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I. INTRODUCTION

**Tilden Middle School and Rock Terrace School**
Revitalization/Expansion and Collocation

6300 Tilden Lane,
Rockville, Maryland 20852

**Montgomery County Board of Education**
Mr. Michael A. Durso  President
Dr. Judith R. Docca   Vice President
Mr. Christopher S. Barclay  Member
Mr. Philip Kauffman  Member
Mrs. Patricia B. O’Neill  Member
Mrs. Jill Ortmon-Fouse  Member
Mrs. Rebecca Smondrowski  Member
Mr. Eric Guerci  Student Member

**Montgomery County Schools Administration**
Dr. Jack R. Smith  Superintendent of Schools
Mr. James C. Song  Director, Department of Facilities Management
Mr. Seth P. Adams  Director, Division of Construction
Mr. Michael P. Shpur  Architect, Division of Construction
Mr. Joseph D. DeRosa  Project Manager, Division of Construction
Ms. Deborah S. Szyfer  Senior Planner, Division of Long-range Planning
I. INTRODUCTION

This feasibility study for the Tilden Middle School and Rock Terrace School revitalization/expansion and collocation was conducted for Montgomery County Public Schools (MCPS) by the architectural firm of Samaha Associates, P.C. The existing schools are located at 390 Martins Lane, Rockville, Maryland 20850 and 11211 Old Georgetown Road, Rockville, Maryland 20852 respectively. Work was performed under the direction of the MCPS Department of Facilities Management, Division of Construction. The feasibility study participants reviewed the design concepts for the revitalization/expansion and collocation of Tilden Middle School and Rock Terrace School. Meetings occurred on the following dates:

October 19, 2015  
November 5, 2015  
November 18, 2015  
December 1, 2015  
December 17, 2015  
PTA / Community Presentation: January 6, 2016

The proposed designs are a result of the recommendations, suggestions and guidance during the feasibility study process.

Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>School/Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mrs. Irina LaGrange</td>
<td>Principal</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Kathy Lertora</td>
<td>Principal</td>
<td>Rock Terrace School</td>
</tr>
<tr>
<td>Mr. Seth Adams</td>
<td>Director</td>
<td>Division of Construction - MCPS</td>
</tr>
<tr>
<td>Mr. Gregory Agoston</td>
<td>Parent</td>
<td>Farmland Elementary School</td>
</tr>
<tr>
<td>Mr. Victor Ban</td>
<td>Future Parent</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Lawrence Bassin</td>
<td>Parent</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. SueAnne Beaumont</td>
<td>Parent</td>
<td>Luxmanor Elementary School</td>
</tr>
<tr>
<td>Ms. Loris Berger</td>
<td>Parent</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Thomas H. Biggs</td>
<td>Parent</td>
<td>Greater Farmland Civic Association</td>
</tr>
<tr>
<td>Ms. Corrine Blachford</td>
<td>Staff</td>
<td>Division of Long-range Planning - MCPS</td>
</tr>
<tr>
<td>Mr. Borris Calderon</td>
<td>Staff</td>
<td>Department of Transportation - MCDOT</td>
</tr>
<tr>
<td>Mr. Warren Crutchfield</td>
<td>Community</td>
<td>Rock Terrace School</td>
</tr>
<tr>
<td>Ms. Emily Cullather</td>
<td>Staff</td>
<td>Rock Terrace School</td>
</tr>
<tr>
<td>Ms. Marynell Curtis</td>
<td>Staff</td>
<td>Tilden Middle School</td>
</tr>
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### I. INTRODUCTION

#### Participants (Continued)

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Mr. Hersche Cutler</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Nancy Delasos</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
</tr>
<tr>
<td>Ms. Nermine Demopoulus</td>
<td>Community</td>
<td>Luxmanor Neighborhood</td>
</tr>
<tr>
<td>Mr. Joseph DeRosa</td>
<td>Project Manager</td>
<td>Division of Construction - MCPS</td>
</tr>
<tr>
<td>Ms. Valentina Di Francesco</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Ashley Doyle</td>
<td>Staff</td>
<td>Rock Terrace School</td>
</tr>
<tr>
<td>Ms. Nancy Eng</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Ed Farber</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
</tr>
<tr>
<td>Mrs. Eileen Fazio</td>
<td>Instructional Specialist</td>
<td>Department of Special Education Services - MCPS</td>
</tr>
<tr>
<td>Ms. Sandra Friedman</td>
<td>Community</td>
<td>Luxmanor Neighborhood</td>
</tr>
<tr>
<td>Mr. Gilad Gazit</td>
<td>Parent</td>
<td>Farmland Elementary School</td>
</tr>
<tr>
<td>Mr. Mathew Geiss</td>
<td>Parent</td>
<td>Luxmanor Elementary School</td>
</tr>
<tr>
<td>Mr. Robert Gold</td>
<td>Staff</td>
<td>Rock Terrace School</td>
</tr>
<tr>
<td>Mrs. Dyan Harrison</td>
<td>Assistant Principal</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Gilbert R. Herer</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Kenneth Hilm</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Emily Hofmann</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Ken Hudle</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. George Jesien</td>
<td>Community</td>
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</tr>
<tr>
<td>Mr. John Kim</td>
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</tr>
<tr>
<td>Ms. Cynthia King</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
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<tr>
<td>Mr. Stephen Koenick</td>
<td>Community</td>
<td>Tilden Middle School</td>
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<tr>
<td>Mr. Lou Kozloff</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Rene Kozloff</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Lauren Lawrence</td>
<td>Staff</td>
<td>Rock Terrace School</td>
</tr>
<tr>
<td>Ms. Lillana Liebstein</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
</tr>
<tr>
<td>Mr. David Lin</td>
<td>Parent</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Phillip A. Lynch</td>
<td>Director</td>
<td>Department of Special Education Services - MCPS</td>
</tr>
<tr>
<td>Mr. Doug Manderille</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Howard Mann</td>
<td>Parent</td>
<td>Farmland Elementary School/PTSA</td>
</tr>
<tr>
<td>Ms. Desiree Meggett</td>
<td>Staff</td>
<td>Feynman School</td>
</tr>
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</table>
I. INTRODUCTION

Participants (Continued)

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<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Stephen Miller</td>
<td>Community</td>
<td>Heritage Walk / Luxmanor Civic Association</td>
</tr>
<tr>
<td>Mr. Tracey Miller</td>
<td>Parent</td>
<td>Greater Farmland Civic Association</td>
</tr>
<tr>
<td>Mr. Abbe Millstein</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
</tr>
<tr>
<td>Ms. Debby Orsak</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. John O’Shea</td>
<td>Community</td>
<td>Luxmanor</td>
</tr>
<tr>
<td>Mr. Jerry Ostron</td>
<td>Community</td>
<td>Tilden Middle School</td>
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<tr>
<td>Ms. Ellen Paul</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Joseph Piff</td>
<td>Cluster Coordinator</td>
<td>Walter Johnson High School</td>
</tr>
<tr>
<td>Ms. Sharon Plotnick</td>
<td>Staff</td>
<td>Luxmanor Civic Association</td>
</tr>
<tr>
<td>Mr. Joe Pospisil</td>
<td>Staff</td>
<td>Department of Transportation - MCDOT</td>
</tr>
<tr>
<td>Mr. Bruce Rich</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
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<tr>
<td>Mr. Ed Rich</td>
<td>Community</td>
<td>Greater Farmland Civic Association</td>
</tr>
<tr>
<td>Mrs. Chris Richardson</td>
<td>Associate Superintendent</td>
<td>Special Education and Student Services - MCPS</td>
</tr>
<tr>
<td>Ms. Joyce Rizzolo</td>
<td>Community</td>
<td>Marcliff Road</td>
</tr>
<tr>
<td>Mr. Ralph Rizzolo</td>
<td>Community</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Mr. Jason Rosenderge</td>
<td>Community</td>
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<tr>
<td>Ms. Rebecca Rudich</td>
<td>Community</td>
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<tr>
<td>Mr. Michael Shpur</td>
<td>Architect</td>
<td>Division of Construction - MCPS</td>
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<td>Mr. Jonathan Simon</td>
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<tr>
<td>Ms. Christina Sloan</td>
<td>Staff</td>
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<tr>
<td>Ms. Katie Smeltz</td>
<td>Parent</td>
<td>Tilden Middle School</td>
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<tr>
<td>Ms. Deborah S. Szyfer</td>
<td>Senior Planner</td>
<td>Division of Long-range Planning - MCPS</td>
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<tr>
<td>Ms. Pam Tobey</td>
<td>Community</td>
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<tr>
<td>Ms. Sylvia Wagner</td>
<td>Community</td>
<td>Tilden Middle School</td>
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<tr>
<td>Mr. and Mrs. Walker</td>
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<td>Tilden Middle School</td>
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<tr>
<td>Mr. Andrew Weiss</td>
<td>Parent</td>
<td>Tilden Middle School</td>
</tr>
<tr>
<td>Ms. Sheri Weiss</td>
<td>Community</td>
<td>Luxmanor Civic Association</td>
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</table>
II. EXECUTIVE SUMMARY

PURPOSE

The purpose of this feasibility study is to explore options that satisfy the educational specifications for the revitalization/ expansion to collocate Tilden Middle School and Rock Terrace School, a special education school. The study examined options to collocate these two schools on the site of the current Tilden Holding School. When completed, the Tilden Middle School facility will have a capacity of 1,215 students with a core of 1,500 students, and the Rock Terrace School will be designed to accommodate approximately 100 students. Furthermore, the study provides specific recommendations to Montgomery County Public Schools (MCPS) for implementation. Each instructional area will have adequate learning space, work areas, restrooms, and storage.

BACKGROUND INFORMATION

The original Tilden Middle School is located at 6300 Tilden Lane, Rockville, Maryland and was used as a middle school until it moved to the current location on 11211 Old Georgetown Road in 1991. The Tilden Holding School, as the building is now called, has been used since then as a holding site for other schools operated by MCPS. The existing two-story 116,400 square foot school sits on a 19.75 acre property, comprised of six parcels.

METHODOLOGY

The site was evaluated by a design team of architects, engineers, and consultants to determine the feasibility to collocate Tilden Middle School and Rock Terrace Schools on the Tilden Holding School site to meet the educational specifications and summary of space requirements dated September 25, 2015 and November 17, 2014 respectively.

The study was based upon the following:

• Consensus workshops with the feasibility study participants and MCPS staff.
  • There were six public work sessions
  • There were 75 different attendees.
  • There was consistent attendance from participating members.
  • There were four different building options and refinements.
  • There were four different site options and refinements.
• Review of the educational specifications and summary of requirements provided by the MCPS staff
II. EXECUTIVE SUMMARY

• Visual Analysis of the existing site by the design team.
• Topographic and boundary survey including a preliminary NRI-FSD (Natural Resources Inventory/Forest Stand Delineation).
• Phase 1- Environmental Assessment
• Preliminary Geotechnical Investigation and Report
• Transportation Impact Study conducted under the Local Area Transportation Review and Policy area mobility review guidelines

OVERVIEW

The existing Tilden Holding School is currently being used as a training center and a private school. The existing “L” shaped, 19.75 acre site slopes down from the northeast corner at the intersection of Tilden Lane and Marcliff Road to the southwest approximately forty feet. The existing two-story 116,400 square foot school occupies the east half of the site. The student drop-off is located north of the main entrance with the entrance being on Tilden Lane. The east side of the site adjacent to the building is the bus loading, staff and visitor parking with two entrances along Marcliff Road. Directly west of the building are four tennis courts and four basketball courts. The site slopes steeply down to the south and west from the courts to the playfields. The baseball and softball fields are overlaid with three soccer fields with another field directly south of the courts. (Please refer to existing conditions survey, Appendix C.) In design options 1, 2 and 3, the existing school will be demolished to make way for the collocated facility.

Three options for a new facility and one that maintains the current facility are presented within and were developed with input from the feasibility study participants. All four options meet the instructional programmatic requirements for the middle school and special education school. A consensus could not be reached on one preferred option. The design team will develop a final option during the design phase. Cost estimates were established for each option, and are presented in the description of options section of this report.
II. EXECUTIVE SUMMARY

COMMON DESIGN ELEMENTS FOR EACH OPTION

COMMON SITE ELEMENTS

• The shared bus loading is designed to accommodate parking for a minimum of 20 buses, and is striped to accommodate additional after hours parking.
• The student drop-off loading will have an exit on Tilden Lane. It is designed to allow a queuing lane and a separate circulation lane to avoid congestion on Tilden Lane.
• 125 staff parking spaces for Tilden Middle School are located north of the student drop-off. 75 staff parking spaces for Rock Terrace School are provided adjacent to the school on the south side of the site. A traffic circle is incorporated to provide fire truck access.
• A service drive connects from Tilden Lane to the west side of the building to the proposed service area.
• Six tennis courts and three basketball courts are provided.
• Play fields are located on the southwest portion of the site. Soccer and play fields are overlaid within the baseball and softball fields.
• An area for an outdoor garden is provided near the Rock Terrace School greenhouse.
• An adaptive outdoor play area is provided.
• Future portable classrooms are planned along with a future classroom addition to accommodate a student capacity of 1,500 students for Tilden Middle School.
• ADA accessible pedestrian access is provided to and from the site.
• An exercise path is provided around the perimeter of the playfields.
• The tree line bordering the site is preserved to the extent possible to provide a buffer to the neighborhood.

COMMON BUILDING ELEMENTS

• The building is designed to collocate two schools allowing them to function separately while sharing the site, kitchen, and mechanical systems.
• Each school will have its own identity and a secure main entrance.
• The two schools are each zoned with academic spaces separated from activity spaces (cafeteria, media center, gymnasiums, and music.)
• The administration suites face Marcliff Road.
• The two library media centers are centrally located on the second floor adjacent to each other.
• Tilden Middle School is three-stories and organized around a courtyard.
II. EXECUTIVE SUMMARY

- Rock Terrace School is two-stories and organized around a courtyard.
- The building will be designed to meet Leadership in Energy and Environmental Design (LEED) “silver” certified or better.
- All infrastructure and systems will meet current MCPS standards including heating, ventilation, and air conditioning (HVAC), fire safety/fire protection, plumbing, lighting, power, data, and communication systems.
- The proposed building steps down the site from north to south following the slope of the site.
- The new facility will comply with all required codes including Americans with Disabilities Act (ADA), American National Standards Institute (ANSI), and Code of Maryland Regulations (COMAR).
II. EXECUTIVE SUMMARY

OPTION 1

Option 1 is a two and three-story building with Tilden Middle School to the north and Rock Terrace School to the south and activity spaces for both schools in the center. The academic areas of each school are organized around light filled courtyards. The main entrances to each school face Marcliff Road and are located on either side of collocated administration and health suites for each school. At each main entrance is a student commons area with ramps, stairs, and elevators to provide transition between the ground floor levels of the building.

A shared bus loading area is accessed from Marcliff Road and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the west side of the building. Rock Terrace School staff parking is conveniently located near the Rock Terrace School and is accessed from Marcliff Road.

Site Legend

- **TILDEN MIDDLE SCHOOL**
- **ROCK TERRACE SCHOOL**
- **FUTURE PORTABLES**
- **S** SERVICES AREA
- **F** FUTURE ADDITION

TOTAL PROJECT COST: $72,975,120
II. EXECUTIVE SUMMARY

OPTION 2

Option 2 is a two and three-story building with Tilden Middle School to the north and Rock Terrace School to the south and activity spaces for both schools in the center. The academic areas of each school are organized around light filled courtyards. The main entrance to Tilden Middle School is located on the northeast corner of the building facing the intersection of Tilden Lane and Marcliff Road. The main entrance to Rock Terrace School faces Marcliff Road. The administration, guidance and health suites for both schools stretch out from north to south on the east side of the ground floor facing the bus loading area. The building’s ground floor steps down at the commons areas following the slope of the site which separates the activity and academic spaces.

A shared bus loading area is accessed from Marcliff Road and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the west side of the building. Rock Terrace School staff parking is conveniently located near the Rock Terrace School and is accessed from Marcliff Road.

Site Legend

- TILDEN MIDDLE SCHOOL
- ROCK TERRACE SCHOOL
- FUTURE PORTABLES
- S SERVICES AREA
- F FUTURE ADDITION

TOTAL PROJECT COST: $74,651,620
II. EXECUTIVE SUMMARY

OPTION 3
Option 3 is a two and three-story building with Tilden Middle School to the north and Rock Terrace School to the south, and activity spaces for both schools in the center. The academic areas of each school are organized around light filled courtyards. The main entrances to each school face Marcliff Road and are located on either side of collocated administration and health suites for each school. At each main entrance is a student commons area with ramps, stairs and elevators to provide transition between the ground floor levels of the building.

A shared bus loading area is accessed from Tilden Lane and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the north side of the building. Rock Terrace School staff parking is conveniently located near the Rock Terrace School and is accessed from Marcliff Road.

Site Legend
- TILDEN MIDDLE SCHOOL
- ROCK TERRACE SCHOOL
- FUTURE PORTABLES
- S SERVICES AREA
- F FUTURE ADDITION

TOTAL PROJECT COST: $73,984,870
II. EXECUTIVE SUMMARY

OPTION 4

Option 4 is a revitalization/expansion of the existing three-story building with Tilden Middle School to the north and Rock Terrace School to the south and activity spaces for both schools in the center. The levels transition with the existing grade. The academic areas of each school are organized around light filled courtyards. The main entrance to Tilden Middle School is located on the east of the building facing Marcliff Road. The main entrance to Rock Terrace School faces Marcliff Road as well. The administration, guidance and health suites for both schools face the bus loading area. The building’s first floor steps down near the activity spaces following the slope of the site which separates Rock Terrace School on the ground and first floor from Tilden Middle School on the first and second.

A shared bus loading area is accessed from Marcliff Road and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the north side of the building. Rock Terrace School staff parking is conveniently located near the Rock Terrace School and is accessed from Marcliff Road.

Site Legend

- Tilden Middle School
- Rock Terrace School
- Future Portables
- Services Area
- Future Addition

TOTAL PROJECT COST: $74,651,620
II. EXECUTIVE SUMMARY

GRAPHIC ANALYSIS

| Existing Building | 116,400 SF |

| Tilden Middle School | 116,400 SF |
| Rock Terrace School | 116,400 SF |

0' 100' 200' 

GROSS SQUARE FT.

| New Construction | 253,600 | 262,500 | 258,300 | 279,300 |
| Net Square Footage | 167,656 | 167,656 | 167,656 | 167,656 |
| Building Efficiency | 66.11% | 63.87% | 64.91% | 60.03% |

ECONOMIC SUMMARY ANALYSIS

The following summarizes the construction costs:

<table>
<thead>
<tr>
<th>Option 1</th>
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<tr>
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<td>Total Cost in FY 2016 Dollars</td>
<td>$91,218,900</td>
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Notes: 1. This cost estimate does not include furniture and equipment.
II. EXECUTIVE SUMMARY

CONCLUSIONS AND RECOMMENDATIONS

The following course of action is recommended to meet the program requirements of the revitalization/expansion and collocation of Tilden Middle School and Rock Terrace School. The recommendations are consistent with MCPS standards, meet program requirements and address the interests and many concerns of the school staff and Feasibility Study participants.

In accordance with the opinions of the Feasibility Study participants and MCPS staff, it is recommended that options 1 through 3 as described in Section V be refined further to develop a preferred option during the schematic design phase of the project.
III. PROJECT SCOPE, OBJECTIVES AND GOALS

SCOPE AND INTENT

The purpose of this feasibility study is to explore options that satisfy the educational specifications to collocate and revitalize/expand Tilden Middle School and Rock Terrace School. The study examines options to collocate two schools on the current Tilden Holding School site. When completed, the Tilden Middle School facility will have a capacity of 1,215 students with a core of 1,500 students, and the Rock Terrace School will be designed to accommodate approximately 100 students. Furthermore, the study provides specific recommendations to Montgomery County Public Schools (MCPS) for implementation. Each instructional area will have adequate learning space, work areas, restrooms, and storage.

The new building will meet or exceed current standards relative to educational programs, instructional philosophy, program space allocations, and current energy, ADA, and life safety codes. This feasibility study explored options to meet the needs of its student enrollment, while addressing staff and community concerns. The study also provides a cost effective, energy efficient, and safe facility to meet the future needs of the school community.

The architecture, engineering, and design team developed multiple site and building concepts that addressed the goals and objectives as described below. The feasibility study participants reviewed the progression of these concepts throughout the entire process. Comments and suggestions were discussed, refined, and incorporated after each meeting. The final concepts are presented as options in this report. All four options are feasible but require further development to arrive at a preferred option.
III. PROJECT SCOPE, OBJECTIVES AND GOALS

METHODOLOGY

The site has been evaluated by a design team of architects, engineers, and consultants to determine the feasibility of collocating Tilden Middle School and Rock Terrace School on the Tilden Holding School site that meets the educational specifications and summary of space requirements dated September 25, 2015 and November 17, 2014 respectively.

The study is based upon the following:
• Consensus workshops with the feasibility study participants and MCPS staff.
  • There were six public work sessions
  • There were 75 different attendees.
  • There was consistent attendance from participating members.
  • There were four different building options and refinements.
  • There were four different site options and refinements.
• Review of the educational specifications and summary of requirements provided by the MCPS staff.
• Visual Analysis of the existing site by the design team.
• Topographic and boundary survey including a preliminary Natural Resources Inventory / Forest Stand Delineation (NRI-FSD).
• Phase 1- Environmental Assessment.
• Preliminary Geotechnical Investigation and Report.
• Transportation Impact Study conducted under the local area transportation review and policy area mobility review guidelines
III. PROJECT SCOPE, OBJECTIVES AND GOALS

GENERAL GOALS
Throughout the process, several recurring themes established a set of goals and objectives, which the revitalization/expansion and collocation project concepts address. These goals and objectives are delineated below.

SITE GOALS AND OBJECTIVES
The new collocated schools’ site shall:
• Limit additional traffic into the neighborhood, on Marcliff Road, Cushman Road, and Tilden Lane.
• Minimize possible congestion in the neighborhood during morning arrival and afternoon dismissal.
• Preserve as many existing trees as possible.
• Create a buffer between the school and adjacent neighbors.
• Create a safe passage for student walkers.
• Separate bus loading, student drop-off, and staff parking areas.
• Provide handicap access from off-site to the main entrances and from the building to the hard surface play areas and fields.
• Provide as many of the site program elements as possible.

BUILDING GOALS AND OBJECTIVES
The new collocated schools’ building shall:
• Present easily identified main entrances.
• Separate the two schools while providing students the opportunity to matriculate between schools when determined to be appropriate.
• Zone the building into activity and academic spaces to allow use of activity spaces after school hours while the academic spaces remain secure.
• Support the grade level organization in Tilden Middle School.
• Design science as a department within each grade level.
• Provide easily supervised corridors, entrances/exits, and open areas.
• Provide natural light throughout the building.
• Collocate the administration suites to encourage collaboration and promote safety.
IV. EXISTING CONDITIONS

VICINITY MAP

6300 Tilden Lane,
Rockville, Maryland 20852
IV. EXISTING CONDITIONS

SITE PLAN

EXISTING CONDITIONS SUMMARY

The original Tilden Middle School is located at 6300 Tilden Lane, Rockville, Maryland and was used as a middle school until it moved to the current location on 11211 Old Georgetown Road in 1991. The Tilden Holding School, as the building is now called, has been used since then as a holding site for other schools operated by MCPS. The existing two-story 116,400 square foot school sits on a 19.75 acre property, comprised of six parcels.

The existing Tilden Holding School is currently being used as a training center and a private school. The existing “L” shaped, 19.75 acre site slopes down from the northeast corner at the intersection of Tilden and Marcliff to the southwest approximately forty feet. The existing two-story 116,400 square foot school occupies the east half of the site. The student drop-off is located north of the main entrance with the entrance facing Tilden Lane. The east side of the site adjacent to the building is the bus loading, staff and visitor parking with two entrances along Marcliff Road. Directly west of the building are four tennis courts and four basketball courts. The site slopes steeply down to the south and west from the courts to the playfields. The baseball and softball fields are overlaid with three soccer fields with another field directly south of the courts. (Please refer to existing conditions survey, Appendix C.) The existing school will be demolished to make way for the new collocated facility.
## IV. EXISTING CONDITIONS

### EXISTING FLOOR PLANS

| ADMIN | ADMINISTRATION |
| AUX GYM | AUXILIARY GYMNASIUM |
| ELEC | ELECTRICAL |
| ENG | ENGLISH |
| EXT EQUIP | EXTERIOR EQUIPMENT |
| GYM | GYMNASIUM |
| LAB | SCIENCE LAB |
| LANG | LANGUAGES |
| LMC | LIBRARY MEDIA CENTER |
| SCI | SCIENCE |
| SOC | SOCIAL STUDIES |
| SPEC ED | SPECIAL EDUCATION |
| STO | STORAGE |
| V ED | VOCATIONAL EDUCATION |

![Ground Floor Diagram](image1)

![First Floor Diagram](image2)
IV. EXISTING CONDITIONS

EXISTING FLOOR PLANS
V. DESCRIPTION OF OPTIONS

GENERAL

Four final options were developed in response to the MCPS educational specifications for Tilden Middle School and Rock Terrace School. Each option addresses the physical and instructional organization of the two schools in unique ways.

• Option 1: Explores a two and three-story building. Each school’s academic spaces are organized around a courtyard with activity spaces located in the center. The administration and health suites are collocated and flanked by the main entrances to each school.

• Option 2: Explores a two and three-story building. Each school’s academic spaces are organized around a courtyard with academic spaces located in the center. The administration, guidance, and health suites are stretched along the front of the building with the Tilden Middle School main entrance located at the northeast corner facing the intersection of Tilden Lane and Marcliff Road and the Rock Terrace School main entrance facing Marcliff Road.

• Option 3: Explores a two and three-story building. Each school’s academic spaces are organized around a courtyard with activity spaces located in the center. The administration and health suites are collocated and flanked by the main entrances to each school.

• Option 4: Explores the revitalization/expansion of the existing building. Each school’s academic spaces are organized around a courtyard with activity spaces located in the center. The administration and health suites are located by the main entrances to each school.

COMMON DESIGN ELEMENTS FOR EACH OPTION

COMMON SITE ELEMENTS

• The shared bus loading is designed to accommodate parking for a minimum of 20 buses, and is striped to accommodate additional after hours parking.
• The student drop-off loading will have an exit on Tilden Lane. It is designed to allow a queuing lane and a separate circulation lane to avoid congestion on Tilden Lane.
• Staff parking spaces for Tilden Middle School are located north of the student drop-off. 75 staff parking spaces for
V. DESCRIPTION OF OPTIONS

Rock Terrace School are provided adjacent to the school on the south side of the site. A traffic circle is incorporated to provide fire truck access.
• Except for option 4, a service drive connects from Tilden Lane to the west side of the building to the service area.
• Six tennis courts and three basketball courts are provided.
• Play fields are located on the southwest portion of the site. Soccer and play fields are overlaid within the baseball and softball fields.
• An area for an outdoor garden is provided near the Rock Terrace School greenhouse.
• An adaptive outdoor play area is provided.
• Future portable classrooms are planned along with a future classroom addition to accommodate a student capacity of 1,500 students for Tilden Middle School.
• ADA accessible pedestrian access is provided to and from the site.
• An exercise path is provided around the perimeter of the playfields.
• The tree line bordering the site is preserved to provide a buffer to the neighborhood.

COMMON BUILDING ELEMENTS

• The building is designed to collocate two schools allowing them to function separately while sharing the site, kitchen, and mechanical systems.
• Each school will have its own identity and a secure main entrance.
• The two schools are each zoned with academic spaces separated from activity spaces (cafeteria, library, media center, gymnasiums, and music.)
• The administration suites face Marcliff Road.
• The Tilden Middle School is three-stories and organized around a courtyard.
• The Rock Terrace School is two-stories and organized around a courtyard.
• The building will be designed to meet Leadership in Energy and Environmental Design (LEED) “silver” certified or better.
• All infrastructure and systems will meet current MCPS standards including heating, ventilation, and air condition (HVAC), fire safety/fire protection, plumbing, lighting, power, data, and communication systems.
• The proposed building steps down the site from north to south following the slope of the site.
• The new facility will comply with all required codes including Americans with Disabilities Act (ADA), American National Standards Institute (ANSI), and Code of Maryland Regulations (COMAR).
V. DESCRIPTION OF OPTIONS

DRAINAGE AND STORMWATER MANAGEMENT

The development for this site pre-dates the current stormwater regulations; therefore, most of the stormwater runoff discharges directly into the storm outfall on Tilden Lane and Cushman Road. It is anticipated that any development for the site will require a safe conveyance review for the downstream storm drain system. It is possible that quantitative stormwater controls may be required. A future analysis of the downstream should be evaluated during design.

Any future site development will meet the latest stormwater management regulations to the maximum extent practicable as defined in the Maryland Department of Environment (MDE) Stormwater Design Manual and will include the Environmental Site Design (ESD) practices to treat all areas inside the limits of disturbance. If all ESD efforts are exhausted and the site has still not been able to reach a hydrologic state of “woods in good condition,” then structural practices may be permitted as determined by Montgomery County.

Potential ESD stormwater management practices for the site include both micro-scale practices and alternative surfaces. Micro-scale facilities could include the utilization of bio-swales and micro-bioretention facilities where open space is available, near parking lot islands and around the athletic fields. Alternative surfaces would include vegetative roofing for building additions. Permeable pavements are not recommended as the sites soil hydrologic is poor.

MECHANICAL SYSTEMS

HEATING, VENTILATION, AND AIR CONDITIONING

To accommodate the four proposed architectural replacement school concepts being proposed, comprehensive demolition of the existing mechanical system components throughout the existing school is required. As part of this feasibility study, three primary mechanical system options were evaluated. These three system options are:

- Hybrid Ground-Source Geothermal Heat Pump Unit System
- Water-Source Heat Pump Unit System with Boiler and Cooling Tower
- Vertical Four-Pipe Fan-Coil Unit System.

These are described in further detail in Appendix C Mechanical System Options.
V. DESCRIPTION OF OPTIONS

RECOMMENDED HVAC SYSTEM
A 20-year life-cycle cost analysis will need to be performed during the design phase to confirm the final mechanical system selection for the replacement school. Based on the three mechanical system options described in Appendix C, along with the overall area and proposed floor plan options for the approximately 267,000 square foot collocated schools, a vertical four-pipe fan coil unit system is anticipated to be the recommended mechanical system.

The vertical four-pipe fan coil unit system delivers a high level of energy efficiency, due to the high-efficiency central plant equipment (both condensing boilers and water-cooled chillers) and decoupled ventilation systems with energy recovery. In addition, the mechanical equipment is located outside of the classroom area, helping to safeguard this equipment against student contact while facilitating ease of maintenance. Finally, this option provides the ability for independent heating or cooling to each space throughout the year. In general, this mechanical system provides an extremely sustainable and energy efficient solution, while delivering a high level of flexibility at the lowest cost for both current and future needs.

ENERGY MANAGEMENT STATEMENT
A primary design factor will be conservation of energy. The importance and consideration placed on energy conservation will be reflected in the configuration and orientation of the building, the selection of materials, and the mechanical and electrical systems utilized. The revitalized/expanded building will be compliant with LEED for Schools and the HVAC and lighting design exceeds ASHRAE 90.1 2004 energy requirements and the International Mechanical Energy Conservation Code.
V. DESCRIPTION OF OPTIONS

PLUMBING - DOMESTIC WATER

There appears to be several WSSC utilities within the Tilden Lane right-of-way: a 66-inch water main, 48-inch water main, a lesser 6-inch water line, and a 6-inch sanitary sewer. A 36-inch water main, an 8-inch water line and a 6-inch sanitary sewer are located within the Cushman Road right-of-way. An 8-inch water line and 8-inch sewer are located within the Marcliff Road right-of-way.

The existing building is served by the 8-inch mainline that runs along the Marcliff Road right-of-way. The size of the service connection is unknown. It is anticipated that site development pre-dates the WSSC requirement of an external water meter at the property line, therefore WSSC will require a new external water meter be installed.

PLUMBING FIXTURES

A new combination fire/water service and natural gas service are recommended for the proposed replacement collocated schools, with these new services entering the building near the main mechanical room. Domestic and fire services should be separated within the mechanical room, with a dedicated backflow preventer provided for each service.

Gas-fired condensing type water heaters should be provided to create domestic hot water for the facility. This system should be complete with circulation pump, expansion tank, and thermostatic mixing valve. 140 degrees fahrenheit hot water will be supplied to the kitchen area, with 110 degrees F supplied to plumbing fixtures throughout the remaining building. A new natural gas service from Washington Gas will be provided. This gas service will be positioned outdoors and located adjacent to the main mechanical room. A 2 psi gas distribution pressure throughout is anticipated.

Plumbing fixtures will be designed to meet the Americans with Disabilities Act (ADA) and will utilize water conservation features. Floor-mounted water closets will utilize dual-flush type valves, capable of providing either 1.6 or 1.0 gallons per flush. Urinals will be wall-hung and provided with pint flush valves. Wall-hung cast-iron lavatories will utilize self-closing faucets that supply 0.5 gallons per minute. The water consumption figures noted are equal to or less than what is required by both current plumbing code and LEED water conservation requirements.
V. DESCRIPTION OF OPTIONS

FIRE
Complete sprinkler coverage will be provided throughout the collocated school building. The building will be separated into several fire zones that match the fire alarm pull zones for the building. It is anticipated that a fire pump is not required, as the existing Tilden Holding Center is currently provided with sprinkler coverage without the need for a fire pump. This will be evaluated and confirmed during the design phase. All fire protection work will conform to the standards of the National Fire Protection Association (NFPA).

SANITARY AND STORM SEWERs
New sanitary sewer and storm drainage systems will serve the building.
V. DESCRIPTION OF OPTIONS

ELECTRICAL SYSTEMS

ELECTRIC SERVICE
The existing overhead electrical line on Marcliff Road (east of the school property), currently serving the existing school, is a 3-phase 13.8 kV overhead line. This overhead electrical line is sufficient to serve the new collocated school with a new 4000-ampere, 277/480-volt electrical service. The same utility pole on Marcliff Road that is currently serving the existing school’s Pepco transformer will be reused to serve the new Pepco transformer for the proposed collocated schools.

EMERGENCY SYSTEM
The Maryland Emergency Management Agency (MEMA) may designate the proposed collocated schools as an emergency public shelter. Electrical equipment for MEMA will either be located in the new main electrical room, or in a dedicated electrical room.

MEMA electrical equipment will be used to serve electrical loads in the main gymnasium, kitchen, student dining, and health suite, as well as mechanical loads required to support these spaces. These spaces will be designated by MEMA to be used as an emergency public shelter with the ability to be connected to a temporary portable generator, provided by the county.

Generator Power
A new onsite outdoor 150-kW natural-gas generator with weatherproof sound-attenuated enclosure will be located adjacent to the new Pepco utility transformer in a new service yard.

LIGHTING SYSTEM
MCPS revitalization/expansion projects utilize LED interior and exterior lighting throughout. MCPS standard classroom lighting will be provided in the classrooms. This will consist of pendant mounted LED luminaires with electronic LED drivers. Lighting controls in classrooms will include lighting room controllers to control luminaires, occupancy sensors, and multiple levels of lighting. Emergency lighting will be automatically switched ON during a power outage.

Lighting levels will be designed in accordance with the recommendations of the Illuminating Engineering Society of North America (IESNA), with the exception of an average of 40 foot-candles in classrooms. Lighting controls will meet the requirements of the 2015 International Energy Conservation Code (IECC). The lighting power density shall not exceed 0.87 watts per square foot per Table C405.4.2(1) of the 2015 IECC.
V. DESCRIPTION OF OPTIONS

DATA AND VOICE SYSTEMS
New telecommunications infrastructure will be provided throughout the facility. This will include outlet boxes, conduits and raceways, and conduit sleeves through walls and floors for the installation of the data and voice cabling. The number of telecom outlets in each room will comply with MCPS Design Standards and Maryland Public School Standards for Telecommunications Distribution Systems.

INSTRUCTIONAL/CLASSROOM TECHNOLOGY
Classrooms will be equipped with dedicated computer receptacles connected to “clean power” computer panelboards. Teacher desk receptacles will be connected to a generator standby panelboards. An additional computer receptacle will be located at the front of each classroom off-center of the teaching wall for Promethean smart boards.

PUBLIC ADDRESS SYSTEM
The new intercommunications/public address system head-end console will be located in the main telecom room. New intercom/public address system devices will be provided through ceiling-mounted speakers and call switches in the classrooms, music rooms, instructional spaces, offices, conference rooms, support spaces, library media center, student dining, gymnasium, auxiliary gym, and fitness/weight room. Ceiling-mounted speakers will also be provided in the lobbies, corridors, large toilet rooms, locker rooms, storage rooms, and stairwells. Exterior building mounted speakers will be provided where required.

SECURITY SYSTEMS
Intrusion detection devices will include keypads, motion detectors/sensors, glass break detectors/sensors, and door contacts on exterior doors. Door access control card readers will be provided where required by MCPS. Video surveillance equipment will include dome cameras in the corridors and building exterior. A new entry phone system, card reader, and video surveillance camera will be provided at the main entrances to each school.

FIRE ALARM SYSTEM
The new fire alarm system will have a fire alarm control panel (FACP) with voice evacuation located in the building service office. A fire alarm annunciator graphic panel and paging microphone will be installed at the main entrance to Tilden Middle School. Initiation and notification devices will be located to meet code requirements.
V. DESCRIPTION OF OPTIONS

OPTION 1 - DESCRIPTION
Option 1 is a two and three-story building with Tilden Middle School to the north, Rock Terrace School to the south, and activity spaces for both schools in the center. The academic areas of each school are organized around light filled courtyards. The main entrances to each school face Marcliff Road and are located on either side of collocated administration and health suites for each school. At each main entrance is a student commons area with ramps, stairs and elevators to provide transition between the ground floor levels of the building.

A shared bus loading area is accessed from Marcliff Road and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the west side of the building. Rock Terrace school staff parking is conveniently located near the Rock Terrace school and is accessed from Marcliff Road.

Site Legend
- TILDEN MIDDLE SCHOOL
- ROCK TERRACE SCHOOL
- FUTURE PORTABLES
- S SERVICES AREA
- F FUTURE ADDITION

TOTAL PROJECT COST: $ 72,975,120
V. DESCRIPTION OF OPTIONS

OPTION 1 - FIRST FLOOR PLAN

AP  ADAPTIVE PROGRAM
CLRM  CLASSROOM
CUL  CULINARY ARTS
D  DINING
GH  GREENHOUSE
GUI  GUIDANCE
H  HEALTH CLRM
KIT  KITCHEN
LMC  LIBRARY MEDIA CENTER
LK  LOCKER ROOM
RES  RESTAURANT
S  STAIR
SCI  SCIENCE
BLDG  BUILDING
SERV  SERVICE

MAJOR BUILDING ENTRANCE
CLASSROOMS
CLASSROOM SUPPORT
SCIENCE AND TECHNOLOGY
SCIENCE AND TECHNOLOGY SUPPORT
ARTS AND MUSIC
ARTS AND MUSIC SUPPORT
ACTIVITIES
ACTIVITIES SUPPORT
ADMINISTRATION
SERVICES
CIRCULATION

0'  50'  100'

TILDEN MIDDLE SCHOOL AND ROCK TERRACE SCHOOL FEASIBILITY STUDY
SAMAH ASSOCIATES, P.C.
V. DESCRIPTION OF OPTIONS

OPTION 1 - SECOND AND THIRD FLOOR PLANS

- AP: Adaptive Program
- CLRMS: Classroom
- CUL: Culinary Arts
- D: Dining
- GH: Greenhouse
- GUI: Guidance
- H: Health
- KIT: Kitchen
- LMC: Library Media Center
- LK: Locker Room
- RES: Restaurant
- S: Stair
- SCI: Science
- BLDG: Building
- SERV: Service

Legend:
- Classrooms
- Classroom Support
- Science and Technology
- Science and Technology Support
- Arts and Music
- Arts and Music Support
- Activities
- Activities Support
- Administration
- Services
- Circulation

TILDEN MIDDLE SCHOOL AND ROCK TERRACE SCHOOL FEASIBILITY STUDY
V. DESCRIPTION OF OPTIONS

OPTION 1 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

+ Each school (Tilden / Rock Terrace) has a separate, easily identifiable entrance.
+ Care was taken to separate cars from buses and all vehicles from pedestrians on the school site.
+ Shared bus loading area for both schools.
+ Tilden Middle School grade levels organized by floor, one grade per floor. (Grade 6, Grade 7, Grade 8.)
+ Activity spaces are separated from academic spaces at both schools.
+ Separate student drop-off entrance and exit for Tilden Middle School on Tilden Lane.
+ Accomodates future addition for Tilden Middle School.
+ Direct access from Tilden Middle School dining to outdoor play area.
+ Academic areas organized around courtyards create a loop circulation pattern and natural daylight to all spaces.
+ Collocated administration suites enhance collaboration and safety.
+ Easy access to outdoor play areas for both schools.
+ Collocated library media centers promotes shared use for students from both schools.
+ Location of second floor gymnasium promotes shared use for students from both schools.
+ Preserves tree buffer around site.

DISADVANTAGES

- Locker rooms for both schools not convenient to outdoor access.
- Gymnasiums are located close to administration suites, which may cause potential for noise migration.
- Tilden Middle School main entrance does not face Tilden Lane.
- Tilden Middle School students must cross the service drive to access the outdoor play areas.
- Gymnasiums are not convenient to outdoor play areas.
V. DESCRIPTION OF OPTIONS

OPTION 2 - DESCRIPTION

Option 2 is a two and three-story building with Tilden Middle School to the north, Rock Terrace School to the south, and activity spaces for both schools in the center. The academic areas are organized around light filled courtyards. The main entrance to Tilden Middle School is on the northeast corner of the building facing the intersection of Tilden Lane and Marcliff Road. The main entrance to Rock Terrace School faces Marcliff Road. The administration, guidance, and health suites for both schools stretch out from north to south on the east side facing the bus loading area. The building’s ground floor steps down following the slope of the site at the commons areas which separate the activity from the academic spaces.

A shared bus loading area is accessed from Marcliff Road and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is on the north accessed from Tilden Lane with the student drop off lane on the north side of the building. Rock Terrace School staff parking is conveniently near Rock Terrace School and is accessed from Marcliff Road.

Site Legend

TOTAL PROJECT COST: $ 74,651,620
V. DESCRIPTION OF OPTIONS

OPTION 2 - FIRST FLOOR PLAN

AP ADAPTIVE PROGRAM
CLRM CLASSROOM
CUL CULINARY ARTS
D DINING
GH GREENHOUSE
GUI GUIDANCE
H HEALTH CLRM
KIT KITCHEN
LMC LIBRARY MEDIA CENTER
LK LOCKER ROOM
RES RESTAURANT
S STAIR
SCI SCIENCE
BLDG BUILDING
SERV SERVICE

MAJOR BUILDING ENTRANCE

CLASSROOMS
CLASSROOM SUPPORT
SCIENCE AND TECHNOLOGY
SCIENCE AND TECHNOLOGY SUPPORT
ARTS AND MUSIC
ARTS AND MUSIC SUPPORT
ACTIVITIES
ACTIVITIES SUPPORT
ADMINISTRATION
SERVICES
CIRCULATION

N 0’ 50’ 100’
V. DESCRIPTION OF OPTIONS

OPTION 2 - SECOND AND THIRD FLOOR PLANS

AP  ADAPTIVE PROGRAM
CLRM  CLASSROOM
CUL  CULINARY ARTS
D  DINING
GH  GREENHOUSE
GUI  GUIDANCE
H  HEALTH CLRM
KIT  KITCHEN
LMC  LIBRARY MEDIA CENTER
LK  LOCKER ROOM
RES  RESTAURANT
S  STAIR
SCI  SCIENCE
BLDG  BUILDING
SERV  SERVICE

CLASSROOMS
CLASSROOM SUPPORT
SCIENCE AND TECHNOLOGY
SCIENCE AND TECHNOLOGY SUPPORT
ARTS AND MUSIC
ARTS AND MUSIC SUPPORT
ACTIVITIES
ACTIVITIES SUPPORT
ADMINISTRATION
SERVICES
CIRCULATION
V. DESCRIPTION OF OPTIONS

OPTION 2 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

+ Each school (Tilden / Rock Terrace) has a separate, easily identifiable entrance.
+ Care was taken to separate cars from buses and all vehicles from pedestrians on the school site.
+ Shared bus loading area for both schools.
+ Activity spaces are separated from academic spaces at both schools.
+ Separate student drop-off entrance and exit for Tilden Middle School on Tilden Lane.
+ Accommodates future addition for Tilden Middle School.
+ Direct access from Tilden Middle School dining to outdoor play area.
+ Academic areas organized around courtyards create a loop circulation pattern that provide natural daylight to all spaces.
+ Easy access to outdoor play areas for both schools.
+ Collocated library media centers promotes shared use for students from both schools.
+ Location of second floor gymnasium promotes shared use for students from both schools.
+ Preserves tree buffer around site.
+ Main entrance to Tilden Middle School faces intersection of Tilden Lane and Marcliff Road.
+ Bus loading configuration expands buffer between school and neighbors.
+ Green space outside Tilden Middle School dining can be used for outdoor dining.

DISADVANTAGES

- Locker rooms not convenient to outdoor access.
- Tilden Middle School students must cross the service drive to access the outdoor play areas.
- Gymnasiums are not convenient to outdoor play areas.
- Double stacking of bus loading not preferred by MCPS-Department of Transportation.
- Tilden Middle School locker rooms across corridor from Rock Terrace School administration, guidance and health suites may create a noise and separation issue for Rock Terrace School.
- Location of administration suite and main entrance inhibits grade level organization for Tilden Middle School.
- Some classroom support spaces in Tilden Middle School do not have access to natural light.
V. DESCRIPTION OF OPTIONS

OPTION 3 - DESCRIPTION

Option 3 is a two and three-story building with Tilden Middle School to the north, Rock Terrace School to the south, and activity spaces for both schools in the center. The academic areas of each school are organized around light filled courtyards. The main entrances to each school face Marcliff Road and are located on either side of collocated administration and health suites for each school. At each main entrance is a student commons area with ramps, stairs and elevators to provide transition between the ground floor levels of the building.

A shared bus loading area is accessed from Tilden Lane and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the north side of the building. Rock Terrace School staff parking is conveniently near Rock Terrace School and is accessed from Marcliff Road.

Site Legend

- TILDEN MIDDLE SCHOOL
- ROCK TERRACE SCHOOL
- FUTURE PORTABLES
- SERVICES AREA
- FUTURE ADDITION

TOTAL PROJECT COST: $ 73,984,870
V. DESCRIPTION OF OPTIONS

OPTION 3 - FIRST FLOOR PLAN
V. DESCRIPTION OF OPTIONS

OPTION 3 - SECOND AND THIRD FLOOR PLANS

AP  ADAPTIVE PROGRAM
CLRM  CLASSROOM
CUL  CULINARY ARTS
D  DINING
GH  GREENHOUSE
GUI  GUIDANCE
H  HEALTH CLRM
KIT  KITCHEN
LMC  LIBRARY MEDIA CENTER
LK  LOCKER ROOM
RES  RESTAURANT
S  STAIR
SCI  SCIENCE
BLDG  BUILDING
SERV  SERVICE

CLASSROOMS
CLASSROOM SUPPORT
SCIENCE AND TECHNOLOGY
SCIENCE AND TECHNOLOGY SUPPORT
ARTS AND MUSIC
ARTS AND MUSIC SUPPORT
ACTIVITIES
ACTIVITIES SUPPORT
ADMINISTRATION
SERVICES
CIRCULATION

0’  50’  100’
V. DESCRIPTION OF OPTIONS

OPTION 3 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

+ Each school (Tilden / Rock Terrace) has a separate, easily identifiable entrance.
+ Care was taken to separate cars from buses and all vehicles from pedestrians on the school site.
+ Shared bus loading area for both schools.
+ Tilden Middle School grade levels organized by floor, one grade per floor. (Grade 6, Grade 7, Grade 8.)
+ Activity spaces are separated from academic spaces at both schools.
+ Accomodates future addition for Tilden Middle School.
+ Direct access from Tilden Middle School dining to outdoor play area.
+ Tilden Middle School locker rooms are easily accessible from outdoor play area.
+ Tilden Middle School and Rock Terrace School gymnasiums are easily accessible from outdoor play areas.
+ Academic areas are organized around courtyards create a loop circulation pattern and provide natural daylight to all spaces.
+ Collocated administration suites enhance collaboration and safety.
+ Easy access to outdoor play areas for both schools.
+ Collocated library media centers promotes shared use for students from both schools.
+ Location of second floor gymnasium promotes shared use for students from both schools.
+ Preserves tree buffer around site.

DISADVANTAGES

- Tilden Middle School students must cross the service drive to access the outdoor play areas.
- Some Tilden Middle School support spaces don’t have access to natural daylight.
- Circulation around Tilden Middle School locker rooms is inefficient.
- Tilden Middle School classrooms not organized in clusters as preferred.
- Rock Terrace School activities and classrooms are along a single corridor and not integrated into a circulation loop.
V. DESCRIPTION OF OPTIONS

OPTION 4 - DESCRIPTION

Option 4 is a revitalization/expansion of the existing two story building with additions for Tilden Middle School to the north, Rock Terrace School to the south, and activity spaces for both schools in reconfigured existing facilities. The academic areas of each school are organized around light filled courtyards. The main entrances to each school face Marcliff Road and are located on either side of the existing dining and service areas. Due to the existing topography Rock Terrace School begins at a level lower than Tilden Middle School.

A shared bus loading area is accessed from Marcliff Road and directly accessible to the two main entrances of each school. Staff parking for Tilden Middle School is located on the north side of the site accessed from Tilden Lane with the student drop off lane on the north side of the building. Rock Terrace School staff parking is conveniently located near the Rock Terrace School and is accessed from Marcliff Road.

Site Legend

- TILDEN MIDDLE SCHOOL
- ROCK TERRACE SCHOOL
- FUTURE PORTABLES
- SERVICES AREA
- FUTURE ADDITION

TOTAL PROJECT COST: $ 72,975,120
V. DESCRIPTION OF OPTIONS

OPTION 4 - GROUND FLOOR PLAN

AP  ADAPTIVE PROGRAM
CLR  CLASSROOM
CUL  CULINARY ARTS
D   DINING
GH  GREENHOUSE
GUI GUIDANCE
H   HEALTH CLRM
KIT KITCHEN
LMC LIBRARY MEDIA CENTER
LK  LOCKER ROOM
RES RESTAURANT
S   STAIR
SCI SCIENCE
BLDG BUILDING
SERV SERVICE

MAJOR BUILDING ENTRANCE

CLASSROOMS
CLASSROOM SUPPORT
SCIENCE AND TECHNOLOGY
SCIENCE AND TECHNOLOGY SUPPORT
ARTS AND MUSIC
ARTS AND MUSIC SUPPORT
ACTIVITIES
ACTIVITIES SUPPORT
ADMINISTRATION
SERVICES
CIRCULATION
EXISTING RENOVATED SCHOOL

TILDEN MIDDLE SCHOOL AND ROCK TERRACE SCHOOL FEASIBILITY STUDY
V. DESCRIPTION OF OPTIONS

OPTION 4 - FIRST AND SECOND FLOOR PLANS

AP  ADAPTIVE PROGRAM
CLRMS  CLASSROOM
CUL  CULINARY ARTS
D  DINING
GH  GREENHOUSE
GUI  GUIDANCE
K  KITCHEN
LMC  LIBRARY MEDIA CENTER
LK  LOCKER ROOM
RES  RESTAURANT
S  STAIR
SCI  SCIENCE
BLDG  BUILDING
SERV  SERVICE

MAJOR BUILDING ENTRANCE

CLASSROOMS
CLASSROOM SUPPORT
SCIENCE AND TECHNOLOGY
SCIENCE AND TECHNOLOGY SUPPORT
ARTS AND MUSIC
ARTS AND MUSIC SUPPORT
ACTIVITIES
ACTIVITIES SUPPORT
ADMINISTRATION
SERVICES
CIRCULATION
EXISTING RENOVATED SCHOOL

TILDEN MIDDLE SCHOOL AND ROCK TERRACE SCHOOL FEASIBILITY STUDY
SAMHA ASSOCIATES, P.C.
V. DESCRIPTION OF OPTIONS

OPTION 4 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

+ Each school (Tilden / Rock Terrace) has a separate, easily identifiable entrance.
+ Care was taken to separate cars from buses and all vehicles from pedestrians on the school site.
+ Shared bus loading area for both schools.
+ Separate student drop-off entrance and exit for Tilden Middle School on Tilden Lane.
+ Academic areas organized around courtyards create a loop circulation pattern and provide natural daylight to classrooms.
+ Gymnasiums have easy access to outdoor play areas.
+ Preserves tree buffer around site.
+ Preserves existing building.

DISADVANTAGES

- Main entrances are near service area.
- Tilden Middle School administrative spaces and library media center don’t have access to natural daylight.
- Tilden Middle School has many existing windowless spaces.
- Tilden Middle School locker rooms not convenient to outdoor access.
- Gymnasiums are located close to administration suites and Rock Terrace School library media center, which may create potential for noise migration.
- Separation of Tilden Middle School and Rock Terrace School isn’t easily accommodated, which is necessary to accommodate the needs of the Rock Terrace School special education population. Tilden Middle School’s activity spaces are in close proximity to Rock Terrace School; may be a separation issue.
- Reconfiguration of existing dining and kitchen areas is extensive and interior level changes pose challenges.
- Activity spaces not well integrated with Tilden Middle School due to location of existing facilities.
- Rock Terrace School activities and classrooms along a single corridor and not integrated into a circulation loop.
- Some spaces are undersized per the educational specifications, however footprint of building is larger than other options. Larger building limits the number of parking spaces that can be provided on site.
- Rock Terrace School student drop-off isn’t located near entrance.
- Existing roof structure will not accommodate a vegetative roof.
- Limited floor to floor height. Tilden music suite has low ceiling height.
- There are multiple level changes within existing school and some spaces will have columns within the space.
- Existing stairs are narrow.
## VI. PROPOSED PROJECT IMPLEMENTATION SCHEDULE

<table>
<thead>
<tr>
<th>OVERALL PROJECT SCHEDULE</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
<th>YEAR 5</th>
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VII. APPENDICES

APPENDIX A: SPACE ALLOCATION SUMMARY
APPENDIX B: EDUCATIONAL SPECIFICATIONS
APPENDIX C: EXISTING CONDITIONS SURVEY
APPENDIX D: EXISTING PHOTOS
VII. APPENDIX A: SPACE ALLOCATION SUMMARY

TILDEN MIDDLE SCHOOL SPACE SUMMARY

When this project is complete, the following spaces are to be provided:
The capacity will be 1215 with a core of 1500

<table>
<thead>
<tr>
<th>PROGRAM SPACES REQUIRED (Tilden Middle School)</th>
<th>#</th>
<th>NET SQ FT</th>
<th>TOTAL NET SQ FT.</th>
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<tr>
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<td>INSTRUCTIONAL SUPPORT AREAS</td>
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<td>Team Resource Center/Workroom</td>
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<td>Interdisciplinary Textbook Storage</td>
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<td>Departmental Textbook Storage</td>
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<td>Foreign Language Textbook Storage</td>
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<td>SPECIAL AND ALTERNATIVE EDUCATION</td>
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<td>Autism Classrooms</td>
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<tr>
<td>Learning For Independence Classrooms</td>
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<tr>
<td>Grooming Rooms</td>
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<td>Speech &amp; Language Therapy Support Room</td>
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<tr>
<td>Occupational Therapy/Physical Therapy</td>
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## VII. APPENDIX A: SPACE ALLOCATION SUMMARY

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<th>PROGRAM SPACES REQUIRED (Tilden Middle School)</th>
<th>#</th>
<th>NET SQ FT</th>
<th>TOTAL NET SQ FT.</th>
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<tr>
<td><strong>MUSIC SUITE</strong></td>
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<tr>
<td>Instrumental Music Room</td>
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<td>Practice Rooms</td>
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<td><strong>PHYSICAL EDUCATION</strong></td>
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<td>Gymnasium (Equals 2 teaching stations)</td>
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<tr>
<td>Locker Rooms</td>
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<td>Storage Rooms</td>
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<tr>
<td>Toilet Rooms</td>
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<td>Shower/Drying Rooms</td>
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<td>ICB Storage</td>
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### VII. APPENDIX A: SPACE ALLOCATION SUMMARY

<table>
<thead>
<tr>
<th>PROGRAM SPACES REQUIRED <em>(Tilden Middle School)</em></th>
<th>#</th>
<th>NET SQ FT</th>
<th>TOTAL NET SQ FT.</th>
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### PROGRAM SPACES REQUIRED  
**Tilden Middle School**

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<th>NET SQ FT</th>
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<td>Treatment/Medication Area</td>
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<tr>
<td>Office/Health Assessment Room</td>
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<td>Health Assessment/Isolation Room</td>
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<tr>
<td>Rest Area</td>
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<tr>
<td>Toilet Room</td>
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<tr>
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| **Total Teaching Stations and Net. Sq. Ft.** | 58 | 118,036   |

---

SAMAHA ASSOCIATES, P.C.

**TILDEN MIDDLE SCHOOL AND ROCK TERRACE SCHOOL FEASIBILITY STUDY**

A4
VII. APPENDIX A: SPACE ALLOCATION SUMMARY

ROCK TERRACE SCHOOL SPACE SUMMARY

When this project is complete, the following spaces are to be provided:

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### VII. APPENDIX A: SPACE ALLOCATION SUMMARY

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### VII. APPENDIX A: SPACE ALLOCATION SUMMARY

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VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Tilden Middle School/ 
Rock Terrace School 
Revitalization/Expansion

Educational Specifications 
Feasibility Study 
December 18, 2015

Montgomery County Public Schools 
Rockville, Maryland 20850
### VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

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VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

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VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Introduction

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

☐ The program capacity for Tilden Middle School will be 1215 with a master-planned (core) capacity for 1500 students. The school needs a 14-classroom master-planned addition to bring the program school up to its master-planned capacity. The architect should show the location for the future classroom addition.

☐ The program capacity for Rock Terrace School will be 120 students.

☐ 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 feasibility study, 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. The middle school philosophy of teams of teachers and students should foster an atmosphere of cohesiveness by grade level. The design of the building should make it possible for sixth, seventh, and eighth graders, to be separated from each other for their academic classes. Flexibility of design should be provided to accommodate changing educational programs.

☐ For all new schools and modernizations, the project will be designed for LEED Silver certification by the United States Green Building Council (USGBC) under the LEED for Schools guidelines. If this project is a classroom addition, the certification requirement applies only if the addition doubles the existing building footprint. If this project is a building renovation, the certification requirement applies only if the renovation alters more than fifty percent of the existing building gross floor area.
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General Planning Considerations

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

☐ 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 www.ada.gov/2010ADAstandards_index.htm)

☐ In addition to the ADAAG, 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)

☐ 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 are to be used. Lighting must meet current guidelines and provide adequate levels.

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

☐ 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

☐ The first impression of a building is important. The main entrance to the school should have a clear and inviting identity, and the entrance area should be designed and landscaped to emphasize its importance. A covered walkway from the bus loading area to the front door is desirable. The design of the entry foyer needs to convey a feeling of warmth and welcome.

☐ A location for an LCD screen and appropriate electrical and data outlets should be incorporated into the wall design of the administrative office or main entrance of the school.

☐ The inclusion of lighted showcases to display student work should be provided in the corridors of the main entrance, art, multi-purpose laboratories, 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.

☐ Every teaching station, support space, and core area must be wired for computer, CCTV, and telephone, along with adequate electrical supply in compliance with Maryland State design guidelines for Technology in Schools and the MCPS Office of
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

the Chief Technology Office (OCTO) 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.

☐ The cafeteria, gymnasiums, and instructional media center should be easily accessible for community use and secure from the rest of the building after school hours.

☐ An MCPS designed alarm system will provide security for this facility. The architect will provide for this system in consultation with the DOC staff. 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.

☐ 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.

☐ Zoning the plant for heating and air-conditioning should be related to afterhours use of various areas such as offices, gymnasium, multipurpose room, and the instructional media center. Appropriate location of parking, corridor barriers, and toilet rooms is necessary for after-hours use. Some classrooms nearby the multipurpose room should be zoned for after hour use as well.

☐ For security purposes, all doors into classrooms, conference rooms, offices etc. must have a sidelight window with shades. If a sidelight is not possible, then the door requires a vision panel.

☐ The architect should refer to MSDE’s 2006 Classroom Acoustic Guidelines to address the acoustical qualities for classrooms. In addition, the architect should refer to American National Standard, Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools (ANSI S12.60-2002) for additional information.

☐ 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.

☐ Bathrooms should be located throughout the building. Bathrooms should be central to the classrooms, with some provided for each grade level area. Student bathrooms also must be located near the cafeteria and main gym.

☐ Adult bathrooms must be provided on all levels convenient to instructional areas and must conform to the latest code requirements.

☐ The architect must design all athletic/physical education facilities to reflect equitable facilities for boys and girls based on Title IX requirements.
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☐ The room numbering system should be logical and understandable.

☐ Blinds capable of darkening to be used in instructional areas, including seminar and conference type spaces, with complete darkening in all science rooms should be provided.

☐ The location of whiteboards and tackboards should relate to classroom seating and windows. The location of bulletin boards and showcases should relate to team groupings and administrative areas.

☐ The number of lockers in the corridor should be equal to the core capacity plus 10% of the core capacity.

☐ Landscaping is to be included. Planting is to include screen planting and that needed for erosion control. Plantings for sidewalks, and wooded and flowered areas, are to be situated to enable the physical education program to be carried on without undue disturbance to the classrooms. Other landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included. Note: Landscaping must be minimal, tasteful and allow for easy maintenance.

☐ 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 instructional media center, multipurpose room, gymnasium, specialized centers, and support rooms.

☐ Carpets 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 instructional media center.

☐ All student occupied spaces must be able to be supervised from the corridor or an adjacent space.

☐ 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.

☐ 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.

☐ Metal adjustable shelving is to be provided in all building storage closets.

☐ All plan reviews will be coordinated through the DOC.

☐ Special consideration must be given to energy conservation including total lifecycle costs. The current Maryland State Department of General Service (DGS) requirements will be applied as design criteria. Lifecycle cost accounting in accordance with DGS criteria is required.

☐ Per COMAR 23.03.02.29, Emergency Power Generation, all school projects that include replacing or upgrading the electrical system should be designed and constructed so that a designated public shelter area can be fully powered in the event of an emergency.
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Technology Framework

The latest technology should be integrated into every aspect of building. The architect should consult with the Office of Strategic Technology and Accountability (OCTO) and the Division of Construction (DOC) 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.

- Multiple outlets should be added in all common areas of the school to provide areas for charging mobile devices.
  - Each classroom is to have one dedicated 20 amp electrical circuit for a charging mobile laptop cart.

- Each classroom will have a promethean board at the teaching wall and CNO for the teacher’s computer.

- Computer network outlets (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
  - 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.

- Provisions for high-resolution fiber optic cable for television must be included in the design of all teaching stations.
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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 two or 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 blinds. The specifications for the window blinds will be provided by DOC.

☐ Battery operated clocks will be installed.
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Science Laboratories

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</tr>
<tr>
<td>Preparation Room</td>
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<tr>
<td>Chemical Storage</td>
</tr>
</tbody>
</table>

- 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 an island, trough style design, with hot and cold water, electricity, and gas are to be provided.
- 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 Promethean 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 adequate tackboard are required. Wiring for a promethean board should be provided in the center of the whiteboard.
- Two four foot project cabinets and two four foot storage cabinets, all lockable, are to be located in each room.
- All rooms are to be capable of complete darkening.
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- 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 may be considered.
- 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 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 cutoffs 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.
- 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.
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Chemical Storage Room

☐ This storage room should be located adjacent to the 7th and 8th grade science labs and must meet code requirements for chemical storage including:
  ☐ 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.
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### Instructional Support Rooms

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<tr>
<td>Departmental Textbook Storage Room</td>
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<tr>
<td>Foreign Language Textbook Storage Room</td>
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<tr>
<td>Developmental Reading Room</td>
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<tr>
<td>Math Interventions</td>
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</tbody>
</table>

#### 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 blinds 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.

#### 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.
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**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.

**Instructional Data Analyst Room**
- Secure storage for school wide records and materials should be included.
- The room should be wired for a computer with printer.
- This room needs a telephone.
- A tackboard should be installed.
- This room should be located near the Testing Room.

**Developmental Reading Room**
- The developmental reading room should be centrally located.
- This classroom needs 15 computer stations along two walls.
- A standard teaching wall should be provided per MCPS Facility Guideline Specifications.
- Tables for 20 students should be provided in this classroom.
- Storage should be provided under the windows.
- Two 4’ tackboards should be provided in this classroom.
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Math Intervention

☐ Space for 8-10 student desks should be provided.
☐ Space for 8-10 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.
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ESOL

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<tbody>
<tr>
<td>ESOL Classroom</td>
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<tr>
<td>ESOL Team Room</td>
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</tbody>
</table>

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.
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Special Education Facilities

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<tr>
<td>Resource Room</td>
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<tr>
<td>Speech &amp; Language Support Room</td>
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<tr>
<td>Occupational Therapy/Physical Therapy Room</td>
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<tr>
<td>Accommodation Rooms</td>
</tr>
</tbody>
</table>

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.

☐ 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.
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☐ 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 6’ 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 8-10 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.
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Music Suite

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<td>Instrumental Music Room with approximately 400 sq. ft. of perimeter storage)</td>
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<tr>
<td>General/Choral Music Room</td>
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<tr>
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<tr>
<td>Music Office</td>
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<tr>
<td>Practice Rooms</td>
</tr>
</tbody>
</table>

☐ 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 fountain should be located in the choral and instrumental music room.

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.

☐ 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.

☐ 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.
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☐ An outside entrance should be near, but not in, the music suite if possible.
☐ Approximately 80 square feet should be devoted to an acoustically treated room located in the rear and side area that can double as two practice rooms and for percussion storage. A four-foot door and security lock should be provided so that heavy equipment may be rolled out for rehearsals and rolled back into the room for night storage.
☐ A standard teaching wall should be provided per MCPS Facility Guideline Specifications.
☐ Bookcases and a music folder cabinet should be included on one side of the room. The band music folder cabinet should be horizontally slotted with 150 slots to hold 14” x 12” folders with facilities for numbering each compartment.
☐ Two microphones should be hung from retractable ceiling mounted fixtures for use with recording equipment.
☐ A 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.
☐ 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.

**General/Choral Storage Room**

☐ The general/choral storage room should be adjacent to and have access from both the general/choral room and the instrumental music room.
☐ Cabinetry must be adequate to store 20 electronic keyboards and 32 guitars in spaces 6 inches high, 40 inches deep, and 16 inches wide.
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- The room should be arranged so that a portion of it may be used as a practice room with a piano, as a storage area for choral music file cabinets, and for storage for drums, etc.
- Maximum-security doors with upgraded locks are to be provided.
- A four-foot wide door is required.

**Music Office**

- The music office must be located between the instrumental and the general/choral room with windows to allow for supervision into the both classrooms.
- A telephone is to be provided.
- Cabinetry is to be provided for storage.

**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.
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Visual Arts Suite

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</tr>
<tr>
<td>Storage Room</td>
</tr>
<tr>
<td>Kiln Room</td>
</tr>
</tbody>
</table>

- 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 for potters’ wheels.
- Ample electrical outlets, approximately every 4’ should be provided.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ 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 ¼”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.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Multipurpose Technology

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<tr>
<td>Computer Technology Laboratory</td>
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<tr>
<td>Preparation Room</td>
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</tbody>
</table>

☑ 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

☑ Electrical and data outlets should be provided on the teaching wall for a Promethean Board.
☑ Adequate ventilation system to remove airborne dust is required.
☑ Floor covering shall be non-slip tile.
☑ Three emergency control switches. One switch in the lab, one just outside the lab and the third located in the teacher’s office with a key to restore power.
☑ The room requires whiteboard and tack board.
☑ This laboratory requires a wash-up sink.
☑ Shelving should be provided around the perimeter of the room for student project storage. The shelving can be located below workbenches and overhead if there are no tools being used in that area.
☑ Small tabletop machinery shall be installed along the perimeter of the laboratory. The height of these counters should be 24”.
Computer Technology Laboratory

☐ This room should be located adjacent to the Multipurpose 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 four rows with eight computers in each row facing the teaching wall. Each row should have a center aisle that separates each row, with four computers on either side of the aisle.
☐ 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 a Promethean board. The teaching wall layout will be provided by the Division of Construction.
☐ Tackboards should be provided in the laboratory.
☐ The architect should consult with the OCTO/DOC 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.
☐ A small lumber rack is necessary for storage of lengths of lumber and metal.
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**Multipurpose Laboratory**

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<td>Multipurpose Laboratory</td>
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<td>Storage Room</td>
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</table>

☐ 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;
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- 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.
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Physical Education

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<td>Common Planning Area</td>
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<tr>
<td>General Storage</td>
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<tr>
<td>Outdoor Storage</td>
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<tr>
<td>ICB Storage</td>
</tr>
<tr>
<td>Outside Storage Shed (See Site Requirements)</td>
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</table>

- 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.
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☐ 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.
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☐ 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 and cable hookups and sound system.
☐ A location should be identified for a Promethean Board including the appropriate power and wiring.
☐ A 4’ whiteboard should be provided on both side of the folding partition wall.

☐ A recessed water fountain should be provided outside each end of the gymnasium or integrated into an alcove within the gymnasium.
☐ A lobby with display case, bulletin 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.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- 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 and cable hookups and sound system.
- A location should be identified for a Promethean Board including the appropriate power and wiring.
- A recessed water fountain 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)
- Pull-up chin-up bars and pegboard (6’x3’) should be in this room.
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**

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 sheet vinyl flooring should be provided.

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.

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

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 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.
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**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.
- Locker space should handle a total of 1,440 lockers evenly divided between male and female locker rooms. All lockers are to
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- 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.

**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.
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**Offices**
- The offices need to be centrally located with access to both male and female locker rooms, have windows with blinds 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.
- A moveable partition wall should be provided for this classroom.
- 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.
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Library media Center (IMC)

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<tr>
<td>Instructional Area</td>
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<td>Work and Production Area</td>
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<td>Storage, Media General (main floor)</td>
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<tr>
<td>IT Systems Specialist Room</td>
</tr>
<tr>
<td>Storage (upper/other floor)</td>
</tr>
</tbody>
</table>

☐ 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 are to be located nearby, but not adjacent to 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 work area.
☐ If possible, the LMC should not be located below high noise level activities such as music or technology education.
☐ Multiple charging outlets need to be provided throughout the LMC and can be located in the wall, floor, and furniture.
☐ A countertop with charging stations should be provided along one of the walls of the LMC to allow users to plug in portable devices.

Circulation Area

☐ The front entrance of the LMC should have a security gate that is part of the materials security system.
☐ The security gate should have adequate area from the door so that if the security alarm is triggered there is time to stop the
individual that is about to exit the LMC.

☐ The security system should use radio frequency technology.

☐ Other exits must have panic/alarm hardware.

☐ The area requires a circulation desk located near the entrance and should accommodate the security system.

☐ The circulation desk should be designed with the following features:
  ☐ Space for two computers at the circulation desk is required.
  ☐ a book/materials return slot and chute with a movable book return truck built in;
  ☐ shelving units with sliding doors;
  ☐ a storage area for book return carts;
  ☐ built-in file cabinets drawers;
  ☐ supplies drawers;
  ☐ a writing area unit; and
  ☐ an area for a laser printer and supplies.

☐ The front height of the circulation desk should not exceed 39”.

**Main Learning Environment**

☐ Flexible lighting with the ability to darken separate areas of the main resource room without affecting other spaces.

☐ Shelving on walls and in the room should be adequate for the collection of about 16,000 print volumes and 1,000 nonprint items.

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

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

☐ A variety of different types of seating should be provided for researching and informal reading including individual and group arrangements.

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

☐ Space should be allocated for at least four computer workstations and a networked printer to access the catalog system.

☐ Shelving and shelves must be wooden with 1200 linear feet for print material and 220 linear feet for nonprint material.
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**Instructional Areas**
- One instructional area needs to be identified in the LMC with a teaching wall area designed for a Promethean board.
- The instructional areas need access to all forms of technology in the school including wireless access. The instructional areas should be designed for wholeclass and small group technology assisted research and instruction.
- The space should be easy to reconfigure for a variety of uses and groupings with the use of flexible furniture to support wholeclass, small group, and project-based learning activities.
- One small group work area that allows for students to be visually supervised, but work independently.

**Work and Production Area**
- The work area includes space for collaborative planning and processing of library media materials, space for student production and storage space for supplies and materials.
- The work area may be delineated through the use of a different ceiling height or half wall. This room requires VCT floor material.
- Adequate electrical outlets are to be designed in consultation with the LM Specialist.
- It must contain a sink, lockable cabinets, and ample worktops for student and teacher use.
- This area also provides space for receiving, and processing of all materials and equipment.
- Space is needed for four staff desks.
- A lockable wardrobe needs to be provided.
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**Media Support/Storage Room**
- The general storage room provides for storage of instructional materials, such as back issues of magazines, seasonal materials, LMC materials, and supplies.
- Shelving should be provided for instructional materials for teacher use such as DVDs, and Playaways.
- Shelving and cabinets should be provided. Storage is needed for non-print equipment.
- This room should have upgraded lighting and ventilation for future possible expansion to become support room.

**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 activates.
- 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.
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Student Activities Facilities

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<td>Student Government Storage Closet</td>
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☐ 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.
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Staff Facilities

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**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 both men and women and should 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.

**Telephone Room**

- A small, enclosed room with countertop and space for one chair is needed for a telephone.
- An electrical outlet should be provided for this room.
- This space needs to be accessible to staff with disabilities.
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Administration Suite

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<tr>
<td>Assistant Principal’s Office</td>
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<td>Assistant School Administrator Office</td>
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<tr>
<td>Administrative Secretary’s Office</td>
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<tr>
<td>Workroom/Storage/Toilet Area</td>
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<tr>
<td>Storage</td>
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<tr>
<td>Conference Room</td>
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<tr>
<td>Copier Workroom</td>
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<tr>
<td>Student Support Center</td>
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<td>Financial Secretary Office</td>
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<tr>
<td>Staff Development Office</td>
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<td>Security Office</td>
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<td>Testing Room</td>
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</table>

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.
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**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.
- Each 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 and dishwasher 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.
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- 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 men’s and women’s 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 be directly accessible to the corridor.
- The conference room is to have a whiteboard installed and computer and phone outlets.

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

Student Support Center
- This room should be located adjacent to the main office 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, tackboard, closet, and video, voice and data outlets.
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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 data, cable, phone, 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.
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Guidance Suite

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<td>Records Room</td>
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<tr>
<td>Itinerant Staff Office</td>
</tr>
</tbody>
</table>

- The guidance 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.
- 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.
- Mini blinds 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.
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**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 posttest 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 guidance 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 guidance suite.
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#### Health Services Suite

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<td>Storage Room</td>
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</table>

- 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 bulletin board is to be installed just outside of the door to the health suite.
- A designated school health services professional 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 health 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 24inch x 48inch 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 36inch 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.
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**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**
- 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.

**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 for four cots, and one bedside cabinet.
- Separate areas for male and female students should be provided in the 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.
Food Services Facility

Cafeteria

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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 fountain 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.
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Stage

☐ The stage should be three feet high from the floor of the cafeteria.
☐ 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.
☐ 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, tackboard, and data for a promethean 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.
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Kitchen

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<td>Loading Platform</td>
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<td>Receiving Area</td>
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<tr>
<td>Chemical Storage Room</td>
</tr>
</tbody>
</table>

☐ 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.
☐ Floors are to be non-resilient, slip resistant, and easy to mop. Quarry tile is preferred.
☐ 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.
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☐ 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.
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**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.
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### Building Service Facilities

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</tbody>
</table>

**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.

**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.
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☐ 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 rollup 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.
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**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.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

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.
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- 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 are required, 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.
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**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 desirable each with all-weather surfacing.
- 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.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Tilden Middle School Other Program Requirements

Autism Spectrum Disorder (Aspergers)

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<tr>
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<tr>
<td>Preparation Area</td>
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</tbody>
</table>

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

☐ If a school has Autism Resource Services (ARES), the only requirement is a Resource room.

☐ If a school has Asperger’s, standard classrooms are required. Depending on the particular school, sensory rooms and grooming rooms may be required.

Autism Classroom

☐ Grades K-12 Classrooms should be designed similarly to standard academic classrooms with a standard teaching wall layout.

☐ Classrooms should be set up with two teacher desks and two teacher wardrobes.

☐ At the elementary level only, an observation room is required with one-way glass for views into the classroom(s). The observation room requires access directly from the corridor. No access should be provided from the classroom.

☐ The observation room should be outfitted similarly to an office for flexible use for office space when not in use for observations.
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**Sensory Room**
- One sensory room per classroom is required. In some cases a larger shared sensory room may be designed.
- Dimmable lights are desirable.
- These rooms are intended for use by one student at a time.
- The door should swing outward.
- A reinforced vision panel in the door or sidelight are required. No exterior window is required.
- Wall padding should not be provided.

**Grooming Room**
- The grooming room should be accessible from the classroom.
- The grooming room requires space for a toilet, sink, and power and space for a six foot long changing table. (For CAPP- PreK Autism, a smaller changing table is used.)
- At the secondary level, a shower and floor drain are also required.

**Preparation Area**
- The preparation area is not intended for cooking; it should consist of a refrigerator, sink, counters and cabinets and space.
- Each school requires one washer and dryer to be shared. The washer and dryer should be centrally located for shared use.
- At the secondary level, the washer and dryer should be ADA accessible.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Learning for Independence Program

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LFI Classroom

- Provide standard academic classrooms located adjacent to each other and near grade level peers.
- Classrooms should be set up with two teacher desks and two teacher wardrobes.
- These classrooms should be located on the first floor if possible and near the school’s OT/PT room.
- These classrooms should be located near SCB classrooms (if present).
- There should be accessible height white boards on the second teaching wall in the classroom.
- If possible, provide a small alcove adjacent to the classroom(s) to park equipment.
- Provide ADA lockers for LFI students.

Grooming Room

- This toilet room should include space and power for a six foot long changing table.
- This room should be accessible from within the classrooms.
- A grooming room can be shared between adjacent classrooms as long as it is easily accessible to all students.
- This room must include a shower (only at the secondary level) and a wall shelf.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

**Preparation Area**

- □ A preparation area with a refrigerator and sink should be accessible from within the classroom.
- □ At the secondary level, a washer and dryer (1 per school, not stacked) are utilized for life skills.
- □ This room does require a stove. All cooking activities (secondary schools only) should occur in a school’s multipurpose laboratory.
- □ Wardrobe space should be provided for paraeducators and a therapist.

**Adaptive PE Room**

- □ This room should be located near the Physical Education Suite and will be used for adaptive physical education for students with special needs.
- □ The room should be designed with VCT flooring.
- □ Two low basketball hoops should be installed in this room.
- □ Tall and deep wall storage should be provided for tubes, balls, steppers, hula hoops, etc.
- □ A sound system should be installed in this room.
- □ This room requires a ceiling mounted hook for a swing. There should be enough space within the swings radius to avoid any obstacles.

**Special Education Conference Room**

- □ This room should accommodate 15-20 people.
- □ Tack and whiteboard should be installed on one wall.
- □ A telephone is needed in this room.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Rock Terrace School
Educational Specifications
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

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 and high schools.

☐ 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 blinds. The specifications for the window blinds will be provided by DOC.

☐ Battery operated clocks will be installed.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Textbook Storage Room
- A textbook storage room is to be provided and is to be easily accessible from the classrooms and the team workrooms 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.

Team Office
- Space should be provided for teacher desks or a large conference table.
- 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.

Workroom
- The workroom is for staff use and convenient for teacher use.
- It should not be located in the media center.
- This room requires storage cabinets, shelving, and lockable cabinets for paper and ink.
- Proper ventilation is required in this room to accommodate a large copier.
### VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

#### Science Department

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#### Science Laboratories

Each room will serve as a lecture/laboratory space. The laboratories should be designed as described below.

- **□** One master key for all the science laboratories is required.
- **□** The laboratories should be ideally be 30’ x 50’ or as squared as possible.
- **□** Only 16 student workstations may be designed in each laboratory.
- **□** The science laboratory should be designed with 2’ wide perimeter workspace counters to maximize floor space for tables and chairs.
- **□** Permanently installed wall cabinets with glass and adjustable shelving above lab work surfaces, but not above the gas outlets, are needed. About half of the casework should be lockable.
- **□** One flat file cabinet for E-size chart storage with narrow drawers is required.
- **□** A 3’ x 5’ demonstration table needs to be located at the front of the room. Space for a teacher’s desk should be provided next to the demonstration table.
- **□** The demonstration table should have gas and a sink with hot and cold water with an aspirator/venturi tube.
- **□** The demonstration desk needs one 220volt outlet and two 120-volts.
- **□** A standard teaching wall should be provided behind the demonstration table. The architect should ensure that the demonstration table is not place directly in front of the promethean board.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ One 36” W x 84” H storage cabinet with adjustable shelves and glass doors that is lockable should be permanently installed in each laboratory.

☐ A goggle cabinet is needed for goggle storage and sterilization with adequate ventilation in each laboratory. One dedicated outlet is needed for the goggle sterilization cabinet for 36 goggles.

☐ Darkening capabilities are needed in the science laboratory.

☐ 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.

☐ Master cutoff for gas, water, and electricity needs to be easily accessible to the teacher and located so that students can’t get to it. The emergency cut-off key should be removable in the “on” position.

☐ The emergency cut-off switch for all utilities should be wall mounted high enough not to be accidentally activated and should be placed in at least two locations.

☐ The cut-off switch should not be located near the exit door. The reset circuit for science classrooms should be readily available to science staff.

☐ The electrical panel box should be easily accessible by science staff.

☐ Electric outlets should be wall mounted or face-of-cabinet mounted.

☐ One wash-up stone sink, 18” x 18” x 20” deep with hot and cold water should be provided for student use.

☐ Student workstations should be made of moisture and chemical resistant material.

☐ The student workstation sinks require cold water only.

☐ A chemical drain trap is needed in the demonstration and wash-up sink only in all laboratories.

☐ Glass display cabinets in the hallway at door entrances should be installed to several of the science laboratories.

☐ A map railing installed up high for permanent wall charts should not be located over the whiteboard.

☐ Wall drying racks (pegboard) for test tubes, etc. are needed adjacent to the stone sink.

☐ A teacher wardrobe is required in each laboratory.

☐ Two ceiling mounted electrical cord reels are required in each laboratory.

☐ The architect should be asked to visit recently revitalized high schools and use similar designs after consulting with MCPS staff. The architect should work to design for maximum use of laboratory space within each room particularly in the placement of mechanical units.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

**Preparation Room**
- One lab station with water and electric and computer capabilities should be installed in each project room.
- Interior glass from project rooms to science laboratories must be installed for visual supervision of spaces.
- Wall cabinets and under counter cabinets are required.
- Counter space made of moisture and chemical resistant is required.
- These rooms should be located between every two laboratories.
- A washup sink, 18” x 18” x 20” deep with hot and cold water, with drain board and drying rack is required.
- Heat, chemical, and water resistant work surfaces suitable for an autoclaving/drying oven are required.
- Variable sized storage cabinets are needed.
- A residential dishwasher with a lab ware rack insert and a full-size refrigerator/freezer for flammable materials is required in each prep room.
- These rooms must have an exhaust fan and air conditioning in compliance with latest ASHRAE standards.
- An equipment repair bench with multistrip outlets and good lighting is required.
- The chemistry preparation room requires a 1gallon Barnstead still with 4-liter-per-hour output and reservoir. Separate water and electric sources are needed for the Barnstead still.
- All prep rooms should have an emergency cut-off switch to all utilities.
- A telephone is required in all the prep rooms.

**Storage Room**
- The storage rooms should be located adjacent or grouped with the preparation rooms.
- A storage room is required between every two laboratories.
- Adjustable steel shelving is required and should be anchored to the wall.
Horticulture Classroom
This program prepares individuals to produce, process, and market plants, shrubs, and trees used principally for ornamental, recreational, and aesthetic purposes, and to establish, maintain, and manage horticultural enterprises such as arboriculture, floriculture, greenhouse operation and management, landscaping, nursery operation and management, and turf management.

Laboratory
☐ This room requires a ceiling height of 12 ft.
☐ Fenced hard surface area adjacent to equipment maintenance area
☐ Work stations for 16 students should be provided.
☐ A direct access to the exterior of the building will be needed when moving equipment outside or moving plants from the greenhouse.
☐ A door large enough for deliveries of equipment and supplies should be designed.
☐ A storage area for hand tools, rakes, shovels, etc. should be located in the laboratory.
☐ All areas of the space should be easily accessible and the teacher should have good visibility to all areas.
☐ The laboratory should be visible from the greenhouse preparation room.
☐ Storage cabinets that can be locked should be provided within the laboratory.
☐ The teaching wall should be designed per DOC standards.
☐ Large windows should be designed between the spaces to allow for staff supervision of students.
☐ Fire extinguisher should be located at accessible points in the laboratory.
☐ An eye wash station is required in the laboratory.
☐ Secure storage areas with proper 24 hour ventilation for pesticides and gasoline for lawn equipment is required.
☐ A key operated power switch is needed in the laboratory area. This should be connected to a remote panic button located in an accessible place.
☐ Wash basin should be installed in the laboratory. Hose bibs should be provided to wash equipment and water plants as needed.
☐ A work station or demonstration bench for the teacher is required.
☐ The teaching wall should be designed to DOC standards.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Greenhouse

☐ The greenhouse should be easily accessible to the biology classrooms and preferably should have a southern exposure, if not it should be eastern exposure or western exposure. The greenhouse must not have a northern exposure.

☐ The entrance to the greenhouse should be through the greenhouse preparation area.

☐ It must have its own heat source with a thermostat, and overhead lighting separate from the rest of the school (preferably gas heat), and adequate ventilation.

☐ One duplex electrical outlet per wall at bench height is required.

☐ A climate control system is required and should include a 50% shade screen and a swamp cooler or misting system to maintain temperature range should between 45 to 95 degrees.

☐ Growing benches are required. The architect is to provide the greenhouse layout for the growing benches.

☐ Careful attention to keeping spills contained in the greenhouse is required.

Greenhouse Preparation Room

☐ A sink is required in the greenhouse prep room.

☐ Careful attention to spills and floods is required in this room.

☐ A deep prep sink with cold water is required.

☐ Lockable storage cabinets under the counter are required.

☐ Lockable wall mounted cabinets are required.

☐ A 6 foot counter with sink is needed for student work. Counter material must be moisture and chemical resistant.
Support Rooms

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**Counselor’s Office**

- The counselor’s office should be easily accessible from the classrooms and near, but not a part of, the administration suite and should have a window.
- This office needs a marker board, tackboard, telephone and computer.

**Special Needs Coordinator Office**

- All staff offices should be designed with two computer drops to allow for two staff offices.
- Each office requires a telephone line.
- No built in cabinets should be designed in these offices.
- A tack board should be provided in each office.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

**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 6’ 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.

**Transition Office**
- This office should be designed with two computer drops.
- This office should have a desk and table with four chairs for small meetings.
- Tack and whiteboard should be installed on one wall.
- No built in cabinets should be designed in these offices.
- A telephone is needed in this room.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

School Psychologist Office
☐ All staff offices should be designed with two computer drops to allow for two staff offices.
☐ Each office requires a telephone line.
☐ No built-in cabinets should be designed in these offices.
☐ A tack board should be provided in each office.

Instructional Data Analyst Office
☐ This room houses one computer and must be lockable and secure.
☐ This room requires space for an office desk, whiteboards, and video, voice, data outlets, and space for file cabinets.

Sensory Room
☐ One sensory room per classroom is required. In some cases a larger shared sensory room may be designed.
☐ Dimmable lights are desirable.
☐ These rooms are intended for use by one student at a time.
☐ The door should swing outward.
☐ A reinforced vision panel in the door or sidelight are required. No exterior window is required.
☐ Wall padding should not be provided.

Student Support Room
☐ Wall padding is typically provided.
☐ The light switch should be located on the outside.
☐ The room should be free of any projections and does not require any electrical outlets.
☐ A vision panel in the door or sidelight are required; no exterior window is required.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Conference Room

☐ This room should accommodate 15-20 people.
☐ Tack and whiteboard should be installed on one wall.
☐ A telephone is needed in this room.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Art Room

The art room is to provide space for teaching and creating art, displaying student work and educational aids, and storing supplies and materials. The room should be designed as follows:

☐ The minimum square footage for the teaching area must be 800 square feet. The ideal room dimensions are approximately 25’ x 32’
☐ The art room must not be carpeted.
☐ Both art and music rooms must be located near student restrooms.
☐ Two computer drops along wall for student use should be provided.
☐ The design of all work, display, and storage areas should create an environment that is functional and easy to clean.
☐ Lighting should be both natural and artificial and conducive to close work.
☐ A door to the outside is desirable.
☐ Space and electrical outlets for two kilns should be in the farthest corner of the storeroom with proper ventilation.
☐ Eight duplex electrical outlets are to be provided (where feasible quadruplex outlets may be utilized).
☐ Any available wall space should have tack boards.

The window wall should have the following:

☐ Windows that permit views of the surrounding landscape.
☐ Blinds to permit room darkening.
☐ Shelves under windows 15” deep.
☐ Tack board or tack strips above windows if space permits.

The teaching wall should have the following:

☐ Standard teaching wall should be provided. The architect should refer to DOC standards.
☐ Fourteen-inch deep, 24 inch high, shelving under the center of the 16-foot long tack board and white board.
Sinks and sink area:

- Three sinks should be provided. Faucets should be accessible to students and positioned to prevent splashes onto floor.
  - One ADA accessible sink (34” high)
  - One sink located on a peninsula (30” high). Peninsula is to be no longer than 3 feet.
  - One 12” deep sink (32”).
- Removable plaster traps
- Closed cabinets below and above
- Conveniently located towel and soap dispensers
- At least 9 feet of counter space (includes 1 ½ feet of counter space on both sides of the sinks) with rounded corners
- Hot and cold water faucets with bubbler
- A tile backsplash that spans from the countertop to the bottom of the wall cabinets.
- Extra caulking where the countertop meets the backsplash.
- A 5 to 7 foot open space is needed for drying rack(s) along one wall.

The wall opposite or adjacent to the teaching station should have the following:

- One 6 foot tall, 12 foot long tack board with 24 inch tall, 14 inch deep shelving units below.

**Art Storeroom**

- The storeroom must be approximately 8.5-9’ wide by approximately 25-30’.
- The storeroom must have a 6-foot wide, 30inch tall, and 34inch deep worktable immediately inside the entrance to the storeroom with 5-6 built-in sliding drawers. This table will accommodate a 30inch square paper cutter and storage of large art reproductions and papers below.
- Three or four 6foot tall, 36inch wide paper storage shelf sections, 24” deep with shelves 8 inches on center to accommodate 18” x 24” paper.
- An empty floor space should be left to accommodate flat files. 5-drawer flat file units are 40 ¾”W x 15 3/8”H x 28 3/8”D x 2” drawer depth. Three of these 5-drawer units will be stacked on top of each other. (NIC)
Music Room

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<tr>
<td>Music Room</td>
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- The music room and instrumental music room should be located adjacent to each other with a shared storage room.
- These rooms should be located near the multipurpose room to allow easy access to the performance platform.
- The two music rooms must be acoustically treated for isolation and reverberation with a combination of absorptive and reflective acoustic wall panels, by Wenger or equal, to be included in the base bid design.

Music Room

- The teaching area for the music room must be 34’ x 31’ and have a circle 20 feet in diameter, with chairs arranged around 3 sides of a surrounding box of the circle.
- 100 linear feet of general storage (casework throughout the classroom) is needed in the classroom. Adjustable, open shelving must allow for storage of books, CDs, and small instruments as follows:
  - 12” deep shelving for 140 books (140 linear inches)
  - 12” deep shelving for 13-15 baskets 12”x9” for small musical instruments
  - 12” deep shelving for four medium sized drums (12”x12”x12”)
  - Two 18” deep shelves, 3’ long for bass xylophones
  - 12” deep shelving, 42” long for 4 alto xylophones, 2 shelves high
  - 12” deep shelving, 42” long for 4-6 soprano xylophones, 3 shelves high
  - 12” deep shelving for 4 alto and 4 soprano glockenspiels
  - Some additional shelving for books, CDs, instruments, and teaching materials.
- The music room needs a child height sink with a work area and drinking fountain.
- Window blinds will be provided for room darkening. If there is a roof monitor then window blinds are required.
- The architect should refer to the MCPS Facility Guideline Specifications for the main teaching wall layout. The teaching wall also should have a single music staff.
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☐ An additional 8’ magnetic whiteboard should be provided in the classroom with a single music staff.
☐ Two 4’ tack boards should be provided in the classroom.
☐ A minimum of eight duplex electrical outlets should be provided in the classroom. No fewer than three outlets should be located on the teaching wall, space out along the teaching wall.
☐ 36” wide doors into the music room and platform to accommodate the passage of a piano.
☐ Two speaker outlets and 12” deep shelves, installed 6’ 8” high, should be located in the front of the classroom.
Home Survival Skills Laboratory

**Spatial Needs**

| Home Survival Skills Laboratory | Home Survival Storage |

- This laboratory should be located at on the ground level with direct access to the outdoors and where the creation of loud noises and occasional vibrations will not affect the instruction going on elsewhere in the building.
- Access to the building and laboratory through double doors for equipment and supply delivery is required.
- Sufficient lighting to have work surfaces without shadows is needed.
- Acoustical treatment to walls ceiling and floors is needed. Ceilings should be drop/suspended to cover all structural and air-handling devices.
- The laboratory should have a wash-up sink with eyewash with soap and paper towel dispenser.
- The main teaching wall layout needs to be designed in accordance with MCPS Facility Guideline Specifications.
- Ample electrical service and receptacles to accommodate computers, machines and portable electric tools is needed. Extensive electric outlets, approximately 4’ apart, are to be provided in this room.
- Sufficient service shall be provided to accommodate flexibility within the lab with tabletop machinery.
- All floor receptacles need to be flush and include data outlets.
- All doors should have windows to allow for good supervision.
- Darkening shades or blinds for all windows are needed.
- One large lighted and lockable display cases should be provided in the corridor outside of the technology education suite.
- Casework should include storage cabinets with locking doors and drawers for storage of various sized items.
- A teacher’s wardrobe should be provided in the laboratory.
- Classroom supply and project storage should be keyed to the same key.
- The center/laboratory must be designed with two distinct areas. One area should be equipped with student workstations, while the second area should accommodate lectures, discussions, and demonstrations.
- The instructional area should accommodate 16 students.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ The laboratory should include 2-student workbenches with 2.25 inch laminated maple polyurethane tops with no lockers below to allow for ease of flexibility to move the tables.

☐ The floor covering needs to be non-slip tile.

☐ Ample electrical service should be provided to workbenches through overhead pull-down receptacles for machines and portable electric hand tools.

☐ A goggle cabinet is needed for goggle storage and sterilization with adequate ventilation in each laboratory. One dedicated outlet is needed for the goggle sterilization cabinet for 16 goggles.

☐ The following equipment should be provided in the laboratory:
  ☐ 18” floor model band saw
  ☐ Mobile demonstration table
  ☐ Table saw
  ☐ Portable Planer

☐ The following small tabletop machinery should be installed and permanently mounted to workbenches with cabinet bases.
  ☐ Chop saw
  ☐ Four drill presses
  ☐ Four band saws
  ☐ Four scroll saws
  ☐ Three belt/disc sander

☐ Three emergency control switches are needed—one switch in the lab, one just outside the lab, and the third located in the teacher’s office with a key to restore power.

☐ Walls facing the laboratory need windows with mini-blinds beginning 36” from the floor.

☐ Because of the types of materials and substances handled in these labs, built-in ventilation systems shall be installed and connected that adequately maintain air quality and will not be shut down prior to the end of the school day.
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**Home Survival Storage Room**

- A lumber rack should be provided in this room.
- A flammable storage unit should be provided.
- Metal shelving should be provided in this room that is 24” deep.
- A dual tank air vacuum system should be provided.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Work Office Skills Laboratory

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<td>Work Office Skills Laboratory</td>
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☐ This room should be designed with the same features as a standard classroom.

☐ The layout of the room will be discussed during the quarter scale process.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Culinary Arts Laboratory

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The following requirements will be finalized with the school during the quarter scale drawings and are subject to change.

**Culinary Arts Laboratory**

- The kitchen has five distinct areas for food preparation, serving, and cleaning. These areas include: hot food area, cold food area, baking area, expediting area, and dishwashing area.
- A wardrobe closet is required to hang uniforms, jackets, and hats.
- A job board should be provided in this area.
- Areas should be designated throughout the food preparation area for storing rolling racks.
- One ice machine should be provided in the food preparation area.
- One blast chiller should be provided in the food preparation area.
- An eyewash is required in this area.
- Easy access to an entrance for unloading groceries is required.

**Hot Food Area**

- Two commercial-grade stoves with four burners and an oven below are required.
- A 4’ griddle area is required.
- Two salamanders should be provided.
- Two commercial grade microwave ovens.
- One convection oven and one combi oven/steamer are required.
- One tilt skillet should be provided.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ One deep fryer is required.
☐ A steam jacket kettle is required.

**Cold Food Preparation Area**

☐ Six to eight 6’ stainless steel worktables for student use are required for this area.
☐ A vegetable sink and hand sink should be located in the cold food preparation area.
☐ One ice bath sink is required.

**Baking Area**

☐ Two 8’ work tables with stainless steel tops are required in the baking area.
☐ Storage is required for the variety of baking pans.
☐ A vegetable sink and hand sink should be located in the baking area.

**Expediter Area**

☐ This area is required for keeping completed food warm or cool until ready to be served.
☐ A 6 foot expediter counter with heat lamps is required for the hot food.
☐ A four foot counter is required for the cold food area.
☐ A chef counter for hot and cold food with heat lamp, soup and heated bread drawer is required.

**Dishwashing Area**

☐ A high heat dishwashing system is preferred to a chemical system.
☐ Three basin sink is required for the dishwashing area.
☐ Some space for rolling racks is desired in the dishwashing area so that clean items may immediately be placed on the racks for storage.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Storage
☐ This area should be divided into two areas one for dry storage and one for refrigerated/frozen foods.
☐ The dry food area needs to store non-perishable food items, equipment, dishes, and paper goods.
☐ The dry food storage area must be adjacent to the cold prep area and receiving area.
☐ Door opening must be a minimum of 3’ 8”.
☐ It must be air conditioned at all times.
☐ This area requires mobile shelving and dunnage, key lock for security, and must be free of roof access ladders or electrical panels.
☐ The shelving must be ventilated.
☐ Some storage should be provided for rolling racks.
☐ A lockable storage cabinet is required to store scales, burners, knives, and other expensive equipment.
☐ The cooler/freezer storage area should be provided with the freezer located inside the cooler and should be located adjacent to the prep area.
☐ Insulated slab and thickset quarry tile floor is preferred with a minimum of 20 ft. candle lighting.
☐ Roof mount compressors, stainless steel mobile shelving and dunnage, and sound alarm for temperature monitoring should all be included.

Restaurant
☐ The restaurant should accommodate approximately 20 customers in a variety of seating arrangements.
☐ The décor and layout of the restaurant will be developed with school staff and students.
☐ The restaurant should be located in a prominent location in the facility with easy access for customers
Physical Education

The gymnasium has two major purposes:
• To provide an indoor facility for the physical education instructional program.
• To provide for student and community recreation during after school hours, weekends, summers, and holidays.

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</table>

Gymnasium

☐ The location of the gymnasium should be near the play areas, directly accessible from a corridor, and easily accessible from the parking lots.
☐ Buffering the gymnasium with a corridor or related spaces is required to separate gymnasium noise from the rest of the school.
☐ The physical education office should be adjacent to the gymnasium and lobby.
☐ The architect should refer to detailed requirements provided by MCPS Facility Guideline Specifications.
☐ Any windows into the gymnasium should be oriented north and south so that direct east-west sunlight does not impact play in the gymnasium. However, windows should not be placed in the end walls.
☐ The gymnasium should be ADA accessible from within and without (access from inside gym to playfields).
☐ A ceiling clearance of 18-20 feet free of girders, pipes, heating vents, lights and curtain supports is required.
☐ No ledges or sills should be created over 6’ in height that would make it difficult to retrieve a ball.

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- Glazed tile on the walls must cover at least seven feet from the floors.
- If the gymnasium is a community sized gymnasium (84’ x 75’) then a vinyl-mesh curtain to divide the floor area into two equal size spaces should be provided. It must be the type that can be electrically rolled to the ceiling for storage. If the gymnasium has a divider curtain, a clock with a protective wire covering should be provided on both ends of the room.
- Adequate lighting in the gymnasium is required. The lighting should be securely mounted and guarded to prevent damage by balls with keylock switches to control the lighting.
- A minimum number of windows to prevent glare and glass breakage is requested.
- Acoustical treatment of walls and ceiling is required and must be able to withstand damage by balls.
- Ventilation equipment must not inhibit use of the space for auditorium purposes.
- A wood floor should be installed in the gymnasium. Striping for basketball, volleyball, and floor games should be provided. (i.e. hopscotch and four square)
- Graphics or approved words should be painted on the gymnasium walls. The school may choose from an approved curriculum list of words to paint on the gymnasium walls. The list of words will be provided by MCPS staff.
- A whiteboard, 4’x6’, with no ledge is required.
- Separate heating source or controls to permit use when the remaining part of the building is not occupied is required.
- Recessed door handles are required.
- Doorway center posts must be removable to allow for the passage of equipment.
- A recessed fire alarm box or covered fire alarm box, preferably in a corner of the room needs to be provided.
- Two call buttons located at opposite sides of the gymnasium are required to contact the main office.
- A clock with a protective wire covering should be provided on a sidewall of the gymnasium. The fire extinguisher, if mounted in the gymnasium, should be recessed into the wall.
- Wall safety padding must be mounted under each basketball backstop with 16 feet under end basketball backstops and 12 feet under side basketball backstops with nylon nets.
- Doors or openings should not be directly behind basketball backstops.
- Fan-shaped basketball backstop, adjustable from 8 feet to 10 feet, must be mounted four feet from the sidewalls to provide two equal sized side courts. The backstops must be of aluminum composition. Collapsible rims must be provided.
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☐ A basketball backstop, adjustable from 8 feet to 10 feet, must be mounted on each end wall for full court play. The fan-shaped backstops must be of aluminum composition. Collapsible rims must be provided.
☐ A hand crank must be provided for the adjustable basketball backstops if they are not operated electrically.
☐ Four climbing ropes (1 knotted, 3 plain) with hoist located 6 feet from the ground and safety cables located away from ceiling lights and basketball backstops should be provided.
☐ One 8-foot semi-guyed (wall mounted) horizontal bar with safety chain and floor plates should be provided. The MCPS shade shop will provide safety padding.
☐ One pair of volleyball aluminum uprights and one center volleyball aluminum upright (insertion type) must be provided. Heavy-duty net ratchet and removable crank handle should be included.
☐ Five solid brass floor plates and floor sleeves need to be installed. Two volleyball nets, 32” in length with end sleeves for wooden dowels should be provided.
☐ Two portable game standards are required.
☐ Audio controls for a sound system that are easily accessible to the instructor should be provided.
☐ A wall-mounted, chin up bar should be provided. The lowest bar height should be approximately 5 feet from the floor.
☐ Video, voice, data and electrical outlets on opposite walls of the gymnasium are required.

Stage

☐ The stage should be three feet high from the floor of the cafeteria.
☐ 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.
☐ 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, tackboard, and data for a promethean 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.
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Adaptive Program Center

☐ This room should be located near the Physical Education Suite and will be used for adaptive physical education for students with special needs.
☐ The room should be designed with VCT flooring.
☐ Two low basketball hoops should be installed in this room.
☐ Storage should be provided for tubes, balls, steppers, and hula hoops.
☐ A sound system should be installed in this room.

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.
☐ Locker space should handle a total of 200 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.
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- 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.

**Storage Room**

- The general storage room should be located in the gymnasium and needs to have the same ceiling height as the gymnasium.
- Mats, gymnastic equipment, and other physical education materials and equipment need to be accommodated.
- 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.
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 are to be located nearby, but not adjacent to 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 work area.

If possible, the LMC should not be located below high noise level activities such as music or technology education.

Multiple charging outlets need to be provided throughout the LMC and can be located in the wall, floor, and furniture.

A countertop with charging stations should be provided along one of the walls of the LMC to allow users to plug in portable devices.

Main Learning Environment

Circulation Area

Space for two computers at the circulation desk is required.

Space should be allocated for at least two computer workstations and a networked printer to access the catalog system.

The circulation desk should be designed with the following features:

Space for two computers at the circulation desk is required;
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- a storage area for book return carts;
- supplies drawers;
- a writing area unit; and
- an area for a laser printer and supplies.
- The front height of the circulation desk should not exceed 39”.

**Instructional Area**

- One instructional area needs to be identified in the LMC with a teaching wall area designed for an interactive white board. This area needs to accommodate the storytelling activities and accommodate 30 students.
- The instructional areas need access to all forms of technology in the school including wireless access.
- 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.
- Comfortable seating should be provided for students to read.
- Consideration should be given for shelving for special types of collections such as graphic novels, periodicals, and oversized books including picture books.

**Work and Production Area**

- The work area includes space for collaborative planning and processing of library media materials, space for student production and storage space for supplies and materials.
- The work area may be delineated through the use of a different ceiling height or half wall. This room requires VCT floor material.
- Adequate electrical and data outlets are to be designed in consultation with the LM Specialist.
- It must contain a sink, lockable cabinets, and ample worktops for student and teacher use.
- This area also provides space for receiving, and processing of all materials and equipment.
- Space is needed for three staff desks.
- A lockable wardrobe needs to be provided. See media center specifications available from the MCPS Facility Guideline Specifications.
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☐ The office area should include space for collaborative planning and processing of library media materials.
☐ Adequate space should be allocated for the media center file server.

**General Storage**

☐ The general storage room provides for storage of instructional materials, such as back issues of magazines, seasonal materials, LMC materials, and supplies.
☐ Shelving should be provided for instructional materials for teacher use such as DVDs, and Playaways.
☐ Varied depths of shelving and cabinets should be provided including 6”, 12” and 24” deep.

**Television Studio/Control Room**

☐ The television studio serves as the center for an interschool system for television production and also provides for setting up and video recording television programs.
☐ The studio requires a control room to house audio recording equipment complementing the video equipment.
☐ The studio requires 12’ high ceilings for lighting equipment.
☐ The studio needs storage for related equipment and is to be easily accessible from the outside through a separate entrance so that it can be isolated from the rest of the building.
☐ Utilities are to be separately metered including air conditioning since the lights can become very hot.
☐ Adequate ventilation and temperature control is to be provided in the studio.
☐ A chromakey screen or green wall should be provided.
☐ The ceiling needs to be black.
☐ A light dimming control system (colortran) should be provided.

**Telecommunication Equipment Closet**

☐ This room is to be located in or near the instructional media center.
☐ It should have corridor access and be centrally located in the school.
☐ Specifications for this space are available from the MCPS Facility Guideline Specifications.
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Student Activities Facilities

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**Student Council Suite**

- The student council suite needs direct access to a main corridor.
- Storage cabinets should be built-in. The room should have whiteboard, tackboard, lockable storage and a window into the hallway.
- A display board for announcements should be located near the door.

**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.
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### Staff Offices

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<td>ESOL Teacher</td>
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</table>

**Staff Offices**

- All staff offices should be designed with two computer drops to allow for two staff offices.
- Each office requires a telephone line.
- The Support Staff offices furniture layout should be shown with two staff persons, all other offices should be shown with one staff person at this time.
- No built in cabinets should be designed in these offices.
- A tack board should be provided in each office.
## VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

### Administration Suite

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<td>Testing Room</td>
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<tr>
<td>PTG Storage Room</td>
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<tr>
<td>Office Workroom/Storage/Toilet Area</td>
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</tbody>
</table>

### General Office

- There must be special attention given to the flow of traffic, seating, lighting, and fenestration as well as wall color and arrangement of employees’ work areas.
- Staff mailboxes are to be easily accessible without going through the public waiting area. There are to be a minimum of 100 boxes at least 10 inches wide plus five additional boxes that are somewhat larger.
- Voice, data, and video connections are needed for all staff in the administrative suite.
- The general office area must include a coat closet for administration and visitor use and a small lockable closet (about 2 ft. by 4 ft.) with double doors for PTSA storage.

### 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.
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**Assistant Principal’s Office**
- A student waiting area close to the assistant principals’ office should be provided.

**Conference Room**
- The conference room should be located close to the principal’s and assistant principals’ offices and be directly accessible to the corridor.
- Tack and whiteboard should be installed on one wall.
- A telephone is needed in this room.

**Testing Room**
- School and/or central office staff test individual students or small groups of students. Typical testing includes psychological, diagnostic, vision/hearing, gifted, and makeup testing for required standardized tests. This room also will be used to accommodate posttest conferences with teachers and/or parents.
- 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.

**Offices, Workroom, Storage, and Toilet Rooms**
- These areas should be located to serve the general office employees.
- The workroom is to contain cabinetry and sink, shelving, and work space with adequate electrical outlets.
- The storage room is to be adjacent to and relate well with the workroom and should not be directly accessible to the corridor. Casework for general office employees is to be provided.

**Staff Office**
- All staff offices should be designed with two computer drops to allow for two staff offices.
- Each office requires a telephone line.
- No built in cabinets should be designed in these offices.
- A tack board should be provided in each office.
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Health Services Suite

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<tr>
<td>Grooming Room</td>
</tr>
</tbody>
</table>

- The Health Services Suite should be in complete compliance with COMAR 13A.05.05.10A.
- 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.
- A designated school health services professional must be involved in the planning of the health services suite.
- The architect should refer to MSDE document, *School Health Services*, June 2002 for specific utility information.
- The suite should be designed to provide easy visual supervision of all the spaces by the health services professional. The suite should be laid out so that an additional workstation for a health professional can be positioned near the treatment and waiting areas.
- In addition to access to the general office, the health services suite also must have a window into the general office so that office staff may monitor the room when health staff is unavailable.
- The health room also must have a door to the corridor.
- Ventilation is important throughout the health suite.
- 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, lockable file cabinets, for storing health records. A portion of these cabinets must be lockable to store medications, medical supplies, and equipment.
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Waiting Area

☐ The waiting area should have space for four to eight chairs.
☐ A small tack board should be provided in the waiting area to display health care and other information of importance to students and staff.

Treatment/Medication Area

☐ This area should be adjacent to the waiting area to facilitate the efficient flow of students.
☐ This area should have a kitchen type sink (34”) with cabinets above and below (including a locked medicine cabinet), a 34inch high countertop, and a small residential style refrigerator/freezer to store medical supplies and foods.
☐ A minimum of 12 linear feet of wall and base cabinets should be provided.
☐ The freezer should have an icemaker.
☐ The treatment area also requires a computer.

Rest Area

☐ This area should not be a fully contained room but rather an area that can provide privacy for each cot with a draw curtain on a ceiling track.
☐ The rest area needs space for two to four cots, and one bedside cabinet.
☐ There should be a separate privacy room within the rest area, with a door and space for a cot and a single pedestal desk and chair.
☐ In the rest area and privacy 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.
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**Grooming Room**

- One ADA toilet, sink, and shower should be provided.
- The toilet room should be accessed without having to go through another functional space in the health suite such as a rest area.
- Ideally, students should be able to enter the health suite solely to use the toilet room without disrupting other activities.
- Room for a changing table 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 space for storing large items such as wheelchairs.
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Staff Facilities

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Staff Room

- Two staff rooms should be provided to allow staff a place to rest, plan, study, and think together.
- Two staff toilet rooms should be located near but not within each of the staff rooms.
- The staff rooms 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).
- A clock should be provided.
- A small, enclosed room with countertop, electrical outlet and space for one chair is needed for a telephone.
- An operable window in the staff room is preferred.
- An area should be designated for a computer with jacks for computer & telephone (modem).
- Space in this area is needed for vending machines.

Staff Dining Room

- The staff dining room should be easily accessible from the kitchen area.
- The staff dining 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).
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Food Services

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</table>

**Student Dining**

- The student dining room should have a ceiling height of 12–14 feet.
- A building service utility closet should be provided near the entrance to the multipurpose room for convenient lunch cleanups.
- Table storage must be located adjacent to the multipurpose room.
- Exits from the room must be sufficient to allow maximum seating.
- Toilet rooms and an electric water cooler should be near the multipurpose room to allow for public use.
- Ventilation equipment noise must not inhibit use of the space for auditorium purposes.
- Acoustical treatment is needed.
- Proper lighting and sound amplification are required.
- A call button to the main office should be provided.

**Kitchen**

- The kitchen is operated as a “finishing kitchen” and should include an area for dry storage, a manager’s workstation, toilet facilities, preparation and serving area, and a receiving area for daily deliveries.
- A sheltered dock is preferred and should be separate from other school receiving.
- Delivery flow path must be clear of preparation area.
- The trash room should be separate from the rest of the building i.e. no common walls.
- The trash room should not be accessed from the kitchen.
- Air conditioning must be available at all times in elementary kitchens, storage, and office.
Code requirements for lighting, surfaces, and equipment must be met. These requirements are included in the MCPS Facility Guideline Specifications.

Windows must have screens.

Receiving door should be 48” wide and must be self-closing with peephole and doorbell to manager’s office.

An easy to mop, slip resistant quarry tile floor is required. Color of grout should be the same or darker than the color of the floor.

There should be direct access to both the hallway and the multipurpose room to facilitate one-way circulation through the serving line.

A minimum 9’ ceiling height is recommended.

A building service closet with floor type mop basin shall be located outside the kitchen but readily accessible to the kitchen.

A dedicated circuit is required for the cash register with under the floor conduit for connection to the computer in the manager’s office.

**Serving Area**

A 26 ft. long serving line with 3-ft. clearance at each end should be provided.

The color selection will be approved by Food Services.

A single door refrigerator and microwave oven on a cart adjacent to the service area is needed.

A wall clock and tack board should be located on a wall so it is visible from the serving line wall.

**Walkin Cooler/Freezer**

A 7’ 9” x 8’ 8 1/2” cooler is required.

A 7’ 9” x 10’ 8 1/2” freezer with a height of 8’ 6” is required.

A mobile polymer shelving and dunnage is required.

A roof top compressor is required.
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Dry Storage
☐ The recommended dimension for the dry storage area is 12’ x 16’.
☐ A mobile polymer shelving and dunnage is required.
☐ Adequate ceiling height for top shelf storage should be considered.
☐ This space should be totally secure and free of roof access ladders or electrical panels.
☐ Locking cabinets for chemical storage should be provided.

Manager's Office
☐ Visibility to delivery and serving area is required.
☐ The office should be located away or protected from outside door draft.
☐ Desk (NIC), file (NIC), telephone, tack board, and LAN access are required.

Toilet Room
☐ A hand sink with soap and towel dispenser, sanitary napkin disposal, and 3 full-height lockers are required.

Preparation Area
☐ A roll-in double convection oven is required.
☐ An oven cart and dolly (2 each) are required.
☐ A half size range is required.
☐ A heat removal exhaust hood is required.
☐ Work tables, one 6 ft. and the other 8 ft. with 2 drawers each, under the table are needed.
☐ Arlington wire baskets (500 each) and dollies (10 each) are required.
☐ Hand sink with pedals and soap and towel dispensers that meet the code requirements are needed.
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- A three compartment sink, 24” x 24” x 14”, with 24 inch drainboards, is required. Disposal in drain board with prerinse spray is required.
- A 6-foot louvered shelf above with hooks is required.
- A mobile warmer to accommodate Arlington baskets is needed.
- Two utility carts are required.

**Table Storage**

- Storage rooms are required for the storing the tables in the multipurpose room and folding chairs.
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Building Service Facilities

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<td>General Storage</td>
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<td>Building Service Outdoor Storage</td>
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<tr>
<td>Building Service Closets</td>
</tr>
</tbody>
</table>

**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.

**Locker/Shower Area**

- A locker area must be located near the receiving area.
- Six full-size lockers should be provided in the locker area.
- The locker area should be designed with an enclosed toilet room and shower room for building service staff use.
- An ENERGY STAR stackable washer and dryer are required in this area.

**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.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ 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 rollup 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.

General Storage and Receiving 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. (one tractor is approximately 9’ long by 7.5’ wide and a second smaller tractor) 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.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ 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 and near the gymnasium.
☐ 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 and a mop/broom holder is required.
☐ The closet requires a floor mop sink with hot and cold running water and a floor drain.
☐ Where feasible, closet doors should swing outward in order to maximize the storage area and provide easier access to items within the closets.
Site Requirements

- The architect should consider the architecture of the neighborhood in designing the building.
- 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 and paved play 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 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. The architects may refer to the following two MSDE design guidelines: Conserving and Enhancing the Natural Environment on New and Existing School Sites, 1999 and A Practical Guide Planning, Constructing, and Using School Courtyards, 2012. The documents are available at the following website: www.marylandpublicschools.org/MSDE/newsroom/publications
- A covered area for students in the bus loading area should 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.
- Bike racks should be provided near the building.
- Accessible parking spaces should be located near the main entrance and the playing fields.

Driveway and Service Drive

- 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 play areas.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

☐ Care for safety of students must be exercised in developing the driveways including use of safety rails in the bus loading area.
☐ 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 Facilities Guide.
☐ Site access must be provided to comply with fire protection and storm water management regulations.

Parking

☐ Ideally, a minimum of 70 parking spaces should be designed initially for a school with regular staffing allocations, with future expansion possible. At schools with class-size reduction, 100 parking spaces should be provided.
☐ The parking area should be designed to maximize safety and minimize speed.
☐ Adequate lighting should be provided.
☐ Parking area should have two exits.
☐ Guardrails or bollards are to be installed to protect fields and play areas.

Landscaping

☐ Planting should include screen planting and other planting needed for erosion control.
☐ Existing plant stock, if on site, is to be evaluated for reuse and protected accordingly.
☐ Landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included.
☐ Consideration should be given to safety and security when selecting plant materials.
☐ Provision for outdoor watering must be included.
☐ The landscaping plan should include areas for outdoors environmental education programs.
VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Physical Education Site Requirements

The items described below are for a school that meets the minimum useable site size of 7.5 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 outdoor physical educational instructional space should not be compromised for playground equipment.

Softball Fields

- One softball fields should be provided with the following design requirements:
- 250’ radius, with a soccer field superimposed should be provided if possible. See below for the soccer field dimensions.
- The site size will determine the number and dimension of the softball fields.
- Softball fields should have metal benches protected by fencing for each team’s use.
- The fencing and benches should not interfere with soccer field usage.
- The softball backstop shall be in diagonal corners of the field or in corners on the same side. See the diagram in the MCPS Facilities Guideline Specifications.
- Softball infields are not skinned for elementary schools. However, one field may be skinned if it does not significantly impact the soccer playing area.

Soccer

- The site size will determine the size of the soccer fields. The school size soccer field is 150’x240’ however the minimum size field should be 105’ x 180’.
- No permanent goals or temporary goals should be installed on the soccer fields.

Paved Play Area

- One paved area, 80’ x 100’ should be provided if the site permits.
- The area should have four basketball goals with appropriate striping (see diagram in the MCPS Facility Guideline Specification).
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VII. APPENDIX C: EXISTING CONDITIONS SURVEY

GENERAL SITE INFORMATION

Tilden Center, situated on a 19.75 acre property is comprised of six parcels and is located at 6300 Tilden Lane Rockville, Maryland within Election District 04. The property is found on ADC Map book grids 66-C1 and 66-C2. The site is zoned R-200 and is bounded to the north by Tilden Lane and single family residential buildings, to the east by Marcliff Road, to the south by Marcliff Road and Cushman Road and west by Cushman Road.

Based on the current Montgomery County Zoning Ordinance, dimensional regulations for the property will include the following:

- Front setback – 40 ’
- Side setback – 12’ / 25’ total
- Rear setback – 30 ’
- Maximum Building Height – 50’
- Maximum Lot Coverage – 20%

Tilden Center- Aerial (Courtesy of Google Earth)
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

SITE ANALYSIS

ADJOINING STREETS, PEDESTRIAN ACCESS, AND VEHICULAR ACCESS

The current Tilden Holding Center fronts on Tilden Lane. Tilden Lane is a two-lane undivided public road that has a curb and gutter on both sides of the road and parking on side. The property is bounded by two additional right-of-ways Marcliff Road and Cushman Road. Marcliff Road is a two-lane undivided public road with curb and gutter on both sides of the road and parking on both sides. Cushman Road is a two-lane unmarked public road with no curb and gutter and sidewalk on one side. Overall the roadway surfaces for all three right-of-ways appear to be in fair condition. The undeveloped Danville Drive 60-foot right-of-way cuts thought the southern portion of the site.

This site has vehicular access to the student drop-off area via the northern entrance from Tiden Lane. The main site entry from Marcliff Road is a shared driveway for bus drop-off loop and parking area. Pedestrian access is available through the sidewalks along Marcliff Road and Tilden Lane which is met by the on-site sidewalks that lead to the building. The parent bus-off area is located on a separate loop entrance located on Marcliff Road and in front of the main entrance.

SITE PARKING AND CIRCULATION

Bus Loop
The bus loop consists of a 22-foot drive aisle which occupies the east portion of the site and pulls east of the building’s main entrance. With approximately 175-feet of queuing space it appears that the size of the bus loop supports 10 buses in a chevron stay parking arrangement. The width of the sidewalk at the bus loop does not meet the required 12-foot width as required by MCPS. In terms of ADA accessibility, there are no curb ramps located on the sidewalk along the bus-loop. It is recommended that a designated passenger loading area be added to be in conformance with current ADA regulations.

Student Drop-off Loop
The student drop-off loop is located on the north side of the existing building and consists of a 270-foot long curb, 30-foot wide, one-way dedicated drive aisle. The width of the sidewalk at the drop-off loop appears to meet the required 12-foot width as required by MCPS. In terms of ADA accessibility, there are no curb ramps located on the sidewalk along the bus-loop. It is recommended that a designated passenger loading area be added to be in conformance with current ADA regulations.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

**On-Site Parking**
Currently, parking is provided within single parking areas that occupy the eastern portion of the site. There are currently 107 spaces, 4 of which are designated as accessible spaces. The current number of accessible spaces appears to meet the minimum number per current ADA regulations; however, the dimensions, signage, and accessibility of these spaces appear to not meet current ADA regulations. The addition of after school hours parking within the bus drop-off loop should be considered during the design phase. The school provides a total of 107 spaces, which does not meet the MCPS standards. MCPS typically prefers at least 125 spaces for a middle school.

**On-Site loading**
The loading area is located to the east side of the existing building school. This location is visible from the parking areas, adjacent residences and the Marcliff Road right-of-way. It is recommended that improvements to the property consider providing better screening for this area.

**Sidewalks**
The site provides sidewalks along Tilden Lane, Cushman Road, and Marcliff Road to the Tilden Holding Center and to the parent drop-off location. Access around the rear of building is by sidewalks or through the building. Concrete sidewalks at the rear of the building provide access to the playfields and rear entrances. The hard surface play areas and mulched play areas are connected and the fields currently do not have sidewalk access. Overall, the sidewalks around the site are in fair condition, but are not in compliance with ADA requirements.

**Fire Access**
The existing site layout does not appear to meet current requirements for fire access. Any major site improvements will require the installation of on-site fire hydrants. In addition, all fire exits from the building should provide accessible egress to the public way. In addition, 60% of all new doors for the building addition are required to provide an accessible egress to the public way. A meeting with County Fire and Rescue personnel is suggested in order to determine what improvements will need to occur for any proposed improvements.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

SITE TOPOGRAPHY AND VEGETATION

The property drains naturally from the building in all directions. The northern portion of the site drains to the Tilden Lane right-of-way. Whereas the southern portion of the site flows to a yard inlet and leaves the site via the Cushman Road right-of-way. All the hard surface areas of the site drain overland or via a pipe network to the existing storm outfall on Cushman Road and Tilden Lane.

Vegetation

The majority of significant on-site vegetation is located on the northwestern and southern sides of the property line. The trees in these areas provide screening from the adjacent residential areas. It will be important to coordinate site improvements to avoid encroaching on these vegetated areas. Any expansion into these areas may involve impacts to specimen trees, and may trigger the requirement of the Forest Conservation Law. Furthermore, impacts to significant trees and areas classified as forest cover will also likely trigger Forest Conservation requirements. The extent of forest conservation will depend upon an approved Natural Resources Inventory/Forest Stand Delineation.

SITE SOILS

Per the Soil Survey of Montgomery County Maryland, the predominant soils on the site are in the Gaila silt loam, Glenelg-Urban land complex, Glenville silt loam, and Wheaton silt loams. According to the USDA, the depth to bedrock is usually greater than six feet. In terms of hydrology, the on-site soil groups are of hydrologic soil groups ‘B’, and ‘C’. Hydrologic soil group ‘C’ have a poor infiltration rate; therefore, future site expansions must take these factors into account for the location of BMP facilities. Whereas hydrologic soil group ‘B’ and are characteristically known to provide good drainage and allow adequate infiltration.

FLOODPLAINS, STREAM VALLEY BUFFERS AND NON-TIDAL WETLANDS

Initial investigations reveal that the site is located outside of mapped floodplain in Zone “X” as shown per FEMA Flood Insurance Rate Maps numbers 24031C0342D. According to the U.S. Fish and Wildlife Mapping services there are no nationally recognized wetlands located on or around the site.
**VII. APPENDIX C: EXISTING CONDITIONS SURVEY**

**UTILITIES**

**Water and Sewer**
There appears to be several WSSC unities within the Tilden Lane right-of-way: a 66-inch water main, 48-inch water main, a lesser 6-inch water line and a 6-inch sanitary sewer. A 36-inch water main, an 8-inch water line and a 6-inch sanitary sewer are located with the Cushman Road right-of-way. An 8-inch water line and 8-inch sewer are located within the Marcliff Road Right-of-way.

The existing building is served by the 8-inch mainline that runs along the Marcliff Road right-of-way. The size of the service connection is unknown. It is to be assumed that site development pre-dates the WSSC requirement of an external water meter at the property line. WSSC may require a new external water meter be installed.

According to WSSC, the site is in a 495A pressure zone with a High Hydraulic Gradient of approximately 555 and a Low Hydraulic Gradient of approximately 478. On that basis, per WSSC prescribed calculations, the water pressure at the existing connection to the water main in Old Columbia Pike is approximated to be between 51 p.s.i. and 103 p.s.i.

The property is located in a Tier 1 sewer service area and connects an unknown size service connection to an 8-inch sanitary sewer service line within the Marcliff Road right-of-way. It is assumed that both water and sewer service sufficiently meet the current needs of the building; however the capacity of the existing services should be re-assessed for any prospective improvements.

**Gas, Electric and Telephone, Etc.**
All utility service connections enter the site from Marcliff Road before they connect to the building. The existing capacities of the dry utilities in the right-of-way are unknown. Any proposed development to the existing site may require the consultation of a Mechanical Engineer and Electrical Engineer.
MECHANICAL - EXISTING CONDITIONS

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

- **Perimeter Classroom Areas**: Space conditioning and ventilation for the perimeter classroom areas is accomplished through a series of vertical two-pipe unit ventilators. Each unit ventilator has a direct outdoor air connection through a wall-mounted louver, located at the perimeter wall. A pressure relief grille is provided within each classroom for maintaining proper room pressurization. Manufactured by American Air Filter (AAF), these unit ventilators appeared to be in fair working condition during our site visit.

- **Interior Classroom Areas**: Space conditioning and ventilation for the interior classroom areas is accomplished through a series of indoor constant volume air-handling units. Each air-handling unit is provided with ventilation through a series of outdoor air intake ventilators, located at the roof level. A majority of these air-handling unit systems are provided with chilled/heating water coils, with select air-handling units provided with DX cooling. A majority of these air-handling units are located above storage room ceilings and appeared to be in poor working condition during our site visit.

- **Administration and Health Suite**: The administration and health suite areas are provided with space conditioning and ventilation through a single indoor constant volume air-handling unit. This air-handling unit is provided with ventilation through an outdoor air intake ventilator, located at the roof level. Heating water for this air-handling unit is provided by building’s chilled/heating water system, with a DX cooling coil provided for cooling operation. This air-handling unit appeared to be in poor working condition during our site visit.

- **Gymnasium and Stage Areas**: Space conditioning and ventilation for the gymnasium and associated stage areas is accomplished through a pair of indoor constant volume heating-only air-handling units. Each air-handling unit is provided with ventilation through a series of outdoor air intake ventilators, located at the roof level. Air-handling unit systems are provided with heating water from the building’s boiler systems. Supply airflow is distributed throughout the areas served by a series of wall-mounted supply drum louvers, located high along the gymnasium wall. The existing air-handling units serving this areas were not reviewed while onsite; therefore, the condition of these units could not be confirmed.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

• Large Volume Classroom Areas (Located Adjacent to Gymnasium): The large volume classroom areas located adjacent to the gymnasium area are provided with space conditioning and ventilation through a series of indoor constant volume air-handling units, located within each classroom’s storage room. Each unit is provided with heating and cooling from the existing chilled/heating water system. These air-handling units appeared to be in fair to poor condition.

• Locker Room Areas: The locker room areas are provided with space conditioning and ventilation through an indoor constant volume air-handling unit, located within the boiler room area. This heating-only air-handling unit is provided with heating water from the existing chilled/heating water system. This air-handling unit appeared to be in poor condition.

• Multi-Purpose Room Area: Space conditioning and ventilation for the multi-purpose room area is accomplished through an indoor constant volume air-handling unit. This air-handling unit is provided with ventilation through an outdoor air intake ventilator, located at the roof level. This air-handling unit system is provided with a chilled/heating water coil for heating and a DX coil for cooling. This air-handling unit appeared to be in poor working condition.

• Kitchen Area: The kitchen area could not be accessed for review during our site visit.

• Building Exhaust Systems: A series of roof-mounted exhaust fans remove exhaust airflow throughout the building. A majority of these fan systems were operational during our site visit and appeared to be in fair condition.

Control System
The existing control system for the school is a combination of direct digital controls (DDC) and pneumatic control components. Major valve and damper components are provided with pneumatic operation and digital controllers. Building control components are interfaced with the central MCPS energy management system for occupied/unoccupied time scheduling and other energy management routines.

A duplex air compressor system, complete with a horizontal storage tank, is located within the boiler room area and serves the building’s pneumatic control components located throughout this school. Air supplied from this compressor is fed through a refrigerated dryer system. Both the air compressor and refrigerated dryer appear to be in good working condition.
MECHANICAL - SYSTEM OPTIONS

To accommodate the three proposed architectural replacement school concepts being proposed, comprehensive demolition of the existing mechanical system components throughout the existing school is required. As part of this feasibility study, three primary mechanical system options were evaluated.

Option 1 (Hybrid Ground-Source Geothermal Heat Pump Unit System)
The installation of a hybrid ground-source geothermal heat pump system is one potential option for supporting the proposed replacement school. This type of mechanical system provides the ability to have either heating or cooling year-round, while delivering a very high level of overall building energy efficiency. To support the proposed mechanical system, a geothermal borehole field would be positioned below the adjacent athletic fields and parking lot areas. A series of base-mounted pumps operating in a lead/lag type arrangement would circulate heat pump loop water throughout the building and geothermal borehole field. Major mechanical infrastructure components, including the heat pump loop headers, associated pumps, and expansion tank, would be located within the main mechanical room provided for facility.

To reduce the quantity of geothermal borings required to support the proposed replacement school, a supplemental cooling tower would be provided. A plate and frame heat exchanger would be provided between the heat pump piping loop and cooling tower condenser water piping loop, hydraulically decoupling both systems. A series of base-mounted pumps would be provided for circulating condenser water between the heat exchanger and cooling tower. Extended range vertical heat pump units with two-stage type compressors are recommended for conditioning classroom areas and would be located within support closets located adjacent to the classroom served. Doors for support closets would be from the corridor for maintenance access. The administration and administrative support areas would be provided with space conditioning through a variable refrigerant flow (VRF) system complete with water-cooled compressors connected to the building heat pump loop. Ceiling cassette type indoor VRF units are anticipated throughout.

Conditioned outdoor air for classroom and administration areas would be supplied by a series of rooftop dedicated outdoor air systems, complete with water-cooled compressors for heating and cooling and energy recovery for pre-conditioning and tempering of the outdoor air. Airflow supplied from these units would be dehumidified, conditioned, and delivered directly to each space at a room neutral temperature. Exhaust air from classrooms, toilets rooms, and storage areas would be routed through the energy recovery unit’s heat exchanger for pre-conditioning of the outdoor air.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

A series of rooftop type heat pump units are recommended for space conditioning and ventilation within the dining, kitchen, media center, and auxiliary gymnasium areas. Supply fans for each unit would be equipped with variable frequency drives for reducing airflow quantities during periods of reduced cooling demand. A pair of gas-fired heating-only air-handling units are recommended for space conditioning and ventilation within each gymnasium area. Toilet rooms, storage rooms, and other heating-only areas would utilize electric wall heaters. Controls for the replacement school would be direct digital controls (DDC) throughout. Control system components would be interfaced with the central MCPS energy management control system for remote monitoring and energy management routines.

Option 2 (Water-Source Heat Pump Unit System with Boiler and Cooling Tower)
The installation of a water-source heat pump system connected to a boiler / cooling tower piping loop is another potential option for supporting the proposed replacement school. Similar to Option 1 described above, this type of mechanical system provides the ability to have either heating or cooling year-round, while delivering a high level of overall building energy efficiency. Mechanical infrastructure for supporting the water-source heat pump loop would be located within the main mechanical room provided for the facility and include gas-fired condensing boilers, a cooling tower, cooling tower pumps, loop distribution pumps, and a plate-and-frame heat exchanger. All pumping systems would be base-mounted and operate in a lead/lag type arrangement.

Vertical heat pump units with two-stage type compressors are recommended for conditioning classroom areas and would be located within support closets located adjacent to the classroom served. Doors for support closets would be from the corridor for maintenance access. The administration and administrative support areas would be provided with space conditioning through a variable refrigerant flow (VRF) system complete with water-cooled compressors connected to the building heat pump loop. Ceiling cassette type indoor VRF units are anticipated throughout. Conditioned outdoor air for classroom and administration areas would be supplied by a series of rooftop dedicated outdoor air systems, complete with water-cooled compressors for heating and cooling and energy recovery for pre-conditioning and tempering of the outdoor air. Airflow supplied from these units would be dehumidified, conditioned, and delivered directly to each space at a room neutral temperature. Exhaust air from classrooms, toilets rooms, and storage areas would be routed through the energy recovery unit’s heat exchanger for pre-conditioning of the outdoor air.

A series of rooftop type heat pump units are recommended for space conditioning and ventilation within the dining, kitchen, media center, and auxiliary gymnasium areas. Supply fans for each unit would be equipped with variable frequency drives for reducing airflow quantities during periods of reduced cooling demand. A pair of gas-fired heating-only air-handling units is recommended for space conditioning and ventilation within each gymnasium area. Toilet rooms, storage rooms, and other heating-only areas would utilize electric wall heaters. Controls for the replacement
school would be direct digital controls (DDC) throughout the replacement school. Control system components would be interfaced with the central MCPS energy management control system for remote monitoring and energy management routines.

Option 3 (Vertical Four-Pipe Fan-Coil Unit System)
This type of mechanical system provides the ability to have either heating or cooling year-round, while delivering a high level of overall building energy efficiency. Heating water for the new mechanical systems would be accomplished by a series of gas-fired condensing boilers, located within a new mechanical room provided for the proposed replacement school. Heating water generated by these boilers would be distributed through a new heating water distribution piping loop provided for the building.

Chilled water for the new mechanical systems would be accomplished through a pair of high-efficiency water-cooled centrifugal chillers, located within a new mechanical room provided for the proposed replacement school. Chilled water generated by these chillers would be distributed through a new chilled water distribution piping loop provided for the building. A pair of induced draft cooling towers would be located outdoors, adjacent to the mechanical room area, with condenser water piping extending between the cooling tower and chiller systems. The use of multiple chillers and cooling towers is recommended for increased chilled water system reliability, in the event of a single chiller or cooling tower failure.

Fan-coil units would be provided with chilled water cooling and hot water heating, supplied from the new chilled and heating water infrastructure systems. Vertical belt-driven fan-coil units would be utilized for space conditioning within classroom areas. Fan-coil units would be located within support closets located adjacent to the classroom served. Doors for support closets would be from the corridor for maintenance access. The administration and administrative support areas would be provided with space conditioning through a VRF system complete with air-cooled compressors. Ceiling cassette type indoor VRF units are anticipated throughout.

Conditioned outdoor air for classroom and office areas throughout the existing school and proposed building addition would be supplied independent of the new fan-coil units. A series of rooftop dedicated outdoor air systems, complete with chilled water cooling, hot water heating, and energy recovery devices are anticipated. Airflow supplied from these systems would be dehumidified, conditioned, and delivered directly to each space at a room neutral temperature.

Space conditioning and ventilation for the dining, kitchen, media center, and auxiliary gymnasium areas would be accomplished through a series of dedicated single-zone variable air volume air-handling units provided for each space.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

Units would be provided with chilled water cooling and hot water heating. Supply fans for each unit would be equipped with variable frequency drives for reducing airflow quantities during periods of reduced cooling demand.

A pair of heating-only air-handling units is recommended for space conditioning and ventilation within each gymnasium area. Each unit would be provided with hot water heating, supplied from the building’s heating water system. Perimeter toilet rooms, storage rooms, and other heating-only areas would utilize hot water unit heaters for general space conditioning during the winter months. Controls for the new school will be direct digital controls (DDC) throughout the replacement school. Control system components should be interfaced with the central MCPS energy management control system for remote monitoring and energy management routines.

PLUMBING SYSTEM - EXISTING CONDITIONS

The building is served from the county water system through a 6-inch combination fire and water service, entering the building within the boiler room area. A 3-inch domestic water main extends from this service to support the building’s domestic water requirements. Currently, no backflow preventer is provided at the domestic water service entrance. While this may have been acceptable at the time this system was installed, it does not meet plumbing code requirements.

Domestic hot water is generated by a pair of Rheem gas-fired water heaters (Model G100-200). Each water heater is equipped with a 199 MBH gas burner that produces 688 gallons per hour recovery. This equipment appeared to be in good working condition during our site visit. The domestic hot water system is equipped with a domestic water circulation pump; however, an expansion tank and thermostatic mixing valve are currently not provided. The building is currently provided with natural gas supplied by Washington Gas. The existing gas service is located outdoors and positioned adjacent to the boiler room area.

Plumbing fixtures appeared to be in fair condition throughout the school. The water closets are floor-mounted, urinals are wall-hung, and the lavatories are individual wall-hung type. The school is equipped with plumbing fixtures that do not appear to comply with the Americans with Disabilities Act (ADA) requirements.

Fire Protection System
The building is currently provided with sprinkler coverage throughout. Located within the boiler room, a 6-inch fire line extends from the incoming water service. This fire line serves a single zone valve assembly located within the boiler room area. Currently, no backflow preventer is provided at the fire service entrance. A single sprinkler main extends from this zone valve assembly and serves sprinkler heads located throughout the school. Sprinkler system components appeared to be in good to fair condition during our site visit.
PLUMBING - PROPOSED SYSTEM

A new combination fire/water service and natural gas service are recommended for the proposed replacement school, with these new services entering the building near the main mechanical room. Domestic and fire services should be separated within the mechanical room, with a dedicated backflow preventer provided on each service.

A pair of new gas-fired condensing type water heaters would be provided for creating domestic hot water for the school. This system should be complete with circulation pump, expansion tank, and thermostatic mixing valve. 140 degrees F hot water would be supplied to the kitchen area, with 110 degrees F supplied to plumbing fixtures throughout the remaining building.

A new natural gas service from Washington Gas would be provided for the replacement school. This gas service would be positioned outdoors and located adjacent to the main mechanical room. A 2 psi gas distribution pressure throughout the replacement school is anticipated.

New plumbing fixtures would be designed to meet the Americans with Disabilities Act (ADA) and will utilize water conservation features. Floor-mounted water closets would utilize dual-flush type valves, capable of providing either 1.6 or 1.0 gallons per flush. Urinals would be wall-hung and provided with pint flush valves. Wall-hung cast-iron lavatories would utilize self-closing faucets that supply 0.5 gallons per minute. The water consumption figures noted are equal to or less than what is required by both current plumbing code and LEED water conservation requirements.

Fire Protection System
Complete sprinkler coverage should be provided throughout the entire replacement school. The building should be separated into several zones that match the fire alarm pull zones for the building. It is anticipated that a fire pump is not required, as the existing Tilden Holding Center is currently provided with sprinkler coverage without the need for a fire pump. This will be evaluated and confirmed during the design phase. All fire protection work should conform to the standards of the National Fire Protection Association (NFPA).

Air-handling units and dedicated outdoor air systems supplying 2,000 cubic feet per minute (CFM) or more of airflow should be equipped with smoke detectors in both the supply and return air ductwork.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

ELECTRICAL SYSTEM

Tilden Center (6300 Tilden Lane) was constructed in 1969. The majority of electrical equipment at the school is original to the building and generally in fair to poor working condition. The following is a description of the existing power distribution, generator power, lighting, communications, security, and fire alarm systems at Tilden Center.

Power Distribution
The existing electrical service at Tilden Center comes from 3-phase 13.8 kV overhead electrical power lines along Tilden Lane on the north side of the school. These overhead power lines are tapped at a utility pole on the northwest corner of Tilden Lane and Marcliff Road/Danville Drive. The overhead electrical power lines run south on Marcliff Road to a utility pole near the southeast corner of the school property, where it is run down the pole and underground to an underground electrical utility vault on the east side near at southeast corner of the school.

The existing school is fed from a Pepco transformer located within the underground electrical vault. Secondary service feeders run in underground conduit from the secondary of the Pepco utility transformer to the CT cabinet of main switchboard, located in the main electrical room. The Pepco utility meter (Pepco K23A3YS75U) is also located in the main electrical room, adjacent to the main switchboard. The main switchboard, circa December 1968, consists of five sections. From right to left, the first section is the power company CT cabinet. The second section has the 277/480-volt, 3000-ampere mains section with circuit breakers serving Distribution Section HDPA (2000A), Distribution Section HDPB (600A) via transformer, and chiller (600A). The third section is Distribution Section HDPA, which is a 277/480-volt, 2000-ampere distribution section with circuit breakers serving Panel LDPB, chiller, cooling tower, transformer, Panel HE, Panel HF, temporary classroom, and Panel HG. The fourth section is a 225-kVA dry-type transformer by Acme Electric Corporation, with 480-volt delta primary and 120/208-volt wye secondary. The fifth section is Distribution Section HDPB by I-T-E Circuit Breaker Company, which is a 120/208 volt, 800-ampere distribution section with circuit breakers serving Panels LK, LJ, SB, SC, SA, K, and dimmer panel at gymnasium stage.

The main electrical room also contains the Pepco utility meter, 70-ampere 480-volt ASCO Series 300 automatic transfer switch (ATS), Panel EM (emergency panel) serving exit lights, 7.5-kVA single-phase transformer and disconnect serving the fire alarm system, Panel BR with 15-kVA transformer, and Panel HG. Panelboards original to the school are by I-T-E Circuit Breaker Company, Type NAB, located recessed mounted in the corridors.

Generator Power
There is a natural gas indoor generator located in the boiler room. The generator is by Onan, Model 30EK, rated at 30-kW, 277/480 volts, 3 phase, 4-wire. The generator serves the 70-ampere automatic transfer switch by ASCO in the main electrical room.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

LIGHTING
Fluorescent lighting is primarily used throughout the existing school. Classroom lighting and the main office area utilize surface-mounted linear fluorescent luminaires (lighting fixtures) with wraparound prismatic lenses. The cafeteria, main entrance lobby, corridors, and stairwells have 2’x4’ recessed fluorescent troffer luminaires with prismatic lenses and linear fluorescent lamps. Instructional areas with high ceilings, main electrical room, and boiler room have industrial type luminaires with linear fluorescent lamps. The gymnasium has high bay luminaires utilizing metal halide lamps. The gymnasium also has a stage with theatrical lighting. Theatrical lights are connected to a dimmer panel. Locker rooms and shower areas below the gymnasium use enclosed and gasketed fluorescent luminaires. Exit signs have red lettering. Classrooms have a light switch or switches near the entrance door. There are no occupancy sensors installed at the school. There are exterior building mounted wall pack luminaires with yellowing lenses. Entrances have exterior under canopy lights. Pole mounted flood lights are used in the parking lot.

DATA AND VOICE SYSTEMS
Each typical classroom has both teacher and student outlets.

INTERCOM AND SOUND SYSTEMS
The public address system is by Bogen. Each classroom has a wall speaker and a wall-mounted call switch. The gymnasium/stage has horn speakers above the gym and two performance speakers on each side of the stage.

VIDEO AND AUDIO/VISUAL SYSTEMS
Cable TV outlets are located in rooms throughout the existing school. There are Promethean smart boards in classrooms and instructional areas. Most of the projectors for the Promethean smart boards have been removed.

SECURITY SYSTEMS
The intrusion detection system is by Napco (Magnum Alert/Gemini). There are two Napco keypads located in the main office area. There are ceiling-mounted motion detectors/sensors in classrooms with windows, and wall-mounted motion detectors/sensors in corridors.

FIRE ALARM SYSTEM
The fire alarm system with voice evacuation is by Fire-Lite Alarms. The paging microphone for voice evacuation is located in the main office area. There is fire alarm annunciator graphic panel with indicator lights at the main entrance lobby. Fire alarm devices include manual pull stations and ceiling-mounted audible and visual notification devices. There are ceiling-mounted smoke detectors in the corridors where there are fire/smoke doors with magnetic door hold opens.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

ELECTRICAL PROPOSED SYSTEM
The proposed replacement school will have a new electrical service, generator, lighting and lighting controls, telecommunications infrastructure, intercom/public address system, security systems, and fire alarm system.

ELECTRIC SERVICE
The existing overhead electrical line on Marcliff Road (east of the school property), currently serving the existing school, is a 3-phase 13.8 kV overhead line. This overhead electrical line is sufficient to serve the new collocated schools with a new 4000-ampere, 277/480-volt electrical service. The same utility pole on Marcliff Road that is currently serving the existing school’s Pepco transformer can be reused to serve the new Pepco transformer for the proposed replacement school, though any utility pole along Marcliff Road that does not have existing pole-mounted equipment can be used to serve the proposed replacement school. It is not recommended by Pepco to serve the proposed replacement school from Tilden Lane (north of the school property) because additional utility pole guy wires would be needed. There is an existing 3-phase underground Pepco electrical line along Cushman Road (west of the school property) with fusing set for residential service only. This 3-phase underground Pepco electrical line may not be able to be used to serve the proposed replacement school. If the new electrical service needs to come from Cushman Road, additional investigation by Pepco is needed to determine the feasibility.

A new Pepco electrical service, complete with new outdoor pad-mounted Pepco utility transformer, will serve a new main switchboard in the new main electrical room. A primary feeder provided by Pepco will run in a two-way concrete-encased ductbank to the primary section of the new utility transformer to be located in an outdoor service yard near the new main electrical room. Secondary service feeders in a 20 way concrete-encased ductbank will be run from the secondary section of the utility transformer to the CT cabinet of the new main switchboard located in the new main electrical room.

The new main electrical room will have a new main switchboard rated at 277/480 volts, 3 phase, 4-wire with 4000-ampere bus and four sections. The first section will be the CT cabinet section. The second section will be the mains section with provisions for six main circuit breakers. The third and fourth sections will be the circuit breaker distribution sections. The new main switchboard will be sized with spare capacity and space for future circuit breakers in order to accommodate any future renovations to the school.

The new main electrical room will also have mechanical panelboards, lighting panelboard, receptacle panelboard(s), computer panelboard(s), and step-down transformers. Electrical closets will be provided where required. Each electrical closet will have a mechanical panelboard, lighting panelboard, receptacle panelboard, computer panelboard, generator, standby panelboard, and step-down transformers. Panelboards will be rated at 277/480 volts and 120/208
volts and serve as distribution, lighting, or branch circuit panelboards. There will be dedicated panelboards for lighting, mechanical loads, general receptacle loads, and "clean power" computer receptacle loads. Panelboards will have a copper bus structure. Panelboards will be sized with approximately 25% spare capacity and 25% spare breaker space. Computer panelboards will have a 200 percent rated neutral bus to account for harmonic distortion. A three-phase surge protective device (SPD) will be connected to (and mounted directly adjacent to) each respective computer panel.

The typical dry-type transformer will have a 480-volt delta primary and 208/120-volt, 3-phase, 4-wire, wye secondary. Transformers will have copper windings. Transformers serving general receptacle panelboards will be general-purpose, energy-efficient type, complying with DOE 2016 requirements. Transformers serving computer panelboards will be UL K-13 type. General receptacles will be ivory with ivory faceplates. Computer receptacles will be gray with gray faceplates. Standby receptacles connected to the generator will be red with red faceplates.

EMERGENCY SYSTEM
The Maryland Emergency Management Agency (MEMA) may designate the proposed replacement school as an emergency public shelter. Considering that recent projects for MCPS have been designated as emergency public shelters, it is likely that the proposed replacement school will also be designated as an emergency public shelter. Electrical equipment for MEMA will either be located in the new main electrical room, or in a dedicated electrical room.

Electrical equipment for the MEMA emergency public shelter will include an outdoor 1200A generator docking station (equal to Trystar GDS) with multiple cam-lock connectors per phase. This docking station is used to connect to a temporary portable generator. MEMA electrical equipment will also include a 1200A, 277/480V switchboard, a step-down transformer, and 120/208V distribution panelboard. The MEMA switchboard will have two key-interlocked main circuit breakers and a circuit breaker distribution section.

MEMA electrical equipment will be used to serve electrical loads in the gymnasium, kitchen, student dining, and health suite, as well as mechanical loads required to support these spaces. These spaces will be designated by MEMA to be used as an emergency public shelter with the electrical loads connected to a temporary portable generator.

Generator Power
A new onsite outdoor 150-kW natural-gas generator with weatherproof sound-attenuated enclosure will be located adjacent to the new Pepco utility transformer in a new service yard. Enclosed circuit breakers mounted at the generator will serve automatic transfer switches in the new main electrical room. The first automatic transfer switch (ATS) will be for emergency/life safety loads and will connect to emergency/life safety panelboards and transformer. Emergency/life
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

safety panelboards will serve emergency egress lighting, exit lights, and fire alarm system equipment. The second ATS will be a standby ATS and will connect to standby panelboards and transformer. Standby panelboards will serve teacher station receptacles, telecom room receptacles, kitchen freezer and cooler, ATC/EMS panel(s), cab of new elevator(s), sumps pumps, smoke dampers, and heat trace for rooftop units.

LIGHTING SYSTEM

MCPS revitalization/expansion projects utilize LED interior and exterior lighting throughout. MCPS standard classroom lighting will be provided in the classrooms. This will consist of pendant mounted LED luminaires with electronic LED drivers. Lighting controls in classrooms will include lighting room controllers to control luminaires, occupancy sensors, and multiple levels of lighting. Emergency lighting will be automatically switched ON during a power outage.

Lensed type recessed mounted luminaires will be provided in work rooms, corridors, toilet rooms, storage rooms, and support spaces. Instructional spaces, offices, conference rooms, and student dining will have either lensed type recessed mounted luminaires or pendant mounted luminaires. Lighting in gymnasiums, auxiliary gym, and fitness/weight room will have LED high-bay luminaires and vandal-resistant luminaires with wire guards above egress doors. Mechanical rooms, electrical rooms, and rooms with open ceilings will have industrial-type luminaires. Stairs will have wall-mounted luminaires. LED downlights will be used were appropriate. Red LED exit signs will be installed in the path of egress. Exterior building-mounted perimeter security lighting and pole mounted bus loop and parking lot lighting shall be full cut-off dark-sky compliant LED luminaires.

Occupancy sensors in classrooms, music rooms, instructional spaces, offices, conference rooms, work rooms, storage rooms, support spaces, media center, student dining, gymnasium, auxiliary gym and fitness/weight room will be set to “vacancy” mode, meaning that lighting in these spaces will need to be manually turned ON via local lighting control station. Occupancy sensors in vestibules, lobbies, corridors, stairs, toilet rooms, and locker rooms will be set to “occupancy” mode, to be automatically turned ON when occupied. Ceiling-mounted occupancy sensors in corridors will be spaced between 32 and 36 feet apart and controlling every 100-foot section of corridor.

Automatic daylight controls (daylight photocell/sensor that automatically dims lighting when there is sufficient daylight in a space) for daylight harvesting will be utilized only where required per 2015 International Energy Conservation Code (IECC). Daylight harvesting will be required in rooms where there is more than 150 watts of general lighting within sidelight daylight zones.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

Lighting levels will be designed in accordance with the recommendations of the Illuminating Engineering Society of North America (IESNA), with the exception of an average of 40 foot-candles in classrooms. Lighting controls will meet the requirements of the 2015 International Energy Conservation Code (IECC). The lighting power density shall not exceed 0.87 watts per square foot per Table C405.4.2(1) of the 2015 IECC.

DATA AND VOICE SYSTEMS
New telecommunications infrastructure will be provided throughout the proposed replacement school. This will include outlet boxes, conduits and raceways, and conduit sleeves through walls and floors for the installation of the data and voice cabling. The number of telecom outlets in each room will comply with MCPS design standards and Maryland Public School Standards for Telecommunications Distribution Systems.

INSTRUCTIONAL/CLASSROOM TECHNOLOGY
Classrooms will be equipped with dedicated computer receptacles connected to “clean power” computer panelboards. Teacher desk receptacles will be connected to a generator standby panelboards. An additional computer receptacle will be located at the front of each classroom off-center of the teaching wall for Promethean smart boards.

PUBLIC ADDRESS SYSTEM
The new intercommunications/public address system head-end console will either be located in the work room of the main office area, or in the main telecom room. New intercom/public address system devices will be provided throughout the proposed replacement school. This will include ceiling-mounted speakers and call switches in the classrooms, music rooms, instructional spaces, offices, conference rooms, support spaces, media center, student dining, gymnasium, auxiliary gym, and fitness/weight room. Ceiling-mounted speakers will be provided in the lobbies, corridors, large toilet rooms, locker rooms, storage rooms, and stairwells. Exterior building mounted speakers will be provided where required.

Stand-alone sound reinforcement systems will be provided in the gymnasiums, student dining, and music rooms per MCPS standards. Sound systems in these rooms will be complete with wall-mounted equipment cabinet (provided with mixer/amplifier, CD/MP3 player, and wireless microphone system), speakers, microphone outlet(s), microphones, and associated cabling in each room. In addition, sound reinforcement systems in gymnasiums and student dining will have a hearing assistance transmitter (for the listening assistance system for the hearing impaired).

The auxiliary gym and fitness/weight room will each have a sound reinforcement system, complete with two wall-mounted powered speakers, audio outlet with stereo input jacks, associated cabling, and 12 channel desktop mixer in each room.
VII. APPENDIX C: EXISTING CONDITIONS SURVEY

SECURITY SYSTEMS
Intrusion detection devices will include keypads, motion detectors/sensors, glass break detectors/sensors, and door contacts on exterior doors. Door access control card readers will be provided where required by MCPS. Video surveillance equipment will include dome cameras in the corridors and building exterior. A new (Aiphone) entry phone system, card reader, and video surveillance camera will be provided at the main entrance exterior.

FIRE ALARM SYSTEM
The new fire alarm system will have a fire alarm control panel (FACP) with voice evacuation located in the building service office. A fire alarm annunciator graphic panel and paging microphone will be installed at the main entrance. Initiation devices and notification devices will be located to meet code requirements.

Initiation devices include smoke detectors and manual pull stations. Smoke detectors will be installed at the FACP, smoke dampers, mechanical ducts where required, and at locations of magnetic door holders. Magnetic door holders will be located at fire doors for corridors and stairs, and at interior egress doors for the gymnasium and student dining. Manual pull stations will be located at the main entrance, egress doors for the kitchen and receiving, and at only two egress doors in student dining, gymnasiums, auxiliary gym, and fitness/weight room. Manual pull stations will not be installed at each exterior egress door per agreement with MCPS and Montgomery County Fire Marshal.

Notification devices include fire alarm combination speaker/strobe devices and fire alarm speakers. Ceiling-mounted fire alarm combination speaker/strobe devices will be installed in classrooms, instructional spaces, corridors, offices, toilet rooms, and large storage rooms. Ceiling-mounted fire alarm speakers will be installed in corridors and stairs. Notification appliance circuit (NAC) power extender panels will be provided where needed for speaker/strobe devices. Strobe spacing and locations will be per NFPA and ADA requirements for rooms and corridors. Candela minimum required light output intensity will be indicated on the drawings.
VII. APPENDIX D: EXISTING PHOTOS

1. North Entrance

2. Northwest Entrance

3. Existing Play Fields
VII. APPENDIX D: EXISTING PHOTOS

4. East Side

5. Northeast Side
VII. APPENDIX D: EXISTING PHOTOS

6. West Side

7. West Side

8. Southeast Corner