2016

DENVER PUBLIC SCHOOLS

EDUCATIONAL SPECIFICATIONS

EARLY CHILDHOOD EDUCATION – 12TH GRADE

DENVER PUBLIC SCHOOLS

Discover a World of Opportunity™

09.01.2016

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INTRODUCTION

Denver Public Schools recognizes the important role of the physical environment in accomplishing our vision of a DPS classroom: **Joyful. Rigorous. Personalized. The vision that every child will succeed.** We are committed to the principle that excellence in education is inseparable from excellence in the physical learning environment. These Educational Specifications are intended to support the DPS vision and mission by defining the physical environments necessary to deliver the instructional program.

These Educational Specifications were prepared by the DPS Office of Facility Planning and are based on historical practices, updated national educational facility trends, standards from other school districts, input from staff, discussions with instructional and facility management personnel, and reviews with all major DPS administrative and support departments. This document is a tool to communicate basic facility design guidelines to design professionals, staff, community, and facility users. These Educational Specifications establish general goals and parameters, as well as specific quantities, sizes, and types of interior and exterior spaces for DPS school facilities.

The Educational Specifications apply to schools for Early Childhood Education (ECE) - Kindergarten (K), Elementary (ECE-5), ECE-8, Middle School (6-8), Grades 6-12, and High School (9-12) students and are the model guidelines for planning and designing new buildings and for remodeling and modernizing existing schools. A Space Program for each school model is contained in the Appendix. Each Space Program contains a set of benchmarks that include student capacity as well as targets for quantities and sizes of individual spaces and the size of the school as a whole. DPS recognizes that there are many schools in the District that are hybrids of these school models. Appropriate adjustments will be necessary for schools intended to have larger or smaller student populations, specialized educational programs, multi-school campuses, and similar unique characteristics. Additionally, the DPS values that encourage equity as well as school autonomy and innovation will play heavily into the application of these guidelines. Creative interpretation of these Educational Specifications is the appropriate response to designing all DPS schools.

Technical requirements and specifications are contained in a separate set of documents, the DPS Design and Construction Standards, which contain quality and product standards for DPS schools.

These Educational Specifications do not attempt to identify funding sources or specific project resources for provision of furnishings, fixtures and equipment (FF&E) or any other facility systems or components. These responsibilities must be determined by individual project teams on a project-by-project basis. A separate FF&E matrix is available from the Facility Planner for use as a design tool.

Where conflicts are found between the Educational Specifications and the DPS Design and Construction Standards, the DPS Planner and Project Manager shall be consulted for resolution. Where variances to the Educational Specifications are requested, the DPS Planner shall be consulted for resolution.

DPS VISION, MISSION, BELIEFS, GUIDING PRINCIPLES

JOYFUL. RIGOROUS. PERSONALIZED: OUR VISION OF A DPS CLASSROOM

"To bring that vision to life, to become the nation's first large urban district where every child truly does succeed, we know we have to create a world-class learning experience in every classroom. And we know that means some important changes in the traditional roles of teacher and student."

So, what do joyful, rigorous and personalized classrooms look like?

In our vision, our DPS classrooms:

- Excite students to explore, think deeply, solve problems, create and have fun.
- Engage students in active discussions, rich debates and deep learning about math, literature, science, social studies, the arts and other compelling areas of study.
- Individualize content and instruction to meet the needs of each learner.
- Celebrate the diversity of our students.
- Ensure every student is known and appreciated for the gifts she/he brings.
- Empower students to own their learning and challenge them to achieve goals they never dreamed possible.
- Ignite a passion for learning.

THE DENVER PLAN 2020

The Denver Plan 2020 is Denver Public Schools' five-year strategic plan, with the vision that *Every Child Succeeds.* The following graphic illustrates the core of the Denver Plan 2020.

GOALS OF THE DENVER PLAN 2020

The Denver Plan 2020 commits DPS to five specific goals designed to close academic achievement gaps and prepare all students for success in college and careers.

GOAL #1: GREAT SCHOOLS IN EVERY NEIGHBORHOOD

By 2020, 80% of DPS students will attend a high-performing school, measured by region using the district's school performance framework.

GOAL #2: A FOUNDATION FOR SUCCESS IN SCHOOL

By 2020, 80% of DPS third grade students will be at or above grade level in reading and writing, lectura and escritura.

GOAL #3: READY FOR COLLEGE AND CAREER

By 2020, the four-year graduation rate for students who start with DPS in ninth grade will increase to 90%. We will also double the number of students who graduate college and career-ready, as measured by the increasing rigor of the state standard.

GOAL #4: SUPPORT FOR THE WHOLE CHILD

DPS is committed to creating an equitable and inclusive environment that fosters the growth of the Whole Child. In 2014-15, DPS staff, parents, students, community partners and city agencies came together to define support for the whole child and recommend a plan to measure this goal and track progress. Collaborating departments are working to provide resources to schools in support of the Whole Child.

GOAL #5: CLOSE THE OPPORTUNITY GAP

By 2020, the graduation rate for African American and Latino students will increase by 25 percentage points. Reading and writing proficiency for third-grade African American and Latino students will increase by 25 percentage points.

SHARED CORE VALUES

The shared DPS core values are the foundation for everything we do together in educating our kids.

STEPS TO SUCCESS – THE DPS ACADEMIC STRATEGIC PLAN

The DPS Academic Strategic Plan, entitled STEPS to SUCCESS and created by the Academic and Innovation Office (AIO) and the Chief Schools Office (CSO) with input from hundreds of teachers and school leaders, focuses squarely on achieving the goals of the Denver Plan 2020 and realizing our vision of Every Child Succeeds. The plan is inspired by and focused on bringing to life the profile of a successful Denver Public Schools (DPS) graduate. With this graduate in mind, initiatives have been identified to create a world-class learning experience in every DPS classroom that supports every student's journey to becoming a successful graduate. The plan builds on our Shared Core Values and beliefs and directly supports the implementation of the strategic priorities in the Denver Plan 2020.

The ever-changing demands of a knowledge-intensive, globally connected world and the adoption of new college and career-readiness learning standards present new and exciting opportunities for students and educators. However, to capitalize on these opportunities, both students and educators will need to build their capacity; they will need to acquire new knowledge, skills and habits to succeed. This plan presents a limited number of high-impact initiatives to build this capacity, and it describes the shifts required by educators, both in schools and on central office support teams, to ensure that all students benefit from an intellectually rich and culturally relevant learning experience. In doing so, the plan takes direct aim at closing persistent income, linguistic and race-based opportunity and achievement gaps that have long plagued urban public education and DPS.

In the face of increased demands on students and educators, we are also poised to walk through the gates of a rare opportunity: With talented and committed people, a community that is culturally and linguistically diverse, a strong foundation of success upon which to build, and a hunger to deliver on the equity and excellence agenda of the Denver Plan 2020, a small number of bold steps, executed with precision, will produce unprecedented results for students. This three-year plan lays out these bold steps while establishing clear priorities that require DPS to focus deeply on and become exceptionally good at a few high-leverage practices. When successfully implemented, this plan will usher DPS through the gates of this rare opportunity and it will become the first large urban district in the country to fulfill the promise of public education by definitively proving that every child can succeed.

Key components of the Academic Strategic Plan:

- Strengthening the Instructional Core
- Standards
- Assessment and Data Driven Instruction
- Curricular Resources
- **Personalized Learning**
- Delivering High Quality Professional Learning
- Innovating for Success
- Executing with Excellence

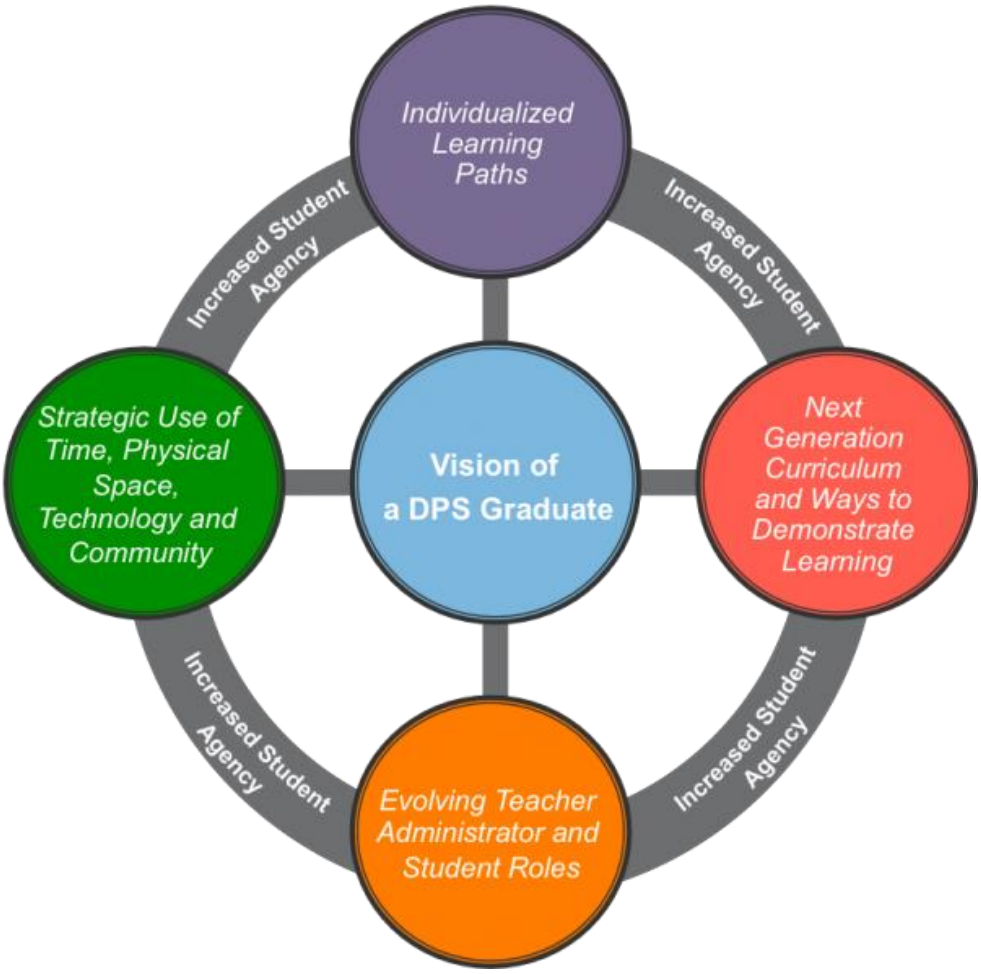
While all of these components help shape the physical environment of our schools, the movement toward Personalized Learning, as summarized on the following page, presents many rich opportunities for shaping DPS schools.

PERSONALIZED LEARNING FRAMEWORK

DPS is a richly diverse district. Every day, students bring different languages, cultures, learning styles and interests to school. To embrace and leverage this diversity, DPS educators and students will implement personalized models of learning that strengthen engagement, deepen learning and accelerate achievement.

Personalized learning strengthens other components of the instructional core, resulting in learning experiences that prepare all students to meet the rigor of new college and career readiness standards. In doing this, personalized learning cultivates a lifetime love of learning by helping students understand how they learn best (helping students learn how to learn) and providing them voice and choice to shape their educational experience. By using personalized learning tools and practices to facilitate self-directed, self-paced, and collaborative learning, educators are better equipped to understand and meet the unique needs of each of the students in their care.

The District's framework for personalized learning is reflected in the illustration below and is intended to clarify common elements and expectations while allowing educators to explore, adapt and apply personalized learning tools and practices to their own environments.



DEPARTMENT OF FACILITY MANAGEMENT
GUIDING PRINCIPLES FOR 21ST CENTURY LEARNING ENVIRONMENTS

[Adopted 2011]

Overview

There is a growing body of evidence linking smart school design with positive educational outcomes. While facilities cannot "be the change" in and of themselves, they play a key role in supporting educational excellence. Denver Public Schools (DPS) will become a national leader in the construction and modernization of school facilities that support 21st century learning environments. The following Guiding Principles for 21st Century Learning Environments are intended to help direct the planning of new and renovated school facilities.

> "Operating an urban school district in the 21st century based on a century-old configuration will result in the failure for too many children. It is long past time to admit this. As a district and a community, we must gather strength and have the courage to make change, knowing that the changes we face are much, much less perilous than the status quo."
>
> Denver Public Schools Board of Education, April 2007, p. 9 Denver Plan 2010

Learner-Centered Environments Engage Every Student

DPS will offer inspirational learning environments that allow for varied types and sizes of learner-centered engagements. All cultural backgrounds and experiences are respected, valued, and connected to the curriculum. Resources are equitably distributed to ensure success for every student. Purposeful teaching is responsive and challenges each student to meet or exceed District and state standards and be prepared for post-secondary success.

Partnerships Leverage Positive Student Outcomes

Designing and developing inclusive and welcoming settings involves all community stakeholders. Collectively, we will provide opportunities, experiences, and relationships for all learners to feel known and valued. Students become successful and contributing members of society through real-life learning experiences. Experiences with collaborative partnerships (public, private and non-profit organizations) will expand the learning day and include shared use of community assets to support the whole child.

Creative and Collaborative Experiences *Foster 21st Century Learning*

Hands-on, interest-based, creative and collaborative experiences allow all students and staff to use their imaginations and to experience success on a daily basis. Interdependent thought and interdisciplinary work are supported by spaces that nurture students' bodies, minds and spirits. Children deserve beautiful schools. Aesthetics matter.

Flexibility and Adaptability *are Keys to our Success*

Our world is rapidly changing, as are the ways we educate our children. DPS will develop transformative learning environments and facilities to support changing learning cultures, programs, student populations, and instructional delivery methods. The design of learning spaces will encourage instructors to achieve their maximum potential and provide learners the greatest opportunities for success.

Sustainability *is Vital to Environmental Stewardship*

Everyone in our community is a steward of the environment and has a responsibility to provide a high level of sustainable performance in our buildings. By conserving natural resources we will minimize our impact and reduce operating costs.

PHILOSOPHY OF EARLY CHILDHOOD EDUCATION (ECE-K)

Vision
In Denver Public Schools, young learners are engaged in comprehensive rigorous early education, creating the foundation necessary to be contributing members of the community.

Mission
It is the mission of the DPS Early Education Department to ensure the delivery of an integrated, comprehensive, high quality early education in every classroom.

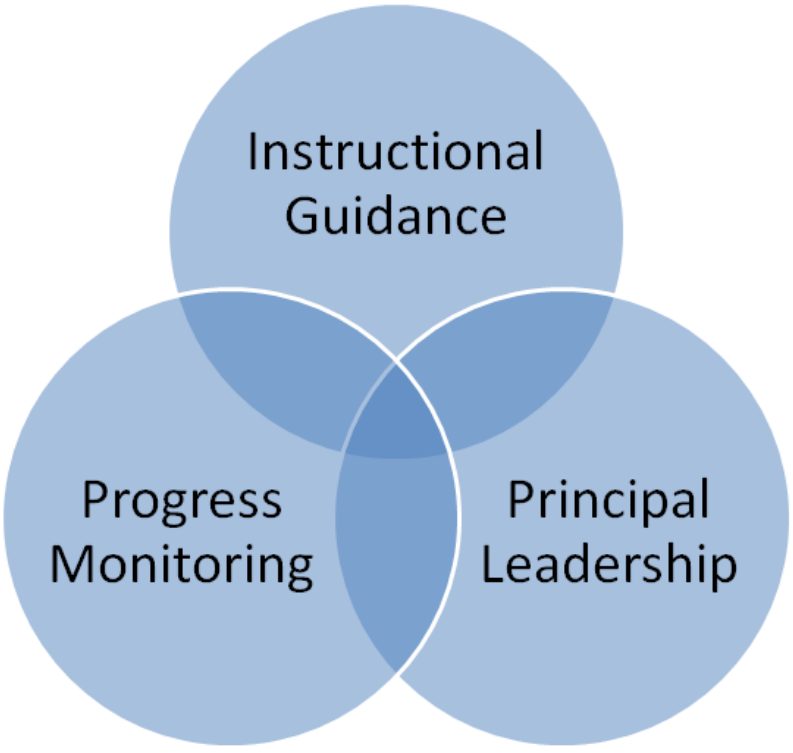
Core Beliefs
DPS early education is guided by the following core beliefs:

- Young children need time to grow and develop through play and experience.
- Supporting families in their roles as nurturers and first teachers leads to greater academic achievement for their children and more parental involvement in DPS and the community.
- Rigorous early learning requires that instructional activities are planned with intention and classroom environments and experiences are designed to meet specific learning outcomes.
- The building blocks of rigorous early learning programs include children's development of cognitive processes, receptive and expressive language, fine and gross motor skills, positive behaviors and interactions, and self-regulation. This creates the foundation of all learning.
- The development of young learners requires that teachers in early learning programs continually differentiate instruction to support advancement of the developmental continuum.
- Early learning standards link content and desired outcomes to specific ages or developmental periods.
- A comprehensive, high quality early education continuum, birth through age eight, *closes the achievement gap.*

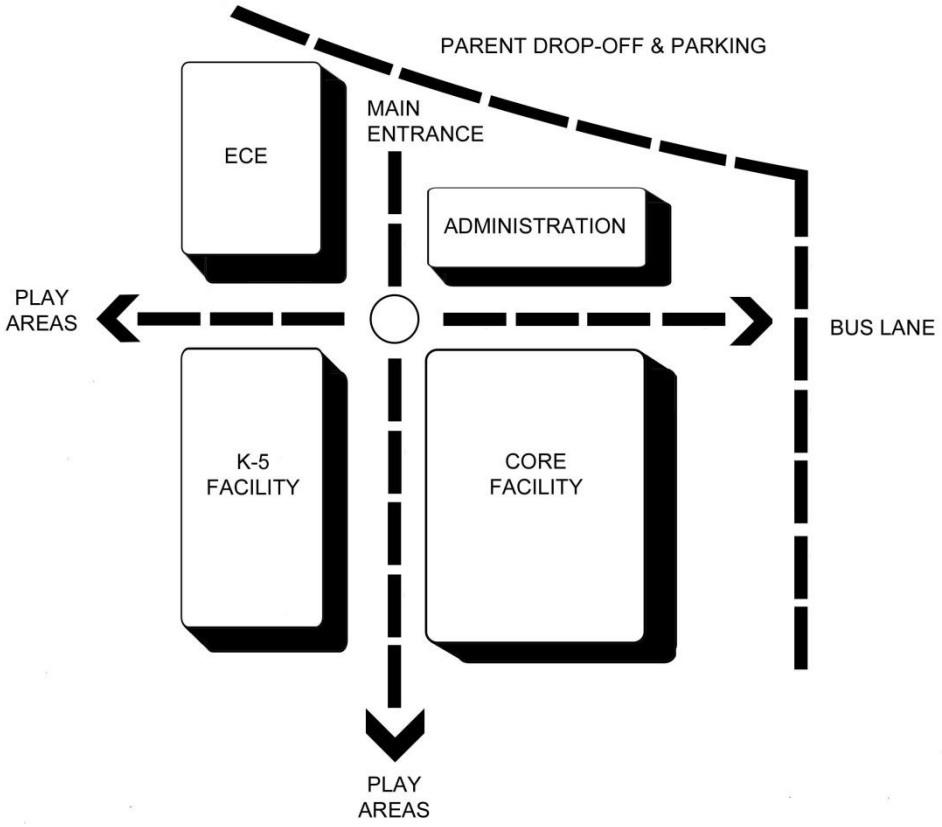
PHILOSOPHY OF ELEMENTARY SCHOOL EDUCATION (ECE-5)

All Denver elementary schools work toward having each child On Time, On Track, and On a Mission. The DPS Elementary Education Division is committed to the Denver Plan 2020 and the vision that all students will learn at grade level or higher and graduate from high school ready for college or career. With an outstanding teaching staff, dedicated support staff, and committed principals and assistant principals, the Elementary Education Division maintains the highest standards for classroom instruction and student learning.

A child's educational foundation starts at home and is reinforced during his or her elementary school years. The three prime priorities for DPS elementary education are illustrated below.



ELEMENTARY SCHOOL EDUCATION (ECE-5) ADJACENCY DIAGRAM



PHILOSOPHY OF ECE-8 SCHOOL EDUCATION

Denver Public Schools believes parental and community support and involvement within schools is critical to the success of students in the District and the delivery of the educational program, that increased parental and community support is fostered and enhanced by giving parents the opportunity for their children to attend school close to home, the ability to select from among the numerous educational offerings of the District, and to participate in site-based governance. For this reason, Denver Public Schools has adopted an Alternative Grade Level Organization in Neighborhood Schools Policy. This policy allows for neighborhoods and communities to develop ECE-8 (Early Childhood Education – 8th Grade) school configurations.

The ECE-8 grade configuration is understood to create a more intimate environment for students, with smaller class sizes and teacher to student ratios that are lower than the ratios in the traditional middle school model. Families become more vested in participation at the E-8 school due to the sense of being part of one school community for 10 years. Siblings are able to remain together longer, attending at the same location. Mentoring between the upper and lower grades benefits the entire school, and students gain leadership skills learned from moving up the grades. The abrupt transition from 5th to 6th grade is eliminated, which creates a more appropriate transition at the 9th grade. By this time the child has figured out his strengths and focuses and is able to make a better high school choice. Less time is spent in the hall transitioning between classes and more time is spent in the classroom.

ECE-8 Grade Configuration:

Pre-Primary and Primary (ECE through Grade 2): Traditional Program

Elementary (Grades 3, 4, and 5): Traditional Program

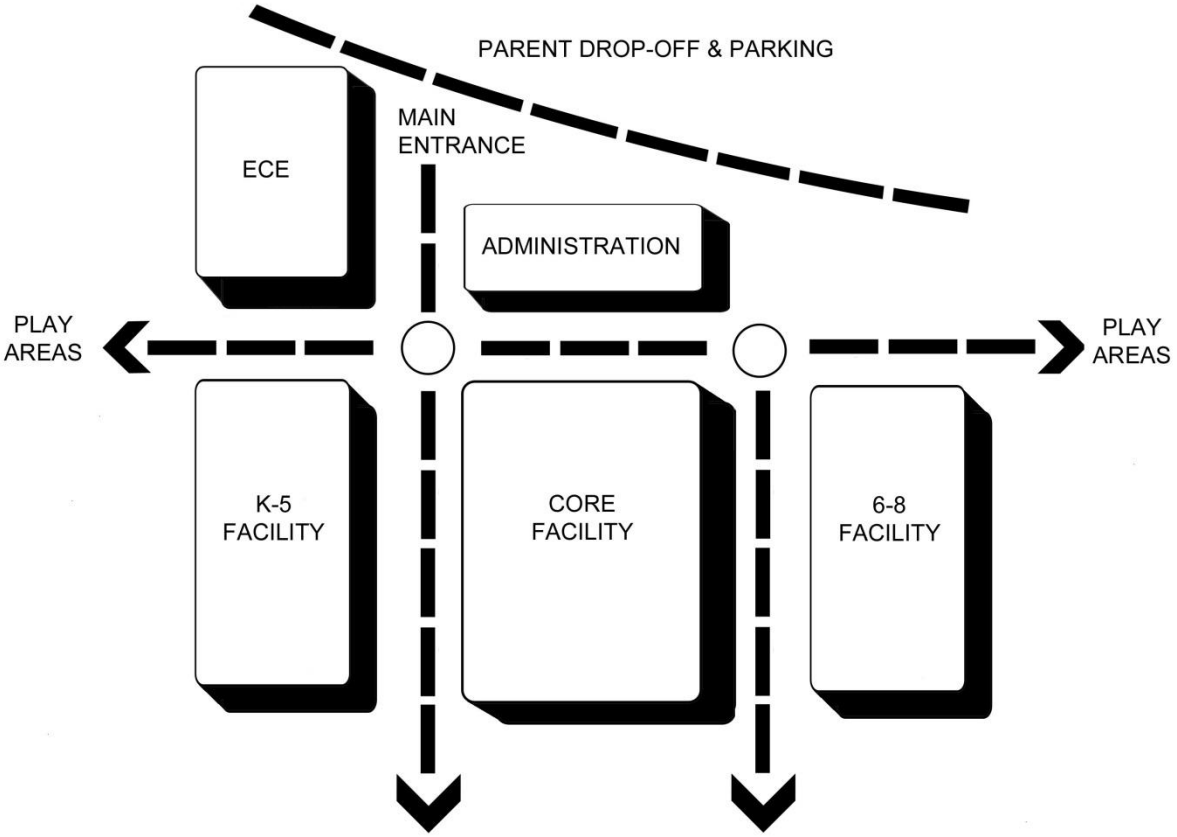
Middle Grades (6, 7, and 8): Small Learning Communities (Core Team Instructional)

The philosophy of grades 6 - 8 education is to create teams of teachers and students who work together to achieve academic and personal goals for students. The design of Core Team Instructional Suites enhances those goals by creating smaller, more personalized learning environments which support the team mission.

An interdisciplinary team of four teachers provides instruction in:

a. Language Arts
b. Social Studies
c. Mathematics
d. Science

ECE-8 SCHOOL EDUCATION ADJACENCY DIAGRAM



PHILOSOPHY OF MIDDLE SCHOOL EDUCATION

DPS strives to ensure that each student who completes a DPS middle school will have gained the necessary basic and critical thinking skills to be successful in high school.

The middle school philosophy in the paragraphs below was most recently updated in the late 1990s. The basic philosophy remains relevant in 2016; however, it must be acknowledged that the current direction of the District supports middle schools where the approach, student capacity, and number of teachers vary widely.

A comprehensive DPS middle school has teams of teachers who work with identified teams of students for their core academic subjects. The teams each have four classrooms for the core subjects of math, science, social studies and language arts, plus an additional classroom for elective courses. A team should have no more than 125 students. Teams also may consist of two, three or five core subject teachers, with student numbers adjusted appropriately. Teams with other than four core subject teachers also provide instruction in the four core areas.

Reading instruction is an integral part of middle school instruction and is provided by each of the core teachers. A teacher with specialized training in teaching reading is often attached to each core team. A reading specialist is recommended to be on the faculty to work with students and conduct staff development sessions for the teachers in the area of reading in the content area as well as reading strategies that will aid in improved achievement.

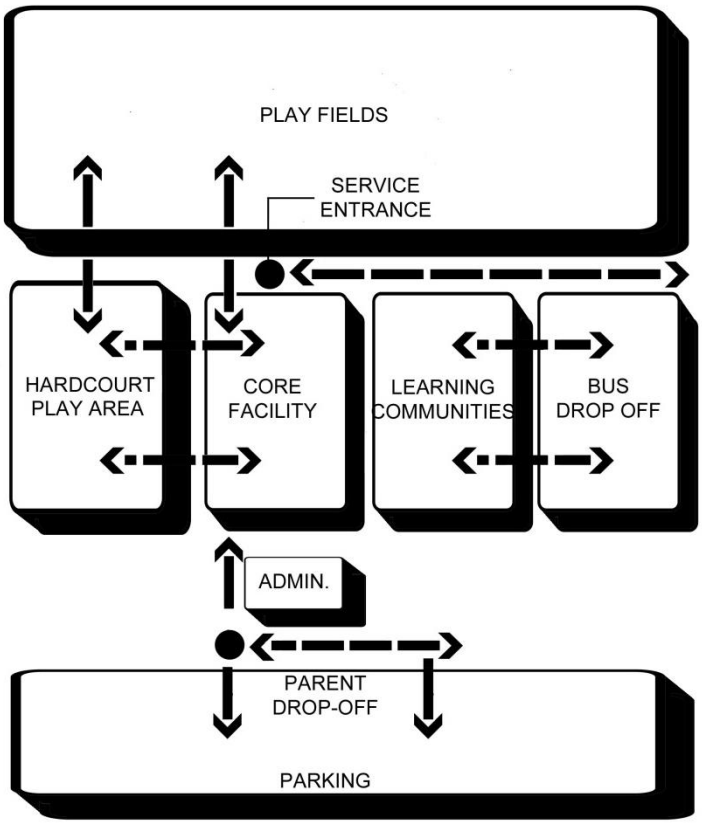
Students in the sixth and seventh grade should have a physical education class on a daily basis, and they should have the opportunity to participate in two exploratory classes every day. By the end of the seventh grade, students should have had two experiences in expressive arts and two experiences in practical arts. The expressive classes are offered on a nine- or twelve-week basis. Eighth grade students are able to select semester-long classes from any of the above offerings. Students who wish to take instrumental music typically forgo experiences in the expressive arts, as instruction in this area is year-long.

Counseling services are available for students and provided by a teacher with appropriate State certification in counseling. Student advisors are on staff to work with the habitually disruptive students and are a necessary component of the middle school.

The middle school is:

- Student centered
- Belonging to a team
- Teachers planning together to meet the needs of students
- Music, art, physical education, business/computer/technology education, consumer and family studies, foreign language, industrial education, and health education, taught as exploratory and performance courses
- The opportunity to continue working on basic skills
- Flexible scheduling by teachers for individual students, where students are grouped and regrouped based on their needs
- Learning the same basic skills in different subjects
- Curriculum specifically designed to meet the needs of this age group
- Using a variety of teaching methods, strategies, and materials
- Teachers specially trained to meet the needs of this age group

MIDDLE SCHOOL EDUCATION ADJACENCY DIAGRAM



PHILOSOPHY OF 6-12 SCHOOL EDUCATION

DPS strives to ensure that all students who complete DPS middle and high school programs will have gained the necessary basic and critical thinking skills to be successful. The District recognizes the occasional need for co-locating middle school and high school programs within a shared facility.

Middle school and high school programs have been merged in order to meet unique educational needs on a number of DPS campuses.

PHILOSOPHY OF HIGH SCHOOL EDUCATION

Denver Public Schools strives to ensure that all students who graduate from DPS high schools will have gained the necessary basic and critical thinking skills to be fully prepared for postsecondary success.

High school level facilities are assets to the Denver community that should have a minimum life span of 100 years. These facilities should be planned and designed to accommodate fluctuations in demographics, populations, administrations, pedagogy, and technology. DPS high schools are not to be custom designed to fit any particular trend or program. Key to this flexibility is defining and providing the appropriate core facilities and conditions to ensure that 9-12 grade administrators and instructors are as creative and effective as possible.

A DPS high school is comprised of core facilities and individual learning communities. A high school campus may contain one high school or multiple high schools on a shared campus. This core facility concept allows for shared campus programs of different philosophies and age groups. Campus size should be determined on the basis of projected need.

Core facilities contain student services, laboratory and project based learning spaces, athletic spaces, dining and gathering spaces, and research and development spaces. Included in those spaces are science, industrial technology, art, music, commons, and the library. Core facilities should be designed in a fashion to expand as necessary to accommodate any increase in student population above the original size.

Individual learning communities of a maximum 450 students are established to create intimate instructor to student relationships. Smaller learning communities also enable instructors to provide student centered personalized learning. The learning communities provide spaces to allow for varied student engagement scenarios and activities.

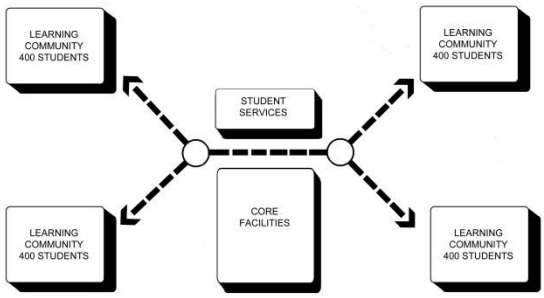
Learning communities also allow for co-location of multiple school programs in one high school facility. The design of the school should be adaptable to accommodate separate entries for co-located programs. This could be done as a campus of separate buildings or strategic locations of the communities in one central facility. Example diagrams are shown below.

The high school is:

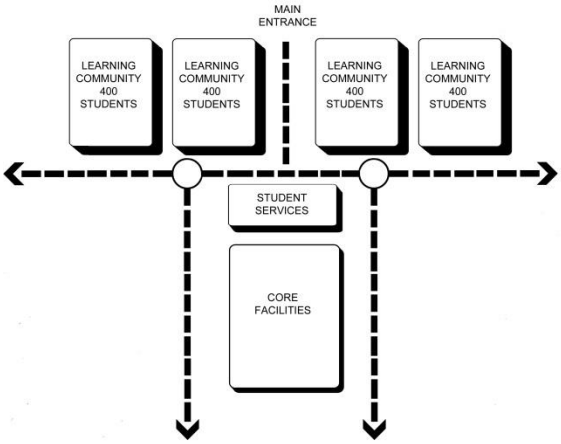
- Student centered
- Belonging to a team
- A faculty planning together to meet the needs of students
- The opportunity to continue working on basic and critical thinking skills
- Flexible scheduling by teachers for individual students, where students are grouped and regrouped based on their needs
- Learning the same basic skills in different subjects
- Curriculum specifically designed to meet the needs of this age group
- Using a variety of teaching methods, strategies, and materials
- Teachers specially trained to meet the needs of this age group

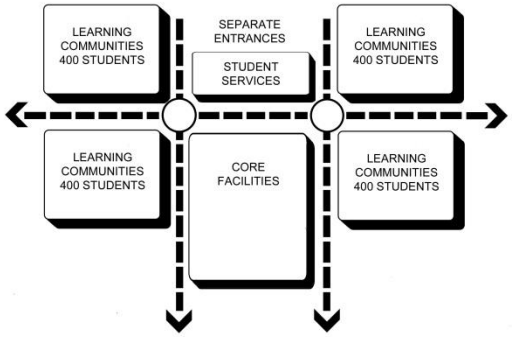
HIGH SCHOOL EDUCATION (9-12) ADJACENCY DIAGRAM

CAMPUS



ADJACENCY





PHILOSOPHY OF SHARED CAMPUSES

The Denver Public Schools Board of Education recognizes the need for co-locating schools within a common facility, thereby creating Shared Campuses.

In DPS we have converted single school campuses to shared campuses as well as built new facilities as shared campuses. In both of these cases, sharing campuses can be a cost saving measure to help defray the very large costs of underutilized space in our existing buildings and share the expensive square footage of common spaces between multiple schools

Beyond cost savings we believe shared campuses promote choices for students and families, allows schools to right size as smaller schools without the pressure of serving a large boundary alone, and create synergies on campus that can allow schools to be more successful together than alone.

Shared Campus Guiding Principles:

- We believe that all staff are responsible for ensuring that all students on our campus feel safe and respected.
- We believe that, through collaboration a shared campus can bring positive benefits and thereby support every school's primary goal of educating every child;
- We believe it is to the mutual benefit of the Parties to contribute jointly to the administration of the Premises and to work cooperatively in its operations;
- We believe that each student, family and community member connected to a school should have appropriate access to the publicly owned building facility in which the schools are located;
- We believe there should be equitable access to educational spaces within a building facility based upon the number of students enrolled in a school and the mission of these schools; and
- We believe in the importance of the creation of individual school cultures as well as a joint campus culture.
- We believe that there are a set of best practices for shared campus partnerships that when followed will result in the greatest success for all students. These best practices include:
    - Establishing an atmosphere of cooperation, collaboration, and community on the campus between all teachers, students, and parents.
    - Establishing shared campus values and behavior expectations that all members of the community know and believe in.
    - Creating opportunities for teachers to interact and build relationships.
    - Creating opportunities for students to interact and build relationships.

GENERAL DESIGN PARAMETERS

DESCRIPTION AND PURPOSE

Design Parameters are intended to provide the design team, facility users, and District staff the minimum requirements for appropriately designed spaces, and to establish a consistent design quality across the District. Unless otherwise noted, all spaces within the facility shall conform to these guidelines. As with all guidelines, exceptions are made to accommodate certain program requirements or existing physical conditions and constraints. Through wise planning and design, the goal is to optimize the learning environment for students and staff as well as the capital investment necessary to accomplish these goals.

The following are minimum design considerations to meet the intent of these Educational Specifications. Refer to specific program items for exceptions to these design parameters

A. DESIGN PARAMETERS

1. **General Design Parameters:**
   a. The requirements of Authorities Having Jurisdiction, including adopted Building Codes shall take precedence over, and supersede the information in these educational specifications.
2. **Architectural and Engineering Considerations:**
   a. Denver Public Schools is widely recognized as one of the best urban school systems in the country. DPS is committed to making Denver a national leader in student achievement, high school graduation, college and career preparation, and college matriculation. To that end, the DPS Division of Facility Modernization will continue to incorporate quality design into its facilities. Within the Division of Facility Modernization, the offices of Facility Planning and Facility Design & Construction are considered to be in a support role to continue to encourage significant gains in student achievement through the design and construction of school facilities.
3. **General Application:**
   a. This document may be used to:
      (i) Evaluate a potential school site.
      (ii) Plan and design a new school.
      (iii) Plan and design a new room or suite of rooms within an existing school.
      (iv) Evaluate an existing school, area, or room.
      (v) Assess, identify, and quantify capital needs at existing facilities.
4. **Implementation of, and Variations to, the Educational Specifications:**
   a. All projects designed and constructed within DPS shall comply with these Educational Specifications, regardless of which department or organization is conducting, managing, designing, or contracting the work, and regardless of funding source.
   b. Deviations from the Educational Specifications shall be approved by the Office of Facility Planning.
   c. DPS recognizes that there may be circumstances within existing facilities where certain provisions of these Educational Specifications cannot be met without more modification or expense than would be feasible for any particular project.
5. **Building Area:**
   a. The total building area of each standard school model is noted in the Space Programs in the Appendices. These standards are to be used as benchmarks, to provide consistency and equity across the District.
   b. Enrollment demand and individual school program needs vary significantly. These factors are the primary drivers for determining facility size.
   c. Total building area per student can be used as a planning tool, to provide consistency and equity where possible across all schools, regardless of program. The following target ranges can be used for school planning.
      (i) ES: 100-120 SF/student
      (ii) E-8: 110-130 SF/student
      (iii) MS: 110-130 SF/student
      (iv) HS: 120-140 SF/student

6. **Student Capacity:**
   a. The student capacity of each standard school model is noted in the Appendices, in the Space Program for each model. This capacity is approximate and should be considered as a general guideline for school planning purposes.
   b. Actual student enrollment of existing schools is most readily obtained from the annual October Count report. For most schools, this information is available on the DPS website. Actual enrollment numbers can also be obtained from the Facility Planner or school staff.
   c. Capacities of existing schools can be studied by using a method developed by the DPS Office of Facility Planning. This method produces student capacities ranging from optimal to a theoretical maximum. The Facility Planner can employ this method on any project.
   d. Individual classroom capacity:
      (i) General ECE classrooms: Use 16 students per classroom to plan overall school capacity.
      (ii) General Grade K-12 classrooms: Use 25 students per classroom to plan overall school capacity.
      (iii) Student capacity for purposes of planning furniture and equipment shall be as recommended by school leadership.
      (iv) Contracts, charters, and other agreements, as well as licensing regulations, often stipulate the maximum number of students per class. Where this maximum will affect school design, obtain the maximum student capacity from school leadership.
7. **Classrooms, Other Teaching Spaces and Resource Rooms:**
   a. General Room Proportions: The ideal classroom plan proportion is between 1:1 and 1:1.5, with accepted variations depending upon site and building constraints and other program issues. Avoid the use of elongated, angled, or circular classroom spaces. Use of “Fat L” classroom layout may be acceptable.
   b. Each teaching space shall allow for any wall to be a “Teaching Wall” to the greatest extent possible.
   c. In addition to the facilities recommended by this Ed Spec, incorporate elements in each space as needed to support the unique educational program of the school.
   d. Explore classroom design options that support personalized learning. Make conscious design decisions that allow teaching spaces to support active learning, traditional lecture-style learning, blended learning, and hybrids.
   e. Student Study Spaces:
      (i) Student study spaces are supplemental to general and core classrooms, and serve a wide variety of uses including small group or individual instruction, break-out, pull-out, push-in, intervention, special program instruction, language acquisition, project space, testing, tutoring, coaching, and other similar student uses.
      (ii) In this Ed Spec, a total space allocation is given for student study spaces. Distribute this space throughout each school in the manner most appropriate to the unique educational program of that school.
   f. Staff Resource Rooms:
      (i) Staff resource rooms are also supplemental to the general and core classrooms, but differ from student study spaces in that the primary focus is on supporting staff needs such as teacher planning and work, as well as small conferences, meetings, and seminars. The secondary purpose of these spaces is student study, with uses as described above.
      (ii) In this Ed Spec, a total space allocation is given for staff resource rooms. Distribute this space throughout each school in the manner most appropriate to the unique educational program of that school.
8. **Educational Technology, Telecommunications, and Electrical Power in Support of Personalized Learning**
   a. To support the District’s personalized learning plan, provide appropriate educational technology, telecommunications, and electrical power systems throughout each building.
   b. Refer to the Electrical Power, Telecommunications, & Educational Technology and Miscellaneous and Special Systems sections of this Ed Spec.
   c. Obtain current guidelines from the DPS Project Manager, Department of Technology Services (DoTS), Educational Technology Department, and other appropriate groups within DPS.

d. Specific technology recommendations for selected spaces are noted within the Educational Specification Matrix in this document. However, the specific requirements for each space shall be determined on a case-by-case basis for each individual project.

9. Sustainability and Energy Efficiency:

a. DPS is committed to reducing the consumption and waste of resources through the creation and implementation of goals, strategies and tools that promote sustainability across the District. DPS will accomplish this through actions that reduce resource use, establish clear communications, guidelines and accountability, and promote District-wide involvement and ownership of sustainability as a model for everyday education and business.

b. DPS Sustainability operates according to the following goals:
   (i) DPS will increase savings to the District through a variety of reduction and efficiency strategies by 20% by 2020.
   (ii) DPS will increase the amount of energy used (renewable energy portfolio) by the District from renewable sources to 20% by 2020, compared to a baseline year of 2009-2010.
   (iii) DPS will develop and implement a District-wide conservation and education plan focusing on education, efficiency, effective reporting/accountability, and exceeding building and environmental standards.
   (iv) DPS will develop an integrated, concise, District-wide set of sustainability guidelines for all employee groups and students.

c. **Areas of Commitment**
   (i) DPS Sustainability focuses its resources around seven commitments:
      1. Acquisition. DPS is committed to reducing costs wherever possible through collaboration with our resource vendors.
      2. Conservation and Renewables. DPS is committed to replacing non-renewable resources with renewable resources whenever possible and practical.
      3. Education. DPS is committed to the promotion of District-wide involvement and ownership of sustainability as a model for everyday education and business
      4. Efficiency. DPS is committed to putting resource efficiency and cost savings first in District decision-making around maintenance, procurement, development, design and upgrades.
      5. Environmental Impacts. DPS is committed to mitigating the District's impact on the environment whenever and wherever possible.
      6. Partnerships. DPS is committed to developing partnerships for collaboration and sharing of resources with government agencies, NGOs, and community groups around sustainability issues.
      7. Actual and Projected Savings. DPS is committed to pursuing cost savings for the District through better decision-making, procurement, rebates and increased efficiency.

10. Air Conditioning:

a. All new schools and building additions, including additions to non-air conditioned schools, shall be air conditioned.
   (i) Gymnasiums and other physical education spaces shall be air conditioned.

b. Existing non-air conditioned schools: DPS recognizes that many existing schools do hot have air conditioning systems, and is taking ongoing steps to mitigate excessive temperatures. Until resources become available to implement air conditioning in all schools Districtwide, DPS will continue to prioritize needs and target cooling improvements across the District.

11. Accessibility:

a. All remodeled, renovated, and new portions of buildings and sites shall be made accessible to persons with disabilities as defined under the Americans with Disabilities Act (ADA). Accessible shall mean compliance with all relevant federal and local laws, codes, and regulations.

b. When remodeling existing buildings and sites, all attempts shall be made to update accessibility to conform to ADA. Refer to the DPS Design and Construction Standards and coordinate scopes of work with the Planner and Project Manager.

12. Minimum Corridor Widths:

a. Main Corridor without lockers: 10'-0" – 12'-0"

b. Main Corridor with lockers on one side: 12'-0" – 14'-0"
c. Main Corridor with lockers on both sides: 14'-0" – 16'-0"
d. Secondary Corridor without lockers: 8'-0" minimum
e. Secondary Corridor with lockers on one side: 8'-0" – 10'-0"
f. Secondary Corridor with lockers on both sides: 10'-0 – 12'-0"

13. Flooring:
a. Floor finishes shall be as noted below within this Educational Specification, and as indicated in the Design and Construction Standards.

14. Windows:
a. All classrooms shall have windows to the building exterior.
b. In air conditioned buildings, provide operable windows in classroom spaces as indicated in the Design and Construction Standards.
c. In non-air conditioned buildings, provide operable windows sufficient to allow for warm-weather ventilation, as indicated in the Design and Construction Standards.
d. Window sill heights above finished floor shall be as indicated in the Design and Construction Standards.

15. Walls:
a. Provide impact-resistant materials at heavy use areas and non-supervised areas.
b. Standard materials at other areas.

16. Ceilings:
a. Suspended acoustic panel systems at all areas except as noted.
b. Gypsum board at Student Toilet Rooms, Vestibules, and Locker Rooms.
c. Refer to attached matrices for ceiling heights.

17. Doors:
a. Vision panels in interior classroom, stairway, and high-traffic doors.
b. Doors to the exterior from general classrooms are discouraged except where program requirements recommend a door or building code occupancy requirements require a door.
c. Sidelights at classroom doors are discouraged for security reasons.

18. Countertops and Work Surfaces:
a. Countertops and other built-in work surfaces should have a height of 34" AFF to accommodate ADA accessibility requirements.

19. Lighting and Illumination Levels:
a. Provide light levels as recommended by the latest version of the Illuminating Engineering Society (IES) Handbook.

20. Daylighting:
a. To the greatest extent possible, and in compliance with the Energy Code, the facility design shall provide for controlled daylighting at the following locations:
   (i) Classrooms and Teaching Areas
   (ii) Library
   (iii) Cafeteria/cafetorium
   (iv) Gymnasium (Limited – see specific program section)
b. All spaces shall allow for the users to control daylight for video and other media presentations.

21. Signage:
a. Provide room identification at each door.
b. Provide directional and wayfinding signage.
c. Provide signage as indicated by the Design and Construction Standards.
d. At locations selected by DPS, provide branding per the DPS Visual Branding Program.

22. Acoustics:
a. Teaching spaces shall be designed to meet the requirements of ANSI S12.60 – Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools (current edition).
   (i) Minimum STC ratings:
      1. Classrooms and Teaching Areas: 50-55
      2. Library: 50-55
      3. Music Rooms: 55-60
      4. Gymnasium: 45-50
      5. Offices and Testing Areas: 50-55

(ii) Maximum background noise levels:
1. Classrooms and Teaching Areas: 35 dB
2. Library: 40 dB
3. Music Rooms: 35 dB
4. Gymnasium: 40 dB
5. Offices and Testing Areas: 40 dB

(iii) Maximum Reverberation times:
1. Classrooms and Teaching Areas:
   a. 0.6 seconds < 10,000 cu.ft.
   b. 0.7 seconds > 10,000 cu.ft.
2. Library:
   a. 0.6 seconds < 10,000 cu.ft.
   b. 0.7 seconds > 10,000 cu.ft
3. Music Rooms:
   a. 0.6 seconds < 10,000 cu.ft.
   b. 0.7 seconds > 10,000 cu.ft
4. Gymnasium:
   a. 0.6 seconds < 10,000 cu.ft.
   b. 0.7 seconds > 10,000 cu.ft
5. Offices and Testing Areas
   a. 0.6 seconds < 10,000 cu.ft.
   b. 0.7 seconds > 10,000 cu.ft

23. Toilet Accessories:

a. Provide paper towel dispenser and soap dispenser at every sink and lavatory in the building (use judgment for rooms with multiple sinks).
b. Provide feminine product disposal units in Women's and Girls' Toilet Rooms

24. Design Quality Control:

a. All building system components such as conduit wiring, pipe, and valves shall be concealed within walls and ceilings in public areas, classrooms and finished spaces.

25. Designing for the future:

a. Future expansion
   (i) All facilities designed for Denver Public Schools shall be designed to take into consideration future expansion to meet the full intended build-out of the facility.
b. Future changes and flexibility
   (i) All facilities shall be designed with flexibility in mind. This includes concepts such as minimizing interior bearing walls, creating mechanical and plumbing systems that are easily changed or expanded, site planning for expansion, and similar design measures.

ADMINISTRATION							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
	E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Main Office Area							
Main Public Entrance / Vestibule:							
▪ The main public entrance shall be the primary entrance for all parents, visitors, and staff.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
At shared campuses, there may be multiple main entrances, one for each school.	**E-K**	**ES**	**E-8**	**MS**	**6-12**	**HS**
▪ The main public entrance shall be easily recognizable and with a direct sight line from the parking lot.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The main public entrance shall have adequate lighting and appropriate signage to direct parents and visitors to the main entrance.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The main public entrance shall be secure and visible from the General Office /Reception/Control Desk with direct line of sight.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Provide for visual monitoring of the parking lot. A main portion of the parking lot shall be visible from inside the General Office area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Finishes: Hard-surface flooring with walk-off mat; walls to be abuse resistant and easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
General Office / Reception:							
▪ Location of the general office should be directly adjacent to the main public entrance to the building. The general office will receive all parents and visitors and should serve to monitor access to the school. The general office should be easily accessible from all parts of the school building.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Seating for 6 to 8 visitors waiting to meet with administrative personnel should be provided within the reception area. The traffic patterns should be such that faculty and staff are not encouraged to travel through the reception area to reach the workroom or staff mailboxes.			**E-8**	**MS**	**6-12**	**HS**
▪ The Reception/Control Desk handles contact with the public, staff, and students and controls access into the building.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Door directly from the entry vestibule into the general office for visitors to enter the general office without entering the main corridor.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ General seating for 4 to 6 people.	**E-K**	**E-5**			**6-12**	
▪ Flat screen monitor for the posting of public announcements.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Reception/Control Desk can be built-in or modular-type furniture with counter and lockable under-counter storage. Work counter shall have high and low portions for accommodating students, staff, and the public, along with integral power and data/phone. Allow space for security camera monitors. Allow space for (2) four drawer lateral files.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	Space for 2 secretary/clerical stations located behind the Reception/Control Desk. All stations shall have direct visual monitoring of the Reception/Control Desk and one station shall have direct visual monitoring of the main public entrance.	**E-K**	**E-5**				
	▪	The reception area consists of a secretarial area (two support positions: a head secretary, principal secretary and two (2) student aides). Power and data at each workstation and allow for printer/fax machine.			**E-8**	**MS**	**6-12**	**HS**
	▪	The reception area should have visual access to the Health Center and direct access to the attendance and finance offices. See below for further detail at Nurse's Clinic for all school types.				**MS**	**6-12**	**HS**
	▪	The reception area should be adjacent to the workroom.			**E-8**	**MS**	**6-12**	**HS**
	▪	Wall space for fire and security alarm panels and other building system panels.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Power, telephone, and data for each station and for copy/printer area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Finishes: Carpet flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Principal's Office:							
	▪	Enclosed offices with visual and acoustical privacy with two exits.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The principal's office should be located immediately off the central administration area but separated visually and acoustically. It is important the office has access to a secondary corridor and immediate access to a conference room. The main school entrance should be visible from the principal office for supervision.			**E-8**	**MS**	**6-12**	**HS**
	▪	Accommodate a desk, credenza, side chairs, and a conference table with eight chairs.			**E-8**	**MS**	**6-12**	**HS**
	▪	Adjacent, and with direct access to the General Office and Support Area.	**E-K**	**E-5**				
	▪	Power, telephone, and data at multiple points in office; interactive whiteboard.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Finishes: Carpet flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Assistant Principal's Office:							
	▪	Enclosed offices with visual and acoustical privacy.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Adjacent, and with direct access to the General Office and Support Area.	**E-K**	**E-5**				
	▪	The assistant principal offices should have direct access to the central office area and the main corridor and one should be located adjacent to the attendance office. Offices require doors with vision panels or adjacent sidelights to maintain visual supervision. Accommodate a desk, side chairs, two file cabinets, and a conference table with four (4) chairs.			**E-8**	**MS**	**6-12**	**HS**
	▪	Power, telephone, interactive whiteboard, and data at multiple points in office.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Finishes: Carpet flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Main Conference Room:							
	▪	Seating for 16 to 18 adults.				**MS**	**6-12**	**HS**

	▪	Seating for 12 to 14 adults.			**E-8**			
	▪	Seating for 8 to 12 adults.	**E-K**	**E-5**				
	▪	Conference room shall be located near the general office area and accessible by the public.	**E-K**	**E-5**	**E-8**			
	▪	Conference room shall have direct access from the principal's office and proximity to the assistant principal's offices.				**MS**	**6-12**	**HS**
	▪	6 lineal feet of credenza or base cabinets with countertop and single compartment sink.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Flat screen monitor – minimum 65 inches.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	4’ by 8’ markerboard.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Power, telephone, and data at multiple points in office.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Finishes: Carpet flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Office Workroom:							
	▪	Separate space or spaces that provide floor area for a large format business machine, and worktables.	**E-K**	**E-5**	**E-8**			
	▪	Directly adjacent to the General Office Area and office supply storage.	**E-K**	**E-5**				
	▪	The workroom should be located adjacent to the general office area and have direct access to a hallway other than the main administration entrance. Staff, faculty, aides and volunteers will use this room. Coat closet (with shelf and rod) for staff use.			**E-8**	**MS**	**6-12**	**HS**
	▪	The room should be equipped with a large amount of storage for office supplies and for reserve instructional materials, which will be distributed throughout the school. A workroom must provide space for equipment necessary for the production and reproduction of administrative materials.			**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of two door openings.			**E-8**	**MS**	**6-12**	**HS**
	▪	Separate access from other areas of the building without having staff travel through the waiting area.	**E-K**	**E-5**				
	▪	Power, telephone, and data for business machine area and at perimeter of space.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	If administrative areas are split and located in different areas of the building, provide one workroom per area.			**E-8**	**MS**	**6-12**	**HS**
	▪	Furnishings to consider: 4'x8' markerboard, 4'x8' tackboard, worktable and chairs, dishwasher, microwave, refrigerator, copier, fax machine, printer.			**E-8**	**MS**	**6-12**	**HS**
	▪	Finishes: Hard surface flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Financial Office:							
	▪	Office should be located in the administrative area; the office facilitates necessary business transactions between the school and students. The office should have a door with direct access to the reception area and a horizontal sliding window, 34" high, for monetary transactions.			**E-8**	**MS**	**6-12**	**HS**
	▪	The office may contain the school safe and require a locking door.			**E-8**	**MS**	**6-12**	**HS**

	▪	Space for 2 workstations. At each workstation, provide telephone/data and dedicated phone line for credit card transactions.			**E-8**	**MS**	**6-12**	**HS**
	Attendance Office:							
	▪	Office should be located in the administrative area; the attendance office should have a door with direct access to the reception area and a transaction window, 34" high, to the corridor with an operable counter door where up to 30 to 40 students can wait in line from the corridor to use it. Adjacency to the workroom is also required.				**MS**	**6-12**	**HS**
	▪	Space for 2 workstations.				**MS**	**6-12**	**HS**
	▪	Closet with shelves to house lost and found items.				**MS**	**6-12**	**HS**
	Attendance Conference Room:							
	▪	Used for small group meetings of six to eight people. The conference room is to be adjacent to the Attendance Office. The conference room may be eliminated and the square feet added to other administrative office areas or location of conference space may be changed. Furnishings: conference table, 8 chairs.				**MS**		**HS**
	Counseling Reception Area:							
	▪	Shall be designed to accommodate seating for six to eight people, workstation for counseling assistant and space for a copier.				**MS**		**HS**
	▪	Locate the counseling reception with direct adjacency to the counseling offices, counseling conference room, records room, and college/career center. The counseling reception should also be in close proximity to the main administration area and attendance office.				**MS**		**HS**
	▪	Wall mounted flat screen TV monitor.				**MS**		**HS**
	▪	Desk, credenza, chair.				**MS**		**HS**
	▪	Minimum of six, 4'H lateral files.				**MS**		**HS**
	Counseling Office:							
	▪	Offices shall be in close proximity to the shared conference room and with direct proximity to the reception area. Offices require doors with vision panels or adjacent sidelights to maintain visual supervision. Accommodate a desk space, two chairs and a 36 inch round conference table with four chairs.			**E-8**	**MS**	**6-12**	**HS**
	Counseling Conference Room:							
	▪	(2) markerboards on opposite walls and flat screen TV.			**E-8**	**MS**		**HS**
	▪	Conference room shall be designed to accommodate up to ten to twelve (10-12) people			**E-8**	**MS**		**HS**
	College & Career Center:							
	▪	Dependent on program requirements, the location of the College & Career Center can be one of the following (3) options:					**6-12**	**HS**
	▪	1. Locate College & Career Center directly adjacent to the counseling reception area for supervision and in close proximity to the copier.					**6-12**	**HS**

	▪	2. Locate College & Career Center directly adjacent to the library and conference/seminar/lecture hall area.					**6-12**	**HS**
	▪	3. Locate College & Career Center directly adjacent to both the counseling reception area and the library/conference/seminar/lecture hall.					**6-12**	**HS**
	▪	4 computer workstations and 1 printer.					**6-12**	**HS**
	▪	Space for table seating for 12.					**6-12**	**HS**
	▪	One tackable wall surface.					**6-12**	**HS**
	▪	10' long x 24" deep credenza.					**6-12**	**HS**
	▪	30 LF of shelving.					**6-12**	**HS**
	▪	Markerboards if required with marker rail and appropriate tackboards on walls in each space					**6-12**	**HS**
	▪	Four, 2'x4' tables.					**6-12**	**HS**
	Dean/Student Advisor's Reception Area:							
	▪	Shall be designed to accommodate seating for four students and a workstation for the dean's assistant.				**MS**		**HS**
	▪	Locate the reception with direct adjacency to the dean/student advisor's office and in the general vicinity of the main administration area				**MS**		**HS**
	▪	Desk, credenza, chair, 4'H lateral file.				**MS**		**HS**
	Dean/Student Advisor's Office:							
	▪	Office should be located in direct proximity to the reception area. Office requires a door with vision panel or adjacent sidelight to maintain visual supervision. Accommodate a desk space, two chairs and a 36 inch round conference table with four chairs.			**E-8**	**MS**		**HS**
	Pass Room:							
	▪	This room for the confinement of students who need to be isolated from the rest of the student body.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate the pass room near a public corridor and building entrance so that students may conveniently leave with parents or authorities.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate the pass room adjacent to the advisor's office with a window for supervision of students.			**E-8**	**MS**	**6-12**	**HS**
	▪	Tables and chairs.			**E-8**	**MS**	**6-12**	**HS**
	▪	4'x12' markerboard.			**E-8**	**MS**	**6-12**	**HS**
	Security Office:							
	▪	Security office for the use of non-District personnel.					**6-12**	**HS**
	▪	Office should be located adjacent to the pass room and have direct access to the corridor.					**6-12**	**HS**
	▪	30" high workcounter with 18" wide undercounter cabinets.					**6-12**	**HS**
	▪	Space for multiple TV monitors.					**6-12**	**HS**
	Itinerant Offices:							
	▪	Space for desk, task chair, and 3 visitor chairs.	**E-K**	**E-5**				
	▪	Space for two desks, chairs, six side chairs, shelving and two lateral file cabinets.			**E-8**		**6-12**	

	▪	Locate room within or near the Main Administration Area and provide access to Conference Room for confidential meetings.			**E-8**		**6-12**	
	▪	Power, telephone, and data at multiple points in office.	**E-K**	**E-5**	**E-8**		**6-12**	
	▪	Borrowed lites are allowed with a minimum sill height of 7 ft. AFF.	**E-K**	**E-5**				
	▪	Do not provide locks on the doors.	**E-K**	**E-5**	**E-8**		**6-12**	
	▪	Finishes: Hard surface flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**		**6-12**	
	Community Room:							
	▪	Locate the room in close proximity to the administrative offices. Used for community - locate for public access.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
		The room should be sized to seat 30 people in loose seating and 20 to 25 at tables.		**E-5**	**E-8**			
	▪	The room should be sized to seat 40 people in loose seating and 25 to 30 people seated around a conference table.				**MS**	**6-12**	**HS**
	▪	10 linear feet of locking base cabinet with single compartment sink at one end of the room and locking wall cabinets above. The counter and sink will be used for making coffee and serving rolls, etc.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Markerboards if required with marker rail and appropriate tackboards on walls in each space.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Loose chairs and medium sized tables which can be assembled to form a larger conference type setting.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Main Teachers' Work/Meeting Room:							
	▪	General Description: This space is used for school teachers and staff to confer and work together. The area is often used as a 'break room" for school employees.	**E-K**	**E-5**	**E-8**		**6-12**	
	▪	Centrally located within the academic area and easily accessible to staff toilets.	**E-K**	**E-5**	**E-8**		**6-12**	
	▪	Cabinetry along one wall with at least 20 lineal feet of full height storage cabinet. The balance of cabinetry should include base and wall cabinets with a single compartment sink (with disposal).	**E-K**	**E-5**				
	▪	Dishwasher.	**E-K**	**E-5**				
	▪	Standard full size refrigerator.	**E-K**	**E-5**				
	▪	Multi-function business machine, miscellaneous small-scale production equipment, 20 lineal feet of standard base cabinets with countertop, overhead cabinets, single compartment sink with disposal, dishwasher, standard size refrigerator, dining and layout tables with chairs to be arranged in multiple configurations			**E-8**		**6-12**	
	▪	Space for loose tables and chairs to be arranged in different ways depending on the task or meeting taking place.	**E-K**	**E-5**				
	▪	Space for two vending machines.	**E-K**	**E-5**	**E-8**		**6-12**	
	▪	Power, telephone, and data for copy/printer area and at perimeter of space(s).	**E-K**	**E-5**	**E-8**		**6-12**	
	▪	Finishes: Hard surface flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**		**6-12**	

		(See Staff Dining Room guidelines for MS and HS programs.)				**MS**		**HS**
	Staff Toilets:							
	▪	Two (2) ADA accessible toilets for staff use.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Toilets should be easily accessible from the Main Office andTeachers' Work/Meeting Room and should be convenient to the Principal and other workers stationed in the administration area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum STC Rating for walls 50-55. Additionally, provide a sound barrier at the ceiling.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Storage:							
	▪	Lockable room for materials used in the general office which are not accommodated by work room casework or which require extra security.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The store room should be convenient to the general office.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	School Mail Area:							
	▪	Area for teacher and staff mail boxes to accommodate all staff and teachers including itinerant specialists.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The mailroom should be located to be easily serviced by the general office staff, but should be accessible to teachers without going through the general office area.	**E-K**	**E-5**	**E-8**			
	▪	The mailroom should be directly accessible from the main corridor and should be located adjacent to or combined with the workroom.				**MS**	**6-12**	**HS**
	▪	15" x 11" x 12" box for outgoing mail.			**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of 120 mailboxes 15"Dx11"Wx4H" min. loaded from the workroom side to accommodate the distribution of mailings and correspondence.					**6-12**	**HS**
	▪	Open bin type: 30 mailbox slots: Min 15" deep by 11' wide by 4" high	**E-K**	**E-5**				
	▪	60 mailbox slots: Min 15" deep by 11' wide by 4" high, or one slot for every 10 students, whichever is greater. Open-shelf base cabinets with countertop below mail box slots.			**E-8**	**MS**		
	▪	Approximately 8 lineal feet of 24 inch deep base cabinets on the workroom side of the mailroom					**6-12**	**HS**
	▪	Open-shelf base cabinets with countertop below mail box slots for larger packages and storage.	**E-K**	**E-5**				
	▪	Duplex outlet for electronic mail scale.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	4' by 4' tackboard	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Coat Closet:							
	▪	Small closet with shelf and rod for storage of personal effects for office staff.	**E-K**	**E-5**				
	Satellite Administrative Reception/Office/Conference:							
	▪	Locate satellite administrative area in remote portion of the building away from the main administrative offices to provide administrative coverage for supervision of the building.				**MS**		**HS**
	▪	Reception: Area for secretary plus waiting for 4 students.				**MS**		**HS**

	▪	Office: Standard enclosed office.				**MS**		**HS**
	▪	Conference room.				**MS**		**HS**
Clinic (DPS Managed)								
	Health Center Reception:							
	▪	Work station for the receptionist/nurse.				**MS**		**HS**
	▪	Seating for 4 to 6 people.				**MS**		**HS**
	Nurse's Office/Exam:							
	▪	Care for ill, injured, or upset students.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Management of chronic illnesses and associated medical interventions.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Controlled distribution of student medications.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Accessible from the general office area and easily accessible by students and parents through the general office control.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Nurse's office and toilet room should be directly connected to the cot room.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Space for desk, chair, files, and seating for 4 students.			**E-8**	**MS**	**6-12**	**HS**
	▪	Floor area for a workstation, 4 file cabinets, 1 cot, and seating for 1 student.	**E-K**	**E-5**				
	▪	11 ft. long space for conducting eye exams.	**E-K**	**E-5**	**E-8**			
	▪	The cot area shall have privacy curtains.	**E-K**	**E-5**				
	▪	Interior window or borrowed lites with blinds between Clinic and Administrative Support area for monitoring by Administrative staff when the nurse is not available.	**E-K**	**E-5**				
	▪	6 lineal feet of lockable base and overhead cabinets with countertop and single compartment sink.	**E-K**	**E-5**	**E-8**			
	▪	Wall-mounted lockable medicine cabinet.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Window or borrowed lites with blinds between Nurse's Office and Cot Room.			**E-8**			
	▪	Full size refrigerator with freezer compartment.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Power, telephone, and data.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The Toilet Room shall be directly accessible from the Clinic.	**E-K**	**E-5**				
	▪	Finishes: Hard surface, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Accessible Toilet Room:							
	▪	Toilet and wall hung lavatory.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor drain and flush-mounted hose bib.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Stainless steel changing table.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Handheld shower mounted on wall.			**E-8**	**MS**	**6-12**	**HS**
	▪	Emergency pull cord with annunciator at Health Center Reception.			**E-8**	**MS**	**6-12**	**HS**
	▪	Hospital hardware on doors and hospital stops on door frames.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Finishes: Flooring and base to be tile; wall tile up to 7'-0" AFF.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	Cot Room:						
	▪ Cot areas per the Colorado Department of Health and Department of Education requirements, which state "Every emergency care room or area shall be provided with at least one cot for each four hundred students".	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Each cot separated by individual privacy curtains.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ One power outlet at each cot.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Separately controlled light fixture within each cot area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Finishes: Hard surface flooring, walls to be easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Clinic (Non-DPS Managed)							
	Health Center Reception:						
	▪ Work station for the receptionist/nurse.						**HS**
	▪ Seating for 4 to 6 people.						**HS**
	School Nurse Office:						
	▪ Locate the office for access from waiting area without passing through other parts of the clinic.						**HS**
	▪ Easy direct access to the cot rooms.						**HS**
	▪ Space for desk, two lateral files, and side seating.						**HS**
	Cot Room:						
	▪ Cot areas per the Colorado Department of Health and Department of Education requirements, which state "Every emergency care room or area shall be provided with at least one cot for each four hundred students".				**MS**		**HS**
	▪ Each cot separated by individual privacy curtains.				**MS**		**HS**
	▪ One power outlet at each cot.				**MS**		**HS**
	▪ Separately controlled light fixture within each cot area.				**MS**		**HS**
	▪ Window or borrowed lites with blinds between Cot Room and administration work area for observation by office staff when nurse is not available.				**MS**		**HS**
	▪ Finishes: Hard surface, walls to be easily cleanable.				**MS**		**HS**
	Physician's Assistant / Nurse Practioner's Office:						
	▪ Locate in close proximity to the exam rooms.				**MS**		**HS**
	▪ Desk, credenza, chair, two lateral files and side chairs.				**MS**		**HS**
	School Social Worker:						
	▪ Office should be a typical office arrangement with phone and data outlets.						**HS**
	▪ Desk, credenza, chair, two lateral files and side chairs.						**HS**
	School Psychologist:						
	▪ Office should be a typical office arrangement with phone and data outlets.				**MS**		**HS**
	▪ Desk, credenza, chair, two lateral files and side chairs.				**MS**		**HS**
	Mental Health Therapist:						
	▪ Office should be a typical office arrangement with phone and data outlets.				**MS**		**HS**
	▪ Desk, credenza, chair, two lateral files and side chairs.				**MS**		**HS**

	Drug/Alcohol Therapist:							
	▪	Office should be a typical office arrangement with phone and data outlets.				**MS**		**HS**
	▪	Desk, credenza, chair, two lateral files and side chairs.				**MS**		**HS**
	Pharmacy / Laboratory:							
	▪	The combined pharmacy/laboratory needs to be located in close proximity to the exam rooms and totally secured. Only one door opening. All walls are to be constructed from the floor to the bottom of the deck above.				**MS**		**HS**
	▪	2 workstations with power and data.				**MS**		**HS**
	▪	8 LF of locking base and wall cabinets.				**MS**		**HS**
	▪	Full height refrigerator with freezer compartment.				**MS**		**HS**
	▪	Locking storage cabinet and two lateral filing cabinets.				**MS**		**HS**
	▪	Sink with gooseneck spout and wrist paddle hot and cold water faucets.				**MS**		**HS**
	Exam Rooms:							
	▪	Space for typical medical examinations. Include exam table, locking base cabinet with sink, and side chair.				**MS**		**HS**
	▪	Door swing to open into the room without visually exposing the patient on the exam table to view.				**MS**		**HS**
	▪	Exam table, stool, side chair.				**MS**		**HS**
	▪	5 LF of locking base cabinet with sink.				**MS**		**HS**
	▪	Sink with gooseneck spout and wrist paddle hot and cold water faucets.				**MS**		**HS**
	Accessible Toilet Room:							
	▪	Toilet and wall hung lavatory.				**MS**		**HS**
	▪	Floor drain and flush-mounted hose bib.				**MS**		**HS**
	▪	Free-standing stainless steel changing table.				**MS**		**HS**
	▪	Handheld shower mounted on wall.				**MS**		**HS**
	▪	Emergency pull cord with annunciator at Health Center Reception.				**MS**		**HS**
	▪	Hospital hardware on doors and hospital stops on door frames.				**MS**		**HS**
	▪	Finishes: Flooring and base to be tile; wall tile up to 7'-0" AFF.				**MS**		**HS**
	▪	Locate one toilet adjacent to cot room, and the other adjacent to exam room.				**MS**		**HS**
	Staff Toilets:							
	▪	ADA toilet adjacent to offices.				**MS**		**HS**
	Conference Room:							
	▪	Seating for 8 to 12 people (table and chairs).				**MS**		**HS**
	▪	4'x8' markerboard and 4'x4' tackboard; and flat screen TV.				**MS**		**HS**

INSTRUCTIONAL / LEARNING COMMUNITIES						
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.						
	E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Learning Communities at Grades 9 – 12:						
General Classrooms:						
▪ 12 classrooms in association with 1 flex classroom per learning community.					**6-12**	**HS**
▪ General Classroom can be used as a World Language Room.					**6-12**	**HS**
▪ The arrangement of the community should permit easy flow of students from one instructional area to another.					**6-12**	**HS**
▪ Flexible, easily modified space to accommodate individual student needs for experiential and active learning, varied instructional techniques, and small work groups, as well as for large group instruction. “Flexible” is not meant to infer operable or relocatable walls.					**6-12**	**HS**
▪ Natural daylight into all classroom spaces and at least one operable window for natural ventilation into each classroom. Light control devices to modulate light levels.					**6-12**	**HS**
▪ Markerboards with marker rail and appropriate tackboards on walls.					**6-12**	**HS**
▪ Flag holder.					**6-12**	**HS**
▪ Two 24"Dx18"Wx84"H locking wardrobe/storage cabinets for teacher coats and personal items and general storage. Sinks are not required for general purpose classrooms.					**6-12**	**HS**
Instructional Classrooms (E-8):						
Early Childhood Education (ECE) & Kindergarten Suite:						
▪ Locate ECE classroom suite adjacent to the ECE playground.	**E-K**	**E-5**	**E-8**			
▪ Locate ECE classroom suite near or within Primary Grades area.	**E-K**	**E-5**	**E-8**			
▪ Locate Kindergarten suite adjacent to the Kindergarten playground.	**E-K**	**E-5**	**E-8**			
▪ Classrooms shall be located to minimize the need to navigate hallways and areas used by older students.		**E-5**	**E-8**			
▪ Classrooms shall be located on the first floor.	**E-K**	**E-5**	**E-8**			
▪ Locate near the main office or in the area of other primary level classrooms.	**E-K**	**E-5**	**E-8**			
Early Childhood Education & Kindergarten Classroom:						
▪ Approximately 40% of the floor surface to be finished with hard surface and a minimum of 5’ of the floor surface adjacent to the countertop surface should be finished with a hard surface. The balance of the room should be carpeted. Locate the hard surface adjacent to countertop/sink areas and exterior door.	**E-K**	**E-5**	**E-8**			
▪ Exterior door at each classroom with direct access to the play area.	**E-K**	**E-5**	**E-8**			
▪ Minimum of one 24"x24" window at 24" AFF. Window coverings to reduce light level to 5-foot candles for A/V presentations.	**E-K**	**E-5**	**E-8**			

	▪	Minimum of 9'-6" ceiling height.	**E-K**	**E-5**	**E-8**			
	▪	Coordinate entrance location in relation to the toilet room for teacher supervision of each door and also coordinate with DPS Project Manager for lockset configuration requirements.	**E-K**	**E-5**	**E-8**			
	▪	Natural daylight into all classroom spaces. Window coverings to reduce light level to 5-foot candles for A/V presentations.	**E-K**	**E-5**	**E-8**			
	▪	One markerboard of about 12 feet in length with a 12” high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18” of rail length. Mount board at heights per DPS Design and Construction Standards – Markerboards and Tackboards.	**E-K**	**E-5**	**E-8**			
	▪	Tackable surface is in high demand in early grades.	**E-K**	**E-5**	**E-8**			
	▪	3 banks of fixed or mobile cubbies with shelf and hooks with a capacity of one coat and backpack per cubby. 6 cubbies per bank. Mount coat hooks within cubbies at 36” above floor.	**E-K**	**E-5**	**E-8**			
	▪	(3) 48”x84” tall storage cabinets. 36” wide base cabinet at 34” height with a single compartment sink. 36” wide base cabinet at 25” height with a single compartment sink. Locate faucets at rear of sinks.	**E-K**	**E-5**	**E-8**			
	▪	36” wide, full height cabinet with teacher’s wardrobe on one side and storage on the other.	**E-K**	**E-5**	**E-8**			
		Base cabinet with poster/paper storage drawers, with interior drawer dimensions no less than 42” wide by 28” deep.	**E-K**	**E-5**	**E-8**			
	▪	Each cabinet door must be equipped with a keyed lock (Exception: Sink Cabinets). See DPS Design and Construction Standards for more requirements.	**E-K**	**E-5**	**E-8**			
	▪	One water fountain in each classroom. See DPS Design & Construction Standards for more information.	**E-K**	**E-5**	**E-8**			
	▪	At ECE Classrooms, one child height hand washing sink in the room, adjacent to the toilet rooms.	**E-K**	**E-5**	**E-8**			
	ECE & Kindergarten Toilet Room:							
	▪	Two toilet rooms for each ECE classroom. Each room should be designed to comply with Children's ADA standards. See DPS Design and Construction Standards – Accessibility Requirements. Toilet room doors shall not be lockable.	**E-K**	**E-5**	**E-8**			
	▪	Two toilet rooms for each pair of Kindergarten classrooms. Each room should be designed to comply with Children's ADA standards. See DPS Design and Construction Standards – Accessibility Requirements. Toilet room doors shall not be lockable.	**E-K**	**E-5**	**E-8**			
	▪	One toilet room within the ECE suite and one additional toilet room within the Kindergarten suite shall be 100 SF in area and equipped with a free-standing or built-in changing table.		**E-5**	**E-8**			
	▪	Lavatory within the toilet room.	**E-K**	**E-5**	**E-8**			
	▪	Floor drain.	**E-K**	**E-5**	**E-8**			
	▪	Finishes: Floor and base to be tile. Walls to be tile up to 7'-0" AFF (on wet walls), remaining walls to be easily cleanable; Gypsum board ceiling.	**E-K**	**E-5**	**E-8**			

	▪	Clothes washer/dryer for ECE (refer to Facility Maintenance section)	**E-K**	**E-5**	**E-8**			
	ECE & Kindergarten Storage Room:							
	▪	One storage room for each classroom. Accommodate one wall of 24" deep shelving and one wall of 18" deep shelving with free floor area for loose storage.	**E-K**	**E-5**	**E-8**			
	▪	Room shall be directly accessible to the classroom and shall be convenient to the exterior door.	**E-K**	**E-5**	**E-8**			
	Storage for Pre-Primary Playground:							
	▪	Storage for loose equipment, tricycles, etc., for the pre-primary playground.	**E-K**	**E-5**	**E-8**			
	▪	Storage space near the ECE and Kindergarten classrooms, adjacent to the pre-primary playground.	**E-K**	**E-5**	**E-8**			
	Classrooms - Grades 1 - 8:							
	▪	Grades 1-5: Locate on main floor and lay out to minimize the need to navigate hallways and areas used by older students.		**E-5**	**E-8**			
	▪	Grades 6-8: Located to minimize the need to navigate hallways and areas used by younger students.			**E-8**			
	▪	General classroom can be used as a World Language Classroom and/or unassigned exploratory classroom.			**E-8**	**MS**	**6-12**	
	▪	Group classrooms by prospective grade levels.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	Floor finishes: Minimum of 5' of hard surface flooring in front of the sink cabinets, carpet everywhere else.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	Minimum of 9'-6" ceiling height.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	Natural daylight into all classroom spaces. Window coverings to reduce light level to 5-foot candles for A/V presentations.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	One (1) markerboard of about 12 feet in length with a 12" high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18" of rail length. Mount board at heights per DPS Design and Construction Standards – Markerboards and Tackboards.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	At grades 1-5, (3) banks of fixed or mobile cubbies with shelf and hooks with a capacity of one coat and backpack per cubby. 6 cubbies per bank. Mount coat hooks within cubbies at 36" above floor.		**E-5**	**E-8**			
	▪	Paper towel and soap dispenser at sink.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	At grades 1-8 four 48"W x 84"T storage cabinet. 36" wide base cabinet with countertop at 34" height with a single compartment sink. Locate faucet at rear of sink.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	See DPS Design and Construction Standards – Accessibility Requirements for sink configurations.		**E-5**	**E-8**	**MS**	**6-12**	
	▪	36" wide, full height cabinet with teacher's wardrobe on one side and storage on the other.		**E-5**	**E-8**	**MS**	**6-12**	
		Base cabinet with poster/paper storage drawers, with interior drawer dimensions no less than 42" wide by 28" deep.		**E-5**	**E-8**			
	▪	Each cabinet door must be equipped with a keyed lock (Exception: Sink Cabinets). See DPS Design and Construction Standards for more requirements.		**E-5**	**E-8**	**MS**	**6-12**	

	Computer Classroom:						
	▪ Multi-curriculum instruction in keyboarding, word processing, software use, and related computer exploratory programs.			**E-8**	**MS**		
	▪ Conveniently located to all Classrooms within the Core Team Instructional Suite.			**E-8**	**MS**		
	▪ Flexibility to be used as a general classroom.			**E-8**	**MS**		
	▪ Floor shall be level. Permanently sloped or tiered floors are prohibited.			**E-8**	**MS**		
	▪ 32 computer workstations for students and one for the instructor.			**E-8**	**MS**		
	▪ Floor finish to be carpet.			**E-8**	**MS**		
	▪ Minimum of 10'-0" ceiling height.			**E-8**	**MS**		
	▪ One markerboard of about 8 feet in length with a 12” high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18” of rail length and one flag holder per room. Mount boards at heights per DPS Design and Construction Standards – Markerboards and Tackboards.			**E-8**	**MS**		
	▪ Cabinetry along one wall of the classroom which includes (3) 48”W x 84”T storage cabinets. 36” wide base cabinet with countertop at 34” height. Provide a 36” wide, full height cabinet with teacher’s wardrobe on one side and storage on the other. Each cabinet door must be equipped with a keyed lock. See DPS Design and Construction Standards – Section - Manufactured Casework for detailed requirements.			**E-8**	**MS**		
	▪ Data and Video Outlets: See DPS Design and Construction Standards – Telecommunications System Infrastructure for data and video requirements within classrooms.			**E-8**	**MS**		
Support for Grades E - 5:							
	Staff Resource Room:						
	▪ Staff resource rooms have a primary focus on supporting staff needs such as work and planning, and small conferences, meetings, and seminars. The secondary purpose of these rooms is student study.	**E-K**	**E-5**	**E-8**			
	▪ Locate room for easy access from the classrooms being served.	**E-K**	**E-5**	**E-8**			
	▪ 8 LF of full height storage cabinets, 24" deep.	**E-K**	**E-5**	**E-8**			
	▪ 8 LF of base cabinets at 30" counter height.	**E-K**	**E-5**	**E-8**			
	▪ Space for a small work table to be set in the middle of the room.	**E-K**	**E-5**	**E-8**			
	▪ 4'x4' tackboard.	**E-K**	**E-5**	**E-8**			
	Student Study Space:						
	▪ Student study spaces serve a wide variety of uses including small group or individual instruction, break-out, pull-out, push-in, intervention, special program instruction, language acquisition, project space, testing, tutoring, coaching, and other similar student uses.	**E-K**	**E-5**	**E-8**			
	▪ Student study spaces should be distributed throughout the school and should be within or convenient to the general classroom areas.	**E-K**	**E-5**	**E-8**			

	▪	One 8 foot markerboard. Mount the markerboard with bottom corresponding to the grade level in the nearby classroom area.	**E-K**	**E-5**	**E-8**			
	▪	One, 4 foot tackboard.	**E-K**	**E-5**	**E-8**			
	▪	Data/phone outlet and one video outlet in each room.	**E-K**	**E-5**	**E-8**			
	Instructional Materials Storage:							
	▪	Storage is intended for shared use by a group of classroom teachers, aids, etc. The room will store books and other classroom materials.	**E-K**	**E-5**	**E-8**			
	▪	Adequate space and power to recharge mobile laptop storage rack. Laptop storage carts will be stored in this area when not in use.	**E-K**	**E-5**	**E-8**			
	▪	Shelving of 24” depth and 12” depth.	**E-K**	**E-5**	**E-8**			
	▪	Easy access from the classrooms being served.	**E-K**	**E-5**	**E-8**			
	▪	Distribute storage rooms throughout the building for easy access from the classrooms being served.	**E-K**	**E-5**	**E-8**			
Support for Grades 6 - 12:								
	Staff Resource Room:							
	▪	Staff resource rooms have a primary focus on supporting staff needs such as work and planning, and small conferences, meetings, and seminars. The secondary purpose of these rooms is student study.			**E-8**	**MS**	**6-12**	**HS**
	▪	Meeting space for 6 to 8 people.			**E-8**	**MS**	**6-12**	**HS**
	▪	Direct access to staff toilet.						**HS**
	▪	Direct access to student study space.						**HS**
	▪	The design may allow two staff resource rooms to share one storage room.			**E-8**	**MS**	**6-12**	**HS**
	▪	Interior window with blinds for visual supervision of classrooms within the suite.			**E-8**	**MS**	**6-12**	**HS**
	▪	Space for up to four students in time-out status at tables or carrels. Locate time-out space near an interior window to classroom(s) for supervision.			**E-8**	**MS**	**6-12**	**HS**
	▪	Designed to allow for a small work table to be set in the middle of the room.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate rooms for easy access from the classrooms being served.			**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of 10'-0" ceiling height.			**E-8**	**MS**	**6-12**	**HS**
	▪	One markerboard, 6'L.			**E-8**	**MS**	**6-12**	**HS**
	▪	One tackboard, 4'x4'.			**E-8**	**MS**	**6-12**	**HS**
	▪	4 LF of countertop and lockable base cabinets along one wall.			**E-8**	**MS**	**6-12**	**HS**
	▪	Two 36” wide, full height wardrobe/storage cabinets.			**E-8**	**MS**	**6-12**	**HS**
	Student Study Space:							
	▪	Student study spaces serve a wide variety of uses including small group or individual instruction, break-out, pull-out, push-in, intervention, special program instruction, language acquisition, project space, testing, tutoring, coaching, and other similar student uses.			**E-8**	**MS**	**6-12**	**HS**
	▪	Distributed throughout the school, conveniently located to all general classroom areas.			**E-8**	**MS**		**HS**

	▪	Visual access for supervision.			**E-8**	**MS**		**HS**
	▪	Facilities for one teacher workstation.			**E-8**	**MS**		**HS**
		Facilities for 3 computer work stations.					**6-12**	**HS**
	▪	9 LF of base cabinets, 30” deep work surfaces at a height of 34”-36” AFF with stainless steel single compartment sink.					**6-12**	**HS**
	▪	Data/phone and video outlet(s) in each room.			**E-8**	**MS**	**6-12**	**HS**
	▪	Space to be easily modified to accommodate individual student needs.			**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of 10'-0" ceiling height.			**E-8**	**MS**	**6-12**	**HS**
	▪	One 8’ long markerboard with a 12” high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18” of rail length and one flag holder per room.			**E-8**	**MS**	**6-12**	**HS**
	▪	Tackboards with a total length of 4 to 8 linear feet. These are normally adjacent to the markerboards. Minimum 5’-0” from egress doorways.			**E-8**	**MS**	**6-12**	**HS**
	Instructional Materials Storage:							
	▪	Storage is intended for shared use by a group of classroom teachers, aids, etc. The room will store books and other classroom materials.			**E-8**	**MS**	**6-12**	**HS**
	▪	Shelving of both 24” depth and 12” depth			**E-8**	**MS**	**6-12**	**HS**
	▪	Easy access from the classrooms being served.			**E-8**	**MS**	**6-12**	**HS**
	▪	Distribute storage rooms throughout the building for easy access from the classrooms being served.			**E-8**	**MS**	**6-12**	**HS**
Staff Toilet for E-12:								
	Staff Toilets:							
	▪	Single occupant accessible toilet rooms for each gender adjacent to each faculty office/conference room.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Design room to constrict sight lines from the hallway into the toilet room.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Door hardware that contains an “Occupied” sign when the door is locked.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

SPECIAL EDUCATION							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Special Education							
	Standard Special Education Classroom						
▪	Special educational program provides instruction for students with special needs and moderate to severe disabilities. Most students in the program spend part of their instructional day in the general classrooms and part in the Special Education program receiving specialized instruction for specific disabilities. Center-based programs provide special education services to students who need to spend the majority of their school days in a dedicated classroom setting. A few of the common types of special education program spaces in the District include affective needs (AN), mild moderate (MM), multi intensive (MI), and multi intensive – severe (MI-S). The class size is generally 15 to 20 students with instruction provided at tables or desks for individuals and small groups.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Special education classroom and resource room should be designed as a suite with direct access between the two spaces.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Convenient access to outdoor play areas, library, cafetorium and other core areas.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate the programs to minimize the need to navigate hallways and areas used by students of different ages.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Natural daylight into all classroom spaces. Window coverings to reduce light level to 5-foot candles for A/V presentations.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Minimum of 5’ of hard surface flooring in front of the sink cabinets. Remainder of room to be carpet.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	One markerboard of about 8 feet in length with a 12” high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18” of rail length and one flag holder per room. Mount boards at heights per DPS Design and Construction Standards – Markerboards and Tackboards.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Tackboards with a total length of about 16 LF. These are normally adjacent to the markerboards. Tackable surface is in high demand in early grades, so tackboards should be placed for maximum visibility.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Paper towel and soap dispenser at sink.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	(3) 48”W x 84”T storage cabinet along one wall of the classroom. 36” wide base cabinet (30” deep) with countertop at 34” height. Include a single compartment sink, with faucet at back of sink. Provide a 36” wide, full height cabinet with teacher’s wardrobe on one side and storage on the other. Each cabinet door must be equipped with a keyed lock. (Exception: Sink Cabinets) See DPS Design and Construction Standards – Manufactured Casework for detailed requirements.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Special Education Severe Needs Classroom:							
	▪	Where the school is designated as a site for Severe Needs Program(s), provide a full sized classroom with additional facilities internal to the classroom area.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Natural daylight into all classroom spaces. Window coverings to reduce light level to 5-foot candles for A/V presentations.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of 5’ of hard surface flooring in front of the sink cabinets. Remainder of room to be carpet.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of 10'-0" ceiling height.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	One markerboard of about 8 feet in length with a 12” high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18” of rail length and one flag holder per room. Mount boards at heights per DPS Design and Construction Standards – Markerboards and Tackboards.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Tackboards with a total length of about 16 LF. These are normally adjacent to the markerboards. Tackable surface is in high demand in early grade, so tackboards should be placed for maximum visibility.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Paper towel and soap dispenser at sink.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Overhead ceiling hook connected to structure from which to suspend physical therapy apparatus.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	(3) 48”W x 84”T storage cabinet along one wall of the classroom. 36” wide base cabinet (30” deep) with countertop at 34” height. Include a single compartment sink, with faucet at back of sink. Provide a 36” wide, full height cabinet with teacher’s wardrobe on one side and storage on the other. Each cabinet door must be equipped with a keyed lock. (Exception: Sink Cabinets) See DPS Design and Construction Standards – Manufactured Casework for detailed requirements.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Special Education Office:							
	▪	General type office space for performing work duties and meeting with parents and other Special Education staff members.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate within the Special Education area.			**E-8**	**MS**	**6-12**	**HS**
	▪	Flooring to be carpet.			**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of 10'-0" ceiling height.			**E-8**	**MS**	**6-12**	**HS**
	▪	Space for a desk, chair, 2 visitor chairs, bookshelves and a lateral file cabinet.			**E-8**	**MS**	**6-12**	**HS**

	▪	Data and Video Outlets: See DPS Design and Construction Standards – Telecommunications System Infrastructure for data and video requirements within classrooms.			E-8	MS	6-12	HS
	Special Education Resource / Testing Room:							
	▪	Small group instruction and study, project work area, individual instruction and study, testing, and conferences. This space may also be designated as instructional spaces for language acquisition and other special student study programs.		E-5	E-8	MS	6-12	HS
	▪	Area for student assessment, therapy, and for visiting itinerant special education teachers to work from.		E-5	E-8	MS	6-12	HS
	▪	Assessment, testing, physical therapy, and itinerant special education staff members.		E-5	E-8	MS	6-12	HS
	▪	Table and chairs.		E-5	E-8	MS	6-12	HS
	▪	Visual access for classroom supervision.		E-5	E-8	MS	6-12	HS
	▪	Directly accessed from Special Ed Classrooms.		E-5	E-8	MS	6-12	HS
	▪	Flooring to be carpet.		E-5	E-8	MS	6-12	HS
	▪	Minimum of 10'-0" ceiling height.		E-5	E-8	MS	6-12	HS
	▪	1 markerboard, 6 lineal feet with cork-insert map rails full length of markerboards with clips (one per 18” of board length) and one flag holder per room.		E-5	E-8	MS	6-12	HS
	▪	36" wide, full height cabinet with teacher’s wardrobe on one side and storage on the other.		E-5	E-8	MS	6-12	HS
	Special Education Workroom:							
	▪	General work area for special education teaching staff, volunteers, aides, and parents.			E-8	MS		HS
	▪	Copy and production area.			E-8	MS		HS
	▪	Adjacent to special education severe needs classroom.			E-8	MS		HS
	▪	Cabinetry along one wall of the classrooms to include 12 LF of standard base cabinets, overhead cabinets and countertop with sink and disposal.			E-8	MS		HS
	▪	Space for multi-function business machine and miscellaneous small scale countertop production equipment. Provide dishwasher and full size refrigerator.			E-8	MS		HS
	▪	Space for layout tables with chairs to be arranged in multiple configurations.			E-8	MS		HS
	Special Education Storage:							
	▪	Space for storage of Special Education materials and teaching resources.			E-8	MS	6-12	HS
	▪	Design for maximum utilization of the space and easy access to stored items.			E-8	MS	6-12	HS
	▪	Conveniently located to all Special Education classrooms and workrooms.			E-8	MS	6-12	HS
	▪	May be divided into smaller rooms and equally distributed between classrooms.			E-8	MS	6-12	HS
	▪	Combination of 24” d and 12” d full height heavy duty adjustable shelving along perimeter walls.			E-8	MS	6-12	HS

	Special Education Toilet Rooms:							
	▪ Directly adjacent to and accessed from each classroom.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ ADA accessible toilet and wall hung lavatory.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Floor drain and flush-mounted hose bib.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Hand-held shower head and thermostatic mixing valve.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Space for two adults assisting a disabled student.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Finishes: Flooring and base to be tile; Walls to be tile to 7'-0" AFF minimum; 9'-0" AFF ceiling height, minimum.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Changing table, 36" wide shelving and floor space for storage of a mobile transfer lift unit when not in use.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Clothes washer/dryer (refer to Facility Maintenance section)		**E-5**	**E-8**	**MS**	**6-12**	**HS**

ART							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Art Suite							
Art Classroom / 3D Art Classroom:							
▪	Single volume space that is easily accessible to all grade levels. Ground level is preferred.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate for easy access to the building exterior and/or service drive.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Direct access to an exterior art courtyard.			**E-8**	**MS**	**6-12**	**HS**
▪	Orient student art spaces to optimize daylighting (north light preferred). Proper daylighting control should be provided for all windows or light monitors.			**E-8**	**MS**	**6-12**	**HS**
▪	Open floor area to accommodate eight 4'-0"x 6'-0" student worktables and one teacher demonstration table.			**E-8**	**MS**	**6-12**	**HS**
▪	Space for an etching press for printmaking.			**E-8**	**MS**	**6-12**	
▪	Space for a hinged or spring lock drying rack with mesh shelves for two-dimensional projects.			**E-8**	**MS**	**6-12**	**HS**
▪	Locking glass display cases, which open from the studio room side, for exhibiting artwork in the corridor. Cases should contain three adjustable glass shelves and have glass on both the corridor and room side.			**E-8**	**MS**	**6-12**	**HS**
▪	Floor space for a teacher desk.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Finishes: Hard surface flooring; ceiling to be open to structure, with minimum of 10'-0" to bottom of structure; easily cleanable walls.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Two markerboards of about 8 feet in length with a 12” high tackable surface above the markerboard. Cork-insert map rails full length of markerboard with clips at 1 per 18” of rail length. Mount board at heights per DPS Design and Construction Standards – Markerboards and Tackboards.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Tackboards with a total length of about 16 LF. These are normally adjacent to the markerboards. Tackable surface is in high demand in early grades, so tackboards should be placed for maximum visibility. Minimum 5’-0” from egress doorways.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Paper towel and soap dispenser at sink.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Manual projection screen.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Safety eyewash station with floor drain.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Floor drains - Reference DPS Design and Construction Standards – Plumbing Piping.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Space for: 24"x24" paper cutter, mat cutter, drying rack, mobile paper rack (for 36" wide roll paper), five electric potter's wheels, printing press, fifteen 24"x26" drawing boards, fifteen 19"x19.5" drawing boards, ten small finger looms, and mobile demonstration table with overhead mirror.		**E-5**	**E-8**			

	▪	All casework shall be lockable. Coordinate counter heights with primary and secondary students.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	2 base cabinet paper drawer sections with minimum inside drawer dimensions of 29” by 43”.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	One 18”w drawer unit with 5 drawers.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Locking damp box storage for wet clay projects. 48 inches wide by 24 inches deep with six adjustable shelves and a one-inch deep pan to absorb water.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Other base cabinets to be standard, adjustable shelf base cabinets.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Open wall shelf cabinets above countertop.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	One 36”w x 24”d x 84”h teacher’s wardrobe with storage.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Four full height 36”w x 24”d x 84”h storage cabinets.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Storage for 30 drawing boards (maximum dimension of 24” x 36”). Drawing boards should be stored in 24”d cabinet.			**E-8**	**MS**	**6-12**	**HS**
	▪	Eight sections of flat storage cabinets 38 inches wide by 26 inches deep by 84 inches high with six adjustable shelves for drawings and paintings.			**E-8**	**MS**	**6-12**	**HS**
	▪	Five sections of open steel shelving 48 inches wide by 36 inches deep by 84 inches high with five adjustable shelves.			**E-8**	**MS**	**6-12**	**HS**
	▪	Three sections of vertical flat storage with non-adjustable shelves spaced at 3 inches apart. Each unit should be 48 inches wide by 36 inches deep by 84 inches high, with two levels within each unit.			**E-8**	**MS**	**6-12**	**HS**
	▪	Ventilation systems must safely accommodate the use of art materials, chemical techniques and resulting fumes. Other systems are required for specific equipment.			**E-8**	**MS**	**6-12**	**HS**
	▪	Adequate quantity and type of ground-fault outlets to support studio activities. All fourplex outlets shall be on dedicated 20 amp circuits. Locate data outlets near receptacles. Continuous plug-mold along the countertop of all base cabinets. Floor outlets are prohibited.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Electrical drop-cords, with removable strain relief devices, over student worktables and pottery wheels.			**E-8**	**MS**	**6-12**	**HS**
	▪	(2) Scullery-type free-standing sinks: double bowl with integral drain boards at each end, 8'-0" long by 24" deep with a 28" rim height and contains two 20"x14" deep sinks with a 6" backsplash; two hot and cold, single lever, swing type gooseneck faucets; pipe all sinks into an easily accessible plaster/clay trap (clay traps to have a minimum 2 gal capacity); minimum 2" drain lines are required; locate the sink away from the room entry. At elementary, provide two heights to accommodate E-2; one for E-2 and one for 3-5.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	One floor drain in front of sink.			**E-8**	**MS**	**6-12**	**HS**
	▪	Ceiling suspended “Unistrut” type grid system approximately 20 feet by 20 feet with track lighting and electrical outlets for display use. 12 track lights for color correct flood bulbs. A minimum of 50-foot candles, maintained at the work surface, of color correct lighting is required for general lighting. Locate the general lighting room switch near the corridor door. Track lights should be independently switched			**E-8**	**MS**	**6-12**	**HS**

	▪	Display area with an eight feet length of track lighting and three track lights for highlighting still life displays, models and at drawing tables. The display area may be a room wall with a tacking surface or minimum 32 SF of display panels.			**E-8**	**MS**	**6-12**	**HS**
	▪	General ceramics/sculpture requirements: Floor space for either an island or wall mounted combined sculpture and wedging station; 18 SF of floor space for clay slab roller; glazing spray booth with ventilation fan and hood, turntable, and compressed air and electrical power to operate a spray gun; floor space for glazing buckets and clay carts; 8 SF of floor space and a dust collection ventilation system for a stand or bench mounted buffer/grinder.			**E-8**	**MS**	**6-12**	**HS**
	▪	General jewelry/sculpture requirements: Counter space with knee openings for four 24 inch deep by 30 inch wide jewelry soldering stations. Countertop shall be hard firebrick and have safety dividers between each station. Natural gas manifold system with a central oxygen tank, counter height slot hood ventilation system and exhaust fan for stations; a locked screen wire cage for storage of mild acids used to clean metals; centrifugal casting well and exhaust hood; 9 SF of floor space for a band saw; 6 SF of floor space for a belt sander; 9 SF of floor space for three flexible-shaft grinders; 8 SF of floor space for exhaust hoods and burnout kilns, adjacent floor base and wall material to be fireproof.			**E-8**	**MS**	**6-12**	**HS**
	▪	Resource center in studio: Open shelving to house up to 200 books; floor area for projectors on carts and flat files; wall area for a projection screen and/or interactive whiteboard.			**E-8**	**MS**	**6-12**	**HS**
	▪	Acid storage cabinet.			**E-8**	**MS**	**6-12**	**HS**
	▪	Flammable storage cabinet.			**E-8**	**MS**	**6-12**	**HS**
	Kiln Room:							
	▪	Separate room to house kiln, clay products, student projects, firing glazes, and accessories. Adjacent to, and directly accessible from, the Art Classroom.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor space and clearances for kiln and floor drain with plaster trap.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor space for furniture cabinet, green ware cart and kiln shelf cart.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Flooring to be hard surface.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Down-Draft Ventilation System – Reference DPS Design and Construction Standards.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Four wall-anchored shelving units 36”w x 24”d x 84”h with adjustable washable shelves for glazeware pottery.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	220v dedicated circuit for the kiln and an 110v circuit for the ventilation system.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	60 SF of floor area and ventilation system for each of electric kilns. Sixty square feet allows for an 18 inch radiant heat boarder and an additional 18 inch space for loading materials and operating control switches. Kilns are to be specified and included in the contract for construction, and installed by the general contractor.				**MS**	**6-12**	**HS**

	▪	10 pottery wheels with electric outlets.					6-12	HS
	▪	2 electric kilns.					6-12	HS
	▪	1 raku kiln (exterior use).					6-12	HS
	Storage Room:							
	▪	Storage for miscellaneous art supplies and materials		E-5	E-8	MS		HS
	▪	Storage shall be provided for student projects and personal art folios.					6-12	HS
	▪	Adjacent to, and directly accessible from the Art Classroom.		E-5	E-8	MS	6-12	HS
	▪	Locate for ease of stocking materials from outside delivery.		E-5	E-8	MS	6-12	HS
	▪	Center of room should be free of fixed shelving to provide open floor area.			E-8	MS	6-12	HS
	▪	Flooring to be hard surface.		E-5	E-8	MS	6-12	HS
	▪	Floor space for flat files and art equipment.			E-8	MS	6-12	HS
	▪	Two 14' long of shelving by 84" high open shelf sections with eight adjustable shelf levels. One unit should be 42 inches deep; one unit should be 38 inches deep. Vertical slotted storage for poster board.		E-5	E-8	MS	6-12	HS
	▪	Space for paper cutter on casters and work space.			E-8	MS	6-12	HS
	▪	Space for matt cutter on casters.				MS	6-12	HS
	▪	Space for etching press and work space.			E-8	MS	6-12	HS
	▪	Two metal flat file units with metal work top 54 inches wide by 42 inches deep stacked one on top of the other.			E-8	MS	6-12	HS
	▪	Two locking metal cabinets 36 inches square for flammable materials storage.			E-8	MS	6-12	HS
	▪	Wall attached open steel shelving units 18 or 24 inches deep by 84 inches high in remaining floor space for general art storage.			E-8	MS	6-12	HS
	2D Art Studio:							
	▪	Plan to accommodate 30 students at tables and 10 students at perimeter counters.					6-12	HS
	▪	Art studios should be directly adjacent to storage and teacher work areas to maximize shared resources/materials.					6-12	HS
	▪	Rooms should be oriented to optimize daylighting (north light preferred). Proper daylighting control should be provided for all windows or light monitors. Sill heights should not be lower than 36 inches above the floor.					6-12	HS
	▪	20'x20' “Unistrut” or 1-1/2” diameter pipe grid at the ceiling.					6-12	HS
	▪	Flooring to be hard surface.					6-12	HS
	▪	Floor drains - Reference DPS Design and Construction Standards – Plumbing Piping.					6-12	HS
	▪	Direct access to an exterior art courtyard.					6-12	HS
	▪	Display area with an eight feet length of track lighting and three track lights for highlighting still life displays, models and at drawing tables. The display area may be a room wall with a tacking surface or minimum 32 SF of display panels.					6-12	HS
	▪	15 SF of floor area for an etching press for printmaking.					6-12	HS

	▪	Space for a hinged or spring lock drying rack with mesh shelves for two-dimensional projects.					**6-12**	**HS**
	▪	Floor area to accommodate (8) four feet by six feet student worktables and one teacher demonstration table.					**6-12**	**HS**
	▪	Floor area to accommodate one teacher desk.					**6-12**	**HS**
	▪	Markerboards with marker rail and appropriate tackboards on walls.					**6-12**	**HS**
	▪	Ventilation systems must safely accommodate the use of art materials, chemical techniques and resulting fumes. Other systems are required for specific equipment.					**6-12**	**HS**
	▪	Countertop paint booth for air brush work.					**6-12**	**HS**
	▪	Two single compartment stainless steel sinks. Basic sinks shall be set in base cabinets. Sinks shall have a clay trap, single long blade lever handle, and swing-spout faucet with tamper proof aerator and hot and cold water. Sink dimensions shall be 36" long by 21 inches wide and 12" deep.					**6-12**	**HS**
	▪	Safety eyewash station with floor drain.					**6-12**	**HS**
	▪	Adequate quantity and type of ground-fault outlets to support studio activities. Each four-plex outlet should be on a dedicated 20 amp circuit. Locate data outlets nearby. Wiremold should be provided over the countertop of all base cabinets. A 220V dedicated circuit for the kiln is required and a 110V circuit is required for the ventilation system. Floor outlets are prohibited.					**6-12**	**HS**
	▪	Electrical drop-cords, with removable strain relief devices, over student worktables.					**6-12**	**HS**
	▪	Outlets spaced at 8'-0" o.c. on perimeter walls.					**6-12**	**HS**
	▪	Track lighting and electrical outlets on pipe grid for display use. 12 track lights with color correct flood bulbs. A minimum of 50-ft. candles, maintained at the work surface, of color correct lighting is required for general lighting. Locate the general lighting room switch near the corridor door. Track lights should be independently switched.					**6-12**	**HS**
	Graphics Classroom:							
	▪	Locate in close proximity to the art classrooms and to storage and teacher work areas to maximize shared resources/materials.					**6-12**	**HS**
	▪	30-35 computer work stations with 2 stations for printers.					**6-12**	**HS**
	▪	Computer work station to support laptop, CPU, monitor, keyboard and scanner.					**6-12**	**HS**
	▪	Separate server for room.					**6-12**	**HS**
	▪	Room can be shared with other programs.					**6-12**	**HS**
	▪	Markerboards with marker rail and appropriate tackboards on walls.					**6-12**	**HS**
	▪	Ventilation systems must safely accommodate the use of art materials, chemical techniques and resulting fumes. Other systems are required for specific equipment.					**6-12**	**HS**
	▪	Outlets spaced on perimeter walls for computer work stations.					**6-12**	**HS**

	Teacher Work Area:							
	▪	Locate in a manner to maximize supervision of classrooms and encourage teacher student interaction.						**HS**
	▪	Doors with view light for supervision.						**HS**
	▪	Three 5’-0” wide workstations, counter depth at workstations should be 30”.						**HS**
	▪	18" wide drawer unit for personal use per work station.						**HS**
	▪	36" wide by 84” tall storage cabinet for coat storage.						**HS**
	▪	Space for five file cabinets.						**HS**
	▪	4'x4' markerboard.						**HS**
	Art Courtyard:							
	▪	Access into 2D Art Classroom and 3D Art Classroom.						**HS**
	▪	Concrete paved surfacing.						**HS**
	▪	Low screen wall and fencing for courtyard.						**HS**
	▪	Hose bib.						**HS**

MUSIC							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Music Suite							
	Music / Instrument Room:						
	▪ Where music classroom is shared with performance platform, provide a folding sound partition separating music classroom / platform from cafetorium area.		**E-5**	**E-8**			
	▪ Lockable instrument storage cabinets capable of storage for: 5 sets of Music Educator's rhythm band set; 4 Alto Glockenspiel; 4 Soprano Metallophone; 2 Deep Base Betallophone; 4 Soprano Xylohone; 4 Alto Xylophone; 2 Deep Base Xylophone.		**E-5**				
	▪ Level floor surface. Permanently tiered floors are prohibited.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ 25 SF of floor space for each instrumentalist, based on 80 students.			**E-8**	**MS**	**6-12**	**HS**
	▪ Design space to accommodate students seated on both the floor and on temporary risers.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Acoustically treat and/or isolate the space to minimize transfer of sound into educational areas.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Direct access to performance platform.			**E-8**	**MS**	**6-12**	**HS**
	▪ Double doors to accommodate movement of large musical instruments, props, and equipment to the performance platform and to other areas of the school.			**E-8**	**MS**	**6-12**	**HS**
	▪ Flooring to be carpet.			**E-8**	**MS**	**6-12**	**HS**
	▪ Ceilings: Open to structure with acoustical treatment; Suspended acoustical tile ceiling system with integral acoustical treatment; Minimum 14'-0" ceiling height.		**E-5**	**E-8**	**MS**		
	▪ Ceilings: Open to structure with acoustical treatment; Suspended acoustical tile ceiling system with integral acoustical treatment; Minimum 16'-0" ceiling height.					**6-12**	**HS**
	▪ 2 markerboards, 8 LF each.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ One markerboard shall have factory-applied ruled music lines. Cork-insert map rails full length of markerboards with clips (one per 18" of board length) and one flag holder per room.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Mount markerboards at heights per DPS Design and Construction Standards - Markerboards and Tackboards.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ 16 LF of tackboard surface. Mount minimum 5' away from egress doorways.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Paper towel and soap dispenser at sink.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ 6 LF of lockable base and overhead wall cabinets with single compartment deep bowl sink with goose-neck faucet. Do not provide overhead wall cabinets directly above sink.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

▪	72” lockable tall cabinet for sound amplification and recording equipment located at the front instructional wall.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Music binder storage for 500 to 600, 1" binders.					**6-12**	**HS**
▪	Locking music folio storage cabinets to accommodate 100 concert size music folios 12 inches by 14-1/2 inches.		**E-5**	**E-8**			
▪	Lockable instrument storage cabinets to accommodate 100 instruments: Thirty six (36) linear feet of 30" deep x 7'-0" high adjustable shelving cabinets with locking doors; twelve (12) linear feet of 24" deep x 7'-0" high adjustable shelving cabinets with locking doors; miscellaneous storage is required for sheet music, tapes, records, compact discs and reference books; shelving within cabinets should have a protective edge to avoid damage from instrument cases.			**E-8**			
▪	Storage for a minimum of 100 instruments within the instrumental music room. Storage configuration that maximizes the number and type of instruments to be stored. Storage units shall have individually locked vinyl coated wire doors that do not open wider than 90 degrees and protective 3 mm vinyl edge molding to avoid damage from instrumental cases. Maximum size of cabinets to be 42 inches in depth x 62 inches in width by 84 inches in height.				**MS**	**6-12**	**HS**
▪	Sound amplification and recording system, independent of the public address system, in a separate locked cabinet. Good speakers are essential.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Electric water cooler.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Minimum of 6 duplex outlets distributed throughout the room for use by electronic instruments.			**E-8**	**MS**	**6-12**	**HS**
▪	Floor area for studio piano.		**E-5**				
▪	Hanging microphones from the ceiling for recording.					**6-12**	**HS**
▪	Design ductwork to mitigate sound transfer from adjacent spaces.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
Instrument and Equipment Storage Room:							
▪	Room for securing large instruments, sound equipment, and other items.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Double doors to accommodate movement of stored equipment.			**E-8**	**MS**	**6-12**	**HS**
▪	Directly accessed from the music room.			**E-8**	**MS**	**6-12**	
▪	12 LF of wall mounted adjustable shelving.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate equipment storage between Instrumental music and vocal classrooms.					**6-12**	**HS**
▪	Access into storage room from the instrumental and vocal classrooms in a manner for efficient circulation the minimization of instrument movement.					**6-12**	**HS**
▪	Wall mounted hangers for tubas.					**6-12**	**HS**
▪	Design ductwork to mitigate sound transfer from adjacent spaces.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Tub sink for instrument cleaning.					**6-12**	**HS**

	Practice Rooms:							
	▪ One 60 SF solo room and two 140 SF practice rooms. Locate the practice rooms between vocal and instrumental music rooms.			**E-8**	**MS**		
	▪ Practice rooms must provide sound isolation between vocal and instrumental rooms.			**E-8**	**MS**		
	▪ View windows in the walls for supervision.			**E-8**	**MS**		
	▪ One duplex outlet in each room.			**E-8**	**MS**		
	Vocal Room:							
	▪ 20 SF of floor space per vocalist, based on 80 – 100 students.				**MS**	**6-12**	**HS**
	▪ Adequate storage for portable risers. Risers are positioned at the rear of the room in order for sound mixing to take place in front of the vocalists and for movement and choreography rehearsal. A piano will also be placed in front of the vocalists.				**MS**	**6-12**	**HS**
	▪ Room should be designed with a flat floor. Flooring to be carpet.				**MS**	**6-12**	**HS**
	▪ Adequate storage and shelving to accommodate (100) 9 inch by 11-1/2 inch music folios, guitars, sheet music, books, records and tapes, and general storage.				**MS**	**6-12**	**HS**
	▪ A 72” lockable tall cabinet for sound amplification and recording equipment located at the front instructional wall.				**MS**	**6-12**	**HS**
	▪ Floor area for baby grand piano.				**MS**	**6-12**	**HS**
	▪ Markerboards with marker rail and appropriate tackboards on walls.				**MS**	**6-12**	**HS**
	▪ 4x8 markerboard with music staff markings.				**MS**	**6-12**	**HS**
	▪ Sound amplification and recording system, independent of the public address system, in a separate locked cabinet. Good speakers are essential.				**MS**	**6-12**	**HS**
	▪ Hanging microphones from the ceiling for recording.					**6-12**	**HS**
	▪ Design ductwork to mitigate sound transfer from adjacent spaces.				**MS**	**6-12**	**HS**
	▪ Water fountain.				**MS**	**6-12**	**HS**
	▪ 6 LF of lockable base and overhead wall cabinets with single compartment deep bowl sink with goose-neck faucet. Do not provide overhead wall cabinets directly above sink.				**MS**	**6-12**	**HS**
	▪ Ceilings: Open to structure with acoustical treatment; Suspended acoustical tile ceiling system with integral acoustical treatment; Minimum 14’-0” ceiling height.				**MS**	**6-12**	**HS**
	Large Practice Room:							
	▪ Minimum of 20 square feet for each occupant based on 7 students.					**6-12**	**HS**
	▪ Large Practice Rooms should be in between the vocal music classroom and Instrumental music classroom.					**6-12**	**HS**
	▪ Design and construction features should maximize acoustical isolation of music activities from surrounding areas.					**6-12**	**HS**
	▪ Room should be designed with a flat hard surface floor.					**6-12**	**HS**

	▪	View windows in the walls for supervision.					**6-12**	**HS**
	▪	Space for piano and bench.					**6-12**	**HS**
	▪	Adequate door hardware to assure acoustical separation from adjacent spaces.					**6-12**	**HS**
	▪	Design ductwork to mitigate sound transfer from adjacent spaces.					**6-12**	**HS**
	Small Practice Room:							
	▪	Minimum of 20 square feet for each occupant based on 3 students.					**6-12**	**HS**
	▪	Small practice rooms should be in between the vocal music classroom and the instrumental music classroom.					**6-12**	**HS**
	▪	Design and construction features should maximize acoustical isolation of music activities from surrounding areas.					**6-12**	**HS**
	▪	Room should be designed with a flat hard surface floor.					**6-12**	**HS**
	▪	Space for piano and bench.					**6-12**	**HS**
	▪	Adequate door hardware to assure acoustical separation from adjacent spaces.					**6-12**	**HS**
	▪	Design ductwork to mitigate sound transfer from adjacent spaces.					**6-12**	**HS**
	Music Library:							
	▪	Locate adjacent to music office.					**6-12**	**HS**
	▪	Store all music scores in library.					**6-12**	**HS**
	▪	High density shelving for 1,500 pieces of music in folios 12 inches by 14-1/2 inches + 30% expansion.					**6-12**	**HS**
	▪	Space for copier.					**6-12**	**HS**
	▪	Design ductwork to mitigate sound transfer from adjacent spaces.					**6-12**	**HS**

SCIENCE						
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.						
	E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Science Suite:						
General Science Laboratory Classroom (Earth Science, Physical Science):						
▪ A general purpose science classroom with perimeter utilities and project work surfaces and an open area in the center of the room for student tables.			**E-8**	**MS**	**6-12**	**HS**
▪ Minimum of 40 SF per student.			**E-8**	**MS**	**6-12**	
▪ Student tables can be relocated to form workstations at perimeter casework.			**E-8**			
▪ Instruction encompasses lecture, discussion, multi-media, hands-on, and computerized virtual experimentation with instruction in life science and physical science.			**E-8**	**MS**	**6-12**	**HS**
▪ Students work at two-person acid resistant tables 24 inches deep by 48 inches wide.			**E-8**	**MS**	**6-12**	**HS**
▪ The laboratory design shall allow student tables to be oriented toward a teaching station with good visual access to the teaching wall and instructor.			**E-8**	**MS**	**6-12**	**HS**
▪ Floor area near teaching wall for a moveable or fixed demonstration table.			**E-8**	**MS**	**6-12**	**HS**
▪ Locking door hardware with a common key is required for all spaces in the science laboratory suite.			**E-8**	**MS**	**6-12**	**HS**
▪ Locate windows to allow adequate sunlight for plant growth on top of base cabinets. Coordinate with daylighting windows.			**E-8**	**MS**	**6-12**	
▪ Natural daylight into all classroom spaces. Window coverings to reduce light level to 0 foot-candles, for AV presentations and optics work.			**E-8**	**MS**	**6-12**	**HS**
▪ Flooring to be a hard surface.			**E-8**	**MS**	**6-12**	**HS**
Minimum 10'-0" ceiling height.			**E-8**	**MS**	**6-12**	**HS**
▪ Perimeter casework enabling eight (8) four-person teams to work on projects along two walls. All utilities should be provided along these walls. Power outlets 8' o.c. One 20 amp circuit per 4 CPU workstations. Island utilities are to be avoided. Casework shall be 30" deep.			**E-8**	**MS**	**6-12**	**HS**
▪ Base cabinets shall be plastic laminate with chemical resistant black epoxy work surface. All doors and drawers to have individual locks. Option of chemical resistant plastic laminate counters and stainless steel sinks is acceptable.			**E-8**	**MS**	**6-12**	**HS**
▪ Walls above base cabinets, consider locating alternating sections of locking base cabinets with water-and chemical-resistant countertops along walls. All student utilities shall be provided at these cabinets. Island or peninsula type configurations are prohibited. Bookshelves and wall cabinets above gas turrets is prohibited.			**E-8**	**MS**	**6-12**	**HS**

	▪	Locking microscope cabinet for storage of 32 microscopes.			**E-8**	**MS**	**6-12**	**HS**
	▪	Markerboards with marker rail and appropriate tackboards on walls.			**E-8**	**MS**	**6-12**	**HS**
	▪	One 10-pound dry chemical fire extinguisher. The extinguisher should be located not more than 25 feet from any point in the room if possible, but in no case more than 50 feet. It should not be placed along a traffic path where it can be knocked down. Confirm with current State Health Department, IFC and IBC requirements.			**E-8**	**MS**	**6-12**	**HS**
	▪	Hands free eye/shower wash station not more than 25 feet from any point in the room if possible, but in no case more than 40 feet. Keep eye/shower wash station out of normal traffic areas.			**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted goggle storage cabinet.			**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted first aid kit.			**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted apron rack.			**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted fire blanket.			**E-8**	**MS**	**6-12**	**HS**
	▪	One mechanically vented pass thru countertop Fume Hood at the prep room wall. Include cup sink in countertop.			**E-8**	**MS**	**6-12**	**HS**
	▪	Paper towel and soap dispenser at each sink.			**E-8**	**MS**	**6-12**	**HS**
	▪	Acid resistant floor drains.			**E-8**	**MS**	**6-12**	**HS**
	▪	Four acid resistant sinks with gooseneck faucets and paddle handles. Interior sink dimensions: 28” l x 16” w x 7” d. Locate faucets at back of sinks. Sinks can be either stainless steel or black epoxy. All plumbing piping to be acid resistant. Manual and fire alarm actuate emergency power and gas shut-off switches at main exit door from room.			**E-8**	**MS**		
	▪	Dedicated exhaust system for all science rooms and a dedicated fan directly over the demonstration island. Controls to be located at the demonstration island.			**E-8**	**MS**	**6-12**	**HS**
	▪	Gas turrets for each six linear feet of counter space with a separate locking master gas control in the preparation room. Locate turrets as close to the counter back splash as possible to maximize available space. Gas service is not required at student worktables. Emergency gas shut-off with manual and fire-alarm actuated gas shut-down for each lab. Locate shut off valve in coordination with the Denver Fire Department.			**E-8**	**MS**	**6-12**	**HS**
	▪	Compressed air outlet at each workstation.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate master control electrical switch in science preparation room with quick disconnect stations in the science laboratory.			**E-8**	**MS**	**6-12**	**HS**
	Advanced Science Laboratory Classroom (Chemistry, Physics, Biology):							
	▪	Plan for 32 students per advanced science classroom/lab.					**6-12**	**HS**
	▪	Lecture and a lab environment within the same space. Arrange the room in a way that lab equipment can be set up for the day without disturbance from lecture settings.					**6-12**	**HS**
	▪	Fixed demonstration table.					**6-12**	**HS**

	▪	Natural daylight into all classroom/lab spaces. Window coverings to reduce light level to 0 foot-candles for AV presentations and light spectrum work.					**6-12**	**HS**
	▪	Electric and gas shut off valves in the science prep room.					**6-12**	**HS**
	▪	Locks for doors to science laboratories, preparation rooms and science storage rooms should allow for one common key for all.					**6-12**	**HS**
	▪	(8) eight student workstations. Each work station to contain power, data, gas outlets and sink. ADA accessible workstation for each lab.					**6-12**	**HS**
	▪	All cabinets shall be wood with locking doors and chemical resistant black epoxy work surface.					**6-12**	**HS**
	▪	Base and upper cabinets located around the perimeter of 2 walls in the lab portion of the room.					**6-12**	**HS**
	▪	Casework shall be 30” deep.					**6-12**	**HS**
	▪	Pass through fume hood at the prep room wall with chemical resistive base cabinet. Include cup sink in countertop.					**6-12**	**HS**
	▪	Markerboards with marker rail and appropriate tackboards on walls.					**6-12**	**HS**
	▪	One 10-pound dry chemical fire extinguisher. The extinguisher should be located not more than 25 feet from any point in the room if possible, but in no case more than 50 feet. It should not be placed along a traffic path where it can be knocked down. Confirm with current State Health Department, IFC and IBC requirements.					**6-12**	**HS**
	▪	Additional fume hoods in lab area.					**6-12**	**HS**
	▪	Wall mounted first aid kit.					**6-12**	**HS**
	▪	Wall mounted goggle cabinet.					**6-12**	**HS**
	▪	Wall mounted apron rack.					**6-12**	**HS**
	▪	Wall mounted fire blanket.					**6-12**	**HS**
	▪	Paper towel and soap dispenser at each sink.					**6-12**	**HS**
	▪	Dedicated exhaust system for all science rooms and a dedicated fan directly over the demonstration island. Controls to be located at the demonstration island.					**6-12**	**HS**
	▪	Hands free eye/shower wash station not more than 25 feet from any point in the room if possible, but in no case more than 40 feet. Keep eye/shower wash station out of normal traffic areas.					**6-12**	**HS**
	▪	Sinks to be black epoxy drop-in single compartment sinks, one per each island, plus one in the demonstration island. Inside dimensions of the sink should be 28 inches long by 16 inches wide by 7 inches deep. Cold and hot water. Sinks to have gooseneck faucets with blade handles. Faucets located at back of sinks. All science sinks to have an acid resistant piping system that drains to a single central neutralization tank.					**6-12**	**HS**
	▪	Gas turrets at each workstation. Emergency gas shut-off with manual and fire-alarm actuated gas shut-down for each lab. Locate shut off valve in coordination with the Denver Fire Department.					**6-12**	**HS**
	▪	Compressed air outlet at each workstation.					**6-12**	**HS**

	▪	Gas shut off valves at the science prep room.					**6-12**	**HS**
	▪	Acid resistant floor drain.					**6-12**	**HS**
	▪	Power and data at all islands. Otherwise power outlets 8' o.c. above counters.					**6-12**	**HS**
	▪	One 20 amp circuit per 4 CPU workstations/laptop docking stations					**6-12**	**HS**
	▪	Locate master control electrical switch in science preparation room with quick disconnect stations in the science laboratory.					**6-12**	**HS**
	▪	Locate clock and speaker on the wall perpendicular to the front instructional wall.					**6-12**	**HS**
	▪	Data terminal at front of classroom. Hard wired or wireless data at each student workstation.					**6-12**	**HS**
	Science Prep Room:							
	▪	Combination preparation/workroom.			**E-8**	**MS**		
	▪	If two science labs are provided, it is preferred that they share a common science prep room.			**E-8**	**MS**		
	▪	A preparation area should be located between two (2) general science rooms and between two (2) advanced science rooms.					**6-12**	**HS**
	▪	Large interior window between the prep room and the lab for visual supervision of the laboratory.			**E-8**	**MS**	**6-12**	**HS**
	▪	Direct access to the corridor and direct access to the general science rooms and advanced science rooms.					**6-12**	**HS**
	▪	Self locking and self closing door hardware.			**E-8**	**MS**	**6-12**	**HS**
	▪	Directly adjacent to each science laboratory with a connecting door.			**E-8**	**MS**		
	▪	Full size dishwasher and refrigerator.			**E-8**	**MS**	**6-12**	**HS**
	▪	Perimeter base and upper cabinets on one wall, casework shall be 30" deep black epoxy work surfaces at a height of 34" AFF.			**E-8**	**MS**	**6-12**	**HS**
	▪	Master electrical and gas controls switch for the laboratory.			**E-8**	**MS**	**6-12**	**HS**
	▪	Continuous electrical plug mold above countertops.			**E-8**	**MS**	**6-12**	**HS**
	▪	One gas turret near back splash on base cabinet.			**E-8**	**MS**	**6-12**	**HS**
	▪	One black epoxy drop-in single compartment sink with acid resistant piping and gooseneck faucet and hot and cold water in a base cabinet. The sink size should be 28 inches long by 16 inches wide by 7 inches deep.			**E-8**	**MS**	**6-12**	**HS**
	▪	Acid resistant floor drain.			**E-8**	**MS**	**6-12**	**HS**
	▪	Eye/shower wash station.					**6-12**	**HS**
	▪	Under counter space for six (6) rolling project carts.					**6-12**	**HS**
	▪	Open shelf units on opposite wall from counter.					**6-12**	**HS**
	▪	One ice maker for the science department.				**MS**	**6-12**	**HS**
	▪	Acid storage cabinets.			**E-8**	**MS**	**6-12**	**HS**
	▪	Flammable storage cabinets.			**E-8**	**MS**	**6-12**	**HS**
	▪	One mechanically vented pass through fume hood with gas, water and electrical service for mixing chemicals and providing demonstrations. Include cup sink in countertop.			**E-8**	**MS**	**6-12**	**HS**

	▪	Hot plates.					**6-12**	**HS**
	▪	Water baths.					**6-12**	**HS**
	▪	One 10-pound dry chemical fire extinguisher. The extinguisher should be located not more than 25 feet from any point in the room if possible, but in no case more than 50 feet. It should not be placed along a traffic path where it can be knocked into.			**E-8**	**MS**	**6-12**	**HS**
	▪	One wall mounted fire blanket.			**E-8**	**MS**	**6-12**	**HS**
	▪	Dedicated exhaust system for the prep area with a dedicated exhaust fan.			**E-8**	**MS**	**6-12**	**HS**
	Science Storage Room:							
	▪	General storage for science equipment and instruments.			**E-8**	**MS**	**6-12**	**HS**
	▪	If more than one science prep room is provided, a single shared storage room is preferred.			**E-8**	**MS**		
	▪	Self locking and self closing door hardware.			**E-8**	**MS**	**6-12**	**HS**
	▪	Directly adjacent to and accessed from the Science Prep Room.			**E-8**	**MS**		
	▪	The science storage room should be located off the science preparation room. If two science rooms are adjacent to one another, one enlarged storage room may be located between them.					**6-12**	**HS**
	▪	One fire resistant storage cabinet with flame arrestor with dimensions of 36 inches high by 36 inches wide by 24 inches deep.			**E-8**	**MS**	**6-12**	**HS**
	▪	One non-corroding acid cabinet with dimensions of 36 inches high by 36 inches wide by 18 inches deep to store acids below eye level.			**E-8**	**MS**	**6-12**	**HS**
	▪	One 10-pound dry chemical fire extinguisher beside the room exit door.			**E-8**	**MS**	**6-12**	**HS**
	▪	Total of 100 linear feet of full height adjustable shelving divided equally between 18 inches deep and 24 inches deep. One third of shelving shall be within locking cabinets.			**E-8**	**MS**	**6-12**	**HS**
	▪	Acid resistant floor drain.			**E-8**	**MS**	**6-12**	**HS**
	▪	Special room ventilation requirements – Reference code authorities with jurisdiction.			**E-8**	**MS**	**6-12**	**HS**
	Science Faculty Workroom:							
	▪	The science faculty workroom should be located centrally within the science classrooms.					**6-12**	**HS**
	▪	Workroom is to provide minimum space for 8 faculty workstations and a conference table for 12 people.					**6-12**	**HS**
	▪	18 linear feet of storage and one sink.					**6-12**	**HS**

INDUSTRIAL TECHNOLOGY CENTER							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Technology Lab Suite:							
Technology Lab:							
▪	The tech lab should provide a learning environment that reflects the image of a professional technology oriented workplace. Learning modules include units in electricity, electronics, energy/power mechanics, applied physics, research and design, graphic communication, computer problem solving, flight technology, rocketry and space technology, transportation, robotics and automation, desk top publishing, audio broadcasting, engineering structures, computer graphics/animation and computer applications.			**E-8**	**MS**		**HS**
▪	Work modules or room space for work modules for 32 students working in groups of two. Counter depth should be determined by the space required for equipment such as hydraulic and pneumatic trainers. Shelving for headphones, supplies and student notebooks for each module. Work module wall heights should not be higher than 54 inches to permit visual supervision by teachers.			**E-8**	**MS**		**HS**
▪	Teacher station in the middle of the work module area. If the teacher station is raised, in order to provide good visual supervision and for ease of demonstrations, provide ADA access to the raised platform.			**E-8**	**MS**		**HS**
▪	Open storage for safety equipment.			**E-8**	**MS**		**HS**
▪	Heavy-duty shelves in sections to accommodate 32 notebooks each.			**E-8**	**MS**		**HS**
▪	Reference books and materials, videos and compact discs.			**E-8**	**MS**		**HS**
▪	All aisles around work modules should be a minimum of 48 inches wide.			**E-8**	**MS**		**HS**
▪	Acoustic treatments that minimize noise levels.			**E-8**	**MS**		**HS**
▪	Natural and artificial lighting. Light levels should be uniform and provide illumination levels consistent with safe equipment operation. Windows sill heights should not be lower than 40 inches above the floor. Large window expanses are discouraged. At least one sash should be operable.			**E-8**	**MS**		**HS**
▪	4x16 markerboard and a 4x4 tackboard.			**E-8**	**MS**		**HS**
▪	Eyewash/shower station with drain and electric water cooler.			**E-8**	**MS**		**HS**
▪	Deep sink with gooseneck faucet and blade handles. Hot water is not required. Proximity detectors to start water flow are not recommended.			**E-8**	**MS**		**HS**
▪	Coordinate location of 120-volt single phase and 208 volt three phase convenience outlets.			**E-8**	**MS**		**HS**
▪	Electrical distribution as necessary.			**E-8**	**MS**		**HS**

	▪	One 120-volt duplex outlet every eight feet of wall length or a continuous plug mold. Locate outlets and plug molds 42" above the floor. The start switch for each piece of equipment should be placed within easy reach of the operator and should be a magnetic switch.			**E-8**	**MS**		**HS**
	▪	Approximately 40 percent power reserve capacity for future equipment.			**E-8**	**MS**		**HS**
	▪	Locate room light control switches in the laboratories to be easily accessible to teachers.			**E-8**	**MS**		**HS**
	▪	Master switch near the teaching station to control outlets for all computers and the audio visual equipment.			**E-8**	**MS**		**HS**
	▪	Lighting level of 50-foot-candles maintained 36 inches above the floor.			**E-8**	**MS**		**HS**
	Manufacturing Fabrication Room:							
	▪	Consultants and others involved in design of the laboratory must become familiar with both the equipment and teaching needs in order to provide an efficient, flexible and safe learning environment. Component areas are: Workbench area, Machines, Metals area, Plastics area, Construction Activity area, and Teacher office.				**MS**	**6-12**	**HS**
	▪	Locate room adjacent to the technology lab with windows for visual supervision. All areas must be visible to the instructor to monitor safe operation of equipment by students.				**MS**	**6-12**	**HS**
	▪	An "air lock" vestibule with doors and windows between the production and modular laboratories to reduce transfer of dust might be considered.				**MS**	**6-12**	**HS**
	▪	Open to structure ceiling.				**MS**	**6-12**	**HS**
	▪	Pair of doors leading from the laboratory directly outside the building to allow easy movement of construction projects, machines and equipment for repair, and delivery of materials.				**MS**	**6-12**	**HS**
	▪	Direct adjacency to material storage.				**MS**	**6-12**	**HS**
	▪	Dust collection system for stationary woodworking machines. Coordinate equipment list with Owner prior to specification of dust collection system. Locate the collection bin on a concrete pad secured with a gated chain link fence to provide easy access for removal trucks. Interior ductwork serving the collector should not interfere with use of the space.				**MS**	**6-12**	**HS**
	▪	Master switch for power serving all equipment				**MS**	**6-12**	**HS**
	▪	Bench top paint hood – min. 5’ length.				**MS**	**6-12**	**HS**
	▪	20 SF of exterior concrete pad for outside activities.				**MS**	**6-12**	**HS**
	▪	15 LF of base cabinets with 30” deep work counter.				**MS**	**6-12**	**HS**
	▪	Goggle cabinet.				**MS**	**6-12**	**HS**
	▪	Sink base and associated base cabinets to accommodate a single compartment sink and 3’ of additional work counter, 34” AFF.				**MS**	**6-12**	**HS**
	▪	4x8 markerboard and 4x4 tackboard.				**MS**	**6-12**	**HS**
	▪	Miscellaneous small tool equipment.				**MS**	**6-12**	**HS**

	▪	Design ductwork to mitigate sound transfer to adjacent spaces.				**MS**	**6-12**	**HS**
	▪	Eyewash/shower station with drain and electric water cooler.				**MS**	**6-12**	**HS**
	▪	Deep bowl utility sink, blade handle hardware and grease trap. Both hot and cold water. Proximity detectors to start water flow are not recommended.				**MS**	**6-12**	**HS**
	▪	Hose bibb.				**MS**	**6-12**	**HS**
	▪	Acid waste neutralization system for all drains.				**MS**	**6-12**	**HS**
	▪	40% reserve capacity for future equipment.				**MS**	**6-12**	**HS**
	▪	120v single phase and 208v three phase as required based upon equipment selection. Wall outlets for equipment is preferred, install power poles for table top equipment or standalone equipment not located along the perimeter of the room. One 120V duplex outlet every eight feet of wall length or a continuous wiremold. Outlets and wiremold should be located 42 inches above the floor. The start switch for each piece of equipment should be located within easy reach of the operator and should be a magnetic switch. 208V power should be available through the laboratory to increase equipment relocation flexibility.				**MS**	**6-12**	**HS**
	▪	Locate light control switches, vents, fans and dust collectors in the room near the teacher station. Dual level switching to maintain 50 foot candles 36 inches above the floor and a second level of 100 foot candles.				**MS**	**6-12**	**HS**
	▪	Lighting in the wood lathe area should be designed to eliminate the strobe effect that may be produced by fluorescent lights in combination with motor driven equipment.				**MS**	**6-12**	**HS**
	Industrial Technology Resource / Materials Room:							
	▪	Locate room with direct access to the manufacturing fabrication room and the tech lab. The design must accommodate movement, storage and delivery of materials.			**E-8**	**MS**		**HS**
	▪	Open rack storage for wood, metals, plastics and supplies.			**E-8**	**MS**		**HS**
	▪	Locking storage for: equipment such as hydraulic and pneumatic trainers, multi-meters and oscilloscopes, video cameras, computer software, plotters and scanners; project assembly equipment and student projects such as bridges, rockets and CO2 cars; and floor area for movable equipment and freestanding locking storage cabinets			**E-8**	**MS**		**HS**
	▪	Direct exterior access into material storage.			**E-8**	**MS**		**HS**
	▪	Vented storage cabinet and ventilation.			**E-8**	**MS**		**HS**
	▪	Metal storage racks and shelving.			**E-8**	**MS**		**HS**
	Teacher Work Area:							
	▪	Teacher office with good visual access to both the tech lab and the manufacturing fabrication room.				**MS**	**6-12**	**HS**
	▪	Windows with blinds for visual supervision.				**MS**	**6-12**	**HS**
	▪	Doors with view light for supervision.				**MS**	**6-12**	**HS**

	▪	Two 6’-0” wide workstations; counter depth at workstations shall be 30 inches.				**MS**	**6-12**	**HS**
	▪	18” wide drawer unit for personal use.				**MS**	**6-12**	**HS**
	▪	36” wide by 84” tall storage cabinet for coat storage.				**MS**	**6-12**	**HS**

BUSINESS CENTER							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Business Center:							
Business Lab / Classroom:							
▪	Room configuration should not be tiered. Students are seated at continuous computer counters and the instructor circulates between rows of stations.						**HS**
▪	32 workstations for students, one for the instructor, and one for a color printer. Each workstation shall have an interactive clicker for the interactive whiteboard, computer, monitor, keyboard tray and a scanner. For ease of reconfiguration, portable computer tables should be used in lieu of built-in counters. Ensure all workstations meet requirements for ADA access and use requirements.						**HS**
▪	Central open area for small groups within lab.						**HS**
▪	Separate for each lab in a small, well ventilated locking closet.						**HS**
▪	Large areas of windows are not recommended in the lab/classroom, except for high openings for daylight supplement and to the corridor.						**HS**
▪	Markerboards with marker rail and appropriate tackboards on walls.						**HS**
▪	Wall switch near the teacher station to control all electrical power to student computer stations.						**HS**
Student Store Storage:							
▪	Locate directly adjacent to student store.						**HS**
▪	Space for shelving.						**HS**
Student Store:							
▪	Locate in close proximity to the commons and athletic areas.						**HS**
▪	Direct access to student store storage.						**HS**
▪	Sales counter.						**HS**
▪	Display shelving for sale items.						**HS**
▪	One Point-of-sales counter.						**HS**
▪	Specialty lighting for items on display.						**HS**

MULTI-PURPOSE (E-K) / CAFETORIUM (E-5, E-8, MS) / COMMONS (HS)						
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.						
	E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Kitchen: All flooring and 6" base in Kitchen area to be quarry tile, with non-porous cleanable wall and ceiling surfaces; PA system to be tied into school's PA system; Kitchen and serving area to be completely secured from dining; All paper towel dispensers, soap dispensers and hand sinks to be manually operated in kitchen and food service toilet rooms.						
Serving Line:						
▪ The serving area is where students pick up their food trays. The serving area is equipped with hot food tables, cold food tables, and flat table area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Floor drains are not to be located in the serving area unless required by code.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ A milk cooler should be positioned at one end of the serving line.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Minimum of 15 LF of serving line.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Continuous, solid tray slide for the length of the serving line.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The serving line will terminate in a portable point-of-sale computer station which is wirelessly connected to the kitchen office and the central food service server.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The serving line can be within the kitchen area with an "in" door and an "out" door, or it can be through a coiling counter door opening into the seating area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The serving line should be positioned to allow for students to line up waiting for their turn to be served.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The serving line and the multi-purpose room/cafetorium entrance should be positioned for good traffic flow and should avoid cross-traffic.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Use of color and texture for finishes in this area is encouraged.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The serving area is a space designated for the staging of students at serving lines. Foot traffic flow patterns need to be carefully planned. The serving area should allow adequate flow of students into a defined space leading directly to the dining area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Consideration should be given to maintain visual supervision of service lines from point-of-sale locations.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ The serving area should provide three (3) serving lines; the serving space will accommodate the point-of-sale feature for each. Provide phone lines and required power outlets to support this function.					**6-12**	**HS**
▪ Serving area design should provide efficiency for minimum kitchen staff. Arrange serving similar to sports stadiums or fast food serving counters.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	Food Preparation Area:							
	▪	All surfaces in the kitchen are to be non-porous materials that are easily cleaned and comply with requirements of local health authorities.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The food preparation is the area where the food is cooked or heated in preparation for being served.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The facility will be used for preparation of meals for the school as well as meals that will be transported daily to other area schools.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The serving line is the interface between the food preparation area and the seating area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Locate the food preparation area with direct relationships to food storage and the freezer / refrigerator.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Sanitization is of critical importance in the food preparation area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	All faucets for kitchen hand sinks and food service toilet room sinks are to be manually operated by hand or foot controls.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor sinks and floor drains as needed and required by health code.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor sinks should be set level with the floor. Floor drains should have a slope-to-drain.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	All food preparation equipment and tables should be on locking casters for ease of cleaning.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Equipment to consider: heated holding cabinet, refrigerator, cook's table, mixer, mixer table, hoodless cooking equipment, food slicer, prep sink, range, convection oven, steamer, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	2 door refrigerator; and single door freezer.	**E-K**					
	▪	The food preparation area should be laid out to avoid cross-traffic between clean and contaminated materials.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	All mechanical, electrical, and plumbing utilities are to meet requirements of the DPS Design and Construction Standards and include expansion capabilities.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Locate the kitchen adjacent to the cafeteria seating area and adjacent to an exterior delivery area and screened trash pickup area. An exit door 4'-0" wide by 7'-0" high must be provided directly to the exterior, along with similar width locking screen door. Provide doorbell to notify kitchen staff of deliveries.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Sound control between the cafetorium and the kitchen.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Dishwashing Area:							
	▪	The dishwashing area is where soiled dishes/trays, as well as the pots and pans and the tools of food preparation, are washed.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Provide access from the dish return area to the dishwashing area without crossing paths used in the preparation of food.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Dish machine not required.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Spray rinse and disposer w/ cone.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The dishwashing area will contain a three-compartment pot and pan sink with disposer in initial rinse compartment.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

▪	Plan locations for “soiled dish” and “clean dish” storage.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Dish Return Area:						
▪	The dish return is the area where students return their dirty dishes for washing. Since many of the utensils used in eating are disposable, the students normally return their trays to a table with a trash container. Trays are frequently stored on a cart which is wheeled into the kitchen for dishwashing.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	The dish return area can be either within the kitchen or simply within the seating area where trash and trays area collected.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Dry Food Storage:						
▪	Shelving and dunnage racks.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Light level of 50 FC maintained at 30" AFF.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate near receiving area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Walk-in Freezer / Refrigerator:						
▪	Provide walk-in refrigerator and walk-in freezer.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate the walk-ins near the receiving area and convenient to the preparation area.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Walk-ins are to be provided with air-cooled condensers located on the roof where possible.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Food Service Office:						
▪	Office where manager performs clerical work and conducts the routine business of the kitchen.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Modular work surface with double file drawers and knee space with pencil drawer. (Minimum work surface length is 7’ with computer connections and power available.)	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Food service lockers (15” two tier) may be located within the food service office or in another convenient location (adjacent to the Food Service Toilet).	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Easily accessible data and power outlets to accommodate the point-of-sale computer on a cart.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Telephone jack.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Window between office and food preparation area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Food Service Toilet:						
▪	Single occupant, ADA accessible, with toilet and wall-hung lavatory for use by kitchen staff.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	All faucets for food service toilet room sinks are to be manually operated by hand or foot controls.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Convenient access to lockers.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Room shall not be accessed directly from the Food Preparation Area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	The toilet can be accessed through the food service office.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Food Service Laundry Room:						
▪	Custodial closet with mop sink, shelves and stack type washer/dryer. (Also refer to Facility Maintenance section.)	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	Receiving Area:							
	▪	Receiving area is where food products are received and where refuse is removed from the Food Service Area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The receiving area must have direct access to the service drive with vehicle access. A receiving dock is not required, but is advisable if site grade conditions allow.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The receiving area may be within the kitchen area or may be a separate room.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Receiving area door(s) should be minimum 4'-0" wide; card reader at door.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Door bell (or other signaling device) at door for controlled access to receiving area with visual access.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Locking screen door between Food Preparation areas and the exterior.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Receiving should have convenient access to food storage and refrigerated storage equipment.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	One exterior keyed hose bib at the service entrance into the kitchen.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Dining / Performance Seating Area:								
	Dining / Performance Seating Area:							
	▪	Direct access from a main corridor.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Near, or easily accessed from, the main building entrance.	**E-K**					
	▪	The seating area must accommodate 150 students seated at circular or octagonal tables with loose seating. The seating area should have a flat floor.	**E-K**					
		The seating area must accommodate 280 students seated at octagonal tables with loose seating for dining. The seating area should have a flat floor.		**E-5**	**E-8**			
	▪	Performance seating will accommodate 200 people in loose, interlocked seating.	**E-K**					
	▪	Performance seating will accommodate 400-500 people in loose, interlocked seating.		**E-5**	**E-8**			
	▪	The cafetorium should be designed to seat 300 persons at tables and chairs for lunch and for 600 persons in non-fixed seating for performances with a flat floor.				**MS**		
	▪	The commons should be designed to seat a minimum of 450 persons at tables and chairs for lunch and for 950 persons in fixed and non-fixed seating for performances with a flat floor.					**6-12**	**HS**
	▪	Consider additional bleacher type seating for 200.						**HS**
	▪	The seating area must have direct relationships to the serving line and chair/table storage.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The seating area should be configured for good vision to the performance area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Mobile performance platform.	**E-K**					
	▪	After eating, students normally go directly to the play grounds for lunch recess. The seating area should be close to the playground areas.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	
	▪	Locate near public toilets and allow for direct outside entrance to the area for after-hours use.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

▪	Exterior windows. Minimum sill heights of 24" AFF.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Special acoustic considerations for large groups of children.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Flooring to be hard surface.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Walls to be abuse-resistant and easily cleanable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Minimum of 14'-0" clear ceiling height.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Water fountains.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Performance sound system and performance lighting system: Refer to Performance platform and Miscellaneous and Special Systems and comply with all code requirements. Interface with public address / paging system. Coordinate emergency sound and light controls with fire alarm, per code.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Equipment or connections for people with hearing disabilities to have access to amplified audio. Wireless technology connected to the performance area PA system is preferred.			**E-8**	**MS**	**6-12**	**HS**
▪	Additional point-of-sale for future use in the seating area. Provide phone lines and required power outlets to support this function.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Design of air flow distribution must mitigate noise and high velocity air flow.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Seating area must accommodate ADA access and seating areas for wheel chairs and for people using “walkers”, crutches, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Staff Dining Room:							
Staff Dining Room:							
▪	Locate the staff dining room in an area near the kitchen and cafeteria seating area. The room will be furnished with tables and pull-up chairs and informal lounge seating.			**E-8**	**MS**		**HS**
▪	18 linear feet of base and upper cabinets with a sink with hot and cold water and disposal.			**E-8**	**MS**		**HS**
▪	Convenience outlets for vending machines and a refrigerator.			**E-8**	**MS**		**HS**
▪	Windows to the exterior are required.			**E-8**	**MS**		**HS**
Community Kitchen:							
Community Kitchen:							
▪	The Community Kitchen is a small area with cabinets and sinks which can be used by the public during school assemblies and similar events.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	10’ long base cabinet with countertop. Combination drawers and cabinet storage.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Wall cabinets above the base cabinets.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Double compartment sink with disposer.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Dishwasher.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Paper towel and soap dispenser at hand sinks.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Full height refrigerator.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Stovetops and ovens are be prohibited in this space.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate with direct access to the dining/seating area.		**E-5**	**E-8**			
▪	Locate adjacent to the dining area and away from the performance area and the main kitchen serving line.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Flooring to be hard surface.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

Chair / Table Storage:							
	Chair / Table Storage:						
	▪ The chair and table storage area is for the storage of multi-purpose tables when not in use as well as storage for additional loose chairs required for assembly seating in the area.	**E-K**	**E-5**	**E-8**	**MS**		
	▪ Chair and table storage may be in one location or may be divided into separate areas. Locate storage to allow for the setup or breakdown of the dining seating or performance seating areas separately without interference with ongoing activities in the other area.	**E-K**	**E-5**	**E-8**	**MS**		
	▪ Chair / table storage may be in one room or in multiple rooms.	**E-K**	**E-5**	**E-8**	**MS**		
	▪ Locate chair / table storage with direct access to the seating area.	**E-K**	**E-5**	**E-8**	**MS**		
	▪ Chair storage area to accommodate tables and chairs for 400 students. Also provide a standard custodial closet with floor sink, storage space, etc., for storage of cleaning equipment and supplies needed for the cleaning of the commons.					**6-12**	**HS**
Performance platform:							
	Performance platform:						
	▪ Raised performance platform area to accommodate 100 students and a conductor in symphonic musical arrangements. Minimum depth to be 28'-0". Ramps must be provided to facilitate moving of equipment (i.e. pianos) and wheelchairs.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Design the platform to accommodate the possibility for music classroom functions.		**E-5**	**E-8**			
	▪ Door locations and widths should facilitate movement of groups and equipment, including a grand piano, on and off of the platform.				**MS**	**6-12**	**HS**
	Locate performance platform for easy, direct access from music rooms.				**MS**	**6-12**	**HS**
	▪ Locate the performance platform opening onto the seating area.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ The performance platform should be oriented away from the seating area entrance.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ ADA accessibility to the platform: Access is required from both the seating area and from backstage. Configure the ramp between the seating area and the platform such that disabled persons will not be required to exit the performance area while moving between the seating area and platform.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Access from the back of the platform to a secure corridor or other route which enables performers to enter the stage without being seen by the audience.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Full proscenium curtain, valances, tormenters and cyclorama. Allow for arrangement of curtains in different ways. The back curtain should be far enough from the back wall of the platform to allow for performers to pass from one side of the stage to the other unseen. Minimum 18'-0" ceiling height. Fly lofts are prohibited.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	Minimum 40' wide x 20' high proscenium opening. Sufficient space should be provided in front of the proscenium opening to accommodate off-stage activities such as singing or music groups supporting a stage activity.			**E-8**	**MS**	**6-12**	**HS**
	▪	Operable partition between the stage curtain and the fore-stage. (Minimum STC rating of 54).		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Electrically controlled projection screen located just in front of (or just behind) the stage curtain.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor finish to be hard surface.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Performance sound system and performance lighting system: Refer to Miscellaneous & Special Systems and comply with all code requirements. Interface with public address / paging system. Coordinate emergency sound and light controls with fire alarm, per code.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Performance sound system independent from the building public address system.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	A performance sound system consists of receiver, mixer, amplifier, speakers, and microphones. The performance sound system should include a CD player, MP3 player and radio.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The performance sound system control panel should be conveniently located in a locked cabinet or in a "cage" backstage.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Microphones and microphone jacks at both sides of stage and center stage. Microphone jacks may be located in steps if these are present.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Hanging mikes (4 to 6) above stage to pick-up performance sound.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Mike jack and video sound jack at the back of the seating area away from the Performance platform.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Speakers backstage and throughout the seating area. The volume of individual rows of speakers should be independently controlled at the performance system control panel.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Performance lighting system that is simple yet flexible.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Lighting controls via track systems with three or four independent control circuits per track. Color filters and stage lighting fixtures.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Lighting system to control on stage lights (dimming of overhead border lights, two rows); front stage lights (dimming of individual circuits); audience area dimming.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Lighting system features should include individual dimming of each color in each bank of lights; programmable features which allow the selection of a minimum of four pre-set and preprogrammed light settings though a single command per pre-set condition; fade controls.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Lighting controls should be contained in a locked cabinet or in a "cage" backstage.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Remote lighting control stations should be provided at the back of the cafetorium (side away from platform) and at one side wall location.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	Dressing Rooms:						
	▪ Area for students and other performers to prepare for performances.			**E-8**	**MS**	**6-12**	**HS**
	▪ Flooring to be hard surface.			**E-8**	**MS**	**6-12**	**HS**
	▪ The locations of door openings shall not interfere with performances.			**E-8**	**MS**	**6-12**	**HS**
	▪ Light from dressing rooms shall not interfere with performances.			**E-8**	**MS**	**6-12**	**HS**
	▪ Direct access to the Performance platform from back- or side- stage.			**E-8**	**MS**	**6-12**	**HS**
	▪ 8'-0" long built-in countertop with sink; full height x length mirror above countertop; paper towel and soap dispenser at sink; and incandescent makeup lighting			**E-8**	**MS**	**6-12**	**HS**
	Dressing Room Toilets:						
	▪ Single occupant, ADA accessible, with toilet, urinal as appropriate and wall-hung lavatory.			**E-8**	**MS**	**6-12**	**HS**
	▪ Paper towel and soap dispenser at sink.			**E-8**	**MS**	**6-12**	**HS**
	▪ Direct access from each dressing room.			**E-8**	**MS**	**6-12**	**HS**
	Scene Shop:						
	▪ Locate adjacent to the stage and service drive.						**HS**
	▪ Direct access to the stage and exterior. Minimum 12 ft. tall opening to the stage.						**HS**
	▪ Material and set storage.						**HS**
	▪ 16 LF of base cabinet and counter.						**HS**
	▪ Flammable storage cabinets for paint.						**HS**
	▪ Lockable tool storage.						**HS**
	▪ 4 ft. tackboard, sander, drill press, table saw, chop saw.						**HS**
	▪ Sound isolation wall construction consistent with adjacent wall construction.						**HS**
	▪ Design ductwork to mitigate sound transfer from adjacent spaces.						**HS**
	▪ Dust collection system.						**HS**
	▪ Emergency eyewash/shower, deep utility sink, floor sink.						**HS**
	Storage:						
	▪ Locate adjacent to the stage and scene shop.					**6-12**	**HS**
	▪ Direct access to the stage and scene shop. Minimum 12 ft. tall opening to the stage and scene shop.					**6-12**	**HS**
	▪ Flooring to be hard surface.				**MS**	**6-12**	**HS**
	▪ Minimum 16’ clear ceiling height.					**6-12**	**HS**
	▪ Space for choir risers, platforms, acoustical shell as well as costumes and props.				**MS**	**6-12**	**HS**
	▪ Chain link enclosures for costumes, props, etc.				**MS**	**6-12**	**HS**
	▪ Coat rods and shelves for costumes.				**MS**	**6-12**	**HS**
	Green Room:						
	▪ Locate adjacent to the stage and drama office.						**HS**
	▪ Visual access to the stage and scene shop.						**HS**

	▪	36” wide by 84” tall storage cabinet for coat storage.						**HS**
	▪	Shelving for script storage.						**HS**
	▪	Interactive whiteboard system with interactive clickers and projector.						**HS**
	▪	4’x16’ markerboard with marker rail and 4’x4’ tackboard on two opposite walls.						**HS**
	▪	Flat screen TV. Assume maximum monitor size to be 40” diagonal.						**HS**
	▪	Projection screens, if required.						**HS**
	Drama Office:							
	▪	Locate adjacent to the stage and green room.						**HS**
	▪	36” wide by 84” tall storage cabinet for coat storage.						**HS**
	▪	4' tackboard.						**HS**

PHYSICAL EDUCATION / ATHLETICS							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Gymnasium Complex							
	Gymnasium:						
	▪ Students rotate through physical education classes which are conducted within the gymnasium and on outside courts and fields. The gymnasium complex should have direct access to outside activity areas without crossing any vehicular traffic. Students will normally assemble in the gymnasium for class and will move from this location to the exterior for those programs conducted outside.		**E-5**	**E-8**	**MS**		
	▪ The gymnasium may be used after hours for organized school and public programs. Informal leagues may use the gym for games although the basketball court at elementary schools is smaller than a regulation basketball court. Therefore, public, after-school access to the gym should be provided without compromising security for the remainder of the building.		**E-5**	**E-8**	**MS**		
	▪ The physical education program provides a variety of activities that enhance both individual and group participation in the development of physical skills, positive social attitude and individual responsibilities. The program stresses both indoor and outdoor sports and recreational activities. All courts and fields are to meet requirements of the Colorado High School Activities Association (CHSAA) and National Federation of High School Sports (NFHS). Due to the before and after-hour use of the Gymnasium and other facilities, consideration should be given to the ability to secure portions of the building. The gymnasium should be adjacent to the commons space to serve as a pre-function space for events.					**6-12**	**HS**
	▪ Gym dimensions to be 72' x 84'.		**E-5**				
	▪ Minimum interior dimensions shall be 100' by 116'.				**MS**		**HS**
	▪ Ceiling to be open to structure above. Minimum 25’” ceiling height to the underside of any structural element.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Adjustable basketball backboards which can be lowered from standard height to 8’ above floor level (or lower). Electrically operated, swing-up or swing to the side, with breakaway rims and edge safety pads		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Locate padding at walls behind each basketball backboard, at exterior wall corners, and at other areas where safety may be a concern.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ One main regulation size competitive volleyball court and two regulation size cross court markings. In-floor bolt-down type inserts for two cross-court nets and one main-court net.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	One main regulation size basketball court, 50' x 84' and two cross court floor markings with minimum 10' run out at end lines and 6' at sidelines.			**E-8**	**MS**	**6-12**	**HS**
	▪	Review court markings with the Project Manager.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	ADA accessible recessed water fountain and cuspidor within gym complex area. Locate fountains in entryway or other "off-court" location where possible.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Sound amplification system consisting of an amplifier, MP3/CD player, speakers, and two wireless microphones; locate operation controls in gym offices.		**E-5**				
	▪	Coordinate emergency sound and light controls with fire alarm per code.		**E-5**				
	▪	Traverse climbing wall		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Gymnastics mat			**E-8**	**MS**	**6-12**	**HS**
	▪	Safety suspension systems for gymnastics			**E-8**	**MS**	**6-12**	**HS**
	▪	Gymnastics equipment floor inserts.			**E-8**	**MS**	**6-12**	**HS**
	▪	Climbing ropes		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted arm ladder.			**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted adjustable chinning bar.			**E-8**	**MS**	**6-12**	**HS**
	▪	Walls to be concrete and/or concrete masonry block with high performance finishes.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	No projections or obstructions on walls.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	No openings, doors, or glazing directly behind the main basketball goals.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	High windows for daylighting are mandatory. Protect openings and provide appropriate glazing or other transparent or semi-transparent material to eliminate glare for spectators and players and to provide maximum safety.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Acoustical metal deck and acoustical masonry block. Surface applied impact-resistant acoustical panels / baffles.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Flooring to be cushioned hardwood athletic flooring system. Reference DPS Design and Construction Standards.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Scoreboards, located one at each end of the court to be visible without obstructions for game participants, spectators, and scorekeepers; central console and automatic time-out clock; console connected by an extension cable to an outlet in the wall behind the bleachers; wireless remote controlled; protective net.			**E-8**	**MS**	**6-12**	**HS**
	▪	Gym curtain divider: Net partition used to divide the gymnasium in half. Locate curtain at the main basketball half-court line; electrically operated, vinyl/net drop curtain with open fabric mesh at the top and 8'-0" of solid vinyl at the bottom portion; access openings/doorways at each end of the curtain.			**E-8**	**MS**	**6-12**	**HS**
	▪	Bleachers: Telescoping, motorized bleachers sized to seat 100% of the full build-out design capacity. Locate on one side of the main court; scorekeepers table; movable rails and other apparatus designed for students with disabilities.			**E-8**	**MS**	**6-12**	**HS**
	▪	4'x4' markerboard with marker tray mounted at top.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	Public announcement (PA) system independent from the building public announcement system, and incorporates the following: building wide paging system and fire alarm override; control panel should include a DVD/BluRay/CD/MP3 player and radio; control panel to be located in the gym office; provide microphone and microphone jack at the scorer's area of the bleachers, at one end of the gymnasium, and on the wall opposite the bleachers; provide speakers distributed throughout the gymnasium. The volume of individual rows of speakers should be independently controlled at the PA system control panel.			**E-8**	**MS**	**6-12**	**HS**
	▪	Protective covers: Provide at all light fixtures, projecting switches and devices, fire detection devices, sprinkler heads, etc.; lockable covers at public areas and where students have access.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Double egress door sets into auxiliary gym to facilitate movement from one activity area to the other.					**6-12**	**HS**
	▪	Ceiling mounted mat lift.						**HS**
	▪	Emergency notification system.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Auxiliary Gymnasium:							
	▪	Minimum interior dimensions shall be 74' by 116' with a 25' minimum structure height. Provide a main basketball court area of 50' x 84', with minimum 10' run out at end lines and 6' at sidelines. Provide 25' min. ceiling height or clearance to structure.						**HS**
	▪	One main regulation size competitive volleyball court. Provide in-floor bolt-down type inserts for one main-court net.						**HS**
	▪	Double egress door sets into Gymnasium to facilitate movement from one activity area to the other.						**HS**
	▪	One wireless scoreboard with clear plexi-glass protection to be visible to both spectators and the scorekeeper.						**HS**
	▪	Flooring to be cushioned hardwood athletic flooring system. Reference DPS Design and Construction Standards.						**HS**
	▪	Motorized bleachers against one wall to seat 250 people. Equip bleachers with attached score keeper/timer bench for wireless scoreboards.						**HS**
	▪	Six electrically operated basketball backstops. The primary backstops should be capable of being lowered to a height of 8' above the floor to accommodate students with physical disabilities.						**HS**
	▪	Wall and corner pads as required with the bottom of pad to be at the top of the floor base. Pads should be wall-mounted behind backstops which are less than 12' from a wall or other obstruction						**HS**
	▪	Electrical: Keyed switching and heavy duty metal cover plates on all devices.						**HS**
	▪	Protective covers: provide at all light fixtures, projecting switches and devices, fire detection devices, sprinkler heads, etc.; lockable covers at public areas and where students have access.						**HS**
	▪	Access to telephones in the gym for emergency calls.						**HS**

	▪	Wireless sound system with wireless microphones that will interface with paging system in the gym.						**HS**
	▪	Separate audio enhancement system for instruction.						**HS**
	Auxiliary Gymnasium - Alternate:							
	▪	Plan for future/alternate auxiliary practice gym space in close proximity to the main gym and locker rooms.						**HS**
	▪	Minimum interior dimensions shall be 74' by 104' with a 25'minimum structure height. Provide a main basketball court area of 50’ x 84’, with minimum 10’ run out at end lines and 6’ at sidelines. Provide 25’ min. ceiling height or clearance to structure.						**HS**
	▪	One main regulation size competitive volleyball court. In-floor bolt-down type inserts for one main-court net.						**HS**
	▪	Double egress door sets into gymnasium to facilitate movement from one activity area to the other.						**HS**
	▪	Flooring to be cushioned hardwood athletic flooring system. Reference DPS Design and Construction Standards.						**HS**
	▪	Six electrically operated basketball backstops. The primary backstops should be capable of being lowered to a height of 8’ above the floor to accommodate students with physical disabilities.						**HS**
	▪	Wall and corner pads as required with the bottom of pad to be at the top of the floor base. Pads should be wall-mounted behind backstops which are less than 12’ from a wall or other obstruction						**HS**
	▪	Electrical: Keyed switching and heavy duty metal cover plates on all devices.						**HS**
	▪	Protective covers: Provide at all light fixtures, projecting switches and devices, fire detection devices, sprinkler heads, etc.; lockable covers at public areas and where students have access.						**HS**
	▪	Access to telephones in the gym for emergency calls.						**HS**
	▪	Wireless sound system with wireless microphones that will interface with paging system in the gym.						**HS**
	▪	Separate audio enhancement system for instruction.						**HS**
	PE Teacher's Office and Toilet:							
	▪	Office for the physical education instructor(s). The office should be accessible from the gym and should be located near the main gym entrance.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Shatter-free window into the gymnasium for unobstructed visual observation		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	ADA water closet, ADA lavatory and ADA shower with hand-held shower head option and folding shower seat.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Configure for up to 4 people.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate office at the entrance to both locker rooms as to require any person entering a locker room to pass by the office.			**E-8**	**MS**	**6-12**	**HS**
	▪	Area for lockers; 15”w x 15”d x 72”h vented metal lockers with pad lock hasp			**E-8**	**MS**	**6-12**	**HS**
	▪	4'-0" x 6’-0” markerboard and 4' x 4' tackboard.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	Athletic Coach's Office and Toilet:							
	▪ Office area in close proximity to the gym and directly adjacent to the gender specific athletic locker room. Door to access the directly into the locker room.					**6-12**	**HS**
	▪ Area for lockers; 15”w x 15”d x 72”h vented metal lockers with pad lock hasp					**6-12**	**HS**
	▪ ADA water closet, ADA lavatory and ADA shower with hand-held shower head option and folding shower seat.					**6-12**	**HS**
	▪ 4'-0" x 6’-0” markerboard and 4' x 4' tackboard.					**6-12**	**HS**
	▪ Configure for up to 4 people.					**6-12**	**HS**
	PE Equipment Storage:							
	▪ Gym storage is required for the storage of balls, volleyball posts and other athletic apparatus.		**E-5**	**E-8**	**MS**		
	▪ Two PE equipment storage rooms directly adjacent to the main gymnasium. One for each gender. Locate the rooms spanning the divider curtain to allow large apparatus to be moved in and out of either side of the gym when the divider curtain is down.					**6-12**	**HS**
	▪ Storage shelving, 24" to 30" deep x 7'-0" high.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Open floor area should be planned for storage of large equipment.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Easy access to outside play areas should be provided. Consider that muddy balls, etc., will be brought inside for storage.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Directly accessible into the gymnasium.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Locking 5' by 10' equipment cages and one locking 5' by 20' cage.			**E-8**	**MS**	**6-12**	**HS**
	▪ Cages may be eliminated, however, perimeter shelving should still be provided.			**E-8**	**MS**	**6-12**	**HS**
	▪ Flooring to be a hard surface.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Ceiling to be open to structure above. Minimum 12’-0” ceiling height to the underside of any structural element.			**E-8**	**MS**	**6-12**	**HS**
	▪ Double doors to facilitate movement of large pieces of sports team equipment and apparatus.			**E-8**	**MS**	**6-12**	**HS**
	Athletic Equipment Storage:							
	▪ Two athletic equipment storage buildings directly adjacent to the main gymnasium; one for each gender.					**6-12**	**HS**
	▪ Pair of 3’w x 7’ h doors to facilitate movement of large apparatus and sports equipment					**6-12**	**HS**
	▪ Pair of 3’w x 7’ h doors leading directly outside from the storage room.					**6-12**	**HS**
	▪ Shelving.					**6-12**	**HS**
	PE Student Locker / Toilet / Showers:							
	▪ Locate adjacent to the gymnasium, accessing the gym directly or by means of a corridor(s) specifically designed for locker room access to the gym and separated from main building circulation.			**E-8**	**MS**	**6-12**	**HS**
	▪ Separate locker/shower/toilet areas for male and female students.			**E-8**	**MS**	**6-12**	**HS**

	▪	Students will change clothes, shower, and use the toilet facilities in preparation and completion of physical education programs and athletic events.			**E-8**	**MS**	**6-12**	**HS**
	▪	Configure the main locker room entrance for visual privacy when doors are open. Provide doors to each entrance.			**E-8**	**MS**	**6-12**	**HS**
	▪	Flooring to be hard surface with tile flooring at showers.			**E-8**	**MS**	**6-12**	**HS**
	▪	Walls to be concrete and/or concrete masonry block with high performance finishes.			**E-8**	**MS**	**6-12**	**HS**
	▪	Ceiling to be gypsum board with minimum height of 10'-0".			**E-8**	**MS**	**6-12**	**HS**
	▪	Each locker area should be one large room for ease of visual supervision.			**E-8**	**MS**	**6-12**	**HS**
	▪	Arrange lockers in a manner to avoid visual blind spots.			**E-8**	**MS**	**6-12**	**HS**
	▪	60, 12”w x 15”d x 18”h vented lockers with built-in combination locks in each locker room.			**E-8**			
	▪	30, 15”w x 15”d x 36”h vented lockers with built-in combination locks in each locker room.			**E-8**			
	▪	375, 12”w x 15”d x 18”h vented lockers with built-in combination locks in each locker room.				**MS**		
	▪	75, 15”w x 15”d x 36”h vented lockers with built-in combination locks in each locker room.				**MS**		
	▪	672, 12”w x 15”d x 18”h vented lockers with built-in combination locks in each locker room.					**6-12**	**HS**
	▪	100, 15”w x 15”d x 36”h vented lockers with built-in combination locks in each locker room.					**6-12**	**HS**
	▪	In locker area, free standing bench seating or seating provided on locker bases designed as seating. Also include accessible seating and lockers.			**E-8**	**MS**	**6-12**	**HS**
	▪	In locker area, two 2’-6” w x 4’-0” h non-breakable wall mounted mirrors with stainless steel frames.			**E-8**	**MS**	**6-12**	**HS**
	▪	Shower area to be located in the locker area adjacent to the toilet room.			**E-8**	**MS**	**6-12**	**HS**
	▪	In shower area, 5'-0" high visual barrier wall to separate the shower room from the locker room.			**E-8**	**MS**	**6-12**	**HS**
	▪	In shower area, 3 single, semi-private shower stalls separated by visual barriers and including shower rod and curtain. In addition, one ADA accessible shower stall.			**E-8**	**MS**	**6-12**	**HS**
	▪	In shower area, preset tempered water supply to showers.			**E-8**	**MS**	**6-12**	**HS**
	▪	At toilet area, ADA accessible toilets, urinals as appropriate and wall-hung lavatories.			**E-8**	**MS**	**6-12**	**HS**
	▪	At toilet area, soap and paper towel dispensers at sinks.			**E-8**	**MS**	**6-12**	**HS**
	▪	Floor drains at wet areas.			**E-8**	**MS**	**6-12**	**HS**
	▪	Flush mounted hose bib.			**E-8**	**MS**	**6-12**	**HS**
	▪	4'-0" x 6’-0” markerboard and 4' x 4' tackboard.			**E-8**	**MS**	**6-12**	**HS**
	Athletic Student Locker / Toilet / Showers:							
	▪	Locker rooms in close proximity to the gymnasium and direct adjacency to the coaches’ office/locker rooms. Access into the lockers should be directly from the corridor with direct access to the exterior.					**6-12**	**HS**

	▪	Lay out locker banks to maximize the supervision of the locker room from the coach's office/locker room.					**6-12**	**HS**
	▪	200 full height lockers, 18"w x18"d x 72"h, with built-in padlocks, for each locker room.					**6-12**	**HS**
	▪	100 half height lockers, 15"w x 15"w x 36" h, with built-in padlocks, for each locker room.					**6-12**	**HS**
	▪	Bench seating between locker banks.					**6-12**	**HS**
	▪	The shower room should be centrally located in the locker area with good traffic flow. 5'-0" high visual barrier wall to separate the shower room from the locker room.					**6-12**	**HS**
	▪	In shower area, 3 single, semi-private shower stalls separated by visual barriers and including shower rod and curtain. In addition, one ADA accessible shower stall.					**6-12**	**HS**
	▪	In shower area, preset tempered water supply to showers.					**6-12**	**HS**
	▪	At toilet area, ADA accessible toilets, urinals as appropriate and wall-hung lavatories.					**6-12**	**HS**
	▪	At toilet area, soap and paper towel dispensers at sinks.					**6-12**	**HS**
	▪	4'-0" x 6'-0" markerboard and 4' x 4' tackboard.					**6-12**	**HS**
	Exterior PE Storage:							
	▪	Open and unobstructed floor area.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate near outdoor athletic fields, courts, and play areas.			**E-8**	**MS**	**6-12**	**HS**
	▪	Locate near the main exterior student access from the gymnasium to the outdoor activity areas.			**E-8**	**MS**	**6-12**	**HS**
	▪	Level threshold for rolling equipment.			**E-8**	**MS**	**6-12**	**HS**
	▪	If located remotely from the main building, provide general electrical power and phone line for security system.			**E-8**	**MS**	**6-12**	**HS**
	▪	Non-combustible storage building near the track, football field and activity field. Two storage buildings are required if the track and football field is remote from the activity field.			**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum inside length of the building should be 18 feet, with one single 4'-0" wide by 7'-0" high steel door and manual overhead coiling door 6'-0" wide by 7'-0" high at one end.			**E-8**	**MS**	**6-12**	**HS**
	▪	Subdivide space with chain link fence for athletic and maintenance storage.					**6-12**	**HS**
	▪	No heating is required.			**E-8**	**MS**	**6-12**	**HS**
	Weight Room:							
	▪	Locate weight room in close proximity to the gym and locker rooms with direct access to the corridor.					**6-12**	**HS**
	▪	Locate the weight room directly adjacent to the fitness/aerobics room with access between the two rooms. Window wall for supervision of both spaces.					**6-12**	**HS**
	▪	Non-breakable mirror units, no less than 5'h x 18'w on one wall.					**6-12**	**HS**
	▪	Wall mounted bracket for LCD TV monitor.					**6-12**	**HS**
	▪	Natural light.					**6-12**	**HS**
	▪	Operable windows.					**6-12**	**HS**

	▪	36” wide tall lockable cabinet for sound system.					**6-12**	**HS**
	▪	Interlocking high density rubber floor mats.					**6-12**	**HS**
	▪	Weight training and fitness apparatus.					**6-12**	**HS**
	▪	Outlets spaced on all perimeter walls and for associated fitness equipment.					**6-12**	**HS**
	▪	Locate clock and speaker on the wall perpendicular to the front instructional wall. Guards for all smoke detectors, lights, etc.					**6-12**	**HS**
	▪	Wireless sound system.					**6-12**	**HS**
	▪	Separate audio enhancement system for instruction.					**6-12**	**HS**
	▪	Access to telephones in the gym for emergency calls.					**6-12**	**HS**
	▪	Power and data for teacher workstation.					**6-12**	**HS**
	Fitness / Aerobics Classroom:							
	▪	General room for aerobics and other physical fitness programs.			**E-8**	**MS**		**HS**
	▪	Locate fitness/aerobics room in close proximity to the gym and locker rooms with direct access to the corridor.			**E-8**	**MS**		**HS**
	▪	Locate the fitness/aerobics room directly adjacent to the weight room with access between the two rooms. Window wall for supervision of both spaces.						**HS**
	▪	Flooring to be interlocking recycled rubber mats on sealed concrete.			**E-8**	**MS**		
	▪	Flooring to be resilient dance floor.						**HS**
	▪	Interior window(s) providing visual supervision from the teacher’s office.			**E-8**	**MS**		
	▪	Minimum 10’-0” ceiling height.			**E-8**	**MS**		
	▪	Minimum 14’-0” ceiling height.						**HS**
	▪	8'-0" h x 12’-0” w non-breakable wall mounted mirror.			**E-8**	**MS**		**HS**
	▪	Data, Video and Power Outlets: See DPS Design and Construction Standards – Telecommunications System Infrastructure for data and video requirements within classrooms.			**E-8**	**MS**		**HS**
	▪	Double doors to facilitate movement of large pieces of equipment and apparatus.			**E-8**	**MS**		**HS**
	▪	Natural light.			**E-8**	**MS**		**HS**
	▪	Operable windows.			**E-8**	**MS**		**HS**
	▪	36” wide tall lockable cabinet for sound system.			**E-8**	**MS**		**HS**
	▪	8' wide markerboard.			**E-8**	**MS**		**HS**
	▪	4' wide tackboard.			**E-8**	**MS**		**HS**
	▪	High density floor mats at equipment.			**E-8**	**MS**		**HS**
	▪	Outlets spaced on all perimeter walls and for associated fitness equipment.			**E-8**	**MS**		**HS**
	▪	Locate clock and speaker on the wall perpendicular to the front instructional wall. Guards for all smoke detectors, lights, etc.			**E-8**	**MS**		**HS**
	▪	Wireless sound system.			**E-8**	**MS**		**HS**
	▪	Separate audio enhancement system for instruction.			**E-8**	**MS**		**HS**

	Wrestling Room:						
	▪ Locate Wrestling Room in close proximity to the gym and locker rooms with direct access to the corridor.						**HS**
	▪ Room to be sized to accommodate two (2) full size competition mats, wall to wall without gaps between wall pads and floor mats.						**HS**
	▪ 6 ft. high wall pads on all walls.						**HS**
	▪ Separate janitors closet with mop sink, hand sink, disinfectant dispenser and towel racks.						**HS**
	▪ 4' wide tackboard.						**HS**
	▪ Two full size competition wrestling mats.						**HS**
	▪ Towel racks in janitor's closet.						**HS**
	Training Room/Laundry:						
	▪ Two separate areas within the training room, a dry area and wet area.					**6-12**	**HS**
	▪ Dry area: base and wall cabinets continuous on two opposite walls. And space for 2 taping tables.					**6-12**	**HS**
	▪ Wet area: area for 2 whirlpools, floor drains, ice machine, water cooler drying rack, clothes washer and dryer (also refer to Facility Maintenance section); floor and base tile required; 100 SF office for trainer with visual access to the training room; doors to be 4'-0" wide; separate alcove for laundry equipment.					**6-12**	**HS**
	▪ 4'-0" x 6'-0" markerboard and 4' x 4' tackboard.					**6-12**	**HS**
	▪ Equipment to consider: Taping tables, icemaker, washer and dryer, stainless steel drying rack.					**6-12**	**HS**
	Concessions Booth:						
	▪ Booth directly adjacent to main entry of gymnasium.						**HS**
	▪ Shelving for display of sale items.						**HS**
	▪ Power and data for point-of-sale.						**HS**
	Ticketing Booth:						
	▪ Booth directly adjacent to main entry of gymnasium with a pass thru window.						**HS**
	▪ Power and data for point-of-sale.						**HS**
	Batting Cage:						
	▪ (2) 12x14x70 batting cages; (1) inside and (1) outside.						**HS**
Hard Surface Outside Play Area							
	Basketball Courts:						
	▪ 1 to 3 basketball courts.		**E-5**	**E-8**	**MS**	**6-12**	
	▪ 6 multi-use courts, striped for half court basketball.						**HS**
	▪ Locate 100 feet from any building fenestration.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Courts should be equipped with fixed backstops with nylon nets. Reference DPS Design and Construction Standards – Athletic and Recreation Equipment.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Side goals can be added if needed.		**E-5**	**E-8**	**MS**	**6-12**	

▪	At three of the courts provide a chain link enclosure fence with two (2) 3' wide openings, to provide ball control. Fence may require 6' height depending upon specific layout of adjacent spaces.						**HS**
	Tetherball:						
▪	4 tetherball poles with pavement markings. Reference DPS Design and Construction Standards – Athletic and Recreation Equipment.		**E-5**	**E-8**	**MS**	**6-12**	
▪	Locate tetherball poles in an area which is out of the way of student traffic.		**E-5**	**E-8**	**MS**	**6-12**	
	Other Courts and Markings:						
▪	4 to 6 "four-square" courts.		**E-5**	**E-8**	**MS**	**6-12**	
▪	3 to 4 "hopscotch" courts.		**E-5**	**E-8**			
▪	Provision of one wheelchair hopscotch court.		**E-5**	**E-8**			
▪	Provision of 2 to 3, 36-foot tennis courts for students age 10 and under. Coordinate use, layout, and equipment with the DPS Physical Education Department.		**E-5**	**E-8**			
▪	3 additional courts within the fence limits of the tennis courts.						**HS**
▪	Six post tensioned concrete tennis courts 60' wide by 120' long with preferred north/south orientation, located side by side. Provide associated enclosure fence and gates for tennis courts. Provide rebound wall no less than 60' in length. Provide electrical power for ball serving machine at the tennis courts.						**HS**
Outdoor Apparatus Play Areas							
	Pre-Primary (ECE or ECE-K) Apparatus Area						
▪	The playground and apparatus area for ECE or ECE-K students shall be located for direct access from the classrooms.		**E-5**	**E-8**			
▪	The ECE or ECE-K play area shall contain various hard-surface, grass and apparatus components.		**E-5**	**E-8**			
▪	Hard surface areas should be adjacent to the classrooms and should be no less than 10' wide.		**E-5**	**E-8**			
▪	The apparatus area should be located adjacent to the hard surface area.		**E-5**	**E-8**			
▪	The grass area should be located with access to both hard-surface and apparatus areas. The grass area should be located to provide access for lawn mowing equipment and should be planned for ease of maintenance.		**E-5**	**E-8**			
▪	Minimum of 25% of the play area in shade.		**E-5**	**E-8**			
	Primary (K-2 or 1-2) Apparatus Area:						
▪	Locate primary apparatus area adjacent to the exterior hard surface play area.		**E-5**	**E-8**			
▪	Primary apparatus is normally located adjacent to the intermediate area with a 4' fence separating the two areas. This allows for easy supervision of the areas together.		**E-5**	**E-8**			
	Intermediate (3-5) Apparatus Area:						
▪	Locate intermediate apparatus area adjacent to the exterior hard-surface play area.		**E-5**	**E-8**			

Play Fields and Other Outdoor PE/Athletics Facilities:							
General Guidelines:							
▪ Provide fencing around entire PE/Athletic field complex. Play fields should be fenced from surrounding streets. Provide access through fences at logical locations. Reference DPS Design and Construction Standards – Chain Link Fencing for detailed fencing guidelines.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Sites with limited area may have softball and multi-use/soccer/play fields overlapped.		**E-5**	**E-8**	**MS**	**6-12**	
Baseball and Sub-Varsity Fields:						
▪ Competition varsity baseball field that meets all CHSAA and NFHS requirements. Backstops should be 25 ft in height by 50 ft. wide with 80 ft. wide wings; located 60 ft back from home plate. Provide two (2) 8 ft. wide by 40 ft. long masonry dugouts with chain link front and 6 ft. x 6 ft. storage area at the outfield end. Provide solid metal roof over dugout.					**6-12**	**HS**
▪ Multi-purpose sub-varsity baseball/softball field that meets all CHSAA and NFHS requirements. Backstops should be 25 ft in height by 50 ft. wide with 80 ft. wide wings; located 60 ft back from home plate. Provide two (2) 8 ft. wide by 40 ft. long masonry dugout with chain link front and 6 ft. x 6 ft. storage area at the outfield end.					**6-12**	**HS**
▪ Skinned infield and sleeves for fencing in the outfield for field fencing.					**6-12**	**HS**
Softball:						
▪ 1 softball field designed per DPS Design and Construction Standards –Irrigation Systems, Chain Link Fencing, Landscaping and Lawns and Grasses.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Minimum 200 ft. length foul lines, skinned infield edge 60 ft. radius from pitching rubber for each field.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪ Backstops, fencing, etc. per DPS Design and Construction Standards – Chain Link Fencing for detailed fencing requirements.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
Running Path:						
▪ One structured or meandering running path with asphalt or cinder and clay surface around perimeter of sport fields.			**E-8**	**MS**		
▪ Minimum total length: Approx. 400 meters. If broken, break in approximately 100 meter increments.			**E-8**	**MS**		
▪ A six lane, 400 meter asphalt track, designed to comply with Colorado High School Activities Association Standards. Track to be “Broken” type to accommodate regulation soccer field.					**6-12**	**HS**
▪ See DPS Design and Construction Standards – Landscaping for detailed requirements.			**E-8**	**MS**	**6-12**	**HS**
Multi-Use Field:						
▪ One 160 feet wide by 360 feet long multi-use field with northwest-southeast orientation within the track infield.				**MS**		
▪ One 220’ x 360’ field, with a preferred north/south orientation along the long axis of the field, within the 400 meter track. Artificial surface is preferred. Meet all CHSAA and NFHS requirements for football and soccer.					**6-12**	**HS**

Soccer / Football:							
▪ If the site area is sufficient, provide separate soccer and football fields. All football fields should be equipped for use as soccer fields.		**E-5**	**E-8**	**MS**		
▪ Minimum of one combination soccer/football field. Consult with the Project Manager if site limitations prohibit this field.		**E-5**	**E-8**	**MS**		
Other Courts and Fields:							
▪ One long jump and one triple jump area. Runways on each should be 4 feet wide by 150 feet long with takeoff boards. One edged landing pit 9 feet wide by 20 feet long located 8 feet from the takeoff board. One high jump pad 16 feet long by 18 feet wide with a foam pit and 50 foot radius approach pad.				**MS**	**6-12**	**HS**
▪ One discus area with a 60-degree throwing sector from 160 feet to 200 feet long located adjacent to the track area. 10 foot square concrete pad with 2 inch wide painted sector and center lines within a 2 inch wide painted circle with 8 foot inside diameter. Chain link fence safety screen 10 feet high by 20 feet wide located 10 feet behind the concrete pad.					**6-12**	**HS**
▪ One shot put area located adjacent to the track area with a 10 foot square concrete pad with a 2 inch wide painted circle with 7 foot inside diameter. Provide a stop board.					**6-12**	**HS**
▪ Four tennis courts 60 feet wide by 120 feet long with north-south orientation located side by side. Basketball goals are not permitted on courts. Provide an electrical outlet for a tennis ball-serving machine.				**MS**	**6-12**	
▪ Two full sized practice fields, 220' x 300'. Natural grass turf is preferred.					**6-12**	**HS**
Learning Landscapes:							
▪ Playgrounds, gardens, fields, and other elements of the schoolyard shall meet the intent of the Learning Landscape model, initially created and implemented in conjunction with the University of Colorado Denver, College of Architecture and Planning. Learning Landscape reference documents can be obtained from the DPS Planner or Project Manager.	**E-K**	**E-5**	**E-8**			
▪ Design the Learning Landscape to integrate the following elements: 1. Theme driven educational games and elements, on paved play pad area, colorful, potentially including fractions, names of geographic features or cities, maps, compasses, words, etc. 2. Shade shelter, custom or pre-fab, minimum 20' x 20', containing seating 3. Gateway entry structure for community entry and school identity, artistic, located at property line, 20' wide, typically including school name 4. Three (3) age-appropriate play pits containing age-appropriate playground apparatus, including swings. Typically one play pit each for pre-primary (ECE & K), primary (Grades 1-2), and intermediate (Grades 3-5) students, incorporating swing pit(s). Traditional, non-traditional, and custom play elements are encouraged.	**E-K**	**E-5**	**E-8**			

		5. Playfields, multi-purpose and softball, sod surface, approximately ¾ to 1 acre. Backstop at softball field. Consider artificial turf surface for small fields. 6. Student and community vegetable gardens, ADA accessible planting beds, possibly sponsored by local garden organizations such as Denver Urban Gardens or Kitchen Community 7. Natural habitat/butterfly gardens, bioswales, sensory garden 8. Traditional playground games, on paved play pad area, hopscotch, basketball, tetherball, four square, etc. 9. Running track around playfields, typically 5' wide, often surfaced with crusher fines 10. Outdoor classroom, 50' x 50' 11. Art elements such as ornamental tiles, sculptural elements, banner poles, murals, etc., created by students and adults						
	▪	Learning Landscape process: How do we do it? "By listening and actively involving the school community throughout the planning, design, construction, and maintenance of the Learning Landscape schoolyard. Each school is asked to form a Learning Landscape team to help inform design and programming decisions as well as keep a watchful eye for vandalism and maintenance issues after construction is complete. The Learning Landscapes team recruits students, parents and surrounding community help to build, maintain and improve the Learning Landscape. Each new Learning Landscape has a volunteer build day where the school and community volunteers develop a sense of ownership and civic pride by creating outdoor artwork planting gardens, laying sod, or building play equipment. We document and distribute site-specific resources for educators and community members on the outdoor educational elements unique to each Learning Landscape schoolyard. Promoting the programmatic use of the Learning Landscape is critical for the long-term viability and sustainability of these projects."	**E-K**	**E-5**	**E-8**			
	Exterior Buildings:							
	▪	Building for concessions.					**6-12**	**HS**
	▪	Toilet facilities for men and women. 4 water closets and 4 lavatories per toilet room					**6-12**	**HS**

GENERAL LIBRARY GUIDELINES

SPACE DESCRIPTION:
The Library is an integral part of instructional programs. As an integral part of the instructional team, teacher librarians co-plan and co-teach with classroom teachers and other BCC teachers. They partner with administration and other instructional leaders to make sure the library program (which includes instruction, resources and related programming) contributes to building UIP goals and increases access to personalized learning opportunities. The teacher librarian will provide planning assistance and material for the entire faculty.

The Library is a learning commons; a place driven by a spirit of inquiry and participation where students are self-directed and engage with information as critical thinkers, evaluators and ethical users. It is an instructional space that fosters collaboration, innovation, communication, creativity and the co-creation of knowledge by all learners (students and adults). The Teacher Librarian creates a community of learners, and facilitates students expanding, deepening and reflecting on their understanding of their world based on their current expertise. Instruction in these spaces focuses on building the habits of mind necessary for this kind of 21st century inquiry and learning and includes access to a variety digital and print resources, digital tools and educational technologies.

The Library should be located within the core area of the school in order to ensure the greatest amount of access to the student body. Additionally, consideration should be given to locating the Library to allow after-hour use by both District personnel and community. The design should allow for maximum flexibility in order to serve the needs of students, staff, population growth and changing technologies.

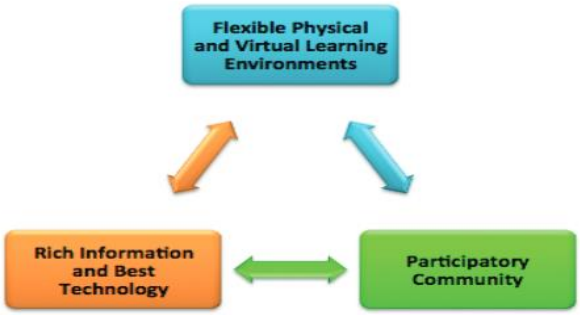


Figure 1 from “Climbing to Excellence”, David Loertscher

Consultants are encouraged to consider the following design issues early in the design process and work closely with the Director of Library Services:

Maintain 60” clearance between furniture and media storage units and 36” between media storage units.

Provide one main entry, with secondary exits.

Electrical outlets should be located in the floor and walls throughout the space to accommodate the charging of devices by users.

Acoustical treatment of surfaces to dampen sound generation.

Include windows that allow for natural light while also planning for enough perimeter shelving to be anchored to outer walls.

Double sided shelving units should not exceed three tier shelving units (approx. 43” AFF). All shelving not anchored to walls should be mobile (on casters) to allow for flexible arrangements.

Lighting should be flexible and strong enough to ensure visibility for different configurations of mobile shelving.

LIBRARY							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Library							
	Fiction and Nonfiction:						
	▪ The library should be provided with a main entrance directly from the main corridor with a secondary exit to accommodate code requirements. The main entrance should consist of double doors and be open and inviting. There should be a large screen monitor at the entrance to the library to advertise books, programs and student work with wall and floor area available for display fixtures.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ The library should be centrally located within the building core and accessible after normal school hours. The library should be designed and equipped such that as many functions as possible are electronic. A wireless environment is to be provided and networking with other libraries and information sources must be coordinated.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Include space for 6 electronic workstations that will accommodate the library catalog as well as other databases used for reference and research (these should be laptop computers) and 3 tablets (6 tablets at E-8, MS, HS) that are mounted on endcaps for easy look up. Workstations shall be a combination of stand up and sit down types. Allow for one station to meet ADA accessibility requirements.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪ Shelving to accommodate a min. of 8 volumes per student with a 33% spare capacity, with a minimum of shelving to accommodate 8,400 volumes. In addition, 3 volumes per student should be ebooks to reach a ratio of 15 volumes per student or 8,400 volumes, whichever is greater. The shelving should be predominately perimeter shelving with some interior mobile shelving units and include shelving for magazines. For planning purposes use 1.25 inches for each volume to determine shelving requirements. A 36-inch wide shelf in a range should hold 25 volumes; a range of five shelves would hold 125 volumes. All shelving to be on casters and not to exceed 43” in height. Interior shelving should create “reading nooks” and “lounges”.		**E-5**				

	▪	Shelving to accommodate a min. of 6 volumes per student with a 33% spare capacity. In addition, 4 volumes per student should be ebooks. The shelving should be predominately perimeter shelving with some interior mobile shelving units and include shelving for magazines. For planning purposes use 1.25 inches for each volume to determine shelving requirements. A 36-inch wide shelf in a range should hold 25 volumes; a range of five shelves would hold 125 volumes. All shelving to be on casters and not to exceed 43" in height. Interior shelving should create "reading nooks" and "lounges".			**E-8**	**MS**		
	▪	Shelving to accommodate a min. of 4 volumes per student with a 33% spare capacity. In addition, 4 volumes per student should be ebooks. The shelving should be predominately perimeter shelving with some interior mobile shelving units and include shelving for magazines. For planning purposes use 1.25 inches for each volume to determine shelving requirements. A 36-inch wide shelf in a range should hold 25 volumes; a range of five shelves would hold 125 volumes. All shelving to be on casters and not to exceed 43" in height. Interior shelving should create "reading nooks" and "lounges".					**6-12**	**HS**
	▪	A major need in a library is to have flexible spaces where students & faculty, either singly or in small or large groups, may meet to address a variety of learning requirements.			**E-8**	**MS**	**6-12**	**HS**
	▪	A circulation desk will provide one transaction counter at an appropriate height for elementary school students with an integral depressible book drop/truck. The circulation desk and rear counter should be a practical, modular, functional piece of furniture and not seen as an opportunity to create a unique, one-of-a-kind design "statement". The top should be 10 to 12 inches deep so that books and other items can be placed on the top. Provide 8 to 10 lineal feet of work surface countertops behind the circulation desk. Provide biometric or card readers for materials check out. Provide appropriate data and power. Desks that are deeper than 30 inches may inhibit students reaching for materials being handed to them.		**E-5**				

	▪	The circulation desk must be located for visual supervision of all of the areas in the main room and should have a good visual and physical relation to the library entrance. A circulation desk will provide two (2) transaction counters and integral depressible book drop. Provide at least 2 knee space locations. The circulation desk and rear counter should be a practical, modular, functional piece of furniture and not seen as an opportunity to create a unique, one-of-a-kind design "statement". If stand-up transaction tops are used in front of the circulation desk, the top should be 10 to 12 inches deep so that books and other items can be placed on the top. Provide 8 to 10 lineal feet of work surface countertops behind the circulation desk. Provide biometric or card readers for materials check out. Provide appropriate data and power. Desks that are deeper than 30 inches may inhibit students reaching for materials being handed to them. Provide an area adjacent to the circulation desk to accommodate a copying machine for student use with staff supervision.			**E-8**	**MS**	**6-12**	**HS**
	▪	It is strongly recommended that the consultant have regular coordination meetings with the DPS Project Manager, the Director of Library Services, and the Furnishings and Interiors Coordinator.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Rough-in services to facilitate the installation of materials detection equipment. Coordinate rough-in requirements to meet specifications for District standard equipment.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Equipment for consideration: Large screen monitor, outlets for devices, materials detection equipment, and look up stations.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Room in the student area for two copiers for student use and to support publishing which may be done at any workstation or in the student media production center.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Instructional Area:							
	▪	There should be one instructional area with mobile, collaborative desks to accommodate 35 students, with a projector and markerboard wall/projection screen. Locate the area away from quiet areas so that instruction will not interfere with reading or other quiet activities. Maintain sightline from circulation desk.		**E-5**				
	▪	Two main instructional areas should be considered teaching stations with appropriated voice, data (32 laptop computer docking stations), and markerboard walls that can be used as projection walls. Both areas should be enclosed with moveable, glass walls that can be opened or closed as appropriate for instruction or other instructional uses such as a makerspace.			**E-8**	**MS**	**6-12**	**HS**
	▪	There should be a storytelling area that accommodates 35 students, and is located away from high activity areas of the library. There should also be a projector and projection wall in this area of instruction. Maintain sightline from circulation desk.		**E-5**				
	▪	2 small collaboration/meeting rooms that can be combined into one space to accommodate makerspace activities. Glass walls for visibility.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	Storage cabinets for makerspace materials.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Counter along wall for makerspace use or technology.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Include teacher's station, projector and 3D printer. If the building is not 1:1 computer device:student, then at least one set of 35 devices should be available for library instruction.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Flat screen monitor for each collaboration room.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	"Visible thinking walls" (markerboard material) that can be used with dry erase markers or used for projection.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Multi-Media Lab:							
	▪	The room should support the activities of up to 15 students.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The multi-media lab should have acoustical separation with visual supervision from the circulation desk through windows. Sill heights should not be less than 36 inches above the floor.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	16-20 linear feet of work counters, 36 inches high by 24 inches deep, with locking base cabinets below.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The multi-media lab should have a sound isolation room for the production of vocal presentations.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The multi-media lab should have one wall that acts as a green screen.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Equip with suitable electrical power and with rough-in conduit and boxes for data connections.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Equipment for consideration: Scanner, large screen monitor, sound recording equipment and speakers, desktop computer with production software, tablet and mounts, tripod, and portable lighting.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Library Workroom:							
	▪	The workroom shall be directly located behind the circulation desk and will be used as a work area for staff and student aides to perform tasks such as electronic equipment repair, copying, collating, dry mounting and laminating.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The room provides a centralized location for circulation storage and retrieval of AV/technology equipment and supplies.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Base and upper cabinets along 2 sides of the perimeter of the room. Provide 30" deep counters to accommodate equipment such as laminator, paper cutter, etc.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	There should be room for the storage of 2 carts for devices.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Large single compartment sink.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Combination of cabinets with lockable doors and open shelving.		**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum of three (3) 24" wide drawer units.		**E-5**	**E-8**	**MS**	**6-12**	**HS**

FACILITY MAINTENANCE							
This matrix is to be used as a checklist of spaces and facilities to be considered for each school. Not all schools require, nor will all buildings have, the ability to house each different type of space. As noted in the Introduction, responsibilities for supplying and installing individual components and systems must be established by each project team. For room sizes and quantities, refer to Space Programs in Appendix.							
		E-K	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Facility Maintenance Areas							
Facility Manager's Office:							
▪	The facility manager's office should be located near the primary service entrance of the building. The primary service entrance is the point where normal school deliveries are received. The office will contain the building security control panel and the Facility Manager must be able to enter the building and make his/her way to the office in sufficient time to disarm the security system before the alarm is initiated (the delay setting for selected motion detectors). Where compatible with other building planning considerations, the facility manager's office should be centrally located in the building.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Locate the office directly adjacent to the custodial staff meeting/break room and receiving /supply area and with direct corridor access. Office should have window or door into the custodial meeting/break room and receiving/supply area for supervision.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Facility manager's office should not contain roof access, etc. Needs to be securable from all school staff including Facility Manager's staff.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Building mechanical control center (computer station).	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Access card reader on dock entrance door and facility manager's office.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Corridor entryway should be door with removable mullion system.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Floor to be sealed concrete.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Wall mounted building security control panel.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	One 5' wide workstation with 18" wide below counter file cabinets.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	48" wide by 84" tall storage cabinet	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Power and eight data ports roughed in at workstation, for phone, printer, PC, building automation, and future data needs.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Camera, doorbell, electric door latch at primary service entrance.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Fire panel secondary annunciator panel, locating alarm troubles.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Secondary lock-down control switch.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Facility Maintenance Toilet Rooms:							
▪	Two single occupant toilet rooms for use by male and female custodial staff.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
▪	Toilet and wall hung sink.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	Adjacent to, or within, the facility manager's office or receiving area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Locate so door does not open directly into a main corridor.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Custodial Staff Meeting / Break Room:							
	▪	Meeting/break room directly adjacent to the custodial office and receiving/supply area and with direct corridor access. This room should not be a shared space used for storage, receiving, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Power and data for building security panel (wall mounted) to be located outside of this room so security system can be deactivated without entering this room and/or facility manager's office.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Table and chairs to seat: 8 at HS, 6 at MS, 4 at E-8, 2 at ECE-K & ES.			**E-8**	**MS**	**6-12**	**HS**
	▪	Window to the receiving/supply area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	10 LF of base cabinet and counter with a sink.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	One full height refrigerator, dishwasher, and microwave.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Full height metal lockers.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Building security panel (wall mounted).	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Markerboard and tackboard.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Receiving Area:							
	▪	Area directly adjacent to the primary building service access/loading dock to receive deliveries. The area should be windowless for security purposes and should have controlled access to a secondary corridor. This area should be located near the recycling/trash removal area and have easy access to the building elevator.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	This room will be used for the temporary receiving of supplies pending distribution to school customers, and access to this room may need to be given to others outside the custodial staff; thus this room should be separate from custodial supply, equipment storage.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	3' wide x 7' high steel door and 10' overhead door, if practical, from custodial storage room to loading dock.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Pair of 4' wide steel doors from custodial receiving/supply room to secondary corridor.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The room should have easy and direct access to the elevator, where applicable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Card access reader.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Room should have climate control.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Metal storage shelves and cabinets.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Workroom:							
	▪	Area directly adjacent to the primary building service access/loading dock that will be used a custodial workshop. The area should be windowless for security purposes and should have controlled access to a secondary corridor. This area should be located near the recycling/trash removal area and have easy access to the building elevator (where applicable).	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	This room will be used as an area similar to a shop where the building manager will repair equipment, assemble and/or repair furniture etc., or fix other broken items.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Pair of 4' wide steel doors from custodial receiving/supply room to secondary corridor.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Card access reader.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Room should have climate control.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Tool drawers and carts.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Hanging power receptacles.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Wall power and data outlets.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Shop lighting.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Building hardware key cabinet (wall mounted).	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Work bench.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Metal storage shelves and cabinets.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Loading Dock:							
	▪	Loading dock at grade level adjacent to the receiving/supply area, kitchen and the recycling/trash enclosure.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Loading dock to accommodate 2 trucks and provide pedestrian access to the service drive.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Dock bumpers.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Six yard recycling dumpsters – confirm quantities with DPS Operations.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Six yard trash dumpsters – confirm quantities with DPS Operations.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Recycle / Trash Area:							
	▪	The recycle/trash area is used for the collection of materials scheduled for recycling and for materials designated to be taken to a landfill. Provide space for staging of 18-gallon purple recycling bins for each classroom and office as well as 95-gallon purple recycling carts for corridors, commons, gymnasiums, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Enclosure to screen recycle/trash area from view. Gates are prohibited.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Laundry Room:							
	▪	Custodial laundry room will be used for the washing, drying, storage of mops, rags, etc., used by the custodial staff.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	As mops/rags/towels are used for the clean-up of blood borne pathogens and other biohazard substances, this room needs to have controlled access.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	All schools, regardless of grade, should have no less than five washer/dryer installations throughout, one for custodial, one in the kitchen, one in ECE, one in athletics, and one for general school use (possibly located in the special education suite) . Others may be needed for instructional programs, but the custodial and food service or educational programs cannot share washers/dryers for health/safety reasons.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

		Washer/dryer equipment should be suitable to the application. Residential grade equipment or stacked units may be appropriate in some locations.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	As dust mops are oil treated, this room should also provide space for oil treating/drying of dust mops.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Washer/dryer hot/cold water hook up, drain, and dryer power source, ventilation to outside will be needed for dryer as water cans are no longer permitted.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Sink for hand washing of materials.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Metal storage shelves and cabinets.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Sealable cans for sorting of dirty rags, dirty mops, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Facility Maintenance Trash Barrel Storage:							
	▪	A room will be needed for storage of 45 gallon trash cans when not in use. This room should have a warm and cold water hose bib, a floor drain with clean out for regular washing of indoor trash cans. Room should have door sweeps for pest deflection.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Satellite Facility Maintenance Areas								
	Custodial Closets:							
	▪	Custodial closets must be located at convenient points throughout the building so that cleaning operations can be accomplished without moving materials over long distances. Custodial closets should be located as near as possible to areas requiring frequent cleaning such as student toilet rooms.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Adequate space for assigned equipment such as riding vacuum sweepers, riding floor scrubbers and custodial portable caddies. There should be no more than 150 linear feet between custodial closets. Space for storage of cleaning materials and supplies in steel shelving units.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Each custodial closet a 36” x 36” floor mounted service sink with heavy-duty faucet set with 48” high wainscot of fiber reinforced panels (FRP) around service sinks.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	3'-6" wide doors here large cleaning equipment will be stored; allow storage for one rolling trash can.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum one closet in dining area and one closet in Gym/Locker area.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floors to be sealed concrete.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Wall mounted broom and mop rack.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Metal utility shelving.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Soap/cleaner dispenser.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Card access reader.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	GFI outlets for charging equipment.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor drains.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Rack for vacuum and/or other electrical equipment opposite of water source.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	Exterior Storage:							
	▪	Exterior storage is provided to store gasoline driven equipment for the use of building maintenance (i.e. ATV with blade, snow blower, mowers, etc.). This space must be separate from both gym outside equipment, and/or irrigation pumps. This space should also be located near service drive area or other location to provide convenient access for custodial staff to access equipment and to operate and move the equipment to areas of the site requiring mowing, snow removal, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The room should have direct grade access to the exterior with a pair of 4' wide steel doors, without a center mullion. Room should be located in close proximity to other building service spaces.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Exterior storage may be an independent building or a part of the primary school building.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Floor drain to facilitate equipment cleaning.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Epoxy (or like) coated floor for slip resistant.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Hose bib for washing of equipment.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Lighting both outside and inside for safety at night and in winter.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Card access reader.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	The outdoor facility storage area should open only to the outdoors and have fire separations per the International Building Code.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	8 feet minimum ceiling height and adequate area for tractors with snow plows or mowing equipment attached to be maneuvered in and out through a pair of 7'-0" high steel doors at grade level. A level threshold and entry area is required.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Sloped surfaces or ramps as required by site conditions.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Adequate power for re-charging equipment for building maintenance.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Heating unit for winter.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Gas/propane storage cage within or directly outside.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Metal storage shelves and cabinets.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Utility racks for storing weed eaters, brooms, shovels, etc.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
Facility Maintenance Storage Rooms: The need for the following storage rooms should be coordinated with DPS Operations.								
	Custodial Chemical and Supply Storage:							
	▪	This room will be used for custodial chemical and supply storage. It should be separate from break/meeting room and access should be controllable.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Minimum 4' wide door.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	24" deep shelving to 84" AFF.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Card access reader and security camera.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Climate control and fire rated.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Chemical spill notification system.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

	▪	Inventory management scanning system.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Concrete flooring.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Custodial Indoor Equipment Storage:							
	▪	This room will be used for custodial indoor equipment storage. It should be separate from break/meeting room and access should be controllable. This room should be on the same level with all main floor corridors so that machines that are moved via propulsion and/or driven can move throughout the building.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Two minimum 4’ wide doors.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Card access reader.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Climate control and fire rated.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Chemical spill notification system.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Inventory management scanning system.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Security camera.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Concrete flooring.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Multiple power outlets for machine battery recharging.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	▪	Large floor sink basin for filling/emptying machines.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**
	Custodial Storage Space for School FFE:							
	▪	This room will be used for custodial storage of FFE for school purposes.	**E-K**	**E-5**	**E-8**	**MS**	**6-12**	**HS**

MECHANICAL, ELECTRICAL AND COMMUNICATION ROOM GUIDELINES

Space Description:
The spaces which encompass mechanical, electrical and communications rooms provide utility support for the building. It is crucial that careful consideration be given to the size and location of these spaces within the school to maximize the efficiency of energy use and operations of the building. The design and layout of these spaces should be reviewed with District Maintenance and Custodial staff.

Design Criteria:

A. Mechanical Rooms

1. **General Requirements:**
   a. Provide adequate floor space to accommodate maintenance of all equipment and movement of personnel during normal maintenance procedures. Consider the requirement to pull heating/cooling coils and/or fan shafts from equipment.
   b. Floors should be constructed at grade level. The main mechanical rooms should be accessible from the driveway for trucks delivering supplies and equipment.
   c. Provide direct exterior access with a set of double doors. The door opening size must permit passage of the largest piece of equipment and equipment maintenance items. Building access must also be provided from an internal corridor.
   d. All building systems should be screened from public areas, and classrooms.
   e. Floor materials and painted walls are not required. Suspended ceilings are not required.
   e. Provide containment curbs and adequate floor drains per code requirements for equipment.
   f. Vertical access with safety accessories and hoist must provide access to roof equipment and/or penthouses.
   g. Floor drains as required.
   h. Provide hose bib.
   i. Mechanical equipment to drain directly to floor drain.
   j. Provide emergency eye wash shower with floor drain.
2. **Plumbing Requirements:**
   a. Provide hands free eye/shower wash station in the boiler room and the chiller room. The eye/shower wash station is to be not more than 25 feet from any point in the room if possible, but in no case more than 40 feet. Consult with DPS Environmental Services.

B. Electrical Rooms

1. **General Requirements:**
   a. Provide adequate floor space to accommodate maintenance of all equipment
   b. Provide adequate exits as required by building code.
   c. At high schools, provide exterior mounted emergency generator fueled by a natural gas connection. Coordinate requirements with service provider.
   d. Provide transformer in screened area
   e. Floor coverings and painted walls are not required. Suspended ceilings are not required.
2. **Acoustical Criteria:**
   a. Acoustical separation from adjacent rooms is a critical consideration in the location and design of this space.
3. **Satellite Electrical Rooms:**
   a. Plan for minimum of one satellite electrical room per floor.
   b. Provide adequate floor space to accommodate maintenance and code clearances for equipment per code.

C. Main Distribution Frame (MDF) Room

1. **General Requirements:**
   a. Each School is required to have a main communications (MDF) room to house all building special systems control equipment. The main communication (MDF) room must be connected to remote intermediate data closets. Provide proper space for (5) 19 inch server racks with a minimum of 3 feet clear dimension in front and back of the racks with expansion capability of 10 percent. Also provide a 3 foot x 4 foot phone switch with 3 feet clearance around it. Refer to DPS Design and Construction Standards – Computer Room Air Conditioning for further information.
   b. Provide primary entry for telephone and cable television services
   c. The room should be located in or near the administrative suite with direct corridor access.
   d. Mount a min. of 8 lin. ft. of ¾" non-com plywood on two walls
   e. Ceiling height is a minimum of 12 feet. A suspended ceiling is not required.
   f. Floor materials and painted walls are not required. Carpet is not permitted.
   g. Provide dedicated cooling system, only for this room. This system will not be shut down during summer months.
   h. Provide two (2) four inch conduits from the MDF room to each IDF room.
2. Equipment Criteria:
   a. Equipment racks
   b. Fire alarm and voice mail control panels
   c. Red emergency phone
   d. Card key access hardware

D. Intermediate Distribution Frame (IDF) Rooms

1. **General Requirements:**
   a. Provide intermediate distribution rooms as required accommodating IT panels and racks
   b. The room shall be located to maximize flexibility of the IT backbone system for present and future use
   c. Equipment requirements for IDF rooms may change based upon cabling requirements and decisions by the District to use fiber optic cable into the classroom. Confirm IT cabling requirements with District prior to design.
   d. Provide dedicated cooling system for this room only. This system can not be shut down over the summer months.
   e. The room should be located with direct corridor access.
2. **Equipment Criteria:**
   a. Equipment racks
   b. Card access door hardware

TOILET ROOM AND WATER FOUNTAIN GUIDELINES

Space Description:
Toilet rooms are designated and designed based on the function and relationship of areas within the school.

Design Criteria:

A. Core Area Public Toilets

1. **General Requirements:**
   a. Locate near the gymnasium/commons and also locate in close proximity to the administration/student services area.
   b. Provide accessible toilets as required by the ADA.
   c. Adjacent to every pair of boy / girl restrooms, provide one accessible unisex toilet.
   d. Ceiling heights shall be gypsum board and at a minimum of 9'-0" AFF.
   e. The design should be configured for visual privacy at each entrance, and for sound privacy as appropriate to location and intended use.
   f. Walls to 60 inches above finished floor behind all plumbing fixtures are recommended to be painted concrete block or ceramic tile.
   g. Floors are to be 2" mosaic ceramic tile.
2. **Equipment Criteria:**
   a. Provide mirror units at lavatories.
   b. Provide toilet paper dispensers
   c. Provide soap dispensers
   d. Provide paper towel dispensers
   e. Provide sanitary napkin disposal units
   f. Provide urinal screens for each urinal
   g. Provide toilet partitions for each water closet
   h. Provide trash receptacles

B. Learning Community Student Toilets

1. **General Requirements:**
   a. Provide accessible toilet facilities per each learning community
   b. Provide accessible toilets as required by the ADA.
   c. Adjacent to every pair of boy / girl restrooms, provide one accessible unisex toilet.
   d. Ceiling heights shall be gypsum board and at a minimum of 9'-0" AFF.
   e. The design should be configured for visual privacy at each entrance, without a door.
   f. Walls to 60 inches above finished floor behind all plumbing fixtures are recommended to be painted concrete block or ceramic tile.
   g. Floors are to be 2" mosaic tile.
2. **Equipment Criteria:**
   a. Provide mirror units at lavatories.
   b. Provide toilet paper dispensers
   c. Provide soap dispensers
   d. Provide paper towel dispensers
   e. Provide sanitary napkin disposal units
   f. Provide urinal screens for each urinal
   g. Provide toilet partitions for each water closet
   h. Provide trash receptacles

C. Staff Toilets

1. **General Requirements:**
   a. Provide accessible staff toilet facilities per each learning community and near the gymnasium, commons, and the administration area
   b. Ceilings may be suspended acoustical tile.
   c. Walls to 60 inches above finished floor behind all plumbing fixtures are recommended to be painted concrete block or ceramic tile.
   d. Floors are to be 2" mosaic tile.
   e. Provide locksets for doors with integral "occupied" sign.
2. **Equipment Criteria:**
   a. Provide toilet paper dispensers
   b. Provide soap dispensers
   c. Provide paper towel dispensers
   d. Provide sanitary napkin disposal units
   e. Provide trash receptacles

D. Water Fountains

1. **General Requirements:**
   a. In this Educational Specification, water fountains are defined as either drinking fountains or electric water coolers.
   b. Electric water coolers are generally preferred in schools because cooled water is more refreshing than warm water. Coordinate preferences for each school.
   c. Quantities should be determined by building code requirements.
   d. At minimum, locate at least one water fountain near gymnasium, commons and administration/student services areas.
   e. Locate learning community water fountains near student toilet rooms
   f. Water fountains which are located in corridors or other areas of intense pedestrian activity shall be mounted in an ADA compliant recess.

BUILDING CIRCULATION GUIDELINES

Space Description:
High-use spaces used to circulate staff, visitors, and students throughout the building and to the exterior. The spaces are the primary means to control, observe, and allow or limit access to different areas of the building.

Design Criteria

A. Building Circulation

1. Lobby and Entrance:

a. General:

i. Main means of entering and exiting the building, directly adjacent to administration area.

ii. The main entrance shall have visual control and monitoring from the administration area.

iii. The administration area shall be readily identifiable and accessible from the lobby and entrance.

iv. Easily identifiable from, and near the main public parking area.

v. Size the area to accommodate large groups of students, parents, and staff congregating at the main building entrance, both interior and exterior.

vi. Acoustical treatment as necessary to minimize reverberation.

vii. Sufficient exterior glazing to allow visual monitoring of the entrance exterior from the administration area and from inside the lobby.

viii. Finishes:
1. Walls:
a. Highly abuse-resistant materials.
2. Ceilings:
a. All ceiling finishes shall allow District maintenance personnel adequate access to concealed building systems without the use of special equipment or tools.
b. Acoustical treatment as necessary to minimize reverberation. Open, angled, or vaulted ceilings without other means of controlling sound reverberation must be treated with acoustic material.

b. Accessories and Specialties:

i. Signage: Directional signage, as appropriate.

c. Cabinetry and Casework:

i. Display Case(s): 48 sf of display surface x 16-inches deep with adjustable glass shelves, display lighting, power, and lockable sliding glass doors.

d. Technology:

i. Reference DPS Design and Construction Standards - Section 17700 Telecommunications System Infrastructure.

e. Other

i. Fire Annunciator Panel near front entrance

ii. Fire Map near front entrance

2. Vestibules:

a. General:

i. Provide vestibules at exterior building access points where required by Code or program, and used by students and the public. Design air-lock type vestibules to comply with Energy Codes, to minimize loss of heated and conditioned building air.

ii. The area directly outside exterior doors shall be readily visible from inside the vestibule.

iii. Finishes:

1. Flooring:

a. Walk-off mats and hard surfaces.

2. Walls:

a. Concrete masonry block or abuse-resistant gypsum board with high performance coating.

3. Ceilings:

a. Typical: Gypsum Board, minimum ceiling height 10'-0" above finished floor

b. All ceiling finishes shall allow District maintenance personnel adequate access to concealed building systems without the use of special equipment or tools.

c. Acoustical treatment as necessary to minimize reverberation. Open, angled or vaulted ceilings without other means of controlling sound reverberation must be treated with acoustical material.

3. Corridors:

a. General:

i. Horizontal circulation of building users to spaces throughout the building.

ii. Design and material selections shall provide corridors that are durable, easily maintainable, attractive and non-institutional in appearance.

iii. Design for direct and obvious paths of travel without visual dead spots and blind corners.

iv. The corridor layout shall provide a direct, simple and logical pathway through the building to provide access to all areas of the building

v. Design for the ability to secure and limit access to different areas of the building.

1. Lockable security separations to isolate building areas that may be used after-hours by the public:

a. Gymnasium, cafetorium, music, community room, and library.

2. Swinging security doors are preferred over overhead coiling or side-folding gates. Coiling corridor gates are discouraged, but if they are used they must incorporate a fire-alarm activated auto-open feature and meets all code requirements. Provide with magnetic hold-open devices if doors also serve as fire doors; if not, provide manual hold-open devices.

vi. Design for access to and from assembly spaces to be directly off main paths of building circulation.

b. Finishes:

i. Flooring:

1. VCT, carpet, or other surface determined by project team.

ii. Walls:

1. Minimum 32-inch high masonry (or other approved hard surface) wainscot veneer with gypsum board above with high performance coating.
2. Architecturally exposed non-painted masonry shall be coated with clear penetrating sealer.
3. Concrete masonry block or abuse-resistant gypsum board with high performance coating.
4. Exterior corners of all corridors should have full height (7'-4") protection in the form of bull-nose masonry, bull-nose tile, or abuse resistant corner guards.

iii. Ceilings:

1. Minimum 9'-6" ceiling height.
2. Acoustical treatment as necessary to minimize reverberation. Open, angled or vaulted ceilings without other means of controlling sound reverberation must be treated with acoustical material.

c. Equipment:

i. Lockers:

1. Metal Corridor Lockers, two-tier, 15"w x 15"d x 36"h, at E-8, MS and HS.
2. Quantity to be determined project by project.
3. Avoid placement of lockers on both sides of any corridor.

d. Cabinetry and Casework:

i. Display Cases: 48 SF of display surface x 16" deep with adjustable glass shelves, display lighting, power, and lockable sliding glass doors.

1. Locate display cases outside library, gymnasium, science and art.

e. Accessories:

i. 150 SF of tackboards at three or four prominent locations in the main corridor(s).

ii. Provide two rows of tack strips on corridor walls. Mount tack strips at approximately 54" and 72" above the floor. Tack strip runs should cover 40% of corridor wall lengths.

f. Other:

i. General purpose 110-volt electrical receptacles at 50-foot intervals throughout the corridor system.

ii. Doors:

1. Provide w/ magnetic hold-open devices if doors also serve as fire doors.
2. Provide manual hold-open devices if doors are not fire rated.

iii. Interior View Windows:

1. Refer to security guidelines.

4. Ramps:

a. General:

i. Total maximum change in elevation using ramp systems within any single building shall be six (6) feet.

ii. Ramp slope preferred to be 1:20, Reference DPS Design and Construction Standards.

b. Finishes:

i. Flooring:

1. Surface shall be non-slip.

ii. Walls:

1. Concrete masonry block or abuse-resistant gypsum board with high performance coating.

iii. Ceilings:

1. Minimum 9’-0” ceiling height at the highest point of the ramp surface.

c. Other:

i. Handrails

1. Both sides of ramps.
2. Intermediate railings as per International Building Code.
3. For ECE, Kindergarten, and Elementary grades, provide two (2) railings at different height levels. Reference Design and Construction Standards – Accessibility.

5. Stairs:

a. General:

i. Locate and design for direct and obvious paths of travel without visual dead spots and blind corners.

ii. Design for the ability to secure and limit access to different areas of the building.

iii. Provide convenience outlets for cleaning.

iv. Finishes:

1. Flooring:
   a. Non-slip hard surfaces.
   b. Sealed concrete with non-slip nosing preferred.
   c. Ceramic or quarry tile.
2. Walls:
   a. Concrete masonry block or abuse-resistant gypsum board with high performance coating.
3. Ceilings:
   a. Gypsum board or other approved hard surface on the underside of stair runs and landings.
   b. Light fixtures at height that can be easily maintained.

b. Other:

i. Handrails and Guardrails

1. Handrails both sides of stairs
2. Intermediate handrails as per International Building Code (adopted version).
3. Guardrails:
   a. Where required by International Building Code (adopted version).
   b. Non-flexing or bending, abuse-resistant material.

4. Handrail Heights:
    a. Two (2) railings at different height levels
5. Reference DPS Design and Construction Standards – Metal Fabrications

6. Elevators:

a. General:

i. Limited access multiple use and function elevators.
    1. Multi-function for use as freight, ADA, passenger, and custodial.
    2. Reference DPS Design and Construction Standards – Elevators for access control, operation, and finishes.

ii. Locate elevator in high visibility area for ease of monitoring, safety and security.

iii. Locate elevator within main circulation area.

iv. At least one elevator is required at all multi-level schools.

v. Elevator machine room to support elevator operation.

vi. Consider providing vertical platform lift in lieu of elevator.

SECURITY GUIDELINES

The security of the building shall be coordinated with current guidelines of the DPS Safety & Security Department.

ELECTRICAL POWER, TELECOMMUNICATIONS & EDUCATIONAL TECHNOLOGY GUIDELINES

DESCRIPTION

The main purpose of these guidelines for electrical power, telecommunications, and educational technology within school buildings is to ensure conformance with the District's personalized learning plan. Consult with the Project Manager to confirm the most recent requirements. The DPS Department of Technology Services (DoTS) and DPS Educational Technology Department will be heavily involved in interpreting and implementing these guidelines during project design.

There may be some overlap between guidelines in this section and the following section, *Guidelines for Miscellaneous and Special Systems*.

DESIGN CRITERIA

A. Cable Television (CATV) / Video :

1. Provide cable TV service throughout the school.
2. Locate cable television control equipment in the MDF Room.
3. See DPS Design and Construction Standards – Telecommunication System Infrastructure for detailed requirements.
4. Coordinate locations with built-in casework, specialties and accessories, and with technology and equipment types.
5. See DPS Design and Construction Standards –Telecommunications Infrastructure for additional and more specific requirements
6. Video Outlet Standards:
   a. Classrooms and all Teaching Areas
   b. One in the Administration Reception and Waiting Area
   c. One in each Administrative Office
   d. One in Facility Manager's Office
   e. One in each Administrative Conference Room
   f. One in Community Room
   g. Two in the Library
   h. Two in the Gymnasium
   i. Two in the Cafetorium.
   j. Two in each multi-teacher workroom
   k. If there is an area used for the school TV broadcast studio, increase to two video drops.

B. Voice:

1. Provide a programmable telephone/paging speaker system throughout each building.
2. Locate telephone control equipment in the MDF Room.
3. See DPS Design and Construction Standards – Telecommunication System Infrastructure for detailed information.
4. See DPS Design and Construction Standards – Telecommunications Infrastructure for additional and more specific requirements
5. Voice (Telephone) Outlet Standards:
   a. Classrooms and all Teaching Areas
   b. One in the Administration Reception and Waiting Area.
   c. One in each Administrative Office
   d. Two for each Administrative Office Support Staff
   e. One for school FAX machine in Administration Area

f. One in Facility Manager's Office
g. One in each Administrative Conference Room
h. One in Community Room
i. One in Mechanical Room
j. One in MDF Room
k. One in Library Office
l. Two at Library Circulation Desk
m. One in Gymnasium
n. One in Cafetorium
o. One in Kitchen Office
p. One in Teacher Workrooms
q. One in all Offices
r. One in each Special Program space

C. Data:

1. A computer data network shall be installed throughout each building.
2. Outlet boxes, conduit, cable, data box covers, program cards, software, and related hardware devices.
3. Locate control equipment in the MDF Room.
4. See DPS Design and Construction Standards – Telecommunication System Infrastructure for specific requirements.
5. Data Outlet Standards:
   a. Classrooms and all Teaching Areas
   b. One in the Administration Reception and Waiting Area.
   c. One in each Administrative Office
   d. One in each Administrative Conference Room
   e. Two for each Administrative Office Support Staff
   f. One at each business machine location
   g. One at each desktop printer location
   h. One in Facility Manager's Office
   i. One in Community Room
   j. One in Mechanical Room
   k. One in MDF Room
   l. One in Library Office
   m. Two at Library Circulation Desk
   n. Multiple locations within Library
   o. One in Gymnasium near or below video outlet
   p. One in Cafeteria/cafetorium at Kitchen Point-of-Sale
   q. One in Cafeteria/cafetorium near or below video outlet
   r. One in Kitchen Office
   s. One in each Teacher/Staff Workroom
   t. One in all Offices
   u. One in each Special Program space
   v. One in cafetorium
   w. Fifteen to Thirty in Computer Labs

D. : General Classroom Power Guidelines (September 2015):

1. This Guideline defines the electrical power requirements for a General Teaching Classroom, Grades ECE through 12, based on a One-for-One electronic learning device per student, and is a supplement to the Denver Public Schools Educational Specifications (as prepared for ECE-K, Elementary, E8, Middle, High, and Other Schools), as well as the Denver Public Schools Design & Construction Standards.

2. The electrical power requirements identified within this document are for standard classroom equipment connections, as defined below, and intended to be the minimum level of design for new and extensive remodel projects. Minor classroom remodel and/or classroom relocations projects shall be designed as close to these guidelines as is practical.
3. Standard Classroom Equipment is identified as the following: **
    - Projector (1 per classroom, 340watt each)
    - Audio Enhancement System (1 per classroom, 20watt each)
    - Document Camera (1 per classroom, 18watt each)
    - Interactive whiteboard (1 per classroom, up to 180watts each)
    - Teacher's Workstation consisting of computer (laptop or desktop), handheld learning device, personal communication device (1 station per classroom, up to 260watt each)
    - Student Electronic Learning Devices (1 per Student, up to 35 per Classroom)

    **Types of devices may vary from school to school or classroom to classroom
4. Personal refrigerators, microwaves, coffee makers, other cooking equipment, lighting/lamps, portable heaters, portable air conditioning units, air filters/cleaners, and other similar equipment is not permitted and shall NOT be considered when calculating standard classroom electrical needs, without approval by the facility Principal.
5. Power Branch Circuit Requirements for Standard Classroom Equipment
    a. Typical Standard Equipment EXCLUDING Student Electronic Learning Devices
        - 818W Total per Classroom ➔ One 20Amp, 120Volt branch circuit shared per two classrooms
        - One standard NEMA 5-20R fourplex receptacle located at each teacher's station and one standard NEMA 5-20R duplex receptacle located at equipment locations determined during design
6. Standard Student Electronic Learning Devices includes the following:
    - Tablet (10watt maximum charging load)
    - Notebook (Chromebook – 25watt maximum charging load)
    - Notebook (MacBook Air – 45watt maximum charging load)
    - Laptop 15" (65watt maximum charging load)
    - Desktop/Monitor (180watt maximum non charging continuously powered)
7. Power Branch Circuit Requirements for Classroom Student Electronic Learning Devices (Varies based on type of electronic learning devices to be used)
    a. Tablet
    (10watt maximum charging load x 35Students = 350watts @ 120V = 2.90Amps)
        - 350Watts Total ➔ One 20Amp, 120Volt branch circuit per classroom
        - Six standard NEMA 5-20R duplex receptacles, locations determined during design
    b. Notebook - Chromebook
    (25watt maximum charging load x 35Students = 875watts @ 120V = 7.30Amps)
        - 875Watts Total ➔ One 20Amp, 120Volt branch circuit per classroom
        - Six standard NEMA 5-20R duplex receptacles, locations determined during design
    c. Notebook - MacBook Air
    (45watt maximum charging load x 35Students = 1575watts @ 120V = 13.15Amps)
        - 1575Watts Total ➔ One 20Amp, 120Volt branch circuit per classroom
        - Six standard NEMA 5-20R duplex receptacles, locations determined during design

d. Laptop 15”
(65watt maximum charging load x 35Students = 2275watts @ 120V = 18.95Amps)
- 2275Watts Total ➔ Two 20Amp, 120Volt branch circuits per classroom
- Eight standard NEMA 5-20R duplex receptacles, locations determined during design
- Four receptacles connected to each of the two branch circuits

e. Desktop/Monitor
(180watt maximum load x 35Students = 6300watts @ 120V = 52.50Amps, non-charging equipment continuously powered)

- 6300Watts Total ➔ Four 20Amp, 120Volt branch circuits per classroom
- Sixteen standard NEMA 5-20R duplex receptacles, locations determined during design
- Four receptacles connected to each of the four branch circuits

8. Charging Device Options for Classrooms

a. Multi-Port USB outlet devices with internal 5.0Volt power supply and cord/plug may be used to provide the necessary quantity of USB charging outlets for Tablet Classrooms.

- 8-Port (2.4Amp, 5.0Volt) USB Power Strip / Power Cube
- Wiremold installed with multiple Leviton 4-Port USB Devices (2.4Amp, 5.0Volt) or equivalent

b. Charging Carts for up to 40 individual computing devices may be used in classrooms where desired for Notebook and Laptop charging. Charging Carts with Power Management Technology (automatically directs power to devices with greatest charging need, then rotates the power to devices to maintain charge) can reduce the maximum charging load in each classroom to 12A @ 120V, and one dedicated circuit/receptacle per Classroom.

9. Receptacle Distribution/Mounting Options

a. Standard NEMA 5-20R, 120V receptacles – Supports all computing devices. Devices shall be GFCI type and/or tamper resistant where required by the NEC.

- Standard full size wall receptacles
- Wall mounted Wiremold Raceway with standard full size receptacles
- Power poles with standard full size receptacles
- Legrand floor boxes with standard full size receptacles or equivalent
- Legrand Over Floor Raceway with standard full size receptacles or equivalent
- Furniture / Desk mounted standard full size receptacles
- Other mounting methods determined appropriate for each specific classroom

b. Use of multi-outlet plugstrip devices (with or without surge protection) shall be limited to two per standard duplex receptacle and shall not be daisy-chained (one plugstrip plugged into another).

GUIDELINES FOR MISCELLANEOUS AND SPECIAL SYSTEMS

DESCRIPTION

Guidelines for various building systems that are critical to operation of school facilities. There may be some overlap between guidelines in this section and the previous section, *Electrical Power, Telecommunications & Educational Technology Guidelines*.

DESIGN CRITERIA

A. MISCELLANEOUS AND SPECIAL SYSTEMS

1. Hose Bibs:

a. Exterior Keyed Hose Bibs:

i. One (1) at the Kitchen service entrance

ii. One (1) per 200 linear feet of building perimeter

iii. Minimum one (1) per compass direction (N, E, S, W)

iv. Interior shutoff valve at each location

b. Interior Keyed Hose Bibs:

i. Located as listed under individual program spaces.

ii. Locate in toilet rooms where required by the AHJ.

2. Fire Suppression System:

a. All new schools and facilities shall incorporate an approved fire sprinkler system.

b. Renovations and additions to non-sprinkled facilities shall be reviewed on a case by case basis in consultation with the DPS Project Manager and the Denver Fire Prevention Bureau.

3. Fire Alarm and Detection System:

a. A fire alarm and detection system shall be installed throughout the school. A fire alarm status panel shall be located in the administrative/counseling area.

b. The Fire Alarm Control Panel is located in the Main Administration Office.

c. A remote annunciator shall be installed at the main entry of the building.

d. Lighting and sound systems shall be interlocked with the fire alarm system to allow the fire alarm to override, where required by the AHJ.

e. See DPS Design and Construction Standards for system requirements.

4. Emergency Generator:

a. Provide an exterior area for a generator. Provide a fixed generator if the school is designated as an emergency shelter. A portable generator shall be used under normal school use conditions. Need for emergency generator to be determined by project.

b. See DPS Design and Construction Standards – Standby Power Generation Systems for detailed requirements.

5. Intelligent Building Automation System (IBAS):

a. The intelligent building automation system monitors the heating, ventilating and air conditioning system (HVAC) and reports status information to a District central monitor location.

b. See DPS Design and Construction Standards – Intelligent Building Automation System for detail information.

6. Clock and Bell Systems:

a. Refer to the Design and Construction Standards for current guidelines for clock and bell systems.

b. Locate clock on wall opposite to the wall with built in casework.

c. Provide both interior and exterior bells.

7. Sound Amplification (Public Address and Performance Sound) Systems:

a. Provide a public address system throughout each building.

b. Provide performance sound systems in auditoriums, cafetoriums, gymnasiums, and similar performance spaces.

i. Locate controls in the performance area and the gymnasium offices, jacks and power at appropriate locations and near the proscenium. Provide a remote control station at the wall furthest from the performance platform.

c. Coordinate these systems with all emergency and security systems requirements.

8. Performance Lighting Systems:

a. Provide performance lighting systems at performance platforms.

9. Classroom Enhanced Audio Systems:

a. Individual audio enhancement system in each classroom designed for use by the teacher for even and consistent distribution of sound within the space.

b. Locate in classrooms and teaching areas over 850 SF.

10. Bi-Directional Amplification System (Cellular Repeater)

a. Internal radio and cellular amplification and repeater system to provide uninterrupted electronic communications between first responders.

b. Coordinate system requirements with first responders.

11. Emergency Defibrillator

a. Coordinate locations with DPS Project Manager and DPS Safety and Security.

SITE DEVELOPMENT GUIDELINES

GENERAL SITE REQUIREMENTS:

A. Minimum Site Size:

1. Urban Site: Four (4) useable acres at E-K and E-5. Ten (10) usable acres at E-8. Fifteen (15) usable acres at MS. Twenty (20) to thirty (30) usable acres at HS.
2. Suburban Site: Six (6) to ten (10) useable acres at E-K and E-5. Ten (10) to fifteen (15) useable acres at E-8. Twenty (20) to thirty (30) usable acres at MS. Thirty (30) to forty (40) usable acres at HS.

B. Sustainability:

1. In as much as it is feasible, site development should incorporate sustainable design concepts and techniques.
2. Utilize passive solar design elements, such as minimizing north side entrances and large glass expanses, and incorporate shading features into the building configuration.
3. Disqualifying Features - One or more of the following features on, or immediately adjacent to the site, may disqualify a proposed site:
    a. Select sites that allow the building to be above the play fields for supervision and proper drainage
    b. Landfill
    c. Hazardous waste
    d. Within 100 yards of a wetland or in below the 100 year flood plain.
    e. Within 50 yards of a water body
    f. Retention pond (standing water)
    g. Identified as habitat for any species on the Federal or State endangered species list
    h. Violation of airport influence area criteria
    i. Within 100 yards of a high voltage power transmission line(s)
    j. Within 100 yards of a high pressure gas transmission line(s)
    k. Within 50 yards of a railroad line(s)
    l. Regional highways or expressways
    m. Easement(s) which bisect the site
    n. Zoning, or land-use designations including industrial, commercial, or transportation
4. Further consideration of a site which includes any of the features cited above should be based on an analysis of the impact of these features on the health and life-safety of proposed tenants, and the assurance that any negative impact can be effectively, efficiently and economically mitigated.

C. Joint Use:

1. Selection of sites adjacent to the following features is encouraged:
    a. Public open space
    b. Public parks
    c. Public facilities, such as libraries or recreational facilities
    d. Community, or neighborhood, focal points

D. The following land areas should not be included in the calculation of usable acreage:

1. Drainage ways, detention ponds, or wetlands
2. Slopes greater than 5 percent
3. Intrusive easements or rights-of-way
4. Space requirements may be adjusted based on an analysis of joint-use facilities, parking, and play fields.

SITE DESIGN CRITERIA:

Preferable site attributes include land that is almost flat but with positive drainage, a large amount of non-major highway road frontage or corner site, and a location which abuts a neighborhood park. The site should be close to utilities and centered within the District boundary area and should not be in a flood plain or over a mining area. The geology and soils must be acceptable to the office of the State Geologist.

A. General site requirements:

1. Utilize passive solar design elements, such as minimizing north side entrances and large glass expanses, and incorporate shading features into the building configuration
2. Develop site contours such that building exits are on grade.
3. All site amenities, including but not limited to, athletic fields, parking lots, pedestrian walks, and building entries shall have barrier-free accessibility in compliance with the ADA.
4. To enhance visual security, minimize concealed exterior building areas with limited public view.
5. Design buildings and grounds to provide maximum safety and visual observation.
6. Design the site as an amenity to the surrounding neighborhood and community.
7. Develop a site plan that minimizes the impact of building and site features the site itself and on adjacent properties. Minimize cut and fill work.
8. Develop the overall site to promote positive drainage
9. If the site is large enough, provide off street loading and circulation space for buses separate from the auto loop.
10. Provide bicycle parking and auto parking spaces with vehicle circulation as required by Denver Zoning regulations for staff, students, and visitors. Provide accessible parking complying with current accessibility codes. Parking lots should be designed to avoid traffic conflicts between pedestrians, bicycles and buses.
11. Provide service and delivery drives with turnaround space to serve the kitchen, cafeteria, custodial facilities, multi-purpose room, and play fields. A trash area to house the required number of trash containers and recycled material containers is required near the kitchen.
12. Trash compactor trucks and recycled material trucks driving up to the containers require a curb-less concrete pad with minimum elevation change. Minimize traffic conflicts between service and delivery vehicles and pedestrians, bicycles, buses and autos.
13. Design convenient paths and sidewalks from all building exits to fire refuge areas, parking lots, bicycle enclosures, and service areas and play pads. Avoid conflicts between vehicles and bicycles.

B. Site Improvements:

1. When required by governing agencies, perform storm drainage and erosion studies. Protect headwalls by appropriate plantings or other safety devices. Steep slopes, embankments and swales that are subject to erosion must comply with DPS Design and Construction Standards.
2. Water discharge over sidewalks is prohibited. Provide necessary site drainage improvements as required by the design concept. Where quantities of water are discharged to earth surfaces, provide erosion control structures. Direct water to storm drains where possible.
3. Orient and design playgrounds, parking lots, sidewalks, service drives, etc., to easily shed water and to not accumulate winter ice. Provide low areas for snow piles that will include an area drain. Avoid snow pile areas that are uphill from walks and parking areas.
4. Avoid retaining walls or other site features which would complicate maintenance and/or create fall hazards. Where retaining walls cannot be avoided, tops of walls must be fenced or provided with guardrails. See DPS Design and Construction Standards.
5. Avoid service and delivery conflict with playgrounds and playground access from building.
6. Fire hydrant locations must be determined by meeting with the Denver Fire Prevention Bureau. Water line routes and easement types must be determined with the Denver Board of Water Commissioners.

7. An automatic underground irrigation system is required for turf grass play fields, lawns and planted areas.
8. Low maintenance landscape materials and drought resistant plant materials are required. Plant materials and site furniture should be able to withstand heavy use. Plantings such as shade and ornamental trees, shrubbery and ground covers should be used judiciously to provide shading, visual screening and wind protection for the building, and to make the site harmonious with the community.
9. Vandal resistant building and site materials are required.
10. Provide fencing as required by DPS Design and Construction Standards.
11. Incorporate into the site plan flagpoles, benches for informal seating in patios and at main entrances, and fire and weather resistant fixed trash receptacles at main building entrances, patios and gathering areas.
12. Provide enclosures at meters and transformers where indicated by the Design & Construction Standards.
13. Provide an exterior area for a diesel generator. Provide a fixed generator if the school is designated as an emergency shelter. A portable generator shall be used under normal school use conditions.
14. Provide exterior building identification, street address, and directional and traffic control signage.

C. Surface Pavement Requirements:

1. Flexible/Asphalt:
    i. Parking lots
    ii. Drives, bus loops
    iii. Secondary pedestrian/bicycle paths and walks which abut undeveloped neighboring property
2. Rigid/Concrete
    i. Main sidewalks and entrance plaza
    ii. Trash enclosure pads, including area for trucks to maneuver
    iii. Service areas
    iv. Emergency access lane(s)
3. Crushed concrete, gravel, or crusher fines may be considered for rural / less developed areas.

D. Vehicle Circulation and Parking:

1. Buses:
    a. Provide off street loading and circulation space for buses separate from, and not in conflict with, automobile traffic.
    b. Bus circulation shall be counter-clockwise in direction.
    c. Paving to be minimum 6” concrete.
2. Automobiles:
    a. Provide automobile parking spaces and vehicle circulation as required by Denver Zoning regulations for staff, students, and visitors. Locate accessible parking stalls near the front entrance. Parking lots should be designed to avoid traffic conflicts with pedestrians, bicycles and buses.
    b. Provide handicapped parking spaces per Denver Zoning requirements or ADAAG whichever is greater
3. Bicycle Parking:
    a. Provide paved areas for bicycle parking.
    b. At minimum, provide number of bicycle parking spaces required by Denver Zoning.
    c. Locate to maximize visual supervision and safety.
    d. Provide bicycle parking enclosures where necessary to meet the needs of the school.
4. Service Vehicles and Trash Facilities:
    a. Provide service and delivery drives with turnaround space to serve the kitchen and custodial facilities.

b. City and County of Denver trash trucks are 33' long, 9 ½' wide and 13 ½' tall with a turning diameter of 82 feet.
c. Near the kitchen, provide a screened trash area to house rollaway trash containers, recycle containers and composting containers. Coordinate quantity and size of containers with DPS Operations and the City and County of Denver Solid Waste Management.
d. Enclosure doors are prohibited.
e. Curb-less concrete service pad with minimum elevation change is required.
f. Minimize traffic conflicts between delivery vehicles and pedestrians, bicycles, buses and autos.

5. Emergency Vehicles:
   a. Coordinate with the Denver Fire Prevention Bureau and other authorities having jurisdiction for locations and types of access drives required.

E. Temporary Classroom/Expansion Areas:

1. General Requirements:
   a. Design exterior site area(s) for possible future standard-sized modular classroom buildings and cottages.
   b. Plan for one (1) temporary classroom for each 200 students of permanent design capacity.
   c. Locate to facilitate transport and placement with minimal site disruption.
   d. Locate to minimize distances to main building and comply with minimum travel distances to interior toilet rooms.
   e. Design the area to minimize visual impact on adjacent properties.
   f. Provide provisions for future underground utilities that would extend from the main school building to the classroom buildings.

F. Pedestrian Circulation:

1. General Requirements:
   a. Provide ADA accessible routes at entrances and at all major site areas normally accessed by students, staff, and the public. Provide ADA access and wheelchair pads at play fields.
   b. Convenient paved pathways and/or sidewalks are required to connect all building exits with fire refuge areas, parking lots, service areas, game courts, site pedestrian access points, bicycle enclosures and along street frontages.
   c. Paved walk widths: should be appropriate to the needs of pedestrians and maintenance vehicles.
   d. Pedestrian routes from the cafeteria and gymnasium to outdoor activity areas shall not cross, nor pass near, vehicle circulation, parking, or service areas.