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INTRODUCTION & OVERVIEW

This one-volume design standards replaces the individual separate school and site standards previously published by the Albuquerque Public Schools [APS]. This volume’s functions are manifold:

- It will serve as guideline for new as well as existing facility renovations for all sites and buildings.
- It outlines broad and specific criteria to support the educational and other needs of the district.
- It addresses adequacy, health and safety, and maintainability.
- It is informed by current, adopted APS facility and curriculum practices, national standards, and the aggregate input from a committee composed of APS administrative personnel, content area experts, principals, and community representatives.
- It is organized to outline minimum, general expectations and approaches for ALL buildings and sites serving all grade levels and those staff serving them.
- It presents very specific requirements for ALL buildings and sites for each school level or educational/organizational paradigm: Elementary, Middle, K-8, High School.
- It shall be used in accordance with and complementary to all published building system and component standards published in the Department’s website. Clickable links below:

<table>
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<tr>
<th>Aluminum Storefront Specification</th>
<th>Playground Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet Tile Specifications</td>
<td>Polished Concrete Finishing</td>
</tr>
<tr>
<td>Custom Plastic Laminate Casework Standards</td>
<td>Portable Building Electrical and Special Systems Service Blueprint – E-201</td>
</tr>
<tr>
<td>Door Hardware Standards</td>
<td>Portable Building Electrical and Special Systems Service Blueprint – E-202</td>
</tr>
<tr>
<td>Electrical Design Standards</td>
<td>Solar PV Guidelines</td>
</tr>
<tr>
<td>Glazing and Window Standards</td>
<td>Roofing Design Guidelines &amp; Specifications</td>
</tr>
<tr>
<td>Mechanical Design Standards</td>
<td>Roof Drain No Hub Coupling</td>
</tr>
<tr>
<td>Mechanical Design Standards Appendix A</td>
<td></td>
</tr>
</tbody>
</table>

Key to parenthetical and related supplementary notations:

*** Refers to information complementing or expanding the more general policy or standard.

LEED*: Refers to elements of the LEED® for Schools process that will possibly influence the approach, execution, or options evaluated for the referenced policy or standard.

FD+C and M&O Notes: Refers to information that directly impacts the department of Facilities Design + Construction (FD+C) and Maintenance & Operations (M&O) and often provides some restrictions or lessons learned to be used in executing the standard.
<table>
<thead>
<tr>
<th>Area Expertise</th>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Zone Heads</td>
<td>Gabriella Blakey</td>
<td>Z1 - Associate Superintendent</td>
</tr>
<tr>
<td></td>
<td>Sheri Jett</td>
<td>Z1 - Superintendent of Schools</td>
</tr>
<tr>
<td></td>
<td>Antonio Gonzales</td>
<td>Z2 - Associate Superintendent</td>
</tr>
<tr>
<td></td>
<td>Gene Saavedra</td>
<td>Z2 - Superintendent of Schools</td>
</tr>
<tr>
<td></td>
<td>Yvonne Garcia</td>
<td>Z3 - Associate Superintendent</td>
</tr>
<tr>
<td></td>
<td>Rachel Vigil</td>
<td>Z3 - Superintendent of Schools</td>
</tr>
<tr>
<td></td>
<td>Troy Hughes</td>
<td>Z4 - Associate Superintendent</td>
</tr>
<tr>
<td></td>
<td>Chris Sanchez</td>
<td>Z4 - Superintendent of Schools</td>
</tr>
<tr>
<td>Transportation</td>
<td>Royce Binns</td>
<td>Senior Director, Transportation</td>
</tr>
<tr>
<td></td>
<td>Lynn Carl</td>
<td>Manager, Transportation</td>
</tr>
<tr>
<td>IT</td>
<td>Paul Romero</td>
<td>Chief Technology Officer</td>
</tr>
<tr>
<td></td>
<td>Jason Johnson</td>
<td>Exec. Director, Technology</td>
</tr>
<tr>
<td>Food Service</td>
<td>Sandra Kemp</td>
<td>Executive Director, Food Service</td>
</tr>
<tr>
<td>JROTC</td>
<td>Michael Beno</td>
<td>Manzano HS, JROTC</td>
</tr>
<tr>
<td></td>
<td>Major Koerber</td>
<td>Interim APS Military Instructor</td>
</tr>
<tr>
<td>DECA</td>
<td>Eric Strauss</td>
<td>Teacher, Vocational Ed at ABQ High</td>
</tr>
<tr>
<td>Culinary Arts</td>
<td>Deborah Zamora</td>
<td>Teacher, Vocational Ed at West Mesa HS</td>
</tr>
<tr>
<td>Library Services</td>
<td>Rachel Altobelli</td>
<td>Director of Library Services</td>
</tr>
<tr>
<td>Nursing</td>
<td>Sharon Guerra</td>
<td>Director of Nursing Services</td>
</tr>
<tr>
<td>Counseling</td>
<td>Vicki Price</td>
<td>Director of Health/Mental Health Services</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>Gina Rasinski</td>
<td>Director, Fine Arts</td>
</tr>
<tr>
<td></td>
<td>Denise Rudd</td>
<td>Elementary Visual Arts Manager</td>
</tr>
<tr>
<td>Science</td>
<td>Valerie Varoz</td>
<td>Teacher, Science Dept Head at Sandia HS</td>
</tr>
<tr>
<td>School Police</td>
<td>Steve Gallegos</td>
<td>Executive Director, School Police</td>
</tr>
<tr>
<td></td>
<td>Paul Brady</td>
<td>Lieutenant, School Police</td>
</tr>
<tr>
<td>School / Comm Gardens</td>
<td>Cynthia Grajeda</td>
<td>Wellness Coordinator</td>
</tr>
<tr>
<td>SPED</td>
<td>Lucinda Sanchez</td>
<td>SPED Associate Superintendent</td>
</tr>
<tr>
<td></td>
<td>Elvira Lopez</td>
<td>Senior Planner, CMP</td>
</tr>
<tr>
<td>Athletics</td>
<td>Kenny Barreras</td>
<td>Director, Athletics</td>
</tr>
<tr>
<td>PE</td>
<td>Chris Sanchez</td>
<td>Superintendent of Schools</td>
</tr>
<tr>
<td></td>
<td>Gene Saavedra</td>
<td>Superintendent of Schools</td>
</tr>
<tr>
<td>Facilities Design + Construction</td>
<td>Karen Alarid</td>
<td>Director</td>
</tr>
<tr>
<td></td>
<td>Sayre Gerhart</td>
<td>PM/ Staff Architect</td>
</tr>
<tr>
<td></td>
<td>Denise Hammer</td>
<td>Construction Manager</td>
</tr>
<tr>
<td></td>
<td>Roldan Pasion</td>
<td>PM/ Staff Architect</td>
</tr>
<tr>
<td></td>
<td>Faye Rogers</td>
<td>PM/ Staff Architect</td>
</tr>
<tr>
<td></td>
<td>Farrokh Rostami kia</td>
<td>Student Intern</td>
</tr>
</tbody>
</table>
The information is for specific site and facility parameters not covered in the more “performance based” standards that follow. Requirements for all projects:

1. The contract Architect / Engineer (A/E) shall coordinate all work with the Department of Facilities Design and Construction (FD+C) Project Manager and participate in a School Building Committee process.

2. A utilization will be provided to the A/E by APS FD+C and Capital Master Plan (CMP) prior to the design of each Project. The CMP utilization will define the specific spaces required for each project. The APS Standards will define the square footage and character requirements for each of the specified spaces.

3. The school facility shall accommodate the education of all children, including students in programs for Social Emotional Services (SES1, SES2), Intensive Global Support (Level 1 and Level 2), and Social and Communication Support Services (SCS1, SCS2, and SCS3). Standard “neighborhood” special education requirements are separately defined programs for the purpose of this document and are included in this facility. It will be completely accessible to all students, staff, and visitors as required in the governing building codes.

4. Grade level accommodations:

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Elementary School</td>
<td>kindergarten, 1st, 2nd, 3rd, 4th, and 5th grades (Some schools have pre-K)</td>
</tr>
<tr>
<td>b Middle School</td>
<td>6th, 7th and 8th grades</td>
</tr>
<tr>
<td>c K-8 School</td>
<td>kindergarten, 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, and 8th grades</td>
</tr>
<tr>
<td>d High School</td>
<td>9th, 10th, 11th, and 12th grades</td>
</tr>
</tbody>
</table>

5. If a new facility is constructed in multiple phases, the permanent core shall be constructed in Phase 1 and shall provide all specialized spaces needed to operate as a fully functioning school. The construction of a Phase 2 shall be possible with as little disruption as possible to permanent and portable spaces in Phase 1.

6. The contracted A/E will thoroughly review files of the APS Real Estate Director to ensure that legal description, boundary description, vacations, easements, rights-of-way, property lines, and zoning issues are clarified. If available, existing surveys, drainage plans, and public infrastructure plans are generally on file with FD+C.

7. The contracted A/E will meet to clarify with the City / County / utility companies on drainage, street access, zoning, utility availability, sector development (or other area plan restrictions), fire protection, easements, right-of-way, and other applicable considerations.

8. Where known, APS will notify the A/E of extension requirements for telephone, cable, or power from substation; water / sewer line taps requirements; fire hydrant requirements; up and downstream storm water requirements; number of meters APS will allow; and street extensions.

9. These standards do not specifically address furnishings. The contract Architect will coordinate the configuration of spaces requiring furnishings with the assigned FD+C’s Staff Interior Designer.

10. The A/E and FD+C Interiors Department will coordinate and agree on colors, surfaces, and level of material quality based on these standards and allotted budget. Once settled, FD+C will then share the information with the School Building Committee.

11. All new stand-alone buildings shall follow the sustainability process developed by the U.S. Green Building Council’s Leadership in Energy and Environmental Design or LEED® for Schools for New Construction and Major Renovations. The district strives for all stand-alone new school buildings to
meet a minimum of LEED® for Schools Silver Certification. Policies and Standards influenced by the LEED® process are noted when possible.

12. The A/E shall consider and employ the principles of Universal Design.
School Sites

Situated on adequate area of land in a primarily residential area; ideal land sizes of recent schools:

<table>
<thead>
<tr>
<th></th>
<th>School Type</th>
<th>Land Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Elementary School</td>
<td>10 acres</td>
</tr>
<tr>
<td>b</td>
<td>Middle School</td>
<td>20-25 acres</td>
</tr>
<tr>
<td>c</td>
<td>K-8 School</td>
<td>25 acres</td>
</tr>
<tr>
<td>d</td>
<td>High School</td>
<td>45-50 acres</td>
</tr>
</tbody>
</table>

School Facilities

1. An enclosed circulation school with the following gross square feet of circulation for permanent facilities. Areas of recently constructed schools.

<table>
<thead>
<tr>
<th></th>
<th>School Type</th>
<th>Gross Square Feet (gsf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Elementary School</td>
<td>79,000 gsf</td>
</tr>
<tr>
<td>b</td>
<td>Middle School</td>
<td>170,000 gsf</td>
</tr>
<tr>
<td>c</td>
<td>K-8 School</td>
<td>217,000 gsf</td>
</tr>
<tr>
<td>d</td>
<td>High School</td>
<td>349,000 gsf</td>
</tr>
</tbody>
</table>

- In addition to the permanent building, the site should be able to accommodate a stated quantity of future portables during programming.
- Provide a safe environment that promotes learning opportunities in accordance with relevant codes and ordinances.
- Provide opportunities to adjust to programmatic (instructional and community) and technological changes:
  - Flexibility of existing spaces to meet a number of purposes.
  - Ability to expand.
  - Ability to accommodate new communication and information technologies into learning environments.

2. Organized in clear and consistent manner featuring:

- Centralized common-use facilities (media center, cafeteria/kitchen, restrooms, and workrooms).
- Natural light to learning areas.
- Separation of noisy from quiet activities.
- Ease of supervision and security (controlled building access - control of functions, after-hour use).
- Accessibility for the physically impaired.

3. Meet specific instructional and functional needs of specified activities.

4. Administrative space for all office staff as defined and listed in each respective programmed spaces/ charts.

5. Support spaces defined and listed in each respective programmed spaces/ charts.

6. Gymnasiums as defined and listed in each respective programmed spaces/ charts.

7. Special education classrooms and support spaces as required. Special Education demographics may increase the size/design of school. See Special Education Program Overview and Appendix B for Special Education space standards.
School Sites and Schools

- Accommodate the enumerated number of student population dictated by CMP’s Utilization Study/ Projections. The table below depicts recently built ground-up schools:

<table>
<thead>
<tr>
<th></th>
<th>Elementary School</th>
<th>650 student-base population with ability to increase / accommodate 1000 students using portable classrooms (permanent area for 8; interim area for up to 12 portable classrooms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>Middle School</td>
<td>1,200 student-base population with ability to increase to 1,500 students using portable classrooms (permanent area for 8 to 12 portable classrooms)</td>
</tr>
<tr>
<td>c</td>
<td>PreK-8 School</td>
<td>1,200 student-base population with ability to increase to 1,500 students using portable classrooms (permanent area for 8 to 12 portable classrooms)</td>
</tr>
<tr>
<td>d</td>
<td>High School</td>
<td>2,100 student-base population with ability to increase to 2,650 students using permanent or portable classrooms (permanent area for 8 to 12 portable classrooms)</td>
</tr>
</tbody>
</table>

1. Be adaptable as center for community use and education, fine arts education, and/or before and after-school program development.

2. Be located in areas convenient to the student population in a manner that minimizes busing and provides student, parent, and community controlled safe pedestrian and vehicle access to the school.

3. Be designed for cost effective operation and maintenance.

4. Provide a pleasant environment for students, teachers, and staff and be a positive addition to the community.

5. APS reserves the right to exceed the PSFA Adequacy Standards for site and facility areas noted in this document, desired by the Design Assistance Committee, and approved by APS FD+C.

6. Allow for team teaching options in part of each group of classrooms. (Use of extra wide double doors has worked well in many schools.)

7. Restrooms distributed to be convenient to students and staff.

8. Courtyard(s) that can be used for educational purposes.
GENERAL SITE AND FACILITY DESIGN STANDARDS
Refer also to each individual school level standards (Elementary School, Middle School, K-8, and High School).

SITE DEVELOPMENT

Schools shall be safely accessible for pedestrians and vehicles.

School sites shall be developed to enhance the educational environment and project a positive image to the surrounding community.

Elements of site development include the harmonious blend of the following elements for the school site, perimeters, parking lots, and adjacent streets. Aesthetic appeal and ease of maintenance are paramount concerns.

Consider the location, proximity, and acoustically-separating noisy building mechanical equipment with respect to adjacent neighbors.

LEED®: Illuminate areas as required for safety, comfort, and expected night use to minimize glare onto neighboring land or to sky. Put lighting on timer to allow shut-off.

*** Areas adjacent to an existing or planned housing development shall be buffered from the houses. Drainage or blow sand impact on neighbors is not allowed. Consider impacts of fugitive dust and storm water run-off in project planning.

☑ Off-Site Student Pedestrian Access

APS and contract A/E shall work closely with the City Police Department, County Sheriff’s Department, and City and County Transportation Planners, local Fire Marshal, APS Transportation, APS Risk Management / Bus Loading and Unloading Zone (BLUZ) team to identify and eliminate any hazardous walking conditions.

☑ Access Streets

Access streets shall have sufficient signals and signs to permit safe pedestrian entrance to and exits from the school area.

*** The need for crossing zones, speed bumps, flashing lights, and school zone signage will be resolved with APS FD+C, APS Transportation, and the City of Albuquerque (or local entity).

☑ Off-Site Sidewalks

Sidewalks along APS property perimeter adjoining streets shall be available for safety of pedestrians where required by zoning agency. These sidewalks shall provide barrier-free access. Connections to adjacent residential areas from the APS site should be considered if allowed by zoning, provides safe approach to the school, and does not encourage “park and walk” use of adjacent neighborhood streets.

LEED®: If public bus service is available, consider provisions to safely provide student/staff/parent access to bus stop. LEED points are available if ½ mile to light rail or ¼ mile to bus transit routes.

☑ On-Site Pedestrian Access

Paved sidewalks shall connect all school activity areas (to provide accessibility and avoid undue maintenance in interior areas from mud or sand).
On-Site Bicycle Use
Provide fencing (lockable) around a concrete pad for bicycle storage.
LEED®: Bike amenities qualify for points.

On-Site Sidewalks
Provide adequate and accessible on-site paved sidewalks between school areas including portables. The pedestrian entry to the site shall be clearly defined.

Disabled Accessibility
Provide access to facilities for the disabled such as ramps, handrails, and curb at building entrances, parking areas, playgrounds, and pedestrian walks in accordance with the New Mexico Building Code, American National Standards Institute, specifications for designing buildings and facilities accessible to and usable by people with physical disabilities.

***Provide easy access to the main office and to key public-use spaces (gyms, appropriate restrooms, performance area, likely voting location, media center, etc.). Access needs to have appropriate parking area; a drop-off space; have no barriers; be well lit; and not compromise general building security.
LEED®: Having joint use space with easy access can qualify for points.

Main Entry
For security, limit the number of school access points. The main entrance to buildings or building complexes shall be clearly defined by employing, primarily, architectural elements, and, secondarily, reinforced by landscaping, directional signage, and other means. Signage shall clearly identify car, bus, delivery, parking for persons with disabilities, and drop-off areas; different parking areas; location of accessible routes; and route to the office.

***Some recent school construction have featured for some signage to be translated into Spanish. Verify with building committee.

Provide one flagpole that is a minimum of 20’ tall with sheathed metallic flag-snaps. Do not use Flagpoles with shafts constructed of more than one piece, fiberglass or steel or poles that are tilted.

The school shall have an integral sign mounted on the building with the name of the school and the street number. The school may also have a free standing monument sign with the name of the school and street number located near the street. The monument sign is not to be confused with a marquee sign (refer to Standard 2.3.9 Exterior Signage).

Vehicular Access
There shall be clear, separate, distinct and safe on-site circulation paths for pedestrians, school buses and staff, visitor, and service vehicles. Multiple access points for vehicles are preferred.

M&O Notes: Posts for signs to be #3 U-channel. Sign hardware shall be vandal guard. Fence mounted signs to have 0.35” aluminum plates. All traffic signs for directions, safety, traffic control, and ADA will be installed by general contractor.

Bus Loading / Unloading
During programming, confirm the number of buses at a school with APS Transportation.
Strive to provide separate bus loading/unloading zones accommodating the required number of buses for that school that do not conflict with other vehicular or pedestrian pathways and provides for the safe loading and unloading of students.

The loading area shall be able to accommodate up to 80% of the school population in a safe and orderly manner and load students from the curb directly into the bus door without passing between or behind buses or cars. General buses are 36’-6” long and 8’-0” wide and require a turning radius of 50’. Confirm the projected number of students and buses based on the school’s projected student population. Provide curb access area for the projected number of SPED buses with lifts (check with transportation regarding the size of the buses to be used at each particular site) as well as after-school daycare vans.

- Design bus lanes per bus configurations and turning radius requirements.
  - See Appendix for bus configurations and turning radius requirements.
- Provide separate bus lanes from parent drop off and pick up lane.
- Provide a separate drop off for wheel chair busses (Typically is a mid-size bus).
- Bus boarding zones:
  - Provide a fence at boarding zones.
  - Prevent pedestrians going between busses.
  - Think about how the younger students will find the bus. Consider color coding.
- Consider new technology (swipe on and off buses) at bus loading area.
  *** The contract A/E is required to meet with APS Transportation and BLUZ team for approval of the bus loading area layout and entry / egress turning schemes.
  ***The contract A/E shall confirm with APS CMP and Transportation the intensity of bus lane use.

For more information regard the dimensions and turning radius please refer to Appendix J.

** Student Drop-Off / Pick-Up **

There shall be a separate area for the drop-off and pick-up of students by individual vehicles that shall not conflict with other vehicular or pedestrian pathways and provides for the safe loading and unloading of students. This has been a consistent safety concern for schools as the number of walking students have tend to diminish. The area should allow for a right door exit from the vehicle to the curb. Employ fencing to control pedestrians from walking in front of waiting cars. No parent cars in bus lanes.

*** To the extent possible, provide the length of the drop-off roadway to accommodate stated amount of vehicles cued for pick up and drop off; to be discussed with BLUZ Committee.

** Vehicular Entrances / Exits **

Vehicular entrances and exits shall be safe for traffic flow. If possible, buses should not be dependent on other on-site traffic movement in order to exit, since buses all exit at the same time turning both directions from the site drives.

** Service / Emergency Access **

Appropriate access to all areas of the site by service, garbage, and emergency vehicles shall be properly identified. Design of surfaces for maintenance vehicles shall be appropriate for the weight and clearance. Truck access to the kitchen and garbage
trucks will not pass through general pedestrian or play areas. Design dumpster area and garbage truck approach per City of Albuquerque details.

***The contract A/E’s will meet with local Fire Department to determine access points for fire trucks to site. Allow for fire hose access to all parts of the school and fire trucks to portable area. Access to the nurse’s office shall be direct and easily identifiable for emergency medical personnel. APS Nursing Services has requested a reserved area for emergency medical service vehicles at every school.

Street / Parking Area Condition

Streets and parking areas shall be paved with appropriate profile for vehicles using them. Discuss with BLUZ committee as to jurisdictional responsibilities of these subject adjacent areas.

LEED®: Design recommendations relating to pervious paving areas and water harvesting impact scoring.

Portable Buildings

If expressly stated as a consideration during programming, there shall be sufficient room for ingress and egress of portable buildings to the site.

*** Provide 32’ improved access lane with straight-in clearance of 96’ for doubles and 60’ for singles. Access lane gate shall be 30’ wide.

Parking

There shall be adequate, safe parking for staff and visitors. Parking areas shall be paved and separate from other access ways. Parking areas shall be equipped with LED security lighting (including rough-ins for security cameras as afforded and needed). Design lighting in compliance with New Mexico Night Sky Protection Act, City Ordinances and Neighborhood Regulation and per APS Electrical Design Standards.

Parking Standards and Signage

- Provide 3 designated parking spaces with signs for the principal and 2 other personnel to be determined during design.
- Provide 20 - 30 visitor parking spaces with signage. Prefer visitor parking and part of staff parking centralized for control of access to the office.
- Provide 1 designated with sign parking space for APS police.
- Provide a designated parking area with signage for 1.5 spaces for each teacher and staff member. Prefer visitor parking and possibly part of staff parking centralized for control of access to the office.
- Schools require a minimum of 3 parking spaces next to kitchen door for early morning arrival, and require 3 - 8 parking spaces designated with signage for kitchen staff near the kitchen area. Check with Food and Nutrition Services for required kitchen parking spaces during design.
- Install signage in kitchen parking lot. School needs signage for delivery zone and to prevent others from parking in their area.
- A/E shall confirm parking requirements for other agencies (social services, city daycare, etc.) with school administration.
- Number of parking spaces for disabled shall be as required per most restrictive code designated and dispersed between staff and visitor lots.
- Provide an M&O parking space with sign.
- Provide an emergency vehicle parking space with sign.
- Provide signs for parent drop-off lane indicating direction of travel and no parking.
- Provide signs for bus lane indicating buses only, no private vehicles or parking.
- Provide signage at entrances to direct visitors to the Principals office. “Visitors must report to the School office”.
- Provide signage for green vehicles and/or signage required for LEED points [eg. tobacco use prohibition, facilities community use availability, etc.]

*** M&O Notes: Posts for signs to be #3 U-channel. Sign hardware shall be vandal-guard. Fence mounted signs to have 3.5” aluminum plates. All traffic signs for directions, safety, traffic control, and ADA will be installed by general contractor. The signs that are mounted on buildings to be attached on all corners of the sign and high enough to prevent graffiti or vandalism. Identification numbers or letters of school names etc. will be high enough off ground and adhered sufficiently to inhibit vandalizing.

LEED*: The nature of parking needs for APS violates the parking principles of LEED* to reduce parking impact and reliance on one driver vehicles.

- ** Special Event Parking

To the extent permitted by budget and site area, A/E shall consider accommodation of visitor [or spillover] parking for special events. These areas need not necessarily be paved.

LEED*: If site is near commercial / retail development, APS should consider negotiations with business owners to use their parking for special APS events.

**LANDSCAPING**

Site landscaping shall require minimal maintenance and water conservation. APS site maintenance personnel should be able to maintain all site landscaping with existing district equipment. Avoid raised or steep lawn areas requiring small mower use.

Plant material shall provide shade, visual screening, wind protection, and aesthetic qualities for the building and surrounding area. Ideally, strive to landscape 7-15% of the school site with indigenous trees and planted areas (not including a grass field).

Other considerations:

- Minimize use of water and consider water harvesting to assist plant survival.
- Types and placement of plantings.
- Irrigation systems.
- Irrigated landscaping immediately adjacent to buildings is not allowed.

M&O Note: Avoid loose rock or gravel ground cover near windows and artificial stucco surfaces.

LEED*: Mulching of trimmings, grass, and leaves; use of captured rainwater; efficiency of irrigation system; or modern control of irrigation system comply with scoring elements.

- ** The following areas shall be landscaped

- Parking lots (break up the visual expanse of paving).
- Perimeters of the school facing public right-of-ways (on APS property).
- Public areas (courts, plaza, between wings, permanent portable area).
- Outside learning areas.
- Playgrounds and fields – see playground section for size. (Refer to the APS Site Design Directives for APS grass mix or turf type.)

M&O Note: Provide tree wells with mulch in grass areas and with sufficient open dirt around them in hard surface areas to deter uplifting of surface.

M&O Note: Provide for remote control of irrigation system controllers. For new systems provide the conduit, pull wire and electrical to allow for this connection to occur.

- Landscape and Site Design Directives

Plan Review:

- APS requires review by representatives of both FD+C and Grounds and Maintenance.

Plantings:

- Emphasize use of tree plantings, both ornamental and shade, and large-scale shrubs.
- Avoid ornamental shrub plantings.
  - Use sparingly and only to emphasize the primary building entrance.
  - APS Grounds Department cannot maintain shrub beds and shrub plantings, and cannot perform weeding, deadheading, or apply chemical herbicide or pesticide applications that extensive ornamental shrub beds require.

- Prohibited trees and shrubs:
  - The following trees and shrubs shall not be planted on APS property:
    - Green and white ashes
    - Elms (except hybrid elms)
    - Kentucky coffee tree and aspen trees
    - Spruces
    - Golden rain tree
    - Black locust
    - Sugar and silver maple
    - Poplars, cottonwoods
    - Box elder (except sensation maple)
    - Willows (except desert willow)
    - Russian olives
    - Pyracantha
    - Ponderosa pine
    - Piñon pine
    - Sycamores
    - Oleander
    - Junipers
    - Cotoneasters
    - Euonymous

- Ornamental Native Grass and Native Grass Re-Veg Seeding
Landscape designs shall use native grass re-veg seeding in perimeter areas of a site that are not accessible to students.

Use native grass seeding as an ornamental landscape treatment only in irrigated areas.

- Specify establishment period and fencing requirements. Plan requirements:
  - Shade trees shall be a minimum 2.5” caliper or larger.
  - Ornamental trees (flowering pear, flowering plum, etc.) shall be a minimum 2” caliper or larger.
  - All shrubs shall be a minimum 5 gallon or larger.
  - Tree wells located in paved areas shall have a minimum interior area of 10’ x 10’.
  - All trees planted in turf areas shall receive a minimum of 2” depth and 6’ diameter bark mulch ring at the base of the tree. The bark shall be kept back away from the trunk of the tree to prevent rotting.
  - Design all landscape areas so that there is no site run-off or irrigation water.

**Mulch:**

- All landscape areas shall receive aggregate mulches as ground cover in the form of gravel mulches and/or crusher fines.
  - Minimum depth of all gravel mulches shall be 2” depth and the minimum depth of all crusher fine mulches shall be 3’ depth.
  - All mulch areas shall receive filter fabric unless the mulch is crusher fines that are installed in high traffic areas. APS Grounds will determine whether filter fabric is required or not.
  - Aggregate mulch sizes shall be limited to the smallest size aggregate that is practical for each specific application.
  - Aggregate mulches larger than 1” size will not be allowed on APS properties except for use on steep slope areas (3:1 and greater) and drainage areas. Crusher fines shall not be used in areas steeper than 10:1 and in areas that are used for conveying drainage or temporarily holding storm water run-off. See the APS Drainage Design Directives for requirements in these areas.
  - Organic mulches are not allowed on district properties except for the use of bark mulch rings at tree plantings.

**Playfields and Athletic Fields**

- Grass sod shall be limited to use on playfields and athletic fields only. Ornamental turf shall not be used on APS district properties.
- Any fields less than one acre shall be required to install synthetic turf. See synthetic turf design directives.
- Sodded turf may be used on fields sized one acre or larger.
- Plan Requirements:
  - Note the turf grass species on the construction drawings and do not include in the written specifications.
  - Turf grass species shall be limited to Bluegrass species mix unless otherwise prior approved by the APS Grounds Department (for example: Bluegrass-Bermuda grass
mix). Turf species mixes such as ‘Park Blend’ shall not be used on APS District properties. Turf species shall be noted on the construction drawings and shall not be included in the written specifications.

- Grass seeding shall not be used on playfields and athletic fields.
- Specify establishment period and fencing requirements.
- All sodded areas shall have a concrete mow curb.
- Separate all turf areas from all street curbs by a porous landscape buffer of ¼” minus crusher fines. The buffer shall be a minimum of 18’ wide and 6’ deep. The top surface of the buffer shall be two inches below the top of the mow curb and two inches below the top of the street curb.

- **Irrigation and Water Audit**
  - All sodded turf areas shall have full head to head coverage irrigation systems (See Irrigation Design Directives).
  - Design all landscape areas so that there is no site run-off of irrigation water.
  - All turf playfields and athletic fields of one acre or greater shall have an irrigation system water audit performed prior to the installation of the sodded turf. Submit a copy of the water audit to APS Grounds Department for review prior to installation of the sodded turf. Any installed irrigation system that does not meet the minimum audit requirements shall be modified and a re-audit performed and approved prior to the installation of sodded turf.

- **Artificial Turf Design Directives**
  - Any field one acre or less shall be required to have artificial turf installed.
  - See APS Playground Standards.
  - Slit Film Synthetic Turf – Use for athletic or play field applications with the following criteria:
    - Smaller fields – 50,000 square feet or less. i.e. elementary schools
    - Where much of the foot traffic will be in flat shoes
    - Baseball/softball fields
    - Multipurpose fields
    - High traffic areas
    - Areas that require G-max testing
  - Monofilament Synthetic Turf – Use for any athletic or play field application with the following criteria:
    - Fields larger than 30,000 square feet such as sports fields
    - Soccer/football fields
    - Multipurpose fields
    - Areas that require G-max testing
  - Landscape only synthetic grass surfacing: Use primarily in areas such as courtyards, plazas, landscape areas that don’t require G-max testing.
  - Irrigation is required **where** trees and shrubs are planted in or adjacent to the synthetic turf.

Irrigation is required where trees and shrubs are planted in or adjacent to the synthetic turf.
- Drainage requirements apply for synthetic turf areas the same as grass.
- Specifications for these synthetic turfs include:
  - Submit for approval prior to fabrication.
  - Manufacturer qualifications include:
    - Shall have 100 fields in play for at least two years.
    - Shall have installed a minimum of 5 fields that are at least 8 years old, equal to the warranty period.
    - Shall have a minimum of 5 installations in the State of New Mexico.
  - Installer qualifications include:
    - Company shall specialize in performing the work and shall provide competent workers skilled in this specific type of synthetic grass installation.
    - Installer shall be certified by the manufacturer and licensed.

Irrigation System Design Directive

There shall be fully automatic underground sprinkler systems with vandal-proof sprinkler heads that cover all play fields, lawns, and planting areas. All sprinkler systems shall be automatic and can be controlled remotely. (See APS Site Design Directives on the FD+C website.)

Process Requirements:

- Prior to starting irrigation designs for any new or existing APS district property, contact the APS Irrigation Supervisor with APS Grounds Department to discuss the design scope, intent, equipment required, etc.
  - APS Irrigation Supervisor must approve all irrigation designs prior to bidding or construction.
  - The APS Irrigation Supervisor must be represented at all pre-construction conferences and must be present for all required irrigation testing and for the final project walk-through meetings.
- Provide the contractor with copies of the APS Irrigation Pressure Test Forms for use during all irrigation inspections. (Forms attached).
- Provide an irrigation audit for all high water use turf areas.
  - High water use turf areas less than one acre are not allowed on APS District properties.

Plan Requirements:

- All irrigation plans shall meet the requirements of local ordinances.
  - Whenever an irrigation plan involved modification to an existing irrigation system, the existing system shall be modified as necessary to bring the existing system into compliance with Plumbing Code requirements for backflow prevention.
- All irrigation systems shall have a separate water meter, to the extent practical.
- In all cases, irrigation systems with high water turf areas or large planted areas shall have separate water meters.
- The following statement shall appear on the face of each irrigation plan:
“At the time of final acceptance, the Contractor shall demonstrate to the Landscape Architect and the Owner, that the operating pressure at each head has been adjusted to match the specified design operating pressure for each valve.”

• The APS Irrigation Supervisor shall approve the selection of all irrigation product brands and models. All irrigation plans shall state the following information:
  o Control valve number. Irrigation control valves shall be labeled numerically.
  o Valve brand and model number.
  o Irrigation head brand and model number.
  o Irrigation head nozzle size.
  o Irrigation head spacing.
  o Irrigation head gallons per minute.
  o Total gallons per minute for each valve and for the total project.
  o Design operating pressure at the head.
  o Precipitation rate at design operating pressure.
  o Length of time required to operate valves in order to apply 0.33 inches of water.

• The APS Irrigation Supervisor shall approve the selection of the specific type of controller and size of controller.
  o Place controllers in a fenced enclosure along with the backflow device.
  o Irrigation controllers shall not be placed inside of buildings or inside of walled enclosures unless approved by APS.

• Design irrigation systems with capacity to place 2 inches of water per week on high water use turf grasses.
  o The water shall be applied in a six day period during a watering window from 10 PM to 7 AM.

• Provide reduced pressure backflow prevention devices in an insulated, heated hot box at all irrigation points of connection.
  o Extend electrical service to the hot box location.
  o If electrical is not available the APS Supervisor shall decide on an alternative solution.
  o To the extent practical, install hot boxes and irrigation controllers in the same location and inside a standard APS fenced enclosure.
  o The use of PVB’s and AVB’s will not be allowed on APS District properties.

• Bubbler heads shall be low flow pressure compensating bubblers.
  o Drip irrigation systems will not be used on APS District properties unless prior approval is provided by APS Grounds Department.
  o Irrigation systems on slopes shall be designed so that heads at the bottom of the slope are on separate valves from heads on the side and top of the slope.

• Irrigation systems shall be designed so that there is no off-site run-off of irrigation water.

***Provide separate metering for irrigation and domestic water systems with back flow prevention. Irrigation metering shall be water only. Sprinkler controls shall be in an outside vandal-proof vault.
Walkways / Gathering Areas
High pedestrian traffic areas shall be paved.
*** For accessibility, walkway slopes shall comply with accessibility standards for children.

Outdoor Seating
Seating is required in high pedestrian areas. An outdoor learning area will have seating for 40 students with a shade structure. Outdoor learning spaces are not used if they don’t include shade. Consider an outdoor performance area with electrical and data outlets. Slope all concrete seats for best drainage.

M&O Note: Provide skateboard deterrents on all low walls, seating, and other structures that could be targeted by skateboarders. Modular play units of recycled material are acceptable except for slides. (Slides have had high UV degradation rate and vandalism in past.)

Developed Area
The school shall be developed as completely as practical with building area, landscaping, traffic areas, hard-surface play areas, and pedestrian ways with the intent of minimizing vacant, dirt areas.

LEED®: If open area is not developed, consider returning area to native or adaptive vegetation to restore habitat.

** Non-landscaped areas impose legal storm water and fugitive dust control issues on APS.

Student Gardens
When wished by the school and budget-permitting, an area shall be set aside for a student garden. In design, work with the APS school garden coordinator.

- School gardens are located at all school levels, although most are elementary schools. The school garden must have principal support.
  - Size for manageability. Consider sunlight and irrigation.
- Coordinate with M+O regarding irrigation.
  - Quick coupler valve with main line installation is the preferred option. Second option is a quick coupler tied to irrigation system and coordinated timing with M+O. Third option is a building hose bib.
  - All irrigation and equipment must be installed through an APS-approved contract for M+O to repair or maintain.
- See APS school garden coordinator for construction details for recessed garden bed, an accessible raised planter, and a quick coupler valve.
  - Raised planters are recommended for accessibility and may be constructed of concrete, CMU, non-toxic wood or straw bales.
  - Planters should be no wider than 3 feet.
- Site water flow should be towards the garden area to conserve water.
  - Consider water quality of rainwater; water catchment systems are not recommended.
- A greenhouse is an instructional space used for growing plants.
  - Provide an adjacent outdoor work area, such as a patio or garden space.
Provide a utility sink with drain boards and threaded faucet.
If skylights or high windows are provided, include motorized blinds to control daylighting.
- A greenhouse should include: a door lock, shelving, ventilation, 3 foot entrance to greenhouse for wheel chair accessibility with a 6 foot turning radius, 2 foot deep shelves.
- Add irrigation inside (hydrant) and outside of greenhouse, with a timer (battery operated) to control water.

Drainage Design Directives

The site shall be graded to ensure effective drainage directed away from buildings, pedestrian traffic, and congregation areas.

***Due to requirements of new federal regulations for storm water pollution protection, leaving large areas in bare soil is no longer acceptable. Recommendation shall plant perimeter areas in native grasses and provide a permanent irrigation system to support initial germination and allow for sustaining the area in drought conditions.

- Drainage requirements
  - Water shall not discharge over sidewalks except by sheet flow.
  - Discharge on the north side of a building shall be avoided over walks or traffic areas.
  - Drainage shall be removed by adequate catch basins and drainpipes.
  - Roof drainage shall be directed away from the building and not flow into the landscape areas adjacent to buildings.
  - Recreation and play areas shall be properly drained at about 2% slope.
  - Drainage into public rights-of-way is prohibited unless approved by governing authority.

- Design shall comply with NPDES Phase II MS4 Rules and Regulations.
  - APS recognizes its responsibility to comply with EPA Rules and Regulations related to storm water quality.
  - All drainage plans will adhere to the Watershed Based Permit governing APS facilities in Bernalillo County and the City of Albuquerque DPM.
  - A pre-design meeting with the permitting local agency is highly recommended to ensure APS is compliant on all Grading and Drainage permits.

- Roof Drains
  - Provide a paved swale extending from the point where the roof drain exists to a point where it exits the landscaped area.
  - Pave these swales with either concrete, or rip-rap that is embedded in cement.
    - No loose cobble swales shall be allowed on APS District properties.

- Landscaped Area
  - Water harvesting in landscape areas is encouraged.
- The depressions for harvesting water must be shallow enough to drain quickly upon a storm event and shall not hold water for more than 96 hours.
- Depressions greater than 18 inches in depth or not draining within 96 hours must be fenced.
  - Provide a paved drainage swale extending through a landscape/planting area to a point where it exits the landscaped area.
  - Pave drainage swales with either concrete, or rip-rap that is embedded in cement.
  - Provide drainage drop inlets with an apron of cemented rip-rap placed around the entire drop inlet.
    - The rip-rap apron shall be at least 18” wide.
    - This rip-rap apron is in addition to the standard concrete apron and will not be substituted for the standard concrete apron.
  - Sidewalk culverts
    - Sidewalk culverts shall not be used.
      - If a design professional wishes to include a sidewalk culvert in the design, submit a formal letter to the APS staff architect and include a justification for the request.

LEED®: Consider design elements for storm water management such as water harvesting, minimizing erosion and wind-blown dirt, and reducing off-site impact of on-site water generation towards levels of pre-construction runoff volume. Wetlands or vegetated side slopes of naturally designed ponds may qualify for points.

SITE RECREATION

The school site shall provide outdoor recreation and learning areas suitable for age of student population served. Refer to individual sections for specific school level requirements.

Physical Education and Athletic Facilities:

All physical education and athletic facilities, including exterior playing fields, must be equal (quality and quantity) for male and female per Title IX requirements and must meet all requirements of the Americans with Disabilities Act.

- Standard size fields:
  - ES: 23,690 sq. ft. synthetic turf
  - MS: 210’ x 360’ grass
  - HS: 220’ x 350’ grass or 195’ x 330’ synthetic turf
- Consider access to field for students, athletes, spectators, and maintenance.
  - Consider fencing with maintenance access gates.
- Provide scoreboard, including electrical and data needs for scoring table.

Tennis Courts

- Provide 6 tennis courts per high school.
  - Consider if the school has access to community or club tennis courts nearby.
  - Court standards:
• Post tensioned concrete slab designed for the soil conditions.
• Fencing
• Court lines marking
• Net posts and nets
• Textured acrylic surfacing for concrete tennis courts. / Epoxy sealant with acrylic resurfacer

o Each court playing surface to be 36'-0" wide by 78'-0" long. The enclosure to be 6'-0" wide by 120'-0" long. The marking to be per the United States Tennis Associations’ standards. The court enclosure shall have 10'-0" high chain link perimeter fencing per the APS standards. Provide 4'-0" high chain link between courts plus 10'-0" high for the first 10'-0" at the ends. Provide 4'-0" wide chain link gate at each end of the court in the 10'-0" high fence and provide a 4'-0" wide double rail gate between each court in the 4'-0" fence.

o Drainage:
  • Surface drainage: pitch 1 inch per 10 feet.
  • Each court should be in one plane and pitch side to side; never up or down to middle court.
  • Subsurface drainage should be considered for type of soil.

o Recommended orientation of courts north-northwest by south-southwest at approximately 22 degrees (true north).

Soccer Field:

• A synthetic turf field is 195 feet by 330 feet.
• The field of play shall be rectangular, the width shall not exceed the length. The width shall not be more than 80 yards nor less than 65 yards and the length shall not be more than 120 yards nor less than 110 yards. Fields of less than minimal dimensions may be used by prior written mutual consent of the competing institutions.

Baseball Field:

• Discuss Baseball field requirements with FD+C.
• The optimum size is 200,000 square feet.
• Field facilities shall include:
  o Backstop, field fencing with cap, foul ball poles
  o Dugout
  o Bleachers - 5 row
  o Pitcher warm-up area
  o Batting cage
  o Baseball storage (400 square feet)

Softball Field:

• Discuss Softball field requirements with FD+C.
• The optimum size is 200,000 square feet.
• Field facilities shall include:
  o Backstop, field fencing with cap, foul ball poles
- Dugout
- Bleachers - 5 row
- Pitcher warm-up area
- Batting cage
- Softball storage (400 square feet)

**Playgrounds**
- Playground location at a new site must comply with APS elementary school standard.
- All playground fencing must comply with APS Playground standards.

### SAFETY / SECURITY HAZARDS

The site shall be a safe and secure environment for student population served and free from hazards (especially excessive slopes).

***Consider fire evacuation routes and APS Risk Management requirements.

**Electric Service**

Electric service shall be underground. Overhead lines are allowed for temporary portable classroom areas to facilitate connection and allow for special systems wiring that will share masts. For such overhead lines comply with special wiring requirements of M&O and codes. See APS Electrical Design Standards.

***Arrange, locate, size utilities to accommodate future expansion[s]

**Fencing**

The school site shall be fully fenced with a 6'-0" minimum height fence, unless the front facade of the building acts as an access barrier with the site fence butting into the building at appropriate points. Safety security fences shall be provided to protect students from hazard of traffic, steep terraces, and drainage ponds; to protect adjacent properties from trespass by students; and to discourage passersby from walking onto the campus. There shall be lockable pedestrian access at convenient locations. The chain link fencing material shall be closed-loop only at top and bottom.

**Security Lighting**

Sites shall have illuminated parking areas, walks, entrances, portable areas, and exterior building areas for both safety and security purposes.

LEED®: ‘Night sky’ laws will influence the design of this lighting.

**Drain Fields**

Septic tanks and drainage fields shall be located away from all student-accessed areas or sealed in monitored vaults. All such areas will be fenced.
UTILITIES

School site shall be designed for easy and low cost maintenance. To the extent made possible, consider the conceptual designs for utility services [sewer, water, gas] as loops. For additions and renovations, consider the consolidations of meters for all services [electrical, gas, water].

✔ Electrical Equipment

Outdoor light fixtures, electric outlets, equipment (such as sump pumps), and other fixtures shall be accessible for repair and replacement, energy efficient, and locally serviceable. Access means sized so a person can efficiently work on the item, and safe so buried items are not in water-filled vaults. Equipment will be vandal resistant and avoid glass components. Refer to the current published APS Electrical Design Standards on the FD+C website.

M&O Note: APS has transferred ownership and servicing of primary transformers to PNM.

✔ Water

Outside water supply shall be adequate for normal usage. Meter domestic and irrigation water separately. Consolidate water meters. Irrigation system shall be ‘water only’ meter. If gray water or non-potable system is proposed, discuss with APS M&O and FD+C. Ensure the existence of a water and sewer availability statement. Refer to the current published APS Mechanical Systems Design Standards.

LEED®: Consider maximizing water efficiency to reduce burden on municipal water supply.

✔ Water for Fire Protection

Fire hydrants must be included per jurisdiction Development Process Manual (DPM) standards. Provide easements where required and coordinate these easements with APS Real Estate office. Refer to the current published APS Mechanical Systems Design Standards.

✔ Gas Lines

Site gas piping shall be traceable and accessible for repair. Locate “U” shut-off above surface in fenced enclosure for each portable area. Zone site piping so sections of the site can be turned off and tested without turning off the main gas service for the whole school. Refer to the current published APS Mechanical Systems Design Standards.

M&O Note: Comply with APS M&O low/medium pressure design guidelines for gas piping.

✔ Garbage Collection

Each school shall have a designated garbage collection area meeting City of Albuquerque standards, located near the kitchen, and accessible to a service access drive. Coordinate service requirements with APS M&O. The garbage collection area shall:

- Meet city standard detail for enclosure with gates.
- Provide space for 4 six cubic yard dumpsters (of which one is for recyclables) or 1-2 trash compactors with one dumpster for recyclables. Coordinate the size and amount of dumpsters with APS M&O and Waste Management.
- Accommodate Waste Management garbage truck access clearances.
- Locate dumpsters close to kitchen door, but not too close (rodents).

LEED®: Recycling is an important element of the operation of the facility when working in a LEED® process. Consider fenced area for recycling options for paper, plastic, glass, etc.
☑ Mechanical Units

Ensure units are protected from vandalism, safe, and easy to access for maintenance and visually screened to public areas. Refer to the current published APS Mechanical Systems Design Standards.
GENERAL STRUCTURAL AND EXTERIOR BUILDING COMPONENTS

Sites, facilities, and building systems shall be designed and constructed to:

- Provide safe and healthy environments for learning.
- Provide cost effective operation.
- Require minimal maintenance.
- Be durable.

STRUCTURAL SYSTEM

- Provide reasonable flexibility and be adaptable to meet changing educational program needs.

FOUNDATIONS

- Provide positive drainage away from foundations.
- Where utility trenches are adjacent to building foundations, provide drains and sump pumps as needed.

FLOORS (SLABS / BALCONIES / PORCHES)

- Provide adequate strength to support structural loads imposed.
- Provide a vapor barrier under concrete slabs.
- Floor surfaces shall drain, be appropriate for any covering material, and be weather resistant.

WALLS

- Walls shall be weather-tight, with junctures sealed.
- Provide minimum R-25 insulative value.
- Joint patterns shall facilitate graffiti treatment by allowing M&O to treat a panel or subdivision of the wall without treating the entire wall.
- Avoid wall systems that are easily damaged or penetrated, especially in areas that have high traffic, ball impact, or are prone to vandalism.
- Artwork or murals on walls or attached to the building must be able to be removed.

EXTERIOR OPENINGS, WINDOWS, AND TRANSLUCENT PANELS

- Design exterior glazing (including windows and storefront systems) in accordance with APS Glazing and Window Standards and APS Aluminum Storefront Specification on the FD+C website.
- Provide small windows on outside kitchen walls to avoid break ins.
  - Consider solar tubes in kitchens.
- Glazed and translucent panels shall:
- Have regular/rectangular geometry.
- Be recessed to receive window treatment.
- Have a sill height of 30” minimum. Verify any exceptions with the APS staff architect.
- Not project into walking pathways.

- Windows are required to be covered (blinds or shades) for security and lockdown purposes.
- Electronically operated shades are required for all high windows in teaching spaces, including libraries.
- All electronically operated shades shall be designed by the A/E and provided and installed by the general contractor.
- APS FD+C will provide and install manually operated blinds or shades for regular windows within standard reach ranges.
- Operable window hardware and screen application shall not interfere with the ability to install window treatments.

**ROOFS**

- Design roofs in accordance with APS Roofing Standards documents on the FD+C website. Click links below:
  - APS Roofing Design Criteria
  - ES1 Nailer Attachment Schedule Model
  - Roof Carpentry Section 6100
  - Roof Drain No Hub Coupling
  - Section 07511 – Built-Up Asphalt Roofing over Insulation (New)
  - Section 07513 – Built-Up Asphalt Roofing over LWC (New)
  - Simulated Rain Test

**INTERIOR BUILDING COMPONENTS**

Use safe materials that are free of asbestos and lead as well as stabilized for fiber and gas vapor discharge. Use paints that are low volatile, washable, easily matched, and durable.

**INTERIOR WALLS AND PARTITIONS**

- Provide smooth surface walls.
- Use semi-gloss paint on all interior walls, including support spaces (i.e. custodial, electrical, mechanical, and data rooms).
- If providing writeable wall surfaces, (Dry-Erase paint or similar), then install the writeable surface full-height or up to 7’ to 8’ AFF, minimum.
- Provide stainless steel or heavy-duty clear plastic corner guards at all high pedestrian traffic areas.
- Provide impact resistant surface in lower 4’ (minimum) of corridors. Acceptable materials include concrete masonry units, tiles, fiberglass reinforced gypsum.
• Provide metal toilet partitions in most restrooms, except where high impact and vandalism is anticipated. In such restrooms, provide CMU toilet partitions.
• Avoid high, flat surfaces or ledges which are difficult to access and maintain. Consider an angled ledge.

INTERIOR FLOORS

• Surfaces shall be non-skid, attractive, durable, free from projections, and easy to clean without the use of special equipment.
• Floors in restrooms, kitchens, cafeterias and corridors shall tolerate disinfecting chemicals.
  o Kitchen floors must be sealed. The floor needs a texture so it’s not slippery. The floor needs to be easily cleaned up to serving line area.
• All floor tiles shall be slip resistant.
• All carpet shall be carpet tiles.
• Where patching is required, use Ardex Floor Patch.
• Provide the following floor finishes in designated spaces (or consult the APS staff architect for exceptions):
  o Polished concrete in corridors, cafeterias, classrooms, art rooms, band/orchestra/chorus rooms, family and consumer science classrooms, drama rooms, science classrooms, and teachers’ lounges.
  o Carpet in offices, administration, library/media center, general classrooms, and other quiet areas.
  o Polished and sealed concrete floors in kitchens. Polyflor is also acceptable.
  o Install kitchen base cove continuous from bottom up.
  o Ceramic floor tiles and wainscot in restrooms.
  o Sheet linoleum (commercial grade) with welded seams in the student health area/nurse’s office.
  o Athletic wood flooring in the high school main gymnasium, auxiliary gymnasium, and cheer room.
  o Sealed concrete floors in mechanical rooms, electrical rooms, and custodial closets.
  o Sealed concrete floors in IT rooms and data closets (IDF/MDF).
  o *Mondo Advance Vulcanized* flooring (or equal) with coordinated cove base in multipurpose rooms.
  o Recessed mud mats on the interior side of all main entry and exit doors. Oversized mud mats shall be fabricated in sections to enable the removal by a single person for cleaning. Do not use metal slatted mud mats.

CEILINGS

• Ceilings shall not be lower than 8’-0”. Some functions may require higher ceilings.
Discuss ceiling heights with the APS staff architect.

- Texture and reflectivity shall support illumination appropriate for the intended space use.
- Preferred acoustical ceiling tiles include Armstrong Fine Fissured School Zone, High NRC/High CAC product 1734/1734, or the USG Equivalent which is Radar ClimaPlus High NRC/High CAC.
- If required by code, use fire-rated ceiling tile #1810/1811 fine fissured ‘fireguard’ high NRC/High CAC.
- For all wet areas use only moisture-rated board ceilings. In student restrooms, use moisture-rated gypsum board ceilings.
- For kitchens, ceiling has to be washable (not just wipeable). Use mylar or other cleanable surfaced lay-in ceiling panels approved for kitchen use.

ACOUSTICAL REQUIREMENTS AND SOUND TRANSMISSION

- Comply with current LEED Indoor Environmental Quality (IEQ) prerequisite and credit for acoustical performance.
- Design walls, floors, and ceilings to absorb or retard transmission of unwanted sound from outside the space, speech transmission between learning spaces, and high noise producing spaces due to occupancy or tasks performed.
- Noisy spaces may require sound absorbing treatment in addition to sound wall construction, especially for gym, music, and cafeteria areas.
- Gyms, multipurpose rooms, and cafeterias must support sound systems associated with audio/visual (AV) equipment and infrastructure, as well as provide reasonable acoustics for performance/stage areas.
- Be mindful of exterior sound transmission to neighbors.
  - Noise from cafeteria does not work for art, but is fine for a music room.
  - Consider sound privacy requirements for offices.

CUSTODIAL AREAS

- The rule of thumb is a minimum of one custodial closet per floor, per building.
- Another rule of thumb is to provide a dedicated custodial closet for the kitchen.
  - In the kitchen, the custodial area does not require a door. It does need to be out of site from students.
- Coordinate chemical dispenser requirements with APS M+O.
- Custodial closets shall include:
  - Mop sink with hot and cold water, chemical dispenser, and backsplash.
  - Mop holder with shelf.
  - Shelving for custodial supplies storage.
- Space for a custodial cart.
- Custodial offices require power and data.
ALL SINK LOCATIONS (OTHER THAN RESTROOMS)

All sinks shall be provided with:

- Soap dispenser – surface mounted with tamper-proof screws (receives pouch soap refills).
- Paper towel dispenser – surface mounted, polycarbonate, paddle operation (receives roll towels) at all sinks other than student restrooms (must be ADA compliant).
- Trash receptacle – freestanding 18 gallon capacity stainless steel.
- If the design project is located at an existing facility/campus, coordinate toilet accessories with school to align with restroom supplies that the school stocks.

ACCESSIBILITY / SAFETY

Universal Access

- School facilities shall be designed for universal access.
- School facilities shall meet or exceed all barrier-free requirements, both externally and internally, in accordance with Accessible and Usable Buildings and Facilities (ICC/ANSI A117.1 as amended by the NMBC, and the Americans with Disabilities Act Architectural Guidelines (ADAAG), specifications for making buildings and facilities accessible to and usable by physically handicapped people, and the Governor’s Commission on Disability.
- Barrier-free design must be age appropriate.

Lock Downs:

- Consider lock down points and single points of entry.
- Provide shades on windows.

APS Security:

- Coordinate camera configuration during reviews: 50% and 95%
  - During design, work with Security to discuss the configuration of cameras on the outside of the building.
    - Keep a perimeter view of the building.
    - No more pan held zooms – Provide 180’s / 360’s.
    - Try not to double up when placing cameras in interior.
    - Data storage has a cost – be efficient.
    - Cover all common and open areas, gym. Put proposed camera locations on drawings and less to have to change when in meetings.
    - Tie cameras back to IT room. Monitoring typically in office. Doesn’t matter where they want to view it from. Dispatch is also doing a lot of monitoring.
    - Locate monitoring equipment usually in the IDF room. Consider power needs
  - Make sure monitoring rooms have sufficient data and power. 6-8 monitors and all data to support. Provide 4 data jacks on each wall.
    - Coordinate with APS police for Monitors and work stations requirements.
- Clarify and coordinate for equipment funding for all security and monitoring systems and work stations. Clarify what will be included in the GC contract.

**Fire Systems:**
- Locate the Fire alarm system panel in the administrative office, separate from MDF/IDF room.

**INTERIOR AND EXTERIOR DOORS**

- All doors (except code-excluded) shall be of sufficient width and threshold clearance to be accessible to persons with disabilities.
- Provide view lites in public access doors including main office and corridors.
  - Locate view lites for use by students, including those in wheelchairs.
  - Limit size of view lites to half-lite above hardware.
- Classroom doors shall be recessed and open outward. Classroom doors shall be solid core wood, with adjacent sidelite.
  - Doors that open outward shall be recessed.
- Provide wider door widths, or removable mullions, at doors into corridors, kitchen, cafeteria, gymnasiums, and mechanical rooms.
- Attach all doorstops mechanically into robust blocking.
- Refer to the APS door hardware standards for additional requirements.
- Additional Requirements for Exterior Doors
  - All main exterior entry and exit doors shall be located in an air lock (vestibule), open outward, and have panic hardware.
  - Provide power assisted entry doors at the main entry/exit and at the parent and bus drop-off locations.
  - Provide new schools with a card key reader at exterior doors.
    - Provide infrastructure for card access at all entry doors. Distinguish between entrance doors (card swipe) and exit only doors (nothing). All exterior entrance doors will have a card swipe. Exit only doors will not have a card swipe.
      - Locate one card reader at a bank of doors.
      - Gym doors with two leaves will have one operable door panel with a card swipe.
    - Provide key access for M+O on their exterior mechanical room doors.
    - Refer to APS FD+C Door Hardware and Access Controls guidelines for additional requirements.
- Door Hardware Standards
- Aluminum Storefront Specification

**FIRE EXTINGUISHERS**

- The A/E calls out fire extinguishers, including type, quantity, and location in the contract documents.
o APS M+O provides 10 pound and 60 pound K-rated fire extinguishers as identified by the A/E.
o The general contractor installs the fire extinguishers provided by APS M+O.
• Locate fire extinguishers in cabinets. Cabinets shall be provided and installed by the general contractor.
o Cabinets shall be semi-recessed, glass free, and sized to hold 10 pound fire extinguishers.
• Provide space for a 60 pound K-rated fire extinguisher in the kitchen.

KNOX BOXES AND LOCKS

• Provide knox boxes and locks as required by the Fire Marshal.
• Coordinate knox boxes during the design process and determine the final location in the field with the Fire Marshal prior to installation.
• Do not alarm the knox box.

INTERIOR AND EXTERIOR SIGNAGE

INTERIOR SIGNAGE

• Identify all occupied spaces with room signage.
• Some schools with dual language programs will have signage in two languages.
• Signage shall comply with ADA regulations.
• Signage schedule shall be coordinated with site (school) administration.
• Building room numbers shall be coordinated with the APS staff architect, who will consult with APS CMP.

EXTERIOR SIGNAGE

• All signage shall be vandal resistant, easily visible from a distance, and compliant with ADA requirements.
• Each school site shall include the name of school and street number visible from the street. Mount building mounted signs high enough to deter graffiti and vandalism.
• Coordinate signage requirements with the Fire Marshal and their written requirements.
• Signage for traffic directions, safety, traffic control, and ADA shall be provided and installed by general contractor.
• Signage that prohibits smoking and skateboarding shall be provided and installed by the general contractor.

MONUMENT SIGNS

• Provide a monument sign at new schools.
The monument sign is a free-standing, durable sign that has the name and address of the school along with a non-electric, protected message board. The monument sign should be less than 8’-0” high and located on the site to be visible by cars passing on the main road in front of the school without creating a visual barrier for traffic.

MARQUEE SIGNS

- Marquee signs and the required infrastructure are not installed under FD+C contracts. Installation and maintenance must be provided by the school.

ENVIRONMENT FOR EDUCATION

PLAN FOR FLEXIBILITY

Facilities shall support the district’s current educational programs and curricula. Build into facilities ability to adjust to future changes in:

- Educational, instructional, and functional/programmatic needs, including community use
- Student enrollment (expansion and contraction)
- Technology

COMMUNICATION AND INFORMATION TECHNOLOGY (IT)

The general contractor provides data and special systems rough-ins. APS provides data and special systems cabling, terminations, and equipment, unless noted otherwise.

- Provide one MDF required per school. MDF room size is 12’ x 14’. Room needs separate HVAC.
- IDF location required for each 150 – 200 feet separation. IDF room size is 10’ x 12’ and needs separate HVAC.
- No sinks in IT rooms.

Learning and office spaces shall accommodate communication and information technology.

- Classrooms are provided with 8 data drops at four locations. One 2-port face plate on each wall.
- Pair corresponding number of electrical outlets with data drops.
- No mid-room power columns or poles.

- Coordinate data and special systems locations with APS Technology and on-call contractors (Coordination occurs through the APS staff architect/construction manager). Provide infrastructure for a mobile interactive flat screen in each classroom and conference room.
- Locate interactive teaching board (or current technology) in
  - All Classrooms and instructional spaces (music, art, PE, FACS, etc.).
- Printers
- No printers in classrooms.
- Consider 3D printer.
- IEP Conference rooms require a printer.
- Computer labs – limited to two maximum per school.
  - Consider arrangement for testing.
  - Locate WAP located in each computer lab.
  - Design of computer lab and technology education lab can be the same.
- Include communication and technology infrastructure and equipment in construction documents.
- Telephones are VOIP (voice over IP) and require a data outlet.
- Cafeteria / Commons / Gym technology
  - Provide a drop down large screen and projector, sound system and podium.
  - Consider large flat screen monitors as an alternative. A 90 inch flat screen in smaller spaces is easier to control than a projection screen (at an ES Library or HS Computer lab).
  - Provide corresponding power and data.
- Tech office
  - Provide tech storage with work room adjacent to the tech office.
  - Ideal access is from a corridor; not through a classroom.
- Consider optimum location for storing and issuing technology devices. (I.e. in library, book room, tech storage room, etc.). A HS may need up to 150 extra devices available.
- Consider optimum location for charging for technology devices. (I.e. in library or lockers).

**ZONING AND SUPERVISION OF COMMON-USE AREAS**

- Areas that are used by the public shall be located near the front entrance to the school and shall have the ability to be secured separately from the remainder of the facility. Access to common use areas shall be controlled from the front entrance. Large gathering areas shall be designed for effective supervision. Common use areas include:
  - Media center
  - Gymnasium
  - Cafeteria

**NOISY-QUIET SEPARATION**

- Noisy activities (gymnasium, music, art, kitchen/cafeteria, drama, assembly areas, etc.) shall be separated from quiet learning areas.
FACILITY ENTRANCES AND EXITS

- All visitors must pass through a reception area that is secured from the rest of the school.
- Entrances and exits shall permit efficient student circulation.
- The main facility entrance shall be visible from the main office.

CORRIDORS AND LOBBIES

- Provide display cases with safety glass for student work and awards near each academy, art and music classrooms, main gymnasium, and main office.

STUDENT LOCKERS

- Can be provided at the discretion of the school.
- Distribute lockers evenly among the Academies and Small Learning Communities.
- Locate lockers in corridors or dedicated alcoves. Successful approaches include:
  - Two-tier lockers in corridors
  - Two-tier lockers along walls with lower one-tier lockers in the middle to allow supervision.
- Basis of Design: Lockers shall be constructed of one-piece (Unibody) side frame and locker front. All welded body with no rivets, screws or bolts. Powder coated 2-tiered, 16 gauge doors with louvers, 16 gauge body steel units with high security latch with no moving parts to receive pad lock, one double hook on ceiling and 3 single hooks on walls. Aluminum number plate. Two-tier lockers will be 15”W, 60”H, 15”D. Built-in with fur-out above lockers to ceiling or angled top and built-in solid base or coved sealed base on metal legs.

RESTROOMS AND DRINKING FOUNTAINS

☑️ General
- Provide one unisex “family style” restroom adjacent to each ‘A occupancy’ space (gym, cafeteria, or as required by the building code); and provide one unisex restroom that is visible by line-of-sight from the Administration area.
- Provide a urinal in each unisex restroom.
- Provide the maximum number of boys’ urinals that is allowed by code in lieu of water closets.
- Provide plumbing chase access for all multi-fixture restrooms.
- Restrooms shall be accessed from interior space; no direct access from the exterior.
- Provide restrooms for students, staff, and visitors convenient to the areas served.

☑️ Drinking Fountains
- Locate drinking fountains at central and convenient locations on each floor or wing of the school, in vestibules near playfields, and in or near portables and parks.
- Distribution of accessible drinking fountains shall be the same, except for areas not
readily accessible in existing schools.
- Do not provide exterior drinking fountains.
- Do not refrigerate water for drinking fountains to minimize maintenance and energy.
- Provide 1 bottle filler per floor. Locate bottle fillers in public areas.

☑ **Student Restrooms**
- Locate boys’ and girls’ restrooms adjacent to each other.
- Provide lavatories and mirrors directly accessible from the hallway but shielded from direct view and physically separated from the toilet facilities to allow efficient supervision.
- Provide “airport style” entrances (no doors or gates) at all student multi-fixture restrooms. The design must provide visual blocking of stalls and urinals while maintaining open access.

☑ **Kindergarten Restrooms**
- Kindergarten restrooms shall be located inside kindergarten classrooms.
- Kindergarten restrooms should be designed for pre-Kindergarten and Kindergarten size. Fixtures must accommodate pre-Kindergarten.
- Refer to Children’s Accessible Elements Table in this document for mounting heights and reach ranges.

☑ **Staff Restrooms**
- As more women than men teach at the elementary level, provide plumbing fixture counts accordingly (female fixtures more than code minimum). Verify female staff populations with FD+C.

☑ **Restroom Accessories**
- In existing schools, verify existing accessories use with school staff. Paper product dispensers and soap dispensers shall accommodate products in use and stocked by the school.
- All sinks shall be provided with:
  - Soap dispenser - surface mounted with tamper-proof screws (receives APS supplied pouch soap refills – verify specified model with FD+C).
  - Electric hand dryers shall be provided in student restrooms, and may be provided in adult restrooms. Electric hand dryers shall be surface mounted with electrical connection behind the dryer, and through bolted securely to wall surface. Verify manufacturer and model with FD+C.
  - Paper towel dispensers shall not be provided in student restrooms.
  - Paper towel dispensers shall be provided at all sinks that are not served by electric hand dryers, including in adult restrooms. Paper towel dispensers shall be surface mounted, polycarbonate, paddle operation (receives roll towels).
- All toilet stalls shall be provided with:
  - Toilet paper dispenser – vandal resistant (receives large jumbo or standard roll based on school preference).
- Feminine trash receptacle located in each stall of Middle School and High School girls’/women’s staff restroom.
- All restrooms to be provided with:
  - Trash receptacle - freestanding 18-gallon capacity stainless steel (provided and installed by the General Contractor).

**PORTABLE CLASSROOM LOCATION**

- Define portable classroom areas during planning and design phases.
- Identify the total number of portables that the site can feasibly support.
- Plan for infrastructure to support portable classrooms.
- Integrate portable classroom buildings with other academic learning areas and provide equal access to school support and common-use spaces, as well as open space.
- Discuss other potential portable issues, including access, security, condition, etc.
- Portable areas shall have main domestic water and sewer lines installed and ready for connection. In areas with more than 4 doubles, expect installation of restroom portable.

**SPECIAL EDUCATION PROGRAM OVERVIEW**

The following discusses Special Education Programs throughout the District and corresponding facility needs.

The special education department categories all special education programs into three categories:

- Cross-categorical (serves students in levels A through D)
- Gifted
- District programs (all students are D level), including preschool programs.

**✓ CROSS-CATEGORICAL AND GIFTED PROGRAM FACILITY NEEDS**

All Cross-categorical and Gifted classrooms follow regular classroom design standards.

Appendix B contains detailed design standards for the Cross Categorical, Gifted, and District programs. Consult with Capital Master Plan at the time of Design Program of Space to determine the types and quantity of spaces needed. Not all SPED programs are delivered at every school.

**✓ DISTRICT LEVEL SPECIAL EDUCATION PROGRAMS**

District Level Special Education Program Categories are designed for a maximum of eight (8) students and special design amenities such as restrooms, changing tables, lighting, and early childhood facilities may be required depending on the program type. The following is a list of Special Education District Programs.

- Preschool (Community Based, Intensive Global Support, and Social & Communication Support Services)
- Social Emotional Support Services Level 1 (SES 1) formerly Emotionally Disturbed (ED)
• Social Emotional Support Services Level 2 (SES 2) formerly PACES
• Intensive Global Support Services Level 1 (IGS 1) formerly Functional Skills (FS)

• Intensive Global Support Services Level 2 (IGS 2) formerly Intensive Support Program (ISP)
• Primary Global Support Services Level 2 (IGS 2) formerly D k/1
• Social and Communication Support Services Level 1 (SCS1) formerly AU-Social Communication
• Social and Communication Support Services Level 2 (SCS2) formerly AU-Independent
• Social and Communication Support Services Level 3 (SCS3) formerly AU-Emerging

Appendix B contains detailed design standards for all District Level programs. Consult with Capital Master Plan at the time of Design Program of Space to determine the types and quantity of spaces needed. Not all SPED programs are delivered at every school.

Provision of District Special Education Programs varies at schools throughout the District and is provided in a manner giving all students equal access. To address the corresponding facility needs that reflect the scale and presence of District Level programs, schools are categorized as Hubs and Non-Hubs. The following is a definition of Hubs and Non-Hubs.

District Program Hubs: These Schools have four (4) or more District Type Special Education Programs. The Ancillary Support Suite is designed to support the larger presence of ancillary staff to serve special education students. Site master planning will reflect the presence of Special Education District Program busses. All comprehensive high schools function as Special Education Hubs.

Non-Hubs: These schools have less than four (4) District Special Education programs. Ancillary support spaces are provided and are commensurate to the quantity and frequency of ancillary support staff on campus providing service to special education students.

☑ SPED Ancillary Support Suite

The Ancillary Support Suite aims to address the quantity of Special Education ancillary staff supporting students at schools throughout the District. Many ancillary staff are on a school campus on a part time basis. The design standards reflect the functional use calling for flexibility of space usage and sharing spaces. The Suite accommodates a space for a staff workstation area and private student meeting area that is used flexibly by various ancillary staff throughout the day. The Suite should be located adjacent to District SPED spaces, as well as adjacent to the Transition Specialist Office at High School. The SPED Ancillary Support Suite will accommodate the following staff:

• Social Workers (SW)
• Speech Language Pathologist (SLP)
• Occupational Therapist (OT)
• Physical Therapist (PT)
• Adapted Physical Education (APE)

☑ Standard Ancillary Support Suite Components (ES and MS) – 840 SF Total

(OT/PT) Instructional/Therapy Space (500 SF). This space includes an area for a table to provide 1:1 student instruction. This room includes a therapy swing that is located at the center of the open space relative to the edge of the student instructional area. A whiteboard is required for instruction. Furniture needs include non-built-in cubbies with counter and a wardrobe for
storage. No active panels are needed. Through scheduling, this space is designed to be used fluidly by all ancillary staff, giving priority to OT/PT therapy instruction and service needs.

**OT/PT Storage (90 SF):** A storage area is provided with direct access to the OT/PT instructional therapy space. Double doors are provided, similar to doors found in a gym, providing access for wide equipment. The storage room also features vertical storage shelves. See diagram for optimal spatial layout.

**Office Workstation Hub (120 SF):** An office area to accommodate two workstations and cabinet to store personal belongings. More than two people, reflecting that ancillary staff positions are often part-time, may use the two workstations. Various ancillary staff assigned to the school will use the two workstations fluidly. VOIP is provided as per office standards. The office workstation has access to a one-on-one private Student Meeting Area as noted below.

**Private Student Meeting Area (130 SF):** A private area with access to the office workstations will allow ancillary staff to meet privately with students for delivery of instruction or service. This area will accommodate a small table and chairs for 2 to 4 people.

<table>
<thead>
<tr>
<th>Standard Ancillary Support Suite, Elementary and Middle School</th>
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</thead>
<tbody>
<tr>
<td><strong>Student Population</strong></td>
</tr>
<tr>
<td>Instructional/Therapy Space with Swing (OT/PT and APE)</td>
</tr>
<tr>
<td>Therapy space Storage (OT/PT and APE)</td>
</tr>
<tr>
<td>Office Workstation Hub (60 sf each, 2 workstations)¹</td>
</tr>
<tr>
<td>Private Student Meeting Area²</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

1. (Social Workers, Speech Language Pathologist, Occupational Therapists, Physical Therapists, Adapted PE teacher). For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.

2. One Private Student Meeting Area for every 2.0 FTE. To be used fluidly by ancillary staff. The number of Private Student Meeting Areas is contingent on FTE allocation and shall be determined at the time of design program of space.

The above SPED Ancillary Suite is standard for all Elementary and Middle schools with the following exceptions:

1. District SPED Hubs at both ES and MS require a larger Instructional Therapy Space reflecting the larger number of students served (1,180 SF):

<table>
<thead>
<tr>
<th>Hub Ancillary Support Suite, Elementary and Middle School</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Space</strong></td>
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</tbody>
</table>

1. (Social Workers, Speech Language Pathologist, Occupational Therapists, Physical Therapists, Adapted PE teacher). For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.
2. One Private Student Meeting Area for every 2.0 FTE. To be used fluidly by ancillary staff. The number of Private Student Meeting Areas is contingent on FTE allocation and shall be determined at the time of design program of space.

2. High schools will require a larger Office Workstation Hub for up to 4 workstations. In addition, high schools will require two private student-meeting rooms. A typical high school will require the following spaces (1,430 SF):

<table>
<thead>
<tr>
<th>High School Ancillary Suite Support Spaces</th>
<th>Size (sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional/Therapy Space with Swing (OT/PT)</td>
<td>840</td>
</tr>
<tr>
<td>Therapy space Storage (OT/PT)</td>
<td>90</td>
</tr>
<tr>
<td>Office Workstation Hub (60 sf each, 4 stations)</td>
<td>240</td>
</tr>
<tr>
<td>Private Student Meeting Area A 2</td>
<td>130</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,430</strong></td>
</tr>
</tbody>
</table>

1. To be used fluidly by Social Workers, Speech Language Pathologist, Occupational Therapists, Physical Therapists, Adapted PE teacher. For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.

2. One Private Student Meeting Area for every 2.0 FTE. To be used fluidly by ancillary staff. The number of Private Student Meeting Areas is contingent on FTE allocation and shall be determined at the time of design program of space.

COMMUNITY EDUCATION / AFTER HOUR USE

- The school facility shall accommodate the use of some portions of the school after regular school hours without impacting security of other portions of the school.
- Joint-use space shall be safe, secure, and include separately keyed activity spaces (gym, cafeteria, and classrooms), accessible restrooms, and storage areas.
- Community use of school facilities shall not conflict/interfere with school programs.
- Joint-use facilities (parks, swimming pools, libraries, child care, and senior citizen facilities, etc.) shall be integrated into the campus in a safe and secure manner and have access to an accessible restroom.
3

Programmed Spaces

ELEMENTARY SCHOOL
NEEDS ANALYSIS FOR STANDARDS-BASED ELEMENTARY SCHOOL

The following charts apply the proposed policies and standards to a standards-based elementary school designed for 650 students (with expansion for short periods to 1000).

### Standards-based ES (650 students)

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Grades 1/2/3</th>
<th>Grades 4/5</th>
<th># Students K-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>305</td>
<td>230</td>
<td>650</td>
</tr>
</tbody>
</table>

Assumes Full Inclusion SPED, if not add to capacity 25

<table>
<thead>
<tr>
<th>Staff</th>
<th>Visitors</th>
<th>Students</th>
<th>Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>15</td>
<td>120</td>
<td>0</td>
</tr>
</tbody>
</table>

1.5 times staff for parking

Total Classroom Equivalencies 41

### 1. Site Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>#</th>
<th>GSF</th>
<th>Acres</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Buildings allowing for build-out *</td>
<td>1</td>
<td>78930</td>
<td>1.81</td>
<td></td>
</tr>
<tr>
<td>Visitor / Staff / Parking = 1.5 times staff #</td>
<td>120</td>
<td>400</td>
<td>1.10</td>
<td></td>
</tr>
<tr>
<td>Buses at bus drop-off</td>
<td>14</td>
<td>1344</td>
<td>0.43</td>
<td>A BLUZ Meeting is required early in the design process</td>
</tr>
<tr>
<td>Cars at drop-off / pick-up (maximize as much as possible)</td>
<td>33</td>
<td>400</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Provide separate Kindergarten drop-off / pick-up</td>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide separate Special Ed Bus drop-off / pick-up</td>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES Play Field</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grass Field</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Consult APS FD&amp;C for field types and configurations recommended at specific individual locations</td>
</tr>
<tr>
<td>Artificial G-Max Turf Field</td>
<td>1</td>
<td>24000</td>
<td>0.55</td>
<td></td>
</tr>
</tbody>
</table>

### STORAGE

<table>
<thead>
<tr>
<th>Requirement</th>
<th>#</th>
<th>GSF</th>
<th>Acres</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playground Kindergarten (ages 2-5)</td>
<td>115</td>
<td>115</td>
<td>0.30</td>
<td>Pre-K may require a separate area</td>
</tr>
<tr>
<td>Playground 1st-3rd (ages 5-9)</td>
<td>305</td>
<td>100</td>
<td>0.70</td>
<td>Includes hard surface area</td>
</tr>
<tr>
<td>Playground 4th - 5th (ages 9-12)</td>
<td>230</td>
<td>100</td>
<td>0.53</td>
<td>Includes hard surface area</td>
</tr>
<tr>
<td>Basketball court</td>
<td>1</td>
<td>6600</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Consider Shade / Performance Area (shelter + seating)</td>
<td>1</td>
<td>12100</td>
<td>0.28</td>
<td>Use of portables is an exception</td>
</tr>
<tr>
<td>Portable capacity (verify with CMP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Portables in portable park</td>
<td>0</td>
<td>1806</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>Double Portables in high growth surge area</td>
<td>0</td>
<td>3182</td>
<td>0.44</td>
<td></td>
</tr>
</tbody>
</table>

* Assumes single story construction

** TARE = roads, landscaping, unusable area

TARE** at 25% 2.45 0.25 Change to 0.35 if difficult site or a lot of portables

Sub-total school area needed 9.37

### ELEMENTARY SCHOOL SITE REQUIREMENTS (for 650 students)

<table>
<thead>
<tr>
<th>Student Population</th>
<th># 650</th>
<th>SF</th>
<th>GSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Staff</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Buildings</td>
<td>1</td>
<td>78,930</td>
<td>78,930</td>
<td></td>
</tr>
<tr>
<td>Space Description</td>
<td>Units</td>
<td>Size</td>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-------</td>
<td>--------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Visitor / Staff Parking</td>
<td>135</td>
<td>400</td>
<td>54,000</td>
<td></td>
</tr>
<tr>
<td>Special Event Parking</td>
<td>0</td>
<td>400</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Buses</td>
<td>14</td>
<td>1,344</td>
<td>18,816</td>
<td></td>
</tr>
<tr>
<td>Cars at Student Drop-Off / Pick-up</td>
<td>33</td>
<td>400</td>
<td>13,200</td>
<td></td>
</tr>
<tr>
<td>Main Play Field</td>
<td>1</td>
<td>24,000</td>
<td>24,000</td>
<td></td>
</tr>
<tr>
<td>Playground</td>
<td>Pre-K and K</td>
<td>115</td>
<td>115</td>
<td>13,225</td>
</tr>
<tr>
<td>Playground</td>
<td>1st - 3rd</td>
<td>305</td>
<td>100</td>
<td>30,500</td>
</tr>
<tr>
<td>Playground</td>
<td>4th - 5th</td>
<td>230</td>
<td>100</td>
<td>23,000</td>
</tr>
<tr>
<td>Shade / Performance / Seating Area</td>
<td>1</td>
<td>12,110</td>
<td>12,110</td>
<td></td>
</tr>
<tr>
<td>Basketball Court</td>
<td>1</td>
<td>6,600</td>
<td>6,600</td>
<td></td>
</tr>
<tr>
<td>Easements / Setbacks</td>
<td>0</td>
<td>30,000</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Portables (Single)</td>
<td>8</td>
<td>1,806</td>
<td>14,448</td>
<td></td>
</tr>
<tr>
<td>Portables (Double in High Growth Area)</td>
<td>6</td>
<td>3,182</td>
<td>19,092</td>
<td></td>
</tr>
<tr>
<td><strong>NET GSF</strong></td>
<td><strong>307,921</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TARE @ 25% (33% for Difficult Site)</td>
<td>79,980</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MINIMUM SF REQUIRED 399,901 9.2 ACRES</td>
<td></td>
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</tbody>
</table>
## Standards-based ES (650 Students)

<table>
<thead>
<tr>
<th>notes</th>
<th>Room Description</th>
<th># of spaces</th>
<th># of Students</th>
<th>Area/ Person</th>
<th>Space Criteria</th>
<th>Total Area</th>
<th>Total Assignable</th>
<th>Sub-total</th>
<th>CR Equivalencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instructional Program Spaces</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindergarten with CR/Storage/Kitchen/RR</td>
<td>6</td>
<td>115</td>
<td>1,200</td>
<td></td>
<td>7,200</td>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classrooms for grades 1st - 3rd</td>
<td>14</td>
<td>305</td>
<td>840</td>
<td></td>
<td>11,760</td>
<td></td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classrooms for grades 4th - 5th</td>
<td>10</td>
<td>230</td>
<td>840</td>
<td></td>
<td>8,400</td>
<td></td>
<td>10</td>
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<tr>
<td>Student restrooms in TARE</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Computer Lab</td>
<td>1</td>
<td>30</td>
<td>30</td>
<td>840</td>
<td>840</td>
<td>840</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COW/Storage / repair</td>
<td>1</td>
<td></td>
<td></td>
<td>120</td>
<td>120</td>
<td>120</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MDF support</td>
<td>1</td>
<td></td>
<td></td>
<td>300</td>
<td>300</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDF support (distributed in building)</td>
<td>2</td>
<td></td>
<td></td>
<td>120</td>
<td>120</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Arts Classroom including Fine arts storage with kiln area</td>
<td>1</td>
<td></td>
<td></td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Coach</td>
<td>1</td>
<td></td>
<td></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>0.25</td>
<td></td>
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</tr>
<tr>
<td>Evaluation Testing Room</td>
<td>1</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Speech and Language Pathologists</td>
<td>2</td>
<td></td>
<td></td>
<td>240</td>
<td>240</td>
<td>480</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2 Counselors)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>730</td>
<td></td>
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</tr>
<tr>
<td><strong>NET ASSIGNABLE</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30670</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency at 0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
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</tr>
<tr>
<td>Efficiency at 75%</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>10123</td>
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</tr>
<tr>
<td><strong>GROSS SQUARE FEET</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40893</td>
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<td></td>
</tr>
<tr>
<td><strong>TARE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Standards-based ES (650 Students)

<table>
<thead>
<tr>
<th>notes</th>
<th>Room Description</th>
<th># of spaces</th>
<th># of Students</th>
<th>Area/ Person</th>
<th>Space Criteria</th>
<th>Total Area</th>
<th>Total Assignable</th>
<th>Sub-total</th>
<th>CR Equivalencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administration Area</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal</td>
<td>1</td>
<td>6</td>
<td>15</td>
<td>150</td>
<td>240</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant principal</td>
<td>1</td>
<td>4</td>
<td>15</td>
<td>100</td>
<td>160</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference</td>
<td>1</td>
<td>16</td>
<td>15</td>
<td>240</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Waiting / registration area</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>640</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receptionist / clerk</td>
<td>1</td>
<td></td>
<td></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretary</td>
<td>1</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>File Room Storage</td>
<td>1</td>
<td></td>
<td></td>
<td>200</td>
<td>200</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mail area (could be in lounge)</td>
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<td></td>
<td></td>
<td>40</td>
<td>40</td>
<td>40</td>
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<td></td>
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<tr>
<td>Work area</td>
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<td>60</td>
<td>60</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Teachers' Lounge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>800</td>
<td></td>
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</tr>
<tr>
<td>Workroom</td>
<td>1</td>
<td>3</td>
<td>25</td>
<td>600</td>
<td>675</td>
<td>675</td>
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</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td></td>
<td></td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff restrooms in TARE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1605</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nurse - open area and first aid</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1685</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>2</td>
<td>15</td>
<td>100</td>
<td>130</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolation</td>
<td>1</td>
<td>3</td>
<td>60</td>
<td></td>
<td>180</td>
<td>180</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td></td>
<td></td>
<td>45</td>
<td>45</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restroom with changing table/shower</td>
<td>1</td>
<td></td>
<td></td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Itinerant services office(s) - psychologist / social worker (located in secluded/quiet area)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>685</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor (located in secluded/quiet area)</td>
<td>1</td>
<td>6</td>
<td>15</td>
<td>210</td>
<td>300</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>NET ASSIGNABLE</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency at 0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency at 75%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1393</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GROSS SQUARE FEET</strong></td>
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### Definitions
- **TARE** = the % value divided into the Net Assignable (NASF/0.75 - NASF)
- **APS** does not design for Regular Education Pre-K
- See Special Ed programs listed in the Appendix B for Pre-K Special Ed programs
- Kindergarten kitchen may be a separate instructional area – 600 SF
- Student restrooms in TARE = the % value divided into the Net Assignable (NASF/0.75 - NASF)
## Standards-based ES (650 Students)

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<tr>
<td><strong>Consider design that abuts gym and cafeteria to allow for moveable folding wall, opening the spaces into each other for assemblies.</strong></td>
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**GROSS SQUARE FEET**: 5290 NASF

Contingency at 0% 0

Efficiency at 75% 1763 TARE

**TARE** = the % value divided into the Net Assignable (NASF/0.75 - NASF)

**NET ASSIGNABLE**: 5290 NASF

**GROSS SQUARE FEET**: 12547 1
CORRIDORS AND LOBBY AREAS

- Provide effective way-finding.
- Provide tack strip in corridors. Locate tack strip outside each classroom.
- At the art / music classroom and the main office area provide a tall display cases with safety glass for student work.

STANDARD CLASSROOMS

Standard classroom size is roughly determined by assessment of State Pupil Teacher Ratios (PTRs), a size allocation per student, and practical experience. In practice, to leave options for moving classes between different grade levels, the following size ranges are requested:

GENERAL NEEDS FOR ALL ELEMENTARY SCHOOL CLASSROOM SPACES

- Convenient to common resources (media center, cafeteria, PE facility).
- Utilize natural light to reduce daytime lighting costs, balance spectrum of lighting available, and provide views. Window sill height of no less than 30” a.f.f.
- Acoustically balanced for hearing voice in the space and blocking noise from outside the space.
- Accommodate technology needs for teacher and students to include: telephone, computers, and electrical and data connections for an interactive teaching board (Refer to Appendix F).
- Accommodate APS furniture and equipment list. Arrange primary furniture to allow for good view lines for teaching boards from all desks and tables.
- Large, deep stainless steel sink with hot and cold running water.
- Sufficient built-in storage (174 cubic feet) organized to avoid clutter:
  - Wardrobe/storage (95 cf, 6'-6" x 7'-4" x 2'-0") to allow for globes and other large items.
  - Sink storage cabinets (25 cf base, 2'-6" x 5' x 2'; 8.3 cf upper, 2'-6" x 2'-6" x 1'-4"; 20 cf corner cabinet).
  - Paper storage (27.6 cf flat storage, 3' x 4' x 2'-4").
  - Shelves (9 cf, 3' x 3' x 1').
  - Use of secure closet for some of this storage is allowed.
- Standard white boards (2 - 8’x 4’) and tack boards (4 - 4’x 4’) with tack strip on top, and flag pole holders (2). Consider tack strip around the rest of classroom. Consider flexibility in mounting heights.
- Manual pencil sharpener on wooden block with blocking in wall at child height for each classroom, library, art/music room and other areas where students will be working. The sharpeners are to be provided by and installed by general contractor.
- Area for coats that does not clutter the classroom and avoids safety issues of hooks in high traffic areas. General contractor is to provide blocking, shelf, and hooks. Consider cubbies for each child.
- Minimize carpet areas as much as possible. (Refer to APS Carpet Tile Specifications.)
- Polished concrete floors are preferred throughout but especially at wet areas. Storage
areas may be sealed concrete.

- General Contractor shall provide and install emergency red bucket for each classroom.

NOTE: Consider providing additional storage space for teachers off-track.

☑ Additional special needs for kindergarten

- Classroom square footages should include a restroom and storage. It should have 2 sinks (1 adult height and child height), a refrigerator and location for a microwave.

- Teaching Kitchen (kitchenette) to be shared by all kindergarten classes will be between 450 – 600 sf (large enough for a class to observe the food preparation). It shall include a dishwasher, range with oven and induction cooktop including signage “Use only cast iron or stainless steel cooking vessels”, refrigerator, space for a microwave, teacher sink, commercial fume/fire hood and a grease trap. Provide point-of-use hot water heater for dishwasher to meet Environmental Health regulations. The counter should be adult height to enable the appliances but a section of the counter should be at child height and include a child sink so that children can sit around and “work”. (Refer to Appendix E). All appliances to be Energy Star labeled and provided by general contractor.

- Comply with Children’s ADA Standards for this age group. Refer to Children’s Accessible Elements Table located at the end of this elementary School section.

- Easy access to the playground. No direct access from the classroom.

- A multi-use kindergarten play area designed for children ages 2 to 5 (with hose bib water available and variety of play materials).

- Convenient restrooms designated and designed for kindergarten student use must also be ADA accessible. Restroom doors shall provide rough-in for 4 hinge locations to allow future installation of a 2-panel Dutch style door.

- Locate near a convenient parent pick-up and drop-off space with parking.

- Carpet in dry areas and polished concrete surface in wet areas. (Refer to the APS standards for specific carpet guidelines)

- Built-in furnishings, cabinets, and accessories shall comply with height and reach standards. Refer to Children’s Accessible Elements Table located at the end of this elementary School section.

- Energy Star (white) 18 cubic foot frost free refrigerator with ice maker for each classroom and one for the shared kitchen.

- Provide backing in wall for possible future changing table.

NOTE: Consider group restrooms and kitchens in a secure area.

☑ Special Education Spaces

Refer to Appendix B for Special Education Design Standards. Special education requirements are the same as the regular classrooms except where noted. The allocation for each elementary school will vary according to the specific enrollment needs. Consult APS Capital Master Plan (CMP) to determine the school’s specific space allocation requirements prior to commencing with the Programming and Design of the Project.
**Fine Arts / Music**

Unless the school can fund fine arts (art, dance and music) programs full-time, fine arts and music teachers rotate to schools. Generally, schools provide 1 year instruction for Art and 1 year instruction for Music alternating. Request programming information from APS Fine Arts.

- Special Education is typically integrated for art and music classes. Check enrollment in art and music classrooms, as class size can get up to 35-36 students in a classroom for integrated programs. Size: 1200 SF for a typical classroom and storage, assumes 840 - 900 SF for classroom and the remaining SF for storage.
  - Accommodate at least 8 – 36” x 72” tables for art, space for movement instruction, and space for risers, platforms, sets and scenery, and other music performance equipment. Size: 1200 is classroom and storage. 840 - 900 SF for classroom – rest for storage. Provide enough floor space to leave instruments set up. Provide an area for art and coats.

- A large kiln is to be located in a dedicated room or space adjacent to the art/music room. It must be properly vented and should include adjacent space for open shelving and storage. (Refer to Appendix C.5) In addition to the kiln vent, the room is required to have a room exhaust fan operated by a thermostat to protect against overheating of the room to avoid setting off fire suppression alarms, etc. due to the kiln. General Contractor provides kiln and all kiln components. A/E to confirm type and quality of kilns with FD+C and APS Fine Arts Department. (Refer to Appendix C.3)

- Design the art/music classroom using at least one non-parallel wall for sound diffusion. Other acoustical treatment will need to be considered based on the proximity of the art/music room to other instructional spaces in order to avoid sound “bleeding.”

- Provide an outdoor teaching area adjacent to the art/music room is desirable, such as an outdoor amphitheater.

- Provide ample storage to accommodate the supplies and equipment that the art and music teachers bring to each school, including instruments. Ideally, this storage would be located in a separate, adjacent room with locking doors; easily accessible from within the art/music classroom; and include an open shelving system for storage.
  - Open adjustable shelving is optimal for storage of various musical instruments including drums in the storage room.
  - Shelves should be no more than 2’ deep.

- Provide two sinks, one for instructor and one for students. Provide a deep, clean-up sink and a regular sink. Put clay trap on the clean-up sink. (This source of water is essential for art classes and for cleaning music equipment and instruments.) Provide a separate lower sink with clay trap that is ADA accessible.
  - Provide at least 8 linear feet of counter space around sink with at least 1 electrical outlet close to the sink.

- Provide spaces to display, including ample wall space to accommodate 2 large bulletin boards for display of instructional visuals and finished art work.
- Provide 1 large 4’ x 8’ magnetized chalkboard positioned in the room so as to be part of the instructional focus. A chalkboard is preferred over a “white board” for art instruction.

- Consider north facing high windows for additional natural light.
Technology includes instructional use of prometheans, ipods, and computers. Consider need for computer stations. Class may go to a sign up lab for computer use.
- Provide at least two power and data locations every wall.
- Provide a sound system and built-in speaker system for music reproduction.
- Storage located within the instructional space should include cabinets and horizontal drawers large enough to accommodate the largest papers used in art class (tagboard: 24” x 36”).
- Although not a big consideration for the art/music room itself, provide space throughout the school for the display of student art.

**Computer Learning Center**

Every lab shall have:
- 32 computer stations.
- Centrally located near the media center.
- Layout shall be reviewed by APS FD+C and IT Department.
- 1 printer.
- Option to bring in laptop cart with higher capacity electrical requirements.
- Provide adequate cooling and exhaust for computer rooms.

**Library / Media Center**

The library / media center requirements follow.
- Seat about 65 students.
- Circulation desk should be about 16 feet in length, provide limited access and visual control throughout and include with phone, data and power outlets.
  - Allow the book drop location to be flexible.
  - Consider furniture (rather than built-in) circulation desk with power and data.
- Accessible electrical outlets on every wall and columns. Coordinate with casework, furniture, and equipment FD+C staff.
- Provide day lighting (with a minimum window sill height of 65”-70” to clear shelving).
  - Consider area for lockdown with window design.
- Space able to be darkened enough for AV use.
- Lights in individually controlled banks to allow darkening.
- Space to allow for different arrangements and programs to occur at one time and include:
  - Shelving: 3 ln.ft. of shelving for every 25 volumes (or 50 picture books). A/E to work with APS FD+C for age appropriate furniture, shelving, desks, and layout.
  - Consider floor shelving which is moveable, flexible, to accommodate shelving arrangement in 20 years.
  - 60” tall shelving around the walls is preferable.
  - Work study area for 2 classes, for large group reading activities, and for reference.
  - 12 stations for computer research and group work (30 sf each) with data.
  - Provide area for storytelling, videos, and special presentations, fully accessible.
- Watch out for blind spots.
- Provide built-in, not furniture. No pit areas.

- Security gate at main entry is not necessary.
- Display areas are important. Provide a tackboard, magnetic whiteboard and/or wall display areas, tack strip area above the shelves and around the room, including story area for multiple display options.
- Provide a Librarian office adjacent to library/media center with phone and data.
  o Consider combining workroom and office.
- Provide direct access to a media center workroom.
  o Provide a sink in the work room.

✔ **Mini Gym / Physical Education (Interior Area)**

The mini gym / physical education area requirements follow.

- Minimum 20’ clearance at ceiling is required (including light fixtures).
- A safety space between the court and wall is required.
- Gym should have 2 adjustable and retractable basketball goals with backboard and wall pads.
- 4 additional adjustable and retractable basketball goals with backboard and wall pads on the gym sidewalls with free throw lines are required.
- Wall eye bolts for net activities, and a climbing rope attachment.
- Discuss climbing wall option. Provide location to be installed by APS.
- Floor sleeve inserts with matching standards and nets for volleyball are required and provided by general contractor.
- Mini gym to be located near the exterior playgrounds and recreation fields and away from classrooms.
- Provide minimum 4’ wide access door to outdoor play areas.
- Provide windows that are impact resistant or protected.
- Provide an office for physical education staff.
- If this space is to have a performance platform, provide a minimum 400 sf platform with curtain option, ramp access, and storage (200 sf).
- Provide a separate 150 sf office / storage space for after-school programs.
- Technology is mobile and moved in and out of the gym space. Provide data and outlets in gyms.
- Consider spaces for students to put valuables.
- Athletic flooring: commercial grade sheet with welded seams.
- Consider an exterior wall as part of the building design.

✔ **Physical Education (Exterior Area)**

- Playgrounds and fields – see playground section for size. (See APS Site Design Directives section.)

**SUPPORT SPACES**

All school areas will provide an environment that meets the functional needs of support services.
**Cafeteria**

Cafeterias serve as a food serving area as well as a multi-purpose area for school activities.

- Centrally located.
- Sized to seat 15 sf/student with no more than 3 lunch periods.
- Provide ample storage for additional special events folding tables and chairs.
- If space is to have a performance platform, provide a minimum 400 sf (in addition to 3000 sf dining area) platform with curtain option, ramp access, and storage (200 sf).
- Provide data connections for an interactive teaching board (Refer to Appendix C3).
- Acoustically treated ceiling to absorb sound.
- Provide windows to the outside that are shaded.
- Discuss with Food & Nutrition Service the option of self-service and/or cafeteria staff-serve.
- Discuss with Food & Nutrition Service serving counter heights, depths, and points of access.
- Flooring to be polished concrete.
- Provide milk dump located in the dining area, a sink, and additional outlets for milk small coolers.
- Consider outside dining.

**Kitchen**

Some schools are served from the APS central kitchen, yet most schools have on-site food preparation. Each project must be reviewed with the Food and Nutrition Services personnel before design begins.

- Kitchen shall include the following areas. (See Appendix C3 for Guide to Space Planning of a School Food Service Facility based on the number of meals served). The contract A/E will meet with Food and Nutrition Services for current operating needs prior to design. The following is a guide.
  - Food preparation area with vegetable sink.
  - Dish/pot washing area (requires a 3 compartment sink) and grease trap located on the exterior.
  - Cook/prep/serve area with hand washing sink.
  - Cold and hot storage equipment generally including a freezer / refrigerator walk-ins, and 2 to 4 transporters for hot food.
  - Dry storage.
  - Restroom for the staff with separate area for staff lockers and electric washer / dryer units.
    - Kitchen bathroom must have a door.
  - Office with telephone, fax, and data.
  - Custodial closet in the kitchen with mop sink. Provide rack for the contracted chemical system.
    - In the kitchen, the custodial area is not a closet. It doesn’t need a door. It does need to be out of site from students.
  - Serving line.
• Floors, walls, ceilings, doors
  o Floors must be sealed. The floor needs a texture so it’s not slippery. Floor needs to be easily cleaned up to serving line area.
  o Kitchen floors to be poly vinyl in a color other than white (off white okay). Polished concrete is ok if sealed and desirable in other areas where appropriate.
  o Install base cove continuous from bottom up.
  o Surfaces must be disinfected. Use reinforced fiberglass panels (RFP) on all walls where serving functions occur. Provide stainless steel behind cooking and washing areas (floor to ceiling or to height of equipment).
  o Consider color on wall where students can see it. Avoid an institutional look.
  o Tray drop off area needs washable surface wall on customer side.

• Plumbing:
  o Provide dedicated water break for backflow prevention.
  o Provide back flow prevention on mop sinks.
  o Hand wash sinks required by City Health inspections. Number depends on the size of the kitchen.
    ▪ One near the serving line.
    ▪ One in the food prep area. Cook/ prep/ serving area may need multiple hand sinks.
    ▪ One in restroom inside and one outside the restroom (might be same as the food prep sink).
    ▪ One in snack bar area.
  o Regarding hot water, the kitchen must meet a minimum time required for getting hot water.
  o Tilt skillet needs water and a drain. Make sure drain is located under where skillet tips the water.

• FF&E:
  o Equipment lists are in appendix: Kitchen size will impact requirements.
  o Provide roll paper towels dispensers with paddle operation.
  o Food services will provide their own soap dispensers.
  o Provide 44-gallon trash cans. Kitchen requires multiple trash cans, depending on size.
  o Restroom needs small trash with no touch lid.
  o Provide mops and the hanging clips.
  o Provide serving line. Height of serving line depends on school level.
  o Provide office furniture: a desk, chair and 4 drawer filing cabinet.
  o All storage shelving needs to be microbial. GC will provide fixed, non-rollable shelves in dry storage, refrigerator and freezer.
  o Locate staff lockers outside restroom, not inside the restroom.
  o Provide small staff lockers. Staff will bring their own locks.
- Provide a washer and dryer. Stackable or side by side is ok; never a combo unit.
- Provide space in custodial area for a rack for the contracted chemical system (current contractor system is an “eco-lab system.” Dish soap/ hand soap / they put chemical rack there.)
- Snack bars: if run by DECA provide a soap dispenser.
- Milk cooler needs to be a forced air cooler.
  - Buffer sounds from milk coolers. Locate in an alcove. Consider heat from equipment.
- Consider after-school programs. See appendix
- At dry storage pass- through / roll- through door, carts need to fit the doors. Change pass through to roll through – ideal.
- Consider staff access to roll up gates at dish area for operations. Avoid gates that are out of reach and difficult to secure.
- Sufficient access for delivery vehicles into a receiving area through a 3’ - 8” door (minimum clear area) x 7’ - 0 high screen door and fly fan entry. Cover screen on door with expanded metal covers on both sides to protect screening.
- Provide doorbell and peephole at rear entry.
- Doors need to be held open for delivery.
- Sufficient access for trash pick-up.
  - Shield exterior trash area near kitchen. Locate dumpsters close to kitchen door, but not too close (rodents).
- Use solar preheating of hot water in the kitchen. Regarding hot water, the kitchen must meet a minimum time required for getting hot water.
- Kitchen technology requirements:
  - Provide a Holocom box in the kitchen.
  - Data is required for the kitchen office. Provide three data drops with power located at three walls of the office.
  - Provide technology to track the freezer temperatures.
  - Provide data and power at the front and end of the line (two data drops) for cashiers at serving lines and at the snack bar.
  - Consider technology for breakfast service at the bus area. Food service needs to hand out breakfast to students as they go off the bus.
  - Provide screen (for menu and images of food) at serving line.

☑️ Utility / Storage

☑️ Custodial Utility Areas

There are to be sufficient custodial areas with hot and cold water to efficiently clean all permanent and portable facilities. They are to be conveniently distributed in a manner that is appropriate to serve entire school.

- At least 1 custodial closet in each building and on each floor.
- Each custodial closet to be 60 sf with 1 at 200 sf in size for supplies and desk.
- All shall have a janitor’s floor mop sink with mop holders and sufficient shelves for storage.
- Provide an outlet and data drop for custodian’s desk.
- Cover walls around sink with stainless steel or FRP surround.
- All spaces to have active mechanical ventilation.
  - Custodial Rooms will have painted walls (and ceilings or exposed structure if they are not lay-in). The floors will have a concrete sealer.

**Facility Storage Interior (other than in classrooms)**
- Unassigned storage (that can be used for a variety of purposes).
- Paint all walls and hard ceilings. The floors are to have sealed concrete.

**Facility Storage Exterior**
- Exterior storage shall be 10’ tall and directly accessible to the outside to store inventory salvage and excess equipment and furniture.
- Provide storage with exterior double door.

**Administrative Offices / Support Areas**

**Administrative Offices**
The administration area will be central to the school and visitor access. It is the school’s access control point, so visibility and easy way finding is important to and from these offices. Minimize curved walls and odd angled walls in this area to best accommodate high density of furniture.

- Main office shall be designed in a way that receptionist can buzz-in (controlled access with cameras) from air lock or covered entry.
- The main office reception desk should be designed and installed as casework and located where visitors enter the main lobby.
- Reception area shall provide space for tables for registration with computer data drop. This area is to have visual control of the school’s main entry point.
- Main PA and intercom system control located in administrative office area.
- Secretary shall have a clear view of cots in the nurse’s cot room.
- Secretary shall have a clear view of special-system panels (fire/intercom).
- AED equipment is typically located in the administrative area, and requires charging and battery.
- Space for file cabinets to include (sufficient for student population) fire proof and lockable cabinets. A/E to coordinate with APS FD+C.
- Provide recessed display space with locking glass doors to display student 2-D and 3-D art work. Lighting shall be on a controlled system.
- Mail boxes (1 per staff + 10% for growth) to be located in “staff area”, admin area, or in the teachers’ lounge. Mailboxes should comfortably allow for 8-1/2” x 11” paper size.
**Counseling**

- Review needs for a particular school program with APS Counselling for information on counseling allocations.
- Counselling office requires privacy, therefore no FTE sharing of offices. Even a half time FTE must have a full office.
  - For Privacy, offices will
    - Prefer not glass.
    - Require sound isolation
    - Be located away from the public waiting area.
    - Have close access to a printer for printing of confidential documents.
- Office standard is 300 SF. Don’t need a space as big as a classroom ~1/3 size of classroom. Portables are not preferred.
  - Offices require a locked file cabinet. Also a secure storage room for a certain number of years is required.
- Locate in the vicinity of the front office but does not have to be part of the administration set up.
  - Proximity to the cumulative file room is preferred.
  - Parents need to check in at the front area to see a counselor. Parents need to wait at school office /reception. Don’t want kids walking past and parents seeing what kids are going to counseling.
  - Students can have direct access to counseling offices. Students should not have to talk to anyone to see counselor. Waiting area by counseling offices is for students.

**Nurse’s Area**

The nurse’s area should be adjacent to and entered by way of the school’s central office control area.

- Refer to Appendix C.1 Health Room requirements for list of equipment requirements.
- Provide a minimum of 6 chairs in reception area and wall rack for educational materials.
- Provide equipment for vision screening.
  - If equipment is not available, provide a 20 feet deep space to conduct eye exams.
  - Provide private office for school nurse to include at least 2 duplex outlets, phone with dedicated line, computer with Internet access, paper shredder, and window to cot area with blinds. Design walls / window for hearing testing (as sound proof as possible). Consult APS Nursing Department for specific design parameters.
  - Treatment /cot room includes:
    - Space for 1 cot / 250 students with tables between for equipment general contractor to provide and install curtains mounted in ceiling for privacy.
    - Duplex outlets at each cot for equipment that may be required. Consult with APS Nursing Department for specific equipment that may be required.
    - Deep sink unit with hot and cold water.
    - One 7 foot tall storage cabinet for large equipment.
- Second desk with at least 2 outlets for a phone and computer with Internet access.
- Refrigerator with ice maker.
  - Space for double locking medication cabinet. (See Appendix C.1 Health Room requirements for list of equipment requirements.)
  - 36” minimum clear door opening to allow for an emergency gurney.
  - Restroom to include a shower and space for a padded changing table (changing table provided and installed by APS – Consult APS FD&C for current sizes). Allow space for Hoyer lift in bathroom.
  - Provide exhaust fan in rooms.
  - Provide space for 1 locking fire proof file cabinet for every 800 students.
  - Provide storage closet for wheelchair, crutches, and other bulk item storage.
  - Provide stackable unit washer/dryer. Refer to Appendix E for specifications.
  - Provide wall space for an AED (Automated External Defibrillator) in a cabinet in the Corridor outside the Administration area or Nurse’s Office; consult FD+C furniture specialist.

**Bookroom**

The Bookroom is to be located either in the Administration Area or adjacent to the Library/Media Center with easy access from the corridor and delivery area.

- Shelving to be provided and installed by general contractor.

**Workroom**

The workroom is to be centrally located to the teaching staff with easy access from the corridor.

- Sufficient permanent lockable storage.
  - Base cabinets with sufficient countertop for workspace and equipment.
  - Upper cabinets.
- Deep double sink area.
- Consider use of a utility sink set into the counter.
- Accommodate a variety of shelving systems for storage of paper, books, supplies, and audio-visual material.
- Provide space for lay-out table.
- Coordinate requirements for dedicated circuits and outlets for equipment. Confirm all existing and anticipated equipment with the school staff and FD+C.

**Teachers’ Lounge**

- Located near the administrative offices or workroom and adjacent to staff restrooms. When possible, provide patio area with wall privacy.
- Outdoor furniture shall be attached to pavement and provided/installed by the general contractor.
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**Programmed Spaces - ELEMENTARY SCHOOL**

- Small kitchenette area with a refrigerator, two microwave ovens (no range), and double sink. Provide 5 duplex outlets with dedicated circuits above counter.
- Space and power for two vending machines.
- Staff mail boxes (1 per staff) either here or in a staff only area of the administration area. Add lower boxes for larger items – minimally sized to accommodate a ream of paper.
- Provide one 4’ x 4’ tack board.

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**SITE RECREATION**

The school site is to provide outdoor recreation and learning areas suitable for age of student population served. Design of play areas and equipment selection will follow APS Playground Guidelines and the *U.S. Consumer Product Safety and the most recent ASTM Standard*. See Site Design Directives section and [APS Playground Standards](#).

- Playground design must be age specific.

**Playground Location**

- Playground is to be conveniently located for student population and with safety in mind.
- Provide a 10’-0” wide gate into playground areas where the playground or site is enclosed with a fence (provide windscreen where wood chips are installed). Playground Equipment and Shade
- Playground equipment is to be safe, free of sharp and pinching elements, and well-designed/equipped (coordinate with APS on-call for equipment type and layout) to serve the needs of elementary grades 1 – 5.
- Avoid barrel nut fasteners which cause maintenance problems (blue loctite).
- Shade structures at ES and MS are a health safety issue. Locate at play equipment.
- Provide shade trees or permanent shade structures (vandal resistant), and include benches and tables in the shade area that are secured to the pavement or ground.
- No utilities shall be installed under the play equipment area.

**Kindergarten Playground**

- Provide a separate, fenced kindergarten playground in close proximity to the building with appropriate equipment scaled to kindergartner use.
- Provide and design a separate preschool-age playground from the kindergarten playground if pre-kindergarten is located at a school.

**Playground Safety**

- Provide accessible routes to play areas.
- Provide skateboard deterrents on all low walls, curbs, seating etc. that are targeted by skate boarders.
**Hard Surface Play Areas**
- There are to be hard surface play areas located near the buildings with southern sun exposure where possible. If distant from the buildings and accessed through unpaved areas, extend a wide walk between the two to minimize mud and sand being tracked into the buildings. Areas are to include:
  - 1 concrete pad with basketball goals if space allows.
  - Asphalt play area with painted game lines.
  - Surfaced, running / walking track about 8' wide.

**Grass Playing Field**
- There is to be one game field. For fields under 1 acre, provide artificial play turf (G max certified). See Site Design Directives section for size.

**Playground Supervision**
- Playgrounds are to be sited with good site lines for good supervision.

### CHILDREN’S ACCESSIBLE ELEMENTS TABLE

<table>
<thead>
<tr>
<th>Element</th>
<th>Details</th>
<th>K-5th Grade (includes Pre-K)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramps</td>
<td>Slope</td>
<td>1 :16</td>
</tr>
<tr>
<td>See NMBC 2006 section E112.3</td>
<td>Width for single wheelchair</td>
<td>44” min (118 mm)</td>
</tr>
<tr>
<td>See ANSI 405</td>
<td>Width for two wheelchairs</td>
<td>88” min. (2236 mm)</td>
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<tr>
<td>Drinking fountains and water coolers</td>
<td>Spout height to outlet</td>
<td>30” max. (760 mm)</td>
</tr>
<tr>
<td>See ANSI 602</td>
<td>See ANSI 602.2 - Exception 2</td>
<td></td>
</tr>
<tr>
<td>Water closets for Toilet Rooms, Wheelchair Stalls, and Ambulatory Stalls</td>
<td>Centerline</td>
<td>15” (380 mm)</td>
</tr>
<tr>
<td>See ANSI 604.10 and 604.10</td>
<td>See ANSI 604.10.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clearance</td>
<td>60” (1525 mm) wide by 56” (1420 mm) min. deep</td>
</tr>
<tr>
<td></td>
<td>See ANSI 604.10.3 and 604.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toilet seat height</td>
<td>15” (380 mm)</td>
</tr>
<tr>
<td></td>
<td>See ANSI 604.10.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horizontal grab bar height to centerline</td>
<td>25” (635 mm)</td>
</tr>
<tr>
<td></td>
<td>See ANSI 604.10.5, 604.5 and 609.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rear grab bar may be split or shifted to avoid conflicts with flush valves – APS prefers a split bar</td>
<td>25” (635 mm)</td>
</tr>
<tr>
<td></td>
<td>ANSI 604.5.2 Exception 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical grab bar 18” (455mm) long</td>
<td>Bottom is 21” (533 mm) min. - 30” (760 mm) max. above the floor</td>
</tr>
<tr>
<td></td>
<td>See NMBC 2006 section E112.7</td>
<td>Centerline is 34 inches (865 mm) max. - 36” (915 mm) max. from the rear wall</td>
</tr>
<tr>
<td></td>
<td>See ANSI 604.10.5 and 604.5.1</td>
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<tr>
<td></td>
<td>Flush control</td>
<td>36” max. (915 mm)</td>
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<td></td>
<td>See ANSI 604.10.6</td>
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</tr>
<tr>
<td>Wheelchair water closet compartments</td>
<td>Size</td>
<td>60” (1525 mm) min. wide by 59” (1500 mm) deep min.</td>
</tr>
<tr>
<td>See ANSI 604.10.8</td>
<td>See ANSI 604.8.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toe clearance beneath front partition and one side partition</td>
<td>12” (305 mm) min.</td>
</tr>
<tr>
<td></td>
<td>See ANSI 604.8</td>
<td></td>
</tr>
<tr>
<td>Ambulatory water closet compartments</td>
<td>Size</td>
<td>36” (915 mm) wide by 60” (1525 mm) long</td>
</tr>
<tr>
<td></td>
<td>See ANSI 604.9.2</td>
<td></td>
</tr>
</tbody>
</table>
### CHILDREN’S ACCESSIBLE ELEMENTS TABLE

APS is designing Elementary School spaces for Kindergarten through 5th Grade (Pre-K programs will utilize facilities designed for Kindergarten)

<table>
<thead>
<tr>
<th>Element</th>
<th>Details</th>
<th>K-5th Grade (includes Pre-K)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>See NMBC 2006 section E112.5&lt;br&gt;See ANSI 604.10.8</td>
<td>Horizontal parallel grab bars on both sidewalls 42” (1065 mm) long</td>
<td>25” (635 mm)</td>
</tr>
<tr>
<td>Urinals See NMBC 2006 section E112.6&lt;br&gt;See ANSI 605</td>
<td>Top of rim</td>
<td>14” max. (355 mm)</td>
</tr>
<tr>
<td>Lavatories and sinks See ANSI 606.2</td>
<td>Sink rim&lt;br&gt;See ANSI 606.2&lt;br&gt;Exception 2 and 3</td>
<td>31” max. (797 mm)</td>
</tr>
<tr>
<td></td>
<td>Knee clearance&lt;br&gt;See ANSI 606.2&lt;br&gt;Exception 2 and 3</td>
<td>24” min. (610 mm)</td>
</tr>
<tr>
<td>Mirrors See NMBC 2006 section E112.4</td>
<td>Full length mirror 60” (1525 mm) min. tall</td>
<td>Bottom of reflecting surface 12” (455 mm) max. above floor</td>
</tr>
<tr>
<td></td>
<td>Mirrors over sinks</td>
<td>Bottom of reflecting surface 37” (940 mm) max. above floor</td>
</tr>
<tr>
<td>Dining surfaces and work surfaces See ANSI 902.4</td>
<td>Tops of tables and counters</td>
<td>26” (660 mm) min. 30” (760 mm) max.</td>
</tr>
<tr>
<td>Benches See NMBC 2006 section E112.8&lt;br&gt;See ANSI 903</td>
<td>Top of seat</td>
<td>11” (280 mm) min. 12” (305 mm) max.</td>
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<tr>
<td>Tray slides See NMBC 2006 section E112.9</td>
<td>Top of tray slide</td>
<td>28” (710 mm) min. 30” (762 mm) max.</td>
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<tr>
<td>Storage See NMBC 2006 section E112.10&lt;br&gt;See ANSI 905</td>
<td>Frontal approach height</td>
<td>20”-40” (510-1015 mm)</td>
</tr>
<tr>
<td></td>
<td>Side approach height</td>
<td>40” max. (1015 mm)</td>
</tr>
</tbody>
</table>
NEEDS ANALYSIS FOR STANDARDS-BASED MIDDLE SCHOOL

A utilization will be provided to the A/E by APS FD+C and Capital Master Plan (CMP) prior to the design of each Project. The CMP utilization will define the specific spaces required for each project. The APS Standards will define the square footage and character requirements for each of the specified spaces.

The following charts apply the proposed policies and standards to a standards-based middle school designed for 1,200 – 1,500 students.

All school areas shall meet all the intended instructional and functional needs.

The size and nature of the following areas shall meet standards specifications.

### APS Middle School - PROGRAMMED SPACES

<table>
<thead>
<tr>
<th>Room Description</th>
<th># of Spaces</th>
<th>Area Per Space</th>
<th>Total Assignable Square Feet</th>
<th>Sub-Totals (NASF)</th>
<th>Designed # of Spaces</th>
<th>Designed Area Per Space</th>
<th>Designed Total Assignable Square</th>
<th>Designed Sub-Totals (NASF)</th>
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<tr>
<td><strong>Instructional Areas</strong></td>
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<td>Core Classrooms</td>
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<td>Standard Classrooms</td>
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<td>32,760</td>
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<tr>
<td>See Special Ed programs listed in the Appendix</td>
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<td>Science</td>
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<td>Performance (Chorus, Band, Drama)</td>
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<tr>
<td>Flexible Labs – Elective labs</td>
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<tr>
<td>Family and Consumer Sciences</td>
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<td>Storage/Washer-Dryer</td>
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</tbody>
</table>
### APS Middle School - PROGRAMMED SPACES

<table>
<thead>
<tr>
<th>Room Description</th>
<th># of Spaces</th>
<th>Area Per Space</th>
<th>TotalAssignable Square Feet</th>
<th>Designed # of Spaces</th>
<th>Designed Area Per Space</th>
<th>Designed Total Assignable Square Feet</th>
<th>Designed Sub- Totals (NASF)</th>
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<tbody>
<tr>
<td>Computer Laboratory</td>
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<td>150</td>
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<td>Industrial Arts</td>
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<td>Technology Education Lab</td>
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### APS Middle School - PROGRAMMED SPACES

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<th>Total Assignable Square Feet</th>
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### STANDARD CLASSROOMS

Standard classroom size is roughly determined by assessment of State Pupil Teacher Ratios (PTRs), a size allocation per student, and practical experience. Leave options for moving classes between different grade levels.

### GENERAL NEEDS FOR CORRIDORS AND LOBBY AREAS IN PROXIMITY TO CLASSROOMS

- Provide tall display cases with safety glass for student work and awards near each grade level, the art / music classroom(s), main office and main gymnasium.
- At the discretion of the school, consider providing student lockers in the hallways that serve the 3 different grade levels. If located in a room and for easy monitoring, lockers shall be one-tier. If against the walls, the locker units can be 2-tier. Lockers shall be 16 gauge doors with louvers and piano hinge, 24 gauge body steel units with padlock eye (no moving parts), one double hook on the ceiling and 3 single hooks on walls of the locker. Provide aluminum number plate. Lockers will be 12” wide x 60” high x 15” deep. Provide the locker built-in to the base and top or sealed base and angle the top with 25% pitch.

### GENERAL NEEDS FOR ALL MIDDLE SCHOOL CLASSROOMS

- Convenient and close proximity to common resources (media center, cafeteria, PE facility).
- Utilize natural light to reduce daytime lighting costs, balance spectrum of lighting available, and provide views. Windowsill height of no less than 30” a.f.f. Operable windows to provide cross ventilation.
- Acoustically balanced for hearing the human voice (must comply with ANSI standards) in the space and blocking noise from outside the space. Consider use of sound augmentation system.
- Accommodate technology needs for teacher and students to include: telephone,
computers, printers, electrical and data connections.

- Accommodate APS furniture and equipment list. Arrange primary furniture to allow for good view lines of teaching wall[s].
- Easily maintained surfaces.
- Standard is one magnetic white board (8’x 4’) and one chalkboard (8’ x 4’) with tack boards (2 - 4’x 4’) with tack strip on top of all boards. School may choose all white boards. Provide flag and flag holder in each classroom and specialty classroom, art, music, library and cafeteria.
- Manual pencil sharpener on wooden block with blocking in wall at standard height for each classroom and specialty classroom, library or other area where students will be working. The sharpeners shall be provided by and installed by general contractor.
- Minimize carpet areas. (Refer to APS Carpet Tile Specifications on the FC+C website.)

Polished concrete floors are preferred throughout but especially at wet areas.

***Consider providing additional storage space for teachers off-track in year-round schools.

☑ Special Education Spaces
  o Refer to Appendix B

☑ Science Laboratories
  - Provide 6 science laboratories (1,250 sf) for 32 students each with 3 shared workroom / storage / prep room (420 sf). Provide a pair of laboratories and one workroom / storage / prep room for each grade level.
  - For each science lab, provide six student groupings with sinks. 5 groups (34” H, 24” D) each with 48” lockable base unit (with shelves), 18” three-drawer unit and 18” sink unit with 12” W, 12” L, 8” D phenolic resin sink with tall gooseneck lever handle faucet. The sixth group includes a 48” lockable base unit with shelves and a 36” ADA sink unit. Of the six labs, four will have the scheme exactly. For the other two labs (in the 6th grade wing) the 48” base cabinet will have 20 plastic trays inserted into the lockable cabinet rather than shelves. All groups will have upper wall cabinet units that measure 36” W, 24” H, 18” D with lockable sliding glass doors. Provide additional base cabinets as required for design. All tops shall be phenolic resin.
  - Workroom / Storage / Prep Room – each space is required to have a 36” x 36” glass drying rack over 36” W, 34” H, 24” D base cabinet unit for 12” W, 12” L, 8” D phenolic resin sink with gooseneck lever handle faucet, w three drawer 18” W base unit, a 32” W base unit with shelves with a cook top inset, a 24” built-in dishwasher, a full size refrigerator and a 66” desk area with 2 pedestals of three drawers each and knee space of 30”. Provide upper open wall cabinets over the desk of two 30” H, 24” H, 13” D and one over the cooktop for the hood. Provide open solid metal shelving for science equipment storage.
  - Utilities to be included are natural gas, water, and electricity.
    o Consider retractable power outlets from ceiling to provide power to and accommodate flexible arrangement of lab tables.
    o Provide emergency gas shut off, eye wash/ shower, and fire blanket.
    o Consider if natural gas is required for all science classrooms.
    o Consider if a fume hood is required at some science classrooms.
Performing and Fine Arts

Request programming information from APS Fine Arts for actual enrollment in art and music classrooms, program information, and office needs.

- Technology: Instruction uses recorded music, projects lyrics, and shows clips of performances.
  - Provide blue tooth compatibility for music classrooms.
  - Provide speakers and AV system for classrooms. LED screen with air play. Promethean for each classroom.
  - Provide additional power outlets at walls and counters.

The A/E shall consider an outdoor performance venue in close proximity to the indoor performance space. The configuration of the performance spaces are as follows:

Chorus, Band and Orchestra

- These spaces will need acoustical tuning with non-parallel walls, sound panels from ceiling (or acoustical ceiling), wall panels and possible floor treatment.
- Ceiling heights in main rooms should be non-parallel to floor, unless using ceiling sound panels, and may vary from noted ceiling heights (that are averages for space).
- These are high noise areas spaces, so acoustically separate these rooms from the rest of the school and from one another.
- Consider wall protection that may include chair rail / corner guards around band and chorus walls.
- Chorus and band room will have an office for each teacher, with visual access to the classroom.
- Do not build in risers. Riser will be purchased as furniture. Each room shall have a storage room for choral risers, file cabinets, lockable instrument storage cabinets and a sink in the band storage room only. Cabinets shall be anchored to floor to meet seismic requirements.
- Provide one large and one small practice room with acoustical treatment of walls and doors. Design practice rooms to open into the ensemble rooms. Put windows in the practice room doors.

Drama / Performance

- The intent of the program space shall allow use of the stage as a part of the drama academic space and to open a folding powered sound wall to the stage (part of the cafeteria) while closing the drama classroom off from the stage.
- Provide an office with a window into the classroom space and lockable storage room.
- The drama classroom will have casework for storage of props, fabrics and other stagecraft materials.

Performance Stage

- Performance Stage will be equipped with front/side/back curtains with stage wings and be located in close proximity to the drama classroom. Provide ramp
access onto stage. At the discretion of the school, the performance area must be provided in the gym or cafeteria. Stage area is described more fully in the Cafeteria Section.

- **Art**
  - Art room to be provided with sink/counter area, table area for up to eight 60” x 60” shop tables, clay area with two electric potter’s wheels, damp proof cabinet, and an open area to place model or still life.
  - North light is important.
  - Provide a deep, wide sink with clay trap and a separate hand sink for ADA compliance as required.
  - Provide (1) magnetic white, (1) chalk boards and tack board and/or tack strips. Provide places to display student work. Consider dry erase walls to encourage advertising of student performance.
  - Provide and coordinate a separate kiln room with proper power and outlet for the specific kiln and exhaust hood for the specific kiln. The kiln room will be provided with a thermostatically controlled room exhaust fan separate from the kiln exhaust hood. The District preferred kiln and associated equipment, see appendix, will be provided and installed by the general contractor.
  - Provide many outlets at the counters, i.e. for glue guns and encaustic painting.
  - A contiguous art patio is desirable and shall be considered during design.

- **Flexible Labs – Elective Labs**
  Each classroom will accommodate 32 students.

- **JROTC / Leadership**
  The MS JROTC program is Leadership. Twelve middle schools currently have this program. Consult with CMP for JROTC spaces / utilization and funding.
  - If a MS desires a Leadership program, then consider the following:

<table>
<thead>
<tr>
<th>Middle School JROTC</th>
<th>Space Program Requirements</th>
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<tbody>
<tr>
<td></td>
<td>Space Description</td>
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<tr>
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<td>Classroom</td>
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<tr>
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<td>Archery/Multi-purpose</td>
</tr>
<tr>
<td></td>
<td>Office</td>
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<td>Equipment Storage</td>
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<td>Student Restrooms/Dressing</td>
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<td><strong>Total NSF</strong></td>
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<td><strong>Tare @ 25%</strong></td>
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<td></td>
<td><strong>GSF</strong></td>
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</table>

  - See appendix L.
  - Archery can be located outside or share a multipurpose flexible lab room
- Provide space to accommodate outside archery and outside storage.
- The School has the responsibility to schedule available classroom space for Leadership.

**Family and Consumer Science – Sewing.**

At MS, Family and Consumer Science (FACS) is a half year elective. Curriculum may include sewing, and cooking. If such program/need exists in a mid-school, the space shall accommodate the following functions:

- Sewing will have up to 32 sewing machines, measuring 24”D x 36” W on 16 tables. Power to be supplied by ceiling-mounted retractable outlets instead of floor outlets.
- Sewing area to have a 30”W by 60”H mirror in space for fitting clothes.
- Provide mobile demo unit to match casework (60”L, 36”H, 42”D with 4 drawer unit and two 24” storage units sections with 2 shelves each).
- Provide two 48”W, 84”H, 24”D locking tall cabinets with shelves and one wardrobe unit 18”W by 84”H by 24”D.
- Laundry room with washer and dryer. Provide 60”W, 24”H, 13”D lockable upper cabinets over the washer and dryer. Provide standing laundry sink near the washer and dryer.
- Storage room to have built-in cabinets that accommodate five 32 storage tray cabinets, with each tray about 20”H, 20”D in a nominal 24”W, 5”H, 24”D slot in a nominal 48”W, 84”H, 24”D casework unit.

**Family and Consumer Science - Cooking**

At MS, Family and Consumer Science (FACS) is a half year elective. Curriculum may include sewing, and cooking. If such program/need exists in a mid-school, the space shall accommodate the following functions:

- Cooking will have six student kitchenettes in “L” shaped base cabinets each with a double stainless steel sink (each 14x16x6) with single action lever faucet (no gooseneck), a slide-in stove with oven that has controls on the front (side exhaust ranges are not allowed), and a space for a microwave on the counter. Provide a residential style fume hood with a suppression system at each range.
- Upper cabinets to contain evenly sized wall units including the stove hood location.
- Each kitchenette is about 15 linear feet of 34”H, 24”D base cabinets mixing door and drawer units as for residence, with 8’ of upper cabinets at minimum 13” deep. Each kitchenette to have at least 6 drawers in multiple units, multiple standard storage units, a sink base unit, a corner storage unit with rotating shelves, a 12” vertical try storage unit, and a slot for the slide-in stove/oven.
- The instructors demo kitchen island will be 36”H, 30”D, with 30” cooktop unit with storage below, 24” four drawer unit, 36” sink unit, and one drawer and storage unit. Provide cabinets or ceiling mounted mirror that is long enough to show stove and counter prep area. Behind demo kitchen island provide base cabinets with 36”H, 24”D units: one 36”W sink unit with double stainless steel sink unit with sprayer and disposal, one 24”W dishwasher unit, one 1-drawer
and slide out trash 24”W unit, one 1-drawer and storage 24” unit, one 12’ vertical try storage unit, and one 30”W, 84”H, 24”D tall unit for double oven unit with 2 drawers below.

- Provide accent lighting over demo kitchen.
- Pantry to have 1 each upright freezer and one refrigerator (minimum 21 cubic feet each, Energy Star). Install five wire metal shelving units that are each 74”H, 24”D, and 48” W.

☑️ **Computer Labs**

If a school is deemed in need of computer labs, it shall be designed with the following:

- Each station will be 36”W by 30”D using specialized counters mounted at 26” +/- for middle school students. One workstation will be set at ADA height.
- Every school may have a minimum of two computer labs with 37 equal computer workstations (32 student and 5 support devices) each.
- All screens shall be visible from instructor workstation.
- All wiring to run in wire / cable management system along or below counters. There shall be no power poles or floor outlets.
- A preferred plan has two concentric partial circles of computer desks (U-shaped) with the teacher’s vantage point in the opening. Lower any inner row wall or divider so teacher can view the screens of the next row of computers. Another preferred plan shall have computer desks lined up in classroom style. No tiered floors.
- Storage room (to be shared with Technology Education Lab) has four 30”W, 34”H, 24”D, lockable base cabinets with shelves, one 36”W, 34”H, 24”D six-drawer unit and a 36” ADA sink unit with 14” by 16” by 6” stainless steel sink with gooseneck lever handle faucet. Provide about 16’ of upper cabinets made up of 36”W, 24”H, 13”D lockable cabinets, except for a shorter one over the sink.
- Provide separate cooling and exhaust.

☑️ **Technology Education Lab**

This lab provides space for improving technology skills.

- The design of the lab should allow its workstations to be viewed by the teacher. “U”-shaped configuration may be appropriate or workstations that face one direction to a teaching wall.
- Provide lockable upper cabinets for storage of equipment.

☑️ **Library / Media Center**

The library / media center requirements follow:

- Accommodate multiple classes in library.
  - Seat about 85 students and staff at tables and computers.
  - Consider a dropped ceiling over the teaching area for noise reduction.
  - Space to allow for different arrangements and programs to occur at one time.
- Work with APS FD+C for age appropriate furniture, shelving, desks, and layout.
- Work study area for 2 classes, for large group reading activities and for reference.
- 32 stations for computer research and group work with data.
- Consider the library as home for a maker space.
- Expect more talking in libraries as move to project based learning.
- Use sound baffles at an open ceiling to absorb sound, so kids can talk.
- Provide accessible electrical outlets on every wall and columns. Coordinate with casework, furniture, and equipment FD+C staff.
- Circulation desk should be about 16 feet in length, provide limited access and visual control throughout.
  - Provide circulation desk with phone, data and power outlets.
  - Allow the book drop location to be flexible.
    - Consider furniture (rather than built-in) circulation desk with power and data.
- Shelving:
  - The library requires less shelf space than needed in the past. Reading materials are a blended model - technology and paper books.
  - Floor shelving needs to be moveable / mobile. Flexible to accommodate shelving arrangement in 20 years.
  - 60” tall shelving around the walls is preferable.
- Lighting
  - Provide day lighting (with a minimum window sill height of 65 or 70” to clear shelving). Provide minimum sill height of 30” for LEED Certification points.
  - Space able to be darkened enough for AV use.
  - Lights in individually controlled banks to allow darkening.
- Technology
  - Libraries need as much power and internet access as possible.
  - Provide flexible access to power. No power columns and poles.
  - Provide desks with cable management.
  - Install appropriate wiring for audio visual and computer equipment is required.
  - Consider needs for storage and charging of phones.
    - Convert the hub room space for tech storage needs and provide good power for charging up to 30 units.
    - Provide charging walls for devices. Need flexibility to change device cords. Look for furniture for charging.
    - Provide a device charging system so that no grown up employees are responsible for the phones.
  - The secondary exit for emergencies should be alarmed with direct line of sight from circulation desk.
  - Metal security gates are not necessary.
• Encourage parent use of library.
  o Parents affiliated with the school may check out books.
  o Libraries provide access to technology for parents. Consider a public kiosk with computers that doesn’t require login.
  o Provide public Wi-Fi in the libraries.
• Family centers. Parents can come in and work on computers. All new schools will get parent rooms. A computer area can be located there.
• Office / Workroom
  o Provide adjacent Librarian office. Provide sink with soap (receives APS supplied pouch soap refills – verify specified model with FD+C) and paper towel dispensers. Provide built-in upper and lower lockable cabinets of 40 linear feet.
  o Direct access to a media center workroom is required.
    ▪ Consider combining library workroom and office.

☐ Physical Education / Main Gym, Offices, PE Classroom

All physical education facilities must have equal facilities for male and female per the Title IX requirement. The MS facilities support PE and athletics programs.
  o Provide coach offices. A MS program typically has 3 to 4 coaches. Provide 2 offices -shared.
  o Provide a PE Classroom.

The main gym / physical education area requirements follow.
  o Main gym area average of 12,525 sf with minimum 25’ ceiling is required. No ductwork or lighting to be installed below the 25’ height.
  o A safety space (minimum 10 Feet) between the court and wall is required with wall pads at each end.
  o Stripe line floor for 6 basketball courts (1 court the long direction and 2 courts across the narrow direction) and volleyball.
  o Provide seamed indoor resilient multi-purpose rubber flooring with manufactured cove base.
  o Gym should have 2 main motorized retractable basketball goals with clear backboard and flooring court markers. Plus 4 additional electronic retractable basketball goals with backboard. Provide wall pads on the gym sidewalls.
  o Provide volleyball sleeves, standards, padding, net, and sleeve screw caps for safety. Provide 5 sleeves for full and half court games.
  o Wall eye bolts for net activities, and a climbing rope attachment.
  o Discuss climbing wall option in the auxiliary gymnasium.
  o Main gym to be located near the exterior playgrounds and recreation fields and away from classrooms.
  o Consider an area for wall ball.
  o Provide direct access to outdoor play areas.
  o Provide windows that are impact resistant or protected.
If this space shall have a performance platform, provide a minimum platform with curtain, ramp access, and storage.

If there are before and after-school programs, provide lockable office / storage space.

Provide motorized telescoping bleachers to seat ½ of the student population with one-piece molded bench type plastic seating on one side of gymnasium. Provide 8’-0” clear space between the top row of the bleachers and bottom of the roof structure.

If far from cafeteria, consider providing a snack bar with rolling door that seals tight to stainless steel counter. Provide cabinets, shelving and 3-compartment sink.

Provide storage space with lockable double doors for athletic equipment and folding chairs. Ceiling height to accommodate volleyball poles. Secure all shelving units to floor to meet seismic conditions.

Provide a motorized divider curtain across the middle of the gym.

Technology is mobile and moved in and out of the gym space. Provide data and outlets in both gyms.

Provide PA and intercom systems in both gyms.

FD+C Note: Refer to the APS Electrical Design Standards and APS Mechanical Design Standards on the FD+C website

**Locker Rooms**

Provide separate locker rooms for boys and girls each for 70 students with equal facilities for each sex per Title IX requirements (approximately 1,450 sf each).

The flooring to be fungus, mildew, bacteria-resistant and easy to sterilize.

Provide 2 offices (to be shared by 2 people each) with adjacent restrooms in close proximity to locker rooms. Provide (2) single tier full height 15” wide, 18” deep lockers. Provide the restroom with a water closet, lavatory with mirror and accessories. Restroom to have ceramic tile floor and base.

Lockers: Provide alternating 6- and 2- combination locker system where 6 over/under lockers in 72” high by 12” wide by 18” deep lockers paired with a 2-tier locker 72” high by 15” wide by 18” deep. Doors shall have a piano hinge. Design for maximum 210 students with generally less than 70 students (each sex) per period. Provide fully welded lockers with padlock eye (no moving parts), one double hook on ceiling and 3 single hooks on walls of lockers. Provide aluminum number plates. Provide 35 6-tier lockers and 35 2-tier lockers. Provide benches with integral bases and anchored securely to the floor.

Restrooms: Provide restrooms for students with access from the gym via the locker room. Restroom area to have ceramic tile floors and 5’ high (minimum) ceramic tile wainscot. Provide mirrors, paper towel dispensers, soap dispensers (receives APS supplied pouch soap refills – verify specified model with FD+C) toilet partitions, toilet paper dispensers, handrails, and napkin disposal units (in girl’s side only) in each locker room.

All exterior windows in locker rooms shall be at least 8’-0” a.f.f.
**Auxiliary Gym**
- Auxiliary gym sized to have a standard basketball court with a safety space around the court (3,800 sf) with a minimum 25’ ceiling height is required.
- The type of flooring shall be the same as the Main Gym.
- Flooring shall be striped for basketball and volleyball with wall pads on the end walls.
- A safety space (minimum 10 Feet) between the court and wall is required with wall pads at each end.
- Provide volleyball pole anchor sleeves, standards, padding, net and sleeve screw caps for safety.
- Storage room for athletic equipment and chair storage to have ceiling height to accommodate the volleyball poles.

**Circuit Training**
- The circuit equipment should be enclosed in a 1,500 square feet space with a raised ceiling to accommodate the circuit training equipment that is specified.
- The type of flooring shall be the same as the Main Gym.
- Flooring shall be striped to indicate the clearances required during the use of each piece of the circuit.
- Consider a training course at the exterior.
- OT / PT Space See Appendix B for Special Education requirements.

**Cafeteria**
In addition to the cafeteria’s function as the dining area, it may serve as the school’s performance venue and for assemblies.

- Access into space should be in no less than a double door arrangement (two 36” minimum wide doors) at all exit points even if exiting calculation allows less.
- The cafeteria should be accessible from the exterior for after school programs without allowing access to the remainder of the school.
- Sized to seat 15 nsf/student with no more than 3 lunch periods.
- Typical seating is a combination of 60” round tables and 12’ bi-fold models (NIC). Locate computer jacks for operation of ceiling mounted projector for large group meetings. Locate jacks with outlets along one wall for multiple table use during registration. Provide power and LAN access off the front of the raised stage to connect to projection unit for large powered AV screen.
- Provide adequate point-of-sale connections for computerized checkout units at food purchasing appropriate locations (2 minimum).
- Provide powered 108” x 108” AV screen mounted in the structure of the ceiling area. Key operate switch or locate switch in storage or custodial room.
- Provide windows with a view to the outside and provide with electrically operated MECO shades (or approved equal) for shading and lockdown.
- Discuss with Food & Nutrition Service the option of self-service and/or cafeteria staff-serve.
Floors to be polished concrete.

For after school programs provide storage, hand sink, snack cooler and required outlets in a separate lockable room.

Provide designated area for recycle bins for paper, plastic and aluminum.

**Stage**

- If stage for the Drama and Music presentations is located in cafeteria provide rough in for a high fidelity sound system with equipment located in storage, with microphone access by the stage and by one other area. Install conduit so 4 speakers will cover space from stage to back of room.

- If stage is located in cafeteria provide lighting for stage area. Provide stage lighting system with minimum 16 PAR 38 fixtures, 8/16 channel controller, dimmer packs, cabling, clamps, and needed gel sheets. Mount lighting for maximum coverage of stage area.

- If stage is located in the cafeteria it should have a performance platform with manually operated curtain on the front, side and back, ramp access, and storage.

- Provide acoustic reverb rating to allow use of space for small plays and music ensembles.

**Snack Bar**

- Snack bar shall be contiguous with the cafeteria.

- Provide service openings into the cafeteria and to the outside. Each opening shall have a lockable stainless steel fire-rated (as needed) roll door with stainless steel sill. At exterior openings provide inset vertical hung aluminum storm window units (or equal) to close off opening when not operating to prevent draft and insects. Openings to be 18” wide x 30” high.

- At the exterior openings, provide effective cover from rain and sun for students.

- Provide snack bar with only warming capabilities with 22 Ln. ft. of HDL open base shelf cabinets with counter top to connect with the window serving areas. Provide wire mold along backsplash of counter for warming equipment (5 devices such as microwaves). Provide wire metal shelving along wall opposite from windows.

- Provide 3 compartment sink – each 10” wide x 14” long by 12” deep – with same accessories and faucet as in kitchen unit. Provide with 20” drain boards each side. Provide 12” high stainless steel wall protection behind sink area.

- Provide a hand sink with soap (receives APS supplied pouch soap refills – verify specified model with FD+C) and paper towel dispensers.

- Provide 2 point-of-sale computer jacks with outlets (one each pair of windows) for interface with food service computer sales system from kitchen office.

**Storage / Custodial**

- Provide separate custodial areas: one in kitchen and outside. Each with custodial sink, backsplashes, faucets, broom and mop holder rack.

- Provide ample storage for additional special events folding tables and chair carts.

- Provide doors to allow for 72” clear opening.
**Outside Dining Patio**

- Provide hard surface, well drained and half shaded patio area (shade between 10:30 am and 1:30 pm) adjacent to the snack bar and easily available for students from the cafeteria. Provide anchored, exterior rated, vandal resistant tables and benches for up to 100 students.
- Provide hose bibb in area for cleaning. Provide outlet for cleaning equipment with 30 amp GFI circuit.
- Provide general site lighting for dining area (and adjacent socialization areas) to allow evening use for special programs.

**Kitchen**

The A/E shall meet with key representative from the Food & Nutrition Services department during design but especially prior to the final design. Kitchen shall include the following areas. (See Appendix D for Guide to Space Planning of a School Food Service Facility based on number of meals served).

- Food preparation area with vegetable sink.
- Serving area with computer access for recording student names.
- Dish/pot washing area (requires a 3 compartment sink with grease trap at exterior).
- Cook/prep/serve area with hand sink, soap dispenser - surface mounted with screws (receives APS supplied pouch soap refills – verify specified model with FD+C), and paper towel dispenser - surface mounted, stainless steel, lever operation (receives roll towels).
- Dish/pot washing area (requires a 3 compartment sink).
- Cold and hot storage equipment generally including a freezer / refrigerator walk-ins, and 2 to 4 transporters for hot food.
- Dry storage.
- Restroom for the staff with door and door closer.
- Access to lockers and electric washer / dryer units.
- Office with telephone and data. Provide a window to view into the kitchen.
- Janitor closet in or adjacent to kitchen.
- 18” minimum backsplash around stoves, sinks, and dirty tray drop-off.
- Kitchen to be free of any hazards to students (e.g. hot serving line surfaces).
- Sufficient access for delivery vehicles into a receiving area through a 3’ - 8” door (minimum) x 7’ - 0 high screen door and fly fan entry. Cover screen on door with expanded metal covers on both sides to protect screening.
- Provide doorbell and peephole at rear entry.
- ‘Polyfloor’ preferred in kitchen area (color other than white)

Recent kitchen construction has deemed sealed polished concrete flooring as viable alternative.
- Surfaces able to be disinfected. Consider use of reinforced fiberglass panels (RFP) on all walls where serving functions occur. Provide stainless steel behind cooking and washing areas (floor to ceiling).
- Provide solar preheating of hot water for kitchen use.

**Other School Support**

These are miscellaneous spaces that have no specific relationship to specific spaces.

- **Student Lockers**: Lockers are enameled 2-tiered, 16 gauge doors with louvers and piano hinge, 24 gauge body steel units similar to Penco Vanguard fully welded lockers with padlock eye (no moving parts), one double hook on ceiling and 3 single hooks on walls. Provide aluminum number plate. Lockers are suggested to line corridors serving classrooms for each grade level, split as evenly as possible, 400 in each grade area. Lockers will be 12”W, 60”H, 15”D. Provide coved sealed base or built-in (furred out above ceiling or angled top).

- **School Store**: The store will have a 72” by 42” tall stainless steel roll-up door, rated for location. It will be key lockable from inside. Room will have five 36”W, 34”H, 24”D base cabinets (one 6-drawer unit and 4 lockable shelf units). Countertop with integral backsplash. Wall opening at roll door to receive stainless steel cap on the sill or plastic laminate counter extension. Provide three 48”W, 78”H, 18”D wire steel shelving.

- **MDF and IDF** to conform to all requirements in the APS Electrical Design Standards and Telecommunications Guidelines. Seal all wall to roof and floor to wall joints to prevent dust infiltration. Locate MDF near utility entry to school. The main services and distribution of all cable / wire for all special systems goes through these rooms. Rooms to be acclimatized with good air exchange, free of dust, and operate 24 hours a day so not time clock interference.

- **IT office** can be located anywhere near the MDF. It is a standard office environment with its own thermostat. Provide a 60”L, 36”H, 36”D workbench.

- **Building Storage**: These rooms are assigned at each grade level area for general storage purposes. Provide twelve plastic laminate cabinets 36”W, 84”H, 24”D lockable shelving units.

- **Lobby** shall allow for the entry experience into the school. Provide a display case somewhere in this area or nearby of 16”W, 60”H, 24”D with safety glass, lockable, interior glass shelving and illumination. Provide for a flat screen TV mounting in the lobby for announcements and daily activity highlights.

**Utility / Storage Custodial Utility Areas**

There shall be sufficient custodial areas with hot and cold water to efficiently clean all permanent and portable facilities. They shall be conveniently distributed in a manner that is appropriate to serve entire school with at least one per floor in multi-floored building.

- 4-6 interior custodial areas per middle school. If different permanent buildings, at least 1 custodial closet in each building.
- Each custodial closet to be 60 sf with 1 at 200 sf in size for supplies and a desk.
o All custodial closets shall have a janitor’s floor mop sink, mop holder and sufficient shelves for storage. Provide an outlet. The faucet at the mop sink shall be heavy duty with ¾” male garden hose threads on spout end, pail hook on top of cast brass spout and top reinforcing strut/bar and mounting bracket.

o Cover walls around sink with tile or stainless steel surround.

o All spaces to have active mechanical ventilation.

o Provide access to the roof in some of the custodial storage areas or nearby storage rooms.

o Custodial Rooms will have painted walls (and ceilings if they are not lay-in). The floors will have a concrete sealer.

LEED®: Selection of cleaning supplies is part of LEED® evaluation.

✔ Facility Storage Interior (other than in classrooms)
Provide as much storage in the school as possible (about 5% of the net area) including:

o Assigned storage associated with specific rooms (gym, cafeteria, administration, fine arts / music).

o Unassigned storage (200 sf that can be used for a variety of purposes).

o Teaching materials storage at 800 sf (bookroom).

✔ Facility Storage Exterior

o Exterior storage of 200 sf and 10’ tall directly accessible to the outside to store inventory salvage and excess equipment and furniture.

o Provide storage with exterior door.

✔ Administrative Offices / Support Areas

✔ Administrative Offices

The administration area will be central to the school and visitor access. It is the school’s access control point so visibility and way finding is important to and from these offices.

 Main office should be easily located by visitors to the school.

 Reception areas: Provide one area with 2 built-in workstations for key staff that control phones, PA and support administration staff. Provide an ‘L’-shaped layout with upper and lower cabinets for both, each using about an 8’ by 8’ work area. Provide another built-in reception area for public sign-in, phone console, and information. This area shall have 3 built-in work stations of custom design to set the design theme of the school. The custom casework shall be about 20 Ln. ft. of base units with 3 knee spaces separated by drawer units. The transaction counter height should be 42” high except for a section of the desk that is ADA compliant and the work surface behind the transaction counter should be 30” aff. This area shall have visual control of the school’s main entry point and capable of being secured with a grille after hours.

 Provide a waiting area in the lobby for seating for 14 to 16 people and allowing room for tables for registration.
- Principal’s office will have APS provided furniture which may include a desk, credenza, and table and chairs. Principal’s office should have 2 exits out of space.
- Assistant principals’ office will have APS provided furniture which may include desk and a small round table and chairs.
- Conference room should be located for easy access by multiple groups within the school. Room shall seat 12-14 people. The room shall have lower and upper lockable cabinets and a sink.
- Secretary/Bookkeeper shall have a room similar to the assistant principals but with rectangular worktable rather than a round table.
- Workroom/copier is support for administrative staff. Space includes copiers, Gestetner machine, form storage, and clerk workstation. Provide six 36” W, 36” H, 24” D base storage cabinets with shelves, and six 36” W, 24” H, 15” D open shelf upper cabinets. The 2’ x 2’ head-end console for the PA system can be located in this room. Provide four wardrobe cabinets for staff in the open office area (18” W, 84” H, 24” D).
- File/storage/coffee area is off the main office portion of administration. In the file/storage room provide two 48” W, 84” H, 24” D lockable tall cabinets. (Eight vertical file cabinets and one table will be provided by others.) The coffee bar area is intended more as a non-secure entry area to the high security file room. The coffee bar has one 24” ADA sink base unit with 12” by 12” by 8” stainless steel sink with gooseneck faucet, on 24” 4-drawer base unit, two 30” lockable storage base units with shelves and one small (18 cubic foot) refrigerator with ice maker (to be provide by the general contractor). Provide plug mold along counter for coffee maker and microwave.
- A 300 sf parent room can be in the vicinity with data and power.
- Provide recessed display space with locking safety glass doors to display student 2-D and 3-D art work and which is visible to the public.
- Provide restrooms in proximity to the administration area or adjacent to this area for public/staff adults.
- Provide AED defibrillator cabinet that can be readily accessed during emergency outside in hallway.

FD+C Note: All windows to have a minimum sill height of 30”a.f.f. Minimize curved walls and odd angled walls in this area to best accommodate high density of furniture.

✔️ Counseling Area

- Review needs for a particular school program with APS Counselling for information on traditional counseling allocations.
- The counseling area will be self-contained but shall be easily accessible for all students and parents. Access to the counseling area will be controlled by the secretary and should be located out of the general circulation for privacy.
  - Provide secretary open office desk and waiting area for 6 people.
  - Parents need to check in at the front area to see a counselor. Parents need to wait at school office /reception. Locate the counselling suite away from the public waiting area so that the public or parents don’t see kids going to counseling.
- Students can have direct access to counseling offices. Students should not have to talk to anyone to see counselor. Waiting area by offices is for students.
- Provide offices/rooms for three counselors, one social worker, one psychologist office, one head special education teacher, one evaluation/testing, and one instructional coach which shall be a small meeting space for teacher instructional sessions and storage of instructional materials in four 36” W, 84” H, 24” D tall HDL lockable storage units and one typical wardrobe unit.
- Office standard is 300 SF. Don’t need a space as big as a classroom – 1/3 size of classroom. Portables are not preferred.
- For privacy, avoid glass. Counselling offices require sound isolation.
- Printers need confidential and need to be close to the offices and computers password protected.
- Provide a conference room for 14 people. Provide one 48” W, 34” H, 24” D ADA sink and drawer unit for sing 14”, 16” 6” D stainless steel sink with gooseneck lever handle faucet; one 36 W, 34” H, 24” D base storage unit and compact refrigerator under a 24” +/- base unit with side panel. Provide matching lockable upper cabinets 24” H and 13” D. Assemble so that there is a counter on each side of sink. Provide paper towel dispenser and pouch type soap dispenser at sink (receives APS supplied pouch soap refills – verify specified model with FD+C). Provide outlets at back of counter.
- Provide file room for 14 vertical file fire-rated cabinets (larger units). Room should be fireproof to protect contents. Provide two 48” W, 84” H, 24” D lockable storage cabinets for supplies, forms, and brochures. This room is a secure area with limited access.
- Testing room is an office environment.

☐ Health Center (Nurses Office)

- The health center shall be located near the main office and lobby for easy access by students and parents. This will also facilitate the mandatory signing-in and-out procedures and allows for quick backup by staff in an emergency. Design so that the Health Center may expand in the future.
- Provide a waiting area for seating for 6 people. This space should be visible from the Nurse’s and Health Assistant’s office. The people waiting should not be able to see into the treatment/recovery room.
- The nurse’s office shall have an ‘L’-shaped furniture layout of about 11 Ln. ft. The double locked medicine check (NIC See Appendix C for space requirements) is located in this space. Key access to this room is limited due to files and medicines. Provide space in layout for compact sized refrigerator to store controlled/prescription medicines. Provide window into treatment/recovery area and waiting area to supervise students. Design doors, wall, ceiling, windows for speech privacy when door is closed.
- Provide an office for the Health Assistant who will work at a desk. The assistant shall have visual access to the waiting area and treatment/recovery area.
- Provide two Treatment /Recovery areas: Provide refrigerator (provided by general contractor) that is white, Energy Star, 18 cubic foot frost free with ice maker. Provide 10 Ln. Ft. of lockable plastic laminate casework 34” h and 24” D
with 30” wide ADA sink unit with 14” x 16” x 8” deep stainless steel sink with gooseneck faucet with lever handles, one 30” base cabinet with 4 small drawers side by side and 2 large drawers below and one 30” W by 34: H by 24” D storage units. Provide four 13” D lockable upper storage cabinet units over base units and refrigerator. Locate refrigerator far enough away from sink so that a GFI outlet is not required. Provide pouch-type soap dispense (receives APS supplied pouch soap refills – verify specified model with FD+C), paper towel dispenser and mirror at sink.

- Provide area for a 24” wide by 60” high safety mirror.
- Recovery (Isolation) area: Provide space for 4 recovery couches (74” L x 24” W x 18” H) separated into pairs by sex and further separated by ceiling mounted curtains / low walls to prevent cross contamination. Patients should be able to view a supervisory person from the recovery couch if curtains are open. Area of couches should be able to be darkened to reduce stress. Privacy curtains to be installed around each couch. Duplex outlets are required at each cot for equipment.
- ADA-compliant bathroom with ceramic tile floor and standard restroom accessories. For schools with Special Education DD level students, allow space for Hoyer lift in bathroom. Inclusion of shower if special education program requires it. No changing table.
- Choose paint, tile, and other coverings to be easily cleaned and disinfected.
- Flooring (See general notes).
- Dedicated climate control. Operable window if possible; also provide exhaust fan in rooms.
- Provide storage closet for wheelchair, crutches, and other bulk item storage.
- Provide space for locking fire proof vertical file cabinet - one for every 800 students.
- Provide combo washer-dryer laundry unit (stacking unit).

☑ Workroom

The workroom shall be centrally located to the teaching staff with easy access from the corridor.

- Flooring to be polished concrete.
- Centrally located with proximity access to the Media Center preferred.
- Sufficient permanent lockable storage.
- Base cabinets with sufficient countertop for workspace and equipment.
- Upper cabinets.
- Deep double sink area with
- Soap dispenser - surface mounted with screws (receives APS supplied pouch soap refills – verify specified model with FD+C)
- Paper towel dispenser - surface mounted, stainless steel, lever operation (receives roll towels)
- Consider use of a utility sink set into the counter.
- Sufficient storage area, minimum 60 sf.
- Accommodate a variety of shelving systems for storage of paper, books, supplies, and audio-visual material.
- Ability to accommodate a desk for an educational assistant.
- Provide lay-out table.
- Dedicated circuits and outlets for equipment.

**Teachers’ Lounge**
- Located near the administrative offices or workroom and adjacent to staff restrooms. Where applicable, provide patio area with wall privacy.
- Provide seating for at least 30 at a table or tables.
- Small kitchenette area with an 18 c.f. frost free refrigerator with ice maker, microwave oven (no range), and double sink. Provide 5 duplex outlets with dedicated circuits above counter. At the sink provide soap dispenser – surface mounted with screws (receives APS supplied pouch soap refills – verify specified model with FD+C), and paper towel dispenser - surface mounted, polycarbonate, lever operation (receives roll towels).
- Space and power for two vending machines.
- Staff mail boxes (1 per staff) either here or in a staff only area of the administration area.
- Windows and, ideally, access to an outside patio area. Keep window sills at minimum 30” a.f.f.
- Walls to accommodate a 4’ x 4’ tack board and white board. Site Recreation
- The school site shall provide outdoor recreation and learning areas suitable for age of student population served. Refer to individual sections for specific school level requirements.

**Outside Gathering Areas**
- Provide exterior space central to school that permits social gathering of students during leisure time and for group presentations (e.g. commons area, amphitheater).
- Provide seating options in high activity areas (at crossroads, lobbies, courtyards, etc.) and social/outdoor class areas.
- Provide an outdoor paved plaza area to accommodate 300 students with a 440 sf raised area with a GFI outlet access to accommodate speakers and small performances.
- Provide an outdoor learning area for seating 40 students with shading.
- Provide an outdoor dining patio (standard included in cafeteria section).

**Athletic Fields**
Locate the gym complex close to the main field and track, auxiliary field, and locate the exterior basketball courts in a convenient location for student use and away from streets and parking areas. Provide a 10’-0” wide gated opening for M&O access.
☑ **Main Field and Track**

Provide a main field (210 feet by 360 feet) with asphalt track close to the main gym with an asphalt-paved pathway connecting the field to gym. The track and field areas shall be accessible by persons with disabilities. The main field should be able to accommodate soccer and football. Provide a nominal 400 meter asphalt paved and curbed 6-lane track around the field. The track shall have positive drainage. Turf and irrigation design and installation will be provided by APS consultant. Nighttime lighting is not required. Provide a 10’-0” wide gated opening for M&O access.

☑ **Hard Surface Recreation Courts**

Provide concrete pads sized to accommodate eight basketball goals on four high school standard sized courts (about 104 feet x 232 feet with safety run-outs). Basketball goals shall be single curved metal support standards with durable all weather metal backboards and all weather extra heavy-duty metal hoops with metal nets. Locate the courts so they are easily supervised and are accessible to PE classes and general student lunch-time use. Provide a 10’-0” wide gated opening for M&O access.

☑ **Recreation Area Supervision**

Recreation areas shall be organized to minimize the number of supervisory personnel required.
Programmed Spaces
K-8
A utilization will be provided to the A/E by APS FD+C and Capital Master Plan (CMP) prior to the design of each Project. The CMP utilization will define the specific spaces required for each project. The APS Standards will define the square footage and character requirements for each of the specified spaces.

### K to 8 PROGRAM SPACES [***basis is NW K-8 school]###

<table>
<thead>
<tr>
<th>Room Description</th>
<th># of Spaces</th>
<th># of Persons</th>
<th>Area per Person</th>
<th>Space Criteria</th>
<th>Total Area</th>
<th>Total Assignable</th>
<th>Subtotal</th>
<th>Notes</th>
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<td>With 2 recovery spaces boys / girls (2 recovery couch each).</td>
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<td>100</td>
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<td><strong>EVEN START FAMILY LITERACY PROGRAM</strong></td>
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<td>550</td>
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## K to 8 PROGRAM SPACES [***basis is NW K-8 school]### Instructional Program

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*With Vestibule*
### K to 8 PROGRAM SPACES [***basis is NW K-8 school***]

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## K to 8 PROGRAM SPACES [***basis is NW K-8 school***]

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<th>Area per Person</th>
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<td>1</td>
<td></td>
<td>700</td>
<td>697</td>
<td>697</td>
<td></td>
<td></td>
<td>Locate adjacent to Kindergarten Classrooms</td>
</tr>
<tr>
<td>K-2 Books (K thru 2nd Library)</td>
<td>1</td>
<td></td>
<td>1000</td>
<td>1,001</td>
<td>1,001</td>
<td></td>
<td></td>
<td>Locate adjacent to Kindergarten Classrooms</td>
</tr>
</tbody>
</table>

### INDOOR PHYSICAL EDUCATION FACILITIES

<table>
<thead>
<tr>
<th>Facility</th>
<th># of Spaces</th>
<th>Area per Person</th>
<th>Space Criteria</th>
<th>Total Area</th>
<th>TotalAssignable</th>
<th>Subtotal</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Gym / Physical Education</td>
<td>1</td>
<td></td>
<td>7,346</td>
<td>7,346</td>
<td>7,346</td>
<td></td>
<td>24’ Ceiling Required. Total sq. ft., Includes spaces listed below.</td>
</tr>
<tr>
<td>Bleachers</td>
<td>1</td>
<td>1200</td>
<td></td>
<td>2700</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Snack Bar</td>
<td>1</td>
<td></td>
<td>171</td>
<td>171</td>
<td>171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Storage</td>
<td>1</td>
<td></td>
<td>240</td>
<td>240</td>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Storage</td>
<td>1</td>
<td></td>
<td>161</td>
<td>161</td>
<td>161</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxiliary Gym</td>
<td>1</td>
<td></td>
<td>4,829</td>
<td>4,829</td>
<td>4,829</td>
<td></td>
<td>24’ Ceiling Required. Total Sq. ft., Includes spaces listed below.</td>
</tr>
<tr>
<td>Equipment Storage</td>
<td>1</td>
<td></td>
<td>198</td>
<td>198</td>
<td>198</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Purpose Room</td>
<td>1</td>
<td></td>
<td>1,800</td>
<td>2,081</td>
<td>2,081</td>
<td></td>
<td>PE, Dance, Health, Weight Classes. 12’ Ceiling.</td>
</tr>
<tr>
<td>Equipment Storage</td>
<td>1</td>
<td></td>
<td>200</td>
<td>109</td>
<td>109</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locker Rooms</td>
<td>2</td>
<td>70</td>
<td>1,625</td>
<td>1,488</td>
<td>2,976</td>
<td></td>
<td>Total sq. ft., includes spaces listed below.</td>
</tr>
<tr>
<td>Offices</td>
<td>2</td>
<td>70</td>
<td>120</td>
<td>168</td>
<td>336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restrooms</td>
<td>4</td>
<td>70</td>
<td>237</td>
<td>237</td>
<td>948</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TARE = the % value divided into the Net Assignable (NASF/0.70 - NASF) Assume 70% Efficiency**

<table>
<thead>
<tr>
<th>Building</th>
<th>NASF</th>
<th>TARE</th>
<th>GSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>4,470</td>
<td>1,967</td>
<td>6,437</td>
<td></td>
</tr>
<tr>
<td>Health Center</td>
<td>971</td>
<td>427</td>
<td>1,398</td>
<td></td>
</tr>
<tr>
<td>Counseling Area</td>
<td>2,004</td>
<td>882</td>
<td>2,886</td>
<td></td>
</tr>
<tr>
<td>Even Start Family Literacy Program</td>
<td>1,100</td>
<td>484</td>
<td>1,584</td>
<td></td>
</tr>
<tr>
<td>Instructional Program</td>
<td>102,182</td>
<td>44,845</td>
<td>147,027</td>
<td></td>
</tr>
<tr>
<td>Instructional Support</td>
<td>6,598</td>
<td>2,903</td>
<td>9,501</td>
<td></td>
</tr>
<tr>
<td>Food Services</td>
<td>8,820</td>
<td>3,881</td>
<td>12,701</td>
<td></td>
</tr>
<tr>
<td>Commons Media Center</td>
<td>5,250</td>
<td>2,310</td>
<td>7,560</td>
<td></td>
</tr>
<tr>
<td>Indoor Physical Education</td>
<td>19,395</td>
<td>8,534</td>
<td>27,929</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>150,790</td>
<td>66,233</td>
<td>217,023</td>
<td></td>
</tr>
</tbody>
</table>

**PROPOSED Pre-K thru 8 SITE REQUIREMENTS (for 1,200 students)**

<table>
<thead>
<tr>
<th>Facility</th>
<th>#</th>
<th>SF</th>
<th>GSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Population</td>
<td>1343</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Staff</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Buildings</td>
<td>1</td>
<td>217,023</td>
<td>217,022</td>
<td>Assumes Single Story Construction</td>
</tr>
<tr>
<td>Integrated Portable Buildings</td>
<td>8</td>
<td>7,680</td>
<td>61,440</td>
<td>Or future expansion</td>
</tr>
<tr>
<td>Visitor / Staff Parking</td>
<td>240</td>
<td>400</td>
<td>96,000</td>
<td></td>
</tr>
<tr>
<td>Special Event Parking</td>
<td>96</td>
<td>400</td>
<td>38,400</td>
<td></td>
</tr>
<tr>
<td>Buses</td>
<td>22</td>
<td>1,344</td>
<td>29,568</td>
<td></td>
</tr>
<tr>
<td>Cars at Student Drop-Off / Pick-up</td>
<td>200</td>
<td>400</td>
<td>80,000</td>
<td></td>
</tr>
<tr>
<td>Main Grass Field (210’ x 360’ with Track)</td>
<td>1</td>
<td>104,000</td>
<td>104,000</td>
<td></td>
</tr>
<tr>
<td>Playground</td>
<td>Pre-K and K</td>
<td>154</td>
<td>115</td>
<td>17,710</td>
</tr>
<tr>
<td>Playground</td>
<td>1st - 3rd</td>
<td>279</td>
<td>100</td>
<td>27,900</td>
</tr>
</tbody>
</table>
### MIDDLE SCHOOL SITE REQUIREMENTS (for 1,200 students)

<table>
<thead>
<tr>
<th>Student Population</th>
<th># 1,200</th>
<th>SF</th>
<th>GSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Staff Permanent Buildings</td>
<td>1</td>
<td>171,370</td>
<td>171,370</td>
<td>Assumes Single Story Construction</td>
</tr>
<tr>
<td>Integrated Portable Buildings</td>
<td>8</td>
<td>7,680</td>
<td>61,440</td>
<td>Or future expansion?</td>
</tr>
<tr>
<td>Overflow Portable Staging Area</td>
<td>4</td>
<td>3,840</td>
<td>15,360</td>
<td></td>
</tr>
<tr>
<td>Visitor / Staff Parking</td>
<td>160</td>
<td>400</td>
<td>64,000</td>
<td></td>
</tr>
<tr>
<td>Special Event Parking</td>
<td>155</td>
<td>400</td>
<td>62,000</td>
<td></td>
</tr>
<tr>
<td>Buses</td>
<td>8</td>
<td>1,344</td>
<td>10,752</td>
<td></td>
</tr>
<tr>
<td>Main Grass Field (210' x 360' with Track)</td>
<td>1</td>
<td>75,600</td>
<td>75,600</td>
<td></td>
</tr>
<tr>
<td>Auxiliary Grass Field (220' x 220')</td>
<td>1</td>
<td>48,400</td>
<td>48,400</td>
<td></td>
</tr>
<tr>
<td>Shade / Performance / Seating Area</td>
<td>1</td>
<td>12,110</td>
<td>12,110</td>
<td></td>
</tr>
<tr>
<td>Basketball Courts (104' x 232')</td>
<td>1</td>
<td>24,128</td>
<td>24,128</td>
<td></td>
</tr>
<tr>
<td>Easements / Setbacks</td>
<td>1</td>
<td>30,000</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td><strong>NET GSF</strong></td>
<td></td>
<td></td>
<td>575,160</td>
<td></td>
</tr>
</tbody>
</table>

**TARE @ 25% (33% for Difficult Site) 143,790**

**MINIMUM SF REQUIRED 718,950 17 ACRES**
A utilization will be provided to the A/E by APS FD+C and Capital Master Plan (CMP) prior to the design of each Project. The CMP utilization will define the specific spaces required for each project. The APS Standards will define the square footage and character requirements for each of the specified spaces.

ORGANIZATIONAL STRUCTURE INTO ACADEMIES AND SMALL LEARNING COMMUNITIES (SLC’S)

- High Schools are comprised of several Academies.
- Academies are comprised of several of Small Learning Communities (SLC’s).
- Most teachers will not have assigned classrooms, but will teach in a collegiate model, with the Home Base serving as an office and professional collaboration area.

APS HIGH SCHOOL – 2,200 TO 2,500 TOTAL STUDENTS

ACADEMIES

- APS Standard high schools will include:
  - One 9th grade academy
  - Up to four upper grade academies
  - Space for a future expansion academy to accommodate growth
- The upper grade academies will generally be organized by career or academic focus, with each academy offering multiple related career paths. Each upper grade academy shall be sized for between 120 and 600 students.

NINTH GRADE ACADEMY

- The ninth grade academy will serve approximately 600 to 750 students, and will:
  - Be physically separated from other academies to the extent practical.
  - Have its own administration and dining areas.
  - Facilitate student circulation from their academy to the media center, gymnasium, administration, dining, and transportation without navigating through large groups of upper grade students.
UPPER GRADE CAREER ACADEMIES

- Upper grade career academies integrate academic and vocational instruction for grades 10, 11, and 12. These academies will:
  - Provide work-based learning opportunities for students and prepare students for post-secondary education and employment, with the personalized learning environment of a small community.
  - Have separate administration areas that are adequately staffed.
  - Evolve over time to meet the career ambitions of the students and the cultural requirements of the community.
  - Have dedicated elective labs and technology shops. Labs may be used for computer or other hands-on learning, such as robotics. Technology shops will provide an industrial setting to accommodate the use of heavy machinery or loud activities.
  - Be sized based on the functional need of the educational program and curriculum. That is to say that academy core areas will not necessarily be equal, as some academies will have specialized spaces such as music rooms, a greenhouse, fine arts studios, or other specialized facility related to the curriculum of the academy.

CAREER ACADEMY PRECEDENTS:

- Volcano Vista High School and Atrisco Heritage Academy High School included the following upper grade career academies:
  - Health
  - Science and Technology
  - Business and Leadership
  - Humanities and Liberal Arts
  - Art and Communications

SMALL LEARNING COMMUNITIES (SLC’S)

- Academies will be organized into smaller groups of students, called Small Learning Communities (SLC’s). Each SLC will be a separate learning unit, comprised of about 120 to 150 students. Students and teachers within each SLC will be scheduled together and have a dedicated area in the school for conducting most of their classes. Students also attend some classes outside of their SLC’s. The 9th grade academy may have up to 5 SLC’s.

- Areas included within all SLC’s:
  - Core classrooms for English, math, science and humanities.
  - Elective classrooms and technology shops to support evolving curriculum.
  - SPED program space.
  - Staff areas: home base (preparation area), workroom*, and conference room.*
  - Restrooms and student lockers.
Informal space for student teams, projects and resources.

*Several SLC’s may share a staff work room and conference room.

**SPACE NEEDS SUMMARY TABLE**

Refer to Appendix A.

**CENTRAL AREAS**

**MAIN ENTRY**

- Provide single-point entry into the school that can be supervised from the central administration area and by APS Police.

**CENTRAL ADMINISTRATION**

All school visitors must enter through the school’s central administration. Visibility and way finding is important to and from this area. In addition to the central administration area, each Academy shall also house administrative functions. The space descriptions below are for the central administration area.

- The lobby shall provide the entry experience into the school. Include:
  - 1 display case somewhere in or near the lobby. The display case shall be approximately 16’ wide x 5’ high x 2’ deep. The display case shall have safety glass doors and shelving, illumination, and shall be lockable.
  - Provisions (backing, power, and data) for mounting a flat screen in the lobby for announcements.
  - Provide a waiting area in or adjacent to the lobby with space for seating 12 to 16 people as well as space for tables for registration.
- Reception area
  - Provide a built-in reception counter with 3 workstations for visitor/public sign-in and information. The reception counter shall have visual control of the school’s main entry point and be capable of being secured with a grille or doors afterhours.
  - The reception counter shall be about 20 LF, with base casework and pedestal units to separate the 3 workstations. Counter height for visitors shall be 42”, except where variation is required for ADA.
  - Include the fire annunciation panel, accessible to the fire department, in the reception area.
  - In addition to the workstations at the reception counter, provide space for 2 open office workstations for reception staff to operate the phones, intercom, and support the school administration. Each workstation shall be about 8’ x 8’. Provide space for (4) wardrobe cabinets for staff in the open office area (wardrobes are approximately 18”W, 84”H, 24”D).
• Attendance office, Bookkeeper’s office, and Registrar’s office/Data Processing
  o Locate these offices adjacent to the reception area. The reception counter shall serve as the contact point for these offices.

• Principal’s office
  o Requires 2 exits out of the office, and a dedicated restroom. Include space for a desk, credenza, and table with 4 chairs.

• Principal’s Secretary
  o Provide a work area adjacent to the principal’s office for the principal’s secretary. The secretary’s work area may be an open office work area.

• The vault is secure storage for the school. Locate the vault close to the principal and bookkeeper. The vault requires secure construction of reinforced masonry walls, or drywall with steel mesh. Extend vault walls full height to bottom of structure above and provide a hollow metal steel vault door with security quality lockset.

• The administration workroom includes copiers, Gestettner machine(s), form storage, and (1) clerk workstation. Provide (6) 36” wide, 34” high, 24” deep base storage cabinets with shelves, and (6) 36” wide, 24” high, 15” deep open shelf upper cabinets. The head-end console for the PA system can be located in this room (console is approximately 24” x 24”).

• The coffee bar shall include (1) 24” deep ADA sink base unit with (1) 12” x 12” x 8” deep stainless steel sink with gooseneck lever faucet, (1) 24” 4-drawer base unit, (2) 30” lockable storage base units with shelves and (1) white, 18 cubic FT Energy Star refrigerator with ice maker. Provide above counter power for the coffee maker and a microwave. Provide space for a 30” x 60” table near the coffee bar.

• The administrative conference room may be used by various school groups, and shall have space for a table with seating for 12-14 people. Provide casework. Base casework shall be approximately 2’ deep x 7’ long. Integrate 1 ADA sink and 1 under-counter refrigerator into the casework. Provide matching lockable upper cabinets (1’ deep x 2’ high). Sink basin shall be stainless steel, approximately 14” x 16” x 6” deep, with gooseneck lever handle faucet.

• Mail room: Option A) Provide a central Mail Room in the central administration area with letter slots (minimum 10” wide x 13” deep x 6” high) for each staff member above a continuous countertop, with open base cabinets or cubbies below for larger items. Option B) Provide separate mail rooms in each academy.

• The Test Preparation Room is for receiving, organizing and delivering test materials to teachers. This room must be secure and lockable. Provide (2) power and data outlet locations, (1) 12’ whiteboard, and (1) 4’ tackboard.

• Locate the file/storage area adjacent to, and monitored from, the main office portion of administration. Include (2) 48” wide x 84” high x 24” deep lockable cabinets. Allocate space for 8 file cabinets and 1 table (provided by others).

• The vault is secure storage for the school. Locate the vault close to the principal and bookkeeper. The vault requires secure construction of reinforced masonry walls, or drywall with steel mesh. Extend vault walls full height to bottom of structure above and provide a hollow metal steel vault door with security quality lockset.

• Locate the Parent Room/Family Center in or near the central administration area, or other area that can be monitored and is appropriate for community access. Provide data and power.

• The Career Exploration Center is for informal counseling, prospective employer
meetings, college recruitment, and information distribution to students about potential career and higher education choices. The Career Exploration Center may include a staffed workstation. The area may be subdivided into meeting and office space. Provide space for shelving for printed material/resources.

- Provide student access to computers (i.e. for applications, FAFSA work, etc).

- Provide an In-School Suspension Room (ISS), outfitted as for a core classroom. Locate the In-School Suspension Room adjacent to the security suite (see description below) or combine with the APS Security Office. In-School Suspension is supervised by APS Police (provide a window between the two). If construction is phased, then provide temporary accommodations for the in-house suspension room in the first phase.

- Provide a security suite. Locate the suite in or adjacent to the central administration office. Include an office for APS Police and another office for security personnel. Include a Delinquent Hold Room for suspects awaiting intake by APD (access separate from main circulation, with exterior access for APD desirable), an office for the CCTV security system monitors with an observation station, and a CCTV equipment room with 24/7 HVAC split system (as for MDF and IDF). Provide a window to view the In-House Suspension Room. Provide a mirrored window in the CCTV monitoring office into the Police/CSA office for monitoring purposes.

- General Notes about Central Administration:
  - All administration workstations and offices require a minimum of 2 power and 2 data locations.
  - Provide restrooms in proximity to the administration area or adjacent to this area for staff adults.
  - Provide public restrooms near the administration area.
  - Windows in administration areas shall have a minimum sill height of 30” AFF.
  - Minimize curved and odd angled walls in the administration area for flexibility and to best accommodate the high density of furniture.

SPECIAL EDUCATION CENTER

Refer to the Appendix B for special education requirements.

MEDIA CENTER

The Media Center (also known as the Library or the Learning Resource Center) shall be centrally located, preferably within the main building and on a major circulation route, and able to accommodate 10% – 15% of the student body in the main space. A single story media center works best for supervision.

ENTRY / CIRCULATION DESK

- The main entrance to the Media Center may be either interior or exterior.
  - Include display cases and tackboards at the entry area. Display cases may be used for showing items available from the student store.
• Provide a circulation desk with visual supervision of the main entrance, as well as the main library area.
  o The circulation desk shall include about 40 LF of countertop/base cabinets with 2 or 3 built-in workstations.
  o Provide power and data outlets at the circulation desk.
  o Provide space for at least 6 carts and book drop-off unit at the circulation desk.
  o Allow the book drop location to be flexible. Consider an exterior wall book drop-off.
  o Provide a storage area with cubbies for student backpacks, near the circulation desk.
  o Provide a secondary exit from the Media Center visible from the circulation desk. Equip the secondary exit with a local alarm.
• Provide a storage room adjacent to the circulation desk. The storage room shall contain 12” and 18” deep metal shelving units. This storage room is smaller than, and separate from, the general library storage room.
• Provide a general storage room near the entrance and circulation desk. In addition to library materials, this storage room will accommodate audio/visual (A/V) equipment, including shelved items and carts; provide power and data for checking equipment. Shelving shall be 24” and 48” deep.
• Provide convenient access to student and staff restrooms from the media center.

COLLECTIONS / REFERENCE AREA (STACKS) / MAIN LIBRARY SPACE

• Design the space to allow for different furniture arrangements and programs to occur simultaneously.
• Accommodate reference materials including books, maps, atlases, globes and other items. In general, the reference collection is migrating towards electronic formats.
• Provide 4’ high book stacks in the collections area, with 6’ high stacks at perimeter walls. (Intent is to allow for visual supervision.)
• Pony walls with power and data may be desirable to accommodate furniture arrangements; avoid floor receptacles.
• Provide a tackboard, magnetic whiteboard and/or wall display areas.
• Provide a classroom area within the main library area. Include space for tables and chairs to accommodate 36 students (minimum) and an instructor’s station (on which a document camera may be located). Provide a 12’ whiteboard flanked by 4’ tackboards, and interactive flat screen display.
• Provide a computer area within the main library area to accommodate 16 computer stations (minimum).
  o Provide computers for students for book look-up / catalog access with no login. Provide 1 or 2 additional, dedicated search computers.
• Provide a social area with casual seating and tables, and 5 LF of countertop and base cabinet. This area needs to be able to be supervised from the main library area, or from the circulation desk.
• Total seating within the main library area shall be about 140. Seating may be spread out among tables and chairs, computer areas, and informal seating areas.
• Provide power and data on all walls.
  o Libraries need as much power and internet access as possible.
    ▪ Provide flexible access to power. No power columns and poles.
    ▪ Provide desks with cable management.
  o Storage and charging phones.
    ▪ Convert the hub room space for tech storage needs and provide good power for charging up to 30 units.
    ▪ Provide charging walls for devices. Need flexibility to change device cords. Look for furniture for charging.
    ▪ Provide a device charging system so that no grown up employees are responsible for the phones.
• Provide daylight. Window sill height at most windows shall be 48” above floor to allow for shelving below windows. Meet lockdown requirements (window treatments required).
• Provide a sound system, projector, and projection screen. Coordinate requirements with APS IT through the FD+C staff architect.
• Provide the ability to darken space for audio/visual use.
• Provide individually controlled lighting banks to allow darkening of teaching areas.
• Encourage parent use of library.
  o Parents affiliated with the school may check out books.
  o Libraries provide access to technology for parents. Consider a public kiosk with computers that doesn’t require login.
  o Provide public Wi-Fi in the libraries.
• Family centers. Parents can come in and work on computers. All new schools will get parent rooms. A computer area can be located there.

LIBRARIAN’S OFFICE/WORK ROOM

• Locate the librarian’s office adjacent to the circulation desk.
• Provide visual supervision of the circulation desk from the office.
• The librarian’s office shall include a work counter with base and upper cabinets along one wall.
• Provide space for 1 workstation, 2 side chairs, and a 4’ wide bookcase. The workstation shall accommodate a computer.
• Provide a work room either as part of the librarian’s office, or adjacent to it, and in close proximity to the circulation desk.
  o Provide 20 LF of countertop with base cabinets, and 10 LF upper cabinets.
  o The countertop serves as a prep area for copiers and printing machines.
  o Provide power and data for equipment.
  o Provide a single basin utility sink and separate ADA handwash sink.
CONFERENCE/SEMINARY ROOM/GROUP COLLABORATIVE LEARNING AREA

- Provide access to the conference/seminar room from the collections area.
- Provide a dividable conference/seminar room with a total capacity of 12 to 16 occupants. Accommodate various uses including meetings, presentations, and group study.
- On each side of the dividable conference/seminar room, provide:
  - 8’ whiteboard
  - 4’ tackboard
  - Rough-in for interactive flat screen

GRAPHICS/AV PRODUCTION CLASSROOM AND LAB

- The Graphics and Audio/Visual Production Area may be used by staff and students. It consists of the following 3 spaces:
  - Production Classroom. Include:
    - Countertop with base and upper cabinets
    - Countertop with space for 4 to 8 computer graphics workstations
    - Island countertop with base cabinets each side, 8 – 10 LF
    - (1) 12’ whiteboard with smart board projector
    - (1) 4’ tackboard
  - Production Lab (recording space). Include a blue screen/green screen on one wall for video backdrop for school announcements and other video activities.
  - Production Storage Room that accommodates 18” deep shelving.

COMPUTER LABS

- Provide 2 computer labs.
- Each lab shall accommodate 40 student stations and 1 instructor’s station.
- These computer labs may also be used for computer-based testing.
- Provide access to the computer labs from the Media Center, with visual supervision from the circulation desk.
- Provide one wall of countertop, base cabinets and upper cabinets for peripherals and supplies in each computer lab.
- Provide power and data as necessary to support equipment.
- Provide 12’ whiteboard, rough-in for interactive flat screen, 4’ tackboards flanking the whiteboard, and (2) 8’ tackboards all other walls of each computer classroom.

PROFESSIONAL ROOM

- The professional area is a research room for faculty and staff that also allows for teacher/librarian collaboration. In the professional room, provide:
  - Space for a conference table for 8 people.
PROGRAMMED SPACES - HIGH SCHOOL

- 2 countertop workstations (with power and data outlets to accommodate computers).
- An area for casual seating (with access power and data outlets).
- Space for book shelves.

BOOK ROOM

This is a central book and teaching materials storage room that serves the entire school. It can be located either with the Media Center or with the central administration. Include:

- A powered, moveable storage shelf system for compact storage of text books.
- Lighting layout to accommodate the moveable storage system.
- An overhead counter door with counter for textbook distribution. Provide sufficient space for student queues at this door (usually queues from the hallway).
- Provide built-in countertop worksurface, including 1 workstation.

PERFORMING ARTS CENTER (PAC)

The PAC consists of an auditorium, a black box theater, and drama/theater arts instructional and support areas. Preferably, the auditorium shall be located adjacent to the black box theater for shared support space. Music and other fine arts areas may also be located adjacent to the PAC for program synergies.

AUDITORIUM

The PAC auditorium includes a stage with fly loft and backstage area, orchestra pit (optional), and seating for 450 people.

- Provide a pre-function lobby area with ticket booth and public restrooms.
- Configure the auditorium, including pre-function area, for after-hours public access while securing other parts of the school.
- Acoustically tune the auditorium, and control reverberation time in accordance with ANSI S12.60.
- Provide upholstered auditorium seating on a sloped floor. Coordinate the rake of the floor with sight lines to the stage.
- Provide ADA access from the seating area to the stage and to the orchestra pit.
- Provide a gallery space separate from and behind the last row of seats to transition from the pre-function lobby to the auditorium seating area.
- Stage requirements:
  - Provide proscenium arch with apron.
  - Provide fly loft with sufficient height necessary for vertical movement of flats and curtains.
  - Provide a wood stage floor system consisting of hardboard surface, double layer plywood underlayment, wood sleepers, and vibration pads.
  - Provide a backstage area within the stage enclosure, but behind the curtains, to provide space for staging sets during productions.
o Provide dead-hung and motorized pipe rigging.

o Provide a motorized projection screen sized for the auditorium (approximately 18’ x 24’).

o Provide typical draperies: Grand Valence, Grand Drape, 4 Borders, Midstage Traveler, Scrim, Upstage Traveler, and Cyclorama.

• Other theater systems requirements:
  o Provide house and theater lighting controlled by dimmer racks. Locate the dimmer racks in a separate room with adequate cooling and sound isolation. Provide a secondary dimmer control station within the auditorium seating area.
  o Configure auditorium lighting systems for flexibility and pre-set scenes.
  o Provide acoustic response for spoken word and musical performances without reconfiguration.
  o Provide a catwalk over the auditorium, with clear view of stage but concealed from the audience, for lights and sound equipment.
  o Provide dual pipe battens for stage electrics, and single pipe battens for other line sets.
  o Provide motorized battens for raising and lowering lights and curtain/equipment supports, to eliminate the need for a grid iron. Locate the control center for motorized battens above or near the stage operator’s control station (with lock).
  o Provide space for tormentor lights on each side of the hall.
  o Provide a control room at the rear of the auditorium, with clear sight lines to the stage and orchestra pit.
  o Provide space adjacent to, and on each side of, the control room for follow-spot lighting.
  o Provide a sound control station near the center of the auditorium seating area, with sound and lighting control systems linked electronically to the control room. Provide a voice system between the station and the control room.
  o Provide cross-over access outside of the stage enclosure to allow performers to move from one side of the stage to the other without disruption to a performance.

• Orchestra pit requirements:
  o Size the pit to accommodate a small performing group.
  o Provide ADA access to the pit from the seating area.
  o Position the pit to balance sound from the pit and from the stage. At least one position in the pit (which may be raised) must have visibility of the stage and the entire pit.
  o The pit cover shall be a portable interlocking platform system with detachable and interchangeable legs to create a single height platform flush with stage.

• Piano storage requirements:
  o Provide a storage room for a grand piano at either stage or pit level. If at pit level, provide a lift or an oversize elevator to move the piano from one level to the other.
  o Provide HVAC to control temperature and humidity in the piano storage room.
**DRAMA CLASSROOM**

- Provide a drama classroom with features as per a general classroom.
- Locate the drama classroom adjacent to the dressing, make-up, and wardrobe rooms. (During productions and performances, the drama classroom functions as the Green Room.)
- Configure the drama classroom for student access, while other areas of the PAC, including auditorium and black box theater, are secured.
- Provide a drama office with visual supervision of the classroom area.
- Provide a storage room.

**BLACK BOX**

- If feasible, locate the black box theater adjacent to the auditorium.
  - Adjacency between the black box and the auditorium provides the ability to share support space including: staging/set-up areas, storage rooms, the pre-function lobby, and public restrooms.
- The black box theater shall be a rectangular space.
- Provide space for portable risers to accommodate 70 - 100 seats.
- Provide a recessed wood stage floor. The floor may have a concrete border around the perimeter.
- Tune acoustics for spoken word and small music performances.
- Provide a wire tension grid above for stagecraft.
  - Provide access to the tension grid from outside of the space.
  - The grid shall accommodate a maximum live load of 15,000 pounds, and a live load on any one pipe hanger of 700 pounds.
- Provide support and power for theater lighting around the perimeter of the room, and on the tension grid.
- Provide a theater sound system.
- Provide an equipment storage room for the portable risers, chairs, cart for transporting the risers, and other equipment.
- Provide a staging/set-up room.
  - May be part of the PAC work area/scene shop.
  - Locate adjacent to the black box theater, for backstage operations and support.
  - Locate adjacent to the receiving area.

**BACK OF HOUSE**

- The back of house spaces support both the auditorium and the black box theater, as well as drama curriculum.
- Provide a work area (scene shop/set-building) with convenient access to the auditorium stage and the black box theater. Include the following:
  - Areas for staging of flats and for storage of set construction supplies.
  - Power for tools and equipment for set fabrication and construction.
- Data drops.
- Whiteboard and tackboard.
- Large stainless steel work sink.
- Custodial closet with sink.
- Provide a general storage room for make-up and supplies.
- Provide separate make-up rooms for girls and boys.
  - Include 24 LF of make-up counters in each room, with mirrors, make-up lighting, and power for grooming devices.
- Provide separate girls and boys dressing rooms as well as two adult dressing rooms.
  - Include a full length mirror in each dressing room, 12 coat hooks in each student dressing room, and 3 coat hooks in each adult dressing room.
  - Include a toilet/shower room in each adult dressing room.
- Provide girls and boys restrooms.
- Provide a wardrobe workroom with separate entry and exit doors for efficient circulation before and after performances. Include:
  - 18 LF total of base cabinets with open shelves, arranged in a tee shape; 14 LF against the wall and a 2’ x 4’ stem, open below, that projects into the room (this counter is for garment assembly and repair).
  - Washer and dryer, with adjacent 30” wide base cabinet and countertop.
  - Wall-mounted garment rack system.
  - Wardrobe storage room with double door access from the wardrobe workroom.
- Provide a receiving area to accommodate theater supplies, lumber, sheet materials, and lighting and sound equipment. Include an overhead coiling door to an outdoor receiving area or loading dock.

**PHYSICAL EDUCATION AND COMPETITIVE SPORTS**

All physical education and athletic facilities, including exterior playing fields, must be equal (quality and quantity) for male and female per Title IX requirements. Some areas, such as the Training Room and Weight Room, will be shared by the sexes.

In addition to curricular physical education classes, the gymnasium and related spaces accommodate high school competitive athletic sports teams. Among the team sports that are usually offered are football (usually boys although girls may participate), soccer, volleyball (girls), cross country/track, basketball, wrestling (boys), swimming (usually off-site or at a joint-use facility), baseball (boys), softball (girls), and, usually off-site, golf and tennis. Other sports or activities may include rugby, field hockey, lacrosse, dance, cheer, and ballet folklorico.

**MAIN LOBBY WITH TICKET SALES AND SNACK BAR**

- Provide a main lobby for 400 occupants (due to no re-entry policy at APS events). Using an occupant load factor of 7.5 SF, the main lobby shall be approximately 3,000 SF.
- In the main lobby, provide trophy display cases (6’ high x 16’ long) protected by
railing(s).
- Plan for message boards and illuminated signage.
- Provide a ticket booth with countertop, under-counter drawer, power, and point of sale data drop near the main lobby entry.
- Provide public restrooms, including a unisex family restroom, with convenient access from the main lobby.
- Provide a snack bar with:
  - (2) 6’ wide serving windows. Each window shall have a lockable, rolling door (fire-rated, automatic closing) that seals tight to a stainless steel countertop.
  - At each serving window, provide countertop, cabinets with 2 drawers, and open shelving.
  - Within the snack bar, provide a hand sink, full refrigerator, and ice maker. Provide space and utilities for (2) reach-in beverage coolers, and (1) reach-in freezer. Provide countertop area with utilities for a Gatorade (or equivalent) machine and (2) soft drink machines. If run by DECA, see DECA section.
  - On the back wall of the snack bar, provide a glass display and (2) full length shelves for display.
  - Provide adequate power for heating and vending equipment, (6) countertop heating and warming devices (minimum), and the ice machine. Provide water supply floor drain for the ice maker condensate line.
  - Provide data drops for point of sales devices.
  - Provide a service room, accessed from the concessions area, with a 3-compartment sink equipped with commercial spray hose in 8 LF of counter with upper double shelves and 3’ x 3’ drying rack. Provide a mop sink in the service room also.
  - Provide a storage room for dry goods, accessed from the snack bar. Include (2) 4’ wide by 18” deep wire rack shelving units.

MAIN GYM

- Provide public access to the main gym from the main lobby.
- Locate the main gym to provide direct access to the athletic fields, and away from classrooms.
- Provide a minimum 10 foot safety zone between the courts and walls. Provide safety wall padding at each end of the main court and at obstructions.
- Minimum ceiling height in the main gym shall be 30 feet. No ductwork or lighting below 30 feet.
- Provide a maple hardwood floor system. Provide wood gym floor protective cover with storage cart(s), to be stored in the gym storage room.
- Stripe the floor for a main basketball court (50’ x 94’), 2 additional courts, and a volleyball court co-located with the main basketball court.
  - The preferred arrangement is for the 2 additional basketball courts to be cross-courts in relation to the main basketball court.
- Provide 6 electrically retractable basketball goals with clear backboards.
- Provide volleyball sleeves with caps, standards, and nets. Arrange volleyball courts for
1 main court and 2 cross courts; each volleyball court shall have separate net supports.

- Provide powered telescoping bleachers, on main floor (wall-attached) and on mezzanines (reverse-fold), with one-piece molded bench type plastic seating. Provide a total capacity of 3,300 spectators (1.5 x school enrollment capacity) when fully extended. Provide minimum 8 foot clear height from top of bleachers/railings and bottom of the roof structure, lighting, or ducts.
- Provide 2 scoreboards for visibility from bleacher seating, asymmetrical from the centerline of the court.
- Provide an electrically-operated divider curtain across the width of the gym to separate the 2 cross-courts for PE classes. Roof structure shall accommodate the weight of the curtain.
- Provide public address and intercom system per APS IT requirements; provide a dedicated room for A/V head-end equipment, with view of main gym. Lighting controls shall be nearby.
- Provide a projector, screen(s) and provisions for hard-wired and wireless microphones.
- In addition to the AV requirements noted above, provide power, data, and microphone connections at the score table location.
- Provide a lockable main gym storage with double door clear access (removable or no mullion), for athletic equipment, scorer’s table, other tables, and at least 200 folding chairs on carts. Ceiling height shall accommodate volleyball poles.
- Provide an additional main gym storage area (separate or subdivided) for wood floor cover carts and for competition wrestling mats. Provide door threshold configurations that allow space for maneuvering of carts loaded with wrestling mats and gym floor covers.
- The GC shall provide and install all gymnasium related shelving. All shelving must be anchored to the floor.

**MAIN GYM MEZZANINES AND BLEACHERS/ADAPTIVE PE (APE)/MULTI-PURPOSE**

- Provide a mezzanine for additional bleacher seating on each side of the main gym, above the main bleachers, as part of the total seating capacity to be accommodated (i.e. 3,300 (1.5 x school enrollment capacity)).
  - When the power-operated mezzanine bleachers are retracted (towards the face of the mezzanine), the mezzanine spaces become available as additional teaching spaces for PE and related subjects, such as Cheer and Adaptive PE, and during inclement weather.
  - Provide an office and storage room adjacent to the mezzanine for Adaptive PE. Also provide convenient access to restrooms from the Adaptive PE mezzanine.
  - Provide public access (stairs and elevator) from the main lobby to the mezzanines. Consider an arrangement that allows for mezzanines and access stairs to be locked when not in use.
- If bleachers do not fold toward the face of the mezzanine, provide an electrically-operated divider curtain across the length of the mezzanine to separate the mezzanine from the main gym below. Roof structure shall accommodate the weight of curtain.
Consider impact of railing design on spectator vision to game floor

- Install athletic flooring surface at mezzanines when used for PE and athletics space. Consider marking floor for basketball and installing hoops.
- If a mezzanine is used for free weights, design for impact loads from weights.
- Provide lockable multi-purpose mezzanine storage areas with double door clear access (removable or no mullion), for items used on the mezzanines, such as ping pong tables.

**AUXILIARY GYM**

- Locate the auxiliary gym for public access from the main lobby.
- Provide a minimum 10 foot safety zone between the courts and walls. Provide safety wall padding at end of courts and at obstructions.
- Minimum ceiling height in the auxiliary gym shall be 30 feet. No ductwork or lighting below 30 feet.
- Provide wood flooring as for main gym. Stripe the floor for basketball and volleyball courts and 2 basketball and volleyball cross courts. Courts may not be full competition size.
- Provide a small scoreboard.
- Provide six basketball goals with clear backboards.
- Provide volleyball sleeves with caps, standards, and nets, arranged for one large court and two cross courts; each volleyball court to have separate net supports.
- Provide an electrically-operated divider curtain across the width of the gym to separate the two cross-courts for PE classes. Roof structure shall accommodate the weight of curtain.
- Provide 3 rows of power-operated folding bleachers along one wall only, for about 300 occupants (requires about 800 SF).
- Provide an auxiliary gym A/V room. This room can be combined with the A/V room serving the main gym.
- Provide a lockable auxiliary gym storage room for athletic equipment and folding chair storage, with ceiling height sufficient for volleyball poles.

**WEIGHT ROOM**

- Provide access to the weight room via double doors (removable or no mullion) for moving equipment in and out.
- The weight room shall be a rectangular space with a 12 foot ceiling.
- The weight room shall be designed as one open room to accommodate free weights and training machines (some of which require power).
- Provide an area separate from, but connected to, the weight room for circuit training equipment.
- Provide an adjacent office with observation window to the weight room, including circuit training area.
- Provide a storage room.
- Provide rubber flooring system designed for free weight impacts.
- Provide mirrored (safety-glazed) walls.
- Provide access to service sink to clean floors.
• Provide safety light fixtures.

**WRESTLING ROOM**

• Locate the wrestling room near the main gym, training, and weight rooms.
• Provide access to the wrestling room via double doors (removable or no mullion) for moving equipment in and out. Arrange doors to avoid swinging into/onto mats due to thickness.
• The wrestling room shall be proportioned to accommodate wrestling mats (traditionally (2) 42’ x 42’ mats, may also be 40’ x 40’ mats, 12’ roll mats, or 6’ roll mats x 42’ long). APS will provide both the mats and carts for the wrestling room mats.
• Provide additional space (6’ x 42’) within the wrestling room for stationary bikes and similar equipment.
• Provide minimum 12’ high ceiling.
  o Provide minimum 16’ high ceiling if climbing ropes will be used. Climbing ropes require anchors.
• Provide 6’ high wall padding all around.
• Provide a student shower area with 2 showers.
• Provide a storage room for spare mats, and 2 large capacity washers and dryers. The storage room shall include:
  o Water-resistant flooring.
  o A custodial sink for mopping down mats.
  o A floor drain.
  o A chemical storage cabinet.
• Provide a storage space for competition wrestling mats. Competition mats are comprised of 6 rolls; each 12.5’ long x 6’ diameter. Competition mat storage may be provided either in the wrestling storage room or near the main gym.
• Provide an office for the wrestling coach with observation window into the wrestling room and with space for a desk, file cabinet, and 4 chairs.
  o Provide a restroom with shower and two 18” x 18” x 72” lockers with bench for use by the wrestling coach.

**MULTI-PURPOSE ROOMS (PE STUDIO, CHEER, ETC)**

• Multi-purpose rooms can be used for PE, aerobics, gymnastics, dance, cheer, health, and weight classes.
• Provided minimum 16 foot ceilings.
• Provide an office, 2 dressing rooms, and a storage room to support each multi-purpose room.
• Cheer:
  o Provide non-slip flooring.
  o Provide a separate storage room for (9) 6’ x 60’ pads (which roll up to 6’ long x 5’ diameter). The pads are stored six rolls on end. Storage room shall have double
door clear access. Avoid door thresholds that impede moving pads in and out of cheer space, and in and out of the main gym.

- Provide a sound system in lockable cabinet.

- Dance requires a practice area of about 30’ x 60’ (same as competition), with a wood floor (high performance laminated type), or possibly a storable Marley floor. Include mirrors and bars in the dance area.
  - Provide an office. Include space for a desk, 4’ tall x 2’ deep cabinet, file cabinet, bookcase, 4 chairs.
  - Provide a sound system in lockable cabinet.
  - Provide a restroom adjacent to the dance space.

### PE CLASSROOM

- Provide a general team/academic classroom to accommodate up to 100 students, with operable partition to divide space in half.
  - This space shall be used for training films, large team meetings, academic subjects such as Sports Medicine and Health, and other classes.
  - This classroom can be combined with one of the multi-purpose rooms described above if appropriate flooring and other considerations are addressed.
- Provide (2) 12’ whiteboards, interactive flat screen at each teaching wall, and (2) 4’ tackboards for each side of classroom.
- Provide power and data drops as for core classrooms.
- Provide a storage room for 100 chairs, 4 folding tables, and a lectern.

### PE LOCKER ROOMS

- Locate PE locker rooms to provide direct access to the main gym and convenient access to athletic fields.
- Visiting teams may use PE locker rooms for games, and will need a white board and space for the coach to talk with the team.
- Provide 1 locker room each for boys and girls. Each locker room shall accommodate 120 students per class period.
- Provide polished, sealed concrete flooring.
- Provide a minimum of 120 lockers each for boys and girls.
  - Provide ventilated athletic type lockers, with baked enamel welded steel construction, sloped tops, and no moving parts.
  - Provide some tall lockers (12” wide x 12” deep x 60” tall).
  - For each tall locker, provide seven box lockers (12” wide x 12” deep x 12” tall).
  - Configure lockers to keep overall height below eye level for easier supervision.
- Provide 2’ wide bench for lockers, either mid-aisle or as part of the concrete base for the lockers.
- Provide (1) 8’ whiteboard and (1) 4’ tackboard in the locker room for announcements.
- Provide restrooms and changing areas.
• Do not provide showers in the restroom.
• Provide floor drains in the restrooms and changing areas.
• Provide an instructor’s supervision station in each locker room with power and data for a laptop. The supervision station shall have good visibility of the locker room.
• Provide a PE storage room with (4) 4’ wide x 2’ deep x 7’ tall storage cabinets.
• For students entering locker rooms from the exterior, provide means for cleaning shoes before entry into the locker rooms.

**INTERSCHOLASTIC (ATHLETIC) LOCKER ROOMS**

• Locate athletic locker rooms to provide direct access to the main gym and convenient access to athletic fields.
  o Locker room distance to track must be the same for boys and girls.
• Access from gym to locker rooms may not pass through the lobby. Provide one combined locker room for all boys’ sports and one combined locker room for all girls’ sports.
• Provide polished, sealed concrete flooring.
• Provide minimum 110 lockers for football; 80 lockers for boys’ other sports; and 190 lockers in the girls’ locker room. (i.e. Equal number of boys and girls lockers.)
  o Football lockers shall be 18” wide x 18” deep x 60” high.
  o Non-football lockers can be smaller.
  o Girls and boys lockers shall be equal in quality and quantity.
  o Configure lockers to keep overall height below eye level for easier supervision.
  o Lockers shall be ventilated athletic type, with baked enamel welded steel construction, sloped tops, and no moving parts.
  o Provide 2’ wide bench for lockers, either mid-aisle or as part of the concrete base for the lockers.
• Provide (1) 8’ whiteboard and (1) 4’ tackboard in the locker room for announcements.
• Provide (2) 8’ whiteboards and (2) 4’ tack boards to serve (2) team meeting areas within the locker area (an E-shaped arrangement of the lockers will define 2 such areas).
• Provide restrooms and changing areas.
  o Provide 2 shower stalls with curtains for each locker room restroom.
  o Provide floor drains in the restrooms and changing areas.
• Provide for a coach’s supervision station in the locker room.
• Provide a coach’s supervision station in each locker room with power and data for a laptop. The supervision station shall have good visibility of the locker room.
• For students entering locker rooms from the exterior, provide means for cleaning shoes before entry into locker rooms.

**ATHLETIC DIRECTOR’S OFFICE (PRIVATE)**

• Provide a private office with windows to view traffic in and out of locker room area.
• Locate this office close to the gym; as the Athletic Director is the Gym event manager.
• Provide space for 1 desk, 6 chairs, 1 table, file cabinets, and a 4’ wide bookcase.
• Provide an 8’ whiteboard and 4’ tackboard.
• Provide a storage room with a 4’ wide tall cabinet and 6’ high wire shelving unit for storage.

PE INSTRUCTOR OFFICES (PRIVATE)

• Provide (2) PE instructor’s private offices near the athletic coaches’ open office area.
  o Provide space for a desk, file cabinet, book cabinet, and 6 chairs.
  o Provide male and female restrooms for PE instructors adjacent or nearby. Include water closets, lavatories, showers, lockers, and changing areas.

ATHLETIC COACHES’ OFFICE AREA (OPEN WORKSTATIONS)

• Provide an open office environment for athletic coaches. The open office environment shall accommodate all athletic team coaches.
  o Ideal is for opposite seasons coaches to share offices for efficiency.
• Locate the office area near athletic locker rooms and with convenient access to exterior fields and primary practice rooms.
• Provide a huddle space adjacent to the open office area for private conferences.
  o The huddle area may also be used as an office for visiting referees during events. Otherwise a separate office/restroom and shower may be desirable.
• Football may include 1 head coach and up to 9 assistant coaches. Football coaches will be accommodated in the open office area with other sports teams.
• A typical coaches’ office area is described below. This should be modified in conjunction with FD+C/CMP and the school’s athletic department to accommodate the expected number coaching staff based on the school’s target enrollment.
  o Provide a 24” deep writing counter around perimeter of room, with space in center for additional tables and staging of equipment.
  o Provide space for task chairs, guest chairs, and lockable file and storage cabinets.
  o Provide a 6’ long counter with base cabinets and upper cabinet. Include hand sink, full size refrigerator, and power for small appliances.
  o Provide male and female restrooms adjacent or nearby. Include water closets, lavatories, showers, lockers, and changing areas.
  o Provide a 12’ whiteboard, (2) 4’ tackboards, and equip for interactive whiteboard.

INTERSCHOLASTIC (ATHLETIC) STORAGE

• Provide either individual storage rooms for major team sports, or a large storage area subdivided with mesh partitions.
• Provide 10 storage rooms/spaces with interior access. These rooms/spaces will be assigned to Volleyball, Girls Basketball, Softball, Boys’ Basketball, Baseball, Soccer, Track/Field, Golf, and Tennis. (1 storage room/space will be unassigned.)

• Provide 1 storage room with exterior access for PE/athletic equipment. Space will be used for shelving and floor storage. Soccer goals and track/field equipment may be accommodated in this room. This room may also house Gators (or equivalent vehicles).

• Provide a Football Equipment Storage Room.
  • Accommodate storage for 140 helmets on storage racks, and pads.
  • Provide a large stainless steel sink with drain board for cleaning of equipment.
  • Provide space for portable game lockers to be stored.
  • Provide an overhead counter door/counter for dispensing and receiving of equipment at beginning and end of season.

TRAINING ROOM AND THERAPY POOLS

• This space accommodates therapy, taping, and meetings with trainers.
• Locate the training room to be equally accessible to boys and girls (primarily interscholastic sports).
• Provide a 10’ ceiling (minimum) in the training room.
• Provide an area to accommodate equipment, including a range of motion machine, elliptical machine, and stationary bike. Provide power for equipment.
• Provide a first aid area with a full-size, lockable refrigerator/freezer.
• Provide a treatment area with 4 portable training/massage tables, 4 short moveable taping tables, a large capacity ice machine, a hand sink at the taping area, 6’ countertop with workstation, and base and upper cabinets.
  • Provide 8 quad receptacles (minimum) for each training/taping table and at the first aid counter.
• Provide therapy pool area in a moisture-resistant environment, with visual access to the training room (and privacy curtain). Include:
  • Space for 2 large above-floor whirlpools and 1 arm whirlpool with temperature mixing check valves.
  • Slip-resistant, ceramic tile flooring with floor drain.
  • Space for tables, chairs and 4’ wide tall clothing storage unit.
• Provide restroom with toilet, urinal, and lavatory, accessories and mirror.
• Provide a trainer’s office with view window and blinds into training room, and space for 1 desk, 1 file cabinet, 3 tapers, and 4 chairs.
• Provide a secure storage room with wire shelving (12” deep x 60 LF), and space for wheelchair, crutches, canes, drink coolers, and travel bags.
• Provide special hot water with temperature control at valves and hook-ups, humidity control, service sink in or nearby to sterilize floors, and a floor drain for ice maker.
• Provide safety lighting units with high illumination levels.
ICE AND LAUNDRY ROOM

- Provide a room (or rooms) for general laundry and ice pick-up room. Locate the room(s) near the athletic locker rooms and near an exterior wall or roof for dryer vents. Include:
  - 2 large capacity washers
  - 3 large capacity dryers
  - 1 large ice maker
  - (1) 4’ x 8’ folding table
  - (1) 4’ wide tall cabinet for supplies
  - Floor drain and venting
- Provide a separation barrier between ice machine and laundry area.

JUNIOR RESERVE OFFICER TRAINING CORPS (JROTC)

JROTC offers federally-sponsored elective classes at high schools. This program may have up to 200 students participating, and may be part of a Business/Leadership or similar Academy. The JROTC area is typically a separate suite of spaces at the school. The JROTC suite shall have direct exterior access, and convenient access to the gym and weight room. Provide concrete floors, durable walls, and acoustic ceilings for all spaces (except restrooms, which require hard ceilings).

- Consult with CMP for JROTC spaces / utilization and funding. JROTC requirements could be different for each service. Each HS will have only one service sponsor.
- Supervision and proximity of spaces is key. There may be up to 4 teams and only two supervisors.

JROTC MULTIPURPOSE CLASSROOM

- Provide a multi-purpose classroom area.
- Provide a long, rectangular, multi-purpose space for drill, firing range, and other activities. Include:
  - Ideal size is 80 feet x 45 feet. One end structurally needs to support steel plate for firing range.
  - Base cabinets (12 LF).
  - Refrigerator, ice maker.
  - Stainless steel double basin sink (locate convenient to air rifle storage).
  - Power and data for equipment.
  - 12’ ceiling (minimum).
  - Acoustical isolation from other spaces.
  - Sound attenuation within the space.
- The firing range is 50’ long with addition zones for queuing and safety. The range and zones shall be located in the 80’ length of the multi-purpose room. Requirements as
follows:
  o 50’ long firing range
  o 8 to 10 firing lanes (3’-6” minimum width), with floor markings for firing positions
  o 8’ deep queuing area behind the firing line
  o 10’ deep safety zone behind the queuing area
  o 10 gauge steel on 8’ high plywood special construction on the face of the firing wall
  o Provide lighting to illuminate the firing wall, in addition to general area lighting.
  • Electronic targets are used now. Provide power and data needs for targets.

CLASSROOM SPACES

JROTC requires access to two classrooms to support 40-45 students at one time.
  o Classrooms could be configured as one oversize CR but dividable: one 1200 SF classroom and dividable with acoustical bifold, or could be two smaller classrooms about 600 - 650 SF in size.
  o Provide power and data to support STEM program activities. Classroom may include lots of computers.
    ▪ Programs are individualized depending on school.
    ▪ Examples of STEM programs are cyber patriot, computer security, underwater robotics, and high altitude balloons.

AIR RIFLE STORAGE

• Storage must be secure, and capable of maintaining low humidity levels.
• Provide heavy duty wire mesh shelving or racks for rifles and ammunition storage.
• Provide workbenches and area for servicing rifles.
• Provide space to store marksmanship backstops, shooting mats, and kneeling pads.
• Construct walls and ceilings of secure construction such as masonry and concrete, or metal studs with expanded metal lath under drywall.

DRILL STORAGE

• For storage of drill rifles and parade swords, Color Guard materials, and miscellaneous supplies.
• May be co-located with air rifle storage if requested by JROTC instructors.
• Provide heavy-duty wire mesh shelving units.
• Construct walls and ceilings of secure construction such as masonry and concrete, or metal studs with expanded metal lath under drywall.

TRAINING AIDS STORAGE

• Provide heavy-duty metal shelving for items including magnetic compasses, GPS unit
and devices, digital camera, digital camcorder, LDC projector and digital television.

- Construct walls and ceilings of secure construction such as masonry and concrete, or metal studs with expanded metal lath under drywall.

PROPERTY (UNIFORM) STORAGE

- Size of uniform area must serve a minimum of 100 students. (Programs typically have 125-175 cadets each year). Include space for 25% more extra uniforms. Marine Corp has larger type of uniforms.
- Need one larger space for fitting booth - up to 625 SF. Marine Corp has larger type of uniforms.
- Consider access to a laundry area near the uniform storage. Provide a washer and dryer, household capacity is ok. Locate near exterior wall or roof to minimize length of dryer vent). A majority of cleaning has to go to dry cleaners.
- Include space to iron.
- Provide racks for uniform storage.
- Provide a mirror.
- Provide a fitting booth with seat and door - up to 625 SF.
- Provide power and data (for computer based inventory).
- Construct walls and ceilings of secure construction such as masonry and concrete, or metal studs with expanded metal lath under drywall.

OFFICE

- Provide 2 private offices. In each office, include:
  - Supervision of all purpose room is important. Needs windows from office to MP room to view traffic in and out of classroom and adjacent areas. Space for 1 desk, 1 file cabinet, (1) 4’ wide bookcase, and 6 chairs.
  - Countertop workstation along 1 wall.

RESTROOMS

- Provide in-suite restrooms if general restrooms are not available after hours for JROTC use.
- If provided, in-suite restrooms require:
  - 2 student restrooms.
  - 1 unisex adult restroom, with toilet, urinal, sink, mirror and accessories.

STUDENT ACTIVITIES CENTER

The Student Activities Center shall be centrally located. Include:

- A flexible activities room with built-in casework storage, including a countertop work surface with a sink. The activities room may include a contact window with roll-up counter door. Provide power and data for equipment, including student ID equipment, and space for desk/chair and/or table, and files.
• An office for the Activity Director (staff member), with voice/data drops.
• Consider locating a vending area in the main circulation space, near the student activities center.

HEALTH CENTER

Locate the health center near the main office and lobby for easy access by students and parents and to allow for quick backup by staff in an emergency. Provide separate, direct exterior access to a vehicular circulation/parking area for emergency vehicles. Doors shall accommodate a gurney (36” clear, minimum).

• Provide a waiting area to seat 6 to 10 people. This space should be visible from the nurse’s office and health assistant’s workstation. The people waiting should not be able to see into the treatment/recovery room.
• Provide a workstation for the Health Assistant. Include:
  o Visual privacy of the Health Assistant’s computer monitor.
  o Visual access to the waiting area and treatment/recovery area.
  o 8 LF to 10 LF of countertop, base cabinets and upper cabinets along one wall.
• Provide a nurse’s office. Include:
  o Limited access to this office due to files and medicines.
  o Space for a double locked medicine cabinet (See Appendix C for space requirements).
  o Space for an L-shaped furniture layout of about 11 LF.
  o Window(s) for natural light.
  o Window into the treatment/recovery area and waiting area to supervise students.
  o Acoustic treatment (doors, walls, ceilings, windows, etc) for speech privacy when the door is closed.
• If the school has District SPED program, provide a SPED nurse’s office, similar to the Nurse’s office, but without a medicine cabinet.
• Provide 1 triage/cot area for general education students and another triage/cot area for students. In each triage/cot area, include:
  o 1 white, Energy Star, 18 cubic FT refrigerator with ice maker incorporated into 14 LF of lockable plastic laminate casework (approximately 34” high x 24” deep x 30” wide). Locate the refrigerator away from plumbing fixtures so that it does not require a GFCI outlet.
  o 1 ADA stainless steel sink (approximately 14” x 16”) with gooseneck faucet and lever handles.
  o (1) 30” base cabinet with 4 small drawers side by side and 2 large drawers below.
  o (1) 30” wide x 34” high x 24” deep storage cabinet.
  o (4) 13” deep lockable upper storage cabinets over base cabinets.
  o (1) double-locked medicine cabinet (See Appendix C).
  o (1) 24” wide x 60” high safety mirror.
2 to 4 recovery cots (74” long x 24” wide x 18” high) separated into pairs by sex. Include privacy curtains around each cot to minimize spread of germs. Patients shall be able to view a supervisory person from the recovery cot if curtains are open. Include ability to dim the lighting in the cot area. Include duplex outlets at each cot for equipment.

- Provide vision screening equipment.
- Provide a storage closet for wheelchair, crutches, and other bulk item storage.
- Provide a storage room for locking fire proof file cabinet (1 cabinet for every 800 students).
- Provide 2 restrooms with ceramic tile floor and standard restroom accessories.
  - For schools with District Special Education students, provide an additional restroom with space for Hoyer lift and changing table in restroom.
  - Include a shower if required by the school’s special education program.
  - Provide a combination washer/dryer (not stacking unit) near the Special Education restroom.

- Choose paint, tile, and other coverings to be easily cleaned and disinfected.
- Flooring to be commercial grade sheet linoleum with welded seams.
- All faucets in the health center shall be manual operation (no automatic sensors).
- Provide exhaust fan in triage/cot areas and restrooms. In addition, provide operable window(s) if possible.
- Provide phone/data port for each staff position (Nurse, Special Education Nurse, Health Assistant), and for a student-use phone. Provide a dedicated fax line and space for a printer/copier/fax machine in a private location.
- Provide space for a cabinet containing an AED (Automated External Defibrillator). Coordinate requirements with APS staff architect.

**STUDENT COMMONS**

- Student Commons shall serve as an indoor gathering area with access to common use facilities such as cafeteria/dining, snack bar, student activities, family/community room, administration, gymnasium, and library/media center.
  - Provide space for a variety of seating options.
  - Consider a raised performance area.
  - The student commons is similar to an outdoor student gathering area.

**CENTRAL FOOD SERVICE/CAFETERIA**

Cafeterias serve as food serving areas as well as small assembly areas for school activities. The number of meals served varies among high schools; in any event Food and Nutrition Services has limited staffing available for each high school site.

- Provide separate dining areas and serving lines for the Ninth Grade Academy vs upper grades.
- Size the seating areas for 15 SF/student (minimum) with no more than 3 lunch periods.
• Provide access to the dining areas via double doors (2 doors at 36” wide each) at all entrance/exit locations even if not required by code for egress width.
• Provide access to the cafeteria from the exterior for after school programs, while also providing ability to lock the kitchen and the remainder of the school. Provide one set of restrooms that are accessible from the cafeteria for use after hours.
• Plan the dining areas to accommodate typical APS seating; a combination of 60” round tables and 12’ bi-fold models. Dining furniture will be provided and installed by the owner.
• Design the cafeteria to encourage formation of single file serving lines.
• Discuss with APS Food + Nutrition Service the option of self-service and/or cafeteria staff-serve. Typically, cafeteria staff serve the hot food items and students self-serve cold food items.
• Provide point-of-sale connections for computerized checkout units at appropriate locations, including: 2 (minimum) on serving lines.
  o 1 in the cafeteria.
  o 2 connections on parallel walls in the kitchen manager’s office.
• Provide a separate, lockable room for after school programs. Include:
  o Access to the room directly from the cafeteria.
  o Space for storage.
  o A sink.
  o Power for equipment, including a refrigerator (for milk and other cold items) and a re-therm unit for at-risk dinner program and/or homework dinner program.
• Provide infrastructure for a flat screen (approximately 60” or 72”).
• Provide infrastructure for a ceiling mounted projector for large group meetings.
• Provide a powered AV screen (approximately 108” x 108”) mounted in the structure of the ceiling area.
  o Provide a key operated switch, or locate the switch in a storage or custodial room.
• Provide rough-in for a sound system.
  o Locate sound system equipment in a storage room.
  o Provide microphone and audio access in two locations.
  o Install conduit so 4 speakers will cover space from stage to back of room.
• Provide power and data outlets along a wall for multiple table use during registration.
• Provide general and specialty lighting for activities within the cafeteria.
• Provide windows. Include:
  o A view to the outside.
  o Electrically operated shades for shading and lockdown.
• Provide polished concrete floors.
• Provide a designated area for recycle bins for paper, plastic, and aluminum.
• Acoustically condition the cafeteria:
  o Reverberation Time Maximum: 1.5 seconds; Noise produced by HVAC and Building Utility Systems: Maximum 45 dBA; STC rating for the walls: STC 50; STC rating for windows or translucent panels: STC 35.
KITCHEN

The contract architect must meet with APS Food and Nutrition Services (F+NS) prior to designing the kitchen. Coordinate this meeting(s) through the APS staff architect. See Appendix D for Guide to Space Planning of a School Food Service Facility based on number of meals served.

- Provide a food preparation area with a vegetable sink.
- Provide a serving area with computer access for recording student names. Coordinate the location of the computer station with the FD+C staff architect and APS F+NS.
- Provide a dish/pot washing area.
  - Include (1) 4-compartment sink with garbage disposal.
  - Sink basin dimensions shall be sufficient for full sheet baking pans.
- Provide 2 hand washing sinks (minimum).
- Provide cold and hot storage equipment.
  - Include a walk-in freezer/refrigerator with wire rack shelving. Conceal drain lines, or locate out of traffic areas. In new construction, recess the walk-in units for flush door access. Ramp access as necessary is acceptable in existing facilities only.
  - Include 2 to 4 transporters for hot food.
- Provide reach-through units for hot food with universal shelving.
- Provide pass-through units for cold food with rolling wire rack shelving units.
- Provide dry storage with wire rack shelving and anti-microbial finishes.
- Provide a restroom for the kitchen staff. Provide a closer on the restroom door.
- Provide an area with lockers and stackable electric washer/dryer units.
  - Provide (1) box locker per kitchen staff.
  - Each locker shall be 12” x 12” x 12”.
- Provide a kitchen office. Include:
  - Power and data (2 outlets each located on 2 parallel walls).
  - A window to view into the kitchen.
- Provide a custodial closet.
  - Locate the custodial closet in or adjacent to the kitchen, for kitchen use only.
- Provide floor and wall surfaces that can be disinfected.
  - Floor to ceiling stainless steel behind cooking and washing areas.
  - 18” minimum stainless steel backsplash around stoves, sinks, and dirty tray drop-off.
  - Textured fiber-reinforced plastic (FRP) panels on other wall surfaces, including surfaces adjacent to the serving line.
  - Provide Polyfloor Polysafe (any color except white) or sealed and polished concrete flooring.
- Design the kitchen to be free of any hazards to students, such as hot serving line surfaces.
- Provide a kitchen receiving area.
  - Accommodate access by delivery vehicles to the receiving entrance.
o Provide a loading dock at delivery truck height. Limit slope and cross-slope of the dock and truck parking location to prevent trucks from rolling and carts from tilting.

o The receiving entrance at shall have a 4’-0” wide by 8’-0” high out-swinging screen door and a corresponding in-swinging hollow metal door. Provide a fly fan above the screen door. Set the fly fan to operate when the screen door is opened. Cover screen on door with expanded metal covers on both sides to protect screening. Provide a peep hole in the hollow metal door.

o Provide commercial doorbell call station at the receiving entrance. The bell shall be audible throughout the kitchen.

• Provide a dumpster area for trash pick-up.
  o Locate the dumpster area for convenient access from the kitchen.
  o Shield the dumpster area from major sightlines.
  o Allow sufficient area for pick-up by garbage trucks.

• Provide solar pre-heating of hot water for kitchen use.
  o Consider input by M+O on the viability/maintainability of such a system.

• Kitchen equipment shall be included in the general construction contract. Coordinate requirements for kitchen equipment, see Appendix E, including:
  o Accommodate Blodget Ovens.
  o Provide water hook-up for Tilt Skillet.
  o Provide hood controls within reach range of staff (and ADA).
  o Provide pony walls for equipment and serving line; detail power outlets so that equipment can be placed against the wall.
  o Provide floor sinks under equipment only; Provide floor drains in open flooring areas.
  o Provide 2 carts for hard tray storage.
  o One Manhart Slicer.
  o (1) 40 quart mixer; also (1) 60 quart mixer if a baking school.
  o Provide minimum (2) rolling racks for baking schools.

SNACK BAR

• Locate the food services snack bar near interior and exterior student gathering areas.
• Provide about 4 service openings, (1 to 2 interior and 1 to 2 to the outside).
  o Service openings shall be 18” wide x 30” high.
  o Interior service openings shall have a lockable stainless steel fire-rated (as needed) roll door with stainless steel sill.
  o Exterior service openings shall have inset vertical hung aluminum storm window units (or equal) to close off opening when not operating to prevent draft and insects.

• At the exterior openings, provide effective cover from rain and sun for students.
• Provide snack bar with warming only capabilities.
• Do not include fryers, grills, or any equipment that requires a commercial hood.
• Include 22 LF of HDL open base shelf cabinets with countertop to connect with the window serving areas.
• Provide wiremold above backsplash of counter for warming equipment (up to 5 devices).
• Provide stainless steel wire metal shelving along wall opposite from windows.
• Provide (1) 3 compartment sink (each compartment shall be 10” x 14” x 12” deep) with faucet as accessories as per a commercial kitchen unit. Include 20” drain boards each side and 12” high stainless steel wall protection behind sink area.
• Provide a hand washing sink.
• Provide (1) point-of-sale data and power outlet at each pair of windows (2 locations, total) for interface with the food service computer sales system in the kitchen office.

DECA

Most career technical student organizations can be accommodated after hours within spaces provided for other programs. DECA is an exception in that it requires dedicated spaces, including:

• A snack bar
  o The DECA snack bar is generally the same as other snack bars in the school. Refer to snack bar section of these standards for requirements. See appendix for equipment list. Some DECA program needs include:
    o Provide a fountain machine. Fountain is not able to be shared with other snack bar vendors.
    o Provide electricity for:
      ▪ Hot holding equipment
      ▪ Ice machine
      ▪ Point of sale for each window. (Data and power). Avoid Wi-Fi for POS.
      ▪ Cameras at each monitor.
      ▪ Big refrigerators for drinks.
    o Provide drops for menus, nutrition guidelines. Provide area for taped menus at windows.
    o Provide slat walls at back.

• A classroom
  o Other DECA spaces should be adjacent or in close proximity to the snack bar. Ideal is to provide adjacent classroom space for supervision.

• An office
• Storage
  o Provide a large storage room with power for hot holding and refrigerators.
STORAGE / CUSTODIAL

- Provide the kitchen and each dining area with a custodial closet (3 closets, minimum). Include:
  - Mop sink with faucets and backsplashes.
  - Broom and mop holder rack.
  - Separate exhaust.
- Provide a storage room(s) for special events folding tables and chair carts.
  - Storage room doors shall allow for 72” clear opening.

OUTSIDE DINING PATIO (DESIREABLE, BUT NOT REQUIRED)

- Provide a hard surfaced, well-drained patio area.
  - Locate the patio adjacent to the snack bar and easily accessible by students from the cafeteria.
  - The patio shall be half-shaded between 10:30 am and 1:30 pm.
  - Provide a hose bib in the area for cleaning.
  - Provide outlet for cleaning equipment with 30 amp GFCI circuit.
- Provide tables, benches, and trash receptacles for up to 100 students.
  - Tables, benches, and trash receptacles shall be exterior-rated, vandal resistant, vinyl coated expanded metal.
  - The general contractor shall provide and install the tables, benches, and trash receptacles.
  - Tables, benches, and trash receptacles shall be anchored.
  - Each trash receptacles shall have a 30 to 40 gallon capacity.
- Provide general site lighting for the outside dining area (and adjacent socialization areas) to allow evening use for special programs.

ACADEMY SPACES

In each academy, provide the following areas:

ACADEMY ADMINISTRATION

- A waiting area with space for seating for up to six visitors.
- A secretary/support area with space for 1 open office workstation to operate phones, intercom, and support the academy administration.
- One office for the assistant principal. Allow space for an L-shaped desk and round table with 4 chairs.
- A secure file room with limited access for academy records. The GC shall provide (1) 48” wide x 84” high x 24” deep lockable storage cabinet in each file room for supplies, forms, and brochures. Include space for a total of 3 to 4 fire-proof file cabinets (larger
units), per each academy. Fire-proof file cabinets will be provided by the owner (not the GC).

**COUNSELING AREA**

- Review needs for a particular school program with APS Counseling for information on traditional counseling allocations.
- Provide a self-contained counseling area. Access to the counseling area shall be controlled from the academy secretary/support station. The counseling area shall be located out of the general circulation space for privacy.
  - Students can have direct access to counseling offices. Students should not have to talk to anyone to see counselor. Waiting area by offices is for students.
  - Prefer counselors located together or as part of an area where adults can serve the students right away. If there are mini-admins with the academy model, it’s ok for a counselor in each area.
  - Consider a public access computer station for online scheduling.
- Provide offices for up to 5 counselors, distributed among the Academies. A HS will have 4 or more counselors which includes a college and career counselor and a crossroads counselor. (In central Administration or in the central Special Education area there will be offices for 1 to 2 social workers, 1 transition specialist office, 1 head special education teacher, 1 evaluation/testing, and 1 to 2 speech and language pathologists.)
- Office standard is 300 SF. Don’t need a space as big as a classroom – 1/3 size of classroom. Portables are not preferred.
  - Counseling office requires privacy, therefore no FTE sharing of offices. Even a half time FTE must have a full office.
  - For privacy, avoid glass. Counseling offices require sound isolation.
  - Offices require a locked file cabinet. Also a secure storage room for a certain number of years is required.
  - Printers need confidential and need to be close to the offices, and computers password protected.

**CONFERENCE ROOM**

- Provide a conference room with seating for 14 people.
- Provide casework, (1) ADA sink, and an under-counter refrigerator in each conference room. Base casework shall be approximately 7’ long x 2’ deep. Provide lockable upper cabinets (24” high x 12” deep). Sink basin shall be stainless steel, approximately 14” x 16” x 6” deep with gooseneck lever handle faucet. Provide outlets at the back of the counter.
DINING COMMONS (NINTH GRADE ACADEMY ONLY)

The Ninth Grade Academy dining commons has the option to be supported by a warming kitchen, or by the school’s main cooking kitchen. It will have a serving line and a dining area similar to the main cafeteria.

- The serving area shall have 1 to 2 stations with point of sale system data and power connections at each station.
- Provide 1 custodial closet and 1 small (100 SF) storage room adjacent to the servery.

ACADEMIC AREAS

GENERAL CLASSROOMS

General classrooms shall be standardized to provide flexibility to move classes between different grade levels.

✓ Location
- Core classrooms shall be located for convenient access to common resources (media center, cafeteria, PE facilities, etc.)

✓ Technology
- Accommodate technology needs for teacher and students, including: telephone, computers, printers, document scanner/camera and Interactive flatscreen.

✓ Casework, Furniture, and Equipment
- Accommodate APS furniture and equipment list. Arrange furniture to allow for good view lines of teaching wall from all desks and tables.
- Provide built-in storage to minimize clutter, including: 36”W, 84”H, 24”D tall storage with adjustable shelves, 12’L, 30”H, 12”D upper storage units with adjustable shelves, 12’L, 34”H, 24”D lower storage units with adjustable shelves and drawers.
- Key all storage alike within each classroom; each classroom storage key to be unique.
- 28 LF of magnetic marker boards and 4’x4’ tack board with tack strip on top of all boards.
- Manual pencil sharpener on wooden block, with blocking in wall.

SCIENCE CLASSROOMS AND LABORATORIES

- Provide a minimum of one science laboratory per small learning community. A general science classroom requires water, sink, electricity, shelves, and cabinets. Consider an arrangement of two classrooms sharing a single laboratory space.
- Arrange student stations in the laboratory so that students do not have their backs to the teaching station (i.e. avoid perimeter workstations).
  - This setup could include 4 islands for students to work in groups. Each island includes 2 student sinks and utility connections (power, data, gas, and water).
  - At least one group station shall be ADA compliant.
Consider arrangement for the teaching station at a long wall, so that students are not as far away from the teaching wall.

Provide lots of white boards. No chalk boards.

**Plumbing:**

- Provide master shut off valves for gas, water, and power near the teaching wall.
- Provide a dual-head emergency eye-wash combined with shower in each laboratory.
- Chemistry rooms require six sinks.
- All other sciences require three sinks.
- Provide deep sinks only. Shallow sink sprays all over the place. If only two sinks are provided, both should be deep.
- Sinks shall have gooseneck faucets.
- Provide an ion exchange unit for water treatment for sinks.
- Provide a disposal.

*Note: chemically treated biology parts are not disposed of in the sink.*

- Only chemistry labs require gas. Gas is not required in classrooms for biology and physics and environmental science and astro-geology.
- Owner will provide a fire blanket in cabinet in each laboratory.
- Provide an exhaust fan in each laboratory. Accommodate scientific equipment heat loads when sizing HVAC equipment.
- Provide a variety of casework for storage options (minimum 80 LF). Requirements as follows:
  - Casework shall be wood, with epoxy resin countertops and sinks.
  - Casework shall be lockable. Key locks within each laboratory alike, but unique to each different laboratory.
  - Include base cabinets with adjustable shelves, totes, and drawers. Include 18” deep upper cabinets with sliding glass doors. Include full height cabinets (approximately 48” wide X 24” deep X 84” high with glass doors.

- In Chemistry Labs, provide one fume hood each, 4 feet wide, with epoxy top and cup sink, water, gas, power, and light, designed to be fully accessible.
- Provide a hood for all science classrooms. If available teachers would use it.
- Provide direct access to a prep room from the laboratory. Prep rooms may be shared among laboratories. The laboratory prep room will include the following items. Some equipment will be provided by the owner; coordinate with staff architect:
  - An epoxy resin sink with gooseneck faucet.
  - Dishwasher (approximately 24” wide).
  - Refrigerator (full size with freezer).
  - Glass drying rack (approximately 36” X 36”).
  - Similar range of casework storage options as in the laboratory.
  - Space for shelving to store science equipment. Chemistry shelving needs to be wood; other science shelving should be metal.
  - Cabinets specifically designed for chemical storage.
• Provide a chemical storage room (to be shared among science labs).
• APS Risk Management maintains a list of chemicals used in high school science programs and provides safety training for teachers. Chemicals may include flammables, non-flammables, corrosives, acids, bases and others and may require venting; chemicals must be stored in appropriate cabinets in a locked room.
• Some science classrooms will support digital labs. For these labs teachers use the MAC carts and iPads.
• Provide retractable outlets from ceiling, like those in some art or computer rooms, to support lab work done at tables. Ceiling outlets allow more modular/flexible use of the classroom. Watch the ceiling height and site lines.
• Provide an outdoor garden area with irrigation. The school site is used for instruction.
• Provide a greenhouse. Culinary arts would share the greenhouse.

COMPUTER LAB

• Provide at least (1) lab with 37 equal computer workstations (32 student and 5 support devices). Each station shall be 36” wide X 30” deep X 26” high using specialized counters.
• Provide at least one ADA station per lab.
• Additional, separate labs may be necessary for on-line assessment testing. Computer Labs may also be used for on-line assessment (i.e. computer-based testing such as PARCC). However, shared use of spaces is detrimental to regular instruction in the labs.
• Consider locating computer labs as centralized collaborative spaces within Small Learning Communities and/or Academies (George I. Sanchez K-8 school has a good example of this concept).
• All wiring shall run in a wire/cable management system along or below the counters.
• Avoid floor outlets.
• Consider a lab storage room for every 2 to 4 computer labs, based on location.
  Include:
  o Power and data to plug in the COW cart.
  o Four 30” wide X 34” high X 24” deep lockable base cabinets with shelves.
  o One 36” wide X 34” high X 24” deep six-drawer unit
  o One ADA sink unit with 14” X 16” X 16” deep stainless steel sink with gooseneck lever handle faucet
  o 20 LF of upper cabinets made up of 36” wide X 24” high X 13” deep lockable cabinets with two adjustable shelves, except for a shorter unit over the sink.

ELECTIVE LABS

• Elective Labs, including technology and vocational labs, can be used for general science, computer, or other hands-on learning curriculum. Labs can provide an industrial setting for curriculum requiring the use of heavy machinery and/or noisy activities. Consider a maker space a place to cut wood, work with pvc, etc. for students to build and test things.
• Locate elective labs for convenient access to associated academy(ies)
• Provide 200 SF of prep space in addition to classroom area for each elective lab.
• Natural light, technology, and interior finish requirements are the same as per general classrooms.
• Casework, Furniture, and Equipment
  o Provide casework as for general classrooms; additional casework may be required by the program housed.
  o Provide whiteboards, tackboards, and pencil sharpener blocks as for general classrooms.
• Provide retractable outlets from ceiling, like those in some art or computer rooms, to support lab work done at tables. Ceiling outlets allow more modular/flexible use of the classroom. Watch the ceiling height and site lines.

SPECIAL EDUCATION SPACES

See Appendix B for requirements in addition to those noted below.

Special education (SPED) requirements are the same as regular classrooms except where noted. Special education spaces shall be distributed among the academies. The APS Special Education Department aims to provide services to students in the least restrictive environment possible, and to integrate SPED students (inclusion) with other students to the greatest extent possible.

✓ General Notes for All Special Education Spaces

• All special education offices and conference spaces require sound isolation.
• Special education students may require specialized lighting with different cycles, spectrum, ballast noise level, etc. Discuss HVAC, lighting, and other systems designed for severely disabled students with the FD+C staff architect and APS Special Education.
• Some space(s) may be classified as Institutional Occupancy under the building code because some students may be generally incapable of self-preservation.

PROJECT STUDIO (OPTIONAL)

The Project Studio is a shared resource area for students for project-based curriculum. The studio can be co-located with student team areas; it can be a room or an open informal area.

• Accommodate flexible, moveable furniture layouts.
• Provide illumination, power, and data as for a general classroom.
• Polished concrete is the preferred flooring. Minimize carpet areas.
• Provide a minimum of 10 Ln. ft. of casework including one 36”W, 84”H, 24”D storage unit with file drawers on the lower 2/3 and storage cabinets above with adjustable shelves.
• Provide casework storage (approximately 7 LF). Include base storage cabinets with
TEACHER HOME BASE

In the Ninth Grade Academy, provide 1 teacher home base for each smaller learning community (or shared by 2 smaller learning communities). In Upper Grade Academies, provide teacher home bases as required to accommodate staff. Each Upper Grade Academy home base shall accommodate a similar number of teachers.

- Typically, science and special subject teachers have workstations within classrooms, rather than in the home base.
- The home base is a workroom and shall include space for a large work table and copy equipment to be provided by APS.
  - Provide a break area in each home base with a refrigerator, single basin sink, and microwave.
- Provide built-in casework or systems furniture to accommodate each teacher served by the home base.
  - Each workstation shall consist of 36” wide x 30” deep desk space with grommet holes for cabling. Include a box/box/file pedestal with pencil tray in the top box drawer, (1) 48” wide overhead flipper door storage unit, with task light below; (1) 48” wide tackboard below the overhead storage unit, and voice/data/power at each workstation.
  - Provide (1) 12” wide x 24” deep x 7’ high wardrobe storage unit with top shelf and wardrobe hanging rod for each teacher.
- Provide space for (1) 4 drawer vertical file or equivalent lateral file per teacher.
- Provide space for (2) 3’ wide x 1’ deep x 4’ high bookcases per teacher.
- Provide space for 1 conference table, 30” x 72”, with 4 chairs and 4 guest chairs.
- Provide space for a small lounge seating area.
- Provide countertop for shared printer and devices, with voice/data/power connections.

TEACHER WORKROOM

- In the Ninth Grade Academy, provide 1 teacher workroom for each smaller learning community (or shared by 2 smaller learning communities). Similarly, in the Upper Grade Academies provide 1 teacher workroom per 1 to 2 teacher home bases. In each workroom, include:
  - Space for a large work table and copy equipment to be provided by APS.
Permanent lockable storage with shelving to accommodate storage of paper, books, supplies, and audio-visual material.

Base cabinets with countertop for workspace and equipment with upper cabinets above.

Double sink.

Ability to accommodate a desk for an educational assistant.

Dedicated circuits and outlets for equipment (possibly including ceiling electrical drops).

Polished concrete flooring.

SPECIALIZED CLASSROOMS

FINE ARTS CENTER (2D AND 3D)

The Fine Arts Center includes studios for photography, computer graphics, video production, two-dimensional painting/drawing, and three-dimensional ceramics/sculpture/jewelry.

- Locate fine arts studios adjacent to each other.
- Provide places to display the work. Consider dry erase walls to encourage advertising of student performance. Provide display cases for student work.
- Provide a protected outdoor area/art patio for work and display.
- Provide kilns, see Appendix G.
- Allow for use of ceiling grid or exposed ceiling to hang work.
- Provide north light where feasible.
- Provide power and data similar to a general classroom.
- Technology: Provide blue tooth compatibility for music classrooms. Instruction uses recorded music, projects lyrics, and shows clips of performances. Provide speakers and AV system for classrooms, LED screen with air play, and a Promethean for each classroom.
- Consider an outdoor performance venue in close proximity to the indoor performance space.
- Consider a computer lab within, or near, the music suite computer keyboarding, composition and theory classes.

PAINTING AND DRAWING

- Provide a classroom area.
- Include whiteboard, tackboard, and interactive whiteboard similar to general classrooms.
- Casework requirements:
  - Base cabinets (approximately 15 LF) with counter area (adjacent to or near the sink) and open upper cabinets with adjustable shelving, and an integral accessible counter space.
  - Provide many outlets at the counters for glue guns and encaustic painting.
  - Tall open storage with adjustable shelving or cubbies (approximately 6 LF).
- Combination (approximately 18 LF) of tall, open flat storage for paper and artwork, and base cabinet drawer units, with some countertop area.
- 5' tall divided vertical storage (approximately 8 LF) for paper and mat board supplies.
- Casework described above can be located in the classroom area and/or the 2D storage rooms.

- Sink requirements:
  - One deep, wide stainless steel sink with integral drain boards and clay trap.
  - Separate hand sink.
  - Protective wall covering behind sinks.

- Provide storage room for supplies and easels.
- Provide an office with visual access to the studio area.

### CERAMICS, SCULPTURE, AND JEWELRY

- Provide classroom area.
- Allow space for shop tables (provided by owner).
- Include whiteboard, tackboard, and interactive whiteboard similar to general classrooms.
- Include a clay area with electric potter’s wheels and damp proof cabinets.
- Include an open area to place models or still life.
- Casework requirements:
  - Base cabinets with counter area (adjacent to sink) and open upper cabinets with adjustable shelving (approximately 10 LF).
  - Provide many outlets at the counters.
  - Tall open storage with adjustable shelving or cubbies (approximately 18 LF).

- Sink requirements:
  - One deep, wide stainless steel sink with integral drainboards and clay trap.
  - Separate hand sink.
  - Protective wall covering behind sinks.

- Provide kilns in a separate kiln room or structure with appropriate utilities including power and exhaust. (See kiln specification in Appendix G.)
  - Kilns shall be provided and installed by the general contractor.
  - Types of kilns may include a large gas-fired kiln; two or more small electric kilns; and possibly a raku kiln.
  - Provide a thermostatically controlled kiln room exhaust fan separate from, and in addition to, the kiln exhaust.

- Provide storage and drying rooms.
- Provide a damp clay storage area if desired by the school program.
- Provide an office with visual access to the studio area.
**COMPUTER GRAPHICS**

- The computer graphics lab shall support 32 student computers (minimum) and one teacher station with appropriate power and data drops.
- Include whiteboard, tackboard, and interactive whiteboard similar to general classrooms.
- Provide enclosed base cabinets (approximately 21 LF) with counter area and upper cabinets with adjustable shelving.

**FILM STUDIO**

- The video studio consists of a larger studio for video recording, filming, and production activities; and a smaller video editing/production studio. Support space includes storage, and office, and an optional sound-proof booth.
- Provide an office with visual access to both the video studio and video editing studio.
- Provide a storage room for video equipment, convenient to both the video studio and the exterior.
- In the video studio,
  - Include whiteboard, tackboard, and interactive whiteboard similar to core classrooms.
  - Provide sound isolation from other spaces as well as outdoor noise.
  - Provide acoustic treatment to reduce reverberation time.
  - Provide a curtain track for a “blue screen” which can be positioned along at least two walls including one interior corner.
  - Provide exposed ceiling structure and include power outlets in the ceiling and means for attachment of lighting support systems.
  - Access to the exterior is optional, but recommended. Students and equipment often go outside and off-site for filming activities.
  - A sound booth is optional. If provided, it is a free-standing acoustically-isolated structure that is located in the video studio.
- The video editing studio is similar to a computer lab.
  - Provide 15 student editing stations (minimum) and one teacher station.
  - Student stations shall be 36” wide, minimum.
  - Arrange the video editing studio similar to the computer graphics lab to enable the teacher to observe all student screens from a single position. (Individual video editing booths are an alternate arrangement, although this arrangement is more difficult to supervise.)
  - Locate the video editing studio adjacent to the video studio.

**PHOTOGRAPHY**

- Provide a classroom area.
- Include whiteboard, tackboard, and interactive whiteboard similar to general classrooms.
• Classrooms.

• Casework requirements:
  o Base cabinets (approximately 10 LF) with counter area (adjacent to or near the sink) and open upper cabinets with adjustable shelving.
  o Tall open storage with adjustable shelving or cubbies (approximately 12 LF).
  o Tall, open flat storage (approximately 8 LF) for paper and artwork.

• Sink requirements:
  o One deep, wide stainless steel sink with integral drainboards and clay trap.
  o Separate hand sink.
  o Protective wall covering behind sinks.

• Provide a dual-head emergency eye wash unit.
• Provide a ventilation hood over the acid sink with 4 hour twist timer control.
• Provide two film loading booths, light-tight, with base cabinet, countertop and upper cabinets; “white” light for cleaning; need not be accessed through dark room.
• Provide a storage room suitable for shelved items and large items.
• Provide an office with visual access to the studio area.
• Provide a Dark Room with revolving darkroom door and a separate light-tight emergency exit door. Include:
  o 36” wide enlarger workstations (15-18) with countertop, dividers, with provision for a curtain behind the student, and an above counter duplex receptacle at each station for enlarger and portable safe light.
  o Large freestanding photo developer sink with vent hood; photo wash sink (three sides useable) also with vent hood.
  o Base cabinets and countertop (approximately 12 LF) with open large paper storage shelving, and one 4 drawer unit, and upper wall cabinets.
  o Normal (“white”) light illumination, 5000K non-fluorescent fixtures for cleaning and general use, with a safety cover over the switch to prevent inadvertent operation of switch.
  o General safe light illumination (one way to do this is with suspended indirect safe light fixtures such as those made by Thomas Instrument Company).
  o Sinks connected to acid drain. Consider an automatic silver collection unit for spent fixative at the sink(s); discuss with teacher and determine volume of silver recovery to be addressed.
  o A dual-head emergency eye wash unit.
  o Workroom accessed from the dark room only. In the workroom, provide a tray sink with drain board, chemical shelf above sink, film drying cabinet with power receptacle, photo wash sink with vent hood, 6 LF of base cabinets with countertop and upper cabinets, 2 countertop workstations with 4-drawer units adjacent, receptacles at countertop locations, and safe lights. Connect sink to acid drain. Consider an automatic silver collection unit for the spent fixative at the sink. Provide a dual-head emergency eye wash unit.
o Dark room and dark room workroom to have white or light colored ceiling; flat black wall color up to 7 feet high; light gray wall color above; and light gray floor color (flooring to be non-dusting).

o For dark room and dark room workroom position air supply, return (filtered) and vent hoods to draw chemical fumes away from sink users’ faces. These spaces should be slightly negative in pressure.

**MUSIC CENTER**

- Provide ensemble rooms for band, chorus and orchestra. Ensemble rooms may be shared among programs, based on program need; coordinate with FD+C, who will consult CMP.
- Provide individual and small group practice rooms
  - Arrange practice rooms for visual supervision; consider locating directly off of the main ensemble rooms.
- Provide a sound control room with power/data drops for recording band, orchestra, and choir rehearsals. Include countertop, base cabinets and upper cabinets with open workspace.
- Provide a sound isolated listening room with sound system connections to sound control room.
- Provide additional space as required to accommodate music programs such as guitar, piano, and mariachi; coordinate with FD+C, who will consult CMP.
- Acoustically isolate ensemble and other music program rooms from each other and from the rest of the school.
- Floors shall be level; No built-in risers.
- Ceilings shall be about 18 feet high on average. Provide additional volume in the band room, above the ceiling, to help with sound dissipation.
- Acoustically tune rooms and control reverberation time per ANSI S12.60. Options include: non-parallel walls and ceilings, sound panels, and floor treatment.
- Provide wall protection (chair rails, corner guards) in large ensemble spaces.
- Provide storage as follows:
  - Chorus will have storage rooms for choral risers, 10 file cabinets for music, and robes for choirs with clothes rods.
  - Orchestra will have storage rooms for 10 file cabinets for music, and built-in lockable instrument storage cabinets.
  - Band will have storage rooms for 10 file cabinets for music, uniforms, and instruments. The band instrument storage area will have built-in lockable instrument storage cabinets and a sink for cleaning instruments.
  - Verify equipment inventory/storage requirements with the school and APS fine arts department.
FLEXIBLE ELECTIVE LABS AND OTHER OPTIONAL SPACES

TIERED LECTURE HALL

Tiered lecture hall to seat 200 students. Include the following:

- Fixed seating and work surface for 200 students.
  - 16’ whiteboard flanked by 4’ tackboards.
  - Projector and projection screen sized for the space.
  - Sound system for the room operated from a lectern.

GREENHOUSE

- The greenhouse is an instructional space used for growing plants.
- Provide an adjacent outdoor work area, such as a patio or garden space.
- Provide a utility sink with drain boards and threaded faucet.
- If skylights or high windows are provided, include motorized blinds to control daylighting.

CAREER TECHNICAL EDUCATION

Career Technical Education programs can be integrated into Academies. Most of the programs can be housed in the programmed elective technology flexible lab spaces within the SLC’s. A few programs, notably the industrial arts shops, need specific spaces tailored to the curriculum of the program. Traditional vocational/industrial arts programs may be adapted to updated curriculum.

Traditional career vocational/industrial arts programs can include:

- Culinary Arts
- Family and Consumer Science (Home Economics)
- Business and Office
- Health Occupations
- Technology Education (Drafting and Graphic Arts, Metals, Woods, and Transportation Technology)

CULINARY ARTS

The Culinary Arts program requires a classroom and a laboratory, as well as program support space.

CULINARY ARTS LAB

- Provide one main instructional space with a commercial kitchen environment.
- Provide four rows of stainless steel student tables; each row to have two 9-foot student tables on each side of a two-compartment pot sink with drain board on each side, and space for a food holding cart at each end of the row. Provide two induction cooktops on each student table, space for a mixer, and power for several small appliances. Provide sliding door storage cabinets below the table tops on the teacher side, and space for stools on the student side. Students need counters in the middle of each kitchen area to work. Provide storage shelf at each student metal table.

- Provide a teacher’s demonstration area. Include a single-compartment sink with drain boards on each side and stainless-steel enclosed utility pony wall for services; stainless steel demonstration table with mirror, two induction cooktops and space for mixer; 4’ mobile steel table; and mobile pot rack. Provide power for small appliances.

- Provide giant interactive teaching board for teaching demonstrations.

- Floors: Provide slip-resistant surface.

Classroom organization:
- Keep walls low so that teacher can see students. Supervision and clear sight lines are required.

- Provide a principle cooking line. Include four convection ovens and one range/oven under a commercial kitchen hood. Provide two stainless steel worktables close by each with a stainless steel utility chase to ceiling cavity.

- Locate a secondary cooking area behind the teacher’s demonstration area. Include one gas broiler, one 24” griddle, and one cheese melter under a commercial kitchen hood. Provide a stainless steel prep table on each side of this area.
  - Provide a griddle, (preferred over a tilt skillet or braiser).

- Provide reach-in refrigerators and freezer near the secondary cooking area.

- Provide combination walk-in cooler and walk-in freezer, each 6’ x 6’, with remote condensing unit and individual access door, and wire shelving.

- Provide a scullery area with a three-compartment sink, dish tables, dishwasher with booster heater (consider solar hot water pre-heating), garbage disposal with pre-rinse, and wire shelving rack for clean ware.
  - Consider size of cooking sheet to fit deep three-compartment sinks in professional kitchen area.
  - Include a roll-up counter door and countertop in the scullery area to serve the culinary laboratory (described below).

- Provide a washer and dryer area with table, under-table laundry hamper, shelf above washer and dryer. Locate the washer and dryer area to minimize the length of dryer exhaust vent piping.
  - Provide a table by washer and dryer.
  - Provide storage for aprons.

- Provide student lockers to accommodate backpacks for a full class.
  - Locate backpacks where kids can watch their backpack.

- Provide a long, trough-type sink in this area for wash-up before and after class.
Ventilation:
- Provide ventilation to exterior due to smells and steam. Not a recirculation vent, not a charcoal vent.
- All cooking hoods must have fire suppression.
- Provide a big exhaust hood at commercial kitchen.
- Provide operable windows with screens in classrooms.

**CULINARY ARTS CAFÉ / DINING AREA**

- Provide an instructional space with a commercial cafe environment. Classroom doubles as café and hot bar.
  - Include a mobile serving line consisting of a three-well hot table, cold table, solid top buffet table with display case, and small starter table; and one small table with point-of-sale (POS) cash register nearby (voice/data drop required).
  - Include whiteboard, tackboard, and interactive whiteboard similar to core classrooms.
  - Furnish classroom area with round tables and chairs.
  - The room must meet environmental health requirements if the café is selling food.
  - Provide exterior access.
- Locate the culinary arts laboratory adjacent to the culinary arts classroom for two purposes;
  - Transportation of food to the mobile serving line, and
  - Return of dirty dishes through the roll-up counter door to the scullery area.

**CULINARY ARTS PROGRAM SUPPORT SPACE**

- Provide the following spaces to support Culinary Arts instructional areas:
  - A secure, dry storage room with clothes rod for uniforms and wire rack shelving and 3 ingredient bins.
    - Separate chemicals and cleaning materials away from food.
    - Separate food storage from work area.
  - Provide a custodial closet with floor sink and shelf storage.
    - Provide shelving for detergents.
  - An appliance storage room with mobile wire shelving units.
  - Consider a greenhouse or a place to grow herbs.
  - A teacher’s office is not needed. If provided, include a window to the Culinary Arts Classroom (and also to the Culinary Arts Laboratory if possible).

**FAMILY AND CONSUMER SCIENCE (HOME ECONOMICS)**

- Historically, Home Economics space included a Food and Nutrition Lab and a Sewing
(Fashion) Lab; may have also included Child Development and Health Occupations.

- The Food and Nutrition Lab has been replaced by the Culinary Arts program. (See previous section for space requirements.)
  - If providing residential kitchen areas, include a single-compartment sink.
  - Provide induction stove in family area. Induction cook tops require magnetic special pans.
- The Sewing Lab (also known as: Fashion Lab) of 1,300 to 1,500 SF includes tables, chairs, sewing machines, an office, a storage area, a laundry area, and at least two fitting areas.
- The Child Development Lab (also known as: Working With Young Children) of 1,100 to 1,500 SF includes an observation area, a full kitchen (this is problematic with current fire code requirements), two restrooms for pre-K children and a restroom for adults, and a fenced outdoor play area of at least 1,000 SF complying with APS Playground Standards. The Child Development Lab is accessible to the public.
- A Health Occupation Lab is similar to a general classroom but includes 4 sinks. Health Occupation Support space includes an office, a smaller classroom of 600 SF, and a storage room. This program may be a sports medicine, nursing, or dental, etc. program.

**BUSINESS EDUCATION**

- Business Education programs:
  - Provide instruction in office skills including keyboarding and accounting.
  - May be part of the Business and Leadership Academy.
  - Most business education programs can be housed in computer or technology labs.
- Business Education lab requirements:
  - Provide a lab space of 1,200 – 1,400 SF.
  - Include a sink, and adequate power and data for business machines and computers, with master power shut-off switches.
  - Include whiteboard, tackboard, and technology as for a general classroom.

**TECHNOLOGY EDUCATION (CAD AND GRAPHIC ARTS, WOODS TECHNOLOGY, METALS TECHNOLOGY, TRANSPORTATION TECHNOLOGY)**

- Typically consisted of a Drafting and Graphic Arts program, Woods Technology Shop, Metals Technology Shop, and Transportation (automotive and aviation) Technology Shop. Drafting and Graphics Arts may be part of the Fine Arts Curriculum. High schools may have one or more of the Technology Education labs.
- Provide display cases, and at least 112 metal box lockers, in the hallway/lobby of the Technology Education area. Lockers shall be 18” x 18” x 18” minimum.
- Some schools may include industrial cooperative training programs. These would typically require a large classroom of about 1,000 SF, an office, and a storage/library.
• See Appendix I for suggested equipment lists for Technology Education labs.

• Provide a separate room (about 250 SF) with sound isolation for compressors for pneumatic / compressed air equipment.

• Drafting and Graphics Arts includes a computer lab (1,200 SF to 3,100 SF), an office (120 SF), a server room (120 SF), a plotter room (225 SF), a secure storage room (245 SF), and a project storage room (200 SF).
  o The server room shall be accessed from the office, and shall not function as the building area IDF room.
  o Provide a 6” raised access floor over recessed slab throughout, except at built-ins (including casework).
  o In the computer lab, provide about 90 – 100 LF of countertop with base cabinets, six 3’ workspaces, and eight 3’ open shelf units with one horizontal shelf and the lower compartment divided into two spaces by a vertical divider.
  o In the plotter room, provide about 15 LF of space along a wall for countertop with one 3’ workspace, one 3’ base cabinet, and 9 LF of two tier vertical under-counter storage; also provide solid floor along wall for one 48 inch wide flat file.
  o In the project storage room and secure storage room, provide 24” deep metal shelving.
  o Provide a utility sink in the computer lab.
  o Provide a full wall erasable marker surface with continuous tack strip for display, marker dispenser, and tack tray.
  o Provide a projection screen with overhead projector rough-in in the computer lab.

• Woods Technology includes a laboratory (2,400 – 3,200 SF), classroom (600 – 750 SF), an office (120 SF), tools storage (400 SF), project storage (400 SF), and a finish area (220 SF).
  o Provide exterior access for deliveries and outside work. Include a covered exterior concrete slab of about 600 SF.
  o Accommodate painting outside. If an interior paint area is also provided, note that a Paint Spray Booth in accordance with the fire code, and other applicable codes, is required.
  o Coordinate utility requirements with woodworking equipment.
  o Indicate safety zones for woodworking equipment on floor surfaces.
  o Provide dust collection.
  o Provide a minimum of 156 lockers in the woods laboratory. Each locker shall be at least 12” x 12” x 12”.
  o Provide an eyewash and wash fountain in the woods shop. Include soap dispenser (receives APS supplied pouch soap refills – verify specified model with FD+C), towel dispenser and mirror.

• Metals Technology requires a laboratory (3,000 – 3,350 SF), classroom (600 – 750 SF), an office (120 SF), shop support/storage (1,200 SF), and welding room (540 SF).
  o The laboratory will accommodate welding, foundry and forge, sheet metal, pattern making, and machine tools.
o Provide exterior access for deliveries and outside work. Include an overhead door and hoist beam with motorized crane hoist in the metals laboratory.

o Provide a covered exterior concrete slab of about 600 SF, prepped for welding.

o Accommodate painting outside. If an interior paint area is also provided, note that a Paint Spray Booth in accordance with the fire code, and other applicable codes, is required.

o Coordinate utility requirements with metal working equipment.

o Indicate safety zones for metal working equipment on floor slabs.

o In the welding room, provide an entry curtain, individual booths also with curtains, and a 2A:20BC fire extinguisher.

o Provide lockable cages in the shop support/storage area for supply and project storage, gas manifolds, and tools.

o Provide a minimum of 112 lockers in the metals laboratory. Each locker shall be at least 18” x 18” x 18”.

o Provide an eyewash and wash fountain in the metal shop. Include soap dispenser (receives APS supplied pouch soap refills – verify specified model with FD+C), towel dispenser and mirror.

- Transportation Technology requires a laboratory (2,600 - 3,300 SF) with 4 automotive stalls comprising 2,400 SF, and a bench area of 900 SF; a classroom (600 SF) (can be shared with other shops); office (120 SF), tool area (180 SF); tool crib (180 SF); supply storage (130 SF); equipment storage (135 SF).

  o Space criteria and other requirements noted above may vary for programs that focus on avionics.

  o The laboratory shall include 4 automotive stalls (2,400 SF) and a bench area (900 SF).

  o Depending on program needs, welding booths may be required.

  o Coordinate requirements for utilities, including water, gas, compressed air, and power, for shop equipment.

  o Provide a screened exterior space for storage of automobiles.

  o Accommodate equipment safety requirements, including handling and storage of hazardous fluids.

  o Provide an eyewash and wash fountain in the transportation laboratory. Include soap dispenser (receives APS supplied pouch soap refills – verify specified model with FD+C), towel dispenser, and mirror.

**TECHNOLOGY EDUCATION LAB**

A Technology Education Lab supports project-based learning. It is a cross-curricular environment, with technology to solve problems, promote hands-on fabrication opportunities, and support team building skills. Curricula may include applied physics, general science, flight technology, robotics, power, mechanics, electronics, and others.

- Provide a flexible lab space that allows for multiple, collaborative workstation configurations.
One approach is to cluster computer workstation furniture into pods (for example, seven pods of five-sided workstations fed by power poles). Other configurations may also be appropriate.

U-shaped configuration is not appropriate because it does not support collaborative, project-based learning.

Provide power and data to support the technology stations.

- Provide space for 60” x 30” tables around the perimeter of the room with wiremold on walls above table height.
- Provide built-in upper cabinets.
- Provide acoustic control, storage, whiteboards and tackboards, and pencil sharpener block as for core classrooms.
- Provide polished concrete flooring; other finishes as for core classrooms.

OTHER SCHOOL SUPPORT

EDUCATION PROGRAM STORAGE

- Education program storage rooms are assigned at each grade level, or by academy. Provide 12 plastic laminate cabinets 36” wide x 84” high x 24” deep with lockable shelving units.
- 1 General storage area shall be accessed from the exterior, via double doors/removable mullion for yard equipment.

MDF AND IDF ROOMS

- The main services and distribution of all cable wire for all special systems goes through these rooms.
  - Conform to all requirements in APS Electrical Design Standards on the FD+C website (Main Communications Room and Intermediate Communications Room).
  - Seal all wall-to-roof and floor-to-wall joints to prevent dust infiltration.
  - Locate the MDF near the utility entry to school.
  - Rooms shall be acclimatized with good air exchange, free of dust, and operate 24 hours a day so no time clock interference.
  - No ceilings in MDF and IDF rooms.

IT OFFICE/COMPUTER MAINTENANCE SPACE

- Locate the IT office near the MDF.
  - Provide a 60” long x 36” deep workbench.
  - Provide a thermostat within the IT office.
- Provide a storage room next to the IT office.
CUSTODIAL SPACE

Provide sufficient custodial areas with hot and cold water to support efficient cleaning of all permanent and portable facilities. Custodial areas shall be conveniently distributed in a manner that is appropriate to serve entire school. Include:

- At least 1 custodial closet per building and per story.
- Minimum of 6 interior custodial areas per high school.
  - (1) 200 SF custodial room shall accommodate supplies and a desk. The remainder of custodial closets shall be 65 SF each.
- All custodial areas shall have:
  - (1) Custodial floor mop sink. The faucet at the mop sink shall be heavy duty with ¾” male garden hose threads on spout end, pail hook on top of cast brass spout and top reinforcing strut/bar and mounting bracket. Cover walls around sink with tile or stainless steel surround.
  - (1) Mop holder.
  - Sufficient shelves for storage.
  - Power outlet.
  - Active mechanical ventilation.
- Provide access to the roof in some of the custodial storage areas or nearby storage rooms (if not provided at exit stair towers).

SITE RECREATION

High School site recreation facilities include:

Track and Field:
- Multi-purpose Synthetic Turf Field: (195’ x 330’ = 64,350 square feet) striped for football and soccer.
- Track
- Pole vault pit
- Long jump pit
- Bleachers – 5 rows
- Football goalposts and storage
- Track storage

Multi-purpose grass/sod field (220’ x 350’)
- Soccer storage
- Bleachers – 5 rows

Multi-purpose grass/sod field. Consider shared use of baseball and/or softball outfield off-season.
- Baseball Field
- Softball Field
- Tennis Courts (6 minimum)
- Outdoor Basketball Courts (6 hoops minimum)
Share athletic facilities seasonally to maximize efficient use of facilities.

- **Track:** Install poly-urethane track, not latex. Poly-urethane will last 20 years.
  - Put concrete around the outside of the track. Dirt on the outside of the track will destroy the surface. Limit sprinklers adjacent to track.
  - Track is used all the time.

- **Configure track and field for efficient use of limited space.**
  - Install Poly-urethane at “D” end zone of Instead of synthetic turf, for MP field, AHS uses the end zones at field.
  - for cross country stretching
  - For ROTC.

- **Baseball club house and dug outs are the model.**
  - Restrooms are at baseball clubhouse only.

- **Use outfields of baseball and softball for fall PE and athletics fields.**
  - Home soccer games are played on softball field.
  - Outside groups don’t use field to maintain field.
  - May needs nets at outfield, mind uses on other side of outfield fence.

- **AHS fields are not open to the community. Locked by 5:30 PM. No one has asked to use it.**

- **No lights provided.**
  - Home night games not played here.
  - Only to prevent theft of bleachers.

- **Tennis courts:** Trend is to take them out and use club/public outside courts for a fee.
  - Courts are hard to keep resurfaced.
  - Four courts is not enough for PE or for athletics.
  - Provide six courts minimum, to be able to host competitions.
  - AHS and Sandia HS have no tennis courts. They go to a private club.

- **PE uses outside facilities, track, and fields, in fall and spring. In winter PE will use just inside space.**
# APPENDIX A. HIGH SCHOOL SPACE TABLE

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<td>h Site Drives (at 10% of parking)</td>
<td>1</td>
<td>43,755</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Athletic Amenities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Grassed Main Field</td>
<td>1</td>
<td>142,500</td>
</tr>
<tr>
<td>Track</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pole Vault Pit</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Long Jump Pit</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Bleachers football - 5 row</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Press Box</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>Concession Stand</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>Toilets</td>
<td>2</td>
<td>300</td>
</tr>
<tr>
<td>Football Storage</td>
<td>1</td>
<td>400</td>
</tr>
<tr>
<td>Track Storage</td>
<td>1</td>
<td>300</td>
</tr>
<tr>
<td>b Grassed Auxiliary Field</td>
<td>1</td>
<td>70,000</td>
</tr>
<tr>
<td>Soccer Storage</td>
<td>1</td>
<td>396</td>
</tr>
<tr>
<td>Bleachers Soccer - 5 Row</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>c Grassed Dirt Auxiliary Field</td>
<td>2</td>
<td>70,000</td>
</tr>
<tr>
<td>d Baseball Field</td>
<td>1</td>
<td>200,000</td>
</tr>
<tr>
<td>Backstop</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Dugout</td>
<td>2</td>
<td>200</td>
</tr>
<tr>
<td>Bleachers Baseball - 5 Row</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Batting Cage</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Baseball Storage</td>
<td>1</td>
<td>400</td>
</tr>
<tr>
<td>e Softball Field</td>
<td>1</td>
<td>70,000</td>
</tr>
<tr>
<td>Softball Storage</td>
<td>1</td>
<td>300</td>
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<tr>
<td>f Tennis Courts</td>
<td>6</td>
<td>7,200</td>
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<tr>
<td>Tennis Storage</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal School Site SF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Efficiency at 75%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF per Acre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Acres required for School Site</td>
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</table>
## School Design Standards

### Appendix

#### Appendix 151

<table>
<thead>
<tr>
<th>Space Description</th>
<th>APS HS Standard</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Spaces</td>
<td>NSF per Space</td>
</tr>
<tr>
<td><strong>Central Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Main Entry and Central Administration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Lobby/Reception</td>
<td>1</td>
<td>490</td>
</tr>
<tr>
<td>Waiting/Seating Area</td>
<td>1</td>
<td>145</td>
</tr>
<tr>
<td>b Administrative Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registrar/Data Processing</td>
<td>1</td>
<td>230</td>
</tr>
<tr>
<td>Bookkeeper</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>Attendance Office</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>Open Office Work Area</td>
<td>1</td>
<td>450</td>
</tr>
<tr>
<td>Administration Work Room</td>
<td>1</td>
<td>220</td>
</tr>
<tr>
<td>Coffee/Break Bar</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>Administration Conference Room</td>
<td>1</td>
<td>335</td>
</tr>
<tr>
<td>Mail</td>
<td>1</td>
<td>420</td>
</tr>
<tr>
<td>Test Preparation Room</td>
<td>1</td>
<td>300</td>
</tr>
<tr>
<td>File Room</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Vault</td>
<td>1</td>
<td>75</td>
</tr>
<tr>
<td>Administration Storage Area</td>
<td>1</td>
<td>515</td>
</tr>
<tr>
<td>c Principal Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Office</td>
<td>1</td>
<td>220</td>
</tr>
<tr>
<td>Secretary</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>Principal Restroom</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>d Parent Room/Family Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Area</td>
<td>1</td>
<td>580</td>
</tr>
<tr>
<td>Staff Offices</td>
<td>2</td>
<td>105</td>
</tr>
<tr>
<td>Break Area</td>
<td>1</td>
<td>170</td>
</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Restroom</td>
<td>1</td>
<td>65</td>
</tr>
<tr>
<td>e Career Exploration Center</td>
<td>1</td>
<td>320</td>
</tr>
<tr>
<td>May be subdivided into meeting and office spaces.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f In-House Suspension Room</td>
<td>1</td>
<td>840</td>
</tr>
<tr>
<td>g Security Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>220</td>
</tr>
<tr>
<td>APD</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>Delinquent Hold Room</td>
<td>1</td>
<td>90</td>
</tr>
<tr>
<td>CCTV Monitoring Room</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>CCTV Equipment Room</td>
<td>1</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Education Areas - Refer to Appendix B**

#### Media Center

<table>
<thead>
<tr>
<th>Space Description</th>
<th>APS HS Standard</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Circulation Desk</td>
<td>1</td>
<td>290</td>
</tr>
<tr>
<td>Circulation Storage</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>b Main Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stacks / Reference Collection</td>
<td>1</td>
<td>1,780</td>
</tr>
<tr>
<td>Classroom Area/Study Tables</td>
<td>1</td>
<td>1,370</td>
</tr>
<tr>
<td>Computer Stations</td>
<td>1</td>
<td>450</td>
</tr>
<tr>
<td>Reading Alcoves</td>
<td>1</td>
<td>530</td>
</tr>
</tbody>
</table>

Includes 2 to 3 workstations and countertop layout area

For about 18,000 volumes

36 Seats, minimum

16 Stations, minimum

Soft seating area (about 25
<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodicals</td>
<td>1</td>
<td>48</td>
<td>48</td>
<td>48 Linear feet</td>
</tr>
<tr>
<td>Student Copiers</td>
<td>1</td>
<td>75</td>
<td>75</td>
<td>1 or 2 copiers</td>
</tr>
<tr>
<td>Search Computer</td>
<td>1</td>
<td>75</td>
<td>75</td>
<td>1 Dedicated computer</td>
</tr>
<tr>
<td>Librarian's Office</td>
<td>1</td>
<td>170</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>Workroom</td>
<td>1</td>
<td>275</td>
<td>275</td>
<td>Includes kitchenette</td>
</tr>
<tr>
<td>Conference/Seminar Classroom</td>
<td>1</td>
<td>800</td>
<td>800</td>
<td>Can be subdivided in 2 smaller spaces</td>
</tr>
<tr>
<td>General Storage</td>
<td>1</td>
<td>745</td>
<td>745</td>
<td>Includes IT/AV storage</td>
</tr>
<tr>
<td>Graphic Production Classroom</td>
<td>1</td>
<td>475</td>
<td>475</td>
<td></td>
</tr>
<tr>
<td>Graphic Production Lab</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Graphic Production Storage</td>
<td>1</td>
<td>110</td>
<td>110</td>
<td>For shelved items and carts. Provide power and data.</td>
</tr>
<tr>
<td>Computer Lab</td>
<td>2</td>
<td>1,305</td>
<td>2,610</td>
<td></td>
</tr>
<tr>
<td>Computer Lab Storage</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Professional Room</td>
<td>1</td>
<td>440</td>
<td>440</td>
<td>Can be located in Central Administration</td>
</tr>
<tr>
<td>Book Room</td>
<td>1</td>
<td>1,830</td>
<td>1,830</td>
<td></td>
</tr>
<tr>
<td>Public Toilets</td>
<td>2</td>
<td>230</td>
<td>460</td>
<td>Also provide convenient access to student toilets from the library.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Subtotal</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12,838</td>
<td></td>
</tr>
</tbody>
</table>

- Provide daylight. Window sill height shall be 48” above floor to allow for shelving below.
- Provide sound system, projector, and projection screen. Coordinate with APS staff architect.

### Performing Arts Center (PAC)

<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance / Pre-Function</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry Vestibule</td>
<td>2</td>
<td>175</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Lobby</td>
<td>1</td>
<td>2,320</td>
<td>2,320</td>
<td>Can be combined with coats</td>
</tr>
<tr>
<td>Ticket Window</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td>Can be combined with tickets</td>
</tr>
<tr>
<td>Coat Window</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Concessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Toilets (multi-stall)</td>
<td>2</td>
<td>300</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Public Toilets (individual)</td>
<td>2</td>
<td>65</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Theater</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seating</td>
<td>1</td>
<td>5,160</td>
<td>5,160</td>
<td>450 Seats (including mezzanine)</td>
</tr>
<tr>
<td>Orchestra Pit</td>
<td>1</td>
<td>550</td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>Stage, including Backstage</td>
<td>1</td>
<td>2,900</td>
<td>2,900</td>
<td>Include proscenium arch with apron.</td>
</tr>
<tr>
<td>Control and AV Rooms</td>
<td>1</td>
<td>620</td>
<td>620</td>
<td>Distribute area as required</td>
</tr>
<tr>
<td>Drama Classroom/Green Room</td>
<td>1</td>
<td>900</td>
<td>900</td>
<td>Provide features as per a core classroom. During performances, this classroom functions as a green room. Location adjacent to dressing, make-up, and wardrobe rooms.</td>
</tr>
<tr>
<td>Office</td>
<td>0</td>
<td>120</td>
<td>0</td>
<td>Not required</td>
</tr>
<tr>
<td>Dressing Room</td>
<td>2</td>
<td>240</td>
<td>480</td>
<td>Consider 2 more dressing</td>
</tr>
</tbody>
</table>
### APS HS Standard

<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>rooms for adults</td>
</tr>
<tr>
<td>f Dressing Room Toilet</td>
<td>2</td>
<td>80</td>
<td>160</td>
<td>Consider 2 more toilet rooms for adults</td>
</tr>
<tr>
<td>g Make-Up Room</td>
<td>2</td>
<td>200</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>h Wardrobe/Costume Storage</td>
<td>1</td>
<td>265</td>
<td>265</td>
<td></td>
</tr>
<tr>
<td>i Set-Building/Work Area</td>
<td>1</td>
<td>2,485</td>
<td>2,485</td>
<td></td>
</tr>
<tr>
<td>j Storage</td>
<td>1</td>
<td>435</td>
<td>435</td>
<td>Can be combined with set-building</td>
</tr>
<tr>
<td>k Receiving</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>Included in work area; Share the receiving area between the PAC and the black box.</td>
</tr>
<tr>
<td>m Mechanical</td>
<td>1</td>
<td>1,800</td>
<td>1,800</td>
<td></td>
</tr>
<tr>
<td>n Electrical</td>
<td>1</td>
<td>160</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>o Telcom</td>
<td>1</td>
<td>185</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong> 20,200</td>
</tr>
</tbody>
</table>

- Consider an outdoor performance venue in close proximity to the PAC.
- **Configure such that the PAC and black box can be secured while providing student access to the drama classroom.**

#### Black Box

<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Black Box Theater</td>
<td>1</td>
<td>2,360</td>
<td>2,360</td>
<td>Shall be a rectangular space with recessed wood stage floor (may have concrete border). Provide space for portable risers to accommodate 70 to 100 seats.</td>
</tr>
<tr>
<td>b Staging / Set-Up</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Share PAC work area. If Black Box is located in a separate facility, then provide 200 SF.</td>
</tr>
<tr>
<td>c Equipment Storage</td>
<td>1</td>
<td>225</td>
<td>225</td>
<td>For storage of portable risers, chairs, cart for transporting the risers, and other equipment.</td>
</tr>
<tr>
<td>d Public Restrooms</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Share PAC restrooms. If Black Box is located in a separate facility, then provide 2 restrooms at 200 SF each.</td>
</tr>
<tr>
<td>e Pre-Function Area</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Share Pre-Function/Lobby space with PAC.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong> 2,585</td>
</tr>
</tbody>
</table>

- Locate the Kiva Area adjacent to the PAC for shared use of support spaces (lobby, toilets, storage, staging, set-up, etc).
- Provide a theater sound system.
- Tune acoustics for spoken word and small music performances.
- Provide a wire tension grid above for stagecraft. Provide access to the grid from outside the space.
- Grid to accommodate max live load of 15,000 pounds, and a max live load of 700 pounds on any 1 pipe hanger.
- Provide support and power for theater lighting around perimeter of room, and on the tension grid.

#### Physical Education

<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Lobby / Pre-Function</td>
<td>1</td>
<td>3,000</td>
<td>3,000</td>
<td>Assume 400 occupants at 7.5 SF per occupant.</td>
</tr>
<tr>
<td>b Tickets</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>c Snack Bar</td>
<td>1</td>
<td>340</td>
<td>340</td>
<td></td>
</tr>
<tr>
<td>Space Description</td>
<td># Spaces</td>
<td>NSF per Space</td>
<td>Subtotal NSF</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>--------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Service</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td>3 compartment sink and mop sink.</td>
</tr>
<tr>
<td>Dry Storage</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>d Public Toilets (Women/Men)</td>
<td>2</td>
<td>230</td>
<td>460</td>
<td></td>
</tr>
<tr>
<td>e Public Toilets (Women/Men)</td>
<td>2</td>
<td>325</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td>f Public Toilet (Family)</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>g Student Toilets</td>
<td>2</td>
<td>325</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td>h Ice and Laundry Room</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>i Athletic Director’s Office</td>
<td>1</td>
<td>150</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>j Athletic Director Storage</td>
<td>1</td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>k Open Office Area</td>
<td>1</td>
<td>900</td>
<td>900</td>
<td>For athletic coaches. Assume 60 SF per workstation; verify number of required workstations during programming phase.</td>
</tr>
<tr>
<td>l Huddle Room</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td>More than 1 huddle room may be recommended based on number of open workstations.</td>
</tr>
<tr>
<td>m Restrooms for Open Office</td>
<td>2</td>
<td>65</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>n Private Offices</td>
<td>2</td>
<td>120</td>
<td>240</td>
<td>For PE instructors.</td>
</tr>
<tr>
<td>Private Office Storage</td>
<td>2</td>
<td>100</td>
<td>200</td>
<td></td>
</tr>
<tr>
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<td>bb Telecom/IT</td>
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</table>

**Student Activities Center**

| a Activities Room                         | 1        | 700           | 700          | Include built-in storage and lockers, sink, and countertop work surfaces. May include overhead roll-up countertop |

<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
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<td>r Adaptive PE Mezzanine</td>
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<tr>
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<td>2,600</td>
<td>2,600</td>
<td>Could be located in Business + Leadership Academy. Includes air rifle firing range.</td>
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<td>Classroom</td>
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<tr>
<td>Offices</td>
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<tr>
<td>Air Rifle Storage</td>
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<tr>
<td>Drill Storage</td>
<td>1</td>
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<td>Includes laundry area.</td>
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<tr>
<td>Uniform Storage</td>
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<td>Train Aids Storage</td>
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<td>Athletic Storage B</td>
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<tr>
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<td>Includes equipment, first aid, and treatment areas.</td>
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**Student Activities Center**

<p>| a Activities Room                         | 1        | 700           | 700          | Include built-in storage and lockers, sink, and countertop work surfaces. May include overhead roll-up countertop |</p>
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</tr>
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<td>1,130</td>
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<td>Subtotal</td>
<td></td>
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</tr>
<tr>
<td>a  Academy Administration</td>
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</tr>
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<td>Lobby/Waiting</td>
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<td>350</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Secretary/Reception/Work Station</td>
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<td>110</td>
<td>110</td>
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</tr>
<tr>
<td>Dean/Assistant Principal</td>
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<tr>
<td>Faculty Restrooms</td>
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<td>Notes</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>--------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Conference</td>
<td>1</td>
<td>280</td>
<td>280</td>
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</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td>185</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td>b Academic Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Classroom</td>
<td>4</td>
<td>840</td>
<td>3,360</td>
<td>Include 1 accessible student station</td>
</tr>
<tr>
<td>Science Classroom/Lab</td>
<td>2</td>
<td>1,300</td>
<td>2,600</td>
<td>Shared between pairs of science labs</td>
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<tr>
<td>Science Prep/Storage</td>
<td>1</td>
<td>450</td>
<td>450</td>
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<tr>
<td>Project Studio</td>
<td>1</td>
<td>1,360</td>
<td>1,360</td>
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</tr>
<tr>
<td>Student Team Area</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td>Open to hallway/circulation space</td>
</tr>
<tr>
<td>Conference/Seminar Room</td>
<td>1</td>
<td>625</td>
<td>625</td>
<td></td>
</tr>
<tr>
<td>Teacher Home Base</td>
<td>1</td>
<td>600</td>
<td>600</td>
<td>Include 6 to 8 workstations plus break area with fridge, microwave, single basin sink, and countertop.</td>
</tr>
<tr>
<td>Teacher Restrooms</td>
<td>2</td>
<td>65</td>
<td>130</td>
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</tr>
<tr>
<td>Student Lockers</td>
<td>150</td>
<td>5</td>
<td>750</td>
<td>1 Per student at target enrollment, 5 SF each</td>
</tr>
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<td>Student Restrooms</td>
<td>2</td>
<td>215</td>
<td>430</td>
<td></td>
</tr>
<tr>
<td>c Academy Dining Commons</td>
<td>1</td>
<td>2,000</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Warming Kitchen</td>
<td>2</td>
<td>230</td>
<td>460</td>
<td></td>
</tr>
<tr>
<td>Serving Area(s)</td>
<td>2</td>
<td>220</td>
<td>440</td>
<td></td>
</tr>
<tr>
<td>Student Restroom</td>
<td>2</td>
<td>215</td>
<td>430</td>
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</tr>
<tr>
<td>Storage</td>
<td>0</td>
<td>225</td>
<td>0</td>
<td>Locate adjacent to servery</td>
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<tr>
<td>Janitor Closet</td>
<td>1</td>
<td>60</td>
<td>60</td>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>15,710</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Specialized Classrooms - Arts Center**

| a 2D - Drawing / Painting       |          |               |              |                                                                   |
| Classroom Studio                | 1        | 1,305         | 1,305        | Provide whiteboard, tackboard, and interactive whiteboard. Include casework, work sink, and separate handsink. Work sink shall be stainless steel with integral drainboards and clay trap. |
| Storage                         | 1        | 265           | 265          | For storage of supplies and easels.                               |
| Office                          | 1        | 120           | 120          | Provide visual supervision of the classroom from the office.      |

| b 3D - Ceramics                 |          |               |              |                                                                   |
| Classroom Studio                | 1        | 1,325         | 1,325        |                                                                   |
| Kiln                            | 1        | 150           | 150          |                                                                   |
| Drying Room                     | 1        | 150           | 150          |                                                                   |
| Office                          | 1        | 120           | 120          |                                                                   |
| Storage                         | 1        | 360           | 360          |                                                                   |

<p>| c Computer Graphics / Editing   |          |               |              |                                                                   |
| Classroom Studio                | 1        | 1,235         | 1,235        | Shared with Film Studio                                           |
| Storage                         | 1        | 180           | 180          |                                                                   |</p>
<table>
<thead>
<tr>
<th>Space Description</th>
<th>APS HS Standard</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Spaces</td>
<td>NSF per Space</td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td>d Film Studio</td>
<td>1</td>
<td>1,935</td>
</tr>
<tr>
<td>Classroom Studio</td>
<td>1</td>
<td>1,935</td>
</tr>
<tr>
<td>Sound Recording/Control Room</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>Whisper Room</td>
<td>1</td>
<td>70</td>
</tr>
<tr>
<td>Vestibule</td>
<td>1</td>
<td>140</td>
</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>e Photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Area</td>
<td>1</td>
<td>785</td>
</tr>
<tr>
<td>Darkroom / Finishing</td>
<td>1</td>
<td>720</td>
</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td>120</td>
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<td>120</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
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</tr>
</tbody>
</table>

Specialized Classrooms - Music Center

<table>
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<th>APS HS Standard</th>
<th>Notes</th>
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<tbody>
<tr>
<td></td>
<td># Spaces</td>
<td>NSF per Space</td>
</tr>
<tr>
<td>a Band</td>
<td>1</td>
<td>2,345</td>
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<tr>
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<td>525</td>
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<tr>
<td>Instrument Workroom</td>
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<tr>
<td>Percussion Storage</td>
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<td>230</td>
</tr>
<tr>
<td>Uniform Storage</td>
<td>1</td>
<td>310</td>
</tr>
<tr>
<td>Practice</td>
<td>4</td>
<td>55</td>
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<tr>
<td>Ensemble</td>
<td>2</td>
<td>310</td>
</tr>
<tr>
<td>Library</td>
<td>1</td>
<td>135</td>
</tr>
<tr>
<td>Sound Control Room</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>b Orchestra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Area</td>
<td>1</td>
<td>1,185</td>
</tr>
<tr>
<td>High Strings Storage</td>
<td>1</td>
<td>280</td>
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## Appendices

### 159 APS HS Standard

<table>
<thead>
<tr>
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<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Strings Storage</td>
<td>1</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td>2</td>
<td>55</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Ensemble</td>
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<td>250</td>
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</tr>
<tr>
<td>Library</td>
<td>1</td>
<td>260</td>
<td>260</td>
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</tr>
<tr>
<td>Listening Room</td>
<td>1</td>
<td>145</td>
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</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Chorus</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Classroom Area</td>
<td>1</td>
<td>1,560</td>
<td>1,560</td>
<td></td>
</tr>
<tr>
<td>Large Storage</td>
<td>1</td>
<td>390</td>
<td>390</td>
<td></td>
</tr>
<tr>
<td>Small Storage</td>
<td>1</td>
<td>80</td>
<td>80</td>
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</tr>
<tr>
<td>Ensemble</td>
<td>1</td>
<td>165</td>
<td>165</td>
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</tr>
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<td>Ensemble / Piano Lab</td>
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</tr>
<tr>
<td>Library</td>
<td>1</td>
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<td>130</td>
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</tr>
<tr>
<td>Office</td>
<td>1</td>
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<td><strong>Subtotal</strong></td>
<td></td>
<td><strong>10,075</strong></td>
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</table>

- Band, Chorus, and Orchestra spaces may be separate or combined based on program need; Consult APS CMP.
- Additional program spaces may be provided for guitar, piano, and mariachi; Consult APS CMP.
- Acoustically isolate music program spaces from each other and from the rest of the school.
- Floors shall be level; no built-in risers.
- Consider a computer lab near the music suite for composition and theory classes.
- Consider a computer lab near the music suite for composition and theory classes.

### Additional Specialized Classrooms

<table>
<thead>
<tr>
<th>Category</th>
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<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Lab Area</td>
<td>1</td>
<td>1000</td>
<td>1,000</td>
<td>Can be shared among 2 to 4 computer labs</td>
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<td>1</td>
<td>65</td>
<td>65</td>
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<tr>
<td>Tiered Lecture</td>
<td>1</td>
<td>2290</td>
<td>2,290</td>
<td>SLC capacity</td>
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<tr>
<td>Greenhouse</td>
<td>1</td>
<td>990</td>
<td>990</td>
<td>Sandia = 40&quot;-6&quot; x 24&quot;-6&quot;</td>
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<td>Technology Shop</td>
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<td>2475</td>
<td>2,475</td>
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<td>Senate / Gov't Activities Studio</td>
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<td>1300</td>
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<tr>
<td>Culinary Arts</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Classroom/Café Environment</td>
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<td>965</td>
<td>965</td>
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<tr>
<td>Commercial Lab Area</td>
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<td>575</td>
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<tr>
<td>Kitchenette Area</td>
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<td>965</td>
<td>965</td>
<td></td>
</tr>
<tr>
<td>Laundry</td>
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<td>105</td>
<td>105</td>
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</tr>
<tr>
<td>Storage</td>
<td>1</td>
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<td>100</td>
<td></td>
</tr>
<tr>
<td>Sewing/Fashion Lab</td>
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<td>APS HS Standard</td>
<td>Notes</td>
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<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
<td>--------------------------------------------</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>#</td>
<td>NSF per</td>
<td>Subtotal</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Space</td>
<td>NSF</td>
<td></td>
</tr>
<tr>
<td>Laundry</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td></td>
<td>h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Development Lab</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Occupation Lab</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>j</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Business Education Lab</td>
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<td>60</td>
<td>60</td>
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</tr>
<tr>
<td></td>
<td>k</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drafting and Graphic Arts</td>
<td>1</td>
<td>60</td>
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</tr>
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<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woods Technology</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td>Can be shared among other shops</td>
</tr>
<tr>
<td></td>
<td>m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metals Technology</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td>Can be shared among other shops</td>
</tr>
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<td></td>
</tr>
<tr>
<td>Transportation Technology</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Education Lab</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Project storage and secure storage
- Tools and project storage
- Can be shared among other shops
- Includes bench area (about 900 SF)
- Supply storage and equipment storage
<table>
<thead>
<tr>
<th>Space Description</th>
<th># Spaces</th>
<th>NSF per Space</th>
<th>Subtotal NSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Other Facility Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Storage</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Educational Program Storage</td>
<td>1</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Exterior General Storage</td>
<td>1</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>b Special Systems</td>
<td>1</td>
<td>96</td>
<td>96</td>
<td>1 per building</td>
</tr>
<tr>
<td>MDF</td>
<td>1</td>
<td>96</td>
<td>96</td>
<td>1 per floor</td>
</tr>
<tr>
<td>IT Office</td>
<td>1</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>c Custodial</td>
<td>1</td>
<td>60</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Office/Supplies</td>
<td>1</td>
<td>200</td>
<td>200</td>
<td>1 per school</td>
</tr>
<tr>
<td>Janitor's Closet</td>
<td>1</td>
<td>65</td>
<td>65</td>
<td>1 per building and 1 per floor, minimum</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>1,617</td>
<td></td>
</tr>
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APPENDIX B. SPECIAL EDUCATION DESIGN STANDARDS

CONCEPTUAL DRAWINGS

The following are conceptual drawings of the Ancillary Support Suite at Hubs and Non-Hubs for elementary, middle, and high schools:

☑️ Standard Ancillary Support Suite for Elementary and Middle School

![Diagram of Standard Ancillary Support Suite for Elementary and Middle School]

<table>
<thead>
<tr>
<th>Standard Ancillary Support Suite, Elementary and Middle School</th>
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</thead>
<tbody>
<tr>
<td><strong>Student Population</strong></td>
</tr>
<tr>
<td>Instructional/Therapy Space with Swing (OT/PT and APE)</td>
</tr>
<tr>
<td>Therapy space Storage (OT/PT and APE)</td>
</tr>
<tr>
<td>Office Workstation Hub (60 sf each, 2 workstations)</td>
</tr>
<tr>
<td>Private Student Meeting Area</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

1. (Social Workers, Speech Language Pathologist, Occupational Therapists, Physical Therapists, Adapted PE teacher). For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.

2. One Private Student Meeting Area for every 2.0 FTE. To be used fluidly by ancillary staff. The number of Private Student Meeting Areas is contingent on FTE allocation and shall be determined at the time of design program of space.
Hub Ancillary Support Suite for Elementary and Middle School

<table>
<thead>
<tr>
<th>Space</th>
<th>Size (sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional/Therapy Space with Swing (OT/PT and APE)</td>
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</tr>
<tr>
<td>Therapy space Storage (OT/PT and APE)</td>
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</tr>
<tr>
<td>Office Workstation Hub (60 sf each, 2 workstations)</td>
<td>120</td>
</tr>
<tr>
<td>Private Student Meeting Area²</td>
<td>130</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,180</strong></td>
</tr>
</tbody>
</table>

1. (Social Workers, Speech Language Pathologist, Occupational Therapists, Physical Therapists, Adapted PE teacher). For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.

2. One Private Student Meeting Area for every 2.0 FTE. To be used fluidly by ancillary staff. The number of Private Student Meeting Areas is contingent on FTE allocation and shall be determined at the time of design program of space.
### High School Ancillary Support Suite

<table>
<thead>
<tr>
<th>Space</th>
<th>Size (sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional/Therapy Space with Swing (OT/PT)</td>
<td>840</td>
</tr>
<tr>
<td>Therapy space Storage (OT/PT)</td>
<td>90</td>
</tr>
<tr>
<td>Office Workstation Hub (60 sf each, 4 stations)</td>
<td>240</td>
</tr>
<tr>
<td>Private Student Meeting Area A 2</td>
<td>130</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,430</strong></td>
</tr>
</tbody>
</table>

1. *To be used fluidly by Social Workers, Speech Language Pathologist, Occupational Therapists, Physical Therapists, Adapted PE teacher. For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.*

2. *One Private Student Meeting Area for every 2.0 FTE. To be used fluidly by ancillary staff. The number of Private Student Meeting Areas is contingent on FTE allocation and shall be determined at the time of design program of space.*
ELEMENTARY SCHOOL SPECIAL EDUCATION DESIGN STANDARDS

Consult with Capital Master Plan at the time of design program of space to determine the types and numbers of SPED spaces needed. Not all SPED programs are delivered at every school.

### ELEMENTARY SCHOOL SPECIAL EDUCATION DESIGN STANDARDS

#### SPED Instructional Classrooms

<table>
<thead>
<tr>
<th>SPED Instructional Classrooms</th>
<th>Co-located Total SF</th>
<th>PTR</th>
<th>Non-Hub Description</th>
<th>Co-located District Hub Description</th>
<th>Non Hub Total SF</th>
<th>Co-Located Hub Total SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gifted</td>
<td>840</td>
<td>24</td>
<td>840 SF General Classroom</td>
<td>same as non-hub</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td>Cross Categorical</td>
<td>840</td>
<td>8 to 24</td>
<td>840 SF General Classroom</td>
<td>same as non-hub</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td>District Early Childhood (Developmental Preschool Program)/ Kindergarten¹</td>
<td>1250</td>
<td>8</td>
<td>Development Preschool Program classrooms shall be constructed in 2 classroom units. Each classroom shall be 1,250 SF to include private ADA bathroom with changing table and storage.²</td>
<td>same as non-hub</td>
<td>1250</td>
<td>1250</td>
</tr>
<tr>
<td>Levels 1 and 2: Social Emotional Support Services (SES 1 and SES 2)</td>
<td>840</td>
<td>8</td>
<td>815 SF Classroom and 25 SF quiet room for a total 840 SF. The Quiet Room to have the following components: floor and walls surfaces made from durable and cleanable materials that cannot be easily damaged, no outlets or light switches on interior walls.³ and ⁵</td>
<td>same as non-hub</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td>Levels 1 and 2: Intensive Global Support Services (IGS 1 and IGS2)</td>
<td>840 SF plus storage and shared Kitchenette and Restroom</td>
<td>8</td>
<td>IGS classrooms are designed in sets of two with the objective of sharing the restroom, kitchenette and storage. The classroom is a standard classroom including sink for 840 SF. Each classroom shall have 1 storage area of 80 SF each and 1 shared storage area of 160 SF (80 SF each). The shared kitchenette is 70 SF and provides ADA access. It includes an area for stacked washer and dryer, an area for an efficiently sized refrigerator, a counter with sink, and a microwave above the sink. Storage cabinets are also provided above the counter area (doors/no doors). The microwave is not for student use. The ADA restroom is 110 SF and has a standard changing table (motorized to adjust height). Doors throughout the classroom and shared suite are placed in locations where they do not block the accommodation and placement of a Hoyer or Arjo lifting system near the shared restroom.⁴</td>
<td>same as non-hub</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td>Levels 1, 2, and 3: Social and Communication Support Services (SCS 1, SCS 2, and SCS 3)</td>
<td>840</td>
<td>8</td>
<td>815 SF Classroom and 25 SF quiet space (to include specialized lighting and furniture) for a total 840 SF. Quiet space is meant to refocus and relax; quiet space can be accomplished with furniture.³ and ⁵</td>
<td>same as non-hub</td>
<td>840</td>
<td>840</td>
</tr>
</tbody>
</table>

#### SPED Administration Spaces

<table>
<thead>
<tr>
<th>SPED Administration Spaces</th>
<th>Co-located Total SF</th>
<th>Non-Hub Description</th>
<th>Co-located District Hub Description</th>
<th>Total SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualized Educational Plan (IEP) Meeting Room</td>
<td>240</td>
<td>A space for 16 people (240 SF). Include VOIP capabilities with Active Panel and data.</td>
<td>same as non-hub</td>
<td>240</td>
</tr>
<tr>
<td>Head SPED Teacher⁶</td>
<td>120</td>
<td>Office with VOIP capabilities</td>
<td>same as non-hub</td>
<td>120</td>
</tr>
<tr>
<td>SPED Assistant Principal⁶</td>
<td>120</td>
<td>Office with VOIP capabilities</td>
<td>same as non-hub</td>
<td>120</td>
</tr>
</tbody>
</table>
The SPED Ancillary Support Suite will accommodate the following staff: Social Worker (SW), Speech Language Pathologist (SLP), Occupational Therapist (OT), and Physical Therapist (PT), and Adapted PE (APE). The suite includes: instructional/therapy space with swing, therapy space storage, office workstation hub (based on FTE), and private student meeting area.²

<table>
<thead>
<tr>
<th>SPED Administration Spaces</th>
<th>Non-Hub Description</th>
<th>Total SF</th>
<th>Co-located District Hub Description</th>
<th>Total SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional/Therapy Space</td>
<td>This space includes an area for a table to provide 1:1 student instruction. This room includes a ceiling hook for a therapy swing that is located at the center of the open space relative to the edge of the student instructional area. A whiteboard is required for instruction. Furniture needs include non-built-in cubbies with counter and a wardrobe for storage. No active panels are needed. Through scheduling, this space is designed to be used fluidly by all ancillary staff, giving priority to OT/PT therapy instruction and service needs. To have adjacent access to the Office workstation hub to facilitate ancillary staff circulation.</td>
<td>500</td>
<td>Instructional /Therapy Space at a collocated hub is larger.</td>
<td>840</td>
</tr>
<tr>
<td>Therapy Space Storage</td>
<td>A storage area is provided with direct access to the OT/PT instructional therapy space. Double doors are provided, similar to doors found in a gym, providing access for wide equipment. The storage room also features vertical storage shelves.</td>
<td>90</td>
<td>same as non-hub</td>
<td>90</td>
</tr>
<tr>
<td>Office Workstation Hub⁸</td>
<td>An office area to accommodate two workstations and cabinet to store personal belongings. More than two people, reflecting that ancillary staff positions are often part-time, may use the two workstations. Various ancillary staff assigned to the school will use the two workstations fluidly. VOIP capabilities are provided as per office standards. The office workstation has access to the one-on-one private Student Meeting Area.</td>
<td>120</td>
<td>same as non-hub</td>
<td>120</td>
</tr>
<tr>
<td>Private Student Meeting Area⁹</td>
<td>A private area with adjacent access to the office workstation area will allow ancillary staff to meet privately with students for delivery of instruction or service. This area will accommodate a small table and chairs for 2 to 4 people. VOIP capabilities provided.</td>
<td>130</td>
<td>same as non-hub</td>
<td>130</td>
</tr>
</tbody>
</table>

1. Pre-School outdoor play area and Bathroom to 3-5 year old standard
2. PreK classrooms will share an appliance area: a refrigerator is needed; only one appliance area is needed in school for pair of DPP programs; sink for food prep - these spaces are for adult use; Instructional kitchenette not needed for student instruction at the PreK level.
3. See detailed SPED standards regarding surfaces and fixtures in Quiet Spaces.
4. IGS classrooms shall be constructed in 2 classroom units with shared Appliance and Bathroom areas for a total of 2,180 SF.
5. Close proximity to school restrooms are given preference to District Programs SES and SCS classrooms over the general 1st through 5th grades classrooms.
6. To facilitate Ancillary Staff collaboration and flexible, functional space, VOIP capabilities are to be outfitted throughout the Ancillary Support Suite.
7. For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be
8. For every 2.0 FTE, one private student meeting area is needed (2:1 ratio). The number of private student meeting areas shall be determined at the time of design program of space.
Consult with Capital Master Plan at the time of design program of space to determine the types and numbers of SPED spaces needed. Not all SPED programs are delivered at every school.

### MIDDLE SCHOOL SPECIAL EDUCATION DESIGN STANDARDS

**Gifted**
- **SPED Instructional Classrooms**
  - PTR: 24
- **Non-Hub Description**: 840 SF General Classroom
- **Total SF**: 840

**Cross Categorical**
- **Non-Hub Description**: 840 SF General Classroom
- **Total SF**: 840

**Levels 1 and 2: Social Emotional Support Services (SES 1 and SES 2)**
- **Non-Hub Description**: 815 SF Classroom and 25 SF quiet room for a total 840 SF. The Quiet Room to have the following components: floor and walls surfaces made from durable and cleanable materials that cannot be easily damaged, no outlets or light switches on interior walls. 1 and 3
- **Total SF**: 1250

**Levels 1 and 2: Intensive Global Support Services (IGS 1 and IGS2)**
- **Non-Hub Description**: IGS classrooms are designed in sets of two with the objective of sharing the restroom, kitchenette and storage. The classroom is a standard classroom including sink for 840 SF. Each classroom shall have 1 storage area of 80 SF each and 1 shared storage area of 160 SF (80 SF each). The shared kitchenette is 70 SF and provides ADA access. It includes an area for stacked washer and dryer, an area for an efficiently sized refrigerator, a counter with sink, and a microwave above the sink. Storage cabinets are also provided above the counter area (doors/no doors). The microwave is not for student use. The ADA restroom is 110 SF and has a standard changing table (motorized to adjust height). Doors throughout the classroom and shared suite are placed in locations where they do not block the accommodation and placement of a Hoyer or Arjo lifting system near the shared restroom. 4
- **Total SF**: 840 SF plus storage and shared Kitchenette and Restroom

**Levels 1, 2, and 3: Social and Communication Support Services (SCS 1, SCS 2, and SCS 3)**
- **Non-Hub Description**: 815 SF Classroom and 25 SF quiet space (to include specialized lighting and furniture) for a total 840 SF. Quiet space is meant to refocus and relax; quiet space can be accomplished with furniture. 1 and 3
- **Total SF**: 840

### SPED Administration Spaces

**Non-Hub Description**
- **Total SF**: 240
- **Co-located District Hub Description**: 240

**Individualized Educational Plan (IEP) Meeting Room**
- **Non-Hub Description**: A space for 16 people (240 SF). Include VOIP capabilities with Active Panel and data.

**Head SPED Teacher**
- **Non-Hub Description**: Office with VOIP capabilities
- **Total SF**: 120
- **Co-located District Hub Description**: 120

**SPED Assistant Principal**
- **Non-Hub Description**: Office with VOIP capabilities
- **Total SF**: 120
- **Co-located District Hub Description**: 120

---

*The SPED Ancillary Support Suite will accommodate the following staff: Social Worker (SW), Speech Language Pathologist (SLP), Occupational*
Therapist (OT), and Physical Therapist (PT), and Adapted PE. The suite includes: instructional/therapy space with swing, therapy space storage, office workstation hub (based on FTE), and private student meeting area.5

<table>
<thead>
<tr>
<th>Suite</th>
<th>Description</th>
<th>Instructional/Therapy Space</th>
<th>Therapy Space Storage</th>
<th>Office Workstation Hub</th>
<th>Private Student Meeting Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional/Therapy Space</td>
<td>This space includes an area for a table to provide 1:1 student instruction. This room includes a ceiling hook for a therapy swing that is located at the center of the open space relative to the edge of the student instructional area. A whiteboard is required for instruction. Furniture needs include non-built-in cubbies with counter and a wardrobe for storage. No active panels are needed. Through scheduling, this space is designed to be used fluidly by all ancillary staff, giving priority to OT/PT therapy instruction and service needs. To have adjacent access to the Office workstation hub to facilitate ancillary staff circulation.</td>
<td>500</td>
<td>same as non-hub</td>
<td>120</td>
<td>same as non-hub</td>
</tr>
<tr>
<td>Therapy Space Storage</td>
<td>A storage area is provided with direct access to the OT/PT instructional therapy space. Double doors are provided, similar to doors found in a gym, providing access for wide equipment. The storage room also features vertical storage shelves.</td>
<td>90</td>
<td>same as non-hub</td>
<td>130</td>
<td>same as non-hub</td>
</tr>
<tr>
<td>Office Workstation Hub6</td>
<td>An office area to accommodate two workstations and cabinet to store personal belongings. More than two people, reflecting that ancillary staff positions are often part-time, may use the two workstations. Various ancillary staff assigned to the school will use the two workstations fluidly. VOIP capabilities are provided as per office standards. The office workstation has access to the one-on-one private Student Meeting Area.</td>
<td>120</td>
<td>same as non-hub</td>
<td>130</td>
<td>same as non-hub</td>
</tr>
<tr>
<td>Private Student Meeting Area7</td>
<td>A private area with adjacent access to the office workstation area will allow ancillary staff to meet privately with students for delivery of instruction or service. This area will accommodate a small table and chairs for 2 to 4 people. VOIP capabilities provided.</td>
<td>130</td>
<td>same as non-hub</td>
<td>130</td>
<td>same as non-hub</td>
</tr>
</tbody>
</table>

1. See detailed SPED standards regarding surfaces and fixtures in Quiet Spaces
2. IGS classrooms shall be constructed in 2 classroom units with shared Appliance and Bathroom areas for a total of 2,180 SF.
3. Close proximity to school restrooms are given preference to District Programs SES and SCS classrooms over the general 6th through 8th grades classrooms.
4. Head SPED teacher and SPED Assistant Principal offices are contingent on FTE allocation and educational program at the time of design program of space. Not all schools have designated SPED administrative support.
5. To facilitate Ancillary Staff collaboration and flexible, functional space, VOIP capabilities are to be outfitted throughout the Ancillary Support Suite.
6. For every 2.0 FTE, 1 workstation area (2:1 ratio) is to be utilized fluidly by various ancillary staff assigned to a school. The number of workstation areas is contingent on FTE allocation and shall be determined at the time of design program of space.
7. For every 2.0 FTE, one private student meeting area is needed (2:1 ratio). The number of private student meeting areas shall be determined at the time of design program of space.
HIGH SCHOOL SPECIAL EDUCATION DESIGN STANDARDS

Consult with Capital Master Plan at the time of design program of space to determine the types and numbers of SPED spaces needed. Not all SPED programs are delivered at every school.

<table>
<thead>
<tr>
<th>SPED Instructional Classrooms</th>
<th>PTR</th>
<th>Non-Hub Description</th>
<th>Non Hub Total SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gifted</td>
<td>24</td>
<td>840 SF General Classroom</td>
<td>840</td>
</tr>
<tr>
<td>Cross Categorical</td>
<td>8 to 24</td>
<td>840 SF General Classroom</td>
<td>840</td>
</tr>
<tr>
<td>Levels 1 and 2: Social Emotional Support Services (SES 1 and SES 2)</td>
<td>8</td>
<td>815 SF Classroom and 25 SF quiet room for a total 840 SF. The Quiet Room to have the following components: floor and walls surfaces made from durable and cleanable materials that cannot be easily damaged, no outlets or light switches on interior walls.¹ and ³</td>
<td>1250</td>
</tr>
<tr>
<td>Levels 1 and 2: Intensive Global Support Services (IGS 1 and IGS2)</td>
<td>8</td>
<td>IGS classrooms are designed in sets of two with the objective of sharing the restroom, kitchenette and storage. The classroom is a standard classroom including sink for 840 SF. Each classroom shall have 1 storage area of 80 SF each and 1 shared storage area of 160 SF (80 SF each). The shared kitchenette is 70 SF and provides ADA access. It includes an area for stacked washer and dryer, an area for an efficiently sized refrigerator, a counter with sink, and a microwave above the sink. Storage cabinets are also provided above the counter area (doors/no doors). The microwave is not for student use. The ADA restroom is 110 SF and has a standard changing table (motorized to adjust height). Doors throughout the classroom and shared suite are placed in locations where they do not block the accommodation and placement of a Hoyer or Arjo lifting system near the shared restroom.⁴</td>
<td>840 SF plus storage and shared Kitchenette and Restroom</td>
</tr>
<tr>
<td>Levels 1, 2, and 3: Social and Communication Support Services (SCS 1, SCS 2, and SCS 3)</td>
<td>8</td>
<td>815 SF Classroom and 25 SF quiet space (to include specialized lighting and furniture) for a total 840 SF Quiet space is meant to refocus and relax; quiet space can be accomplished with furniture.¹ and ³</td>
<td>840</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPED Administration Spaces</th>
<th>Non-Hub Description</th>
<th>Total SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualized Educational Plan (IEP) Meeting Room</td>
<td>A space for 16 people (240 SF). Include VOIP capabilities with Active Panel and data.</td>
<td>240</td>
</tr>
<tr>
<td>Head SPED Teacher⁴</td>
<td>Office with VOIP capabilities</td>
<td>120</td>
</tr>
<tr>
<td>Transition Specialist⁴</td>
<td>Office with VOIP capabilities</td>
<td>120</td>
</tr>
<tr>
<td>SPED Assistant Principal⁴</td>
<td>Office with VOIP capabilities</td>
<td>120</td>
</tr>
</tbody>
</table>

The SPED Ancillary Support Suite will accommodate the following staff: Social Worker (SW), Speech Language Pathologist (SLP), Occupational Therapist (OT), and Physical Therapist (PT), and Adapted PE. The suite includes: instructional/therapy space with swing, therapy space storage, office workstation hub (based on FTE), and private student meeting area.⁵

<table>
<thead>
<tr>
<th>SPED Administration Spaces</th>
<th>Non-Hub Description</th>
<th>Total SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional/Therapy Space</td>
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<td>840</td>
</tr>
<tr>
<td>Therapy Space Storage</td>
<td>A storage area is provided with direct access to the OT/PT instructional therapy space. Double doors are provided, similar to doors found in a gym, providing access for wide equipment. The storage room also features vertical storage shelves.</td>
<td>90</td>
</tr>
<tr>
<td>Office Workstation Hub&lt;sup&gt;6&lt;/sup&gt;</td>
<td>An office area to accommodate two workstations and cabinet to store personal belongings. More than two people, reflecting that ancillary staff positions are often part-time, may use the two workstations. Various ancillary staff assigned to the school will use the two workstations fluidly. VOIP capabilities are provided as per office standards. The office workstation has access to the one-on-one private Student Meeting Area.</td>
<td>240</td>
</tr>
<tr>
<td>Private Student Meeting Area&lt;sup&gt;7&lt;/sup&gt;</td>
<td>A private area with adjacent access to the office workstation area will allow ancillary staff to meet privately with students for delivery of instruction or service. This area will accommodate a small table and chairs for 2 to 4 people. VOIP capabilities provided.</td>
<td>2 @ 130 sq. ft. each</td>
</tr>
</tbody>
</table>

1. See detailed SPED standards regarding surfaces and fixtures in Quiet Spaces
2. IGS classrooms shall be constructed in 2 classroom units with shared Appliance and Bathroom areas for a total of 2,180 SF.
3. Close proximity to school restrooms are given preference to District Programs SES and SCS classrooms over the general 6th through 8th grades classrooms.
4. Head SPED teacher and SPED Assistant Principal offices are contingent on FTE allocation and educational program at the time of design program of space. Not all schools have designated SPED administrative support.
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7. For every 2.0 FTE, one private student meeting area is needed (2:1 ratio). The number of private student meeting areas shall be determined at the time of design program of space.
APPENDIX C.  STUDENT HEALTH EQUIPMENT

Owner provided Equipment

- Wheelchair
- Computer(s)/Printer(s)
- Scale
- Stadiometer (wall-mounted)
- Paper cup dispenser
- Cots
- Phones
- Free-standing furniture
- Fire-proof cabinet(s) (1 per 500 students)
- Trash cans

Equipment Provided by Nursing Services

- Audiometer
- Vision screening equipment
- Otoscope
- Stethoscope
- Blood pressure cuffs
- Sharps container
- Reference books
- First aid and triage supplies
# Appendix D. Food Service

<table>
<thead>
<tr>
<th>Space</th>
<th>200</th>
<th>201-400</th>
<th>401-600</th>
<th>601-800</th>
<th>801-1,200</th>
<th>1,201-1,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving</td>
<td>45</td>
<td>55</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>120</td>
</tr>
<tr>
<td>Can Wash / Dry</td>
<td>50</td>
<td>60</td>
<td>85</td>
<td>115</td>
<td>135</td>
<td>155</td>
</tr>
<tr>
<td>Staff Toilets/Lockers</td>
<td>100</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>225</td>
<td>250</td>
</tr>
<tr>
<td>Janitor Closet/Storage</td>
<td>50</td>
<td>55</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>115</td>
</tr>
<tr>
<td>Offices</td>
<td>50</td>
<td>65</td>
<td>90</td>
<td>110</td>
<td>145</td>
<td>155</td>
</tr>
<tr>
<td>Dry Storage</td>
<td>200</td>
<td>250</td>
<td>350</td>
<td>450</td>
<td>550</td>
<td>650</td>
</tr>
<tr>
<td>Fridge/Freezer</td>
<td>130</td>
<td>175</td>
<td>250</td>
<td>350</td>
<td>500</td>
<td>700</td>
</tr>
<tr>
<td>Prep/Cooking</td>
<td>500</td>
<td>550</td>
<td>650</td>
<td>750</td>
<td>900</td>
<td>1,150</td>
</tr>
<tr>
<td>Pot/Pan Washing</td>
<td>75</td>
<td>80</td>
<td>95</td>
<td>105</td>
<td>120</td>
<td>140</td>
</tr>
<tr>
<td>Serving</td>
<td>250</td>
<td>325</td>
<td>650</td>
<td>1,000</td>
<td>1,300</td>
<td>1,600</td>
</tr>
<tr>
<td>Dining</td>
<td>800</td>
<td>1,200</td>
<td>2,000</td>
<td>2,800</td>
<td>3,400</td>
<td>4,000</td>
</tr>
<tr>
<td>Dish/Tray Washing</td>
<td>100</td>
<td>125</td>
<td>175</td>
<td>225</td>
<td>300</td>
<td>375</td>
</tr>
<tr>
<td><strong>Total NSF</strong></td>
<td><strong>2,350</strong></td>
<td><strong>3,140</strong></td>
<td><strong>4,685</strong></td>
<td><strong>6,265</strong></td>
<td><strong>7,755</strong></td>
<td><strong>9,410</strong></td>
</tr>
</tbody>
</table>

From: National Food Service Management Institute
## APPENDIX E.  KITCHEN APPLIANCE GUIDELINES

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Quantity</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>S/S 3-COMPARTMENT SINK</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>S/S HAND SINK</td>
</tr>
<tr>
<td>3</td>
<td>LOT</td>
<td>POT &amp; PAN STORAGE SHELVING</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>S.S WORK TABLES</td>
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<tr>
<td>5</td>
<td>1</td>
<td>40 QT. MIXER</td>
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<tr>
<td>6</td>
<td>LOT</td>
<td>FREEZER REFRIGERATION SYSTEM</td>
</tr>
<tr>
<td>7</td>
<td>LOT</td>
<td>WALK-IN STORAGE SHELVING</td>
</tr>
<tr>
<td>8</td>
<td>LOT</td>
<td>COOLER REFRIGERATION SYSTEM</td>
</tr>
<tr>
<td>9</td>
<td>LOT</td>
<td>WALK-IN COOLER / FREEZER</td>
</tr>
<tr>
<td>10</td>
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<td>11</td>
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<td>13</td>
<td>1</td>
<td>TILTING SKILLET</td>
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<tr>
<td>14</td>
<td>1</td>
<td>S/S FLOOR TROUGH</td>
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<tr>
<td>15</td>
<td>2</td>
<td>DOUBLE CONVECTION OVENS</td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td>ROLL-THRU REFRIGERATORS</td>
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<tr>
<td>17</td>
<td>2</td>
<td>PASS-THRU HEATED CABINETS</td>
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<td>18</td>
<td>1</td>
<td>S/S GRAB-N-GO COUNTER</td>
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<tr>
<td>19</td>
<td>1</td>
<td>DROP-IN FROST PLATE</td>
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<tr>
<td>20</td>
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<td>HEATED MERCHANDISER</td>
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<td>21</td>
<td>2</td>
<td>MILK DIPENSERS</td>
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<td>22</td>
<td>1</td>
<td>S/S TRAY SLIDE</td>
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<tr>
<td>23</td>
<td>1</td>
<td>S/S CASHIER'S COUNTER</td>
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<tr>
<td>24</td>
<td>1</td>
<td>P.O.S. COMPUTER (N.I.C)</td>
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<td>25</td>
<td>2</td>
<td>FLAT-TOP COUNTERS</td>
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<tr>
<td>26</td>
<td>1</td>
<td>HOT FOOD COUNTER</td>
</tr>
<tr>
<td>27</td>
<td>1</td>
<td>SNEEZE GUARD</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>COLD FOOD COUNTER</td>
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<tr>
<td>29</td>
<td>1</td>
<td>SNEEZE GUARD</td>
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<tr>
<td>30</td>
<td>1</td>
<td>FLAT-TOP COUNTER</td>
</tr>
<tr>
<td>31</td>
<td>1</td>
<td>S/S SLIDE TRAY</td>
</tr>
<tr>
<td>32</td>
<td>23</td>
<td>S/S CORNER GUARDS</td>
</tr>
<tr>
<td>33</td>
<td>4</td>
<td>BUN PACK RACKS</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>S/S 3-COMPARTMENT SINK</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>S/S HAND SINK</td>
</tr>
<tr>
<td>3</td>
<td>LOT</td>
<td>POT &amp; PAN STORAGE SHELVING</td>
</tr>
</tbody>
</table>
**APPENDIX F. ACTIVE PANEL**

Active Panel (aka: Interactive teaching Boards): Promethean Active-Panel Touch large screen high definition flat screen on mobile stand. Provide power and data connections at teaching wall.
APPENDIX G. KILN STANDARDS

Elementary, middle, and high schools typically get the same (or similar) electric kiln. High school art programs may require more than one electric kiln, as well as a gas kiln. Kiln needs for all programs shall be evaluated during design. Both types of kilns shall be installed inside of a building (no exterior kilns).

APPROVED ELECTRIC KILN MANUFACTURER (OR APPROVED EQUAL) FOR ALL ELEMENTARY, MIDDLE, AND HIGH SCHOOLS

- Skutt Ceramic Products
- Address: 6441 SE Johnson Creek Blvd., Portland, OR, 97206-9552
- Phone: 503-774-6000
- Website: www.skutt.com
- Email: skutt@skutt.com

ELECTRIC KILN MODEL AND REQUIRED ACCESSORIES

- SKKM1227-3-208-3: Electric Ceramics Kiln, 208V, 3 Phase
  - All new kilns shall be 208V 3 phase power. Consult the staff architect if an existing school does not have 208V 3 phase power.
- SKF1227-3: Interior Kiln Furniture for 1227-3 Kiln
- SKEnvironVent2: Vent for direct exhaust to exterior of building from the bottom of the kiln
- SKEnvironLink: Electrical switching device to automatically turn on one or more exhaust vents when the kiln is operating
- Easy View: This accessory angles the touchpad for easy viewing.
- Lifter Upgrade Kit: Provides safe and easier lifting.
- Installation: Installation and testing of the kiln at the site shall be performed by an approved installer.

OTHER IMPORTANT ELECTRIC KILN INFORMATION:

- Kiln Vent: The kiln shall have a motorized vent from the bottom of the kiln that is exhausted through a vent similar to that used for a residential clothes dryer (EnvironVent2 listed above). Even though the kiln interior is extremely hot, this vent mixes this hot air with such a large proportion of ambient room air that no special vent construction is required through the wall.
- Room Exhaust: The room shall have an exhaust fan to remove the heat generated from the kiln, but this does not need to be in a special hood or have special fire suppression equipment. The contract architect shall verify fire suppression requirements with CID and the fire department having jurisdiction. In the past, the City
of Albuquerque has NOT required a hood since there is an exception in Chapter 9 of the UMC for electric kilns that are equipped with vent blowers. This exhaust, in conjunction with the building HVAC system, must be able to maintain the room temperature below 105 degrees F, which is the maximum temperature that the electronic controller can tolerate. The EnvironLink device (see above) will automatically turn on the EnvironVent (see above) on the bottom of the kiln when the kiln is running. The room exhaust fan shall be on a line voltage thermostat to prevent the room from ever getting hot enough to trigger the fire sprinkler system. The room fan should not be controlled by a manual switch, because forgetting to turn it on would run the risk of setting off the fire sprinklers (as has happened at two Rio Rancho schools).

- Fire Sprinklers: Ceiling mounted fire sprinkler heads shall NOT be located directly above the kiln and shall have the highest temperature setting allowable.
- Clearance: Kilns must be a minimum of 18” (or greater if required by code) from any wall or combustible material. The approximate diameter of the kiln is 34” for planning purposes.
- Wall and Floor Coverings: Flooring must be non-combustible. Concrete is preferred.

**APPROVED GAS KILN MANUFACTURER (OR APPROVED EQUAL) FOR HIGH SCHOOLS**

- Laguna Gas Kilns
  - NM Distributer: NM Clay
  - 3300 Girard NE, Albuquerque, NM 87107
  - Phone: 505-881-2350

**GAS KILN MODEL AND REQUIRED ACCESSORIES**

- LE 200-24 Gas-fired Pottery Kiln – Front Loading
- Include all standard features as well as the following:
  - K-26 firebrick walls, arch, and door (recommended for Cone 10 firing)
  - Programmable controller
APPENDIX H. ICE MACHINE STANDARD FOR HIGH SCHOOL ATHLETICS

INDIGO™ SERIES 606 ICE CUBE MACHINE

Model: IY-0606A

Designed for operators who know that ice is critical to their business, the Indigo™ Series ice machine's preventative diagnostics continually monitor itself for reliable ice reduction. Improvements in clean ability and programmability make your ice machine easy to own and less expensive to operate.

- **New Levels of Performance** - showcasing improved ambient ice reduction along with reductions in energy consumption: 10% Reduction in energy and 5% improvement in production on a weighted average basis for the i-600 series.

- **ENERGY STAR** - the i-600s exceeds ENERGY STAR™ standards and targets future energy efficiency standards.

- **Space-Saving Design** - Up to 635 lbs. (288 kgs) daily ice production and only 30” (76.20 cm) wide.

- **Intelligent Diagnostics** - provide 24 hour preventative maintenance and diagnostic feedback for trouble free operation.

- **Acoustical Ice Sensing Probe** - for reliable operation in challenging water conditions.

- **EasyRead Display** - communicates operating status, cleaning reminders, and asset information through a blue illuminated display.

- **Programmable Ice Production** - by On/Off Time, Ice Volume or Bin Level (with accessory bin level control) further improves energy efficiency and savings.

- **Easy to Clean Foodzone** - Hinged front door swings out for easy access. Removable water-trough, distribution tube, curtain, and sensing probes for fast and efficient cleaning. Select components made with AlphaSan® antimicrobial.

- **DuraTech™ Exterior** - provides superior corrosion resistance. Stainless finish with innovative clear-coat resists fingerprints and dirt.

- **Available LuminIce™ Growth Inhibitor** controls the growth of bacteria and yeast within the foodzone.

<table>
<thead>
<tr>
<th>Ice Machine Electric</th>
<th>208-230/60/1 standard. (230/50/1 also available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum circuit ampacity:</td>
<td>Maximum fuse size:</td>
</tr>
<tr>
<td>Air Cooled: 11.1</td>
<td>Air Cooled: 15</td>
</tr>
<tr>
<td>Water Cooled: 10.7</td>
<td>Water Cooled: 15</td>
</tr>
<tr>
<td>Remote: 11.7</td>
<td>Remote: 15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Operating Limits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTU Per Hour:</td>
<td>Ambient Temperature Range:</td>
</tr>
<tr>
<td>11,800 (average)</td>
<td>35°F to 110°F (1.7° to 43.3°C)</td>
</tr>
<tr>
<td>13,700 (peak)</td>
<td>Water Temperature Range:</td>
</tr>
<tr>
<td>Refrigerant: R-404A CFC-free</td>
<td>35°F to 90°F (1.7° to 32.2°C)</td>
</tr>
<tr>
<td>Water Pressure Ice Maker Water In:</td>
<td>Water Pressure Ice Maker Water In:</td>
</tr>
<tr>
<td>Min. 20 psi (137.9 kPA)</td>
<td>Max. 80 psi (551.1 kPA)</td>
</tr>
</tbody>
</table>

Ice Shape
Half Dice
3/8” x 1 1/8” x 7/8”
(.95 x 2.86 x 2.22 cm)

Dice
7/8” x 7/8” x 7/8”
(2.22 x 2.22 x 2.22 cm)

INDIGO™ SERIES 606 ICE CUBE

**i-606 on B-570 Storage Bin**

A. Electrical Entrance (2) Options
B. 3/8” (0.95 cm) F.P.T. Water Condenser Inlet (water-cooled units)
C. 1/2” (1.27 cm) F.P.T. Water Condenser Outlet (water-cooled units)
D. 1/2” (1.27 cm) Auxiliary Base Drain Socket
E. 3/8” (0.95 cm) F.P.T. Ice Making Water Inlet
F. 1/2” (1.27 cm) F.P.T. Ice Making Water Drain
G. 3/4” (1.91 cm) Bin Drain

**Installation Note**

Minimum installation clearance:
- Top/sides: 8”
- Back is 5”

**Space-Saving Designs**

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Bin Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-606 - A-400</td>
<td>59.50”</td>
<td>30.00”</td>
<td>34.00”</td>
</tr>
<tr>
<td>i-606 - B-570</td>
<td>71.50”</td>
<td>30.00”</td>
<td>34.00”</td>
</tr>
</tbody>
</table>

Height includes adjustable bin legs 6.00” to 8.00”, set at 6.00”.

Kit K00347 ice deflector must be ordered separately if used with: non-Manitowoc bins, Manitowoc F-Style bins and Manitowoc B-750, B-1050, B-1100, and B-1400 bins.
### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Ice Shape</th>
<th>Ice Production 24 Hours</th>
<th>Power Usage kWh/100 lbs. @90°/70°F</th>
<th>Potable Water Usage/100 lbs. of Ice</th>
<th>ENERGY STAR*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>70°/50°F Water</td>
<td>90°/70°F Water</td>
<td>1 Ph</td>
<td></td>
</tr>
<tr>
<td>AIRCOOLED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID-0606A</td>
<td>dice</td>
<td>632 lbs.</td>
<td>490 lbs.</td>
<td>5.41</td>
<td>20.0 Gal.</td>
</tr>
<tr>
<td>IY-0606A</td>
<td>half-dice</td>
<td>&lt;635 lbs.</td>
<td>555 lbs.</td>
<td>5.29</td>
<td>20.0 Gal.</td>
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<tr>
<td>WATERCOOLED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID-0606W</td>
<td>Dice</td>
<td>661 lbs.</td>
<td>575 lbs.</td>
<td>4.44</td>
<td>20.0 Gal.</td>
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<tr>
<td>IY-0606W</td>
<td>half-dice</td>
<td>700 lbs.</td>
<td>580 lbs.</td>
<td>4.45</td>
<td>20.0 Gal.</td>
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<tr>
<td>REMOTE COOLED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID-0696N</td>
<td>Dice</td>
<td>612 lbs.</td>
<td>535 lbs.</td>
<td>5.85</td>
<td>20.0 Gal.</td>
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<tr>
<td>IY-0696N</td>
<td>half-dice</td>
<td>642 lbs.</td>
<td>565 lbs.</td>
<td>5.76</td>
<td>20.0 Gal.</td>
</tr>
</tbody>
</table>

* Water-cooled Condenser Water Usage / 100 lbs. of Ice: 140 gal.
* Water-cooled models are excluded from ENERGY STAR qualification.

Order ice storage bin separately. Ice storage bin and JC-0895 remote condenser must be ordered separately. Consult remote condenser specification sheet for details.

### Accessories

- **LuminIce™ Growth Inhibitor**
  Reduces yeast and bacteria growth for a cleaner ice machine.

- **Bin Level Control**
  Allows ice bin level to be automatically set. Built-in LED light illuminates bin.

- **Arctic Pure® Water Filters**
  Reduces sediment and chlorine odors for better tasting ice.

- **iAuCS®**
  Schedules and performs routine ice machine cleaning automatically.

**APPENDIX I.**
TECHNOLOGY EDUCATION EQUIPMENT

WOOD TECHNOLOGY EQUIPMENT LIST (SUGGESTED)

The following equipment may be part of the project and provided by the General Contractor (one each in the Wood Technology Lab unless noted otherwise):

- Table Saws, 12-14” and 18”
- Jointer
- Surfacer
- Shaper
- Band Saws, 20” and 14” (2)
- Belt Sander (2)
- Spindle Sander
- Panel Saw
- Miter Saw Bench (approximately 26 LF)
- Drill Press (3, ¾ - 1 ½ hp)
- Router Table (2, 1 ½ and 3 ½ hp)
- Wood turning lathes (6)
- Scroll Saw (2)
- Dowel Machine
- 4000 lb capacity lumber shelving, 48” D x 72” L x 60” H.
- Student Work Tables (6)
- Tool Cabinet 5’ W x 2’ D (2)
- Metal Storage Cabinet 4’ W x 2’ D (2)
- Lathe Tool Grinder
- Lathe Tool Buffer

METALS TECHNOLOGY EQUIPMENT LIST (SUGGESTED)

- The following equipment may be part of the project and provided by the General Contractor (one each in the Metals Technology Lab unless noted otherwise):
- Clausing Metosa lathes (8)
- Clausing Metosa lathe support cabinets (3)
- Vertical Milling Machines (4)
- Vertical Milling Machines cabinets (3)
- Band Saw 20” (2)
- Drill Press, 15” and 20”
- Horizontal Band Saw
- Iron Worker apparatus
- Student Workbenches (4)
- Heat Treat Oven (in Shop Support)
- Surface Grinder (in Shop Support)
• Tool Grinder 7” (2 in Shop Support)
• Grinder 10”, 5 hp (in Shop Support)
• Wire Wheel (in Shop Support)
• Tool and bit grinder 6” (in Shop Support)
• Belt Grinder (in Shop Support)
• Arc Welders (2 in Shop Support)
• RMD Notcher (in Shop Support)
• RMD Pipe Bender (in Shop Support)
• Welding Booths, 48” x 48” 10 with curtains (in Welding Room)
• Welding Grate Top Tables, 48” x 24”, one in each welding booth
• Oxygen and inert gas tanks and manifolds (in Shop Support)
• Exterior area prepped for welding
• Hoist beam with motorized crane

TRANSPORTATION TECHNOLOGY EQUIPMENT LIST (SUGGESTED)

The following equipment may be part of the project and provided by the General Contractor (one of each in the shop unless noted otherwise):

• Two-post lifts
• Tire mounting machine
• Wheel balancer
• Battery charger
• Bench or pedestal grinder
• Tool cabinets
• Metal storage shelving
• Compressed air for tools and tires
• Power from retractable overhead reels
• Vehicle Exhaust Recovery system
• Student Work benches/tables
• Containment area for 55 gallon liquid waste storage drums
## APPENDIX J. TRANSPORTATION

### School Bus Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
<th>Type D</th>
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<tbody>
<tr>
<td><strong>Passenger Capacity</strong></td>
<td>typically 16-36 Width 8’ Length 25’</td>
<td>typically 30-36 Width 8’ Length 35’</td>
<td>typically 36-78 Width 8’ Length 40’</td>
<td>typically 54-90 Width 8’ Length 45’</td>
</tr>
<tr>
<td><strong>Width &amp; Length</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GVWR</strong></td>
<td>Type A-I: ≤ 14,500 pounds (6,600 kg) Type A-II: 14,500 pounds (6,600 kg) and up</td>
<td>Type B-I: ≤ 10,000 pounds (4,500 kg) Type B-II: between 10,000–21,499 pounds (4,536–9,752 kg)</td>
<td>over 21,500 pounds (9,800 kg) (typically between 23,000–29,500 pounds (4,536–13,400 kg))</td>
<td>over 20,000 pounds (9,100 kg) (typically between 25,000–36,000 pounds (11,000–16,000 kg))</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>A bus body placed on a cutaway van chassis with a left-side driver’s door Single or dual rear wheels on drive axles.</td>
<td>A bus body mounted to either a stripped chassis or a cowled chassis The entrance door is mounted behind the front wheels The engine compartment is located partially inside the passenger compartment next to the driver and the hood is significantly shorter than that of conventional buses (similar to step vans)</td>
<td>A bus body mounted to a cowled medium-duty truck chassis The entrance door is mounted behind the front wheels. The engine is mounted forward of the windshield</td>
<td>A bus body mounted to a separate chassis. The entrance door mounted in front of the front wheels. Single rear axle or (very rarely) tandem rear axles The engine is mounted next to the driver inside the bus (front-engine/&quot;FE&quot;), in the rear of the bus behind the rearmost seats (rear-engine/&quot;RE&quot;)</td>
</tr>
</tbody>
</table>
Turning Radius – 47 PAX

Proposal: 10070  Version: 1  Model: INTEGRATED CE S BUS (PB105)
Dealer: SUMMIT TRUCK GROUP (821041 000)  Application: School Transportation  GVWR: 29800

<table>
<thead>
<tr>
<th>Turning Radius Statistics</th>
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<tbody>
<tr>
<td><strong>Calculation Factors</strong></td>
</tr>
<tr>
<td>Front Axle Code</td>
</tr>
<tr>
<td>Steering Gear Code</td>
</tr>
<tr>
<td>Front Wheel Code</td>
</tr>
<tr>
<td>Front Tire Code</td>
</tr>
<tr>
<td>Wheelbase</td>
</tr>
</tbody>
</table>

| **General Information**   |
| Inside Turn Angle         | 50.00 Degrees |
| Radial Overhang           | 19.00       |

| **Axle Information**      |
| KingPin Inclination       | 6.25 Degrees |
| KingPin Center            | 69.00       |

* All Measurements are in inches, unless otherwise specified.
Turning Radius – Activity Bus

<table>
<thead>
<tr>
<th>Model: INTEGRATED RE S BUS (PB305)</th>
<th>GVWR: 36220</th>
</tr>
</thead>
</table>

**Calculation Factors**

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0002AST</td>
<td>0005PRJ</td>
<td>0027DMC</td>
<td>07382135429</td>
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</table>

**General Information**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Inside Turn</td>
<td>43.00 Degrees</td>
</tr>
<tr>
<td>Radial Overhang</td>
<td>52.00</td>
</tr>
</tbody>
</table>

**Axle Information**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KingPin Inclination</td>
<td>6.25 Degrees</td>
</tr>
<tr>
<td>KingPin Center</td>
<td>69.00</td>
</tr>
</tbody>
</table>

*All Measurements are in inches, unless otherwise specified.*
### Turning Radius – 71 PAX

**Proposal:** 10477  
**Version:** 1  
**Model:** INTEGRATED CE S BUS (PB105)  
**Dealer:** SUMMIT TRUCK GROUP (821041 000)  
**Application:** Activity Trip  
**GVWR:** 36220

**Turning Radius Statistics**

<table>
<thead>
<tr>
<th>Calculation Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Axle Code</td>
</tr>
<tr>
<td>Steering Gear Code</td>
</tr>
<tr>
<td>Front Wheel Code</td>
</tr>
<tr>
<td>Front Tire Code</td>
</tr>
<tr>
<td>Wheelbase</td>
</tr>
</tbody>
</table>

**General Information**

| Inside Turn Angle | 50.00 Degrees |
| Radial Overhang   | 19.00         |

**Axle Information**

| KingPin Inclination | 6.25 Degrees |
| KingPin Center      | 69.00        |

* All Measurements are in inches, unless otherwise specified.
APPENDIX K.  SIGN STANDARDS

1. Tobacco-Free Zone
   Zona sin tabaco
   State law prohibits tobacco use on all school property

2. -NO- SKATEBOARDING ALLOWED!

3. SMOKING PROHIBITED ON THESE PREMISES
APPENDIX L. JROTC AT MIDDLE SCHOOL LEVEL

10x Lane
Archery Range
Drill Floor
Inspection Area
Physical Fitness
STEM Lab

Pull-Up Bars

2ND Floor
Storage Area

Water Fountain

Wall Lockers

Storage Supply

Instructor's Office

M/F Rest Rooms
Changing

Window

Trophy Wall

Wall Lockers

Classroom
Projector
Class size (x45)

Dry Erase Board

Exit

Garage Door

Exit

Dry Erase Board
APPENDIX M. LIBRARY SERVICES AND INSTRUCTIONAL MATERIALS
RECOMMENDATIONS FOR K-5 LIBRARIES

6.27.30.16 N MAC

- There must be a Library/Media Center, where students can access research materials, literature, non-text reading materials, books and technology.
- Must include a space for reading, listening and viewing materials.
- Area: needs to be at least 3 net sf/student of the planned school program capacity, but no less than 1,000 net sf, with additional office/workroom space and secure storage.
- Resources: library fixtures, equipment and resources in accordance with the standard equipment necessary to meet the educational requirements of the PED.

Source: [http://www.nmcpstate.nm.us/nmac/parts/title06/06.027.0030.htm](http://www.nmcpstate.nm.us/nmac/parts/title06/06.027.0030.htm)

NM SCHOOL LIBRARY PROGRAM STANDARDS AND APS STATUS REPORT RUBRIC

- **FACILITY DESIGN**
  - The Library/Media Center should be centrally located and convenient to all students.
  - Minimum interior space should be the larger of 3600 square feet or enrollment multiplied by 6.
  - Basic functional areas must include space for:
    - Sufficient shelving to house the collection (3 linear feet for every 25 standard volumes or 50 picture books)
    - Two or more classes of 25-30 students each
    - Large group presentations (with the ability to darken area to show presentations on screens)
    - Reference (mostly computers or other devices to access online reference)
    - Circulation activities
    - Electronic resource work area(s) at 30 sq. ft. per workstation, with a minimum of 20 computers
    - Library office(s)/workroom, with a view of the library
    - Ample and secure storage
    - Displays
    - Work/study
    - Reading
    - Instruction (with the ability to darken area to provide instruction on screens)
    - Group study or meeting
Mobile device carts

- The Library/Media Center should be aesthetically pleasing, welcoming, and have natural light.
- Windows should provide sufficient UV protection for library materials.

**BUILDING INFRASTRUCTURE**

- Electrical wiring, adequate to meet lighting needs and electronic equipment needs, which meets or exceeds current National Electric Code.
- Maximum internet and intranet connectivity (high-speed, many ports, strong wireless network, etc.)
- Meets/exceeds state uniform building codes, is accessible and flexible.
- Adequately heated, cooled, and ventilated.
- Lighting and sound provisions appropriate for reading, study, and other library activities.

**FURNITURE**

- Appropriate-size chairs and tables for student population.
- Computer workstations (sufficient for at least one class).
- Shelving for physical collection with a minimum of 3 linear feet for every 25 standard volumes or 50 picture books.
  - Shelving should be flexible, not impede lines-of-sight, and either be along library walls or be moveable.
- Secure storage cabinets.
- File cabinets.
- Circulation desk with ample space, designed to be usable by elementary students.
- Furniture appropriate to study or meeting rooms, if included in library design.

**COMPUTER EQUIPMENT**

- At least 20 new computers or laptops.
  - Should have current operating systems and a variety of software.
  - Should include software that allows students and staff to virtually collaborate and create products/content in the library.
- Mobile devices (iPads, other tablets, etc.).
- One promethean (or similar presentation system) board.
- Library equipment (scanners, printer, librarian tablet for checkout, etc.).
- Additional equipment (telephone, scanners, laminators, etc.).
- Current media production equipment and software.

APPENDIX N. LIBRARY SERVICES AND INSTRUCTIONAL MATERIALS
RECOMMENDATIONS FOR HIGH SCHOOL LIBRARIES

6.27.30.16 NMAC

- There must be a Library/Media Center, where students can access research materials, literature, non-text reading materials, books and technology.
- Must include a space for reading, listening and viewing materials.
- Area: needs to be at least 3 net sf/student of the planned school program capacity, with additional office/workroom space and secure storage.
- Resources: library fixtures, equipment and resources in accordance with the standard equipment necessary to meet the educational requirements of the PED.

NM SCHOOL LIBRARY PROGRAM STANDARDS AND APS STATUS REPORT RUBRIC

FACILITY DESIGN

- The Library/Media Center should be centrally located and convenient to all students.
- Minimum interior space should be the larger of 3600 square feet or enrollment multiplied by 6.
- Basic functional areas must include space for:
  - Sufficient shelving to house the collection (3 linear feet for every 25 standard volumes)
  - Three or more classes of 25-30 students each
  - Large group presentations
  - Reference (mostly computers or other devices to access online reference)
  - Circulation activities
  - Electronic resource work area(s) at 30 sq. ft. per workstation, with a minimum of 6 computers
    - Multiple electronic resource work areas are preferable
  - Library office(s)/workroom, with a view of the library
  - Ample and secure storage
  - Displays
  - Work/study spaces (preferably three)
  - Reading areas (preferably at least two)
  - Multiple instruction areas (with ability to darken any with boards or projectors)
  - Content creation area(s)
  - Group study or meeting areas
  - Mobile device carts
- Any doors used by students or staff under normal, non-emergency circumstances
should have security gates.
• The Library/Media Center should be aesthetically pleasing, welcoming, and have natural light.

✓ **BUILDING INFRASTRUCTURE**
  • Electrical wiring, adequate to meet lighting needs and electronic equipment needs, which meets or exceeds current National Electric Code.
  • Maximum internet and intranet connectivity (high-speed, many ports, strong wireless network, etc.)
  • Meets/exceeds state uniform building codes, is accessible and flexible.
  • Adequately heated, cooled, and ventilated.
  • Lighting and sound provisions appropriate for reading, study, and multiple classes using the library simultaneously.

✓ **FURNITURE**
  • Appropriate-size chairs and tables for student population(s); sufficient seating for at least three classes.
  • Computer workstations (sufficient for at least two and preferably three — classes).
  • Shelving for physical collection with a minimum of 3 linear feet for every 25 standard volumes or 50 picture books.
    o Shelving should be flexible, not impede lines-of-sight, and be moveable.
  • Secure storage cabinets.
  • File cabinets.
  • Circulation desk with ample space.
  • Well-designed furnishings appropriate for recreational reading areas (sufficient for at least two areas).
  • Furniture appropriate to study or meeting rooms.

✓ **COMPUTER EQUIPMENT**
  • At least 60 new computers or laptops.
    o Should have current operating systems and a variety of software.
    o Should include software that allows students and staff to virtually collaborate and create products/content in the library.
  • Mobile devices (iPads, other tablets, etc.).
  • At least one promethean (or similar presentation system) board(s).
  • Library equipment (scanners, librarian tablet for checkout, etc.).
  • Additional equipment (telephone, printers, scanners, laminators, etc.).
  • Current media production equipment and software.