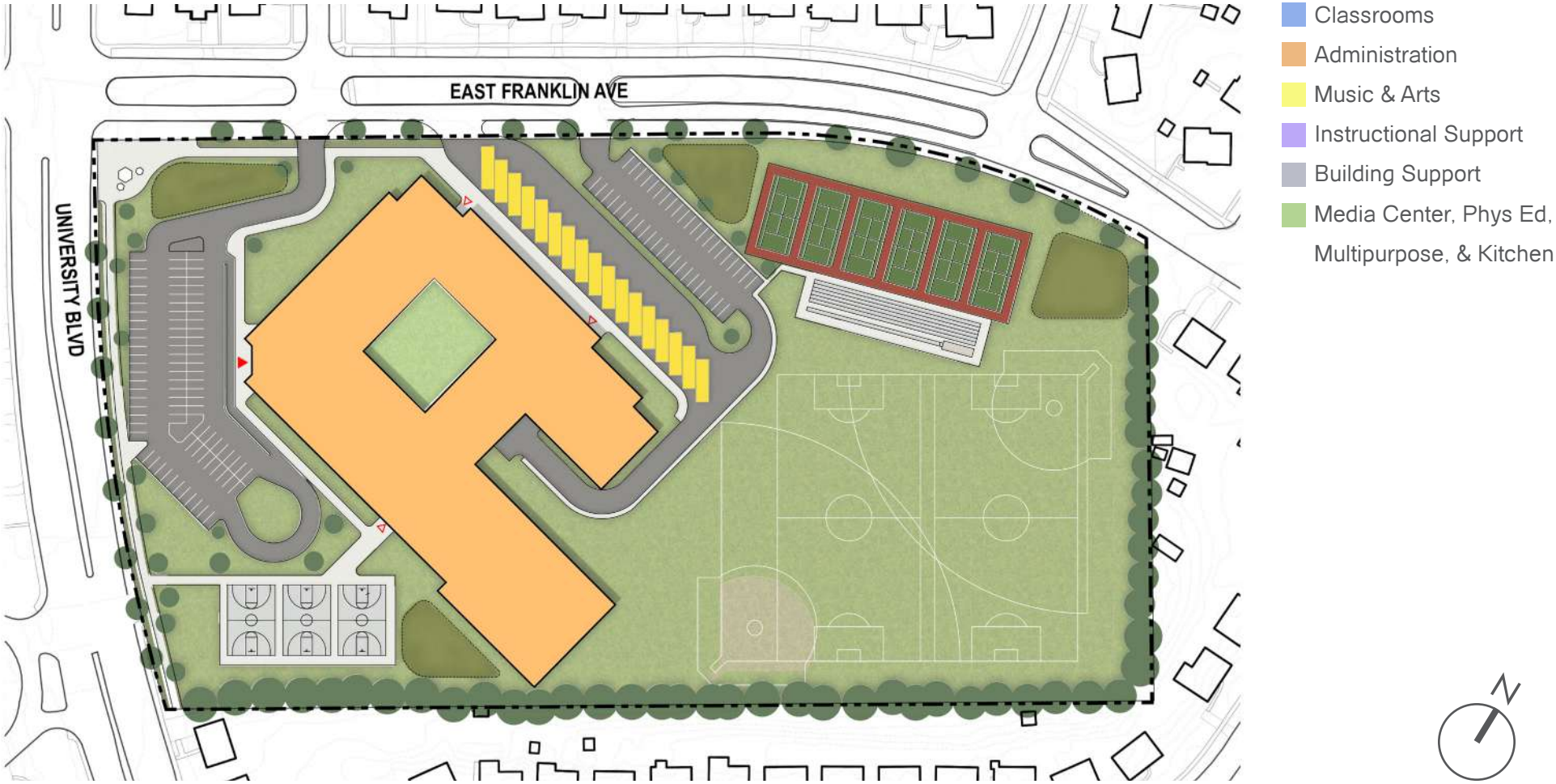
Approach 2 - Renovation / Addition (25% Building Demolition)

Approach 2 demolishes 25% of the existing building. A two story addition is placed on the University Boulevard side of the building with the existing square footage renovated in full, including the replacement of the exterior envelope. The site and building programs required in the educational specifications will be provided, meeting all spatial requirements. All systems, finishes and equipment will meet MCPS standards.

Executive Summary (Continued)

Approach 3 - Renovation / Addition (60% Building Demolition)

Approach 3 demolishes 60% of the existing building. The original gymnasium volume, and the classroom bays around the courtyard are retained and renovated in full, including the replacement of the exterior envelope. Two story academic wings surround the courtyard, with single story P.E. and Arts wings on the south-west side. The site and building programs required in the educational specifications will be provided, meeting all spatial requirements. All systems, finishes and equipment will meet MCPS standards.



Approach 4 - Replacement (100% Building Demolition)

Approach 4 constructs a full replacement facility at the rear of the site. The existing building would be demolished in full after students relocate into the new school. The building locates its public functions at the south side of a new courtyard. Two stories of academic program enclose the courtyard. The site and building programs required in the educational specifications will be provided, although Physical Education and Building Services spaces will not achieve all of the spatial requirements. All systems, finishes and equipment will meet MCPS standards.

Options for Student Relocation During Construction

No holding facilities sufficient to house a middle school are currently available. Students will remain onsite throughout construction for all approaches. Approaches 1, 2 and 3 will require phased occupied construction. Construction will be broken down in multiple phases, with students swung to different spaces at the onset of each phase. Portable classrooms and/or modular buildings will be necessary to swing students throughout multiple phases of construction in Approaches 1, 2 and 3. The replacement facility in Approach 4 would be built on the play fields while the existing school remains in use. The existing building will be torn down after the school moves into the new facility.

Executive Summary (Continued)

Comparative Analysis of Options

Approach 1

Demolition	0
Modernization	152,130
Addition	0
Total G.S.F.	152,130
Efficiency	66.5%

Approach 2

Demolition	39,996
Modernization	112,134
Addition	57,630
Total G.S.F.	169,764
Efficiency	66.0%

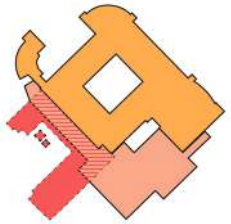
Approach 3

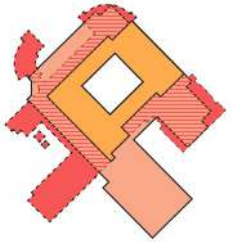
Demolition	88,416
Modernization	63,714
Addition	103,348
Total G.S.F.	167,062
Efficiency	64.4%

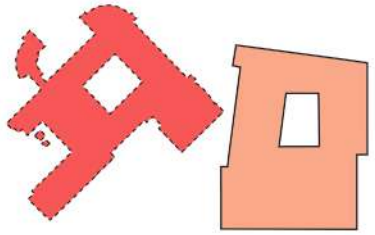
Approach 4

Demolition	152,130
Modernization	0
Addition	160,115
Total G.S.F.	160,115
Efficiency	67.6%

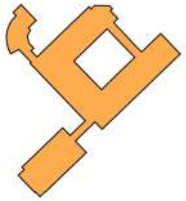
First Floor

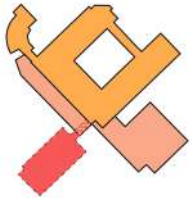


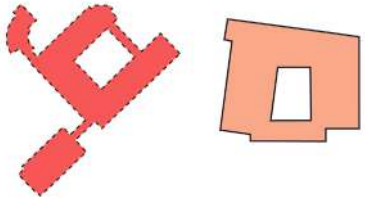




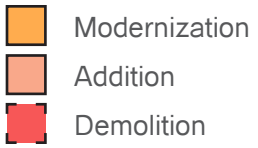
Second Floor







Legend



Executive Summary (Continued)

Conclusions and Recommendations

The feasibility study process culminated in scoring each of the final approaches based on six (6) categories. Scores were not weighed to prioritize any category above others. These categories were developed through an analysis of the feedback and concerns received from feasibility study participants during the information gathering phase. The categories were as follows:

- Building Goals
- Site Goals
- Community Goals
- Sustainability
- Cost
- Phased Occupied Construction Impact

Approach 4, the replacement facility, received the highest cumulative score. Scoring was independently performed by Smolen Emr Ilkovitch Architects and presented at the final community engagement meeting on May 28, 2025.

Independently of this scoring, the Eastern Middle School Parent-Teacher-Student Association (PTSA) passed a formal resolution supporting a replacement approach. This resolution, dated May 21, 2025, was based off the approaches presented at the third community engagement meeting on April 29, 2025. Rationale listed by the PTSA align with the categories utilized by Smolen Emr Ilkovitch. Primary points centered on meeting educational goals, safety and security, sustainability, and construction impact on education.

Project Scope, Objectives & Goals

Scope and Intent

The intent of this feasibility study report is to provide viable options for upgrading and modernizing Eastern Middle School to fulfill the educational program requirements of students and staff and respond to the concerns of the community. All options will follow MCPS standards and comply with current building, life safety, energy and accessibility codes. New mechanical, electrical, plumbing, information technology, communication, and life safety systems will be accommodated in all options. Building designs will target a maximum Energy Use Intensity (EUI) value of 25 kBTU/ft2/yr to achieve a 'Net-Zero Ready' facility. The completed facility will have a capacity of 1,097 students, with a core capacity of 1,200.

The final approaches presented in this report are a result of comments and suggestions of the feasibility study participants, incorporated through the community engagement meetings. These meetings were held both in person at Eastern Middle School and virtually to reach as broad an audience as possible. Meetings were held at on March 4, 2025 (in person), March 24, 2025 (in person), April 29, 2025 (virtual) and May 28, 2025 (virtual). For the sessions, the design team analyzed the educational specifications and developed several options for modernizing Eastern Middle School and addressing the site deficiencies in vehicular and pedestrian circulation. During the sessions, the designs were reviewed and revised by the feasibility study participants. All comments and suggestions discussed were incorporated when found to be practical and beneficial to the design.

General Goals

The following goals and objectives were developed by the feasibility study participants at the initial community engagement meeting:

- Creating environments where students feel comfortable; Fostering social-emotional development
- Utilizing building and site to facilitate community use
- Embracing sustainability and integrating with the natural environment
- Developing innovative and flexible learning environments, both in and outside of the classroom
- Providing appropriately conditioned and physically comfortable spaces so students to staff can focus
- Addressing pedestrian and vehicular safety concerns at student drop off and at University Boulevard traffic light

Project Scope, Objectives & Goals (Continued)

The following site and building goals and objectives established by the feasibility study participants are to be addressed by the design team and Montgomery County Public Schools staff in this feasibility study.

Site Goals and Objectives

The revitalized site should:

- Provide site amenities required per the educational specifications
- Provide secure outdoor learning environments
- Provide adequate vehicle stacking at student drop off loop to improve site congestion
- Provide safe pedestrian walking paths from intersection of University Boulevard and E Franklin Ave
- Improve supervision of play fields
- Provide a safe and secure campus through utilization of Crime Prevention through Environmental Design (CPTED) principles

Building Goals and Objectives

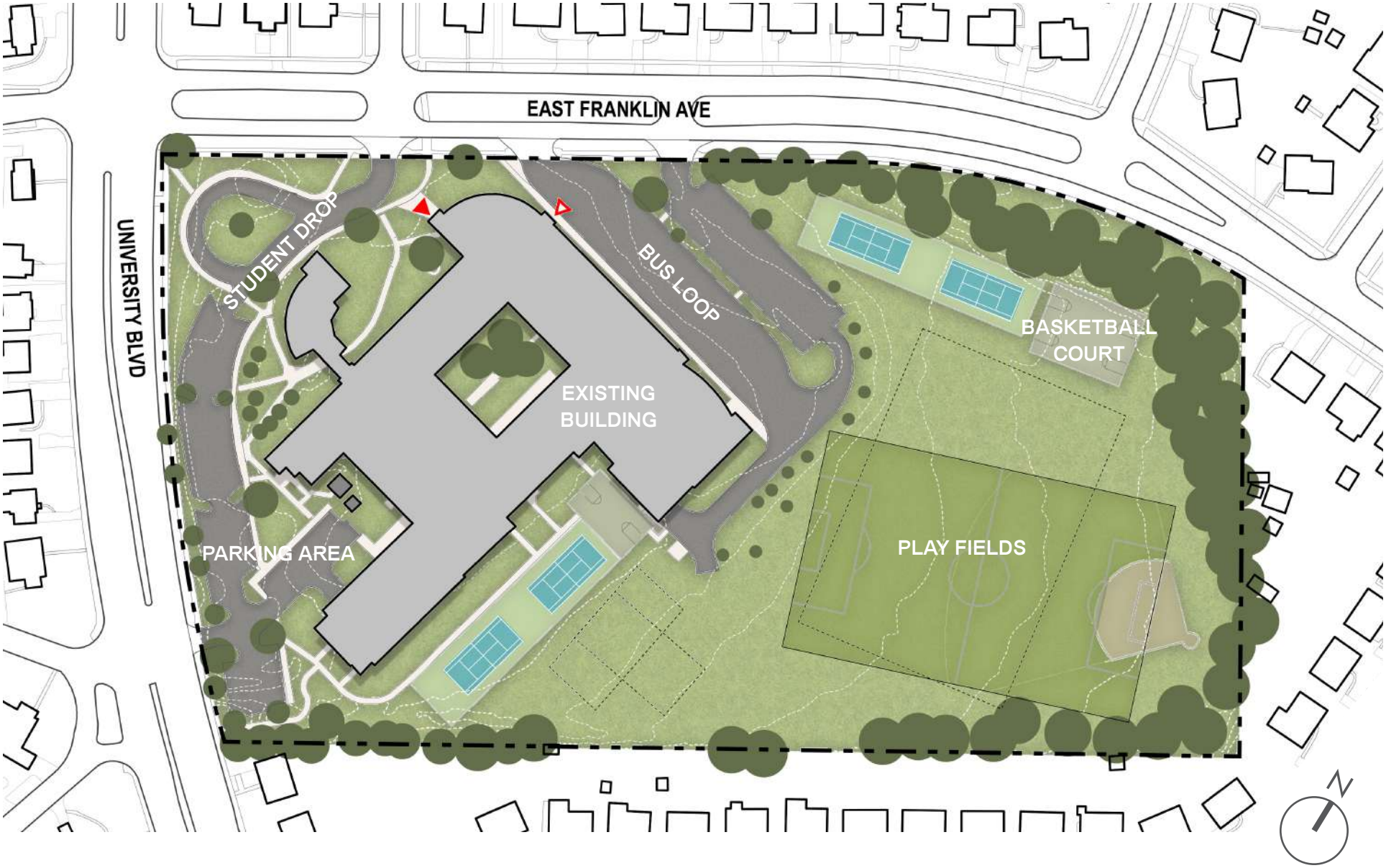
The revitalized building should:

- Provide all classrooms and teaching spaces as required per the educational specifications
- Provide appropriate programmatic adjacencies in line with curriculum and educational pedagogy
- Provide a floor plan that promotes circulation and supervision throughout the building
- Prioritize student safety and security
- Provide clear public and private zones to facilitate community use
- Maintain natural light in all instructional spaces
- Meets energy use reduction goals and achieves ‘Net-Zero Ready’

Vicinity Map

Existing Conditions Summary (Continued)

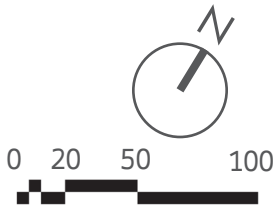
Site Plan



Existing Conditions Summary (Continued)

Floor Plan - Floor 1

- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen



Existing Conditions Summary (Continued)

Floor Plan - Floor 2

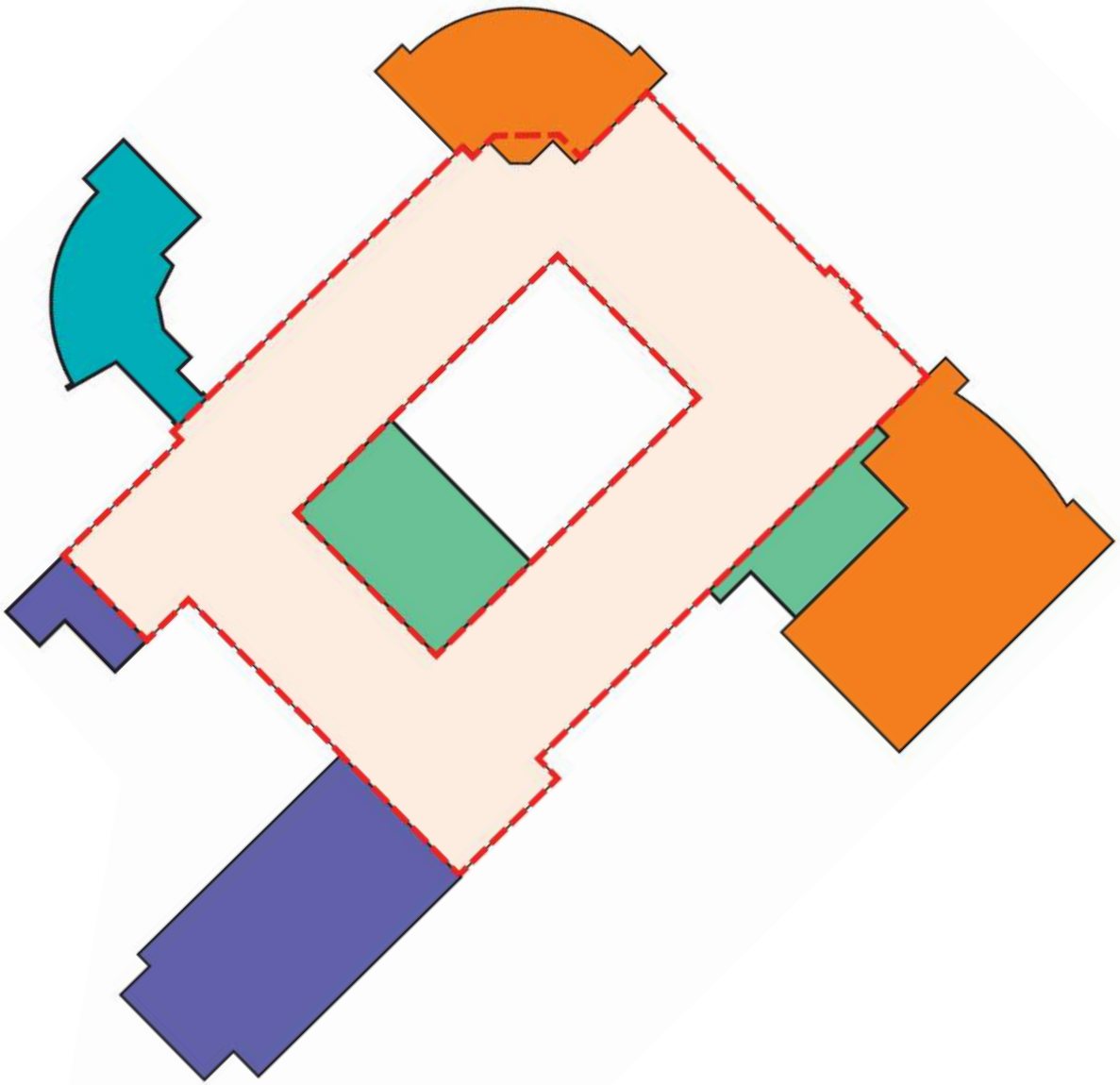
- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen

N

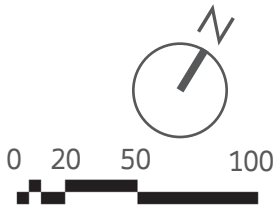
0 20 50 100

Existing Conditions Summary (Continued)

History Plan



1951 Original	72,646 SF
1958 Addition	23,975 SF
1963 Addition	10,373 SF
1975 Addition	16,001 SF
2001 Addition	17,295 SF
Total:	140,290 SF



Existing Conditions Summary

The original Eastern Middle School facility was constructed in 1951, with subsequent additions in 1958, 1963, 1975 and 2001. The building is composed of two floors. The existing structure is a type IIB construction utilizing non-combustible materials. Exterior walls built before 2001 are masonry mass walls with no drainage cavity or insulation. The building exterior is clad primarily with veneer brick. Exterior Insulation and Finishing System (EIFS) is used selectively to infill portions of 1950s era window openings. The 1963 wing features a distinctive curved curtainwall facade and art installation facing out to University Boulevard. Multiple stuctural systems are utilized. The 1950s main floors are composed of concrete framed slab over a ventilated crawl space. Later additions utilize concrete slab-on-grade. Both masonry bearing walls and steel frame construction supports the second floor and roofs. The existing envelope displays signs of degradation, and occupants attest to water and pest infiltration. The existing Heating, Ventilation and Air-Conditioning (HVAC) system is beyond its expected lifespan, leading to significant occupant comfort concerns.

The 14.51 acre site is located at 300 University Boulevard E in Silver Spring, Maryland. University Boulevard is a state highway, and a major commuter route to reach the Capitol Beltway (I-495). Eastern Middle School is approximately 0.3 miles south of I-495. The neighborhood is composed of single-family homes. The site is relatively flat, with steep slopes at the eastern property edges to connect down to the neighboring properties. The bus loop, accessed off of East Franklin Street is adequately sized. The student drop off loop is accessed from both University Boulevard and East Franklin Street, with a single exit onto East Franklin. The convergence of traffic within this loop causes extensive backups during arrival and dismissal.

See Appendix C “Existing Conditions Survey” for complete survey.

Description of Options

General

A series of building options were developed with input from the feasibility study participants and Montgomery County Public Schools staff. Ultimately, these were narrowed down to the four approaches described herein. Each option meets all of the programmatic requirements set forth by the educational specifications and explores different approaches of approaching educational and facility needs of Eastern Middle School.

All options will meet the requirements of the Maryland Green Building Council - High-Performance Green Building Program and will comply with GBI Green Globes (minimum two Green Globes) and the International Green Construction Code (IgCC).

Common Design Elements

SITE ELEMENTS

- **Sediment and Erosion Control** – Any project over 5,000 sf of disturbance will need to receive approval of the erosion and sediment control plan from Montgomery County DPS. Plans should conform to the 2011 Standards and Specifications for Soil Erosion and Sediment Control from Maryland Department of the Environment. It is anticipated that any major project will need to include a sediment trap or sediment basin with a connection to the public storm drain system. All projects will also require a stabilized construction entrance, inlet protection, silt or super silt fence, stockpile areas, concrete washouts, and permanent stabilization.
- **Site Demolition** – Existing site features located within the proposed building footprint or modifications to existing site items will require demolition. The existing basketball court on the east side of the bus loop will need to be demolished and replaced.
- **Grading** – The site should be designed to have a balance between cut and fill to limit the amount of export or import for the site. All grass areas should be stabilized with sod.
- **Forestation** – The project will not be clearing any forest. Large trees near the public sidewalk or along residential properties should be maintained when possible. The property will need to go through with a forest conservation exemption or a full forest conservation plan depending on the amount of work being proposed. All work will be reviewed by the Maryland National Capital Park and Planning Commission.
- **Site Improvements** – Any pavement shall meet the following requirements:
  - Sidewalk shall be concrete (4,500 psi). Sidewalks shall be 5’ wide and 4” deep with WWF 6x6 and a 4” stone base.
  - All curb and gutter shall be concrete (4,500 psi).
  - All heavy duty concrete (4,500 psi) for ADA spaces or vehicular pavement shall be 8” thick with WWF 4x4 and 4” GAB.
  - Asphalt pavement shall be 6” thick (2” asphalt surface course and 4” asphalt base course) with a 6” GAB.
  - Heavy duty asphalt pavement for the bus loop, loading dock, or construction access shall be 6” thick (2” asphalt surface course and 4” asphalt base course) with an 8” GAB.
  - All pavement shall be over an approved subgrade

Description of Options (Continued)

- **Proposed Utilities**
  - **Water** – The waterline for the site shall be upgraded to an 8" DIP to serve the sprinkler system, hydrants, and domestic demand for the building. This will require a new water meter vault with easement. The existing waterline will require a service connection abandonment. The new line will require a new service connection.
  - **Sanitary Sewer** – The existing sanitary sewer should be reused if possible. If a new line is necessary, a new line should be connected to either the line in University Blvd. or in E Franklin Ave.
  - **Gas** – The existing line should be reused if able. Otherwise a new line will need to be coordinated with Washington Gas
  - **Electric** – A new electric main will be provided, with the locations closest to the new transformer to limit the amount of new electric main that will be needed. All work to be coordinated with PEPCO.
  - **Stormwater Management** – All new work will need to meet Montgomery County SWM requirements. The site will need to meet the County's ESD requirements. It is assumed that a combination of pervious pavement, micro-bioretentions, and other ESD practices will be needed. If ESD cannot be met, Chapter 3 or structural practices
  - **Storm Drainage** – Existing drainage issues along the east and south will need to be addressed to avoid sending runoff towards the adjacent residential properties. A storm drain will likely need to be added to drain this runoff towards the existing storm drain in E Franklin Ave. This storm drain can also be used to drain the proposed sediment trap.
- **Fields and Courts** – The existing fields and courts will be maintained where possible. Any of the courts removed with the new work will be replaced. The tennis courts and basketball courts will be grouped together rather than left separated. New turf grass will be provided on the play fields. Grading will be adjusted to include better drainage.

ARCHITECTURAL ELEMENTS

- **Educational Specification -** All program spaces will be provided. Ed Spec square footages will be met in all approaches that enlarge the building footprint. Sizes. Spaces will be laid out to provide appropriate adjacencies. Adequate storage will be provided and distributed across the school.
- **Accessibility -** Building will comply with the Americans with Disability Act (ADA) Accessibility Guidelines and the Maryland Accessibility Code (COMAR 09.12.53).
- **Safety and Security -** Crime Prevention Through Environmental Design (CPTED) principals will be followed to promote a safe and secure environment.
- **Daylighting -** Natural light will be provided in all teaching spaces.
- **Exterior Walls -** High performance exterior wall systems will be provided to eliminate thermal bridging and minimize air/vapor permeance. Walls will include continuous approximately R-25 insulation, with exact value confirmed during design with the use of energy modeling software.
  - Ventilated and or cavity wall systems will be utilized to permit air movement behind cladding.
  - Masonry veneer units will be the primary building cladding material to maximize durability. Rainscreen panel accents may be utilized on high walls to break down the building mass.
  - Existing envelope will be replaced in full in areas of renovation.

Description of Options (Continued)

- **Exterior Glazing -** High performance double pane low-e glazing with a center of glass U-value of 0.24. Visible Light Transmittance will be balanced with Solar Heat Gain Coefficients to maximize daylighting without negatively impacting energy performance. Approximately 22% of the exterior walls will be glazed to minimize energy usage and achieve 'Net-Zero Ready.' Daylight modeling software will be utilized to strategically locate these openings.
- **Roofing -** New R-30 minimum built-up asphalt roofing will be provided.
- **Finishes -** New finishes will be provided throughout the school. Finish materials, including but not limited to, flooring, tiling, ceilings, paints, casework will comply with MCPS standards.
- **Educational Design -** Teaching spaces will be designed to be as flexible as possible. Classroom technology and display boards will be arranged to facilitate multiple teaching layouts within each space. Breakout and collaborative spaces will be distributed throughout the building.

STRUCTURAL ELEMENTS

- **Areas of Renovation**
  - In general, all new additions must be structurally independent of the existing structure.
  - The existing original floor structure, floor to floor height is 12'-4" and the joists are 18 inches on center spacing. The existing structural elements do not have the capacity to support new DOAS style HVAC units. All new HVAC units will need to be supported by new structure to include new footings.
  - Reskin of the existing structure will require full replacement of the exterior wall systems (veneer and masonry back up). New wall systems will bear on new concrete footings. Test pits around the exterior will be required to confirm typical existing footing depths. All locations where the new parapets exceed the height of the existing parapets will be reinforced (or replaced) to accommodate new snow drift loads.
- **Areas of New Construction / Addition**
  - The main structural system for all new structural elements will be structural steel frame. The lateral wind and seismic resisting system will be a combination of masonry shear wall and steel moment frame, as needed.
  - The elevated floor structures will consist of 3 ½" cast-in-place normal weight concrete on 1 1/2" composite floor deck (total slab thickness = 5"). The structural slab system shall be supported by structural steel beams, framing to steel girders and columns.
  - The roof structure will be framed with a series of steel joists framing to steel girders and columns.
  - The foundation system will be a combination of standard strip (continuous) footings around the perimeter and spread footings at each steel columns, if determined feasible by the project geotechnical engineer.

MECHANICAL ELEMENTS

- **Areas of Renovation -** Existing spaces within Eastern MS will be renovated in their entirety. Existing chilled/heating water infrastructure systems and localized HVAC equipment will be incrementally demolished throughout the entire building. All mechanical infrastructure systems and HVAC system components will be replaced utilizing a phased-while-occupied construction approach, allowing the school to remain in operation throughout the duration of construction. The existing water-cooled chiller, cooling tower, and hydronic boiler infrastructure systems located within the school will continue to operate until the final phase of construction, at which time these systems will be demolished.

Description of Options (Continued)

- **Primary Heating and Cooling Infrastructure System (Approach 1) -** An air-source heat pump unit system will be utilized, providing the ability to have independent heating or cooling year-round, while delivering an extremely high level of overall building energy efficiency.
  - Cassette type variable refrigerant flow (VRF) terminal units will be provided for typical classrooms areas. Heat recovery type air-source condensing units will be located on the roof near the spaces served.
- **Primary Heating and Cooling Infrastructure System (Approaches 2, 3 & 4) -** A ground-coupled geothermal heat pump unit system will be utilized, providing the ability to have independent heating or cooling year-round with an extremely high level of overall building energy efficiency.
  - A ground-coupled geothermal borehole field will be located to allow for continued operation of the existing school during installation of the geothermal wellfield with limited disruption.
  - Distribution pumps and other major mechanical infrastructure components will be located within the first floor building addition mechanical room.
  - Extended range vertical heat pump units will be provided for space conditioning within the typical classroom areas, with these units located within mechanical closets positioned near the area served.
- **Ventilation and Dehumidification -** Dedicated Outside Air Supply (DOAS) units will provide ventilation and dehumidification.
  - Demand control ventilation within the classroom areas will be provided to assist with reducing the school's overall energy consumption by regulating the quantity of conditioned outdoor air delivered to each space based on the actual room carbon dioxide levels.
- **Cafe/Multi-Purpose Room, and Gymnasium HVAC Systems -** A series of rooftop heat pump units will provide space conditioning and ventilation for the these high volume programs.
  - Full airside economizer and enthalpy wheel energy recovery devices will be provided where required by the International Energy Conservation Code.
  - Demand control ventilation will be provided for the units serving Media Center, Cafe/Multipurpose Room, and Gymnasium.
- **Miscellaneous Building Areas -** Data, Telecomm, and Elevator Room will be served by ductless split systems. Heating-only type spaces such as mechanical rooms, electrical rooms, stairs, storage rooms, and entry vestibules will be provided with electric cabinet and propeller unit heaters. In addition, a dedicated switch-operated exhaust fan will also be provided within the health suite area and within the administration workroom.
- **Building Automation Control System -** Automatic temperature controls will be direct digital type controls (DDC). All system components will be installed in accordance with MCPS standards and networked to the existing front-end server located at the MCPS Energy Management Office.

PLUMBING ELEMENTS

- **Domestic Water Systems** – A new combination fire/water service will enter the school within the first floor
  - A new domestic water service, complete with basket strainer and backflow preventer will separate the domestic water and fire services prior to distributing water throughout the school.
  - Domestic water piping will be distributed from this first floor mechanical room area to plumbing fixtures and equipment located throughout the school.
  - Existing domestic water piping will be replaced throughout renovated areas, with new piping incrementally replaced in phases to accommodate a phased-while-occupied construction approach.
  - Domestic hot water will be generated by a pair of electric resistance tank type domestic water heaters.

Description of Options (Continued)

- **Storm Water Piping Systems -** Above and below-grade storm water piping will be constructed from PVC material.
  - Storm water drains and piping systems will be replaced to the greatest extent possible throughout areas of renovation, with limited portions of the existing underground piping anticipated to remain to accommodate project phasing.
- **Sanitary and Vent Piping Systems -** Above and below-grade sanitary and vent piping will be constructed from PVC material.
  - Equipment and sinks that may discharge grease into the sanitary system from the kitchen will be piped to a new underground concrete grease interceptor. The discharge from this interceptor will be connected to site sanitary piping system.
  - Sinks within the art classrooms will be provided with solids interceptors, collecting debris and preventing it from entering the site sanitary piping system.
  - Sanitary waste and vent piping systems will be replaced to the greatest extent possible throughout areas of renovation, with limited portions of the existing underground piping anticipated to remain to accommodate project phasing.
- **Plumbing Fixtures -** All new plumbing fixtures will be provided throughout the school. **F**ixtures will meet the Americans with Disabilities Act (ADA) and utilize water conservation features compliant with current plumbing code and promoting good water conservation practices.
- **Gas Piping Systems -** A new natural gas service will be provided by Washington Gas for the school, with a new outdoor meter and pressure reducing station located near the new first floor mechanical room. Gas piping will serve the science classrooms and the emergency generator.

FIRE PROTECTION SYSTEMS

- The entire building will be fully sprinklered, A fire pump is not currently anticipated based on the available water pressure at the existing school. All work will be specified to conform to standards of the National Fire Protection Association (NFPA).

ELECTRICAL ELEMENTS

- **General** - All new electrical distribution equipment, lighting fixtures, lighting controls, receptacles, fire alarm system, voice/data system, public address system, and security system components will be provided
  - Existing systems within the renovation areas will be replaced utilizing a phased-while-occupied construction approach, allowing the school to remain in operation throughout the duration of construction..
- **Electrical Service** - A new electrical service will be provided to serve a new main switchboard in a new main electrical room.
  - A new outdoor pad-mounted Pepco utility transformer will be provided adjacent to the new main electrical room.
  - The existing switchboard will be backfed from the new main switchboard within renovation approaches to maintain existing power distribution throughout the duration of construction.
  - The new 3,000 amperes, 277/480 volts, 3-phase, 4-wire switchboard will be sized with spare capacity and space for future circuit breakers in order to accommodate any future renovations to the school. A tap section for connection of future on-site photovoltaic (PV) system will be provided.
  - A separate “auxiliary” electrical room will be provided within the new main electrical room for new generator-connected equipment.
- **Emergency Shelter -** The Maryland Emergency Management Agency (MEMA) may designate Eastern MS as an emergency public shelter. In this case, electrical equipment to connect a temporary portable generator to the main switchboard will be provided.
  - MCPS may request MEMA for a waiver to not designate Eastern MS as an emergency public shelter.

Description of Options (Continued)

- **Electric Vehicle (EV) Charging Stations -** MCPS standard electrical provisions will be provided in the parking lot.
- **Solar Photovoltaic -** Electrical provisions will be made for a future solar PV system.
- **Generator Power -** There will be an onsite outdoor natural-gas generator with weatherproof, sound-attenuated enclosure, sized to accommodate emergency / life-safety and standby loads via automatic transfer switches. The estimated size for the generator is 150 kW.
  - Standby panelboards will serve typical loads, including, but not limited to, data/voice communications equipment, automatic temperature control (ATC) / building management system control panels, kitchen cooler/freezer, refrigerator in health suite, intercom/public address equipment, security equipment, fire detection and alarm equipment.
  - A generator docking station will provided on the emergency / life-safety power distribution system to allow for connecting to a temporary portable generator. The generator docking station will be sized to accommodate the entire generator load and will be located at the building exterior adjacent to the generator.
- **Lighting -** Luminaires (lighting fixtures) will utilize LED light sources. Typical LED luminaires will be recessed 2' x 2' or 2' x 4' fixtures. Recessed downlight, high-bay "UFO" style, high abuse wall-mounted, LED strip, and architectural pendant luminaires will be used where appropriate.
  - Building and pole-mounted exterior luminaires around the perimeter of the building, located so as not to exceed the maximum lighting levels beyond the property line.
- **Lighting Controls -** Switching of luminaires will have ON/OFF and RAISE/LOWER lighting level capability. Occupancy sensors will be utilized for automatic control of both interior and exterior lighting. An astronomic time switch / time clock will be used to turn ON/OFF exterior lighting
- **Fire Detection and Alarm -** The fire detection and alarm system will be a stand-alone, addressable, and will have voice evacuation capability. The main fire alarm control panel (FACP) will be located either in the main telecom room or in a location as directed by MCPS. The fire alarm annunciator with graphic display and adjacent keypad will be located at the main building entrance vestibule or lobby.
- **Public Address System -** Intercommunications/public address system devices will include speakers and call switches. Stand-alone sound reinforcement systems will be provided in the multipurpose room, main gymnasium, auxiliary gym, dance rooms, and music rooms per MCPS standards.
- **Security System -** Security systems will include door access control (card readers), intrusion detection (keypads and motion detectors), and video surveillance (cameras). Distributed antenna system will be provided for public safety radio for first responders.
- **Technology Infrastructure -** The school will have communications (data and voice) systems including wireless access points throughout for Wi-Fi. Provisions for audio/visual systems for instructional technology will be provided.

Description of Options (Continued)

Approach 1: Renewal (0% Building Demolition)

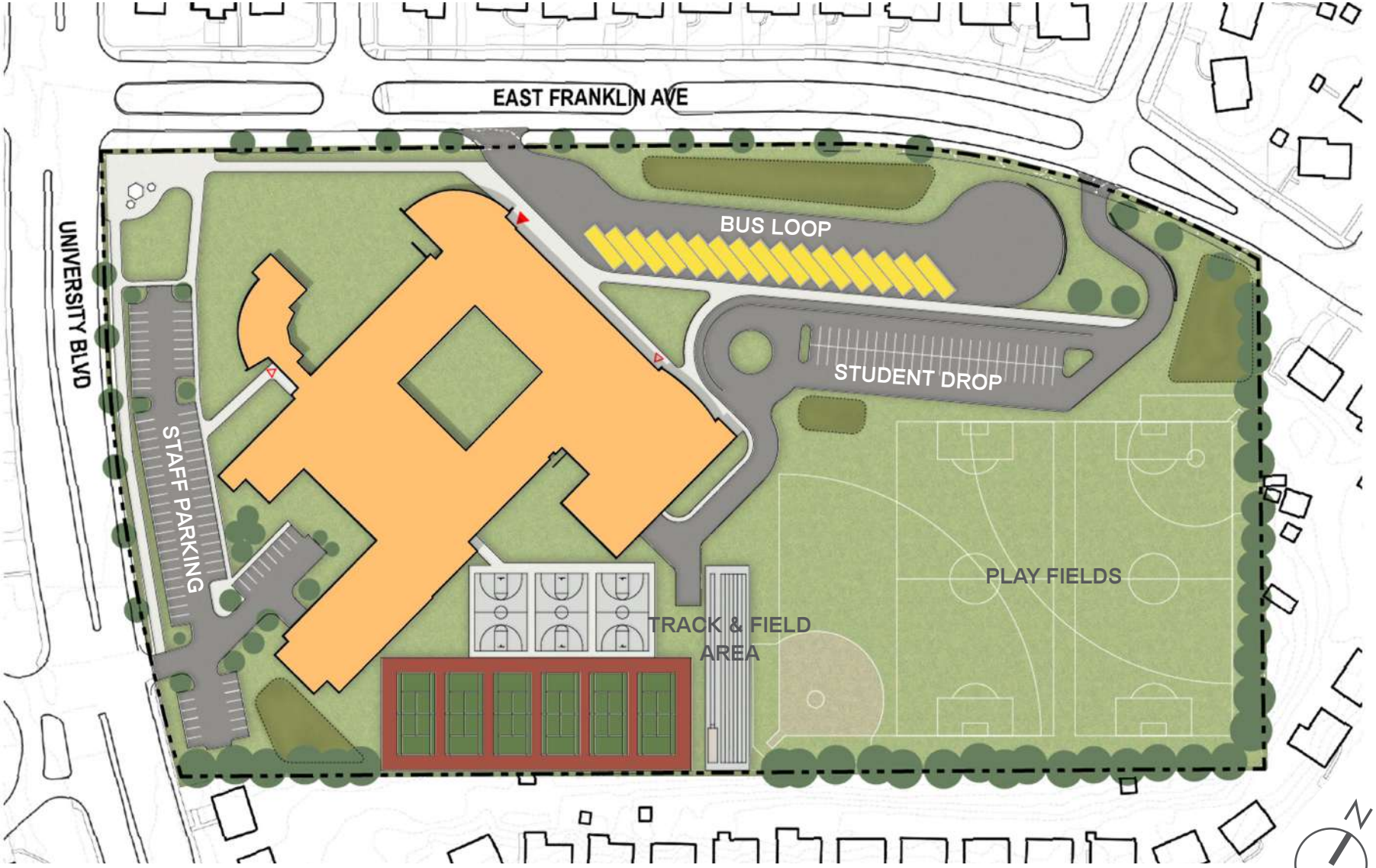
The renewal approach aims to preserve as much of the existing building as possible. the existing building envelope will be replaced with a new, high-performance wall system to improve energy efficiency and durability. The primary focus is on demolishing interior walls to reconfigure the layout in accordance with the educational specifications. Structural bearing walls, high-volume areas and existing corridor walls are kept in place. Programs are reorganized in the renovation by rebuilding interior partitions. The design will meet most of the educational specification requirements. The largest deficiences are found within the physical education, student dining, and building services programs. Square footages allocated to these programs are 19.7%, 12.7% and 20% below those listed within the educational specifications, Providing all the square footages prescribed within the educational specifications cannot be acheived without expanding the building footprint, Working within the footprint also impacts the spatial proportions of many program spaces. The new auxillary gym program will not be a high volume spaces within the renewal approach. Many of the laboratory spaces spaces will be housed in long narrow rooms to fit within the existing classroom bay spacing. Appropriate adjancies between programs will be accomodated to the greatest extent possible, but cannot be idealized within the renewal. Grade clusters are disjointed, and relevant support spaces are not as close as preferred.

The site will be redesigned to improve circulation and overall functionality. The main entry of the building will be relocated to face the bus loop and the student drop off lot. The bus loop layout will be updated but will remain on the east side of the campus at East Franklin Ave. Meanwhile, the student drop-off area will be relocated to the east side, with access also coming from East Franklin Ave. Most of the on-site parking will remain on the west side closer to University Blvd. with additional parking added on the student drop-off area. The play field will remain in the same location with an updated field layout. The basketball court and tennis courts are clustered together in one area along the south side of the site.

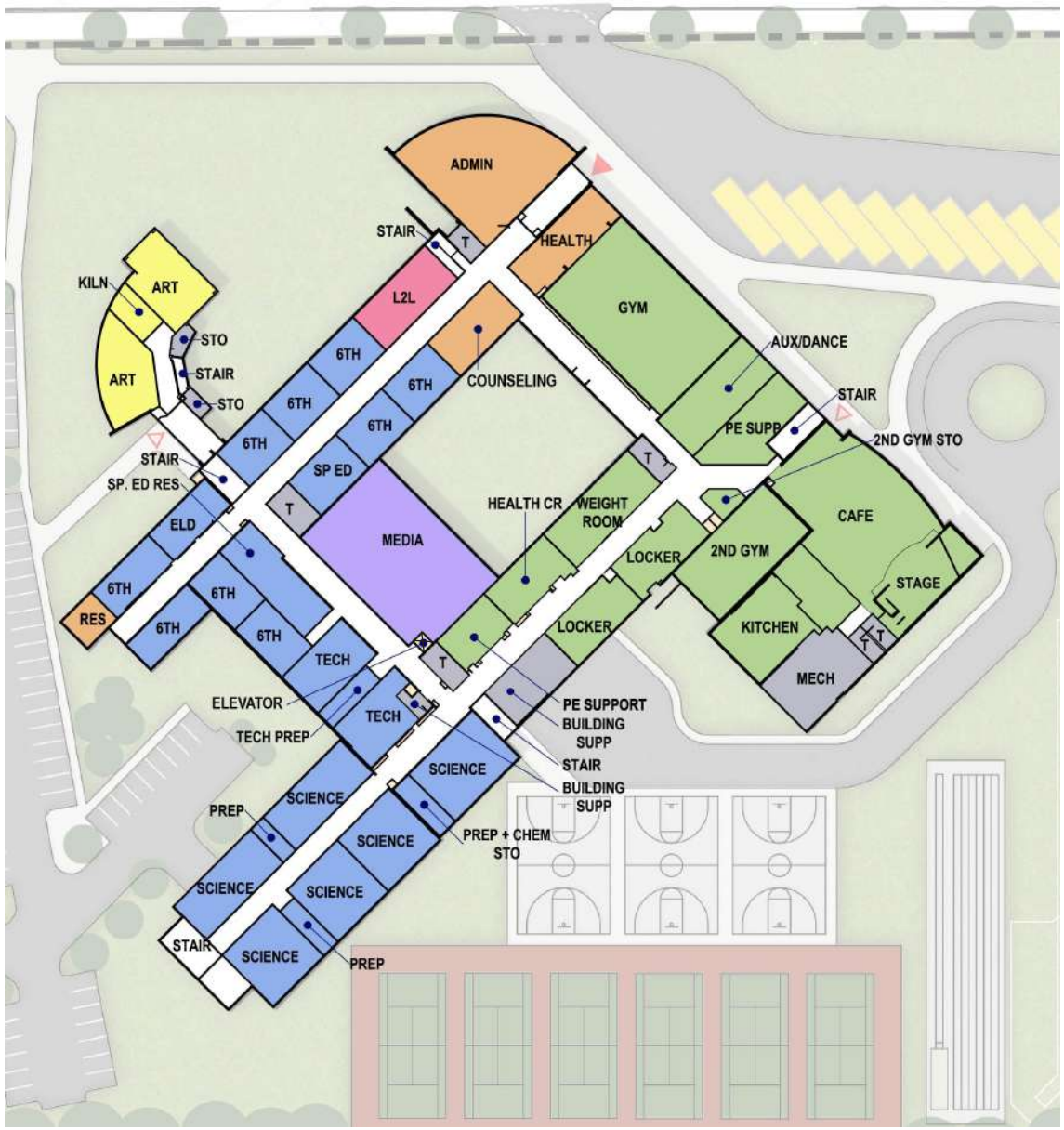
Demolition	0
Modernization	152,130
Addition	0
Total G.S.F.	152,130
Efficiency	66.5%

Description of Options (Continued)

Approach 1: Renewal (0% Building Demolition) - Site Plan



Approach 1: Renewal (0% Building Demolition) - Site Plan



- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen

N

0 50 100

Approach 1: Renewal (0% Building Demolition) - Second Floor Plan

- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen

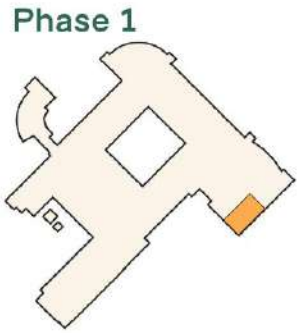
N

0 50 100

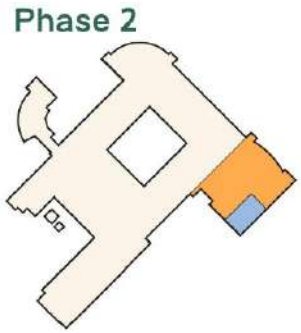
Description of Options (Continued)

Approach 1: Renewal (0% Building Demolition) Phasing

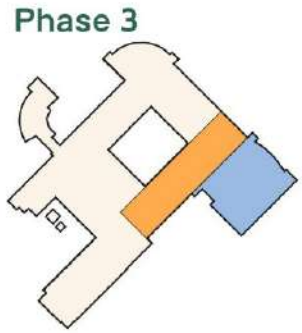
Phase	Year 1			Year 2			Year 3			Year 4			Year 5
	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer
0% Demolition Concept - 2.5 year (3 Summer) Duration. Spring break completion													
1	Central Plant												
2				Cafeteria									
3					PE Support Wing								
4						Science Wing							
5							Admin, Gym & Media						
6								University Blvd					
7				Pave Site			Pave Site						



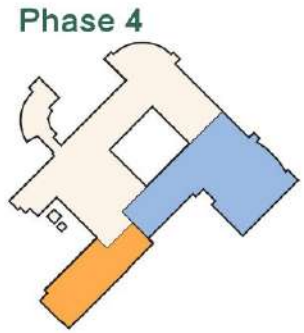
New central plant renovation



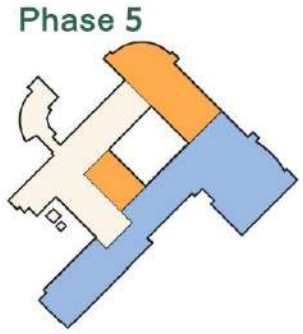
Cafeteria/kitchen renovation



PE support wing renovation



Science wing renovation



Admin/gym/media center renovation

University Boulevard renovation

Building complete + site work

Description of Options (Continued)

Approach 1: Renewal (0% Building Demolition) - Advantages and Disadvantages

Scoring

BUILDING GOALS	●●●○○○
SITE GOALS	●●●●○○
COMMUNITY	●●●◐○○
SUSTAINABILITY	●●●◐○○
COST	●●●●●◐
PHASED OCCUPIED	●●●●○○
OVERALL	●●●●○○

Advantages

BUILDING/PLAN
- 20th century layout minimizes unprogrammed areas

PHASED OCCUPIED CONSTRUCTION
- Shortest time line of renovation concepts

SITE
- Can achieve redesign of bus loop and parent loop circulation

COMMUNITY
- Walkers do NOT cross any vehicle entrances
- Least impactful construction to surrounding community/neighbors

SUSTAINABILITY
- Reuses ALL existing building steel and concrete

COST
- Reduced initial construction cost

Disadvantages

BUILDING/PLAN
- LEAST next generation learning opportunities
- Long, narrow lab spaces within renovated building
- Media Center and Sciences not integrated with grade level clusters
- Building services, Media Center, and Gym volume spaces are below Ed Spec standards
- Music is located on the second floor, above the cafeteria/stage level
- Grade clusters not closely defined

SITE
- Significant overlap of play fields
- Building service zone close to play fields

COMMUNITY
- Main entrance faces away from University Blvd.
- Play fields remain hidden, limiting after hours use supervision
- Hidden space tucked behind 1960s wing not addressed

SUSTAINABILITY
- May not be able to achieve Net Zero using all site mounted PVs
- Structural limitations prohibit the use of prefered high efficiency geothermal HVAC.

COST
- Highest building life cycle operation cost

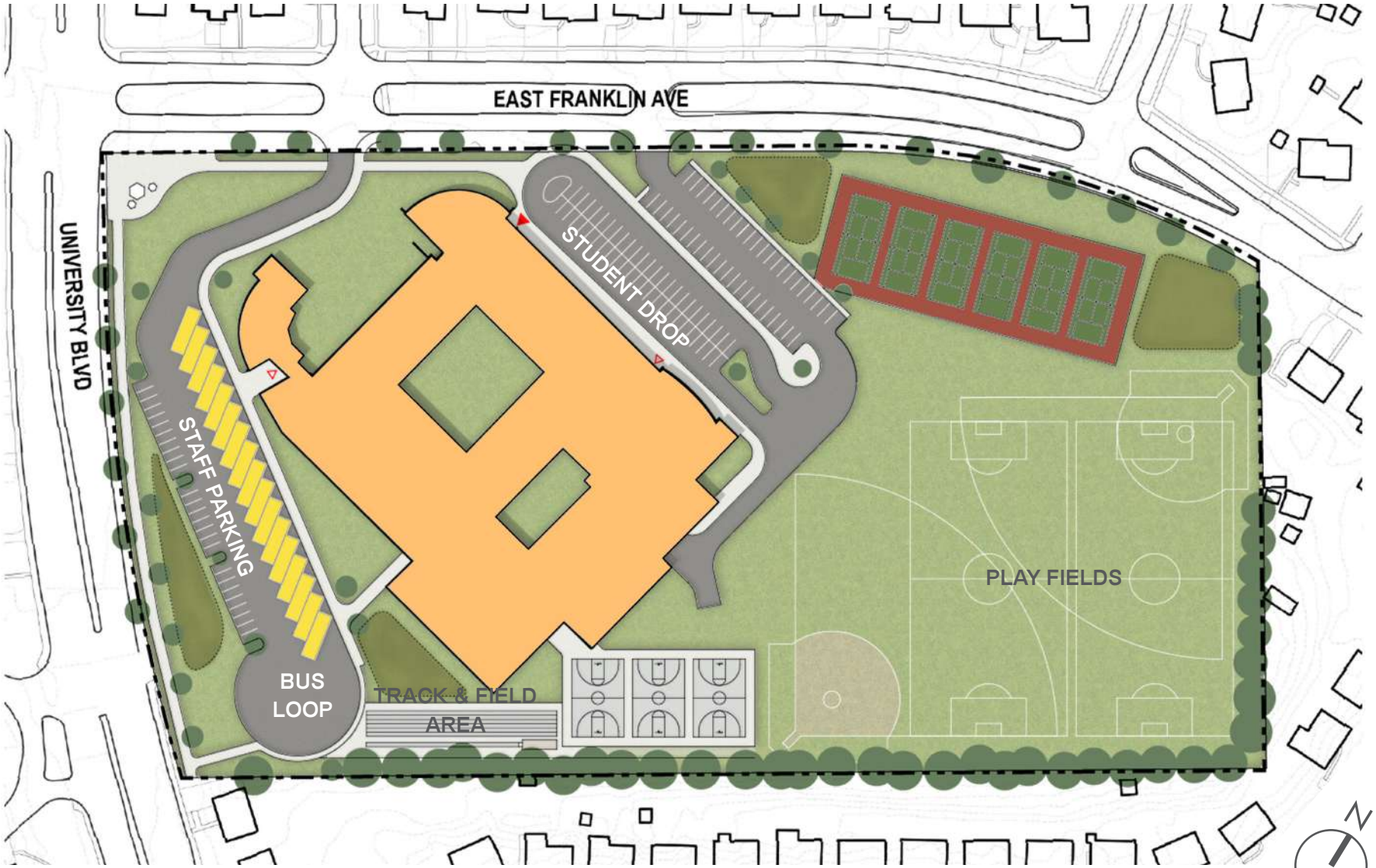
Approach 2: Renovation / Addition (25% Building Demolition)

This strategy involves demolishing approximately 25% of the existing building footprint and constructing 57,630 GSF of new space. The remaining portions of the existing building will be renovated similarly to the renewal option, with the entire building envelope upgraded to a high-performance wall system. The new addition will house a brand-new gymnasium, a second gym, an auxiliary gym/dance studio, a weight room, locker rooms, and supporting gym facilities. It will also include new science classrooms and general classrooms on the second floor. The existing gym will be repurposed as the new media center, and the cafeteria will be expanded to meet the educational specification requirements. The main entry of the building will be relocated to face East Franklin Avenue and the student drop off loop. The building will feature two courtyards: one in the current location and a smaller one between the new addition and the renovated area. Both will be designed as outdoor learning environments. The facility will be designed to be Net Zero Ready, with the potential to accommodate future rooftop photovoltaic (PV) panels on the new addition.

Site improvements include relocating the bus loop to the east side of the campus near University Blvd., with access from East Franklin Ave. The existing bus loop will be converted into the student drop-off area and on-site parking. The play field will remain in its current location but will receive an updated layout. The tennis courts will be positioned in the northeast corner of the site, while the basketball court will be located to the south.

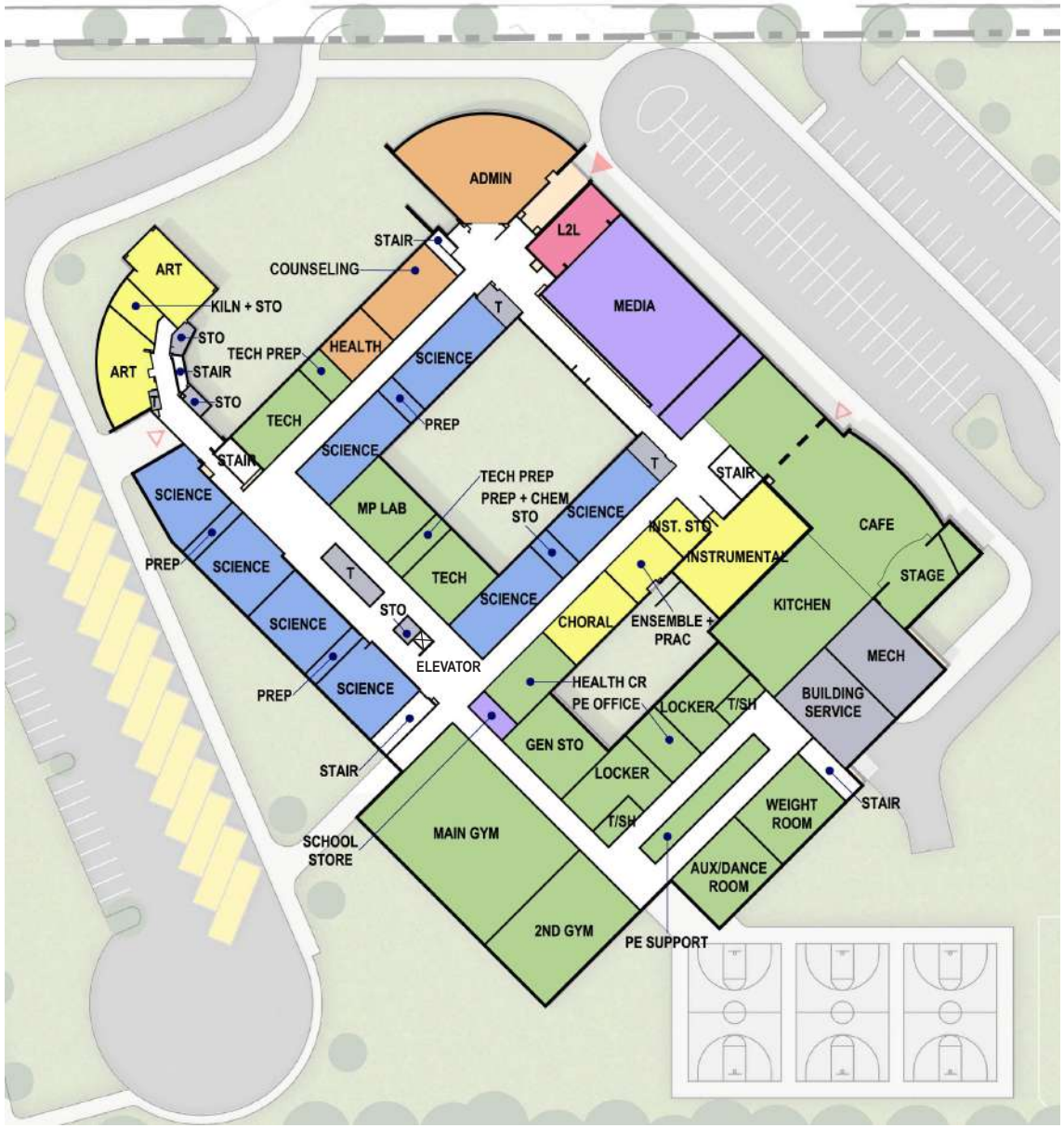
Demolition	39,996
Modernization	112,134
Addition	57,630
Total G.S.F.	169,764
Efficiency	66.0%

Approach 2: Renovation/Addition (25% Building Demolition) - Site Plan

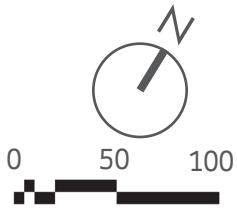


Description of Options (Continued)

Approach 2: Renovation/Addition (25% Building Demolition) - First Floor Plan

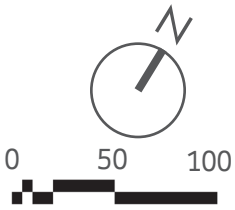


- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen



Approach 2: Renovation/Addition (25% Building Demolition) - Second Floor Plan

- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen

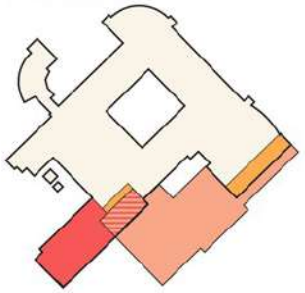


Description of Options (Continued)

Approach 2: Renovation/Addition (25% Building Demolition) - Phasing

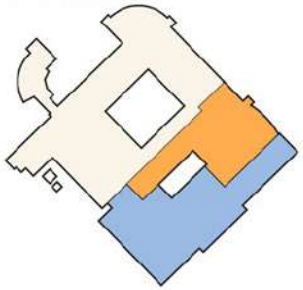
Phase	Year 1			Year 2			Year 3			Year 4			Year 5
	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer
25% Demolition Concept - 4+ year (5 Summer) Duration													
1	Gym Addition & Central Plant												
2						Cafeteria/Music Reno								
3								Science/Media Reno					
4									Admin/Guid. Reno				
5										University Blvd Addition			
6													Pave Site

Phase 1



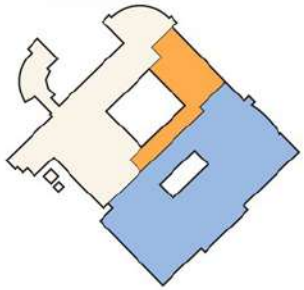
Gym addition & central plant

Phase 2



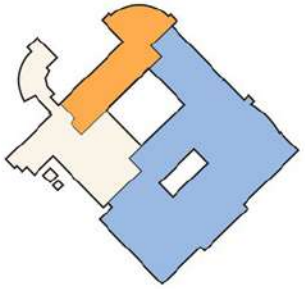
Cafeteria/music wing renovation

Phase 3



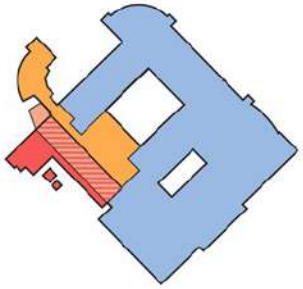
Science wing/media center renovation

Phase 4



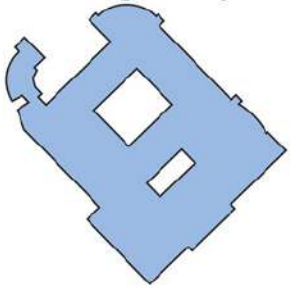
Admin/guidance suite renovation

Phase 5



University Boulevard addition

Building Complete



Building complete + site work

Description of Options (Continued)

Approach 2: Renovation / Addition (25% Building Demolition) - Advantages and Disadvantages

Scoring

BUILDING GOALS	●●●◐○○
SITE GOALS	●●●●◐○
COMMUNITY	●●●●○○
SUSTAINABILITY	●●●●○○
COST	●●●●○○
PHASED OCCUPIED	●●●◐○○
OVERALL	●●●●○○

Advantages

BUILDING/PLAN
- Grade clusters clearly defined

COMMUNITY
- Students do NOT cross drop of loop entrance
- Main parking lot behind school

SUSTAINABILITY
- Reuses MOST existing building steel and concrete

Disadvantages

BUILDING/PLAN
- MINIMAL next generation learning opportunities
- Long, narrow lab spaces within renovated building
- Media center not integrated with grade level clusters
- Sciences not integrated with grade level clusters

PHASED OCCUPIED CONSTRUCTION
- Longest construction duration

COMMUNITY
- Main entrance faces away from University Blvd
- Play fields remain hidden, limiting after hours use supervision
- Hidden space tucked behind 1960s wing not addressed

SUSTAINABILITY
- Large amount of site mounted PV required to achieve Net Zero

Description of Options (Continued)

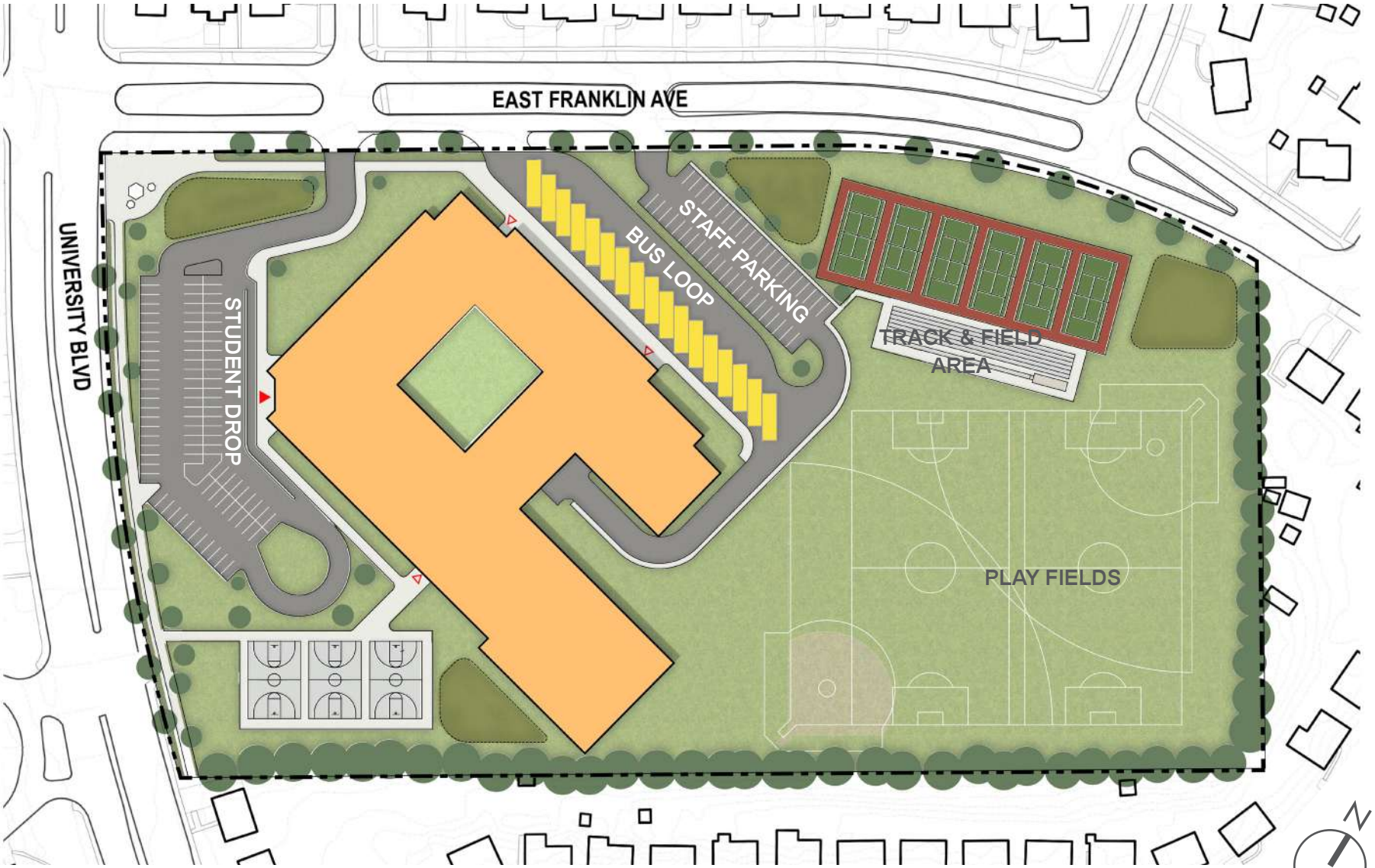
Approach 3: Renovation / Addition (60% Building Demolition)

This strategy proposes demolishing approximately 60% of the existing building footprint and constructing 103,348 GSF of new space. The remaining portion of the building will be renovated similarly to the renewal option, and the entire building envelope will be upgraded with a high-performance wall system. The new addition aims to reface the building and reorient the main entry facing University Blvd. The new addition in the south will include a main gym, a second gym, an auxiliary gym/dance studio, a weight room, locker rooms, and supporting athletic spaces. It will also feature new science classrooms, an arts and performing arts wing, and additional general classrooms. The existing gym will be converted into a new cafeteria and kitchen.

The existing courtyard will be preserved and redesigned as an outdoor learning space. The building will be Net Zero Ready, with the potential to support future rooftop photovoltaic (PV) panels on the new addition. The play field will remain in its current location but will be reconfigured with an updated layout. The site plan retains the current bus loop location while reworking the student drop-off area and on-site parking to improve circulation and access.

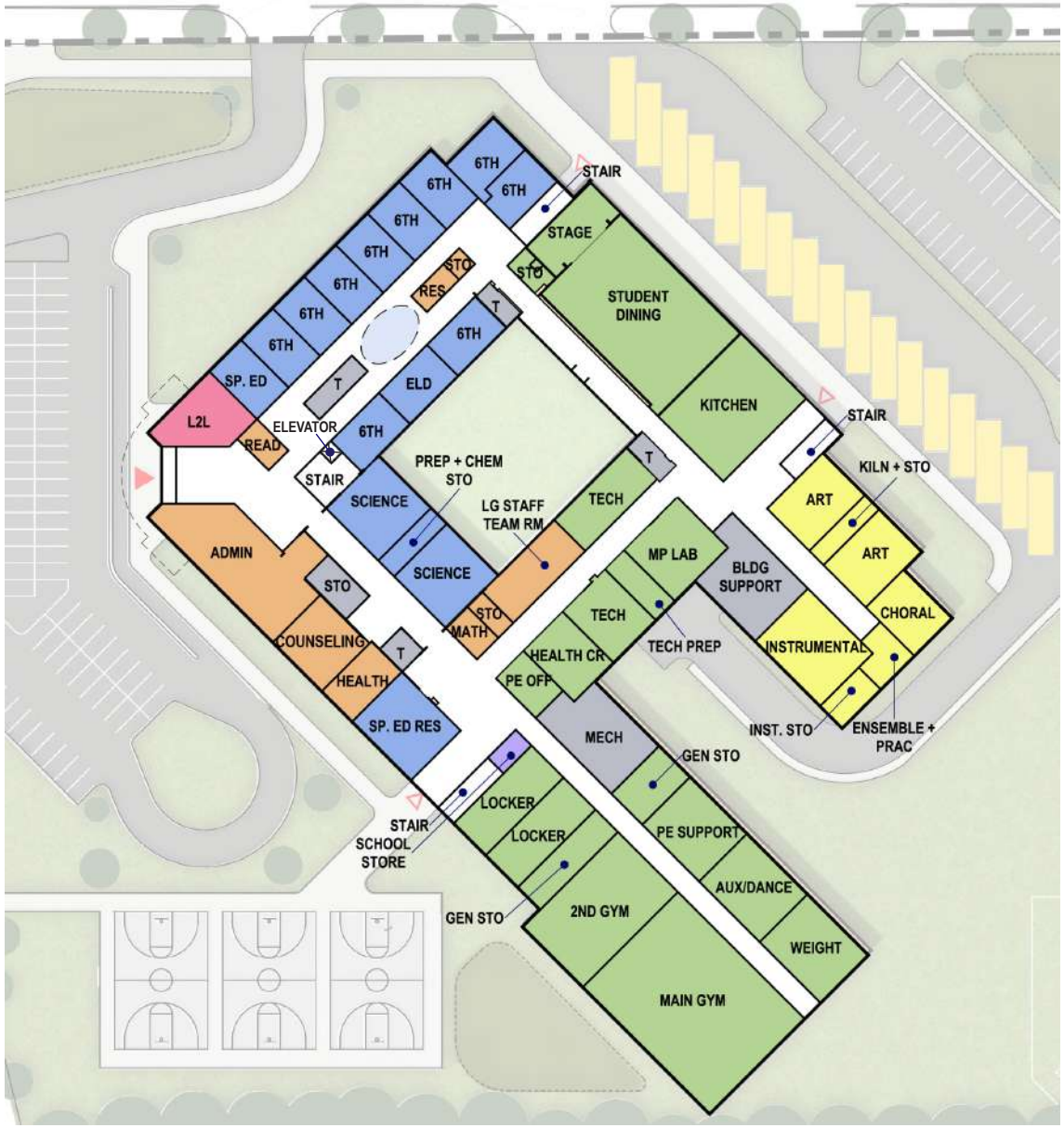
Demolition	88,416
Modernization	63,714
Addition	103,348
Total G.S.F.	167,062
Efficiency	64.4%

Approach 3: Renovation/Addition (60% Building Demolition) - Site Plan



Description of Options (Continued)

Approach 3: Renovation/Addition (60% Building Demolition) - First Floor Plan



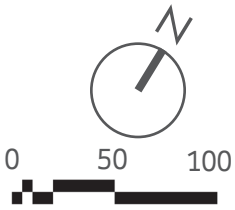
- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen

N

0 50 100

Approach 3: Renovation/Addition (60% Building Demolition) - Second Floor Plan

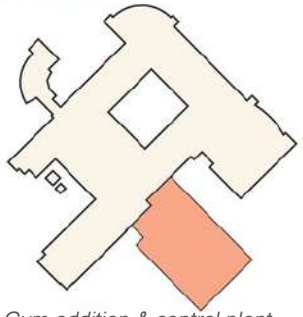
- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen



Approach 3: Renovation/Addition (60% Building Demolition) - Phasing

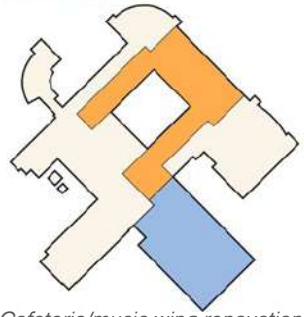
Phase	Year 1			Year 2			Year 3			Year 4			Year 5
	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer
60% Demolition Concept - 4+ year (5 Summer) Duration													
1	Gym Addition & Central Plant												
2						New Café & Courtyard Reno							
3A								Demo old Cafeteria/Art addition					
3B								Demo old Admin & Guidance / CR addition					
4											University Blvd Addition		
5													Pave Site

Phase 1



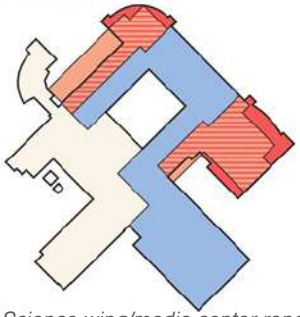
Gym addition & central plant

Phase 2



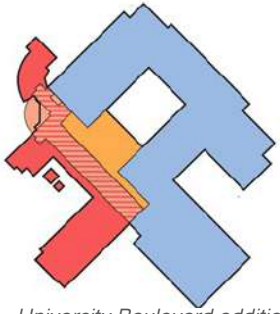
Cafeteria/music wing renovation

Phase 3



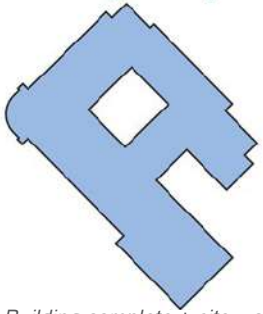
Science wing/media center renovation

Phase 4



University Boulevard addition

Building Complete



Building complete + site work

- Existing Building
- Complete Building
- Addition
- Renovation
- Demolition

Description of Options (Continued)

Approach 3: Renovation/Addition (60% Building Demolition) - Advantages and Disadvantages

Scoring

BUILDING GOALS	●●●●○○
SITE GOALS	●●●●○○
COMMUNITY	●●●●○○
SUSTAINABILITY	●●●●◐○
COST	●●●●○○
PHASED OCCUPIED	●●●◐○○
OVERALL	●●●●○○

Advantages

BUILDING/PLAN
- SOME ideal superteam layouts
- Media Center integrated with superteams

SITE
- Ideal relationship between student drop off lane, visitor parking lot and main entrance

COMMUNITY
- Strong street presence for main entrance

SUSTAINABILITY
- Reuses MUCH existing building steel and concrete
- Sizeable area for rooftop PV array (not enough for full net-zero)

Disadvantages

BUILDING/PLAN
- P.E. program is remotely located
- Central plant, Kitchen and building services separated

SITE
- Kitchen loads from bus loop

PHASED OCCUPIED CONSTRUCTION
- Longest construction
- Select demolition of structural bays more structurally complicated

COMMUNITY
- Walkers cross drop off loop entrance
- Play fields remain hidden, limiting after hours use supervision

SUSTAINABILITY
- Some site mounted PV required to achieve Net Zero

Approach 4: Replacement (100% Building Demolition)

This approach proposes demolishing the entire existing building and constructing a new two-story replacement building on the east side of the site. Building on a new footprint allows construction to proceed without disrupting the current facility. The design includes a single courtyard, thoughtfully planned as an outdoor learning space for the Science, Technology, Engineering, Arts and Math (STEAM) programs. The building layout promotes efficient loop circulation, enhancing visibility and movement throughout the school. Public functions are clearly defined along the south wing, while more private or academic spaces are located on the north side.

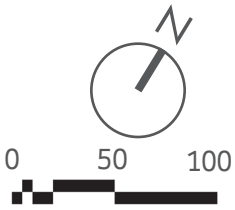
The new facility will be designed to be Net Zero Ready, with the potential to support future rooftop photovoltaic (PV) panels. The site layout will be reconfigured to place the play fields at the front of the campus, where the existing building currently stands. Student drop-off and on-site parking will be located to the west of the new building, accessible from East Franklin Ave. The main entrance will face both the student drop-off loop and University Blvd. A new bus loop will be located on the east side of the site, incorporating a switchback design to address the steep grade in the northeast corner.

Demolition	152,130
Modernization	0
Addition	160,115
Total G.S.F.	160,115
Efficiency	67.6%

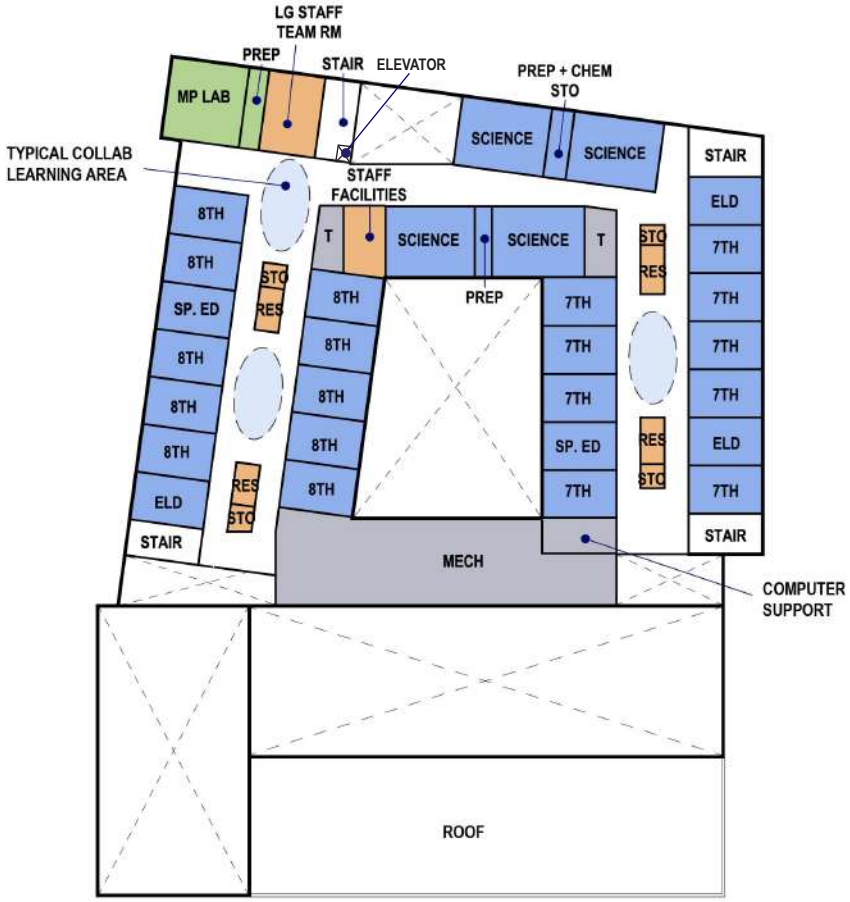
Approach 4: Replacement (100% Building Demolition) - Site Plan

Approach 4: Replacement (100% Building Demolition) - First Floor Plan

- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen



Approach 4: Replacement (100% Building Demolition) - Second Floor Plan



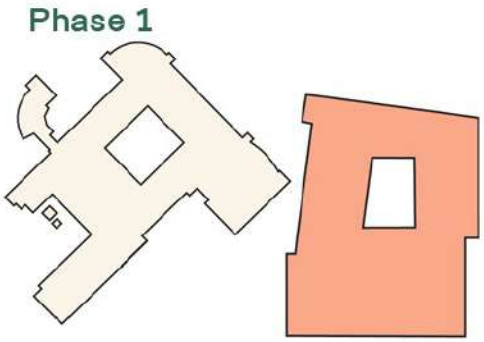
- Classrooms
- Administration
- Music & Arts
- Instructional Support
- Building Support
- Linkages to Learning
- Media Center, Phys Ed, Multipurpose, & Kitchen

N

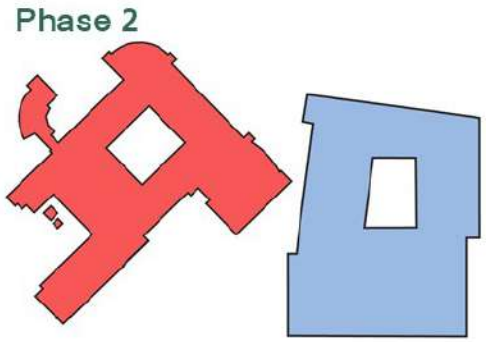
0 50 100

Approach 4: Replacement (100% Building Demolition) - Phasing

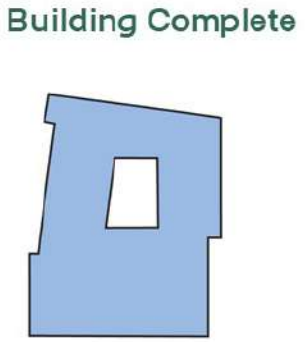
Phase	Year 1			Year 2			Year 3			Year 4			Year 5
	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer
Replacement Concept - 2+ year (3 summer) Duration													
1	Build Replacement School												
2							Pave Site						
3							Demo old Building & Fields						



Build replacement school



Demolish old school



Site Work

- Existing Building
- Complete Building
- Addition
- Renovation
- Demolition

Description of Options (Continued)

Approach 4: Replacement (100% Building Demolition) - Advantages and Disadvantages

Scoring

BUILDING GOALS	●●●●●◐
SITE GOALS	●●●●●◐
COMMUNITY	●●●●●◐
SUSTAINABILITY	●●●●●◐
COST	●●●●●○
PHASED OCCUPIED	●●●●●○
OVERALL	●●●●●◐

Advantages

BUILDING/PLAN
- Idealized layout for 'superteam' as detailed in Educational Specification
- Loop circulation

SITE
- Maximizes site programming area

PHASED OCCUPIED CONSTRUCTION
- Shortest Construction Duration
- No Portables or Modulars needed

COMMUNITY
- Play fields visible for after hours use

SUSTAINABILITY
- Net-Zero Ready

COST
- Lowest lifecycle / operational cost

Disadvantages

PHASED OCCUPIED CONSTRUCTION
- No play fields during construction

COMMUNITY
- Walkers cross drop off loop entrance
- Building closer to Curran Road
- Prominent car infrastructure

SUSTAINABILITY
- No reuse of existing steel or concrete

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Appendix A - Space Allocation Summary

When this project is complete, the following spaces are to be provided:
The capacity will be 1097 with a core of 1200.

Facility	#	Net S.F.	Total Net S.F.
Standard Classrooms	**28**	840	23520
Science			13100
Laboratory	**8**	1500	12000
Preparation Room	4	250	1000
Chemical Storage	1	100	100
Other Instructional Support Areas			3825
Large Staff Team Room	1	900	900
Team Resource Center/Workroom	5	300	1500
Interdisciplinary Textbook Storage	3	100	300
Departmental Textbook Storage	3	100	300
Foreign Language Textbook Storage	1	100	100
Support Staff Office	1	125	125
Developmental Reading Room	1	300	300
Math Intervention Room	1	300	300
ELD Classrooms			3810
ELD Classrooms	**4**	840	3360
ELD Team Room	1	300	300
ELD Storage	1	150	150
Special Education			4200
Special Education Classrooms	**3**	840	2520
Special Education Team Room	1	300	300
Resource Room	1	600	600
Accommodations Room	1	300	300
Speech & Language Support Room	1	240	240
Occupational Therapy/Physical Therapy Room	1	240	240

Appendix A - Space Allocation Summary (Continued)

Facility	#	Net S.F.	Total S.F.
Music Suite			**3878**
Instrumental Music Room	**1**	1900	1900
Instrumental Storage	1	450	450
General Musical/Choral Room	**1**	1000	1000
Small Ensemble Room	1	400	400
Practice Rooms	2	64	128
Visual Arts Suite			**3020**
Art Room	**2**	1300	2600
Storage	1	300	300
Kiln Room	1	120	120
Multipurpose Technology Laboratory			**2680**
Multipurpose Technology Laboratory	**1**	1200	1200
Computer Technology Laboratory	1	1200	1200
Preparation Room	1	280	280
Multipurpose Laboratory			**1780**
Multipurpose Laboratory	**1**	1500	1500
Storage	1	280	280
Physical Education			**21100**
Gymnasium (Equals 2 teaching stations)	**1**	6800	6800
2nd Gymnasium	**1**	3200	3200
Fitness/Weight Room	**1**	1600	1600
Auxiliary Gym/Dance Room	**1**	1600	1600
Health Classroom	**1**	1100	1100
Locker Rooms	2	1375	2750
Inclusive Locker Room	1	300	300
Storage Rooms	2	100	200
Toilet Rooms	2	150	300
Shower/Drying Rooms	2	200	400

Appendix A - Space Allocation Summary (Continued)

Facility	#	Net S.F.	Total S.F.
Physical Education (Continued)			
Laundry Room	1	150	150
Offices	2	300	600
Common Planning Area	1	200	200
General Storage	2	650	1300
2nd Gymnasium storage	1	300	300
Outdoor storage	1	200	200
ICB Storage	1	100	100
Computer Support			**695**
Office	1	125	125
Telecommunication Closet	4	80	320
Telecommunication Equipment Closet	1	250	250
Library Media Center			**6015**
Main Learning Environment	1	4000	4000
Work and Production Area	1	700	700
Storage, Media General	1	350	350
Instructional Technician Support Room	1	125	125
Multimedia Production Room	1	840	840
Student Activities			**260**
School Store	1	180	180
Student Government Storage Closet	1	80	80
Administration Suite			**3270**
General Office	1	700	700
Principal's Office w/toilet	1	250	250
Assistant Principal's Office	2	125	250
Assistant School Administrator Office	1	125	125
Administrative Secretary's Office	1	125	125
Workroom	1	375	375

Appendix A - Space Allocation Summary (Continued)

Facility	#	Net S.F.	Total S.F.
Administration Suite (Continued)			
Storage	1	100	100
Conference Room	1	280	280
Copier Workroom	1	180	180
Student Support Center	1	300	300
Financial Secretary's Office	1	125	125
Staff Development Office	1	180	180
Security Office	1	140	140
Testing Room	1	140	140
Counseling Suite			**1155**
Counselor's Office	4	125	500
Waiting Room	1	250	250
Conference Room	1	280	280
Records Room	1	125	125
Health Suite			**765**
Waiting Room	1	100	100
Treatment/Medication Area	1	125	125
Office/Health Assessment Room	1	100	100
Health Assessment/Isolation Room	1	100	100
Rest Area	2	100	200
Toilet Room	2	50	100
Storage	1	40	40
Staff Facilities			700
Staff Room	1	600	600
Privacy Room	2	50	100
Student Dining			**7200**
Student Dining Area	1	5000	5000
Stage	1	1500	1500
Table Storage	1	300	300
Chair Storage	1	400	400

Appendix A - Space Allocation Summary (Continued)

Facility	#	Net S.F.	Total S.F.
Kitchen Area			**3043**
Food Preparation	1	900	900
Dry Food Storage	1	350	350
Refrigerator	1	125	125
Freezer	1	225	225
Service Area (4 service lines)	1	950	950
Office	1	100	100
Locker /Toilet Room	1	120	120
Loading Platform	1	125	125
Receiving Area	1	100	100
Chemical Storage Room	1	48	48
Building Service Facilities			**2025**
Building Services Office	1	150	150
Locker/Shower Area	1	250	250
Plant Equipment Operator Office	1	75	75
Compactor/Trash Room	1	250	250
Receiving and Storage Area	1	800	800
General Storage Rooms	1	250	250
Building Services Outdoor Storage	1	250	250
Linkages to Learning Suite (Add Alternate)			1325
Reception Area	1	225	225
Conference Room	1	275	275
Storage Closet	1	25	25
Child/Family Therapy Room	2	175	350
Case Manager's Office	1	140	140
Site Coordinator Office	1	140	140
Community Service Aide/Intern Workstation	1	70	70
Family Resources Closet	1	50	50
Staff Toilet	1	50	50
Total	**55**		**107366**

Appendix B - Educational Specifications

Educational Specifications Attached

Eastern Middle School

Educational Specifications

Date: November 13, 2024

Montgomery County Public Schools
Rockville, Maryland 20850

Table of Contents

Space Summary

When this project is complete, the following spaces are to be provided:
The capacity will be 1097 with a core of 1200. Updated November 13, 2024

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
Standard Classrooms	28	840	23520
Science			13100
Laboratory	8	1500	12000
Preparation Room	4	250	1000
Chemical Storage	1	100	100
Other Instructional Support Areas			3825
Large Staff Team Room	1	900	900
Team Resource Center/Workroom	5	300	1500
Interdisciplinary Textbook Storage	3	100	300
Departmental Textbook Storage	3	100	300
Foreign Language Textbook Storage	1	100	100
Support Staff Office	1	125	125
Developmental Reading Room	1	300	300
Math Intervention Room	1	300	300
ELD Classrooms			3810
ELD Classrooms	4	840	3360
ELD Team Room	1	300	300
ELD Storage	1	150	150
Special Education			4200
Special Education Classrooms	3	840	2520
Special Education Team Room	1	300	300
Resource Room	1	600	600
Accommodations Room	1	300	300
Speech & Language Support Room	1	240	240
Occupational Therapy/Physical Therapy Room	1	240	240

Space Summary

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
Music Suite			3878
Instrumental Music Room	1	1900	1900
Instrumental Storage	1	450	450
General Music/Choral Room	1	1000	1000
Small Ensemble Room	1	400	400
Practice Rooms	2	64	128
Visual Arts Suite			3020
Art Room	2	1300	2600
Storage	1	300	300
Kiln Room	1	120	120
Multipurpose Technology Laboratory			2680
Multipurpose Technology Laboratory	1	1200	1200
Computer Technology Laboratory	1	1200	1200
Preparation Room	1	280	280
Multipurpose Laboratory			1780
Multipurpose Laboratory	1	1500	1500
Storage	1	280	280
Physical Education			21100
Gymnasium (Equals 2 teaching stations)	1	6800	6800
2nd Gymnasium	1	3200	3200
Fitness/Weight Room	1	1600	1600
Auxiliary Gym/Dance Room	1	1600	1600
Health Classroom	1	1100	1100
Locker Rooms	2	1375	2750
Inclusive Locker Room	1	300	300
Storage Rooms	2	100	200
Toilet Rooms	2	150	300
Shower/Drying Rooms	2	200	400
Laundry Room	1	150	150
Offices	2	300	600
Common Planning Area	1	200	200
General Storage	2	650	1300
2nd gymnaisum storage	1	300	300
Outdoor Storage	1	200	200
ICB Storage	1	100	100

Space Summary

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
Computer Support			**695**
Office	1	125	**125**
Telecommunication Closet	4	80	**320**
Telecommunication Equipment Closet	1	250	**250**
Library Media Center			**6015**
Main Learning Environment	1	4000	**4000**
Work and Production Area	1	700	**700**
Storage, Media General	1	350	**350**
Instructional Technician Support Room	1	125	**125**
Multimedia Production Room	1	840	**840**
Student Activities			**260**
School Store	1	180	**180**
Student Government Storage Closet	1	80	**80**
Administration Suite			**3270**
General Office	1	700	**700**
Principal's Office w/toilet	1	250	**250**
Assistant Principal's Office	2	125	**250**
Assistant School Administrator Office	1	125	**125**
Administrative Secretary's Office	1	125	**125**
Workroom	1	375	**375**
Storage	1	100	**100**
Conference Room	1	280	**280**
Copier Workroom	1	180	**180**
Student Support Center	1	300	**300**
Financial Secretary's Office	1	125	**125**
Staff Development Office	1	180	**180**
Security Office	1	140	**140**
Testing Room	1	140	**140**

Space Summary

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
Guidance Suite			**1155**
Counselor's Office	4	125	**500**
Waiting Room	1	250	**250**
Conference Room	1	280	**280**
Records Room	1	125	**125**
Health Suite			**765**
Waiting Room	1	100	**100**
Treatment/Medication Area	1	125	**125**
Office/Health Assessment Room	1	100	**100**
Health Assessment/Isolation Room	1	100	**100**
Rest Area	2	100	**200**
Toilet Room	2	50	**100**
Storage	1	40	**40**
Staff Facilities			700
Staff Room	1	600	**600**
Privacy Room	2	50	**100**
Student Dining			7200
Student Dining Area	1	5000	**5000**
Stage	1	1500	**1500**
Table Storage	1	300	**300**
Chair Storage	1	400	**400**
Kitchen Area			**3043**
Food Preparation	1	900	**900**
Dry Food Storage	1	350	**350**
Refrigerator	1	125	**125**
Freezer	1	225	**225**
Service Area (4 service lines)	1	950	**950**
Office	1	100	**100**
Locker/Toilet Room	1	120	**120**
Loading Platform	1	125	**125**
Receiving Area	1	100	**100**
Chemical Storage Room	1	48	**48**

Space Summary

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
Building Service Facilities			2375
Building Services Office	1	150	150
Locker/Shower Area	1	250	250
Plant Equipment Operator Office	1	75	75
Compactor/Trash Room	1	250	250
Receiving and Storage Area	1	800	800
General Storage Rooms	3	250	750
Building Services Outdoor Storage	1	250	250
TOTAL NET SQUARE FOOT	55		106,391

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
Linkages to Learning Suite (Add Alternate)			
Reception Area	1	225	225
Conference Room	1	275	275
Storage Closet	1	25	25
Child/Family Therapy Room	2	175	350
Case Manager's Office	1	140	140
Site Coordinator Office	1	140	140
Community Service Aide/Intern Workstation	1	70	70
Family Resources Closet	1	50	50
Staff Toilet	1	50	50
Subtotal for Linkages to Learning			1,325

Introduction

☐ This document describes the facilities that are needed for the Eastern Middle School educational program. The descriptions provide the architect with useful guidelines and are used by staff representatives when reviewing drawings and specifications for the facility.

☐ This school will be designed with a capacity for 1097 students, a core capacity for 1200 students, and is to have a 200-classroom addition master planned to bring it to its core capacity. The architect should show the location for the future classroom addition.

☐ The project is scheduled to open in August 202X. The site work will be completed by September 202X.

☐ The educational specifications are divided into three sections.

- The first section, the space summary, lists the type of spaces and square footage required when the project is complete.
- The second section describes the general design, location, and specific requirements for each type of space in accordance with Montgomery County Public Schools (MCPS) guidelines.
- The third section identifies additional program requirements for the school.

☐ The architect should show the location for relocatable classrooms, should they be required in the future. These units should be sited in a location where it will not cause conflict with the constructability of a future addition. The necessary utility connections, i.e. electrical power, fire alarm, public address, and data should be provided near the future location of relocatable classrooms.

☐ The architect will provide a space summary comparison between the programmed space requirements and the proposed after each phase of the project including but not limited to the schematic design, design development, and final design phase.

☐ This project is to provide the facilities to meet the educational specifications for a Grades 6–8 middle school program. Middle school organization assumes teams of about 125-150 students per team. Some middle schools organize the school by grade level, or "super team." The organization of the school should be taken into the account during the design process.

☐ The design of the school should promote a collaborative approach for both teaching and learning. Flexibility of design should be provided to accommodate changing educational programs and pedagogy.

☐ The project will be designed to the meet current local and state sustainability guidelines.

General Planning Considerations

In the general planning of this building and development of the site, special consideration is to be given to the following comments and instructions.

Code and Guidelines

☐ The architect is expected to become thoroughly familiar with all national, state and local fire safety, life safety, and health code regulations and to follow applicable rules of the State Interagency Committee on School Construction.

☐ The building is to be accessible to the disabled within the meaning of the latest edition of the Americans with Disabilities Act and to conform to all the latest requirements of the *Americans with Disabilities Act Standards for Accessible Design*. (The regulation can be found at https://www.ada.gov/2010ADAstandards_index.htm)

☐ In addition to the ADASAG, the *Maryland Accessibility Code* (COMAR.05.02.02) also is required for public schools. (The regulation can be found at http://mdcodes2.umbc.edu/dhcd/access.htm).
Per COMAR 23.03.02: Regulation .29, all high school projects that include replacing or upgrading the electrical system should be designed and constructed sot that a designated public shelter area can be fully powered in the event of an emergency.

☐ The architect should refer to the MCPS Facility Guideline Specifications when noted. The Document can be found at:
http://www.montgomeryschoolsmd.org/departments/construction/publications/guidelines.shtm

☐ Special consideration should be given to energy conservation including total life-cycle costs. The current Department of General Service (DGS) requirements shall be applied as design criteria. Life-cycle cost accounting in accordance with DGS criteria is required. A statement on energy conservation must be a part of the preliminary plans submission. Additional details on energy conservation will be provided under separate cover.

☐ The architect should refer to MSDE 2006 *Classroom Acoustic Guidelines* to address the acoustical qualities for classrooms. Core learning spaces should include sound-absorptive finishes for compliance with reverberation time requirements as specified in ANSI, *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools* (ANSI S12.60-2002.)

☐ High quality materials are to be used in the construction. The architect should refer to the MCPS Facility Design Guidelines.

Educational Considerations

☐ The school should be designed to support flexible and collaborative learning environments. When possible, the architect should identify collaborative work spaces throughout the building. These spaces can be located near the instructional spaces as well as informal areas such as the library, hallways, etc.

- ☐ All spaces should be designed in such a way that can be adapted to changes in pedagogical changes in the future.
- ☐ The classrooms should be designed to accommodate various size groups. Each classroom should be readily adaptable for group work, various presentation formats, and should have maximum connectivity to outside resources.
- ☐ The shape of the classroom and the design of built-in features and storage areas should provide optimum net usable floor area. Elongated rooms and features that protrude into floor area, limiting flexibility, are to be discouraged. Rectangular shaped classrooms are preferred.
- ☐ For maximum instructional flexibility, large special instruction areas such as those provided for general music and multipurpose laboratories should be designed to allow easy conversion of some or all of the space for other kinds of instruction in the future
- ☐ Every teaching station, support space, and core area must be wired for computer and VOIP telephone, along with adequate electrical supply in compliance with Maryland Sate design guidelines for Technology in Schools and the MCPS Office of Technology and Innovation (OTI) guidelines. Facilities must be adaptable to accommodate rapid development in high technology and its equipment since educational program and organization in this field are dynamic. Space and power supply must be flexible to meet these changing needs.

Facility Considerations

- ☐ The architect is to design the spaces within 5 percent (plus/minus) of the net square foot guidelines provided in this document unless otherwise noted.
- ☐ The first impression of a building is important. The main entrance to the school should have a clear and inviting identity, and the architect should emphasize the entrance area through its design and landscape.
- ☐ The facility is to reflect an appealing visual, acoustic, and thermal environment and is to be properly furnished and equipped. Well-chosen colors and textures should be used.
- ☐ The design of the main lobby area needs to convey a feeling of warmth and welcome. The inclusion of a lighted showcase in which student work can be displayed is recommended.
- ☐ The main lobby should have a large overhead-animated electronic display board for messages and videos.
- ☐ Lighting must meet current guidelines and provide adequate levels.
- ☐ Carpeting should be limited to the principal's office, assistant principal's office and conference room in the administration suite and the main reading room of the library media center (LMC).

- ☐ The inclusion of lighted showcases to display student work should be provided in the corridors of the main entrance, art, technology education, gymnasium, and in each grade level area. They should be recessed into the wall with access from within a room and have an electric outlet.
- ☐ Staff work areas should be arranged to encourage interdisciplinary interaction.
- ☐ Noise and distracting sounds are to be minimized. In areas such as the multipurpose room and classrooms, which may be used for meetings and adult education, the sound of operating fans for ventilation should not interfere with instruction.
- ☐ A MCPS-designed alarm system will provide security for this facility. The architect will provide for this system in consultation with the Division of Design and Construction (DDC) staff.
- ☐ Some windows must be operable in each space in the building. Transmission of radiation through windows into various portions of the plant is to be considered in relation to heating and ventilating and in relation to planning the building for air conditioning. All instructional spaces should have windows, preferably exterior windows. If the design does not permit exterior windows, windows onto corridors should be provided.
- ☐ All windows should be equipped with window coverings. The specification for the window coverings will be provided by DDC. Screens on operable windows should be installed in all food related areas.
- ☐ Careful placement of glass is required to avoid excess heat gain in occupied areas.
- ☐ The entire school is to be air-conditioned.
- ☐ Zoning the plant for heating and air-conditioning should be related to after-hours use of various areas such as offices, gymnasium, cafeteria, and the instructional media center. Appropriate location of parking, corridor barriers, and toilet rooms is necessary for after-hours use. Some classrooms nearby the cafeteria should be zoned for after hour use as well.
- ☐ Core spaces such as the cafeteria, gymnasiums, and LMC should be easily accessible for community use and secure from the rest of the building after school hours.
- ☐ Special attention should be given to security measures within the building including location of security barriers in corridors, lockable doors to secure various sections of the building for after-hour use.
- ☐ Spaces that serve no real educational function, such as corridors, should be limited while at the same time assuring an easy to supervise and smooth flow of pupil traffic to and from the LMC, cafeteria, gymnasium, specialized centers, and support rooms.
- ☐ For security purposes, all doors into classrooms, conference rooms, offices, etc. must be designed with a sidelight window with shades. If a sidelight is not possible, then the door requires a vision panel.

- ☐ Noise and distracting sounds are to be minimized. In areas such as the cafeteria and classrooms, which may be used for meetings and adult education, the sound of operating fans for ventilation should not interfere with instruction.
- ☐ Some toilet rooms should be located so that they may be used during after-hour use.
- ☐ Bathrooms for staff and students should be located throughout the building. Some student bathrooms must be located near the cafeteria and gymnasiums.
- ☐ To the extent feasible, at least one inclusive restroom should be provided on each floor and in high-traffic areas for student use. These toilets should be designed with a non-locking door and one individual stall in each toilet room.
- ☐ Electric water coolers should be strategically located throughout the building and close to the restrooms. At least eight of the water coolers should have water bottle filling stations and should be located near high volume areas such as the cafeteria and gymnasium and on each floor.
- ☐ Corridors where lockers are installed must be a minimum of 10' in width.
- ☐ The number of lockers in the corridor should be equal to the core capacity plus 10% of the core capacity.
- ☐ The location of the elevator(s) must consider use by the student population, LMC staff, and after-hours users.
- ☐ A public address system is required in the facility. The architect and engineers should refer to the MCPS Facility Guideline Specifications for additional information.
- ☐ A building services call system is required.
- ☐ A room numbering system which is logical and understandable and which lends itself to electronic scheduling of room assignments for students is required.

Site Considerations

- ☐ A covered walkway from the bus loading area to the front door is desirable.
- ☐ The design of the building and grounds must provide for a secure environment for students and staff. Isolated areas should be minimized and natural surveillance encourage by eliminating visual barriers.
- ☐ Exterior lighting is to be shaded from neighboring properties and is to be operable as appropriate from both time and key switches. For major entrances, a doorbell should be installed.
- ☐ Separate controls on a time clock for illumination of walkways and parking lots, including parking areas for the stadium area are required.

☐ Landscaping and provision for outdoor watering are to be included. Planting is to include screen planting and those that may be needed for erosion control. Other landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included.

Technology Framework

The latest technology should be integrated into every aspect of building. The architect should consult with the Office of Technology and Innovation (OTI) and the Division of Design and Construction (DDC) for the latest technology requirements. The architect must at a minimum plan for the following elements.

- ☐ Through the use of wireless access, local area and wide area computer and video networks, students should have access to each other, to schools throughout the county with similar capabilities, and to universities and government institutions throughout the world.
- ☐ Each classroom is to have one dedicated 20 amp electrical circuit for a charging mobile laptop cart.
- ☐ Each classroom will have an interactive teaching board at the teaching wall and computer network outlet (CNO) for the teacher's computer.
- ☐ Additional outlets to allow for charging of personal student devices should be provided in the classrooms and throughout the building.
- ☐ CNOs consisting of a flush mounted standard electrical box with 1 1/2" conduit to the ceiling space overhead should be located in all classrooms, offices, and other work locations according to the following general rules:
  - ☐ one CNO per office, staff office, planning room, etc. adjacent to telephone outlet
  - ☐ One CNO for VOIP system in the classroom
  - ☐ Two CNOs for student use located 3' apart along the back or side wall in each classroom.
  - ☐ Multiple CNOs in media center at circulation desk, reference areas, etc.
  - ☐ One CNO at each science lab workstation
  - ☐ All other areas such as the stage, bookstore, dining room, etc., where computers might be used.
- ☐ The number and location of telecommunication closets required to support the building-wide computer network is dependent on the size and geometry of the building. The layout of the telecommunication closets will be determined during the design phase of the project.
- ☐ Outdoor wireless access points need to be provided at the schools.
- ☐ Wireless access point needs to be provided at the main entrance of the school for a message board.
- ☐ CNOs for security cameras are required at the schools. The number and location will be determined during the design process.

Description of Facilities

The following is an approach to the design of new and modernized schools. Please refer to the summary of spaces for the square foot requirements for each space described below. Square foot allocations should be considered the standard to be followed, although minor deviations are allowed.

Standard Classrooms

- ☐ Classrooms should be arranged to support the grade level team organization for middle schools. Each grade's area of the building also will have three science laboratories and various instructional support spaces
- ☐ Each classroom should be designed to support flexible furniture arrangements that will support a variety of teaching and learning models.
- ☐ A lockable teacher's closet is to be provided for general supply storage, personal storage, and wardrobe.
- ☐ Every classroom must have computer outlets for two student workstations and one teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the latest edition of MSDE *Maryland Public School Standards for Telecommunications Distribution System*.
- ☐ Book storage should be located along the window wall with half of the cabinets equipped with hinged, lockable doors. A minimum of 60 linear feet should be provided for book storage.
- ☐ Each classroom should have between 48 and 60 feet of whiteboard. The architect should refer to the MCPS Facility Guideline Specifications for the main teaching wall layout.
- ☐ Map rails and tack rails are to be placed above all whiteboards. One flag holder attachment is to be placed on all map rails with four to six map holders.
- ☐ Each classroom should be equipped with window coverings. The specifications for the window coverings will be provided by DDC.
- ☐ Battery operated clocks will be installed.

Science Laboratories

Spatial Needs
Laboratory
Preparation Room
Chemical Storage

- ☐ Science laboratories should be designed in pairs, within team areas, with a preparation room preferably between pairs of labs.
- ☐ If the science labs are on separate floors of the building, they should be located near an elevator.
- ☐ The teaching wall should be on one of the long walls of the laboratory.
- ☐ Space should be designated in the laboratory to charge 2-3 laptop carts.
- ☐ The architect also should refer to the MSDE document, *Science Facilities Design Guidelines,* 1994 when designing the science laboratories.
- ☐ These rooms serve as a lecture/laboratory space and should be equipped with the basic equipment as listed below.
- ☐ Each science lab should have two exits.
- ☐ Seven student lab stations should be provided in a peninsula or island with trough style design, with hot and cold water, electricity, and gas are to be provided. The layout should ensure that a teacher can view of all student groups while in labs.
- ☐ The layout of the outlets, sinks, and gas jets should be designed to ensure that students to avoid crowding of student during and after investigations.
- ☐ One mobile bench (dry sink type) should be located under windows in each lab to facilitate work with plants.
- ☐ A three by five foot demonstration table should be located at the front of the room, but should not block the student view of the interactive teaching board. This demonstration table should be equipped with a stone sink, hot and cold running water, gas, and electricity.
- ☐ Twenty-four feet of whiteboard and a small tackboard are required. Wiring for an interactive teaching board should be provided in the center of the teaching wall.
- ☐ Two four foot project cabinets and two four foot storage cabinets, all lockable, are to be located in each room.

- ☐ One installed fume hood with full utilities (water, sink, gas, and light) is needed in each laboratory that fits in a cabinet (24" x 36"). A pass-through fume hood, shared with the prep room should be considered when possible.
- ☐ A safety station is to be installed, with shower, automatic shut-off eyewash, and drain with a sloped floor, and should accommodate persons with disabilities. The shower and eyewash should have a spring loaded mechanism. The eyewash station should have a plumbed drain.
- ☐ The safety station should be located fifteen to twenty feet away from the fume hood.
- ☐ Each room should be wired for tie-in to the school computer network at each lab station.
- ☐ There should be a master cutoff switch for gas, water, and electric in each room. The master cutoff switch should be strategically located so that it is not overly accessible to students, and should not be located near the exit door of the classroom. The cut-offs should operate electrically (as panic buttons) with a visible light indicator for gas and electric.
- ☐ In accordance with ADA guidelines, at least one science lab station in each laboratory should be made accessible to individuals with disabilities.
- ☐ Cabinetry for storage of laboratory equipment and microscopes should be provided in all of the labs.
- ☐ A sanitizing goggle cabinet, with 36 goggles, should be provided for all labs.
- ☐ A teacher's wardrobe should be provided.
- ☐ A location should be identified for a file cabinet.
- ☐ Locks with a common key are to be provided on drawers in special areas and the teacher demonstration table.
- ☐ Two pull-down electrical outlet fixtures should be provided in each lab: one in the center, one in the rear.

Preparation Rooms

- ☐ These rooms are to facilitate the preparation of student projects and short-term storage of projects, as well as to provide general storage.
- ☐ Each room is to contain adjustable locked storage and counter facilities, electrical hookup and space for a refrigerator.
- ☐ Easy accessibility to the science rooms is important and is a required for visual control of the rooms from adjacent rooms.

- ☐ These rooms should contain sinks equipped with hot and cold running water and a floor drain and workbenches equipped with electrical and gas outlets.
- ☐ A safety station is to be installed, with shower, automatic shut-off eyewash, and drain with a sloped floor, and should accommodate persons with disabilities. The shower and eyewash should have a spring loaded mechanism. The eyewash station should have a plumbed drain.
- ☐ Space and utilities should be provided in each prep room for a dishwasher.
- ☐ Emergency shut-off and telephone should be located in the chemical storage and prep room only.

Chemical Storage Room

- ☐ The chemistry storage room requires a steel flammable storage cabinet, with outside power vent, and an acid cabinet.
- ☐ This room should be located adjacent to the chemistry prep room.
- ☐ This room must have a 24-hour, 365 day per year exhaust system vented directly to the outside in compliance with the latest applicable codes.
- ☐ Sturdy, wood, and chemical resistant shelves with safety anti-roll lips on each shelf to prevent accidental roll-off.
- ☐ A safety center with shower and eye wash should be provided in the chemical storage room. If the chemical storage room is located adjacent to the prep room the safety center should located close to the chemical storage room.
- ☐ The eyewash station should have a plumbed drain.

Instructional Support Rooms

Spatial Needs
Team Workroom
Interdisciplinary Textbook Storage Room
Departmental Textbook Storage Room
Foreign Language Textbook Storage Room
Developmental Reading Room
Math Intervention Room

Team Workroom

- ☐ Two team workrooms are to be provided for each grade level, providing space in each for teacher desks or a large conference table.
- ☐ These rooms should be located next to each other and have an interconnecting door and a 4' x 6' window with window coverings between one another.
- ☐ A telephone will be located in these rooms.
- ☐ Storage and open/closed bookshelves to store teaching supplies and instructional materials should be provided.
- ☐ A work counter with sink and electric outlets is needed.
- ☐ Three feet of tackboard and four feet of whiteboard are required.
- ☐ Wiring for four computers in each team room is required.
- ☐ The school can consider to combine team rooms to support the team organization of the school.

Interdisciplinary Textbook Storage Room

- ☐ An interdisciplinary textbook storage room is to be provided for each grade level and is to be easily accessible from the classrooms and the team workroom and should have adjustable built-in shelving.
- ☐ These rooms must have adequate HVAC and lighting for flexible use by staff as office space.
- ☐ Secure storage for computers should be provided within this space and should include adequate electric power for recharging battery powered laptop computers.

Departmental Textbook Storage Room

☐ Three departmental textbook storage areas are to be provided with the same requirements as the interdisciplinary textbook storage rooms.

Foreign Language Textbook Storage Room

☐ A foreign language textbook storage room must be centrally located for foreign language materials.

☐ It needs to have adequate HVAC for flexible use as office space for staff.

Developmental Reading Room

☐ The developmental reading room should be centrally located.

☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications.

☐ Space for 10-12 student desks should be provided. Storage should be provided under the windows.

☐ Magnetic marker boards should be provided along all the walls in this room.

☐ If this room is located adjacent to a classroom or resource room, a window should be provided between the two rooms.

☐ A teacher's desk and wardrobe should be provided.

Math Intervention

☐ The Math Intervention Room should be centrally located.

☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications.

☐ Space for 10-12 student desks should be provided.

☐ Magnetic marker boards should be provided along all the walls in this room.

☐ If this room is located adjacent to a classroom or resource room, a window should be provided between the two rooms.

☐ A teacher's desk and wardrobe should be provided.

ESOL

Spatial Needs
ESOL Classroom
ESOL Team Room
ESOL Storage

If the school has an ESOL program, the following spaces should be provided.

ESOL Classroom

☐ The ESOL classrooms should be located in the academic areas of the building and be designed with the same requirements as a standard classroom.

ESOL Team Room

☐ The team room should have space for teacher desks or a large conference table.

☐ A telephone should be located in this room.

☐ Storage and open/closed bookshelves to store teaching supplies and instructional materials should be provided.

☐ A work counter with sink and electric outlets is needed.

☐ Three feet of tackboard and four feet of whiteboard are required.

☐ Wiring for two computers is required.

Special Education Facilities

Spatial Needs
Special Education Classrooms
Team Workroom
Resource Room
Speech & Language Support Room
Occupational Therapy/Physical Therapy Room
Accommodation Rooms

Special Education Classrooms

☐ The special education classrooms should be located in the academic areas of the building and be designed with the same requirements as regular classrooms.

☐ See the Additional Program Requirements section for specific special education programs at this school.

Team Workroom

☐ The team workroom should be designed exactly like the team rooms in the regular education areas but should be located adjacent to the support suite.

Resource Room

☐ The special education resource room needs open shelving, counter space, and closed storage.

☐ The room should be designed similar to a standard classroom.

☐ Space for 15-20 student desks should be provided.

☐ It should be located in association with the academic classrooms.

Speech Language Room

☐ This room requires a whiteboard, tack board, open and closed lockable storage, open shelving, and a lockable teacher wardrobe.

☐ Room for a teacher's desk, lockable file cabinet, and table to work with small groups of students is required.

- ☐ The speech/language room should be wired for access to one computer workstation each.
- ☐ The speech room must be located on the first floor and be acoustically treated.
- ☐ The speech room needs a 4’ x 4’ mirror mounted to the wall.
- ☐ The speech room requires a sink with counter space.

Occupational Therapy/Physical Therapy (OT/PT) Room

- ☐ Each room must have whiteboard that is mounted two feet off the floor.
- ☐ A tack board, open and closed lockable storage, open shelving, and a lockable teacher wardrobe are required.
- ☐ A sink with counter space is required in the OT/PT room.
- ☐ Room for a teacher's desk, lockable file cabinet, and assorted sized furniture with adjustable legs should be provided.
- ☐ The OT/PT rooms should be wired for access to one computer workstation each.
- ☐ The OT/PT requires a ceiling mounted hook, with a 12’ foot diameter clear space for hanging swings and other suspended equipment.
- ☐ The OT/PT room requires lockable storage with sufficient area to house large gross motor equipment (minimum of 35 square feet) such as therapy balls, scooter boards, walkers, balance beams, ramps, etc.

Accommodations Room

- ☐ Space for 8-10 student desks should be provided.
- ☐ Space for 2-3 computer workstations should be provided.
- ☐ Magnetic marker boards should be provided along all the walls in this room.
- ☐ If this room is located adjacent to a classroom or resource room, a window should be provided between the two rooms.
- ☐ A teacher’s desk and wardrobe should be provided.

Music Suite

Spatial Needs
Instrumental Music Room with approximately 400 sq. ft. of perimeter storage)
Small Ensemble Room
Practice Rooms

- ☐ The music area should be at the same level as the stage, if possible, to facilitate the movement of equipment from the music rooms to the stage.
- ☐ Each room is to be acoustically isolated from the rest of the school and the general/choral and instrumental areas separated by an acoustical barrier or wall with a Sound Transmission Classification (STC) of 50 or more.
- ☐ Listening is an important skill related to music education, and thus the need for quiet ventilation. Therefore, noise criterion (NC) levels of lighting and ventilating systems must not exceed NC 25 for the large rehearsal rooms and NC 30 for the practice rooms
- ☐ Both music rooms must have access to all computer technology including the LAN, and be equipped for a multimedia station.
- ☐ A water bottle filling station should be located in proximity to the choral and instrumental music rooms.
- ☐ Consistent heating, cooling and humidity control are required to maintain the instruments in these rooms. The architect is to ensure that the mechanical system is designed on a separate system to allow for 24 hour control in rooms that store instruments.
- ☐ Maximum security locks must be provided for each in this suite.
- ☐ Student toilet rooms should be located near the suite so that they might be used as dressing rooms. Each toilet room should have one stall plus dressing space.
- ☐ Recording and audio equipment with microphones, built in from the ceiling should be designed in each of the music rooms.
- ☐ At least four duplex electrical outlets must be provided along the front all of each music room.
- ☐ Multiple operable and reachable windows should be in the music rooms to accommodate for increased aerosols created through music practice.

Instrumental Music

- ☐ The instrumental music room must have a level floor.

- ☐ The specified 1,900 square feet is a minimum requirement and must not be reduced to accommodate other design needs. The room should be as square as possible in shape.
- ☐ 400 square feet of the instrumental music room should accommodate Wenger type instrument storage for assorted size instruments around the perimeter walls of the room. The room depth may be varied if it will provide better acoustics.
- ☐ Storage must accommodate large band instruments, concert percussion, marching percussion, and large orchestra instruments (cellos and acoustic upright basses).
- ☐ Acoustical treatment is needed so that the room is sound engineered for a band with maximum size of 80 members and a decibel level in the safe range, keeping in mind that the typical band produces decibels in the 100-120 range.
- ☐ A 16-foot ceiling is necessary to obtain proper volume.
- ☐ No supporting pillars or fabric folding doors are to be used in the room.
- ☐ An outside entrance should be near, but not in, the music suite if possible.
- ☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications. A double staff should be painted on one of the white boards.
- ☐ A teacher's wardrobe should be provided in this space.
- ☐ A work sink with countertop is needed for cleaning instruments.

General/Choral Music Room

- ☐ The general/choral music room is to have a ceiling of approximately 16 feet.
- ☐ The dimensions should be approximately 38' x 27'.
- ☐ The entrance should be a double entry door.
- ☐ The room is to seat approximately 70 students and be on one level.
- ☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications. A double staff should be painted on one of the white boards.
- ☐ A mirror on a non-teaching wall should be provided.
- ☐ A teacher's wardrobe should be provided in this space.

- ☐ Heavy-duty ceiling tiles should be used to assure maximum loss in sound transmission. Acoustical treatment is to provide a sound transmission loss of at least 50 decibels and a reverberation time of between 1.2 and 1.6 seconds.
- ☐ Adequate ventilation is needed.
- ☐ A music folder cabinet, horizontally slotted, with locking doors, with at least 100 horizontal compartments (15 inches high, 2 inches wide), and with facilities for numbering each compartment is required.
- ☐ Cabinetry must be adequate to store 20 electronic keyboards and 32 guitars in spaces 6 inches high, 40 inches deep, and 16 inches wide.

Small Ensemble Room

- ☐ The small ensemble room should be adjacent to and have access from both the general/choral room and the instrumental music room and have some windows to allow for supervision into both classrooms.
- ☐ This room can be designed to teach piano or music technology if the school teaches those classes.
- ☐ The room should be arranged so that it may be used as a small ensemble room or to teach sectionals.
- ☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications.
- ☐ A teacher's wardrobe should be provided in this room.
- ☐ Storage for instruments and folio cabinets for sheet music should be provided in this room.
- ☐ A four-foot wide door is required.

Practice Rooms

- ☐ These rooms need to be acoustically treated for isolation and reverberation.
- ☐ Rubber seals for sound proofing and thick solid doors to reduce sound transmission should be used.
- ☐ The doors need windows to allow for supervision.
- ☐ These rooms should be located with easy access to both the instrumental and choral rooms.

Visual Arts Suite

Spatial Needs
Art Room
Storage Room
Kiln Room

☐ The visual arts suite should be designed with outside doors to an art courtyard from the teaching station, if possible, and with the storage/office and kiln room adjacent to the classroom.

Art Room

☐ The room is to have adequate natural and artificial lighting and views as well as access to the outdoors.

☐ Ceiling track lights are to be provided with six to ten spotlights.

☐ Cabinetry and wall colors should be neutral.

☐ The design of the room must allow for placement of the art tables with adequate space between the tables for good circulation.

☐ Entrance doors must clear 36 inches.

☐ A lighted display case should be located in the hall outside the art room.

☐ An 8' W x 8'H tackboard with open space below for drying racks should be provided.

☐ Tackboards should be provided on the walls, as much as possible.

☐ A 4-6' wide bank of cubbies (height may vary) to accommodate 32 student backpacks and notebooks should be provided.

☐ Three large stainless steel sinks (18” x 40” x 14”) should be provided in the room. Each sink will have solid waste traps, two drains, two lever-controlled hot and cold faucets, adequate approximately 3’ of counter space for storage on either side of the sinks, and wall cabinets above (if sinks are not on an island). One sink needs to be ADA accessible. The counters should be made of a

☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications.

☐ Additional tackboard should be provided to ceiling and on the sides as space permits.

☐ Open space should be provided near the sink to accommodate five students working at five potters wheels.

- ☐ Ample electrical outlets, approximately every 4’ should be provided.
- ☐ Open and closed shelves are to be provided for storage of art projects, flammable materials, and reference books.
- ☐ Open space is to be provided in the art room for three banks of flat files cabinets (stacked) and two drying racks. 5-drawer flat file units are 40 ¾”W x 15 3/8”H x 28 3/8”D x 2” drawer depth. (NIC)
- ☐ Blackout shades are to be included on windows.

Storage Room

- ☐ This room should be designed with windows to the art room.
- ☐ As much open 24” deep shelving as possible should be provided in this room.
- ☐ Space should be provided for a teacher’s wardrobe and a filing cabinet.
- ☐ Immediately inside the entrance, a worktable 6-feet wide, 30 inches tall, 34 inches deep should be provided with built-in adjustable shelves below and 14-inch deep wall hung shelves above. This table will accommodate a 30-inch square paper cutter and storage of large art reproductions and papers below, in 3 banks of shelving units 8 inches on center, 20-inches wide (inside width).
- ☐ The storage room door should be lockable.

Kiln Room

- ☐ This room should be equipped with space and utilities for 2 kilns (to be included) and an exhaust fan hood.
- ☐ As much 18" deep, tall, adjustable metal shelving should be provided.
- ☐ A 36”W x24”D spray booth with exhaust and cabinets below should be provided.
- ☐ A small worktable with shelves above and below is needed.

Multipurpose Technology

Spatial Needs
Multipurpose Technology Laboratory
Computer Technology Laboratory
Preparation Room

☐ Sufficient lighting to create shadow less work surfaces.

☐ Ample electrical service and receptacles to accommodate computers, machines, and portable electric tools. Sufficient service shall be provided to accommodate flexibility within the studio with tabletop machinery and overhead pull-down receptacles, providing for machines and portable electric hand tools.

☐ If floor receptacles are provided, they shall be flush.

☐ Hallway walls should include interior glass for viewing into the laboratory.

☐ Windows starting 36” from the floor should be provided between all of the rooms in this suite.

Multipurpose Technology Laboratory

☐ A standard teaching wall should be provided in this room per DDC layout.

☐ A teacher’s desk and wardrobe is required for this room.

☐ Adequate ventilation system to remove airborne dust is required.

☐ Space for 32 students working at mobile work tables is required in this laboratory.

☐ Floor covering shall be non-slip tile.

☐ The room requires whiteboard throughout the room.

☐ A counter with wall and base cabinets and a wash sink should be provided along one wall.

Computer Technology Laboratory

☐ The computer laboratory should be zoned for independent air-conditioning during times when the rest of the building is closed.

☐ The minimum dimensions of the room should provide for an uninterrupted area of 25’ x 32’ so that the computer laboratory may be designed with the following requirements.

- ☐ Each computer laboratory should accommodate 32 student workstations.
- ☐ The layout should be designed with five to six collaborative groups of computers workstations that cluster around a monitor.
- ☐ Additional space for some worktables should be provided.
- ☐ File server and printers are to be located near teacher's desk or in office.
- ☐ A teacher's wardrobe and storage cabinets should be provided.
- ☐ The teaching wall should be designed to accommodate an interactive teaching board. The teaching wall layout will be provided by the Division of Construction.
- ☐ Marker boards should be provided in the laboratory.
- ☐ The architect should consult with the OTI/DDC for the latest technology requirements.
- ☐ Space and outlets should be provided for printers.
- ☐ The storage area is to include shelving and a work counter with electrical outlets and overhead and base cabinets.
- ☐ The architect should consult with the OTI/DDC for the latest technology requirements.

Preparation Room

- ☐ The preparation room should be located next to the Multipurpose Technology Laboratory.
- ☐ The door and wall should have windows into the Multipurpose Technology Laboratory to allow for supervision by the staff.
- ☐ One side of the room should be designed have a counter with wall and base cabinets.
- ☐ Storage area will be equipped with steel shelves and cabinets capable of storing a variety of instructional materials, supplies, special tools, equipment, and student projects.

Multipurpose Laboratory

Spatial Needs
Multipurpose Laboratory
Storage Room

☐ This space will be designed for flexible use by art, family and consumer science, and other elective courses.

☐ The design should include full computer access so that the space could be used as a computer laboratory.

☐ The teaching wall should be designed according to MCPS Facility Guideline Specifications.

☐ Perimeter counters should be provided along one or two walls of the laboratory with wall and base cabinets.

☐ Adequate electrical service and receptacles to accommodate computers, small and large appliances, and other electric machines are essential.

☐ Access from the laboratory to the storage room is needed.

☐ A kitchen area should have three kitchen units, (to be placed along one or two adjoining walls) each containing the following:

- ☐ Eight feet of countertop space including a stainless steel sink;
- ☐ Lockable base and wall storage with hinged doors, with a minimum amount of drawer space (2 drawers per kitchen);
- ☐ Wall oven;
- ☐ Ample electrical outlets along the counter to be used for small appliances and induction type stoves;
- ☐ Hot and cold water;
- ☐ One of the kitchens should be ADA accessible;
- ☐ One safety eyewash station should be provided in the lab; and
- ☐ Space for two residential refrigerators, accessible to the kitchens should be provided.

Storage Room

☐ The storage room should have the following:

☐ Lockable door with access to the teaching station;

☐ The room is to be equipped with metal shelving secured to the perimeter walls;

☐ Space and electrical and plumbing requirements should be designed for A heavy-duty washer and wall-vented dryer;

☐ Perimeter counters should be adjacent to the washer/dryer and be a minimum of 24” deep;

☐ Space for one residential refrigerator and one residential freezer; and

☐ A sink.

Physical Education

Spatial Needs
Gymnasium (equals 2 teaching stations)
2nd Gymnasium
Fitness/Weight Room
Auxiliary Gymnasium/Dance Room
Health Classroom
Locker Rooms
Inclusive Locker Room
Storage Rooms
Toilet Rooms
Shower/Drying Towel Rooms
Laundry Room
Offices
Common Planning Area
General Storage
Outdoor Storage
ICB Storage
Outside Storage Shed (See Site Requirements)

- ☐ Major entrance doors to the gymnasiums and locker rooms should be double doors with no center posts. Non-glazed doors throughout the entire area are preferred.
- ☐ Doors should be forty-eight inches wide.
- ☐ Storage closets should have no center posts and should be able to be held open to allow for easy movement of equipment.
- ☐ If design allows, operable windows in the gymnasiums should be provided.

Gymnasium

- ☐ The gymnasium is to have a wooden floor.
- ☐ The gymnasium requires fiberglass electrically operated folding bleachers to seat one-third of the maximum projected enrollment along one long side, leaving an area of 65 by 100 feet when folded.
- ☐ A 27-foot clear ceiling is required.
- ☐ An electrically operated folding partition with pass-through door is to be installed with convenient dual control system. The folding wall should fold to the bleacher side.

☐ Fixed equipment will include the following:

- ☐ Climbing ropes (2 with knots, 2 without knots)
- ☐ High bar with floor plates
- ☐ Insertion type (Senoh only) floor plates for volleyball and badminton game standards and gymnastic equipment (Senoh only) red aluminum combination uprights that work for both volleyball and badminton, therefore only requiring one size of poles and one size of sleeves. Each side of the gymnasium should be designed for four badminton/volleyball courts for a total of eight small courts.
- ☐ Wooden rings with hoist and safety straps
- ☐ Floor plates for uneven bars
- ☐ Scoreboard
- ☐ A clock with cage at each end of the gymnasium
- ☐ Archery net, the full width of the gymnasium, with hoist on non-bleacher side
- ☐ Six basketball baskets, with safety straps. Four should be cross-court. The two end baskets should have rectangular glass backboards and hydraulic rims. All baskets should be motorized and adjustable with key. There should be no doors under the basketball goals.
- ☐ Wall safety padding must be mounted under each basket.
- ☐ Provisions for reducing glare should be considered.
- ☐ Shielded metal halide lighting should be provided.
- ☐ Acoustics should be addressed.
- ☐ It is particularly important that ventilation function equally and quietly on both sides of the folding partition.
- ☐ All switches, fire alarms, etc. should be located in corners, covered with wire boxes, and be duplicated on each side of the folding partition.
- ☐ Each wall of the gymnasium should have four sets of electrical outlets.
- ☐ Painting and creative artistic wall graphics should be provided.
- ☐ The gymnasium should be equipped with acoustical deck, computer outlet, interactive teaching board, and sound system.

- ☐ A location should be identified for an interactive teaching board including the appropriate power and wiring.
- ☐ A 4' whiteboard should be provided on both side of the folding partition wall.

☐ A recessed water bottle filling station with filter should be provided outside each end of the gymnasium or integrated into an alcove within the gymnasium.

☐ A lobby with display case, tack board, and small storage closet should be provided adjacent to the gymnasium.

☐ Security doors should be provided to close off other parts of the building from the gymnasium/lobby areas.

☐ If the gym opens to the outside, a step-down entrance with concrete landing is needed.

☐ Emergency lights should be at least 12 feet from the floor.

☐ MCPS staff will provide gymnasium court markings.

☐ Plug-in service for score table controls shall be provided in the floor and need to be flush. Controls must be accessible when bleachers are in the open position.

☐ Attention should be given to the design of lighting fixtures so that they will not be damaged by indoor ball sports.

2nd Gymnasium

☐ The 2nd gymnasium is to have a wooden floor.

☐ A 27-foot clear ceiling is required.

☐ Fixed equipment will include the following:

- ☐ Insertion type (Senoh only) floor plates for volleyball and badminton game standards and gymnastic equipment (Senoh only) red aluminum combination uprights that work for both volleyball and badminton, therefore only requiring one size of poles and one size of sleeves. There should be four smaller badminton/volleyball courts in this gym.
- ☐ A clock with cage at each end of the gymnasium
- ☐ Two end baskets should be motorized and adjustable with key. There should be no doors under the basketball goals.
- ☐ Wall safety padding must be mounted under each basket.
- ☐ Provisions for reducing glare should be considered.

- ☐ Shielded metal halide lighting should be provided.
- ☐ Acoustics should be addressed.
- ☐ All switches, fire alarms, etc. should be located in corners, covered with wire boxes.
- ☐ Each wall of the gymnasium should have four sets of electrical outlets.
- ☐ Painting and creative artistic wall graphics should be provided.
- ☐ A 4’ whiteboard should be provided in this gymnasium.
- ☐ The gymnasium should be equipped with acoustical deck, computer outlet, interactive teaching board and sound system.
- ☐ A location should be identified for an interactive teaching board including the appropriate power and wiring.

☐ A recessed water bottle filling station with filter should be provided outside each end of the gymnasium or integrated into an alcove within the gymnasium.

☐ Security doors should be provided to close off other parts of the building from the gymnasium/lobby areas.

☐ If the gym opens to the outside, a step-down entrance with concrete landing is needed.

☐ Emergency lights should be at least 12 feet from the floor.

☐ MCPS staff will provide gymnasium court markings.

☐ Attention should be given to the design of lighting fixtures so that they will not be damaged by indoor ball sports.

Fitness/Weight Room

☐ The fitness/weight room should be located adjacent to the gymnasium area and the lockers rooms and have sixteen-foot ceilings.

☐ Direct access to the corridor is desired.

☐ Projections, posts, or other hazards are to be avoided.

☐ An electric deodorizer system and an excellent ventilation system must be provided.

☐ This room requires rubberized, resilient floor for weight training.

☐ 6'x12' mirror should be mounted on one wall of the weight room.

- ☐ A climbing wall should be installed along the other long wall of this room (need to confirm length of the wall)
- ☐ Functional fitness equipment (such as or comparable to MoveStrong Functional Fitness Equipment) should be installed along one of the long walls to include the following:
  - ☐ Monkey bar, cantilevered bridge system with wall mount that is 10 to 20 feet long with the following attachments:
    - ☐ Globe balls on end to attach additional pieces of equipment
    - ☐ Dip station upright post
    - ☐ Pull up bars
  - ☐ Monkey bars to extend the climbing walls and/or wall mount bridge
  - ☐ Battle rope pull (1-2)
  - ☐ With appropriate rope for middle school
  - ☐ Two or three stall bars mounted to the wall with the following equipment:
    - ☐ pull-up bars
    - ☐ G-loop anchors (4 per stall bar) for resistance bands
    - ☐ Ground rotational trainer (1)
  - ☐ Double triple-tier pull up bar (such as or comparable to the Wall FTS unit) with the following attachments: (This unit could replace on or two of the pull-up attachments above)
    - ☐ One or two storage trays (to hold medicine balls and dumbbells)
    - ☐ Functional training equipment suspended from the wall mount such as ropes, resistance bands, suspensions devices, or other devices
- ☐ Electric outlets should be located on all four walls.
- ☐ A small recessed lockable closet with shelving should be provided.
- ☐ A small 6' x 4' tack board and whiteboard are to be installed.
- ☐ Colored acoustical panels, auxiliary stereo sound system, audio and computer hookups and clocks with cages should be provided in this room.

- ☐ Wall graphics are to be specified by MCPS staff.
- ☐ Light switches are to be keyed.

Auxiliary Gymnasium/Dance Room

- ☐ The auxiliary gymnasium should be located adjacent to the gymnasium area and the lockers rooms and have sixteen-foot ceilings.
- ☐ Direct access to the corridor is desired.
- ☐ Projections, posts, or other hazards are to be avoided.
- ☐ A sprung wood floor should be provided to allow for dance and other activities to be taught in this room.
- ☐ A mirror should be provided along one long wall.
- ☐ The room should be able to accommodate mats for wrestling and other fitness activities.
- ☐ Colored acoustical panels, auxiliary stereo sound system, audio and computer hookups and clocks with cages should be provided in this room.
- ☐ Electrical outlets should be provided around the room.
- ☐ MCPS staff will provide paint colors and wall graphic layout.
- ☐ A sound system with the control panel should be installed in the storage closet.
- ☐ Light switches are to be keyed.
- ☐ A keyed electric hoist system must be installed to move and store wrestling mats.
- ☐ A room to store moveable dance barres in the future should be identified.
- ☐ A water cooler must be located in the hallway near this room.
- ☐ A small white board (4' x 6') and tackboard (4' x 6') should be installed.
- ☐ A battery operated clock with protective cover should be installed approximately 9' high.

General Storage Room

- ☐ The general storage room should be located in the gymnasium and needs to have the same ceiling height as the gymnasium. The general storage also needs to be easily accessible from the auxiliary gymnasiums and 2nd gymnasium.

- ☐ Mats, gymnastic equipment, and other physical education materials and equipment need to be accommodated.
- ☐ A small intramural athletic coordinator storage closet is needed near the gym (separate key).
- ☐ Two doors, each four feet wide and seven feet high with no thresholds or center mullions and heavy-duty hardware are required for the interior storage rooms.
- ☐ An outside storage area requires double doors that need to be seven feet high.
- ☐ All storage areas should include shelves, bins, pegs, and pulley system for storing goals.

ICB Storage

- ☐ These storage rooms are for use by community groups and should be in or near the main and 2nd gymnasiums
- ☐ It should include shelving on one wall as well as space for badminton and volleyball uprights.
- ☐ This room needs to be keyed separately.

Locker Rooms

- ☐ The locker rooms need to meet the following requirements:
- ☐ Interior double door entrances with maze to block vision into space must be designed.
- ☐ The locker rooms need an outside exit for use by physical education classes. This exit door must be keyed for re-entry by classes.
- ☐ A "step-down" with concrete landing should be planned.
- ☐ Some shelves should be provided near the entrance to the locker room for student books.
- ☐ Male and female locker rooms should be adjacent and located on the same floor so that the Physical Education Offices can have a connecting door and common connected planning room.
- ☐ To the extent feasible, MCPS should provide at least one inclusive changing facility into the design of new schools and school renovations, taking into account safety and confidentiality considerations in the design and location of the inclusive changing facility.
- ☐ Locker space should handle a total of 1,440 lockers evenly divided between male and female locker rooms. All lockers are to have padlocks and be 3 tiered 12" x 12" x 24". Locker rows should be situated for maximum supervision from the PE office area and be no higher than six feet.

- ☐ Several lockers with key-entry are needed for ADA accommodations.
- ☐ The locker rooms are to be well ventilated and include a deodorizer system.
- ☐ Clocks, tackboard, PA, and a water cooler must be provided in each locker room.
- ☐ Benches used for dressing purposes are to be secured to the floor with a single bench between locker rows.
- ☐ Full-length mirrors are to be provided on the ends of each locker bank with convenient electrical outlets.
- ☐ The locker room should reflect school colors.
- ☐ Storage within the locker area is to be near the office and should accommodate various physical education supplies, equipment, and furnishings. Shelving with bins and hooks will be specified later. Shelving must have lip to keep balls from falling.
- ☐ A hose bib should be located in each locker area. Appropriate drainage of the locker area is required.
- ☐ The floor surface must be a non-skid surface but smooth enough for thorough cleaning. VCT/rough surface tile is preferred.
- ☐ Toilet rooms are to be located in each locker area and are to contain lavatories, water closets, and/or urinals.
- ☐ Mirrors are to be installed over sinks.

Shower/Drying/Towel Room

- ☐ The shower area should be well ventilated and free from hazardous projections.
- ☐ Each shower room is to have three individual showers and one handicapped accessible shower, with modesty panels, a nonskid floor surface and recessed soap dishes.
- ☐ A central lockable cut-off valve for the showers must be provided in each locker room.
- ☐ The drying room, with nearby towel storage, should be located between the shower room and locker room and have wall hooks and a nonskid floor surface, preferably tile.

Inclusive Locker Rooms

To the extent feasible, MCPS should provide at least one all-inclusive changing facility into the design of new schools and school renovations, taking into account safety and confidentiality considerations in the design and location of the inclusive facility.

This space should be master planned in the building with the following features:

- ☐ Interior double door entrances with maze to block vision into space must be designed.
- ☐ Some shelves should be provided near the entrance to the locker room for student books.
- ☐ The locker rooms should be well ventilated and include a deodorizer system.
- ☐ The locker room should be adjacent and located on the same floor so that the Physical Education Offices can have a connecting door to the offices to allow for supervision of the space.
- ☐ Fifty lockers should be provided in this space with several lockers with key-entry are needed for ADA accommodations.
- ☐ Small private dressing areas are to be provided in the inclusive locker area with one meeting ADA requirements.
- ☐ A full-length mirror is to be provided in the room with a convenient electrical outlet.
- ☐ The locker room should reflect school colors.
- ☐ Plumbing should be roughed in for a future toilet room.
- ☐ The floor surface must be a non-skid surface but smooth enough for thorough cleaning. VCT/rough surface tile is preferred.

Laundry Room

- ☐ A laundry area with floor drain for a commercial washer and dryer and laundry tub should be included with shelving for towel storage.

Offices

- ☐ The offices need to be centrally located with access to both male and female locker rooms, have windows with window coverings for effective supervision of the appropriate locker room and have VCT floors.
- ☐ Each office requires a separate shower, toilet, sink, mirror with shelf over sink that is large enough to use as changing areas for the physical education staff.
- ☐ Six full-length lockers and a full-length mirror also should be provided.
- ☐ Storage is required for the offices.
- ☐ The offices need to be air-conditioned.

- ☐ Each office requires space for four desks with appropriate telephone, electrical and computer outlets and tackboards.
- ☐ A clock should be provided in each office.
- ☐ Each office is to be separated from the other office by a common planning room with access to both the common planning area and the hallway to the gymnasium.

Common Planning Room

- ☐ The common planning room requires access from both PE offices and the hallway.
- ☐ This space needs to be designed with locking kitchen type casework, counter with cabinets above and below, clock, phone, computer outlet, tackboard, and whiteboard.
- ☐ The space should be large enough to allow for a small conference table with six to eight chairs.

Health Classroom

- ☐ The health classroom should be designed with the same specifications as all academic classrooms on opposite sides of the room.
- ☐ This classroom needs to be located in close proximity to the physical education suite since the health and physical education teacher may be the same person and may have to supervise the locker rooms.

Computer Support

Spatial Needs
Storage Room/Office Area
Telecommunication Equipment Closets
Telecommunication Closets

☐ A secure storage room/office area is provided for storage of software and instructional materials. The combination storage room/office area is to be located near one of the computer laboratories and to be wired for building-wide network access. This room may house multiple file servers.

Library Media Center (LMC)

Spatial Needs
Main Learning Environment
Circulation Area
Instructional Area
Work and Production Area
General Storage
IT Systems Specialist Room
Multimedia Production Room

- ☐ The Library Media Center (LMC) is the information hub of the school.
- ☐ The latest version of the MSDE document, *Facilities Guidelines for Library Media Programs,* may be used as a reference for the design of the LMC.
- ☐ The LMC should be centrally located and easily accessible from the outside to allow the LMC easy access by outside groups during after school hours and in the summer.
- ☐ There should be easy access to the elevator.
- ☐ Toilet rooms should be located nearby the LMC.
- ☐ Sight lines are an important feature in the design of the LMC. Staff should have visual supervision of the entire LMC including the entrance from the LMC circulation desk.
- ☐ Flexible lighting with the ability to darken separate areas of the main resource room without affecting other spaces.
- ☐ If possible, the LMC should not be located below high noise level activities such as music, multipurpose technology education, cafeteria, or physical education.
- ☐ Multiple charging outlets need to be provided throughout the LMC and can be located in the floor, wall, and counters. Consideration should be given to the location of the circulation desk and seating areas that may require data and or power for the use of computers or staff/student work areas.
- ☐ Ideally, a countertop with outlets above the counter should be provided along one of the walls of the LMC to allow users to plug in portable devices. The counter should be located in an area that can be easily supervised and at a desk top height so that chairs can be interchanged in the library.

Main Learning Environment

This is the main area of the library that includes the stacks, instructional space, and circulation area.

Stacks (the area containing book shelves)

☐ The height of the low moveable bookshelves should accommodate three rows of books and the height should be at least 48 inches in order to accommodate picture and nonfiction books.

☐ Must be on wheels to allow for flexibility.

☐ Lights should be designed to allow for flexible arrangement of shelving in the main reading room.

☐ Different materials can be explored based on design and cost factors to include metal and wood shelving.

☐ Soft, comfortable seating should be provided for individual and collaborative student work and power should be provided throughout this area.

☐ Consideration should be given for shelving for special types of collections such as graphic novels, periodicals, and oversized books including picture books.

☐ Wall shelving should be maximized in this area, where possible (six feet when possible).

☐ Consideration should be given to provide opportunities to display and highlight student work and items in the collection.

☐ If there is a special program focus at the school, consideration should be provided for space for a collection that supports the specific program. The design team should consult the School Library Media Program Office for more information.

☐ Shelving is to be allocated on the average as follows:

	Linear Feet	**Shelving Space**
Non-fiction books	530	11”
Fiction Books	670	10.5”
Magazines (adjustable shelving that can accommodate magazine and/or books)	24	N/A
New Book/Interest Display	12	12”
Media Center Storage (20-24” depth)	As space allows	N/A

Circulation Area

- ☐ The architect needs to identify a location for a circulation desk that is large enough to accommodate two computer workstations and a networked printer to access the online catalog system.
- ☐ If space permits, storage cabinets should be provided in the circulation area for miscellaneous activities such as book repairs and holds.
- ☐ The circulation desk furniture package will include the following features:
    - ☐ a storage area for book return carts;
    - ☐ a book return container to catch the books;
    - ☐ supplies drawers;
    - ☐ a writing area unit; and
    - ☐ an area for a laser printer and supplies.
- ☐ The front height of the circulation desk should have an area that does not exceed 39" in height so that elementary students have access.
- ☐ There should be two means of egress for the circulation desk.
- ☐ The work surface for the staff member should meet ADA compliance with optimal ergonomics (keyboard height).
- ☐ Electric and Ethernet needs to be provided.
- ☐ The circulation desk should be placed in such a way that allows for two means of egress.

Instructional Areas: Main and Secondary and Collaboration Rooms

Main Instructional Area

- ☐ Sight lines are an important feature in this area. Staff should have visual supervision of the entire LMC from this area.
- ☐ A teaching wall area designed for an interactive board should be included.
- ☐ This area should include table and chair seating as well as soft seating so that the combination of seating totals 32. A variety of heights in the instructional area for students including standing and sitting options should be provided.
- ☐ This area should be carpeted

- ☐ The space should be easy to reconfigure for a variety of uses and groupings with the use of flexible furniture to support whole class, small group, and project based learning activities.
- ☐ The instructional areas need access to all forms of technology in the school including wireless access.

Secondary Instructional Area

- ☐ Additional informal instructional areas should be identified and located near the entrance of the LMC.
- ☐ The flooring in this area should be VCT or other hard surface material. This area may also be used during the day for lunch.

Collaboration Room(s)

- ☐ At least one small group collaboration room should be provided near the informal instructional area that allows for students to be visually supervised, but work independently.
- ☐ Data and electric to accommodate a collaboration technology table should be provided.
- ☐ This room should be glass enclosed.
- ☐ This space should be carpeted.

Work and Production Area

This area was formerly two distinct spaces: the library media specialist office and library media center workroom. The new combined space now supports the library media staff functions and is also used as a multipurpose space to include maker activities for student and school staff use.

- ☐ The work area should be delineated through the use of a different ceiling height or half wall.
- ☐ This room requires VCT floor material.
- ☐ Consideration for a counter for student use is preferable.
- ☐ Adequate electrical and data outlets are to be designed in consultation with the LM Specialist and central office staff members.
- ☐ It must contain a sink with hot and cold water, in addition to ample worktops for library media processing, student and teacher use.
- ☐ Space is needed for two staff work stations. This can be built-in or through furniture.
- ☐ Two lockable wardrobes need to be provided. See media center specifications available from the MCPS Facility Guideline Specifications.

- ☐ This space needs to contain open shelving to accommodate materials for student use such as maker space supplies and hands on activities as well as closed lockable cabinets for library media center supplies.
- ☐ Space should be provided for a networked school printer that is accessible by teachers and students.
- ☐ Electric and data should be located on all walls to provide flexibility in the use of the space.
- ☐ The work area includes space for collaborative planning and processing of library media materials.

Library Media Storage

- ☐ The library media storage room provides for storage of library media materials, equipment, seasonal materials and supplies.
- ☐ Electric and Ethernet should be provided to accommodate library media technology needs.
- ☐ A variety of shelving should be provided for instructional materials for teacher use such as DVDs, audio book resources, and equipment with some open space to accommodate computer cart storage.
- ☐ Varied depths of shelving should be provided including 6", 12" and 24" deep.

IT Support Specialist Room

- ☐ A room is needed in or near the IMC for the IT Support Specialist.
- ☐ This room should have multiple data and electrical outlets and space for the specialist to work on computers.

Multimedia Production Room

- ☐ This room should be located adjacent to the Library Media Center and will be used for staged videotaping and other multimedia activities.
- ☐ One wall should be designed to accommodate six editing stations.
- ☐ A chromakey green screen or green painted wall should be installed on one of the walls for video and photography use.
- ☐ This room does not require any special lighting for video production.

Student Activities Facilities

Spatial Needs
School Store
Student Government Storage Closet

- ☐ These rooms need direct access to a corridor and are to be near the cafeteria and/or gymnasium.
- ☐ Flow of student traffic to and from the area is an important consideration.

School Store

- ☐ The school store should be located near the gymnasium.
- ☐ It needs a counter, shelving and display areas.
- ☐ Special consideration is to be given to security and to accessibility so as not to block the corridor during heavy usage.
- ☐ A storage area should be located adjacent to the student store.
- ☐ A corridor showcase for display should be included.

Administration Suite

Spatial Needs
General Office
Principal's Office
Assistant Principal's Office
Assistant School Administrator Office
Administrative Secretary's Office
Workroom/Storage/Toilet Area
Storage
Conference Room
Copier Workroom
Student Support Center
Financial Secretary Office
Staff Development Office
Security Office
Testing Room

General Office

☐ The administrative suite must be located with good access from the main entrance of the school and visual oversight of the main entrance and bus drop-off area.

☐ The suite must be a natural first stop for visitors to the school and must, therefore, have direct corridor access. A security vestibule must be designed so that all visitors must enter the general office to check in before entering the school.

☐ Spaces need to be arranged for student and visitor flow and for efficient use by office staff.

☐ The attendance secretary should have a window to the corridor.

☐ The general office is to have easy access to toilet rooms, phone room, and coat closet.

Principal's Office

☐ This office requires an outside window, a public entrance connected to the main office, and a private entrance.

☐ The principal's secretary is to be located adjacent to the principal's office and have a private office.

☐ These areas are to relate effectively with each other as well as to the general office.

☐ The office should be planned for an L-shaped desk, computer, phone, file cabinets, and a small table for four to six chairs for small group meetings.

☐ This office requires a private toilet room.

Assistant Principal/Assistant School Administrator Office

- ☐ A student waiting area close to these offices should be provided.
- ☐ Each office should be planned for an L-shaped desk, computer, phone, file cabinets, and a small round table with four chairs for small group meetings.

Administrative Secretary's Office

- ☐ The administrative secretary's office should be located adjacent to the principal's office and close to the general office.
- ☐ The office should be designed with a window to the general office to allow for supervision of the space by the administrative secretary.
- ☐ This office should be planned for an L-shaped desk, computer, phone, file cabinets, and chairs to serve as a waiting area.

Workroom

- ☐ The workroom contains cabinetry with sink, shelving, and workspace, including electrical outlets suitable for preparing various releases and for copying and other types of paper work.
- ☐ A sink cabinet and space for full size refrigerator are to be located in this room.
- ☐ Staff mailboxes are to be readily accessible but not visible from the main entrance and are to contain 100 boxes at least 12 inches wide plus five additional boxes that are somewhat larger.
- ☐ The workroom is to have a space and outlet for a small copier machine.
- ☐ Offices, workroom, storage, and toilet rooms are to serve the general office employees.
- ☐ The storage room is to relate well with the workroom and need not be directly accessible to the corridor
- ☐ A coat closet, phone room and staff toilet rooms for administrative office staff and visitors should be included.

Conference Room

- ☐ The conference room is to be located in relationship to the principal's and assistant principals' offices and should be directly accessible to the corridor.

- ☐ The conference room is to have a whiteboard installed and data outlet for monitor, computer, and phone outlets.

Copier Workroom

- ☐ The copier workroom is for staff use and should be located conveniently for teacher use.
- ☐ It should not be located in the media center.
- ☐ This room requires storage cabinets, shelving, and lockable cabinets for paper, ink, and other supplies.
- ☐ Proper ventilation is required in this room.

Student Support Center

- ☐ This room should be located adjacent to the main office suite.
- ☐ Space should be provided for 10-12 student desks.
- ☐ A teaching wall and teacher's desk should be provided in this room.
- ☐ Ideally, this room should be located near the Administration or Counseling Suites but not in the suite.

Financial Assistant's Office

- ☐ This office should be located in the administrative suite.
- ☐ The office needs space for a desk and file cabinet, and requires tackboard and wiring for a computer.

Staff Development Office

- ☐ The staff development office may be centrally located and near the administrative suite.
- ☐ This office needs a space for a desk, file cabinet, and round table with chairs.
- ☐ The office also needs whiteboard, closet, and video, voice and data outlets.

School Security Office

- ☐ This office should accommodate up to 4 staff persons and should be located directly off a main corridor.
- ☐ Space is needed for a table and chairs to meet with students.
- ☐ This office must have lockers and secure storage.
- ☐ This office suite must accommodate the cameras and accompanying communication equipment for a visual monitoring system.

Testing Room

- ☐ This room should be designed as a secure room for testing materials and should have a counter with lockable cabinets above and below.
- ☐ This room needs acoustical treatment as well as video, voice, and data outlets.

Command Center

- ☐ An interior room in the school needs to be designated as the command center for shelter in place/lock down emergencies. In many schools, the workroom in the administration suite may serve this purpose. The room cannot be on an outside wall.
- ☐ The room designated as the command center must have all data and communication equipment including electrical and data outlets and public address (PA) system.
- ☐ The PA console should be located in the room that is designated as the command center.
- ☐ Window coverings such as mini blinds or roller shades must be provided for all windows and doors to the command center.
- ☐ In secondary schools, the security camera monitors should be located in this area.
- ☐ The space designated as the Command Center must be large enough to accommodate up to six staff persons.
- ☐ Storage space is needed for the shelter in place/lock down emergency kit.

Counseling Suite

Spatial Needs
Counselor's Office
Waiting Area
Conference Room
Records Room
Itinerant Staff Office

- ☐ The counseling suite should be separate from the administration suite, but easily accessible from the main entrance.
- ☐ The suite consists of a waiting area with space for the secretary, seating for visitors, storage for office supplies and a coat closet, the conference room, the records room and counselors' offices.
- ☐ The records room is to be 1-hour rated.
- ☐ The records room is to have no windows.
- ☐ These spaces must have window walls, doors with windows, and be designed so that students can find them easily and feel free to drop in between classes.
- ☐ The waiting area must be wired for the secretary's desk and not be designed as part of the corridor/hallway to the main office.
- ☐ Window coverings must be provided on all windows within in the suite to provide privacy when required.

Counselor's Office

- ☐ Counselor's offices should be provided at the rate of one per every 250 students.
- ☐ Each office should be planned for the counselor's desk with computer, phone, file cabinets, and a small round table with four chairs for small group counseling.

Conference Room

- ☐ The conference room is to be accessible from the waiting area and corridor.
- ☐ The conference room should seat 12-15 people.
- ☐ The room requires a whiteboard and computer and phone outlets.

Itinerant Staff Office

- ☐ This room needs space for a teacher's desk file cabinet and computer and phone outlets.
- ☐ This room needs a space to administer tests to students including a student computer workstation.
- ☐ This room also may be used to accommodate post-test conferences with teachers and/or parents.

Records Room

- ☐ The records room is to accommodate shelving, files, and other record cabinets for use by both administrative and counseling personnel.
- ☐ It must, therefore, relate to both areas, yet be designed to afford security of private records and files.
- ☐ It should be located in the counseling suite.

Health Services Suite

Spatial Needs
Waiting Area
Treatment/Medication Area
Office/Health Assessment Room
Health Assessment/Isolation Room
Rest Areas
Toilet Room
Storage Room

- ☐ The Health Services Suites should be in complete compliance with COMAR 13A.05.05.10A.
- ☐ The architect should refer to MSDE document, *School Health Services,* June 2002 for specific utility information.
- ☐ The health suite must meet accessibility requirements of the ADA, and at a minimum, include spaces for waiting, examination and treatment, storage, resting, a separate room for private consultation and for use as the school health services professional's office, a toilet room, and lockable cabinets for storing health records and medications.
- ☐ The health suite is to be located near the administrative area, preferably adjoining, with direct access to a main corridor for emergency access and egress.
- ☐ A tack board is to be installed just outside of the door to the health suite.
- ☐ A designated school health services professional from the Montgomery County Department of Health and Human Services (DHHS) must be involved in the planning of the health services suite.
- ☐ The suite should be designed to provide easy visual supervision of all the spaces by the health services professional.
- ☐ The health services suite must have a window into the general office so that office staff may monitor the room when heath staff is unavailable.
- ☐ The health room must also have a door to the corridor.
- ☐ Ventilation is important throughout the health suite.
- ☐ A window to the outside, if possible, is preferred.
- ☐ The countertops should be seamless to aid in maintaining sanitary conditions.
- ☐ The floor finish should be an easily cleaned non-absorbent material. Carpet should not be used in any areas of the health suite.

- ☐ A non-porous ceiling material should be used. Vinyl-coated ceiling tile or painted drywall is an acceptable choice.
- ☐ If any of the areas are enclosed then glazed walls areas should be provided.
- ☐ The health suite requires wall and base cabinets and lockable file cabinets for storing health records. A portion of these cabinets must be lockable to store medications, medical supplies, and equipment.
- ☐ Student traffic is to be kept close to the door, with cross traffic minimized, and good supervision of the room from within as well as from the general office area is to be provided.
- ☐ Two doors to the suite are required to move students through waiting and treatment areas during a mass procedure. One door is normally kept closed.

Waiting Area

- ☐ The waiting area is to have space for up to ten chairs.
- ☐ A small tackboard should be provided in the waiting area to display health care and other information of importance to students and staff.
- ☐ A pamphlet rack, and a 24-inch x 48-inch table, should be provided.
- ☐ Two telephone jacks are to be installed in the waiting area.

Treatment/Medication Area

- ☐ This area should be adjacent to the waiting area and toilet room to facilitate the efficient flow of students.
- ☐ This area should have a kitchen type sink with cabinets above and below (including a locked medicine cabinet), a 36-inch high countertop, and a small residential style refrigerator/freezer to store medical supplies and foods.
- ☐ The freezer should have an icemaker.
- ☐ The treatment area also requires a computer.
- ☐ This area also needs a scale, floor lamp, and an area for two chairs

Office/Health Assessment Room

- ☐ The room requires one computer, fax machine, and electronic connection and physical proximity to a copy machine.

- ☐ The spaces used for consultation and examinations must be enclosed with sufficient acoustical isolation to ensure complete privacy and confidentiality.
- ☐ A small sink, with cup, towel, and soap dispensers should be provided.

Health Assessment/Isolation Room

- ☐ This room needs to have access and have a door to the corridor.
- ☐ The spaces used for consultation and examinations must be enclosed with sufficient acoustical isolation to ensure complete privacy and confidentiality.
- ☐ A small sink, with cup, towel, and soap dispensers should be provided.
- ☐ In the rest area and Isolation Room, supplementary power ventilation capable of 20 changes per hour should be provided, with control by means of a separate switch within the health suite.
- ☐ A window is needed in this room to provide supervision from the treatment area and office. The design of the window also needs to ensure that only staff can see into the room.

Rest Area

- ☐ This area should not be fully contained rooms but rather areas that can provide privacy for each cot with a draw curtain on a ceiling track.
- ☐ The rest area needs space four cots with individual light switches for wall sconces, electrical outlets 16” from the finished floor, and bedside cabinets for each rest area.
- ☐ In the rest area, supplementary power ventilation capable of 20 changes per hour is to be provided, with control by means of a separate switch within the health suite.

Toilet Rooms

- ☐ Two separate ADA toilets should be provided.

Storage Room

- ☐ The storage area is to have space sufficient for a four drawer locked file cabinet, a wardrobe for coats, and a wheelchair, and a space for forms and supplies.
- ☐ A minimum of 12 linear feet of wall and base cabinets should be provided.

Staff Facilities

Spatial Needs
Staff Room
Privacy Room

Staff Room

- ☐ The staff room provides teachers with a place to rest, plan, study, and think together.
- ☐ The staff room should contain a compact built-in kitchen with six linear feet of counter space for a microwave and sink and a space for a refrigerator (NIC).
- ☐ Toilet rooms associated with the staff room are to be provided for staff and be located in a corridor just outside of staff room.
- ☐ A phone booth is required.
- ☐ Acoustical treatment is important.
- ☐ This area should have exterior windows and door to outside staff patio if design allows.
- ☐ Computer access should be provided.

Wellness Room

- ☐ A small, enclosed room with countertop and space for one chair is needed for a telephone.
- ☐ An electrical outlet should be provided above and below the counter and the counter should be tall enough to accommodate a small refrigerator.
- ☐ A mirror should be provided above the counter.
- ☐ A small sink is needed for hand washing and washing of personal items.
- ☐ This space needs to be accessible to staff with disabilities.

Food Services Facility

Spatial Needs
Student Dining Area
Stage
Storage
Chair Storage

Student Dining

- ☐ The student dining area should be capable of seating one third of the student body at cafeteria tables or one half in rows of chairs.
- ☐ Acoustics, ventilation, and color are important considerations in the cafeteria.
- ☐ A public address system should be built-in.
- ☐ An LCD monitor should be included in the dining area.
- ☐ Tackboard is to be placed near the entrance.
- ☐ Care is to be exercised in the location of windows in relationship to the location of tables and chairs.
- ☐ Trash from the dining area must not flow through the kitchen.
- ☐ Student toilet rooms must be located near the cafeteria and have good sound absorption.
- ☐ Outside access from the cafeteria to a paved area should be considered in the design of the student dining area.
- ☐ There must be a water bottle filling station in the cafeteria.
- ☐ A listening assistance device for the hearing impaired should be included in the cafeteria.
- ☐ Security gates are to deny access to other parts of the building from the cafeteria/stage/lobby areas.
- ☐ An outside entrance to the cafeteria for easy access in the evening and an outside eating area with permanent trash cans (preferably a courtyard) are desirable.
- ☐ Consideration should be given to the use of electronic menu boards.

Stage

- ☐ The stage should be 32” high from the floor of the cafeteria to allow for 8” coursing.

- ☐ The stage should include closed storage for an upright piano and some storage for costumes and flats if possible.
- ☐ The stage and backstage areas must be accessible to individuals with disabilities and be accessible from corridors and the cafeteria.
- ☐ Wing space should be provided for theater productions.
- ☐ The stage space must have adequate exhaust ventilation and lighting for other uses.
- ☐ The stage should be equipped with stage curtains and a stage sound and lighting system.
- ☐ A whiteboard and data for an interactive teaching board should be included along the back wall of the stage.
- ☐ A large electric pull down screen should be designed in front of the stage and behind the short curtain to be used for assemblies.
- ☐ Electrical and microphone outlet should be provided at the front wall of the stage house.
- ☐ Floor outlet should be located in the cafeteria, approximately 15-20', or as appropriate, for use of a projector on the screen.

Chair Storage

- ☐ Storage for 1,200 chairs on racks and for stage equipment needs to be provided
- ☐ Forty-eight inch doors are required on the interior storage rooms.

Kitchen

Spatial Needs
Food Preparation
Dry Food Storage
Refrigerator
Freezer
Serving Area
Office
Locker/Toilet Room
Loading Platform
Receiving Area
Chemical Storage Room

- ☐ The kitchen is to have direct access from the loading dock, with a walk-in freezer and walk-in refrigerator.
- ☐ Walls and ceilings are to be light in color, smooth, impervious to moisture, easy to wash, and easy to keep in good repair.
- ☐ An easy to mop floor such as, slip resistant quarry tile floor or polyurethane cement flooring system is required. If quarry tile is used then the color of grout should be the same or darker than the color of the floor.
- ☐ Kitchen should be linked to the security monitoring system and school intercom.
- ☐ A wall clock at serving line should be provided and should be linked to master control.
- ☐ When designing the kitchen and related spaces, special consideration should be made to temperature and humidity control and traffic.
- ☐ Control railings may be portable.

Serving Area

- ☐ The serving area shall consist of four food serving areas that may vary from school to school.
- ☐ Serving lines should be secured when not in use.
- ☐ Supervision is an important consideration in the serving area.
- ☐ Unobstructed sight lines are necessary for one staff member to effectively supervise students.
- ☐ Control of serving lines should be designed to facilitate rapid serving of food.

- ☐ A dedicated circuit for cash registers is required with under floor conduit for intercommunication links.
- ☐ Temperature and humidity control and efficient traffic movement throughout are required.
- ☐ Natural ventilation should be provided.
- ☐ Also of importance are the following:
  - ☐ Meeting current health and sanitation codes
  - ☐ Providing louvered shelving in the storage rooms
  - ☐ Designing trash storage completely separate from kitchen and dock areas
  - ☐ Locating the loading and receiving area, with sheltered dock and with access to the storage and preparation areas, separate from other school receiving
  - ☐ Considering the relationship and traffic movement within the dining area of the serving line to the remainder of the kitchen area
- ☐ Providing acoustical treatment to preparation and serving areas
- ☐ Receiving door must be 48" wide, self-closing, with peephole, and doorbell to manager's office.
- ☐ All windows must have screens.

Preparation Area

- ☐ Space needs to be provided for cook, baker, and beverage/salad/sandwich prep areas.
- ☐ Trough-type drains at steamers, hand sinks in each prep area with soap and towel dispensers, and automatic wash filtered hood are required.
- ☐ Consideration of the utility distribution system is needed.
- ☐ Filtered hood with automatic wash above fryers and fire protection system are required.

Dry Food Storage Area

- ☐ This area must be located adjacent to the prep area and receiving area.
- ☐ Door opening must be a minimum of 3’8”.
- ☐ This area must be air conditioned at all times.
- ☐ Mobile shelving and dunnage and key lock for security must be provided.
- ☐ This space must be free of roof access ladders or electrical panels.

Cooler/Freezer Storage

- ☐ This area should have a common wall, located adjacent to the prep and receiving areas.
- ☐ Insulated slab and thickest quarry tile floor is preferred with a minimum of 20 foot candle lighting.
- ☐ Roof mount compressors, polymer mobile shelving and dunnage, and sound alarm for temperature monitoring should be included.

Chemical Storage Room

- ☐ This area must be key-locked for security.
- ☐ A safety shower and eye wash should be provided in this room.

Building Service Facilities

Spatial needs
Building Service Office
Locker/Shower area
Plant Equipment Operator Office
Compactor/Trash Room
Receiving and Storage Area
General Storage
Building Service Outdoor Storage
Building Service Closets

Building Service Office

☐ The entire building services area should be located adjacent to the general receiving area.

☐ The office should be designed as a general office that can accommodate two staff members with two desks and appropriate wiring for computers, phones, etc.

☐ If possible, the office should have a window or a sightline to the outside to monitor weather conditions.

Locker/Shower Area

☐ A locker area must be located near the receiving area.

☐ 10-12 full-size lockers should be provided in the locker area.

☐ The locker area should be designed with a private toilet room and shower room for building service staff use.

☐ An ENERGY STAR stackable washer and dryer is required in this area.

Plant Equipment Operator Office

☐ This office needs to be adjacent to the boiler room.

☐ The office needs to accommodate a desk and appropriate data wiring for computer and phone.

Compactor/Can Wash/Trash Room

- ☐ This room needs to be completely separate from the kitchen spaces with no common walls.
- ☐ Trash trucks must have access to this room.
- ☐ The room should be heated and have adequate interior lighting, floor drainage, and easily cleanable surfaces.
- ☐ Hot and cold water should be available for flushing and cleaning.
- ☐ The room should be designed to be pest free and well ventilated.
- ☐ Floors should be sloped so that wash down stays within the room and goes down the drain.
- ☐ The compactors need to be installed with enough clearance away from the wall to permit staff to access the equipment from all sides.
- ☐ A roll-up door for trash transfer to trucks, steam cleaning equipment, and trash collection containers are needed.
- ☐ The room should be designed with a ramp to allow trashcans to be rolled to the dock.

Receiving and Storage Area

- ☐ The receiving area should be enclosed, floor to ceiling, with a chain link fence.
- ☐ Flexible shelving is required but should not occupy more than one third of the area.
- ☐ This area must be secured.
- ☐ Good lighting and easy access to materials being stored are required.
- ☐ Electrical outlets, upgraded lighting and ventilation must be provided in this area.

General Storage

- ☐ Flexible shelving to accommodate books, teaching aids, large size (24" x 36") paper, and other instructional supplies is required.
- ☐ Good lighting and easy access to materials being stored are required.
- ☐ Electrical outlets, upgraded lighting and ventilation must be provided in all large storage rooms for future flexibility.

Building Service Outdoor Storage Room

- ☐ Outdoor storage is to be near the service area and is to be suitable for heavy mowing, snow removal, and other outdoor equipment.
- ☐ The dimensions of the outdoor storage area must be able to accommodate two tractors side by side. (Approximately 9’ long by 7.5’ wide) and other equipment.
- ☐ A rolling garage style door and a regular door must be provided.
- ☐ A ramped and paved driveway is required for the tractor so that it can access the sidewalk and driveways of the school during snow removal.
- ☐ Electrical service and lighting inside must be provided. Access to the light switches must be available at both entrances.
- ☐ Proper ventilation for storage of gasoline is required.

Building Service Closets

- ☐ At a minimum, there should be a building service closet for each 19,000 gross square of the facility. In addition, there should be a building service closet on each floor and each wing of the facility.
- ☐ The closets should be a minimum of 25 sq. ft.
- ☐ The building service closet must accommodate a minimum of one utility cart.
- ☐ The closet requires shelving for cleaning supplies.
- ☐ The closet requires a floor mop sink with hot and cold running water and a floor drain.
- ☐ A mop/broom holder is required.

Site Requirements

The items described below are for a school that meets the minimum useable site size of 15.5 acres that is capable of fitting the instructional program, including site requirements. At schools with smaller sites, the architect is to work with MCPS staff, including the Physical Education Curriculum Coordinator, Safety Director, and school staff to determine layout of the play areas.

- ☐ The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.
- ☐ Protective fencing may need to be provided near heavily wooded areas, busy streets, steep hills, parking lots and turnaround areas.
- ☐ Metal drains/grates should not be located in the playing fields, paved play areas and mulched playground equipment areas.
- ☐ Paved areas and fields must be as level as possible. Water should not collect on paved areas or in mulched areas. The architect should consider the architecture of the neighborhood in designing the building.
- ☐ The architect should consider the architecture of the neighborhood in designing the building.
- ☐ The design should retain as many trees as possible in order to buffer the school and the playing fields.
- ☐ Pedestrian access must be provided from the surrounding neighborhoods.
- ☐ An unimproved area on-site should be designated to serve as an environmental study area in the future.
- ☐ A covered area for students in the bus loading area must be provided.
- ☐ Space for buses to load at one time is needed. The number of buses will be reviewed during the design phase in consultation with the Department of Transportation.
- ☐ Ideally, parking spaces for 125 cars are to be provided. At least half of the parking area should be readily accessible to the gymnasium. Outdoor lighting for all parking areas and entrances must be adequate for safety and crowd control.
- ☐ Bike racks should be provided near the building.
- ☐ Accessible parking spaces should be located near the main entrance, after hours use, and the playing fields.

Driveway

- ☐ The architect/engineer should refer to the MCPS Facility Guideline Specifications when designing the driveway, bus loop, service drives, etc.
- ☐ Bus traffic should be separated from car traffic at all times, when possible. Bus loading zones should be able to accommodate the entire student body.
- ☐ A student drop off area should be provided and must be separate from the bus loop area.
- ☐ All driveways must be arranged so that children do not cross them to get to the fields and play areas.
- ☐ Pedestrian access to the school facilities should be designed to make the best use of community right-of-ways and avoid crossing of loading zone areas.
- ☐ The site must comply with the most current ADA or COMAR regulations, whichever is most stringent.
- ☐ Site access must be provided to comply with fire protection and storm water management.
- ☐ Driveway aprons are to be perpendicular to the centerline of the street; and if there is an intersecting street on the opposite side from the proposed driveways, the driveway apron should line up with the intersecting street.
- ☐ Driveways should be located so that vehicle headlights do not project into adjacent homes.
- ☐ A service drive is required to service the kitchen, boiler room, and general delivery area. The architect should refer to the MCPS Facility Guideline Specifications.
- ☐ Care for safety of students must be exercised in developing the driveways including use of safety rails in the bus loading area.

Service Drive

- ☐ The architect should refer to the MCPS Facility Guideline Specifications for design of the service drive.
- ☐ The service drive is required for the kitchen, boiler room, shops, and general delivery areas.
- ☐ The service drive must be designed so that students do not need to cross the service drive to get to the play fields.

Playing Fields

- ☐ One 400’ x 400’ playing field is desired for general use.
- ☐ One 300' x 300' playing field with two sets of soccer goals should be installed.

Softball Fields

- ☐ At a minimum two softball fields should be provided, but ideally four softball fields should be provided if possible.
- ☐ Ideally, a 250' minimum radius with backstops is desired—one field should be designed with hood, benches, and safety fences.
- ☐ The baseline of the main field should be skinned and infield mix added.

Track And Field Area

- ☐ A long jump pit should be provided.
- ☐ A short, 60-yard, 6-lane track for short distances and hurdle practice should be designed for track and field instruction. This track should be connected to a walking asphalt path around the perimeter of the fields.
- ☐ Several permanent trashcans should be provided in this area.

Basketball Courts

- ☐ Three courts fenced with six gooseneck posts with heavy-duty basketball backboards with goals should be installed.
- ☐ A three-level chinning bar should be placed near the black top area.

Paved Area

- ☐ One paved play area, 55’ x 110', with all-weather surface play area should is desirable near the cafeteria and separate from the other physical education areas.

Tennis Courts

- ☐ Six tennis courts are required each with all-weather surfacing.

- ☐ The tennis courts will include striping for tennis and pickleball. The architect should refer to the DDC guidelines for specific details.
- ☐ One electrical outlet on the outside of the fence of on one court is required.
- ☐ Several benches and outside trashcans should be permanently installed.
- ☐ A common "rebound" wall contiguous with the tennis courts should be provided.

Storage Shed

- ☐ A 12' x 16' storage shed should be provided at the far end of the site.
- ☐ No electric or water is needed.
- ☐ It must be designed with double steel doors with heavy-duty hardware and shelves on one wall.

Other Program Requirements

PROGRAM OF REQUIREMENTS
FOR
LINKAGES TO LEARNING
Eastern Middle School

I. Overview

The Linkages to Learning (LTL) staff will provide behavioral health, social services, and community education/development services to the students and families of the school community.

II. Project Description

A. The project provides for the construction of a comprehensive LTL facility where services are delivered to members of the school community. It should incorporate these basic components: the administrative area and the mental health/social services/community education suite.
B. It is preferred that the LTL suite be located near the main entrance for supervision and security purposes and have at least one direct access to the outside with clear identification of LTL entrance to provide access during evening and weekend hours when the school is closed.
C. One entrance from the school to the LTL suite is needed.
D. The design shall consider safety and security of the LTL staff and school uses. The facility is to be arranged so access from it to the school can be controlled when school is not in session.
E. Doors should have windows, and all windows should have blinds, including the window within the door. There should be Vinyl Composite Tile (VCT) flooring throughout the center. A doorbell should be placed at the outer entrance, with audible notification to one office and the main reception area. All rooms should have the capability to be locked.

III. Linkages to Learning Operations

A. Hours of Operation: 8:00 a.m.-4:30 p.m. Monday through Friday, with some evening hours during the week and on the weekend (LTL operates evening hours at least one evening per week).
B. Staff: child/family therapist, family care manager, and may include community service aide, and LTL coordinator.
C. Months of Operation: a full component of the above-mentioned staff will be present during the school day during the school year and during the summer.

IV. Site Requirements

The site chosen by MCPS for the school facility must be able to accommodate the LTL suite. Site selection considerations shall include, at a minimum, the feasibility to provide separate access to an LTL suite and safety and security considerations with the operation of an LTL suite on the property.

The location of the LTL facility is to have convenient access to the school foyer and parking lot drop off area.

V. Mechanical and Electrical Systems

The facility is to be compatible with the systems of the school at which it is located. It should have heating and air conditioning. Because the LTL may operate while the main portion of the school is not in session, the Heating, Ventilation and Air Conditioning (HV AC) must be zoned for after-hours use. The system shall be included in the school energy management system but shall allow for zoning separation capabilities. Systems selected must be maintainable by MCPS.

Electrical outlets are to be provided on all walls and comply or exceed the number required by applicable code(s). There should be an electrical outlet and data drop in the copy machine area. There should be two data drops in every office and area that will house phones and computers, including conference room and offices, except for the Community Services Aide/Intern Workstation (only one electrical outlet and data drop is needed in this room). On new construction only, a center data drop and plug in the floor of the conference room should also be included.

VI. IT/Telecommunications

The telecommunication network conduit and wiring infrastructure are to be provided in all spaces except the toilet room, building service closets, and small storage rooms under 100 square feet. Additionally, wireless access points are to be provided to enable uninterrupted wireless service to MCG/DHHS computers throughout the LTL suite.

The telephone systems shall be owned by MCPS and connected to the MCPS' telephone network (see VIII. School Facilities Needed for Support). If an individual LTL school is at full capacity in terms of phone lines, Montgomery County Government (MCG)/Department of Health and Human Services (DHHS) will pay for the costs associated with required increased phone line capacity.

The computer devices will be purchased and owned by MCG/DHHS and shall be connected to the MCPS computer network. Fiber optic service or equivalent Internet connection will be provided by MCPS. The LTL suite will utilize the fiber optic service to connect to the County Government network via the Carver Educational Services Center (CESC) county link. All equipment and software will meet County standards and provide compatibility with other LTL suites.

VII. Security

The LTL suite is to be integrated into the school security system. The system must include provisions for permitting use of the suite when school is not in session, for example, a separate control panel for the suite.

The suite is to be arranged so access from the suite to the school can be controlled when school is not in session. The door to this exit should be visible so that the staff can monitor the entrance and control access. This door should have a lock and bell system. Emergency buzzers should be installed in all rooms and areas of the LTL suite. Also required are doors with interior windows in LTL Coordinator's offices into the administrative/reception areas.

Exterior security, including the design of access from the parking area to the entrance, a doorbell, security camera system and the provision of substantial exterior lighting is important.

VIII. School Facilities Need for Support

A mailbox to accommodate letters and packages shall be identified for the LTL suite in the school mailroom. The school public address/intercom system shall be extended to all rooms in the LTL suite. Speakers in the facility shall have volume and on/off controls, as well as call back features to the school's main office. A telephone system integrated into the school telephone system shall be provided by MCPS with voice mail capabilities.

IX. Furnishings and Equipment

Montgomery County Government (MCG) shall provide the furniture and equipment as needed to operate the LTL suite. A furniture and equipment summary is attached for design purposes.

As part of the construction contract, the following items will be provided upon completion of construction (other items may be identified during design):

- Shelves in the supply closet;
- Sign outside (Linkages to Learning spelled out);
- Tack boards in every office and reception area (number and size are provided in the space descriptions);
- Large marker board in conference room;
- Television mount in conference room;
- Built-in locking cabinets in Child/Family therapist office, Family Care Manager office, and printer area;
- Soap dispenser and towel holders at the sink;
- Vents in the bathroom;

X. Applicable Laws

This facility shall comply will all applicable current local, state, and federal laws, regulations, and codes.

XI. Space Descriptions

Square Foot Summary			
Description	# of Spaces	Net SQ. FT. Each	Total Net SQ. FT.
Administrative Area:			
1. General Office/Reception Area	1	225	225
2. Conference Room	1	275	275
Linkages to Learning Suite			
1. Child/Family Therapy Room	2	175	350
2. Care Mgr./Community School Coor. Office	1	140	140
3. Family Resources Closet	1	50	50
Other			
1. Toilet Room	1	50	50
Total Net SQ. FT.			**1,090**
Total Gross SQ. FT. - # net sq. ft. x 1.34 =			**1,460**

A. General Office/Reception Area
Key Features:

The general office space should be designed to be near the entrance of the suite and serve as a reception/waiting area. Two 4'x4' tack boards should be located in this area. It should have space for a reception desk and secretarial chair and 4-6 guest chairs. This room requires a telephone and computer. This space should have VCT flooring.

B. Conference/Meeting Room
Key Features:

Conference room configuration should seat 10-12 people around a conference table or seat 15-20 people in an informal seating arrangement. There should be room for a credenza. A center data drop and plug should be in the floor. This space should have VCT flooring. This room will require a telephone. There should be a wall mounted bracket for a TV monitor and in focus. Two 4'x6' tack boards and one 4'x8' marker board should be provided in this room.

C. Child/Family Therapy Room

Key Features:

This room should accommodate a desk and space for play/group therapy. This space should be located in an area that affords clients the most privacy for their counseling. Built-in storage cabinets for toys, games, and supplies are to be provided with countertop, base and wall cabinets. Space should be provided for a round table and four chairs or small couch and two chairs, a 4-drawer lateral file cabinet, and bookcase. This space should have VCT flooring. This room will require a telephone and computer. One 4'x4' tack board should be provided in this room.

D. Family Care Manager/Community School Coordinator Office

Key Features:

This room should accommodate an L-shaped desk and space for round table and four chairs. Space should be provided for a 4-drawer lateral file cabinet and bookcase. This space should have VCT flooring. This room will require a telephone and computer. One 4'x4' tack board should be provided in this room.

E. Family Resource Closet

Key Features:

Lockable storage space is needed for the following:

- Food and clothing pantry
- Toys, books, and other tangible resources for children and families
- Literature

This closet should be equipped with a clothing rod and adjustable shelves.

F. Toilet Room

Key Features:

A student handicapped accessible toilet room with sink, soap and towel dispensers, and toilet. This space should have ceramic tile flooring and wainscot.

Adult toilets within the school should be close to the LTL suite and accessible for staff and visitor use.

Furniture and Equipment Summary

Item Description		Units
Reception and General Office		
	Secretarial chair	1
	Desk 30”x60”	1
	Personal computer	1
	42” 4-drawer lateral file	1
	Telephone	1
	Chairs-fan back	6

Conference Room		
	Table	1
	Conference room chairs	8
	Chairs stack	6
	Projection screen/TV	1
	Telephone	1
	Credenza	1
Child/Family Therapy Room		
	Desk	1
	Desk hutch with doors	1
	Secretarial chair	1
	Personal computer	1
	Telephone	1
	Small round table 36” or 42”	1
	Chairs-fan back	4
	Book case 36”x72”	1
	Lateral file cabinet 4-drawer	1
Family Care Manager/Community School Coordinator Office		
	L-shaped desk	1
	Desk hutch with doors	1
	Secretarial chair	1
	Personal computer	1
	Telephone	1
	Small round table 36” or 42”	1
	Chairs-fan back	4
	Book case 36”x72”	1
	Lateral file cabinet 4-drawer	1

Site Conditions

GENERAL DESCRIPTION

The existing Eastern Middle School is located at 300 University Blvd. E in Silver Spring, MD. The site is bordered on the southwest by University Blvd, the northwest by E Franklin Ave, and the east and southeast by single family detached residential properties. The property is known as Parcel P842 and is located at tax map JP52. The property is 632,055 sf (14.51 ac). The property is zoned R-60.

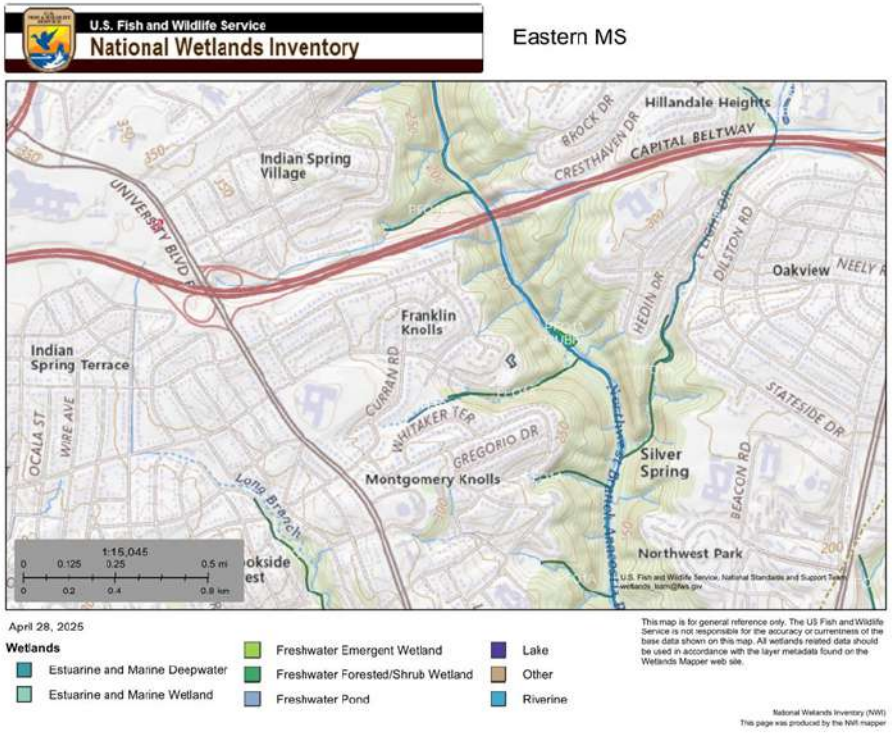
The site is currently an operating middle school consisting of the school building, a separated bus and parent drop off, parking, 2 basketball courts, 4 tennis courts, and a grass play field which includes a rectangular play area and a skinned infield for softball or baseball.

SITE CIRCULATION AND PARKING

The site currently has four curb cuts. Three of the curb cuts are on E Franklin and one is on University Blvd. The curb cut on University Blvd. is an entrance only and can be accessed by both north and south bound vehicles on University Blvd. This curb cut leads to parking spaces (78 spaces – 4 of which are designated ADA), as well as the parent drop off loop. These are located on the west side of the school. This drop off area is also accessed by a two way curb cut on E Franklin Ave. The parent drop off loop sees a lot of congestion at arrival and dismissal as there is only one exit point that is impacted by its close proximity to the intersection with University Blvd. and a large amount of walkers that cross the crosswalk on their way to or from University Blvd.

The two other curb cuts are an entrance only for the buses and a two way curb cut for the buses to exit and for other staff to enter and exit. These are located on the east side of the school. There are 45 spaces in this lot – 2 of which are designated as ADA spaces. There are also a large number of vehicles that park in the bus loop during off hours. There is no after hours striping which leads vehicles to double stack within the bus spaces (approximately 30 additional spaces). The bus loop is currently striped for 15 buses.

There are two loading docks for the school which are each accessible from one of the sets of curb cuts. The access for vehicles accessing these docks is not ideal as it requires vehicles to back up a significant distance to reach or exit the docks.



ZONING

The property is zoned R-60. Educational uses are allowed in residential zones. Below are the requirements of the zone:

Lot coverage:	35% maximum
Building Setback – Front	25’
Building Setback – Side:	25’
Building Setback – Rear:	20’
Building Height:	35’ max

MCPS is allowed leeway in several zoning categories if the building is unable to comply with the zoning requirements. Parking for MCPS projects is based on MCPS experience. It is anticipated that all staff members will be required to park on site and have space for visitor spaces during the day.

PROPERTY TOPOGRAPHY

In general, the property drains from the west towards the east, northeast, or southeast. Towards the northeast corner of the property, the grade drops off significantly for approximately 12’. Along the residential properties to the east and south there is also a significant grade change on their properties of approximately 8-10’. The drainage for the site drains to an unnamed tributary to the Anacostia and is in MDE watershed #02140205 which is listed as use IV water. Class IV waters are designated as recreational trout waters.

SOILS

Soils for the site are noted as Glenelg-Urban land Complex (2UB and 2UC), Wheaton Silt Loam (65B) and Wheaton-Urban Land Complex (66UC).

FLOODPLAIN, WETLANDS & STREAMS

The property is located outside the 100-yr floodplain per FEMA maps 24031C0370D and 24031C0390D (effective as of 9/29/2006).
There are currently no wetlands or streams on the property per the National Wetlands Inventory.

Appendix C - Existing Conditions Survey (Continued)

FOREST AND LANDSCAPING

Most of the vegetation for the site is focused along the southern, eastern, and northeastern property lines. It does not appear that any of the landscaped areas meet the requirements of a forest. There are other miscellaneous trees located around the site. All the trees appear to be in reasonable shape.

EXISTING ATHLETIC FACILITIES

There are currently four tennis courts on the property that area split into two areas of two, two to the south of the building and two on the east side of the bus loop. The tennis courts are in good condition. There does not appear to be ADA access to the tennis courts to the east of the bus loop. There are two basketball courts. They area separated and located adjacent the two tennis areas. The basketball court to the east of the bus loop is in poor condition. The basketball court to the south of the building is in good condition. The backboards and rims are in fair condition. The metal nets are in poor condition. The rectangular grass play field and baseball softball field appears to be in good condition. There is inadequate drainage for the fields. There is no ADA access to the softball/baseball field and benches.

EXISTING UTILITIES

- **Water** – The site is currently served by a 4" waterline that comes from a 20" cast iron or sand spun line in University Blvd. There is an 8" asphaltic ductile iron and a 10" cast iron or sand spun line in E Franklin Ave.
- **Sanitary Sewer** – The site currently drains to a 10" vitrified clay sanitary sewer in University Blvd. that runs down Moss Ave.
- **Storm Drainage** – The site currently has multiple connections to the existing storm drain infrastructure in University Blvd. that runs westward across University. Near the intersection of University Blvd. and E Franklin Ave, there is an existing 30" RCP that runs across the road and runs eastward along E Franklin Ave. There is also a connection to an existing 24" RCP near the curb cut on University Blvd that runs across the street and runs eastward down Dearborn Ave. There is also an inlet at the northeastern property corner to drain the water coming off the slope.
- **Stormwater Management** – There are three stormwater management facilities on site. There is a surface sand filter located within the parent drop off loop. There are also two underground stone infiltration trenches underneath the grass play field.
- **Electric & Gas** – Electric and gas for the site come from University Blvd. near the curb cut on University Blvd. The gas is noted as a 1.5" line.

Building Envelope

EXTERIOR WALLS

Exterior walls built in the 2001 addition project are masonry cavity walls with face brick veneer. Cavity walls include 2" extruded polystyrene rigid insulation (R-10).

All other walls are masonry mass walls with no cavities for ventilation or insulation. These mass walls appear to water infiltration, with visible discoloration and spalling observed during site survey. Visible rust observed at steel lintels supporting veneer brick. 'Stair Step' cracks can be found in exterior mortar joints, indicating movement within the existing walls and foundation systems.

WINDOWS

Windows throughout the facility are approximately 25 years old. All glazing uses double pane insulated glass. 1950s construction included very large window openings typical of that time. These large openings have largely been infilled and replaced with smaller aluminium windows and storefronts. Backup walls have been infilled with stud wall construction. The exterior facades have been predominantly infilled with EIFS, with veneer brick in some areas.

ROOFING

The existing building utilizes built-up asphalt roofing system. Roofing surface is protected with a gravel coating. Per available documentation, the existing system has an approximate average R-Value of R-18.8. All existing roofing warranties have expired.

FLOOR SLABS

The first floor of the 1950s construction is built on a ventilated crawl space. Crawl space is neither encapsulated nor insulated.

Building Structure

1951 STRUCTURE

The existing 1951 structure is a partial one and two-story structure. The two-story area is steel frame. The roof structure is comprised of steel joists bearing on steel girders, framing to steel columns. The second floor is comprised of concrete on 9/16" form deck bearing on steel joists. The steel joists frame to steel girders and columns. The one-story area is wall bearing. The roof structure is comprised of steel joists framing to composite masonry bearing walls. The majority of the 1951 original structure is on a crawl space. The crawl space (main floor structure) is cast in place concrete joists framing to concrete girders and concrete columns. Existing structural documentation was not available for this part of the structure, all the information was obtained through site survey.

The visible portions of the basic structure appear to be in acceptable structural condition. Minor water infiltration was observed along the exterior walls, most likely due to the composite wall construction and construction methodologies common in 1951. We cannot assess the condition of the perimeter girders as the existing girders are fully encased in masonry. It is highly possible that the existing girders are deteriorating due to moisture infiltration within the exterior wall system. We also observed stair steeping cracks in the masonry veneer and deterioration of the veneer structural support elements.

1958 STRUCTURE

The existing 1958 structure is a partial one and two-story. The two-story area is steel frame. The roof structure is comprised of steel joists bearing on steel girders, framing to steel columns. The second floor is comprised of concrete on 9/16" form deck bearing on steel joists. The steel joists frame to steel girders and columns. The one-story area is wall bearing. The roof structure is comprised of steel joists framing to composite masonry bearing walls. The majority of the 1958 structure is on a crawl space. The crawl space (main floor structure) is concrete dox plank framing to concrete girders and concrete columns. The foundation system is comprised of spread and strip footings. Existing structural documentation is available for this part of the structure.

The visible portions of the basic structure appear to be in acceptable structural condition. Significant damage to the exterior wall system was observed throughout this area of the structure. We cannot assess the condition of the perimeter girders as the existing girders are fully encased in masonry. It is highly possible that the existing girders are deteriorating due to moisture infiltration within the exterior wall system.

1963 STRUCTURE

The existing 1963 structure is two-story. The roof and floor structures are comprised of concrete joists framing to concrete girders and columns. This area does not have a crawl space. The foundation system is comprised of spread and strip footings. Existing structural documentation is available for this part of the structure.

The visible portions of the basic structure appear to be in acceptable structural condition.

1975 STRUCTURE

The existing 1975 structure is comprised of a two-story partial steel frame and a one-story wall bearing structure (gymnasium). The roof structure of the two-story structure is comprised of steel joists bearing on steel girders, framing to steel columns. The second floor is comprised of concrete on 9/16" form deck bearing on steel joists. The steel joists frame to a combination of steel girders and columns and masonry bearing walls. There is also a portion of the second floor that is comprised of dox plank. The one-story area (gymnasium) is wall bearing. The roof structure is comprised of steel joists framing to masonry

bearing walls. This area does not have a crawl space. The foundation system is comprised of spread and strip footings. Existing structural documentation is partially available for this part of the structure. Very minor brick veneer cracking was observed; this seems to indicate no significant settlement issues have occurred.

The visible portions of the basic structure appear to be in acceptable structural condition.

2001 STRUCTURE

The existing 2001 structure is one-story. The roof is comprised of joists which frame to a combination of steel girders and columns and masonry bearing walls. This area does not have a crawl space. The foundation system is comprised of spread and strip footings. Existing structural documentation is available for this part of the structure.

Mechanical Systems

GENERAL

Eastern Middle School (MS) was originally constructed around 1956, with a boiler replacement in 1995, a major renovation/addition provided around 2002, and a systemic HVAC equipment replacement around 2010. It appears that most of the existing mechanical systems within the school date to the 2002 renovation/addition and the 2010 systemic replacement, except for the school's existing chilled water infrastructure and boiler systems (which were replaced around the time of the 1995 boiler replacement project).

Following is a detailed description of the existing mechanical systems.

HEATING WATER INFRASTRUCTURE SYSTEMS

Two natural gas-fired firetube type boilers produce heating water for Eastern MS. All boiler systems are located within the basement mechanical room. Combustion air enters the boiler room through an areaway positioned adjacent to the room. While provided, this approach does not comply with the current International Mechanical Code (IMC) and CSD-1 requirements for combustion air.

Manufactured by Cleaver Brooks (Model CB700-100), these boilers were installed around 1996 and appeared to be in working condition during our site visit. While currently in working order, the existing boilers are nearing the end of their anticipated useful lifespan. Further, while the existing boilers are functioning adequately to satisfy the areas served, there does not appear to be surplus capacity available to support future expansion of the building without losing standby capacity if one boiler fails.

EXISTING DUAL-FUEL HYDRONIC BOILERS

Each boiler is rated for a natural gas consumption rate of 4,185 cubic feet per hour (CFH). Individual flues extend from each boiler through the basement mechanical room to the existing chimney and up vertically through the school.

Heating water generated by the boilers is distributed by a two-pipe (dual temperature) chilled/heating water piping loop. Additional heating water equipment connected to the piping loop includes an air separator, expansion tank, and two constant-speed base-mounted end-suction heating water pumps that distribute heating water to equipment located within their respective building area. All heating water pumping systems are located within the basement mechanical room and arranged in a lead/lag setup with only one pump operating at any time. The pumps were manufactured in 1985 and appear to be in poor condition.

EXISTING HEATING WATER PUMPS

Chilled Water Infrastructure Systems

Production of chilled water for Eastern MS is accomplished by a single water-cooled centrifugal chiller. Manufactured by Trane (model CVHE320), this equipment has an available output capacity of approximately 320-tons, was installed around 1997, and appears in good condition but is nearing the end of its anticipated useful life. Operation of this equipment could not be verified during our site visit due to the weather. This chiller is located within the basement mechanical room. There does not appear to be surplus capacity available to support any planned additions or expansions to the school.

EXISTING WATER-COOLED CHILLER

Heat rejection from the water-cooled chiller is accomplished by a single counterflow, forced draft cooling tower located outdoors and positioned adjacent to the basement mechanical room. The cooling tower is mounted on a concrete curb, with vibration isolation provided between the cooling tower base and the curb. A steel access platform is provided around the perimeter of the tower for maintenance. Manufactured by Baltimore Aircoil Company (model VT1-NMCR), this was installed around 1997 and is approaching the end of its anticipated useful life. Outdoor condenser water piping is constructed from PVC. A single constant speed base-mounted end-suction condenser water pump is installed in the basement mechanical room to circulate condenser water between the water-cooled chiller and the cooling tower. An additional base-mounted end-suction standby pump, also located within the basement mechanical room, serves as a backup pump for both the condenser water and chilled water systems.

EXISTING COOLING TOWER

As described within the Heating Water Infrastructure Systems section of this document, chilled water is distributed by a two-pipe (dual temperature) chilled/heating water piping loop. Additional chilled water equipment connected to the piping loop include an air separator, expansion tank, and a single constant speed base-mounted end-suction chilled water pump that distributes chilled water to equipment located within their respective building area. As described above, an additional base-mounted end-suction standby pump, serves as a backup pump for both the condenser water and chilled water systems. All chilled water pumping systems are located within the basement mechanical room and arranged in a lead/lag setup with only one pump operating at any time. The pumps were manufactured in 1996 and appear to be in poor condition.

EXISTING CHILLED WATER PUMP

In addition to chilled water, direct expansion (DX) type cooling is provided for ductless split systems serving select data and information technology (IT) spaces located throughout the school, as well as the kitchen manager's office and dry storage areas. In addition, the indoor air-handling units serving the administration area and Cafeteria are provided with DX cooling via split air-cooled condensing units located on the roof. Spaces served by DX space conditioning typically require cooling operation at times when chilled water is not available.

Existing Fan Coil Unit #1

Existing Air-handling unit (AHU-3)

HVAC SYSTEMS – EASTERN MS

The heating, ventilating, and air conditioning (HVAC) systems serving Eastern MS vary slightly throughout the school. The following is a breakdown of the various spaces and their associated HVAC system:

- **Administration Suite Areas**: Space conditioning and ventilation for administration and health suite areas are provided by two vertical ducted split system air-handling units (Fan Coil Unit #1 and AHU-3). These air-handling units are located in a mechanical room on the second floor. Outside air is ducted to the return air duct work for each air-handling unit from a rooftop gooseneck opening. Fan coil unit #1 and AHU-3 are provided with DX cooling and electric resistance heating. Air cooled condensing units associated with this equipment are located on the roof above. Relief and rest room air is exhausted outdoors through a rooftop exhaust fan. The air-handling units and exhaust fan were installed as part of the 2002 renovation/addition, appeared to be in fair working condition, and have exceeded their useful service life.
- **Miscellaneous Offices and Conference Areas:** Space conditioning and ventilation for office and conference spaces outside the administration suite are provided by vertical console type fan coil units and unit ventilators connected to the school's chilled/heating water system. Vertical fan coil units and unit ventilators have a direct outdoor air connection through a louver mounted in the exterior wall. The fan coil units and unit ventilators were installed as part of the 2010 renovation, appeared to be in fair working condition, and are approaching the end of their useful service life.
- **Health Suite Areas:** Space conditioning for the health suite areas is provided by vertical console type fan coil units connected to the school's chilled/heating water system. Ventilation is provided by a roof mounted energy recovery ventilator (ERV-2) with a duct-mounted heating coil utilized for reheat. The duct-mounted heating coil is

Existing ACCUs

connected to the school's chilled/heating water system but is only utilized when the system is in heating operation. Relief air from the waiting area is exhausted to the outdoors through the ERV. A rooftop exhaust fan provides exhaust for toilet and isolation areas. The fan coil units were installed as part of the 2010 renovation, appeared to be in fair working condition, and are approaching the end of their useful service life. The ERV and exhaust fan were installed as part of the 2002 renovation/addition, appeared to be in fair working condition, and have exceeded their useful service life.

- **Computer Lab:** Space conditioning and ventilation for the computer lab is provided by a unit ventilator connected to the school's chilled/heating water system. The unit ventilator has a direct outdoor air connection through a louver mounted in the exterior wall. A transfer grille ducted to a wall louver is provided to maintain proper room pressurization. The unit ventilator was installed as part of the 2010 renovation, appeared to be in fair working condition, and is approaching the end of its useful service life.
- **Typical Classroom:** Space conditioning and ventilation for the typical classroom areas throughout the school is provided by vertical unit ventilators connected to the school's chilled/heating water system. Each unit ventilator has a direct outdoor air connection through a louver mounted in the exterior wall or a rooftop gooseneck opening. A transfer grille ducted to a wall louver is provided for each classroom to maintain proper room pressurization. Unit ventilators were installed as part of the 2010 renovation, appeared to be in fair working condition, and are approaching the end of their useful service life.
- **Resource Rooms:** Space conditioning for the school's resource rooms is provided by a multiple-zone variable air volume (VAV) air-handling unit system with fan powered VAV terminal units with hydronic heating coils. The air-handling unit is located in a mechanical room above Storage Room C104. The VAV terminal units are located above the ceilings of the spaces they serve. Both the air-handling unit and the VAV terminal units are connected to the school's chilled/heating water system. The VAV terminal units are ducted to square ceiling mounted supply diffusers and ceiling mounted return grilles. Outside air is ducted to the air-handling unit through a rooftop gooseneck opening. Space pressurization is maintained by relieving air outdoors through a rooftop gravity relief ventilator. The air-handling unit and associated VAV terminal units were installed as part of the 2002 renovation/addition, appeared to be in fair working condition, and have exceeded their useful service life.

ERV-2

Typical Classroom Unit Ventilator

Existing AHU Serving Resource Rooms

- **Student Dining Area:** The student dining area is provided with space conditioning and ventilation through a constant volume indoor air-handling unit, located within a mechanical room adjacent to the stage. The air-handling unit is provided with DX cooling. The associated condensing unit is located on the roof above the kitchen. Heating is provided by a duct-mounted indirect fired natural gas heater. This equipment was manufactured in 2020 and appears to be in good condition. Facilities personnel indicated that the existing duct-mounted heater is not functioning and that they are currently utilizing a wall-mounted electric propeller unit heater. Supply duct work extends throughout the student dining and stage areas, with a series of square ceiling diffusers provided for airflow distribution. Room air is circulated from the dining area to the serving line by an inline transfer fan located above the ceiling. Return air is ducted from the space and returned to the air-handling unit system. Outside air is ducted to the units return from an outside air intake hood located on the roof.

Student Dining Area

Existing Student Dining Air-Handling Unit

Existing Student Dining Duct Heating Coil

Existing Student Dining ACCU

- **Kitchen:** Heating for the kitchen area is accomplished through a series of hydronic propeller unit heaters, positioned near the perimeter of the kitchen area. No air-conditioning is currently provided for the kitchen; however, the associated kitchen office and dry storage areas are provided with wall mounted ductless split systems. Major kitchen equipment is positioned below a Type 1 (grease type) kitchen hood, with a gas-fired kitchen hood make-up air unit provided at roof level. This make-up air unit was manufactured in 1988, appeared to be in poor condition, and has exceeded its useful service life. Additional make-up air for the kitchen is transferred from the adjacent student dining area via an inline transfer fan.
- **Media Center:** Space conditioning and ventilation for the media center is accomplished through an indoor air-handling unit (AHU-1) located in Mechanical Equipment Room 204-A and connected to the school's chilled/heating water system. Supply duct work extends throughout the student media center, with a series of square ceiling diffusers provided for airflow distribution. The air-handling unit was manufactured in 1993, appeared to be in fair working condition, and has exceeded its useful service life.
- **Gymnasium:** Heating and ventilation for the school's gymnasium is accomplished through an indoor air-handling unit located in Mechanical Equipment Room 603 and connected to the school's chilled/heating water system. Supply and return duct work extends from the AHU to wall mounted grilles within the gym. The heating-only air-handling unit appears to match the age of AHU-4 and AHU-5, which were manufactured in 1995, and has exceeded its useful service life. The gym is also ventilated by two roof-mounted down blast type exhaust fans.
- **Auxiliary Gymnasium:** Heating and ventilation for the auxiliary gymnasium is accomplished through an indoor air-handling unit (AHU-5) located in Storage Room 205C and connected to the school's chilled/heating water system. Supply duct work extends, exposed, from the AHU to round diffusers within the gym. The air-handling unit was manufactured in 1995 and has exceeded its useful service life.
- **Boy's Locker Room:** Heating and ventilation for the boy's locker room area is accomplished through an indoor air-handling unit (AHU-4) located in Storage Room 205C and connected to the school's chilled/heating water system. Supply duct work extends from the AHU to square diffusers within the locker room. The air-handling unit was manufactured in 1995 and has exceeded its useful service life. Space pressurization and exhaust is provided by a roof mounted exhaust fan.

Kitchen Make-Up Air Unit

Media Center Air-handling unit

Existing Gym AHU

Existing Gym Exhaust Fans

- **Girl's Locker Room:** Space conditioning and ventilation for the girl's locker room is provided through an inline supply fan. The supply fan draws outside air through a roof mounted intake hood and transfer air from the adjacent auxiliary gymnasium space. A hot water duct mounted heating coil is installed downstream of the supply fan for tempering supply air. Space pressurization and exhaust is provided by a roof mounted exhaust fan. The exhaust fan is installed immediately adjacent to the outside air intake hood and does not meet the minimum separation distance required by current building code.
- **Building Exhaust Systems:** A combination of roof-mounted, ceiling-mounted, and wall-mounted fans remove exhaust and pressure relief air throughout the building. The age and condition of these fans vary throughout the school; generally, they appear to have exceeded their useful service life.

AHU-4

AUTOMATIC TEMPERATURE CONTROL (ATC) SYSTEMS

The existing ATC system is comprised of both pneumatic and direct digital control (DDC) system components, with a Schneider Electric energy management system currently provided for the school and installed by Control Sources. Major valve and damper components are provided with either pneumatic or electronic actuation throughout the building. A simplex air compressor, complete with a horizontal storage tank, is located within the basement mechanical room and serves the building's pneumatic control components. The air supplied from this compressor is fed through a refrigerated dryer system. Both the air compressor and refrigerated dryer appeared to be in fair to poor working condition during our site visit. Replacement of any existing pneumatic control device with electronically operated DDC type components is recommended under any planned building renovations.

Plumbing Systems

DOMESTIC COLD WATER AND ASSOCIATED DOMESTIC WATER PIPING

Eastern Middle School is served from the county water system through a dedicated 4-inch incoming domestic water service, entering the building within the basement mechanical room. The domestic water service is provided with a shut-off valve near where the piping enters the school. Unfortunately, this valve is also located above the main switchgear. Currently, no backflow preventer is provided within the building at the domestic water service entrance. While this may have been acceptable at the time the system was installed, it does not meet current plumbing code requirements. It is anticipated that limited surplus capacity exists for the existing 4-inch domestic cold water main. Most of the school's domestic water piping systems (including cold water, hot water, and hot water return piping) date back to the school's original construction in 1956. These piping systems and associated piping components (valves, fittings, and piping insulation) have exceeded their useful service life and are recommended for replacement as part of any planned building renovations.

Domestic Water Main Shut-off Valve

DOMESTIC HOT WATER EQUIPMENT

Domestic hot water for the majority of the building is generated through a pair storage type water heaters located in the basement room. These water heaters supply 110-degree F domestic hot water to all areas of the school, excluding the kitchen area. Manufactured by State (model SBD-100-199NET 118), these water heaters are provided with 199 MBH gas burners and 100-gallon storage tanks.

A pair of domestic hot water circulation pumps maintain a continuous hot water flow throughout the areas served. The systems are not equipped with a thermostatic mixing valve, which is typically provided on today's new systems. It is anticipated that minimal surplus capacity exists for the water heaters. The water heaters were manufactured in 2017 and are approximately halfway through their expected lifespan.

Domestic hot water for the kitchen is generated through a single storage-type water heater located in the adjacent mechanical room. Manufactured by A.O. Smith (model BT-80 400), this water heater is provided with 75.1 MBH gas burner and 74-gallon storage tank. A domestic hot water circulation pump maintains a continuous hot water flow throughout the areas served. It is anticipated that minimal surplus capacity exists for the water heater. This water heater was manufactured in 2021 and is in good condition.

Domestic Water Main Shut-off Valve

SANITARY WASTE, VENT, AND STORM WATER PIPING

Like the domestic water piping systems, a majority of the existing above- and below-grade sanitary waste, vent, and storm water piping systems date back to the school's original construction or the 2002 addition and range from between 23- to almost 70-years in age. A majority of these existing piping systems have exceeded their useful service life are recommended for replacement as part of any planned building renovations.

PLUMBING FIXTURES

The plumbing fixtures are similar in age to the piping described above. Replacement of the existing plumbing fixtures as part of any planned building renovations is recommended due to age.

NATURAL GAS SERVICE AND PIPING

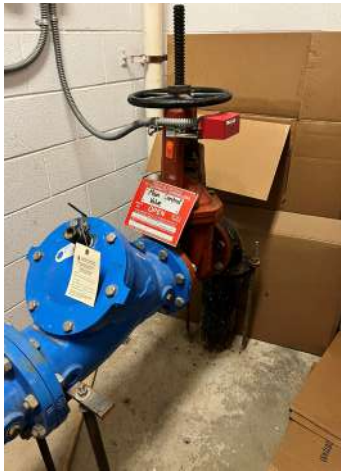
The school's existing gas service is located within an outdoor areaway positioned adjacent to the basement mechanical room. While no gauges were present at the existing gas service, it is anticipated that a 2-PSI gas pressure is currently provided and that this existing service has sufficient capacity to support any planned building renovations. Interior gas piping is primarily limited to the existing basement mechanical room area and appeared to be in fair condition during our site visit.

Existing Exterior Gas Service and Washington Gas Meter

Fire Protection Systems

Eastern Middle School is currently provided with sprinkler coverage throughout. The building is provided with a dedicated incoming 6-inch fire service, complete with a backflow preventer and a fire department connection. The incoming fire service is located within a sprinkler control room near the school's kitchen area.

A fire line extends from the discharge of the backflow preventor and serves a series of zone valve assemblies located throughout the school. Sprinkler mains extend from each zone valve assembly and serve sprinkler heads located throughout their respective zone. Sprinkler system components appeared to be in good to fair condition during our site visit.



Incoming Fire Service/Backflow Preventer

Electrical Systems

GENERAL

Eastern Middle School (MS) was originally constructed around 1956 with major renovation/addition projects around 1974 and 2002. It appears that most of the existing electrical distribution equipment within the school date to the 1974 and 2002 renovation/addition projects.

The following is a description of the existing electrical service, power distribution, lighting and lighting controls, voice/data, public address, security (door access control, intrusion detection, video surveillance), and fire detection and alarm systems.

Utility Pole Adjacent School Property

Utility Transformer, Generator, and Cooling Tower

ELECTRICAL SERVICE

The existing electrical service to Eastern Middle School is provided by Pepco distributed via overhead electrical power lines supported by utility poles along University Boulevard, located on the southwest side of the school. The primary utility service conductors run down a utility pole adjacent to school property and underground to an exterior, pad-mounted utility transformer (799429-6705) located in the service yard with the generator and cooling tower. Underground service conductors run from the secondary of the utility transformer to the C/T cabinet section of the main service switchboard located in the boiler room.

POWER DISTRIBUTION

The main service switchboard is manufactured by the Square D Company, Power-Style Switchboard, Type PS-2, which appears to be in fair condition. The switchboard is rated at 120/208 volts, 3-phase, 4 wire with a 3,000-ampere bus and three sections. From left to right, the first section is the C/T cabinet section; the second section is the main section consisting of a 3,000-ampere main circuit breaker for the main service disconnect and a stacked compartment with distribution circuit breakers above the main circuit breaker compartment; and the third section consisting of two (2) distribution circuit breakers. The existing switchboard was installed under the 1974 renovation project and is past its useful life.

The main water service shut-off valve is located above the main switchboard in the boiler room in violation of the working clearances required by the National Electrical Code (NEC).

Main Service Switchboard

The distribution compartment above the main circuit breaker has feeder circuit breakers

with the following sizes: 225A (Panel B), 225A (Panel HP), 125A (Panel L1), 400A (Portable Classrooms), 100A (Unlabeled), 150A (Panel LS), 100A (Panel FC), 100A (Panel L3), 125A (Panel UV), 60A (Unlabeled), and 150A (Panel NLS). The circuit breakers in the distribution section serve the chiller (1,600A) and Distribution Panel MDP (2,000A).

Other electrical equipment in the boiler room includes: Pepco utility meter (KZD351048268), Distribution Panel MDP, the fire alarm control panel (FACP), automatic transfer switches, emergency (life safety) panelboards, optional stand-by panelboards, branch circuit panelboards.
Distribution Panel MDP is a two-section switchboard manufactured by the Square D Company, Power-Style Switchboard, Type PS-2, circa 1974, rated at 120/208 volts, 3-phase, 4-wire, with a 2,000-ampere bus. Distribution Panel MDP serves mechanical equipment and branch circuit panelboards located throughout the building.

Branch circuit panelboards are typically recessed-mounted in the corridors. The branch circuit panelboards installed under the 1974 renovation project are manufactured by Square D, are typically located in the corridors of Eastern Middle School.

Typical Branch Circuit Panelboards in Corridor

GENERATOR DISTRIBUTION

The existing, exterior, natural-gas-fired generator is manufactured by Kohler, installed after the 2002 addition, and rated at 100 kW, 120/208 volts, 3-phase, 4-wire, with two (2) unit mounted 150-ampere circuit breakers serving emergency (life safety) and optional stand-by loads. The generator appears to be in good condition. The automatic transfer switches, located in the adjacent boiler room, are manufactured by Kohler and rated at 150 amperes, 120/208 volts.

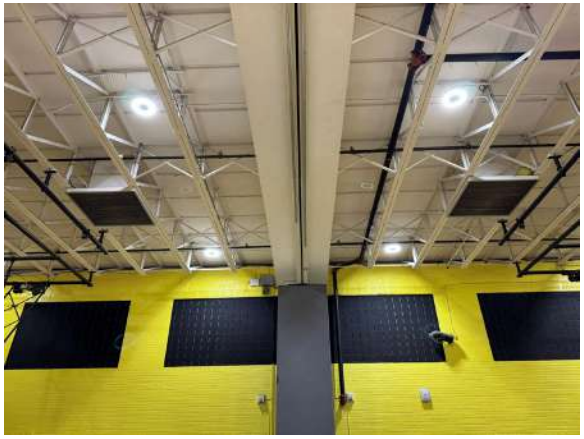
Outdoor Generator

LIGHTING AND LIGHTING CONTROLS

Fluorescent lighting is primarily used in Eastern MS. The boiler room has 1'x4' lighting fixtures with wrap-around lenses. Most spaces, including corridors, classrooms, private offices, and the main administration area, have 2'x4' recessed fluorescent lighting fixtures with prismatic lenses. The main gym and aux gym utilize pendant mounted LED lighting fixtures. The Cafeteria has pendant mounted linear fluorescent lighting fixtures and recessed downlights with compact fluorescent lamps. Pendant mounted high-bay stye lighting fixtures are provided in the Cafeteria Lobby.

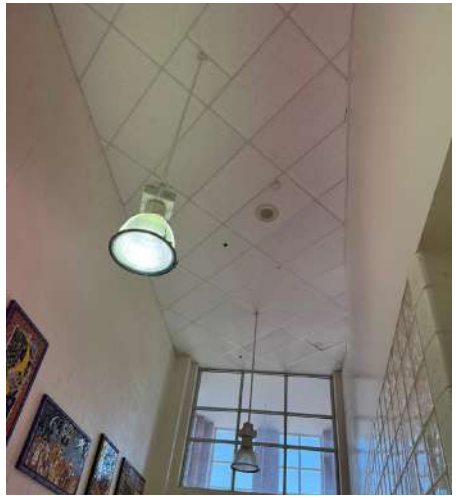
Typical Classroom Lighting

Cafeteria Lighting



Main Gym Lighting

Automatic Transfer Switches



Cafeteria Lobby Lighting

Aux Gym Lighting

Exterior lighting consists of building-mounted lighting and pole-mounted LED lighting fixtures in the parking lot.

Line-voltage toggle switches are used to control lighting in each space. Eastern MS does not use occupancy sensors to automatically turn off lighting when rooms are unoccupied.

TYPICAL CLASSROOM LIGHTING CONTROLS

Lighting and lighting controls do not meet current energy-code requirements (i.e., 2021 International Energy Conservation Code) for lighting power density (watts per square foot), occupant sensor controls, and light-reduction controls (dimming).

DATA AND VOICE SYSTEMS

The main data equipment is located in within the media center, which consists of two main distribution frame (MDF) data racks. An intermediate distribution frame (IDF) data rack is located in a storage room in the main office area. MDF and IDF racks have data fiber optic distribution enclosures (light interface units) and patch panels by Superior Modular Products, and electronic data switches by Cisco.

Category 5/5e cabling distribution system is installed in the school to provide network connectivity. Each typical classroom has both teacher and student outlets. Wireless access points by Cisco are mounted on the ceilings.

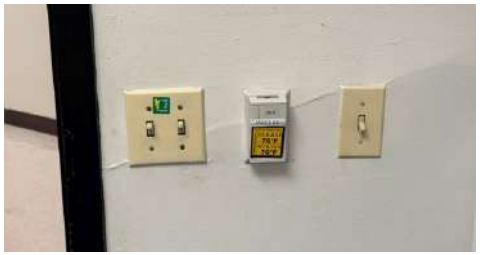
There are 110-style voice connecting blocks on the walls behind the MDF and IDF racks. The telephone system is a separate voice system for telephones in the school offices.

INTERCOM AND SOUND SYSTEMS

The public address/intercom equipment is a Telecenter V system manufactured by Rauland, located in the main office area. The system has the capability to perform select local calls to classrooms or paging throughout the entire school. Each classroom has a ceiling mounted speaker and a wall mounted call switch. Ceiling or wall speakers are located in the corridors.
There are Rauland administration control station handsets in the main office area.

Exterior Wall Pack Lighting Fixture

Exterior Pole Mounted Lighting Fixture



Typical Classroom Lighting Controls

Public Address System

SECURITY SYSTEMS

The intrusion detection system control panels are located in the main office area. There are four (4) security system keypads located in the main office area. There are ceiling mounted and wall mounted intrusion detection motion detectors/sensors in the corridors. There is a door card access control panel located adjacent to the intrusion detection control panel.

FIRE DETECTION AND ALARM SYSTEM

The existing fire alarm control panel (FACP), located in the boiler room, is manufactured by Edwards Systems Technologies, Model EST2 with Voice Control Panel. The EST2 system is obsolete. Spare parts are no longer manufactured and are difficult to obtain for this FACP. The fire alarm annunciator panel is located in the corridor adjacent to the main lobby. Fire alarm initiation devices include manual pull stations, smoke detectors, duct detectors, flow switches, tamper switches, monitoring modules for generator run, generator fault, and kitchen hood, and elevator smoke detectors and heat detectors. Fire alarm notification devices include combination speaker/strobes.

Fire Alarm Control Panel and Voice Control Panel

Photographs - Exterior

Main Entrance

View across East Franklin Ave

Student Drop Off

Rear Facade

Gym Facade from Bus Loop

1963 Wing

Photographs - Exterior

Ponding on Roof

Water Infiltration Visible on Facade

Brick Joint Degradation

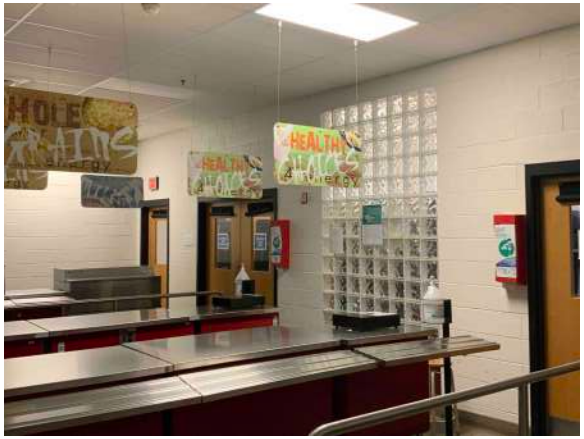
Courtyard

Brick Spalling

Mural Facing University Boulevard

Photographs - Interior

Cafeteria



Kitchen Servery

Aux Gym

Typical Corridor

Main Gym

Typical Corridor

Original Plaster Ceilings Remain Above New Drop Ceiling

Photographs - Interior

Media Center

Classroom window

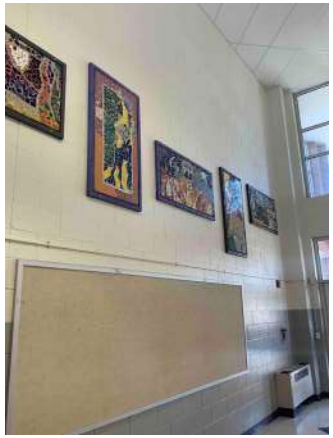
Classroom with No Natural Light

Teaching Area within Media Center

Degraded Finishes

Typical Classroom FCU

Door Louvers Transfer Sound and Smoke from Corridor



Student Art within Corridors