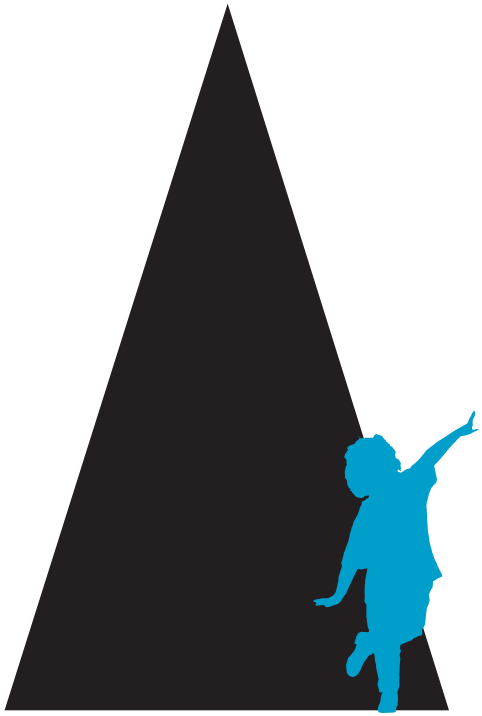


Educational Specifications ■ Alexandria City Public Schools

JULY 2014

ELEMENTARY SCHOOL

ACPS


forward

The City of Alexandria (the City) and the **Alexandria City Public School Division** (ACPS) joined together in the fall of 2012 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 Elementary School (PreK – 5th 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 community input. The School Board will make the final recommendation. It is recommended that 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.

TABLE OF CONTENTS

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 Elementary 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.

process

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 elementary school pedagogy has been added to the basic plan to ensure quality facilities well into the twenty-first century.

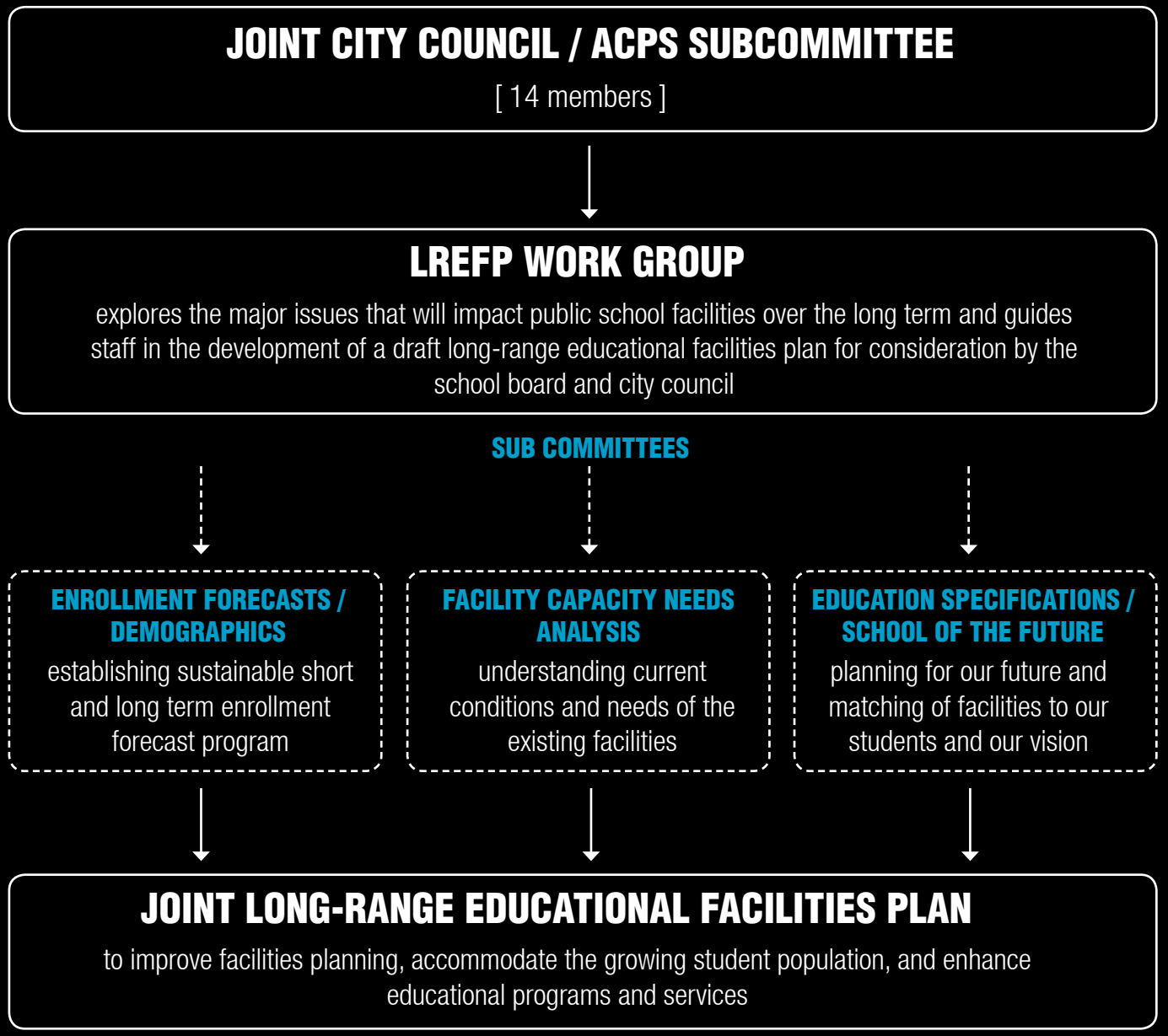


FIG. 1.0 /// **PROCESS DIAGRAM**

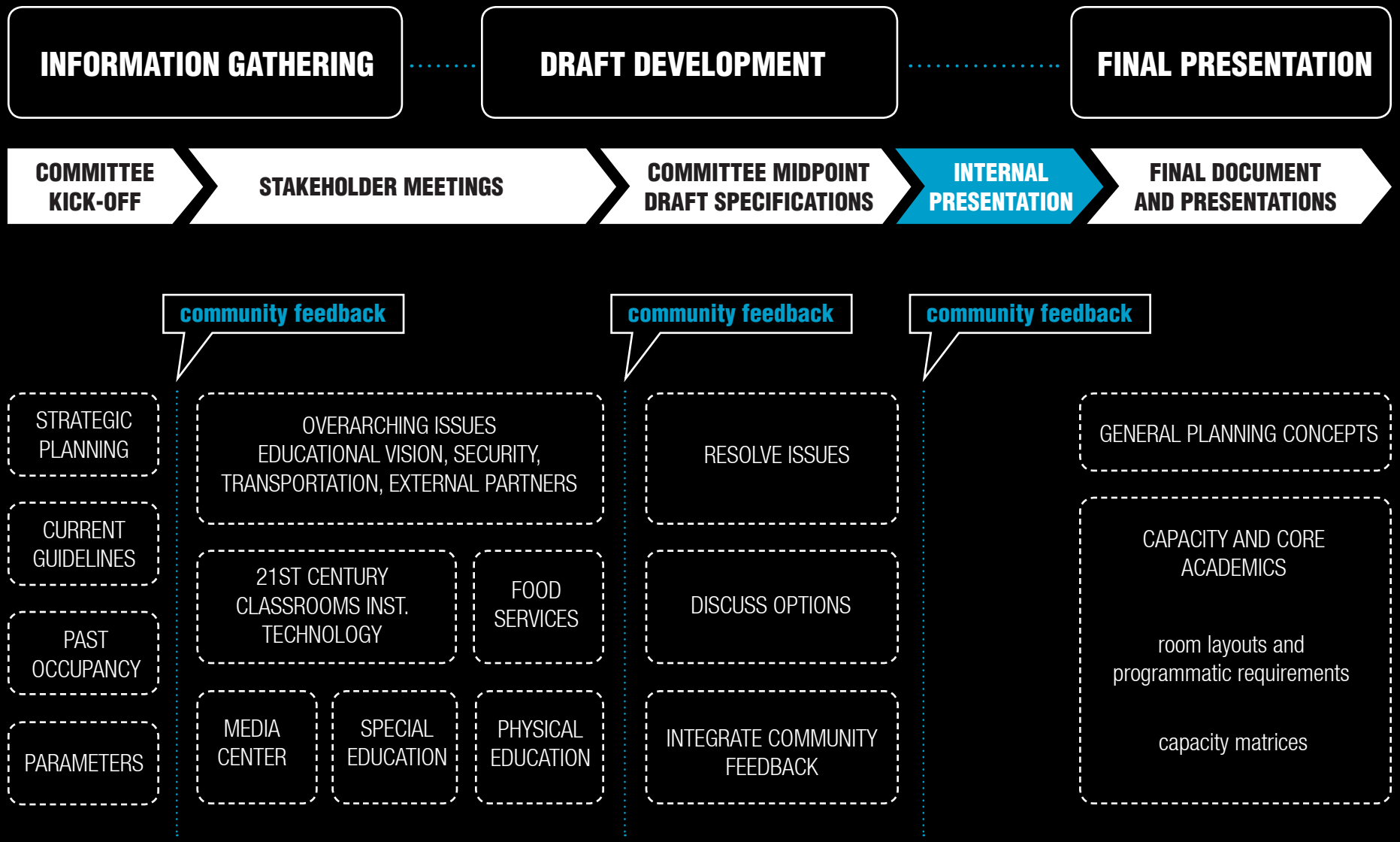


FIG. 1.1 /// **WORKFLOW DIAGRAM**

national trends in educational facility planning

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

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 an elementary 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 elementary 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 60percent 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

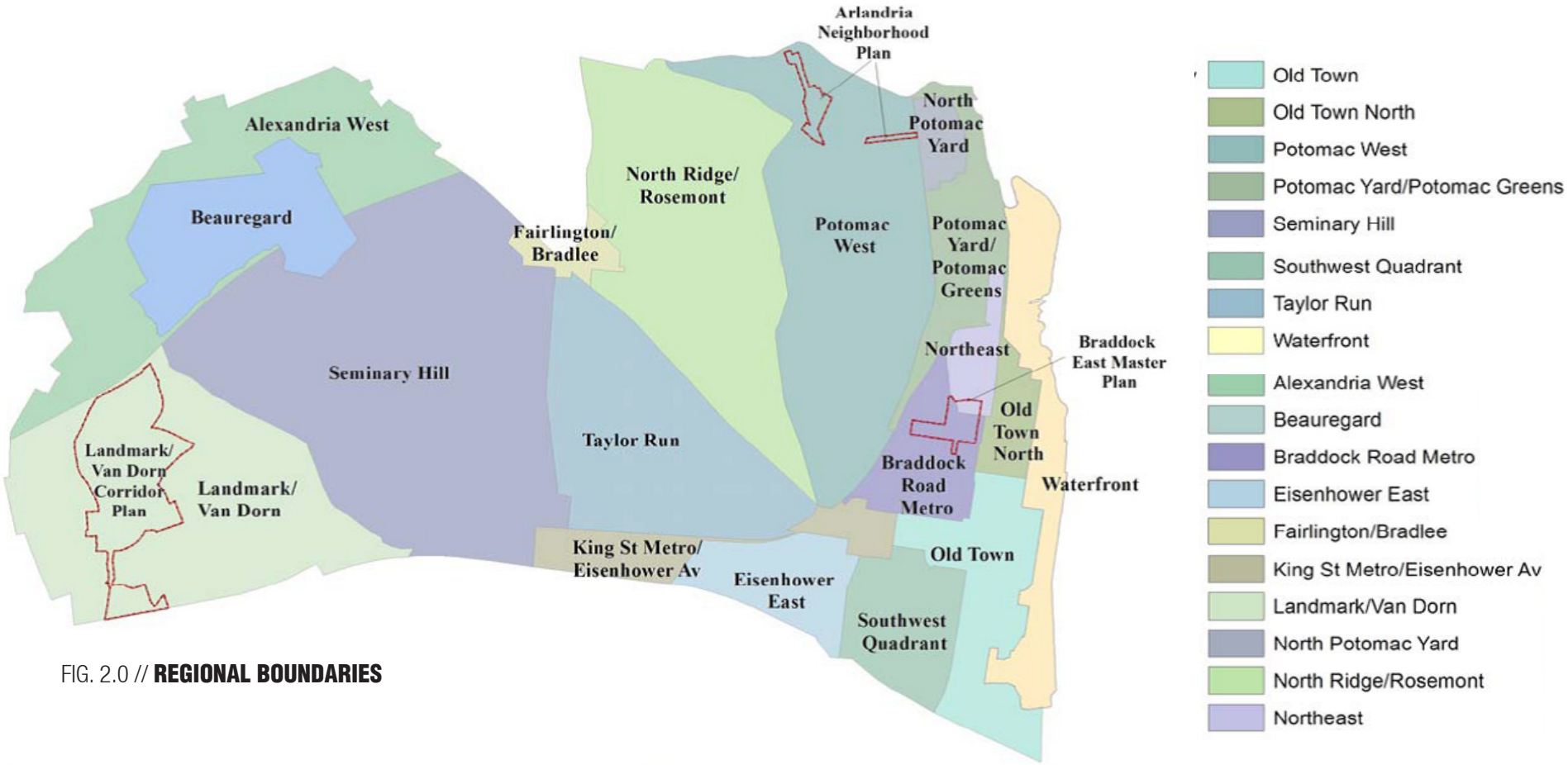


FIG. 2.0 // **REGIONAL BOUNDARIES**

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 31 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.

FIG. 2.1 // **REGIONAL STATISTICS**

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

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

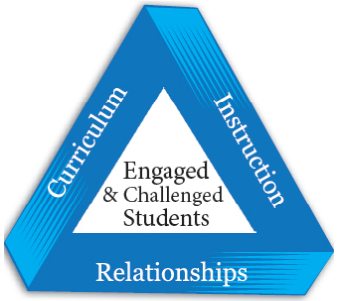
ACPS Learning and Teaching Model //
Learning and Teaching in ACPS is a well-executed balance between a rigorous curriculum, proven instructional strategies (pedagogy) and relationships with students that communicate high expectations and commitment to student success.

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.



THIS PAGE IS LEFT BLANK INTENTIONALLY

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 the public.

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.

PLANNING CONCEPTS ///

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.

There is no ideal school size. Schools in ACPS range from 373 students at Cora Kelly Elementary School to 874 students at John Adams Elementary School. Though the division does not have a preferred school size, for the purposes of planning, this educational specification assumes that school capacities will range between 450 students and 800 students. **This prototype is based on 700 students for illustration only**. Nationally, the average school size is 600 (540 in Virginia) with smaller schools in urban cores. 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, 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. For elementary schools, small instructional spaces and specialized labs including art, music, or resource are not part of the capacity calculation. It is possible for a school's capacity to change in minor ways from year to year based on average class sizes (determined by the budget) or changes in the number and type of programs.

Currently, the ACPS budgeted class size caps range from 22 in kindergarten to 26 in 5th grade. Figure 3.1 on the following page identifies class sizes for school divisions surrounding the City of Alexandria in addition to those recommended by the code of Virginia. The classroom size limits enunciated by the ACPS School Board are generally in line with the regional averages.

Class size caps establish a maximum desirable class size but the average class size in ACPS is lower. By applying actual school staffing to the current enrollment it can be determined that for most ACPS schools, class sizes range from 20- 24 in grades kindergarten through 5th grade. The lower class sizes are more in keeping with the division's long range policies and goals. For the purposes of planning the following class sizes will be used to calculate a 'design' capacity. It is important to size all classrooms to accommodate the maximum number of students even if the average is used for capacity planning.

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,

FIG. 3.0 // **CLASS SIZE**

ROOM TYPE	RANGE OF CLASS SIZE	TARGET FOR PLANNING
Pre-K	16-20	18
Kindergarten	20-22	20
Primary Grades	22-24	22
Intermediate	24-26	24
Special Needs	6-12	10

FIG. 3.1 // **REGIONAL BENCHMARKS**

SPACE	ENROLLMENT						RECOMMENDED OR AVERAGE CLASS SIZE PER GRADE									SF / STUDENT
	K-5	6-8	Pre-K	HS	VPI	PS	K	1	2	3	4	5	6	7	8	
Arlington[1]	13,277	4,860			544		24	24	25	25	27	27				
Fairfax[2]	98,264	27,872					22	22	22	21	22	22	23			118/ES 157/MS
Loundoun[3]	33,574	16,512		99		620	22	22	22	22	22	22	21.6	22	22	
Prince William[4]	39,538	19,473				505	23.8	23.3	23.3	23.3	23.3	23.3	30.3	30	30	
District of Columbia[5]	21,348	7,018	3,368			2,197										
Code of Virginia[6]							24	24	24	24	25	25	25			
Average	41,200	15,147	3,368	99	544	1,107	23	23	23	23	23	23	25	26	26	
United States[7]	pk-8 2009 avg	34,418					23.7	23.7	23.7	23.7	23.7	23.7	23.7	24	24	
Alexandria[8]	7,616	2,597					22	24	24	26	26	26				

**Code of Virginia 22.1-253.14:2 C states: "24 to one in kindergarten with no class being larger than 29 students; if the average daily membership in any kindergarten class exceeds 24 pupils, a full-time teacher's aide shall be assigned to the class; (ii) 24 to one in grades one, two, and three in any kindergarten class exceeds 24 pupils, a full-time teacher's aide shall be assigned to the class; (ii) 24 to one in grades one, two, and three with no class being larger than 30 students; (iii) 25 to one in grades four through six with no class being larger than 35 students."*

1- www.apsva.us
2- www.fcps.edu/fts/dashboard/
3- www.lcps.org
4- pwcs.schoolfusion.us
5- dcps.dc.gov
6- www.doe.virginia.gov
7- nces.ed.gov
8- www.acps.k12.va.us

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 700 student elementary 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."

GRADE	# OF CLASSROOMS	CAPACITY	TOTAL
Pre-K / Pre-S	5	18	90
Kindergarten	5	20	100
Grade 1	5	22	110
Grade 2	5	22	110
Grade 3	4	25	100
Grade 4	4	25	100
Grade 5	4	25	100
Total	**32**		**710**

FIG. 3.2 // **CLASSROOM CAPACITY**

The guidelines developed here by the project team 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 has changed and this document has not yet been updated to reflect those changes

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 main office should be located near the primary entrance to the school. The architect should consider security when designing the main office. The space should be organized to provide direct visual access to the entrance doors. Provide appropriately sized office spaces with an adjoining shared conference room and adajcent staff restroom. Occupational and Physical Therapy services are provided by ACPS staff who travel between multiple school locations. Within the main office, provide an appropriately sized space that includes itinerant work stations and storage. Near or adjoining the main office, provide the Family and Community Engagement center. Other administrative functions can be dispersed throughout the school via grade level suites to encourage maximum student collaboration and connection.

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 should 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 screening
- 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, it is possible that a facility in the future will provide (location depended) community partner/provider operated wellness centers. These centers will require additional spaces to accomodate offerings and amenities such as:

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

Cooperative and collaborative wellness centers are desired (location dependent) 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. Student restrooms should be located within all classrooms or shared by two adjoining classrooms.

Classrooms //
Flexible and easy to arrange furniture that is easy to store is preferred. Student arrangements should reflect small collaborative groupings over individual desk arrangements. Many classrooms are designed around discovery-based learning centers. Provide 'teaching and learning' surfaces on two walls to include touch screen interactive boards, magnetic white boards and tackable surfaces at student height.

Restrooms should adjoin classrooms at every grade level to increase flexibility for conversion to younger grades if necessary. Each classroom should include a sink and a water bubbler. The provision of an itinerant or hoteling space for drop-in or special needs instructors is another unique feature that should be included in each classroom.

Extended learning areas (ELA) should be incorporated into designs as additional teaching spaceslearning areas 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 elementary-level classroom should be designed to support science activities and simple lab components. Schools should supplement the in-classroom sinks by providing a portable science demonstration cart for each academic cluster. Additionally the provision of an outdoor classroom, a garden area, and/or a food lab should also be considered in order to support elementary level science instruction. If a food lab is provided, it should be located off the main dining area and equipped as a dual

purpose warming and cooking studio for both teaching and extracurricular activity support.

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 elementary 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 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 elementary school in the division but enrollment can vary from as little as five percent of the school's total student population to over 50 percent. The majority of ELL instruction is pushed-in to the general education classrooms with an itinerant instructor floating into classes as needed. Elementary schools also provide an English Language Development (ELD) break out class which can typically be accommodated in one of the resource classrooms; however, in schools with a large ELL population, such as Ramsey ES, it is possible that a dedicated classroom will be required. Designers should be careful to inquire about the site-specific requirements.

Talented and Gifted (TAG) //
A TAG program exists at every elementary school in the division, although enrollment varies widely from school to school. Staffing levels are based upon enrollment but at most schools there is one full time TAG teacher. For grades K – 3, TAG curriculum is 'pushed in' to the standard classrooms and is managed by the elementary teachers. At the 4th and 5th grade levels the same strategy is utilized for social studies and science curriculum; however, mathematics and language arts TAG course work is 'pulled out' into a separate classroom. Typical class size for these TAG classes is about 15-20 students, warranting the provision of an assigned, standard classroom. Additionally, TAG curriculum emphasizes project-based learning which may occasionally require use of ELA space or resource rooms along with the provision of storage for student projects.

Early Childhood //
ACPS does not currently provide universal pre-kindergarten programs and, at some schools, early

childhood education is provided either through a state funded grant (Virginia Preschool Initiative) or federally funded grant such as Head Start (provided by a community partner, The Campagna Center). In accordance with national trends toward earlier schooling, ACPS desires to implement universal prekindergarten at every school. For planning purposes, this document allocates classrooms for early childhood at every school at 80 to 90 percent of the planned kindergarten classrooms. At schools that house Head Start, classes can be held in standard PreK/K classrooms described in this document.

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

Larger ACPS schools often have more than one art teacher (but less than two). The main art instructor assigned to the school will own the main art classroom and ancillary spaces. Optimal location for the art room is on the ground floor with a northern daylighting orientation. Access to an outside patio or seating area should offer additional work space, display spaces, and performance spaces. Itinerant art instructor assigned to the school will function out of the Early Childhood Dining/ELA space where a separate art storage location is provided. This location provides the opportunity for push-in art assembly or the ability to program the adjacent ELA as a full-size classroom when needed.

Larger ACPS schools often have one music teacher each for choral, band and orchestra – not all full time. Large practice and performance spaces are not provided for part-time programs and so the stage may be used part of the day for practice for orchestra or one of the other classes. If possible the music suite should be located near the stage and instrument storage shared between the band and orchestra. Chair and music stand storage can be provided on or under the stage.

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

Physical Education //
To support the elementary 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 should 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 elementary students twice a week. For larger schools this may mean 2-4 teachers are teaching in the gymnasium at the same time. At a safe 100 square feet per student, larger schools need a full size gymnasium to accommodate the program. Because the elementary schools do not have intramural sports, no seating is required. To further support the physical education program and provide for after school programs, larger schools should have a smaller multi-purpose space.

Parking should be located near the gymnasium and a separate entrance should be provided for after school activities. Flexibility of space use is desired and designers should 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 seating choices. The furniture should be age appropriate and serving lines height sensitive which may require having two distinct areas for primary and intermediate students. 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 hybrid approach by providing for two separate dining areas: one for the early childhood grades (PreK and K) and one for grades one through five. The early childhood dining area should be located adjacent to the classrooms where it can also function as the ELA and an indoor play area in a fashion similar to the distributed dining concept. The dining area for grades one through five should be much larger and designed as a more traditional centralized cafeteria adjacent to the kitchen. This larger space If a more traditional dining solution is preferred, the space should also include the school stage for performances. The key to a well-designed multi-purpose performance space is to consider the technology, acoustics, and layout very early in the design process. 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.

Food services 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

FIG. 3.3 // **PLAY AREAS**

SPACE	QUANTITY
Multiuse (Hard Surface)*	(2) 100' x 120'
Fitness Development Fenced Equipment Area (PK-1)	(1) 100' x 120'
Fitness Development Fenced Equipment Area (2-5)	(1) 100' x 120'
Multiuse Field Play Area	(2) 180' x 140'

**A gymnasium may substitute for one multiuse (hard surface) play area.*
NOTE: Quantities are based on 700 student prototype.

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 chart (figure 3.3) on the previous page.
Alexandria school sites are urban in nature and most current and future sites cannot accommodate the recommendations outlined in the Guidelines for School Facilities in Virginia's Public School. However, every elementary school site should accommodate non-structured or natural play areas as well as at least one playground. It is recommended that architects work with ACPS and RPCA to prioritize types of outdoor space development on a site-specific basis. Architects should endeavor to design new schools or future renovations in a way that will maximize available open space. Ideally, all elementary schools will be designed to accommodate one multiuse field play area that conforms to the state guidelines.

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 RCPA's requirements towards playgrounds, courts, fields, and gymnasium spaces, per the joint ACPS/RPCA Facility & Outdoor Maintenance & Use agreement.

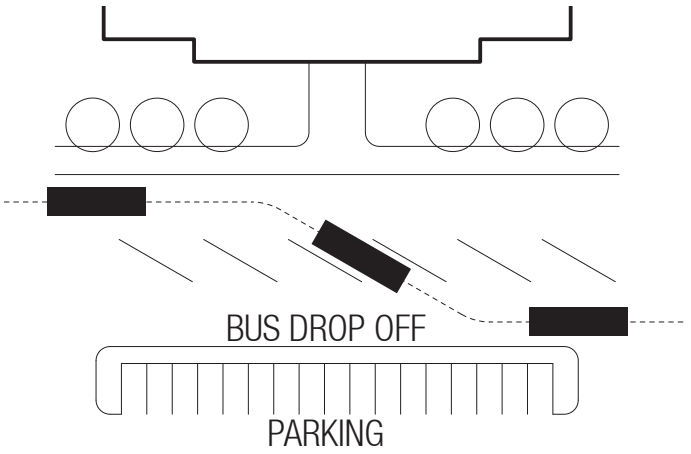
Parking and Transportation //
Recreation, Parks, and Cultural Activities (RPCA) is a partnership program that utilizes shared ACPS facilities for afterschool programming. RPCA operates the majority of playing fields, courts, parks, and playgrounds adjacent to Alexandria schools. When funds are available 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.

The following chart (figure 4.0 on next page) 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. 4.0 // **PARKING CAPACITY**

DESCRIPTION	CAPACITY PROTOTYPE		
Building Capacity	450	700	850
Teaching Stations	21	32	38
Bicycle Racks	25	38	46
Staff Parking			
Teachers	21	32	38
Ancillary Staff	9	14	17
Administration	5	7	9
Custodial / Maintainence	3	5	6
Food Service	4	6	7
Total Staff Parking	**42**	**64**	**77**
Total Visitor Parking	**9**	**14**	**17**

FIG. 4.1 // **BUS DIAGRAM**



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: Elementary-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.

THIS PAGE IS LEFT BLANK INTENTIONALLY

conceptual building organization

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 elementary 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 illustrating a learning environment characterized by flexibility, a sense of community for the students and teachers, and a safe, well-supervised environment.

Academic clusters are located in the quiet areas of the building that can be isolated during off-hours. Noisier and shared programmatic clusters are grouped toward parking, public and play areas and allow for after-hours access. A single main entry is a specific determination of ACPS’s security plan and that entrance is supported by administration and family welcome center functions. Informal “break- out” or Extended Learning Areas happen throughout the building along with opportunities for distributed dining areas.

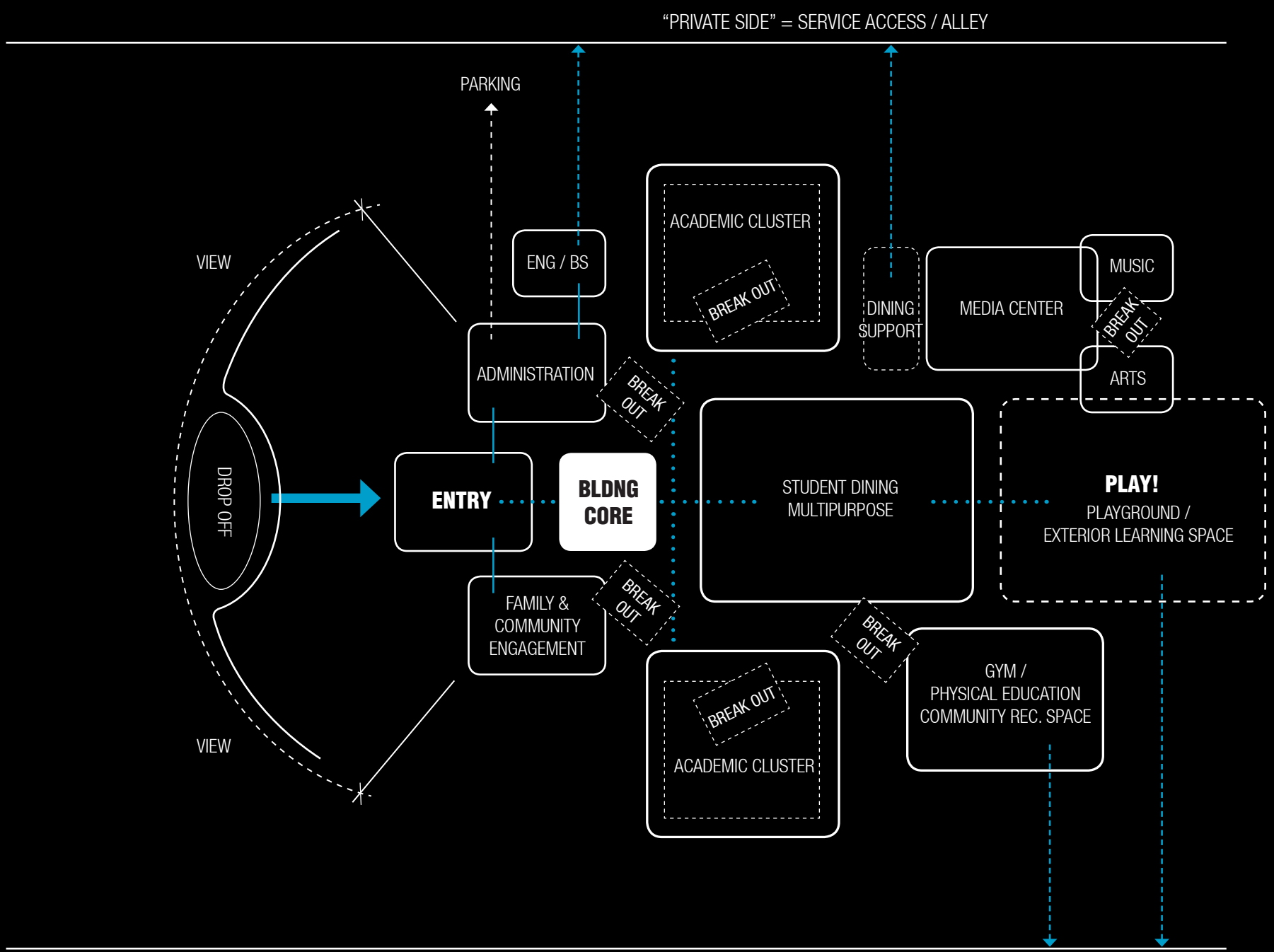


FIG. 5.0 /// **ADJACENCY DIAGRAM**

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 will 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.

Technology //
The facility will 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 ca 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 will 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 pg. 215 for additional guidance regarding technology infrastructure requirements.

Universal Design //
The entire facility will be accessible for students, staff, and visitors. This will 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 will 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 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. This allows partnership to operate independently of the school's staffing requirements and provides the necessary security to protect the main school. During general school hours, partnership programs will 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
- licensed before/after school programs (e.g. Campagna Kids)

Functions of these programs should be co-located with the ability to utilize standard classrooms, the gymnasium, multipurpose room and media center. It is also important to note that licensed programs have specific requirements that should be considered as a part of any plans to renovate or build new facilities. While the requirements are not onerous, failure to incorporate their consideration during the planning process can significantly constrain having access to such programs.

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 & Outdoor Maintenance & 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 locate Family and Community Education Centers (FACE) to welcome families and provide the additional resource that will help them succeed.

A typical FACE center would 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 weekday evenings and have 30 to 35 participants in attendance. PTA meetings include school board members, staff, 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 cafeteria. Consider co-locating PTA with other partnership functions like the FACE center. PTA functions require dedicated storage space and direct interaction with the schools 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 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. Please reference Appendix 5 for additional guidance regarding technology infrastructure requirements.

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 principals 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. Please reference Appendix 1 for additional guidance regarding technology infrastructure requirements.

THIS PAGE IS LEFT BLANK INTENTIONALLY

the 700 student prototype

The remainder of this document is meant to be illustrative of a typical 700 student school in the Alexandria City Public Schools. The basis for the capacity and the number of classrooms per grade is located was previously 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 will be required to bring an existing school up to new school standards within reasonable limits. Designs for spaces may vary from recommended sizing by +/- 10% 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 larger 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 meet the goals within 10 to 15 percent.

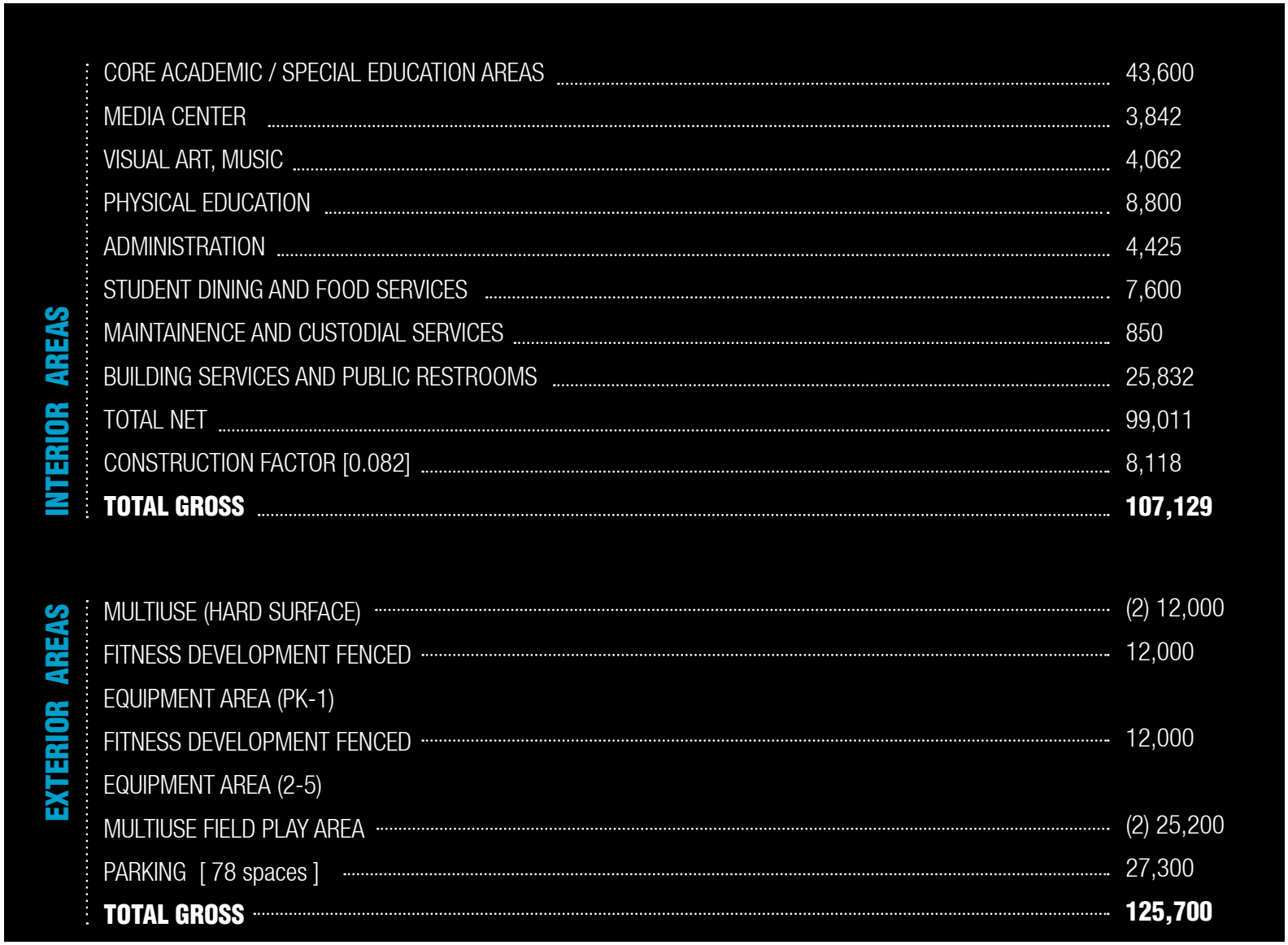
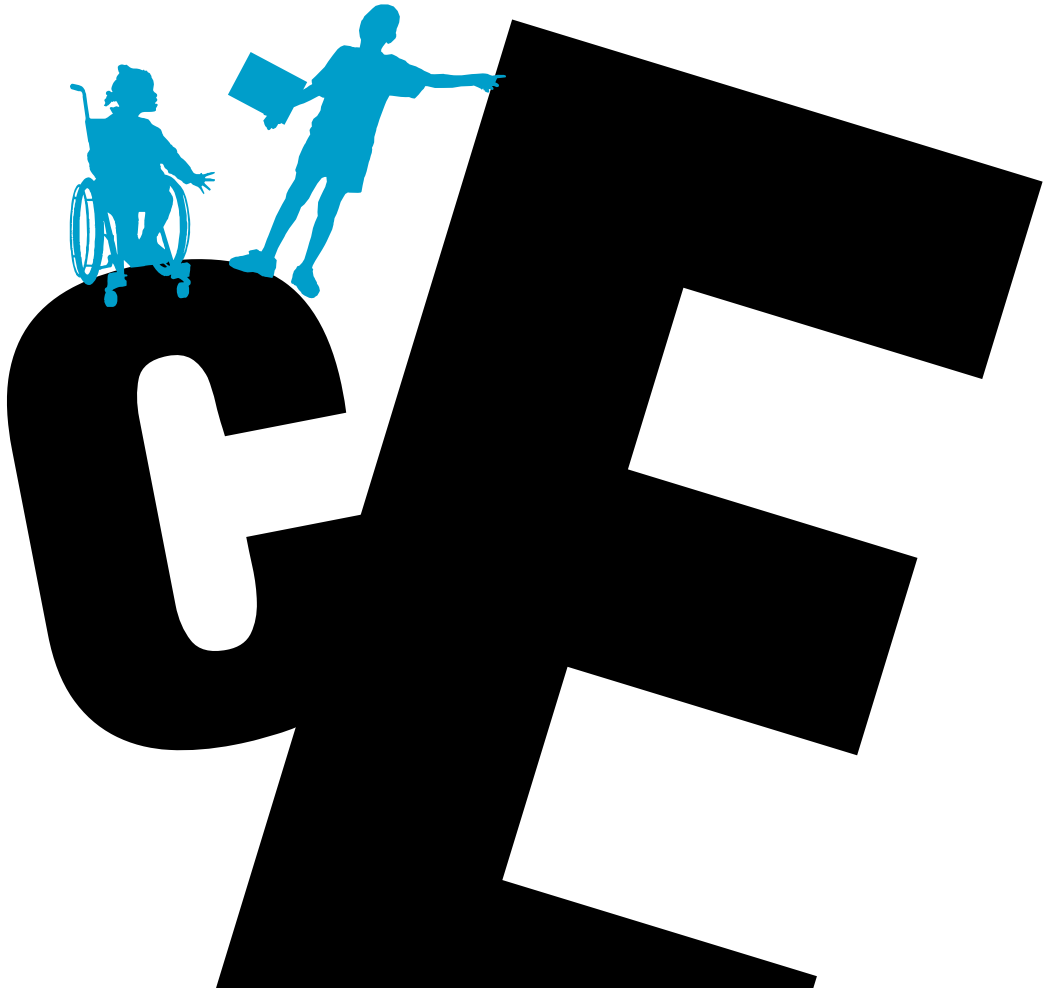


FIG. 6.0 // **BUILDING SPACE SUMMARY**


SPA



E-ACA /// **CORE ACADEMIC**

PRE-K/KINDERGARTEN CLASSROOM
GRADES 1-5 CLASSROOM
GRADES 1-5 EXTENDED LEARNING AREA
CLASSROOM BATHROOM
RESOURCE CLASSROOM
STUDENT SERVICES
OCCUPATIONAL/PHYSICAL/ITENERANT HOTELING
TEACHER COLLABORATION ROOM
STORAGE
OUTDOOR STORAGE EARLY CHILDHOOD
ART STORAGE
EARLY CHILDHOOD LEARNING

SPACE	QUANTITY	SF	TOTAL	NOTES
CORE ACADEMIC				
Pre-k Classroom	5	1,175	5,875	includes 50 SF toilet and 100 SF storage closet
Kindergartern Classroom	5	1,175	5,875	includes 50 SF toilet and 100 SF storage closet
Outdoor Storage Early Childhood	1	200	200	
Grade 1 Classroom	5	900	4,500	
Grade 2 Classroom	5	900	4,500	
Grade 3 Classroom	4	900	3,600	
Grade 4 Classroom	4	900	3,600	
Grade 5 Classroom	4	900	3,600	
Extended Learning Area	5	600	3,000	add to cluster circulation
Classroom Bathroom	11	100	1,100	
Resource Classroom (Sped)	3	250	750	pull out instruction
Resource Classroom (other)	2	250	500	reading, math, speech, etc.
TAG Classroom	1	900	900	typically located in 4th or 5th grade classroom cluster
Student Project Storage	1	150	150	for general class and TAG use, typical equipment similar to art storage
ELL	-	-	0	TBD
Student Services	4	100	400	social worker, psychologist
Occupational/Physical/Itinerant Hoteling	1	400	400	50 SF of storage
Storage	4	200	800	
Teacher Collaboration Room	5	250	1,250	
Early Childhood Learning	1	2,000	2,000	Includes 200 SF chair and table storage
Art Storage	1	200	200	Adjacent to ELA/Dining
Total			**43,200**	

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% 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.

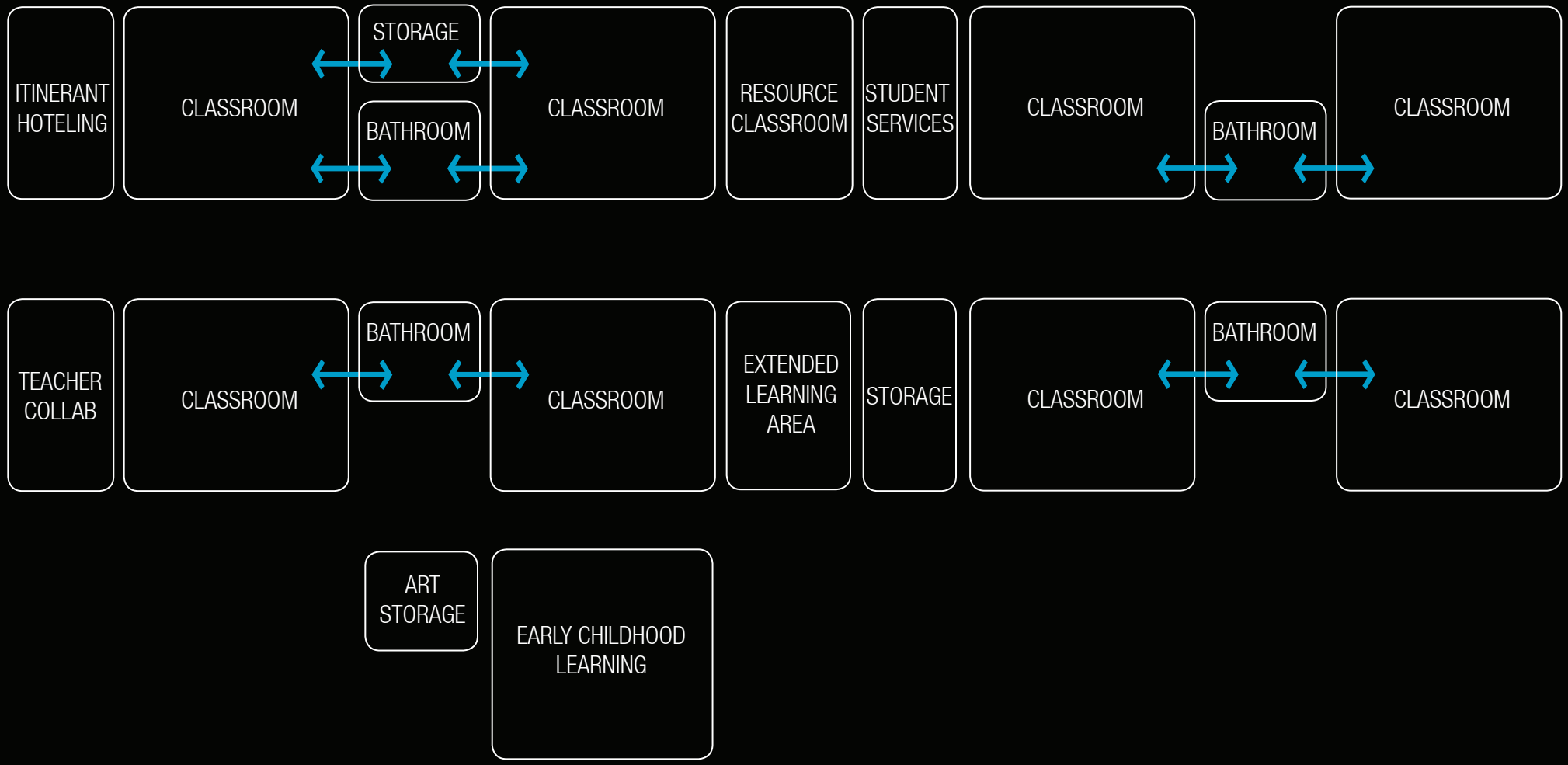
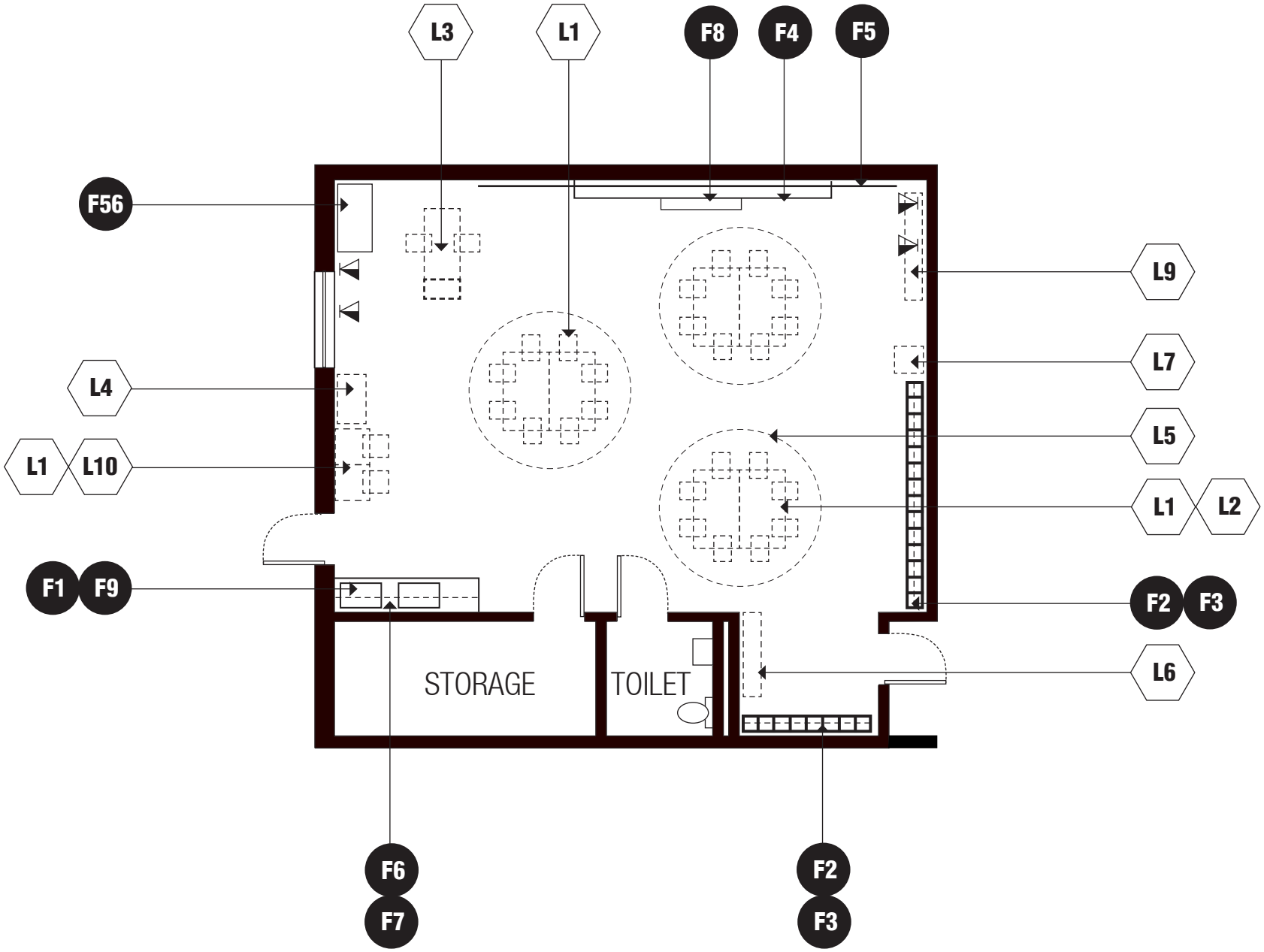


FIG. 7.0 // **CORE ACADEMIC ADJACENCY DIAGRAM**



E-ACA /// **PRE-K/ KINDERGARTEN CLASSROOM**

size

1,175 SF

capacity

16-20 students (HS/PK/K)

2 teachers

parents/ staff members

ancillary spaces

pre-k/ kindergarten restroom (50 SF)

storage closet (100 SF)

spatial relationships

see illustration opposite page

group classrooms for potential teaming

locate coat cubbies near door

locate at first floor for emergency

prefer door to the outside from the classroom

designate area for cot storage (stacked)

centers in the classroom may include:

- housekeeping
- blocks
- library/books
- writing table
- art table
- sand and water tables

program activities

whole group

teacher directed

small group

one-on-one instruction

cooperative learning

discovery

language arts

inquiry

plumbing

double sink at two heights

- with drinking fountain and sink at child height
- with deep well at adult height

wall mounted watercloset

wall mounted lavatory

LEGEND ///

● **fixed equipment**

F1 base/wall cabinets and shelving

F2 student cubbies (20)

F3 wall shelving (over cubbies)

F4 marker board (8 LF)

F5 tackable/magnet wall surface

F6 soap dispenser

F7 towel dispenser

F8 wall mounted interactive electronic presentation device

F9 classroom sink

F56 30” itinerant/aid station

⬡ **loose furnishings**

L1 stackable/nesting chairs (18-20)

L2 stackable/nesting tables (4-5)

L3 teacher work surface with mobile storage and two chairs

L4 four drawer lateral file cabinet

L5 bound group rug (3, group area, block area, and reading area)

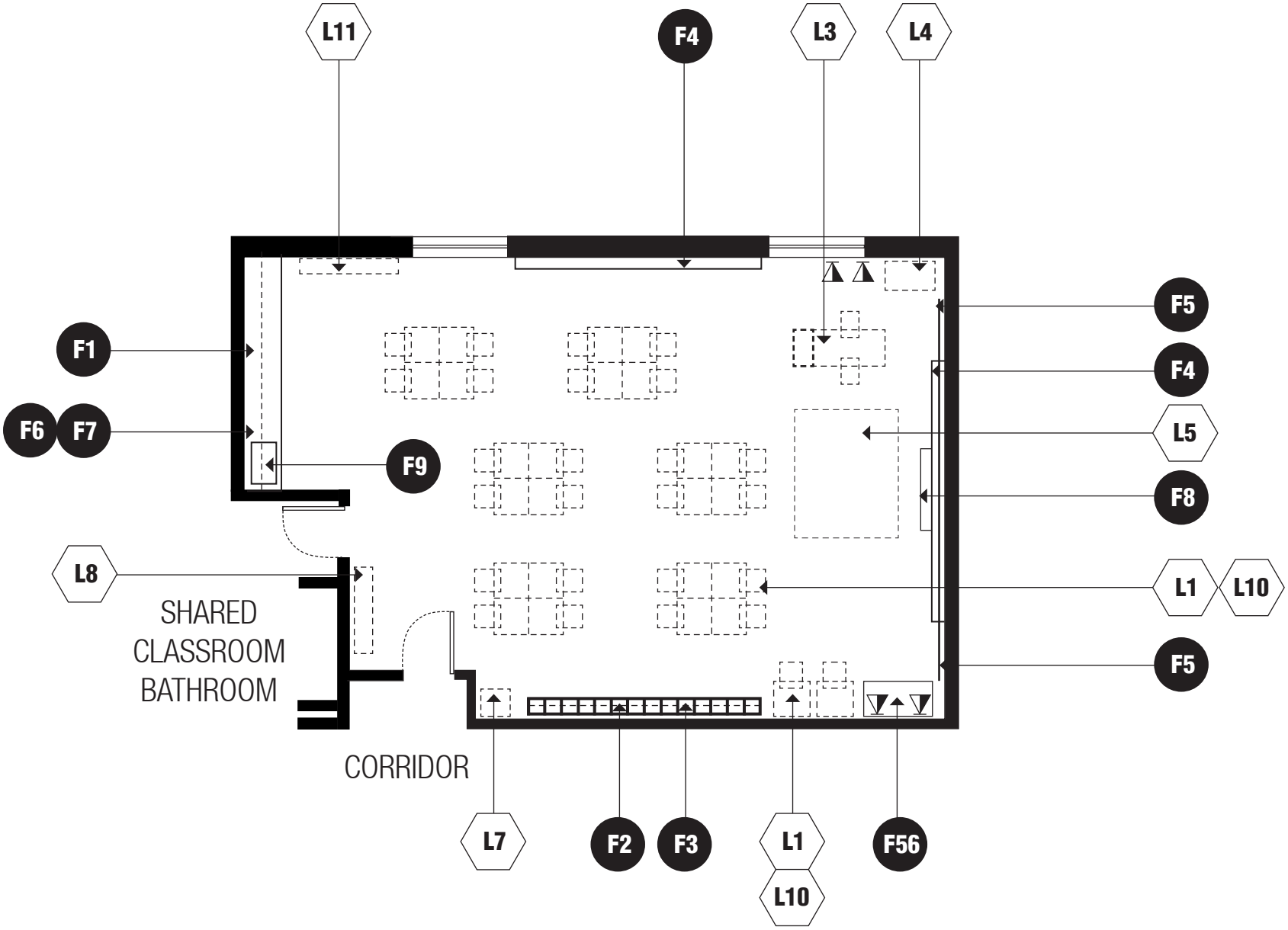
L6 mobile shelving (various)

L7 teachers lockable wardrobe (18” x 18”)

L9 learning center sets- sand/water table, kitchen, art cart, etc.

L10 student desks

data drop



E-ACA /// **GRADES 1 - 5 CLASSROOM**

0’ 4’ 8’ 16’

size

900 SF

capacity

22 students (1st – 2nd)
24 students (3rd – 5th)
2 teachers
staff members
guest speakers/volunteers

ancillary spaces

restrooms

spatial relationships

see illustration opposite page
group classrooms for potential teaming
doorway into the commons area
doorway into adjacent bathroom suite connecting to adjacent classroom
locate coat cubbies near door
two teaching/learning walls with student height marker boards and technology infrastructure
consider outside 'porches' where feasible.

program activities

large group instruction
small group instruction and group work
computer instruction
team teaching
oral presentations
testing

plumbing

sink with drinking fountain

LEGEND ///

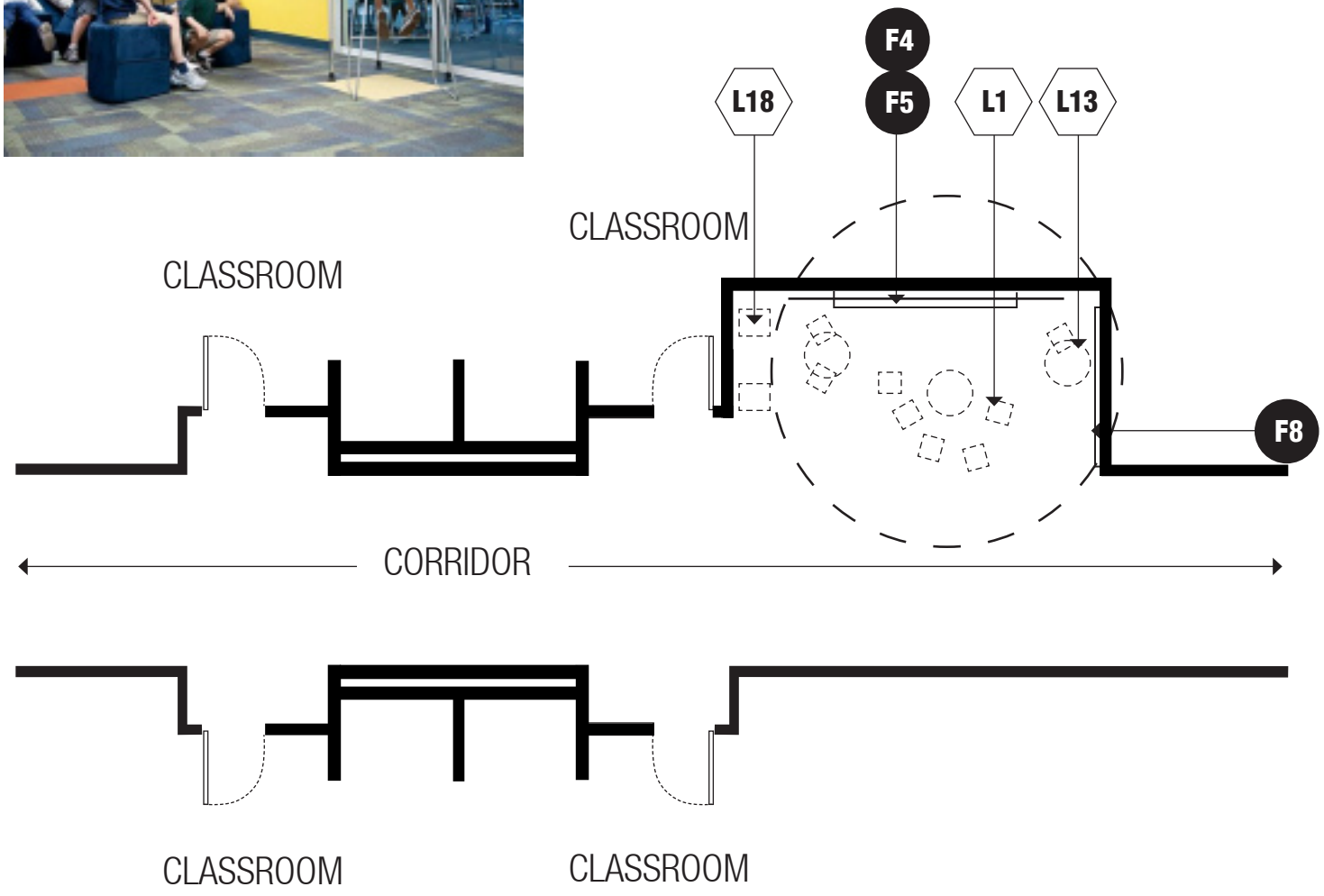
● **fixed equipment**

F1 base/wall cabinets and shelving
F2 student cubbies (20-22)
F3 wall shelving (over cubbies)
F4 marker board (on 2 walls, 16 LF each)
F5 tackable/magnet wall surface
F6 soap dispensor
F7 towel dispensor
F8 wall mounted interactive electronic presentation device
F9 classroom sink
F56 30" itenerant/aid station
F62 sound enhancement system

⬡ **loose furnishings**

L1 stackable/nesting chairs (22-26)
L3 teacher work surface with mobile storage and two chairs
L4 four drawer lateral file cabinet
L5 bound group rug (up to grade 2)
L7 teacher's lockable wardrobe (18"X18")
L8 tall cabinet with shelves
L10 student desks (22-26)
L11 adjustable height bookshelves

data drop



E-ACA /// GRADES 1-5 EXTENDED LEARNING AREA

size

600

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)

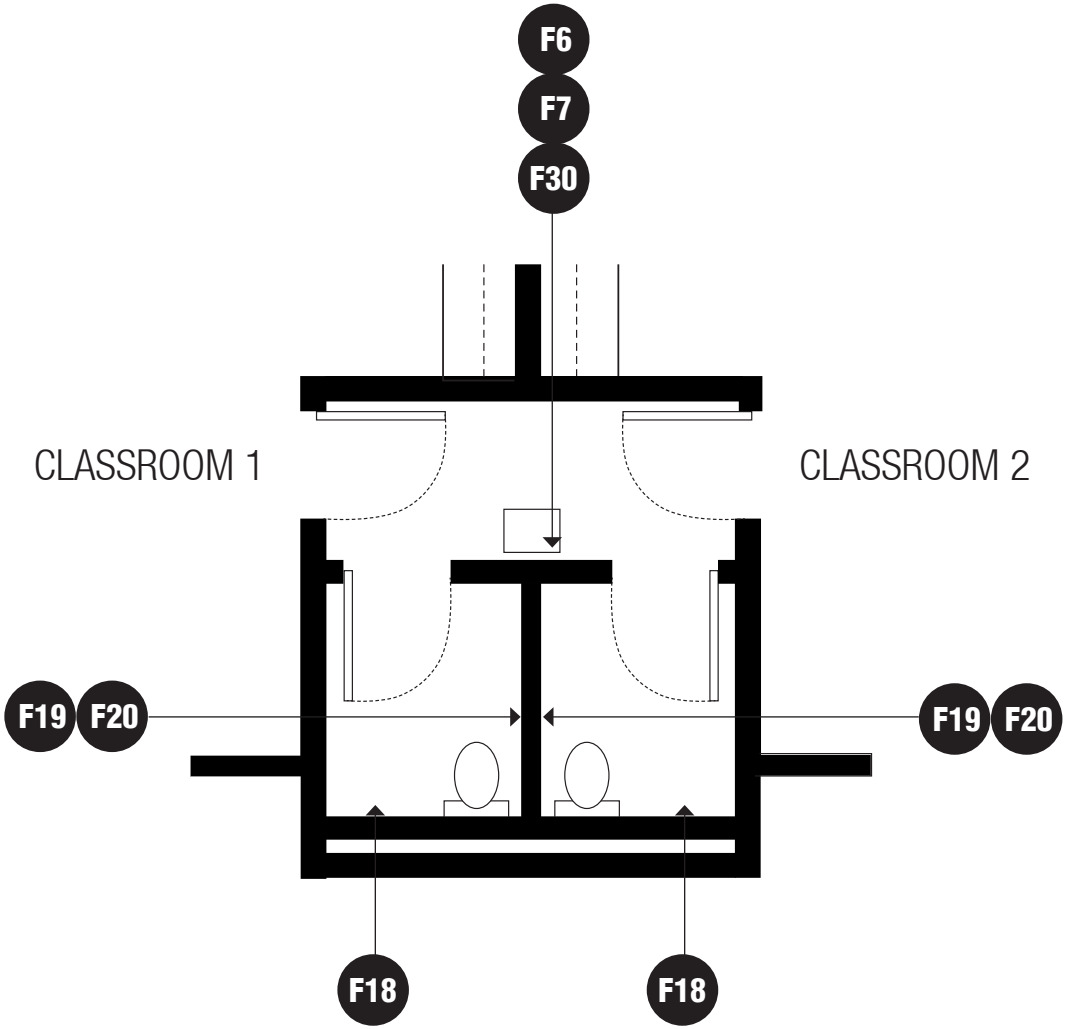
⬡ **loose furnishings**

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

100 SF

capacity

2 students

ancillary spaces

1-5 classrooms

spatial relationships

shared by two adjacent classrooms

plumbing

sink connection

toilet connection

LEGEND ///

● **fixed equipment**

F6 soap dispenser

F7 towel dispenser

F18 mirror

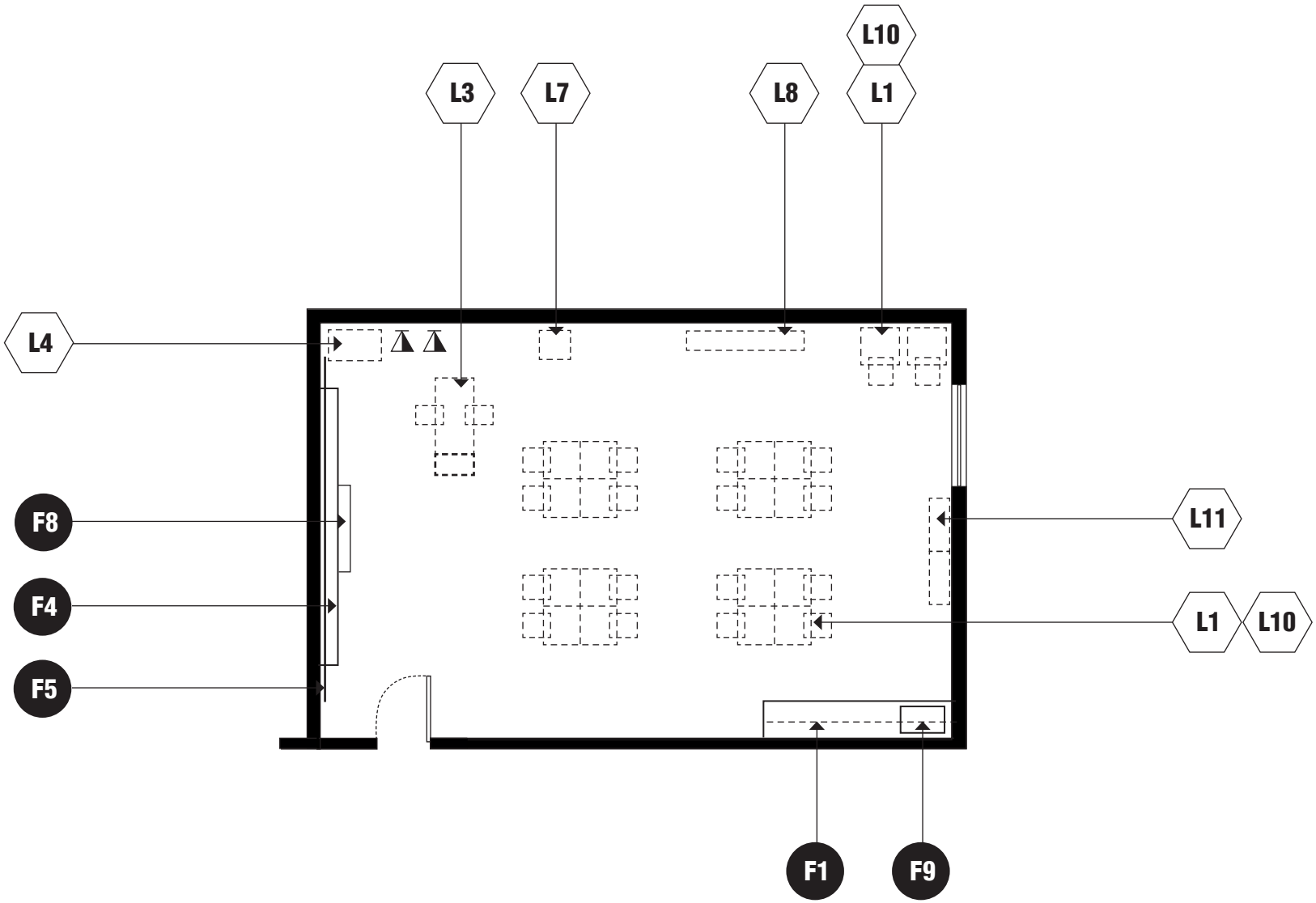
F19 toilet tissue holder

F20 bathroom accessories

F30 bathroom sink

E-ACA /// CLASSROOM BATHROOM

THIS PAGE IS LEFT BLANK INTENTIONALLY



E-ACA /// **RESOURCE CLASSROOM**

size

250

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

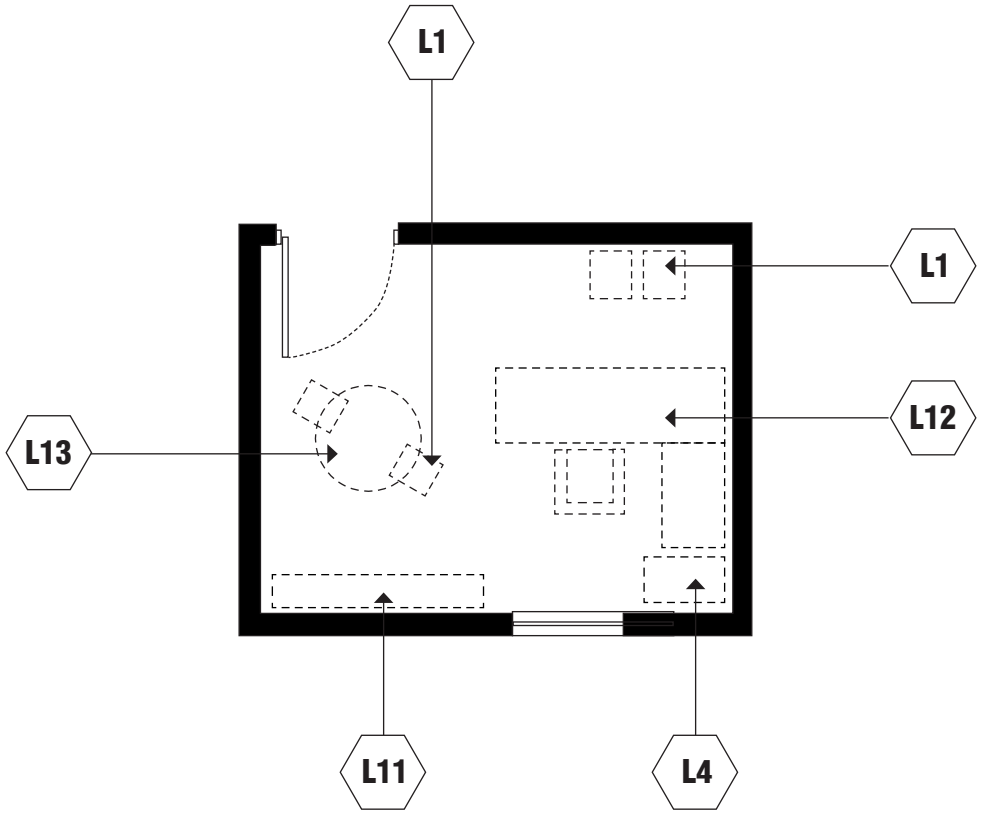
L7 teacher's lockable wardrobe (18"X18")

L8 tall cabinet with shelves

L10 student desks (15-18)

L11 adjustable height bookshelves

data drop



size

100 SF

capacity

counselors
psychologist
social worker
students and parents
staff
teachers

ancillary spaces

staff restrooms

spatial relationships

near academic core areas

program activities

group and individual counseling/ learning
student assessment

LEGEND ///

loose furnishings

L1 stackable/nesting chairs (4)

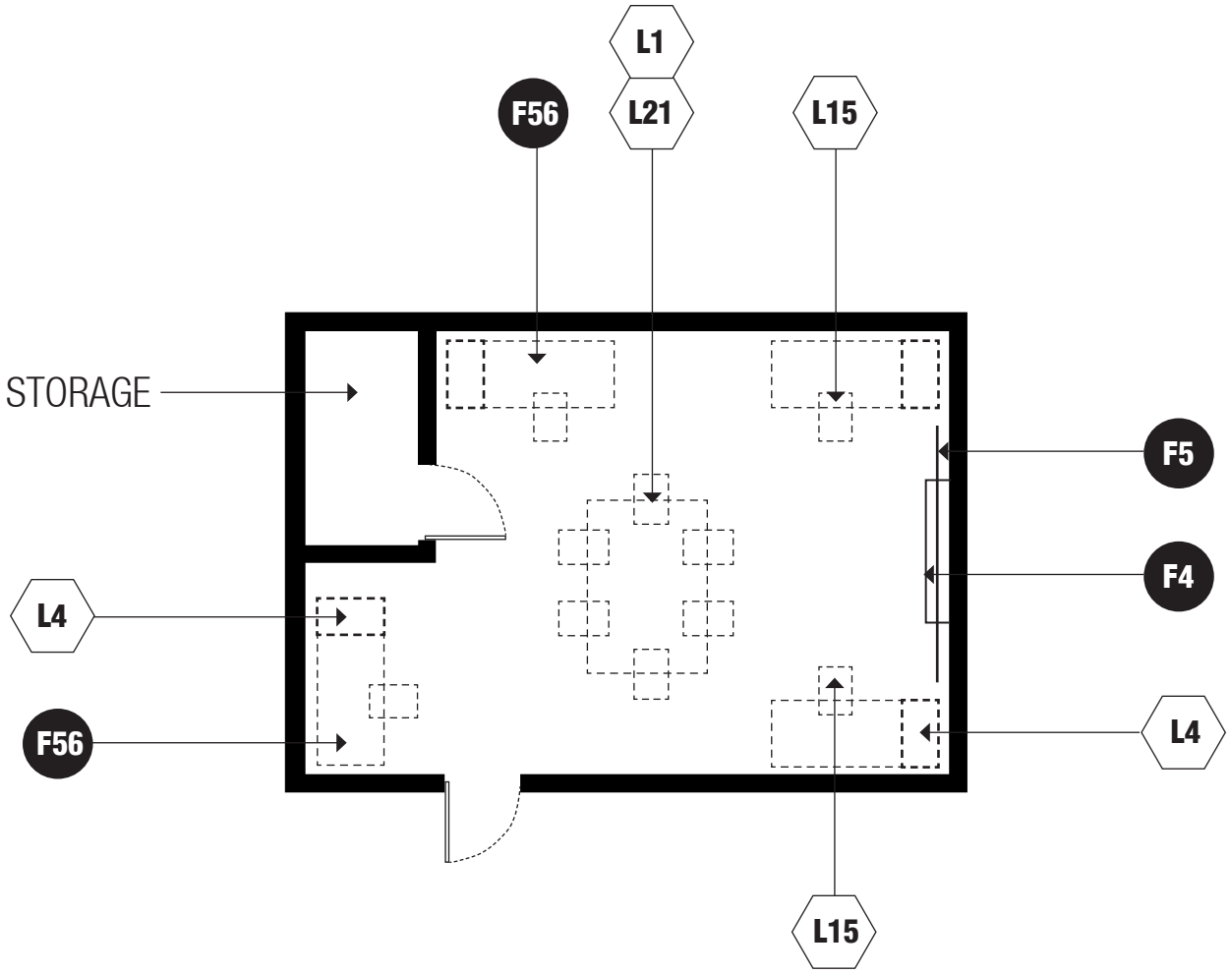
L4 four drawer lateral file cabinet

L11 adjustable height bookshelves

L12 admin workstation and chair

L13 small table

THIS PAGE IS LEFT BLANK INTENTIONALLY



0’ 4’ 8’ 16’

size

400 SF

capacity

itinerant

up to 4 staff

ancillary spaces

none

spatial relationships

near student services

near resource classroom used for 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

F56 30”itinerant/aid station (4)

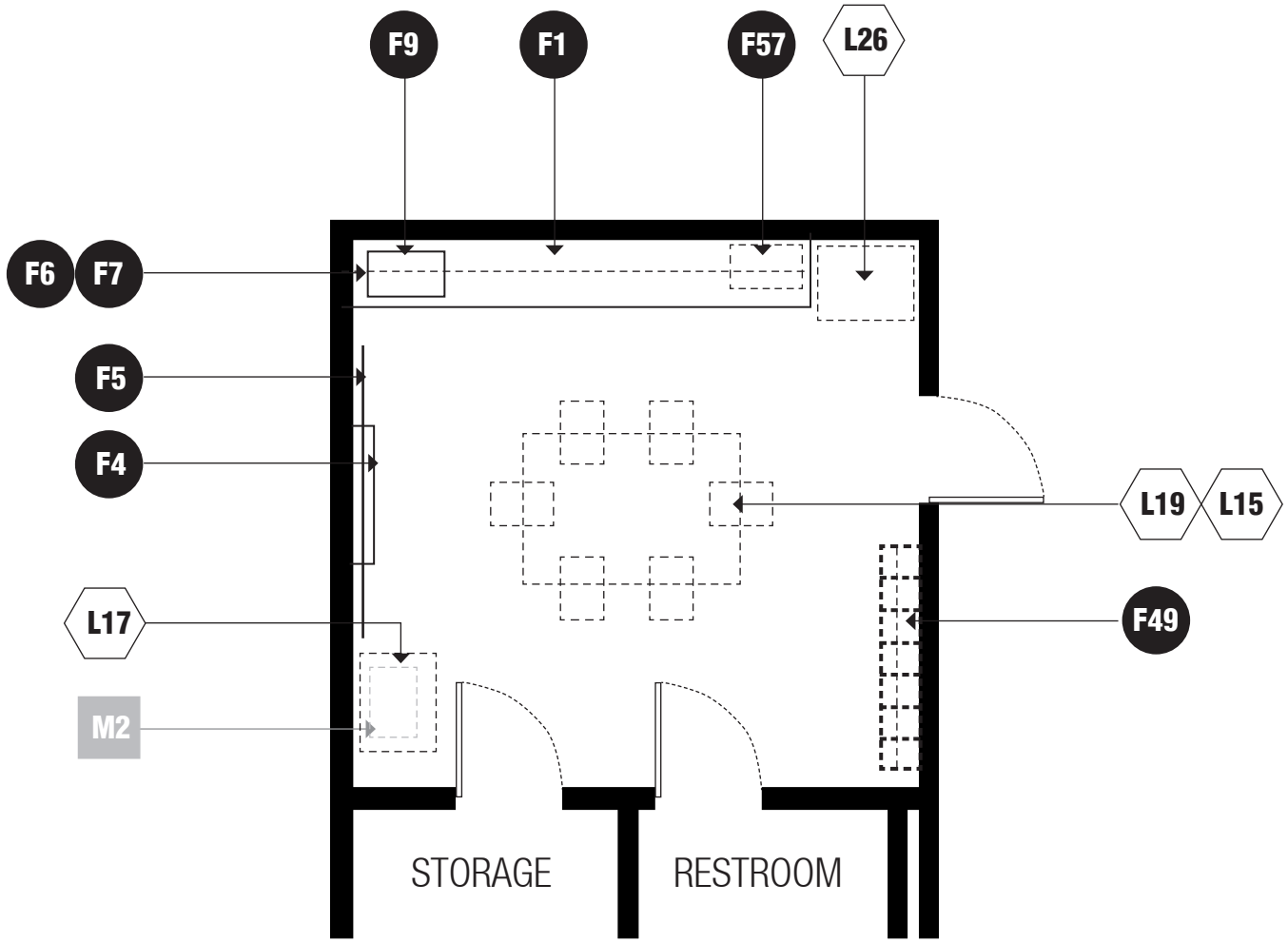
⬡ **loose furnishings**

L1 stackable/nesting chairs (6)

L4 four drawer lateral file cabinet

L15 task chair (4)

L21 work table



E-ACA /// **TEACHER COLLABORATION ROOM**

size

250 SF

capacity

teachers

teachers' assitants

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)

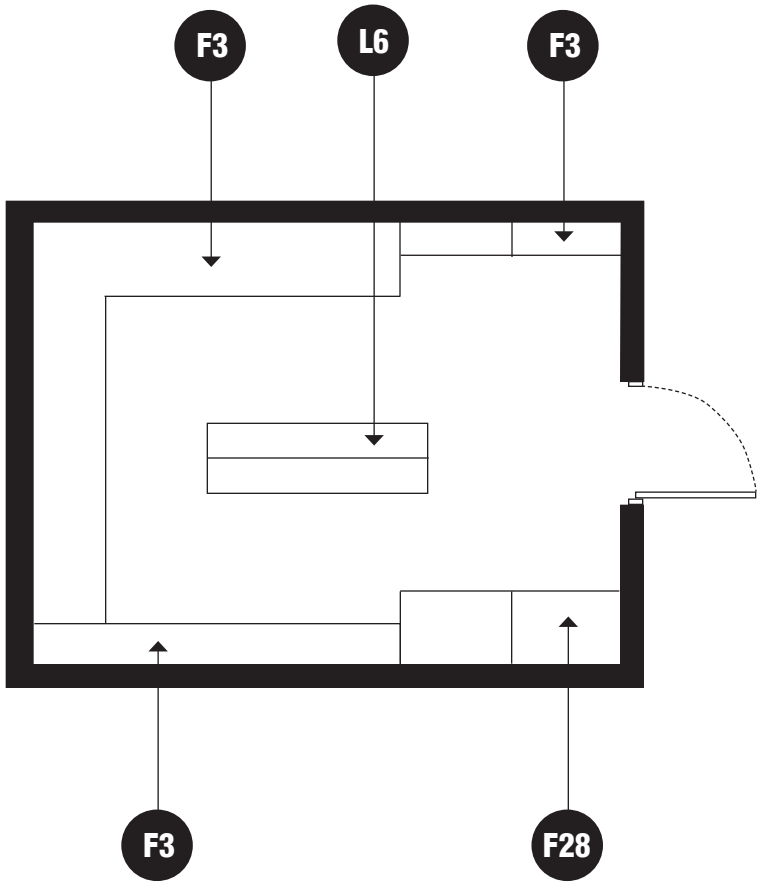
L17 printer station

L19 conference table

L26 refrigerator

■ **miscellaneous**

M2 color printer



size

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**

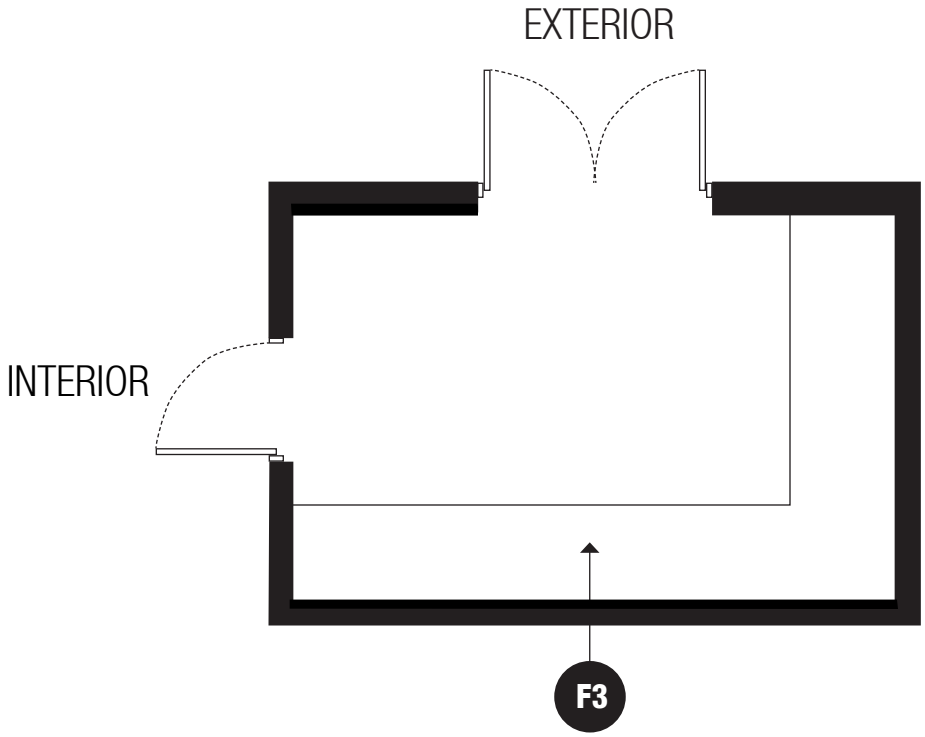
F3 wall shelving (12” and 24” deep)

F28 base cabinets

⬡ **loose furnishings**

L6 mobile shelving

E-ACA /// **STORAGE**



size

200 SF

capacity

staff members

ancillary spaces

n/a

spatial relationships

direct access to outdoors

near early childhood classrooms

direct access to interior corridor

program activities

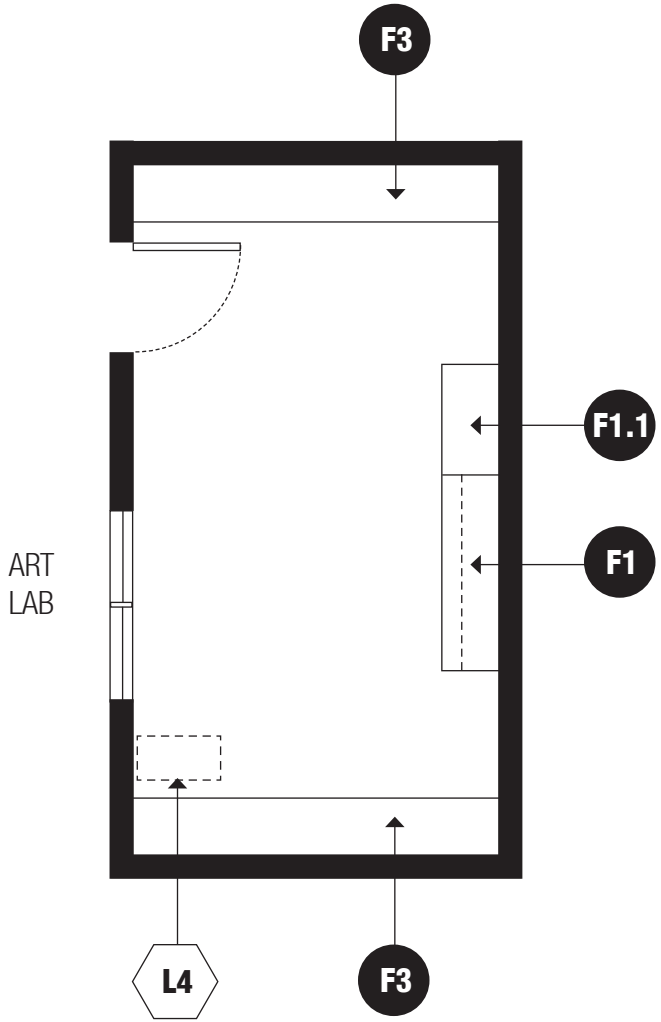
storage of portable outdoor play equipment

LEGEND ///

● **fixed equipment**

F3 wall shelving (10’-16’ total, 84” high, 12”, 24,” or 30” deep)

E-ACA /// OUTDOOR STORAGE EARLY CHILDHOOD



E-ACA /// **ART STORAGE**

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 childood dining / ELA space

program activities

storage of equipment and supplies

LEGEND ///

● **fixed equipment**

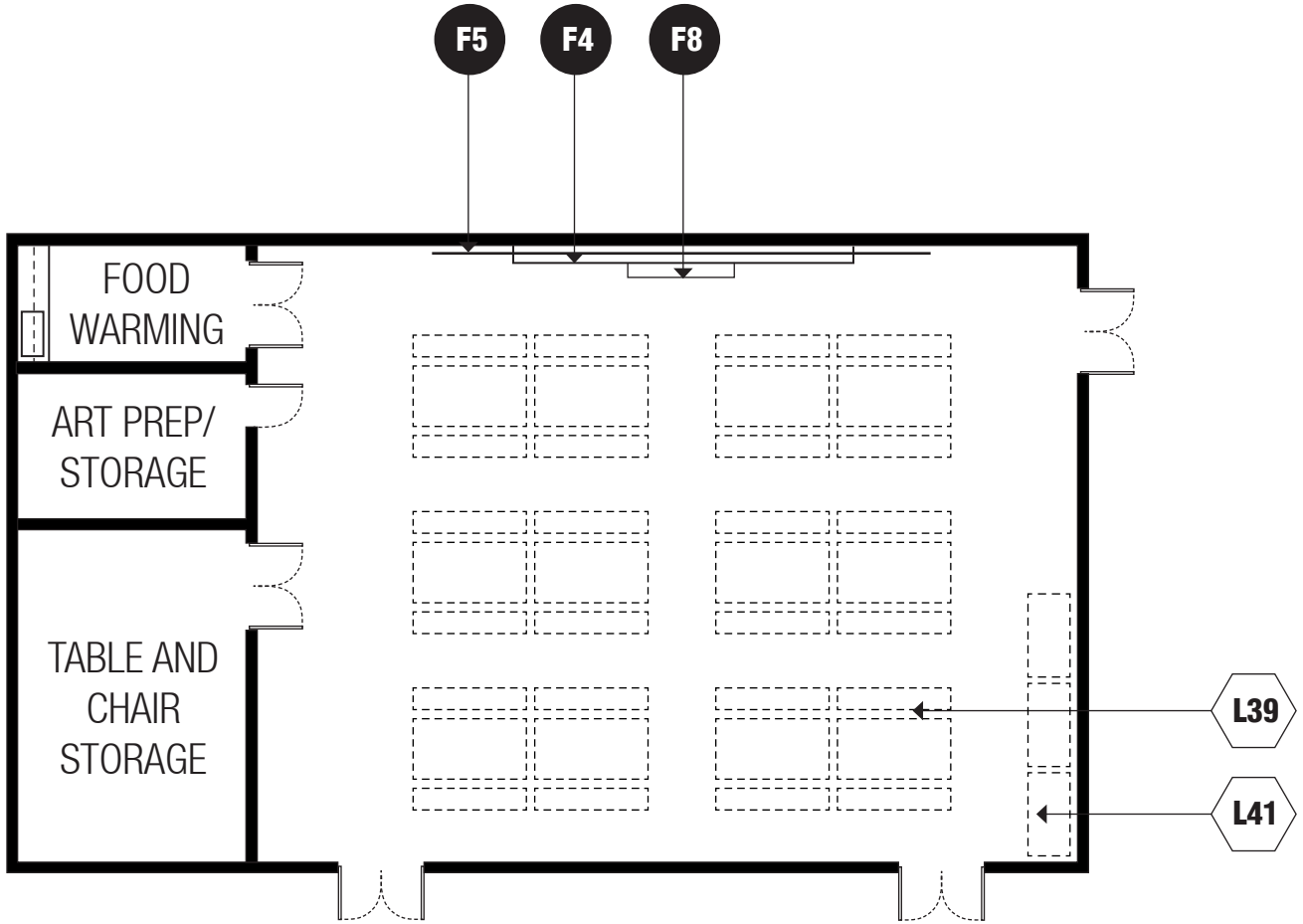
F1 base/wall cabinets and shelving (paper storage cabinets. one cabinet for hazardous materials)

F1.1 casework

F3 wall shelving (18” deep, metal)

⬡ **loose furnishings**

L4 four-drawer lateral file cabinet



E-ACA /// **EARLY CHILDHOOD LEARNING**

size

2,000 SF

capacity

Pre-K- Kindergarten: two lunch periods

3-6 staff members

ancillary spaces

ECE Classrooms

Storage

Art storage

spatial relationships

integrated into circulation

located within classroom clusters

program activities

early childhood dining

early childhood art

small group learning centers

story telling

team activities and project based learning

individual activities

environmental considerations

cleanable 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

electric outlets for food serving equipment

LEGEND ///

● **fixed equipment**

F4 marker board (two 8 LF boards with electric outlet below)

F5 tackable or magnetic wall surface

F8 wall mounted, interactive, electronic presentation device

⬡ **loose furnishings**

L39 cafeteria tables (tables and seating to accomodate for 130 children ages 4-6)

L41 chair dollies

three sinks:adult hand washing, child hand washing, utility

E-MC /// **MEDIA CENTER**

READING / LEARNING / CIRCULATION
TECHNICAL PROCESSING ROOM
COMBINED OFFICE/WORKROOM
DEVICE CHARGING ROOM
STORAGE
SMALL GROUP ROOM

SPACE	QUANTITY	SF	TOTAL	NOTES
MEDIA CENTER				
Reading/Learning/Circulation	1	2792	2792	
Technical Processing Room	1	200	200	
Combined Office/Workroom	1	200	200	
Device Charging Room	1	150	150	
Storage	1	200	200	
Small Group Room	2	150	300	
Total			**3842**	

Comments //

Spaces within the Media Center may vary up to 15% and may be combined to facilitate circulation and supervision. The overall square footage may be +/- 10%.

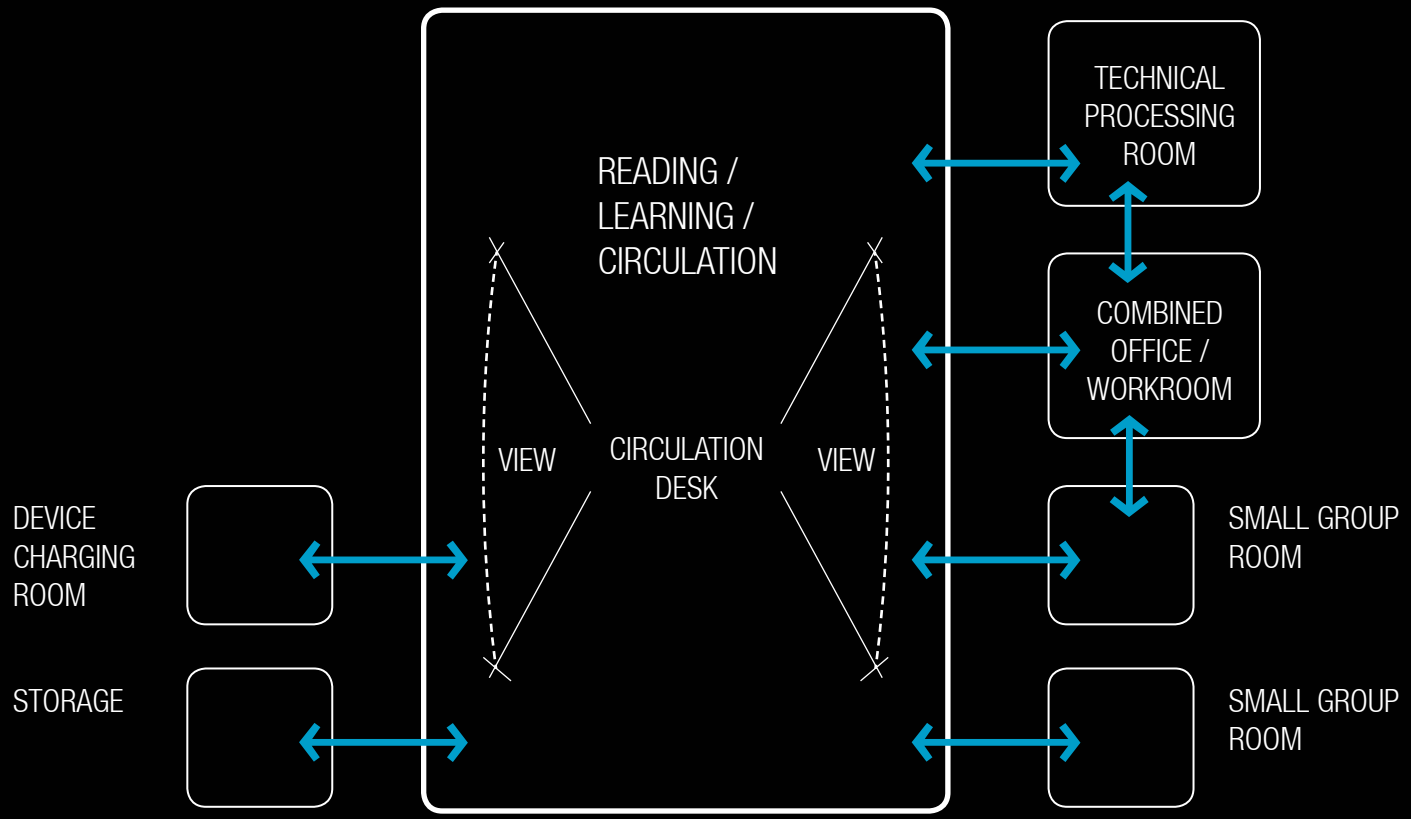
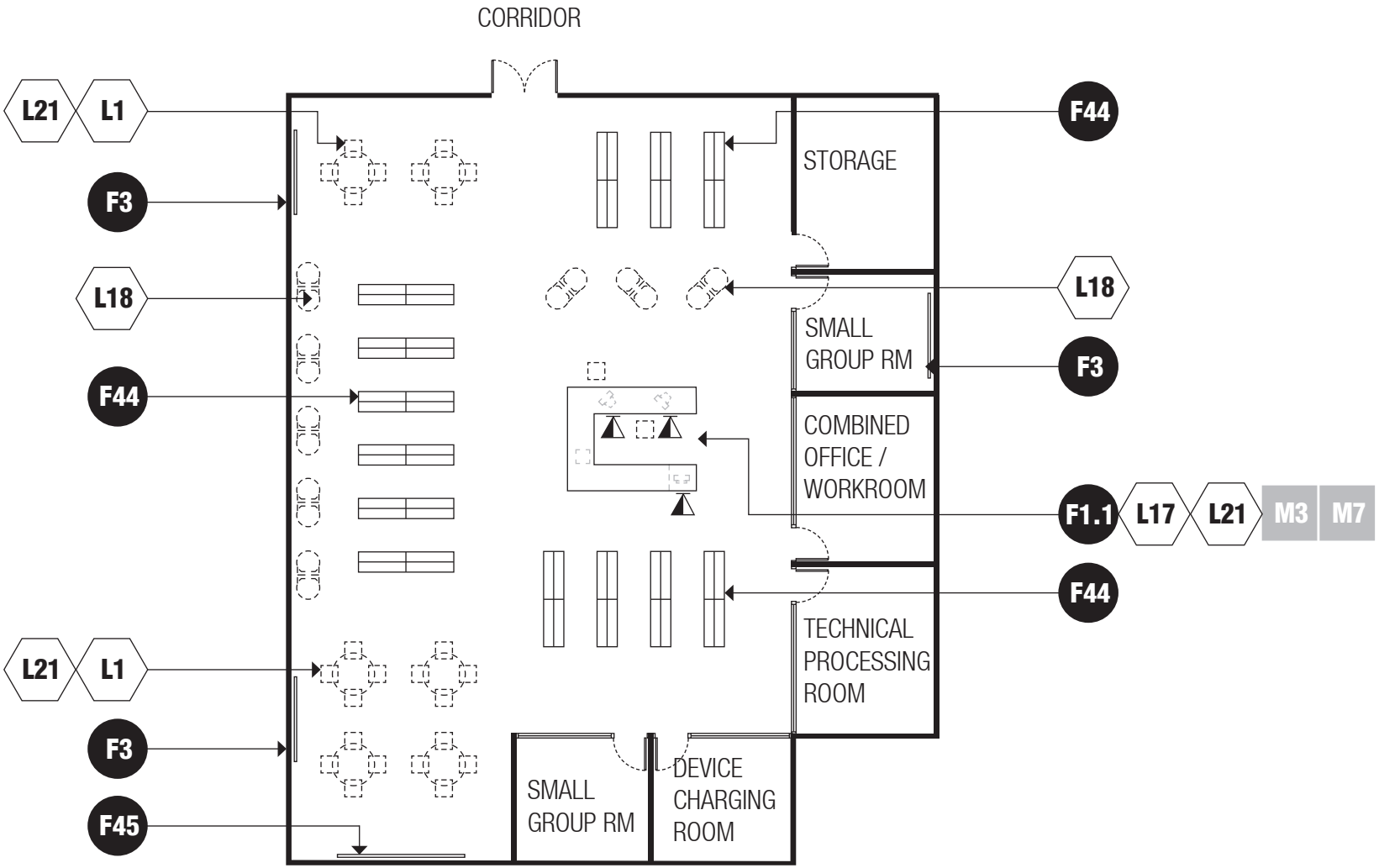


FIG. 8.0 // **MEDIA CENTER ADJACENCY DIAGRAM**


CORRIDOR
L21
L1
F3
L18
F44
L21
L1
F3
F45
STORAGE
SMALL GROUP RM
COMBINED OFFICE / WORKROOM
TECHNICAL PROCESSING ROOM
SMALL GROUP RM
DEVICE CHARGING ROOM
F44
L18
F3
F1.1
L17
L21
M3
M7
F44

0’ 4’ 8’ 16’

size

3000 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

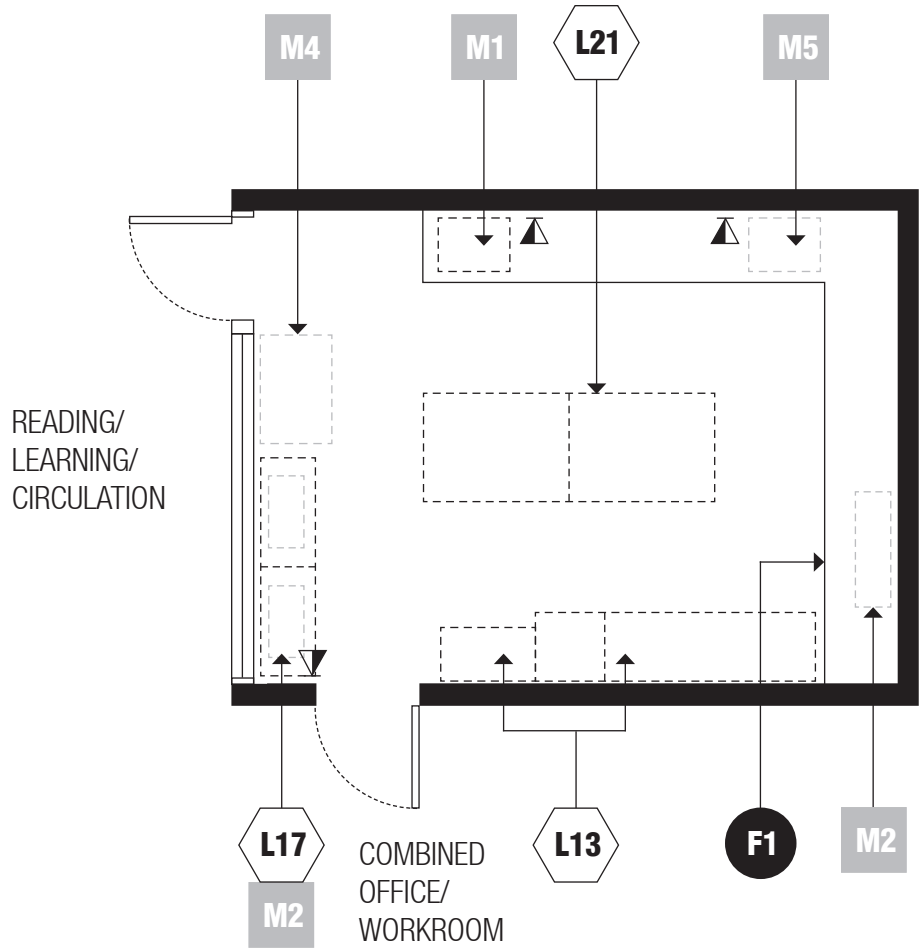
Standard size: 9 books per foot / 30 books per shelf

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.



E-MC /// **TECH PROCESSING ROOM**

size

200 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

LEGEND ///

● **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

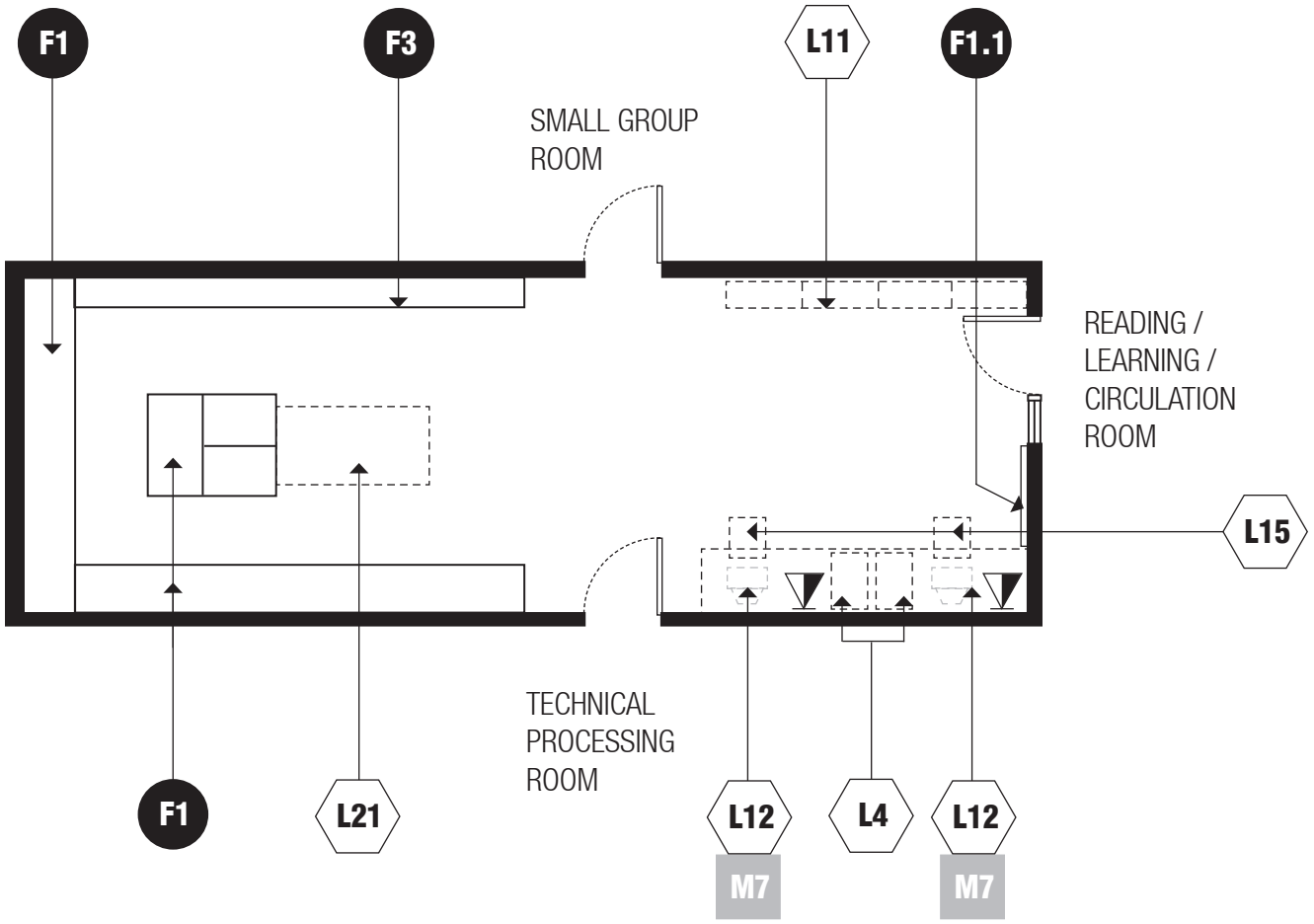
M2 color printers

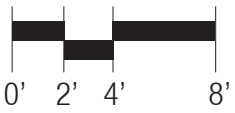
M4 photocopy machine

M5 digital scanner

M6 laminator

▶| data drop





E-MC /// **COMBINED OFFICE / WORKROOM**

size

200 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)

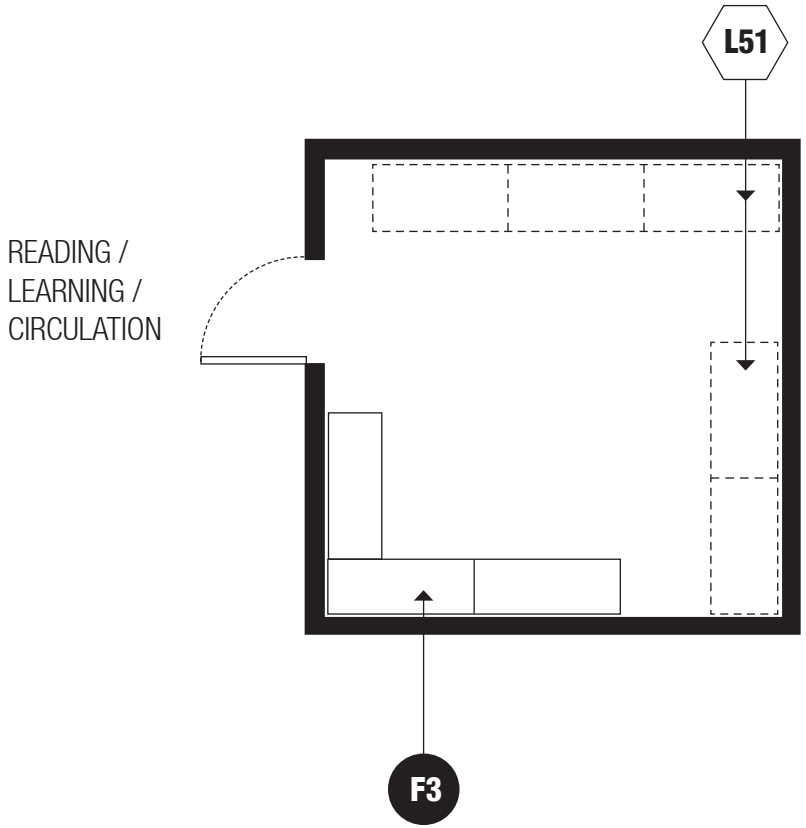
L15 task chair (2)

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 oulets designed around a 'parking' strategy for 5-6 laptop charging carts

LEGEND ///

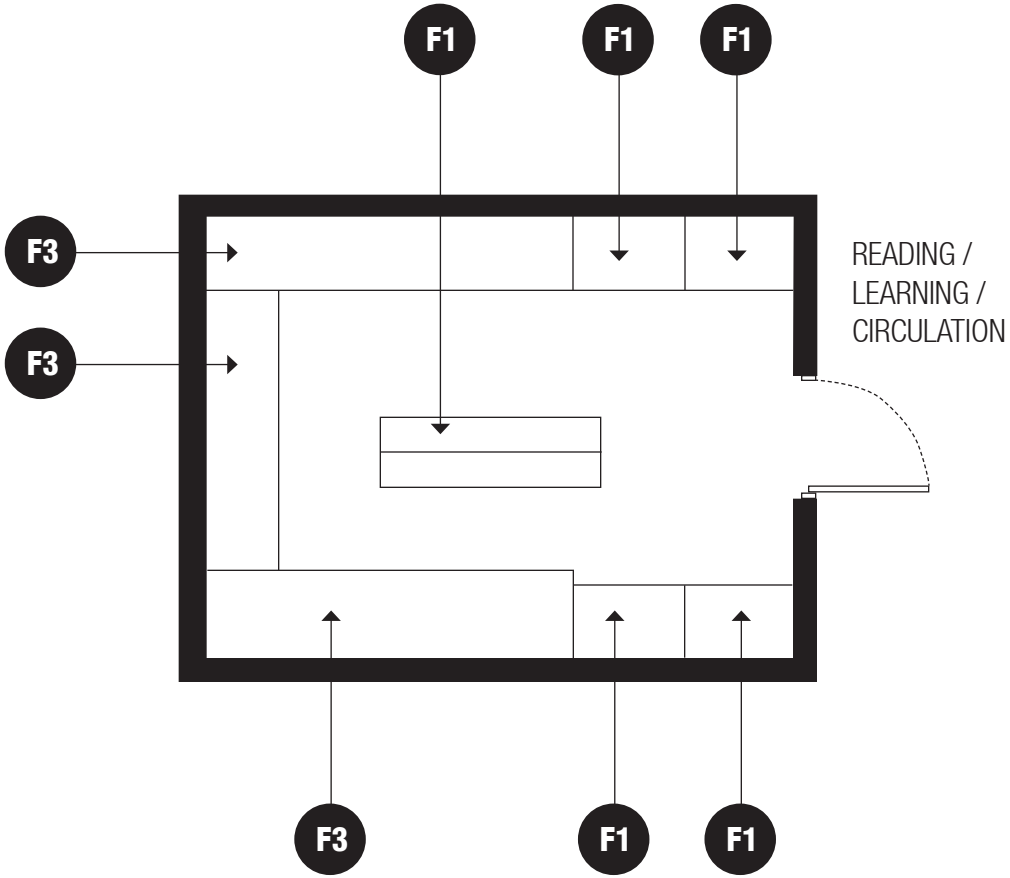
fixed equipment

F3 wall shelving (no lower shelves)

loose furnishings

L51 laptop charging cart (5-6)

E-MC /// DEVICE CHARGING ROOM



size

200 sf

capacity

staff

ancillary spaces

n/a

spatial relationships

near core classrooms

program activities

storing and retrieving books / supplies

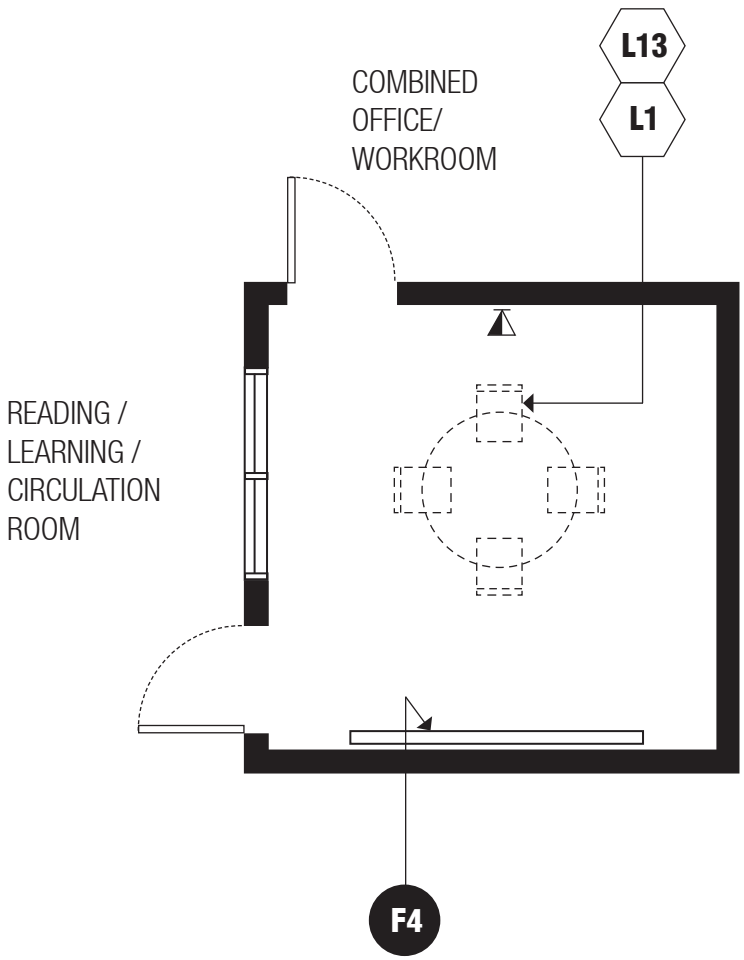
LEGEND ///

● **fixed equipment**

F1 base/wall cabinets and shelving

F3 wall shelving (variety of 12” and 24” deep shelving)

E-MC /// **STORAGE**



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 (4)

L13 small table

data drop

E-MC /// **SMALL GROUP ROOM**

THIS PAGE IS LEFT BLANK INTENTIONALLY

E-VA /// **VISUAL ARTS**

ART LAB
KILN ROOM

SPACE	QUANTITY	SF	TOTAL	NOTES
VISUAL ARTS				
Art Lab	1	1200	1,200	
Kiln Room	1	75	75	
Total			**1,275**	

Comments //

The overall total for the Instructional area may be +/-10%.

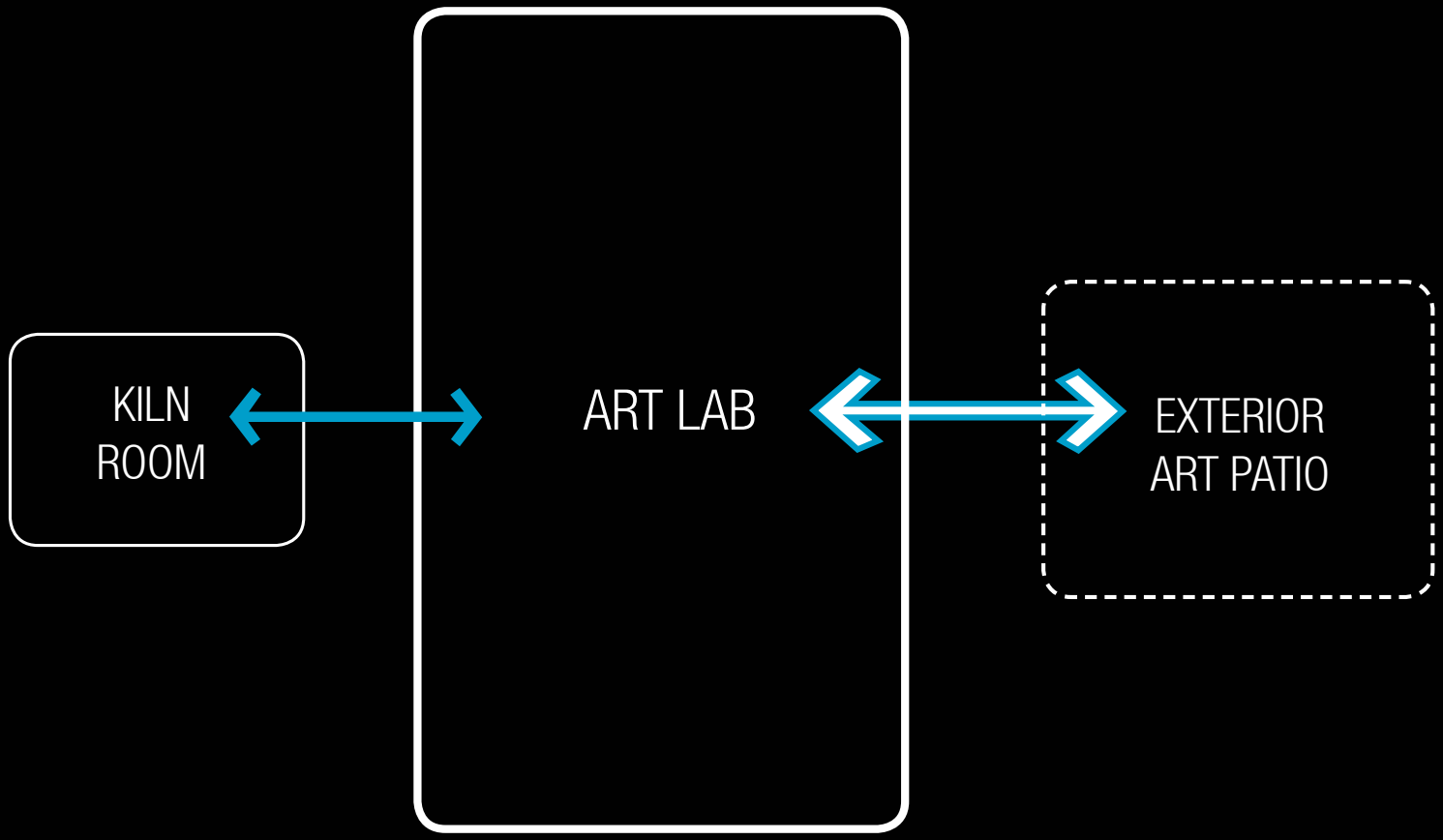
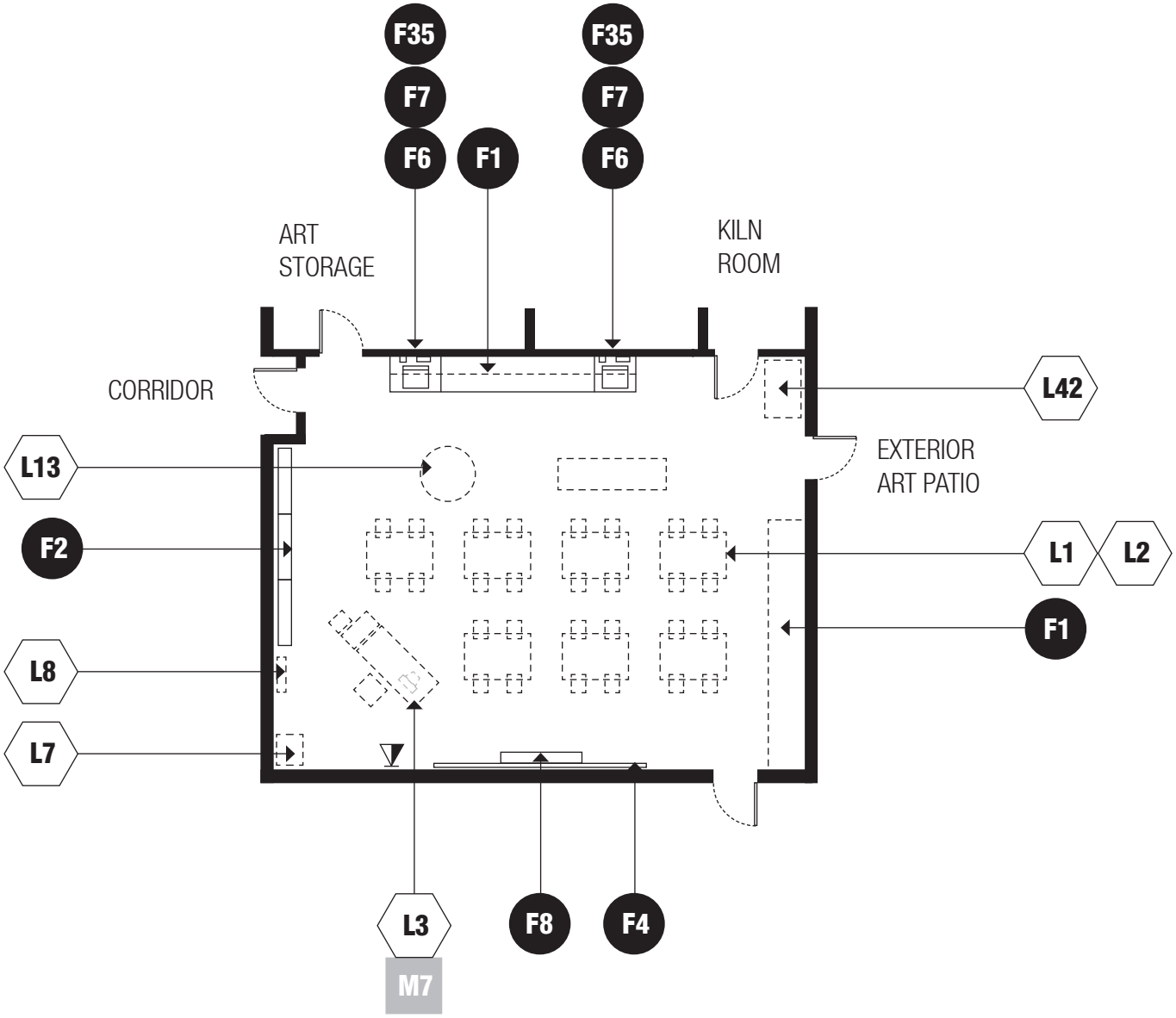


FIG. 9.0 // **VISUAL ARTS ADJACENCY DIAGRAM**



E-VA /// **ARTS LAB**

0’ 4’ 8’ 16’

size

1200 sf

capacity

20-24 students

1 teacher

1 student teachder

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

ceramics-clay (age appropriate)

computer graphics and mixed media work

viewing prints/slids/movies/art videos

individual and cooperative group work

storage of supplies, projects, and small equipment

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

LEGEND ///

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

L1 stackable/nesting chairs (24-30)

L2 stackable/nesting tables (7)

L3 teacher work surface with mobile storage and two chairs

L7 teacher's lockable wardrobe

L8 tall cabinet with shelves

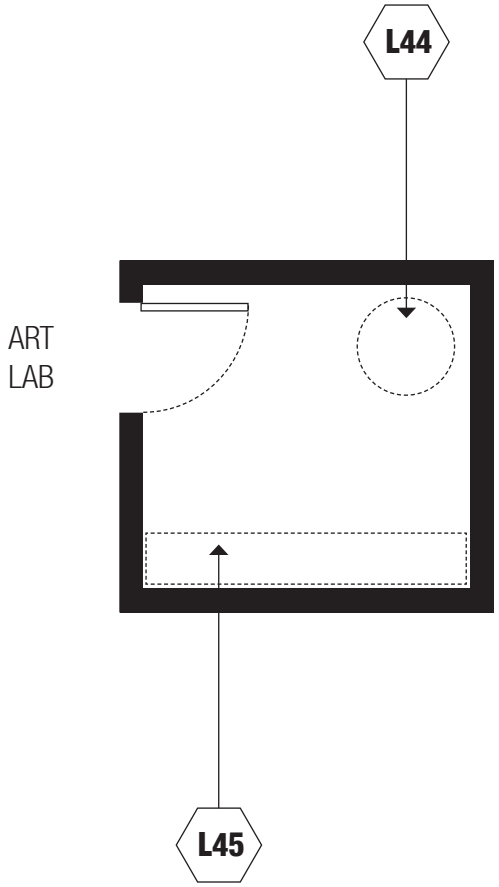
L13 small table

L42 drying rack (40-80 slats)

miscellaneous

M7 desktop computer

data drop



E-VA /// **KILN ROOM**

size

75 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

E-MU /// **MUSIC**

GENERAL MUSIC ROOM
INSTRUMENTAL MUSIC ROOM
(BAND AND ORCHESTRA)
GENERAL MUSIC STORAGE
INSTRUMENT STORAGE

SPACE	QUANTITY	SF	TOTAL	NOTES
MUSIC				
General Music Room	1	1200	1200	
Instrumental Music Room (Band and Orchestra)	1	1000	1000	Choral and Drama
General Music Storage	1	150	150	
Instrument Storage	1	250	250	
Total			**2,600**	

Comments //

The overall total for the instructional area may be +/- 10%. See stage for third teaching stations.

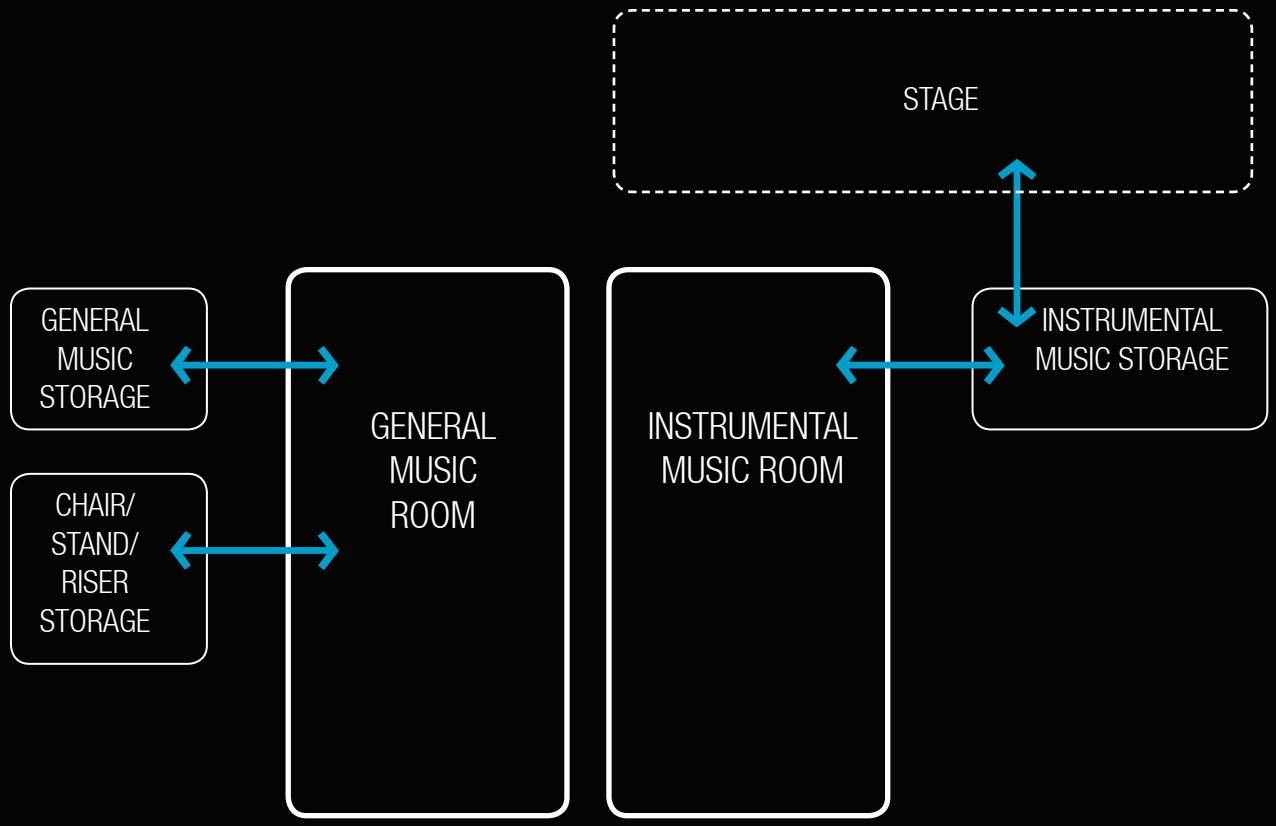
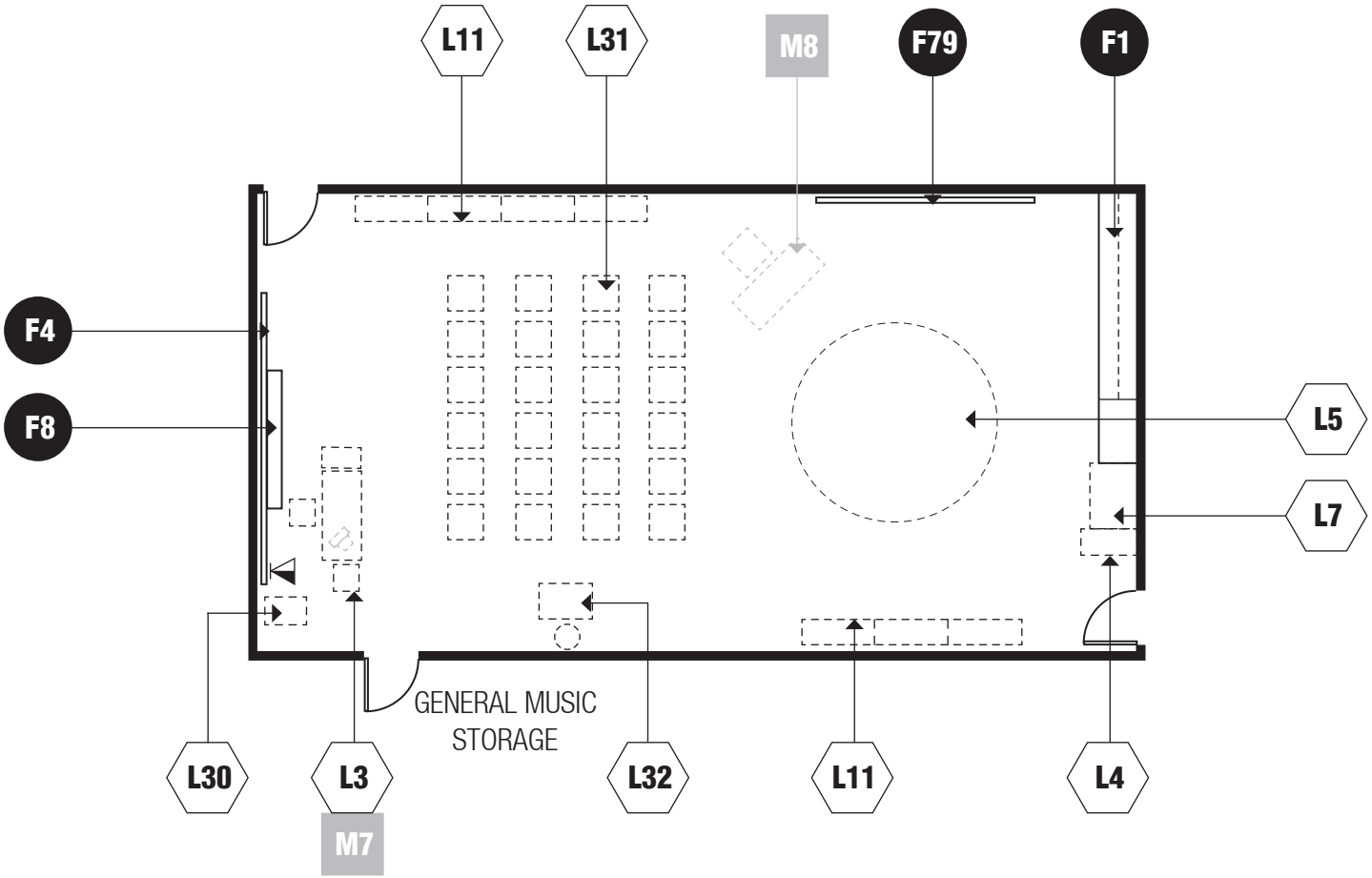


FIG. 10.0 // **MUSIC ARTS ADJACENCY DIAGRAM**



E-MU /// **GENERAL MUSIC ROOM**

size

1200 sf

capacity

20-30 music students

1 teacher

parents/volunteers

ancillary spaces

general music storage

near other music rooms

chair/stand/riser storage

general storage

spatial relationships

co-located near similar functions/noise levels

adjacent instrumental music and general music

program activities

listen, analyze, describe, and compose music

sing alone and with others (solos, duets, trios, ensembles, large groups)

guest speakers and performers (solo and ensembles)

group instruction

choral, speech, theatrics (musicals, operas)

view educational videos for music enrichment

extra-curricular after school activities (i.e. Odyssey of the Mind)

audio recording and playback

environmental considerations

uniform lighting and (optional) theatrical lighting

environmental sound control:

wall minimum: STC 50

ceiling minimum: CAC 35

sound insulation in walls and ceiling (extended above ceiling to underside of deck)

acoustical wall treatments

drinking fountain and sink in classroom

finishes

flooring:

carpet

plumbing

plumbing connections

drinking fountain

sink

LEGEND ///

● **fixed equipment**

F1 base/wall cabinets and shelving (music storage cabinet)

F4 marker board (16 LF)

F8 wall mounted interactive electronic presentation device

F79 tackable surface (12 LF)

⬡ **loose furnishings**

L3 teacher workstation with mobile storage

L4 four drawer lateral file cabinet

L5 bound group rug

L7 teacher's lockable wardrobe

L11 adjustable height bookshelves (for instrument storage around periphery)

L30 mobile a/v cabinet

L31 music posture chairs (24-36)

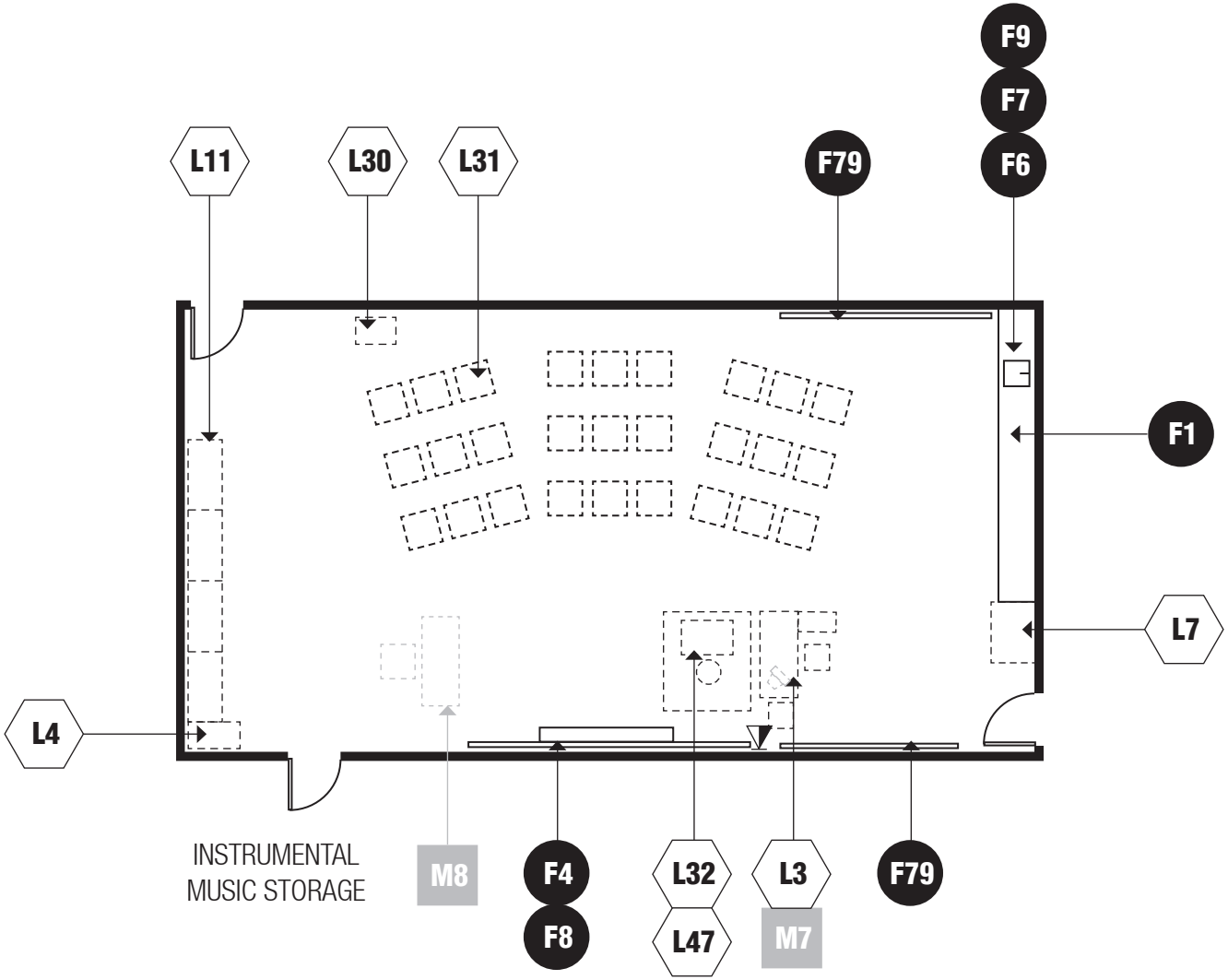
L32 conductor podium and stool

■ **miscellaneous**

M7 desktop computer

M8 upright piano

▶ data drop



E-MU /// **INSTRUMENTAL MUSIC ROOM**

size

1000 sf

capacity

20-60students

1 teacher

ancillary spaces

instrument storage

near cafetorium

spatial relationships

adjacent to general music room

adjacent and access to instrument storage

program activities

teaching and learning to read music

individual practice

performance of music

students will practice in large groups, small groups, and individually

environmental considerations

environmental sound control:

wall minimum: STC 50

ceiling minimum: CAC 50

sound insulation in walls (extended above ceiling to underside of roof deck)

acoustical wall treatments

double doors with removable mullions

finishes

flooring:

carpet

LEGEND ///

● **fixed equipment**

F1 base/wall cabinets and shelving (paper storage cabinets)

F4 marker board (16 LF)

F6 soap dispenser

F7 towel dispenser

F8 wall mounted interactive electronic presentation device

F9 classroom sink

F79 tackable surface (on two walls)

⬡ **loose furnishings**

L3 teacher work surface with mobile storage

L4 four drawer lateral file cabinet

L7 teacher's lockable wardrobe

L11 adjustable height bookshelves (for instrument storage around periphery)

L30 mobile a/v cabinet

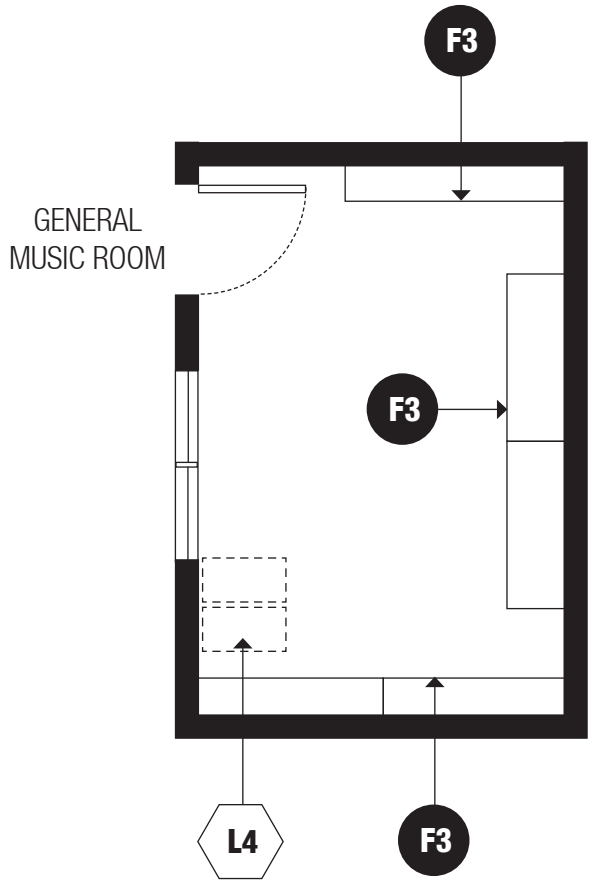
L31 posture chair (24-50)

L32 conductor's podium and stool

■ **miscellaneous**

M7 desktop computer

M8 upright piano



size

100 sf

capacity

students

teachers

ancillary spaces

general music room

stage

spatial relationships

n/a

program activities

storage and simple repair of accessories and equipment

LEGEND ///

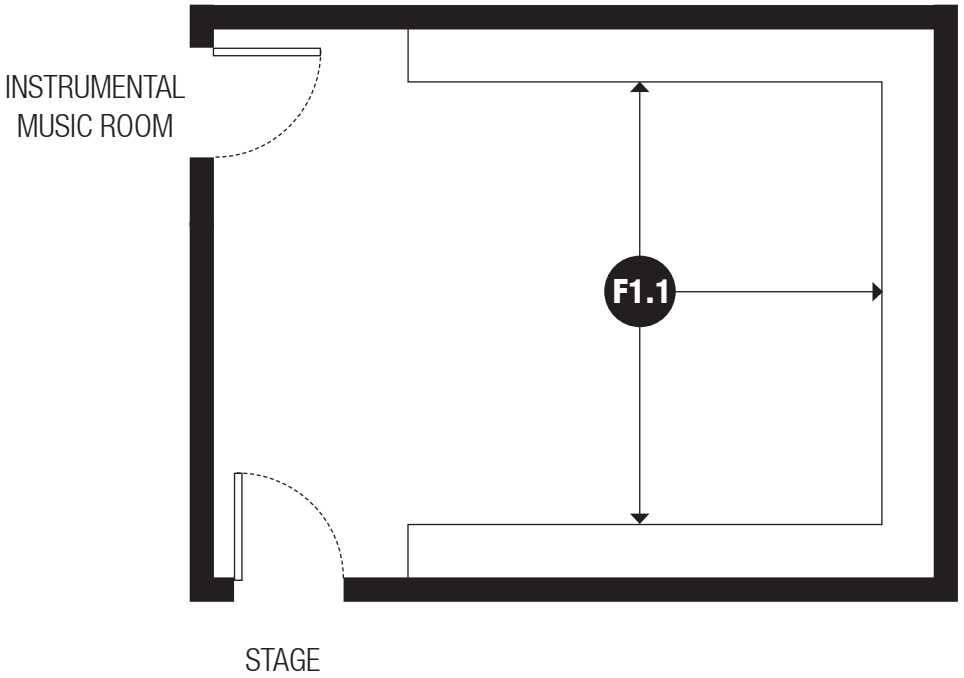
● **fixed equipment**

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

⬡ **loose furnishings**

L4 four drawer lateral file cabinet (2)

E-MU /// GENERAL MUSIC STORAGE



E-MU /// INSTRUMENT STORAGE

size

250 sf

capacity

teacher

students

ancillary spaces

instrumental music room

near stage

spatial relationships

n/a

program activities

storage

environmental considerations

na

LEGEND ///

● **fixed equipment**

F1.1 casework (adjustable open cubbies for medium and small instruments)

E-PE /// **PHYSICAL EDUCATION**

GYMNASIUM
PE OFFICE
PE STORAGE
MULTI-PURPOSE/AFTER SCHOOL SPACE
PLAYGROUNDS

SPACE	QUANTITY	SF	TOTAL	NOTES
PHYSICAL EDUCATION				
Gymnasium	1	6,500	6,500	
PE Office	2	150	300	
PE Storage	2	250	500	
Multi-Purpose/After School Space	1	1,500	1,500	
Playgrounds				See pages for more information
Total			**8,800**	

Comments //

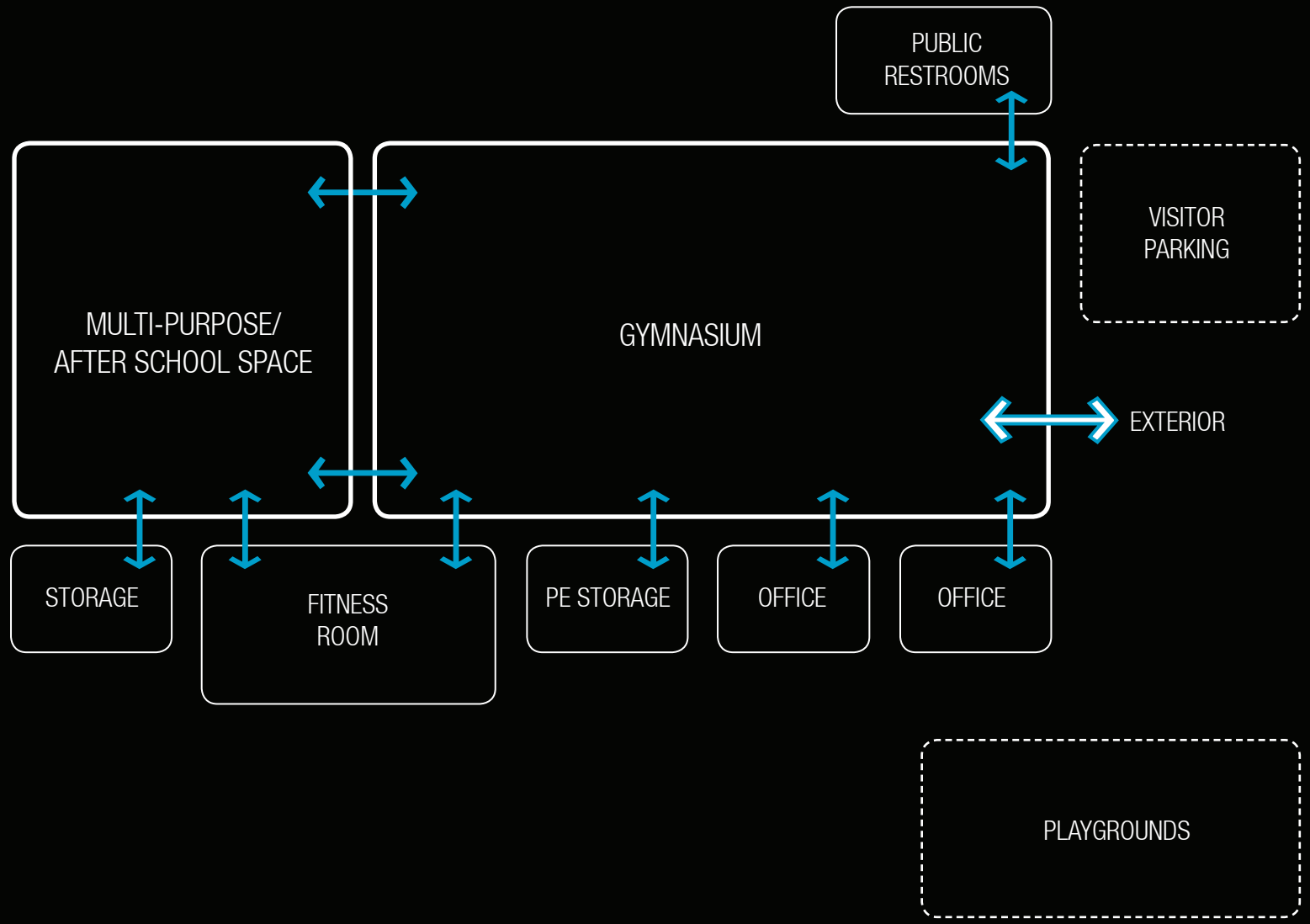
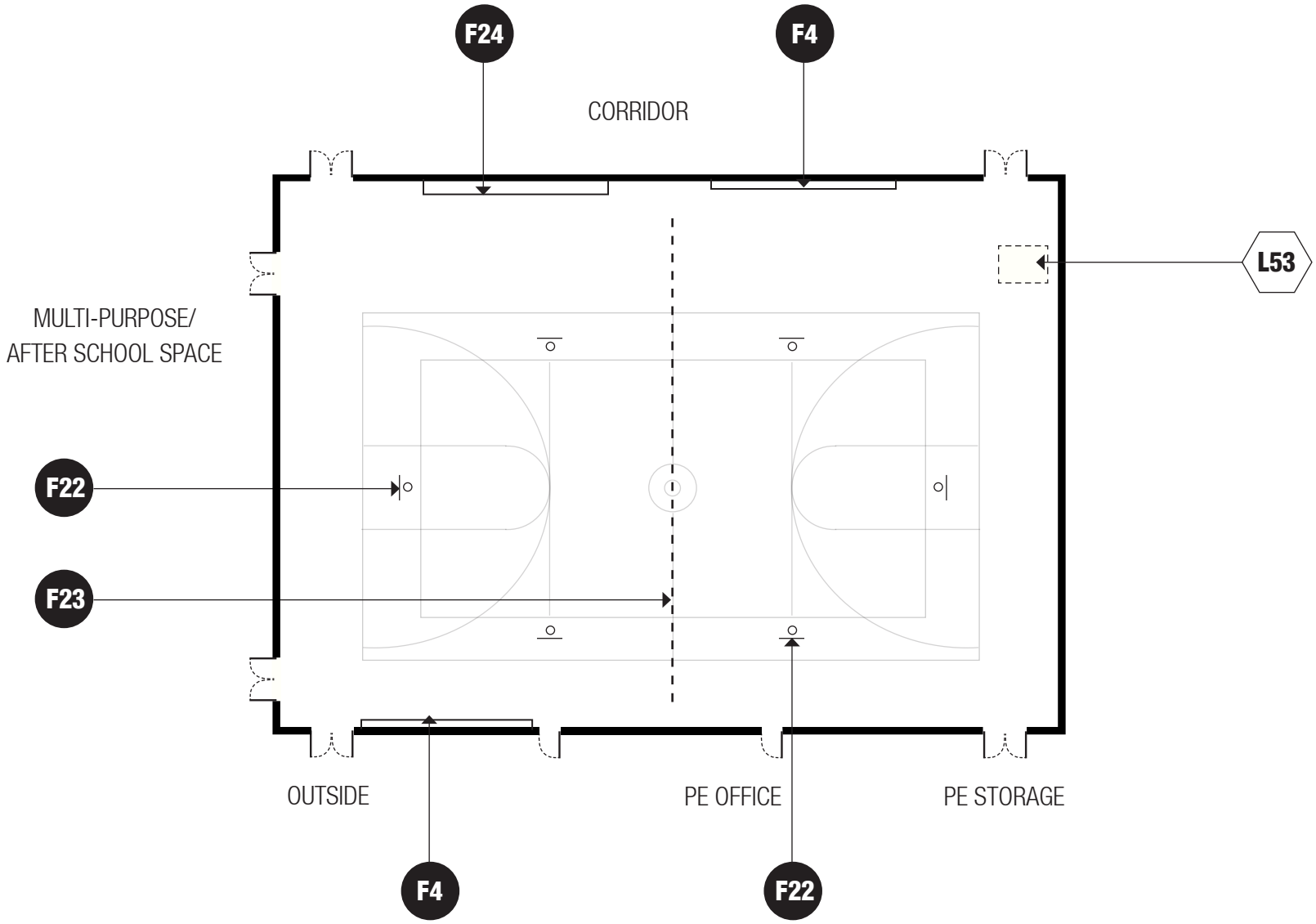


FIG. 11.0 // **PHYSICAL EDUCATION ADJACENCY DIAGRAM**



E-PE /// **GYMNASIUM**

0’ 8’ 16’ 32’

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 conrete 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

adjacent to multi-purpose room

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 fitures

ceiling heights should be proportional to room volume

LEGEND ///

● **fixed equipment**

F4 marker board (8 LF 2 sides of gym with electrical outlet below)

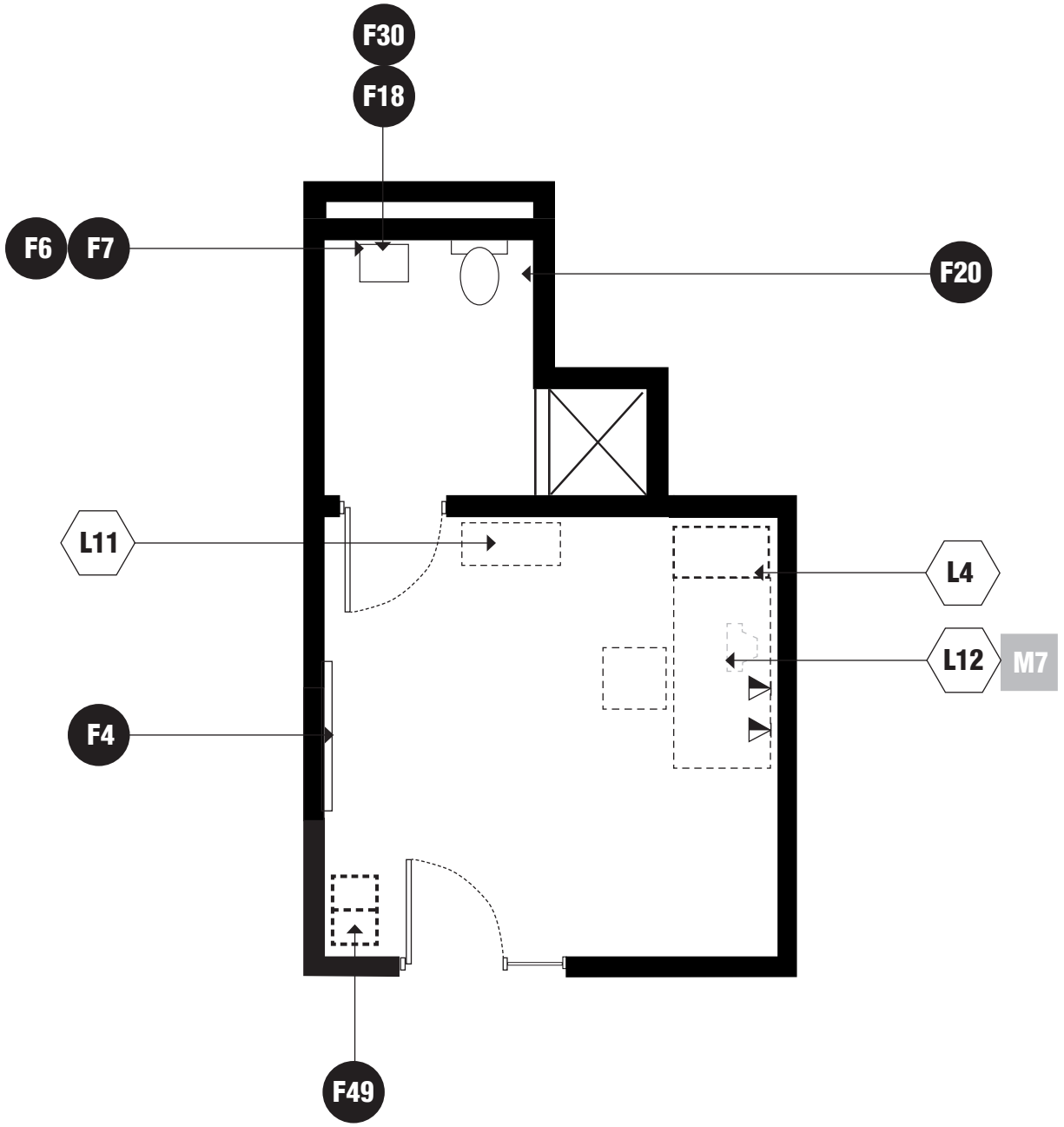
F22 basketball goals (adjustable height, ceiling hung or portable)

F23 operable partition- motorized

F24 climbing wall

⬡ **loose furnishings**

L53 portable sound system



E-PE /// **PE OFFICE**

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

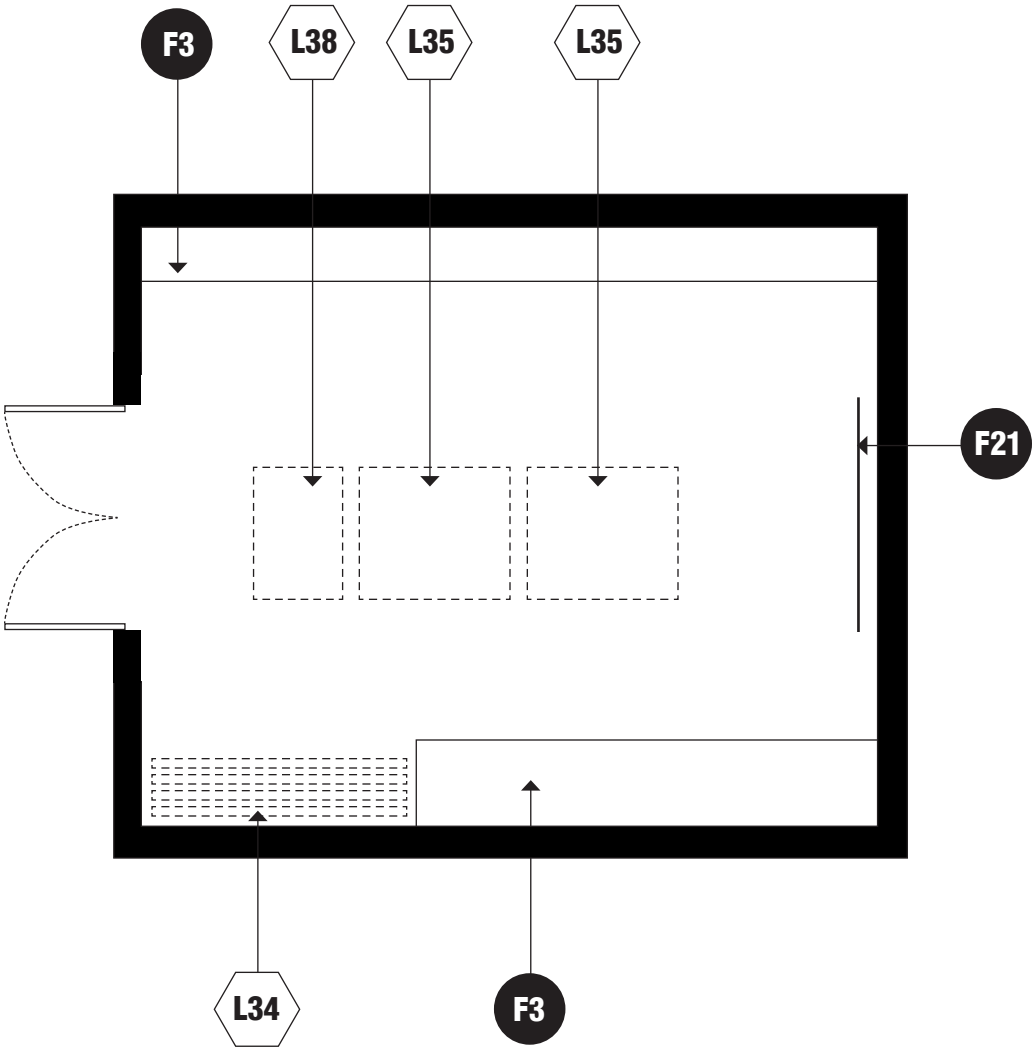
L12 admin workstation and chair

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**

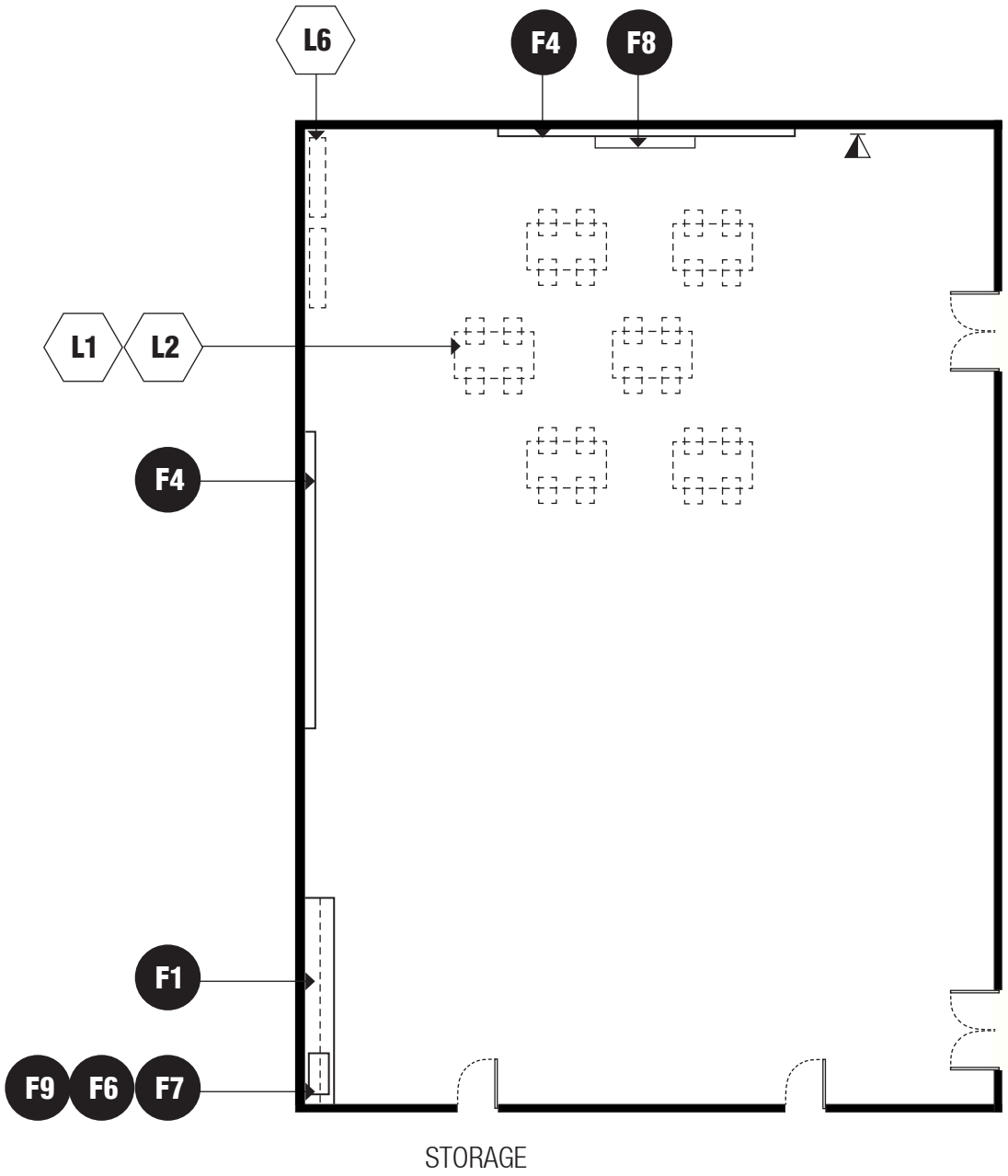
L34 tumbling mats

L35 ball bins

L38 play equipment

E-PE /// **PE STORAGE**

THIS PAGE IS LEFT BLANK INTENTIONALLY



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

program activities

back-up physical education teaching

wellness area

after shool staff to tutor and counsel students

quiet area for students to play cards, work on homework, read

office space for after school staff

plumbing

connections for sink with gooseneck faucet

environmental considerations

elevated ceiling, +/- 18 LF

uniform lighting

flexibility of space

adequate ventilatio 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

F1 base/wall cabinets and shelving

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

F6 soap dispenser

F7 towel dispenser

F8 wall mounted interactive electronic presentation device

F9 classroom sink

loose furnishings

L1 stackable/nesting chairs (22-26)

L2 stackable/nesting tables (6)

L6 mobile shelving

loose furnishings for after school staff TBD

data drop

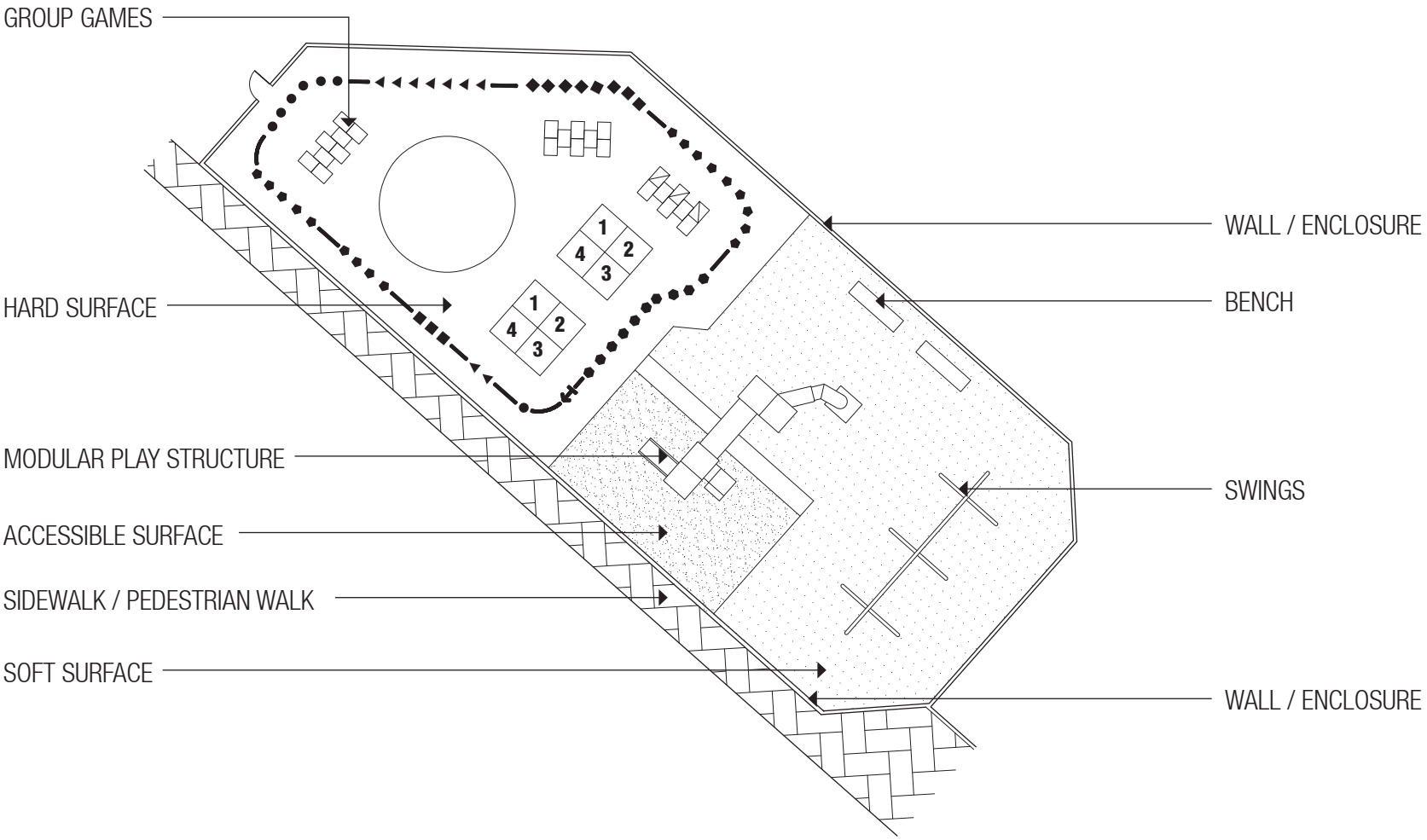


FIG. 7.0 // **PRE-K PLAYGROUND DIAGRAM**

general requirements

provide playground areas to allow for difference in age, ability, and varying interests. follow applicable safety guidelines for different age groups.

pre-kindergarten to grade 1 play area (figure 7.0)

plan for play activities that include rocking, balancing, climbing, and sliding.

include tables and chairs for age group

Locate equipment with moving parts, at the perimeter of the play area. use fence or planting beds to prevent children from inadvertently stepping into path of moving equipment.

primary play area (figure 7.2)

design for grades 1 - 3.

plan for play activities that include rocking, swinging, balancing, climbing, and sliding.

plan for upper-body strengthening devices such as a parallel bar and overhead ladder play equipment.

intermediate play area (figure 7.3)

design for grades 4 - 5.

intermediate play area may be combined with primary play area and a 'tot track' designed around both play areas

Include an outdoor science classroom that may include a garden.

plan for 1 full basketball court (50 feet by 84 feet) or 2 half courts (50 feet by 42 feet).

soft surface play area //

soft surfaces are provided under play equipment and must be handicapped accessible.

surfacing is to be a poured polyurethane surface.

avoid using black surfacing.

accessibility standards (figure 7.1)

plan for ramps and/or transfer points on composite play structures for access to play components on elevated decks.

meet the Americans with Disabilities Act guidelines

for percentage of components that are to be accessible by ramp and by transfer deck.

provide table and benches along accessible route.

provide upper-body strengthening devices as appropriate for age group and amount of supervision.

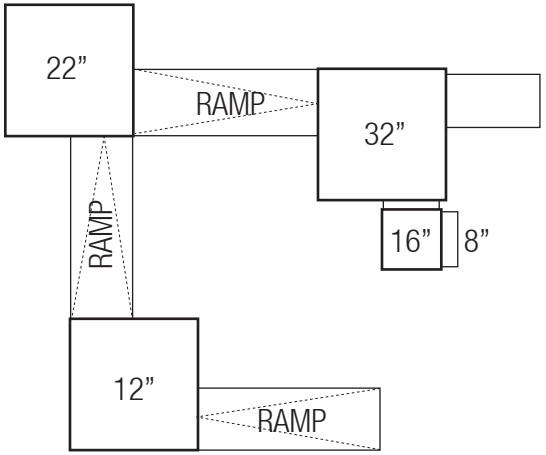


FIG. 7.1 //
TYPICAL RAMP AND TRANSFER DECK

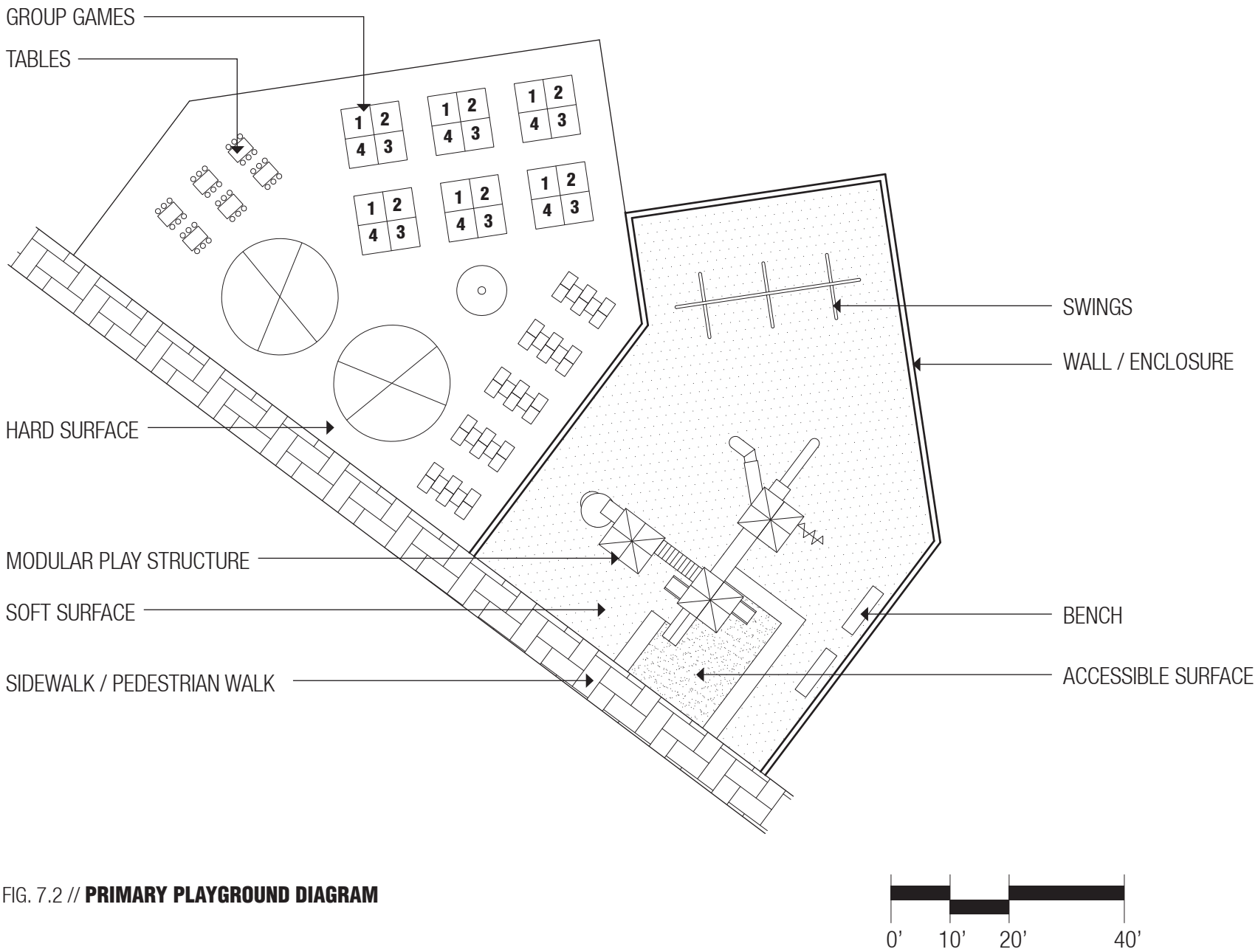


FIG. 7.2 // **PRIMARY PLAYGROUND DIAGRAM**

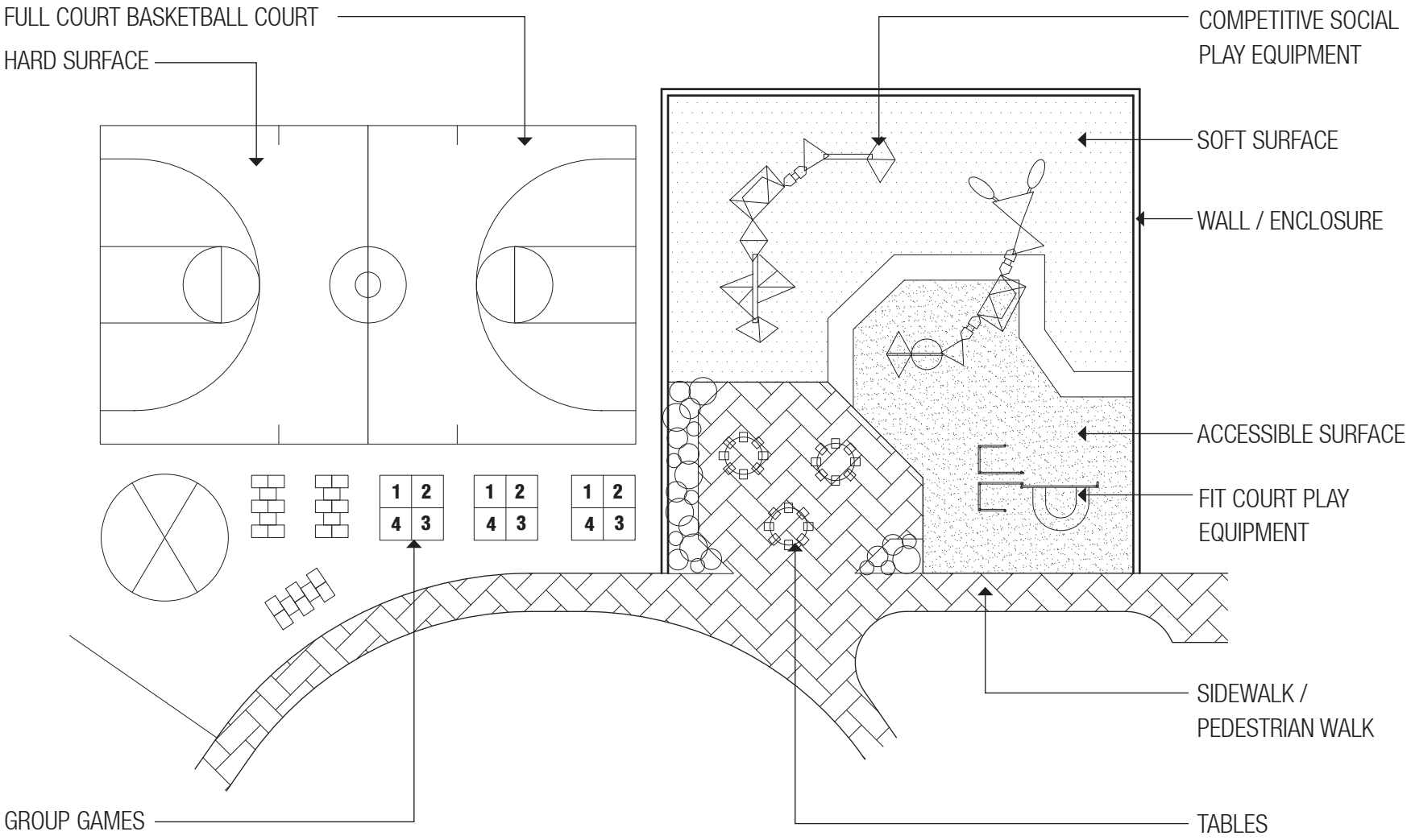
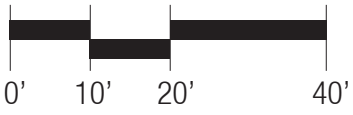


FIG. 7.3 // **INTERMEDIATE PLAYGROUND DIAGRAM**



E-AD /// **ADMINISTRATION**

LOBBY/GATHERING AREA
WELCOME CENTER
CONFERENCE ROOM
PRINCIPAL'S OFFICE
ASST. PRINCIPAL'S OFFICE
ADMINISTRATIVE WORKROOM
MAILROOM
RECORDS ROOM
FAMILY AND COMMUNITY ENGAGEMENT CENTER
STAFF TOILET
STUDENT SERVICES OFFICE
STUDENT SERVICES CONF RM
HEALTH SUITE
    OFFICE AREA
    WAITING/TREATMENT AREA
    COTS
    STORAGE
    TOILET
AFTER SCHOOL OFFICE AND STORAGE

SPACE	QUANTITY	SF	TOTAL	NOTES
ADMINISTRATION				
Lobby/Gathering area	1	700	700	
Welcome Center	1	450	450	welcoming area, work area for administrative asst.
Conference Room	1	250	250	
Prinicipal's Office	1	180	180	
Assistant Principal's Office	1	150	150	
Administrative Workroom	1	200	200	
Mailroom	1	125	125	
Records Room	1	150	150	needs to be a secure space
Family and Community Engagement Center	1	300	470	parent liaison office 120 SF/PTA storage 50 SF
Staff Toilet	1	50	50	
Student Services Office	2	150	300	
Student Services Conference	1	200	200	
Health Suite				
Office Area	1	100	100	
Waiting/Treatment Area	1	575	575	
Cots	1	150	150	
Storage	1	25	25	
Toilet	1	50	50	
After School Office and Storage	1	250	250	
Total			**4,375**	

Comments //

The overall total for the administration area may be + or - 10 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.

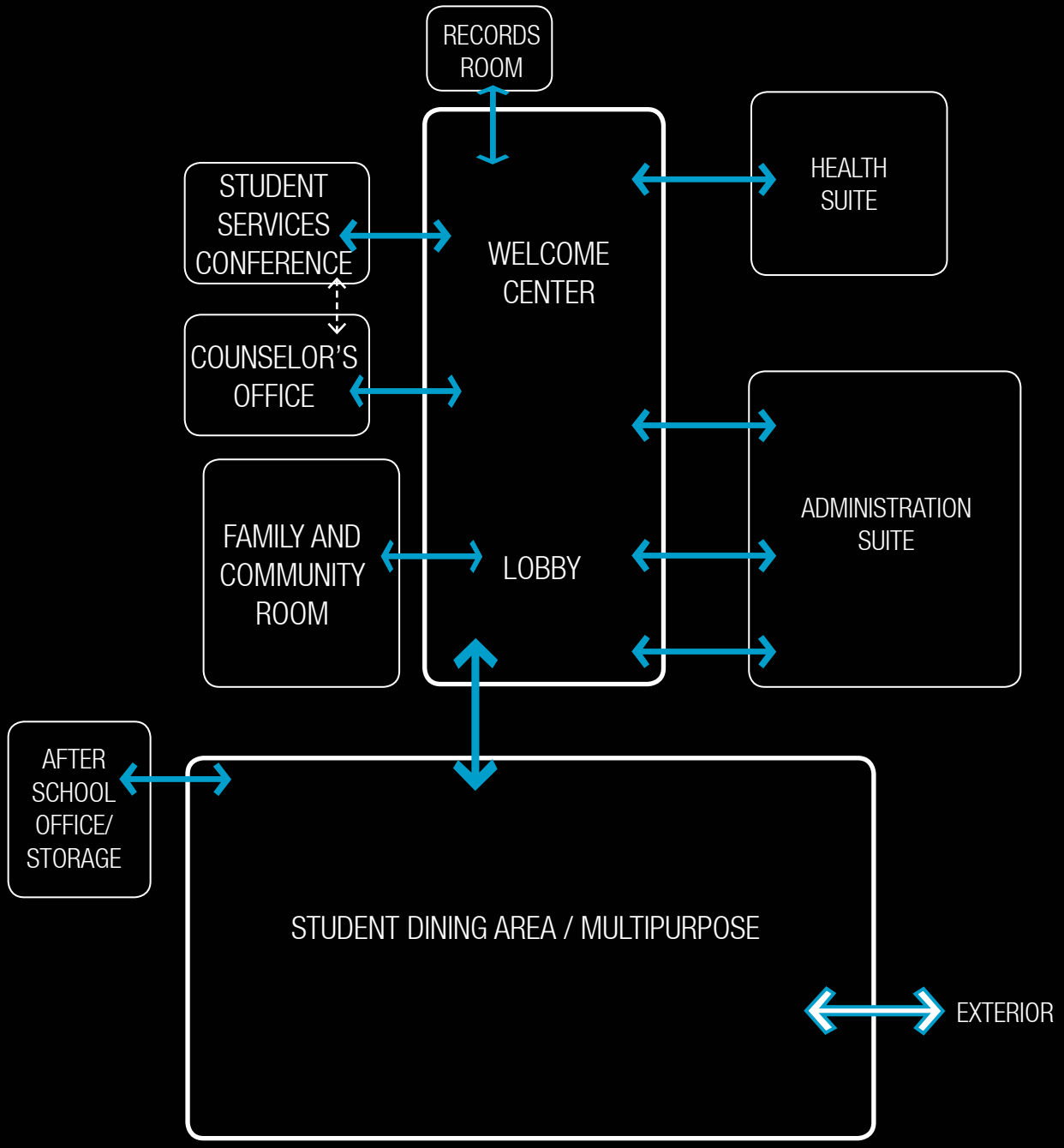
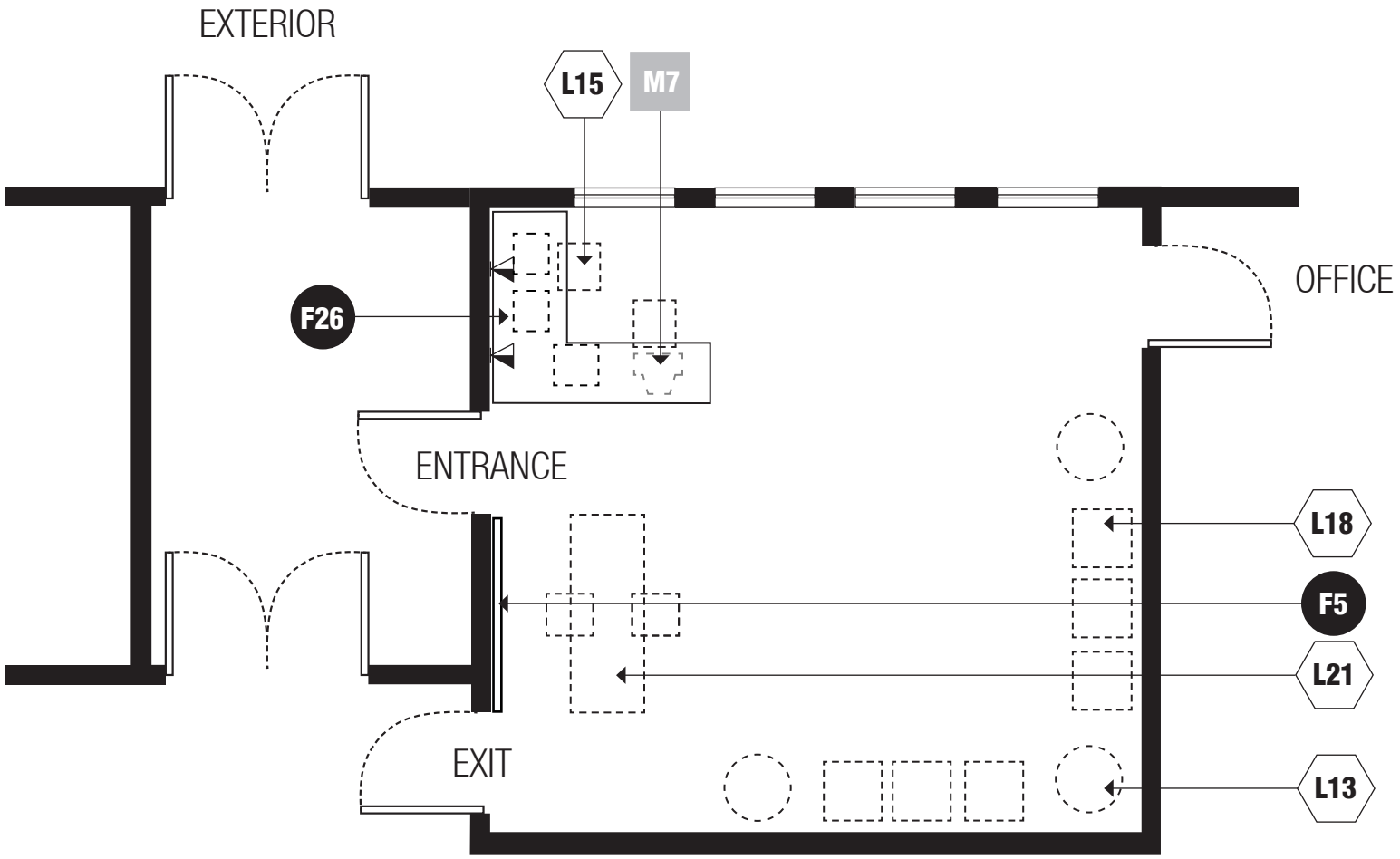


FIG. 12.0 // **ADMINISTRATION ADJACENCY DIAGRAM**



E-AD /// **WELCOME CENTER**

size

450 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)

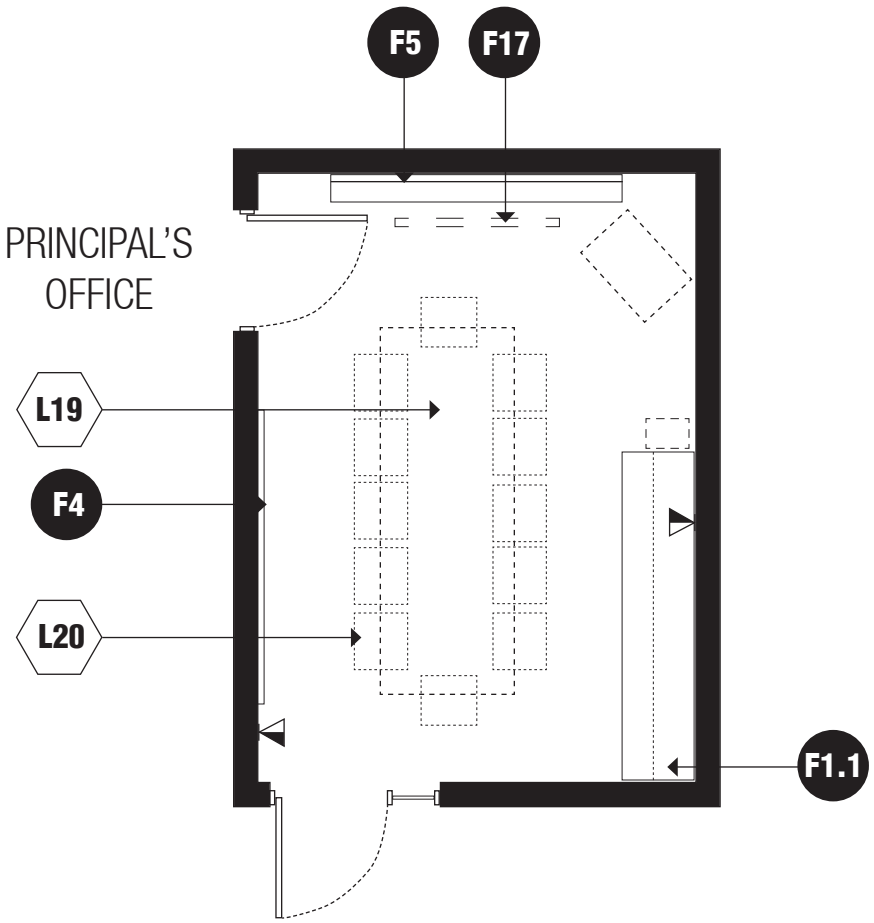
L18 lounge chairs (4-6)

L21 work table for check-in station

■ **miscellaneous**

M7 desktop computer

▶| data drop



E-AD /// **CONFERENCE ROOM**

size

250 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)

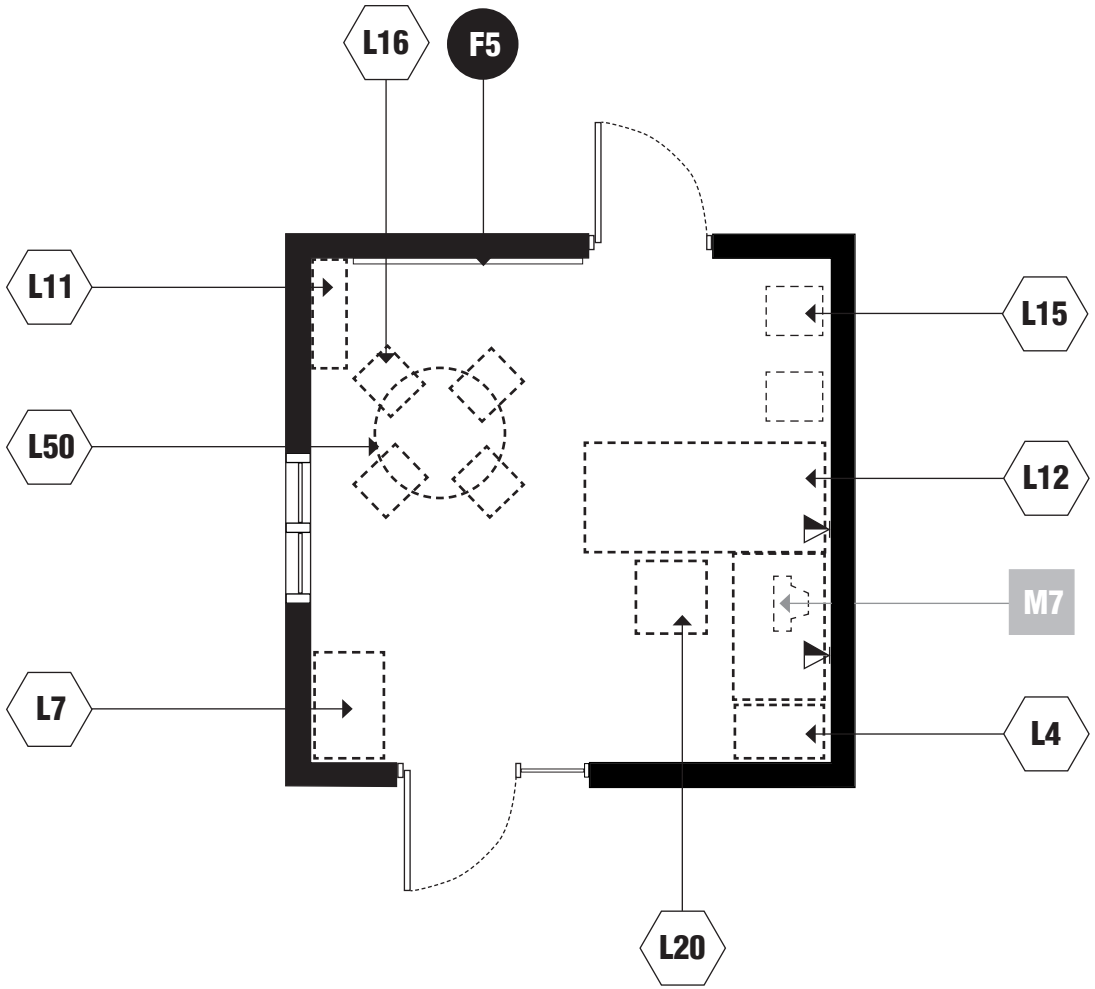
F17 audio/video recording and playback equipment

⬡ **loose furnishings**

L19 Conference table (with table technology installations-VGA jacks, data outlets, power outlets, etc.)

L20 Executive chairs (12)

▶| data drop



E-AD /// **PRINCIPAL’S OFFICE**

size

180 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)

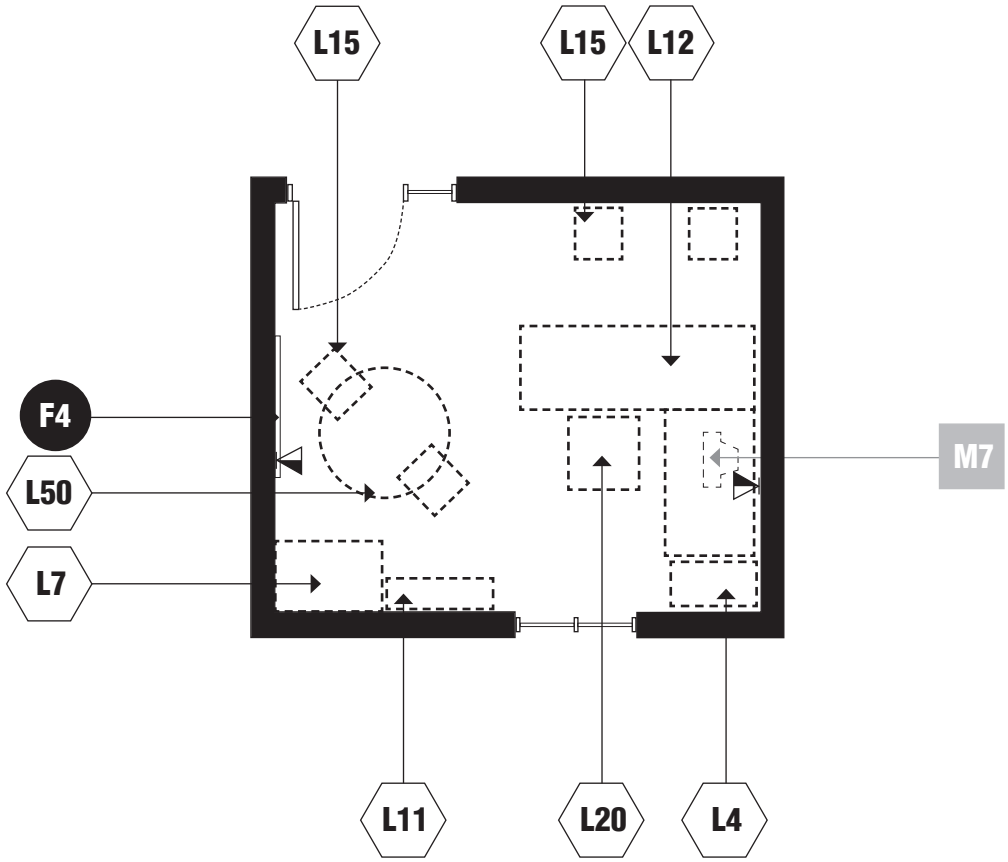
L20 executive chair

L50 small conference table

■ **miscellaneous**

M7 desktop computer

▶| data drop



E-AD /// ASST. PRINCIPAL'S OFFICE

0’ 2’ 4’ 8’

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)

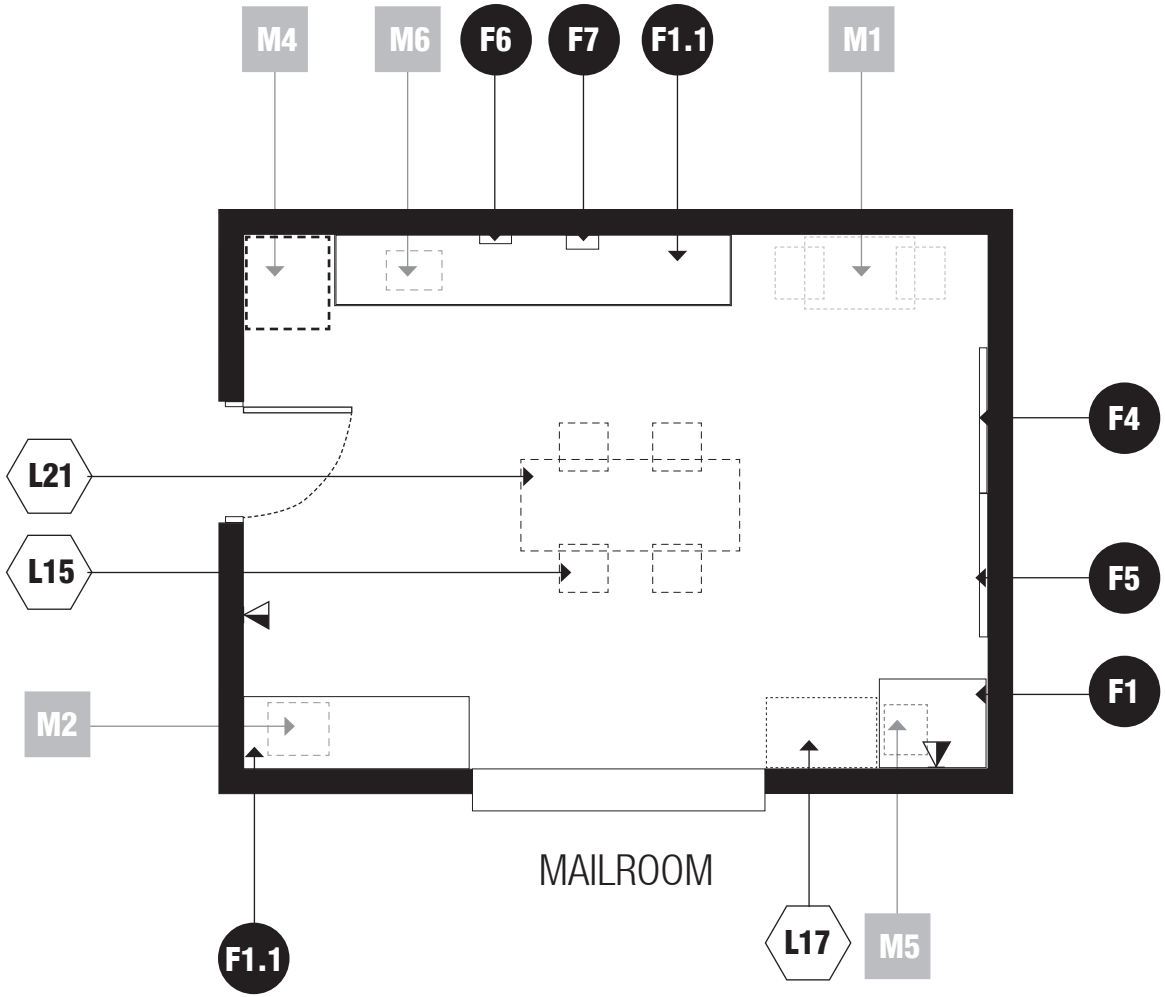
L20 executive chair

L50 small conference table

miscellaneous

M7 desktop computer

data drop



E-AD /// ADMINISTRATIVE WORKROOM

size

200 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

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

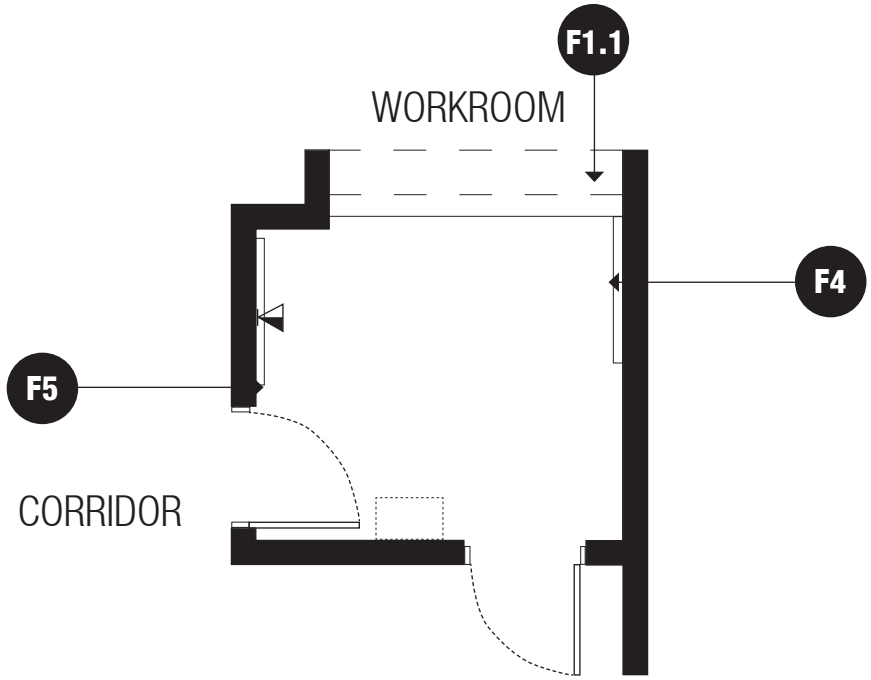
M2 color printers

M4 photocopy machine

M5 digital scanner

M6 laminator

▶| data drop



size

125 SF

capacity

staff

faculty

ancillary spaces

n/a

spatial relationships

adjacent to administrative workroom

located in administrative area

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

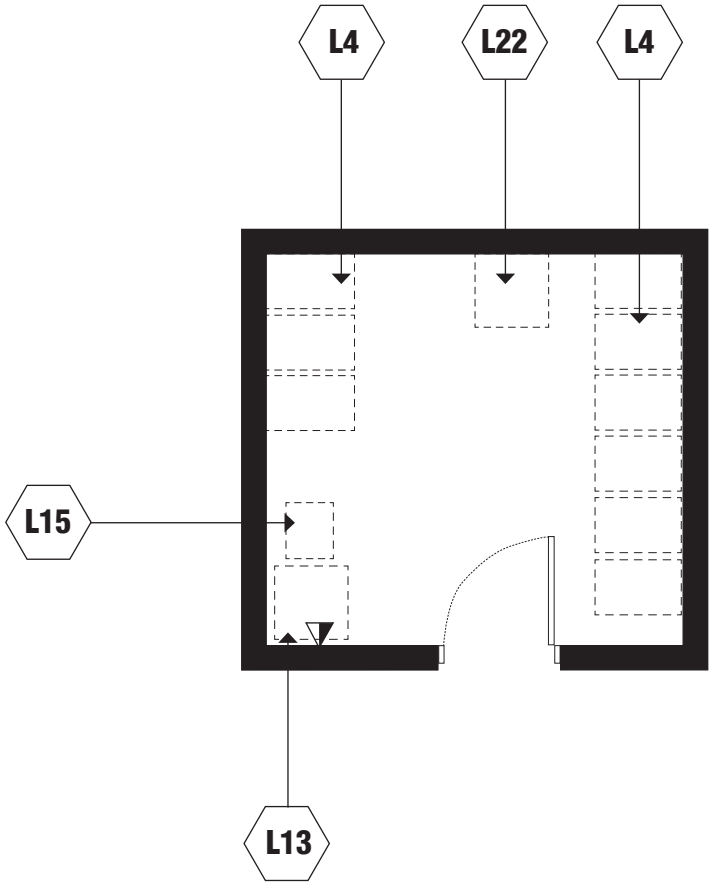
cabinets below

F4 marker board (4 LF)

F5 tackable/magnet wall surface (4 LF)

▶ data drop

E-AD /// **MAILROOM**



E-AD /// **RECORDS ROOM**

size

150 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

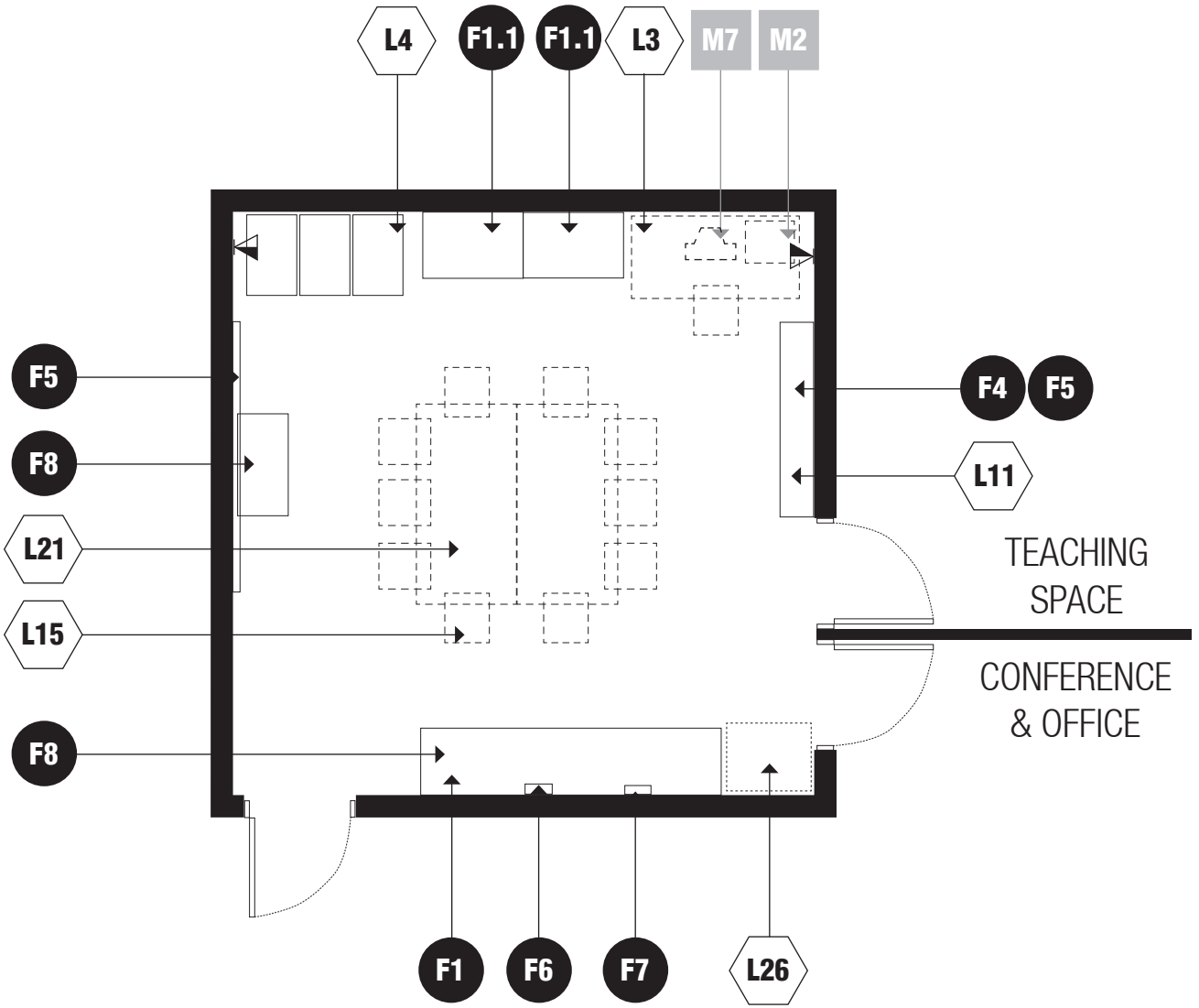
L4 four-drawer file cabinets (8-10 fireproof file cabinets)

L13 small table

L15 chair

L22 safe

data drop


L4
F1.1
F1.1
L3
M7
M2
F5
F8
L21
L15
F8
F4
F5
L11
TEACHING
SPACE
CONFERENCE
& OFFICE
F1
F6
F7
L26


0’
2’
4’
8’

size

470 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

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”)

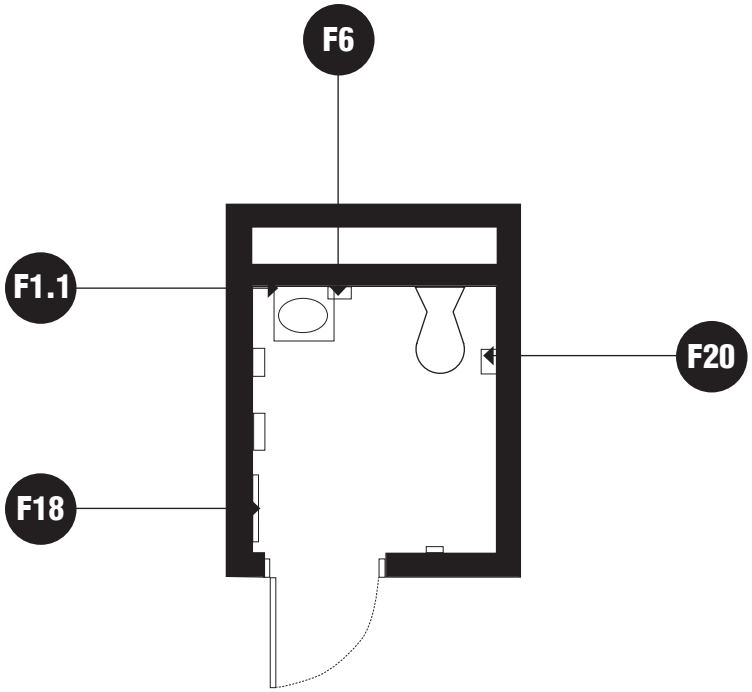
L26 refrigerator

■ **miscellaneous**

M7 desktop computer

⋈ data drop

*Office for Parent liaison- see typical office description



E-AD /// **STAFF TOILET**

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 ///

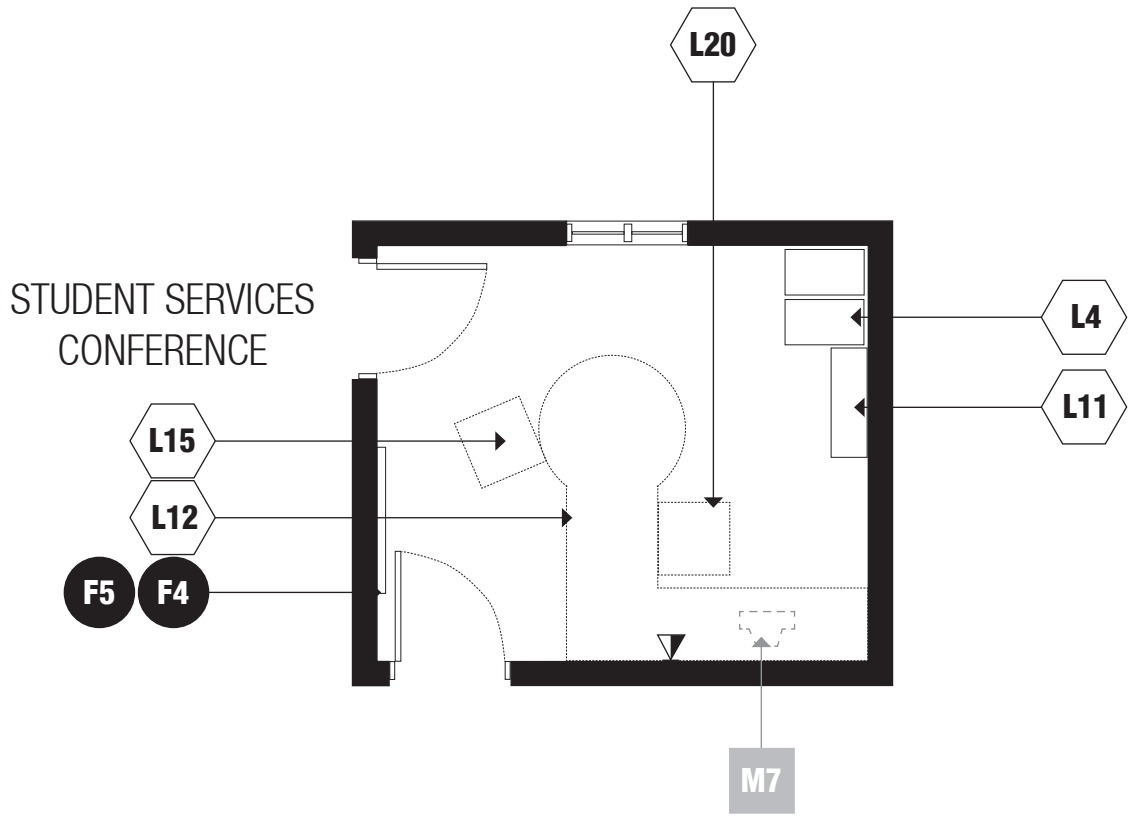
● **fixed equipment**

F1.1 casework (wall cabinet)

F7 towel dispenser

F18 mirror

F20 bathroom accessories



E-AD /// **STUDENT SERVICES OFFICE**

size

150 SF

capacity

counselor
intern
psychologist
social worker
reading resource
math resource
science resource
ESL

spatial relationships

near student services conference room
near welcome center

program activities

counseling for students and parents
administrative paperwork
enrollment and orientation of new students

LEGEND ///

fixed equipment

F4 marker board (8 LF)
F5 tackable/magnet wall surface (4 LF)

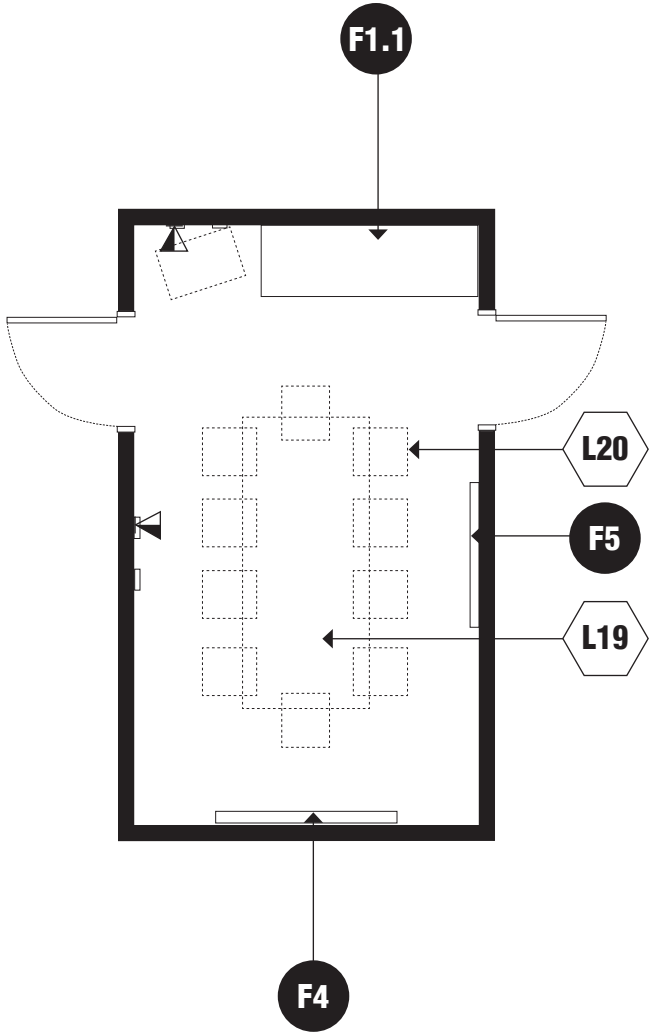
loose furnishings

L4 four-drawer file cabinet (2)
L11 adjustable height bookshelves (12 LF)
L12 admin workstation
L15 task chair
L20 executive chair

miscellaneous

M7 desktop computer

data drop



E-AD /// **STUDENT SERVICES CONF RM**

size

200 SF

capacity

staff

students

parents

visitors

ancillary spaces

n/a

spatial relationships

adjacent and access to counselor's office

adjacent to parent or welcome space

program activities

conferences with staff, students, parents, and visitors

IEP meetings

LEGEND ///

● **fixed equipment**

F1.1 casework (6 LF)

F4 marker board (8 LF)

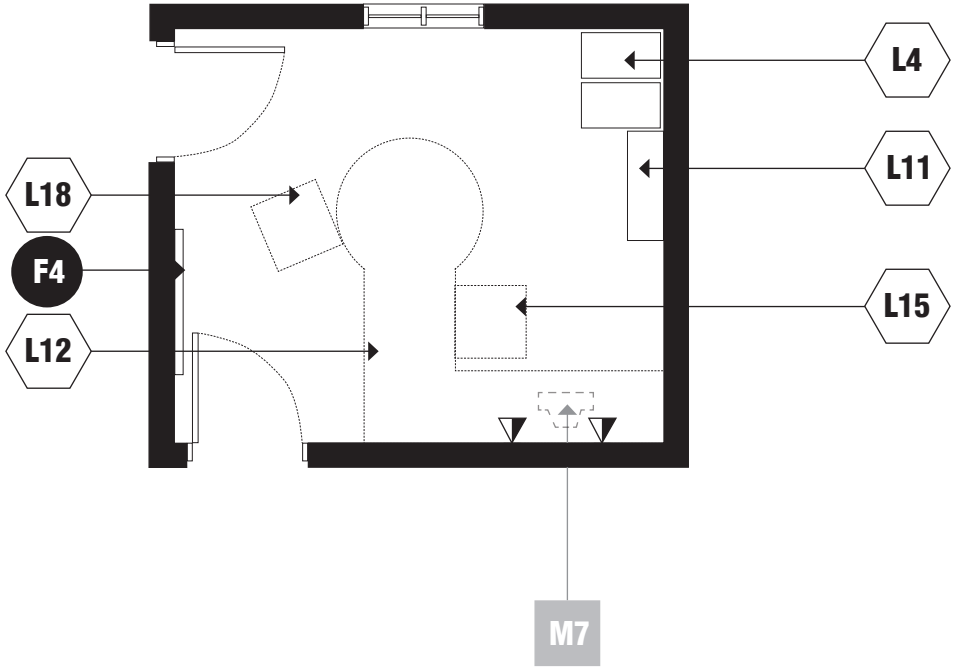
F5 tackable/magnet wall surface (4 LF)

⬡ **loose furnishings**

L19 conference table (with table technology installations- VGA jacks, data outlets, power outlets, etc.)

L20 executive chairs (10)

▶| data drop



E-AD /// HEALTH SUITE: OFFICE AREA

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

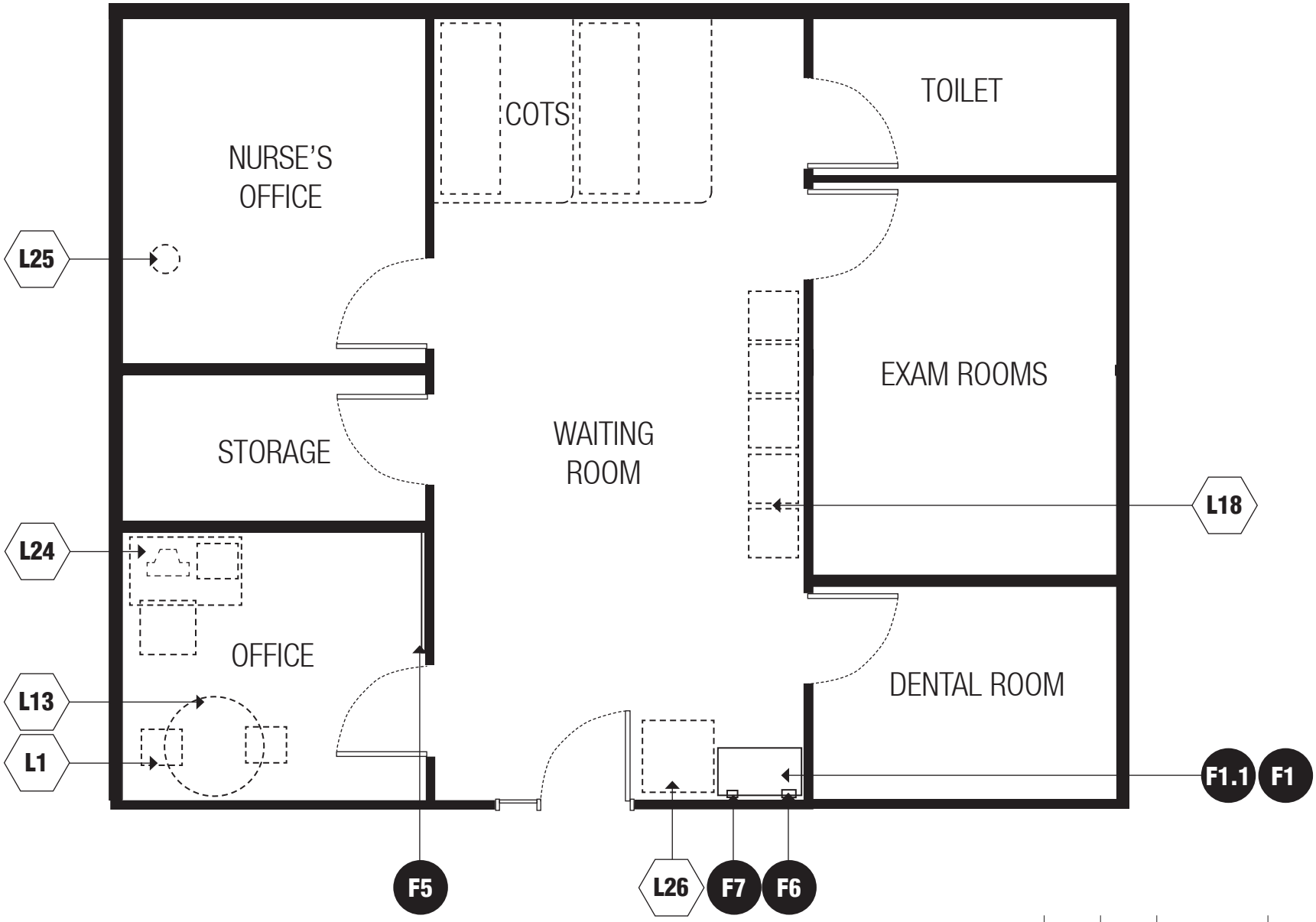
L15 Task chair

L18 Lounge chair

miscellaneous

M7 Desktop computer

data drop



E-AD /// **HEALTH SUITE: WAITING + TREATMENT AREA**

size

575 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)

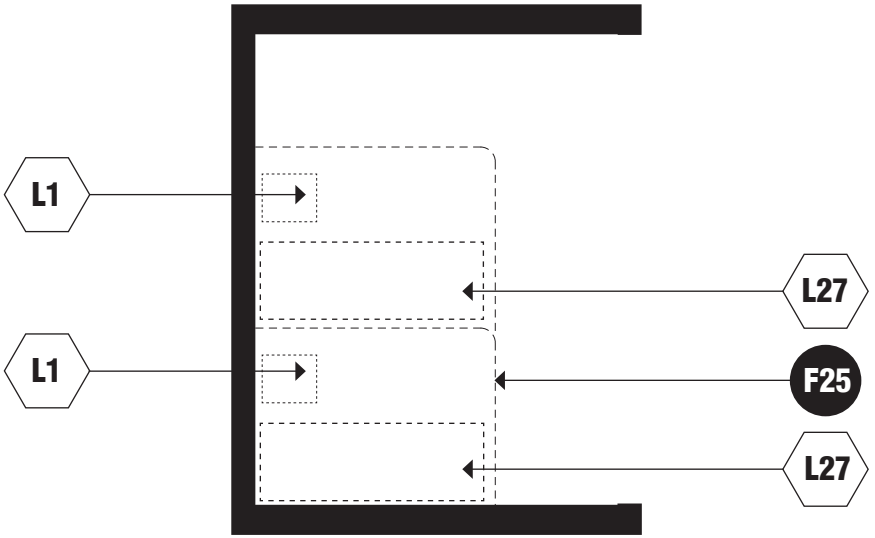
L13 small table

L18 lounge chairs

L24 mobile exam table

L25 nurse stool

L26 refrigerator (lockable)



size

varies

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**

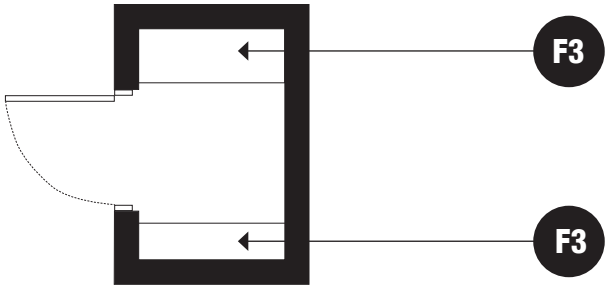
F25 treatment cubicle curtains

⬡ **loose furnishings**

L1 stackable/nesting chairs (2)

L27 health suite cot (2)

E-AD /// **HEALTH SUITE: COTS**



E-AD /// HEALTH SUITE: STORAGE

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

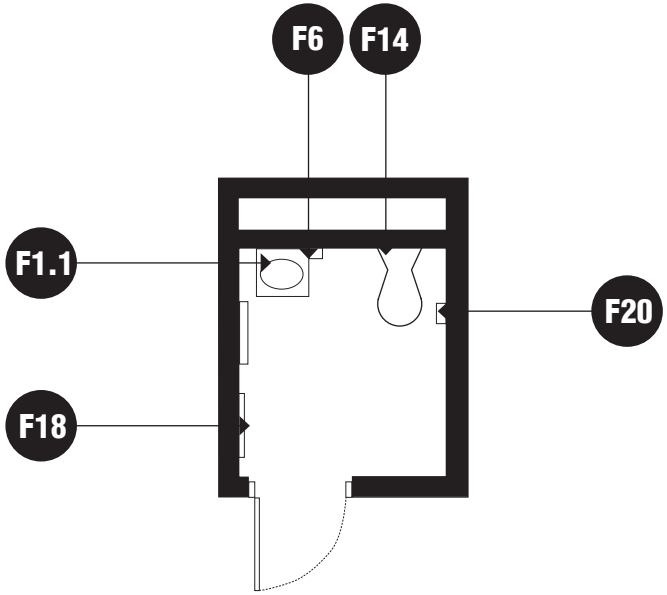
security of door

LEGEND ///

● **fixed equipment**

F3 wall shelving (12” deep)

F3 wall shelving (18” deep)



E-AD /// **HEALTH SUITE: TOILET**

size

50 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 ///

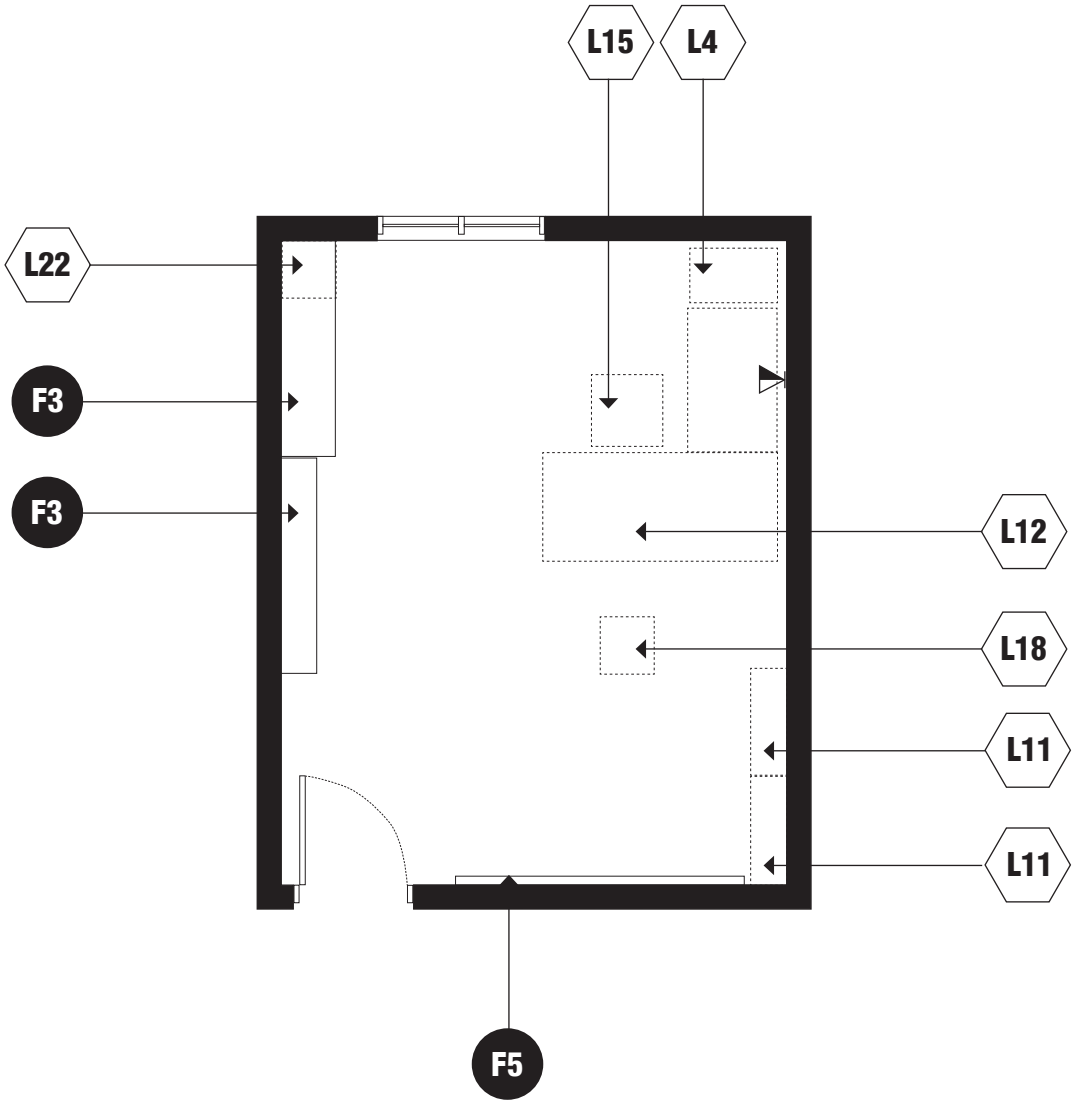
● **fixed equipment**

F1.1 casework: wall cabinet

F6 soap dispenser

F18 mirror (24”x60”)

F20 bathroom accessories



E-AD /// AFTER SCHOOL OFFICE AND STORAGE

size

250 SF

capacity

staff

coordinators of after school program

parents/volunteers

spatial relationships

near public use spaces

near Gymnasium and student dining area/multipurpose

access to main corridor

near FACE center

program activities

administrative duties

storing and retrieving supplies and equipment

teaching/tutoring and counseling

LEGEND ///

● **fixed equipment**

F3 wall shelving (12” deep)

F3 wall shelving (18” deep)

F5 tackable/magnet wall surface (8 LF)

⬡ **loose furnishings**

L4 four-drawer file cabinet

L11 adjustable height bookshelves

L12 admin workstation

L15 task chair

L18 lounge chair

L22 safe

▶| data drop

note: consult caregiver on the quantity of storage. larger spaces should be outfitted like a standard classroom (white board, tack board, technology)

E-SD /// **STUDENT DINING**

DINING / MULTIPURPOSE
CHAIR STORAGE
LOCKERS / TOILET
COOKING KITCHEN
FOOD PREP AREA
FOOD SERVICE OFFICE
SERVING AREA
DRY FOOD STORAGE
FREEZER / COOLER
WARE WASHING
CLEANING STORAGE

SPACE	QUANTITY	SF	TOTAL	NOTES
DINING AND FOOD SERVICES				
Student Dining Area/Multi-purpose	1	3,000	3,000	grades 1-5 in 3 lunch periods; seats 185 at lunch seats 280 auditorium style
Chair and Table Storage	1	350	350	
Serving area	1	700	700	
Kitchen Suite	1	2,150	2,150	
Stage with storage	1	1,100	1,100	includes 200 SF chair and table storage
Total			**7,300**	

Comments //

The overall total for the Dining and Food Services area may be + or – 10%. 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.

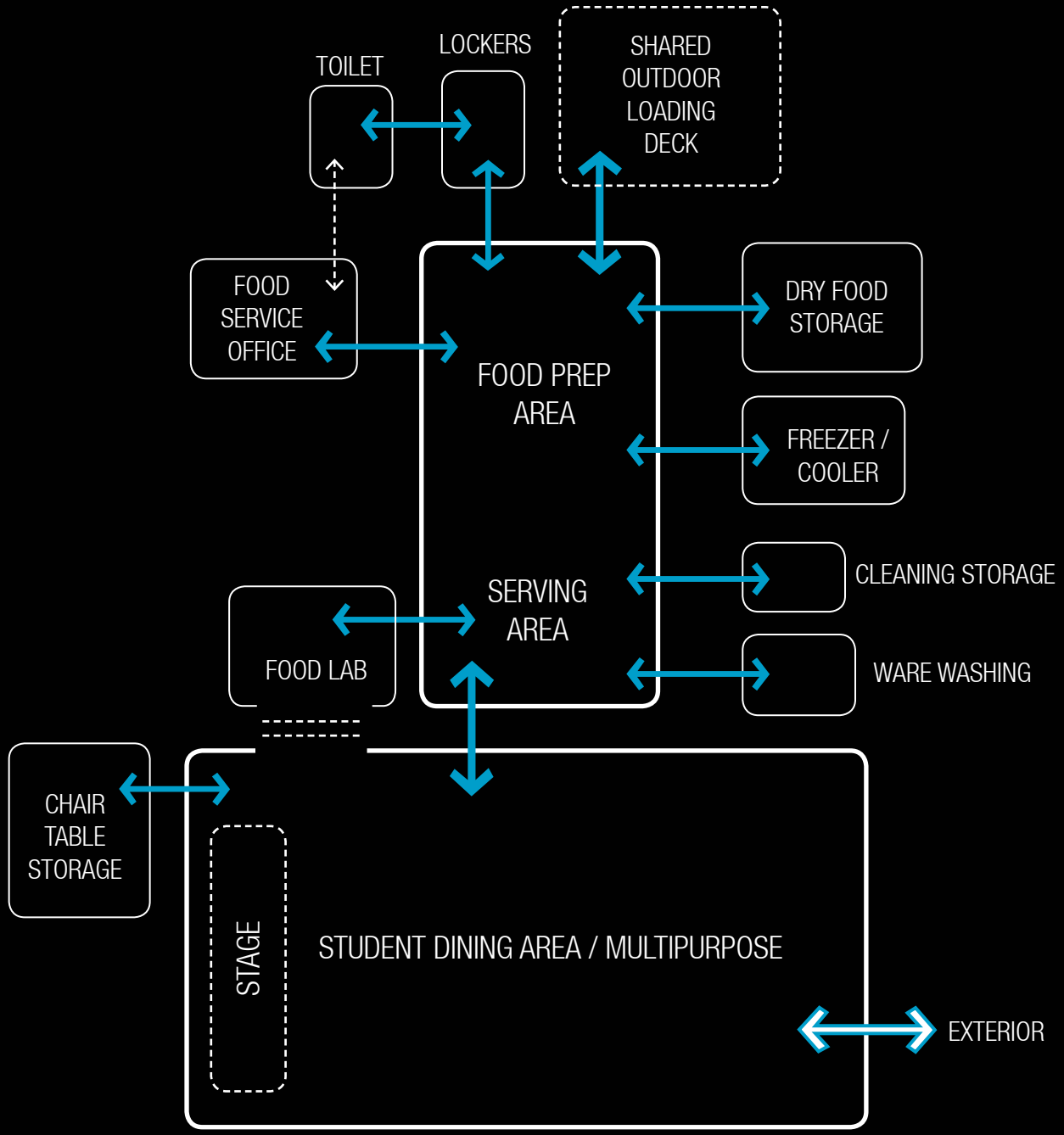
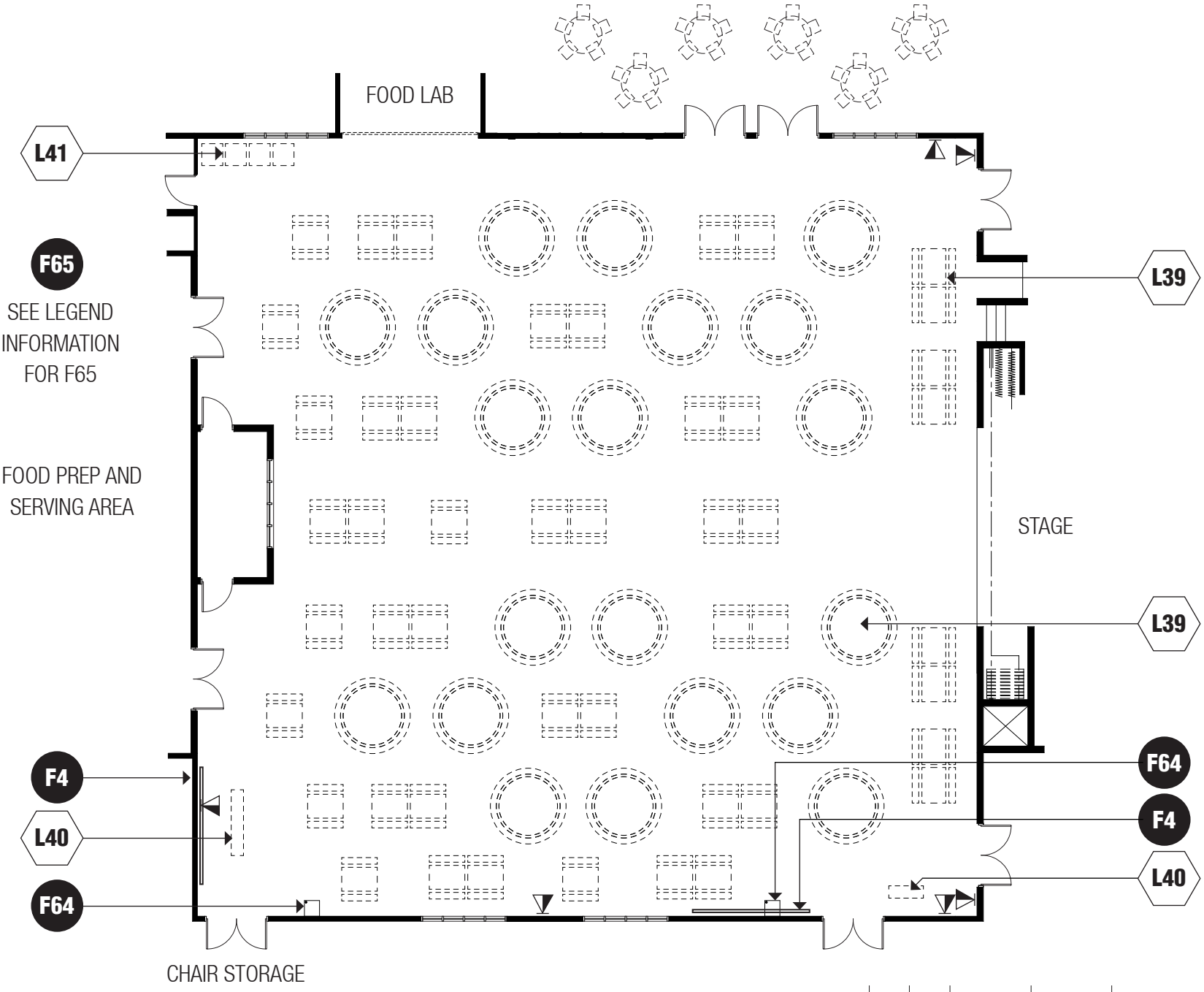


FIG. 13.0 // **STUDENT DINING ADJACENCY DIAGRAM**



E-SD /// **DINING / MULTIPURPOSE** (GRADES 1-5)

size

3,000 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

stage (optional)

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

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

LEGEND ///

● **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)

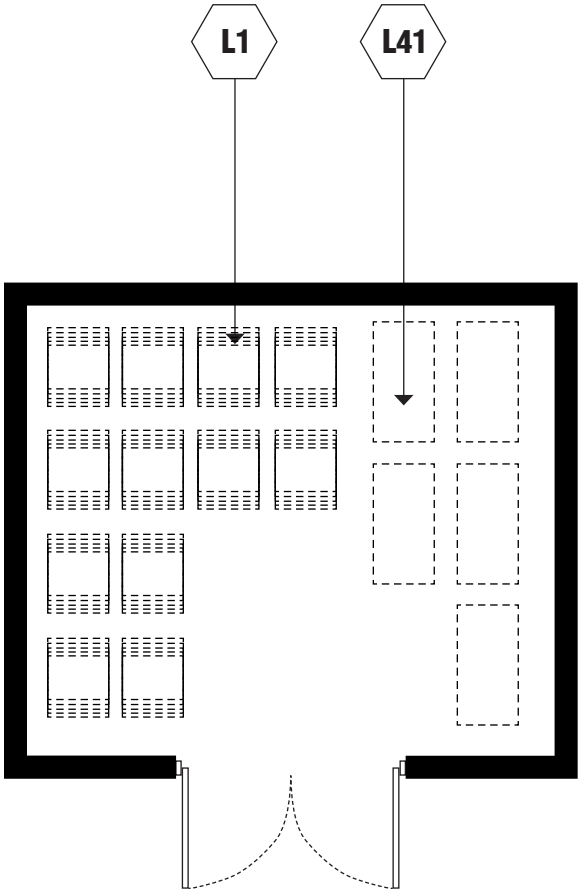
⬡ **loose furnishings**

L39 cafeteria tables (tables and seating to accomodate 1/3 of school capacity-vary seating options and heights

L41 chair dollies

L40 point of sale station

▶| data drop



size

varies

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

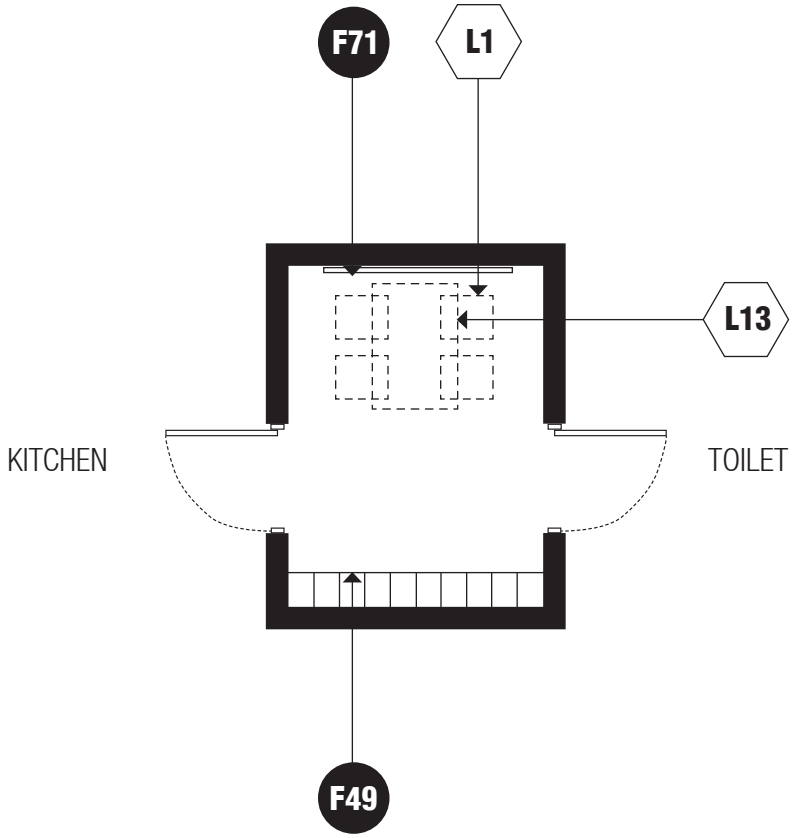
LEGEND ///

⬡ **loose furnishings**

L1 stackable/nesting chairs (stacked)

L41 chair dollies

E-SD /// CHAIR STORAGE



size

200 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

F49 lockers

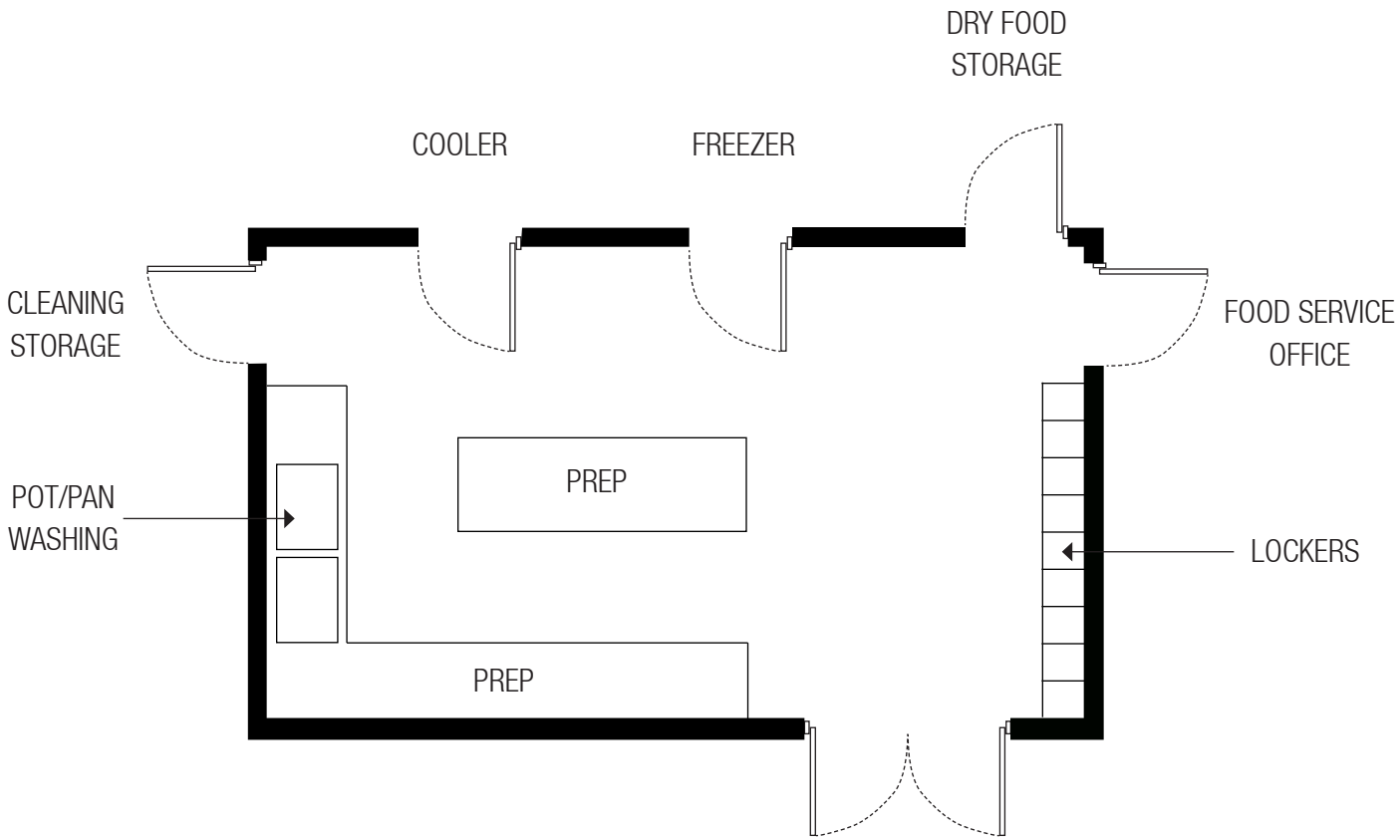
F71 tack board (4 LF)

loose furnishings

L1 stackable/nesting chairs (4-6)

L13 small table

E-SD /// **LOCKERS / TOILET**



E-SD /// **COOKING KITCHEN**

this space consists of the following areas //

- food preparation area
- dry food storage
- freezer & cooler
- pot/pan washing
- cleaning storage
- lockers
- food service office

a space plate follows for each of these areas

size

350 SF

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

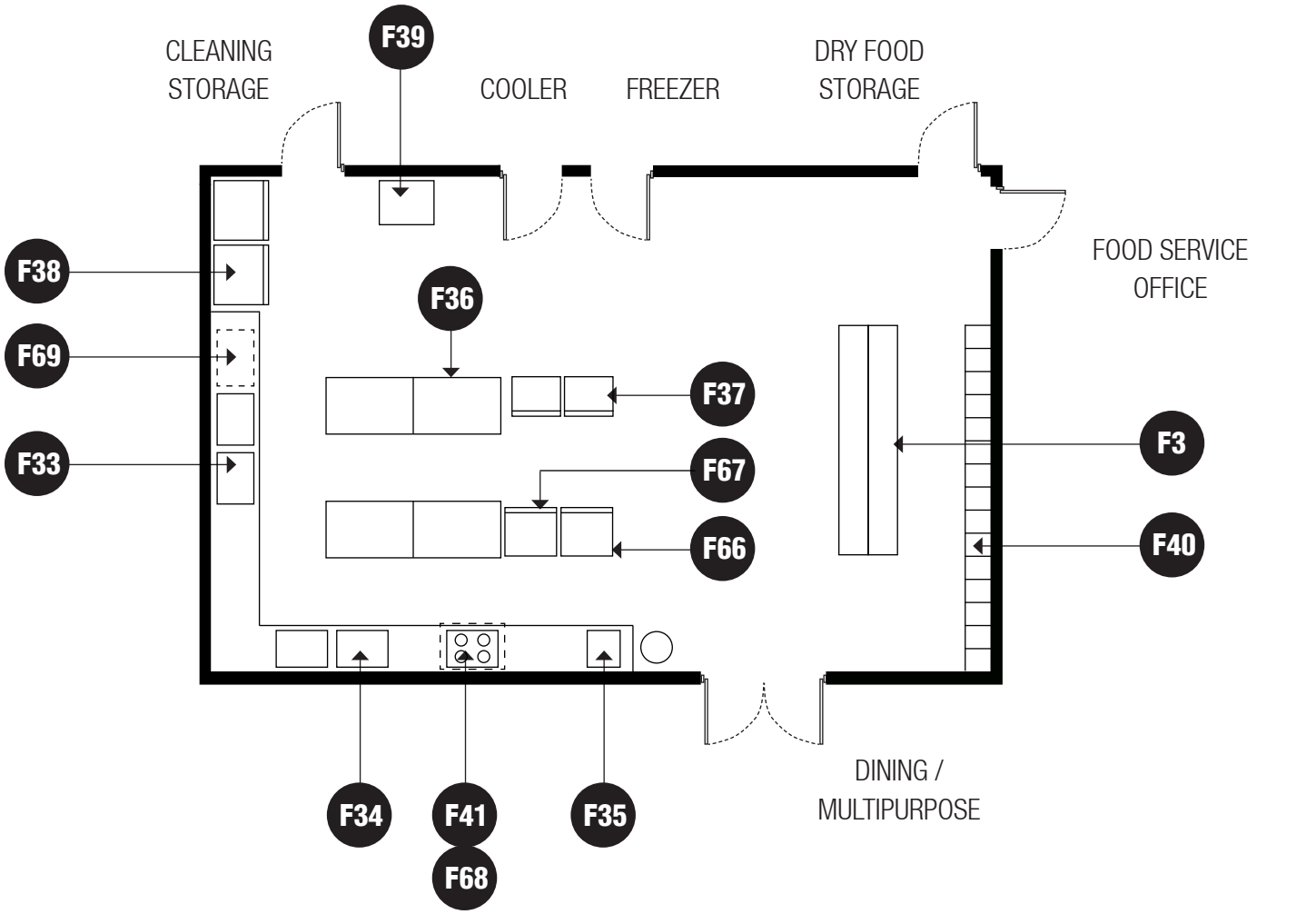
point of sale (in the dining area associated with the serving area)

environmental considerations

durable seamless flooring

proper ventilation of space to remove cooking odors

cleanable building surfaces



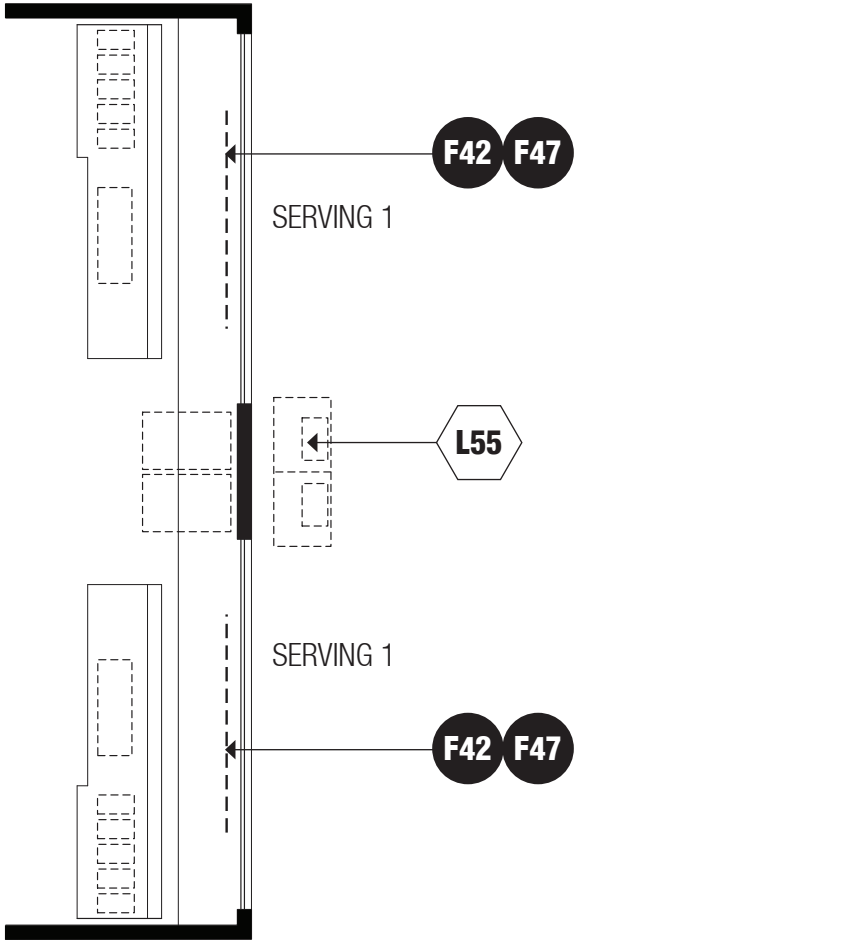
E-SD /// **FOOD PREP AREA**

size
varies
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, acousticac
walls
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.)



E-SD /// **SERVING AREA**

size

700 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 ///

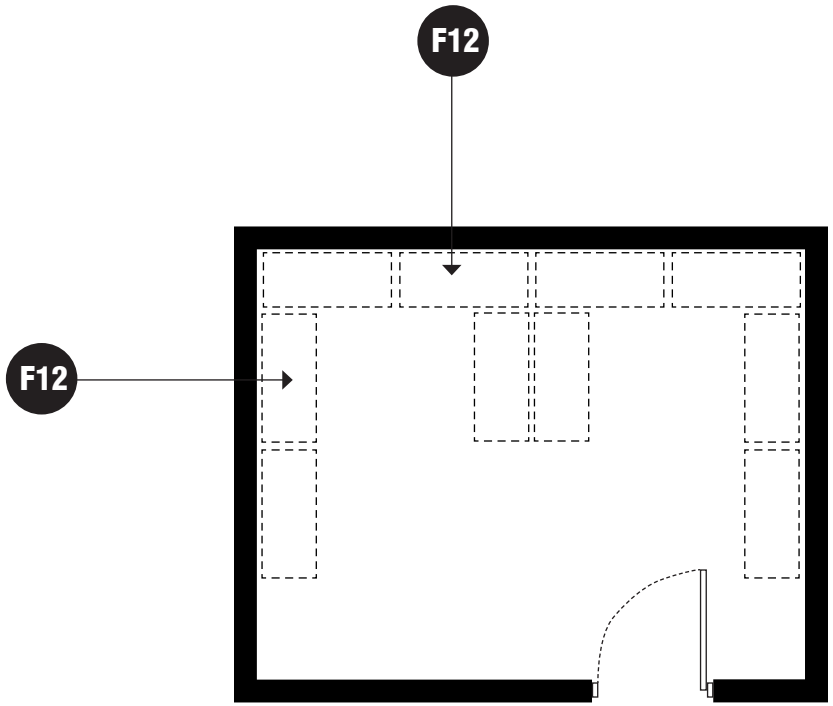
● **fixed equipment**

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 elementary students)

⬡ **loose furnishings**

L55 milk coolers



size

varies

capacity

n/a

spatial relationships

near supply storage/receiving

adjacent and access to food prep area

program activities

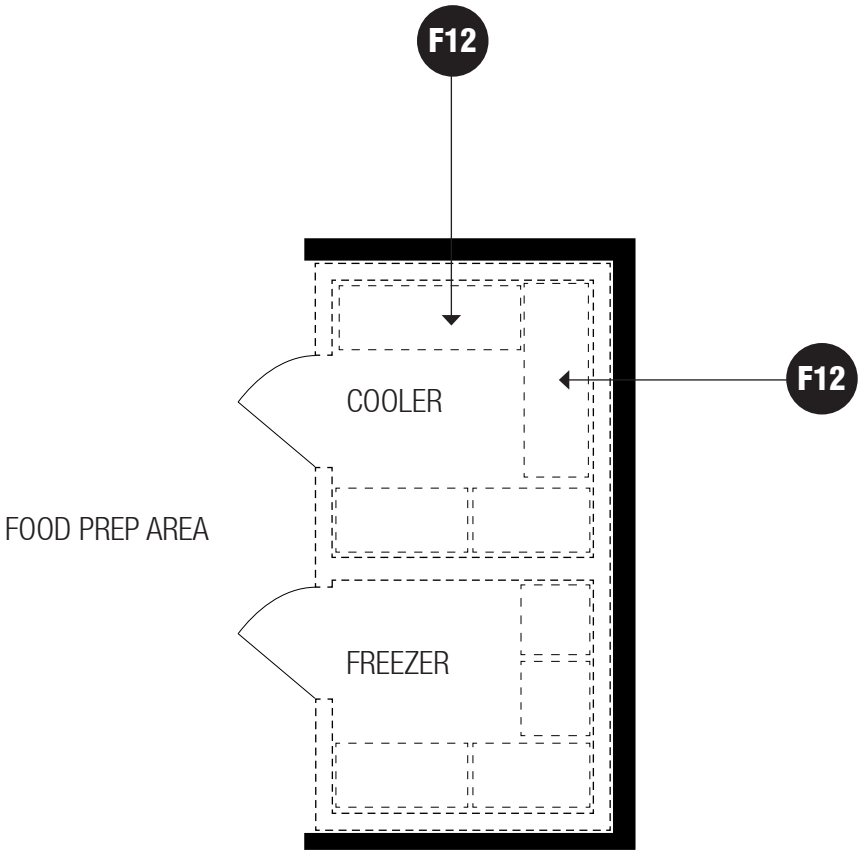
storage

LEGEND ///

● **fixed equipment**

F12 rust resistant shelving and dunnage racks (24” deep)

E-SD /// DRY FOOD STORAGE



size

varies

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

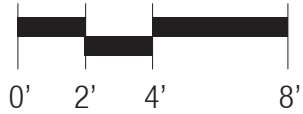
floor to be flush with adjacent kitchen floor

electrical service for refrigeration equipment

LEGEND ///

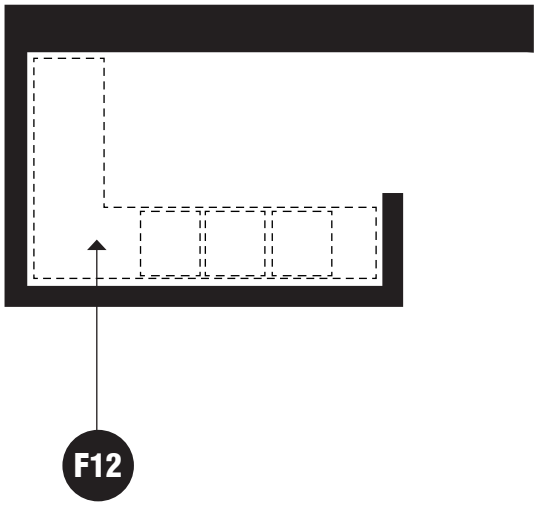
● **fixed equipment**

F12 rust resistant shelving and dunnage racks (24” deep)



E-SD /// **FREEZER / COOLER**

STUDENT DINING /
MULTIPURPOSE



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.

E-SD /// WARE WASHING

size
varies, see table

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

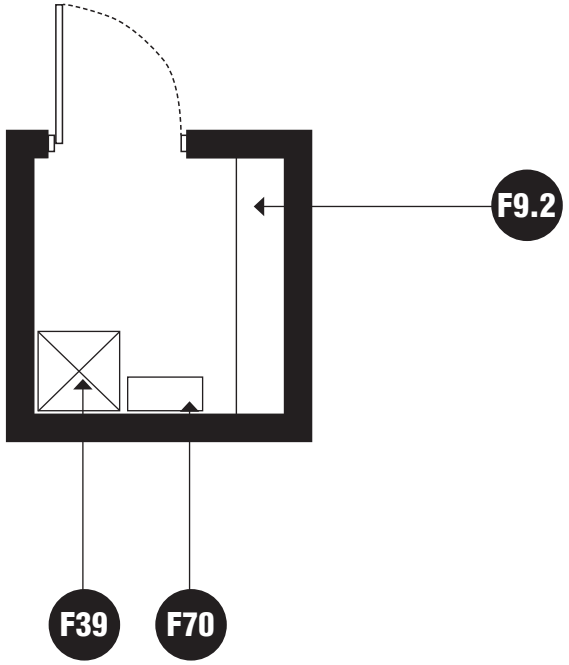
environmental considerations
proper ventilation of space to remove steam and condensation
cleanable building surfaces

plumbing
connections to food service equipment
three compartment sink
floor drain

LEGEND ///

● **fixed equipment**

F12 rust resistant shelving and dunnage racks (24" deep)



E-SD /// CLEANING STORAGE

size
50 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

F39 mop sink

F70 mop rack

E-EC /// **MAINTENANCE & CUSTODIAL**

SUPPLY STORAGE / RECEIVING
TOILET / SHOWER / LOCKERS
CUSTODIAL OFFICE

SPACE	QUANTITY	SF	TOTAL	NOTES
BUILDING ENGINEERING				
Supply Storage / Receinving	1	600	600	
Toilet / Showers / Lockers	1	150	150	
Custodial Office	1	100	100	
Total			**850**	

Comments //

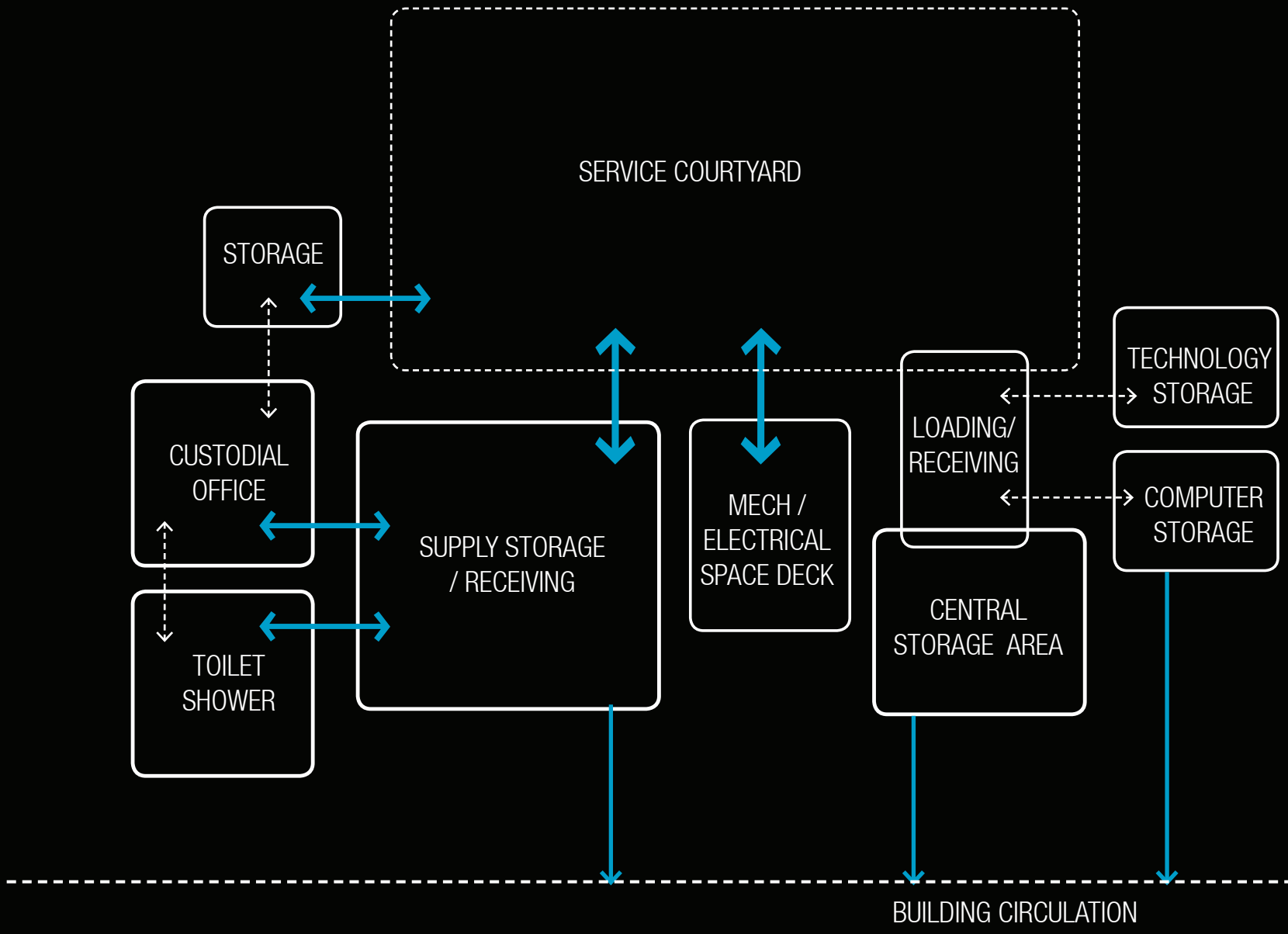
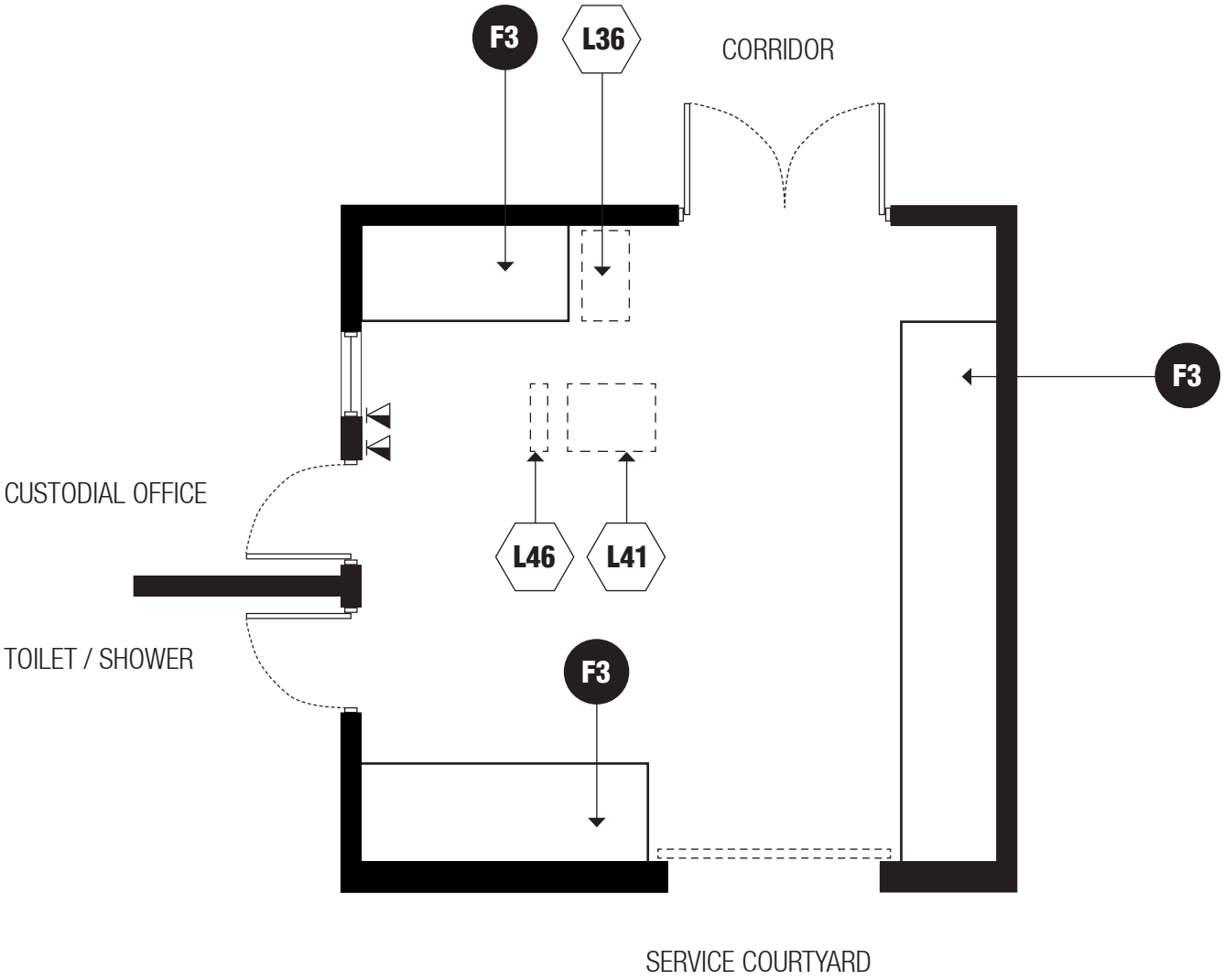


FIG. 14.0 // **MAINTAINENCE & CUSTODIAL ADJACENCY DIAGRAM**



E-EC /// **SUPPLY STORAGE / RECEIVING**

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 wall shelving (84" high x 36" deep)

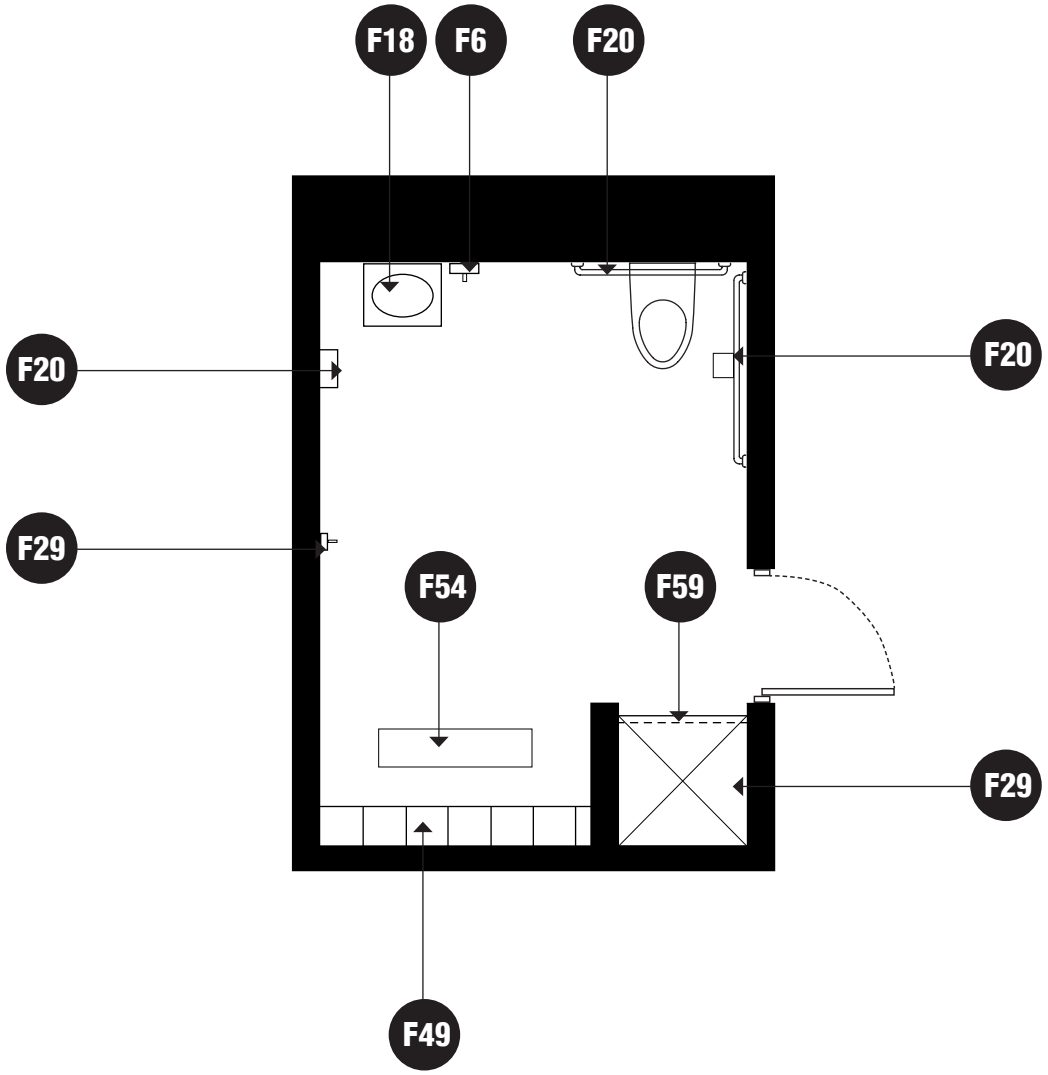
⬡ **loose furnishings**

L36 flammables storage

L46 step ladder

L41 chair dollies

▶| data drop



E-EC /// **TOILET / SHOWER / LOCKERS**

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

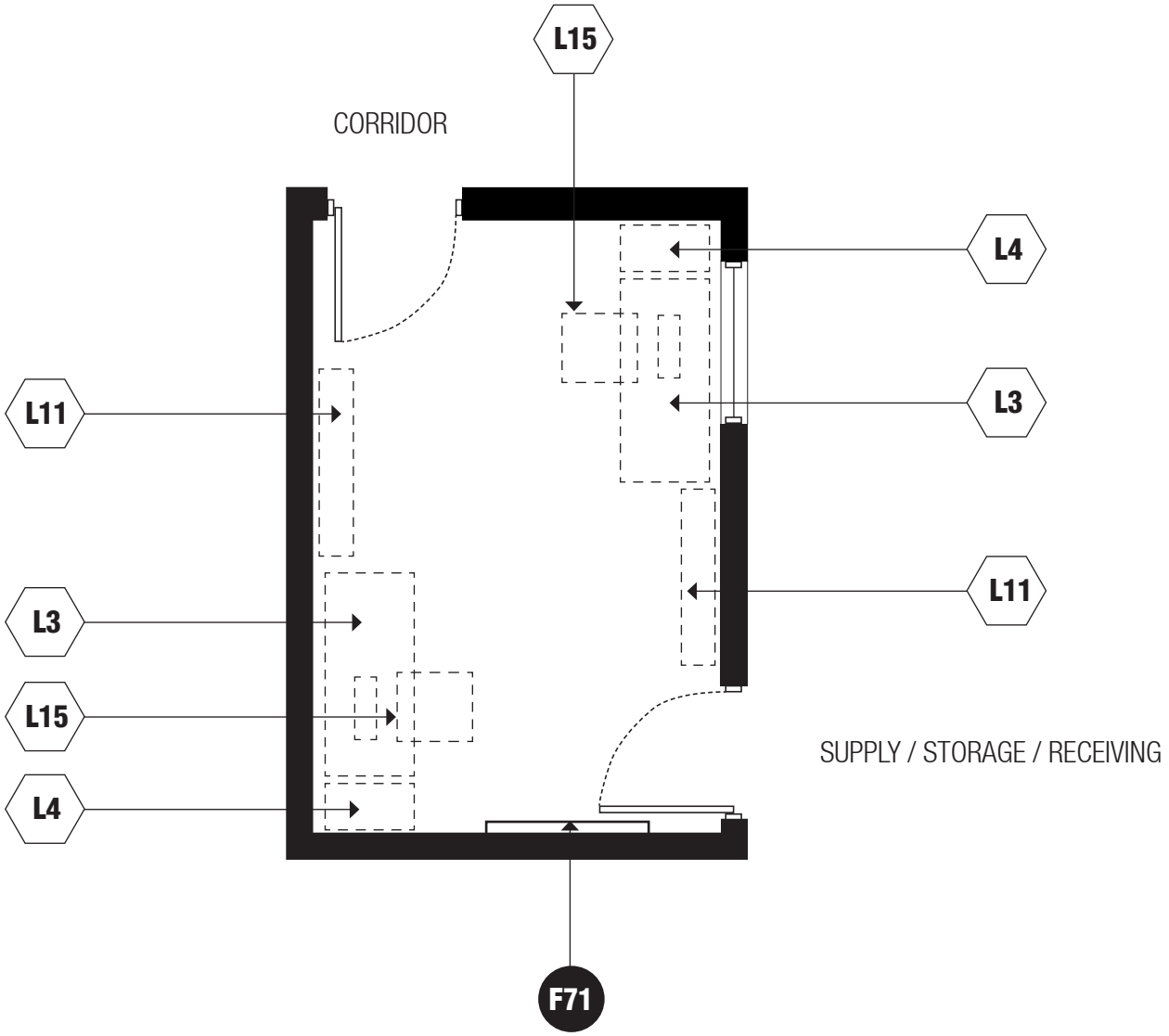
F18 mirror (24” x 60”)

F20 bathroom accessories

F29 ADA shower accessories

F49 lockers

F54 locker bench



E-EC /// **CUSTODIAL OFFICE**

size

150 SF

capacity

maintainence and custodial staff

building engineer

spatial relationships

adjacent and access to supply storage/ receiving

access to corridor

near custodial toilet

program activities

conferences with staff and other visitors

telephone calls

LEGEND ///

● **fixed equipment**

F71 tack board (4 LF)

⬡ **loose furnishings**

L3 teacher work surface with mobile storage (2)

L4 four drawer lateral file cabinet (2)

L11 adjustable height bookshelves (12 LF)

L15 task chair (2)

E-BS /// **BUILDING SUPPORT**

LARGE GROUP RESTROOMS
CUSTODIAL CLOSET
ELECTRICAL CLOSET
TELECOMMUNICATIONS ROOM
CORRIDORS
MECHANICAL / ELECTRICAL SPACE DECK
STORAGE AREA
CENTRAL STORAGE AREA
LOADING / RECEIVING AREA
STAFF RESTROOM
FAMILY RESTROOM
TECHNOLOGY STORAGE

SPACE	QUANTITY	SF	TOTAL	NOTES
BUILDING SUPPORT				
Large Group Restrooms	1			
Custodial Closet	1			
Electrical Closet	1			
Telecommunications Room	1			
Corridors	1			
Mechnical / Electrical Space Deck	1			
Storage Area	1			
Central Storage Area	1			
Loading / Receiving Area	1			
Staff Restroom	1			
Family Restroom	1			
Technology Storage	1			
Total				

Comments //

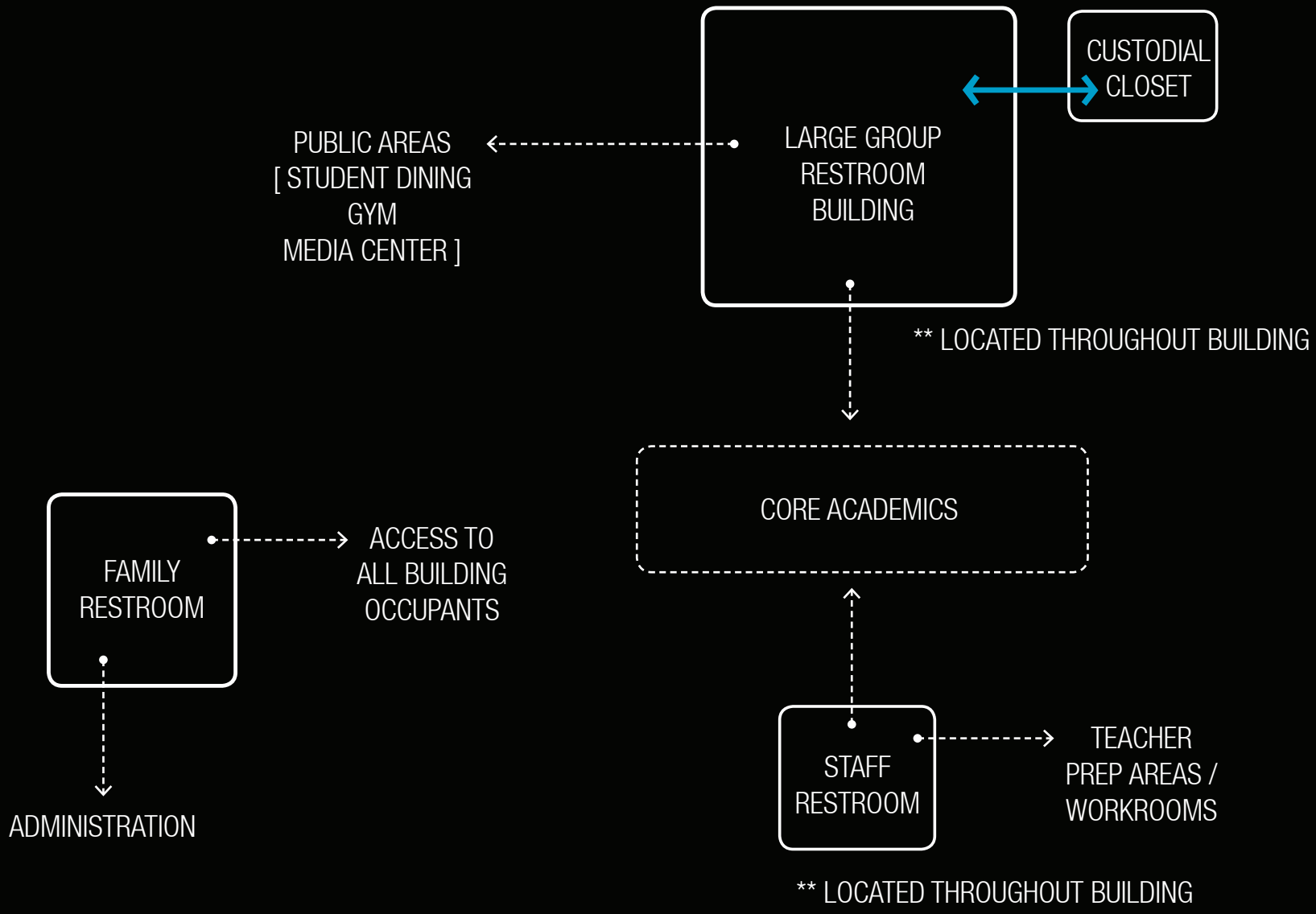
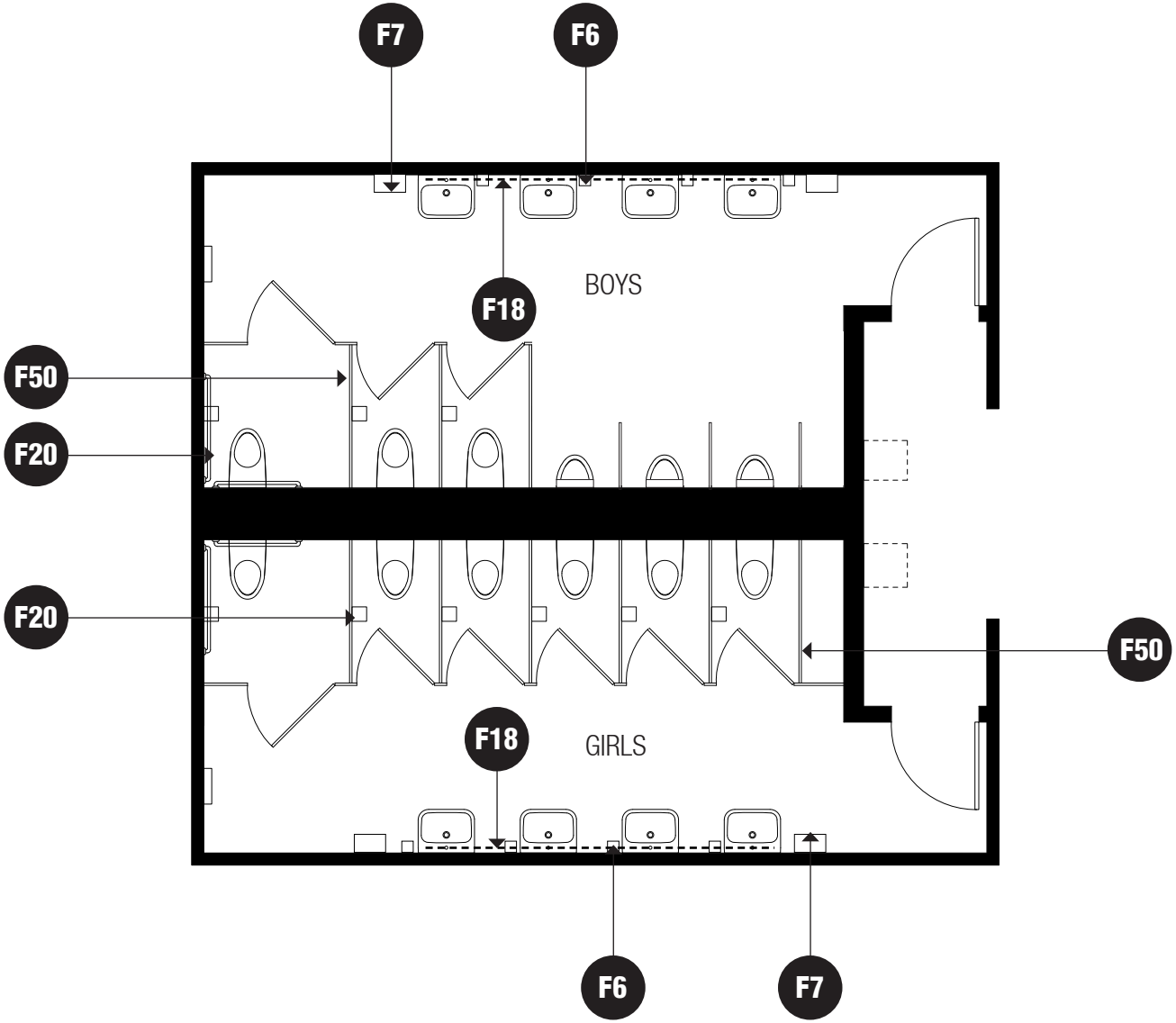


FIG. 15.0 // **BUILDING SUPPORT ADJACENCY DIAGRAM**



E-BS /// **LARGE GROUP RESTROOM**

0’ 2’ 4’ 8’

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

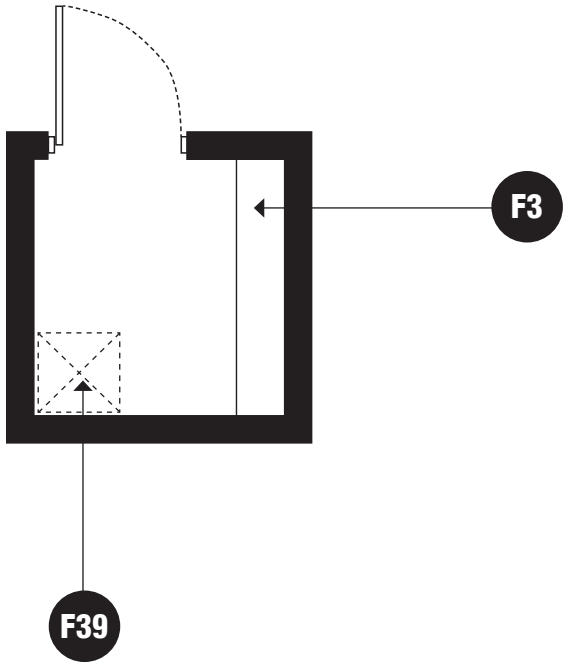
F18 mirror (24” x 60”)

F20 bathroom accessories

F50 toilet partitions

NOTES //

Where individual restrooms are provided in lieu of large group restrooms, refer to staff restroom.



size

50 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

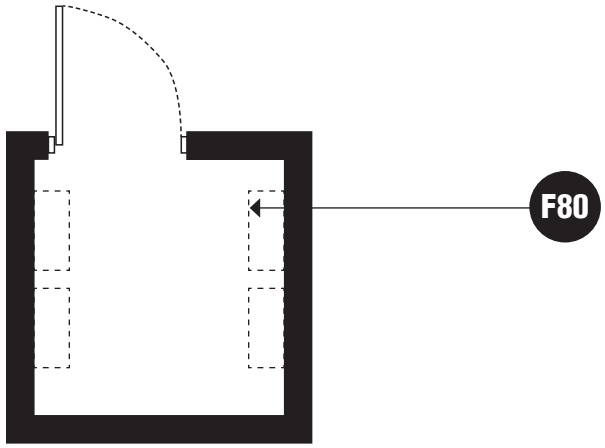
LEGEND ///

● **fixed equipment**

F39 mop sink

F3 wall shelving

E-BS /// CUSTODIAL CLOSET



Spaces to be determined by design professional.

size

50 SF

capacity

n/a

program activities

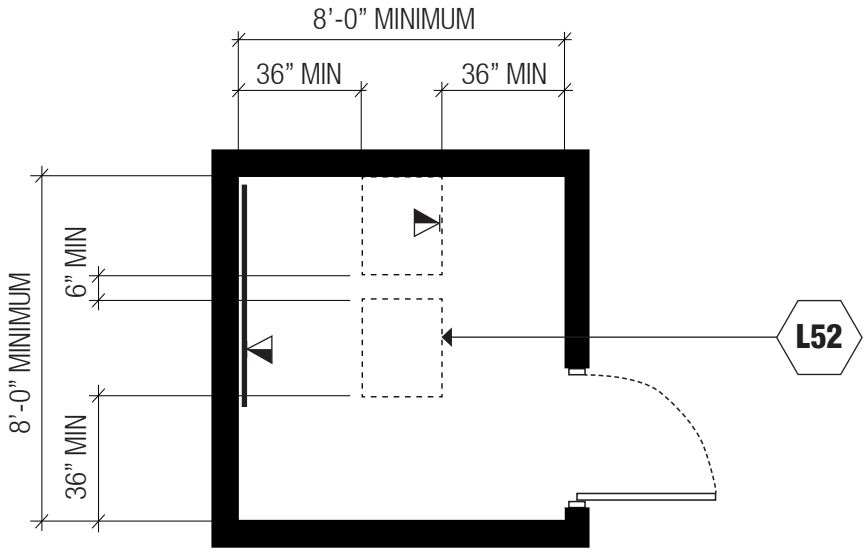
space for electrical wiring and panels

LEGEND ///

fixed equipment

F80 electrical panel

E-BS /// **ELECTRICAL CLOSET**



size

0-75,000 SF = 8' x 8' minimum

75,00-150,000 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 ///

loose 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 form school district to school district.

E-BS /// TELECOMMUNICATIONS ROOM

- 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

circulation space

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

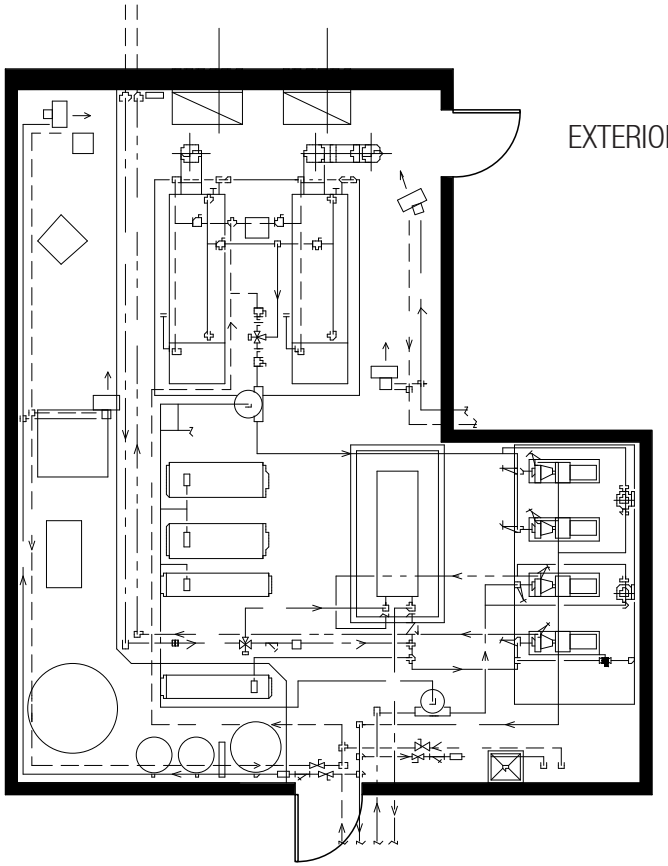
F51 fire extinguisher

F52 recessed floor mats

F53 digital boards

F71 tack board

F72 3D displays



E-BS /// MECH / ELECTRICAL SPACE DECK

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

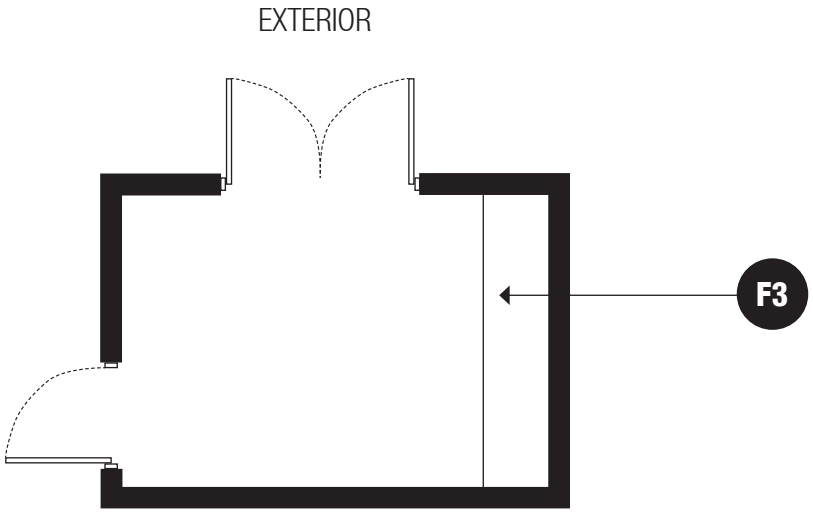
space for mechanical and electrical equipment

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

150-250 SF

capacity

n/a

program activities

space for storage of outdoor custodial equipment

spatial relationships

near custodial office

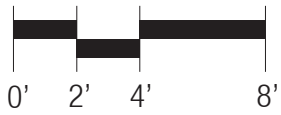
near custodial workroom

direct access to outdoors

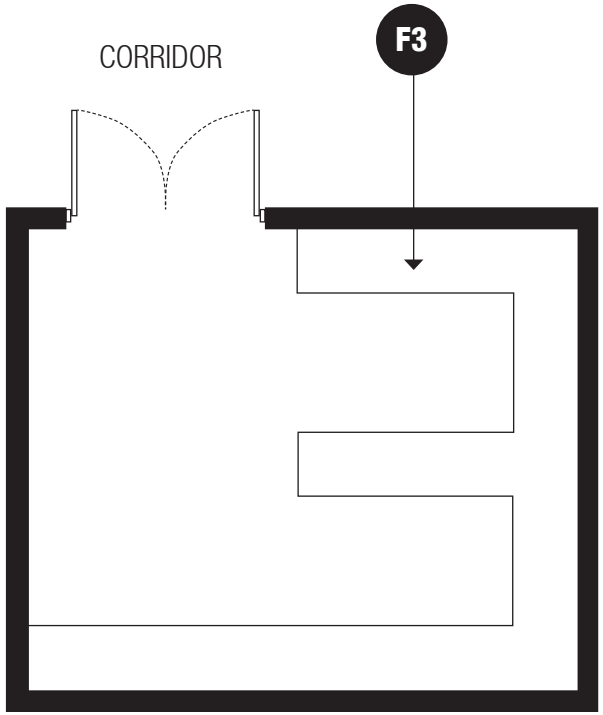
LEGEND ///

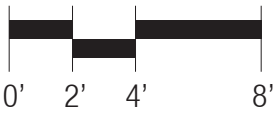
● **fixed equipment**

F3 wall shelving (10'-16', depth may vary)



E-BS /// **STORAGE AREA**





E-BS /// **CENTRAL STORAGE AREA**

Space to be determined by design professional.

size

250 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

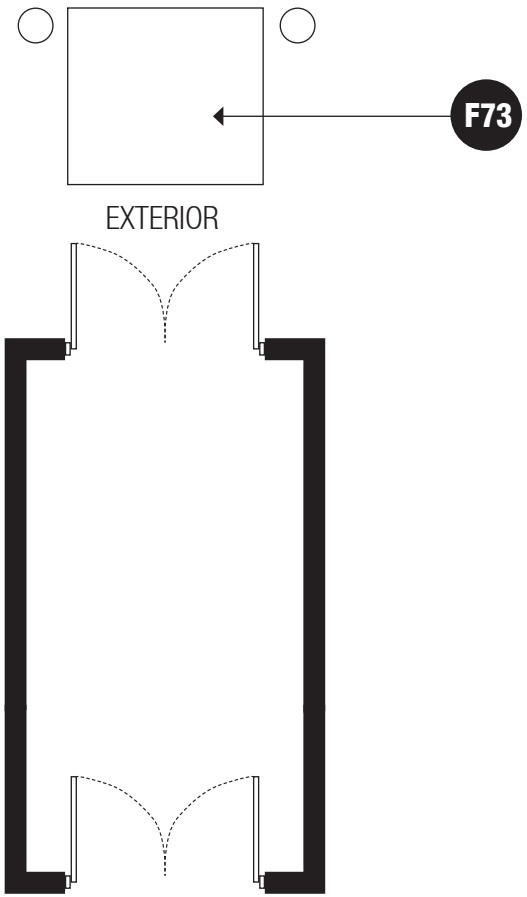
LEGEND ///

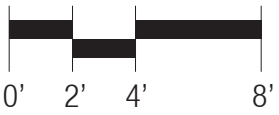
● **fixed equipment**

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.





E-BS /// **LOADING / RECEIVING AREA**

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

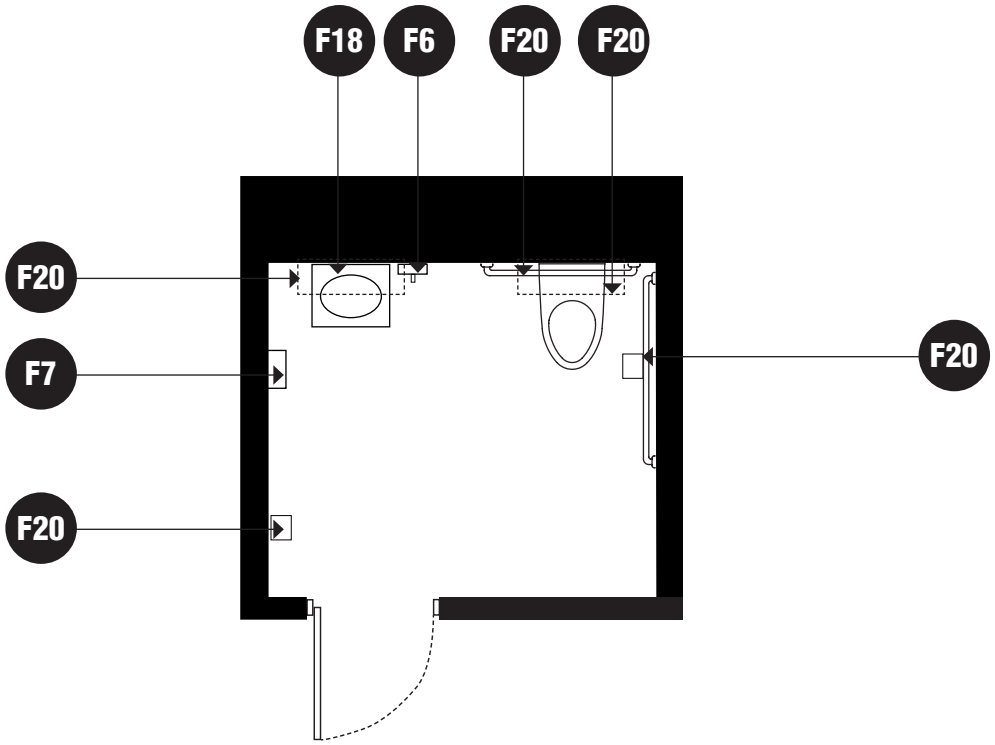
LEGEND ///

● **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.



E-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

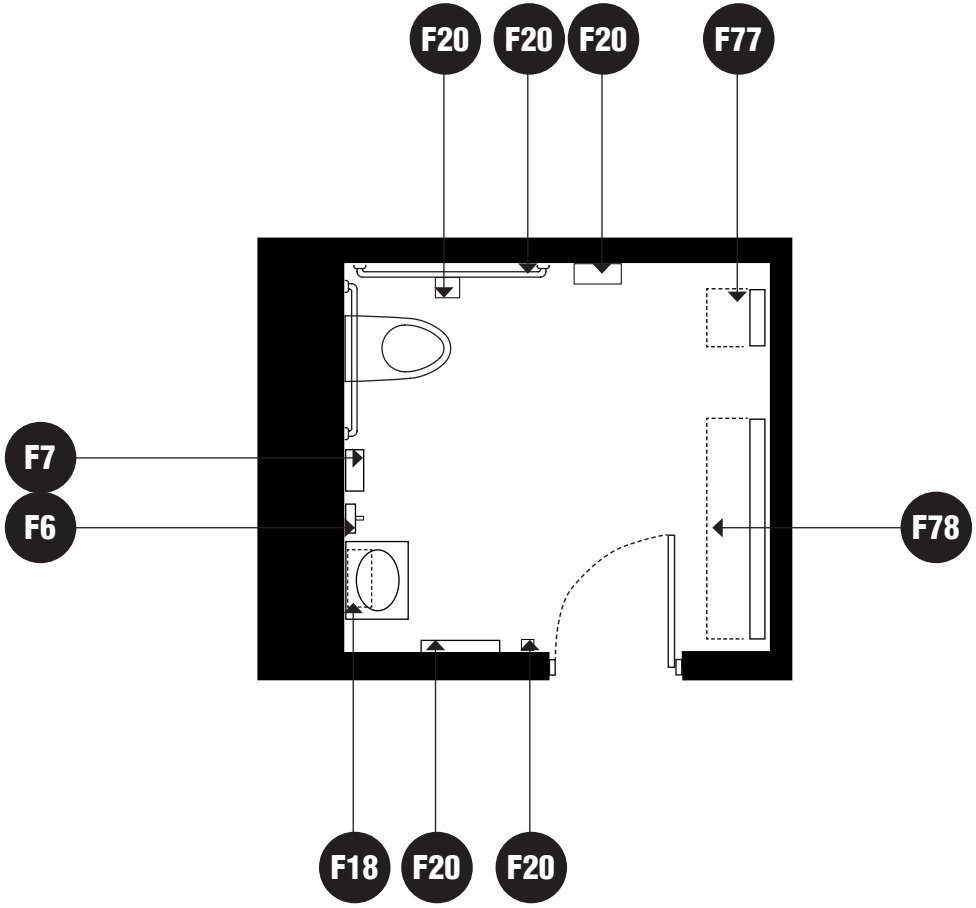
F7 towel dispenser

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.



E-BS /// **FAMILY RESTROOM**

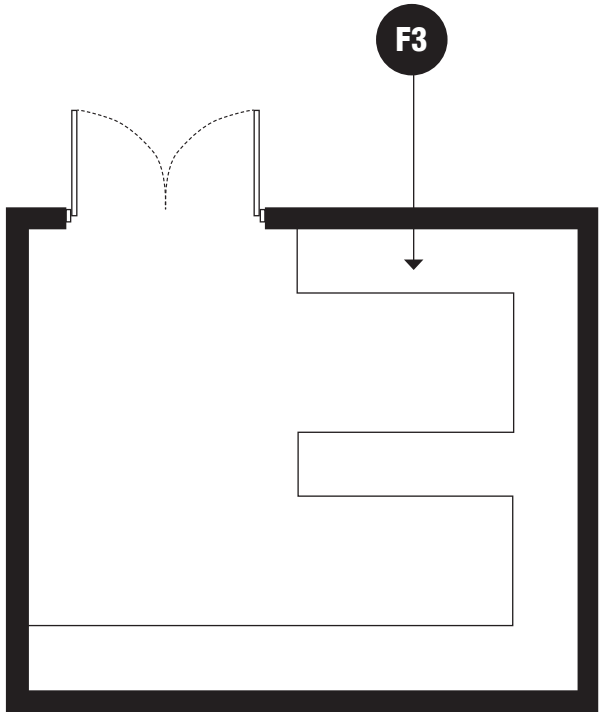
size
80 SF
capacity
2 people
spatial relationships
located in the administrative area, but accessible to all building occupants
program activities
personal, health, and handicap needs for all building occupants
environmental considerations
uniform lighting
environmental sound control -
wall minimum STC 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

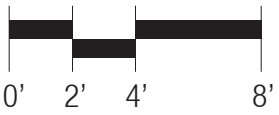
LEGEND ///

● **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.





E-BS /// **COMPUTER STORAGE**

Space to be determined by design professional.

size

250-400 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

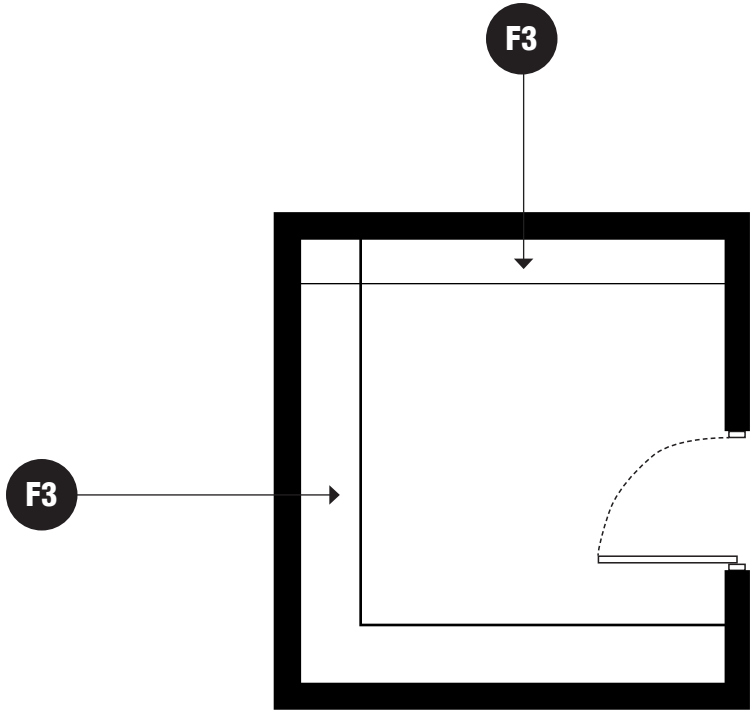
LEGEND ///

● **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.



E-BS /// **TECHNOLOGY STORAGE**

size
100 SF
capacity
n/a
ancillary spaces
computer storage
spatial relationships
adjacent and access to technology storage
program activities
materials storage
environmental considerations
uniform lighting
security of door
finishes
flooring:
resilient tile flooring
base:
resilient base
ceiling:
exposed structure
walls:
painted concrete masonry units
fire suppression
fire supression system
HVAC
supply/return air system

electrical
single level switching
fluorescent lighting
duplex receptacles
electronic safety and security
life safety devices per code

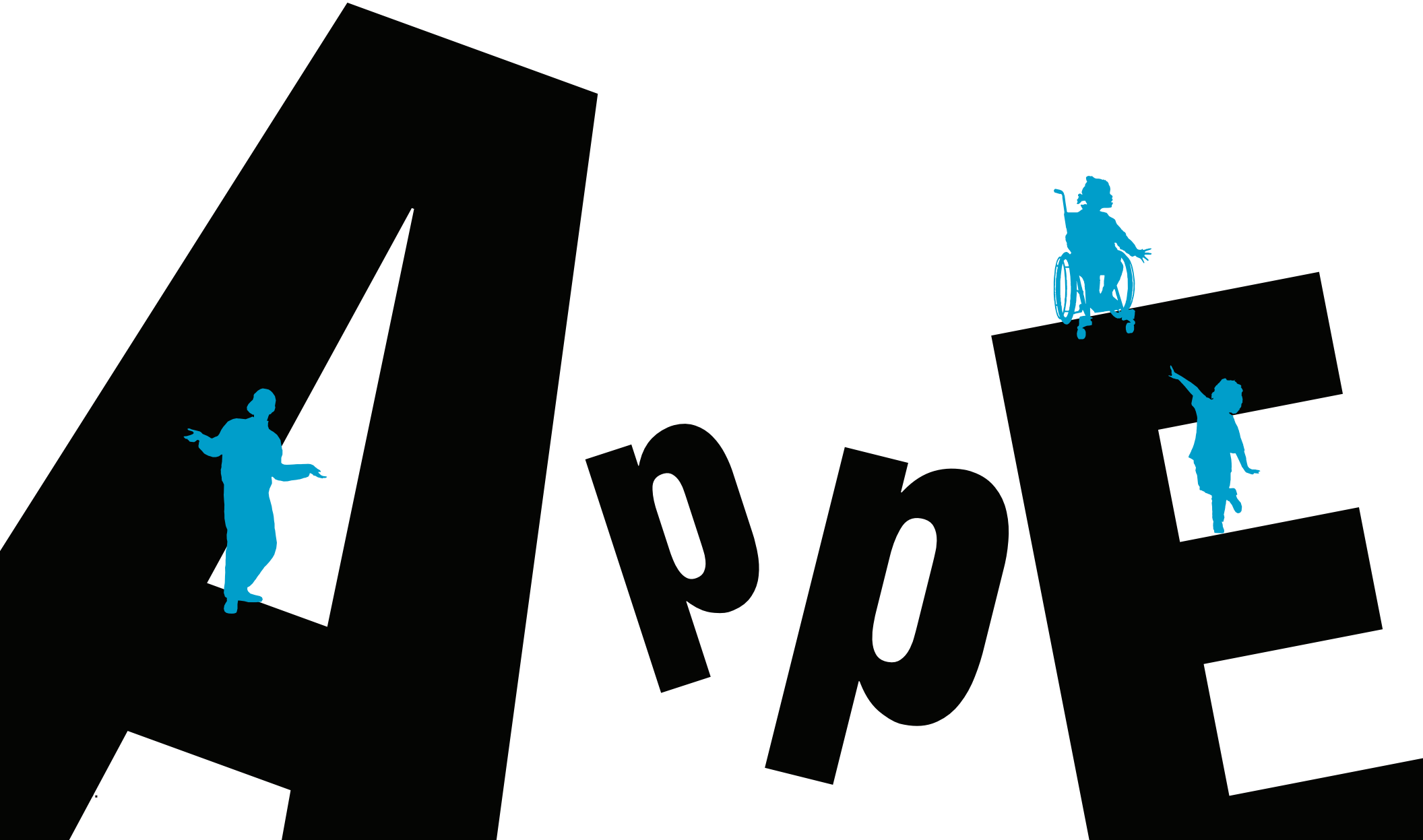
LEGEND ///

● **fixed equipment**

F3 wall shelving (12” and 18” deep)

NOTES //

1. Finishes/features: refer to _____ for specification references.
2. Loose furnishings and features shown represent one of many possible solutions.


A
ppl
E


Naix

space and tag list

● 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
F27 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
motorized projection screen
F49 lockers
F50 toilet partitions
F51 fire extinguisher
F52 recessed floor mats
F53 digital boards
F54 locker bench
F55 folding utility shelf
F56 30" itinerant/aid station
F57 kitchenette
F58 changing table
F59 shower curtain/rod
F62 sound enhancement system
F63 towel hook
F64 filtered water fountain with bubbler and gooseneck bottle filler
F65 recycling center
F66 oven
F67 convection steamer
F68 range
F69 ware washing machine
F70 mop rack
F71 tack board
F72 3d displays
F73 loading dock levelers and dock bumpers
F74 coat hook-bathroom accessory
F75 sanitary napkin dispenser

F76 sanitary napkin disposal
F77 mounted child seat
F78 child changing station
F79 tackable surface
F80 electrical panel

⬡ loose furnishings

L1 stackable/nesting chairs
L2 stackable/nesting tables
L3 teacher work surface with mobile
L4 storage and two chairs
L5 four drawer lateral file cabinet
three bound rugs-group area, block area, and reading area
L6 mobile shelving
L7 teacher's lockable wardrobe
L8 tall cabinet with shelves
L9 learning center sets - sand/water table, kitchen, art cart, etc.
L10 student desks
L11 adjustable height bookshelves
L12 admin workstation and chair
L13 small table
L14 computer station
L15 task chair
L16 bound group rug
L17 printer station
L18 lounge chairs
L19 conference table
L20 executive chairs
L21 work table
L22 safe
L23 computer desk return
L24 mobile exam table
L25 nurse stool
L26 refrigerator
L27 health suite cot
L28 folding chairs
L29 choral risers
L30 mobile a/v cabinet
L31 posture chair
L32 conductor's podium and stool
L33 upright piano
L34 tumbling mats
L35 ball bins
L36 flammables storage
L37 dance barres
L38 play equipment
L39 cafeteria tables
L40 point of sale station
L41 chair dollies
L42 drying rack
L43 flat storage
L44 kiln
L45 greenware shelving
L46 step ladder
L47 music stand
L48 stainless steel mobile preparation tables
L49 wastebasket
L50 small conference table
L51 laptop charging cart
L52 telecommunications rack
L53 portable sound system
L54 bleachers
L55 milk coolers

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

energy / environmental criteria

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.

	DESIGN PARAMETERS	PARAMETER NOTES
LIGHTING QUALITY // improving natural and artificial lighting in classrooms		
1 Controlled Natural Lighting (Glazing)	10-12% of floor SF	LEED and Green Globe
2 Artificial Light	35-50 foot candles	IES
ENVIRONMENTAL AIR QUALITY // 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	EPA 2000 and ASHRAE 55-04
Summer Temperature	74 - 80 degrees	
2 Humidity	30 - 60% relative humidity	EPA 2000 and ASHRAE 55-04
3 Air Changes	6 - 10 per hour	ASHRAE
4 Outdoor Air Ventilation	10 CFM per person	Plus 0.12 per SF
5 Air Filtration	MERV 13	LEED
	MERV 6 - 8	ASHRAE 52.2-2007 and 62.1-2007
6 Carbon Dioxide Levels	below 700 PPM above outdoor air	ASHRAE 62.1-2007
7 HVAC Background Noise Levels	RC(N) Mark II level of 37	ASHRAE Handbook Chapter 47

	DESIGN PARAMETERS	PARAMETER NOTES
ACOUSTICS // limiting reverberation and background noise and improving sound isolation		
1 Reverberation	0.6 per second	ANSI S12.60-2002
2 Background Noise	45 dBA	LEED
3 Sound Isolation	STC 45 between classrooms	
TECHNOLOGY // providing data connections for online learning resources, AV equipment, closed-circuit televisions, and a sound system with emergency capabilities		
1 Data / Computer Drops	at teacher workstations and wireless access points	
2 Audio / Video Equipment		
Interactive Whiteboard		
Document Cameras		
Sound Reinforcement	amplifier, microphone, speakers	
3 Clock	synchronized with bell system	
4 Sound System and Emergency Call Box		
Ceiling or Wall Speaker	class change bells, emergency announcements	
5 CCTV Camera		
Security		
WebX Conferencing		
Distance Learning		

energy / environmental design

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 cafeteria
    - Website with environmental features of the school
    - Use only vacancy sensors for classrooms, cafeteria etc. to turn off (not on) lighting
    - Daylight sensors and dimming in larger areas (cafeteria, multi-purpose etc.)
4. Vehicular and Pedestrian Traffic
    - Provide sufficient, covered and secures 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
    - Use aesthetically pleasing fence around perimeter of the building
    - Reference the Alexandria City Landscaping Guidelines when providing landscaping.

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 adhere to BICSI (Building Industry Consulting Services International) or RCDD (Registered Communications Distribution Designer) standards, all electrical and data layouts are location dependent. Architects will 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.

1. Building Layout
   - Avoid blind spots, corners, and cubby holes
   - Maintainable lines of sight and use of opening to create transparency
   - Locate administrative and teacher preparation with good visual contact of major circulation areas (i.e., corridors, cafeteria, bus drop-off, parking)
   - Develop spatial relationships that naturally transition from one location to another
   - Locate toilets in close proximity to classrooms
   - Design toilets to balance the need for privacy with the ability to supervise
   - Locate areas likely to have significant community (after school) use close to parking and where these areas can be closed off from the rest of the building
2. Types of Building Materials
   - Use durable wall surfaces and maintainable flooring material that are easy to clean so graffiti and dirt can be removed
   - Incorporate pitched roofs which inhibit roof entry and are aesthetically pleasing
   - Operational part of windows on the ground floor should be in the upper portion to prevent access
   - Install non-slip floors and walk-off mats at point of entry
   - Use of interior glass to create a transparent environment within the school, and
     Colors, artificial lighting, and natural day lighting should be managed artfully to create an

1. Schneider, Tod (September 2002). *Guide 4: Ensuring Quality School Facilities and Security Technologies: Safe and Secure: Guides to Creating Safer Schools*. Northwest Regional Educational Laboratory,

environment that is aesthetically pleasing in order to support student and faculty pride in the building.

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
   - Provide security lighting around building and parking lots with photocell timer, motion sensor and on/off capacity

community use

Community involvement in education and educational involvement in the community can take a variety of forms before, during, and after the school day. The following is a partial list of potential community uses:

Touring Groups
Speech/Debate Clubs
After School Youth Enrichment
Adult Education
Community Meetings
Mentoring Programs
Parent Involvement
School/Business Partnerships
Alternative Education Programs
Dance Studios
Community Athletics
Recreation Programs
Health Screening
Senior Citizens Programs
Intramural Sports Programs
Child Care (staff, students, community)
Voting
Emergency Shelter

Based on limitations established for the size of the facility and budget constraints, most of the community uses will need to focus on shared space -- space that is used primarily for school programs during the school day and community uses during non-school hours. Priorities need to be established at the local site level to determine future community activities that may be added in order to be incorporated in the overall master plan.

Even within these constraints, opportunities exist. The areas that have the greatest possibility for community usage include:

Performance/meeting area
Library/media center
Play fields
Computer labs
Conference rooms
Multipurpose room/gym
Cafeteria

Consideration should be given to furniture and equipment selection for shared uses by students, very young children, and adults. The facility and site should be configured and zoned to enhance parking and circulation, security, and energy conservation. Adequate signage to assist community members. Auxiliary storage needs to be made available for community programs

Collaboration and partnership require greater cooperation in the planning of schools and community facilities. It is important for the school division, governmental agencies, and corporate partnerships to participate collaboratively in the planning of schools.

Planning for future schools should include joint use considerations at the beginning of the process. School divisions and governmental agencies are beginning to

realize that cooperation is needed, especially considering the ever-shrinking budgets and meeting the diverse needs of the community. There are potential opportunities in jointly developing parks, libraries, and one-stop shopping centers for human services. Partnerships and joint ventures should be considered and are encouraged by the Board of Education.

PROTOTYPE TABLE

	PRE-K	KINDERGARTEN	1ST	2ND	3RD	4TH	5TH	SELF - CONTAINED	TOTAL
460 Students									
Number of Classrooms	3	3	3	3	3	3	3	0	21
Capacity	18	20	22	22	24	24	24	10	
Total	54	60	66	66	72	72	72	0	462
850 Students									
Number of Classrooms	6	6	6	6	5	5	5	0	39
Capacity	18	20	22	22	24	24	24	10	
Total	108	120	132	132	132	120	120	0	852