The City of Alexandria (the City) and the Alexandria City Public School Division (ACPS) joined together in the summer of 2013 to develop a Long Range Educational Facilities Plan (LREFP) to improve facilities planning, accommodate the growing student population, and enhance educational programs and services. As part of this effort, ACPS has engaged Studio Twenty Seven Architecture and Brailsford & Dunlavey ("the Planning Team") to develop Middle School (6th – 8th Grade) Educational Specifications. An Educational Specification ("Ed Spec") is the guiding planning document that describes the proposed outcomes of a school modernization or new construction project.

The document presented here is a result of the application of professional technical expertise and the collaboration of invested and knowledgeable stakeholders. The document is outlined in the following table of contents.
The recommended program and concept presented here constitute the professional opinions of the Planning Team based on the assumptions and conditions detailed throughout. This planning effort was in complement to the staff and faculty participation and input. The Board of Education will make the final recommendation. It is recommended this document be comprehensively updated every 10 years.

The **Planning Team** was comprised of the following individuals //
- Jay Brinson, Program Manager,
- Deanna Newman, Educational Facility Planner,
- Beth Penfield, Educational Facility Planner,
- Ty Specht, Project Analyst, and
- John K. Burke, Architect.

The Planning Team wishes to acknowledge the support, cooperation, and effort of all of the ACPS and City staff who contributed to the planning effort, in particular //
- Alyson Alvarez,
- Katherine Carraway,
- Steven Chozick,
- Susan Eddy,
- Mark Eisenhour,
- Andrea Feniak,
- Laurel Hammig,
- GwenCarol Holmes,
- Pat Mann
- Karl Mortiz, and

All of the faculty, staff, and committee members who joined the effort throughout.
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INTRODUCTION ///

Purpose

Educational Specifications ("Ed Specs") are developed to serve as the guiding recipe and benchmark for future school renovations and new construction projects.

Per the National School Boards Association //

The purpose of educational specifications ("Ed Specs") is to define the programmatic, functional, spatial, and environmental requirements of the educational facility, whether new or remodeled, in written and graphic form for review, clarification, and agreement as to scope of work and design requirements by the architect, engineer, and other professionals working on the building design.

In essence, the Ed Spec tells the story of the school facility and how the built environment will support the academic program and vision of school leadership. This generic Middle School Educational Specifications is primarily intended for use as a planning guide by architects and project planners but it is also intended to serve as communication and benchmarking tool for all project stakeholders: students, parents, and families; faculty and administrators, civic leaders and community members; and project design and construction partners.

The general concept embodied in the specifications is to provide adequate details for proposed spaces while leaving ample flexibility for creativity and options in design by the architects. They are meant to define expectations amongst project stakeholders but not limit creativity. The Ed Spec is also meant to be a living document, amendments can be discussed, developed and issued over time.

Project Planning //

During the planning phase of a project, the Ed Spec will be utilized to understand and develop future project scopes of work and budgets. The Ed Spec will be included in project procurements to ensure that interested vendors are clearly and uniformly communicated the intent of a project and therefore provide well informed responses to meet actual project needs. While the unique site locations of new schools may necessitate floor plan modifications, the program and space requirements should be modified only as allowed within the parameters of this document.

Project Implementation //

During the implementation phase the Ed Specs will be utilized for quality control, allowing ACPS to measure project deliverables against the stated benchmarks and standards. Design deliverables and construction will be reviewed for compliance with the standards and goals stated herein with a goal of meeting benchmarks by 10 to 15 percent. Additionally, the Ed Spec will help provide the foundational support for project decisions during implementation as responses can be measured against their responsiveness to the Ed Spec.

Project Turnover and Occupancy //

The Ed Spec can serve as a valuable aid in the turnover of the facility to staff and administrators and other occupants. It is a user friendly document that allows people outside of design and construction professions to understand the building and the intent of its spaces.
Planning a state-of-the-art school requires the consideration of several influencing factors: the historical and forthcoming context of the community; the current and future learning pedagogy and curricular goals; the technical expertise of the faculty and administrators; national and regional trends and benchmarks; and strategic visioning goals and objectives.

Developing the plan requires the cooperative efforts of facility specialists, administrators, faculty and instructional consultants, in addition to the careful involvement of outside partners and community stakeholders. In order to create the best possible learning environment for children, an effort has been made to incorporate the best ideas from existing plans and facilities as well as to anticipate future needs for educating Alexandria’s children.

As mentioned, ACPS and the City are working together to develop a long range educational facilities plan in order to develop thoroughly coordinated plan that responds to projected enrollment growth and considers city-wide needs in a comprehensive manner. The LREFP process, which is shown in figure 1.0 on the following page, focuses on developing technical details in three key areas: Enrollment Forecasts, Current Facility Conditions and Capacities, and the Educational Specifications. The joint work group has subcommittees assigned to each of the three technical areas to enhance the efficacy of community involvement and report on progress to the full work group.

The overall workflow for the development of the Educational Specifications is demonstrated in figure 1.1 on the following page. The process began with a series of discussions devoted to aligning this document with the Division’s strategic objectives and vision for future schools followed by several weeks of interviews with technical experts, building users, and other stakeholders. The project Planning Team was careful to solicit community and student input at key intervals to ensure the document considers all perspectives related to facility needs, adjacencies, and space prioritizations.

Input from specialists in technology, facility planning, other school divisions, and middle school pedagogy has been added to the basic plan to ensure quality facilities well into the twenty-first century.
JOINT CITY COUNCIL / ACPS SUBCOMMITTEE

[ 14 members ]

LREFP WORK GROUP
explores the major issues that will impact public school facilities over the long term and guides staff in the development of a draft long-range educational facilities plan for consideration by the school board and city council.

SUB COMMITTEES

- ENROLLMENT FORECASTS / DEMOGRAPHICS
  establishing sustainable short and long term enrollment forecast program

- FACILITY CAPACITY NEEDS ANALYSIS
  understanding current conditions and needs of the existing facilities

- EDUCATION SPECIFICATIONS / SCHOOL OF THE FUTURE
  planning for our future and matching of facilities to our students and our vision

JOINT LONG-RANGE EDUCATIONAL FACILITIES PLAN

to improve facilities planning, accommodate the growing student population, and enhance educational programs and services

FIG. 1.0 /// PROCESS DIAGRAM
INFORMATION GATHERING

DRAFT DEVELOPMENT

FINAL PRESENTATION

COMMITTEE KICK-OFF

STAKEHOLDER MEETINGS

COMMITTEE MIDPOINT

DRAFT SPECIFICATIONS

INTERNAL PRESENTATION

FINAL DOCUMENT AND PRESENTATIONS

OVERARCHING ISSUES
EDUCATIONAL VISION, SECURITY,
TRANSPORTATION, EXTERNAL PARTNERS

21ST CENTURY
CLASSROOMS INST. TECHNOLOGY

FOOD SERVICES

MEDIA CENTER

SPECIAL EDUCATION

PHYSICAL EDUCATION

RESOLVE ISSUES

DISCUSS OPTIONS

INTEGRATE COMMUNITY FEEDBACK

GENERAL PLANNING CONCEPTS
CAPACITY AND CORE ACADEMICS
room layouts and programmatic requirements
capacity matrices

FIG. 1.1 // WORKFLOW DIAGRAM
Each school division is unique from an educational and building program perspective. Balancing against national, state, and local regulations, it is important to understand that one size does not fit all. The trends and planning principles presented here are to provide context to the formulation and development of this document.

21st Century Learners //
Learning environments should be planned and designed in consideration of supporting all learners: auditory, tactual, kinesthetic and visual. Individual learning styles impact the way in which individual students:
- Concentrate in one’s immediate surroundings
- Process information
- Make decisions and solve problems
- Complete tasks and assignments
- Interact with others
- Retain new information

Educational facility planning and design can help maximize learning by considering differentiated instruction and recognition that ‘one size does not fit all’ when it comes to learning environments.

Today’s learners were born digital and are used to having the world of information at their fingertips and in their pockets. Today, learning can occur “any time, any place, any path, any pace.” Classrooms are transitioning from environments focused on teacher-directed whole-group instruction to learner-centered workplaces that support a collaborative culture of students at work.

Schools and homes continue to be important places for learning, but not exclusively. Understanding the importance of the “third learning space” - the many places where students learn in ways not bounded by the schedule of the school day, the limitations of the four classroom walls, or the location of one’s home - is a critical component in planning and designing innovative, inspirational, and thriving educational environments.

Student Focus Group //
The Planning Team held a focus group with middle school students from George Washington Middle School to discuss current and future learning environments and help inform the plan. The prevailing theme centered on students wanting the opportunity to have choices for how and when they learn throughout a class period as well as throughout the day. They generally understood that each student has a different style of learning and recognized the importance of providing appropriate environments and opportunities for each learning style.

Other student discussion points captured generally accepted evidence based design elements and other trends in modern educational environments:
- Exciting, engaging and varying learning spaces
- Access to natural daylight and climate control
- Ability to control acoustics and ambient noise
- Furniture options, adaptability, convertibility, and ergonomics
- Ability to work alone and/or in groups
- Space to move around and work within classrooms
- Informal break out spaces within corridors
- Healthy eating options and improved dining

national trends in educational facility planning
facilities
- Use of the media center for multiple activities (quiet and noisy)
- Access to deliberate outdoor learning spaces
- After school access to spaces such as the Media Center and fitness spaces

Classrooms & Technology //
The 'classroom of the future' should be more personalized, student-directed, collaborative, interdisciplinary, and hands-on than those of even 10 years ago. As the focus of education moves away from just the transmitting of information and to developing creative problem solving and communication skills, the classroom setting is morphing into a beehive of activity – a learning studio.

At different times, students may be working alone, in pairs, or in groups:
- Working alone: reading, writing, interacting with the computer, or just thinking
- Working together in pairs or groups: dissecting a problem or reading and reacting to one another's written work, role-playing, or sharing ideas, opinions, and experiences
- Interacting with the teacher and the whole class: listening, making presentations, asking questions or brainstorming ideas

Teaching methods should address a variety of learning styles and children with disabilities are educated alongside their non-disabled peers at their neighborhood school.

The classroom of the future should no longer be just one-directional with rows of desks facing the ‘front’ of the room. It should have a variety of focal points with mobile resources to support learning, flexible furniture, and robust technology. Rooms should also range in size and purpose from small incubator and assessment spaces to large seminar and presentation areas. Corridors and informal learning spaces should create a seamless and extended learning environment.

Technology is infused seamlessly into the education program and physical building and wireless connectivity allows for learning to occur whenever and wherever. Classrooms are versatile, flexible and adaptable to support different mediums.

Media Centers and Student Commons //
The 21st Century school media centers are changing from being quiet book-lined storage spaces for research and reading to multi-media, interactive studios of social collaboration for faculty and students. They are seen as a learning 'commons' - an extension of the classroom and the social and technology heart of the school.

New media centers are more than 50 percent digital and offer both learning and gathering areas as well as production areas. The ideal media center might move from noisy to quiet - through a ‘café’ and mobile computing environment, to small, AV-enhanced, group study conference areas, to individual study carrels or a media
production room.

The technology that this generation of students understands and uses is multi-media. They communicate and learn through on-line devices, but they also publish and perform. The media center may include a computer lab for research, a publications room for the school newspaper and yearbook, a video production and editing lab for film, a distance learning lab, and a variety of display venues.

National standards for media centers call for 4-6 SF per student. Even at this size, most learning commons cannot offer a full range of media options. Multimedia satellites instead are infused throughout the school to complement core curricular activities. Many learning commons also offer virtual space to bring together a generation that grew up on social media.

**Building & Grounds**
The school building itself is considered a learning tool and a community asset. There is a sense of identity and the quality of architecture instills a sense of place and pride. The architecture considers learning opportunities over the entire campus, including school grounds and landscaping.

Transparency of spaces help foster an internal sense of community and excitement about the learning activities that are occurring within. Use of glass allows for visual connections externally and internally. Front entrances are inviting and welcoming for all community member – parents, families, neighbors. The school is a hub of activity before and after school as well. Health services and other non-educational support are often provided.

**Evidence-Based Environmental Elements**
Evidenced-based design is the consideration of credible research findings in the planning and design process with a goal of achieving positive outcomes. Researchers have presented findings that link measurable outcomes such as student attendance, academic performance, faculty retention, and disciplinary actions. More specifically, several design elements have been connected to these outcomes: Lighting quality, indoor air quality, acoustics, and furniture design.

**Lighting Quality**
The Heschong Mahone Group found statistical correlations between the amount of daylight in a middle school classroom and the performance of students on standardized math and reading tests in 1999. Since then, case studies and further research have supported this finding and the educational facility planning community has generally accepted the following classroom design parameters.

Goal: Improve natural and artificial lighting in classrooms.

**Environmental / Air Quality**
According to the US Center for Disease Control and Prevention, American children miss approximately fourteen million school days each year due to asthma. Controlling environmental factors such as dust, pollen, and carbon monoxide could help prevent more than 65 percent of asthma cases of middle school-age students.
according to the American Journal of Respiratory and Critical Care Medicine. The following classroom design parameters should be considered when modernizing a school facility.

**Goal:** To ensure comfortable rooms, address temperature control, ventilation, air filtration, carbon dioxide levels, and HVAC background noise.

**Acoustics**
Research links the importance of maintaining appropriate acoustic conditions for student learning. This relates to noise from external sources and reverberation in the classroom and is linked to academic achievement, behavior, attention, and academic concentration. Acoustics are also important for teacher wellness and avoiding straining vocal cords while attempting to speak over noise. Classroom design parameters are generally accepted as outlined.

**Goal:** Limiting reverberation and background noise and improving sound isolation.

**Ergonomics**
A 2007 study compared adjustable furniture in schools to traditional fixed furniture. Students using adjustable furniture were found to have higher grades than those in the control group using traditional school furniture. Characteristics of furniture that promote good posture should be considered as well as adjustable desks and chairs to allow students of varying sizes and body types to improve their comfort levels when sitting for long periods of time. Research studies continue to explore this issue.

In summary, these national trends provide an important context for many of the ideas that ACPS is working to implement and how those concepts are articulated within this document.

**City of Alexandria: Demographic, and Economic Context**
The City of Alexandria is divided into 18 planning neighborhoods, each with their own unique history and atmosphere ranging from the more urban historic neighborhoods close to the District of Columbia to the more suburban western communities. In general, most neighborhoods serve higher income professionals seeking safe, walkable community close to DC. Typical of the Metro, people come from all over the world – ACPS records 128 countries of birth and 103 languages.

According to the 2010 census, the City was 60 percent white (16 percent Hispanic), however ACPS is more diverse.

- Black: 31.95 percent
- Hispanic: 33.04 percent
- White: 27.07 percent
- Asian: 4.56 percent
- Native American: 0.49 percent
- Native Hawaiian/Pacific Islander: 0.32 percent
- Multi-racial: 2.29 percent

As a percentage of total population, the school age population in Alexandria is lower than the United States.
FIG. 2.0 // REGIONAL BOUNDARIES
as a whole. This is due primarily to the fact that much of the City’s historic growth has been from young adults moving to the Washington, DC metropolitan area for new jobs. As a result, the City has become more urbanized with over 60 percent of the housing stock being multifamily and an average household size of just over two persons.

The school age population in Alexandria had been steadily declining since 1970, but the decline tapered off in 2007. Although the percentage of school age population in Alexandria remains lower than adjacent Virginia counties; between 2000 and 2010 the number of children aged 0-5 grew at more than twice the rate of the whole population (22 percent to 9.1 percent). This growth trend combined with observed increases in kindergarten capture and cohort survival rates has led to over 24 percent enrollment growth since 2007. Based upon these trends and recent work with the City’s planning department, ACPS believes that enrollment growth over the next five years will continue to outpace the citywide growth rate at more than a 3:1 ratio.

To underscore the diversity of the student population in Alexandria it is important to note that although median incomes in the city are among the highest in the region, approximately 60 percent of ACPS students are eligible for free or reduced lunch programs. Further, the division has a strong international presence with English Language Learner (ELL) students accounting for nearly 20 percent of the school population.

*Reflects ACPS’ current direction to return to a traditional style of school model and abandon multiple schools within one building

---

FIG. 2.1 // REGIONAL STATISTICS

<table>
<thead>
<tr>
<th>CURRENT AS OF 2/2014</th>
<th>SCHOOLS</th>
<th>TOTAL ENROLLMENT</th>
<th>FREE LUNCHES</th>
<th>REDUCED LUNCHES</th>
<th>ELL STUDENTS</th>
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<tbody>
<tr>
<td>PreK - 5th</td>
<td>5</td>
<td>3328</td>
<td>1871</td>
<td>369</td>
<td>392</td>
</tr>
<tr>
<td>K - 5th</td>
<td>7</td>
<td>4206</td>
<td>1650</td>
<td>339</td>
<td>1065</td>
</tr>
<tr>
<td>PreK - 8th</td>
<td>1</td>
<td>329</td>
<td>266</td>
<td>19</td>
<td>48</td>
</tr>
<tr>
<td>6th - 8th *</td>
<td>2</td>
<td>2550</td>
<td>1273</td>
<td>297</td>
<td>487</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>10413</strong></td>
<td><strong>5060</strong></td>
<td><strong>1024</strong></td>
<td><strong>1992</strong></td>
</tr>
</tbody>
</table>

*Reflects ACPS’ current direction to return to a traditional style of school model and abandon multiple schools within one building.
ACPS Learning and Teaching Model //
Learning and Teaching in ACPS is a well-executed balance between a rigorous curriculum, proven instructional strategies (pedagogy) and relationships with students that communicate high expectations and commitment to student success.

ACPS has developed and uses a 21st century curriculum that is focused on helping students become critical thinkers and problem solvers. In addition to helping students acquire declarative and procedural knowledge, each unit has a focus on higher-order thinking skills to ensure students are developing critical thinking skills needed for post-secondary success: reading complex text, writing at a post-secondary level, analyzing and interpreting data and participating in discourse across the disciplines.

Instructional Methods //
Instructional methods vary with grade level, but maintain continuity from early childhood through the primary, intermediate, and middle grades. Predominant elements include:

- Integrated learning, where content areas cross disciplines
- Flexible groupings (in primary grades, regrouping stays within the classroom).
- Mentoring of older to younger students
- Extended day learning opportunities
- Parent involvement and volunteer activities

ACPS offers ‘What to Expect’ brochures for every grade level available on its web site and the full program of studies is available for middle and high school. These documents should be referenced by architects to better understand program offerings and curriculum goals.
strategic visioning

ACPS was guided through a series of visioning sessions with educators, administrators, and community members that challenged them to clarify their expectations related to facility operations, sustainability, architectural quality, space priorities, and the community context. The visioning sessions focused on identifying gaps between ACPS’ future goals and their current realities. The following narrative summarizes the areas of greatest dissonance and formulates the concept for the construction and operation of a school of the future in Alexandria.

Building Concept and Priorities of Spaces //

The desire to teach whenever and wherever drives the need for future facilities to implement a spatial organization that provides both formal and informal learning spaces and maximizes collaboration and interaction between students and faculty.

School designs should focus on creating collaborative and adaptable learning spaces supported by a robust and seamless integration of technology and flexible and ergonomic furniture. Incorporating an overall organization of small learning communities with breakout spaces in hallways (ELA’s), collaborative spaces in classrooms, and spaces that facilitate chance interactions throughout the school will allow teachers to collaborate across disciplines and tailor learning objectives and lessons to students’ individual needs.

Providing multifunctional spaces for third party partner and community programs that extend educational and extra-curricular services to students, families and the community is a priority. The facility should operate as one organism that can be segmented into different functions and zones depending on the time of day and use.

Community Context //

ACPS school facilities should serve as neighborhood assets and centers for parent, family and community interaction and engagement. Parental and family support plays a critical role in the success of students. ACPS students and families come from diverse backgrounds and schools should be welcoming and inviting places that include dedicated space for parent and family engagement as well as spaces available for community and partnership use.

Each school community is unique and designers should consider what spaces best support the community’s needs; however, all schools should be planned and designed to support community use during non-school hours. Implementing a secure separation between the academic core and the shared use spaces along with the careful application of active and passive design strategies will create safe and secure learning environments.

Organizational and Operational Paradigm //

ACPS believes an integrated, interdisciplinary team approach will increase student achievement and faculty collaboration and enhance the overall learning experience. A collaborative team approach is best facilitated with small learning communities, extended learning environments, and a departmental organization of spaces. Media Centers should be seen as the ‘learning commons’ and be utilized
regularly as an extension of teacher's classrooms and workspaces.

ACPS desires to increase inter-student collaboration and group learning and activities. To support this, flexible and adaptable informal and formal teaching spaces are required. Emphasis will be on spaces and configurations that support critical thinking and project based learning ideally within groups of four students and the ability to break out of formal learning environments. Utilizing a push-in and team teaching approach, special education students will learn in the same collaborative learning environment as their peers.

**Architectural and Construction Quality //**

ACPS has a strong belief that high-quality architecture has a positive influence on student success and faculty retention and is committed to delivering high-quality, state-of-the-art, and sustainable facilities to students and faculty and the community. This belief applies to the external and internal qualities of the facility. The school facility and grounds are considered a learning tool and creativity in design and architecture is a priority.

Quality of design and engineering should focus attention on areas that most impact the learning environment with a particular emphasis on incorporating researched-based facility elements, such as enhanced natural lighting, acoustics, air quality, climate control and technology, that directly impact student achievement and educator effectiveness. Externally, the architecture must be respectful of the historical and cultural context of the community while simultaneously inspiring students and passersby of future possibilities.

Materials and system selections should consider extended life cycles. Building systems, materials, and finishes must be resilient, easy to maintain, and create a positive, aesthetically pleasing learning environment. Life cycle of materials should balance quality and potential for future costs in an effort to ensure appropriate use of public funds is achieved.
The following section provides executive summary level descriptions of the capacity analysis and planning concepts of each program space within an ACPS school facility. Detailed descriptions of each space are included later in the document.

**capacity**

Every school project begins with establishing the number of students that will be served when the project is complete or the ‘capacity’. Capacity is the primary driver in determining the number, type, and size of the spaces in the new or modernized building.

Middle school capacities in Virginia typically range between 600 and 900 students. For the purposes of planning, this educational specification is based on a capacity of 1200 students due to the current and projected sizes of Alexandria’s middle schools. This prototype for illustration only. The Division has been provided with an active, editable’ spreadsheet that will allow planners and architects to develop facilities lists for a range of schools based on the capacity and unique program needs in real time.

Simply defined, middle school capacity is a product of the number of classrooms at a school and the student stations assigned to each room type. Only classrooms that are 600 square feet or more with a teacher and students regularly assigned to the space are counted toward full time capacity.

By applying actual school staffing to the current enrollment it can be determined that for most ACPS schools, class sizes range from 20 in the core classes to 25 in the encore and physical education classes through the middle school grades. This is somewhat lower than State of Virginia guideline which is an average of 25:1 across all subjects.

In recent years ACPS, concerned about the size of its middle schools but having inherited large school buildings, has operated multiple schools inside one middle school building. In 2013, for example, Hammond Middle School housed thee separate schools of equal size. Classrooms and administration were separated by wing and/or floor, while core spaces were separated by time allotment. Beginning in 2014, all middle school buildings will be operated in a more traditional grade level multi-team environment. In this setting teams of teachers (English, Math, social studies, and science) together teach the same group of students (100-110). The team usually has the same planning period so they can collaborate and create an interdisciplinary curriculum customized to their students’ needs. This strategy, which has proven effective for adolescents, makes it difficult to ‘float’ teachers. Most teachers in this setting have their own classrooms all periods of the day. However, since teachers usually teach 5 out of 7 periods (plan one and lunch one), the overall utilization of the building in any given period is 71-80%. For this educational specification maximum capacity will be factored at 80% utilization.

Once a capacity is proposed, many other areas of the building are sized to support the enrollment. The number of small group rooms, art and music labs, and support staff offices are based on staffing formulas. The size of the core areas such as media center, dining and food services,
physical education facilities, and site amenities are based on local and national benchmarks related to size.

The following chart (figure 3.2) summarizes the breakdown of the proposed capacity for a prototype 1200 student middle school. The balance of this document outlines the spaces for this sample prototype.

Per the Guidelines for School Facilities in Virginia’s Public School, the goal of the optional guidelines developed by the Virginia Department of Education is

... to provide recommendations that will help local school divisions ensure that their school sites and facilities support the principles of good teaching and learning and promote sound educational programs.

The guidelines developed here by Studio27, Brailsford & Dunlavey, and Alexandria City Public Schools respond to or exceed the Virginia State guidelines and recommendations. It is the responsibility of the architect to ensure their plans meet or exceed the current state guidelines at the time of actual project design in the event the state guidelines have changed and this document has not yet been updated to reflect those changes.

<table>
<thead>
<tr>
<th>GRADE</th>
<th># OF CLASSROOMS</th>
<th>CAPACITY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Classrooms (four teams per grade)</td>
<td>36</td>
<td>20</td>
<td>720</td>
</tr>
<tr>
<td>Science</td>
<td>12</td>
<td>20</td>
<td>240</td>
</tr>
<tr>
<td>Foreign Language / Electives</td>
<td>7</td>
<td>20</td>
<td>140</td>
</tr>
<tr>
<td>CTE</td>
<td>3</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>Visual Art</td>
<td>1</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Performing Arts (Music Drama)</td>
<td>4</td>
<td>25</td>
<td>100</td>
</tr>
<tr>
<td>Physical Education</td>
<td>7</td>
<td>25</td>
<td>175</td>
</tr>
<tr>
<td>Special / Alternative (Reading, ELL)</td>
<td>3</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td></td>
<td><strong>1505</strong></td>
</tr>
<tr>
<td>@ 80% Utilization</td>
<td></td>
<td></td>
<td><strong>1208</strong></td>
</tr>
</tbody>
</table>

FIG. 3.2 // CLASSROOM CAPACITY
program area summaries

The following section provides executive level narrative summaries of the core program space areas. Detailed descriptions of each space within a program area is provided later in this document.

Main Office-Reception/Administration/Student Services //
As students, families and other visitors enter an ACPS building, it is important that they are greeted with an inviting and well-organized front office suite. The primary administrative offices, guidance services, and adult restrooms should be located in this centralized area at the main entrance to the school.

Visitor parking should be located by the front door. Signage and building design should clearly indicate the school entrance. Immediately upon entry, visitors should be directed to the Welcome Center/main office. For security reasons, no visitor should be able to enter the classroom areas without being checked through the reception area. See Security section for additional suggestions.

A digital information kiosk in the lobby may provide real-time data on the school’s administrative and building operations. This may include information on the buildings energy use, water use, and the latest recycling rates.

Health Services //
Health Services will be located near the main entrance to the school. Health Services is responsible for providing health related amenities to all students and staff. The space should be organized to provide appropriate space for:

- health screenings
- illness or injury treatment
- meetings and trainings
- prescription medication storage and distribution
- secure records keeping
- private consultations
- rest and recovery units
- waiting area.

In addition these basic elements, middle school health centers should include space to support partner/provider operated activities such as:

- full medical evaluations
- full laboratory services
- dental services
- radiology services
- pharmaceutical services.

Cooperative and collaborative wellness centers are desired and operated through community partnerships.

If the school division elects to provide a school based health center (SBHC), the architect should work with the division’s officials to ensure full space programming requirements are met according to federal regulatory standards. This center should be adjacent to the school clinic but implementation of a full SBHC will require significant advance coordination by ACPS.

Core Instructional Spaces //
The basic organizational structure of the school should reflect a cluster concept and should consist of general
purpose classrooms, commons space for informal instruction, a small group room, two and three dimensional display areas, and a teacher work center. Each cluster should also contain a resource classroom used by support educators and an extended learning area to facilitate collaborative teaching and learning.

Classrooms //
Provide ‘teaching and learning’ surfaces on two walls to include touch screen interactive boards, magnetic white boards and tackable surfaces at student height. Flexible and easy to arrange furniture that is easy to store is preferred. Student are frequently arranged in small, collaborative groupings rather than rows of individual desks. The provision of an itinerant or hoteling space for drop-in or special needs instructors is a unique feature that should be included in each classroom.

Extended learning areas (ELA) should be incorporated into designs as additional teaching spaces that occur adjacent to each academic cluster. ELA’s are open spaces off the corridor that are meant to facilitate break out instruction, small group and project-based work in addition to multi-class collaboration and joint teaching initiatives. ELA’s vary in size based upon the individual needs of the school and the academic cluster and should be designed and equipped to accommodate a variety of furniture arrangements to optimize flexibility.

Science //
Each middle school science classroom should be designed to support combined science orations and hands-on lab activities. Integrate technology to support wireless one-to-one device connectivity and Bluetooth precision measurement device connectivity. Science classrooms should be integrated into the grade-level academic clusters. Additionally, the provision of an outdoor classroom, a garden area, bio-retention pond, greenhouse, water collection observatory, and/or a food lab should also be considered in order to support science instruction.

Career Technical Education //
Provide space to accommodate learning and project activities for:
- Business
- Family & Consumer Sciences (FACS)
- Technology programs

FACS courses require access to kitchen studios while business courses require a standard flexible classroom. Technology course space requires a dedicated multipurpose technology lab that allows for flexibility to shift from between various course topics supported with portable furniture and equipment. Programs taught at the middle school level build foundations for more specialized high school program offerings.

Special Education //
Special education facilities should be integrated throughout the school to support the concepts of inclusion and the specialized requirements for the students.
Currently more than 70 percent of all students with disabilities are included in standard learning environments for 80 percent of each day. In all middle schools, provide at least one resource space for every two grades or at least three spaces per school to support individualized learning needs and/or speech therapy. Typical occupancy of a pullout space is approximately four to five people.

A dedicated, programmatically-sized classroom may be necessary on a location-by-location basis to support City-wide programs and would be identified at the time of individual site planning. Special education facilities should be integrated throughout the school to support the concepts of inclusion and these specialized requirements should be considered for the identified student groups. Special attention should be given to accessibility of all facilities and an integrated learning program.

**English Language Learning (ELL)**

ELL instruction occurs at every middle school in the division but the highest concentration occurs at Hammond MS which serves as a magnet school for foreign-born students with low English proficiency scores. The majority of ELL instruction is pushed-in to the general education classrooms with an itinerant instructor floating into classes as needed. Middle schools also provide English for Academic Purposes (EAP) break out classes to help students with specific needs. These break-out classes can typically be accommodated in the larger resource classrooms. It should be noted that beginning in the 2015 school year a new International Academy program, modeled after that which exists at T.C. Williams, will be implemented at Hammond MS and designers should be careful to inquire about the site-specific requirements.

**Talented and Gifted (TAG)**

A TAG program exists at every middle school in the division, although enrollment varies from 10 to 20 percent of the total student population. At the middle school level, honors (TAG) classes are taught by the subject area teachers as part of their normal daily schedule, therefore, separate, individual TAG classrooms are not necessary. The TAG program does, however, include a TAG resource teacher who provides curriculum guidance and instructional support to the individual subject area teachers. The TAG resource teacher may 'float' from class to class occasionally requiring the use of itinerant desk space in the classroom and, because of the emphasis on project-based learning, the TAG resource teacher may occasionally work with a small group of students in an ELA space or a resource room.

**Advancement Via Individual Determination (AVID)**

AVID is an elective course that targets students in the academic middle who have a desire to attend college. Enrollment in AVID varies year to year and from school to school but approximately 10 to 15 percent middle school students currently take the course, which amounts to about 25-30 students per class period throughout the school day. The AVID academic week includes two days of traditional classroom-based instruction, two days of small group tutoring, and one day of team building activities or guest activities.
Accommodating all of these activities in one space requires a larger than average classroom that can be partitioned into two smaller rooms to minimize noise and maximize available whiteboard space during tutoring sessions. On tutoring days the class is divided into four smaller groups at a ratio of about seven students to one tutor. Several small tables should be utilized to maximize flexibility and all furniture should be on casters due to daily rearrangement. It is suggested that a small adjacent room be added to accommodate hoteling space for tutors and storage for student work files. The AVID room should be placed in a centralized location at an equitable distance to all grade levels, with a suggested adjacency to the media center.

**Visual and Performing Arts**

ACPS has a strong arts focus in the middle grades. Well-designed spaces need to support a vigorous curriculum and creative presentations. Art, music, and multi-purpose classrooms will be shared by all grade levels for general class and small group instruction. The location and access to these rooms should promote orderly transitions.

Art rooms should support 2D and 3D instruction. The optimal location for the art room is on the ground floor with a northern daylighting orientation. Access to an outside patio or seating area will offer additional work space, display spaces, and performance spaces. Display areas in the corridor should allow for 2D and 3D projects.

A multi-purpose performance venue (auditorium) will also act as a drama classroom (stage), a practice room, a large group gathering space, and a community meeting space. The room should have a flat floor with flexible seating options and may have telescoping seating for some portion of the room. Appropriate acoustics, sound and lighting systems are critical to the room’s flexibility and functionality.

If possible, the music suite should be located near the auditorium. Locate dedicated small group practice rooms within the music suite along with storage areas.

**Media Center**

The media center serves a dual role – its traditional role as a gathering place for research and learning and a new role as a technological information base and learning hub. In this new role, the media center may house a wireless voice/video/data network, which runs throughout the entire building. This network enables the transmission of media services to the desktops of teachers and students without physically entering the media center. The new library will utilize digital technology to enhance voice, video, and data communications within the school, among division facilities, and with distant learning resources.

Today’s library is a learning place, not a warehouse space. And it must be a fluid environment, one that continually reinvents itself to remain relevant, that adapts to new knowledge of learning and new pedagogy. The concept of the library as a hushed, quiet space, where all students study individually and silently, sitting up straight on
uncomfortable, wooden chairs is a concept that should have long ceased to exist. Students have become accustomed to multimedia environments, working in groups, and multitasking.

Libraries must be spaces where multiple activities can take place simultaneously. And since there are many different learning styles, the library should offer as many different types of environments as possible—quiet study areas, group activity areas, spaces for individual and small group work, spaces for instruction, and spaces where students can listen to music ....

Rolf Erikson, DesignShare interview Nov 2006

The AVID learning classroom should be located adjacent to the media center to support the role of the media center as a research and learning hub. This space can serve as an extension of the media center to support research and learning by providing students and staff with typical classroom technology and additional working space. This flexible use space can be used for group work, individual work, or class teachings. The additional space will bring the media center up to national standards during the busiest times of operation.

**Physical Education**
To support the middle school physical education program, a variety of indoor and outdoor areas are required. Outdoor physical education teaching areas should be located near the indoor gymnasium. Physical education facilities must be designed with a focus on community use during non-school hours, since there is a high demand for both indoor and outdoor facilities.

ACPS offers formal physical education to middle school students daily on a rotating quarterly schedule. Intramural sports are offered each season and utilize both indoor and outdoor space. Fixed seating requirements should seat the entire school enrollment in bleachers. To further support the physical education program and provide for after school programs, larger schools should have a smaller multi-purpose space and a full locker room with individual showers.

Parking should be located near the gymnasium and a separate entrance should be provided for after school activities. Flexibility of space use is desired; therefore, provide the ability to separate the gymnasium into two smaller gym stations during teaching periods.

**Dining and Food Service**  
The dining space(s) should accommodate one-third of the projected student capacity each lunch period. The dining area(s) should be warm and inviting spaces with plenty of natural light, pleasant acoustics, and multiple, age-appropriate seating choices. It is proposed through creative design that dining area(s) should effectively house multiple functions including assemblies, community meetings, and potentially be utilized as learning areas.

It is important to note that ACPS is currently piloting a
“distributed dining” concept at the new Jefferson Houston School, which is slated to open in August of 2014. This design approach locates serving lines in three locations around the school and utilizes the ELA spaces as dining areas in addition to the provision of one, small cafeteria space which is primarily for the youngest students. Designers on future projects should inquire with ACPS about the success of the distributed dining model which was implemented to minimize student travel time/maximize eating time, foster smaller-group eating environments, and minimize underutilized space throughout the school day.

This educational specification recommends a more traditional, centralized dining space adjacent to the kitchen. This space will serve multiple functions and will also include a stage to host school performances. The architect should consider the room volume, configuration, technology requirements, acoustics, and general layout as it relates to the stage and kitchen. These key design points can then be further enhanced by the selection of materials and a well-designed audio system.

Foodservices is responsible for food preparation and delivery of food programs division wide. Foodservices facilities should provide appropriate space for both ‘scratch’ and ‘warming’ kitchens with appropriate equipment. Provide appropriate sized storage facilities to support healthy eating program offerings which include:

- breakfast
- bag meals
- meals between bells
- snacks
- supper

Architects should consider serving and dining areas that incorporate composting and recycling facilities, homelike environmental qualities, breadth of flexible seating options, and design qualities that support visual and verbal communication between students and faculty.

Site

Site circulation should be organized for safety and efficiency. This should be accomplished through careful separation of vehicular traffic, including the separation of school buses, parents, and staff. Particular consideration should be given to providing safe passage to pedestrian traffic. Sufficient stacking space should be provided to prevent congestion of busy streets.

All play areas should be protected from vehicular and pedestrian traffic, so students can be assured of a safe and secure environment on the entire school site. Shading elements should be considered along with an outdoor learning area and garden.

The Virginia Department of Education Guidelines recommend that each school “site have areas that can be developed to provide the minimum number of play areas require for physical education;” as indicated by the following chart (figure 3.3).
Site Management //
Recreation, Parks, and Cultural Activities (RPCA) is a partnership program that utilizes shared ACPS facilities for afterschool programming. RPCA operates the majority of playing fields, courts, parks, and playgrounds adjacent to Alexandria schools. When funds are available to enhance the campus or grounds of the school, architects should coordinate and consider RPCA’s requirements towards playgrounds, courts, fields, and gymnasium spaces, per the joint ACPS/RPCA Facility & Outdoor Maintenance & Use Agreement.

Parking and Transportation //
ACPS transportation provides services to 5,800 students daily. At school facilities where space can be provided for school bus parking, it is desirable to orient busses in the parking lot to prevent buses from reversing out of a parking space. Plan bus parking loops similar to bus depot space – in a manner similar to that seen in a bus depot parking area. If a bus parking loop must be utilized, avoid parallel, double-wide parking during loading and unloading as this increases danger to the students.

It is important to note that most ACPS schools are located in densely-populated neighborhoods and many students either walk to school or receive rides from parents. At the middle school level, current ACPS policy is to only provide transportation for students living more than 1.5 miles from their designated school site. Due to the high percentage of students arriving by alternate means, designers should be careful to separate parking lots and school bus loading areas from each other and from student drop-off areas and pedestrian walk ways. Furthermore, the use of bicycles should be encouraged by providing bike racks in quantities at a minimum consistent with LEED guidelines. See figure 4.1 for conceptual layout.

The following chart, figure 4.0, recommends the minimum parking requirements based upon proposed capacity prototype. Actual parking requirements may be impacted by factors such as zoning, site constraints, absences or presence of other modes of transportation, etc. The architect must coordinate at time of design and it should be noted that ACPS offers incentives to encourage carpooling and the use of mass transit by staff.

FIG. 3.3 // PLAY AREAS

<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiuse (Hard Surface)*</td>
<td>(2) 100’ x 120’</td>
</tr>
<tr>
<td>Fitness Development Fenced Equipment Area (6-8)</td>
<td>(1) 100’ x 150’</td>
</tr>
<tr>
<td>Field Game Area</td>
<td>(3) 200’ x 400’</td>
</tr>
</tbody>
</table>

*A gymnasium may substitute for one multiuse (hard surface) play area.

NOTE: Quantities bases on 1,200 student prototype.
**FIG. 4.0 // PARKING CAPACITY**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CAPACITY PROTOTYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Capacity</td>
<td>900</td>
</tr>
<tr>
<td>Teaching Stations</td>
<td>56</td>
</tr>
<tr>
<td>Bicycle Racks</td>
<td>50</td>
</tr>
<tr>
<td><strong>Staff Parking</strong></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>56</td>
</tr>
<tr>
<td>Ancillary Staff</td>
<td>18</td>
</tr>
<tr>
<td>Administration</td>
<td>9</td>
</tr>
<tr>
<td>Custodial / Maintainence</td>
<td>6</td>
</tr>
<tr>
<td>Food Service</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total Staff Parking</strong></td>
<td>96</td>
</tr>
<tr>
<td>Total Visitor Parking</td>
<td>18</td>
</tr>
</tbody>
</table>

**NOTE 1**
Ancillary staff includes teaching aides, media center specialist, special education staff, etc. Total is calculated as percentage of the student population as follows: Middle-2%.

**NOTE 2**
Administration includes principals, secretarial, itinerant staff. Calculation at 1%

**NOTE 3**
Custodial/maintenance staff includes full-time staff for regular school hours. Calculation: 1 staff per 150 students.

**NOTE 4**
Food service staff is calculated at 1 staff per 100 meals served with 80% building capacity participation for a full service kitchen.

**NOTE 5**
Visitor parking is calculated at 2% of building student capacity.

**NOTE 6**
Bicycle rack quantity is calculated at 5% of sum of student capacity + FTE staff members, per LEED 2009.
The careful organization of programmatic components during early design phases is critical for the success of a future school program. This conceptual building organization diagram (Figure 5.0) illustrates relevant adjacencies for the typical middle school model. The rooms and spaces illustrated in this educational specification compose a number of program "clusters". The school is a collection of these “clusters” organized according to adjacencies required to best support the educational mission of ACPS. For most campuses in the City, site constraints and the presence of existing structures will limit the options available to control the placement of program clusters. This diagram should be read as an idealized adjacency concept illustrating a learning environment characterized by flexibility, a sense of community for the students and teachers, and a safe, well-supervised environment.

There are three academic clusters in the 1200 student prototype middle school. Those academic clusters are positioned at the corners of a diamond shaped plan with the fourth corner taken by the main entrance. A single main entry is a specific determination of ACPS’s security plan and that entrance is supported by administration and family and community engagement center functions. Academic clusters are located in the quiet areas of the building that can be isolated during off-hours. At the middle school level, each academic cluster includes a per grade administrative suite. Noisier and shared programmatic clusters are grouped toward parking, public and play areas and allow for after-hours access. Informal “break-out” or Extended Learning Areas happen throughout the building.
**DESIGN PRINCIPLES ///

**overview**

The following section provides executive summaries of the guiding design principles that should be applied to each space within an ACPS school facility. The appendix of this document includes expanded detailed guidance for some of the categories discussed here.

**Furniture & Equipment ///
Classrooms vary in shape and size; therefore, the furniture should be flexible to accommodate a variety of classroom formats for both individual and group activities. Teachers and students should have storage space for personal belongings, papers, books, supplies, and teaching materials.

To the extent possible, movable furnishings should be used, rather than fixed casework, to provide flexibility for future reconfiguration. Furniture should be selected for its ergonomic traits. Consideration for variability and adjustability to support diverse learning styles. Architects should consider full height private lockers in hallways for every student.

**Technology ///
The facility should contain the latest in technology and infrastructure should be provided to support wireless access to data and video throughout the building. It is intended that access to technology will be seamless and pervasive throughout the building with only the minimal number of hard drops needed to support voice, teaching stations, and wall-mounted devices. Technology infrastructure should support the concept that learning can happen anywhere by enabling a one-to-one student to device ratio and the notion of "bring your own device". The specific tools and design guidance will be determined based on the best practices at the time of construction.

Every learning area should be wired for teacher audio enhancement. Research into this cutting-edge technology suggests that student learning can improve in classrooms where the teacher's voice is amplified and the classroom acoustics are designed to support voice clarity. Please reference Appendix p.240 for additional guidance regarding technology infrastructure requirements.

**Universal Design ///
The entire facility should be accessible for students, staff, and visitors. This should be accomplished through judicious use of ramping and elevators with sufficient internal clearances for circulation, convenient bus/van loading and unloading, and nearby handicapped parking spaces. All elements of the Americans with Disabilities Act must be complied with, including way finding and signage, appropriate use of textures, and universal accessibility of all indoor and outdoor school facilities.

**Safety & Security ///
ACPS wants to maintain an inviting and de-institutionalized environment, while simultaneously providing a safe environment for students, staff, and community. The organization of a building will have a major impact on student behavior and safety concerns. Architects should refer to Crime Prevention Thru Design (CPTED).

All school locations should include a double perimeter approach where every visitor is guided through a secure exterior door into a secure holding vestibule prior to
gaining access to the main office. Visual access from the main office to the exterior vestibule is mandatory and every entrance to the school should have a CCTV IP camera. Consult with ACPS over the most current keying policy. Please reference Appendix 3 for additional guidance regarding technology infrastructure requirements.

**Community Use and Partnerships**

ACPS is pleased to have community and non-profit partners in its buildings offering valuable services and programs for students and families. Partnership programs and other regular community activities require shared, co-located and sometimes dedicated space that is internal to the school yet has the ability to operate beyond ACPS school hours. Extended hours of operation require the partnership programs and community activity area to have an entrance that can be separated from the main school. This allows partnership program to operate independently of the school’s staffing requirements and provides the necessary security to protect the main school. This secondary building entrance for after school program use should be visible to all spaces co-located in the community use and partnership area, specifically the gym and multipurpose rooms. This space will be utilized by after school programs for record keeping, registration transactions, secure money storage, and child pickup. During general school hours, partnership programs should function under ACPS’ security policies and use of secondary entrances should be restricted.

Program offerings are location dependent and include, but are not limited to:

- Tutoring
- Family and Community Education Centers (FACE)
- Recreation, Parks & Cultural Activities (RPCA)
- Medicaid Therapy
- Campagna Center

Functions of these programs should be co-located with the ability to utilize standard classrooms, the gymnasium, multipurpose room and media center.

ACPS has a standing partnership with Alexandria Department of Recreation, Parks, and Cultural Activities (RPCA) for the maintenance and after-school programming of fields. At several schools, RPCA operates after school and community programs in the gymnasium or multipurpose room; per the joint ACPS/RPCA Facility and Outdoor Maintenance and Use Agreement.

**Family and Community Engagement Centers**

ACPS serves a diverse community of families who have immigrated to the DC Metropolitan area from all over the world. It is understandable that for cultural reasons or due to language barriers that newcomers to the school may be hesitant to engage staff and need additional support. The Division wants to establish Family and Community Education Centers (FACE) at each school to welcome families and provide the additional resources to help them succeed.
A typical FACE center would ideally be located near the main office and include:
- reception area with both comfortable seating for individual conversations and table seating for meetings and classes
- private office
- storage

**Parent Teacher Associations**
Provide flexible use space to accommodate the mission and program offerings of the PTA group. PTA's meet on a monthly schedule, typically during the evening and have 30 to 35 participants in attendance. PTA meetings including School Board Members, parents and on occasion the Superintendent. PTA's offer volunteer afterschool programs that require access to standard, flexible classrooms, the gymnasium, the media center, and the cafetorium. Consider co-locating PTA with other partnership functions like the FACE center. PTA functions require dedicated storage space and direct interaction with the school’s main office suite and staff.

**Energy & Environmental Performance**
ACPS is dedicated to renovating existing or building new facilities that meet or exceed Eco-City standards and City of Alexandria LEED environmental performance standards. ACPS desires to offer schools that teach faculty, staff, students and the community the importance of environmental stewardship. ACPS believes quality architecture and high energy performance facilities positively impact the education of students and increase retention of staff and students. At this time, city development standards require compliance with LEED Silver certification standards for major construction projects. ACPS seeks to exceed these minimum standards.

**Materials & Finishes**
ACPS believes high-quality architectural materials and finishes create an atmosphere that supports and inspires learning. All spaces should be conducive to teaching and provide a warm and welcoming feeling and meet the principles of Evidence Based Design (lighting, environmental / air quality, and acoustics). All materials must be highly durable and resilient yet support a creative learning environment. ACPS is cognizant that materials should be reasonable in cost and not exuberant when considering budget and life-cycle costs to maintain and upkeep. A sensible balance is necessary to maintaining budget and achieve ACPS' facility standards.

**Operations & Mechanical**
Provide mechanical systems that are climate appropriate and responsive to the life cycle, maintenance and efficiency expectations of ACPS. Provide passive systems that pair with active systems and coordinate to achieve maximum efficiencies while coordinating with the users to determine the location of universal and dedicated systems. ACPS requires individual facilities to operate under 20 kw/ hr per square foot by the year 2026.
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The remainder of this document is meant to be illustrative of a typical middle school in the Alexandria City Public Schools. The basis for the capacity and the number of classrooms per use type is described on page 15. The number and size of support spaces and labs are driven by staffing formulas and national benchmarks. For new schools or the modernization/addition to an existing school, this information would inform a ‘site specific’ educational specification.

It is assumed that architects should be required to bring an existing school up to new school standards within reasonable limits. Designs for spaces may vary from recommended sizing by + or – ten percent to minimize the unnecessary movement of walls or to preserve the integrity of a historic building.

The net square foot requirements include the classrooms, support spaces, labs and large core areas. The net/gross calculation includes corridors, bathrooms, mechanical spaces, etc. The proposed ratio listed in this specification assumes a new, highly efficient school. It is expected that existing schools will be less efficient and the actual final (wall to wall) building will be different than what is listed.

Summary of Facility Space Requirements

The following section provides a summary of all spaces required within the facility. It provides an overall summary of the school facility as well as individual space detail. Data is provided to serve as an overall guideline and architects should strive to accommodate the stated square footage recommendations; however, latitude of +/- 10 percent should be provided – particularly when renovating an existing facility.
### Building Space Summary

<table>
<thead>
<tr>
<th>Core Area</th>
<th>Net Sq Ft</th>
<th>Gross Sq Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Academic/Special Education Areas</td>
<td>68,230</td>
<td></td>
</tr>
<tr>
<td>Media Center</td>
<td>5,550</td>
<td></td>
</tr>
<tr>
<td>Visual and Performance Arts</td>
<td>8,550</td>
<td></td>
</tr>
<tr>
<td>Physical Education/Multipurpose</td>
<td>16,858</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>9,850</td>
<td></td>
</tr>
<tr>
<td>Student Dining and Food Services</td>
<td>11,920</td>
<td></td>
</tr>
<tr>
<td>Maintenance and Custodial Services</td>
<td>1,350</td>
<td></td>
</tr>
<tr>
<td>Building Services and Public Restrooms</td>
<td>48,976</td>
<td></td>
</tr>
<tr>
<td><strong>Total Net</strong></td>
<td>164,045</td>
<td>185,329</td>
</tr>
<tr>
<td><strong>Construction Factor [0.082]</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Gross</strong></td>
<td>171,284</td>
<td>185,329</td>
</tr>
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</table>

### Exterior Areas

<table>
<thead>
<tr>
<th>Exterior Area</th>
<th>Net Sq Ft</th>
<th>Gross Sq Ft</th>
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</thead>
<tbody>
<tr>
<td>Multiuse (Hard Surface)</td>
<td></td>
<td>(2)12,000</td>
</tr>
<tr>
<td>Fitness Development Fenced</td>
<td></td>
<td>15,000</td>
</tr>
<tr>
<td>Equipment Area (6-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Game Area</td>
<td></td>
<td>(3) 80,000</td>
</tr>
<tr>
<td>Exterior Grounds Equipment Storage [Secure]</td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Bus Drop-Off and Pick-Up Area</td>
<td></td>
<td>9,180</td>
</tr>
<tr>
<td>Separate Student Drop-Off</td>
<td></td>
<td>1,500</td>
</tr>
<tr>
<td>Parking (130 Staff and 24 Visitor)</td>
<td></td>
<td>53,900</td>
</tr>
<tr>
<td><strong>Total Gross</strong></td>
<td></td>
<td>343,780</td>
</tr>
</tbody>
</table>

**Fig. 6.0 // Building Space Summary**
Alexandria City Public Schools

S

p

A
M-ACA /// CORE ACADEMIC

GRADES 6-8 CLASSROOM
SCIENCE CLASSROOM
SCIENCE PREP / STORAGE
TEACHER COLLABORATION ROOM (TCR)
GRADES 6-8 EXTENDED LEARNING AREAS
TECHNOLOGY LAB / CTE LAB
FAMILY AND CONSUMER SCIENCES LAB
RESOURCE CLASSROOM
STUDENT SERVICES
STORAGE
AVID CLASSROOM
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE ACADEMIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grades 6-8 Classrooms</td>
<td>46</td>
<td>850</td>
<td>39,100</td>
<td></td>
</tr>
<tr>
<td>Science Classroom</td>
<td>12</td>
<td>1,200</td>
<td>14,400</td>
<td></td>
</tr>
<tr>
<td>Science Prep / Storage</td>
<td>3</td>
<td>360</td>
<td>1,080</td>
<td></td>
</tr>
<tr>
<td>Teacher Collaboration Room (TCR)</td>
<td>3</td>
<td>250</td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>Grade 6-8 Extended Learning Areas</td>
<td>3</td>
<td>1,000</td>
<td>3,000</td>
<td>may be provided via multiple smaller spaces along corridor</td>
</tr>
<tr>
<td>Technology Labs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Education Lab</td>
<td>1</td>
<td>1,450</td>
<td>1,450</td>
<td></td>
</tr>
<tr>
<td>Project Storage</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Material Storage</td>
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<td>can occur in a standard classroom</td>
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<td>one per grade, see administration section for more information on SF and quantities</td>
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**Comments**

During facility renovations, the architect should be expected to minimize the movement of ‘hard’ walls and fit the proposed programmed spaces into the existing building. Tolerances of +/- 10 percent is acceptable as is the combination of spaces within a suite. Adjacencies as specified are desirable, but options may be considered and should be reviewed with the planning team.
M-ACA /// GRADES 6-8 CLASSROOM
size
850 SF

capacity
20 - 24 students
teacher
guest speakers/volunteers

spatial relationships
in team clusters
near resource classroom
near science classroom

program activities
large and small group instruction
hands-on activities
oral presentation
team teaching
computerized instruction

environmental considerations
comfortable rooms with pleasant décor
that contribute to an atmosphere conducive to creativity.
windows to provide natural light and egress.
electrical outlets for equipment
uniform lighting
window treatment to darken room for AV presentations
consider movable partitions and doors between classrooms to maximize flexibility
provide transparency into extended learning areas

LEGEND ///

fixed equipment
F1 base/wall cabinets and shelving
F4 marker board (on 2 walls, 16 LF each)
F5 tackable/magnet wall surface
F8 wall mounted interactive electronic presentation device

loose furnishings
L1 stackable/nesting chairs (24)
L2 stackable/nesting tables (24)
L3 teacher work surface with mobile storage
L4 four drawer lateral file cabinet
L7 teacher’s lockable wardrobe (18”X18”)
L8 tall cabinet with shelves
L11 adjustable height bookshelves

data drop
size
1,200 SF

capacity
24 students
teacher
staff

spatial relationships
in team clusters
near science Prep/Storage

program activities
large and small group instruction
hands-on activities
team teaching
data collection and analysis
laboratory work
oral presentations
computer simulations
computerized instruction

environmental considerations
flow between classroom and lab activities
should be seamless with good visibility of all lab stations
uniform lighting
rooms designed for ease of movement.
students need to be able to move around the labs with chemicals, etc., in a safe way
lab table tops, floors, etc., need to be resistant to acids, heat, spills, etc.
OSHA requirements maintained
 electrical outlets for equipment
windows to provide natural light and egress
window treatment to darken room for AV presentations
adequate ventilation
plumbing
plumbing connections
6 sinks
all utilities for teacher demonstration table
safety chemical showers/eye wash stations
floor drains

LEGEND ///

fixed equipment
F4 marker board (16 LF )
F6 soap dispenser
F7 towel dispenser
F10 teacher demonstration table (with desk)
F11 Science casework: base cabinets and shelving per lab (no wall cabinets)

loose furnishings
L1 stackable/nesting chairs (24)
L4 four drawer lateral file cabinet
L7 teacher’s lockable wardrobe (18”X18”)
L8 tall cabinet with shelves
L57 fire blanket
L65 adjustable height stool for teacher
L71 two-person adjustable height tables (12)
L72 goggle storage and sanitizer cabinet

data drop
size
360 SF

capacity
1-2 staff members
student assistants

spatial relationships
central to grade level science classrooms

program activities
general lab preparation
set-up experiments
store equipment

environmental considerations
uniform lighting
electrical outlets for equipment
exhaust system

plumbing
plumbing connections
hook-up for ice maker
sink

LEGEND ///

fixed equipment
F6 soap dispenser
F7 towel dispenser
F11 science casework: base cabinets and shelving per lab (no wall cabinets)
F40 chemical storage cabinets

loose furnishings
L26 refrigerator with ice maker
L57 fire blanket
L58 autoclave (one per school)
L59 distiller (one per school)
L60 dishwasher

data drop
size
250 SF

capacity
teachers
teachers’ assistants
parents/volunteers

ancillary spaces
staff restroom
storage

spatial relationships
near academic core classrooms
access to staff restroom(s) from within
access to storage from within

program activities
team staff meetings
lesson planning and grading
scheduling appointments
record keeping
develop and review teacher materials

plumbing
sink connection


LEGEND ///

fixed equipment
F1 base/wall cabinets and shelving
F4 marker board
F5 tackable/magnet wall surface
F6 soap dispenser
F7 towel dispenser
F9 classroom sink
F49 lockers
F57 kitchenette

loose furnishings
L15 task chair (6)
L17 printer station
L19 conference table
L26 refrigerator

miscellaneous
M2 color printer
size
1000 SF

capacity
4-25 students
1-2 teachers

ancillary spaces
grades K-5 classroom
furniture storage

spatial relationships
integrated into circulation
located within classroom clusters

program activities
small group learning centers
story telling
team activities and project based learning
individual activities
amphitheater
kitchenette

LEGEND ///

fixed equipment (TBD based on age and school preference) may include:
F4 marker board (8 LF)
F5 tackable/magnet wall surface
F8 wall mounted interactive electronic presentation device (optional)

loose furnishings
mixture of the following to support multiple learning activities in multiple learning configurations:
L1 stackable/nesting chairs
L13 small table(s)
L18 lounge chairs
size
1450 SF

capacity
20-24 students
teacher
guest speakers/ volunteers

ancillary spaces
n/a

spatial relationships
project lab with 1) module-based
technology stations around the periphery and 2) fabrication stations in the center
(may include: rocketry, electronics, engineering, digital photography, graphic design, engine repair, etc.)
storage - 300 SF

program activities
large and small group instruction
hands-on activities
oral presentation
team teaching
computerized instruction

environmental considerations
windows to provide natural light and egress
electrical outlets for equipment
uniform lighting
window treatment to darken room for AV presentations
rooms designed for ease of movement and accessibility; students need to be able to move around the worktables

lab features
safety shower and eye wash with floor drain
dust collection, and exhaust system
70 foot-candles of light
a bench height ceiling mounted electric drops with automatic cord reel where appropriate
emergency stop switches/buttons

storage area
storage for 2-3 mobile tool work centers

LEGEND ///

fixed equipment
F4 marker board (2 walls - 8 LF each)
F8 wall mounted interactive electronic presentation device (optional)
F81 goggle storage and sterilization with adequate ventilation
F82 two sinks (6 ft apart) w/ clay traps; cabinetry below

loose furnishings
L1 stackable/nesting chairs (24)
L3 teacher work surface with mobile storage
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L8 tall cabinet with shelves (2-3)
L21 worktable
L53 computer-based module stations around periphery with room for two students each (10)
L54 work benches approximately 4’ x 4’ (5)
L55 48” wide tote tray cabinets for project storage for 100 students
size
1450 SF

ancillary spaces
storage
laundry

program activities
large and small group instruction
hands-on activities
team teaching
computerized instruction

environmental considerations
rooms designed for ease of movement and accessibility; students need to be able to move around the stations
OSHA requirements maintained
electrical outlets for equipment
windows to provide natural light
window treatment to darken room

features (demonstration area)
provide demonstration island with counter top, 9”L X 30”D X 34” H, sink and range double outlets on each end of the demonstration table and slant mirror. provide oven, counter and cabinet storage behind the island
provide tall storage cabinet/pantry unit, lockable with adjustable shelves, 84” H X 36”W X 30” D
magnetic marker board
interactive board that does not interfere with demonstration island

kitchen equipment
L26 refrigerator/freezer, 24 cu. ft. (each serves two kitchens) (2)
L60 dishwashers (4)
L66 range (4), 30” w, front controls, timer, visual light door, self-cleaning oven with exhaust hood
L67 microwaves- 1,200 watt, residential, under cabinet mount (4)
L68 refrigerator, commercial upright, frost-free 54” vertical hinge double doors, minimum 46 cu. ft. stainless steel with shelving, lockable
L69 upright freezer, commercial, frost free, 30” W, vertical hinge single door, stainless steel with shelving, lockable
L70 ice maker, large capacity
F86 double bowl stainless steel kitchen sink with goose neck, swivel kitchen faucet and garbage disposal (HW/CW)
F87 full sized convection oven (each serves two kitchens)

student kitchen (4)
laminate counter surface for kitchen work area. U-shaped kitchens are preferred- one ADA compliant lower cabinets; above counter cabinets: double doors, with adjustable shelves. no upper cabinets protruding into the room, must provide clear visual supervision of all kitchen spaces
small magnetic marker board
computer tablet holder
soap dispenser
towel dispenser

plumbing
5 sinks
eye wash station

storage
adjustable non-corrosive shelving

laundry
hook-up and vent for washer and dryer
peg board/hooks for aprons
cabinets for towels

LEGEND ///

fixed equipment
F4 marker board
F85 casework for dining equipment (dishes, table cloths, etc.)

loose furnishings
L1 stackable/nesting chairs (24)
L7 teacher’s lockable wardrobe
L49 fire blanket
L64 first aid kit
L65 adjustable height stool for teacher
M-ACA /// RESOURCE CLASSROOM
size
600

capacity
up to 15 students
2 or more staff members

ancillary spaces
n/a

spatial relationships
located within academic core areas

program activities
small group work
independant instruction and work
reading, math, speech, etc.

LEGEND ///

● fixed equipment
F1 base/wall cabinets and shelving
F3 wall shelving (over cubbies)
F4 marker board (8 LF)
F5 tackable/magnet wall surface
F8 wall mounted interactive electronic presentation device
F9 classroom sink

○ loose furnishings
L1 stackable/nesting chairs (15-18)
L3 teacher work surface with mobile storage and two chairs
L4 four drawer lateral file cabinet
L7 teacher’s lockable wardrobe (18”X18”)
L8 tall cabinet with shelves
L10 student desks (15-18)
L11 adjustable height bookshelves

► data drop
### SMALL GROUP BREAKOUT

**size**
250 sf

**capacity**
staff and students

**ancillary spaces**
n/a

**spatial relationships**
adjacent and access to academic classrooms

**program activities**
group projects
meetings
listening and viewing

---

**LEGEND ///**
- **fixed equipment**
  - F4 marker board (8 LF)
- **loose furnishings**
  - L1 stackable/nesting chairs (8)
  - L13 small table (2)
size
200 SF
capacity
staff members
ancillary spaces
n/a
spatial relationships
near core academic classrooms
program activities
storing and retrieving books/supplies

LEGEND ///
● fixed equipment
F3 wall shelving (12” and 24” deep)
F28 base cabinets
◇ loose furnishings
L6 mobile shelving
size
1500 SF

capacity
25 to 30 students
teacher
4 to 5 tutors

ancillary spaces
attached tutor office

spatial relationships
near media center

program activities
advanced college preparation elective courses

environmental considerations
comfortable rooms with pleasant décor that contribute to an atmosphere conducive to creativity
windows to provide natural light and egress
electrical outlets for equipment
uniform lighting
window treatment to darken room for AV presentations
consider movable partitions and doors between classrooms to maximize flexibility
provide transparency into extended learning areas

LEGEND ///

● fixed equipment
F4 marker board
F23 operable partition wall
F49 lockers (4)

○ loose furnishings
L4 four drawer file cabinet
L12 admin workstation
L15 task chair (30)
L20 executive chairs (4)
L61 two person table on casters
L62 resource media

➤ data drop
M-MC /// MEDIA CENTER
READING / LEARNING / CIRCULATION
MEDIA PRODUCTION AREA
TECHNICAL PROCESSING ROOM
COMBINED OFFICE/WORKROOM
DEVICE CHARGING ROOM
STORAGE
SMALL GROUP ROOM
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
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<tbody>
<tr>
<td>Reading/Learning/Circulation</td>
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<td>Combined Office/Workroom</td>
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<tr>
<td>Device Charging Room</td>
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**Comments //**
Spaces within the Media suite may vary up to 10 percent and may be combined to facilitate circulation and supervision. The overall square footage may be + or – ten percent.
size
3,900 sf

capacity
75 students
1 media specialist
community patrons after school hours

ancillary spaces
technical processing room
device charging room
combined office/workroom
storage
small group room

spatial relationships
circulation area located close to
entrance / exit

program activities
reading and research
circulation of materials and resources
including online catalogs
large group and small group instruction
provide meeting areas for community,
staff, and parents
dramatic reading and storytelling
informal small group interaction

environmental considerations
recessed floor outlets at tables
adequate ventilation
lighting appropriate to task with switches
to dim separate zones of media
center
environmental sound control:
wall minimum:       STC 45

ceiling minimum:      CAC35

electrical outlets at entrance for future
security system
electrical outlets at column locations
windows to provide natural sunlight
security of school when center is in use
during after school hours
ceiling height in proportion to room
dimensions
open flow for traffic in reference/
professional/periodical areas
electrical outlets in toe space of wall
shelving
window treatment to darken room for AV
presentation
mix of lounge furniture

finishes
flooring: carpet

LEGEND ///

fixed equipment
F1.1 casework (circulation desk)
F3 marker board (in two locations, 8 LF ea)
F44 library case work*
F45 motorized projection screen

loose furnishings
L1 stackable/nesting chairs (32-55
per student enrollment)
L17 printer station
L18 lounge chairs
L21 work table (6-10 with various heights)

miscellaneous
M3 bar code reader
M7 desktop computer (2)

data drop

*shelving calculations per 3’ shelves
Picture thin: 20 books per foot / 60 books per shelf
Standard size: 9 books per foot / 30 books per shelf
Reference books: 6 books per foot / 18 books per shelf
Periodicals: 1 per foot for display purposes

to calculate how many linear feet of shelving
are required for a collection, take the total
number of volumes and divide by the number
of books per foot. For example, a primary
collection of 5,000 volumes consisting of
picture and thin books would require a total
of 250 linear feet of shelving. shelves should
only be two-thirds full. to allow for this,
multiply the number of linear feet required by
1.33. example: 250 x 1.33=332.5 or 333
linear feet of shelving.
“VA guidelines recommend free standing
shelving 36” in height or less.
size
450 sf

capacity
5 students
2 teachers

ancillary spaces
reading/learning/circulation
combined office/workroom

spatial relationships
n/a

program activities
scanning, digitizing, desktop publishing,
copying, and collating

environmental considerations
uniform lighting with an appropriate visual
comfort level
environmental sound control:
wall minimum: STC 45
ceiling minimum: CAC 40
electrical outlets for equipment
due to the changing nature of technology,
a media production room is to be
designed for flexibility of use,
provide visual control from media center

fixed equipment
F1 base/wall cabinets and shelving
(peripheral counters with storage below)

loose furnishings
L13 small table (several and various, for
scanners and other equipment)
L17 printer station (2)
L21 work tables (2)

miscellaneous
M1 high speed and/or large format printers
M2 color printers
M4 photocopy machine
M5 digital scanner
M6 laminator

data drop

LEGEND ///

fixed equipment

loose furnishings

miscellaneous

data drop
size
500 sf

capacity
media specialists

ancillary spaces
reading/learning/circulation
small group room

spatial relationships
adjacent and access to reading/learning/circulation
adjacent to and access to office
adjacent to access to technical processing room
located behind circulation desk and wholeclass zone

program activities
storage of materials
storage of a/v materials and videotapes
scanning
digitizing

LEGEND ///

fixed equipment
F1 base/wall cabinets and shelving (base cabinets with power)
F1.1 casework (poster/map storage)
F3 wall shelving

loose furnishings
L4 four drawer lateral file cabinet (1-2)
L11 adjustable height bookshelves
L12 admin workstation (2)
L15 task chair (2)
L21 work table

miscellaneous
M7 desktop computer (2)

data drop
size
150 sf

capacity
staff

ancillary spaces
n/a

spatial relationships
adjacent and access to reading/learning
/circulation

program activities
overnight secure charging area for
laptops/tablets

environmental requirements
secure metal door
electrical outlets designed around a
‘parking’ strategy for 5-6 laptop
charging carts

LEGEND ///
● fixed equipment
F3 wall shelving (no lower shelves)

☐ loose furnishings
L51 laptop charging cart (5-6)
**size**
250 sf

**capacity**
staff

**ancillary spaces**
n/a

**spatial relationships**
near core classrooms

**program activities**
storing and retrieving books / supplies

**LEGEND ///**

- **fixed equipment**
  - F1 base/wall cabinets and shelving
  - F3 wall shelving (variety of 12” and 24” deep shelving)
**M-MC /// SMALL GROUP ROOM**

- **size**: 150 sf
- **capacity**: up to 8 persons
- **ancillary spaces**: n/a
- **spatial relationships**: adjacent and access to reading / learning / circulation area
- **program activities**: group research projects, meetings, listening and viewing

**LEGEND ///**

- **fixed equipment**: F4 marker board (8 LF)
- **loose furnishings**: L1 stackable/nesting chairs (8), L13 small table (2)
- **data drop**
M-VA /// VISUAL ARTS
ART LAB
ART STORAGE (AND PREP)
KILN ROOM
<table>
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<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
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<td>Art Storage (and prep)</td>
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<tr>
<td>Kiln Room</td>
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</table>

Comments //
The overall total for the Instructional area may be + or – ten percent. See stage for third teaching stations.
FIG. 9.0 // VISUAL ARTS ADJACENCY DIAGRAM

KEY ///
- direct access
- linked space
- enclosed space
- open space

- ART LAB
- ART STORAGE
- KILN ROOM
- EXTERIOR ART PATIO
size
1300 sf

capacity
20-24 students
1 teacher
1 student teacher
parent volunteers

ancillary spaces
kiln room
art storage

spatial relationships
centrally located with convenient access
to core academic classrooms
if two labs - one will be located in the
early childhood area and be
furnished with age appropriate
furniture
direct access to art patio - with overhang
adjacent and access to kiln room

program activities
drawing, painting, and print making
sculpture, model-making, collage, and
assembly

environmental considerations
uniform lighting/track and display lighting
windows to provide natural light and
egress, preferably northern exposure
include outlets on the wall above counter
spaces in raceway
provide one ceiling hung, retractable
electrical outlet
window treatment to darken room for av
presentation is required

finishes
ceiling:
exposed structure, painted with
acoustical treatment
walls:
painted concrete masonry units or
dry wall
one tackable wall

plumbing
2 large, deep sinke (separated by at least
5 ft)
plumbing connections

hvac
manually controlled general exhaust

fixed equipment
F1 base wall cabinets and shelving (12 LF
of 30"high base cabinets w/wall cabinets
above paper storage cabinets. Two sinks
with different heights)
F2 student cubbies
F4 marker board (16 LF)
F6 soap dispenser (at each sink)
F7 towel dispenser (at each sink)
F8 wall mounted interactive electronic
presentation device
F35 hand sink

loose furnishings
L3 teacher work surface with mobile
storage and two chairs
L7 teacher’s lockable wardrobe
L8 tall cabinet with shelves
L13 small table
L42 drying rack (40-80 slats)
L73 student tall stool (28)
L74 two-person tall art table (7)

miscellaneous
M7 desktop computer

data drop
size
200 sf

capacity
1 teacher

ancillary spaces
art lab

spatial relationships
direct access to art lab
visual access to art lab
second storage room provided adjacent to early childhood dining / ELA space

program activities
storage of equipment and supplies

LEGEND ///

• fixed equipment
F1 base/wall cabinets and shelving (paper storage cabinets, one cabinet for hazardous materials)
F1.1 casework
F3 wall shelving (18” deep, metal)

□ loose furnishings
L4 four-drawer lateral file cabinet
**size**
100 sf

**capacity**
1-2 persons

**ancillary spaces**
art lab

**spatial relationships**
direct access to art lab

**program activities**
store 3d sculptural work	house kiln equipment

**environmental considerations**
ventilation controlled by a thermostat
adequate ventilation with vents to the outside for kiln
electrical outlets for equipment
lighting appropriate to task
consider safety in plumbing room layout

**LEGEND ///**

- **loose furnishings**
  - L44 kiln (28+” opening, 27” deep, and ventilation)
  - L45 greenware shelving

---

**M-VA /// KILN ROOM**
M-PA /// PERFORMING ARTS

INSTRUMENTAL MUSIC ROOM
(BAND AND ORCHESTRA)

CHORAL ROOM
ORCHESTRA STORAGE
INSTRUMENT STORAGE
CHORAL STORAGE
CHAIR STORAGE
STAGE (CAFETORIUM)
WING STORAGE
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
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<tr>
<td>Instrumental Music Room</td>
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<tr>
<td>Band</td>
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<tr>
<td>Orchestra</td>
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<tr>
<td>Choral Room</td>
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<td>300</td>
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</tr>
<tr>
<td>Stage (Cafetorium)</td>
<td>1</td>
<td>1,000</td>
<td>1,000</td>
<td>refer to student dining for relationship to cafetorium</td>
</tr>
<tr>
<td>Wing Storage</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td>cafetorium</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>6950</strong></td>
<td></td>
</tr>
</tbody>
</table>
FIG. 10.0 // PERFORMING ARTS ADJACENCY DIAGRAM

KEY ///
- direct access
- linked space
- enclosed space
- open space

- INSTRUMENT STORAGE
- ORCHESTRA STORAGE
- CHAIR STORAGE
- CAFETERIUM
- STAGE
- WING STORAGE
- INSTRUMENTAL MUSIC ROOM
- CHORAL ROOM
- CHORAL STORAGE
- CHAIR STORAGE
- INSTRUMENT STORAGE

Direct access, linked space, enclosed space, open space.
size
1400 sf for orchestra
1800 sf for band
capacity
20-80 students
1 teacher
ancillary spaces
instrument storage
general storage/workroom
spatial relationships
near the choral room
near the stage
program activities
individual, small, and group practice for
ejazz, chamber ensembles, and other
special ensembles
teaching and learning to read music
performance of music
green room for auditorium
environmental considerations
flat floor
quiet HVAC system
vision panels in doors to adjacent rooms
oversize door opening to the outside
8' double doors with removable mullions
throughout this area
sound attenuation in walls
electrical outlets for equipment
high ceiling
appropriate acoustical treatment
windows to provide natural light

LEGEND ///

fixed equipment
F1 base/wall cabinets and shelving (6 LF)
F2/3 student cubbies (35-40)/wall shelving
F4 marker board (16 LF, half with music staff lines)
F6 soap dispenser
F7 towel dispenser
F9 classroom sink
F82 drinking fountain

loose furnishings
L3 teacher work surface with mobile storage
L7 teacher’s lockable wardrobe
L8 tall cabinet with shelves (150 concert-sized folio capacity)
L31 posture chair (60 for band, 30 for orchestra)
L32 conductor’s podium and stool
L47 music stand (60 for band, 30 for orchestra)

miscellaneous
M8 upright piano
**size**
1250 sf

**capacity**
40 students
1 teacher

**ancillary spaces**
choral storage
drinking fountain

**spatial relationships**
neart the instrumental room
near the stage
provides access to choral storage

**program activities**
rehearsals, practice, and instruction
sectional groups and solos
community use

green room for auditorium

**environmental considerations**
uniform lighting
quiet HVAC system
large doors
appropriate acoustical treatment (not
teerberant, nor designed
acoustically as a square box)
high ceiling
flat floor (no permanent risers)
electrical outlets for equipment
windows to provide natural light

---

**fixed equipment**

- F1 base/wall cabinets and shelving (6 LF)
- F4 marker board (16 LF)

**loose furnishings**

- L3 teacher work surface with mobile storage
- L7 teacher’s lockable wardrobe
- L8 tall cabinet with shelves (150 concert-sized
  folio capacity)
- L29 choral risers
- L31 posture chair (40)
- L32 conductor’s podium and stool
- L47 music stand (20-40)

**miscellaneous**

- M8 upright piano
- M9 MIDI synthesizer (with music software and
  audio enhancement equipment)
INSTRUMENTAL MUSIC ROOM

size
300 sf

capacity
students
teachers

ancillary spaces
instrumental music room

spatial relationships
near stage

program activities
storage and simple repair of accessories and equipment

LEGEND ///

● fixed equipment
F3 wall shelving (variety of 12” and 18” deep)

☐ loose furnishings
L4 four drawer lateral file cabinet (2)

M-PA /// ORCHESTRA STORAGE
INSTRUMENTAL MUSIC ROOM

F1.1

size
400 sf

capacity
teacher
students

ancillary spaces
instrumental music room

spatial relationships
n/a

program activities
storage

environmental considerations
n/dca

LEGEND ///

● fixed equipment
F1.1 casework (adjustable open cubbies for medium and small instruments)
size
200 sf

capacity
student assistants
teacher

ancillary spaces
choral room

spatial relationships
n/a

program activities
storage and simple repair of portable choral risers, accessories, and equipment

LEGEND ///

● fixed equipment
F3 wall shelving

○ loose furnishings
L8 tall cabinet with shelves
size
300 SF

capacity
student assistants
teacher

ancillary spaces
cafetorium

spatial relationships
near stage - may provide back of stage access

program activities
storing and retrieving chairs, portable risers, podium, and piano

environmental considerations
uniform lighting
cleanable building surfaces
accessibility for moving furniture both in and out

LEGEND ///

忪

loose furnishings
L1 stackable/nesting chairs
L2 stackable/nesting tables
size
1000 SF

capacity
students (120)
teachers
parents/volunteers
community members

ancillary spaces
gymnasium
cafetorium
music rooms

spatial relationships
adjacent and access to gymnasium
near music rooms with ramp access

program activities
student assembly/award programs
theatrical/musical performances
in-service conferences

environmental considerations
electrical outlets for equipment
stage to be no more than 21” above floor
direct and convenient access to stage via stairs/ramps

finishes
flooring:
  wood strip flooring for athletic applications

LEGEND ///

fixed equipment
F13 sound system
F31 stage curtains
F32 stage lighting (mounted to ceiling)

loose furnishings
L29 choral risers (mobile and folding)
L32 conductor’s podium and stool (with sound system controls)
L37 dance barres

miscellaneous
M8 upright piano

data drop
M-PE /// PHYSICAL EDUCATION

GYMNASIUM / MULTIPURPOSE
PUBLIC RESTROOMS
PE OFFICE
PE STORAGE
MULTI-PURPOSE / AFTER SCHOOL SPACE
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gym Lobby</td>
<td>1</td>
<td>1,000</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Gymnasium</td>
<td>1</td>
<td>6,500</td>
<td>6,500</td>
<td></td>
</tr>
<tr>
<td>Seating for 600 in bleachers</td>
<td>1</td>
<td>2408</td>
<td>2408</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>After-School Programs Office</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Multipurpose/Fitness Room</td>
<td>1</td>
<td>1,600</td>
<td>1,600</td>
<td></td>
</tr>
<tr>
<td>Equipment Storage</td>
<td>1</td>
<td>600</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Public Restrooms</td>
<td></td>
<td></td>
<td></td>
<td>provided as a typical classroom with bathrooms</td>
</tr>
<tr>
<td>Health Classroom</td>
<td>2</td>
<td>900</td>
<td>1,800</td>
<td></td>
</tr>
<tr>
<td>Locker Rooms</td>
<td>2</td>
<td>750</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>Restrooms/showers</td>
<td>2</td>
<td>250</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Laundry</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>16,858</strong></td>
<td></td>
</tr>
</tbody>
</table>

Comments //
FIG. 11.0 // PHYSICAL EDUCATION ADJACENCY DIAGRAM
size
6,500 SF

capacity
20-24 students per class
2-3 teachers
parents and community members for
meetings
assemblies to accomodate at least 1/2 of
the student body

finishes
flooring: wood strip flooring for athletic
applications or resilient athletic
flooring
base: vented resilient base
ceiling: painted exposed structure on
acoustical deck
walls: painted concrete masonry units
acoustical wall treatment and/or
sound absorbing concrete masonry
units
padding on lower levels

spatial relationships
near public restrooms
access to outdoor physical education play
areas
near visitor parking
located with easy access to rest of school,
but must be able to close off area for
security during evening activities
adjacent and access to PE office
adjacent and access to PE storage

program activities
athletic skills and leader games
adaptive physical education
student assemblies and programs
lectures/teaching
community use

environmental considerations
environmental sound control:
wall minimum: STC 50
adequate sound control/acoustics
clear height of 20’ from floor to nearest
obstruction
electrical outlets for equipment
drinking fountain and open cubbies in
adjacent lobby area
structure, lighting, and ducts designed not
to trap PE balls; wire gaurds on light
fixtures
ceiling heights should be proportional to
room volume

LEGEND ///
● fixed equipment
F4 marker board (8 LF 2 sides of gym
with electrical outlet below)
F22 basketball goals (adjustable height,
ceiling hung or portable)
F23 operable partition- motorized
F24 climbing wall
F88 gym bleachers

☐ loose furnishings
L53 portable sound system
M-PE /// PUBLIC RESTROOMS

GIRLS

BOYS

CORRIDOR

F18

F20

F50

F6

F7

M-PE /// PUBLIC RESTROOMS

111.
Spaces to be determined by design professional based on the number of fixtures required.

**size**
- based on the sum of the program areas excluding building services, multiplied by 3.5%

**capacity**
- based on size of program area

**spatial relationships**
- near student dining area
- near public use areas, such as media center and gymnasium
- near academic core area
- restrooms located in several areas throughout building

**program activities**
- personal and health needs for the students

**plumbing**
- wall mounted water closets
- wall mounted lavatories
- or wash fountains
- appropriate height fixtures by age
- plumbing connections

---

**LEGEND ///**

- **fixed equipment**
  - F6 soap dispenser
  - F7 towel dispenser
  - F18 mirror (24" x 60")
  - F20 bathroom accessories
  - F50 toilet partitions

**NOTES //**
Where individual restrooms are provided in lieu of large group restrooms, refer to staff restroom.
size
150 SF

capacity
1-2 teachers
student teachers

ancillary spaces
gymnasium
near adult restrooms

spatial relationships
adjacent and access to gymnasium
near restrooms

program activities
ordering
scheduling
planning
maintaining records
meetings

plumbing
wall mounted lavatory
wall mounted water closet
floor drains in restroom and shower

LEGEND ///

fixed equipment
F4 marker board (4 LF)
F6 soap dispenser
F7 towel dispenser
F18 mirror (24” x 60”)
F20 bathroom accessories
F30 bathroom sink
F49 lockers (2)

loose furnishings
L4 four drawer lateral file cabinet
L12 admin workstation and chair
L11 adjustable height bookshelves

miscellaneous
M7 desktop computer

data drop
**size**
250 SF

**capacity**
1-2 teachers
student teachers

**ancillary spaces**
gymnasium
near direct access to exterior for access
to outdoor equipment

**program activities**
storage

**environmental considerations**
leave space below shelving on one wall
for portable bins

**LEGEND ///**

- **fixed equipment**
  F3 wall shelving (12" and 18" deep)
  F21 pegboard (4 LF)

- **loose furnishings**
  L34 tumbling mats
  L35 ball bins
  L38 play equipment
E-PE /// MULTI-PURPOSE / AFTER SCHOOL SPACE
size
1,500 SF

capacity
students
teachers and staff
after school staff
community

finishes
flooring: resilient athletic flooring

spatial relationships
near after school entrance to building
near parking area
adjacent and access to after school
storage area
adjacent to gymnasium

program activities
back-up physical education teaching
wellness area
quiet area for students to play cards, work
on homework, read

environmental considerations
elevated ceiling, +/- 18 LF
uniform lighting
flexibility of space
adequate ventilation and ceiling fans
electrical outlets for equipment
must be able to isolate from the rest of
the school after hours
drinking fountain in adjacent corridor
windows to provide natural light

LEGEND ///

● fixed equipment
F4 marker board (on 2 walls, 16 LF each)

☐ loose furnishings
loose furnishings for after school staff TBD

▷ data drop
M-AD /// ADMINISTRATION

ENTRANCE LOBBY
WELCOME CENTER/VISITOR CHECK-IN
PRINCIPAL'S OFFICE
SECRETARY
DIRECTOR OF COUNSELING
BUSINESS MANAGER/ TREASURER
REGISTRAR
STAFF TOILET
CONFERENCE ROOM
ADMINISTRATIVE WORKROOM
PSYCHOLOGIST
SOCIAL WORKER
OT/PT/ITINERANT
STUDENT RESOURCE OFFICER
DECENTRALIZED ADMINISTRATION SUITE
RECEPTION (MAIL BOXES)
RECORD STORAGE
ASSISTANT PRINCIPAL OFFICE
COUNSELOR OFFICE
CONFERENCE ROOM
DEAN OF STUDENTS
CONFERENCE ROOM
HEALTH SUITE
OFFICE
WAITING/TREATMENT AREA
COTS
STORAGE
TOILET/SHOWER
SUPPLY STORAGE
GENERAL STORAGE
FACE CENTER
OFFICE
STORAGE
The overall total for the administration area may be + or – ten percent. Some areas may be combined to facilitate circulation. Some areas (*) may be located outside of the suite to make the best use of the existing building.

<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Lobby</td>
<td>1</td>
<td>1500</td>
<td>1500</td>
<td>includes security desk, welcoming area, work area for admin asst.</td>
</tr>
<tr>
<td>Welcome Center/visitor check-in*</td>
<td>1</td>
<td>600</td>
<td>600</td>
<td>waiting lobby outside principal’s office</td>
</tr>
<tr>
<td>Principal’s Office*</td>
<td>1</td>
<td>230</td>
<td>230</td>
<td>adjacent Principal’s office &amp; main office suite</td>
</tr>
<tr>
<td>Administrative assistant</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td>adjacent to principal’s office</td>
</tr>
<tr>
<td>Director of Counseling*</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td>include alcove waiting area for 2 people</td>
</tr>
<tr>
<td>Business Manager/Treasurer*</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td>accommodate itinerant OT/PT staff</td>
</tr>
<tr>
<td>Registrar*</td>
<td>1</td>
<td>200</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Staff Toilet*</td>
<td>1</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Conference Room*</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Administrative Workroom*</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Psychologist</td>
<td>1</td>
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<td>200</td>
<td></td>
</tr>
<tr>
<td>Social Worker</td>
<td>2</td>
<td>150</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>OT/PT/Itinerant</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Student Resource Officer</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td>locate near an academic cluster rather than main office administrative spaces</td>
</tr>
<tr>
<td>Decentralized administration Suite (one per grade)</td>
<td>3</td>
<td>150</td>
<td>450</td>
<td>locate near an academic cluster</td>
</tr>
<tr>
<td>Student Services Office</td>
<td>3</td>
<td>150</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Reception (mail boxes)</td>
<td>3</td>
<td>150</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Record Storage</td>
<td>3</td>
<td>100</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Assistant Principal Office</td>
<td>3</td>
<td>150</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Counselor Office</td>
<td>6</td>
<td>120</td>
<td>720</td>
<td></td>
</tr>
<tr>
<td>Conference Room</td>
<td>3</td>
<td>200</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Dean of Students</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td>access from hallway near dean and student resource officer</td>
</tr>
<tr>
<td>Conference Room</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Health Suite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Waiting/Treatment Area</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Cots</td>
<td>2</td>
<td>80</td>
<td>160</td>
<td>2 separated by curtain</td>
</tr>
<tr>
<td>Storage</td>
<td>2</td>
<td>25</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Toilet/shower</td>
<td>1</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Dental rm</td>
<td>1</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>nurse’s office</td>
<td>1</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Supply Storage</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>General Storage</td>
<td>1</td>
<td>600</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Family And Community Engagement (FACE) Center</td>
<td>1</td>
<td>350</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>2</td>
<td>100</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

**Total**                               |          |     | **9,850** |
size
600 SF

capacity
administrative assistants
visitors/parents
students

spatial relationships
see illustration opposite page
located inside the main administrative area directly accessible from entry vestibule
near public restrooms
maximize views to exterior and main entry public address alcove
closet (lockable)

program activities
greeting visitors
student waiting/pick up area
workstation for administrative assistant
second and final access control point
prior to accessing the main school security check-point

LEGEND ///

● fixed equipment
F5 tackable/magnet wall surface (8 LF)
F26 reception counter (Finish carpentry)

☐ loose furnishings
L13 small table (3)
L15 task chair (2)
L18 lounge chairs (4-6)
L21 work table for check-in station

■ miscellaneous
M7 desktop computer

▷ data drop
size
230 SF

capacity
principal

ancillary spaces
conference Room

spatial relationships
near main entry
near administrative assistant
adjacent and access to conference room
back door to secondary corridor, desirable

program activities
conferences with students, parents, teachers, staff, and visitors
curriculum development
research and planning
telephone communications
dealing with personnel issues
coordination of school and support services

LEGEND ///

● fixed equipment
F5 tackable/magnet wall surface

☐ loose furnishings
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair (4-6)
L20 executive chair
L50 small conference table

■ miscellaneous
M7 desktop computer

▷ data drop
**size**
150 SF

**capacity**
director of counseling

**ancillary spaces**
n/a

**spatial relationships**
may be located near Academic Core for supervision
may be located near administration suite

**program activities**
conferences with parents
student interaction
conferences with individual teachers or small groups
television communications (private)
research and planning
coordination of school and support services

---

**LEGEND ///**

- **fixed equipment**
  - F4 marker board

- **loose furnishings**
  - L4 four-drawer file cabinet
  - L7 teacher’s lockable wardrobe
  - L11 adjustable height bookshelves (12 LF)
  - L12 admin workstation
  - L15 task chair (2-4)
  - L20 executive chair
  - L50 small conference table

- **miscellaneous**
  - M7 desktop computer

- **data drop**
size
150 SF

capacity
business manager/treasurer

ancillary spaces
n/a

spatial relationships
may be located near Academic Core for supervision
may be located near administration suite

program activities
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///

● fixed equipment
F4 marker board

◇ loose furnishings
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair (2-4)
L20 executive chair
L50 small conference table

■ miscellaneous
M7 desktop computer

▶ data drop
size
  200 SF
capacity
  registrar
ancillary spaces
  n/a
spatial relationships
  may be located near Academic Core for supervision
  may be located near administration suite
program activities
  conferences with parents
  student interaction
  conferences with individual teachers or small groups
  telephone communications (private)
  research and planning
  coordination of school and support services

LEGEND ///

● fixed equipment
  F4 marker board

☐ loose furnishings
  L4 four-drawer file cabinet
  L7 teacher’s lockable wardrobe
  L11 adjustable height bookshelves (12 LF)
  L12 admin workstation
  L15 task chair (2-4)
  L20 executive chair
  L50 small conference table

■ miscellaneous
  M7 desktop computer

➤ data drop
size
  50 SF

capacity
  staff

spatial relationships
  near welcome center
  near principal's office

plumbing
  wall-mounted water closet
  wall-mounted lavatory
  plumbing connections
  floor drain

---

LEGEND ///

- **fixed equipment**
  - F1.1 casework (wall cabinet)
  - F7 towel dispenser
  - F18 mirror
  - F20 bathroom accessories
M-AD /// CONFERENCE ROOM
size
300 SF
capacity
staff
ancillary spaces
n/a
spatial relationships
near welcome center
centrally located within administrative area
adjacent and access to principal’s offices
program activities
conferences with staff, students, parents, and visitors

LEGEND ///

● fixed equipment
  F1.1 casework (6 LF)
  F4 marker board (8 LF)
  F5 tackable/magnet wall surface (8LF)
  F17 audio/video recording and playback equipment

◇ loose furnishings
  L19 Conference table (with table technology installations-VGA jacks, data outlets, power outlets, etc.)
  L20 Executive chairs (12)

➤ data drop
LEGEND ///

- **fixed equipment**
  - F1 base/wall cabinets and shelving
  - F1.1 casework (base/wall cabinets and shelving)
  - F4 marker board (4 LF)
  - F5 tackable/magnet wall surface (4 LF)
  - F6 soap dispenser
  - F7 towel dispenser

- **loose furnishings**
  - L15 task chair (4)
  - L17 printer station
  - L21 work table

- **miscellaneous**
  - M1 high speed and/or Large format printers
  - M2 color printers
  - M4 photocopy machine
  - M5 digital scanner
  - M6 laminator

- **data drop**

**size**
- 150 SF

**capacity**
- secretaries and administrators
- volunteers
- staff

**ancillary spaces**
- n/a

**spatial relationships**
- near welcome center
- adjacent to mail room

**program activities**
- copying
- collating
- sorting of files
- preparing communications for mailing
- binding reports
- telephone communications

**plumbing**
- plumbing connections
- sink, single/deep bowl
size
  200 SF
capacity
  psychologist
ancillary spaces
  n/a
spatial relationships
  may be located near Academic Core for supervision
  may be located near administration suite
program activities
  conferences with parents
  student interaction
  conferences with individual teachers or small groups
  telephone communications (private)
  research and planning
  coordination of school and support services

LEGEND ///

- fixed equipment
  F4 marker board

- loose furnishings
  L4 four-drawer file cabinet
  L7 teacher’s lockable wardrobe
  L11 adjustable height bookshelves (12 LF)
  L12 admin workstation
  L15 task chair (2-4)
  L20 executive chair
  L50 small conference table

- miscellaneous
  M7 desktop computer

- data drop
size  
150 SF

capacity  
social worker

ancillary spaces  
n/a

spatial relationships  
may be located near Academic Core for supervision
may be located near administration suite

program activities  
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///

● fixed equipment
F4 marker board

○ loose furnishings
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair (2-4)
L20 executive chair
L50 small conference table

■ miscellaneous
M7 desktop computer

▷ data drop
size
250 SF

capacity
itinerant
up to four staff members

ancillary spaces
n/a

spatial relationships
near student services conference room
near speech
near special needs classroom
near FACE center

program activities
therapy
exercise
assistive technology evaluation
occupational and physical therapy

environmental considerations
electrical outlets for equipment
wheelchair accessibility
reinforcing structure in ceiling to support lift equipment

LEGEND ///

● fixed equipment
  F4 marker board (8 LF)
  F5 tackable/magnet wall surface (flanking marker board)

☐ loose furnishings
  L52 physical therapy table (8 LF)

▶ data port
* student resource officer near academic cluster
size
150 SF

capacity
student resource officer

ancillary spaces
n/a

spatial relationships
may be located near academic cluster for supervision
may be located near decentralized administration suite (per grade)

program activities
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///
● fixed equipment
F4 marker board

☐ loose furnishings
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair (2-4)
L20 executive chair
L50 small conference table

■ miscellaneous
M7 desktop computer

▶ data drop
size
150 SF
capacity
staff
faculty
ancillary spaces
n/a
spatial relationships
adjacent to administrative workroom
located in administrative area near academic cluster (decentralized admin suite per grade)
accessible from main corridor
program activities
delivery of general mail

LEGEND ///
● fixed equipment
  F1.1 casework - mail slots
  12" wide x 6" high x 15" deep
  (65, 80, 95 total slots) pass-through
cabinets below
  F4 marker board (4 LF)
  F5 tackable/magnet wall surface (4 LF)

data drop
* locate near academic cluster (decentralized administration suite per grade)

**size**
100 SF

**capacity**
- secretaries
- staff

**ancillary spaces**
n/a

**spatial relationships**
near main office

**program activities**
- storing of money and other valuable items
- storage of files and records
- accessible to administration staff

**legend ///**

- **loose furnishings**
  - L4 four-drawer file cabinets (8-10 fireproof file cabinets)
  - L13 small table
  - L15 chair
  - L22 safe

- **data drop**

---

**M-AD /// RECORD STORAGE**
* locate near academic cluster (decentralized administration suite per grade)
size
150 SF

capacity
assistant principal

ancillary spaces
n/a

spatial relationships
may be located near Academic Core for supervision
may be located near administration suite

program activities
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///
● fixed equipment
  F4 marker board

○ loose furnishings
  L4 four-drawer file cabinet
  L7 teacher’s lockable wardrobe
  L11 adjustable height bookshelves (12 LF)
  L12 admin workstation
  L15 task chair (2-4)
  L20 executive chair
  L50 small conference table

■ miscellaneous
  M7 desktop computer

▷ data drop
* locate near academic cluster (decentralized administration suite per grade)
size
120 SF

capacity
counselor

ancillary spaces
n/a

spatial relationships
may be located near Academic Core for supervision
may be located near administration suite

program activities
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///

fixed equipment
F4 marker board

loose furnishings
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair (2-4)
L20 executive chair
L50 small conference table

miscellaneous
M7 desktop computer

data drop
* locate near academic cluster (decentralized administration suite per grade)
size
200 SF

capacity
staff

ancillary spaces
n/a

spatial relationships
near welcome center
centrally located within administrative area
adjacent and access to principal’s offices

program activities
conferences with staff, students, parents, and visitors

LEGEND ///

• fixed equipment
  F1.1 casework (6 LF)
  F4 marker board (8 LF)
  F5 tackable/magnet wall surface (8LF)
  F17 audio/video recording and playback equipment

• loose furnishings
  L19 Conference table (with table technology installations-VGA jacks, data outlets, power outlets, etc.)
  L20 Executive chairs (12)

• data drop
* dean of students near academic cluster
size
150 SF

capacity
dean of students

ancillary spaces
n/a

spatial relationships
may be located near Academic Core for supervision
may be located near administration suite

program activities
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///

● fixed equipment
  F4 marker board

𬩽 loose furnishings
  L4 four-drawer file cabinet
  L7 teacher’s lockable wardrobe
  L11 adjustable height bookshelves (12 LF)
  L12 admin workstation
  L15 task chair (2-4)
  L20 executive chair

■ miscellaneous
  M7 desktop computer

▷ data drop
M-AD /// CONFERENCE ROOM
size
150 SF

capacity
staff

ancillary spaces
n/a

spatial relationships
near welcome center
centrally located within administrative area
adjacent and access to principal’s offices

program activities
conferences with staff, students, parents, and visitors

LEGEND ///

● fixed equipment
F1.1 casework (6 LF)
F4 marker board (8 LF)
F5 tackable/magnet wall surface (8LF)
F17 audio/video recording and playback equipment

☐ loose furnishings
L19 Conference table (with table technology installations-VGA jacks, data outlets, power outlets, etc.)
L20 Executive chairs (12)

▷ data drop
size
100 SF

capacity
Staff
Students
Parents
Visitors

ancillary spaces
Treatment area
Storage

program activities
Meeting area for students, parent or guardian
Administrative activities by school nurse
Private conversations

environmental conditions
Independent temperature controls and operable window
Health suites should comply with CDC requirements for number of air exchanges per hour to help prevent spreading illness
Prefer not to have automated or low-flow sinks

LEGEND ///

● fixed equipment
  F4 Marker board

○ loose furnishings
  L4 Four-drawer file cabinet
  L11 Adjustable height bookshelves
  L12 Admin workstation
  L15 Task chair
  L18 Lounge chair

■ miscellaneous
  M7 Desktop computer

➤ data drop
M-AD /// HEALTH SUITE: WAITING + TREATMENT AREA

- Waiting Room
- Cots
- Nurse’s Office
- Storage
- Office
- Examination Rooms
- Toilet
- Dental Room

Legend:
- L1, L13, L24, L25, L26
- F1, F1.1, F5, F6, F7, F25
size
150 SF

capacity
1 nurse
students

ancillary spaces
nurse’s office
cots
storage
toilet/shower
waiting/area
office for partners
dental room

spatial relationships
near welcome center
near lobby entrance

program activities
first aid
consultation with students
health screening
medical treatments
medication administration
student resting while awaiting pick-up by
parent or guardian

environmental conditions
stain-resistant floor covering
sink with hot and cold water
adequate ventilation
visual control to office/waiting or
welcome center

plumbing
plumbing connections:

deep sink with hands-free gooseneck
hook-up for ice-maker for refrigerator

LEGEND ///

fixed equipment
F1 base/wall cabinets and shelving (place for
refrigerator connected to back-up generator
F1.1 casework (seamless, non-porous counter)
F5 tackable/magnet wall surface
F6 soap dispenser
F7 towel dispenser
F25 treatment cubicle curtain

loose furnishings
L1 stackable/nesting chairs (2-3)
L13 small table
L24 mobile exam table
L25 nurse stool
L26 refrigerator (lockable)
size
80 SF

capacity
staff
students

ancillary spaces
located near the toilet in the health suite

program activities
a resting place for students and staff when feeling ill

LEGEND ///

● fixed equipment
F25 treatment cubicle curtains

◇ loose furnishings
L1 stackable/nesting chairs (2)
L27 health suite cot (2)
**size**
25 SF

**capacity**
staff

**ancillary spaces**
office/waiting area (E-AD-15)

**program activities**
- storing chemicals, equipment, and supplies
- environmental conditions
- security of equipment, supplies, and medicines
- security of door

**LEGEND ///**

- **fixed equipment**
  - F3 wall shelving (12” deep)
  - F3 wall shelving (18” deep)
M-AD /// HEALTH SUITE: TOILET / SHOWER
size
80 SF

capacity
staff
students

ancillary spaces
Located near the cots within the health suite

plumbing
wall mounted water closet (deep well)
wall mounted lavatory
shower
plumbing connections
floor drain

LEGEND ///

fixed equipment
F1.1 casework: wall cabinet
F6 soap dispenser
F7 towel dispenser
F18 mirror (24”x60”)
F20 bathroom accessories
**size**
350 SF

**capacity**
8-10 parents
1- parent liaison
volunteers

**ancillary spaces**
n/a

**spatial relationships**
  near lobby entrance
  adjacent parent liaison office with
  connecting door*
  adjacent teaching space for up to 20
  adjacent conference room

**program activities**
  small group meetings
  work area
  storage for personal items
  parent training
  private consultation
  parent employment research
  volunteer registration

**plumbing**
sink w/ goose neck faucet

*Office for Parent liaison- see typical office
description

---

**LEGEND ///

- **fixed equipment**
  F1 base/wall cabinets and shelving (place for a refrigerator)
  F1.1 casework (Wardrobe cabinet)
  F1.1 casework (Storage cabinets)
  F4 marker board (8 LF)
  F5 tack board (8 LF)
  F6 soap dispenser
  F7 towel dispenser
  F8 wall-mounted, interactive, electronic
  presentation device

- **loose furnishings**
  L4 four-drawer file cabinet
  L11 adjustable height bookshelves (20 LF)-
  workstation for computer/printer
  L15 ten chairs
  L18 lounge chairs
  L21 two work tables (36” x 72”)
  L26 refrigerator

- **miscellaneous**
  M7 desktop computer

- **data drop**
size  
150 SF

capacity
staff

ancillary spaces
n/a

spatial relationships
may be located near Academic Core for supervision
may be located near administration suite

program activities
conferences with parents
student interaction
conferences with individual teachers or small groups
telephone communications (private)
research and planning
coordination of school and support services

LEGEND ///

• fixed equipment
F4 marker board

☐ loose furnishings
L4 four-drawer file cabinet
L7 teacher’s lockable wardrobe
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair (2-4)
L20 executive chair
L50 small conference table

■ miscellaneous
M7 desktop computer

➔ data drop
size  
100 sf

capacity  
staff

ancillary spaces  
n/a

spatial relationships  
near core classrooms

program activities  
storing and retrieving books / supplies

LEGEND ///

fixed equipment

F1 base/wall cabinets and shelving
F3 wall shelving (variety of 12” and 24” deep shelving)
THIS PAGE IS LEFT BLANK INTENTIONALLY
STUDENT DINING

DINING / MULTIPURPOSE
CHAIR AND TABLE STORAGE
SERVING AREA
COOKING KITCHEN
  FOOD PREP AREA
  DRY FOOD STORAGE
  FREEZER / COOLER
  WARE WASHING
  CLEANING STORAGE
  LOCKERS / TOILET
FOOD SERVICE OFFICE
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STUDENT DINING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining Area/Multi-purpose</td>
<td>1</td>
<td>6,500</td>
<td>6,500</td>
<td>includes the seating for the stage; stage and student dining should be co-located</td>
</tr>
<tr>
<td>Chair, Table Storage</td>
<td>1</td>
<td>600</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Serving area</td>
<td>1</td>
<td>1000</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>Cooking Kitchen</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Prep Area</td>
<td>1</td>
<td>2000</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Dry Storage</td>
<td>1</td>
<td>500</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Freezer &amp; Cooler</td>
<td>1</td>
<td>500</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Ware washing</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Cleaning Storage</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Lockers/Toilet</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Food Service Office</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>11,920</td>
<td></td>
</tr>
</tbody>
</table>

**Comments //**
The overall total for the Dining and Food Services area may be + or – ten percent if the existing dining area and kitchen are undersized for the proposed capacity. If these spaces are replaced, the school would like to keep the current dining as a multi-purpose area if feasible. If this area is expanded, the room should be dividable.
CHAIR STORAGE

FOOD PREP AND SERVING AREA

CONTROL BOOTH

STAGEBAND PIT (STEPPED)

BACK STAGE FITS (120)

M-SD /// DINING / MULTIPURPOSE (GRADES 6-8)
**size**
6,500 SF

**capacity**
1/3 of the projected capacity per lunch period
3-6 staff members
members of community (after hours)

**configuration**
consider two spaces - primary and intermediate – with separate serving lines
alternatively, consider a flexible wall
varies, see table

**ancillary spaces**
serving area (E-SD-3B)
stage (optional)
band pit included

**spatial relationships**
centrally located to office area, classrooms, and media center
near parking and entry to building
near food lab classroom (consider overhead rolling door)

**program activities**
student dining
school and community programs
meetings and activities

**environmental considerations**
electrical outlets for student use; consider some peripheral counters with power
provide a sound system

provide large motorized projection screen with ceiling mounted projector
configure larger spaces to manage sound and for multiple users; configure serving lines for conversational voice
higher than normal ceiling height
if feasible, provide patio for outside seating options
cleanable building surfaces
windows to provide ample natural light
good sight lines to all areas of the room for supervision
window treatment to darken room for AV presentation; this is required if the stage is located in this area
outlets and data ports for salad bar and point of sale locations; flush to ground with cover

**fixed equipment**
F4 marker board on two walls - 16 LF each
with electric outlet below
F64 filtered water fountain w/ bubbler and goose neck bottle filler
F65 recycling center (work with food service staff on location and design)

**loose furnishings**
L1 tables and seating to accommodate 1/3 of school capacity (vary seating options) varying heights
L2 student chairs
L41 dollies to move furniture
L40 point of sale stations

**data drop**
M-SD /// CHAIR AND TABLE STORAGE

size
600 SF

capacity
n/a

ancillary spaces
student dining area / multipurpose

spatial relationships
adjacent and access to student dining area / multipurpose
may provide back of stage access

program activities
storage

environmental considerations
uniform lighting
cleanable and resilient building surfaces
accessibility for moving furniture in and out

LEGEND ///

☐ loose furnishings

L1 stackable/nesting chairs (stacked)
L41 chair dollies
size
1000 SF

capacity
students
staff
community

ancillary spaces
student dining area / multipurpose
kitchen

spatial relationships
within student dining area / multipurpose
or food preparation area
beginning of serving line should be
near entry door of students dining
area / multipurpose
open to food preparation area

program activities
serve food

*-serving line configuration and design will be
determined in consultation with School Nutrition;
Services

LEGEND ///

- fixed equipment
  F42 drop-in individually controlled heated
electric food wells and full service sneeze
guard (student height) with over shelf
  F47 drop-in self-contained refrigerated cold
  pan for side items (counter and sneeze
  guards are lower than normal for better
  viewing and service to middle school
  students)
size
  see table

capacity
  students
  staff

ancillary spaces
  student dining area / multipurpose

spatial relationships
  near loading dock to permit truck access
to docking and storage areas (site specific)
adjacent and access to student dining area / multipurpose
near dumpsters
cafeteria serving arrangement

program activities
  prep food
  serve food
  storage
  point of sale (in the dining area associated
    with the serving area)

environmental considerations
  durable seamless flooring
  proper ventilation of space to remove cooking
    odors
  cleanable building surfaces
size
2000 SF

capacity
staff

ancillary spaces
kitchen

spatial relationships
adjacent to student dining area
multipurpose
open to serving area

program activities
prepare food

environmental considerations
uniform lighting
proper ventilation of space to remove cooking odors
cleanable building surfaces
electrical/plumbing / mechanical connections for food service equipment

finishes
flooring
easy clean, non-slip flooring - single surface
poured or rolled flooring
base
resilient base
ceiling
cleanable, suspended, acoustical

tables
epoxy-painted concrete masonry units

plumbing
connections to food service equipment
plumbing and gas connections
hand washing lavatory
floor drains
food preparation sink with adjacent trash bin

HVAC
supply/return air system
independent temperature control
kitchen canopy exhaust system
air conditioning

electrical
duplex receptacles
connections to food service equipment
single-level switching
clock
central sound system

LEGEND ///

- fixed equipment
  F3    storage shelving
  F33   pot washing sinks
  F34   food preparation sinks
  F35   hand sinks with adjacent trash bin
  F36   work tables
  F37   warming/holding/cabinets
  F38   refrigeration/reach-ins
  F39   mop washing sink
  F40   lockable chemical storage
  F41   exhaust hood systems, including fire suppression
  F66   combi oven
  F67   convection steamer
  F68   range, with oven
  F69   ware washing machine with appropriate accessories (tables, booster heater, disposer, etc.)
size
500 SF

capacity
n/a

spatial relationships
near supply storage/receiving
adjacent and access to food prep area

program activities
storage

LEGEND ///

fixed equipment
F12  rust resistant 24” deep shelving and
dunnage racks
FOOD PREP AREA

size
500 SF

capacity
n/a

ancillary spaces
kitchen

spatial relationships
adjacent and access to food prep area
near the supply storage/receiving

environmental considerations
ventilation for refrigeration machinery
equipment
floor to be flush with adjacent kitchen floor
electrical service for refrigeration equipment

LEGEND ///

• fixed equipment
F9.2 rust resistant 24” deep shelving and
dunnage racks
size
300 SF

capacity
n/a

ancillary spaces
kitchen

spatial relationships
pass-through into student dining area/
multipurpose for tray drop-off
adjacent and access to food prep area

environmental considerations
proper ventilation of space to remove
steam and condensation
cleanable building surfaces

plumbing
connections to food service equipment
three compartment sink
floor drain

LEGEND ///

• fixed equipment
F12 rust resistant 24" deep shelving and
dunnage racks

NOTE //
This is an example of a ware washing area. Food service equipment will vary from
school to school; confirm requirements with ACPS Food Service Department.
size
100 SF

capacity
food service staff

ancillary spaces
kitchen

spatial relationships
adjacent and access to kitchen

program activities
storing chemicals and equipment

environmental considerations
cleanable building surfaces
sensors for spilled chemicals
adequate exhaust/ventilation

LEGEND ///

• fixed equipment
F9.2 rust resistant shelving for chemicals
F70 mop rack
size
300 SF

capacity
food service personnel

ancillary spaces
kitchen

program activities
space for the storage of towels, aprons, etc.
space to allow food staff personnel to take breaks

LEGEND ///

fixed equipment
F71 12” wide x 12” deep x 72” high tack board (4 LF)
F49 lockers

loose furnishings
L1 (4-6) chairs
L2 (30”x60”) table
size
120 SF

capacity
food service manager
food service staff

ancillary spaces
kitchen

program activities
scheduling
staff evaluations/discipline/meetings

LEGEND ///

• fixed equipment
F71  tack board (4 LF)

○ loose furnishings
L3  desk
L4  four drawer file cabinet
L15  ergonomic task chair
L11  adjustable height bookshelves (12 LF)

▶ data drop

M-SD /// FOOD SERVICE OFFICE
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAINTENANCE &amp; CUSTODIAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Storage / Receiving</td>
<td>1</td>
<td>900</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>Toilet / Showers / Lockers</td>
<td>2</td>
<td>150</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Custodial Office</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>1,350</strong></td>
<td></td>
</tr>
</tbody>
</table>

Comments //
size
varies, see table
capacity
maintainence personnel
spatial relationships
adjacent and access to loading dock area
and service courtyard
access to corridor
adjacent and access to custodial office
adjacent and access to toilet/shower/locker
room
program activities
loading and unloading
storage of furniture, materials for special
events, paper, and general supplies
plumbing
plumbing connections service sink
environmental considerations
supplemental heating source
double door with removable mullions
overhead door to service courtyard

LEGEND ///

fixed equipment
F3  storage shelving, 84” high x 36” deep

loose furnishings
L36  flammables storage container
L41  dollies and lifts
L46  step ladder

data drop
size
  100 SF
capacity
  maintainence and custodial staff
spatial relationships
  adjacent and access to supply storage/receiving
program activities
  showering
  changing clothes
plumbing
  wall-mounted water closet
  wall-mounted lavatory
  ADA shower controls and head
  floor drains - in restroom and shower
  plumbing connections

LEGEND ///

fixed equipment
  F6  soap dispenser
  F7  towel dispenser
  F54  locker bench
  F14  (36” and 42”) grab bars
  F18  (24” x 60”) mirror
  F19  toilet tissue holder
  F29  ADA shower accessories
  F49  lockers
  F59  shower curtain and rod
  F74  coat hook
size
150 SF

capacity
maintenence and custodial staff
building engineer

spatial relationships
adjacent and access to supply storage/
receiving
access to corridor

program activities
conferences with staff and other visitors
telephone calls
paperwork

LEGEND ///

● fixed equipment
F71 tack board (4 LF)

☐ loose furnishings
L3 desk
L4 four drawer file cabinet
L11 adjustable height bookshelves (12 LF)
L15 ergonomic task chair
M-BS /// BUILDING SUPPORT

LARGE GROUP RESTROOMS
CUSTODIAL CLOSET
ELECTRICAL CLOSET
TECHNOLOGY CLOSET
CORRIDORS
MECHANICAL / ELECTRICAL SPACE DECK
STORAGE AREA
CENTRAL STORAGE AREA
LOADING / RECEIVING AREA
STAFF RESTROOM
FAMILY RESTROOM
COMPUTER STORAGE
<table>
<thead>
<tr>
<th>SPACE</th>
<th>QUANTITY</th>
<th>SF</th>
<th>TOTAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Group Restrooms</td>
<td></td>
<td>4,225</td>
<td>4,225</td>
<td>3.5% of program area excluding building services</td>
</tr>
<tr>
<td>Custodial Closet</td>
<td>8</td>
<td>30</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>Electrical Closet</td>
<td>8</td>
<td>30</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>Technology closet</td>
<td>8</td>
<td>50</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Corridors</td>
<td></td>
<td>33,798</td>
<td>33,798</td>
<td>28% of program area excluding building services</td>
</tr>
<tr>
<td>Mechanical / Electrical Space Deck</td>
<td></td>
<td>8,329</td>
<td>8,329</td>
<td>6.9% of program area excluding building services</td>
</tr>
<tr>
<td>Outdoor Storage Area</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Central Storage Area</td>
<td>1</td>
<td>500</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Loading/receiving area</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Staff Restroom</td>
<td>5</td>
<td>50</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Family Restroom</td>
<td>1</td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Computer Storage</td>
<td>1</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>48,827</strong></td>
<td></td>
</tr>
</tbody>
</table>

Comments //
M-BS /// LARGE GROUP RESTROOM
Spaces to be determined by design professional based on the number of fixtures required.

**size**
- based on the sum of the program areas excluding building services, multiplied by 3.5%

**capacity**
- based on size of program area

**spatial relationships**
- near student dining area
- near public use areas, such as media center and gymnasium
- near academic core area
- restrooms located in several areas throughout building

**program activities**
- personal and health needs for the students

**plumbing**
- wall mounted water closets
- wall mounted lavatories
- or wash fountains
- appropriate height fixtures by age
- plumbing connections

---

**LEGEND ///**

- **fixed equipment**
  - F6   soap dispenser
  - F7   towel dispenser
  - F18  mirror (24” x 60”)
  - F20  bathroom accessories
  - F50  toilet partitions

**NOTES //**
Where individual restrooms are provided in lieu of large group restrooms, refer to staff restroom.
size
30 SF

capacity
n/a

spatial relationships
near large group restrooms

program activities
space for storage of custodial supplies throughout the building

plumbing
service sink or floor drain sink
plumbing connections

LEGEND ///

fixed equipment
F39 mop sink
F3 wall shelving
Spaces to be determined by design professional.

**size**
- 30 SF

**capacity**
- n/a

**program activities**
- space for electrical wiring and panels

**LEGEND ///**
- **fixed equipment**
  - F80 electrical panel
**size**
- 0-75,000 SF = 8’ x 8’ minimum
- 75,000-150,000 SF = (1) 8’ x 10’ and 8’ x 8’
- 150,000 SF plus = (2) 8’ x 10’ and 8’ x 8’

**capacity**
n/a

**program activities**
space for technology needs

**LEGEND ///**

- loosen furnishings
  - L52 telecommunications rack (6” organizers between all racks)

- data drop

**NOTES //**
This is an example of a telecommunications room. The equipment and layout will vary from school district to school district.
• corridors shall be a minimum of 8 feet wide; some areas of natural light is desirable; the designer should minimize long corridors lined with classroom doors.

• extended learning areas are in addition to the minimum above and must not intrude into the egress pathway. Seating areas in extended learning areas must meet fire code.

• lobbies are in addition to the circulation requirement.

• instructional and activity areas shall be accessible by corridors without passing through another instructional or activity area.

• the corridors are to meet the egress requirements of applicable codes.

• stairs, ramps, and elevators are included under the corridor category.

• it is recommended that stairs in multi-story buildings not be enclosed unless required by code. However, such a design should not allow students to lean over railings or put arms/legs through posts.

program activities

vestibules

area of vestibules to be included within area allotted for corridors

width of vestibules can be no less than minimum width of adjacent corridor.

provide recessed vinyl floor mats (recommend 15 LF of surface mats in addition to vinyl mats)

provide automatic door operator on one leaf of main entrance/exit door and related vestibule door.

plumbing

drinking water coolers with gooseneck faucet for water bottles

fixed equipment

F51  fire extinguisher
F52  recessed floor mats
F53  digital boards
F71  tack board
F72  3D displays
Spaces to be determined by design professional.

**size**
- based on the sum of the program areas, excluding building services, multiplied by 6.9%

**capacity**
- based on size of program area

**program activities**
- space for mechanical and electrical equipment

**spatial relationships**
- accessible for maintenance and repair
- access to outside
- isolate from main area of building
- near loading/receiving area
- near custodial area

**NOTES //**
1. This is an example of a mechanical room. The equipment and layout will vary depending upon the heating, ventilating, and air conditioning system used.
2. A penthouse is considered a mechanical room.
Spaces to be determined by design professional.

**size**
250 SF

**capacity**
n/a

**program activities**
- space for storage of outdoor custodial equipment

**spatial relationships**
- near custodial office
- near custodial workroom
- direct access to outdoors

**LEGEND ///**

- **fixed equipment**
  - F3 wall shelving (10’-16’, depth may vary)
Space to be determined by design professional.

**size**
- 500 SF

**capacity**
- n/a

**spatial relationships**
- near loading/receiving area
- direct access to building circulation

**program activities**
- Storage for paper products, utensils, supplies, etc., to be used throughout the entire building

**environmental considerations**
- uniform lighting

**finishes**
- flooring:
  - resilient tile flooring
- base:
  - resilient base
- ceiling:
  - exposed structure
- walls:
  - painted concrete masonry units

**fire suppression**
- fire supression system

**HVAC**
- exhaust air system
- supplemental heat as required

**electrical**
- single level switching
- fluorescent lighting
- duplex receptacles

**electronic safety and security**
- life safety devices per code

**fixed equipment**
- F3 wall shelving (26’-32’, depth may vary)

**NOTES //**
1. Finishes/features: refer to ________ for specification references.
2. Ranges shown indicate quantities for the smallest and largest possible room size.
Space to be determined by design professional.

**size**
- 120 SF

**capacity**
- n/a

**spatial relationships**
- near food service spaces
- near central storage area
- near mechanical room
- adjacent to loading dock

**program activities**
- delivery of materials and goods to be used throughout the building

**finishes**
- flooring:
  - sealed concrete
- base:
  - resilient base
- ceiling:
  - exposed structure
- walls:
  - painted concrete masonry units

**fire suppression**
- fire supression system

**plumbing**
- drain at pit

**HVAC**
- exhaust air system
- supplemental heat as required

**electrical**
- single level switching
- fluorescent lighting
- duplex receptacles
- leveler

**fixed equipment**
- F73 loading dock levelers and dock bumpers

**NOTES**
1. Finishes/features: refer to ________ for specification references.
2. Refer to Chapter 3, Section 3201 for site vehicular circulation requirements.
M-BS // STAFF RESTROOM
size
50 SF
capacity
1 person
spatial relationships
near academic core classrooms
near teacher prep area/workroom
program activities
personal and health needs for teachers, staff, and other individuals
environmental considerations
uniform lighting
environmental sound control -
  wall minimum STC 53
  ceiling minimum CAC 35, NRC 0.40
  moisture and stain resistant finishes
finishes
flooring:
  ceramic tile
base:
  resilient base
  optional - ceramic mosaic tile or porcelain tile
ceiling:
  suspended, acoustical
walls:
  painted concrete masonry units
fire suppression
  fire supression system
plumbing
  wall-mounted water closet
  wall-mounted lavatory
  plumbing connections
  floor drain
HVAC
  exhaust air system
  supplemental heat as required
electrical
  single level switching
  fluorescent lighting
  duplex receptacles
  leveler
communications
  central sound system
electronic safety and security
  life safety devices per code

LEGEND ///
- fixed equipment
  F6  soap dispenser
  F7  towel dispenser
  F18  mirror (24” x 60”)
  F20  bathroom accessories

NOTES //
1. Extend walls above ceiling to deck above for security and acoustical reasons.
2. Provide staff restrooms for both men and women.
3. Each pair of staff restrooms should be distributed throughout the building at appropriate locations.
size
75 SF

capacity
2 people

spatial relationships
located in the administrative area, but accessible to all building occupants

program activities
personal, health, and handicap needs for all building occupants

environmental considerations
uniform lighting
environmental sound control - wall minimum STC 53
ceiling minimum CAC 35, NRC 0.40
moisture and stain resistant finishes

finishes
flooring:
ceramic tile
base:
resilient base
optional - ceramic mosaic tile or porcelain tile or resinous flooring
ceiling:
suspended, acoustical
walls:
painted concrete masonry units

fire suppression
fire supression system

plumbing
wall-mounted water closet

wall-mounted lavatory
plumbing connections
floor drain

HVAC
exhaust air system
supplemental heat as required

electrical
single level switching
fluorescent lighting
(1) duplex receptacle

communications
central sound system

electronic safety and security
life safety devices per code

LEGEND ///

● fixed equipment
F6  soap dispenser
F7  towel dispenser
F18  mirror (24” x 60”)
F20  bathroom accessories
F77  mounted child seat
F78  child changing station

NOTES //
1. Finishes/features: refer to ________ for specification references.
Space to be determined by design professional.

size
400 SF

capacity
n/a

ancillary spaces
technology storage

spatial relationships
near loading/receiving area
direct access to building circulation
adjacent to technology storage

program activities
storage for computers during breaks/
summers
to secure hardware during cleaning,
repairs, construction, etc.

environmental considerations
uniform lighting

finishes
flooring:
resilient tile flooring
base:
resilient base
ceiling:
exposed structure
walls:
painted concrete masonry units

fire suppression
fire supression system

HVAC
exhaust air system
supplemental heat as required

electrical
single level switching
fluorescent lighting
duplex receptacles

electronic safety and security
life safety devices per code

fixed equipment
F3 wall shelving (26’-32’, depths may vary)

NOTES //
1. Finishes/features: refer to ________ for specification references.
2. Ranges shown indicate quantities for the smallest and largest possible room size.
3. Confirm with the District of Columbia Public Schools’ technology education specialist for requirements for each school.
<table>
<thead>
<tr>
<th>APPENDIX /// SPACE &amp; TAG LIST</th>
</tr>
</thead>
</table>

**loose furnishings**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>stackable/nesting chairs</td>
</tr>
<tr>
<td>L2</td>
<td>stackable/nesting tables</td>
</tr>
<tr>
<td>L3</td>
<td>teacher work surface with mobile storage and two chairs</td>
</tr>
<tr>
<td>L4</td>
<td>four drawer lateral file cabinet</td>
</tr>
<tr>
<td>L5</td>
<td>three bound rugs: group area, block area, and reading area</td>
</tr>
<tr>
<td>L6</td>
<td>mobile shelving</td>
</tr>
<tr>
<td>L7</td>
<td>teacher’s lockable wardrobe</td>
</tr>
<tr>
<td>L8</td>
<td>tall cabinet with shelves</td>
</tr>
<tr>
<td>L9</td>
<td>learning center sets: sand/water table, kitchen, art cart, etc.</td>
</tr>
<tr>
<td>L10</td>
<td>student desks</td>
</tr>
<tr>
<td>L11</td>
<td>adjustable height bookshelves</td>
</tr>
<tr>
<td>L12</td>
<td>admin workstation and chair</td>
</tr>
<tr>
<td>L13</td>
<td>small table</td>
</tr>
<tr>
<td>L14</td>
<td>computer station</td>
</tr>
<tr>
<td>L15</td>
<td>task chair</td>
</tr>
<tr>
<td>L16</td>
<td>bound group rug</td>
</tr>
<tr>
<td>L17</td>
<td>printer station</td>
</tr>
<tr>
<td>L18</td>
<td>lounge chairs</td>
</tr>
<tr>
<td>L19</td>
<td>conference table</td>
</tr>
<tr>
<td>L20</td>
<td>executive chairs</td>
</tr>
<tr>
<td>L21</td>
<td>work table</td>
</tr>
<tr>
<td>L22</td>
<td>safe</td>
</tr>
<tr>
<td>L23</td>
<td>computer desk return</td>
</tr>
<tr>
<td>L24</td>
<td>mobile exam table</td>
</tr>
<tr>
<td>L25</td>
<td>nurse stool</td>
</tr>
<tr>
<td>L26</td>
<td>refrigerator</td>
</tr>
<tr>
<td>L27</td>
<td>health suite cot</td>
</tr>
<tr>
<td>L28</td>
<td>folding chairs</td>
</tr>
<tr>
<td>L29</td>
<td>choral risers</td>
</tr>
<tr>
<td>L30</td>
<td>mobile a/v cabinet</td>
</tr>
<tr>
<td>L31</td>
<td>posture chair</td>
</tr>
<tr>
<td>L32</td>
<td>conductor’s podium and stool</td>
</tr>
<tr>
<td>L33</td>
<td>upright piano</td>
</tr>
<tr>
<td>L34</td>
<td>tumbling mats</td>
</tr>
<tr>
<td>L35</td>
<td>ball bins</td>
</tr>
<tr>
<td>L36</td>
<td>flammables storage</td>
</tr>
<tr>
<td>L37</td>
<td>dance barres</td>
</tr>
<tr>
<td>L38</td>
<td>play equipment</td>
</tr>
<tr>
<td>L39</td>
<td>cafeteria tables</td>
</tr>
<tr>
<td>L40</td>
<td>point of sale station</td>
</tr>
<tr>
<td>L41</td>
<td>chair dollies</td>
</tr>
<tr>
<td>L42</td>
<td>drying rack</td>
</tr>
<tr>
<td>L43</td>
<td>flat storage</td>
</tr>
<tr>
<td>L44</td>
<td>kiln</td>
</tr>
<tr>
<td>L45</td>
<td>greenware shelving</td>
</tr>
<tr>
<td>L46</td>
<td>step ladder</td>
</tr>
<tr>
<td>L47</td>
<td>music stand</td>
</tr>
</tbody>
</table>
stainless steel mobile preparation tables
wastebasket
small conference table
laptop charging cart
physical therapy table
computer-based modeling stations (2 students each)
work benches approximately 4’x4’
48” wide tote tray cabinets for project storage for 100 students
trapezoid desks that fit 4-6
fire blanket
autoclave (one per school)
distiller (one per school)
dishwasher
tv recording/production equipment
two person table on casters
resource media cart
first aid kit
adjustable height stool for teacher
range
microwave
refrigerator/commercial
upright freezer
ice maker
two-person adjustable height tables
goggle storage and sanitizer cabinet
student tall stool
two-person tall art table
fixed equipment

F1  base/wall cabinets and shelving (deleted “around classroom sink”)
F1.1  casework
F2  student cubbies
F3  wall shelving
F4  marker board
F5  tackable/magnet wall surface
F6  soap dispenser
F7  towel dispenser
F8  F8 wall mounted interactive electronic presentation device
F9  classroom sink
F9.2  rust-resistant shelving
F10  demonstration kitchen
F11  periphery science station
F12  rust-resistant deep shelving and dunnage racks
F13  sound system
F14  36” and 42” grab bars
F15  periphery kitchen station
F16  washer/dryer
F17  audio/video recording and playback equipment
F18  mirror

F19  toilet tissue holder
F20  bathroom accessories
F21  peg board
F22  basketball goals
F23  operable partition- motorized
F24  climbing wall
F25  treatment cubicle curtain
F26  amphitheater
F29  ADA shower accessories
F31  stage curtains
F32  stage lighting
F33  pot washing sinks
F34  food preparation sinks
F35  hand sinks
F36  work tables
F37  warming/holding cabinets
F38  refrigeration- reach in
F39  mop sink
F40  chemical storage
F41  exhaust hood systems
F42  food wells and full service sneeze
F43  guard
F44  self-contained refrigerated cold pan
F45  library case work
F46  motorized projection screen

F47  mop sink
F48  food preparation sinks
F49  hand sinks
F50  lockers
F51  toilet partitions
F52  fire extinguisher
F53  recessed floor mats
F54  digital boards
F55  locker bench
F56  folding utility shelf
F57  30” itinerant/aid station
F58  kitchenette
F59  changing table
F60  shower curtain/rod
F62  sound enhancement system
F63  towel hook
F64  filtered water fountain with bubbler and gooseneck bottle filler
F65  recycling center
oven
convection steamer
range
ware washing machine
mop rack
tack board
3D displays
loading dock levelers and dock bumpers
coat hook - bathroom accessory
sanitary napkin dispenser
sanitary napkin disposal
mounted child seat
child changing station
tackable surface
electrical panel
double hung track and black curtain
drinking fountain
goggle storage and sterilization with adequate ventilation
two sinks (6ft apart) with clay traps; cabinetry below
casework for dining equipment (dishes, table cloths, etc)
double bowl stainless steel kitchen sink
full-sized convection oven

F88 gym bleachers

miscellaneous

M1 high speed and/or large format printers
M2 color printers
M3 barcode reader
M4 photocop machine
M5 digital scanner
M6 laminator
M7 desktop computer
Scientists who study the "neuroscience of learning" are finding that certain lighting, acoustics, and spatial relationships support or hinder the learning process. The following criteria should be used when creating optimal learning and teaching environments.

<table>
<thead>
<tr>
<th>DESIGN PARAMETERS</th>
<th>PARAMETER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIGHTING QUALITY</strong> // improving natural and artificial lighting in classrooms</td>
<td></td>
</tr>
<tr>
<td>1 Controlled Natural Lighting (Glazing)</td>
<td>10-12% of floor SF</td>
</tr>
<tr>
<td>2 Artificial Light</td>
<td>35-50 foot candles</td>
</tr>
</tbody>
</table>

<p>| <strong>ENVIRONMENTAL AIR QUALITY</strong> // addressing temperature control, ventilation, air filtration, carbon dioxide levels, and HVAC background noise to ensure comfortable rooms |
| 1 Winter Temperature | 68.5 - 75.5 degrees |
| Summer Temperature | 74 - 80 degrees |
| 2 Humidity | 30 - 60% relative humidity |
| 3 Air Changes | 6 - 10 per hour |
| 4 Outdoor Air Ventilation | 10 CFM per person |
| 5 Air Filtration | MERV 13 |
| | MERV 6 - 8 |
| 6 Carbon Dioxide Levels | below 700 PPM above outdoor air |
| 7 HVAC Background Noise Levels | RC(N) Mark II level of 37 |</p>
<table>
<thead>
<tr>
<th>DESIGN PARAMETERS</th>
<th>PARAMETER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACOUSTICS</strong> // limiting reverberation and background noise and improving sound isolation</td>
<td></td>
</tr>
<tr>
<td>1 Reverberation</td>
<td>0.6 per second</td>
</tr>
<tr>
<td>2 Background Noise</td>
<td>45 dBA</td>
</tr>
<tr>
<td>3 Sound Isolation</td>
<td>STC 45 between classrooms</td>
</tr>
</tbody>
</table>

**TECHNOLOGY** // providing data connections for online learning resources, AV equipment, closed-circuit televisions, and a sound system with emergency capabilities

<table>
<thead>
<tr>
<th>1 Data / Computer Drops</th>
<th>at teacher workstations and wireless access points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Audio / Video Equipment</td>
<td>amplifier, microphone, speakers</td>
</tr>
<tr>
<td>3 Clock</td>
<td>synchronized with bell system</td>
</tr>
<tr>
<td>4 Sound System and Emergency Call Box</td>
<td>class change bells, emergency announcements</td>
</tr>
<tr>
<td>5 CCTV Camera</td>
<td>Security WebX Conferencing Distance Learning</td>
</tr>
</tbody>
</table>
There is a high interest in using school buildings as teaching tools to teach environmental stewardship and awareness, while simultaneously providing engaging environments for students, staff, and community who use the facilities. The organization, understanding, and use of school buildings will have a major impact on student and staff conservation behavior.

The sustainable design and green features of any building can be addressed in an active or a passive manner: active interaction is based on digital displays, educational features and curriculum integrated learning about environmental issues; passive interaction is based on the program design, building configuration, green building features, and energy efficient building automation.

**Passive Concepts**

1. Building Layout
   - Concentrate daylight and views to the outside to areas of frequent human interaction (e.g. classrooms, cafeterias, media center, art rooms, music rooms) with passive solar design
   - Avoid excessive window areas in corridors, lobbies, hallways with no gathering opportunities (design for less than 45% of wall area)
   - Avoid skylights and use roof monitors with vertical glazing instead

2. Types of Building Materials
   - Use durable wall surfaces that are easy to clean
   - Design for cleanability with easy and safe access
   - Incorporate light colored pitched roofs to prevent heat gain and leakage
   - Install high performance walk-off mats at all points of entry
   - Design with noise minimization in mind

3. Uses of Technology
   - For instructional and administrative purposes, the new school should have extensive technology systems. These same infrastructures and technology components can be used to enhance the perception of the buildings environmental components. Digital display of buildings energy and water use at entrance and in cafetorium.
   - Website with environmental features of the school
   - Use only vacancy sensors for classrooms, cafetorium etc. to turn off (not on) lighting
   - Daylight sensors and dimming in larger areas (cafetorium, multi-purpose etc.)

4. Vehicular and Pedestrian Traffic
   - Provide sufficient, covered and secure bicycle storage
   - Provide bicycle lanes to building from all major access directions

5. Landscaping, Play/Practice Fields, Site, and Lighting
   - Use native high trees and low bushes and ground covers and locate to provide shade to the building
   - Non-intrusive lighting of all areas (not correctional-type lighting) according to the Light Pollution Credit in LEED-S with no lighting to leave property line

6. Green Curriculum
   - Provide outdoor classroom
   - Design interior with sense of buildings orientation to North – East – South - West
Active Concepts //

1. Building Layout
   - Provide signage to educate users about interior and exterior green building features throughout
   - Provide signage for user behavior modification, e.g. ACPS policy for thermostat settings, reminders to turn equipment off when not in use
   - Provide visitor map with floor plan for location and explanation of green building features

2. Types of Building Materials
   - Provide view window to inside of wall constructions and mechanical room
   - Provide materials with environmental massage in selective areas, e.g. 100% recycled post consumer plastic toilet compartments, wheatboard cabinets, or furniture made of wood harvested from school site, and explain with signage.

3. Uses of Technology
   - For instructional and administrative purposes, the new school should have extensive technology systems. These same infrastructures and technology components can be used to enhance the perception of the buildings environmental components.
   - Green morning announcement with update on energy and water use
   - Student conducted energy audits
   - School based resource conservation program with frequent feedback to users

4. Vehicular and Pedestrian Traffic
   - Provide preferred parking for ACPS Green Fleet (for carpooling and fuel efficient vehicles)

5. Landscaping, Play/Practice Fields, Site, and Lighting
   - Design for no-mow areas
   - Design for student garden
   - Provide solar or wind powered, off the grid site lighting as demonstration model for select areas

6. Green Curriculum
   - LEED credit Schools as a Teaching Tool requires 10 hours of instruction per student, grade and school year on environmental issues related to the school building. The school buildings design should support this requirement wherever possible.
technology

Information Technology provides technical services to all schools in the division and is operated from a remote location. ACPS IT does not mandate adherence to BICSI (Building Industry Consulting Services International) or RCDD (Registered Communications Distribution Designer) standards – particularly with regard to quantities and location of data drops. All electrical and data layouts are location dependent and Architects should consult IT with all design decision related to services operated by IT. Provide blocking systems in all walls for future acceptance of equipment and teaching devices.

Provide a maximum of four hard data ports per classroom; two data ports each at opposite facing walls to accommodate mobile teaching stations. Provide electricity in multiple locations along all walls and wireless internet capacity to host 30 computing devices at one time per classroom. Provide appropriate wireless data coverage through each school to facilitate a one-to-one teaching device ratio. ACPS’ fiber optic systems support security, IP cameras, clocks, and PA systems.
**safety / security**

ACPS wants to maintain an inviting and de-institutionalized environment, while simultaneously providing a safe environment for students, staff, and community who use the facility and adjacent support services. The organization of a building will have a major impact on student behavior and safety concerns.

Building security can be addressed in an active or a passive manner: active security is based on security systems; passive security is based on program design, building configuration, and community participation. Schools should be based on passive concepts with applied active concepts where necessary.

The principles of the *Crime Prevention Through Environmental Design* (*CPTED*) approach should be followed to incorporate passive safety and security measures. CPTED is the broader approach to safety and security that seeks building designs that encourage desirable behavior, heighten functionality, and decrease social behavior.¹

There are three main considerations in CPTED:

1. **Natural Surveillance**: the capacity to see what is occurring without having to take special steps to do so
2. **Natural Access Control**: the capacity to limit who and how someone can enter a facility
3. **Territoriality**: the capacity to establish an authority over an environment in who is in charge, who is allowed and who is not welcome.

3. Uses of Technology
- Phones in every instructional and support area
- Building-wide all-call designed to be heard throughout the school and on the play fields when needed
- Motion or infra-red detectors, which can also conserve lighting costs
- Video cameras that are used for instructional purposes could also be used for security purposes during non-school hours
- Smoke and heat detectors located throughout the building
- Emergency call buttons in large parking areas, and
- Magnetic locking systems and carefully selected door hardware to facilitate lock downs in needed.
- Considerations should be given to zoning the building for non-school day uses in terms of both energy efficiency as well as security: Lighting zones, Securable zones, and Mechanical zones

4. Visitor Management
- The front entry lobby should be welcoming and inviting for students, staff, and visitors with a central visitor registration area should be prominent upon entry,
- Clear way finding signage should be included that directs visitors upon campus arrival to visitor registration and as well as throughout the building to provide overall building guidance,
- A secured double vestibule or a video enabled front entry intercom buzzer system should be provide to manage visitor entry, and
- Front lobby & exterior displays should be provided for communicating school messages.

5. Vehicular and Pedestrian Traffic
- Separate bus drop-off area from other vehicular traffic
- Separate staff and community parking area
- Separate student (pedestrian) traffic flow

6. Landscaping, Play/Practice Fields, Site, and Lighting
- Use native high trees and low bushes (less than three feet high) to deter hiding
- Use aesthetically pleasing fencing around perimeter of the building
- Non-intrusive lighting of all areas (not correctional-type lighting) according to the Light Pollution Credit in LEED-Ss with no lighting to leave property line
- Reference the Alexandria City Landscaping Guidelines when providing landscaping.
## Prototype Table

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