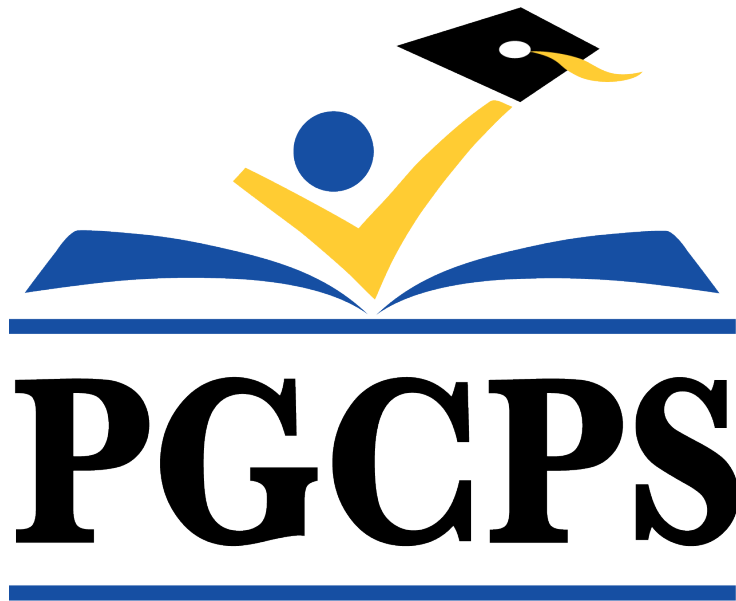


Prince George's County Public Schools



EDUCATIONAL SPECIFICATION

**Springhill Lake Elementary School
(PreK / K – 5th Grade)**

Final Draft: November 03, 2022

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SECTION ONE: PROJECT RATIONALE

JUSTIFICATION & SELECTION

Springhill Lake Elementary School is located at 6060 Springhill Dr, Greenbelt, Maryland, 20770. The building was originally built in 1966. As of September 2021, it has a capacity of 561 students and a full-time enrollment of 815 students. Springhill Lake Elementary School (ES) currently serves students ages 5-11. The 2021 Educational Facilities Master Plan ranks Springhill Lake ES as a 'Cycle 1' School and recommended Springhill Lake Elementary School for a 'Full Renovation or Replacement and Addition to address: deteriorated conditions, Educational Initiative (SEI), and local area overcrowding.' This project is intended to modernize and expand the capacity to prepare the school to become an elementary school for Pre-Kindergarten/Kindergarten to Grade 5 students.

The new school will be built for 850 students with a special education component for up to 50 special needs students. The current students from Springhill Lake Elementary School will be relocated to the new building in addition to the additional students within the school's boundary.

PHILOSOPHY/EDUCATIONAL PROGRAM DELIVERY (Middle School only)

The elementary schools in the Prince George's County Public Schools (PGCPS) system guide students to attain their highest possible level of academic achievement. Elementary schools set a high standard and the student is to participate actively in the learning process. The innovative and visionary approach that the faculty cultivates consists of a rigorous and collaborative atmosphere. The school climate encourages a high level of student performance and demonstration of logical thought, informed and articulate voice, creative vision, and character growth. PGCPS believes strongly that the role of the faculty is not merely to show students the solution, but to help them discover it for themselves. Teachers work closely with students – in the classroom and beyond – toward the goal of finding both the relevancy to the answers and truly understanding them.

As each student progresses through elementary school, his/her education would be influenced increasingly by career aspirations. The application of academic knowledge and skills will be emphasized as students move through school. Given these beliefs, the school community has adopted a model for the school structure and curriculum shown below. The program space requirements are based on the program space guidelines as outlined in the "Facilities Guideline for General Classroom Design" document, dated 2005, published by Maryland Department of Education Facilities Branch.

1. The school must include a design to help fifth-grade students adjust to the middle school environment and make a successful transition from elementary school. The program will facilitate personal relationships between students and teachers

as well as counselors. The students will be better prepared to make valid educational decisions about their futures.

2. The educational program delivery must be integrated to support all curriculum categories such as Math, Science, Technology, and Humanities/Fine Arts.
3. The learning should be active, student-centered, and foster collaborative and independent opportunities. There will be various size groups working on different project-based assignments, where learning is controlled by the students. Teacher-centered lectures will be minimized but may be necessary for the center type of learning applications.
4. Technology will be a major tool in the delivery of education and it will be used in group and individual settings.
5. Teachers will work collaboratively to coordinate the learning activities and provide guidance, direction, and encouragement.
6. Teachers will work together to develop a project-based curriculum and assignments that supports academic requirements.

Elementary Schools must be designed as follows:

1. Arrange regular academic spaces in three clusters, one for each grade
2. Shared programs such as Art, Music, Family Consumer Sciences, Physical Education and Technology Education must be located to be accessible by all grades.
3. The design should permit flexibility in instruction and learning. Classrooms and laboratories should be designed to accommodate various size groups. Each classroom should be amenable to group work and various presentation formats. Learning spaces must be able to expand or contract. Classrooms should be multiuse and adaptable for a variety of purposes and furniture arrangements.
4. Instructional areas should have adequate learning spaces, teacher work areas and storage facilities. Maximum connectivity to outside resources and the latest technology will be required in the classrooms and other learning areas, including voice, video, and data cabling. Some academic spaces should be capable of facilitating distance learning and video conferencing.
5. Staff work areas should be arranged to encourage interdisciplinary interaction.

Instructional Methods Component

Instructional spaces should lend themselves to various instructional strategies utilized in middle schools such as the following:

1. Direct Teaching
2. Discussion
3. Small Group Work
4. Cooperative Learning
5. Demonstrations
6. Audio/Visual Presentations
7. Reports
8. Experiments
9. Displays
10. Independent Investigations
11. Interdisciplinary/Blended Instruction
12. Web-Based Instruction
13. Computer-Based Instruction/Training
14. Team Research Projects
15. Apprenticeship
16. Differentiated Instruction
17. Foreign Language Labs
18. Daily Life Skills Instruction
19. Collaborative Teaching
20. Character Education Experiencing
21. Smaller Learning Communities

STAFFING

**STAFFING SUPPORT (EACH SCHOOL HAS A DIFFERENT STAFFING PLAN)
PLEASE CONFIRM WITH PGCPS ADMINISTRATION**

ADMINISTRATION

- Principal 1.0
- Assistant Principal 1.0
- Financial Secretary 1.0
- Lead Secretary 1.0

COUNSELING & HEALTH SERVICES

- Guidance Counselor 2.0
- Guidance Secretary 1.0
- School Psychologist 1.0
- School Nurse 1.0
- GC Mental Health Therapist 1.0

FACULTY & STAFF

- Language Arts/Reading 8.0
- Mathematics 8.0
- Science 4.0
- Social Studies 4.0
- Physical Education 2.0
- Health 1.0
- Foreign Language 1.0
- Art 1.0
- General Music 1.0
- Band/Vocal Music 1.0
- Computer Education 1.5
- Family & Consumer Science 1.0
- Technology Education 1.0
- Special Educators 4.0
- CPA 1.0
- Alternative Education 1.0
- Sp. Ed. Assistants 5.5
- Instructional Assistants 3.0
- Media Assistant 1.0

SUPPORT SERVICES PERSONNEL

- Cafeteria Manager 1.0
- Cafeteria Workers 7.0
- Head Custodian 1.0
- Custodians 4.0
- School Resource Officer 1.0

TOTAL RESIDENT STAFF 71.5

ITINERANT STAFF AND RELATED SERVICES (Part –Time Services Only)
(This may not be applicable depending on the school)
Please confirm with PGCPS Administration

• Speech Therapist	1.0
• Occupational Therapist	1.0
• Physical Therapist	1.0
• Vision/Blind Teacher	1.0
• Audiologist	1.0
• Diagnostic Prescriptive Teacher	1.0
• Pupil Personnel Worker	1.0
• GCHD Addictions Counselor	1.0
• Dove Center Counselor	1.0
• Department of Juvenile Services	1.0
• Department of Social Services	1.0
TOTAL RELATED SERVICES STAFF	11.0

SECTION TWO: PROJECT DESIGN FACTORS

SITE CONSIDERATIONS

The school site and its development should be viewed in the same context as the development of the school building. Instructional areas, service areas, building orientation, maintenance, and community relationships shall be carefully considered. The instructional potential for the school site extends far beyond the softball and soccer fields to include all facets of the curriculum.

In designing the school site, the aesthetic appeal of the facility should be integrated with functional use and maintenance considerations. Goals include the preservation of natural features, diversity of plant and animal life, and optimization of constructed features for educational purposes.

The following specifications and parameters are noted:

1. Landscaping shall emphasize a variety of native and adaptive species. The grouping of trees and understory shrubs to create groves and islands is encouraged. Small habitats may be created as part of the plan for instruction or community involvement. Vistas from selected areas of the school should be envisioned.
2. Situate building programming on sites to provide buffers at all edges of the property. Buffer areas between the intensively used portion of the school site (parking lots and playfields) and adjacent properties shall be given careful consideration. Preserve and enhance existing tree buffers at property lines, especially where the site abuts residences. The use of low maintenance hedges and berms along residential boundaries, and the introduction of meadows, ground covers, or ornamental grasses are examples. Transitions between existing woodlands and playfields should be gradual with mowed pathways for access. Ease of maintenance, particularly snow removal and turf mowing patterns should be closely examined.
3. Consideration of building security will be included in the landscape design, based on Crime Prevention through Environmental Design (CPTED) principles. Provide defensible space during school hours and maintain clear lines of sight across all spaces.
4. All sidewalks and entrance ways shall meet disability access code requirements for grade and building access. Provide sidewalk access from the street to all school entrances. Trails and walkways leading to outdoor study areas and playfields must also be accessible.
5. Separation of pedestrian, car, bus and service vehicle traffic is an important issue. Parking areas, driveways, etc., shall be designed and constructed for efficient and safe routing of buses, staff and student vehicles, and parent and community traffic. A bus loop with a separate pedestrian drop-off area is strongly recommended.
6. Parking shall be provided for approximately 100 vehicles including accessible spaces for the disabled. Parking shall be designed to maximize safety and

minimize speed. Parking should be divided into three areas such as front of building for visitors/staff of the school, audience of the performing arts auditorium, and the spectators of the gymnasium activities. When not in use, the bus loop can be used as additional parking for performing arts and gymnasium activities.

7. Design for collaborations with local partners that could assist in school programming or curriculum enrichments for each location, and create a community amenity for weekends/evenings/summer

Site Circulation

Vehicle & Pedestrian Circulation

Developer shall design and construct a circulation system for the Project that is planned to provide safe mobility for all road users, including bicyclists, pedestrians, transit vehicles, deliveries, and motorists.

The circulation system must serve multi-modal movement within the site and integrate into the campus via seamless, convenient, and inviting connections to existing transportation facilities. The system shall be context-sensitive and meet transportation goals in harmony with campus goals and the natural environment.

On and off-site circulation shall be planned to ensure that facility can be in full compliance with the requirements of COMAR Article 13A.06.07 Student Transportation at all times.

General Parking Requirements

The Developer shall design and construct the Facilities to include a parking system that supports the Program sufficiently, complies with ADA regulations, and meets the following requirements:

1. Privately owned vehicle (POV) parking is for cars and light trucks. Motorcycle/scooter parking, if provided, shall be conveniently located and is in addition to the POV parking space requirements.
2. At least 2.5% of the new POV parking spaces shall be designed and constructed as electric vehicle (EV) charging stations. Within the required number of EV charging stations, EV parking shall be provided at 2.5% of ADA compliant accessible stalls.
3. Provide EV charging infrastructure for all EV stalls. EV charging Infrastructure shall include all power and data conduit, charging and pay stations, and switchgear or panelboards adequate to support the fully connected loads. The EV charging infrastructure system shall be sized to allow simultaneous charging of all installed stations.

Bus Parking and Circulation

Bus parking shall be designed and constructed in accordance with the following principles:

1. All buses for Arrival and Dismissal shall be accommodated on site with no off-site stacking. On-site stacking is permitted. All buses are scheduled to arrive at the same time to the school for the dismissal bell time.

2. No backing of buses on school grounds as per the county's Transportation Operating Procedures Handbook.
3. Bus doors shall open towards the school building.
4. Wheelchair loading/unloading zone shall be provided.
5. Bus and Parking Volumes

	Avg. number of buses	Parking Spaces	Comments
Springhill Lake ES	2	100	This location will have a special education SEAD program.
James Duckworth ES	14	100	The Regional Special Education program will include students in wheelchair. A designated loading area is needed for __ approx. 13__ orthopedic buses. This location will have a Therapy Pool for the Regional Program.
Margaret Brent ES	14	100	This location will have a special education CRI program.
Hyattsville ES	0	100	No special education program at this location. Underground parking with some additional surface parking.
Robert Frost K-8	50 (25 for K-5, 25 for 6-8)	100	The Regional Special Education program will include students in wheelchairs. A designated loading area is needed for __ approx. 13__ orthopedic buses. This location will have a Therapy Pool for the Regional Program.
Brandywine K-8	50 (25 for K-5, 25 for 6-8)	100	This location will have a special education CRI program.

* Note: The number of orthopedic buses is an estimate based on a typical capacity of 4 wheelchair-bound students per bus and the Special education program of approx. 50 students. Confirm required count per school with the Special Education Department at PGCPS.

Site Circulation Functional Requirements

1. School bus loading and unloading areas shall be separated from parent drop-off areas and from staff parking.
2. All areas shall be clearly identified. Use signage, curb striping and other pavement markings to direct parent pick-up/drop-off lanes and to prohibit unauthorized vehicles from entering the school bus loops. Signage and bumpers for parking spaces shall be provided by the Developer.
3. Non-bus riders who walk and/or bike to school shall be isolated from all types of vehicular traffic and provided adequate pathways to and from the school building. Bike racks shall be provided with visibility from the main office.

4. Adequate space shall be provided to load and unload students who have physical disabilities. For Adelphi Area MS, identify a school bus loading and unloading area closest to a door that is accessible for students who have physical disabilities to reduce the distance from the school building to the bus.
5. Bus loops shall accommodate both immediate and future needs to allow for expansion of programs and an increase in bus ridership that will result in more buses.
6. Pedestrian walkways and bicycle paths shall be designed to support pedestrian and bicycle circulation adequately. Width shall be commensurate with the level of pedestrian activity projected within the particular location of such pedestrian.
 - a. All paths of travel shall meet ADA requirements, and at a minimum, shall be wide enough to accommodate two-way pedestrian and wheelchair traffic.
 - b. Design official pathways to minimize creation of ad-hoc paths.

Fire Access Lanes

Fire access lanes shall be designed in accordance with the PGCPS code requirements: https://library.municode.com/md/prince_george's_PGCPS/codes/code_of_ordinances?no_deld=PTIIT117_PULOLAPRGECOMA_SUBTITLE_11FISA_DIV4FIPRCO_S11-276REACFIAP

Project Site Roadway Signage

Developer shall provide all required signage for safe operations and wayfinding for all roadways, parking, pedestrian walkways, and bicycle paths. All pavement markings and roadway signage for circulation roadways shall conform to the requirements of the current edition of the *Manual on Uniform Traffic Control Devices* (MUTCD).

Bicycle Facilities Requirements

Developer shall design and construct the facilities to support bicycle circulation and storage at the facilities adequately, and to meet the following requirements:

1. Short-term bicycle parking shall be provided through the use of bicycle racks securely anchored to the ground.
2. Short-term bicycle parking shall be provided for at least 30 bikes with associated racks carefully integrated with the landscape design placed within proximity of the main entrance to the IBTT but also serving the DMC.
3. Parking shall be provided in conformance with LEED v4 guidelines.
4. Bicycle parking installations shall include a bicycle area parking pad with a pervious surface. A minimum clear space of five feet shall be provided between the edge of the bicycle area parking pad and adjacent roadways or sidewalks.

General Site Design Factors

1. More formalized landscaping, including a flagpole area, shall be developed to identify primary and secondary entrances.
2. An exterior service yard for facility maintenance and delivery of supplies, materials, and food stuffs shall be provided. Two dumpsters will be housed here

and this area must be screened from view. Provide an interior storage shed for tractors and outdoor equipment, approximately 450 square feet, for housing grounds maintenance equipment, adjacent to the service yard.

3. Storm water management for the newly developed impervious surfaces shall be designated to encourage safe use of an environmental study area. Storm water wetlands, infiltration basins and trenches, vegetated swales, bio-retention basins, and shallow marsh extended detention ponds should be investigated. Storm water management shall be designed for future expansion.

Outdoor Areas

1. Outdoor Environmental Classroom
 - a. Connection to the Overall School Site: The outdoor classroom shall be in a controlled and secure location but not isolated from view. The exit from the school shall be accessible by all classes, e.g., not through a doorway in a classroom. The location should capitalize on natural site features (trees, stream, etc.).
 - b. Accessibility: All outdoor areas should be fully accessible to students of different mobility. For instance, at least some garden beds should be raised 18"-24" to be easily accessible from a wheelchair (if garden beds are built).
 - c. Layout: Provide a teachers' station with electrical outlet. Seating can be either fixed or flexible, depending on the site, but should accommodate up to 35 students.
 - d. Materials: The outdoor classroom should be built with natural materials like wood or stone. Limit the use of concrete to high traffic areas; for example, the walkway connecting the school and the outdoor classroom. Permeable paving is encouraged.
 - e. Required Site Elements:
 - Duplex electrical outlet at the 'teacher's station'
 - Wi-Fi access
 - Exterior water hose hook-up
 - Point of access for larger vehicles and supplies
 - Seating for one class (35 students)
 - Shade, either by a shade structure or by trees
 - Tool shed for manual garden tools (shovels, hoes, rakes- provided by PGCPS)
 - f. Potential Site Elements:
 - Composting area
 - Greenhouse
 - Interactive water and energy usage learning station
 - Managed meadow

- Pollinator garden, with space and paths for students to get in and investigate
 - Rain garden
 - Vegetable/community garden plots/raised beds
- g. Solar aspect/shade: The teaching area must be shaded, but the nearby areas for potential expansion with garden plots should receive 6-8 hours of sunshine a day.
2. Outdoor Learning
- a. Provide multiple opportunities at multiple scales.
 - b. Locate near school building for younger students, further away and near natural features for older students
 - c. At seating areas include:
 - i. Weatherproof writeable board
 - ii. Outlets, Wi-Fi access
 - iii. Shade
 - d. Connect outdoor classrooms with nature education opportunities like planted buffers, nature trails, etc. that take advantage of proximity to existing natural features and new elements like landscape-oriented stormwater management solutions and naturalized areas.
 - e. Buffer outdoor classroom space from athletic courts/fields, service areas, and parking lots with native and adaptive plant species that do not obstruct sight lines in order to limit distractions and create a nature-focused character.
3. Multi-Use Playgrounds
- a. Provide diversity of experiences and wide range of physical motion: gross motor, fine motor, swinging, hanging, etc. Provide opportunities for social play and solitary play
 - b. Provide minimum 75 sf/student (100 sf preferred)
 - c. Determine fence lines, types and heights
 - d. Provide water bottle fillers and shaded areas.
 - e. To be used for physical therapy; occupational therapy; physical education motor planning, upper body strength; elementary school mandatory daily recess, movement breaks, reward activity.
 - f. Playground equipment must be age appropriate and involve play areas for pre-kindergarten and kindergarten, primary grades (1st & 3rd) and Intermediate grades (4th & 5th).
 - g. Connect age-specific playgrounds with the related indoor classroom spaces (adjacency can limit time investments in moving from indoor to outdoor spaces for classes)
4. Sports Fields and Recreation Facilities

- a. Provide a minimum of one multisport courts on each campus. Stripe for basketball (full and halfcourts).
- b. Provide a minimum of one outdoor paved play area at 60ft x 80ft. (Refer to line 6 for details on Hardtop Court)
- c. Provide one soccer field at minimum U12 regulation size.
- d. Provide one softball/baseball field (minimum size: 60' x 60' diamond with arched grass line 50ft from pitching plate in the center of the diamond). May overlap with soccer field.

The sports fields at Brandywine K8 and Robert Frost K8 shall have an artificial turf playing surface. Sports fields at other schools may be natural grass or artificial turf at the developer's discretion.

Where artificial turf is installed:

- a. Artificial turf shall be FieldTurf (fieldturf.com) or similar system.
- b. Artificial turf shall be installed in full compliance with manufacturer's specifications and guidelines to provide a uniform and weed free surface that is suitable for planned use in all respects. For sports surfaces, specific models, designs, and systems shall be selected to provide optimal playing surface for anticipated sports and other activities. Installation shall include all subgrade preparation and drainage.
- c. All artificial turf surfaces shall be designed to accommodate active pedestrian and recreation use, even where planned use differs.

5. Outdoor Fitness Trails

- a. Trails shall be handicap accessible and can accommodate class walks and multi group use (i.e., wheelchairs, wagons, etc. can pass without leaving hard surface)
- b. Multiuse: Physical therapy; physical education motor planning, lifetime fitness; elementary, middle and high school science.

6. Hardtop Court

- a. Provide sufficient sized area enclosed with a fence and gated access. There should be open space in the middle section and basketball courts at both ends; currently used for field day, school wide outdoor celebrations, physical education classes, outdoor walking area when ground is wet or snowy.
- b. Multiuse: Physical therapy; physical education; field day outdoor area, outdoor school wide functions Arbor Day assembly, etc.

7. Outdoor Storage

- a. Provide a 600 square foot separate outdoor structure for lawn equipment funded by third party community organizations.

8. Environmental Education - Wetland Classroom

- a. Designate a 1,000 square foot area (approximately 50 feet x 20 feet) of

land area with a percolation rate to promote growth of native planting materials and natural habitat.

9. Trash/Recycling Handling Yard, Service Areas, and Loading Zones

Developer shall design and construct Trash/Recycling Handling Yard, Service Areas and Loading Zones in accordance with the following requirements:

- a. The Trash/Recycling Handling Yard, and Service Areas & Loading Zones Areas shall be placed such that traffic use does not interfere with pedestrian, bicycle or vehicular traffic flow or safety. Particular attention shall be paid to vehicle maneuvering and reversing.
- b. On street loading shall not be permitted.
- c. Trash/Recycling Handling, Yards and Service & Loading Zone Areas must be large enough to accommodate delivery trucks and trailers, such that vehicles do not encroach into traffic lanes or emergency access lanes.
- d. Screen all service areas from pedestrian zones, and separate service circulation from pedestrian circulation

10. Traffic Gardens

- a. Roadway education components (stop signs, traffic circles, etc.).
- b. Materials: surface, signage.
- c. Bike storage.

SAFETY & SECURITY GENERAL CONSIDERATIONS

The design shall apply the principles of Crime Prevention Through Environmental Design (CPTED), a multidisciplinary approach to deterring criminal behavior that relies on both passive and active measures. CPTED's main principles include "natural surveillance," which gives legitimate users opportunities during their ordinary activities to keep an eye on the place and the people around them; "natural access control," which directs users to enter through observable areas (single point of entry); and "territorial reinforcement," which encompasses a variety of strategies for signaling that a place is occupied and cared for. One main idea of designing safety is to create several layers of security, or concentric rings of access, starting with the perimeter and then working inward into the school. If there is an intruder, each layer of security is designed to delay him or her until first responders can arrive.

Site Improvements for Access Control, Monitoring & Protection

1. Outdoor school driveway entrance points should be designed to allow staff and students to have casual observance on vehicles entering and leaving the site during the normal activities. School use only driveways should be gated, when possible, to avoid unnecessary entrance or use by public.
2. Landscaping, including but not limited to trees, shrubs, plants, etc., should be located in open grass areas. Landscaping should not cause blind spots for staff and students to have casual observance of people entering and existing the site. Trees should be at least 30 feet from the building to assure that inclement weather will not cause damage to building.
3. Minimize hidden and secluded areas that are created by objects purposely placed in a certain location obstructing surveillance.
4. Create clear sight lines of the building entry from the street frontage.
5. Provide sufficient signage to direct visitors to appropriate parking and pedestrian pathways to the building entrance.
6. Clearly mark or identify site boundary lines to identify that the area is owned by the school system by incorporating fencing, landscaping, architectural features, natural landmarks, signs, elevation variance or other means.
7. Provide signage, color, or other identification to allow distance viewing of independent buildings or modular classrooms, which are not adjacent to main building clusters.
8. Provide at least two site entry points to the school site allowing trucks and emergency vehicles easy passage.
9. Create a balance of territorial control and natural surveillance using a combination of certain types of fences, solid walls and low maintenance vegetation.
10. Provide adequate speed bumps or humps to slow traffic within paved areas of driveways and parking lots. Alternately, a snake driveway approach to the school building should be considered in the site design, to force vehicles to slow down.

11. Provide bollards or other acceptable protection against vehicular traffic that may lose control and impact furniture, landscape artifacts, fences.
12. Utility manholes, tunnels, and other access points allowing unintended routes entering the school building should be secured with gates and doors with locks without creating entrapment hazards to the public.
13. Designate fire evacuation areas outside at least 500 feet from subject buildings.
14. Hedges, shrubs and plants around building perimeter and walkways should be kept low enough to prevent natural surveillance.
15. Exterior lighting should be uniform eliminating shadow or glare but should not cause excessive illumination in the adjacent neighborhoods.
16. Traffic circulation throughout the site, including buses, cars, bicyclists, and pedestrians should be segregated to minimize accidents.
17. Site circulation should safely separate buses, cars and pedestrian movement to and from the site.
18. Buses and cars should be parked in segregated areas without the use of double rows.
19. Parking should be segregated between visitors, staff, and students. Visitor parking should be as close to the main entrance as possible with appropriate signs directing visitors to the main office.
20. Gates should be located at entry points to parking areas where feasible, to give the perception of security.
21. Bike parking should be located in areas easily seen from inside the school for enhanced shelter and security.
22. Provide designated areas for outdoor service items. Dumpsters shall be surrounded on all sides with a see-through anti-climb fence and securable gate. Include motion sensor lighting and convex mirrors to prevent people from hiding around these secluded areas.
23. Outdoor mechanical equipment shall be secured in a lockable enclosed area with tamper-proof gates or doors.
24. Mechanical equipment shall be protected from vehicle impact using bollards or other structural protection.
25. Incorporate CPTED methods into the site design when feasible.

Exterior Site Security Requirements

School sites shall have perimeter security fencing to prevent unauthorized access to the facility when unoccupied. Design security fencing to allow for public access to exterior athletic facilities. Create a perimeter where everyone must walk up on foot, so that people inside the school can easily see who is coming. Design exterior doors to prevent unauthorized entry by minimizing key locks and hardware on doors, which would not be used for the purpose of entry but are installed for emergency egress. A flagpole and electronic marquee will be installed in the front of the school.

1. Stand-off distance and crash protection
 - a. Buildings and site shall be protected at all points from vehicle impact. The design intention is to prevent penetration of the exterior by vehicle impact, including intentional acts.
 - b. The level of protection shall be a minimum K8 rating, as set forth in the Department of State SD-STD-02.01 Certification Standard: Test Method for Vehicle Crash Testing of Perimeter Barriers and Gates, Revision A, March 2003, such that a vehicle shall not be able to penetrate the exterior envelope. Protection may be provided by site configuration, by strengthening at the exterior envelope, or by adjacent structures, landscape features or bollards. Where site configuration limits potential vehicle speeds, the level of strengthening or protection required may be reduced accordingly provided the overall design intent is maintained.
2. Exterior Mass Notification System
 - a. Exterior Mass Notification systems are not required.
3. Landscaping
 - a. Developer shall comply with the PGCPS Design and Construction Standards and design and construct landscaping to allow good visibility for personal security and to eliminate areas of concealment.
 - b. Planting at utilities that require access, including fire hydrants, backflow preventers, etc., shall be installed as to allow a minimum of three feet of clear access between the edge of plant when mature and the utility element on all sides, and clear access to roads or pathway. Planting at such elements shall not have thorns, attract bees, or in any other way pose a hazard to people accessing the utilities.
 - c. Within programmed spaces, specify only canopy trees and understory planting of a maximum height of three feet for unobstructed sight lines.

Outdoor Athletic Facilities and Playgrounds

1. Athletic facilities should be in areas to allow natural surveillance from staff within the building. This could be accomplished by locating play areas or fields at higher site elevations, installing appropriate light for night games, avoid the placement of visual obstacles and locating windows in buildings where athletic personnel are located.

2. Play areas should be segregated based on age group and play equipment should be age appropriate.
3. Play areas should be fenced but allow natural surveillance and have sufficient escape gates for emergency purposes.
4. Emergency and maintenance vehicles must be able to easily access play fields and areas. Maintain restrictions for all unauthorized vehicles by the strategic use of fencing, bollards, gates, landscaping, and other features.
5. Topsoil mixture should be sieved using 200 microns containing no more than 10% rock for landscape areas and other playing fields.
6. Locate hard surfaced playing fields far enough away from classroom windows to avoid distractions during the school day. Protect those non-classroom windows that are near play areas from fly debris.

Building Access & Egress

1. Locate the main office in the front of the building, secured from the inside of the school building.
2. The entrance doors must be designed to allow visitors to enter the building into locked vestibule doors that require people to be directed into the main office for security authorization. Security cameras will be used in the vestibule to observe people entering the building.
3. Provide proximity card door access for side doors leading from the parking lot to accommodate staff and teachers.
4. Secondary exterior doors should have hardware that is tamper proof, eliminating as much exposed hardware on the outside as possible, while maintaining grab handle for opening from outside. The doors that can be opened from the inside by students must have cameras to prevent opening of doors to unauthorized people.
5. Exterior doors must have a minimum of narrow side lights to observe persons on the exterior side of the door. These doors must be airtight to improve energy efficiency and prevent interior contamination or other outdoor harmful release. Doors must be certified to resist impact from wind-blown weather events.
6. Ensure that exterior walls do not create places for people to easily hide. Use lighting, fences, and natural surveillance to minimize this type of intrusion.
7. All exterior doors shall be equipped with emergency exit hardware, per local building codes.
8. Outdoor signage shall be located sufficiently throughout the site to guide visitors to various buildings, parking areas, and main entrances.
9. The windows designated to serve as a secondary means of egress shall be shatterproof laminated glass and must allow opening from the inside along with any screens, security grills, louvers, or other devices. Egress windows must open in one operation with screens, louvers or other devices to avoid delays in evacuation.

10. Use fire-rated glass in doors and windows in lieu of wired glass, which is no longer permissible for K-12 facilities under the International Building Code (IBC). Provide shatterproof laminated glass to prevent flying glass pieces in the event of an explosion.
11. Roof access shall be installed from inside the building only from a secured room.
12. Roof parapets, if used in the design, should be low enough to allow visual surveillance of the roof from the ground.
13. Covered walkways and areas surrounding these obstructed areas must be adequately lit to maintain visual surveillance.
14. Courtyards shall have security cameras and be enclosed to avoid unauthorized use.
15. Include a small administrative office with clear window views to provide natural visual surveillance of occupants within the courtyard.
16. Design outside courtyard walls, planters, and other decorative features far enough away from main building to prevent intruders roof access.
17. Install enclosed walkways from the parking lot to the gymnasium, unheated but fully ventilated.

Entry and Reception Areas

1. Main entry of school shall be easily identifiable as one approaches the front of the building.
2. Main entrance of the building must have adequate lighting outside and inside of the doors with roof-top shelter and sufficient space for large gatherings.
3. Avoid creating concealed areas at building exit doors to deter loitering and other inappropriate activity.
4. Administration offices shall be located at the main entrance with reception area personnel having unobstructed views inside and outside of the building, allowing natural visual surveillance for the main visitor areas.

Corridors, Interior Doors, and Lockers

1. Design corridors to maximize sight lines for natural surveillance from an individual from one location.
2. Corridors must be well lit with both artificial and natural lighting, without creating excessive shadows or dark areas.
3. Corridor lighting controls must be protected from unauthorized use.
4. Provide security cameras to monitor occupant traffic throughout all corridors, especially where blind spots, concealed and recessed areas are located.
5. Label all corridors and hallways for ease of identification for viewing video for emergency response and general student orientation.
6. Provide fire-rated glass windows either in doors or adjacent to doors in a sidelight assembly, allowing natural surveillance in all rooms and isolated areas.

7. Design corridors with a minimum of 10-foot clear width to ensure that corridors allow for easy access during class changes. For corridors with lockers along one or two walls, add additional corridor space to compensate for locker activity.
8. Consider designing equipment and built-in fixtures to be recessed within walls to avoid potential injury and natural surveillance.
9. Teacher planning and workrooms should be located by corridor intersections and have sufficient windows, as permitted by fire codes, to allow natural surveillance by faculty and staff.
10. Where possible, allocate corridor wall surfaces for project displays, within limits set forth in life, safety, and other appropriate codes.
11. Provide designated wall areas to display emergency evacuation plans customized to match the various location throughout the building, protecting the plans from vandalism or from unauthorized removal.
12. Door hardware shall be designed to lock easily from either side to prevent entry into the classroom from the corridor side, but shall maintain egress from the classroom. Blinds must be installed on all door sidelights for lockdown isolation.
13. Lockers shall be designed with built-in locks. School administration will control the ownership of the locks and its assignment to students and personnel.
14. Consider the use of oversized single doors in lieu of double doors to minimize congestion.

Stairs and Stairwells

1. Use ramps instead of stairs, where possible.
2. Design and locate stairs in appropriate areas to avoid congestion and accidents. Consider additional sets of stairs, when feasible, to provide safe movement of occupants throughout each floor level in lieu of wider stairs.
3. Stair handrails and guardrails must meet required codes but still allow natural surveillance through either side of stairs.
4. Stair handrails and guardrails shall be designed to discourage sliding, climbing, and other unsafe activity.
5. Stair risers shall be enclosed to prevent persons under stairs to interfere with occupants climbing stairs above.
6. Provide security cameras at each floor landing and at each set of stairs to allow maximum surveillance.

Elevators

1. Elevators shall be card access only with emergency key access.

Exit ways

1. Design corridors and stairs to the street clear of obstructions.
2. Design floor proximity signs at strategic points along exist routes to allow occupants to know what floor and where the exits are located when smoke and heat forces crawling

3. Signs shall be installed at suspect doors and passageways to indicate that this path does not lead occupants to the outside.

Classrooms

1. Retractable partitions shall be contained in wall enclosures, which are lockable to prevent intruders from hiding in the classroom.
2. Retractable partitions shall contain appropriate windows to provide visual surveillance when in use.
3. Provide natural and artificial lights to create well-lit classrooms, with lighting level sensors to adjust artificial light.
4. Install appropriate equipment to allow cellular phones to be used throughout the building.
5. Size classrooms to always allow secondary egress path 28 inches minimum between objects and furniture.
6. Design classroom to allow a person to stand at the door and observe the entire classroom without any obstructions. Additionally, special rooms within classrooms must have fire-rated, shatterproof laminated glass to offer natural surveillance.
7. Provide code-approved ventilation system in rooms where special activities take place, such as but not limited to spraying, kiln firing, photographic developing, etc.
8. Mirrors installed in dance or other activity rooms must be shatterproof.
9. Science laboratory rooms must have individual alarms independent of the building alarm to deter and prevent robberies that cause the loss of expensive equipment and jeopardize safety due to the loss of hazard materials. These rooms must have automatic locking door hardware from outside only to keep door locked at all times.
10. Battery-powered emergency lights shall be provided in all storage rooms that do not have windows.
11. In laboratory and shop rooms, provide an emergency circuit switch to de-energize the entire room in the event of emergencies.
12. Install electric solenoid key-operated shut off switch for each gas line in the instructional areas in laboratories.
13. Television, projectors and screens should be mounted from structural supports from above acoustical ceiling.

Office, Workrooms, and Conference

1. Provide a separate lockable storage room for confidential records in vandal and fire-resistant containers. This room will be shared with the Guidance Center.
2. Main office shall have two – way communication capability with all classrooms and outside. There must be a panic button connected directly with 911 call center.

3. Wall- and ceiling-mounted equipment shall be mounted from structural supports from above acoustical ceiling or device mounting plates from the device manufacturer.

Food Service and Common Areas

1. Provide a clear view of the entire dining area and serving line from the controlled entry point.
2. Provide lockable kitchen and serving areas during the normal school hours when not in operation.
3. Provide sufficient circulation space around tables and serving lines.
4. Wall- and ceiling-mounted equipment shall be mounted from structural supports from above acoustical ceiling or device mounting plates from the device manufacturer.

Restrooms

1. Locate student restrooms near teacher planning, workrooms, and other office areas that allow staff natural surveillance to deter vandalism, bullying, fights, and other disorderly conduct.
2. Locate a reasonable number of unisex restrooms for adults, gender-based gang bathrooms, and gender neutral that allows privacy for everyone with the use of sink and toilet (to comply with building code officials) near gymnasium and cafeteria, clustered throughout the classroom wings.
3. Light fixtures shall have protective vandal-proof covers in student restrooms.
4. Sinks and hand dryers should be in publicly exposed areas to deter vandalism and encourage proper hygiene.
5. Locate a reasonable number of unisex restrooms for adults, gender-based gang bathrooms, and gender neutral that allows privacy for everyone with the use of sink and toilet (to comply with building code officials) near spaces that will be used for after school activities without allowing those users access to the main school areas. These bathrooms shall be lockable from outside to control access.
6. Fixtures and hardware must be made of vandal-resistant readily cleanable materials.
7. Paper towel, liquid soap and tissue holders should be constructed to see through to prevent concealment of contraband and illegal items.
8. Restroom mirrors shall be shatterproof.
9. Restrooms shall have hard, mold-resistant gypsum wall ceiling for sanitary purposes as well as to prevent hiding of objects.
10. Ground fault circuit interrupters (GFCI) shall be used in all bathroom applications, as prescribed in NFPA 70 and NEC.
11. Smoke detectors shall have vandal resistant cages in all student bathrooms.

Media Center

12. If media is jointly used between school and outside organizations during after school hours, provide separate entry point to this room from the exterior. Provide separate and distinct alarm systems, as required.
13. Provide door readers and alarmed existing doors to prevent theft of media materials.
14. Technology equipment shall be in lockable rooms for proper security.
15. Locate modular reception and circulation desks to have natural surveillance of the entire area including story telling areas. It is recommended to use low bookshelves in the center of the main media area and taller shelving units along the perimeter walls to allow easy oversight of the entire area without hidden or secluded paces.
16. Wall- and ceiling-mounted equipment should be mounted from structural supports from above acoustical ceiling or device mounting plates from the device manufacturer.

Nurse's Health/Health Clinic Suite

1. Provide lockable room to control supplies, equipment and provide special lockable cabinetry for medicines and other sensitive devices.
2. Toilet room doors within this suite must swing outward to avoid a person from falling behind the door and blocking others from gaining access.

Cafetorium & Stage

1. If gymnasium is jointly used between school and outside organization during after school hours, provide separate entry point to this room from the school and from the exterior. Provide separate and distinct alarm systems as required.
2. Provide natural visual surveillance at the main entry points.
3. Provide lockable and fireproof storage for costumes, props, and equipment.
4. Projectors and screens shall be mounted from structural supports from above acoustical ceiling.

Indoor Athletic Facilities

1. If indoor athletic facilities are used jointly between school and outside organization during after school hours, provide separate entry point to this room from the school and from the exterior. Provide separate and distinct alarm systems as required.
2. Provide natural visual surveillance at the main entry points.
3. Use overhead-mounted motor operated curtains to divide spaces into teaching stations and smaller activity spaces.
4. Use fire-rated laminated glass to resist shatter from athletic director's offices to allow unobstructed view of the entire facility area.
5. Design sufficient space for spectators around basketball courts, as required. Provide padding and protection on walls, bleachers and other objects, as

required. Bleachers will be installed in the gym for spectators and other events as required.

Emergency Communications, Power Source & Community Shelter

1. Provide uninterruptable power supply (UPS) in the event of a power outage for critical computer, telephone, servers, terminals, emergency lights, and data closets.
2. Seismic structural foundation and structural members must be incorporated in the design of certain community areas of the facility such as the gymnasium, cafeteria, Media Center, and other large lecture rooms.
3. Panic button shall be provided in the main office to notify the 911 call center.

Security & Surveillance Systems

1. Provide security cameras throughout the facility at critical areas as determined by the school administrators, facility, and security personnel. Cameras must be vandal proof and resist various extremes of weather conditions. Cameras must be connected to uninterruptable power supply. IP cameras must have a dedicated server for video storage (motion sensor cameras).

Minimum Security Camera Requirements include the following:

- a. One camera to provide coverage of the exterior of the main entrance
 - b. One camera to provide coverage of the main entrance vestibule
 - c. One camera to provide coverage of the interior of the main entrance and lobby
 - d. One camera to provide coverage of the entrance of the main office
 - e. In all hallways, no less than one camera every 50 feet, with cameras on opposite walls facing different directions so as to provide coverage of the hallway in both directions
 - f. In stairwells, no less than one camera per landing
 - g. In gymnasiums, cafeterias, media centers, and all other spaces with a capacity larger than 50 people, no less than one camera in each of the four corners of the space
 - h. In the Digital Media Suite, one camera to provide coverage of the production multi-media studio, one camera to provide coverage of the control room, and one camera to provide coverage of the media lab.
 - i. No less than one camera to provide coverage of any courtyard spaces
 - j. No less than one camera to provide coverage of any data outlets located on the exterior of the building or in any outdoor spaces
 - k. No less than one camera to provide coverage of every exterior corner of the building
 - l. No less than one camera to provide coverage of every exterior entrance to the building
 - m. No less than one camera to provide coverage of each outdoor classroom or outdoor learning area
2. Provide alarm system for the school located at the main entrance and one service entrance as designated. Provide another alarm system as designated by the community groups for those spaces shared with the school. The existing

proxy card access control system will also be used to gain access to the facility by school and community groups.

3. Provide card access readers at all exterior doors for secondary staff parking entry doors. Main entrance and designated service entrances will have keyed access with fingerprint alarm readers but will not have card readers.

GENERAL TECHNOLOGY GUIDELINES

(Refer to Section 27-0500 LAN Wiring Specifications in Performance Specifications)

Technology goals include:

1. Providing ubiquitous and unfettered access to appropriate technology and content to all Prince George's County students, teachers, and administrators.
2. Providing a framework of support and on-going professional development in the use of technology to ensure that all Prince George's County teachers, administrators, and support staff have the knowledge and skills necessary to effectively integrate technology into their schools and classrooms.
3. Improving student achievement through the regular and effective integration of technology.

To accomplish these goals, all instructional areas must provide free access to the internet through a wireless network. This allows for curriculum to take place with instructors accessing the internet for lessons, assignments, media content, and other information. Classrooms will have interactive intelligent whiteboards with both traditional markers and with computer connectivity. Notebook computers and other internet-capable devices shall be used by students to provide access to electronic content. Instructors will use notebook computers and other internet-enabled devices to create and maintain a framework for instruction in their classrooms using such strategies as flipped instruction. Course materials will be stored electronically so that they can be accessed through the Internet for reference and study materials 24/7.

All classrooms and instructional areas will have audio-enhanced systems built in to provide an even, clear transmission of the lecturer's voice to assure each student in the room hears the correct pronunciation. Science laboratories have the latest measurement tools that interface with computer hardware to perform comparisons and other manipulation of the data. To achieve this technology vision, the following considerations shall be provided.

1. Classrooms shall have a minimum of five network data drops (one instructor, four students) hardwired in place.
2. Integrated technology shall be employed in classrooms. Generally, all instructional planning spaces, Media Center, offices, conference rooms, workrooms and administrative areas are to be provided with voice with a minimum of dual data outlets.
3. Each classroom, meeting room, instructional space, and assembly space is to be equipped with an appropriately configured digital projector and projection surfaces or screens. Screens will be 7' x 7' in smaller rooms and 8' or 10' in larger rooms. Screens shall be mounted close to the ceiling and tight to the face of the whiteboard, centered on the room.
4. Digital projectors shall be ceiling-mounted or wall-mounted in all classrooms, labs, the Media Center and all other instructional areas. CAT-6, VGA, and Composite cables shall be provided to the projector from wall outlets with adjacent quad power outlets. Interactive projectors use regular whiteboards as an interactive surface. All video and associated power outlets shall be as close to

- the interactive whiteboard as possible to accommodate a teacher workstation/cart.
5. Place power, data, audio, and video outlets cluster for teaching cart/podium adjacent to teaching wall, toward the front of the room as defined by the teaching wall, in a position for unobtrusive instruction. In addition, a cluster outlet of power, data, audio, and video shall be located on the wall opposite the teaching wall for instructional flexibility. At the high location of the LCD, provide a cluster outlet of power, data, audio, video, and an additional CAT-6 to the associated Intermediate Distribution Frame (IDF). All high locations shall include a 10-foot service loop.
 6. Place one duplex electric outlet centered above the interactive whiteboard oriented horizontally.
 7. Provide one 1-inch empty conduit with a single gang box oriented horizontally embedded in the wall shall be installed from center teaching wall directly above the whiteboard to the teacher/instructor audio/video/data drop location. Pull string shall be installed.
 8. Voice drop(s) are to be co-located with the instructor station.
 9. Intercom handsets in each instructional area shall be integrated with phone system.
 10. Every classroom, meeting room, instructional and assembly space, instructional planning spaces, Media Center offices, conference rooms, and workrooms of 100 square feet or greater shall have an intercom handset integrated with the phone system.
 11. Cable, satellite (MATV system) or TV reception shall be provided to all instructional areas, Media, planning areas, gymnasium, cafeteria, faculty dining, and conference rooms. Teaching spaces will be equipped with receivers to accept signal and project through digital system.
 12. Capability of video broadcasting signal to be recorded in the TV/Video suite and the video production room and be capable of broadcasting to the entire school.
 13. A sound system with a multi-port input switch (minimum four inputs) shall be included in every classroom with a mounted projection system. Powered speakers shall be flush-mounted in the ceiling, equidistant from the projector to cover the classroom footprint adequately.
 14. Every instructional area with a mounted projection system shall include a remote.
 15. Power over Ethernet (POE) operated Network Time Protocol (NTP) clocks shall be centrally located at main entrance corridors, main offices, collaboration areas, public use spaces such as gymnasiums and dining commons that is synchronized with all the clocks throughout the building utilizing the Local Area Network (LAN). This will allow synchronization across various endpoints (computers/phones/clocks).
 16. Provide GPS battery-operated clocks in all other offices, workrooms, classrooms, resource, small group instructional and specialty rooms that are synchronized

- with all the clocks throughout the building utilizing the LAN. This will allow synchronization across various endpoints (computers/phones/clocks).
17. Provide two-way voice communication system to all offices, planning areas and teaching stations. In addition, outside lines for parent/teacher contact, shall be provided via the phone system.
 18. Provide an audio-enhanced loop system in all instructional, meeting, conference, assembly, cafeteria, multi-purpose, therapy, and activity rooms.
 19. All electrical outlets should be tamper-proof and GFCI-rated. At a minimum, place two outlets per every four feet of linear wall in all instructional spaces, meeting rooms, teacher workrooms, and administrative offices.
 20. If the gymnasium can be divided with soundproof separation, the sound system shall have two zones, which can work independently or as a single system.
 21. The cafetorium shall have a single zone sound system with a wall-mounted cabinet for electronics to include quad wireless microphone capability and multiple sound source capability (CD/DVD, MP3, etc.).

Building Infrastructure

1. Underground Ducts and Raceways for Communications Systems
 - a. Provide a minimum of four 4-inch conduits from road curb or point of utility service to the main electrical room. Some applications will require additional conduits. Each conduit shall contain a pull/tracer wire and be stubbed up at the base of the nearest telecommunications pole. Provide conduits from the utility pole/property line to the building as follows:
 - 1) Provide two 4-inch PVC conduits for telecom provider
 - 2) Provide one 4-inch conduit for Cable Television
 - 3) Provide two spare 4-inch conduits
 - b. Install two 2-inch smooth walled inter-duct (plenum rated) conduits between the main electrical room and the Main Distribution Frame (MDF), or equivalent dedicated conduits (i.e., two 2" C. or two 4" C.)
 - c. The MDF and all IDFs shall be located in a lockable room that is climate-controlled (24/7 and separate from the main system). Provide a dedicated split HVAC system. The indoor HVAC unit shall be wall-mounted and not ceiling-mounted.
 - d. The MDF shall be centrally located in a separate and secured room, preferably adjacent to the media center or the computer labs used for computer application classes.
 - e. The Developer shall coordinate utility service to the Project with the local utility (both telephone and cable television) and provide complete and detailed routing for service installations.
 - f. The Developer shall avoid the use of utility manholes in service installations to keep installations simple and cost effective.
 - g. The Developer shall coordinate with PGCPS Department of Technology and Communications (PGCPS Dotcom) on any provisions (conduits, hand boxes, etc.) needed for the Metropolitan Area Network (MAN).

2. Communications Equipment Room (MDF & IDF) Generator
 - a. The Telecommunication Room shall house racks and required cable routing hardware. Racks shall be placed in a manner that will allow a minimum of three feet of clearance from the front and rear mounting surfaces on at least one side on racks. If one mounting rail of the rack is placed against a wall, the mounting rail shall be no closer than 6 inches to the wall to allow room for vertical cable management. Where there is more than one rack, the racks shall be ganged with vertical management hardware to provide Interbay management. Ganged rack frames will be placed in a manner that will allow a minimum of three feet of clearance from the front and rear mounting surfaces and on at least one side of the ganged assembly.
 - b. There shall be a minimum of three conduits a minimum of 4 inches in diameter in the Telecommunications Rooms. Conduits for the data backbone shall be located adjacent to the racks. An inner duct must be provided for all backbone fiber runs.
 - c. Provide cable trays within each IDF and MDF for cable management.
 - d. Provide multiple 4-inch cable sleeves (fire rated if required) in each IDF and MDF.
 - e. Provide generator power for each IDF and the MDF, and the associated air-conditioning units. Generator power shall be available for all circuits in these rooms.
 - f. The Telecommunications Room shall be located as close as practicable to the center of the area served and preferably in the core area. The Telecommunications Room space shall be dedicated to the telecommunications functions and related support facilities. Telecommunications closet space shall not be shared with electrical installations other than those required for the telecommunications equipment.
3. Communications Backbone
 - a. The fiber backbone between the MDF and each IDF shall be 18 strands of 50-micron laser optimized multi-mode fiber (to accommodate 10GB Ethernet) and 18 strands of single mode fiber (for future proofing).
 - b. Provide Campus Network (usually 12 strands of single-mode fiber) needed to run between schools on the same campus site. For example, if a high school, and a middle school share the same site, provide fiber to connect the two buildings together.
4. Communications Horizontal Cabling
 - a. Coordinate with the PGCPS project manager on communications system products (data outlet and cabling, etc.) to be included in unit cost section of project bid form.
 - b. Provide CAT-6 Wiring (or latest standard) for the following:
 - 1) Wiring homeruns to IDFs and/or MDF
 - 2) IDFs and MDF linked via fiber optic backbone
 - 3) Spare empty conduit run between IDFs and MDF for future use

- 4) Cabling racks shall be open, 19-inch EIA Standard spacing, located at IDFs and MDF
- 5) Data patch panels and cable management shall be supplied by the Developer
- 6) Data patch panels shall include 25% spare jacks
- 7) Provide 100% spare rack space for Owner-supplied equipment at each IDF and MDF
- 8) Rack maps shall be coordinated and approved by the Owner prior to installation
- 9) Supply five-foot long patch cable for each drop, plus 10% spare

Classrooms & Instructional Areas

1. Instructional Technology

a. Notebook Charging Carts

- 1) Typically contain 30 student units – need dedicated 20-amp power receptacle on transient voltage surge suppressor (TVSS) protected circuit to serve laptop battery chargers. Coordinate architectural and electrical drawings for space and power provisions for charging carts. Data outlets are NOT required at the charging carts, if a complete wireless network is installed in building.
- 2) Design shall be based on Bretford notebook computer carts.

b. Interactive Whiteboards

- 1) Preferred Manufacturer: 75" Smart Interactive White Board Monitors
- 2) Use wall-mounted interactive monitors as a basis for design for all teaching rooms and spaces except PreK, K, 1st, and 2nd grades.
- 3) Specialty teaching spaces (Media, Visual Arts, Performing Arts, Music, Choral, Keyboard, etc.) shall have interactive monitors on mobile carts specified by manufacturer.
- 4) Interactive Whiteboards are typically provided at Math labs, General Classrooms, Science Classrooms and Laboratories, Art Rooms, Music Rooms, Business Education Labs, Computer Labs, Auditorium, Conference Rooms, and Media Center.
- 5) All spaces containing more than 150 square feet shall have facility infrastructure provisions for future interactive whiteboards for wall-mounted applications.

c. Specific Instructional Technology Systems

- 1) Sufficient WI-FI access should be provided to every classroom and instructional area (Including Cafetorium and Gym) to allow 1 GB access to at least eight internet (IP) enabled devices per student that the area is designed to accommodate.
- 2) Media Center shall have multiple instruction areas. Provide interactive white panel board monitors on mobile carts for use in two or more locations with direct data and power infrastructure connections in walls.
- 3) Music Rooms (Instrumental & Vocal Music Rooms). Provide interactive white panel board monitors mounted at the teacher's station wall.

- 4) Provide hanging microphones as required in music rooms.????
 - 5) Keyboard Lab. Provide a dedicated LAN in the Keyboard Lab. Provide one data outlet from each keyboard station to a patch panel in a wall cabinet at the teacher's station. In addition, provide a network data drop at each keyboard location tied to the IDF/MDF.
 - 6) Gym Scoreboards. Provide wireless scoreboard controllers.
 - 7) Monumental School Frontage Sign. Provide wireless controller for changing messages on school sign.
 - 8) All rooms with local sound systems shall connect to the audio output of the video projection low outlet.
 - 9) Early Childhood Observations Areas. Provide a microphone and audio sound system to allow students to hear audio from observation area.
 - 10) Nurse's Office. Provide one data drop and receptacle next to each bed for monitoring equipment.
- d. Pre-Wired Furniture
- 1) Furniture and pre-wired partitions are used typically in teacher planning areas, administrative open offices, computer labs, and media centers.
 - 2) Provide suitable wall outlets and furniture connections for power/voice/data connections.
- e. Equipment with Technology Connections
- 1) Coordinate with PGCPS on specific equipment requiring technology connections. For example:
 - Copy machines/network printers require one data drop in addition to power. Centralized networked laser printers will be located and shared by multiple instructional areas. Coordinate with PGCPS Copier/Printer Department for quantities, locations, and power requirements.
 - Building Energy Management System (EMS) requires one data drop in addition to power.
- f. Wi-Fi
- 1) Coordinate with PGCPS Dotcom and PGCPS Wireless LAN vendor to determine wireless access point layout and coverage. Mount wireless access point outlets above the ceiling or 18 inches below the structure. Maximum mounting height shall be 12'-0" above the floor (in order to be serviced from a 10-foot ladder).
 - 2) Provide one dedicate receptacle (on generator power) in each MDF/IDF room to serve wireless internet (Wi-Fi) access point POE switches.
- g. Typical Classroom "Low"/"High" Wiring Configuration
- 1) Each classroom shall be designed to incorporate a ceiling-mounted projector, interactive whiteboard, and a designated projector high and low location. A specific location must be designated due to the termination of appropriate cabling on the wall at a fixed position.
 - 2) The projector low outlet location will typically be the side opposite of

the door and in the front or wherever the projection whiteboard is installed. The teacher's desk placement shall be to the outside of the projector low outlet, thus utilizing a common live data and phone for both the desk and projector. Placing the "low" drops in this location avoids cord clutter and tripping hazards. The projector "low" outlet shall always be located adjacent to the teacher's outlet (with data and video jacks).

- 3) Video projectors will be provided for large conference rooms and flat screen monitors for smaller conference rooms.
 - 4) The "low" data/video drop for the projector input shall incorporate at a minimum:
 - Two RJ45 CAT-6 data jacks (orange)
 - RJ45 telephone jack
 - Db15 vga (female) port (video-out to projector)
 - RG6 coaxial port
 - Duplex power outlet (opposite side of stud cavity)
 - A six-port data outlet would be preferable to allow for 2 RJ45 data jacks and one spare spot outfitted with a blank for possible future use.
 - Use two RCA audio jacks (red & white) or 3.5 mm stereo jack.
 - 5) The "high" data/video drop for the projector shall incorporate at a minimum:
 - Two (2) RJ45 CAT-6 data jack – orange - (tied back to closest data wiring closet)
 - One (1) data jack for streaming video.
 - Db15 VGA (female) port (back to "low" termination location in classroom)
 - Duplex power outlet
 - 6) All "high" data/video drops and projector power outlets shall be located within the projector's drop-ceiling mounting panel.
 - 7) Provide a service loop of 10 feet above the projector to allow for relocation of the high projector drop.
- h. Projectors and Projection Surfaces:
- 1) Larger Rooms Projection Screens (Large Group Instruction, Instrumental Rooms, Band/Orchestra, etc.) shall be 10 feet wide.
 - 2) Auditorium projection screens shall be between 16 to 20 feet wide.
 - 3) Locate projector and screen on centerline of room's instruction wall.
 - 4) Distance to projector from face of screen shall lie in the middle of the focal length (min. and max. projection distance).
 - 5) Coordinate projector and screen location with lighting plan so projected light remains clear of ceiling lights when room is switched to "projector" mode.
 - 6) Projector's power outlets must be wired to avoid video interference with other electrical sources such as light fixtures, etc.
 - 7) Ceiling-mounting kit shall be a factory-fabricated mounting plate that drops into the ceiling grid and provides a location for power/data wiring

- as well as projector mount. (RPAO - Chief 1st Generation Univ Projector Mount and CMS440 - CHIEF CMS440 ceiling mount kit).
- 8) Projector shall have minimum gain of 3000 ANSI lumens for an average sized 30-student classroom. Larger rooms, or rooms with penetrating ambient light, will require brighter projectors and further evaluations should be investigated and resolved before wiring has commenced. Information will be provided to inform PGCPS as to the requirements for the non-standard classroom projectors.
 - 9) PGCPS will specify the projectors. All projectors will be selected from the PGCPS approved equipment list.
 - 10) Do not place projector and intercom speakers in the same ceiling grid space.

Telephone System

1. The PGCPS VoIP system will be specified by PGCPS Department of Technology and Communications (PGCPS Dotcom). The Project will provide standard VoIP telephone handsets as part of the public address system specification for each instructional space and appropriate phone sets for all administrative spaces.
2. The telephone system will be interconnected with the school's public address sound system.
 - a. Interlock the telephone system with the central sound/paging system.
 - b. Intercom to be fully integrated with PGCPS supplied VoIP system.
 - c. System to be integrated with independent sound systems in the gym, cafetorium, and auditorium.
 - d. Provide an emergency ALL CALL that can override all independent systems, except fire alarm. Otherwise, local systems shall take precedence.
 - e. The telephone system must have analog gateways for faxes. Devices requiring modulation/demodulation will be served by POTS (plain old telephone service) lines or replaced with newer technology.
 - f. Coordinate with PGCPS project manager on telephone system products (voice outlet and cabling, etc.) to be included in unit cost section of project bid form.
 - g. Wiring for VoIP will utilize standard Ethernet cabling, reducing the need to run a separate phone network throughout the facility.
 - h. Provide a wall-mounted telephone drop (standard Ethernet jack) near the teacher's desk. A separate telephone outlet by the classroom door is NOT required.

Master Antenna Television System (MATV)

1. Coordinate with PGCPS project manager on video system products (video outlet and cabling, etc.) to be included in unit cost section of project bid form.
2. Cable Television (CATV) Video Distribution System Capabilities
 - a. The Developer shall provide a CATV system outlet at every administrative outlet, every teacher's outlet, and every "TV" outlet indicated on the Room Data Sheets. The outlets shall be fed from a distribution system designed

- after a standard cable television system consisting of a "trunk to tap to drop" configuration.
- b. The system shall provide for the distribution of a CATV input and be capable of operation from 0 – 1GHz.
3. Digital Streaming Video Distribution System Capabilities
 - a. Streaming video system will provide live encoding, decoding, streaming server, desktop viewer, ActiveX Controls, scheduling system, including streaming to third-party players and systems that use RTP/RTCP (such as Cisco IP/TV).
 - b. Video Conferencing: Enable interactive video conferencing over IP network for interactive video. The video on PC must be true television/CD-quality audio on standard PC and standard televisions. Automatically detects other users and provides a conference directory on screen. The navigation on the IR remote control must setup video conference.

Local Sound Systems

1. Local Sound Systems are typically provided for the following areas: (refer to the space requirements in Section Three to verify which areas are listed in the school's program)
 - a. Auditorium
 - b. TV/Studio Drama (Black Box Theater)
 - c. Instrumental Music
 - d. Vocal Music
 - e. Student Dining/Cafetorium
 - f. Gymnasium
 - g. Auxiliary Gymnasium
 - h. Wrestling
 - i. Aerobics
 - j. Weight Room
 - k. Video/Communications/TV Studio
 - l. Stadium
 - m. Therapeutic Pool
2. Independent sound systems shall be provided in the Gym and Cafetorium. Systems shall include ability to distribute microphone input from various locations in the rooms, as well as programming from a compact disc player, computer, and auxiliary input(s).

Elementary School Sound Systems

1. If the gymnasium can be divided, the sound system shall have two zones which can work independently or as a single system.
2. The cafetorium shall have a single zone sound system with a wall-mounted cabinet for electronics to include quad wireless microphone capability and multiple sound source capability (CD/DVD, MP3, etc.)

Secondary School (Middle & High) Sound Systems

1. Same sound system requirements as elementary, with the following additions:
2. Auditorium/stage sound system shall include at a minimum a 48-channel digital sound board with a digital snake, dual CD/DVD player/recorder, 16 wireless microphones (8 headsets w/ fanny pack, 8 lapels), and 4 wired microphones.

Educational Intercommunications and Public Address Systems

1. Intercom to be fully integrated with PGCPS supplied PBX system.
2. Coordinate with PGCPS project manager on public address products (speakers, etc.) to be included in unit cost section of project bid form.
3. Paging zones shall be identified in design stage and depicted on drawings.
4. Provide volume controls needed for paging speakers in all administrative areas, conference rooms, planning areas, Media Center, and auditorium.
5. System to be integrated with independent sound systems in the gym, cafetorium, and auditorium. Provide an emergency ALL CALL to override all independent systems, except fire alarm. Otherwise local systems take precedence.
6. Provide talk back speakers in all instructional spaces, health, conference, planning. All other spaces receive paging only.
7. Provide master clock system to allow the programming of scheduled bells.
8. Provide public address speakers in all stairs.
9. Provide speakers in large storage rooms containing more than 100 square feet.
10. Design gymnasium sound system for complete coverage of entire gym to avoid dead spaces. Provide supplemental speakers and sound system equipment (signal delay) as needed.

Clock Systems

1. Provide one battery-operated GPS clock in each room that is synchronized with all the clocks throughout the building utilizing a transmitter system. The system must include interface to connect the PA system, so that an audible signal is broadcast throughout the building at the beginning and at the end of the class periods.
2. Install GPS wireless clocks in general classrooms, specialty teaching classrooms, resource rooms, office, administration, Nurse's Health Suite and Guidance/Student Services Offices.
3. Install POE clocks in gyms, workout rooms, cafetorium, auditorium, media center, and locker rooms.
4. In general, elementary schools will be provided with analog type clocks and secondary schools (middle & high) will be provided with digital clocks. Verify per project. (Check Phase I scope and revisions that were approved)

Other Uses of Technology

The Developer shall provide the following:

1. A visitor management system which enables schools to issue visitor badges with names, pictures and reasons for the visit, and time and date printed on them; to monitor volunteer and visitor hours; and instantly check all visitors against registered sexual offender databases in all 50 states.
2. Card access and video intercom at the main entrance, cafeteria, and hallway entry-exit points.
3. Building-wide all-call designed to be heard throughout the school and on the playfields.
4. Key systems that track users.
5. Data Management Platform (DMP) Control Panel and keypads for burglar alarm system control.
6. DMP wireless panic buttons at the secretary desk and administration offices.
7. Bosch Tri-Tech passive infrared and microwave Doppler radar motion detectors with tamper-proof cover and anti- masking capability, including normally open alarm circuit.
8. Telephones in every instructional and support area.
9. Genetec Video Management System (VMS) Axis Internet Protocol (IP) cameras installed inside and outside of the building.
10. Bosch TriTech motion detectors in all classroom and instructional spaces.

GENERAL BUILDING CONSIDERATIONS

1. The structure shall meet or exceed all requirements set forth by the State Department of Education, State Fire Marshal, Interagency Committee for Public School Construction, and any other state or local agency having input, review, and approval authority. All applicable codes and procedures must be addressed, including but not limited to the following:
 - a. Americans with Disability/Act Accessibility Guidelines
 - b. Maryland Building Code for the Handicapped (05.01.07) which references ANSI A117.1-1980.
 - c. International Building Codes
 - d. International Mechanical Code
 - e. National Fire Protection Association 101 (NFPA 101) Life Safety Code as amended by the Maryland State Fire Code.
 - f. International Energy Conservation Code
 - g. Maryland Accessibility Code, COMAR 05.02.02.
 - h. National Standard Plumbing Code as supplemented and published by the National Association of Plumbing-Heating-Cooling Contractors.
 - i. National Electric Code
 - j. National Fuel and Gas Code
 - k. Indoor Air Quality in Maryland Schools, MSDE, 1987 and all additions and revisions to date,
 - l. Verify all editions with the permitting jurisdiction the current code to exercise.
 - m. Prince George's County Public Schools Performance Specifications
2. The project is to be designed and constructed with no asbestos containing materials (ACM), and for elimination of radon gas, should that be present. Please reference Indoor Air Quality in Maryland Schools mentioned above.
3. Developer shall design and construct a complete system that provided heating and cooling on a year-round basis with zoned control based on building usage. Refer to the Performance Specifications for detailed requirements.
4. All movable furniture and equipment are to be identified and shown on the Room Data Sheets. All moveable furniture and equipment shall be purchased by the Developer as part of this contract.
5. Code requirements for electrical outlets are considered the minimum. The Developer is encouraged to resolve the need for additional outlets through innovative design. Particular attention should be paid to power provisions for voice, video, and data outlets in each space.
6. Provide dusk-to-dawn security lighting around the perimeter of the building. This shall be coordinated with the energy management plan that meets and/or exceeds the sustainability requirements for the project. All sidewalks around the building, the bus loop and parent drop off should be adequately lit.
7. Instructional area lighting shall be a minimum of 70f.c. at desk top level and shall have separate switching capability.

8. All restrooms shall have ceramic tile walls to a height of four feet, and ceramic tile floors.
9. Limited carpeting shall be installed on the floors in offices, conference rooms and the media center. The exception is the kitchen office shall be vinyl composition tile (VCT), along with all other flooring throughout the building.
10. The Project shall be as energy efficient as feasible. Passive conservation design features should be included.
11. Refer to Prince George's County Climate Action Plan (included in appendix), Sustainability Codes and State LEED equivalency requirements as per the Green Building Program.
12. At least two operable windows with sills, interior screens, mini blinds, and blackout provisions shall be provided in each classroom. Natural light should be introduced wherever possible using windows or clerestory windows. The use of skylights instead of windows is not an acceptable solution.
13. Complete security and fire alarm systems shall be provided.
14. Provide built-in security gates to secure classroom areas from public areas during after- hours use.
15. Refer to Section 27-0500 LAN Wiring Specifications for telephone system specifications and integration with the Media distribution and retrieval systems. Confirm and reviewed by the IT Department.
16. All drinking fountains in public areas of the school shall be water coolers with a filtration system, not merely fountains. The cafeteria shall have a water cooler, and each group restroom shall have a water cooler in the hall area outside of the restroom.
17. Attention to acoustics and sound attenuation should be given to such areas as the cafeteria, gymnasium, and the vocal and instrumental music rooms. The location of mechanical equipment shall be examined to prevent distraction in the instructional areas. See Acoustical Performance Requirements describing requirements for each room included in the Performance Specifications.
18. Except for instructional spaces, the net square footages listed within this document are intended as guidelines with tolerances that may be necessary in the final development of the floor plan. PGCPS reserves the right to accept or reject any proposed deviations to the net square footages.
19. All exit doors shall be equipped with panic hardware for easy egress in emergency situations. All door widths shall be a minimum of 36 inches to facilitate accessibility.
20. Specific structural, mechanical, and electrical guidelines, pertaining to the scope of the project, are included in the Performance Specifications that provides all the required design requirements.
21. The arrangement of interior spaces shall:
 - a. Encourage a flexible approach to the curriculum, facilitating interaction, creativity, and inquiry.

- b. Provide for the zoning of the gymnasium, cafeteria, and classroom groupings for building security during community use.
 - c. Develop the Media Center and administrative functions as the focal points of the building.
 - d. Provide a main entrance to the school with an inviting identity that is easily observed and managed by the school administration.
 - e. Facilitate rapid and easy evacuation of the building with clear and uncomplicated traffic patterns.
22. Main School Storage Room
- a. Central storage area for custodial supplies and loading dock.
 - b. Size room with approximately 450 square feet.
 - c. Provide five 24-inch deep, built-in shelving on all open walls.
 - d. Lavatory with counter, sink, shower, mirror above and cabinet below.
 - e. Six-foot work bench, with area above for tools.
 - f. Space for six lockers, buffers, wet-vac.
 - g. Floor-mounted mop sink.
 - h. Dual data and one voice drop.
 - i. Provide sealed concrete floors on all floor areas.
23. Custodial Services
- a. Locate throughout the building, near common use areas with special attention to the primary and intermediate areas.
 - b. Floor-mounted mop sinks in both instructional area and in all other custodial closets.
 - c. Stainless-steel, heavy-duty metal shelves from floor to ceiling.
 - d. Cabinet suitable for tool storage, lockable.
 - e. Provisions for hanging mops and other equipment.
 - f. Closets must be at least 50 square feet to accommodate shelves, sink and cabinet.
 - g. Provide separate cold-water supply for chemical dilution system.
 - h. Sealed concrete floor
24. Circulation Requirements
- a. The Project shall be designed to provide universal access and to conform to all ADA requirements.
 - b. Interior circulation systems shall provide clear and direct access to the Program Areas of each level, afford views to the exterior along and bring daylight into the interior along their length, through clerestories above adjacent doors, frosted glazing along walls, alcoves, connecting stairs, or other means. Exterior views shall, where possible, be designed to include scenic elements such as vistas or views of exterior landscape features. At a minimum, primary corridors shall provide views to the exterior at ends and corners as termination points.
 - c. Locate administrative and teacher preparation with good visual contact of major circulation areas (i.e., corridors, cafeteria, bus drop-off, parking)
 - d. Locate areas likely to have significant community use close to parking and with zoned access.

- e. Interconnecting stairs shall be provided to encourage circulation and interaction between floors at intervals no greater than 200 feet.
- f. Interconnecting stairs may be integrated with egress stairs required by applicable Law provided the interconnecting stairs are designed as Non-Assignable Spaces: Interior: Stairwell: Primary Circulation.
- g. Where Programs are similar at multiple levels within the building, interconnecting stairs shall be designed to be visible and open stairs, except where security layering requires closed or restricted access. Where fire control doors or shutters are installed, they shall be designed to be open normally and to be closed only in the event of fire alarm.

SUSTAINABILITY

On April 28, 2022, the Prince George's County Board of Education unanimously approved the PGCPS Climate Change Action Plan (CCAP) which aims to reduce the PGCPS carbon footprint and lead to healthier buildings and transportation, cleaner air, healthier food, less waste, and operational cost-savings. As a result, PGCPS can focus its limited resources more equitably and contribute to both better health outcomes and a safer future for our children.

The CCAP is based on eight Priority Recommendations:

1. Support environmental justice through climate curriculum, training & partnerships
2. Reduce carbon footprint from PGCPS buildings
3. Commit to renewable energy sources for a net zero emissions future
4. Commit to low carbon school transportation
5. Reduce food waste and grow climate-friendly food
6. Commit to sustainable materials management and procurement
7. Commit to climate resilient land management
8. Lead by example to support transformational change

The Developer shall review the CCAP and recommend ways it can implement its recommendation and contribute to its success. In particular, the following recommendations shall be implemented:

Priority #2, Operational Action 1: Require private partners to participate in all rebates and other appropriate financial programs.

- The Developer shall utilize all grants and other appropriate alternative financing options that lead to reduced emissions and/or increased resilience. See Mitigation and Adaptation sections for listings of potential funding streams.

Priority #2, Operational Action 2: Collect and disseminate data on building energy performance.

- The Developer shall install energy-monitoring systems in all new PGCPS buildings. The data must be centrally viewed by PGCPS energy analyst staff. The monitoring systems must collect granular enough submetering to assist staff in prioritizing building maintenance needs.

Priority #2, Mitigation Action 2: Move towards ultra-efficient fossil-fuel free/net zero ready for all new construction.

The Developer shall evaluate the most effective approach to compliance with Maryland

Green Building Standards requirements which allow for achievement of the goal of a Net-Zero Ready (NZR) school:

1. The Project shall meet the requirements of LEED (minimum of Silver certification), Green Globe (minimum of two globes), or the International Green Construction Code.
2. All new buildings will be designed to be solar ready, and when grant funds are available or deemed cost-effective, have solar installed.
3. Develop an estimate for an appropriate energy efficiency standard in terms of EUIs and ensure all new buildings will meet that standard.
4. All new buildings will meet daylight and healthy indoor air needs of students.
5. HVAC and water heating systems will move towards fossil fuel free in all new schools.

Refer to the CCAP for more details and additional requirements.

DESIGN FOR LEARNING

PGCPS considers the entire school grounds as a teaching opportunity, with a central space as the 'outdoor learning area or classroom'. The architect shall include formal and informal learning spaces throughout the campus, including, but not limited to:

1. Structured outdoor classroom areas, with appropriate site furniture and physical layout
2. Learning gardens
3. Indoor and outdoor colloquy and small group spaces for gathering and instruction
4. Educational displays and instructional material in community and public spaces
5. Display space for student projects, artwork, and awards

EQUITY AND ACCESSIBILITY

Handicapped Accessibility

The entire facility shall be accessible for students, staff, and visitors. This will be accomplished through judicious use of ramping and elevators with enough internal clearances for circulation, convenient bus/van loading and unloading, and nearby handicapped parking spaces.

All elements of the ADA must be complied with, including:

1. 'Wayfinding' and signage,
2. Appropriate use of textures, lighting, and other sensory cues, and
3. Universal accessibility of all indoor and outdoor school facilities.

Students with Special Needs

The design shall integrate special education facilities throughout the school to support the concepts of inclusion and the specialized requirements for the students. Special attention will be given to accessibility of all facilities and an integrated learning program.

Facilities shall be designed and constructed to address students' needs, including sensory indicators. Attention shall be paid to lighting, color, ambient acoustics, etc.

Restrooms, Shower and Changing Facilities and other private accommodation

PGCPS respects and supports students' desire for both privacy and inclusiveness regarding restrooms, shower and changing facilities, and other private accommodations. In addition to the typical gender-based group restrooms near the physical education space and cafeteria, the design shall provide gender neutral bathroom clusters for the fourth and fifth grades in the classroom wings to include the following:

1. Single-occupancy, lockable student toilet rooms (quantity per code)
2. Hand-washing facilities adjacent to each toilet room or row of rooms
3. Design/placement that allows direct adult supervision of student ingress and egress from the corridor or public area

Special Programs

Each elementary and/or K-8 school has a 'cluster program' serving students with similar disabilities. Specifics for each program are in Section 3 of this document.

Language Access

Provide dual language signage at Springhill Lake and Hyattsville Elementary Schools and at other campuses as required such as Robert Frost K-8 School.

WAYFINDING AND ORIENTATION

The campus layout shall be designed to provide clear wayfinding and orientation without relying solely on signage. The building massing and orientation shall be designed to focus on key circulation elements.

Every school shall have a monument sign and a building-mounted sign. The monument sign is a free-standing, durable sign that has the name and address of the school with a non-electric, protected message board. It shall be located on the site to be visible by cars on the main road in front of the school. The building-mounted sign should state the school's name and must be located above the main entrance visible from the visitor parking

From the parking and walking access areas, all visitors must be able to identify a "single point of entry" to the school.

Immediately upon entry, universal signage and visual cues shall guide visitors to a main lobby area with seating and access to the main office staff. Visitors are required to enter the welcome center before proceeding into the rest of the school.

Registration and family services shall be located near the main office. The other administrative offices and guidance services may be decentralized to increase security and supervision throughout the campus.

COMMUNITY USE

The facility shall be designed and constructed to facilitate community use both during and outside regular school hours. It is assumed that the community will use the building for recreation, meetings, and educational functions.

Design elements shall include:

1. Zoning and security layering to allow for selective use of space. Layering shall include both passive (gates and fencing) and active (intrusion detection) measures
2. Placement of facilities and circulation to provide direct access from outside to community spaces, and to minimize mixing of traffic
3. Zoning of MEP systems to allow for selective use of space.

ENGINEERING AND MECHANICAL SERVICE AREAS

DESCRIPTION

These are rooms that provide a place for utility equipment and custodial work areas.

A. Staffing Requirements

- 1 – Full Time Head Custodian
- 2 – Full Time Custodians (12 months)
- 2 – Part Time Custodians (10 months)

ACTIVITY SURVEY

Custodial Office, Staff Lockers and Lavatory – This is the control center for custodial and maintenance activities, storage of personal articles and unisex lavatory with shower for the custodial staff.

Receiving (Loading Dock) Area – This is the loading and unloading of maintenance/operations equipment and supplies.

Grounds Equipment Storage Area – This is the storage that should be located inside main school facility for outdoor grounds equipment and supplies, repair and maintenance of equipment with access at ground level via an overhead door. The floor must contain a floor drain for outside cleaning of tractor equipment, push mower, hedge trimmer, weed whacker, hand tools and other equipment for the maintenance of the facility.

General Storage Area – This is the storage of custodial materials and supplies located near the receiving area. It must have adjustable shelves.

Janitor Service/Storage Closets – The storage of miscellaneous maintenance and custodial equipment, supplies and water source for cleaning.

Mechanical/Electrical Equipment Area Room – This is the control center of heating, cooling, and utility equipment. This includes the electrical transformer/switchgear, which is secured and isolated from other areas of the facility.

FACILITY IMPLICATIONS

A. Spatial Requirements

The following spatial recommendations for the electrical, mechanical, delivery and storage areas are listed by area square footages, which are intended only as an approximate working guide. The rooms listed below are not counted toward the educational program space summary. Utilize the Excel Program Summary Spreadsheet for actual net square footages.

Description

	# of spaces	Sq. Ft.	Total
CUSTODIAL OFFICE AREA	1	120	120
LOCKER/LAVATORY	2	150	300
GROUNDS EQUIPMENT STORAGE AREA	1	600	600
GENERAL STORAGE/RECEIVING AREA	1	1,000	1,000
CUSTODIAL STORAGE ROOM	1	360	360
MECHANICAL/ELECTRICAL ROOM	1	TBD	TBD

FURNISHING, FIXTURES AND EQUIPMENT (FF&E)

Classroom activities vary in terms of grouping and orientation; therefore, the furniture shall be flexible to accommodate a variety of classroom formats for both individual and group activities. Provide teachers and students with storage space for personal belongings, papers, books, supplies, and teaching materials. To the extent possible, utilize movable furnishings rather than fixed casework, to provide flexibility for future reconfiguration. Alternative seating options will be considered for comfort, mobility, and/or compatibility.

1. Provided FF&E includes all built-in and loose furniture (identified in the individual Room Data Sheets), fittings, and equipment needed to provide a fully functional project.
2. IT Equipment. Furnish and install passive components of the IT system including any racks, mounting points, raceways, cabling and terminations, face plates, etc., and technology affixed to the wall such as interactive panels with audio enhancement in classrooms.

Procurement and Installation of FF&E

1. The Developer shall procure, place and install, as applicable, all FF&E in the areas in consultation with the Owner.
2. Provide all framing, supports, restraints, gasketing and sealants, and all connections to building systems for FF&E. FF&E shall be placed or installed, as applicable, to allow for easy access for maintenance, repair, cleaning and replacement.

Owner Review and Approval of FF&E

1. The Developer shall submit proposed FF&E designs, layouts and model numbers to PGCPS for approval prior to procurement.
2. FF&E shall be included in all required mock-ups.

In the event the materials, products, millwork or finishes to be provided by the Developer offer multiple color palettes, textures or finishes, the Developer shall provide PGCPS with a minimum of three options for such color palettes, textures or finishes for approval.

SECTION THREE: SPATIAL REQUIREMENTS

ORGANIZATIONAL SPACE CONSIDERATIONS

SPACE REQUIREMENTS

Space Requirements Summary

Base Required Space	Square Footage
Academic (Includes CRI Program Area)	43,070
Learning Areas	6,250
Administrative Areas	3,210
Guidance/Student Services	660
Nurse's Suite/Community Health Clinic	1,370
Building Services	920
Media Center	3,690
Performing Arts	3,500
Physical Education	5,000
Student Dining & Food Service	6,935
Visual Arts	2,400
Total Net Area	77,005
Building Support Areas (corridors, restrooms, stairwells, elevators, mechanical, electrical)	30,862
Total Building Area	107,807

A. Academic Core Area Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total (SF)	
Academic Classrooms (4 – Prekindergarten & 5 – Kindergarten)	10	1,100	11,000	Includes bathroom
Academic Classroom/Studio (1st – 3rd)	15	950	14,250	Includes bathroom
Academic Classroom/Studio (4th – 5th)	10	900	9,000	
Overflow Academic Classroom/Studio (1st – 3rd)	1	950	950	Includes bathroom
Overflow Academic Classroom/Studio (4th – 5th)	1	950	900	Includes bathroom
Total:	37		36,150	

B. Learning Areas

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Collaborative Learning Areas (informal)	5	450	2,250	Independent and informal teaching areas
Outside Learning Areas (Patios, porches, etc.)	3	varies		In addition to outdoor classroom; 1 per grade level
Small Group Instruction (Support Staff & Pull-Out)	4	350	1,400	Resource Areas
Resource Room (Support Staff & Pull-Out)	4	450	1,800	
Work Room/Teacher Collaboration	2	250	500	
Technology Storage	3	100	300	1 per floor / learning community
Total:	21		6,250	

C. Administration Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Lobby	1	480	480	Includes secure vestibule
Reception/Waiting Area	1	400	400	
Principal's Office	1	180	180	Includes private toilet (80 SF)
Assistant Principal / Admin	2	150	300	
Administrative Workroom	1	200	200	
Text Book Room	2	300	600	
Conference Room	1	300	300	Adjacent to principal
Records Room	1	125	125	
Staff Break Room	1	500	500	Includes restroom
General Supply/Admin Storage	1	125	125	
Total:	12		3,210	

D. Guidance / Student Services

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Conference/Testing Room	1	200	200	
Toilet (Adult/Student)	2	80	160	(Adult, Student All Gender & Unisex)
Parent Family Resource Center	1	200	200	
Total:	4		660	

E. Nurse's Suite/Community Health Clinic Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Reception/Waiting	1	350	350	3rd Party Health Provider to use private internet source. MDF to have separate patch panel, server rack and wiring for internet.
Cot Room	2	130	260	
Exam Room/Treatment Area	2	150	300	
Office (Nurse & Physician)	2	120	240	
Storage	1	60	60	
Toilet (Adult & Student)	2	80	160	All Gender & Unisex
Total:	10		1,370	

F. Maintenance & Custodial (Building Services) Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Receiving and Storage	1	500	500	
Custodial Office	1	120	120	
Custodial Storage	1	300	300	
Total:	3		920	

G. Media Center Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Library Commons	1	1,400	1,400	Or Media Commons
Independent & Online Learning	1	800	800	
Story Time Area & Picture Books	1	800	800	Primary Library
Equipment Storage	1	150	150	
Head End (Telecommunications) Room	1	160	160	
Office	1	100	100	
Toilet (Adult)	1	80	80	Adult All Gender & Unisex
Workroom	1	200	200	
Total:	8		3,690	

H. Performing Arts Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
General Music Room	1	1,000	1,000	
Instrumental Music Room	1	1,000	1,000	
General Storage (General Music & Dual Purpose Art)	1	150	150	
Instrument Storage	1	200	200	
Stage	1	1,000	1,000	
Stage Storage	1	150	150	
Total:	7		3,500	

I. Physical Education Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Gymnasium	1	4,500	4,500	
Dept/Athletic Office	1	200	200	
Storage	2	150	300	SF per room can vary
Total:	4		5,000	

J. Student Dining & Food Service Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Cafeteria/Auditorium	1	3,975	3,975	Cafeteria Seating is 1/3 and Auditorium Seating is 1/2 of Student Capacity
Serving Line Area	1	400	400	SF should be divided to provide 2 separate serving lines; to serve multiple grades at once
Kitchen/Preparation Area	1	750	750	
Office	1	120	120	
Walk-In Cooler	1	200	200	
Walk-In Freezer	1	600	600	
Dry Storage	1	300	300	
Toilet/Locker area	1	100	100	
Dishwashing (Pot/Tray Washing)	1	150	150	
Chair Storage	1	340	340	Adjacent to Gym & Dining Commons
Total:	13		6,935	

K. Visual Art Space Requirements

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Multi-purpose Studio	1	1,000	1,000	
STEAM/Project Lab	1	1,100	1,100	
Kiln Room	1	100	100	
Storage	1	200	200	
Total:	4		2,400	

L.1. CRI Special Education Area Space Requirements – See Room Data Sheets for details

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Classrooms	5	900	4,500	
Sensory Room	1	600	600	
Program Transition/Related Services Room	1	250	250	
Toilet with Shower	1	120	120	
Equipment Storage	1	100	100	
Life Skills Lab w/ Laundry	1	800	800	
Office	2	150	300	Coordinator and Itinerant
Conference Room	1	250	250	
Total:	13		6,920	

Site/Outdoor Requirements Summary	
Exterior Spaces	
Outdoor Storage	To be placed with the Outdoor Classroom(s) provided
Drop-Off Areas	One bus drop-off area and one parent drop-off area where feasible
Structured Play Area	PK/K, Primary & Intermediate Playground Equipment with code compliant soft pavement surface
Protected Pre-School Play Area	See "Structured Play Area"
Outdoor Environment Classroom	For outside classroom teacher focused lectured learning - 1,000 SF in one area (minimum)
Outdoor Learning Areas	For garden/environmental programs - ADA compliant - 1,000 SF in multiple areas
Outdoor Paved Play Area	Reduced size basketball courts, with markings for other games
Bus Parking/Circulation	Separated from parent drop-off area and car parking
Exterior Ground Equipment Storage	Approximately 600 SF - Secure with roll-up door
Fields	Soccer and Softball (separate fields if feasible)
Faculty, Staff, and Visitor Parking	Approximate 90 to 100 spaces
Underground Parking (for Hyattsville ES Only)	Approximate 90 to 100 spaces

STATE RATED CAPACITY

Table 1 shows the breakout of classrooms by subject area and the associated State Rated Capacity (SRC). Based on scheduling data, average class sizes vary from 20 in the reading language arts rooms to over 30 in the electives. The SRC assumes that classrooms will be used 85% of the school day. The 1,200-student middle school is designed around 3 teams per grade-each with approximately 125 students. The core classes include reading language arts, math, social studies, and science. It is common to have double periods of language arts and/or intensive level classes with smaller class sizes. The number of world language, reading, or other electives varies from school to school and will be identified during the development of a site-specific educational specification.

STATE RATED CAPACITY SUMMARY

	# of Rooms	# Students/ Room	State Capacity
Pre-Kindergarten	4	20	80
Kindergarten	6	22	132
Primary (Grades 1-3)	15	23	345
Intermediate (Grades 4-5)	10	23	230
Overflow Classrooms (Grades 1-3 & 4 – 5)	2	23	46
Special Education – CRI Program	5	10	50
Visual Arts/STEAM Lab	2	0	0
Performing Arts	3	0	0
Gym/PE	2	0	0
Total	43		883

CONCEPTUAL EDUCATIONAL SPACE RELATIONSHIP DIAGRAM

REFER TO SECTION 3 OF THE TEST-FIT & SITE INVESTIGATION STUDIES REPORT FOR CONCEPTUAL EDUCATIONAL SPACE RELATIONSHIP DIAGRAM.

SECTION FOUR: ROOM DATA SHEETS

OUTLINE OF ROOM DATA SHEETS

A. Academic Areas

1. Academic Classrooms (PreK – K)
2. Academic Classrooms (1st – 3rd)
3. Academic Classrooms (4th – 5th)
4. Overflow Classrooms (1st – 3rd)
5. Overflow Classrooms (4th – 5th)

B. Learning Areas

6. Collaborative Learning Areas (informal)
7. Outdoor Learning Areas
8. Resource Rooms (ESOL Support Staff & Pull-Out)
9. Small Group Instruction (ESOL Support Staff & Pull-Out)
10. Work Room/Teacher Collaboration
11. Technology Storage

C. Administrative Areas

12. Lobby
13. Reception/Waiting Area
14. Principal's Office
15. Assistant Principal / Admin
16. Administrative Workroom
17. Textbook Room
18. Conference Room
19. Records Room
20. Staff Break Room
21. General Supply/Administrative Storage

D. Guidance/Student Services

22. Conference/Testing Room
23. Toilet (Adult & Student)
24. Parent Family Resource Center

E. Nurse's Suite/Community Health Clinic

25. Reception/Waiting Area
26. Cot Room
27. Exam Room/ Treatment Area
28. Office (Nurse & Physician)
29. Storage
30. Toilet (Adult, Student All Gender & Uni-Sex)

F. Building Services

31. Receiving and Storage
32. Custodial Office
33. Custodial Storage

G. Media Center

34. Library Commons
35. Independent & Online Learning (Technology Learning)
36. Story Time Area & Picture Books (Primary Library)

- 37. Equipment Storage
- 38. Head End (Telecommunications) Room
- 39. Office
- 40. Toilet (Adult All Gender & Uni-Sex)
- 41. Workroom

H. Performing Arts

- 42. General Music Room
- 43. Instrumental Music Room
- 44. General Storage (General Music & Dual Purpose Art)
- 45. Instrument Storage
- 46. Stage
- 47. Stage Storage

I. Physical Education

- 48. Gymnasium
- 49. Dept./Athletic Office
- 50. Storage

J. Student Dining & Food Services

- 51. Cafeteria
- 52. Serving Line Area
- 53. Preparation Area
- 54. Office
- 55. Cooler
- 56. Freezer
- 57. Dry Storage
- 58. Toilet/Locker Area
- 59. Dishwashing (Pot/Tray Washing)
- 60. Chair Storage

K. Visual Arts

- 61. Multi-Purpose Studio
- 62. STEAM/Project Lab
- 63. Kiln Room
- 64. Storage

L. CRI Special Education

- 65. Classrooms
- 66. Sensory Room
- 67. Program Transition/Related Services Room
- 68. Toilet with Shower
- 69. Equipment Storage
- 70. Life Skills Laboratory with Laundry
- 71. Office
- 72. Conference Room

DESIGN INTENT – STANDARDS FOR SPACE TYPOLOGIES

Acoustic Performance Requirements

Design spaces to the acoustic performance specified in the individual Room Data Sheets as follows:

Acoustics	
AC1	Performance or Lecture Space: Space suitable for performance or lectures. Interior space acoustically designed to manage reflection and reverberation.
AC2	Classroom, Conference Room or Confidential Space: Space suitable for teaching, confidential conversations and high speech intelligibility.
AC3	Closed office: Space suitable for private conversations.
AC4	Open office and Workroom office: Space suitable for individual work or small meetings/conversations. Interior space acoustically designed to manage reflection and reverberation.
AC5	Labs and Workshops: Space suitable for teaching, confidential conversations and high speech intelligibility.
AC6	Not Used
AC7	Public Space: Space suitable for public use, with moderate to high internal noise generation. High acoustic isolation to sound sensitive spaces. Interior space acoustically planned to absorb noise and manage reflection and reverberation.
AC8	Utility Space: High internal noise generation. Space perimeter designed to limit transmission of air or structure borne noise to other spaces.

Name	NC	STC	Max Reverb
AC1	30	60/45	1.0
AC2	35	50/35	0.6
AC3	40	45/30	0.6
AC4	NA	NA	NA
AC5	NA	NA limit transmitted from within space to 30dBA	NA
AC6	30	50/35	0.4
AC7	40	N/A	0.6
AC8	NA	NA	NA

Areas specified in a Room Data Sheet shall conform to:

1. The maximum Noise Criteria (NC) requirements specified in the applicable Area Data Sheet. NC ratings shall be as measured within the space following completion, and shall include all noise sources, including transient external noise.
2. The minimum designed/laboratory assembly Sound Transmission Class (STC)

ratings of perimeter specified in the applicable Room Data Sheet. The first number in the table above is the designed STC value for the fixed elements (walls, floors, ceilings, including glazing). The second number is the STC value for the complete assembly including doors, openings and penetrations. The as-built field measured STC rating may not be more than 5dBA lower than the specified designed STC rating.

3. The maximum reverberation time (RT60) as specified in the Room Data Sheets. The reverberation time shall be the time taken for a given audio signal to fall by 60dB. Sound reflection shall also be managed with appropriate acoustic absorbing material, or non- parallel surfaces regardless of the specified reverberation time to ensure speech intelligibility and elimination of echoes.
4. Acoustic separations shall continue above the ceiling plane and shall include any penetrations or joints. For areas with an STC rating of 60 or greater, doors shall be fully gasketed doors with automatic door bottoms.

Fenestration & Shades

Developer shall comply with the following requirements as specified in the Room Data Sheets:

Shading	
S1	Window blinds or Roller Shades, 5% Open: Roller shades, manual operated, unless integrated with Daylighting
S1A	Window blinds or Roller Shades, 5% Open and Manually Operated Blackout Shades: (S1) plus manually operated blackout shades. Blackout shades on exterior and interior glazing
S2	Window blinds or Roller Shades, 5% Open and Motorized Blackout Shades: (S1) plus motorized blackout shades, coordinated with AV where appropriate. Blackout shades on exterior and interior glazing
S3	Vertical Louver Blinds

Lighting Systems

Design spaces to lighting performance specified in the individual Room Data Sheets as follows:

Lighting	
L1	Typical for classrooms, laboratories, large meeting rooms: 25 FC ambient and at work surfaces and teaching displays with multiple sets. Laboratory spaces shall be 50 FC
L2	Typical for offices & other workspaces: 30 FC ambient and at work surfaces
L3	Typical for conference rooms: 30 FC ambient and at work surfaces and walls
L4	Not used.
L5	Typical for circulation, stairwells, public areas: 50 FC ambient with focus lighting areas
L6	Typical for service & utility: 40 FC ambient, 70 FC at any service points or equipment
L7	Typical for restrooms, locker rooms: 10 FC ambient

Lighting Quality

1. Luminance Balance: Illuminance uniformity and balance shall not exceed 3 to 1 for task to immediately surrounding areas and 40 to 1 at any point in any space.
2. Color Appearance: The color corrected temperature (CCT) shall be 3,500K. The color rendering index shall be 80 or greater.
3. Illumination levels: Illumination levels shall be as specified in the area data sheets.
4. Minimum surface reflectance levels shall be 80% for ceilings, 50% for walls, and 20% for floors.

Lighting Layers and Controls

1. Lighting Layers: Developer shall provide multiple lighting layers, including general room lighting and functional lighting as appropriate for room uses. Functional layers include focus lighting, downlights, wall illumination, and task lighting. Lighting layers shall be controlled through the lighting control system and individual occupant controls as required by room function.
2. Lighting Controls: Design and build the Facilities to include the following lighting controls.

Lighting Control

Performance or Lecture Space: Lighting layers and Presets shall include multiple room settings for all planned room uses. Systems shall accommodate, at a minimum: lecture, stage presentation, projected image, video screen image, classroom participation mode, etc., and shall allow multiple audience lighting levels. All fixtures to be controlled via occupancy sensors and a local scene control dimming system. The local scene control shall be from devices at the Front of House (or lectern, where provided) and at the rear of the room. Each fixture type within the room shall be under a single lighting zone. The lighting zones together make up scenes which the dimming system shall have the capabilities to program and control.

Fixtures at the perimeter shall have a photocell as well and have the capability to dim the fixtures closest to the window independently from the other fixtures.

The scene control dimming system shall control the window shades. System shall have a separate zone for each window orientation and shade type (room darkening and blackout).

Classroom and Multipurpose Room: Lighting layers and Presets shall include multiple room settings for all planned room uses. Systems shall accommodate, at a minimum: class, projected image, video screen image and classroom participation mode.

All fixtures to be controlled via occupancy sensors and a local scene control dimming system. The local scene control shall be from devices at the teacher desk. Each fixture type within the room shall be under a single lighting zone. The lighting zones together make up scenes which the dimming system shall have the capabilities to program and control.

Fixtures at the perimeter shall have a photocell as well and have the capability to dim the fixtures closest to the window independently from the other fixtures.

The scene control dimming system shall control the window shades. System shall have a separate zone for each window orientation and shade type (room darkening and blackout)

Conference Rooms: Lighting layers and Presets shall include room settings for all planned room uses. Systems shall accommodate, at a minimum: meeting, projected image, and video screen image

All fixtures to be controlled via occupancy sensor and low-voltage switch (dimmed or bi-level control depending on fixture type). Each fixture type within the room shall be under a single lighting zone. Window blinds, if not controlled by scene controller shall have independent switching located adjacent to room switching/controller.

Large conference rooms with multiple scene sets shall include scene controller, which shall also control window shades.

Lighting Control	
<p>Closed offices and Workspaces: Lighting layers shall include room settings for all planned room uses. Systems shall accommodate, at a minimum: general room lighting and task lighting.</p> <p>All fixtures to be controlled via occupancy sensor and line or low-voltage switch (dimmed or bi-level control depending on fixture type). Each fixture type within the room shall be under a single lighting zone.</p> <p>Window blinds may be manually operated, unless automatic control is required by energy management system or building design.</p>	
<p>Workrooms/Utility: Lighting layers shall include, at minimum, general room lighting.</p> <p>All fixtures to be controlled via occupancy sensor and low-voltage switch (dimmed or bi-level control depending on fixture type). Each fixture type within the room shall be under a single lighting zone.</p> <p>Window blinds may be manually operated, unless automatic control is required by energy management system or building design.</p>	
<p>Public Space: Lighting layers shall include room settings for all planned room uses. Systems shall accommodate, at a minimum: general room lighting and any functional lighting required for space use. Functional lighting includes countertop lighting, lounge lighting, etc.</p> <p>All fixtures to be controlled via central BMS control. Occupancy sensor may be used for staged lighting reduction where appropriate, provided minimum security and emergency light levels are maintained.</p> <p>Each fixture type within the room shall be under a single lighting zone. Areas shall be zoned to separate daylit areas from non-daylit areas, and to match planned usage.</p> <p>Window blinds, if used, shall be automatically operated via central BMS control.</p>	

Wireless Requirements

Design spaces for wireless as specified in the individual data sheets as follows:

Wireless Devices	
TW1	Assume (1) wireless devices per person (based on maximum occupancy) with a coverage at 5GHz with measured reception no less than -65DBm.
TW2	Assume (2) wireless devices per person (based on maximum occupancy) with a coverage at 5GHz with measured reception no less than -65DBm.
TW3	Assume (3) wireless devices per person with a coverage at 5GHz with measured reception no less than -65DBm.
TW4	Assume (3) wireless devices per person (based on maximum occupancy) with a coverage at 5GHz with measured reception no less than -65DBm.

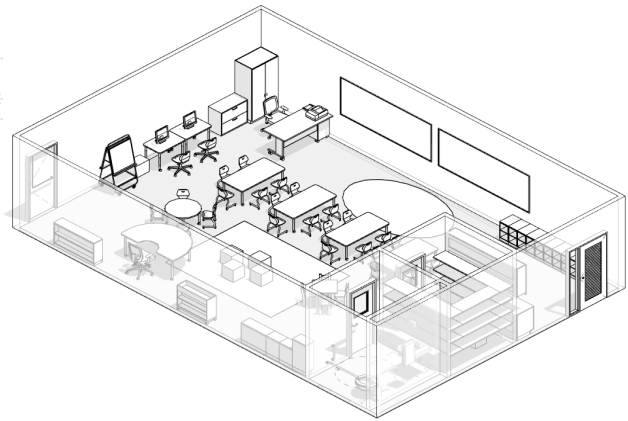
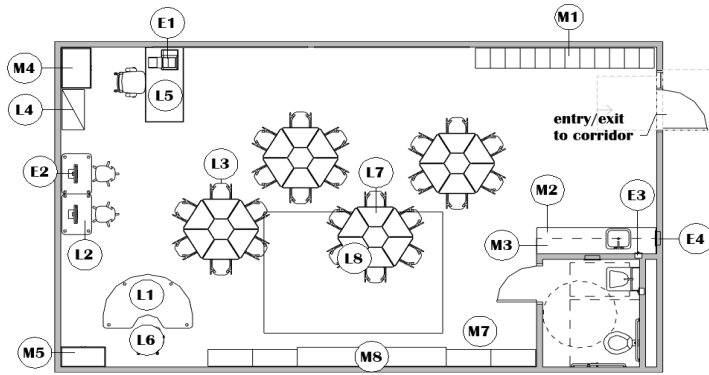
ROOM DATA SHEETS

Section A: General Education – Overall School Program

PGCPS
Room Data Sheets
for
Elementary Schools

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Academic Classroom (Pre-Kindergarten - Kindergarten)
 Space ID: 100
 RDS No.: 1



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Locate at first floor for emergency evacuations, if possible
Secondary Adjacency Adjacent to early Childhood Play area
Other Group Classrooms for collaboration with doors between classrooms

TYPICAL SIZE

SF of typical space: **1,100 SF**

(includes 50 SF toilet and 50 SF closet) Note: Storage closets may be shared between classrooms.

Dimensions:

Length x Width **40' X 27'-6"**
 Ceiling Height **10' - 0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **10**

OCCUPANCY

Students **20-25**
 Parents/other staff/Teachers

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks **Yes**
 Card Access **Yes**
 Camera **Yes**

PROGRAM ACTIVITIES

Cooperative Learning; Discovery; Role playing; Small group; Language Art; Whole group teacher directed; Whole group teacher directed; One-on-One Instruction; Distance Learning

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Table	1	L1	Kidney/horseshoe
Round table	1	L2	
File cabinet	1	L3	Lockable; 4 drawers
Rectangular tables	4	L4	See staff for specific sizes & quantity
Stackable chairs	24	L5	Review qty. with staff
Computer stations	2	L6	w/ chairs or stools
Bound carpet rug	1	L7	(Rectangular, 9' x12')
Bound carpet rug	1	L8	Oval
Chair cubes	4	L9	Indoor-Outdoor
Mobile Book Organizer	1	L10	
Drying Rack	1	L11	Tabletop
All Purpose Easel	1	L12	
Kitchen Set	1	L13	Hardwood
Kids Table Set	1	L14	called 'Pretend & Play'
Birch Store Shelves	1	L15	
Teacher work surface	1	L16	W/ mobile storage
Desk Chairs	2	L17	
Casework/Millwork	Qty	Tag	Note
Student cubbies	24-28	M1	Locate near door
Base Cabinets	N/A	M2	Locate by sink w/locks
Wall Cabinets	N/A	M3	
Sturdy shelving	N/A	M4	On 3 walls in storage
Wardrobe	1	M5	36"x24"x72" ; w/ coat rod; lockable. shelving one side

EQUIPMENT

	Qty	Tag	Note
Computers	2	E1	
Copier	1	E2	
Soap Dispenser	1	E3	
Paper Towel Dispenser	1	E4	
Listening Center	1	E5	Mobile

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Provide operable partition between a pair of classrooms at each grade level

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Academic Classroom (Pre-Kindergarten - Kindergarten)
Space ID 100
RDS No. 1



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity 2
	Size 3'-0"x7'-0"
	Type Single Flush
	Operable Wall Yes
	Vision Panel (Egress Doors Only) Yes
	Seals No
	Other

MISCELLANEOUS

Markerboard	Magnetic (8 LF)
Tackboard	Flanking marker boards plus two (2) parallel rows of continuous tack strips on all available walls (4 LF or longer) at 30" and 48" AFF
Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L1
Typical for work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Optional
Smartboard	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	
Notes	Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board (2) outlets at computer work stations (1) outlet for the intercom system (2) outlets at the teacher station (2) outlets for wireless network (4) outlets for student use (1) outlet for charging cart at teacher's desk

All telephones will be powered using an PoE, with a standard Ethernet jack near the teacher's desk.

Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

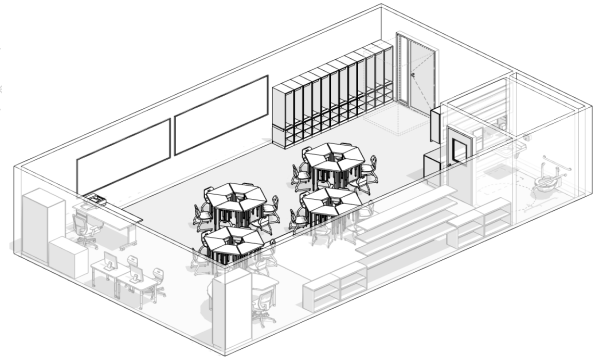
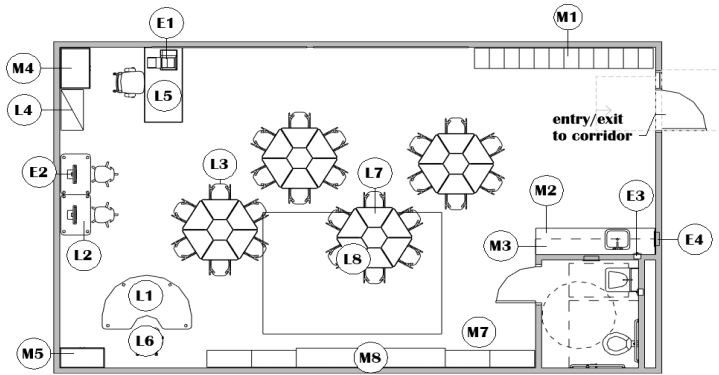
Sinks	Standard	
	ADA	2 - child height with bubbler
	Scullery	
Other	1 Child-sized wall-mounted sink	in toilet room
	1 Child-sized toilet	in toilet room

REMARKS:

Sound Reinforcement: Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers(preferably ceiling mounted).
 Windows (some operable) to provide natural light and egress.
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Academic Classrooms (1st-3rd)
 Space ID: 100
 RDS No.: 2



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Group classrooms for potential teaming with doors between classrooms

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **950 SF**

Dimensions:

Length x Width: **40' x 23'-9"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **15**

OCCUPANCY

Number of Occupants: **22-24**

Teachers: **1-2**

Guest speakers/volunteers

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

Large group instruction; Small group instruction and group work; Computer instruction; Group and teamwork activities; Team teaching; Oral presentations; Testing

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Table	1	L1	Kidney or horseshoe
Computer stations	2	L2	W/ chairs or stool
Student chairs	24-28	L3	Consider 'alternative' seating for 10%
File cabinet	1	L4	Lockable; 4 drawers
Teacher work surface	1	L5	W/ mobile storage
Ergonomic chairs	2	L6	
Student desks	24-28	L7	Review types w/ staff
Bound carpet rug	1	L8	Only 1st and 2nd grade
Millwork	Qty	Tag	Note
Student cubbies (Square cubby slots)	24-28	M1	QTY is the # of cubby slots/holes; Only 1st/2nd grade. Locate near door
Student cubbies (Locker/Coat sized cubby slots)	24-28	M1	QTY is the # of cubby slots/holes; w/ Storage units; Only 3rd grade. Locate near door
Casework	Qty	Tag	Note
Base Cabinets	N/A	M2	By sink
Wall Cabinets	N/A	M3	By sink
Wardrobe	1	M4	36"x24"x72" ; With coat rod; lockable. w/ shelving one side
Tall storage cabinet	1	M5	18"x36"x72"
Bookcase	N/A	M6	(18 LF- H 30-32")
Wall Shelves	1	M7	24LF
EQUIPMENT	Qty	Tag	Note
Copier	1	E1	
Computers	2	E2	
Soap Dispenser	1	E3	
Paper Towel Dispenser	1	E4	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

Provide operable partition between a pair of classrooms at each grade level.

Note: Bathrooms may be paired between similar grade classrooms with hallway connectors.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Academic Classrooms (1st-3rd)
Space ID 100
RDS No. 2



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity 2
	Size 3'-0"x7'-0"
	Type Single Flush
	Operable Wall Yes
	Vision Panel (Egress Doors Only) Yes
	Seals No
	Other

MISCELLANEOUS

Markerboard	(magnetic) (8 LF in primary)
Tackboard	Flanking marker boards
Trackstrips	Two (2) parallel rows of continuous tack strips on all available walls (4 LF or longer) at 30" and 48" AFF
Roller Blinds	S1-5% Open and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L1
work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Optional
Smartboard	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	
Notes	Note 1: Overall building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board
	(2) outlets at computer work stations
	(1) outlet for the intercom system
	(2) outlets at the teacher station
	(2) outlets for wireless network
	(4) outlets for student use
	(1) outlet for charging cart at teacher's desk

All telephones will be powered using a PoE, with a standard Ethernet jack near the teacher's desk. Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

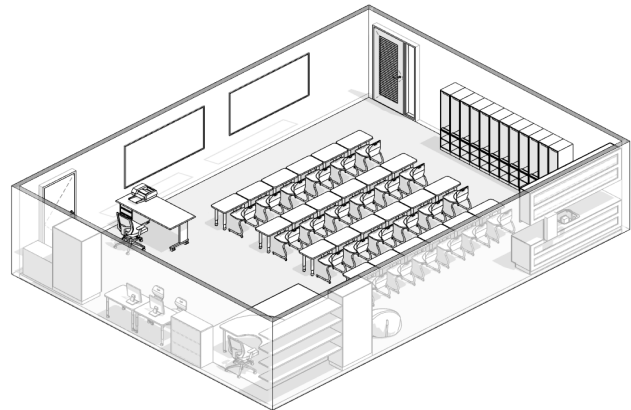
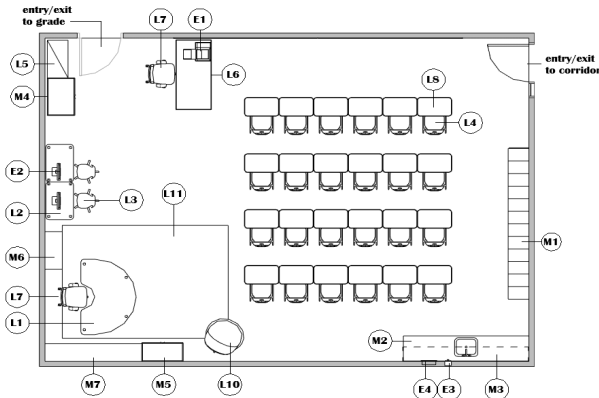
Sinks	Standard ADA Scullery	1 at child Height with bubbler
Other	1 Child-sized wall-mounted sink	in toilet room (1st - 3rd grades only)
	1 Child-sized toilet	

REMARKS:

Optional Manual projection screen (60"X60")
 Sound Reinforcement: Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers (preferably ceiling mounted).
 Windows (some operable) to provide natural light and egress
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Academic Classrooms (4th-5th)
 Space ID: 100
 RDS No.: 3



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Group classrooms for potential teaming with doors between classrooms

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **900 SF**

Dimensions:

Length x Width: **35' x 25'-9"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **10**

OCCUPANCY

Number of Occupants: **23-25**
 Teachers: **1-2**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

Computer instruction: Small group instruction and group work
 Group and teamwork activities: Team teaching
 Large group instruction: Testing
 Oral presentations

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Table	1	L1	Kidney or horseshoe
Computer stations	2	L2	
Computer chairs	2	L3	Swivel or stool
Student chairs	24-28	L4	Consider 'alternative' seating for 10%
File cabinet	1	L5	Lockable; 4 drawers
Teacher work surface	1	L6	W/ mobile storage
Ergonomic chairs	2	L7	
Student desks	24-28	L8	
Lounge Chair	1	L10	Review with staff
Bound carpet rug	1	L11	Rectangular, 9' x12'
Millwork	Qty	Tag	Note
Student cubbies	24-28	M1	Locate near door w/ Storage units above
Casework	Qty	Tag	Note
Base Cabinets	N/A	M2	by sink
Wall Cabinets	N/A	M3	by sink
Wardrobe	1	M4	rod; lockable. w/ shelving
Tall storage cabinet	1	M5	18"x36"x72"
Bookcase	N/A	M6	(27 LF - 15"x36"x42")
Shelving	N/A	M7	24LF

EQUIPMENT

	Qty	Tag	Note
Copier	1	E1	
Computers	2	E2	
Soap Dispenser	1	E3	
Paper Towel Dispenser	1	E4	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Provide operable partition between a pair of classrooms at each grade level
 Note: Bathrooms may be paired between similar grade classrooms with hallway connector.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Academic Classrooms (4th-5th)
 Space ID: 100
 Space Type: 3



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: Yes
	Vision Panel (Egress Doors Only): Yes
	Seals: No
	Other:

MISCELLANEOUS

Markerboard	(magnetic) (8 LF in primary)
Tackboard	Flanking marker boards
Trackstrips	Two (2) parallel rows of continuous tack strips on all available walls (4 LF or longer) at 30" and 48" AFF
Roller Blinds	S1-5% Open and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L1
work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Optional
Smartboard	Yes
Other	
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	
Notes	Note 1: Overall building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board (2) outlets at computer work stations (1) outlet for the intercom system (2) outlets at the teacher station (2) outlets for wireless network (4) outlets for student use (1) outlet for charging cart at teacher's desk

All telephones will be powered using a PoE, with a standard Ethernet jack near the teacher's desk.

Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

Sinks	Standard	
	ADA	Sink in classroom (1 child height with bubbler)
	Scullery	
Other		

REMARKS:

Optional Manual projection screen (60"X60")

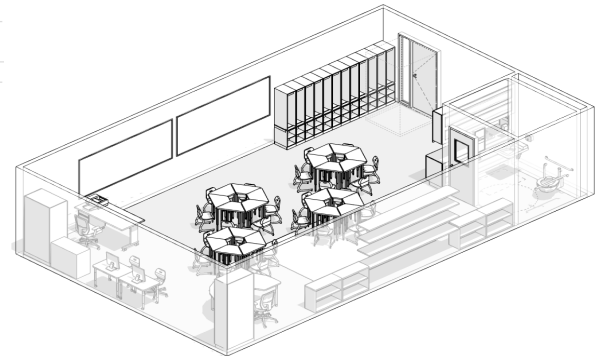
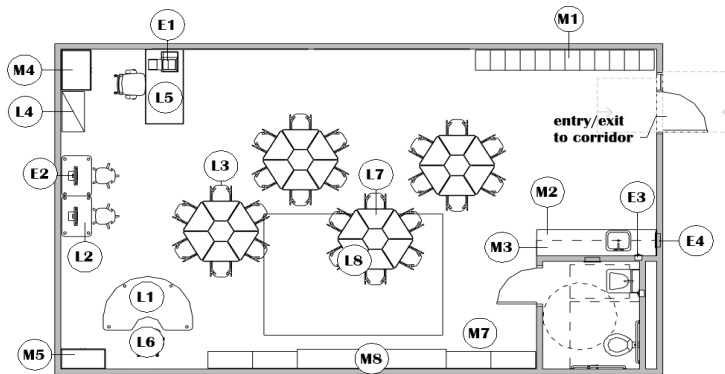
Sound Reinforcement: Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers(preferably ceiling mounted).

Windows (some operable) to provide natural light and egress

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Overflow Classroom (1st -3rd with bathroom)
 Space ID: 100
 RDS No.: 4



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Group classrooms for potential teaming with doors between classrooms

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **950 SF**

Dimensions:

Length x Width: **40' x 23'-9"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **15**

OCCUPANCY

Number of Occupants: **22-24**

Teachers: **1-2**

Guest speakers/volunteers

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

Large group instruction; Small group instruction and group work; Computer instruction; Group and teamwork activities; Team teaching; Oral presentations; Testing

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Table	1	L1	Kidney or horseshoe
Computer stations	2	L2	W/ chairs or stool
Student chairs	24-28	L3	Consider 'alternative' seating for 10%
File cabinet	1	L4	Lockable; 4 drawers
Teacher work surface	1	L5	W/ mobile storage
Ergonomic chairs	2	L6	
Student desks	24-28	L7	Review types w/ staff
Bound carpet rug	1	L8	Only 1st and 2nd grade
Millwork	Qty	Tag	Note
Student cubbies (Square cubby slots)	24-28	M1	QTY is the # of cubby slots/holes; Only 1st/2nd grade. Locate near door
Student cubbies (Locker/Coat sized cubby slots)	24-28	M1	QTY is the # of cubby slots/holes; w/ Storage units; Only 3rd grade. Locate near door
Casework	Qty	Tag	Note
Base Cabinets	N/A	M2	By sink
Wall Cabinets	N/A	M3	By sink
Wardrobe	1	M4	36"x24"x72" ; With coat rod; lockable. w/ shelving one side
Tall storage cabinet	1	M5	18"x36"x72"
Bookcase	N/A	M6	(18 LF- H 30-32")
Wall Shelves	1	M7	24LF
EQUIPMENT	Qty	Tag	Note
Copier	1	E1	
Computers	2	E2	
Soap Dispenser	1	E3	
Paper Towel Dispenser	1	E4	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

Provide operable

Note: Bathrooms may be paired between similar grade classrooms with hallway connectors.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Overflow Classroom (1st -3rd with bathroom)
Space ID 100
RDS No. 4



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	2
	Size	3'-0"x7'-0"
	Type	Single Flush
	Operable Wall	Yes
	Vision Panel (Egress Doors Only)	Yes
	Seals	No
	Other	

MISCELLANEOUS

Markerboard	(magnetic) (8 LF in primary)
Tackboard	Flanking marker boards
Trackstrips	Two (2) parallel rows of continuous tack strips on all available walls (4 LF or longer) at 30" and 48" AFF
Roller Blinds	S1-5% Open and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L1
work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Optional
Smartboard	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board
	(2) outlets at computer work stations
	(1) outlet for the intercom system
	(2) outlets at the teacher station
	(2) outlets for wireless network
	(4) outlets for student use
	(1) outlet for charging cart at teacher's desk

All telephones will be powered using an PoE, with a standard Ethernet jack near the teacher's desk.

Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

Sinks	Standard ADA Scullery	1 at child Height with bubbler
Other	1 Child-sized wall-mounted sink	in toilet room (1st - 3rd grades only)
	1 Child-sized toilet	

REMARKS:

Optional Manual projection screen (60"X60")

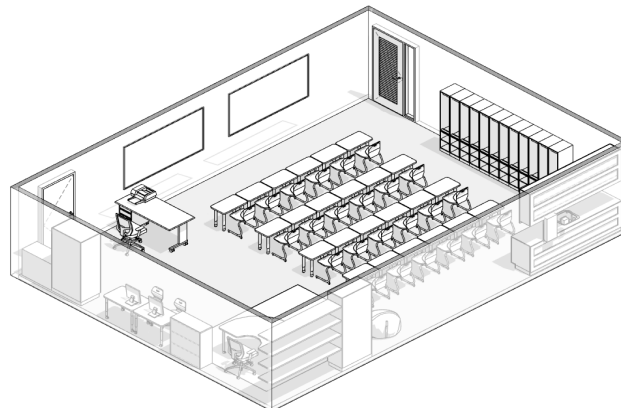
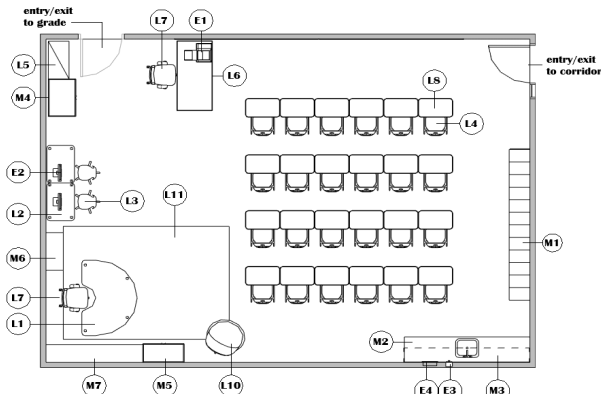
Sound Reinforcement: Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers (preferably ceiling mounted).

Windows (some operable) to provide natural light and egress

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Overflow Classroom (4th - 5th with bathroom)
 Space ID: 100
 RDS No.: 5



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Group classrooms for potential teaming with doors between classrooms

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **950 SF**

Dimensions:

Length x Width: **40' x 23'-9"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **10**

OCCUPANCY

Number of Occupants: **23-25**
 Teachers: **1-2**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

Computer instruction: Small group instruction and group work
 Group and teamwork activities: Team teaching
 Large group instruction: Testing
 Oral presentations

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Table	1	L1	Kidney or horseshoe
Computer stations	2	L2	
Computer chairs	2	L3	Swivel or stool
Student chairs	24-28	L4	Consider 'alternative' seating for 10%
File cabinet	1	L5	Lockable; 4 drawers
Teacher work surface	1	L6	W/ mobile storage
Ergonomic chairs	2	L7	
Student desks	24-28	L8	
Lounge Chair	1	L10	Review with staff
Bound carpet rug	1	L11	Rectangular, 9' x12'
Millwork	Qty	Tag	Note
Student cubbies	24-28	M1	Locate near door w/ Storage units above
Casework	Qty	Tag	Note
Base Cabinets	N/A	M2	by sink
Wall Cabinets	N/A	M3	by sink
Wardrobe	1	M4	rod; lockable. w/ shelving
Tall storage cabinet	1	M5	18"x36"x72"
Bookcase	N/A	M6	(27 LF - 15"x36"x42")
Shelving	N/A	M7	24LF

EQUIPMENT

	Qty	Tag	Note
Copier	1	E1	
Computers	2	E2	
Soap Dispenser	1	E3	
Paper Towel Dispenser	1	E4	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Provide operable partition between a pair of classrooms at each grade level
 Note: Bathrooms may be paired between similar grade classrooms with hallway connector.

SPACE REQUIREMENTS - A. Academic Areas

Space Name: Overflow Classroom (4th - 5th with bathroom)
 Space ID: 100
 Space Type: 5



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: Yes
	Vision Panel (Egress Doors Only): Yes
	Seals: No
	Other:

MISCELLANEOUS

Markerboard	(magnetic) (8 LF in primary)
Tackboard	Flanking marker boards
Trackstrips	Two (2) parallel rows of continuous tack strips on all available walls (4 LF or longer) at 30" and 48" AFF
Roller Blinds	S1-5% Open and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L1
work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Optional
Smartboard	Yes
Other	
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	
Notes	Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board (2) outlets at computer work stations (1) outlet for the intercom system (2) outlets at the teacher station (2) outlets for wireless network (4) outlets for student use (1) outlet for charging cart at teacher's desk

All telephones will be powered using an PoE, with a standard Ethernet jack near the teacher's desk.

Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

Sinks	Standard	
	ADA	Sink in classroom (1 child height with bubbler)
	Scullery	
Other		

REMARKS:

Optional Manual projection screen (60"X60")

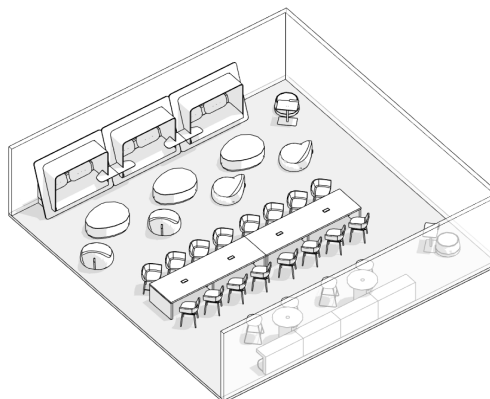
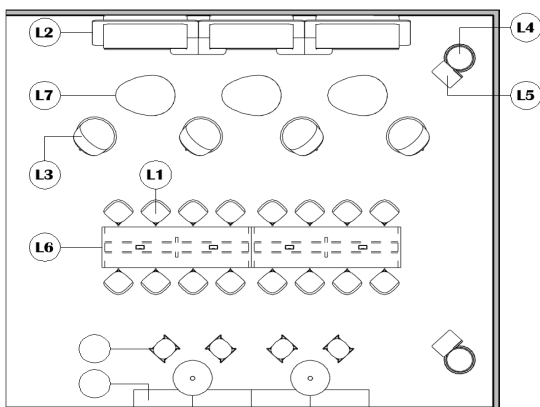
Sound Reinforcement: Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers(preferably ceiling mounted).

Windows (some operable) to provide natural light and egress

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Collaborative Learning Areas (informal) - Opt.2
 Space ID: 102
 RDS No.: 6



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency

Collaboration areas may be as small as an alcove outside of a classroom in the corridor or a place for large group activities to include such amenities as tiered seating, platform stage, large screens, etc

PROGRAM ACTIVITIES

To provide a space for small group instruction, students working independently or in small groups and informal learning space for pull-out instruction

Student working on projects Small group instruction
 Tutoring Conferences

TYPICAL SIZE

SF of typical space: **varies**

Note: Total Area Required in the building = approx. 4628 SF; can be divided per grade level or designed as one large space incorporated into corridors or lobbies

Dimensions:

Length x Width	VARIES
Ceiling Height	9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **VARIES**

OCCUPANCY

Number of Occupants **3-30**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	No
Card Access	No
Camera	Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Stool	16	L1	24" Seat Height
Sofa	3	L2	
Lounge Mitt	4	L3	
Ottoman	2	L4	25" Diameter
Laptop Table	2	L5	
Table	2	L6	42" D x 120" W x 34"H
Oval Egg Table	3	L7	

NOTE:

The space should be intentional and have appropriate fixtures and furniture.

EQUIPMENT

Qty Note

REMARKS:

Visual access to Classrooms and Corridor
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 No loose furniture is allowed in the right-of-way.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Collaborative Learning Areas (informal) - Opt.2
 Space ID: 102
 RDS No. 6



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity
	Size
	Type
	Operable Wall
	Vision Panel
	Seals

MISCELLANEOUS

Markerboard	Dry, white eraser-board
Tackboard	Yes
Roller Blinds	S1- 5% Open and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L3
Typical for work surfaces and walls	35 FC
Lighting control	LC8 - Public space
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Screen	Yes
Smartboard	No
TW2 - 2 wireless devices per occupant	Yes
Standard Data drops	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center
	Recessed floor quad outlets at 1 per 100 ASF.
	Power density: PW2 - 3W/ASF

PLUMBING

Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Portions of lobbies and circulation shall be designed to foster interaction and informal scholarly gatherings. Spaces in the design shall provide a range of sizes to accommodate varying needs, from small gatherings and discussions to larger structured sessions. Spaces shall be distributed and adjacent to other academic uses. The spaces are normally open to corridors or circulation areas

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Outside Learning Areas
 Space ID 102
 RDS No. 7



Outdoor learning areas may be as small as a patio outside of a classroom or a covered area with tables or a place for large group activities to include such amenities as tiered seating, platform stage, etc.

SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency The location should capitalize on any site features. For instance, create a clear connection to an on-site stream.

Secondary Adjacency To Outdoor Environmental Classroom

TYPICAL SIZE

SF of typical space: **Varies**

Total Square Footage **1,000** that can divided or designed as one large space

Dimensions:

Length x Width	VARIES
Ceiling Height	N/A

SPACE TYPE

Public

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

Number of Occupants **3 to 60**

UTILIZATION

Hours of Operation **14 hours/day**

SECURITY

Locks (To any storage units/rooms/sheds provided)	Yes
Card Access	No
Camera	No

PROGRAM ACTIVITIES

To provide a space for small group instruction, students working independently or in small groups and to provide informal learning space for pull-out instruction; Student working on projects; Small group activities; Oral presentations; Tutoring

POTENTIAL SITE ELEMENTS

Tiered Seatings and/or Platform Stage

Composting area; Green house (some schools have existing greenhouses which could be moved to new school if feasible, confirm with PGCPS); Interactive water and energy usage learning station; Managed meadow; Pollinator garden, with space and paths for students to get in and investigate; Rain garden; School arboretum; Vegetable/community garden plots/raised beds

PLANTING

When choosing plant material, preference should be given to native shade trees and low maintenance shrubs. Chose plant species based on how the mature size would fit into the landscape. Also, plants should be chosen with all 4 seasons in mind. When choosing plant material for the school site, use a variety of species as appropriate.

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Picnic table	1	L1	Rectangular
Park bench	1	L2	

NOTE:

The space should be intentional and have appropriate fixtures and furniture

REMARKS:

Orientation of the teacher and students should be along a north/south axis, so neither is looking into the sun during instruction times. To provide clear boundaries such as hedges or fences and Visual access to Classrooms. Provide a point of access for larger vehicles and supplies and a Tool shed for manual garden tools (shovels, hoes, rakes- provided by PGCPS)
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Outside Learning Areas
 Space ID: 102
 RDS No.: 7



ARCHITECTURAL

Walls/Partitions _____
 Wall Protection _____
 Flooring _____
 Base _____
 Ceiling _____
 Doors _____
 Quantity _____ 0 _____
 Size _____
 Type _____
 Operable Wall _____ No _____
 Vision Panel _____ No _____
 Seals _____ No _____
 Other _____

PERFORMANCE REQUIREMENTS

NC Acoustical Criteria _____ N/A _____
 Acoustical Panels _____ No _____
 Privacy Criteria _____ Low _____
 Testing Criteria _____ ASTM _____
 STC Rating _____ N/A _____

MISCELLANEOUS

Materials: Limit the use of concrete and even then, only in high traffic areas, for example the walkway connecting the school and the outdoor classroom. Consider the albedo (reflectivity) of materials used, since glare can hinder the students' ability to focus. Permeable paving of any material is encouraged, including pervious concrete.

LIGHTING

Lighting Level _____ N/A _____
 Solar aspect/shade _____

The teaching area must be shaded, but the nearby areas for potential expansion with garden plots should receive 6-8 hours of sunshine a day

Note: Shade, either by a shade structure or by trees.

Lighting control _____ N/A _____
 Task Lighting _____ No _____
 Uniform lighting with multi-level switching _____ No _____
 Natural Daylight Preferred _____ Yes _____

AV

Distance Learning _____ No _____
 Video Conferencing _____ No _____
 Projection Screen _____ No _____
 Smartboard _____ No _____

ELECTRICAL

Electrical Raceway _____
 110V, 20A, 1 Phase _____
 208V, 30A, 1 Phase _____
 208V, 30A, 3 Phase _____
 480V, 100A, 3 Phase _____
 Emergency/ Standby Power _____
 UPS (OFOI) _____
 Other _____

PLUMBING

Sinks Standard _____
 ADA _____
 Scullery _____
 Other _____

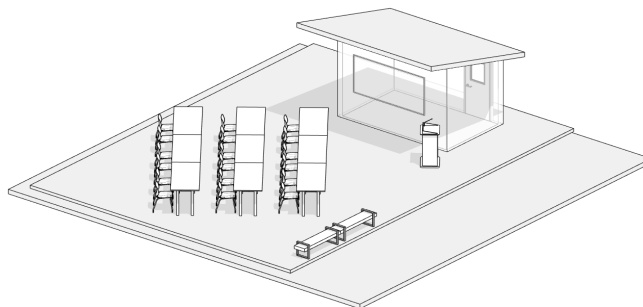
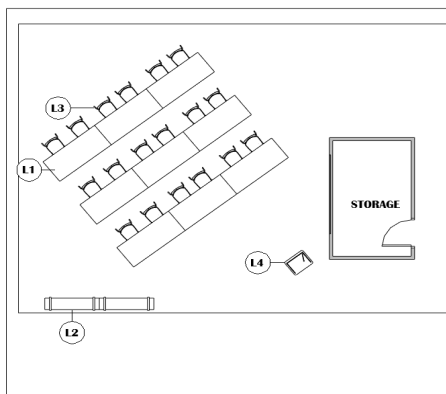
REMARKS:

Maintenance: The outdoor learning area(s) should be designed to be low maintenance and Developer shall provide a specific maintenance plan for each site's outdoor learning area(s). The school maintenance supervisor should be made aware of any special aspects and confident in his/her ability to care for the space.

Accessibility: The pathway connecting the school, outdoor classroom, and any specifically programmed teaching areas associated with the classroom shall be clearly delineated and constructed of a solid material. All outdoor areas should be fully accessible to students of different mobility. For instance, at least some garden beds should be raised 18"-24" to be easily access from a wheelchair (if garden beds are built). Refer to the current ADA standards for minimum design requirements in this capacity.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Outdoor Environmental Classroom
 Space ID: 102
 RDS No.: 7



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency

Outdoor learning areas (and/or Natural Environmental element or storm-water systems/ Bio-retention element on site)

Overall Connection to Site:

The outdoor classroom learning area, shall be clearly defined, but with a possibility for expansion of activities beyond into garden plots nearby. The outdoor classroom shall be in a controlled and secure location but not isolated from view. The exit from the school shall be accessible by all classes, e.g., not through a doorway in a classroom. The location should capitalize on any site features. For instance, create a clear connection to an on-site stream.

TYPICAL SIZE

SF of typical space:		1,000 SF
Dimensions:	Length x Width	33' x 30' 6"
	Ceiling Height	N/A

SPACE TYPE

Open

QUANTITY:

Number of Spaces in the Building:	1
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OCCUPANCY

Number of Occupants	Up to 15
Staff Member	1-2

UTILIZATION

Hours of Operation	14 hours/day
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SECURITY

Locks (For storage)	Yes
Card Access	No
Camera	No

PROGRAM ACTIVITIES

Outdoor teaching; To create an exterior learning environment that is comfortable and designed for small and large group learning; To provide a learning environment that frees teachers and students to customize the classroom daily; To help students become critical thinkers, problem solvers, and lifelong learners.

POTENTIAL SITE ELEMENTS

Composting area; Green house (some schools have existing greenhouses which could be moved to new school if feasible, confirm with PGCPS); Interactive water and energy usage learning station; Managed meadow; Pollinator garden, with space and paths for students to get in and investigate; Rain garden; School arboretum; Vegetable/community garden plots/raised beds

PLANTING

When choosing plant material, preference should be given to native shade trees and low maintenance shrubs. Chose plant species based on how the mature size would fit into the landscape. Also, plants should be chosen with all 4 seasons in mind. When choosing plant material for the school site, use a variety of species as appropriate.

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Picnic table	8	L1	Rectangular
Park bench	4	L2	
Seating	15-32	L3	Fixed or Flexible
Lectern	1	L4	Teacher

NOTE:

The space should be intentional and have appropriate fixtures and furniture

REMARKS:

Orientation of the teacher and students should be along a north/south axis, so neither is looking into the sun during instruction times. Point of access for larger vehicles and supplies and Tool shed for manual garden tools (shovels, hoes, rakes- provided by PGCPS)
 Boundaries such as hedges or fences and Visual access to Classrooms.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Outdoor Environmental Classroom
 Space ID: 102
 RDS No.: 7



ARCHITECTURAL

Walls/Partitions Natural materials like wood or stone
Wall Protection Natural materials like wood or stone
Flooring Permeable paving of any material is encouraged, including pervious concrete.
Doors

Quantity	<u>1</u>
Size	<u>3' x 7'</u>
Type	<u></u>
Operable Wall	<u>No</u>
Vision Panel	<u>No</u>
Seals	<u>No</u>
Other	<u></u>

ELECTRICAL

Electrical Raceway	<u></u>
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	<u></u>
208V, 30A, 3 Phase	<u></u>
480V, 100A, 3 Phase	<u></u>
Emergency/ Standby Power	<u></u>
UPS (OFOI)	<u></u>
Other	<u>Duplex Electrical outlet at the 'teachers station'</u> <u>Power density: PW2 - 3W/ASF</u>

Spaces shall have access to power and wireless data, with a minimum of one lockable exterior duplex receptacle at the instructor location and TW-2 level of wireless service.

MISCELLANEOUS

Materials: Limit the use of concrete and even then, only in high traffic areas, for example the walkway connecting the school and the outdoor classroom. Consider the albedo (reflectivity) of materials used, since glare can hinder the students' ability to focus. Permeable paving of any material is encouraged, including pervious concrete.

Weather-proof outdoor Makerboard

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Screen	<u>No</u>
Smartboard	<u>No</u>
TW2 - 2 wireless devices x occupant	<u>Yes</u>
Wi-Fi access	<u>Yes</u>

LIGHTING

Lighting Level	<u>N/A</u>
Solar aspect/shade	<u>The teaching area must be shaded, but the nearby areas for potential expansion with garden plots should receive 6-8 hours of sunshine a day</u>

Note: Shade, either by a shade structure or by trees.

Lighting control	<u>N/A</u>
Task Lighting	<u>No</u>
Darkenable or Dimmable	<u></u>
Uniform lighting with multi-level switching	<u></u>
Natural Daylight Preferred	<u>Yes</u>

PLUMBING

Sinks	Standard	<u></u>
	ADA	<u></u>
	Scullery	<u></u>
Other	<u>Exterior water hose hook up</u>	

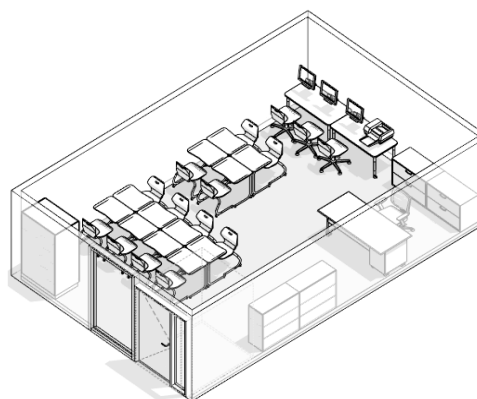
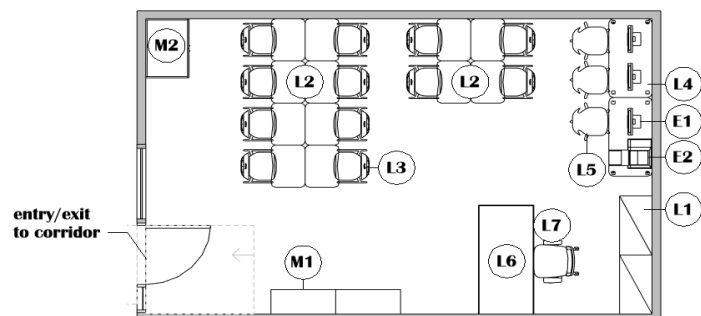
REMARKS:

Maintenance: The outdoor classroom should be designed to be low maintenance and Developer shall provide a specific maintenance plan for each site's outdoor classroom. The school maintenance supervisor should be made aware of any special aspects and confident in his/her ability to care for the space.

Accessibility: The pathway connecting the school, outdoor classroom, and any specifically programmed teaching areas associated with the classroom shall be clearly delineated and constructed of a solid material. All outdoor areas should be fully accessible to students of different mobility. For instance, at least some garden beds should be raised 18"-24" to be easily access from a wheelchair (if garden beds are built). Refer to the current ADA standards for minimum design requirements in this capacity.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Small Group Instruction (ESOL Support Staff & Pull-Out)
 Space ID 102
 RDS No. 8



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Two per learning community (early childhood, primary, and intermediate)
Secondary Adjacency
Other

TYPICAL SIZE

SF of typical space: **350 SF**

Dimensions:

Length x Width **17' 0" x 20' 10"**
 Ceiling Height **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **4**

OCCUPANCY

Number of Occupants **Up to 15**
 Staff Member **1**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks **Yes**
 Card Access **Yes**
 Camera **Yes**

PROGRAM ACTIVITIES

To provide flexible space to accommodate any of the special small group instruction (special education resource, reading, ESOL, math, resource)

Computerized instruction Team teaching
 Hands-on activities Small group instruction

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Lateral File cabinet	1	L1	Lockable; 2 drawers
Student Desk	12	L2	
Chairs	12	L3	
Computer workstations	2	L4	
Computer chairs	3	L5	
Teacher's desk	1	L6	w/ mobile storage
Ergonomic chair	1	L7	for teacher's desk
Casework/Millwork	Qty	Tag	Note
Bookcases	2	M1	15"Dx36"Wx42"H, 27LF; Adjustable height;
Wardrobe	1	M2	36"x24"x72"; With coat rod; lockable. w/ shelving one side

EQUIPMENT

	Qty	Note
Computers	3	E1
Printer/ Scanner	1	E2

REMARKS:

Comfortable rooms with pleasant décor
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Small Group Instruction (ESOL Support Staff & Pull-Out)
 Space ID 102
 RDS No. 8



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity <u>1</u>
	Size <u>3'-0"x7'-0"</u>
	Type <u>Single Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>No</u>
	Other _____

MISCELLANEOUS

Markerboard	Dry, white eraser-board (4' x 16') on track; eraser-board shall be installed with a marker tray, map rails with tack strip above
Tackboard	(4' x 8') minimum; tack strips on all walls
Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades
Clock	On side walls instead of rear walls

LIGHTING

Lighting Level Tag:	L1
Typical for work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Yes
Smartboard	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board (3) outlets at computer work stations (1) outlet for the intercom system (2) outlets at the teacher station (2) outlets for wireless network (4) outlets for student use

Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

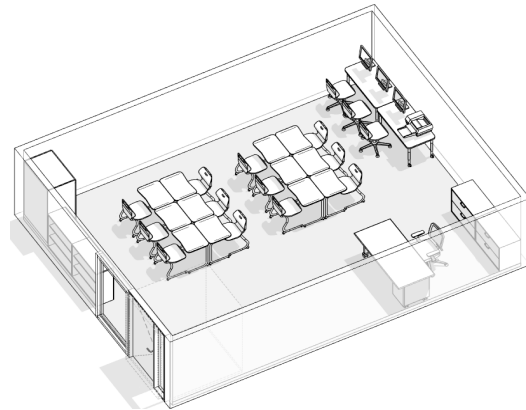
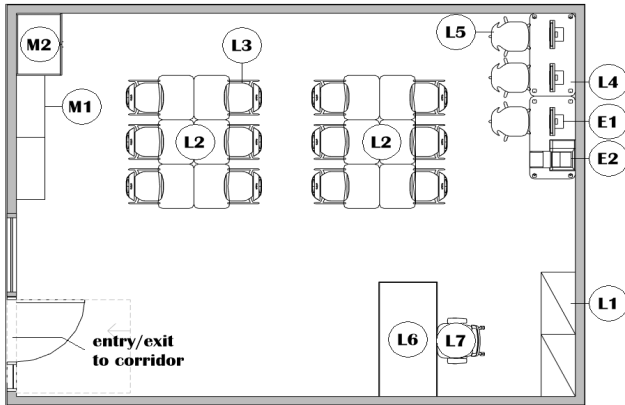
Sinks	Standard _____
	ADA _____
	Scullery _____
Other	_____

REMARKS:

Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers (preferably ceiling mounted).
 Windows to provide natural light and egress.
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Resource Rooms (ESOL Support Staff & Pull-Out)
 Space ID: 203
 RDS No.: 9



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Two per learning community (early childhood, primary, and intermediate)
Secondary Adjacency
Other

TYPICAL SIZE

SF of typical space: **450 SF**

Dimensions:

Length x Width: **20' x 22'-6"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **4**

OCCUPANCY

Number of Occupants: **Up to 15**
 Staff Member: **1**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To provide flexible space to accommodate any of the special small group instruction (special education resource, reading, ESOL, math, resource)

Team teaching; Small group instruction; Computerized instruction; Hands-on activities

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
File cabinet	1	L1	Lockable; 4 drawers
Student Desk	12	L2	
Chairs	12	L3	
Computer workstations	2	L4	
Computer chairs	3	L5	
Teacher's desk	1	L6	w/ mobile storage
Ergonomic chair	1	L7	for teacher's desk
Casework/Millwork	Qty	Tag	Note
Bookcases	2	M1	15"Dx36"Wx42"H, 27LF; Adjustable height;
Wardrobe	1	M2	36"x24"x72"; With coat rod; lockable. w/ shelving one side

EQUIPMENT

	Qty	Note
Computers	3	E1
Printer/ Scanner	1	E2

REMARKS:

Comfortable rooms with pleasant décor
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Resource Rooms (ESOL Support Staff & Pull-Out)
Space ID 203
RDS No. 9



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity 1
	Size 3'-0"x7'-0"
	Type Single Flush
	Operable Wall No
	Vision Panel Yes
	(Egress Doors Only)
	Seals No

MISCELLANEOUS

Tackboard	(4' x 8') minimum; tack strips on all walls
Markerboard	Dry, white eraser-board (4' x 16') on track; eraser-board shall be installed with a marker tray, map rails with tack strip above
Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades
Clock	On side walls instead of rear walls

LIGHTING

Lighting Level Tag:	L1
work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Uniform lighting with multi-level switching	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Screen	Yes
Smartboard	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board (3) outlets at computer work stations (1) outlet for the intercom system (2) outlets at the teacher station (2) outlets for wireless network (4) outlets for student use

Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom.

PLUMBING

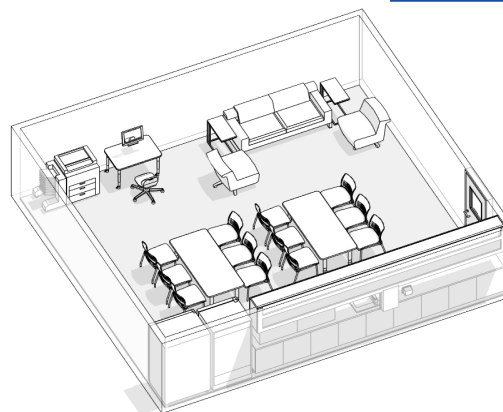
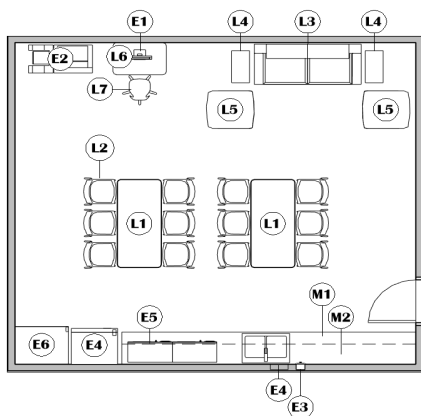
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers (preferably ceiling mounted).
 Windows to provide natural light and egress.
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Work Room/Teacher Collaboration
 Space ID: 202
 RDS No.: 10



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Located within Grade Level areas; One per grade level community

Secondary Adjacency Located near individual restrooms and Access from Corridor

Other Supply/ Storage Room

PROGRAM ACTIVITIES

To provide an area for teacher collaboration and individual work

Prepare lessons using computer, video, and other resources; Grade papers; Eating lunch

Enter and access data; Store files

TYPICAL SIZE

SF of typical space: 250 SF

Dimensions:

Length x Width: 25' x 10'
 Ceiling Height: 9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

Teachers: 6-36

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Tables	2	L1	
Chairs	12-13	L2	
Sofa	1	L3	optional
End Tables	2	L4	optional
Soft Chairs	2	L5	optional
Computer Station	1	L6	
Ergonomic task chair	1	L7	
Casework/Millwork	Qty	Tag	Note
Wall Cabinets	N/A	M1	by sink
Base Cabinets	N/A	M2	w/ Min 12' length Countertop

EQUIPMENT

	Qty		Note
Computers	1	E1	
Printer/ Copier	1	E2	provided by owner
Soap Dispenser	1	E3	
Refrigerator	1	E4	provided by owner
Microwave	2	E5	provided by owner
Vending Machine	1	E6	provided by owner
Paper Towel Dispenser	1	E7	

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Work Room/Teacher Collaboration
 Space ID: 202
 Space Type: 10



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-3" x 7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Markerboard	(4 LF)
Tackboard	(4 LF)
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	Yes
Projection Surface	No
Smartboard	No
TW2 - 2 wireless devices per occupant	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

Duplex outlets on perimeter walls at max 6' on center

(1) outlet at computer work stations

(2) recessed floor quad outlets

Provide outlets for appliances and vending machines as required

PLUMBING

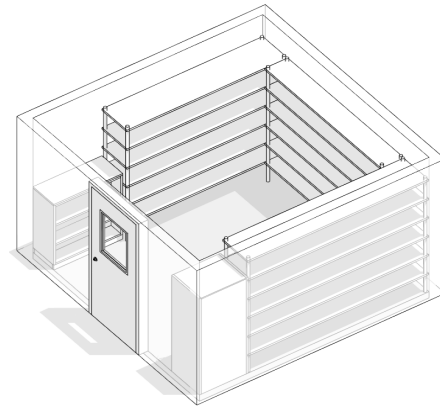
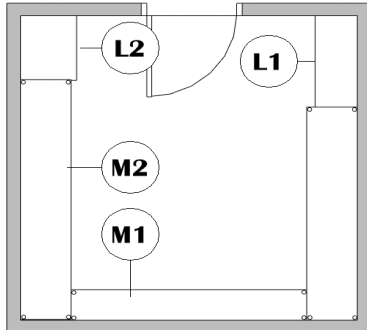
Sinks	Standard	
	ADA	Double bowl deep sink with hot and cold water
	Scullery	
Other		

REMARKS:

Windows to provide natural light
 Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Technology Storage
 Space ID: 206
 RDS No.: 11



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency: One per learning community
 Secondary Adjacency: One per floor
 Other:

PROGRAM ACTIVITIES

To provide a safe and secure area for storage of equipment and supplies

TYPICAL SIZE

SF of typical space: 100 SF

Dimensions:

Length x Width: 10' x 10'
 Ceiling Height: 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 3

OCCUPANCY

People: N/A

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: No

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Bookcases	N/A	L1	24" deep; Adjustable height
File cabinet	1	L2	Lockable; 4 drawers
Casework/Millwork			
Storage shelving	N/A	M1	12" deep
Storage shelving	N/A	M2	18" deep

EQUIPMENT

Qty Note

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - B. Learning Areas

Space Name: Technology Storage
 Space ID 206
 RDS No. 11



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity <u>1</u>
	Size <u>3'-0" x 7'-0"</u>
	Type <u>Single Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>Yes</u>
	Others <u>Security of door</u>

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	<u>L6</u>
Typical for service & utility: ambient	<u>40 FC</u>
At any service points or equipment	
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>No</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Smartboard	<u>No</u>
TW1 - 1 wireless device per occupant	<u>Yes</u>
(1) standard data drop per room	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-8</u>
NC Acoustical Criteria	<u>N/A</u>
Acoustical Panels	<u>No</u>
Privacy Criteria	<u>Low</u>
Testing Criteria	<u>ASTM</u>
STC Rating	
Other	<u>limit transmitted sound from within space to 30dBA</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	<u>X</u>
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	<u>x</u>

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	<u>Duplex receptacles on perimeter walls, (1) per wall</u>

PLUMBING

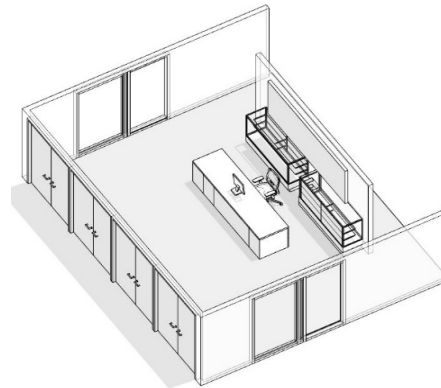
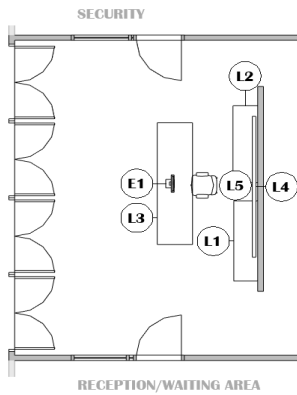
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Lobby
 Space ID: 300
 RDS No.: 12



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency	Adjacent and access to Main Office
Secondary Adjacency	Adjacent and access to Security Office
Other	The morning student entrance may be located near the dining area. The teachers' entrance may be near staff parking and must be pass key protected for controlled access at all times

PROGRAM ACTIVITIES

To immediately greet visitors with a welcoming atmosphere and to provide easy accessibility for the public

TYPICAL SIZE

SF of typical space:	480 SF
Part of general circulation	
Dimensions:	
Length x Width	24' 8" x 19' 6"
Ceiling Height	Min 12'

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People _____

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Moveable display	1	L1	
Display Cases	TBD	L2	
Security Desk/Counter	1	L3	w/ workstation
Electronic Board	1	L4	

Casework/Millwork

Casework/Millwork	Qty	Tag	Note
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EQUIPMENT

Equipment	Qty	Tag	Note
Computer	1	E1	

NOTE: All doors shall be provided with electronic ACAMS controls

REMARKS:

The lobby and reception provide the first interior layer of security against intruders. The morning student entrance may be located near the dining area. The teachers' entrance may be near staff parking and must be pass key protected for controlled access at all times. The lobby and reception areas shall be inviting, well-lit, and comfortably furnished. Reception shall open directly from the lobby and shall include seating areas for waiting.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Lobby
 Space ID: 300
 RDS No.: 12



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity <u>8</u>
	Size <u>6'-0" x 8'-0"</u>
	Type <u>Dual Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>Yes</u>

Entry doors shall include a large vestibule for weather protection, with adequate capacity to handle large traffic volumes

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	<u>L5</u>
Ambient with focus lighting areas	<u>25 FC</u>
Provide focus lighting on specific objects	<u>Yes</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>Yes</u>
Natural Daylight Preferred	<u>Yes</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Screen	<u>No</u>
Smartboard	<u>No</u>
Flat screen Monitors	<u>No</u>
TW2 - 2 wireless devices per occupant	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-7</u>
NC Acoustical Criteria	<u>40</u>
Acoustical Panels	<u>No</u>
Privacy Criteria	<u>Low</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>N/A</u>
Max Reverb	<u>0.6</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	<u></u>
Make-Up Air Required	<u></u>
Individual Zoning/Controls	<u></u>
Air Pressure Positive	<u>x (Note1)</u>
Air Pressure Negative	<u></u>

Notes

These spaces shall serve as the primary source of positive building pressurization

ELECTRICAL

Electrical Raceway	<u></u>
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	<u></u>
208V, 30A, 3 Phase	<u></u>
480V, 100A, 3 Phase	<u></u>
Emergency/ Standby Power	<u></u>
UPS (OFOI)	<u></u>

Other

Duplex outlets on perimeter walls at max 6' on center
(1) outlet per CCTV camera position
(1) outlet at computer work stations

PLUMBING

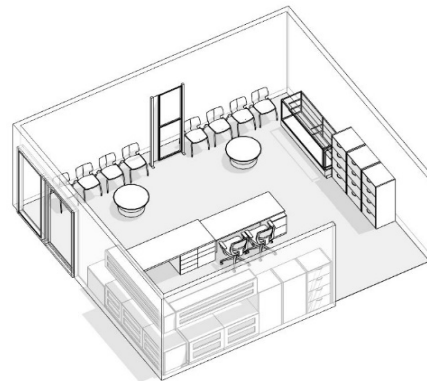
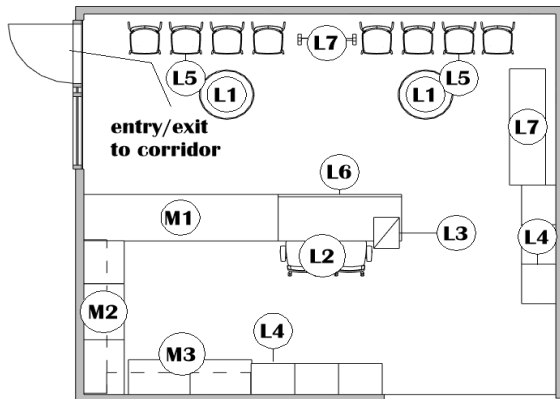
Sinks	Standard	<u></u>
	ADA	<u></u>
	Scullery	<u></u>
Other		<u></u>

REMARKS:

Lobby and reception areas shall have built-in or moveable display areas, with the ability to provide focus lighting on specific objects. Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed. See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Reception / Waiting Area
 Space ID: 301
 RDS No.: 13



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent to Lobby, Maximize view to Lobby and entry

Secondary Adjacency Easy to locate and identify

Other The attendance area will have a lockable window to the corridor with a counter.

TYPICAL SIZE

SF of typical space: **400 SF**

includes 50 SF coat closet

Dimensions:

Length x Width **20' 0" x 20' 0"**

Ceiling Height **10'-0"**

SPACE TYPE

Open

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People **8**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks **Yes**

Card Access **Yes**

Camera **Yes**

Provide all doors with electronic ACAMS controls

PROGRAM ACTIVITIES

Greeting people and directing them to the proper location or person

Waiting area for visitors and staff members

To provide a welcoming atmosphere and to serve as an information area for those coming into the school

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
End tables	2	L1	
Ergonomic chairs	2	L2	
File cabinets	2	L3	Under the counter
File cabinet	6	L4	Lockable; 4 drawers
Lounge Chairs	6-8	L5	for visitors/guests
Desk/Workstations	1	L6	for 2 staff
Display rack	n/a	L7	confirm qty w/ PGCPS
Casework/Millwork	Qty	Tag	Note
Reception/transaction counter	1	M1	(18 ft min.); Counter shall be bi-level for ADA access. w/ adjustable shelf storage on the inside
Base Cabinets	1	M2	along back wall; space for master intercom console
Wall Cabinets	1	M3	along back wall; space for master intercom console

EQUIPMENT

	Qty	Note
Computers	1	

REMARKS:

The lobby and reception areas shall be inviting to visitors and the school community, well lit, wheelchair accessible, and comfortably furnished. Reception shall open directly from the lobby and shall include seating areas for waiting. Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Reception / Waiting Area
 Space ID: 301
 RDS No.: 13



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity
	Size
	Type
	Operable Wall
	Vision Panel
	Seals
	Other

MISCELLANEOUS.

Tackboard	(8 LF)
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	Yes
USB at table	Yes
AV at table for each workstation	Yes
TW2 - 2 wireless devices per occupant	Yes
Data at Table for each workstation	Yes
Standard data drop on perimeter walls at max 12' on center	Yes

Room Technology

Ability to 'buzz' access main entrance when electric and communication connections

Master intercom console and appropriate electric and communication connections.

Entry doors shall include a large vestibule for weather protection, with adequate capacity to handle large traffic volumes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-4
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center
	Power to electrified workstations
	(1) outlet at computer work stations

PLUMBING

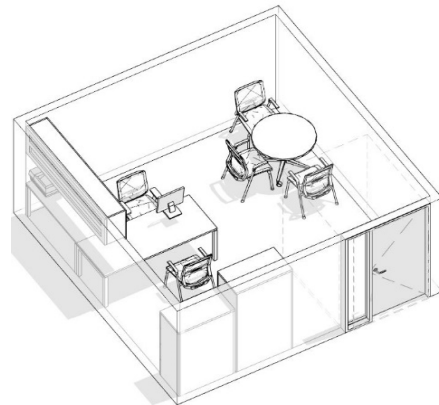
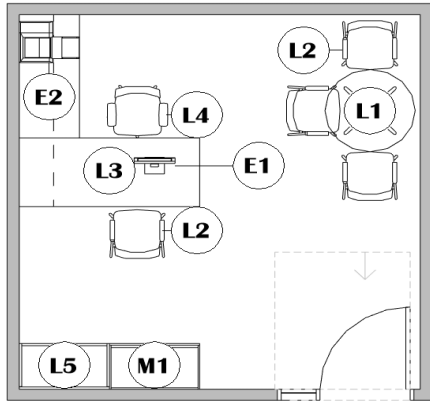
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Lobby and reception areas shall have built-in or moveable display areas, with the ability to provide focus lighting on specific objects. See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Principal's Office
 Space ID: 200
 RDS No.: 14



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent to Administrative Assistant's Office

Secondary Adjacency Near Conference Room

Other Directly connected to a single-user restroom (Restroom: Gender Inclusive), includes both office space (180 ASF) and restroom space (50 ASF)

PROGRAM ACTIVITIES

To serve as the home base for the principal from which he/she can provide instructional leadership in a personal, flexible, and organized environment for students, staff, and community

Administrative paperwork; Computer input; Interaction with students; Conferences with staff and other visitors; Planning; Telephone calls

TYPICAL SIZE

SF of typical space: **180 SF**

Dimensions:

Length x Width	7' 10" x 23'
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People **Up to 5**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Conference table	1	L1	
Side chairs	4	L2	
Desk	1	L3	L-shaped with overhead
Ergonomic chair	1	L4	
Lateral File	1	L5	Lockable; 4 drawers

Casework/Millwork	Qty	Tag	Note
Teacher wardrobe	1	M1	36"x20"x72"; With coat rod; lockable. w/ shelving one side

EQUIPMENT

	Qty	Tag	Note
Computers	1	E1	
Printer/ Scanner	1	E2	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Principal's Office
Space ID 200
RDS No. 14



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		Carpet
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	1
	Size	3'-0" x 7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	Yes
	Seals	No
	Other	No

MISCELLANEOUS

Tackboard	(4 LF)
Roller Blinds	S1 - Roller Shades, 5% Open
Coat Hook	Yes
Mirror	24" x 60"

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	Yes
Projection Surface	No
Flat screen Monitors	Yes
Smartboard	No
TW2 - 2 wireless devices per occupant	Yes
(2) standard data drop on three walls	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/35
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex per wall on three of four walls in the office (1) outlet at computer work stations (1) GFI/Shaver outlet in restroom

PLUMBING

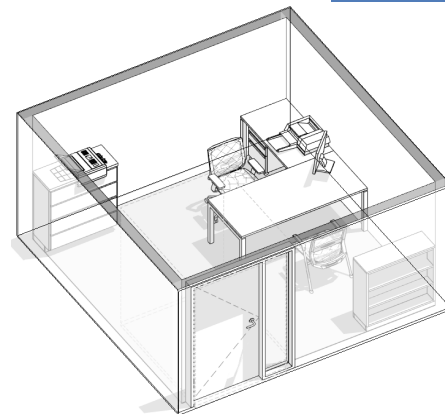
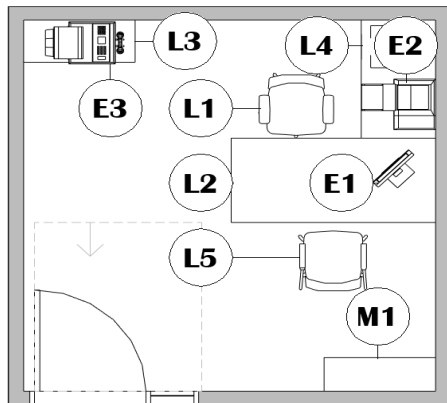
Sinks	Standard	Lavatory and Water Closet
	ADA	
	Scullery	
Other		Hot and Cold Water

REMARKS:

Private restroom; confirm requirement per school and with PGCPS. Adequate exhaust (restroom)
See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Assistant Principal / Admin
 Space ID: 200
 RDS No.: 15



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Waiting Area/Reception

Secondary Adjacency Visual access to Waiting Area/Reception

Other Adjacent to Principal's Office

TYPICAL SIZE

SF of typical space: **150 SF**

Dimensions:

Length x Width: **10' x 15'**
 Ceiling Height: **9'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

People: **Up to 4**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To serve as an area from which the secretary can effectively provide administrative support

Answering telephone
 Data input and retrieval
 Duties of confidential secretary
 Financial accounting and bookkeeper functions
 General office work

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Ergonomic chair	1	L1	
Desk	1	L2	
Lateral File	1	L3	Lockable; 4 drawers
Mobile Pedestal File	1	L4	Lockable; 3 drawers
Guest Chair	1	L5	

Casework/Millwork

Casework/Millwork	Qty	Tag	Note
Bookcases	TBD	M1	Confirm qty w/ PGCPS

EQUIPMENT

	Qty	Tag	Note
Computers	1	E1	Provided by owner
Printer/ Scanner	1	E2	Provided by owner
Fax	1	E3	Provided by owner

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Assistant Principal / Admin
 Space ID: 200
 RDS No.: 15



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Carpet
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0" x 7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	(4 LF)
Coat Hook	Yes
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Smartboard	No
TW2 - 2 wireless devices per occupant	Yes
(1) standard data drop on (2) side walls	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	40/35
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets per wall on two side walls (1) outlet at computer work stations

PLUMBING

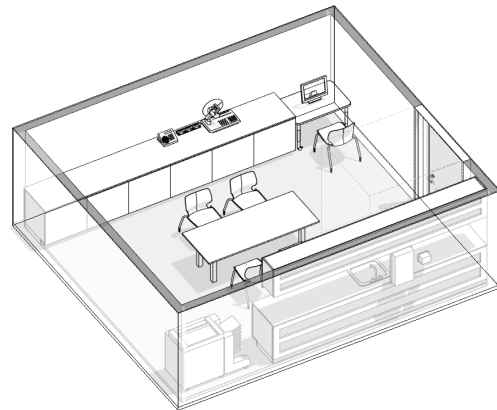
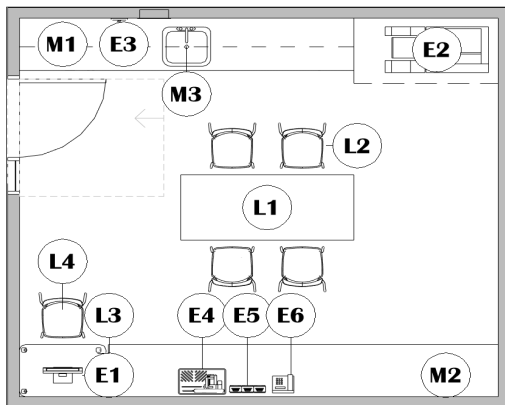
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Administrative Workroom
 Space ID: 204
 RDS No.: 16



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Near Reception/ Waiting Area
Secondary Adjacency Supply/ Storage Room
Other Near Toilet (Adult)

PROGRAM ACTIVITIES

To provide an area for office projects to be completed
 Preparing communications for mailing; Binding reports; Collating; Copying; Laminating; Sorting of files; Telephone communications

TYPICAL SIZE

SF of typical space: 200 SF

Dimensions:

Length x Width: 12' 1" x 16' 7"
 Ceiling Height: 9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People: Up to 4

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Work table	1	L1	
Chairs	4	L2	
Computer workstation	1	L3	
Ergonomic task chair	1	L4	

Casework/Millwork	Qty	Tag	Note
Mail boxes	N/A	M1	For 110% of staff
Base Cabinets	N/A	M2	
Wall Cabinets	N/A	M3	wall cabinets

EQUIPMENT

	Qty		Note
Computers	1	E1	Provided by owner
Printer/ Scanner	1	E2	Provided by owner
Soap Dispenser	1	E3	
Paper cutter	1	E4	Provided by owner
Laminating machine	1	E5	Provided by owner
Copier	1	E6	Provided by owner
Phone	1	E7	
Paper Towel Dispenser	1	E8	

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 NOTES: Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Administrative Workroom
 Space ID: 204
 RDS No.: 16



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0" x 7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Markerboard	(4 LF)
Tackboard	(4 LF)
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Surface	No
Smartboard	No
TW2 - 2 wireless devices per occupant	Yes
Data port	Yes
Voice ports	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-4
NC Acoustical Criteria	N/A
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center, above counter receptacles for equipment. (2) recessed floor quad outlets (1) outlet at computer work stations

PLUMBING

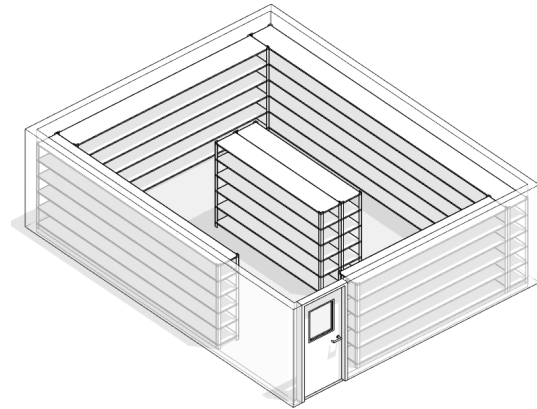
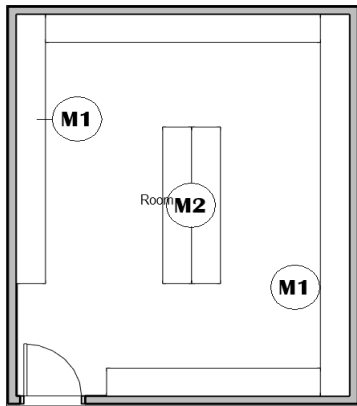
Sinks	Standard	Kitchen Sink
	ADA	
	Scullery	
Other		Hot and Cold Water

REMARKS:

Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Text Book Room
 Space ID: 206
 RDS No.: 17



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency: Near Administration

Secondary Adjacency:

Other:

TYPICAL SIZE

SF of typical space: **300 SF**

2,000 LF of shelving

Dimensions:

Length x Width	15' 0" x 20' 0"
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

People: _____

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	No

PROGRAM ACTIVITIES

To provide secure storage for books and teaching materials
 Storage of textbooks and teaching supplies and forms

CASEWORK/MILLWORK/ FURNITURE

Casework	Qty	Tag	Note
Wall Shelving	N/A	M1	2,000 LF; adjustable
Mobile Shelving	N/A	M2	on casters

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Text Book Room
 Space ID: 206
 RDS No.: 17



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0" x 7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: Yes
	Other:

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Lighting control: LC6 - Workrooms / Utility	Yes
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes
Voice port	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	x

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall Power density:PW1 - 1W/ASF

PLUMBING

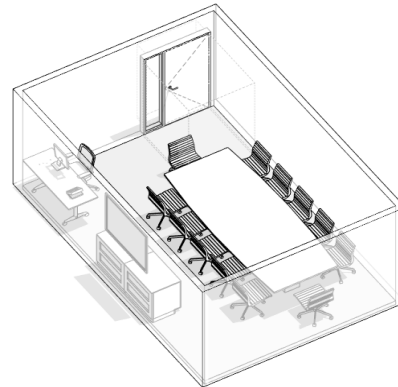
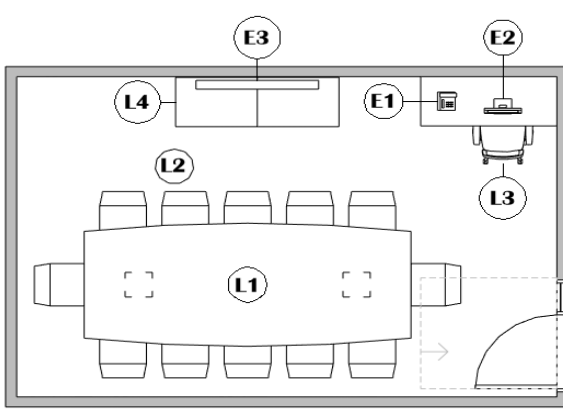
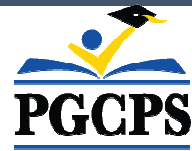
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Conference Room
 Space ID: 201
 RDS No.: 18



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency In administrative suite

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **300 SF**

Dimensions:

Length x Width	16' 0" x 19' 0"
Ceiling Height	9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People **Up to 20**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

PROGRAM ACTIVITIES

To provide an area for small and medium group conferences
 Meetings/conferences; Staff collaboration

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Conference table	1	L1	with Techn connections, power at table
Chairs	10-15	L2	
Computer workstation	1	L3	with ergonomic task chair
Media Cabinet	1	L4	

EQUIPMENT

	Qty	Note
Phone	1	E1
Computers	1	E2
Monitor	1	E3 Along short wall

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Conference Room
Space ID 201
RDS No. 18



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	2
	Size	3'-0" x 7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	Yes
	Seals	No
	Other	

MISCELLANEOUS

Markerboard	(8 LF)
Tackboard	(8 LF)
Roller Blinds	S2 - Roller Shades, 5% Open and Motorized Blackout Shades

LIGHTING

Lighting Level Tag:	L3
Typical for conference rooms: ambient and at work surfaces and walls	35 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	Yes
Projection Surface	Yes
Flat screen Monitors	Yes
Smartboard	No
Data at Table	Yes
AV at table	Yes
Data port	Yes
Voice port	Yes
Video port	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) standard data drop on (2) side walls	Yes
(1) recessed floor box with (2) standard data outlets	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center (3) recessed floor quad boxes min. (1) outlet under table (1) outlet at computer work stations

PLUMBING

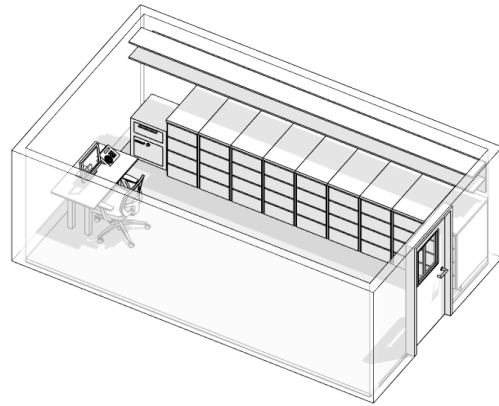
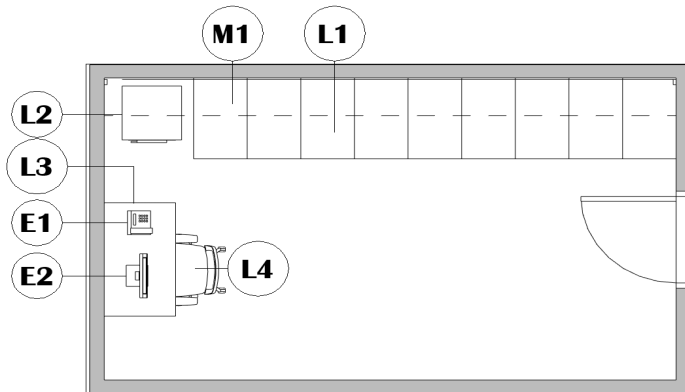
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Conference Room Technology – All administrative conference rooms will have two on-table computer connections to a video display screen and be internet capable. Two lighting/multi-media control panel shall be table mounted and one wall mounted.
 Uniform lighting; Design for computer aided presentations
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Records Room
 Space ID: 206
 RDS No.: 19



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Near Business Manager's Office

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 125 SF

Dimensions:

Length x Width	<u>9' 4" x 13' 5"</u>
Ceiling Height	<u>9'-0"</u>

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Staff Up to 1

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

PROGRAM ACTIVITIES

To provide secure, fireproof, and adequate storage for money, records, and other valuable items

Accessible to administration staff

Storage of files and records

Storing of money and other valuable items

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
File cabinets	8-10	L1	4-drawer; Fireproof
Small safe	1	L2	verify size with PGCPS
Small table	1	L3	
Chair	1	L4	
Casework	Qty	Tag	Note
Wall shelving	TBD	M1	

EQUIPMENT

	Qty	Tag	Note
Phone	1	E1	
Computers	1	E2	Provided by owner

REMARKS:

1-hour rated enclosure

NOTES: Loose furnishings and features shown represent one of many possible arrangements.

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Records Room
 Space ID: 206
 Space Type: 19



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: Yes
	Other: Security of Door

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data port	Yes
Voice port	Yes
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	N/A
Wall minimum: STC	45
Ceiling minimum: CAC	35

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall (1) outlet at computer work stations

PLUMBING

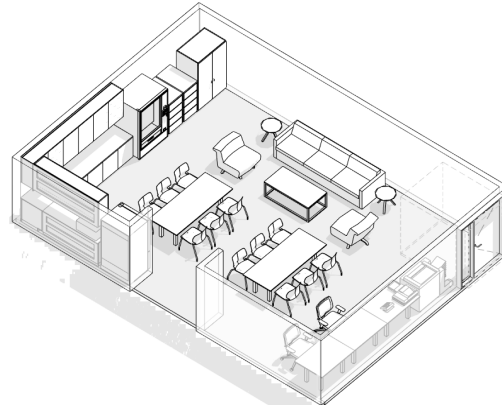
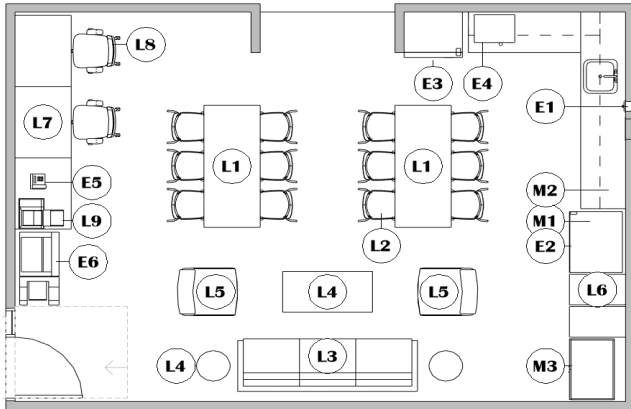
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: Staff Break Room
 Space ID: 205
 RDS No.: 20



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Access from corridor

Secondary Adjacency Near Dining

Other Restrooms with or near

TYPICAL SIZE

SF of typical space: **500 SF**

(SF above could include Restroom SF)

Dimensions:

Length x Width: **15' 5" x 32' 6"**
 Ceiling Height: **8'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Teachers: **6-36**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To provide as an area for staff to relax and prepare for classes
 Prepare lessons using computer, video, and other resources.
 Interacting with peers; Eating; Relaxing; Using the telephone

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Rectangular tables	2	L1	
Chairs	12	L2	
Sofa	1	L3	
End tables	2	L4	
Lounge chairs	2-3	L5	
File cabinet	2-3	L6	Lockable; 4 drawers. For floating teachers
Workstations	2-3	L7	
Ergonomic task chairs	2-3	L8	
Printer table	1	L9	

Casework/Millwork	Qty	Tag	Note
Base Cabinets	1	M1	
Wall Cabinets		M2	
Wardrobe	1	M3	36"x24"x72"; With coat rod; lockable. w/ shelving one side

EQUIPMENT

	Qty	Note
Soap Dispenser	1	E1
Vending Machine	2	E2 (1) snack & (1) beverage
Refrigerator	1	E3
Microwave	1	E4
Phone	1	E5
Paper Towel Dispenser	1	E6

REMARKS:

Wheelchair accessibility; OSHA requirements maintained
 NOTE: Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name:	Staff Break Room
Space ID	205
RDS No.	20



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity 1
	Size 3'-3"x 7'-0"
	Type Single Flush
	Operable Wall No
	Vision Panel Yes
	Seals No
	Other

MISCELLANEOUS

Markerboard	4 LF
Tackboard	4 LF
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Lighting control: LC8 Public space	Yes
Darkenable or Dimmable	No
Uniform lighting with multi-level switching	Yes
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
USB at table	Yes
Data at Table	Yes
TW2 - 2 wireless devices per occupant	Yes
2 data ports	Yes
Voice ports	Yes
Clock/PA	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-7
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center Duplex outlets at 2' on center at counter Dedicated circuits for appliances Power Density: PW3 - 5W/ASF Provide outlets for appliances and vending machines as required. Dedicated circuits for vending machines and refrigerator; possible garbage disposal required at sink, confirm with PGCPS

PLUMBING

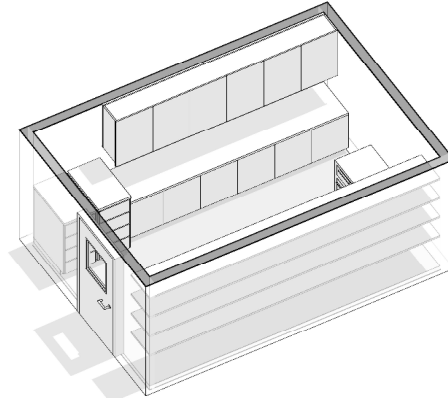
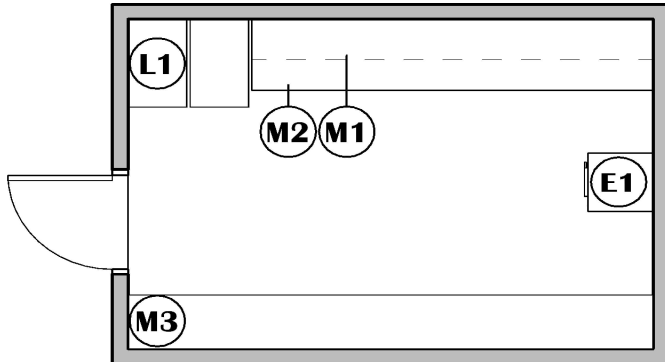
Sinks	Standard	
	ADA	Double kitchen sink
	Scullery	
Other	HW, CW and Sink Drain	

REMARKS:

Consider future technology needs, build-in flexibility to retain options
Windows to provide natural light and egress
See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: General Supply / Administrative Storage
 Space ID: 206
 RDS No.: 21



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Administrative Workroom

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 125 SF

Dimensions:

Length x Width	<u>9' 4" x 13' 5"</u>
Ceiling Height	<u>9'-0"</u>

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People N/A

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

PROGRAM ACTIVITIES

To provide adequate and secure storage for office supplies
 Storing of office supplies, forms, and files

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
File cabinet	2	L1	Lockable; 4 drawers

Casework/Millwork	Qty	Tag	Note
Wall Cabinets	TBD	M1	
Base Cabinets	TBD	M2	Lockable
Shelves	TBD	M3	

EQUIPMENT

	Qty	Tag	Note
Small safe	1	E1	

REMARKS:

NOTES: Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - C. Administrative Areas

Space Name: General Supply / Administrative Storage
 Space ID: 206
 RDS No.: 21



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0" x 7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: Yes
	Others: Security of door

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	No
TW1 - 1 wireless device per occupant	Yes
Data port	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	x

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

PLUMBING

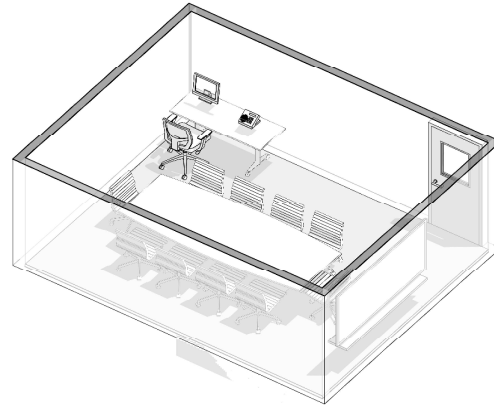
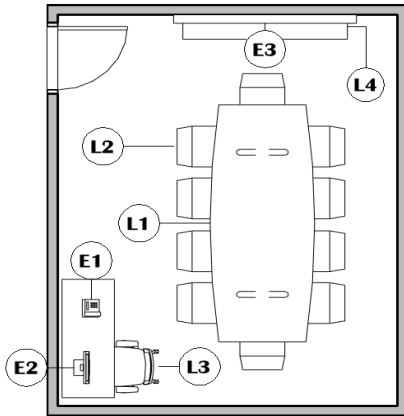
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - D. Guidance / Student Services Areas

Space Name: Conference Room / Testing Room
 Space ID: 201
 Space Type: 22



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency In administrative suite

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **300 SF**

Dimensions:

Length x Width	15' 0" x 20' 0"
Ceiling Height	9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People **Up to 20**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

PROGRAM ACTIVITIES

To provide an area adequate for small and medium group conferences

Staff collaboration Meetings/conferences

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Conference table	1	L1	with Techn connections, power at table
Chairs	10-15	L2	
Computer workstation	1	L3	
Media Cabinet	1	L4	

EQUIPMENT

	Qty	Note
Phone	1	E1
Computers		E2
Screen	1	E3 Along short wall

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - D. Guidance / Student Services Areas

Space Name: Conference Room / Testing Room
Space ID 201
Space Type: 22



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	2
	Size	3'-0"x7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	Yes
	Seals	No
	Other	

MISCELLANEOUS

Tackboard	(8 LF)
Markerboard	(8 LF)
Roller Blinds	S2 - Roller Shades, 5% Open and Motorized Blackout Shades

LIGHTING

Lighting Level Tag:	L3
Typical for conference rooms: ambient and at work surfaces and walls	35 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	Yes
Projection Surface	Yes
Flat screen Monitors	Yes
Smartboard	No
Data at Table	Yes
Data port	Yes
Voice port	Yes
Video port	Yes
AV at table	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) standard data drop on (2) side walls	Yes
(1) recessed floor box with (2) standard data outlets	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center (3) recessed floor quad boxes min. (1) outlet under table (1) outlet at computer work stations

PLUMBING

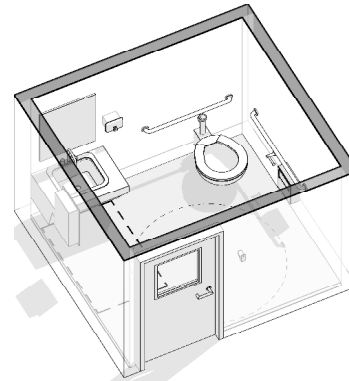
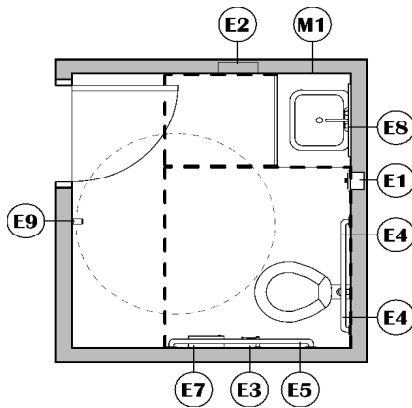
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Conference Room Technology – All administrative conference rooms will have two on-table computer connections to a video display screen and be internet capable. Two lighting/multi-media control panel shall be table mounted and one wall mounted.
Uniform lighting ; Design for computer-aided presentations
See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - D. Guidance / Student Services Areas

Space Name: Toilet (Adult Uni-Sex)
 Space ID: 302
 Space Type: 23



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Located within Health Suite

Secondary Adjacency adjacent to the Cot Area

Other

TYPICAL SIZE

SF of typical space: **80 SF**

Dimensions:

Length x Width	7' x 7' 2"
Ceiling Height	8'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

Person **Up to 1**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	No

PROGRAM ACTIVITIES

Changing clothing
 Personal and health needs for the health suite

CASEWORK/MILLWORK/ FURNITURE

Casework	Qty	Tag	Note
Wall Cabinet	N/A	M1	

EQUIPMENT

	Qty		Note
Soap Dispenser	1	E1	
Toilet tissue holder	1	E2	
ADA Grab bar	1	E3	36"
ADA Grab bar	1	E4	42"
Sanitary dispenser	1	E5	
Sanitary disposal	1	E6	
Paper Towel Dispenser	1	E7	
Coat Hook	1	E8	
Mirror 24"x60"	1	E9	

REMARKS:

Wheelchair accessibility

NOTE: Loose furnishings and features shown represent one of many possible arrangements.

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - D. Guidance / Student Services Areas

Space Name: Toilet (Adult Uni-Sex)
 Space ID: 302
 Space Type: 23



ARCHITECTURAL

Walls/Partitions	Tile
Wall Protection	Corner Guards
Flooring	Tile
Base	Tile
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Other:

MISCELLANEOUS

Coat Hook	Yes
Mirror	24" x 60"

LIGHTING

Lighting Level Tag:	L7
Typical for ambient	25 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-7
NC Acoustical Criteria	40
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	x
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	x

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) GFI Duplex outlet at lavatory

PLUMBING

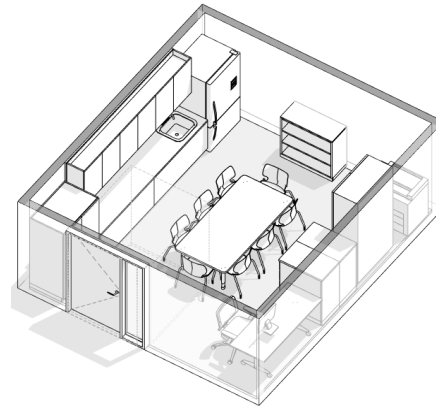
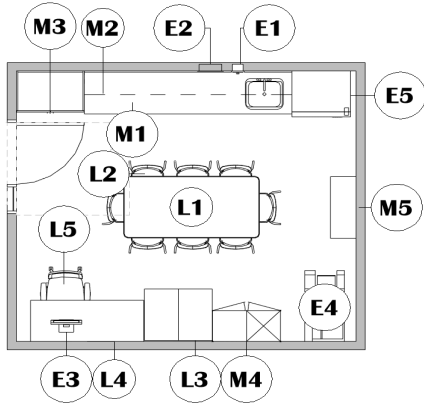
Sinks	Standard	
	ADA	Sink
	Scullery	
Other	Toilet, lavatory w/sensor control faucet	

REMARKS:

Moisture- and stain-resistant finishes

SPACE REQUIREMENTS - D. Guidance / Student Services Areas

Space Name: Parent Family Resource Center
 Space ID: 202
 Space Type: 24



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Near Reception/ Welcome Center

Secondary Adjacency Near Main Lobby Entrance

Other Near Public Restrooms

TYPICAL SIZE

SF of typical space: **200 SF**

Dimensions:

Length x Width 12' 1" x 16' 7"
 Ceiling Height 9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People Up to 12
 Parents, PTA/PTO Members, Volunteers

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera Yes

PROGRAM ACTIVITIES

To provide a place for parents to meet and work when they volunteer at school

To provide a place for parents to store their personal belongings & to check-out/use parenting sources

To provide a place for the PTA to store their materials
 Parent training; Small group meetings; Work area

Storage for personal items; Storage of fundraising materials (PTA/PTO)

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Tables	1	L1	36" x 72"
Chairs	8	L2	
File cabinets	2	L3	4-drawer
Computer workstation	1	L4	
Chair	1	L5	
Casework			
Base Cabinets	N/A	M1	
Wall Cabinets		M2	
Wardrobe	1	M3	
Storage cabinets	1	M4	
Bookcase	TBD	M5	(20 LF); Adjustable height

EQUIPMENT

	Qty	Note
Soap Dispenser	1	E1
Paper Towel Dispenser	1	E2
Computers	1	E3 Provided by owner
Printer/ Scanner	1	E4 Provided by owner
Refrigerator	1	E5 by owner

REMARKS:

NOTES: Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - D. Guidance / Student Services Areas

Space Name: Parent / Family Resource Center
 Space ID: 202
 Space Type: 24



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-3"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	8 LF
Markerboard	8 LF
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient e	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	Yes
Projection Surface	Yes
Flat screen Monitors	No
TW2 - 2 wireless devices per occupant	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-4
NC Acoustical Criteria	N/A
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	70°-75° ± 1°F
Humidity	50%- 25%± 5%
15 Air Changes per Hour (Min)	
10 ACH (Min)	
6 ACH (Min)	
100% Make-up Air	
Recirculated Air	x
Air Pressure Positive	
Air Pressure Negative	
Air Filtration at Supply or Exhaust	
Other	

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls at max 6' on center (2) recessed floor quad outlets (1) outlet at computer work stations Provide outlets for appliances and vending machines as required

PLUMBING

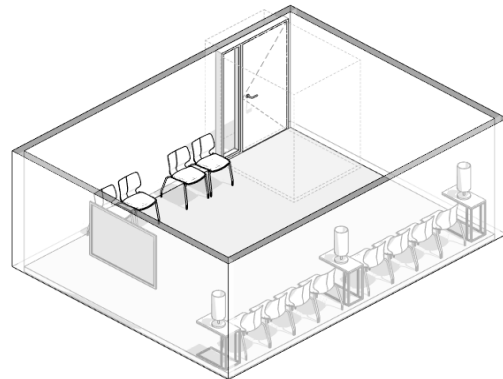
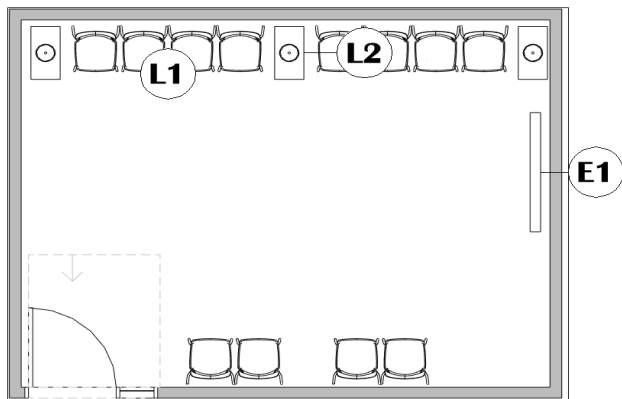
Sinks	Standard	
	ADA	Kitchen sink
	Scullery	
Other		

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Reception / Waiting
 Space ID: 301
 RDS No.: 25



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency First space one enters in Health Suite

Secondary Adjacency Ground floor

Other

TYPICAL SIZE

SF of typical space: **350 SF**

Dimensions:

Length x Width: **25' x 14'**
 Ceiling Height: **9'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People: **Up to 6**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To provide an area for students waiting to see the nurse or for parent pick-up

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Lounge chairs	4-6	L1	for visitors/guests
Side tables	2	L2	w/ lamps

EQUIPMENT

	Qty	Tag	Note
Brochure rack	1	E1	

REMARKS:

Waiting room shall provide visual privacy for people waiting
 May include Nurse's desk and work station (see Office for description of F&E and confirm with PGCPS)
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Reception / Waiting
 Space ID: 301
 RDS No.: 25



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: Yes
	Other:

MISCELLANEOUS

Tackboard	Yes
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L5
Typical for ambient and focus lighting areas	25 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
USB at table	Yes
Data at Table	Yes
Voice port	Yes
AV at table	Yes
TW1 - 1 wireless device per occupant	Yes
Standard data drop on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	
STC Rating	45/30
Wall minimum STC	45
Ceiling minimum CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

Duplex outlets on perimeter walls at max 6' on center

PLUMBING

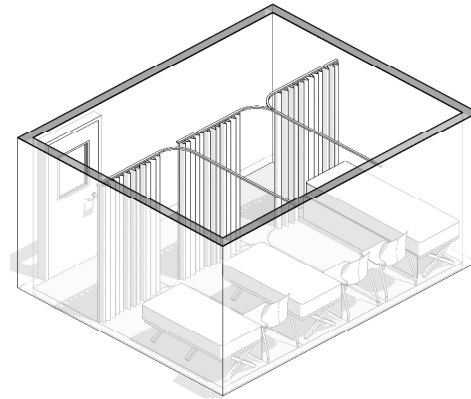
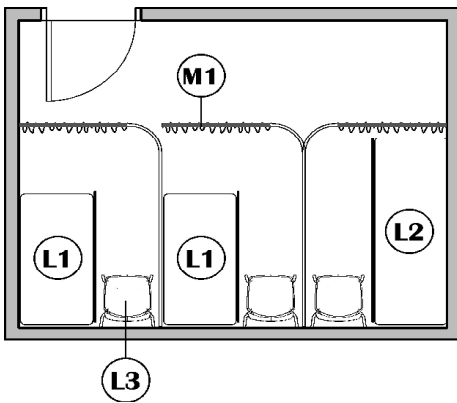
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Cot Room
 Space ID: 202
 RDS No.: 26



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Located within Health Suite

Secondary Adjacency Adjacent to toilet

Other Visual privacy and Visual access to Waiting Area/Reception

TYPICAL SIZE

SF of typical space: 130 SF

Dimensions:

Length x Width 12' 10" X 10' 2"
 Ceiling Height 9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

Persons per Cot 1

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera No

PROGRAM ACTIVITIES

To provide a place for students and staff to lie down when feeling ill; Resting area

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Small Cots	2	L1	The maximum length/width for each cot usually measures 74" L x 26" W, with height of headrest from floor 22".
Large Cot Optional	1	L2	
Chairs	3	L3	w/ casters

EQUIPMENT

	Qty	Note
Cubical curtain	3	M1 between: large & small cots, & waiting area

REMARKS:

NOTES: Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Cot Room
 Space ID: 202
 Space Type: 26



ARCHITECTURAL

Walls/Partitions	GWB, Epoxy Paint
Wall Protection	Corner Guards
Flooring	Moisture and stain-resistant finishes
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Other:

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L2
Typical for classrooms: ambient and at work surfaces	30 FC
Task Lighting	No
Darkenable or Dimmable	Yes
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Screen	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	45/30
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	(Note 1)
Dedicated HVAC Equipment	x
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	
Air Pressure Negative	x
Notes	No recirculation/Return allowed. Space must be fully exhausted

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex on perimeter walls at max 6' on center Outlets for computer charting station and vital station height.

PLUMBING

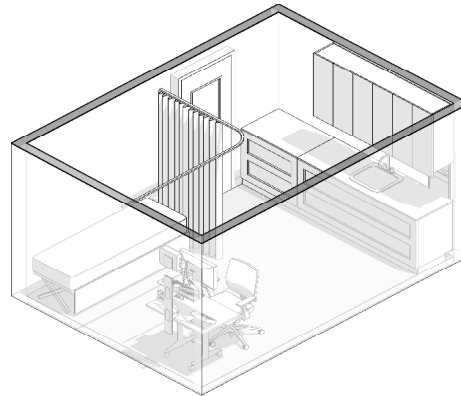
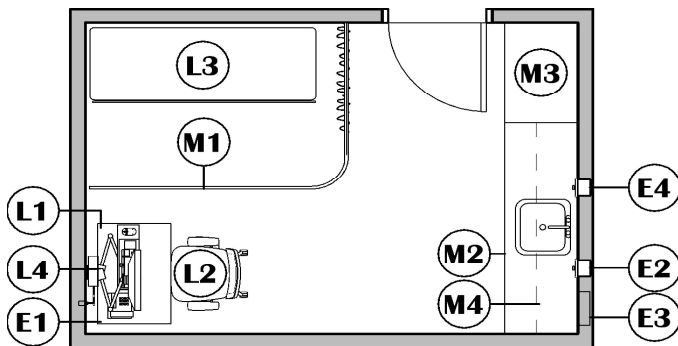
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Audio and visual privacy; Separate Male and Female Cot areas visible to the Office and Waiting Area
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Exam Room/ Treatment Area
 Space ID: 202
 RDS No.: 27



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Located within Health Suite and adjacent to Treatment Area

Secondary Adjacency Near Waiting Area

Other Visual access to Waiting Area/Reception

PROGRAM ACTIVITIES

To provide school based health services

Consultation with students; Medical treatments; Medication administration; Health screening; First aid; Administrative paperwork

TYPICAL SIZE

SF of typical space: **150 SF**

Dimensions:

Length x Width: **10' x 15'**
 Ceiling Height: **9'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

People: **Up to 2**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **No**

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Desk	1	L1	
Ergonomic Chair	1	L2	
Exam Table	1	L3	Could also be a cot
Medical computer desk	1	L4	Wall mounted

Casework:	Qty	Tag	Note
Cubical curtain	1	M1	
Base cabinet	N/A	M2	4'
Student-access medicine cabinet	1	M3	(see staff for space and design requirements)
Wall cabinet	N/A	M4	4'

EQUIPMENT

	Qty	Tag	Note
Phone	1	E1	
Soap Dispenser	1	E2	
Paper Towel Dispenser	1	E3	
Hand sanitizer dispenser	1	E4	
Vital Station		E5	
Computer Charting Station		E6	

REMARKS:

Wheelchair area should be provided within space.
 Nurse should have visual control over the cots and reception area even while in the treatment area.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Loose furnishings and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Exam Room/ Treatment Area
 Space ID: 202
 RDS No.: 27



ARCHITECTURAL

Walls/Partitions	GWB, Epoxy Paint
Wall Protection	Corner Guards
Flooring	Moisture and stain-resistant finishes
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Other:

MISCELLANEOUS

Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades
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LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No	
Video Conferencing	No	
Projection Screen	No	
Flat screen Monitors	No	
Smartboard	No	
Data at Table	Data Port	Yes
Voice port	Yes	
AV at table	Yes	
TW2 - 2 wireless devices per occupant	Yes	
(2) data drop per wall on two walls.	Yes	

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	50/35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	(Note 1)
Dedicated HVAC Equipment	x
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	
Air Pressure Negative	x
Notes	No recirculation/Return allowed. Space must be fully exhausted

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex on perimeter walls at max 6' on center Outlets for computer charting station and vital station height.

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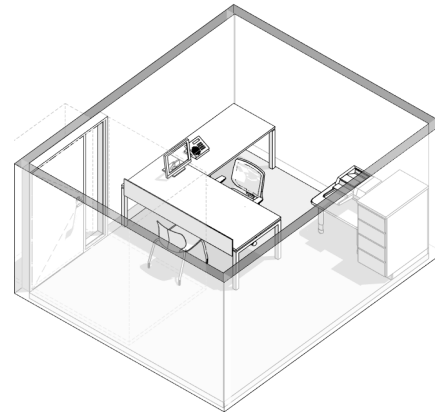
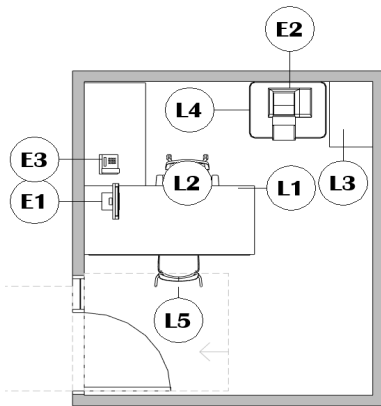
Sinks	Standard	Sink with hot and cold water/gooseneck with paddle handles
	ADA	
	Scullery	
Other		Lavatory w/sensor control faucet

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required.
 Curtains on windows - Privacy curtains
 Chemical-resistant finish on countertops

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Office (Nurse & Physician)
 Space ID 200
 RDS No. 28



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Within, or adjacent and visual to, Reception/ Waiting Area

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 120 SF

Dimensions:

Length x Width 10' x 12'
 Ceiling Height 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

People Up to 2

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera Yes

PROGRAM ACTIVITIES

To provide an office for the staff to perform clerical functions
 Conferences with staff and other visitors; Computer input;
 Telephone calls; Planning; Paperwork

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Desk	1	L1	
Ergonomic task chair	1	L2	
File cabinet	1	L3	4-drawer; lockable
Printer Table	1	L4	
Lounge Chair	1	L5	for guests/visitors

EQUIPMENT

	Qty	Tag	Note
Computers	1	E1	Provided by owner
Copier	1	E2	Provided by owner
Phone	1	E3	

REMARKS:

Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Office (Nurse & Physician)
 Space ID: 200
 RDS No.: 28



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Carpet
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	Yes
Data at Table	Data port near workstati
Data port for printer	Yes
Voice port	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) standard data drop on (2) side walls	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	45/30
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex per wall on three of four walls (1) outlet at computer work stations

PLUMBING

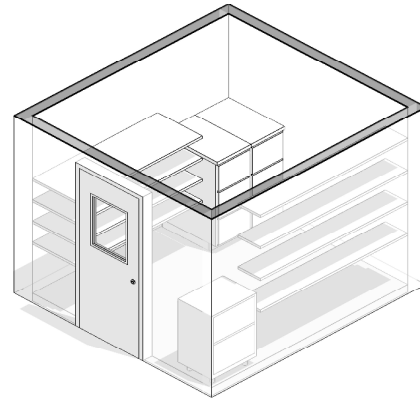
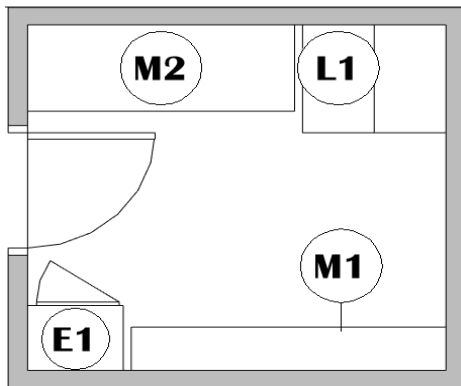
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Storage
 Space ID: 206
 RDS No.: 29



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Exam Room/ Treatment Area

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 60 SF

Dimensions:

Length x Width: 8' 0" x 7' 6"
 Ceiling Height: 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Person: N/A

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: No

PROGRAM ACTIVITIES

To provide storage for medical supplies and equipment
 Storage; Security of equipment, supplies, and medicines

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
File Cabinets	2	L1	
Casework	Qty	Tag	Note
Storage shelving	N/A	M1	12" deep
Storage shelving	N/A	M2	24" deep

EQUIPMENT

	Qty	Note
Refrigerator	1	E1 (lockable) with ice maker

REMARKS:

NOTES: Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Storage
 Space ID: 206
 RDS No.: 29



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		Sheet Vinyl
Base		4" Rubber
Ceiling		Gyp. Board
Doors	Quantity	1
	Size	3'-0"x7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	No
	Seals	Yes
	Other	Security of door

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	Yes
Darkenable or Dimmable	No
Lighting control: LC6 - Workrooms / Utility	Yes
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	
TW1 - 1 wireless device per occupant	Yes
(1) standard data drop per room	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls (1) per Power density: PW1 - 1W/ASF Provide outlets for appliances and vending machines as required

PLUMBING

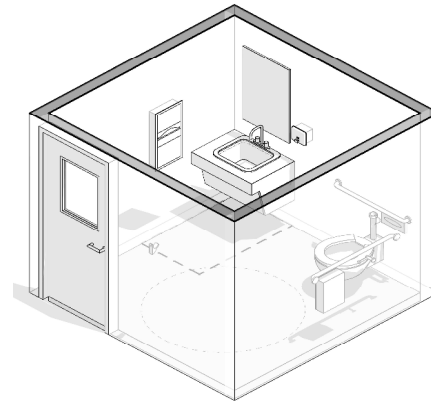
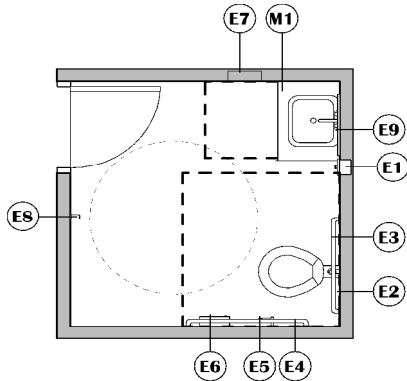
Sinks	Standard
	ADA
	Scullery
Other	Connection for Ice maker, refrigerator and cold water. Drain connection to fixtures

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Toilet
 Space ID: 302
 RDS No.: 30



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Located within Health Suite adjacent to the Cot Room

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **80 SF**

Dimensions:

Length x Width: **8' x 10'**
 Ceiling Height: **8'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

Person: **Up to 1**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **No**

PROGRAM ACTIVITIES

Changing clothing
 Personal and health needs for the health suite

CASEWORK/MILLWORK/ FURNITURE

Casework	Qty	Tag	Note
Wall Cabinet	N/A	M1	

EQUIPMENT

	Qty	Tag	Note
Soap Dispenser	1	E1	
Toilet tissue holder	1	E2	
ADA Grab bar	1	E3	36"
ADA Grab bar	1	E4	42"
Sanitary dispenser	1	E5	
Sanitary disposal	1	E6	
Paper Towel Dispenser	1	E7	
Coat Hook	1	E8	
Mirror 24"x60"	1	E9	

REMARKS:

Wheelchair accessibility

NOTE: Loose furnishings and features shown represent one of many possible arrangements.

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - E. Nurse's Suite/Community Health Clinic

Space Name: Toilet
 Space ID: 302
 RDS No.: 30



ARCHITECTURAL

Walls/Partitions: Tile
 Wall Protection: Corner Guards
 Flooring: Tile
 Base: Tile
 Ceiling: Gyp. Board
 Doors: Quantity: 1
 Size: 3'-0"x7'-0"
 Type: Single Flush
 Operable Wall: No
 Vision Panel: No
 Seals: No
 Other:

MISCELLANEOUS

Coat Hook: Yes
 Mirror: 24" x 60"

LIGHTING

Lighting Level Tag: L7
 Typical for ambient: 25 FC
 Task Lighting: No
 Darkenable or Dimmable: No
 Special Lighting: No
 Natural Daylight Preferred: No

AV

Distance Learning: No
 Video Conferencing: No
 Projection Surface: No
 Flat screen Monitors: No
 Smartboard: No
 TW1 - 1 wireless device per occupant: Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag: AC-7
 NC Acoustical Criteria: 40
 Acoustical Panels: No
 Privacy Criteria: High
 Testing Criteria: ASTM
 STC Rating: N/A
 Max Reverb: 0.6

MECHANICAL

Temperature: Summer 72° DB 50% RH, Winter 72° DB
 Humidity: Summer 72° DB 50% RH, Winter 72° DB
 Recirculated Air:
 Dedicated HVAC Equipment:
 Make-Up Air Required: x
 Individual Zoning/Controls:
 Air Pressure Positive:
 Air Pressure Negative: x

Notes

ELECTRICAL

Electrical Raceway:
 110V, 20A, 1 Phase: x
 208V, 30A, 1 Phase:
 208V, 30A, 3 Phase:
 480V, 100A, 3 Phase:
 Emergency/ Standby Power:
 UPS (OFOI):
 Other: (1) GFI Duplex outlet at lavatory

PLUMBING

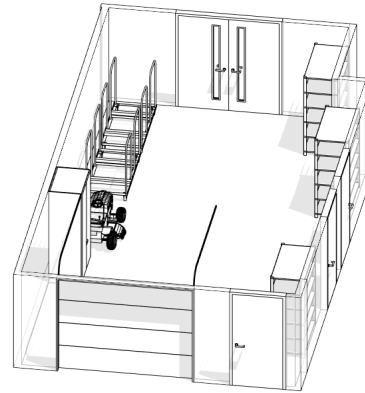
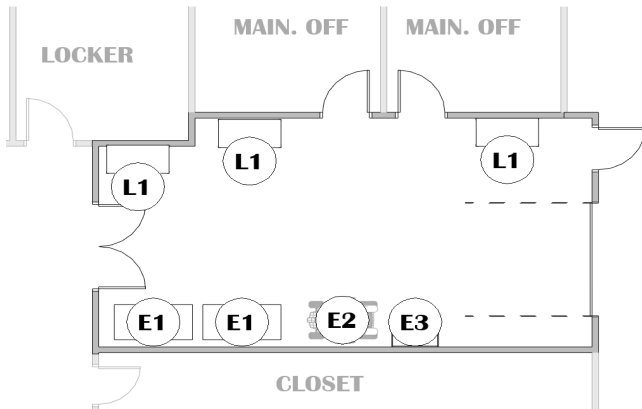
Sinks: Standard
 ADA: Sink
 Scullery:
 Other: Toilet, lavatory w/sensor control faucet

REMARKS:

Moisture- and stain-resistant finishes

SPACE REQUIREMENTS - F. Maintenance & Custodial (Building Services)

Space Name: Receiving and Storage
 Space ID: 202
 RDS No.: 31



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Access to a main corridor
Secondary Adjacency Access to loading dock area
Other

PROGRAM ACTIVITIES

To serve as the central point for delivery and shipping of bulk commodities and equipment and provide adequate storage for supplies and materials
 Loading and unloading; Storage of furniture, equipment, and general supplies

TYPICAL SIZE

SF of typical space: **500 SF**

CASEWORK/MILLWORK/ FURNITURE

Furniture	QTY	Tag	Note
Shelves	4	L1	

Dimensions:

Length x Width	15' 5" x 32' 6"
Ceiling Height	10'-0"

SPACE TYPE

Open

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People _____

UTILIZATION

Hours of Operation **14 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

EQUIPMENT

	Qty	Tag	Note
Mobile Equipment	TBD	E1	confirm qty w/ PGCPS
Lawn maintenance equipment	TBD	E2	confirm qty w/ PGCPS
Floor/building maintenance equipment	TBD	E3	confirm qty w/ PGCPS

REMARKS:

High ceiling; Staging area with insulated overhead door large enough for forklift access
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - F. Maintenance & Custodial (Building Services)

Space Name: Receiving and Storage
 Space ID: 202
 RDS No.: 31



ARCHITECTURAL

Walls/Partitions	GWB, Paint	
Wall Protection	Corner Guards	
Flooring	Moisture and stain-resistant finishes	
Base	4" Rubber	
Ceiling	Gyp. Board	
Doors	Quantity	TBD
	Size	TBD
	Double doors with removable mullions to corridor	
	Type	Dual Flush
	Operable Wall	No
	Vision Panel	No
	Seals	Yes
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
(2) data drops on perimeter walls at max 6' on center.	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	40
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	
STC Rating	50/35
Wall minimum STC	45
Ceiling minimum CAC	35

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

PLUMBING

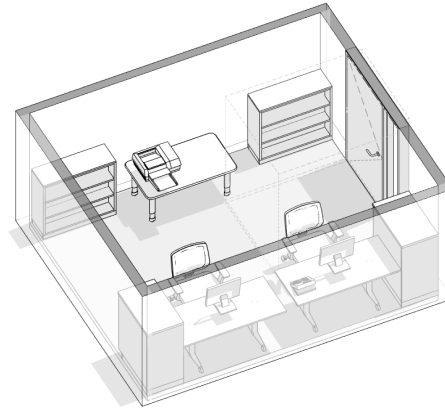
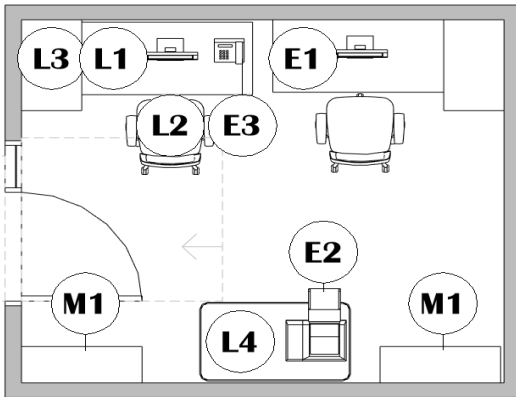
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - F. Maintenance & Custodial (Building Services)

Space Name: Custodial Office
 Space ID: 200
 RDS No.: 32



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent/Access to Custodial Storage

Secondary Adjacency Adjacent/Access to Receiving

Other Near corridor, Visual control from Custodial Shop and Receiving

TYPICAL SIZE

SF of typical space: 120 SF

Dimensions:

Length x Width: 9' 3" x 13' 1"
 Ceiling Height: 9'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People: Up to 2

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

To provide an area for the maintenance manager, staff, and building engineer to provide supervision of the physical plan

Conferences with staff and other visitors; Paperwork; Telephone calls

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Desk	2	L1	
Ergonomic task chair	2	L2	
File cabinet	2	L3	4-drawer; lockable
Printer Table	1	L4	
Casework	Qty	Tag	Note
Bookcase	N/A	M1	(12 LF) - Adjustable height

EQUIPMENT

	Qty	Tag	Note
Computers	2	E1	provided by owner
Printer/ Scanner	1	E2	provided by owner
Phone	1	E3	

REMARKS:

ANCILLARY SPACES: Toilet/Shower/Lockers

Loose furnishings and features shown represent one of many possible arrangements.

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - F. Maintenance & Custodial (Building Services)

Space Name: Custodial Office
 Space ID: 200
 RDS No.: 32



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Moisture and stain-resistant finishes
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: <u>2</u>
	Size: <u>3'-0"x7'-0"</u>
	Type: <u>Single Flush</u>
	Operable Wall: <u>No</u>
	Vision Panel: <u>No</u>
	Seals: <u>No</u>
	Other: _____

MISCELLANEOUS

Roller Blinds	<u>S1 - Roller Shades, 5% Open</u>
---------------	------------------------------------

LIGHTING

Lighting Level Tag:	<u>L2</u>
Typical for offices & other workspaces: ambient and at work surfaces	<u>35 FC</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>Yes</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Smartboard	<u>No</u>
Data port: 2	<u>Yes</u>
Voice port: 2	<u>Yes</u>
Fax	<u>Optional</u>
TW2 - 2 wireless devices per occupant	<u>Yes</u>
(1) standard data drop on (2) side walls	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-3</u>
NC Acoustical Criteria	<u>40</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>45/30</u>
Wall minimum: STC	<u>45</u>
Ceiling minimum: CAC	<u>35</u>
Max Reverb	<u>0.6</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	_____
Make-Up Air Required	_____
Individual Zoning/Controls	_____
Air Pressure Positive	<u>(Note 1)</u>
Air Pressure Negative	_____

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	_____
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	_____
208V, 30A, 3 Phase	_____
480V, 100A, 3 Phase	_____
Emergency/ Standby Power	_____
UPS (OFOI)	_____
Other	<u>(2) duplex outlets per wall on three of four walls</u>
	<u>(1) outlet at computer work stations</u>

PLUMBING

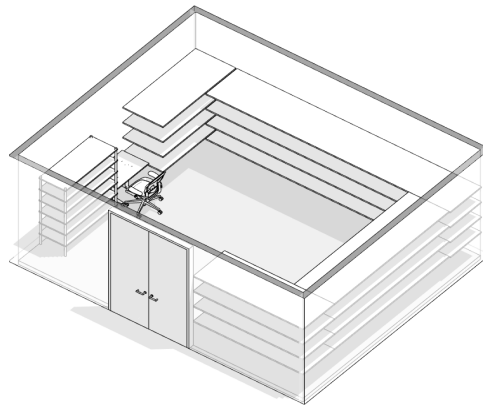
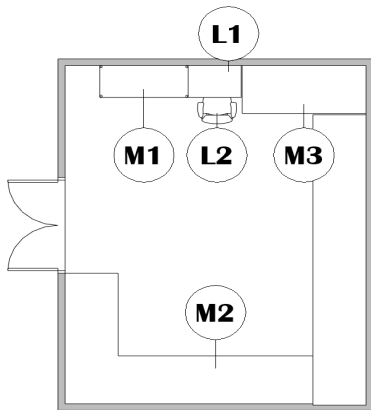
Sinks	Standard	_____
	ADA	_____
	Scullery	_____
Other	_____	_____

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - F. Maintenance & Custodial (Building Services)

Space Name: Custodial Storage
 Space ID: 206
 RDS No.: 33



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent to Receiving
Secondary Adjacency Easy access to a main corridor
Other Near Custodial Office

PROGRAM ACTIVITIES

To serve as the central point for storage of bulk commodities and equipment
 Storage of materials for special events, paper, and general supplies

TYPICAL SIZE

SF of typical space: 300 SF

Dimensions:

Length x Width: 15' 0" x 20' 0"
 Ceiling Height: 10'-0"

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Desk	1	L1	
Task Chair	1	L2	
Casework:	Qty	Tag	Note
Metal cabinet	1	M1	for flammable materials
Storage shelving	N/A	M2	(40 LF) - 84"high x 36"deep
Storage shelving	N/A	M3	84" high x 24" deep

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Person: Up to 1

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: No

EQUIPMENT

Qty Note

REMARKS:

High ceilings
 Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - F. Maintenance & Custodial (Building Services)

Space Name: Custodial Storage
 Space ID: 206
 RDS No.: 33



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		Sheet Vinyl
Base		4" Rubber
Ceiling		Gyp. Board
Doors	Quantity	2
	Size	6'-0"x9'-0"
	(Removable mullions to Receiving and Corridor)	
	Type	Dual Flush
	Operable Wall	No
	Vision Panel	No
	Seals	No
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
2 Data ports	Yes
2 Voice ports	Yes
TW1 - 1 wireless device per occupant	Yes
(1) standard data drop	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

PLUMBING

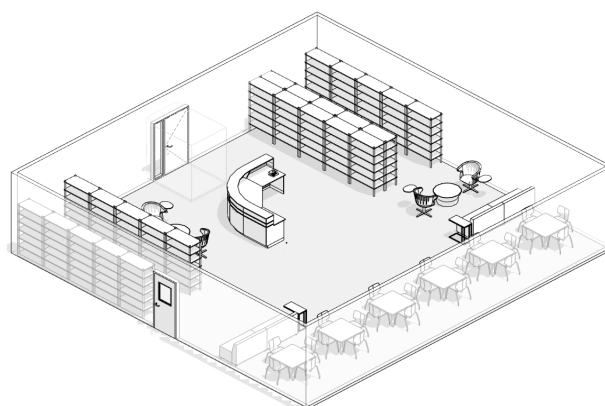
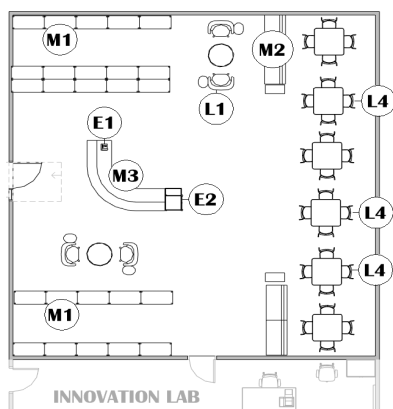
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - G. Media Center

Space Name: Library Commons
 Space ID: 102
 RDS No.: 34



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Good sight lines to all ancillary spaces

ANCILLARY SPACES: Equipment Storage, Head End Room, Workroom/Office

Spatial Relationships

The media center (commons) should include a suite of rooms to include: a primary grades library and storytelling area, a media commons with a variety of seating options and a presentation/teaching area, movable book stacks, an on-line computer area, a maker space, a multi-media studio (TV) and support spaces for the media staff. Through simple design and transparency, the media specialist should have unencumbered views of the suite spaces.

TYPICAL SIZE

SF of typical space: **1,400 SF**
 including 800 SF Innovation lab (Independent & Online learning)

Dimensions:

Length x Width: **35' 6" x 39' 5"**
 Ceiling Height: **Min. 12'-0"**

(Ceiling height should be in proportion to room dimensions)

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Students: **100**
 Persons for community or staff meeting: **150**
 Media Specialist: **1**
 Media Assistant: **1**

UTILIZATION

Hours of Operation: **8 hours/day**

PROGRAM ACTIVITIES

To provide students, staff, and community with access to paper and digital information

To provide a place for social interaction and multi-media production and presentation

Circulation of materials and resources; Individual research & reading; Interactive and Small Group; Reading, storytelling, speakers; Whole group and small group instruction; Meetings for staff and parents

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Lounge chairs	6	L1	w/ casters
End tables	3	L2	w/ casters
Four-person tables	6	L3	w/ casters; consider different heights and alt. seating/standing choices
Task Chairs	24	L4	w/ casters
Casework/Millwork	Qty	Tag	Note
Book stacks mostly peripheral	TBD	M1	Quantity site specific, some low shelving (36") on castors (12,000 volumes – fiction and non-fiction)
Independent workstations	TBD	M2	(w/outlets); comfortable chairs distributed around the periphery
Mobile circulation desk, includes: Book Return and Check-out module	1	M3	Located centrally w/ (3) locking drawers,

EQUIPMENT

	Qty	Note
Phone	2	E1
Bar code reader	1	E2

REMARKS:

Space, furniture and equipment layout shall encourage the full range of uses including individual study, story telling, group activity and large group meetings
 Locate standing card catalog station next to information desk; Mobility for all free-standing furniture including book shelves
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - G. Media Center

Space Name: Library Commons
 Space ID: 102
 RDS No.: 34



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Carpet
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: <u>2</u>
	Size: <u>3'-0" x 7'-0"</u>
	Type: <u>Single Flush</u>
	Operable Wall: <u>Yes</u>
Vision Panel (Egress Doors Only)	<u>Yes</u>
	Seals: <u>No</u>
	Other: _____

MISCELLANEOUS

Markerboard	<u>White erase board near teaching area</u>
Tackboard	<u>Near Entry</u>

LIGHTING

Lighting Level Tag:	<u>L1</u>
meeting rooms: ambient and at work	<u>50 FC</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>Yes</u>
Special Lighting	<u>Yes</u>
Natural Daylight Preferred	<u>Yes</u>
Multilevel lighting	<u>Yes</u>

AV

Distance Learning	<u>Yes</u>
Video Conferencing	<u>Yes</u>
Projection Surface	<u>Yes</u>
Flat screen Monitors	<u>Yes</u>
Smartboard	<u>Yes</u>
Data at Table	_____
2 data ports	<u>Yes</u>
2 Voice Ports	<u>Yes</u>
TW3 - 3 wireless devices per occupant	<u>Yes</u>
Standard data drops on wall at 6' on center	<u>Yes</u>

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-2</u>
NC Acoustical Criteria	<u>35</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>50/35</u>
Max Reverb	<u>0.6</u>

Acoustical treatment for the presentation area to allow for simultaneous activities

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	_____
Make-Up Air Required	_____
Individual Zoning/Controls	<u>x</u>
Air Pressure Positive	<u>(Note 1)</u>
Air Pressure Negative	_____

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	_____
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	_____
208V, 30A, 3 Phase	_____
480V, 100A, 3 Phase	_____
Emergency/ Standby Power	_____
UPS (OFOI)	_____
Other	<u>Electrical outlets at all column locations & at tables</u>
	<u>Flush covers for floor outlets</u>
	<u>Duplex outlets throughout</u>
	<u>Duplex outlets on perimeter walls at maximum 6' on center</u>
	<u>Recessed floor quad boxes, 1 per 400 SF</u>

PLUMBING

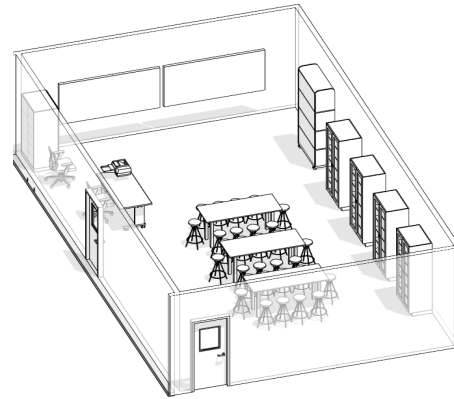
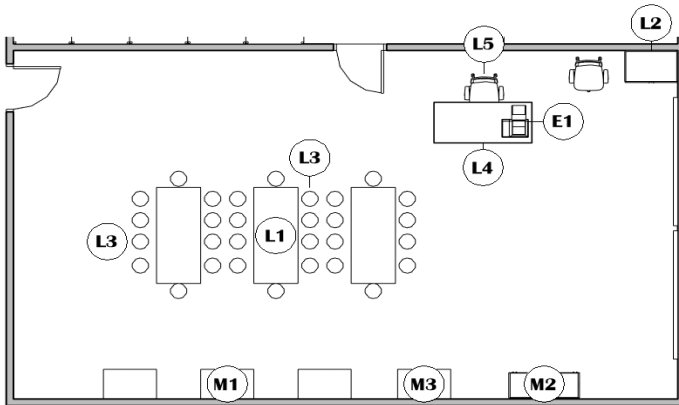
Sinks	Standard	_____
	ADA	_____
	Scullery	_____
Other	_____	_____

REMARKS:

Security of school when center is in use after school hours.
 Window treatment to darken room for AV presentations and Windows to provide natural light and egress.
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - G. Media Center

Space Name: Independent and Online Learning (Technology Learning)
 Space ID 102
 RDS No. 35



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency: Library Commons

Secondary Adjacency:

Other:

TYPICAL SIZE

SF of typical space: 800 SF

Dimensions:

Length x Width: 22' 2" x 36' 2"
 Ceiling Height: 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

CLASSROOM OCCUPANCY

Teachers: 2
 Students: 28

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

To accommodate student learning through active interaction with technology systems; Flexible space and layout

Computer simulations and instruction; Hands-on activities; Large and small group instruction; Team teaching

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Worktables	3-4	L1	Mobile / Flexible
Teacher's wardrobe	TBD	L2	
Stools	28	L3	
Teacher workstation	1	L4	
Ergonomic task chair	2	L5	

Casework/Millwork

Casework/Millwork	Qty	Tag	Note
Tall Cabinets	2-3	M1	w/ glass panel doors
Tote Tray Cabinet	1	M2	48" Wide; Lockable
Tall Cabinet	1	M3	35" Wide; Adjustable Shelves

EQUIPMENT

	Qty	Tag	Note
Printer/ Scanner / Copier	1	E1	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Rooms designed for ease of movement and accessibility; Students need to be able to move around the worktables

SPACE REQUIREMENTS - G. Media Center

Space Name: Independent and Online Learning (Technology Learning)
 Space ID: 102
 RDS No.: 35



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Moisture and stain-resistant finishes
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 4
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	16 FT
Roller Blinds	S1 - Roller Shades, 5% Open
Clock / PA	

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

*Note: View desirable

AV

Projection Surface	Yes
Flat screen Monitors	Yes
Smartboard / Interactive Board	Yes
Data at Table	Yes
Data port near workstation	Yes
Data port for printer/copier and scanner	Yes
Fax port	Yes
Voice port	Yes
TW2 - 2 wireless devices per occupant	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

Note: Single point 'face plate' near teachers work station to include:
 Voice, Data, VGA, audio enhancement, and HDMI

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Wall minimum: STC	45
Ceiling minimum: CAC	40
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
 building positive
 pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets per wall on (2) side walls (2) recessed floor quad outlets

PLUMBING

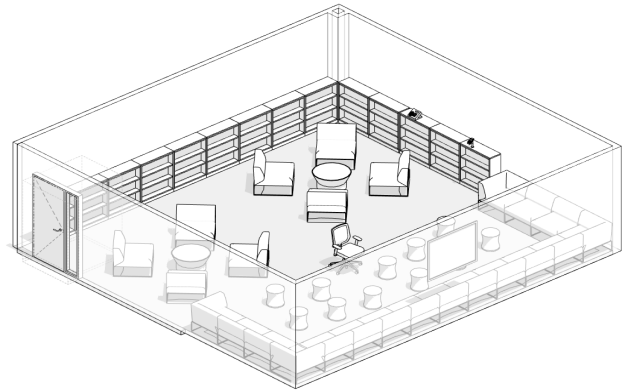
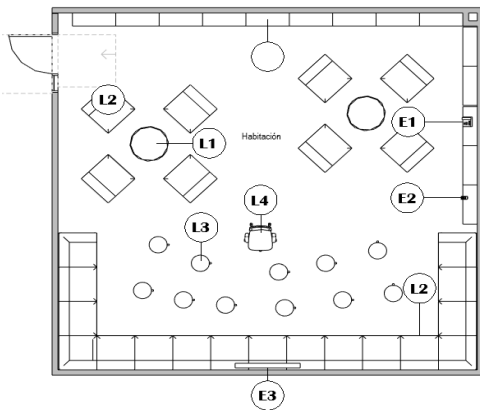
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.
 Consider future technology needs' build-in flexibility to retain options
 OSHA requirements maintained
 Countertop / Tabletops: Heat and chemical-resistant (to acids, etc.)

SPACE REQUIREMENTS - G. Media Center

Space Name: Story Time Area & Picture Books
 Space ID: 102
 RDS No.: 36



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Within Library Common (based on design and confirm w/ PGCPS)

Secondary Adjacency Primary Maker Space

Other

TYPICAL SIZE

SF of typical space: **800 SF**
 including 800 SF Innovation lab

Dimensions:

Length x Width: **30' 2" x 26' 6"**
 Ceiling Height: **12'-0"**

Ceiling height should be in proportion to room dimensions

SPACE TYPE

Open

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Students: **20-40**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To provide a place for storytelling and reading interaction with students in Grades PK-2

Whole group and small group instruction

Reading, storytelling, speakers

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Tables	2	L1	Age appropriate
Chairs	25	L2	Age appropriate
Chairs (Stool)	11	L3	Age appropriate
Teacher Chair	1	L4	

Millwork

Millwork	Qty	Tag	Note
Peripheral book shelving	TBD	M1	Low height
Picture book shelving	TBD	M2	On casters

EQUIPMENT

	Qty	Tag	Note
Phone	2	E1	
Bar code reader	1	E2	
Large screen monitor	1	E3	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed. Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - G. Media Center

Space Name: Story Time Area & Picture Books
 Space ID 102
 RDS No. 36



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		Carpet
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	TBD
	Size	TBD
	Type	Single Flush
	Operable Wall	Yes
	Vision Panel	Yes
	Seals	No
Other		

MISCELLANEOUS

Markerboard	White erase board near teaching area
Tackboard	

LIGHTING

Lighting Level Tag:	L1
Typical for large meeting rooms: ambient and at work surfaces and teaching displays	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	Yes
Natural Daylight Preferred	Yes
Multilevel lighting	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Surface	Yes
Flat screen Monitors	Yes
Smartboard	Yes
Data at Table	No
2 data ports	Yes
2 Voice Ports	Yes
TW3 - 3 wireless devices per occupant	Yes
Standard data drops on wall at 6' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	50/35
Acoustical treatment for the presentation area to allow for simultaneous activities	
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Electrical outlets at all column locations Flush covers for floor outlets Duplex outlets throughout Duplex outlets on perimeter walls at max. 6' on center, above book shelves on the perimeter Recessed floor quad boxes, 1 per 400 SF

PLUMBING

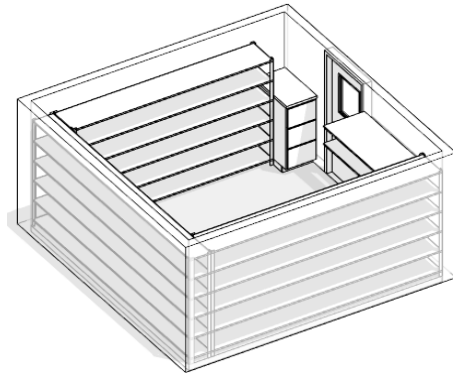
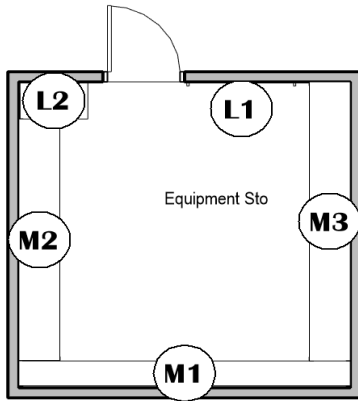
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Security of school when center is in use after school hours
 Window treatment to darken room for AV presentations and Windows to provide natural light and egress
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - G. Media Center

Space Name: Equipment Storage
 Space ID: 206
 RDS No.: 37



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to the workroom

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 150 SF

Dimensions:

Length x Width: 10' x 15'
 Ceiling Height: 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Person: Up to 1

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: No

PROGRAM ACTIVITIES

To provide a safe and secure area for storage of equipment and supplies

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
shelving	1	L1	24" deep; Adjustable height
4-drawer file cabinet	1	L2	Legal
Casework			
Storage shelving	TBD	M1	12" deep
Storage shelving	TBD	M2	18" deep

EQUIPMENT

Qty Note

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - G. Media Center

Space Name: Equipment Storage
 Space ID: 206
 RDS No.: 37



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: Yes
	Other: Security of door

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No
Single-level switching	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

PLUMBING

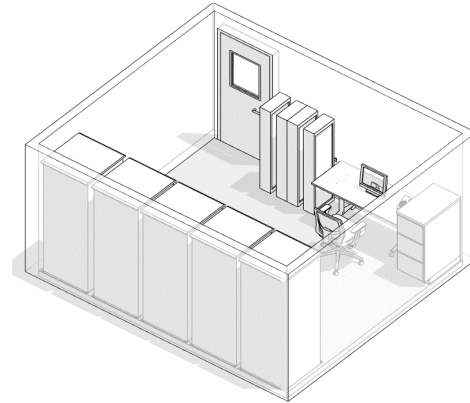
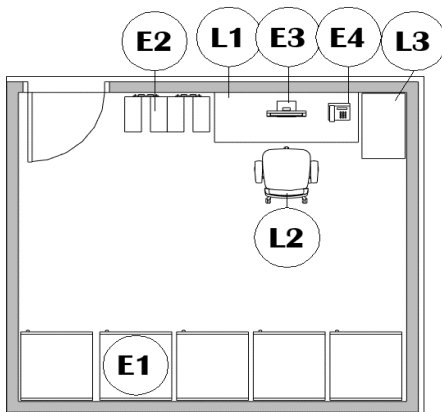
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - G. Media Center

Space Name: Head End (Telecommunications) Room
 Space ID: 202
 RDS No.: 38



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Library Commons / Media Center

Secondary Adjacency

Other The Room shall be constructed in full accordance with the PGCPS specification Division 27

TYPICAL SIZE

SF of typical space: **160 SF**

Dimensions:

Length x Width	143' 6" x 11' 2"
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People _____

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	No

PROGRAM ACTIVITIES

To provide satellite up and down links that will send and receive voice, video, and data. Fiber optic cable will serve the telephone, fax, and video of the school and other district buildings

To provide a secure area to serve as the information hub of the school. File servers will serve the buildings computer network

Cable and CATV reception and broadcasting

Network management; Security system location; Telephone wiring entry and distribution; Voice, video, data reception and distribution

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Computer workstation	1	L1	
Ergonomic task chair	1	L2	

Racks: Provide equipment racks consisting of seven (7) feet high by nineteen (19) inches wide open (2- channel) equipment racks and double-sided vertical cabling managers. Provide equipment cabinets that are thirty (30) inches wide by forty-two (42) inches deep (minimum) with 42U of internal work space. Quantity of cabinets shall be consistent for every BDF room unless noted otherwise.

EQUIPMENT

	Qty	Tag	Note
Four (4) two-post network equipment racks	1	E1	Including power units 3kW per rack
Three (3) server cabinets	1	E2	Including 10kW per server
Computers	1	E3	
Phone	1	E4	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Provide overhead cable management in the form of cable runway or cable tray at least twelve (12) inches wide and placed at ninety (90) inches above finished floor to coincide with the top of the equipment racks and cabinets.
 Define the actual size of the cable runway or cable tray based on supported cable-fill quantity.
 Provide proper clearance from top of ladder rack and HVAC ducting and other building support components.
 Provide cable support, such as vertically installed cable runway to support cables entering the room from floor sleeves, slots, and conduit.
 Provide cable drop-outs where cables transition from vertical to horizontal cable management.

SPACE REQUIREMENTS - G. Media Center

Space Name: Head End (Telecommunications) Room
 Space ID: 202
 RDS No.: 38



ARCHITECTURAL

Walls/Partitions	GWB, Paint
	Provide fire treated plywood 3/4 " to all walls
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Acoustic Tile
	Access to ceiling and ceilings for modifications to systems and wiring
Doors	
Quantity	1
Size	3'-0"x7'-0"
Type	Single Flush
Operable Wall	No
Vision Panel	No
Seals	Yes
Other	Security of door

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	Yes
Dark enable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No
Single-level switching	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	Yes
Voice Port	Yes
Video network control	Yes
Data network system	Yes
Telephone switchgear	Yes
Satellite and cable system controls access	Yes
TW2 - 2 wireless devices per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	(Note)
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	
Air Pressure Negative	

Notes

Equipment redundancy must be provided. Unitoperation shall be separate/independent from the rest of the building

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	x
Other	Dedicated electrical circuitry
	Adequate power supply will be required and auxiliary UPS power for back-up. (Quality of power is important.)
	(1) outlet at computer work stations

Provide an electrical panel in IT Room. The panel shall only serve circuits within IT Room including racks, cabinets, lighting, and security equipment panels. Do not feed convenience outlets from these panels. Ensure twenty percent (20%) spare breaker slots are available in panel after building occupancy acceptance.

PLUMBING

Sinks	Standard
Other	

REMARKS:

The estimated electrical load of room(s) it serves shall not exceed eighty percent (80%) of its capacity. Such panel shall remain unlocked at all times. One 120VAC/20A (NEMA 5-200 quad electrical circuit, one 120VAC/30A (NEMA L5-30) electrical circuit and one 208VAC/30A (NEMA L6-30) electrical circuit shall be provided above each equipment rack/cabinet.

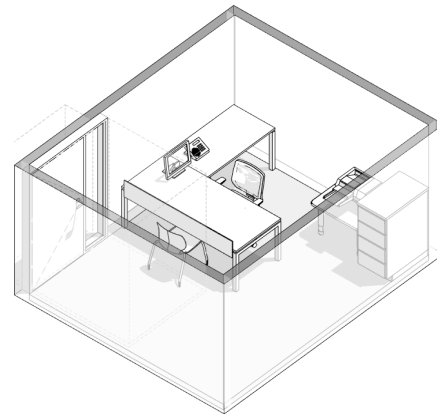
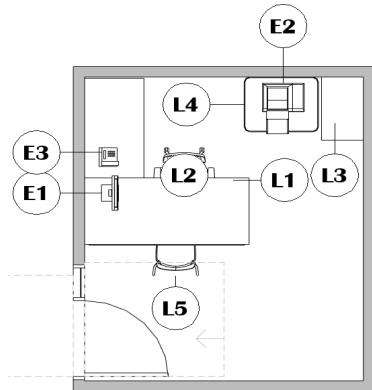
Place 120VAC/15A (NEMA 5-15) convenience outlets every six (6) feet along the walls, with a minimum of one per wall.

Cable Management/Pathway.

Provide cable pathways for MPOE for telephone, data and Satellite dish/Cable TV connection

SPACE REQUIREMENTS - G. Media Center

Space Name: Office
 Space ID: 200
 RDS No.: 39



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Within, or adjacent and visual to, Reception/ Waiting Area

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 100 SF

Dimensions:

Length x Width: 10' x 10'
 Ceiling Height: 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

People: Up to 2

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

To provide an office for the staff to perform clerical functions
 Conferences with staff and other visitors; Computer input;
 Telephone calls; Planning; Paperwork

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Desk	1	L1	
Ergonomic task chair	1	L2	
File cabinet	1	L3	4-drawer; lockable
Printer Table	1	L4	
Lounge Chair	1	L5	for guests/visitors

EQUIPMENT

	Qty	Tag	Note
Computers	1	E1	Provided by owner
Copier	1	E2	Provided by owner
Phone	1	E3	

REMARKS:

Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - G. Media Center

Space Name: Office
 Space ID: 200
 RDS No.: 39



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Carpet
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	Yes
Data at Table	Data port near workstation: Yes
Data port for printer	Yes
Voice port	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) standard data drop on (2) side walls	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	45/30
Wall minimum: STC	45
Ceiling minimum: CAC	35
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex per wall on three of four walls (1) outlet at computer work stations

PLUMBING

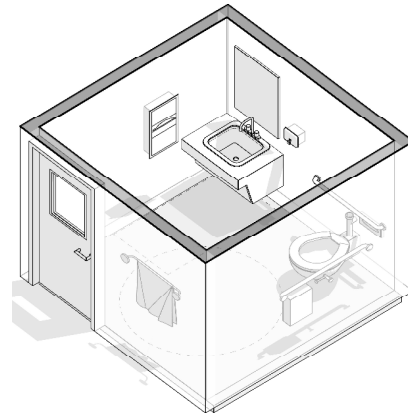
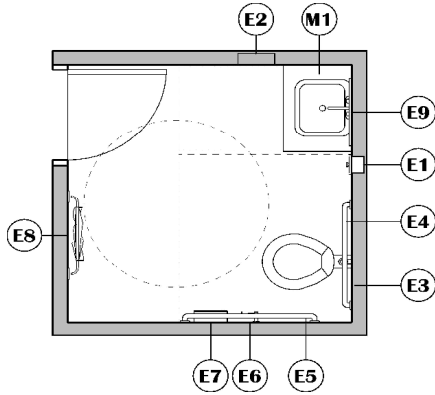
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - G. Media Center

Space Name: Toilet (Adult All Gender & Uni-Sex)
 Space ID: 302
 RDS No.: 40



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Located within Media Center near the Office and Workroom

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: 80 SF

Dimensions:

Length x Width: 8' x 10'
 Ceiling Height: 8'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

Person: Up to 1

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: No

PROGRAM ACTIVITIES

Changing clothing
 Personal and health needs for the health suite

CASEWORK/MILLWORK/ FURNITURE

Casework	Qty	Tag	Note
Wall cabinet	1	M1	

EQUIPMENT

	Qty	Tag	Note
Soap Dispenser	1	E1	
Paper Towel Dispenser	1	E2	
Toilet Tissue Holder	1	E3	
ADA grab bar	1	E4	36"
ADA grab bar	1	E5	42"
Sanitary dispenser	1	E6	
Sanitary disposal	1	E7	
Towel rack	1	E8	
Mirror	1	E9	24" x 60"

REMARKS:

Wheelchair accessibility
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - G. Media Center

Space Name: Toilet (Adult All Gender & Uni-Sex)
 Space ID: 302
 RDS No.: 40



ARCHITECTURAL

Walls/Partitions	Tile
Wall Protection	Corner Guards
Flooring	Tile
Base	Tile
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Other:

MISCELLANEOUS

Coat Hook	Yes
Mirror	24" x 60"

LIGHTING

Lighting Level Tag:	L7
Typical for ambient	25 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-7
NC Acoustical Criteria	40
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	x
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	x

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) GFI Duplex at lavatory

PLUMBING

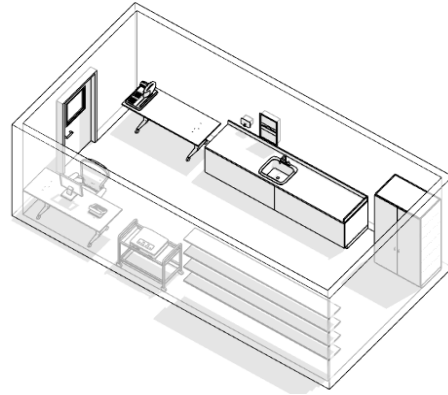
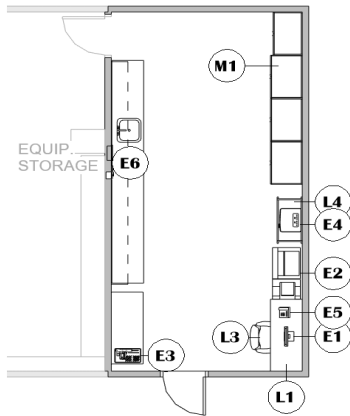
Sinks	Standard	
	ADA	Sink
	Scullery	
Other	Toilet, lavatory w/sensor control faucet	

REMARKS:

Moisture- and stain-resistant finishes

SPACE REQUIREMENTS - G. Media Center

Space Name: Workroom
 Space ID: 200 / 204
 RDS No.: 41



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Reading/Stacks/Circulation

Secondary Adjacency Behind circulation desk

Other

PROGRAM ACTIVITIES

To provide space for the management and organization of media resources and processing of incoming materials

Receiving, processing, and duplicating library materials

Repairing damaged or worn materials

Scanning and digitizing

TYPICAL SIZE

SF of typical space: 200 SF

Dimensions:

Length x Width: 12' 1" x 16' 7"
 Ceiling Height: 9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

CLASSROOM OCCUPANY

Media specialist: 1
 Student Assitant: 1

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Computer workstation(s)	1-2	L1	
Equipment table	1	L2	
Admin Chair	1	L3	
Teachers' Mobile Cart	1	L4	for Technology

Casework

Storage shelving	TBD	M1	Video video (24 LF)
Base/wall cabinets	N/A	M2	around sink
Tall storage	TBD	M3	36" X 22" X84"

EQUIPMENT

	Qty	Note
Computers	1	E1
Printer/ Scanner	1	E2
Paper cutter	1	E3
Video distribution equipment	1	E4
Phone	1	E5
Soap & Towel Dispenser	1	E6

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - G. Media Center

Space Name: Workroom
 Space ID: 200 / 204
 RDS No.: 41



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 4
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	1 - (4 LF)
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	
Data port near workstation	Yes
Data port for printer/copier and scanner	Yes
Fax port	Yes
Voice port	Yes
TW2 - 2 wireless devices per occupant	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	45/30
Wall minimum: STC	45
Ceiling minimum: CAC	40
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets per wall on (2) side walls above counter receptacles by casework. (2) recessed floor quad outlets (1) outlet at computer work stations

PLUMBING

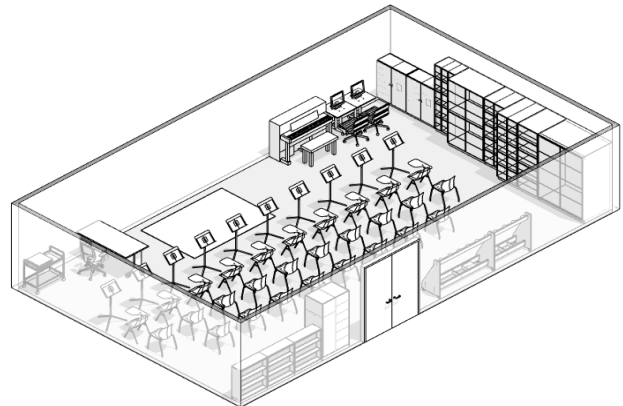
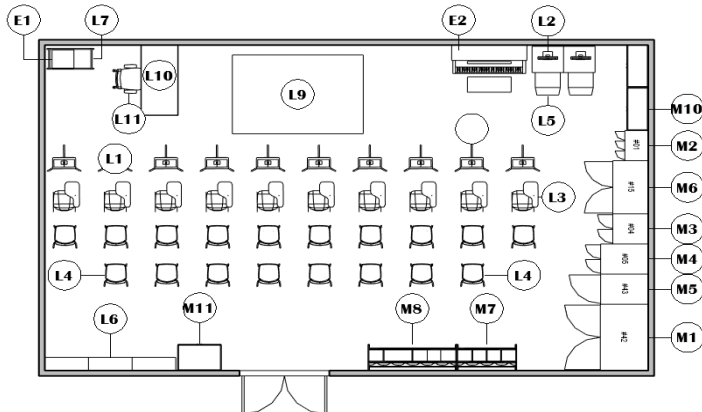
Sinks	Standard	Kitchen Sink
	ADA	
	Scullery	
Other		

REMARKS:

Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: General Music Room
 Space ID: 102
 RDS No.: 42



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent to Instrumental Music Room

Secondary Adjacency Adjacent and access to Storage

Other Near stage

TYPICAL SIZE

SF of typical space: **1,000 SF**

Includes 150 SF Storage

Dimensions:

Length x Width 29' 0" x 35' 0"
 Ceiling Height 14'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Music Students 24-28
 Teachers 1
 Parents/volunteers

UTILIZATION

Hours of Operation 14 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera Yes

PROGRAM ACTIVITIES

To serve as the learning and practice area for instrument classes

Listen, analyze, describe, and compose music
 Choral, speech, theatrics View educational videos

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Music stands	10	L1	
Listening stations	2	L2	Included in computer stations
Tablet Arm For Student Chairs	10	L3	
Student Chair	28	L4	
Student Task Chair	2	L5	
Bookcases	3	L6	For 140 texts
Laptop Cart	1	L7	
Speakers	2	L8	Wall-mounted
Music Rug		L9	
Teacher Desk	1	L10	Pedestal Box Mobile
Teacher Chair	1	L11	

Casework	Qty	Note
Cabinet	1	M1 Ultrastor #42
Cabinet	1	M2 Ultrastor #1
Cabinet	1	M3 Ultrastor #4
Cabinet	1	M4 Ultrastor #5
Cabinet	1	M5 Ultrastor #43
Cabinet	1	M6 Ultrastor #15
Celle Rack	1	M7 4 Units
Celle Rack	1	M8 6 Units
Wardrobe		M9
Choral Folio Cabinet	2	M10 Mobile

EQUIPMENT

	Qty	Note
Stereo audio system	1	E1 CD player, AM-FM tuner, amplifier
Acoustic Piano	1	E2 Movable Truck

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed. Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: General Music Room
Space ID 102
RDS No. 42



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Wall Protection	LVT
Wall Protection	4" Rubber
Wall Protection	Acoustic Tile
Wall Protection	Quantity <u>1</u>
Wall Protection	Size <u>6' 2" x 8' 0"</u>
Double doors throughout this area- no mullions	
Type	Dual Flush
Operable Wall	No
Vision Panel	Yes
Seals	Yes
Other	Sound seals on doors

MISCELLANEOUS

Markerboard	<u>16 LF</u>
Tackboard	<u>12-16 LF</u>
Roller Blinds	<u>S1A -Blinds/Shades and Manually Operated Blackout Shades</u>

LIGHTING

Lighting Level Tag:	<u>L1</u>
Typical for conference rooms: aat work surfaces and teaching displays with multiple sets	<u>50 FC</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>Yes</u>
Special Lighting	<u>Yes</u>
Uniform multi-level lighting	<u>Yes</u>

AV

Distance Learning	<u>Yes</u>
Video Conferencing	
Projection Screen	<u>Yes</u>
Smartboard	<u>Yes</u>
TW2 - 2 wireless devices per occupant	<u>Yes</u>
(1) data outlet for the intercom system	<u>Yes</u>
(1) data outlet for control of the classroom projector/interactive board	<u>Yes</u>
(1) data outlet for telephone at the teacher station	<u>Yes</u>
(2) data outlets for wireless network	<u>Yes</u>
(2) data outlets and (1) voice outlet at the teacher station	<u>Yes</u>
(1) data outlet for the PoE clock	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-1</u>
NC Acoustical Criteria	<u>30</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>60/45</u>
Max Reverb	<u>1.0</u>

Appropriate acoustics and sound attenuation
 Baffled ductwork
 Non-parallel surfaces (walls/ceiling) for acoustical benefits

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	<u>x</u>
Air Pressure Positive	<u>(Note 1)</u>
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	<u>(1) outlet for control of the classroom projector/interactive board</u>
	<u>(1) outlet for telephone at the teacher station</u>
	<u>(1) outlet for the intercom system</u>
	<u>(2) outlets at the teacher station</u>
	<u>(2) outlets for wireless network</u>
	<u>(4) outlets for student use</u>
	<u>Duplex outlets on walls at max 6' on center</u>
	<u>Recessed floor quad outlets at 10' on center</u>

PLUMBING

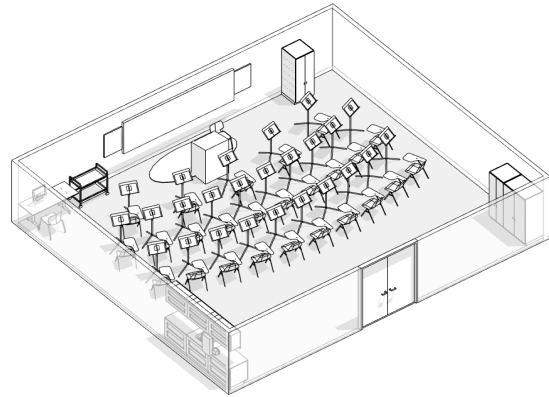
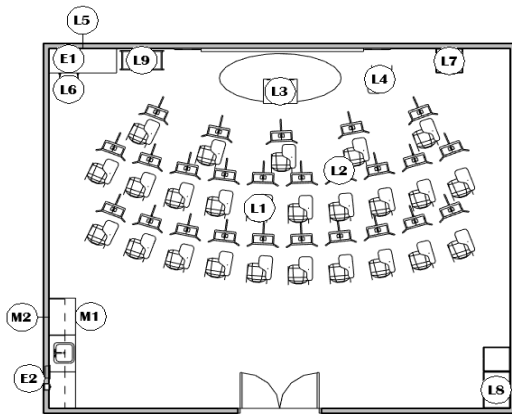
Sinks	<u>Standard</u>
	<u>ADA</u>
	<u>Scullery</u>
Other	

REMARKS:

Uniform multi-level lighting
 Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers (preferably ceiling mounted).
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Instrumental Music Room
 Space ID: 102
 RDS No.: 43



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Near Choral Storage

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **1,000 SF**

includes 100 SF office alcove

Dimensions:

Length x Width: **37' 0" x 27' 0"**
 Ceiling Height: **14'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Music Students: **Up to 40**
 Teachers: **1**

UTILIZATION

Hours of Operation: **14 hours/day**

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

To provide a space that will serve as the learning/ practice area for choral, keyboard, and guitar classes

Practice for sectional groups

Rehearsals Solos

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Music stands	25	L1	
Musical posture chairs	25	L2	
Conductor's podium/stand	1	L3	
Conductor's chair	1	L4	
Teacher desk	1	L5	
Teacher chair	1	L6	
Sheet music cabinet	1	L7	150 concert sized folio capacity
Teacher Wardrobe	1	L8	
Teachers' Mobile Cart	1	L9	for Technology

Casework:	Qty	Tag	Note
Base Cabinet	1	M1	8 LF
Wall Cabinet	1	M2	8 LF

EQUIPMENT

	Qty	Note
Computer	1	E1
Soap/Towel dispenser	1	E2

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed. Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Instrumental Music Room
 Space ID: 102
 RDS No. 43



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
	(Higher than normal ceiling height, possibly sloped)
Doors	Quantity 1
	Size 6' 2" x 8' 0"
	(Double doors throughout this area - no mullions)
	Type Dual Flush
	Operable Wall No
	Vision Panel Yes
	Seals Yes
	Other Sound seals on doors

MISCELLANEOUS

Markerboard	(24 LF)- 1/2 with staff lines
Tackboard	16 LF Min
Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades
Clock	On side walls instead of rear walls

LIGHTING

Lighting Level Tag:	L1
Typical for conference rooms: aat work surfaces and teaching displays	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	Yes
Uniform multi-level lighting	Yes

AV

Distance Learning	Yes
Video Conferencing	
Projection Screen	Yes
Interactive White board	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and one (1) voice outlet at the teacher station	Yes
(2) data outlets for wireless network	Yes
(1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-1
NC Acoustical Criteria	30
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	60/45
Max Reverb	1.0
Appropriate acoustics and sound attenuation	
Non-parallel surfaces (walls/ceiling) for acoustical benefits	

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) outlet for control of the classroom projector/interactive board
	(1) outlet at computer work stations
	(1) outlet for the intercom system
	(2) outlets at the teacher station
	(2) outlets for wireless network
	(4) outlets for student use
	Duplex outlets on walls at max 6' on center
	Recessed floor quad outlets at 10' on center

PLUMBING

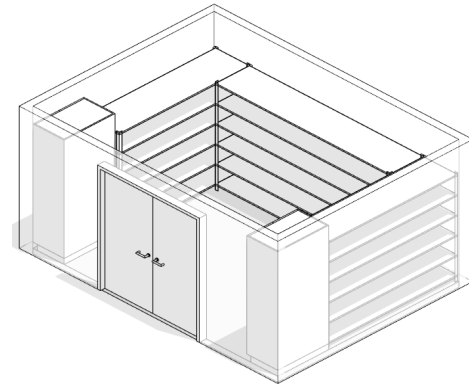
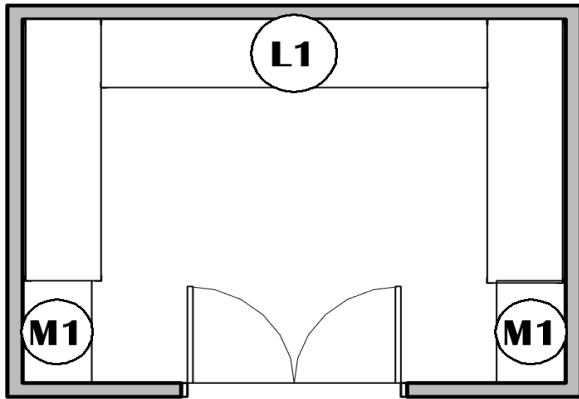
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Every classroom will be wired for teacher audio enhancement and the audio system should be integrated into the intercom system. The mixed sound will be amplified and sent through the speakers (preferably ceiling mounted). See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: General Storage (General Music & Dual Purpose Art)
 Space ID: 206
 RDS No.: 44



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Band/Orchestra Room

Secondary Adjacency Provide entrance and separate exit to the Band/Orchestra Room

Other

TYPICAL SIZE

SF of typical space: **150 SF**

Dimensions:

Length x Width	15' 0" x 10' 0"
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Students	N/A
Teachers	N/A

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

PROGRAM ACTIVITIES

To provide secure and adequate storage for instruments
 Storage of instruments

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Storage shelving	N/A	L1	Instrument storage w/ open grille doors
Casework:	Qty	Tag	Note
Tall Cabinets	N/A	M1	

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: General Storage (General Music & Dual Purpose Art)
 Space ID: 206
 Space Type: 44



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity <u>2</u>
	Size <u>6'-0" x 8'-0"</u>
	Two openings for flow-thru traffic if separate room
	Type <u>Dual Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>No</u>
	Other _____

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	<u>L6</u>
Typical for service & utility: ambient	<u>40 FC</u>
At any service points or equipment	<u>70 FC</u>
Task Lighting	<u>No</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>No</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Flat screen Monitors	<u>No</u>
Smartboard	<u>No</u>
TW1 - 1 wireless device per occupant	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-8</u>
NC Acoustical Criteria	<u>N/A</u>
Acoustical Panels	<u>No</u>
Privacy Criteria	<u>Low</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>N/A</u>
Max Reverb	<u>N/A</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	_____
Dedicated HVAC Equipment	_____
Make-Up Air Required	<u>X</u>
Individual Zoning/Controls	_____
Air Pressure Positive	_____
Air Pressure Negative	<u>X</u>

Notes

ELECTRICAL

Electrical Raceway	_____
110V, 20A, 1 Phase	<u>X</u>
208V, 30A, 1 Phase	_____
208V, 30A, 3 Phase	_____
480V, 100A, 3 Phase	_____
Emergency/ Standby Power	_____
UPS (OFOI)	_____
Other	<u>Duplex outlets on perimeter walls, min. (1) per wall</u>

PLUMBING

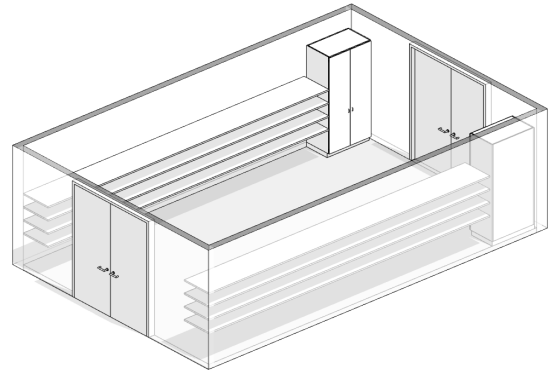
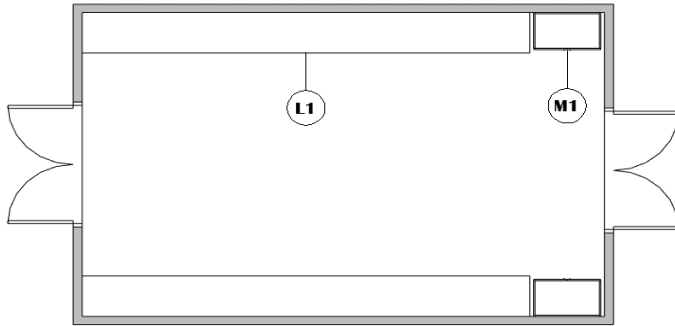
Sinks	Standard	_____
	ADA	_____
	Scullery	_____
Other		_____

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Instrument Storage
 Space ID: 206
 RDS No.: 45



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Band/Orchestra Room

Secondary Adjacency Provide entrance and separate exit to the Band/Orchestra Room

Other

TYPICAL SIZE

SF of typical space: 200 SF

Dimensions:

Length x Width	<u>12' 1" x 16' 7"</u>
Ceiling Height	<u>9'-0"</u>

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

Students	<u>N/A</u>
Teachers	<u>N/A</u>

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

PROGRAM ACTIVITIES

To provide secure and adequate storage for instruments
 Storage of instruments

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Storage shelving	N/A	L1	Instrument storage w/ open grille doors
Casework:	Qty	Tag	Note
Tall Cabinets	2	M1	

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Instrument Storage
 Space ID: 206
 Space Type: 45



ARCHITECTURAL

Walls/Partitions	<u>GWB, Paint</u>
Wall Protection	<u>Corner Guards</u>
Flooring	<u>Sheet Vinyl</u>
Base	<u>4" Rubber</u>
Ceiling	<u>Gyp. Board</u>
Doors	Quantity <u>2</u>
	Size <u>6'-0" x 8'-0"</u>
	Two openings for flow-thru traffic if separate room
	Type <u>Dual Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>No</u>
	Other _____

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	<u>L6</u>
Typical for service & utility: ambient	<u>40 FC</u>
At any service points or equipment	_____
Task Lighting	<u>No</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>No</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Flat screen Monitors	<u>No</u>
Smartboard	<u>No</u>
TW1 - 1 wireless device per occupant	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-8</u>
NC Acoustical Criteria	<u>N/A</u>
Acoustical Panels	<u>No</u>
Privacy Criteria	<u>Low</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>N/A</u>
Max Reverb	<u>N/A</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	_____
Dedicated HVAC Equipment	_____
Make-Up Air Required	<u>X</u>
Individual Zoning/Controls	_____
Air Pressure Positive	_____
Air Pressure Negative	<u>x</u>

Notes

ELECTRICAL

Electrical Raceway	_____
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	_____
208V, 30A, 3 Phase	_____
480V, 100A, 3 Phase	_____
Emergency/ Standby Power	_____
UPS (OFOI)	_____
Other	<u>Duplex outlets on perimeter walls, min. (1) per wall</u>

PLUMBING

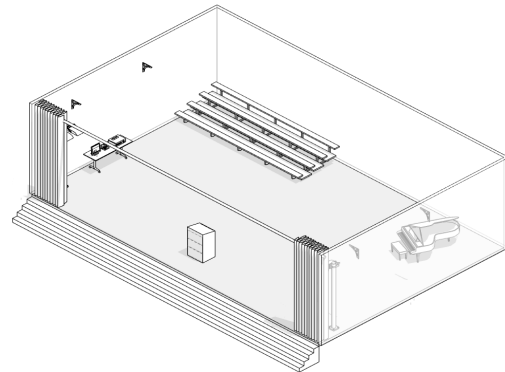
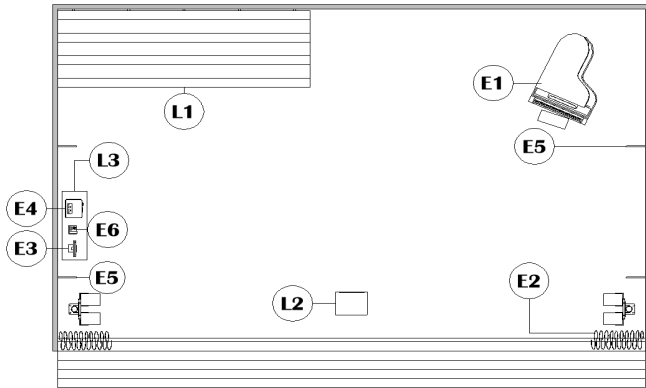
Sinks	Standard	_____
	ADA	_____
	Scullery	_____
Other		_____

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Stage
 Space ID 102
 RDS No. 46



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent/Opening to Cafeteria

Secondary Adjacency Adjacent to Multi-purpose Room or Gymnasium

Other Shared Classroom / Stage Support Space

TYPICAL SIZE

SF of typical space: **1,000 SF**

Dimensions: Length x Width 37' 0" x 27' 0"
 Ceiling Height _____
 shall allow for full clear height for lights, curtain and scrim above the stage level

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Students N/A
 Teachers N/A

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera Yes

PROGRAM ACTIVITIES

To provide space for student performances, guest speakers, assembly presentations

Provide access to stage from the cafeteria or gymnasium floor level, including stairs and wheelchair lift. Stairs and lift shall be recessed or otherwise placed to not encroach on to cafeteria footprint.

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Mobile folding risers	TBD	L1	mobile; For 40 students
Podium	1	L2	

EQUIPMENT

	Qty	Tag	Note
Upright piano	1	E1	
Theater and stage equipment (lights, curtain, scrim)	1	E2	Confirm required equipment with PGCPS
Monitor	1	E3	
Video Equipment	1	E4	
Bracket	1	E5	
Telephone	1	E6	

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Stage
 Space ID: 102
 RDS No.: 46



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		Wood Flooring
Base		4" Rubber
Ceiling	Acoustically Treated	Open
Doors	Quantity	1
	Size	6'-0"x8'-0"
	Type	Dual Flush
	Operable Wall	No
	Vision Panel	Yes
	Seals	No
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	Yes
Video Conferencing	No
Motorized projection screen	Yes
Flat screen Monitors	Yes
Smartboard	Yes
Microphone port	Yes
Video port	Yes
Voice port	Yes
2 data ports on stage	Yes
TW2 - 2 wireless devices per occupant	Yes
Jacks for sound system in apron at front of stage	Yes
(1) data drop in center of stage apron	Yes
(2) data drop per wall on one wall.	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-1
NC Acoustical Criteria	30
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	Astm
STC Rating	60/45
Max Reverb	1.0

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets at 6' on center on perimeter walls Stage power and lighting, including recessed floor boxes at stage Provide theatrical lighting control

PLUMBING

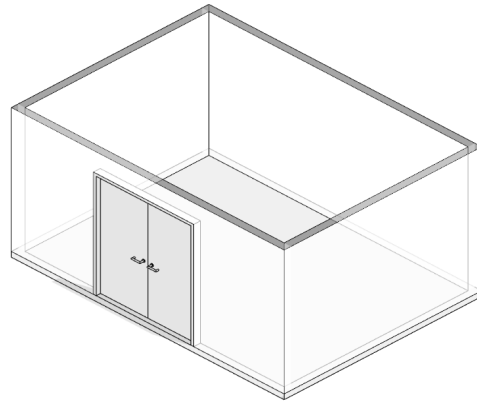
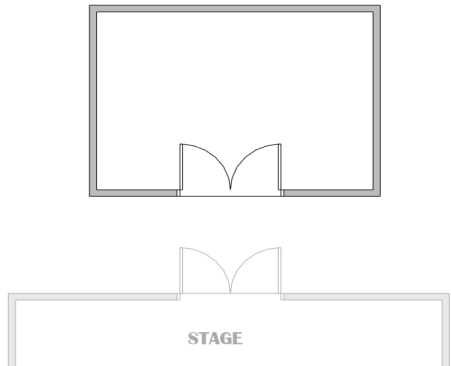
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Theater and stage equipment (lights, curtain, scrim)
 Provide housekeeping lighting with a minimum level of 25 fc
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Stage Storage
 Space ID: 206
 RDS No.: 47



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Access from stage

Secondary Adjacency Near/ adjacent to Shared Classroom/ Stage Support Space

Other

PROGRAM ACTIVITIES

To provide a secure area for storing the piano and other stage props

TYPICAL SIZE

SF of typical space: **150 SF**

CASEWORK/MILLWORK/ FURNITURE

Qty	Tag	Note
-----	-----	------

Dimensions:

Length x Width	10' x 15'
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Students	N/A
Teachers	N/A

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - H. Performing Arts

Space Name: Stage Storage
 Space ID: 206
 RDS No.: 47



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		Sheet Vinyl
Base		4" Rubber
Ceiling		Gyp. Board
Doors	Quantity	1
	Size	Wide Double Door
	Type	Dual Flush
	Operable Wall	No
	Vision Panel	No
	Seals	No
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlet on perimeter walls, min. (1) per wall

PLUMBING

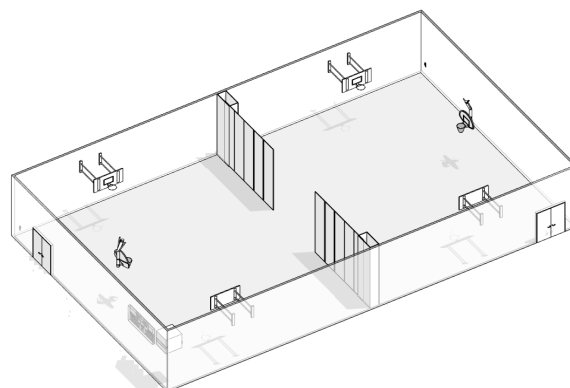
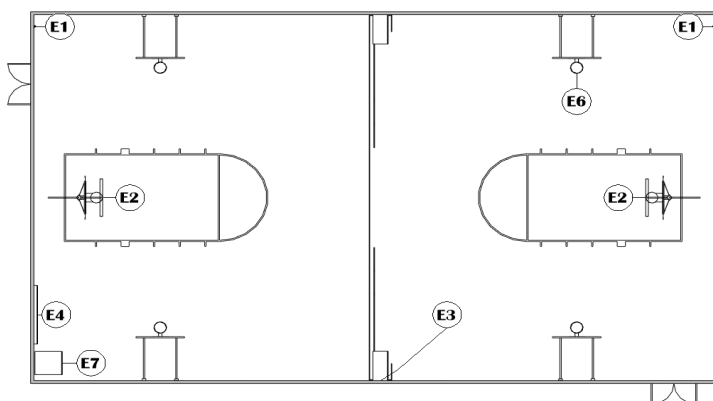
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Smooth transition from stage to prevent piano jarring
 Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - I. Physical Education

Space Name: Gymnasium
 Space ID: 400
 RDS No.: 48



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Access to outdoor physical education play areas

Secondary Adjacency Located adjacent to Cafeteria to extend space

Other Near public restrooms, with easy access and near visitors parking

TYPICAL SIZE

SF of typical space: **4,500 SF**

4,000 SF Bleachers

Dimensions:

Length x Width: 75' x 60'
 Ceiling Height: 20'-0"
 no obstructions and

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Students: 24-50
 Teachers: 1-2
 Parents and community members for meetings

UTILIZATION

Hours of Operation: **14 hours/day**

SECURITY

Locks: Yes
 Card Access: No
 Camera: Yes

PROGRAM ACTIVITIES

To provide space for P.E. classes for lower grades
 Athletic skills and leader games
 Adaptive physical education Community use

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Dividing Curtain	1	L1	

EQUIPMENT

	Qty	Tag	Note
Phone	2	E1	
Basketball backstops, adjustable height (ceiling hung)	2	E2	
Operable partition to separate gym into (2) teaching spaces	2	E3	motorized
Multi-sport scoreboard	1	E4	
Glass lexan basketball backboard	2	E5	With break-away rims, forward swing Each backboard is to be raised and lowered electrically and shall retract away from bleachers.
Fiberglass basketball backboard	4	E6	Forward swing, side, cross court Each backboard (6) is to be raised and lowered electrically and shall retract away from bleachers.
P/A sound system	1	E7	

REMARKS:

Provide dividing curtain to create two basketball courts when the bleachers are withdrawn.
 Court markings (minimum): Basketball court (main/cross courts); Volleyball court (main/cross courts); Tennis court (cross courts).
 ANCILLARY SPACES: P.E. Office, P.E. Storage
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - I. Physical Education

Space Name: Gymnasium
Space ID 400
RDS No. 48



ARCHITECTURAL

Walls/Partitions	<u>Other</u>
	<u>Acoustical wall treatment and/or sound absorbing concrete masonry units</u>
Wall Protection	<u>Corner Guards</u>
Flooring	<u>Wood strip flooring for athletic applications or resilient athletic flooring</u>
Base	<u>4" Rubber</u>
Ceiling	<u>Open painted exposed structure on acoustical deck</u>
Doors	<u>Quantity 4</u>
	<u>Size 6'-0" x 8'-0"</u>
	<u>Type Dual Flush</u>
	<u>Operable Wall Yes</u>
	<u>Vision Panel (Egress Doors Only) Yes</u>
	<u>Seals No</u>
	<u>Other</u>

MISCELLANEOUS

Markerboard	
Roller Blinds	<u>S1A -Blinds/Shades and Manually Operated Blackout Shades</u>
Clock	<u>With protective cage</u>

LIGHTING

Lighting Level Tag:	<u>L5</u>
Typical for ambient and at work surfaces and teaching displays with multiple sets.	<u>30 FC</u>
Uniform lighting with multilevel controls	<u>Yes</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>Yes</u>
Natural Daylight Preferred	<u>Yes</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Flat screen Monitors	<u>No</u>
USB at table	<u>No</u>
Data at Table	<u>No</u>
2 Voice ports	<u>Yes</u>
Port for sound system	<u>Yes</u>
wireless mics	<u>Yes</u>
TW2 - 2 wireless devices per occup	<u>Yes</u>
(2) data drops on perimeter walls at max 12' on center.	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-7</u>
NC Acoustical Criteria	<u>40</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>65/45</u>
Wall minimum: STC	<u>60</u>
Max Reverb RT 60	<u>1.5</u>
Other	<u>Wall minimum: STC 60 between gymnasium and any acoustically sensitive space such as classroom or office. In addition, design space to minimize transmission of impact noise</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	<u>(Note 1)</u>
Make-Up Air Required	
Individual Zoning/Controls	<u>x</u>
Air Pressure Positive	<u>x</u>
Air Pressure Negative	
Notes	<u>Gymnasium and Bleachers are served by the samededicated HVAC equipment</u>

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	<u>Duplex on walls at max 10' on center</u>

PLUMBING

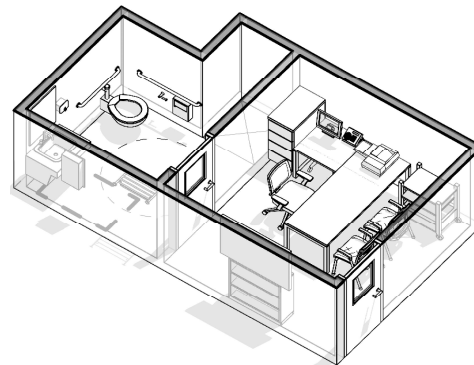
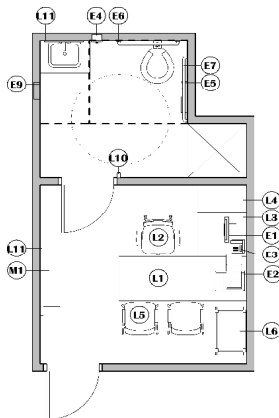
Sinks	<u>Standard</u>
	<u>ADA</u>
	<u>Scullery</u>
Other	<u>Drinking fountain in adjacent corridor</u>

REMARKS:

Must be able to isolate the gymnasium from the rest of the school after hours
 The walls and ceilings will require acoustical treatment. Design space to minimize transmission of impact noise
 Structure, lighting, and ducts shall be designed not to trap P.E. balls
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - I. Physical Education

Space Name: Dept. Office
 Space ID: 200
 RDS No.: 49



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency: Near Locker Rooms/Showers

Secondary Adjacency: direct access to a single-user restroom (Restroom: Gender Inclusive w/shower)

Other: Window and door into the locker rooms (with shades)

TYPICAL SIZE

SF of typical space: **200 SF**

office space (100 ASF) and restroom space (50 ASF)

Dimensions:

Length x Width: **12' 1" x 16' 7"**
 Ceiling Height: **9'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Teachers: **1-2**
 Visitors:

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To provide a work area for physical education teachers and staff to conduct administrative duties

Meetings, Planning, Ordering, Scheduling

MILLWORK/ FURNITURE

Furniture	QTY	Tag	Note
Desk	1	L1	
Ergonomic task chair	1	L2	
Computer workstation	1	L3	
4-drawer file cabinet	1	L4	Lockable
Guest chairs	2	L5	
Teachers' Mobile Cart	1	L6	for Technology
Mirror	1	L7	24" X 36"

CASEWORK

Bookshelves	1	M1	(12 LF); Adjustable height
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EQUIPMENT

	Qty		Note
Computers	1	E1	Provided by owner
Printer/ Scanner	1	E2	Provided by owner
Phone	1	E3	
Soap Dispenser	1	E4	
Toilet tissue holder	1	E5	
ADA Grab bars	1	E6	36"
ADA Grab bars	1	E7	42"
Towel rack	1	E8	
Towel dispenser	1	E9	

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - I. Physical Education

Space Name: Dept. Office
 Space ID: 200
 RDS No.: 49



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	4 LF
Roller Blinds	S1 - Roller Shades, 5% Open
Mirror	24" x 60"

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	Yes
AV at table	Yes
Data port near workstation	Yes
Data port for printer	Yes
Voice port	Yes
TW2 - 2 wireless devices per occupant	Yes
(2) standard data drops on (3) walls	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets per wall on three of four walls (1) GFI/Shaver outlet in restroom (1) outlet at computer work stations

PLUMBING

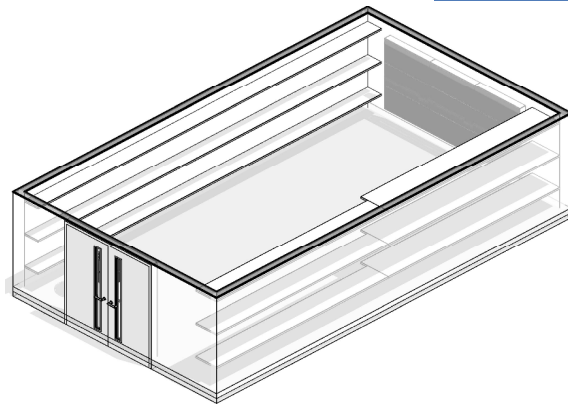
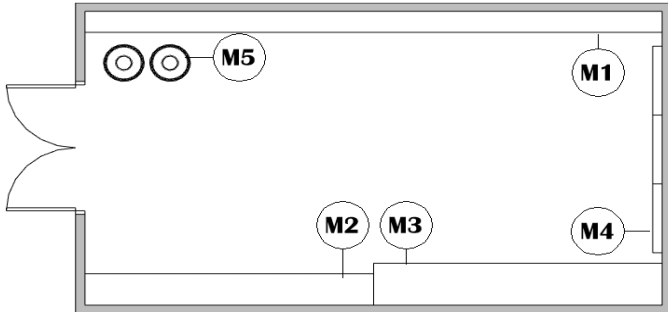
Sinks	Standard	Sink
	ADA	
	Scullery	
Other		Lavatory and Water Closet

REMARKS:

See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.
 Uniform lighting

SPACE REQUIREMENTS - I. Physical Education

Space Name: Storage
 Space ID: 206
 RDS No.: 50



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Gymnasium
Secondary Adjacency Adjacent and access to Auxiliary Gymnasium (may be used for JROTC uniform storage)
Other Near PE areas

TYPICAL SIZE

SF of typical space: 150 SF
 600 SF total

Dimensions:

Length x Width	<u>Varies</u>
Ceiling Height	<u>9' - 0"</u>

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 2

OCCUPANCY

Teachers 2

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

PROGRAM ACTIVITIES

To provide space to adequately store PE and athletic equipment (PE and athletic equipment needs to be stored separately)

Storing sound system and other equipment in the physical education/athletic area

CASEWORK/MILLWORK/ FURNITURE

Casework	Qty	Tag	Note
Storage shelving	N/A	M1	12" deep
Storage shelving	N/A	M2	18" deep
Storage shelving	N/A	M3	24" Deep
Pegboards	N/A	M4	
Rubbish Bin	2	M5	

EQUIPMENT

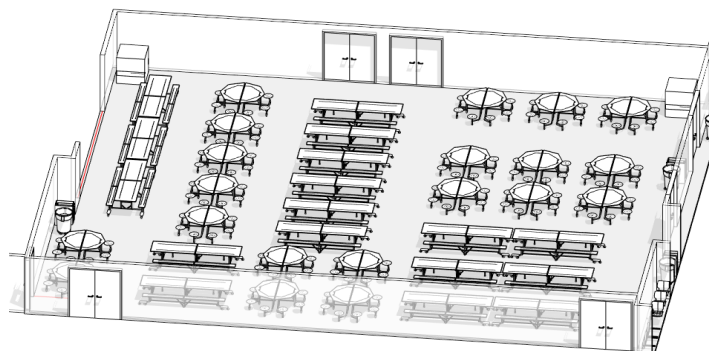
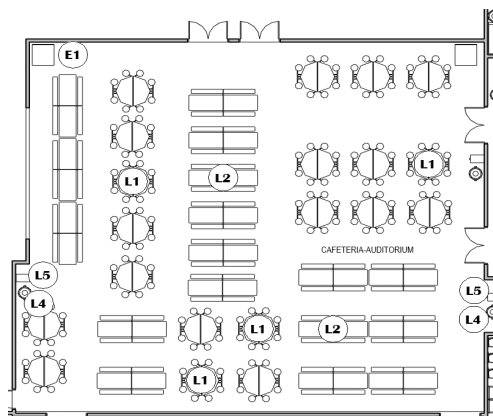
Qty	Note
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REMARKS:

Separate storage areas for inactive sports, physical education, and athletics
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Cafeteria/Auditorium
 Space ID: 500
 RDS No.: 51



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Kitchen

Secondary Adjacency Near parking and main entry to building

Other Good sight lines to all areas of the room for supervision

TYPICAL SIZE

SF of typical space: **3,975 SF**

Identify location for presentations for up to 100 people (screen and electricity barrier-free) Identify location and electricity for satellite salad bar w/ cash register

Dimensions:

Length x Width	VARIES
Ceiling Height	18'-0"
Proportion ceiling to volume	

SPACE TYPE

Open

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People for Meals **Up to 650**

People for auditorium seating **Up to 1000**

UTILIZATION

Hours of Operation **14 hours/day**

SECURITY

Locks **Yes**

Card Access **Yes**

Camera **Yes**

PROGRAM ACTIVITIES

To provide a pleasant atmosphere for students to eat meals

To provide a flexible meeting space for groups if needed

Centrally located to Administration, Gymnasium, Main Academic, and Media Center

Adjacent and access to Kitchen

Near parking and main entry to building

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Foldable Tables with attached seating	20	L1	Circular/ 8 seats
Foldable Tables with attached seating	21	L2	Rectangular / 12 seats
Waste receptacles	TBD	L3	with lids
Recycling bins	TBD	L4	

EQUIPMENT

	Qty	Tag	Note
Portable sound system	1	E1	
Phone	1	E2	

REMARKS:

Cleanable building surfaces

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Caferteria/Auditorium
Space ID 500
RDS No. 51



ARCHITECTURAL

Walls/Partitions		GWB, Epoxy Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	9
	Size	6'-0"x8'-0"
	Type	Dual Flush
	Operable Wall	Yes
	Vision Panel (Egress Doors Only)	Yes
	Seals	Yes

MISCELLANEOUS

Markerboard Provide at least 2 permanently mounted, white boards and electrical outlets for mobile projectors to support 'break-out' discussions

LIGHTING

Lighting Level Tag:	L5
Typical for conference rooms: ambient and at work surfaces and walls	25 FC
Task Lighting	No
Darkenable or Dimmable	Yes
Special Lighting	Yes
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	Large screen, ceiling-mounted projection device
	Yes
Flat screen Monitors	No
Smartboard	No
USB at table	
Data port	Yes
Voice port	Yes
Microphone jacks	Yes
TW2 - 2 wireless devices per occupant	Yes
(2) data drops on perimeter walls at max 12' on center.	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	45/30
Max Reverb	0.6
Adjust space and materials to manage acoustics	

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets on perimeter walls at max 12' on center
	Provide electrical outlets for charging mobile devices around the room

PLUMBING

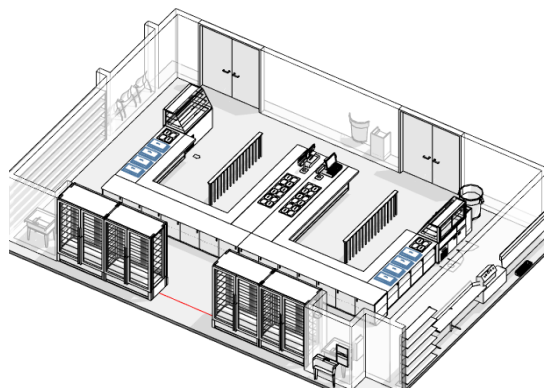
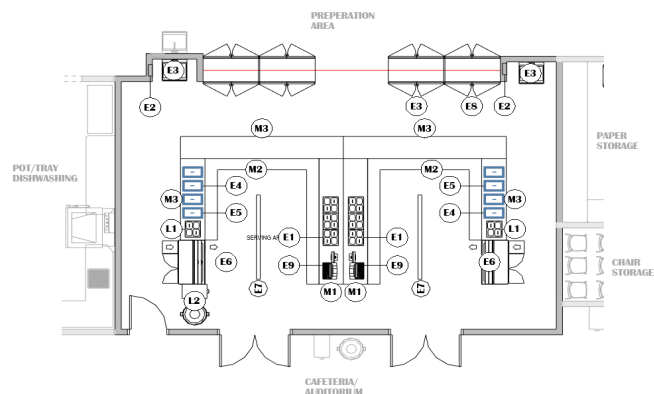
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Adjustable lighting
 Adjust space and materials to manage acoustics; provide sound system
 Window treatment to darken room for AV presentations. Windows to provide ample natural light
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Serving Line Area
 Space ID: 202
 RDS No.: 52



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to the Kitchen

Secondary Adjacency Adjacent and access to the Cafeteria/ Commons

Other

TYPICAL SIZE

SF of typical space: 400 SF

Dimensions:

Length x Width 10' x 40'
 Ceiling Height 14' minimum

SPACE TYPE

Open

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Students _____
 Teachers _____

UTILIZATION

Hours of Operation 14 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera Yes

PROGRAM ACTIVITIES

To provide space and equipment to serve student meals
 Serve food

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Condiment Counter	1	L1	Mobile
Trash container	1	L2	
Casework	Qty	Tag	Note
Counters	2	M1	w/ Cashier's Stand
Serving Counter	2	M2	
Cabinet	TBD	M3	

EQUIPMENT

	Qty	Tag	Note
Milk cooler	1	E1	Mobile
Soap & Towel Dispenser	2	E2	
Sink	2	E3	
Hot Station	2	E4	
Cold Station	2	E5	
Beverage Counter	2	E6	
Railings	2	E7	
Dual door Warming Towers	2	E8	
Satellite salad bar w/ cash register	1	E9	

REMARKS:

'Food court' serving lines: TBD ; All lines have drinks and misc. Items
 Additional satellite services may be able to provide a salad bar or pre-made items
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Serving Line Area
 Space ID: 202
 RDS No.: 52



ARCHITECTURAL

Walls/Partitions		GWB, Epoxy Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	4
	Size	3'-0" x 7'-0"
	Type	Dual Flush
	Operable Wall	No
	Vision Panel (Egress Doors Only)	Yes
	Seals	No
	Other	

MISCELLANEOUS

Clock	
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LIGHTING

Lighting Level Tag:	L5
Typical for conference rooms: ambient and at work surfaces and walls	25 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
AV at Cashier station	Yes
(2) Data ports at Cashier station	Yes
Data shall include provision of empty conduit to base building raceway.	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	x
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Power empty conduit home run to panelboard and inclusion of four spaces in the panelboard.

PLUMBING

Sinks	Standard	
	ADA	
	Scullery	
Other	Plumbing shall include provision of hot and cold water service, sanitary waste and vent to proposed location, capped in a floor box or knock-out.	

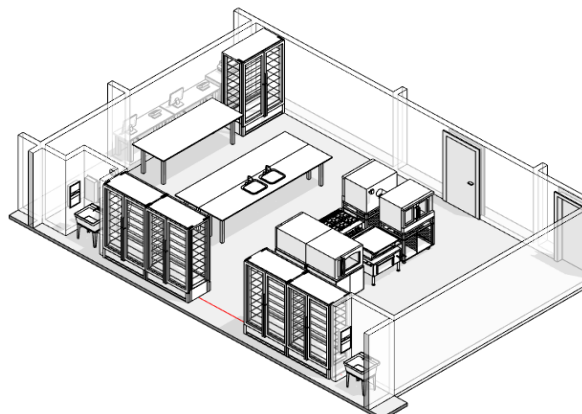
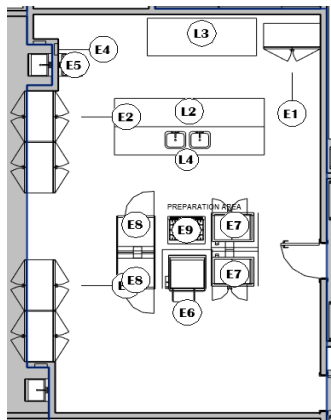
REMARKS:

Identify location and electricity for satellite salad bar w/ cash register.
 Provide plumbing, power and data infrastructure to support future development.
 Additional satellite services may be able to provide a salad bar or pre-made items



SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Preparation Area (KITCHEN)
 Space ID: 501
 RDS No.: 53



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Cafeteria/Commons

Secondary Adjacency Adjacent and access to Outdoor Loading Dock

Other Beginning of serving line should be located near entry door of Cafeteria

Note: Queuing for serving should not conflict with tray return to dishwashing area.

TYPICAL SIZE

SF of typical space: **750 SF**

Features (Specifications from PGCPS)	
Food Preparation Area	500
Serving Area	300
Pot/Tray Washing	500

Dimensions:

Length x Width	20' 0" x 37' 6"
Ceiling Height	14' minimum

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People **Up to 12**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

PROGRAM ACTIVITIES

To prepare and serve student meals (80% of 2000=1600)
 (80% of 680 = 640)

Preparing and serving food to students and staff
 Storage

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Condiment Counter	1	L1	Mobile
Worktables	1	L2	Mobile
Worktables	1	L3	Mobile
Worktables/ With sink	1	L4	Mobile
Prep Sink	1	L5	Mobile

Casework/Milkwork

Qty Tag Note

EQUIPMENT

	Qty		Note
Reach In refrigerator	1	E1	Mobile
Heated cabinet	3	E2	Mobile; Pass-through
Refrigerated cabinet	3	E3	Mobile; Pass-through
Soap & Towel Dispenser	1	E4	
Sink	1	E5	
Tilting Skillet	1	E6	30-Gallon
Convection Oven	2	E7	
Combination Oven(s)	TBD	E8	
6- Burner range	1	E9	

REMARKS:

This is an example of a kitchen. Food service equipment will vary from school to school; confirm requirements with PGCPS Food Service Department.; Model and vendor will be reviewed with kitchen consultant (Furniture); See space requirements included in Technical Performance Requirement; Equipment, Loose furnishings, and features shown represent one of many possible. arrangements.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Preparation Area (KITCHEN)
 Space ID 501
 RDS No. 53



ARCHITECTURAL

Walls/Partitions		GWB, Epoxy Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	4
	Size	3'-0" x 7'-0"
	Type	Dual Flush
	Operable Wall	No
	Vision Panel (Egress Doors Only)	Yes
	Seals	Yes
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L5
Typical for conference rooms: ambient and at work surfaces and walls	25 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	No
Voice port	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

Power Only Floorbox

Power at Table

Provide outlets for appliances and vending machines as required

PLUMBING

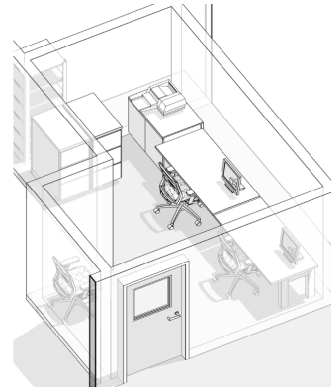
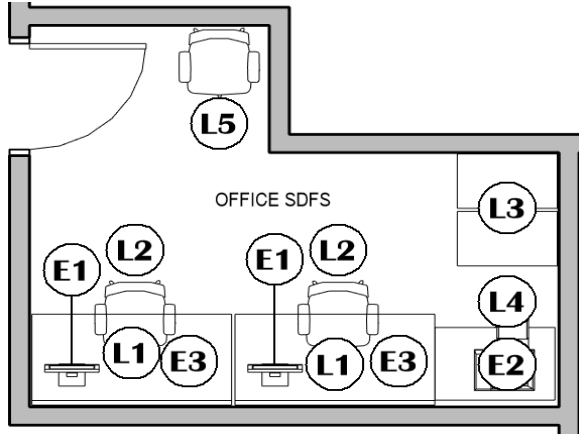
Sinks	Standard	Hand Sink (5) with pedals Prep Sink Pot Washing Sink
	ADA	
	Scullery	
Other		Connections to food service equipment Floor drains Hand washing lavatory Plumbing and gas connections Floor Trough

REMARKS:

Cleanable building surfaces; Food service department, public health, code requirements, as applicable
 Uniform lighting
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Office
 Space ID: 200
 RDS No.: 54



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and visual to Kitchen or Receiving area

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **120 SF**

Including toilet

Dimensions:

Length x Width: **12' 10" x 9' 4"**
 Ceiling Height: **9'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People: **Up to 2**

Student Teachers

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

To provide an office for the staff to perform clerical functions

Conferences with staff and other visitors

Computer input

Telephone calls

Paperwork

Planning

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Desks	2	L1	
Ergonomic task chair	2	L2	
4-drawer file cabinets	2	L3	lockable
Printer table	1	L4	
Guest chair	1	L5	

EQUIPMENT

	Qty	Tag	Note
Computers	2	E1	Provided by owner
Printer/ Scanner	1	E2	Provided by owner
Phone	2	E3	Provided by owner

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Office
 Space ID: 200
 RDS No.: 54



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Carpet
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity: 1
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

Tackboard	Yes
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical for offices & other workspaces: ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	Yes
Voice port	Yes
Data port for printer	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) standard data drop on (2) side walls	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Max Reverb	0.6
Wall minimum: STC	45
Ceiling minimum: CAC	35

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets per wall on three of four walls (2) outlets at computer work stations

PLUMBING

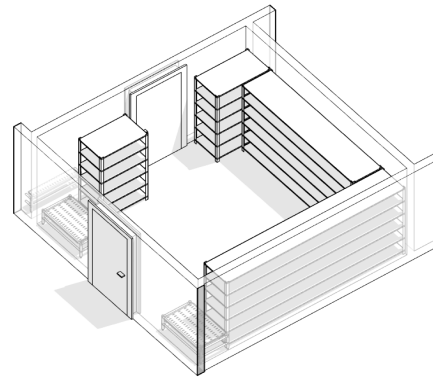
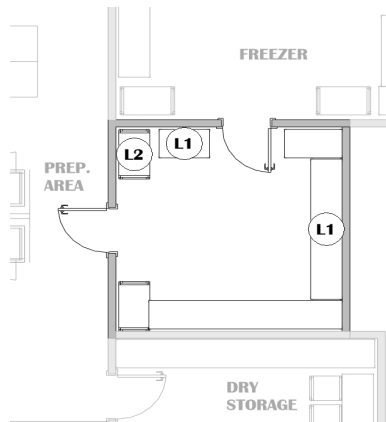
Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

Auditory privacy
 Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Cooler
 Space ID: 206
 RDS No.: 55



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Walk-in freezer

Secondary Adjacency Near Preparation Area (In Kitchen Area)

Other

PROGRAM ACTIVITIES

TYPICAL SIZE

SF of typical space: **Cooler** **200 SF**

Dimensions:

Length x Width	12' 1" x 16' 7"
Height Cooler	8'-6"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People _____

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	No
Camera	No

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Dunnage Rack	2	L1	Mobile
Mobile shelving	7	L2	Mobile

EQUIPMENT

	Qty	Note
Cooler Refrigeration System	1	On roof

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Cooler
 Space ID: 206
 RDS No.: 55



ARCHITECTURAL

Walls/Partitions	GWB, Epoxy Paint
Wall Protection	
Flooring	Concrete
Base	
Ceiling	Open
Doors	1
Size	6'-0" x 8'-0"
Type	Dual Flush
Operable Wall	No
Vision Panel	Yes
Seals	No
Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

Provide outlets for appliances and vending machines as required

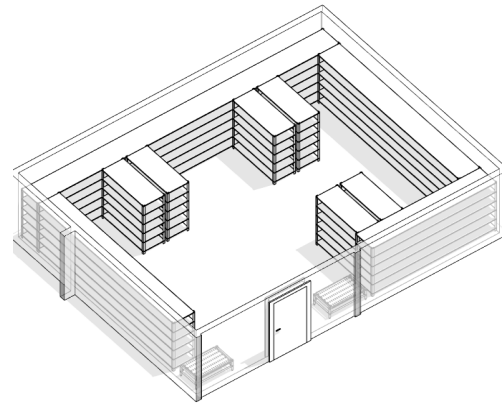
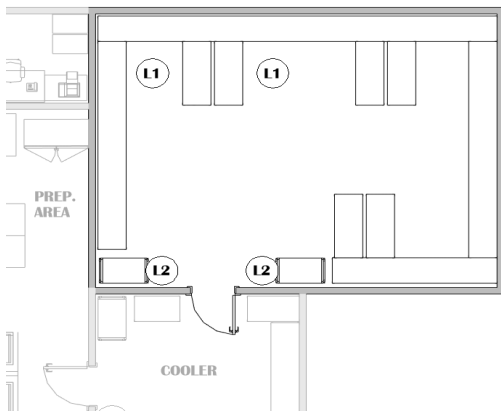
PLUMBING

Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Freezer
 Space ID: 206
 RDS No.: 56



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Walk-in freezer

Secondary Adjacency Near Preparation Area (In Kitchen Area)

Other

TYPICAL SIZE

SF of typical space: **Freezer** **600 SF**

Dimensions:

Length x Width	30' 0" x 20' 0"
Height Freezer	8'-6"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People _____

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	No
Camera	No

PROGRAM ACTIVITIES

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Dunnage Rack	2	L1	Mobile
Mobile shelving	14	L2	Mobile

EQUIPMENT

	Qty	Note
Freezer Refrigeration System	1	On roof

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Freezer
 Space ID: 206
 RDS No.: 56



ARCHITECTURAL

Walls/Partitions	GWB, Epoxy Paint
Wall Protection	
Flooring	Concrete
Base	
Ceiling	Open
Doors	1
Size	6'-0" x 8'-0"
Type	Dual Flush
Operable Wall	No
Vision Panel	Yes
Seals	No
Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

Provide outlets for appliances and vending machines as required

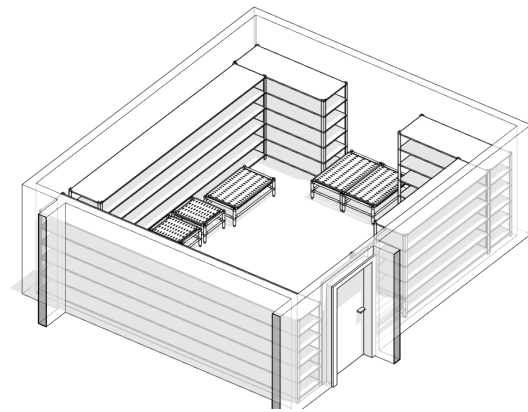
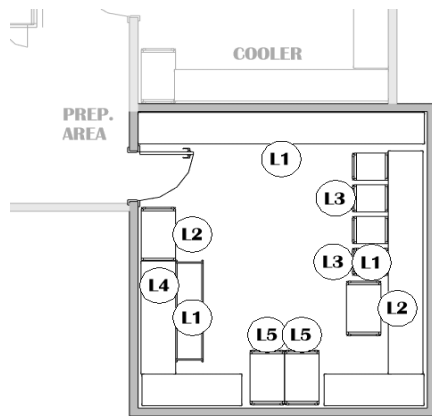
PLUMBING

Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Dry Storage
 Space ID: 206
 RDS No.: 57



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Near Preparation / Kitchen Area

Secondary Adjacency Near Cafeteria

Other

TYPICAL SIZE

SF of typical space: **300 SF**

CAPACITY: 900 Stackable Chairs

Dimensions:

Length x Width 15' 0" x 20' 0"

Ceiling Height 9'-0"

Adequate ceiling height for top shelf storage should be considered.

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People 0

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks Yes

Card Access Yes

Camera Yes

PROGRAM ACTIVITIES

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Polymer shelving and dunnage	19	L1	Mobile
Dunnage Rack	2	L2	Mobile
Pan Rack	4	L3	Mobile
Utility carts	4	L4	Mobile
Can Rack	2	L5	Mobile

EQUIPMENT

Qty **Note**

REMARKS:

This space should be totally secure and free of roof access ladders or electrical panels.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Dry Storage
Space ID 206
RDS No. 57



ARCHITECTURAL

Walls/Partitions		GWB, Epoxy Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Doors	Quantity	1
	Size	6'-0" x 8'-0"
	Type	Dual Flush
	Operable Wall	No
	Vision Panel	No
	Seals	No
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

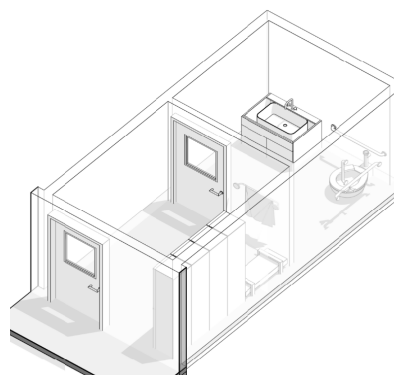
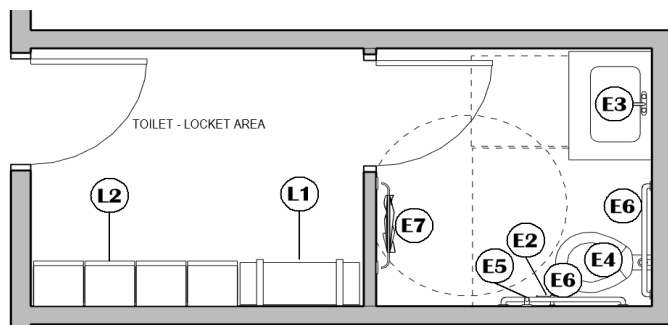
PLUMBING

Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Toilet/ Locker Area
 Space ID: 302
 RDS No.: 58



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent to Kitchen/ Serving Area

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **100 SF**

Dimensions:

Length x Width	10' x 10'
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

Person **Up to 1**
 Kitchen Staff: Separate Male and Female rooms

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	No

PROGRAM ACTIVITIES

To provide an area for kitchen staff to change and clean-up before and after work.

Changing; Resting

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Benches	1	L1	
Lockable lockers	4 - 6	L2	

EQUIPMENT

	Qty		Note
Soap & Towel Dispenser	1	E1	
Toilet tissue holder	1	E2	
Sink	1	E3	With Mirror 24"
Toilet	1	E4	
ADA Grab bar	1	E5	42"
ADA Grab bar	1	E6	36"
Towel rack	1	E7	

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Toilet/ Locker Area
 Space ID: 302
 RDS No.: 58



ARCHITECTURAL

Walls/Partitions		Tile
Wall Protection		Corner Guards
Flooring		Tile
Base		Tile
Ceiling		Gyp. Board
Doors	Quantity	<u>2</u>
	Size	<u>3'-0"x7'-0"</u>
	Type	<u>Single Flush</u>
	Operable Wall	<u>No</u>
	Vision Panel	<u>No</u>
	Seals	<u>No</u>
	Other	<u></u>

MISCELLANEOUS

Mirror	<u>24" x 60"</u>
--------	------------------

LIGHTING

Lighting Level Tag:	<u>L2</u>
Typical for offices & other workspaces: ambient a	<u>35FC</u>
Task Lighting	<u>No</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>No</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Flat screen Monitors	<u>No</u>
Smartboard	<u>No</u>
TW2 - 2 wireless devices per occupant	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-3</u>
NC Acoustical Criteria	<u>40</u>
Acoustical Panels	<u>No</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>45/30</u>
Max Reverb	<u>0.6</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u></u>
Dedicated HVAC Equipment	<u></u>
Make-Up Air Required	<u>x</u>
Individual Zoning/Controls	<u></u>
Air Pressure Positive	<u></u>
Air Pressure Negative	<u>x</u>

Notes

ELECTRICAL

Electrical Raceway	<u></u>
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	<u></u>
208V, 30A, 3 Phase	<u></u>
480V, 100A, 3 Phase	<u></u>
Emergency/ Standby Power	<u></u>
UPS (OFOI)	<u></u>
Other	<u>(1) GFI/Shaver outlet</u>

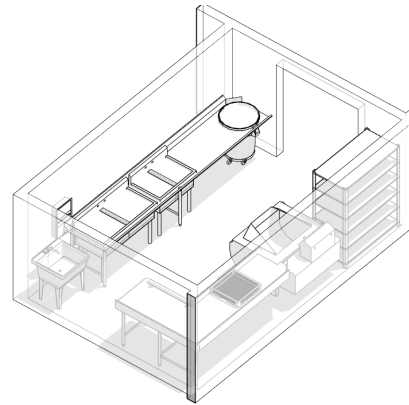
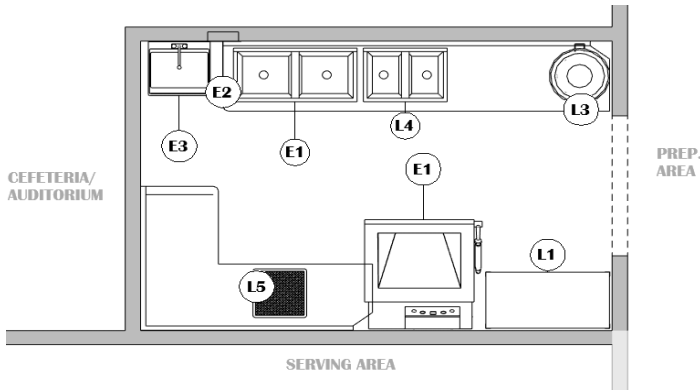
PLUMBING

Sinks	Standard	<u></u>
	ADA	<u>Sink</u>
	Scullery	<u></u>
Other	<u>ADA Lavatory and Water Closet</u>	

REMARKS:

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Dishwashing (Pot/Tray Washing)
 Space ID: 202
 RDS No.: 59



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and visual to Cafeteria / Auditorium
Secondary Adjacency Preparation Area
Other

PROGRAM ACTIVITIES

TYPICAL SIZE

SF of typical space: 150 SF

Dimensions:

Length x Width: 10' x 15'
 Ceiling Height: _____

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Pot and Pan shelving	2	L1	Mobile
Dish Counter	1	L2	
Trash Containers	2	L3	
Counter/ with sinks	1	L4	
Counter	2	L5	

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

People: _____

UTILIZATION

Hours of Operation: 8 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

EQUIPMENT

	Qty	Tag	Note
Dishwasher	1	E1	
Soap/ towel dispenser	1	E2	
Sink	1	E3	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Dishwashing (Pot/Tray Washing)
 Space ID 202
 RDS No. 59



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	1
	Size	3'-0"x7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	Yes
	Seals	No
	Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	70 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
TW2 - 2 wireless devices per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A
Wall minimum: STC	N/A
Ceiling minimum: CAC	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(2) duplex outlets per wall on three of four walls Provide outlets for appliances and vending machines as required

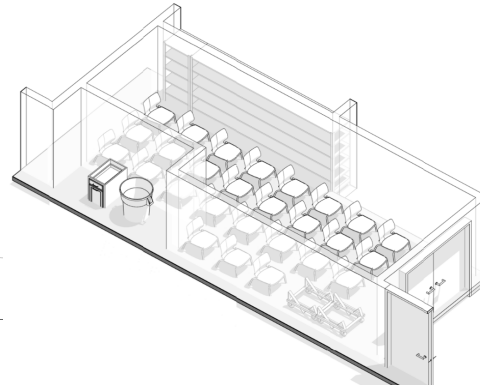
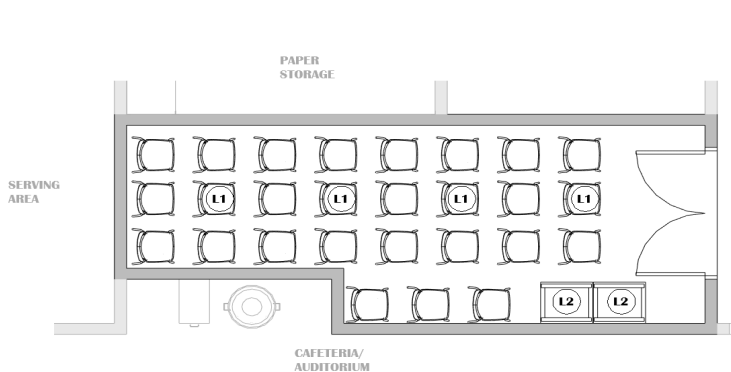
PLUMBING

Sinks	Standard	
	ADA	
	Scullery	
Other	Dishwashing equipment connection	

REMARKS:

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Chair Storage
 Space ID: 206
 RDS No.: 60



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to Student Dining Area/Multipurpose

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **340 SF**

CAPACITY: 900 Stackable Chairs

Dimensions:

Length x Width	34' x 10'
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

People _____

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

PROGRAM ACTIVITIES

To provide convenient storage of dining chairs and tables to be used for meetings and performances

Storage

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Stackable Chairs	900	L1	
Chair dollies per above count	TBD	L2	

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Accessibility for moving furniture in and out
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - J. Student Dining & Food Services

Space Name: Chair Storage
 Space ID: 206
 RDS No.: 60



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	1
Size	6'-0" x 8'-0"
Type	Dual Flush
Operable Wall	No
Vision Panel	No
Seals	No
Other	

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

PLUMBING

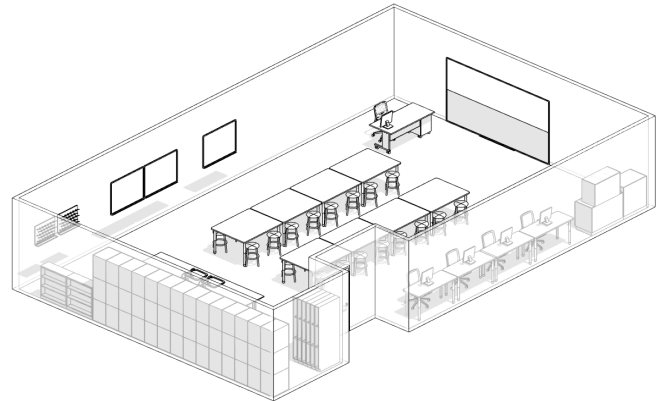
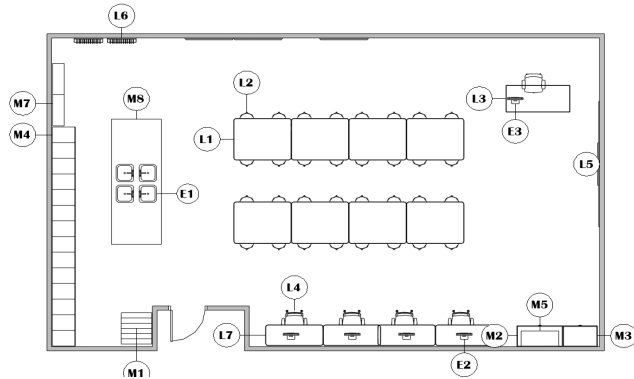
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Cleanable building surfaces
 Uniform lighting

SPACE REQUIREMENTS - K. Visual Arts

Space Name: Multi Purpose Studio
 Space ID: 102
 RDS No.: 61



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency

Studios shall have clear path of travel to exterior loading areas to allow for movement of large or heavy objects. For planning purposes, largest object size to be accommodated shall be 4' x 4' in plan and 7' in height. Access to exterior may be from second floor via elevator

TYPICAL SIZE

SF of typical space: 1,000 SF

Dimensions:

Length x Width: 29' 0" x 35' 0"
 Ceiling Height: 10'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 3

OCCUPANCY

Students: 28
 Staff Member: 1

UTILIZATION

Hours of Operation: 14 hours/day

SECURITY

Locks: Yes
 Card Access: Yes
 Camera: Yes

PROGRAM ACTIVITIES

To provide a learning environment where students can learn two dimensional art and create their own art pieces

Computer graphics and internet access

Art history and culture

Drawing/Painting

Cooperative group work

Viewing of slides/DVDs

CASEWORK/MILLWORK/ FURNITURE

Furniture	QTY	Tag	Note
Work Tables	8	L1	40"D x 60"W x 30"H
Stools	28-32	L2	14" Diameter
Teacher desk	1	L3	
ergonomic chair	5	L4	
Art display panels	3	L5	movable
Drying Racks	2	L6	
Computer Stations	4	L7	

Casework/Millwork

Casework/Millwork	QTY	Tag	Note
Project storage	1	M1	30"D x 36"W x 86"H
Fat file Storage	1	M2	35"D x 42"W x 42"H
Base Cabinet	1	M3	2 door/ 1 drawer
Project Storage	7	M4	23"D x 48"W x 86"H
Paper storage	1	M5	
Bookcase	2	M7	
Counter	4	M8	With sinks

EQUIPMENT

	Qty		Note
Sink Soap & Towel Dispenser	1	E1	
Computers	4	E2	Teachers
Computers	1	E3	(MACs)

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

Note: Second art room may be 3D, graphics, or other medium

Each sink cabinet base with two sink bowls and a minimum of 2-drawers on each side.

Daylight: Studios shall be oriented to provide maximum north light daylighting. Ceiling height and glazing shall be such as to provide a minimum of 10 footcandles (fc) and a maximum of 500 fc in a clear sky condition on September 21 at 9 a.m. and 3 p.m. for the full floor area.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: Multi Purpose Studio
 Space ID: 102
 RDS No. 61



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity 1
	Size 6' 2" x 8' 0"
	with removable mullion to allow for moving of large objects
	Type Dual Flush
	Operable Wall No
	Vision Panel Yes
	Seals Yes
	Other Sound seals on doors

MISCELLANEOUS

Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades
Tackboard	12-24 LF
Track Strips	On all walls at two heights (or tackable surface)
Markerboard	16 LF

LIGHTING

Lighting Level Tag:	L1
Typical at work surfaces and teaching displays with multiple sets	50 FC
Full spectrum adjustable ambient lighting	Yes
Track lighting on three of four walls (4) Controllable circuits.	Yes
Special Lighting	Yes
Natural Daylight Preferred	Yes

AV

Projection Surface	Yes
Smartboard Interactive white board	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for the intercom system	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
(1) data outlet for PoE telephone at the teacher station	Yes
(1) data outlet for the PoE clock	Yes
(2) data outlets for wireless network	Yes
(2) data outlets, and (1) voice outlet at the teacher station	Yes
Single point 'face plate' near teachers work station to include: Voice, data, VGA, audio enhancement, and HDMI	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-5
NC Acoustical Criteria	N/A
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

Appropriate acoustics and sound attenuation
 Baffled ductwork
 Non-parallel surfaces (walls/ceiling) for acoustical benefits
 Limit transmitted from within space to 30dBA

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes
 Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	8 duplex electrical outlets for equipment (1) outlet for control of the classroom projector/interactive board (5) outlets at computer work stations (1) outlet for the intercom system (2) duplex outlets at the teacher station (2) outlets for wireless network (4) outlets for student use Duplex outlets on walls at max 6' on center Recessed floor quad outlets at 10' on center

PLUMBING

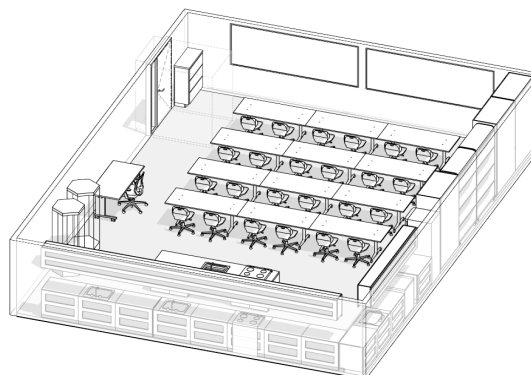
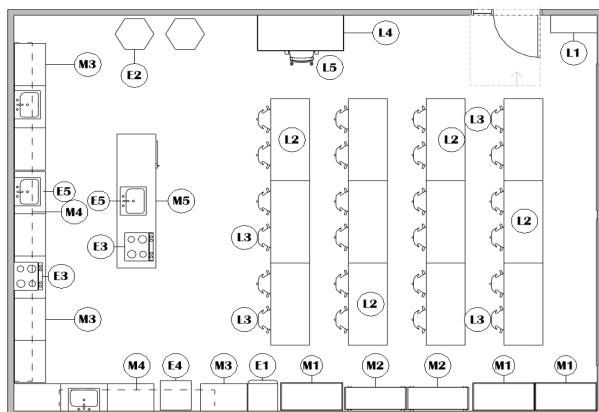
Sinks	Standard ADA	Sink with hot & cold water
		One island to hold four sinks, (54" x 54") overall dimensions
Other	Each sink bowl should be 10" deep x 32" across and 16" wide with one faucet, each having a hot and cold water faucet. Clay and plaster traps should be included in the sinks.	

REMARKS:

Provide full spectrum adjustable ambient lighting; Individual light fixtures shall be owner supplied and installed with the first display set
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: STEAM Classroom Laboratory (Wet & Dry)
 Space ID: 101
 RDS No.: 62



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency

Studios shall have clear path of travel to exterior loading areas to allow for movement of large or heavy objects. For planning purposes, largest object size to be accommodated shall be 4' x 4' in plan and 7' in height. Access to exterior may be from second floor via elevator

TYPICAL SIZE

SF of typical space: **1,100 SF**

Dimensions:

Length x Width	25' x 44'
Ceiling Height	10'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

Students **28**
 Teachers **2**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks **Yes**
 Card Access **Yes**
 Camera **Yes**

PROGRAM ACTIVITIES

Flexible space and layout to accommodate student learning through active interaction with art and technology systems

Computer simulations and instruction; Data collection and analysis; Large and small group instruction; Hands-on activities; Team teaching

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
4-drawer file cabinet	1	L1	
2-person tables	12	L2	
Student chairs	24	L3	
Teacher work surface	1	L4	w/ mobile storage
Ergonomic chairs	1	L5	

NOTE: Flexible seating options allowed; extra tables maybe req.

Casework	Qty	Tag	Note
Tall cabinets	2-3	M1	
Tote tray cabinet	2	M2	48" wide - lockable
Base Cabinet	6	M3	
top Cabinet	11	M4	

Demonstration kitchen island 1 M5 stove, oven, countertop

Millwork	Qty	Tag	Note
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EQUIPMENT

	Qty	Tag	Note
Refrigerator / Freezer	1	E1	With ice maker
Vertical garden System	2	E2	9 sections, 27 plants
Drop electric Range	2	E3	30" Drop in
ADA Dishwasher	1	E4	32"x24"x24"
Sink	4	E5	

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Rooms are designed for ease of movement and accessibility; Students need to be able to move around the worktables
 Counter/Table Tops: Heat and chemical-resistant (to acids, etc.)
 Structure: Loading Capacity: the floor shall have a concentrated load loading capacity of 1,000 pounds
 Consider future technology needs; build-in flexibility to retain options.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: STEAM Classroom Laboratory (Wet & Dry)
Space ID 101
RDS No. 62



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Moisture and stain-resistant finishes
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity <u>1</u>
	Size <u>3'-0"x7'-0"</u>
	Type <u>Single Flush</u>
	Operable Wall <u>Yes</u>
	Vision Panel <u>Yes</u>
	Seals <u>No</u>
	Other _____

NOTE: Door to 'outdoor classroom', if feasible

MISCELLANEOUS

Markerboard	Magnetic 16 LF
Tackboard	16 LF
Track Strips	On all walls
Roller Blinds	S1A -Blinds/Shades and Manually Operated Blackout Shades

LIGHTING

Lighting Level Tag:	L4
Typical bi-level ambient and at all work locations	25/75 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	Yes
Natural Daylight Preferred	Yes

Note: Windows are to provide natural light and egress

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Surface	Yes
Flat screen Monitors	Yes
Smartboard	Yes
Data at Table	Yes
TW2 - 2 wireless devices per occupant	Yes
(1) data outlet for telephone at the teacher station	Yes
(1) data outlet for control of the classroom projector/interactive board	Yes
Two (2) data outlets for wireless network	Yes
(1) data outlet for the intercom system	Yes
(2) data outlets, and (1) voice outlet at the teacher station	Yes
One (1) data outlet for the PoE clock	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-5
NC Acoustical Criteria	N/A
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Flush covers for floor outlets Provide outlets for appliances and vending machines as required

PLUMBING

Sinks	Standard	4 sinks with storage cabinets below (age appropriate height)
Other		Two Sink w/ bubbler for drinking water, cabinets above and below, and a separate, stainless steel scrub sink with hot and cold water, appropriate traps

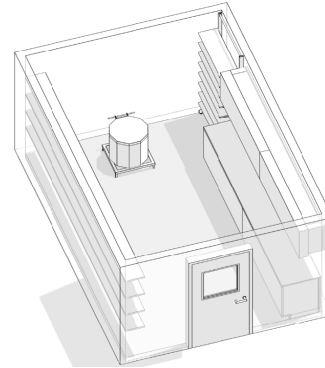
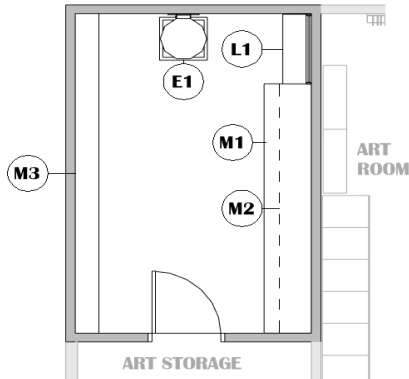
A safety station is to be installed with safety shower, automatic shut-off eyewash, floor drain with a sloped floor and should accommodate persons with disabilities.

REMARKS:

Electrical systems: Provide retractable overhead power reels in fabrication area. Allow one reel per 36 SF. In addition to outlets noted on ADS, provide power outlets at 2' on center on workbenches Workbench and overhead reels to have be controlled by a single Emergency Power Off switch
 HVAC: Provide OSHA compliant dust extract and exhaust system at fabrication area with dust collection and exhaust direct to outside. Provide adequate make-up air and position room supply and return registers and grilles appropriately to ensure exhaust flow towards hood.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: Kiln Room
 Space ID: 202
 RDS No.: 63



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to 3-D Studio
Secondary Adjacency Art Storage Room
Other

TYPICAL SIZE

SF of typical space: **100 SF**

Dimensions:

Length x Width: **13' x 7' 9"**
 Ceiling Height: **16'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

People: **Up to 16**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **Yes**

PROGRAM ACTIVITIES

To provide a space to fire and store completed clay work and clay bins

Firing the kiln Storing ceramics work

This room will house the ceramic kilns for firing.

A supply of moist clay in 50-pound boxes will be kept there.

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Greenware shelving	1	L1	
Portable clay containers	2	L2	

Casework

Base cabinets	1	M1	Shelving Door w/ lock and key
Wall Cabinets	1	M2	
Storage shelving	1	M3	12" deep

EQUIPMENT

	Qty	Note
Kilns	1-2	E1

REMARKS:

Projects ready for firing will be stored to dry on adjustable metal shelving located around the room. The storage of kiln shelves, shelf supports, cones, and kiln wash will be kept in a cabinet. A shop-type vacuum cleaner will be stored here. Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: Kiln Room
Space ID 202
RDS No. 63



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity 1
	Size 3'-3"x7'-0"
	Type Single Flush
	Operable Wall No
	Vision Panel Yes
	Seals Yes
	Other Lock with Key

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L1
Typical at work surfaces and teaching displays with multiple sets	50 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
USB at table	No
Data at Table	No
TW2 - 2 wireless devices per occupant	Yes
(2) data drops on perimeter walls at max 12' on center.	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-5
NC Acoustical Criteria	N/A
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A
Wall minimum: STC	45
Ceiling minimum: CAC	35
Other	Limit transmitted from within space to 30dBA

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	x

Notes

Above the kiln will be an exhaust ventilation hood adequate for effective ventilation direct to the outside when the kiln is in use. The kiln room serves as both the kiln room and the supply storage.

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Wired for 2 C 1100 kiln, hood vented to outdoors Duplex outlets on walls at max 6' on center

PLUMBING

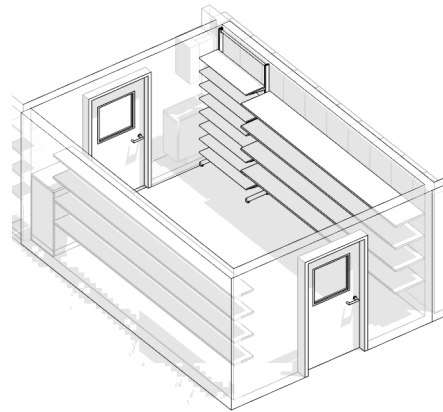
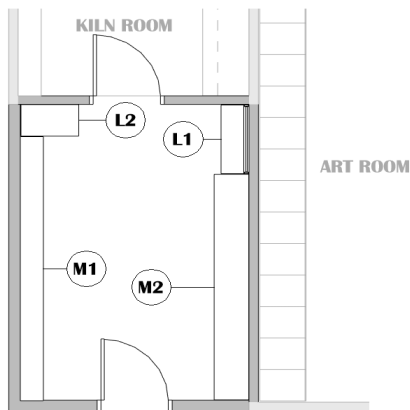
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: Storage
 Space ID: 206
 Space Type: 64



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to 3-D Studio

Secondary Adjacency Ats Storage Room

Other

TYPICAL SIZE

SF of typical space: 200 SF

Dimensions:

Length x Width	<u>12' 1" x 16' 7"</u>
Ceiling Height	<u>9'-0"</u>

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: 3

OCCUPANCY

Teachers 2

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks	<u>Yes</u>
Card Access	<u>Yes</u>
Camera	<u>Yes</u>

PROGRAM ACTIVITIES

To provide secure and adequate space to store art supplies, portable equipment, technology peripherals, and materials
 Storage of equipment, supplies, and projects

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Greenware Shelving	1	L1	
4-drawer file cabinet	1	L2	Legal
Casework			
Storage shelving	1	M1	12" deep
Storage shelving	2	M2	18" deep

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - K. Visual Arts

Space Name: Storage
 Space ID: 206
 Space Type: 64



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Sheet Vinyl
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity: 1
	Size: 3'-0" x 7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: Yes
	Seals: No
	Other:

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

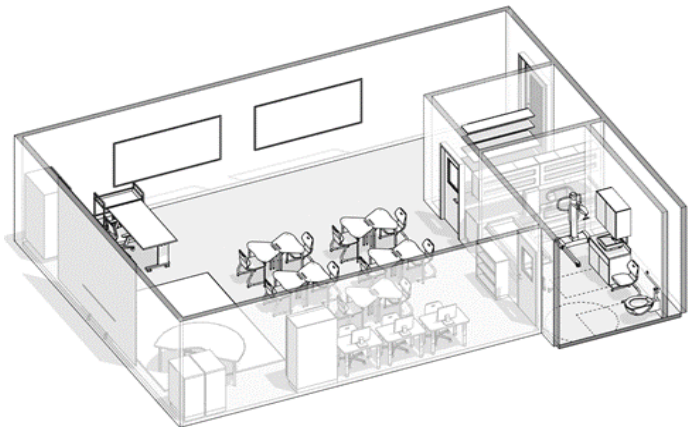
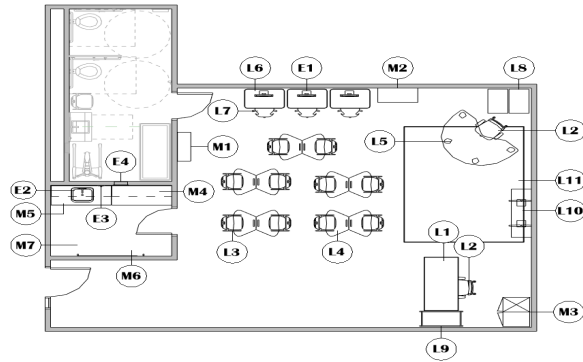
PLUMBING

Sinks	Standard
	ADA
	Scullery
Other	

REMARKS:

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Special Education Classroom (include toilet room)
 Space ID: 100
 RDS No.: 65



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Convenient access to bus pick up and drop off point(s)

School's Health Suite**

Secondary Adjacency

**Note: if the adjacency is not feasible a larger separate health suite must be designed

TYPICAL SIZE

SF of typical space: **900 SF**

(include toilet room)

Dimensions:

Length x Width	40' x 22'-6"
Ceiling Height	10' - 0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **8**

OCCUPANCY

Students per classroom	6-7
Teachers	1
Specialist / Guests	1-2

UTILIZATION

Hours of Operation **8 hours/day**

STORAGE CLOSET REQUIREMENTS:

The storage closets need to be long and narrow (about 5' to 6') with entrances on either end or folding partitions for easy access.

Casework/Millwork	Tag	Note
Wall Cabinets	M4	Above Sink
Base Cabinets	M5	Below Sink/Counter
Wall Shelves	M6	Two (2); 15 ft L x 1' D
Wall Shelves	M7	Two (2); 10 ft L x 2' D

PROGRAM ACTIVITIES

Motor Development/M.O.V.E. activities; Total classroom group & Individualized instruction; Interdisciplinary instruction with classroom teacher & specialists; Gross and fine motor activities; Vocational workshop activities; Arts and crafts activities; Utilization of audiovisual equipment; Computer use

CASEWORK/MILLWORK/ FURNITURE

Furniture	QTY.	Tag	Note
Teacher desk	1	L1	30" D x 66" W x 30" H, w casters
Teacher chair	2	L2	ergonomic if possible
Student chairs	10	L3	Height varies based on ages in classroom
Student desks	10	L4	22"-34" adjustable height; trapezoid shape preferred
Table	1	L5	Kindy Shape
Computer Stations	3	L6	
Task Chairs	3	L7	For Computer Stations
Vertical File Cabinet	2	L8	15" D x 27" W x 48" H; Lockable; 4 drawer
AV Storage Cart	1	L9	24" W x 18" D x 26-42" H; 2 pull-out shelves
Work Table	1	L10	24" D x 60" W x 29" H; w casters
Rug (A Spot for Everyone)	1	L11	9'x12'; 20 spots for students; Soil resistant nylon
Casework/Millwork	QTY.	Tag	Note
Bookcase	1	M1	15" D x 30" W x 30" H; Adjustable Shelves
Storage Cabinet	1	M2	18" D x 36" W x 72" H; Min. 5 adjustable shelves on a side
Wardrobe Cabinet	1	M3	24" D x 36" W x 72" H; Adjustable (4) and fixed (2)shelves on left side; wardrobe side: 11" wide w coat rod

EQUIPMENT

	QTY	Tag	Note
Computers	3	E1	
Coat Rack	1	E2	6-7 hooks
Large Wedge	1	E3	w/ straps for positioning

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Section B: Special Education – CRI Program

PGCPS
Room Data Sheets
for
Elementary Schools

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SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Special Education Classroom (include toilet room)
Space ID 100
RDS No. 65



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	3
	Size	3'-0"x7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel (Egress Doors Only)	Yes
	Seals	No

MISCELLANEOUS

Markerboard	(1) One - Magnetic - 4' x 8'
Tackboard	(1) One - 4' x 8'
Mirror	Full body-size
Roller Blinds	Yes
Ceiling hooks	(4); for suspended equipment
Wall Mirror	Full-Size Body Length

LIGHTING

Lighting Level Tag:	L1
ambient and at work	50 FC
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	Yes
Natural Daylight Preferred	Yes

AV

Distance Learning	Yes
Video Conferencing	Yes
Projection Surface	Yes
Smartboard	Yes
Other	Yes
Data/Power Floorbox	Yes

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-2
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	50/35
Max. Reverb	0.6

Acoustical – Particular attention to external equipment noise

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power UPS (OFOI)	

Other

Ten (10) 115 volt duplex outlets per classroom

Min. of five (5) computer outlets with isolated ground receptacles

(3) outlets at computer work stations

PLUMBING

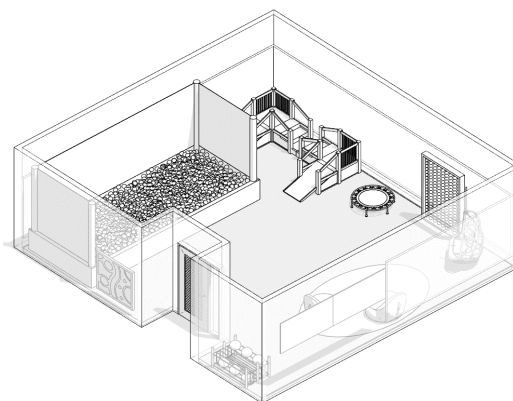
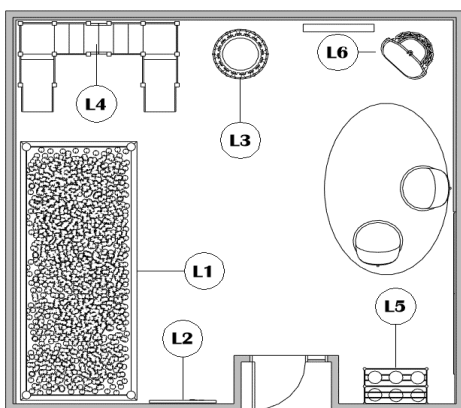
Sinks	
Standard	
ADA	Sink with hot and cold water, wheelchair accessible
Scullery	
Other	

REMARKS:

Provide a toilet room complying with the requirements of Data Sheet for 'Toilet/Changing Rooms' within the Special Education program for the room programmed area of the classroom; Toilet/Changing Rooms rooms directly accessible to each classroom; Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Sensory Room
 Space ID: 102
 RDS No.: 66



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Special Education Classrooms

Secondary Adjacency Special Education Support Spaces

Other

TYPICAL SIZE

SF of typical space:	600 SF
Dimensions:	
Length x Width	24' x 25'
Ceiling Height	10'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: 1

OCCUPANCY

Students 1
 Teachers 1

UTILIZATION

Hours of Operation 8 hours/day

SECURITY

Locks Yes
 Card Access Yes
 Camera No

PROGRAM ACTIVITIES

To provide an environment in which the students are given the sensory input they need to self-regulate and decompress; To provide the best sensory input for specific needs by using a variety of therapeutic equipment to help them learn to self-regulate their behaviors and ultimately improve their focus.

Can be categorized as "Active" or "Calming" rooms; Or provide a hybrid space to serve a wider variety of needs and creating a "complete sensory experience".

CASEWORK/MILLWORK/ FURNITURE

"ACTIVE" ROOM			
Furniture	Qty	Tag	Note
Ball Pit	1-2	L1	
Sensory Board	1-2	L2	
Therapy Trampolines	1-2	L3	
Active Play Furniture	TBD	L4	a piece or pieces of furniture that provide an Obstacle course/Climbing activities
"CALMING" ROOM			
Weighted Products	TBD	L5	For example: a weighted blanket or weighted stuffed animal
Sensory Swing	1-2	L6	
Bean Bag Chair	TBD	L7	

EQUIPMENT

	Qty	Tag	Note
Fiber-optic lighting	N/A	E1	

Note: All FF&E needs to be confirmed with Special Education Department at PGCPS to meet the specific schools needs.

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed. Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Sensory Room
Space ID 102
RDS No. 66



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		GWB, Paint
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	1
	Size	3'-6"x7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel (Egress Doors Only)	Yes
	Seals	Yes
	Other	

MISCELLANEOUS

Roller Blinds	S1A - Blinds/Shades and Manually Operated Blackout Shades
Tackboard	8 LF
Markerboard	8 LF with electric outlet
Mirror(s)	
Wall mounted - Padded Fabric Panels	on 2 or 3 of the 4 walls

LIGHTING

Lighting Level Tag:	L1
Ambient	50 FC
Provide focus lighting on specific objects	
Task Lighting	Yes
Darkenable or Dimmable	Yes
Special Lighting	Yes
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	Yes
Projection Screen	Yes
Smartboard	Yes
Flat screen Monitors	No

USB at table

Data at Table	No
Outlets spaced as needed for equipment. Some to include:	
TW2 - 2 wireless device per occupant	Yes

- One (1) data outlet for control of the classroom projector/interactive board/other applicable equipment (if provided)
- One (1) data outlet for telephone at the teacher station (if provided)
- Two (2) data outlets, and one (1) voice outlet at the teacher station for a teacher's computing device and accessory (if provided)
- Two (2) data outlets for wireless network
- One (1) data outlet for the PoE clock

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	35
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	
STC Rating	50/35
Max Reverb	0.6
	50

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	x
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(5) 115 volt duplex outlets

Outlets spaced as needed for equipment. Some to include:

- One (1) outlet for Fiber-optic lighting (if provided)
- One (1) outlet for telephone at the teacher station (if provided)

Two (2) outlets at the teacher station for teacher's computing device and accessory

- One (1) outlet for the intercom system
- Two (2) outlets for wireless network
- Four (4) outlets for student use

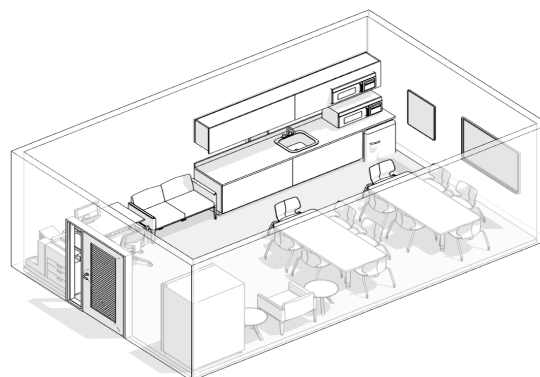
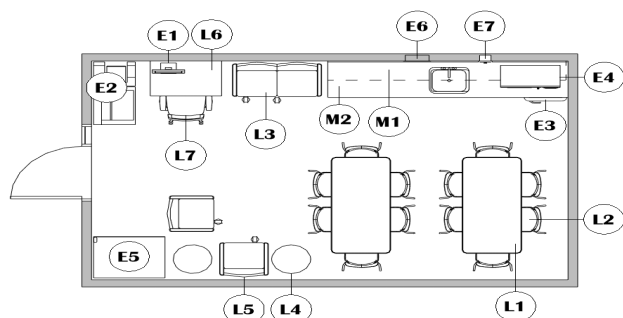
Additional twenty (20) ampere circuit, or additional as required, to support computers, printer, and typical classroom equipment shall be in each classroom. Electrical outlets shall be placed on perimeter walls at min six feet (6 FT) on center.

REMARKS:

Flexibility of space
 ADA Standards are
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Program Transition/Related Services Room
 Space ID: 202
 RDS No.: 67



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency	Located within Grade Level areas; One per grade level community
Secondary Adjacency	Located near individual restrooms and Access from Corridor
Other	Supply/ Storage Room

PROGRAM ACTIVITIES

To provide an area for teacher collaboration and individual work
 Prepare lessons using computer, video, and other resources;
 Grade papers; Eating lunch
 Enter and access data; Store files

TYPICAL SIZE

SF of typical space: **250 SF**

Dimensions:

Length x Width	10' x 25'
Ceiling Height	10'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Teachers **1-6**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Tables	2	L1	
Chairs	12-13	L2	
Sofa	1	L3	optional
End Tables	2	L4	optional
Soft Chairs	2	L5	optional
Computer Station	1	L6	
Ergonomic task chair	1	L7	
Casework	Qty	Tag	Note
Wall Cabinets	N/A	M1	by sink
Base Cabinets	N/A	M2	w/ Min 12' length Countertop

EQUIPMENT

	Qty		Note
Computers	1	E1	
Printer/Copier/Scanner	1	E2	provided by owner
Refrigerator	1	E3	provided by owner
Microwave	2	E4	provided by owner
Vending Machine	1	E5	provided by owner
Paper Towel Dispenser	1	E6	
Soap Dispenser	1	E7	

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Loose furnishings and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Program Transition/Related Services Room
Space ID 202
Space Type: 67



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Acoustic Tile
Doors	Quantity	1
	Size	3'-3" x 7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	Yes
	Seals	No
	Other	

MISCELLANEOUS

Markerboard	One (1) - 4 LF
Tackboard	One (1) - 4 LF
Roller Blinds	S1 - Roller Shades, 5% Open

LIGHTING

Lighting Level Tag:	L2
Typical ambient and at work surfaces	35 FC
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Smartboard	No
TW2 - 2 wireless devices per occupant	Yes
Standard data drops on perimeter walls at max 12' on center	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-3
NC Acoustical Criteria	40
Acoustical Panels	Yes
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	45/30
Max. Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	x
Dedicated HVAC Equipment	
Make-Up Air Required	
Individual Zoning/Controls	
Air Pressure Positive	(Note 1)
Air Pressure Negative	

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	

Duplex outlets on perimeter walls at max 6' on center
(2) recessed floor quad outlets
(1) outlet at computer work stations

Provide outlets for appliances and vending machines as required

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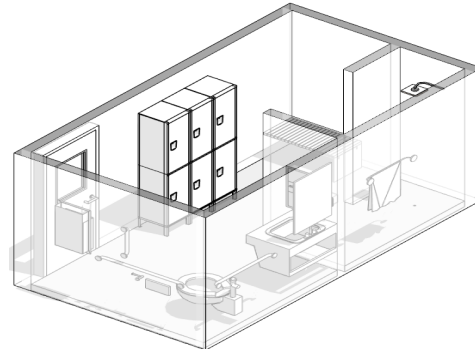
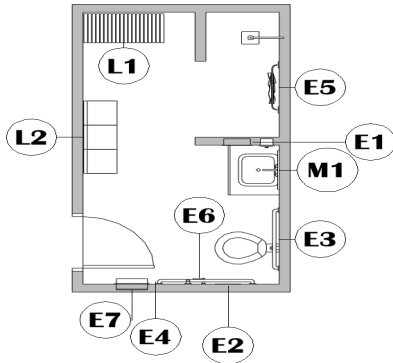
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Windows to provide natural light; Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Toilet with Shower
 Space ID: 302
 Space Type: 68



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency	Special education classrooms
Secondary Adjacency	Other special education support/resource spaces
Other	Separate Male and Female rooms

PROGRAM ACTIVITIES

To provide an area for kitchen staff to change and clean-up before and after work.
 Showering Changing

TYPICAL SIZE

SF of typical space: **150 SF**

Dimensions:

Length x Width	10' x 15'
Ceiling Height	8'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

up to 2

Separate Male and Female rooms

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	No

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Benches	TBD	L1	
Lockers	TBD	L2	Lockable

Casework:	Qty	Tag	Note
Vanity Counter	1	M1	

EQUIPMENT

	Qty		Note
Soap & Towel Dispenser	1	E1	
Toilet tissue holder	1	E2	
ADA grab bar	1	E3	36"
ADA grab bar	1	E4	42"
Towel rack	1	E5	
Sanitary dispenser	1	E6	
Sanitary disposal	1	E7	

REMARKS:

Loose furnishings and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Toilet with Shower
 Space ID: 302
 Space Type: 68



ARCHITECTURAL

Walls/Partitions	Tile
Wall Protection	Corner Guards
Flooring	Tile
Base	Tile
Ceiling	Gyp. Board
Doors	Quantity: 2
	Size: 3'-0"x7'-0"
	Type: Single Flush
	Operable Wall: No
	Vision Panel: No
	Seals: No
	Others:

MISCELLANEOUS

Mirror	24" x 60"
--------	-----------

LIGHTING

Lighting Level Tag:	L7
Typical for ambient	25 FC
Task Lighting	No
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
Data at Table	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-7
NC Acoustical Criteria	40
Acoustical Panels	No
Privacy Criteria	High
Testing Criteria	ASTM
STC Rating	N/A
Max Reverb	0.6

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	x
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	x

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	x
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	(1) GFI Duplex at lavatory

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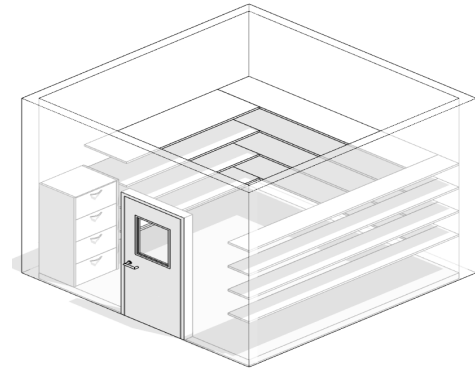
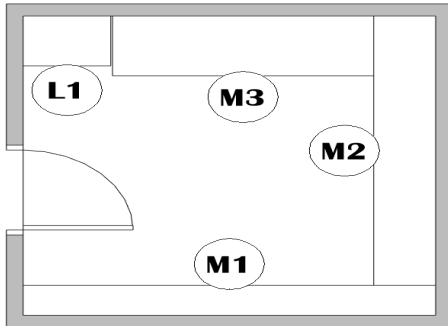
Sinks	Standard	
	ADA	Sink
	Scullery	
Other	Toilet, lavatory, shower	

REMARKS:

Adequate exhaust/ventilation
 Moisture- and stain-resistant finishes
 Uniform lighting

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Equipment Storage
 Space ID: 206
 RDS No.: 69



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Adjacent and access to the workroom

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **100 SF**

Dimensions:

Length x Width	10' x 10'
Ceiling Height	9'-0"

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Person **Up to 1**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	No

PROGRAM ACTIVITIES

To provide a safe and secure area for storage of equipment and supplies

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
4-drawer file cabinet	1	L1	Legal
Casework			
Storage shelving	TBD	M1	12" deep
Storage shelving	TBD	M2	18" deep
Shelving	1	M3	24" deep; Adjustable height

EQUIPMENT

Qty	Note
-----	------

REMARKS:

Equipment, Loose furnishings, and features shown represent one of many possible arrangements.
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Equipment Storage
 Space ID: 206
 RDS No.: 69



ARCHITECTURAL

Walls/Partitions		GWB, Paint
Wall Protection		Corner Guards
Flooring		LVT
Base		4" Rubber
Ceiling		Gyp. Board
Doors	Quantity	1
	Size	3'-0"x7'-0"
	Type	Single Flush
	Operable Wall	No
	Vision Panel	No
	Seals	Yes
	Other	Security of door

MISCELLANEOUS

LIGHTING

Lighting Level Tag:	L6
Typical for service & utility: ambient	40 FC
At any service points or equipment	
Task Lighting	Yes
Darkenable or Dimmable	No
Special Lighting	No
Natural Daylight Preferred	No
Single-level switching	Yes

AV

Distance Learning	No
Video Conferencing	No
Projection Surface	No
Flat screen Monitors	No
Smartboard	No
TW1 - 1 wireless device per occupant	Yes

PERFORMANCE REQUIREMENTS

Acoustics Tag	AC-8
NC Acoustical Criteria	N/A
Acoustical Panels	No
Privacy Criteria	Low
Testing Criteria	
STC Rating	N/A
Max Reverb	N/A

MECHANICAL

Temperature	Summer 72° DB 50% RH, Winter 72° DB
Humidity	Summer 72° DB 50% RH, Winter 72° DB
Recirculated Air	
Dedicated HVAC Equipment	
Make-Up Air Required	X
Individual Zoning/Controls	
Air Pressure Positive	
Air Pressure Negative	X

Notes

ELECTRICAL

Electrical Raceway	
110V, 20A, 1 Phase	X
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Emergency/ Standby Power	
UPS (OFOI)	
Other	Duplex outlets on perimeter walls, min. (1) per wall

PLUMBING

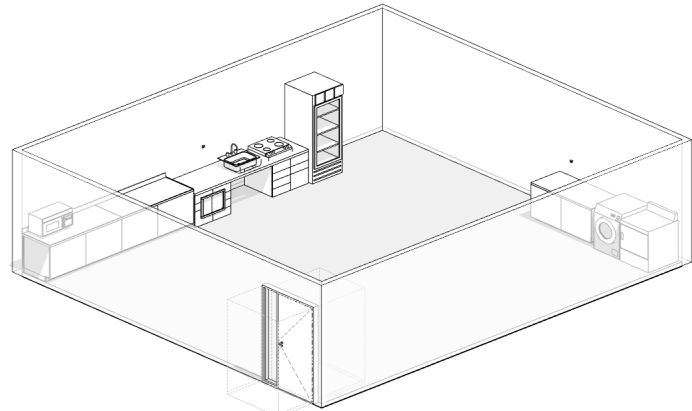
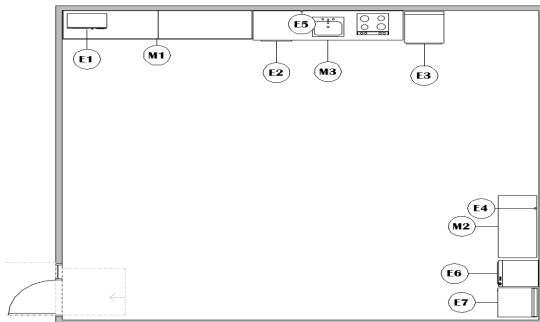
Sinks	Standard	
	ADA	
	Scullery	
Other		

REMARKS:

Uniform lighting

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Life Skills Lab w/ Laundry
 Space ID: 101
 RDS No.: 70



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Special Education Classrooms and Support Spaces

Secondary Adjacency

Other

TYPICAL SIZE

SF of typical space: **800 SF**

Dimensions:

Length x Width: **30' 2" x 26' 6"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **1**

OCCUPANCY

Students: **2**

Teachers: **1**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**

Card Access: **Yes**

Camera: **Yes**

PROGRAM ACTIVITIES

To provide a safe, accessible, and comfortable learning environment for students who are physically, mentally or emotionally challenged to learn life-skills; To provide classroom space and a flexible, specially-adapted learning environment that will meet the needs of students who have exhibited a need for more functional/ intensive services

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Casework / Millwork	Qty	Tag	Note
ADA Work counter	N/A	M1	to include space for a microwave
Cabinets	N/A	M2	drawers with slide out bins & shelves, drawer handles large enough for a hand to slip through; above and below sink area
Counter space	N/A	M3	With sink

EQUIPMENT

	Qty		Note
Microwave	1	E1	
Stove	1	E2	Knobs on the front
Refrigerator	1	E3	Side by side with roll out bins
Jar opener	1	E4	Mounted
Can opener	1	E5	Mounted
Washer	1	E6	
Dryer	1	E7	Locate in Laundry Room

REMARKS:

Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed. Equipment, Loose furnishings, and features shown represent one of many possible arrangements. All casework and millwork should be wheelchair accessible

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Life Skills Lab w/ Laundry
 Space ID 101
 RDS No. 70



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Gyp. Board
Doors	Quantity <u>1</u>
	Size <u>3'-6"x7'-0"</u>
	Type <u>Single Flush</u>
	Operable Wall <u>No</u>
Vision Panel (Egress Doors Only)	<u>Yes</u>
	Seals <u>Yes</u>
	Other _____

MISCELLANEOUS

Roller Blinds	<u>S1 - Roller Shades, 5% Open</u>
Tackboard	<u>8 LF</u>
Markerboard	<u>8 LF with electric outlet</u>
Mirrors	<u>Angled above stove to reflect top surface</u>

LIGHTING

Lighting Level Tag:	<u>L1</u>
Ambient	<u>50 FC</u>
Provide focus lighting on specific objects	<u>Yes</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>Yes</u>
Natural Daylight Preferred	<u>No</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>Yes</u>
Projection Screen	<u>Yes</u>
Smartboard	<u>No</u>
Flat screen Monitors	<u>No</u>
USB at table	<u>No</u>
Data at Table	<u>No</u>
TW1 - 1 wireless device per occupant	<u>Yes</u>
(1) data drop	<u>Yes</u>
(1) duplex data outlet per floor box (15 per room)	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-2</u>
NC Acoustical Criteria	<u>35</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>50/35</u>
STC Rating	<u>0.6</u>
Max Reverb	<u>50</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	<u>_____</u>
Make-Up Air Required	<u>_____</u>
Individual Zoning/Controls	<u>x</u>
Air Pressure Positive	<u>(Note 1)</u>
Air Pressure Negative	<u>_____</u>

Notes Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	<u>_____</u>
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	<u>_____</u>
208V, 30A, 3 Phase	<u>_____</u>
480V, 100A, 3 Phase	<u>_____</u>
Emergency/ Standby Power	<u>_____</u>
UPS (OFOI)	<u>_____</u>
Other	<u>(5) 115 volt duplex outlets needed for equipment 100 and 220 volt as needed (in Laundry Room) Provide outlets for appliances and vending machines as required</u>

PLUMBING

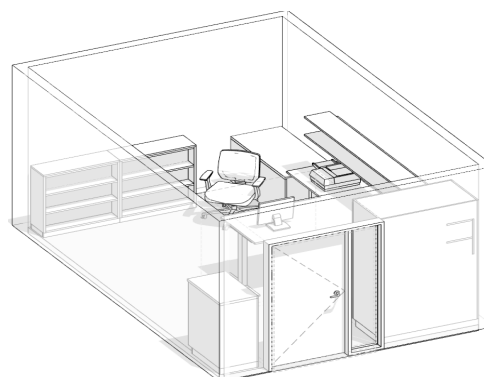
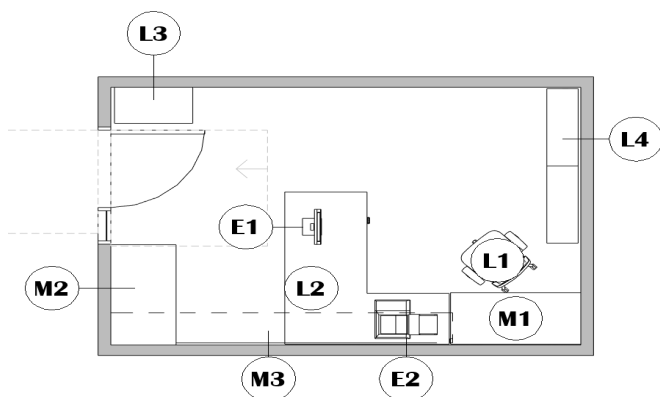
Sinks	<u>Two (2) sinks required</u>
ADA	<u>Split level sink accommodating students in wheelchairs and students who can stand (split level sink to be provided in Instructional Kitchen area) (another sink to be provided in Laundry Room)</u>
Other	<u>Extended flat sided handles at the sink Extended faucet</u>

REMARKS:

Flexibility of space
 Windows to provide natural light
 See Educational Technology Requirements for additional Audio/Visual Equipment required & confirm with PGCPS.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Office
 Space ID: 200
 RDS No.: 71



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Near Special Education Conference room

Secondary Adjacency Near the other Special Education spaces

Other

PROGRAM ACTIVITIES

To serve as an area from which staff can effectively provide administrative support; General office work; Duties of confidential secretary; Data input and retrieval; Answering telephone

TYPICAL SIZE

SF of typical space: **150 SF**

Dimensions:

Length x Width: **20' x 12' - 6"**
 Ceiling Height: **10'-0"**

SPACE TYPE

Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

People: **Up to 2**

UTILIZATION

Hours of Operation: **8 hours/day**

SECURITY

Locks: **Yes**
 Card Access: **Yes**
 Camera: **No**

CASEWORK/MILLWORK/ FURNITURE

Furniture	QTY	Tag	Note
Ergonomic chair	1	L1	
Desk	1	L2	
File cabinet	1	L3	lockable, 4 drawers
Bookcases	1-2	L4	
Casework / Millwork	QTY	Tag	Note
Base cabinets	N/A	M1	
Wardrobe	1	M2	
Shelving	N/A	M3	

EQUIPMENT

	Qty	Tag	Note
Computer	1	E1	Provided by owner
Printer/ Scanner / Fax	1	E2	Provided by owner

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.
 Equipment, Loose furnishings, and features shown represent one of many possible arrangements.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Office
 Space ID: 200
 Space Type: 71



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	Carpet
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity <u>1</u>
	Size <u>3'-0" x 7'-0"</u>
	Type <u>Single Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>No</u>
	Other _____

MISCELLANEOUS

Tackboard	<u>(4 LF)</u>
Coat Hook	_____
Roller Blinds	<u>S1 - Roller Shades, 5% Open</u>

LIGHTING

Lighting Level Tag:	<u>L2</u>
Typical for offices & other workspaces: ambient and at work surfaces	<u>35 FC</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>No</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>Yes</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>No</u>
Projection Surface	<u>No</u>
Smartboard	<u>No</u>
TW2 - 2 wireless devices per occupant	<u>Yes</u>
(1) standard data drop on (2) side walls	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-3</u>
NC Acoustical Criteria	<u>40</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>40/35</u>
Wall minimum: STC	<u>45</u>
Ceiling minimum: CAC	<u>35</u>
Max Reverb	<u>0.6</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	_____
Make-Up Air Required	_____
Individual Zoning/Controls	_____
Air Pressure Positive	<u>(Note 1)</u>
Air Pressure Negative	_____

Notes

Note 1: Overall building
building positive
pressurization is required

ELECTRICAL

Electrical Raceway	_____
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	_____
208V, 30A, 3 Phase	_____
480V, 100A, 3 Phase	_____
Emergency/ Standby Power	_____
UPS (OFOI)	_____
Other	<u>(2) duplex outlets per wall on (2) side walls (1) outlet at computer work stations</u>

PLUMBING

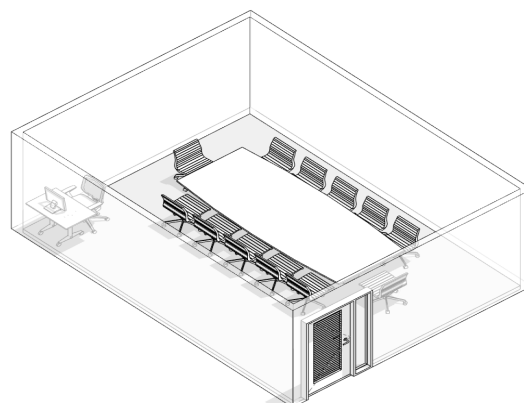
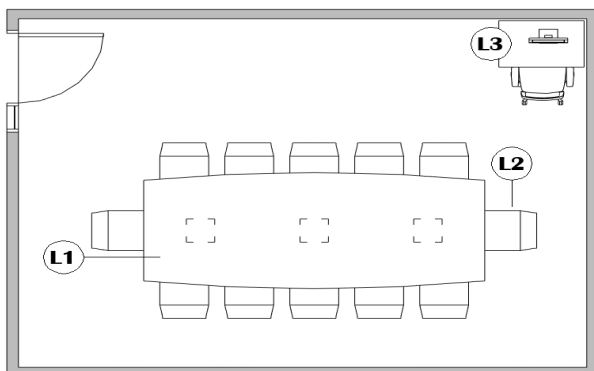
Sinks	Standard	_____
	ADA	_____
	Scullery	_____
Other	_____	_____

REMARKS:

Uniform lighting
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Conference Room
 Space ID: 201
 RDS No.: 72



SPATIAL RELATIONSHIPS/ ADJACENCY CRITERIA

Primary Adjacency Special Education Classrooms and Support Spaces

Secondary Adjacency Near Special Education Offices

Other

PROGRAM ACTIVITIES

To provide an area adequate for small and medium group conferences; Meetings/conferences; Staff collaboration

TYPICAL SIZE

SF of typical space: **300 SF**

Dimensions:

Length x Width	20' x 15'
Ceiling Height	10'-0"

SPACE TYPE

Semi Private

QUANTITY:

Number of Spaces in the Building: **2**

OCCUPANCY

People **Up to 20**

UTILIZATION

Hours of Operation **8 hours/day**

SECURITY

Locks	Yes
Card Access	Yes
Camera	Yes

CASEWORK/MILLWORK/ FURNITURE

Furniture	Qty	Tag	Note
Conference table	1	L1	with technology connections
Chairs	12	L2	
Computer Workstation	1	L3	W/ chair
Media Cabinet	1	L4	

EQUIPMENT

	Qty	Tag	Note
Phone	1	E1	
Monitor	1	E2	Along short wall; at head of table

REMARKS:

OSHA requirements maintained; Wheelchair accessibility
 Dimensions provided are approximate measurements; values can vary but must meet the SF requirement listed.

SPACE REQUIREMENTS - L.1. Special Education - CRI Program

Space Name: Conference Room
 Space ID 201
 RDS No. 72



ARCHITECTURAL

Walls/Partitions	GWB, Paint
Wall Protection	Corner Guards
Flooring	LVT
Base	4" Rubber
Ceiling	Acoustic Tile
Doors	Quantity <u>2</u>
	Size <u>3'-0" x 7'-0"</u>
	Type <u>Single Flush</u>
	Operable Wall <u>No</u>
	Vision Panel <u>Yes</u>
	Seals <u>No</u>
	Other _____

MISCELLANEOUS

Markerboard	<u>(8 LF)</u>
Tackboard	<u>(8 LF)</u>
Roller Blinds	<u>S2 - Roller Shades, 5% Open and Motorized Blackout Shades</u>

LIGHTING

Lighting Level Tag:	<u>L3</u>
Typical for conference rooms: ambient and at work surfaces and walls	<u>35 FC</u>
Task Lighting	<u>Yes</u>
Darkenable or Dimmable	<u>Yes</u>
Special Lighting	<u>No</u>
Natural Daylight Preferred	<u>No</u>

AV

Distance Learning	<u>No</u>
Video Conferencing	<u>Yes</u>
Projection Surface	<u>Yes</u>
Flat screen Monitors	<u>Yes</u>
Smartboard	<u>No</u>
Data at Table	<u>Yes</u>
AV at table	<u>Yes</u>
Data port	<u>Yes</u>
Voice port	<u>Yes</u>
Video port	<u>Yes</u>
TW2 - 2 wireless devices per occupant	<u>Yes</u>
(1) standard data drop on (2) side walls	<u>Yes</u>
(1) recessed floor box with (2) standard data outlets	<u>Yes</u>

PERFORMANCE REQUIREMENTS

Acoustics Tag	<u>AC-2</u>
NC Acoustical Criteria	<u>35</u>
Acoustical Panels	<u>Yes</u>
Privacy Criteria	<u>High</u>
Testing Criteria	<u>ASTM</u>
STC Rating	<u>50/35</u>
Wall minimum: STC	<u>45</u>
Ceiling minimum: CAC	<u>35</u>
Max Reverb	<u>0.6</u>

MECHANICAL

Temperature	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Humidity	<u>Summer 72° DB 50% RH, Winter 72° DB</u>
Recirculated Air	<u>x</u>
Dedicated HVAC Equipment	_____
Make-Up Air Required	_____
Individual Zoning/Controls	_____
Air Pressure Positive	<u>(Note 1)</u>
Air Pressure Negative	_____

Notes

Note 1: Overall building building positive pressurization is required

ELECTRICAL

Electrical Raceway	_____
110V, 20A, 1 Phase	<u>x</u>
208V, 30A, 1 Phase	_____
208V, 30A, 3 Phase	_____
480V, 100A, 3 Phase	_____
Emergency/ Standby Power	_____
UPS (OFOI)	_____
Other	<u>Duplex outlets on perimeter walls at max 6' on center</u>
	<u>(2) recessed floor quad boxes</u>
	<u>Electrical outlet from table for projection device</u>

PLUMBING

Sinks	Standard	_____
	ADA	_____
	Scullery	_____
Other	_____	_____

REMARKS:

Conference Room Technology – All administrative conference rooms will have two on-table computer connections to a video display screen and be internet capable. Two lighting/multi-media control panel shall be table mounted and one wall mounted.
 Uniform lighting; Design for computer aided presentations
 See Educational Technology Requirements for additional Audio/Visual Equipment required.

L.1 Special Education – CRI Program

PGCPS offers a continuum of services to students with special needs. To the extent possible students are educated in their home school using co-teaching, occasional ‘pull-out’ focused on intervention or self-contained classroom settings. The number of students and range of teaching options may vary from year to year and all classrooms should be designed to accommodate all students regardless of their disabilities.

Special education facilities will be integrated throughout the school to support the concepts of inclusion and the specialized requirements for the students. Special attention will be given to the accessibility of all facilities and an integrated learning program.

This school will serve students in the Regional Special Education program in a self-contained environment. The students often have multiple physical, medical, and instructional disabilities. Provide the following spaces in a contiguous block along a corridor shared with general education functions and spaces.

Space	Design Guideline			Comments
	Qty.	Sq. Ft.	Total	
Classrooms	8	900	7,200	Includes restroom
Toilet/Changing Rooms	8	100	800	
Occupational Therapy / Physical Therapy (OT/PT)	1	600	600	Includes extra equipment storage area
Nurses Office/Exam	1	250	250	
Teacher Support/Speech Room	1	250	250	
Program Transition/Related Services Room	1	250	250	Coordinator and Itinerant
Equipment Storage	3	100	300	
Life Skills Lab w/ Laundry	1	800	800	
Office	4	150	600	
Conference Room	1	250	250	
Total:	29		11,300	
TOTAL # of SRC Rooms				

General Planning Considerations

Rooms shall be clustered in traditional wing configuration with availability within the building to provide maximum contact between all students and staff. Support areas are to be located near the classrooms. All students in this program have an Individual Education Plan (IEP), which specifies the services each student requires and the specific staffing that is required to implement their IEPs as indicated in the PGCPS Special Education Staffing Plan.

1. Planned Activities

- Motor Development/M.O.V.E. activities
- Total classroom group instruction
- Gross and fine motor activities
- Individualized instruction
- Arts and crafts activities
- Computer use
- Interdisciplinary instruction with classroom teachers and specialists
- Utilization of audiovisual equipment
- Vocational workshop activities

2. Number of Participants

- 21-28 Students with multiple disabilities
- 6-7 students per classroom

3. Staff Required

- Three to five (3-5) Teachers
- Three to five (3-5) Paraprofessionals
- One (1) Coordinator/Specialist
- One (1) Speech Therapist
- One (1) Health Technician

4. Groupings

- Small groups of 6-7 students
- Students working individually or in small groups

5. Relationship to Other Activities

- Convenient access to the bus pick up and drop off point
- Direct access to middle school
- M.O.V.E./Motor/PT/OT Room should be situated closest to the middle school
- Health Room should be adjacent to the school's health suite and coordinator's office (if the adjacency is not feasible a larger separate health suite must be designed)

6. Environmental Requirements

- Thermal – Special consideration to ventilation in bathrooms and storage areas. Need special attention to on-floor activities.
- Acoustical – Particular attention to external equipment noise

7. Display for each classroom

- One (1) Tack board 4' x 8'
- One (1) Magnetic Marker board 4' x 8'

8. Support Facilities

- Bathroom/Changing rooms directly accessible to each classroom

APPENDIX

PGCPS PERFORMANCE SPECIFICATIONS

IT / AV SPECIFICATIONS

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DESIGN & CONSTRUCTION REQUIREMENTS

SUMMARY

- Project Name:** Blueprint Schools Phase II – 6 Locations
- Owner’s Name:** Prince George’s County Public Schools
- Work by Owner:** None
- Owner Occupancy:** Owner intends to occupy the Project upon Substantial Completion. Cooperate with Owner to minimize conflict and to facilitate Owner’s operations. Schedule the Work to accommodate Owner occupancy.
- Use of Site:** Contractor shall limit operations to areas noted by the Owner. Provide access to and from the site as required by law and the Owner.
- Access:** Keep all exits required by code open during construction period. Provide temporary exit signs if exit routes are temporarily altered. Do not obstruct roadways, sidewalks, or other public ways without permit.
- Time Restrictions:** Limit conduct of noisy exterior work to the hours of 7:00 am to 7:00 pm.

SECTION 1. SITE DESIGN REQUIREMENTS

1.1. EXTERIOR PERFORMANCE REQUIREMENTS

1.1.1. Exterior Shading

- (a) The Buildings within the Project Site shall be positioned so as to provide shade and reduce urban heat effects. Structures with materials, design, or forms that produce solar glare into or onto adjoining Buildings, streets, pedestrian walkways or publicly accessible outdoor spaces shall be avoided.
- (a) Primary entrances into Buildings shall attain 25% shade coverage as measured at 1:00 P.M. on the equinox. This requirement does not apply to secondary entrances into such Buildings.

1.1.2. Site Topography and Grading

- (a) All Building entrances shall be universally accessible.
- (b) All Project Site grading shall be designed with consideration of adjacent Work, Facilities or Buildings so that landforms and grade transitions are coordinated between Project boundaries and such Work, Facilities or Buildings.
- (c) The grading plan shall be developed so as to maximize opportunities for on-site stormwater quantity and quality control.
- (d) Planted areas shall be graded to maximize opportunities for on-site stormwater quantity and quality control.
- (e) Paved areas shall be graded to encourage sheet flow to planted areas.

1.2. LANDSCAPING AND EXTERIOR IMPROVEMENTS

1.2.1. General Requirements

BLUEPRINT SCHOOLS PHASE II

Performance Specifications

- (a) Developer shall design and construct landscaping and exterior improvements at the Project Site in accordance with Division 32 Exterior Improvements and the following requirements.

1.2.2. Performance Requirements

- (a) Developer shall design and construct all landscaping elements and associated irrigation systems within the Project Site.
- (b) The Developer shall situate the building programming on sites to provide buffers at all edges of the property.
- (c) The Developer shall preserve and enhance tree buffer at property lines, especially where the site abuts residences.
- (d) Permanent irrigation is not required. Hose bibbs or quick connect irrigation connections shall be provided such that no landscaped or planted areas is more than 150' from a point of connection.
- (e) Developer shall design and construct Project Site landscaping to emphasize regional natives, avoid invasive or allergenic species, and to include plantings that are compatible with the Buildings and Outdoor Facilities.
- (f) Developer shall incorporate water-efficient landscaping practices in all landscape installations.
- (g) Developer shall provide landscaping around Buildings, except where pedestrian walkways directly abut the building.
- (h) Planting within 100 feet of any Building shall not support flame or permit the spread of fire. Mulch, bark or other ground cover material shall not support flame or spread of fire.

1.2.3. Plant Materials Requirements

- (a) Design landscaping to be compliant with the Prince George's County Landscape Manual.
- (b) Plants: When choosing plant material, preference should be given to native shade trees and low maintenance shrubs. Chose plant species based on how the mature size would fit into the landscape. Also, plants should be chosen with all 4 seasons in mind.
- (c) Specify low-maintenance landscaping that does not require irrigation or regular pruning.
- (d) Within programmed spaces, specify only canopy trees and understory planting of a maximum height of 3' for unobstructed sight lines.
- (e) Plant materials shall be first class representatives of their normal species or variety. They shall have typical branching systems and vigorous root systems. Plants shall be free of pests and diseases, disfiguring knots, scalds, bark abrasions, or other injuries. Trees shall have straight trunks with the leader intact, undamaged and uncut unless multi-trunk trees are specified. Trees shall provide good growth and rapid appearance of maturity.
- (f) Trees shall be a minimum 2" caliper size, ball and burlap. Groundcovers, vines, and ornamental grasses shall be a minimum of one (1) gallon container in size. Shrubs and woody perennials shall be a minimum of five (5) gallon container in size. All one (1) and five (5) gallon container stock shall have been grown in their containers for a minimum of six (6) months and a maximum of one (1) year. All balled and burlap trees are root pruned per PGCPs standards.

BLUEPRINT SCHOOLS PHASE II

Performance Specifications

- (g) Planting shall be designed to have mature appearance within seven years.

1.2.4. Irrigation Requirements

- (a) Where used, Irrigation systems shall be designed to an irrigation efficiency of greater than 0.85.
- (b) Where Irrigation systems are installed,
 - i. The irrigation system shall be designed to prevent overspray or run-off from the irrigation zone onto any paved surface or into any surface water drainage element. Overspray or run-off into other planting zones shall be minimized.
 - ii. The automatic irrigation system shall be designed based upon WUCOLS guidelines and meet the LEED v4 Requirements for Water Efficiency, Outdoor Water Use Reduction Credit: Water Efficient Landscaping to reduce overall landscape use of potable water by 50% from calculated midsummer baseline figures and contain an evapotranspiration system. In addition, the system controllers shall include soil moisture monitoring and weather monitoring to manage watering cycles.
 - iii. All irrigation zones shall be separated by planting type and tree irrigation shall be considered a separate zone.

1.3. SITE FURNISHINGS

1.3.1. General Requirements

- (a) Developer and provide and install site furnishings in accordance with Division 32 Exterior Improvements.

1.3.2. Performance Requirements

- (a) The following site furnishings are expected in the final site design for each location.
- (b) Site furnishings to be provided include but are not limited to the following:
 - i. Benches.
 - ii. Bollards.
 - iii. Planters.
 - iv. Tables.
 - v. Waste Receptacles.
 - vi. Skate Deterrents.
- (c) Playgrounds
 - i. Program and separate by age: Ages 2-5 and 5-12
 - ii. Provide diversity of experiences and wide range of physical motion: gross motor, fine motor, swinging, hanging, etc.
 - iii. All play equipment to be certified:
 - ASTM F1487-21
 - IPEMA
 - ISO 9001:2015 and ISO 14001:2015
 - CPSC
 - iv. Provide opportunities for social play and solitary play
 - v. Provide minimum 75 sf/student (100 sf preferred)
 - vi. Determine fence lines, types and heights
 - vii. Provide bottle fillers and shaded areas

BLUEPRINT SCHOOLS PHASE II Performance Specifications

- (d) Outdoor Environmental Classroom
- i. Connection to the Overall School Site: The outdoor classroom shall be in a controlled and secure location but not isolated from view. The exit from the school shall be accessible by all classes, e.g., not through a doorway in a classroom. The location should capitalize on natural site features (trees, stream, etc.).
 - ii. Accessibility: All outdoor areas should be fully accessible to students of different mobility. For instance, at least some garden beds should be raised 18"-24" to be easily access from a wheelchair (if garden beds are built).
 - iii. Layout: Provide a teachers' station with electrical outlet. Seating can be either fixed or flexible, depending on the site, but should accommodate up to 35 students.
 - iv. Materials: The outdoor classroom should be built with natural materials like wood or stone. Limit the use of concrete to high traffic areas, for example the walkway connecting the school and the outdoor classroom. Permeable paving is encouraged.
 - v. Required Site Elements:
 - Duplex Electrical outlet at the 'teacher's station'
 - Wi-Fi access
 - Exterior water hose hook-up
 - Point of access for larger vehicles and supplies
 - Seating for one class (35 students)
 - Shade, either by a shade structure or by trees
 - Tool shed for manual garden tools (shovels, hoes, rakes- provided by PGCPs)
 - vi. Potential Site Elements:
 - Composting area
 - Greenhouse
 - Interactive water and energy usage learning station
 - Managed meadow
 - Pollinator garden, with space and paths for students to get in and investigate
 - Rain garden
 - Vegetable/community garden plots/raised beds
 - vii. Solar aspect/shade: The teaching area must be shaded, but the nearby areas for potential expansion with garden plots should receive 6-8 hours of sunshine a day.
- (e) Final approval of selected site furnishings shall be provided by the Owner.

SECTION 2. PROJECT SITE CIRCULATION

2.1. VEHICLE & PEDESTRIAN CIRCULATION

2.1.1. Site Circulation Elements

- (a) All paved areas shall be constructed with clean and neat edges and shall incorporate appropriate curbs or edging elements as needed to prevent spreading or edge degradation, and to prevent plant intrusion. Curbs shall be installed at all vehicular paving.

BLUEPRINT SCHOOLS PHASE II Performance Specifications

2.1.2. Site Paving Materials

All areas subject to vehicular traffic, including both regular traffic (roads, service and loading areas, and parking), and occasional traffic (walkways, plazas, bicycle paths and landscaped areas) shall include the following types of paving materials:

- (a) Vehicular paving:
 - i. All paving shall be uniform vehicular quality paving, constructed with appropriate subgrade preparation, subbase, and base to handle all anticipated traffic demands for loading, speed, turning, stopping and starting with no rutting or buckling. The pavement structure shall be engineered to determine the type and thickness of pavement surface course, base, and subbase layers that in combination are cost effective and structurally adequate for the projected traffic loading and site conditions.
 - ii. Hard vehicular paving shall be hard vehicular quality paving, such as asphalt, concrete, unit pavers, or similar. Road construction shall be appropriate for material selected. Refined coal tar sealers shall not be used.
- (b) Pedestrian and bicycle paving:
 - i. All paving shall be uniform pedestrian and bicycle quality paving, constructed with appropriate subgrade preparation, subbase, and base, to handle all anticipated traffic demands for loading, speed, turning, stopping and starting with no rutting or buckling.
 - ii. Hard paving shall be hard surfaces such as concrete unit pavers or similar with a three-year aged solar reflectance index no less than 0.4. Asphalt paving shall not be used for plazas, pedestrian or bicycle paving.
 - iii. All walking surfaces shall be slip resistant and have a coefficient of friction not less than 0.30. The coefficient of friction will be measured by California Test 342 before pavement is opened to public traffic.

2.1.3. Traffic Loading and Dimensions

Project Site circulation areas shall meet the following traffic loading requirements, as indicated by the Room Data Sheets:

- (a) Roadways, parking and service/loading zones. All vehicular areas shall be structurally designed to accommodate the maximum anticipated vehicle and withstand the anticipated load, speed, size and frequency. Anticipated vehicles include full sized buses and coaches, and fully loaded fire trucks. All paving designs shall be based on a Traffic Index (TI) calculation. Loading capacity shall not be limited to designated fire lanes.
- (b) All elements within the paved areas, including tree grates, manhole/handhole/valve covers shall be designed to accommodate traffic loading.

2.1.4. Project Site Roadway Signage

- (a) Developer shall provide all required signage for safe operations and wayfinding for all roadways, parking, pedestrian walkways, and bicycle paths. All pavement markings and roadway signage for circulation roadways shall conform to the requirements of the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

SECTION 3. SITE INFRASTRUCTURE AND UTILITIES

3.1. DEMOLITION

3.2.1. General Requirements

- (a) The Developer shall provide complete building demolition, including removal of hazardous material or toxic substances, in accordance with Division 2 Existing Conditions and the following requirements.

3.2.2. Performance Requirements

- (b) Remove utilities, underground tanks and crawl spaces, foundation walls and footings, slab & structure.
- (c) Remove paving and curbs as required to accomplish new work.
- (d) Remove all other paving and curbs within site boundaries.
- (e) Within area of new construction, remove foundation walls and footings to a minimum of 2 feet (600 mm) below finished grade.
- (f) Outside area of new construction, remove foundation walls and footings to a minimum of 2 feet (600 mm) below finished grade.
- (g) Remove concrete slabs on grade as indicated on drawings.
- (h) Remove underground tanks that contain or once contained petroleum products; fill and bury other types of tanks.
- (i) Remove manholes and manholes covers, curb inlets and catch basins.
- (j) Remove fences and gates.
- (k) Removing items that require special care and coordination is the responsibility of the contractor. Coordinate with A/E team and Owner as required. Scheduling removal is paramount to PGCPs Capital Programs.
- (l) Remove other items indicated, for salvage, relocation, recycling and fill.

3.2. SITE UTILITIES

3.2.1. General Requirements

- (a) All utilities within the project site, all Infrastructure, and all modifications to existing infrastructure, shall be designed and sized to accommodate the required capacity of the facilities and any existing facilities served by such utilities, and shall be designed and constructed in accordance with Division 33 Utilities and the following requirements.

3.2.2. Performance Requirements

- (a) Developer shall remove all abandoned utilities within the building footprint and seal or cap all points of connection to existing utilities. All active utilities within the project site shall be relocated as part of the Project.
- (b) Underground "wet" utilities shall be buried at a minimum depth of five (5) feet. This exceeds maximum frost depth for the area.
- (c) Underground "dry" utilities shall be buried at a minimum depth of three (3) feet, or the depth required by NEC for secondary conductors or other outside feeders/branch circuits? Concrete encasement is required for secondary conductors.

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- (d) The location and use of Facility services and Utilities shall not create visual or safety impacts or impede circulation and all Utility Devices shall be screened from Users' sight.

3.2.3. Utility Metering:

- (a) All Utility services shall be provided with meters at individual buildings to allow for the tracking and monitoring of individual building usage. Meters for electricity, gas and water shall be provided and installed by Developer. These meters are in addition to any meters provided by utility company for billing purposes.
- (b) Meters shall be Revenue Grade with accuracy of 0.2% or better. Unless not permitted by the local utility purveyor, all meters shall be connected to the Building Management System for the project and shall be capable of continuous reporting, unless not permitted by the local utility purveyor.
- (c) For volume-based utility services (water and gas) meter shall measure volume, flow and pressure. For electricity, meter shall measure phase volts, phase currents, neutral currents, ground currents, power consumption kWh, adjustable power demand kW, kVA & kVAR, Power Factor, and peak loads. For chilled water, meter shall measure volume, flow, pressure, supply and return temperature, total power (Btu) consumption and peak demand.

3.2.4. Utility Corridors

- (a) All utility mains shall be installed within dedicated utility corridors.
- (b) Utility Corridors shall be of a minimum width to accommodate the family of utilities routed within, including utilities outlined in the master plan but not yet installed.
- (c) Utility corridors shall accommodate regulatory-mandated separation between utilities of certain type (e.g., the separation between domestic water and sanitary sewer), and be in accordance with Division 33 of the PGCPs Design Standards.
- (d) For utilities installed at a vertical depth of up to four (4) feet, a minimum of two (2) feet of horizontal clearance shall be maintained on both sides to accommodate excavation for service or repair. Multiple conduits of like service (e.g., Telecom) may be bundled and considered a single utility for spacing purposes.
- (e) For utilities installed at a vertical depth of greater than four (4) feet, one (1) additional foot of horizontal clearance shall be maintained on both sides for every additional two (2) feet of depth, to a maximum of five (5) feet on either side.
- (f) Overhead and peripheral clearance shall be maintained to allow for work by excavating and lifting equipment such as backhoes.
- (g) Utility Corridors shall be placed outside the mature dripline of all planned and existing trees.

3.2.5. Utility Devices

- (a) Utility Devices include any device or equipment that forms part of the Utility system, such as transformers, fire hydrants, meters, pressure reducing station and other utility devices ("Utility Devices").
- (b) Visible Utility Devices shall be designed as integral elements of the overall design and housed within the building footprint or visually screened by architectural or landscape screening (e.g., within service yards) to minimize visual impacts or circulation conflicts for Users. Screening or location shall not impair the Utility Device function, access, or

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- maintainability. Screening shall not be used for fire protection devices requiring high visibility.
- (c) Above grade Utility Devices shall be set on concrete pads sized to provide a minimum of three (3) foot hard working surface at any required access points.
 - (d) The locations of Utility Devices, delivery areas, and trash collection areas shall be integrated into the building and landscape design concept. Locations shall be shown on design development site plans.
 - (e) Utility Devices shall not be allowed near main entrances to a building.
 - (f) A minimum setback of three (3) feet is required for all Utility Devices and fire department connections located behind a curb to avoid vehicle impact. If such Utility Devices or fire department connections are exposed to damage or vehicle impact, protection for such elements shall be provided per the International Fire Code and Fire Authority.
 - (g) Vaults shall not be located on primary walking paths and shall be shown on design development site plans.
 - (h) The design location of Utility Devices or other infrastructure devices that are visible to the Users shall be identified in the Work Submittal Review Process.
 - (i) All above-grade Utility Devices shall be painted or coated to protect them from corrosion and to minimize their visual presence. Utility Devices shall be of a uniform color and finish. Specific paint or coating shall be subject to the Owner's review and shall be consistent with current Owner's practices.

3.3. TEMPORARY UTILITIES

3.3.1. General Requirements

- (a) Developer shall obtain temporary utilities for all construction work from the Owner or directly from Utility Owners. Developer shall provide and maintain any necessary temporary structures required in connection with the temporary utilities.

3.3.2. Performance Requirements

- (a) Developer shall submit to Owner for Owner's review and approval drawings and plans for temporary utilities for the construction work.
- (b) Developer shall maintain and operate all temporary utility systems to provide continuous service.
- (c) Developer shall modify and extend existing utility systems, as required, during the performance of the Design & Construction Work.
- (d) The use and methods of installation of temporary utilities shall not create unsafe conditions or violate applicable law.
- (e) Developer shall submit all plans for temporary utilities to the Owner for review and approval in accordance with the Technical Requirements.
- (f) Developer must comply with PGCP's National Pollutant Discharge Elimination System (NPDES) MS4 permit requirements for stormwater management during construction.

3.3.3. Removal and Reconditioning of Temporary Utilities

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- (a) All temporary utilities and associated temporary structures shall be promptly removed at the completion of the construction work for which such temporary utilities and associated temporary structures were required.
- (b) All utilities shall be restored to their original condition at the completion of work.

3.4. STORMWATER MANAGEMENT SYSTEM

3.3.1. General Requirements

Developer shall design and construct a stormwater management system at the Project Site in accordance with Division 33 Utilities and the following requirements.

3.3.2. Performance Requirements

Provide a complete stormwater management system for the Project that includes:

- (a) Municipal Permit
 - i. Comply with DPIE standards.
 - ii. As a minimum comply with the requirements found in the most recently adopted “State Water Resources Control Board, National Pollutant Discharge Elimination System (NPDES) General Permit for Waste Discharge Requirements (WDRs) For Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) (General Permit)”
- (b) Post-Construction Requirements
 - i. Comply with Post-Construction Requirements under the Phase II Small MS4 stormwater permit.
- (c) Construction General Permit
 - i. Comply with the requirements found in the most recently adopted “State Water Resources Control Board, National Pollutant Discharge Elimination System (NPDES) General Permit for Waste Discharge Requirements (WDRs) For Storm Water Discharges Associated with Construction and Land Disturbing Activities (CGP)”. Allocation Limits
- (d) Storm Water Quality
 - i. Site design shall effectively reduce runoff and pollutants associated with runoff from development and pollutant-generating sources.
 - ii. Developer shall minimize the discharge of pollutants to the MS4 through installation, implementation, and maintenance of BMPs.
- (e) Lift stations within the stormwater utility are prohibited.
- (f) Drainage Report. The Developer shall submit a drainage report during design for Owner review and approval.
- (g) Modifications to the specifications may be considered if savings can be demonstrated.

3.5. POTABLE WATER SYSTEM

3.4.1. General Requirements

Developer shall design and construct a potable water system at the Project Site in accordance with Division 33 Utilities (copy attached) and the following requirements.

3.4.2. Performance Requirements

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- (a) Provide a complete potable water system that shall, at a minimum, provide adequate flow and pressure for the water demand (both “domestic” and “industrial”) and fire demand of each building.
- (b) Modifications to the specifications may be considered if savings can be demonstrated.

3.6. WASTEWATER

3.5.1. General Requirements

- (a) Developer shall design and construct a wastewater management system at the Project Site in accordance with Division 33-Utilities and the following requirements.

3.5.2. Performance Requirements

- (a) Provide a complete wastewater collection system that shall, at a minimum, provide:
 - i. Design flow velocity in pipe shall be a minimum of two (2) feet per second at average daily flow and a maximum of ten (10) feet per second at peak daily flow.
 - ii. Wastewater pipe at peak daily flow shall have a maximum depth to diameter (d/D) ratio of 0.5.
- (b) Flows of all buildings served shall not exceed the maximum d/D ratio at any point.
 - i. A wastewater pipe at capacity is defined as a pipe flowing with a depth to diameter ratio (d/D) of 0.5 at peak flow.
- (c) Stormwater runoff shall not be conveyed to the sanitary sewer, with the exception of small, outdoor areas used for trash or washdown, in which case the area shall be minimized, served by a grease/sand interceptor, and stormwater run-on eliminated.
- (d) Lift stations within the wastewater utility are prohibited.
- (e) Modifications to the specifications may be considered if savings can be demonstrated.

3.7. WATER FOR FIRE PROTECTION SYSTEMS

3.6.1. General Requirements

- (a) Developer shall design and construct a complete fire protection system at the Project Site in accordance with Division 33-Utilities and the following requirements.

3.6.2. Performance Requirements

- (a) Provide a complete fire protection system for the Project, including all required connections to existing piped systems. Developer shall design and construct all fire protection systems, including fire department connections, as well as fire protection systems within the Buildings in accordance with the following requirements.
 - i. The design shall be undertaken in coordination with the local fire agency.
 - ii. The location of fire department connections shall be subject to the approval of the Owner and local fire agency.
 - iii. All fire hydrants, post indicator valves, and other fire related Utility Devices, including fire department connections, shall be clearly visible from the street.
 - iv. The ports of any wet standpipe fire department connections that are accessible to the Users shall be protected with Knox style caps to prevent vandalism. Otherwise, metal caps are acceptable.

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- v. An inspection of underground installation, back flush, and hydrostatic test shall be conducted by Developer and witnessed by a representative of the Owner prior to backfill.
- vi. Developer shall obtain NFPA 24 inspection and installation certificates prior to acceptance testing and have them signed off by the Owner immediately after acceptance testing and approval.
- vii. Maintain a three (3)-foot clear radius around the fire department connection. Grade variation within this radius shall not exceed 1:12. The fire department connection shall be arranged so that hose lines can be ready and conveniently attached to inlets without interference from any nearby objects including Buildings, structures, fences, posts, landscape planting, or other fire department connections.
- viii. All piping shall be hydrostatic-pressure tested in accordance with the Technical Requirements, and the most recently adopted edition of NFPA 24 Underground piping shall be center-loaded and all fittings, joints, strapping, and thrust blocking shall be exposed for hydrostatic pressure testing and inspection per NFPA 24.
- ix. Fire hydrants shall be placed throughout the Project Site such that the hose lay to a building is no more than three hundred (300) feet, and distance between fire hydrants does not exceed 600 feet.

(b) Modifications to the specifications may be considered if savings can be demonstrated.

3.8. POWER

3.7.1. General Requirements

- (a) Developer shall design and construct a complete electrical power system at the Project Site in accordance with *Division 33-Utilities* and the following requirements.

3.7.2. Performance Requirements

- (a) Modifications to the specifications may be considered if savings can be demonstrated.

3.9. NATURAL GAS INFRASTRUCTURE

3.8.1. General Requirements

- (a) Developer shall design and construct a natural gas infrastructure system at the Project Site in accordance with *Division 33 Utilities* and the following requirements.

3.8.2. Performance Requirements

- (b) Modifications to the specifications may be considered if savings can be demonstrated.

3.10. EXTERIOR LIGHTING INFRASTRUCTURE

3.9.1. General Requirements

- (a) Developer shall design and construct a safe and sustainable exterior lighting system and associated Infrastructure that accommodate pedestrians and nighttime circulation in accordance with *Division 26-5619 Exterior / Security LED Lighting* and the following requirements.

3.9.2. Performance Requirements

- (a) Poles and exterior fixtures may be constructed of steel or aluminum. Finishes shall be approved by PGCPs.

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- (b) Standard exterior color temperature shall be 3,500K.
- (c) The exterior lighting system shall comply with the following requirements:
 - i. Road and Service Lighting: Lighting levels shall be a minimum of 0.9 Foot Candle (FC), with a uniformity ratio of 4:1 or better. Lighting may not be reduced for off hours.
 - ii. Parking Lighting: Lighting levels shall meet IECC 2018 requirements and shall be a minimum of 1 FC, with a uniformity ratio of 6:1 or better. Lighting shall be reduced to 0.5 FC between 11:00 p.m. and 6:00 a.m., and adaptive lighting shall be used to increase lighting when people are present.
 - iii. Pedestrian and Bike Lighting: Lighting levels shall meet IECC 2018 requirements and shall be a minimum of 1 FC, with a uniformity ratio of 4:1 or better. Lighting shall be reduced to 0.5 FC between 11:00 p.m. and 6:00 a.m., and adaptive lighting shall be used to increase lighting when people are present.
 - iv. Plaza and Gathering Area Lighting: Lighting levels shall meet IECC 2018 requirements and shall be a minimum of 1 FC in normal usage and shall be reduced to 0.5 FC between 11:00 p.m. and 6:00 a.m., and adaptive lighting shall be used to increase lighting when people are present. During events or gatherings, lighting levels shall be a minimum of 3 FC, with a uniformity ratio of 4:1 or better.
 - v. Loading Zone Lighting: Lighting levels at interior loading zones shall be a minimum of 30 FC, with a uniformity ratio of 4:1 or better. Lighting may be reduced to 0.5 FC when the loading dock is not in use, and adaptive lighting shall be used to increase lighting when people are present. Lighting levels at exterior loading zones shall meet the requirements for Parking lighting described above.
 - vi. Decorative Lighting: Any decorative lighting – façade or landscape lighting – shall be turned off not later than 1 hour after business closing and shall be turned on not earlier than 1 hour before business opening.
- (d) Site lighting shall be designed to follow Project Site landscape design concepts
 - i. All Project Site lighting shall be designed and constructed to at a minimum meet light level and uniformity requirements of the IESNA, except where the Project Transaction Documents require higher levels.
 - ii. Project Site lighting shall be designed and constructed to meet the LEED 4.0 Requirements of Sustainable Sites: Light Pollution Reduction.
 - iii. Light fixtures shall meet the Backlight, Uplight, Glare (BUG) ratings, in compliance with Illuminating Engineering Society (IES), Technical Memorandum TM-15, for the lighting zone of the site to limit light pollution. Accessible areas within the Project Site shall have a rating of LZ2. All other Areas shall have a rating of LZ0 unless otherwise determined by PGCPs.
 - iv. Project Site lighting will be integrated with the BMS for photocell and time schedule control via relay panels.
 - v. Emergency and egress (safety) fixtures shall be coordinated with emergency power requirements and obtain approval from Designated Fire Marshal.
 - vi. Lighting sources shall have a color rendering index of eighty (80) or better.
- (e) Modifications to the specifications may be considered if savings can be demonstrated.

3.11. EXTERIOR POWER AND DATA SYSTEMS INFRASTRUCTURE

3.10.1. General Requirements

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- (a) Developer shall design and construct a safe and sustainable exterior power and data system and associated Infrastructure in accordance with Division 26-5619 Exterior / Security LED Lighting and the following requirements.

3.10.2. Performance Requirements

- (a) Developer shall provide exterior convenience power and data outlets in accordance with the requirements set forth below:
 - i. Provide exterior grade lockable die-cast cover duplex receptacles distributed throughout the site to facilitate site maintenance and public use, including, but not limited to outdoor study, public performance activities, amplified music, food service, etc. Exterior receptacles shall be supported by conduit stub-ups from a concrete pad.
 - ii. Outlet distribution shall be planned based on outdoor space design, with higher density of outlets and circuits where higher activity levels are anticipated.
 - iii. Post top lights shall have integral receptacles.?

SECTION 4. BUILDING PERFORMANCE REQUIREMENTS

4.1. BUILDING PERFORMANCE EXPECTATIONS

- (a) Developer shall design and construct the buildings in accordance with the Technical Requirements of the Request For Proposal (RFP), including the *Educational Specifications* for each school and, in respect of each area within the buildings, the requirements of the applicable *Room Data Sheet*.
- (b) The building design shall be coordinated with the Sustainability goals. A good sustainable design shall protect taxpayer investment and reduce operational costs.
- (c) Maintainability shall be a major consideration, such as how often maintenance is required, location/accessibility to equipment, unintended consequences of one system upon another (such as roof top equipment and roof damage), ease of custodial upkeep and safety of chemicals used for custodial purposes.
- (d) Durable construction materials and efficient systems reduce long-term operational and maintenance costs. The design must facilitate the ability of school support staff to sustain the efficient operation and maintenance of the building after occupancy.
- (e) Consider snow accumulation, freeze/thaw, drainage patterns, wind loads, expansive/collapsible soil, transportation availability and cost, future traffic, and future neighborhood development in all design decisions.
- (f) Air infiltration shall be maintained in compliance with ASHRAE Standard 62.1. All reasonable measures will be taken to minimize undesirable air infiltration for purposes of energy management, maintenance, and building occupant health. These measures should include vapor barriers, foam sealing of building penetrations, continuous air infiltration retarder, airtight seals of window and doors, double-door vestibule ingress and egress, and any other applicable measures. Tracer gas and/or pressure testing may be used as a performance measure, per ASTM E779.
- (g) School buildings must be designed to optimize energy use and minimize utility costs. The proposed design shall make use of the best available technologies that minimize energy use and life costs. Special consideration shall be given to the building envelope, where actual performance for building systems and components installed in the structure must meet or exceed applicable standards and code requirements that are verifiable upon installation.
- (h) Integrate properly designed daylighting systems that are both aesthetically pleasing and cost-effective into the building design. Successful daylighting solutions in schools include translucent wall panels and clerestory light monitors with operable shading devices. Any solution needs to consider the problems of glare and the distribution of usable light.
- (i) These Performance Specifications are not intended to supersede or support any noncompliance with applicable building and fire codes or any other code, regulation, law, or standard that has been adopted by any Maryland state agency. Applicable codes and standards can be found on the website of the Building Codes Administration within the Maryland Department of Labor, Licensing, and Regulation (DLLR) at <http://www.dllr.maryland.gov/labor/build/>.

4.2. STRUCTURAL SYSTEMS

4.2.1. General Requirements

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- (a) This building is a ***USE GROUP E*** occupancy expected to house more than 250 occupants. Design shall be in accordance with Risk Category III as indicated by IBC, except when the building is designated by Prince George's County as an emergency shelter for holding people in the community in the event of a disaster, in which case Risk Category IV shall be used. Seismic anchorage of building non-structural components shall be in accordance with the requirements of IBC and ASCE, based on the assigned building Risk Category and Seismic Design Category. **(K-8 Schools only)**
- (a) Developer shall design and construct a complete structure in accordance with *Division 03 Concrete, 04 Masonry, and 05-Metals* and the following requirements.

4.2.2. Performance Requirements

- (b) Structural design and construction shall be in accordance with the following Codes and Standards, as applicable:
- i. "THE INTERNATIONAL BUILDING CODE - 2018", INTERNATIONAL CODE COUNCIL.
 - ii. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7), AMERICAN SOCIETY OF CIVIL ENGINEERS.
 - iii. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318", AMERICAN CONCRETE INSTITUTE.
 - iv. "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)", AMERICAN CONCRETE INSTITUTE, AMERICAN SOCIETY OF CIVIL ENGINEERS, AND THE MASONRY SOCIETY.
 - v. "STEEL CONSTRUCTION MANUAL", FIFTEENTH EDITION, 2016, AMERICAN INSTITUTE OF STEEL CONSTRUCTION INCLUDING ANSI/AISC 360-16 SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS, AND AISC 303-16 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
 - vi. "STRUCTURAL WELDING CODE ANSI/AWS D1.1", AMERICAN WELDING SOCIETY.
 - vii. "STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS, K-SERIES", STEEL JOIST INSTITUTE.
 - viii. "STANDARD SPECIFICATIONS FOR LONGSPAN STEEL JOISTS, LH-SERIES AND DEEP LONGSPAN STEEL JOISTS, DLH-SERIES", STEEL JOIST INSTITUTE.
 - ix. "STANDARD FOR COMPOSITE STEEL FLOOR DECK - SLABS", ANSI-SDI C-2017, STEEL DECK INSTITUTE.
 - x. "STANDARD FOR STEEL ROOF DECK", ANSI-SDI RD-2017, STEEL DECK INSTITUTE.
- (c) Building structural elements shall be arranged and designed to minimize impact on the Program and visual appearance of the interior of the Buildings. Columns, braces, or shear walls shall not be placed in a manner that will limit interior functional floor area or useable wall area.
- (d) Foundations
- i. The foundations for all Buildings and structures shall be designed and constructed in conformance with the geotechnical investigation report prepared by the Developer.
 - Foundations shall be designed to result in a maximum overall settlement of one (1) inch, and a maximum differential settlement between adjacent foundations of one-half (½)-inch.
 - ii. Design and construct perimeter walls for lateral soil, hydrostatic and seismic soil pressures, as designated by Developer's geotechnical investigation report.
 - iii. Provide subdrainage systems for below-grade walls, including elevator pits and similar conditions, to relieve hydrostatic pressure. Permanent pumped

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dewatering systems to lower the groundwater table at the site shall not be permitted.

4.2.3. Structural Loads

- (a) Loads used in design shall be as set forth in the Codes and Standards listed in 4.3.1(a), except as noted below.
- (b) Loads shall be developed using Risk Category III as defined in the International Building Code.

Load Requirements for Buildings Structural Design	
Area or Element	Minimum Design Load
Typical Floor Areas, UNO	100 psf live load
Storage areas	150 psf live load minimum for typical conditions 250 psf live load for heavy storage conditions
Laboratory Floors	100 psf live load plus 35 psf superimposed dead load for casework
Rooftop mechanical spaces	Weight of equipment plus 30 psf live load minimum. Snow loading, including snow drift loading shall be included per ASCE 7-16.

Table 2-a

4.2.4. Floor Systems

- (a) Slab on grade:
 - i. All slabs on grade shall be 5” minimum concrete thickness constructed with under slab vapor barriers with a water vapor permeance no greater than 0.010 perms (0.6 ng / (s m2 Pa).
 - ii. Moisture or waterproofing shall be provided at all slabs subject to ground water
 - iii. Physical (non-chemical) termite barriers shall be provided at all slabs where termite activity is possible and where there is a potential for damage to building fabric
 - iv. The site shall be evaluated for the presence of Radon or other soil gasses, and appropriate measures shall be implemented including passive or active systems in accordance with ANSI CC-1000 if indicated.
- (b) All slabs shall be constructed to be suitable for the intended floor finish, and to protect the finish from failure or accelerated deterioration. This shall include
 - i. moisture control, including limiting slab moisture migration, moisture testing and moisture barriers
 - ii. surface smoothness, including elimination of trowel marks and ridges
 - iii. crack control
- (c) Finish surfaces to the following tolerances, according to ASTM E 1155 (ASTM E 1155M), for a randomly trafficked floor surface:
 - i. For slabs-on-grade, overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17

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- ii. For suspended concrete slabs, overall values of flatness, F(F) 30; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 15
- iii. For concrete topping slabs placed on metal decking, finish and measure surface so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft.- long straightedge resting on two high spots and placed anywhere on the surface does not exceed 3/16 inch.

4.3. ARCHITECTURE AND INTERIORS

4.3.1. General Requirements

- (a) Developer shall design and construct a complete facility in accordance with Division 04 Masonry, 05-Metals, 06 Wood, Plastics & Composites, 07 Thermal & Moisture Protection, 08 Openings, 09 Finishes, 10 Specialties, 11 Equipment, 12 Furnishings and 13 Special Construction, and the following requirements.

4.3.2. Performance Requirements

- (a) Building envelope shall be designed for efficiency, maintainability, security, and privacy.
- (b) All exterior surfaces shall be treated to be readily cleansable from graffiti.
- (c) Building envelope shall be designed to accommodate thermal movement across the range of temperatures normally experienced in Maryland, including solar radiative heating.
- (d) Cladding shall be designed for snow and freeze resistance.
 - i. Provide wall protection at areas where snow might accumulate. Wall protection shall be waterproof and resistant to moisture or freeze/thaw damage.
 - ii. Eliminate thermal bridging at attached exterior elements.
 - iii. Provide snow melt in gutters or other elements subject to damage from repeated freeze/thaw cycles.
- (e) Provide covered or recessed entries at all buildings.
- (f) Provide canopies that connect vehicular and bus drop-off areas with the main entrance of each school.

4.3.3. Exterior Building Envelope

- (a) The exterior building envelope shall be weather tight under normal conditions with routine upkeep.
- (b) The exterior building envelope shall be designed to provide very high levels of passive thermal performance, including:
 - i. Minimizing air, moisture, and vapor leakage
 - ii. Elimination of thermal bridges: provision of continuous layer of insulation
 - iii. Use of high-performance glazing with high visual light transmission to reduce lighting loads, and efficient solar shading
- (c) Roof: A membrane roofing system with a 30-year warranty shall be the minimum roofing requirement. Other roofing systems may be considered if savings can be demonstrated. Metal or glazed roofing systems are acceptable in limited locations.
 - i. Interior roof drains connected to a planned drainage system shall be the minimum roof drainage requirement.

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- ii. Gutters and exterior downspouts are acceptable in limited locations.
- (d) Exterior Walls: Masonry cavity wall construction with masonry back-up walls shall be the minimum requirement for exterior walls. Metal panels and other material selections may be considered for design impact or if savings can be demonstrated. Stucco or exterior Insulation and finish systems (EIFS) are not acceptable for exterior walls.
- (e) Exterior Doors and Windows. Exterior doors and windows shall be weather tight under normal conditions with routine upkeep. In selecting door and window types, sizes, and locations, consider safety, security, the potential of distracting views to the outside, and any necessity for visual monitoring.
- (f) The exterior building envelope shall be designed in accordance with Developer's Integrated Pest Management plan, and shall at a minimum:
 - i. ensure that facilities do not provide potential attraction or habitat for pests
 - ii. be designed to exclude pests
 - iii. be designed to facilitate inspection and monitoring of pest activities
 - iv. Developer shall utilize structural and procedural modifications to reduce food, water, harborage, and access used by pests.
- (g) The exterior building envelope shall be designed to limit dirt/dust accumulation, and to allow cleaning either from ground boom-lift equipment or from roof mounted staging.
- (h) Where used, operable and fixed sun control devices must allow for ease of maintenance, repair, and replacement. Window washing systems used for the facility must also be compatible with any sunscreens or sun control devices.
- (i) Provisions for cleaning the exterior and interior surfaces of all walls, windows, skylights, and other glazed openings shall be provided. Demonstrate that cleaning and maintenance of interior glazing surfaces can be achieved without extraordinary means and methods. Submit this information with the construction documents.
- (j) Refer to the Educational Specification and the Room Data Sheets for additional requirements for accessibility, security and other exterior building requirements.

4.3.4. Egress and Life Safety

- (a) All doors into classrooms, offices and support areas must have a clear safety glass window with blinds for control of views into the classroom; doors should be able to lock from the inside allowing the ability to shelter in place
- (b) Provide emergency/stand-by generator capability for kitchen equipment, emergency lighting, one boiler, one pump. Where appropriate, size equipment to be in compliance with MEMA regulations

4.3.5. Types of Building Materials

- (a) Incorporate pitched roofs which inhibit roof entry and are aesthetically pleasing
- (b) Install non-slip floors at point of entry
- (c) Limit size of windows – use multiple smaller windows rather than one large window
- (d) Use durable wall surfaces that are easy to clean so graffiti can be removed

4.3.6. Minimum Floor-To-Floor Heights

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- (a) Floor-to-floor heights shall be designed and constructed to accommodate structural frame and Facility System components concealed within ceiling space in accordance with these Technical Requirements. Maintenance space above ceilings shall not require any special equipment or demolition of ceiling for access.
- (b) Ceiling height shall be defined as the minimum clear distance between the dominant floor surface, excluding lecture platforms or daises and the dominant ceiling plane. Soffits, beams, light fixtures and fire sprinklers may penetrate below the plane by up to three (3) inches, provided they do not interfere with sightlines or overall room performance and provided a minimum safe clearance underneath is maintained. Soffits and beams may not comprise more than eight percent (8%) of the total ceiling area.
- (c) For rooms with exposed structure and utilities, the dominant ceiling plane shall be defined as the underside of the lowest element, except that soffits, beams, light fixtures and fire sprinklers may penetrate below the plane by up to three (3) inches.
- (d) For rooms with multiple ceiling planes, the dominant ceiling plane shall be defined as the underside of the lowest ceiling plane, except that soffits, beams, light fixtures and fire sprinklers may penetrate below the plane by up to three (3) inches.
- (e) Ceiling mounted equipment, such as projectors may be located below the dominant ceiling plane, provided they do not interfere with sightlines or overall room performance and provided a minimum safe clearance underneath is maintained. Acoustic clouds or other treatment may not be placed below the dominant ceiling plane
- (f) Pendant (Direct/Indirect) light fixtures may be used, provided ceiling heights are increased to ensure that the overall appearance and operation of the space is maintained. In general, for ceilings heights of less than twelve (12) feet, ceiling heights will be required to increase by two (2) feet. Ceiling heights from twelve (12) to fourteen (14) will need to increase by one (1) foot.

4.3.7. Interior Glazing

All student spaces shall have interior vision glazing in the form of interior windows, door vision panels, and/or sidelights to allow for passive supervision and monitoring of space, except where noted in the Individual Sheets, or where required for privacy. Glazing shall be designed to minimize concealed spaces, while limiting the potential for distraction

Transparency from the classrooms into the hallways will increase supervision and encourage use of the space for learning. However, the height, opacity, and number of windows must be balanced against distraction to students and staff in classrooms. Students must be able to 'shelter in place' in their classrooms out of sight of the hallway.

- (a) Interior glazing and frames shall be rated as required by wall assemblies. Glazing shall also be tempered or laminated as required for impact and crash protection and building codes. Wired glass shall not be permitted for fire rating or impact resistance.
- (b) Glazing shall be clear glass and be mounted at vision height to maximize views from interior spaces, except where noted as transom/clerestory height. The top of above-door transoms shall be no higher than the top of exterior windows in the opposite wall. Where possible, glazing shall be installed adjacent to doors to function as a sidelight.
- (c) Interior glazing frames shall match adjacent door and glazing frames in material and appearance. Wood window frames shall not be permitted.

4.3.8. Interior Finishes

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- (b) Developer shall design and construct a complete facility with finishes that meet the requirements of Division 09 Finishes and the following requirements. (**Review Interior Finishes for Blueprints Schools Phase I**)
- (a) Interior finishes shall be considered acceptable if they are
 - i. Free of exposed lead paint.
 - ii. Free of hazardous materials; and
 - iii. Capable of continuing in its intended use with normal maintenance and repair.
- (b) Any material selected by Developer for partitions, including movable unitized partitions, shall conform to all requirements, including load requirements, of the Room Data Sheets.
- (c) Provide impact protection as required to protect against scratches, dents, and other surface damage. Wall protection may include use of high impact resistant construction (masonry, etc.) or use of bumper rails, floor bumper rails, corner guards or wall paneling. Impact protection shall be stainless steel, Acrovyn or similar. Impact resistance shall protect the full height of the wall from surface damage. Surface damage is defined as any damage that breaks or deflects the surface finish or reduces its functional or visual performance.

4.3.9. Restroom Requirements

- (a) The Developer shall provide gender inclusive restrooms, changing rooms and showers.
 - i. At least one (1) gender inclusive, ADA compliant restroom shall be required on each floor that has gender specific restrooms.
 - ii. At least one (1) gender inclusive, ADA compliant changing room shall be required in each building where gender-specific locker rooms or changing rooms are provided and shall be located within such locker room or changing room so the User need not leave the locker room or changing room to access such gender inclusive changing room.
 - iii. At least one (1) gender inclusive, ADA-compliant shower shall be required in each building in which gender-specific showers are provided. In the event such gender inclusive showers are to be located within a locker room or changing room, such gender inclusive showers shall be located so that the User need not leave the locker room or changing room to access such gender inclusive shower.
 - iv. Privacy cubicles (restrooms, showers, etc.) shall have full height doors and partitions.

4.4. VERTICAL CIRCULATION SYSTEMS

4.4.1. General Requirements

- (a) Developer shall design and construct a complete vertical circulation system in accordance with Division 14 Passenger Elevators (copy attached) and the following requirements. Modifications to the specifications may be considered if savings can be demonstrated.

4.4.2. Performance Requirements

- (a) Elevator capacity and speed shall be a minimum of 3500 pounds.
- (b) Elevator speed shall be a minimum of 150 feet per minute.
- (c) The use of wheelchair lifts is discouraged but may be considered if savings can be demonstrated.

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- (d) Elevators and lifts are inspected by the State of Maryland, Elevator Inspectors, Accommodate all associated requirements for design, construction, and inspections.

4.5. PLUMBING SYSTEMS

4.5.1. General Requirements

- (a) Developer shall design and construct a complete plumbing system in accordance with *Division 22 Plumbing Systems* (copy attached) and the following requirements. Modifications to the specifications may be considered if savings can be demonstrated.

4.5.2. Performance Requirements

4.5.3. Piping

- (a) Sanitary line sloping shall be 2% for piping connected to 1.2 GPF water closets and/or 1.0 GPF urinals

4.5.4. Plumbing Fixtures

- (a) All fixtures shall be low flow and WaterSense labeled. Flow rates shall be established as part of the Developer's sustainability plan
- (b) Except for service/utility sinks and kitchen/breakrooms, faucets and other water supply devices shall be motion sensor activated wherever possible or shall include other automatic shut off.
- (c) Toilets: Toilets shall be **wall-mounted or floor mounted**, white vitreous china, siphon jet action, Maximum Performance (MaP) tested by IAPMO to exceed 500g capacity. Flush valves shall be manually operated and single action 1.6 gpf or dual-flush 1.6/1.1 gpf.
- (d) Urinal: Urinals shall be wall hung, vitreous china. Flush valves shall be manually operated and single action 1.0 gpf.
- (e) Lavatory: Wall hung, vitreous china, 20-inch by 18-inch. Sanitary waste traps for equipment shall be "P" type, 17 gauge, cast brass, slip joint nuts, cast brass escutcheons, and cleanout plug. Visible traps shall be chrome plated.
- (f) Sink (Counter Mounted): 18-gauge, type 304 stainless steel sink counter mounted, single bowl, 19-inch by 18-inch by 10-inch-deep stainless steel. Deck mounted low flow faucet, lever handle, gooseneck, rigid spout plain outlet. 17 gauge chrome plated 1-1/2-inch by 1-1/2-inch trap.
- (g) Fixtures with metal finishes exposed to and visible by Users shall have a polished chrome finish.
- (h) All fixtures shall be lead free, regardless of if usage is for consumption or not.
- (i) All fixtures shall be vandal resistant.

4.5.5. Sewage Systems

- (a) All toilet rooms, laundry rooms and first floor Trash/Recycling rooms shall have floor drains.
- (b) Make all cleanouts accessible. If cleanouts are installed in an accessible ceiling space, the cleanout shall be extended through the floor above. Use graphite on all cleanouts with all threads being thoroughly greased after acceptable pressure test.

4.5.6. Emergency Plumbing Fixtures

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- (a) Emergency eye or eye/facewash equipment (including appropriate drainage) shall be provided in accordance with the Area Data Sheets. This equipment must meet the performance and installation requirements of American National Standards Institute (ANSI) Z358.1 1998.
- (b) A combination eyewash/emergency shower shall be provided in accordance with the Area Data Sheets. The combination unit must be located so that the travel distance is no more than 10 seconds or 100 feet with no obstructions and only one door to pass through to reach the unit.
- (c) Handheld drench hoses shall not be considered eyewash units. In some cases, a sink-mounted eyewash and a drench hose may be installed in lieu of a combination eyewash/safety shower. Such cases shall be discussed by Developer's Authorized Representative and the Owner's Authorized Representative.
- (d) All emergency plumbing fixtures shall be:
 - i. supplied by domestic tempered water
 - ii. readily visible and accessible to the laboratory or work site. The unit shall be located as close to the hazard as possible and cannot be blocked by building structures, cabinets, supplies or equipment.
 - iii. provided with an activation device, such as stay open ball valve, that allows the user full movement of both hands after the valve is turned on.
 - iv. identified with a highly visible sign; and
 - v. located so as not to pose an electrical shock hazard. No electrical outlets shall be permitted within six (6) feet unless such electrical outlets are GFI protected.
- (e) In addition to the requirements set forth in Section 4.5.6 (d), all eyewash units shall be:
 - i. regulated to provide a spray force of 0.4 gallons per minute at 30 psi.
 - ii. mounted such that the water nozzles are 33 inches to 53 inches from the floor level; height shall also comply with ADA requirements; and
 - iii. mounted so that spray nozzles, when activated, are no more than 18 inches from the counter front when located above work counters or benches.
- (f) In addition to the requirements set forth in Section 4.5.6 (d), emergency shower units shall be:
 - i. Installed and located so both the shower and eyewash can be used at the same time by one person.
 - ii. Adequately supplied with potable water to meet the requirements of each component. The shower must be able to deliver a minimum of 20 gallons per minute. The diameter of the water pattern of the shower measured 60 inches above the surface on which the user stands must be a minimum of 20 inches. The center of the spray pattern shall be located at least 16 inches from any obstruction; and
 - iii. Installed so that the shower head is not less than 82 inches or more than 96 inches from the surface on which the user stands.
 - iv. Include floor drains.

4.5.7. Rainwater Management

- (a) Open faced downspouts may be used for building rainwater management, provided downspouts along public areas:
 - i. are connected to sub surface storm water systems.

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- ii. occur at articulated corners of the Buildings.
 - iii. are complementary to the architectural style and Building aesthetic in terms of location, profile and color.
 - iv. do not exceed 8" in any dimension; and
 - v. are not used to drain large contiguous and flat roof areas over 18,000 square feet.
- (b) Where downspouts discharge onto paved areas, water flows shall be managed to limit volume and rate of flow to eliminate nuisance flooding. Standing water shall not be permitted. Sheet flowing water depths shall not exceed 1/8 inch at any point for pedestrian paving and 1/4 inch for vehicular paving.

4.6. MECHANICAL SYSTEMS

4.6.1. General Requirements

- (a) Developer shall design and construct a complete mechanical system in accordance with Division 23 Mechanical Systems and the following requirements. Modifications to the specifications may be considered if savings can be demonstrated.
- (b) Developer shall comply with the following Manuals and Guidelines in performing the Work in respect of mechanical systems and associated support system designs:
- i. ANSI - American National Standards Institute, Inc.
 - ii. UL - Underwriter's Laboratories, Inc.; and
 - iii. SMACNA – Sheet Metal Developer's National Association.
- (c) The Buildings shall also be designed to comply with the following Manuals and Guidelines, except where relevant codes exceed the requirements of the Manuals and Guidelines:
- i. ASHRAE 55-2017.
 - ii. ASHRAE 62.1-2019; and
 - iii. ASHRAE 90.1-2019.

4.6.2. Performance Requirements

- (a) Mechanical systems must utilize environmentally friendly refrigerants that meet current and future EPA regulations for the refrigerant utilized (i.e., R134a, R410A and R407C will be banned from use in new chillers in the USA from January 1, 2024).
- (b) The installation or utilization of mechanical systems that use chlorofluorocarbons or hydrochlorofluorocarbons shall not be permitted
- (c) HVAC systems for all community spaces (gym, multipurpose room, etc.), health suite, instrumental storage, and main office areas shall be zoned to be able to operate efficiently outside normal school hours, and without requiring operation of other portions of the building. If connected to the central plant, central plant shall be able to be operated efficiently under the lower load. These spaces are often utilized outside of normal school hours and should have systems to limit energy consumption during this time.
- (d) Each classroom shall be a separate thermostatic zone.
- (e) Zones that require powered exhaust by code shall not be grouped with other zones to protect the air balance in the building.
- (f) Buildings shall be balanced to provide 10-15% positive pressurization of all outside air.

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4.6.3. Design Temperature and Humidity

- (a) Summer outside air design temperature and humidity shall be consistent with the most stringent conditions for Washington, DC per ASHRAE Fundamentals Handbook (latest volume: 2017). Winter outside air design temperature shall be 11° DB, with low ambient conditions being designed to 0° DB.
- (b) Prince George's County Government requires all entities to keep setpoints at 78° DB in the summer and 68° DB in the winter. The design parameters below take these numbers into consideration along with keeping our facilities comfortable when true outside air temperatures exceed ASHRAE design standards.
- (c) Occupied spaces shall be designed to meet the following dry bulb temperature (DB) and relative humidity (RH) requirements:
 - i. Summer: 72°F DB, 50% RH (Occupied setpoint: 76° DB; no higher than 78° DB)
 - ii. Winter: 72°F DB, 40% RH (Occupied setpoint: 70° DB; no lower than 68° DB)

4.6.4. Ventilation

- (a) Outdoor air rates shall be the larger of:
 - i. Approved State Building Codes; or
 - ii. ASHRAE Standard 62.1 rates at the breathing level (per LEED EQ credit Enhanced Indoor Air Quality Strategies).
- (b) Outdoor air measurement and control and/or CO2 sensors are required in accordance with LEED EQ credit Minimum Indoor Air Quality Performance and Enhanced Indoor Air Quality Strategies and Building Code.
- (c) Operable windows shall not be the sole source of ventilation for any occupied space.
- (d) Systems relying on infiltration drawn in by negative pressure from exhaust systems shall not be permitted.

4.6.5. General Exhaust Systems

- (a) Exhaust systems shall meet the rates listed in ASHRAE Standard 62.1 except the following higher rates shall be used:
 - i. Toilet rooms (both public and private): 50 cfm per fixture.
 - ii. Shower rooms: 20 cfm per shower head; and
 - iii. Printer/Copy Rooms and rooms with chemical handling shall be exhausted to the outdoors sufficient to provide a minimum of 1 cfm/ft².

4.6.6. HVAC Zoning

- (a) All areas of a Building shall be zoned as required to prevent non-uniform temperatures due to variable heat gain from factors including outdoor exposure, space usage, variation in population density, etc. Each zone shall have its own controls and equipment in order to operate separately from other zones (i.e., thermostat and supply air terminal unit, or thermostat and fan coil unit, etc.).
- (b) All zones shall have re-heating capability in order to provide dehumidification and prevent overcooling. Equipment providing reheat (i.e., electric or heating water reheat coils) shall be sized to be able to provide a discharge temperature of 70 degrees at minimum airflow setpoint.

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- (c) All areas of a Building shall be zoned as required to prevent non-uniform temperatures due to variable heat gain from factors including outdoor exposure or variation in people density. Each zone shall have its own thermostat(s) and terminal unit.
- (d) All interior zones shall have heating capability to prevent overcooling except for the following:
 - i. spaces with high internal loads.
 - ii. spaces that are not considered livable per the Approved State Building Codes, such as MDF/IDF rooms and small storage rooms

4.6.7. HVAC Systems

- (a) The following HVAC Systems are not permitted:
 - i. Variable refrigerant flow (VRF) systems.
 - ii. Chilled beam systems.
 - iii. Two-pipe systems.
- (b) HVAC Systems shall be one of the following:
 - i. A 4-pipe system with high efficiency air cooled chillers, condensing boilers, and central station Variable Air Volume (VAV) Air Handling Units (AHU)
 - Central heating/cooling plant shall be variable volume/flow.
 - AHU fans and heating/cooling plant pumps shall be variable volume through use of Variable Frequency Drives (VFD) or electrically commutated motors (ECM).
 - AHUs shall be provided with energy recovery wheels if required by International Energy Conservation Code 2018 (IECC 2018)
 - Primary/secondary pumping is preferred, but variable primary pumping may be considered if savings can be demonstrated.
 - Air-cooled chillers are preferred, but cooling towers and water-cooled chillers may be considered if savings can be demonstrated (more maintenance and water treatment so this is less common in schools).
 - ii. Packaged heating/cooling systems
 - iii. Geothermal heat pump systems
 - iv. Other alternatives as approved by PGCPs

4.6.8. Filtration

- (a) Air handlers shall include:
 - i. Two (2) inch MERV 8 pleated prefilter. This filter shall serve as a construction filter and be permanently removed post-construction; and
 - ii. Fifteen (15) inch MERV 13 bag filter.
 - iii. Static pressure for central units shall be designed accordingly.
- (b) Fan-coils and other air handlers serving lab areas shall be protected with minimum four (4) inch MERV 8 pleated filters.
- (c) Fan coils serving rooms such as telecom, electrical rooms, utility spaces shall be protected with a minimum two (2) inch MERV 8 pleated filters

4.7. BUILDING MANAGEMENT SYSTEM

4.8.1. General Requirements

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- (a) Developer shall design and provide a complete building management system in accordance with section 23-0923 Automatic Temperature Controls (copy attached) and the following requirements. Modifications to the specifications may be considered if savings can be demonstrated.

4.8.2. Performance Requirements

- (a) Developer shall install a comprehensive building management system. The BMS installed by Developer shall comply with PGCPs Construction Standards and 230923 Automatic Temperature Controls PGCPs master specification requirements. The building management system shall be Direct Digital Control (DDC) and shall be open protocol BACNET able to connect back to the existing Tridium front end at the PGCPs Facilities Command Center.
- (b) Developer shall meet intent of the sample sequences indicated within the 230923 Automatic Temperature Controls PGCPs master specification. Where deviations are required, the developer shall review with PGCPs and get approval for any changes in intent.
- (c) Developer shall consult with the PGCPs Mechanical Systems Department at the Design Development stage for final determination of zones and monitoring points.
- (d) Diagrams and sequences shall be shown on drawings.

4.8. ELECTRICAL AND LIGHTING SYSTEMS

4.9.1. General Requirements

- (a) Developer shall design and construct a complete electrical and lighting systems in accordance with Division 16 Electrical Systems (copy attached). Modifications to the specifications may be considered if savings can be demonstrated.

4.9.2. Performance Requirements

4.9.3. Floor set Power Outlets:

- (a) In-floor power outlets shall be recessed or flush as noted in the Room Data Sheets. Raised or monument outlets shall not be permitted.

All flush floor outlets shall have captive/hinged solid metal covers that can be held closed by turn screw or similar positive latching mechanism.

- (b) Recessed outlet boxes shall have hinged covers with wire slots and be large enough to fully enclose any standard 120V plugs, such that the lids close fully when outlets are in use.
- (c) All outlet boxes and covers shall be corrosion resistant construction and liquid-tight where likely to be exposed to liquid.

4.9.4. Generator System

- (a) Emergency Generators shall be installed when required by the Motor & Equipment Manufacturers Association (MEMA) Regulations.
- (b) All K-8 facilities will be designated as Critical Operations Areas and shall be designed to meet NEC requirements for Critical Operations Power Systems (COPS).
- (c) Standby Generators shall be provided to support non-emergency essential loads as noted in the Room Data Sheets for a minimum of 24 hours. Essential non-emergency loads include, but are not limited to:

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- i. Security systems, including ACAMS, locks and readers, cameras, etc.
 - ii. Alarm and annunciation systems
 - iii. Communications systems, including phones, VOIP, Wi-Fi, Mas Notification, DAS/ERRC/BDA, etc.
 - iv. IT and data systems
 - v. Cafeteria food storage
- (d) MEMA emergency generators and required standby generators may be used to support code mandated emergency loads (emergency lighting, etc.). Where such loads are carried by the generator, they shall be included in the fuel capacity calculation such that all connected loads can operate with no load shedding for 24 hours.
- (e) Where installed, generators and associated emergency power systems shall be in full compliance with PGCPs Standard Specification Division 26 for diesel generators
- (f) The emergency and standby generator system must consist of one or more central engine generators and a separate distribution system with automatic transfer switches, distribution panels, lighting panels, and, where required, dry-type transformers feeding 208Y/120V panels.
- (g) The engine generators must be sized to serve approximately 100% of the design load and to run at a maximum of 60% to 80% of their rated capacities after the effect of the inrush current declines. When sizing the generators, the initial voltage drop on generator output due to starting currents of loads must not exceed 15%. Day tanks must be sized for a minimum capacity of 24 hours of generator operation and shall be double-walled. Provide direct fuel oil supply and fuel oil return piping to the on-site storage tank. Care must be exercised in sizing fuel oil storage tanks by taking into account that the bottom 10% of the tank is unusable and that the tank is normally not full (normally at a 70% level) before the operation of the generator.
- (h) Engines and generator sets shall be new
- (i) Generator alarms must be provided on the exterior wall of the generator room. All malfunctions must be transmitted to the BAS. In all buildings, with or without BAS, a generator alarm annunciator must be located within the fire command center. The generator output breaker must have a contact connected to the BAS indicating output breaker position, to allow annunciation of the open position on the BAS.
- (j) Automatic transfer switches must include a bypass isolation switch that allows manual bypass of the normal or emergency source to ensure continued power to emergency circuits in the event of a switch failure or required maintenance.

4.9.5. Power Monitoring Systems

- (a) All Facilities shall incorporate power monitoring systems to monitor the total electrical demand load at the service entrance of the Facility.
- (b) Developer shall comply with LEED requirements in the *Educational Specification*. LEED requires compliance with ASHRAE 90.1 which requires load isolation and metering, which shall be accomplished by using separate panelboards and metered feeders for at least the following loads: HVAC, Interior Lighting, Exterior Lighting, Receptacle Circuits, and a miscellaneous category including conveying systems and other loads.

4.9. FIRE PROTECTION SYSTEMS

4.10.1. General Requirements

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- (a) Comply with Division 22-Plumbing Systems and the following requirements.

4.10.2. Performance Requirements

- (a) Developer shall design, construct and install a fire protection system that includes, at a minimum, a complete fire alarm system and a hydraulically calculated automatic wet pipe sprinkler system for entire buildings, in accordance with NFPA 13, NFPA 1 and PG County Code of Ordinances Subtitle 11.
- (b) Modifications to the specifications may be considered if savings can be demonstrated.

4.10.3. Specific Fire Sprinkler Requirements

- (a) Developer to verify and coordinate requirements by building type with the Fire Authority prior to or with required fire suppression system shop drawing review.
- (b) Coordinate with the overall architectural design to ensure sprinkler head layout addresses interferences and or obstructions requiring special protection, additional piping and heads, or drains. Sprinkler heads shall be placed, as far as possible, within the architectural grid or pattern of the design, and coordinate with the overall architecture of all spaces. Sprinklers shall be symmetrically placed, centered in ceiling tiles, and equidistant between lights, diffusers, and other elements. Sprinklers may be spaced closer than the maximum spacing allowed so that symmetry and even spacing are achieved.
- (c) The maximum permissible flow velocity through automatic sprinkler piping shall be 15.0 feet per second. The minimum starting pressure at the most remote sprinkler head shall be not less than 7 psi.
- (d) Paint all exposed fire sprinkler piping to match wall/ceiling paint color.
- (e) Coordinate routing of sprinkler piping with the other trades for the Project. Main piping runs shall be organized within utility zones where possible to ensure ease of access, renovation or alteration.
- (f) Identify valves and label piping in accordance with NFPA 13 and PGCS standards. Install stickers applied to the fire sprinkler piping indicating the direction of flow
- (g) Valves in the ceiling or interstitial space shall be located so they are easily accessible by ladder without removing the ceiling grid to access the valves.

4.10.4. Sprinkler Heads

- (a) Provide high temperature sprinkler heads in all electrical rooms or other areas with elevated temperatures such as mechanical rooms. Avoid running sprinklers and piping over electrical equipment and electrical panels.
- (b) Provide recessed sprinkler heads in all areas. Semi-recessed sprinkler heads are not permitted.
- (c) Provide sprinkler head protection for all heads at exposed ceilings or in areas where heads may be vulnerable to impact from activities in the area below.
- (d) Provide stainless steel or other corrosion resistant heads in all high humidity areas, such as shower rooms and locker rooms and in concealed locations.
- (e) Provide upright type sprinklers for exposed piping, or pendent type heads for concealed piping.

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- (f) Use of flexible connectors is permitted. Connector must be UL rated and supported by bracket system connected to the ceiling grid.
- (g) Sidewall Locations: Where required and where approved by the Designated Fire Authority. Sidewall dry barrel sprinklers are desired for exterior protection to avoid the use of exposed pipe and the requirement for freeze protection.
- (h) Finished Ceilings: Located at all ceilings with lay in acoustical tile ceiling and at plaster or gypsum board type ceilings; Semi recessed sprinkler.
- (i) Ceilings in exterior of Building: Provide sidewall fire sprinkler heads and escutcheons to match ceiling color.
- (j) Where fire sprinkler heads are located in rooms with surfaced mounted lights, provide 2-piece adjustable sprinkler escutcheon, with adjustment from 1-7/8 inches to 3-1/8 inches below finished ceilings. Fire sprinkler drop nipple shall be mounted 2-1/4 inches below the finished ceiling surface.

4.10.5. Fire Protection Specialties

- (a) Install drains on main rises and auxiliary drains at all low points in the system. Drains shall be plumbed to the exterior at a location approved by the Designated Fire Authority and in accordance with CDPHE policy.
- (b) One Inspector's test drain shall be installed for each sprinkler system. Drains and Inspector's tests shall be at locations approved by Designated Fire Authority. Inspectors test drains shall be located at a remote location from the riser to facilitate removal of air from the system.
- (c) Provide drain line to sanitary sewer standpipe and P-trap assembly. Drain valves shall be of the angle type. Main drains are to be run into the sanitary sewer, not all drains. The drain shall be sized to accommodate the full flow of the main drain.
- (d) Pipe drain valves to a floor sink or to the other receptors. Discharge shall be visible from sight drain fittings or open-end drainpipe. Provide flushing connections at ends of all cross mains. Inspectors test valves and main drains shall not be run into floor sinks. Auxiliary drains may be run into floor sinks, but not drains requiring flow tests such as main drains and inspector's test valves.
- (e) Freeze protection must be provided for all exterior pipes and any pipe that is located in exterior soffits or spaces that do not insulate the sprinkler pipe from freezing.
- (f) Combined standpipe systems (Class I Standpipes combined with a wet fire sprinkler riser): The 2 1/2" fire department outlets that are accessible to the public shall be provided with Knox caps.
- (g) Fire sprinkler risers shall not be located in custodial spaces or storage rooms.

4.10.6. Fire Protection and Life Safety Alarm System

- (a) Fire Protection and Life Safety Systems Components
 - i. Developer shall design, construct and implement a fire protection and life safety system (a "Fire Alarm System") that includes, at a minimum, the following components:
 - fire alarm control panel.
 - initiating devices.
 - fire alarm notification devices.

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- mass notification devices.
 - fireman's remote annunciator panel (FRAP) with remote microphone; and
 - fire alarm auxiliary equipment control.
- (b) Systems with Connections to the Fire Alarm System
- i. The following systems, at a minimum, shall be connected to the Fire Alarm System:
- Automatic extinguishing systems alarm system flow switches, valve monitors and post indicating valves.
 - elevator controllers for recall.
 - door hold-open/closure devices without integral smoke detectors.
 - fire barrier roll-down and shutters.
 - fire/smoke dampers.
 - fire pump controller to monitor status.
 - duct mounted smoke detectors and programmable relays.
 - Gas detection systems or any hazardous materials monitoring systems; and
 - Flow alarms to emergency showers.

4.10.7. Mass Notification Requirements

A Mass Notification System is not required.

4.10. SECURITY SYSTEMS AND INFRASTRUCTURE

4.10.1. General Requirements

- (a) Developer shall design and construct complete security systems in accordance with *Division 28 Electronic Safety & Security Systems* (copy attached). Modifications to the specifications may be considered if savings can be demonstrated.

4.10.2. Performance Requirements

4.10.3. Access Control and Alarm Monitoring Systems (ACAMS)

- (a) Developer shall develop and implement a Security System that utilizes an ACAMS platform that utilizes the same software versions being currently utilized by PGCPs in other locations.

4.10.4. Video Surveillance System

- (a) Developer shall procure and install video monitoring in accordance with the *Room Data Sheets* to provide comprehensive video surveillance.
- (b) The locations and positioning of the video surveillance cameras shall be determined in consultation with the Owner during the design review process, but shall include, at a minimum the areas noted in the Education Specifications

4.10.5. Emergency Responder Radio Coverage (ERRC) / Bidirectional Amplifiers (BDA) / Distributed Antenna System (DAS)

- (a) Developer shall provide emergency responder radio coverage (ERRC) for all facilities in accordance with approved State Building Codes. The ERRC shall be provided by installation of an amplified distributed antenna system, bidirectional amplifier, or other acceptable signal amplification technology approved by code or by the Fire Marshal.

**SECTION 27 0500
LAN WIRING SPECIFICATIONS**

PART 1 - GENERAL

1.01 GENERAL

- A. NOTE: SECTION IS STILL UNDER REVIEW. FINAL COORDINATION SHALL OCCUR WITH PGCPs IT DEPARTMENT.

1.02 REQUIREMENTS

- A. The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this Section.
- B. All contractors performing low voltage wiring must be approved by the PGCPs Information Technology office. In all cases wiring must conform to these specifications as well as the "Standards for Telecommunications Distribution Systems" as published by the Maryland State Department of Education Instructional Technology Unit.

1.03 SCOPE

- A. The work covered under this Section shall include furnishing and installing fully operational and complete data network systems (including LAN wiring and network cabling) as shown on the Drawings and herein specified.

1.04 QUALITY ASSURANCE

- A. All equipment, materials, and their installation shall conform to the requirements of the National Electrical Code (NEC), local code requirements, and these Specifications.
- B. All equipment and materials shall be listed by Underwriters Laboratories, Inc. (UL) for their intended use and shall bear the UL label.
- C. Equipment shall be constructed in accordance with National Electrical Manufacturer's Association (NEMA) standards.
- D. Submittals are required in accordance with SECTION 260500 of these Specifications.
- E. Submittals shall include a preliminary schedule to perform the infrared scans described in Part 3 of this specification. The schedule shall be based on the contractual substantial completion date for this project.
- F. All infrastructure cabling must be part of an end to end solution complete with manufacturers' warranties.

PART 2 - PRODUCTS

2.01 GENERAL STANDARDS

- A. All wireless equipment must be HPE/Aruba Networks, specified in the scope of work. All PDUs must be rack mounted APC units with network interface cards (NIC) and must be configured to PGCPs configuration standards. It is strongly recommended that all electronics be purchased at the latest possible time in order to insure acquiring the latest technology.
- B. Installation of low voltage cables shall comply with Articles 725, 800, 810 and the following listed articles of the National Electrical Code and articles EIA/TIA 568A (Commercial Building Telecommunications Standards), EIA/TIA 569 (Pathways & Spaces Standards), EIA/TIA 606 (Administration Standards), EIA/TIA 607 (Grounding & Bonding Standards), and local, city, the State of Maryland and Prince George's County laws and regulations.
- C. All projects must comply with the "Standards for Telecommunications Distribution Systems" as published by the Maryland State Department of Education Instructional Technology Unit.
- D. No splices of any type are permitted in Category 6a Wire or Fiber Optic Cable. If other types of lines such as public address, video, or telephone wires require splicing only crimp type wire connectors shall be used for open unprotected splices, such as Scotch Lock connectors made by 3M Company or approved equal. Standard screw on type wire nuts will not be accepted. Where low voltage cables other than Category 6a Wire or Fiber Optic Cable as specified above, should require splicing above accessible ceiling areas, the cables shall be laid side by side and supported to the building structure approximately 6 to 8 inches behind the splice to prevent any strain from being applied to the splice device and conductors. NOTE: Wire nut type screw-on connectors can be used in approved electrical box for high voltage applications with approved connectors.

- E. When materials are provided by PGCPs, the contractor must accept shipment of the said materials at a PGCPs approved location.
- F. Due to the volatility of the technology, electronic equipment required will be bid to the Board's most current specifications immediately prior to the required installation date for the material.
- G. Advancing technology convergence requires that the data specifications enumerated above must be carefully considered along with: the relevant EdSpec, Video specifications, Audio specifications, Television specifications, Public Address specifications, Security specifications, Fire annunciator and any other low voltage application.
- H. All routers shall be manufactured by Cisco. All switches must be manufactured by HPE/Aruba Networks and configured to PGCPs standards.

2.02 EQUIPMENT

- A. Connection Drops
 - 1. Individual drops in each instructional space must be placed as far away from each other as possible to allow maximum flexibility for future room use.
 - 2. Each data drop is defined as three (3) Category 6a cables. Each instructional space must have a minimum of three, 3 cable drops.
 - 3. All drops must be within six feet of an operating electrical outlet, as far from water (sinks, bathrooms, etc.) as possible, as far from outside doors as possible and approximately 18 to 24 inches from the floor.
 - 4. Drops shall not be placed on movable, removable, sliding walls, or on furniture.
 - 5. Connectivity between all drops and closets must be confirmed by the contractor for links to be considered complete. All cable runs must be tested individually using an industry standard Category 6a scanning tester. Fiber and A/V cables should also be tested accordingly. Test results are to be provided on paper and electronically (CAD) along with "as built" diagrams to the OTD. All cables must be labeled at the drop and the patch panel. Fiber ties must be labeled on the fiber patch cables themselves as well as the fiber cans. All network racks must be labeled as well.
 - 6. The outlet box for each network outlet connection must be identified with a unique number(s) assigned for that cable for the facility being wired according to a numbering scheme agreed to by PGCPs and the Contractor. The other end of each cable that has been terminated in an outlet box will be clearly and permanently marked on the RJ-45 patch panel to which the network cable will be attached. The unique number assigned to this cable will be clearly marked on the riser diagram described above, and the wire itself will be clearly marked with a wraparound labeled piece of tape on the cable inside the terminating outlet box and within two feet of that cable's termination at an RJ-45 patch panel.
- B. Pathways:
 - 1. Main services for TV/DATA/VOICE coming into the building from the street, should be housed in 4 inch rigid conduits, from the street to the MDF of the building, and should be terminated either on the wall or in the appropriate rack.
 - 2. When low voltage cables are run through solid walls; a conduit sleeve shall be installed for the cables to pass through. This conduit sleeve shall have either insulated throat connectors, insuliners or bushings installed on both ends of the sleeve. Where a conduit sleeve or other through-penetration device is installed through a fire rated assembly, the opening around the sleeve and the hole through the sleeve shall be sealed with an Underwriters Laboratory approved fire rated sealant material after the cables have been installed. Conduits must be sized appropriately for the amount of cable being pulled through.
- C. Copper Cabling:
 - 1. All service and patch cables, unless otherwise specified, will be Four Pair Category 6a Plenum Rated Cable, blue in color. Wireless cables must be green in color. Security Systems must be white in color. All cables should be Hitachi, Hubbell, General, Leviton, Belden, or equivalent quality or better, as approved by PGCPs.
 - 2. No service cable is to exceed 90 meters.
 - 3. All cables should be terminated with appropriate Category 6a equipment in the closet and at the user's station. RJ-45 Category 6a Patch panels (Hubbell, Leviton, Belden or equivalent or better quality approved by PGCPs) are required in all closets. Single source end to end solutions are

required with a manufacturer's warranty of at least fifteen (15) years.

4. If class two and class three cables are installed in a cable tray they must be type PLTC (Power Limited Tray Cable). (NEC, Art. 725-38).
5. Low voltage cables must be installed/run with the building structure, such as along metal beams, through open web type metal beams and over or below solid metal beams as job conditions permit. If no building structure as mentioned above is available, then some type of approved supporting system shall be installed to support the cable(s). When low voltage cables are installed over, through or below any type of metal beams that have rough surfaces or sharp edges the cables shall not rest on or be secured to these surfaces. For example, open web type metal beams with rough surfaces or sharp edges, support the cable(s) with plastic ties from the round or smooth sided steel cross braces or by other approved means. Also do not strap or let low voltage cables rest on all thread rods. When bends, turns, and splices are made in cable runs allow sufficient slack in the cables at these points and adequate support at these points. (NEC, Article 300-14).

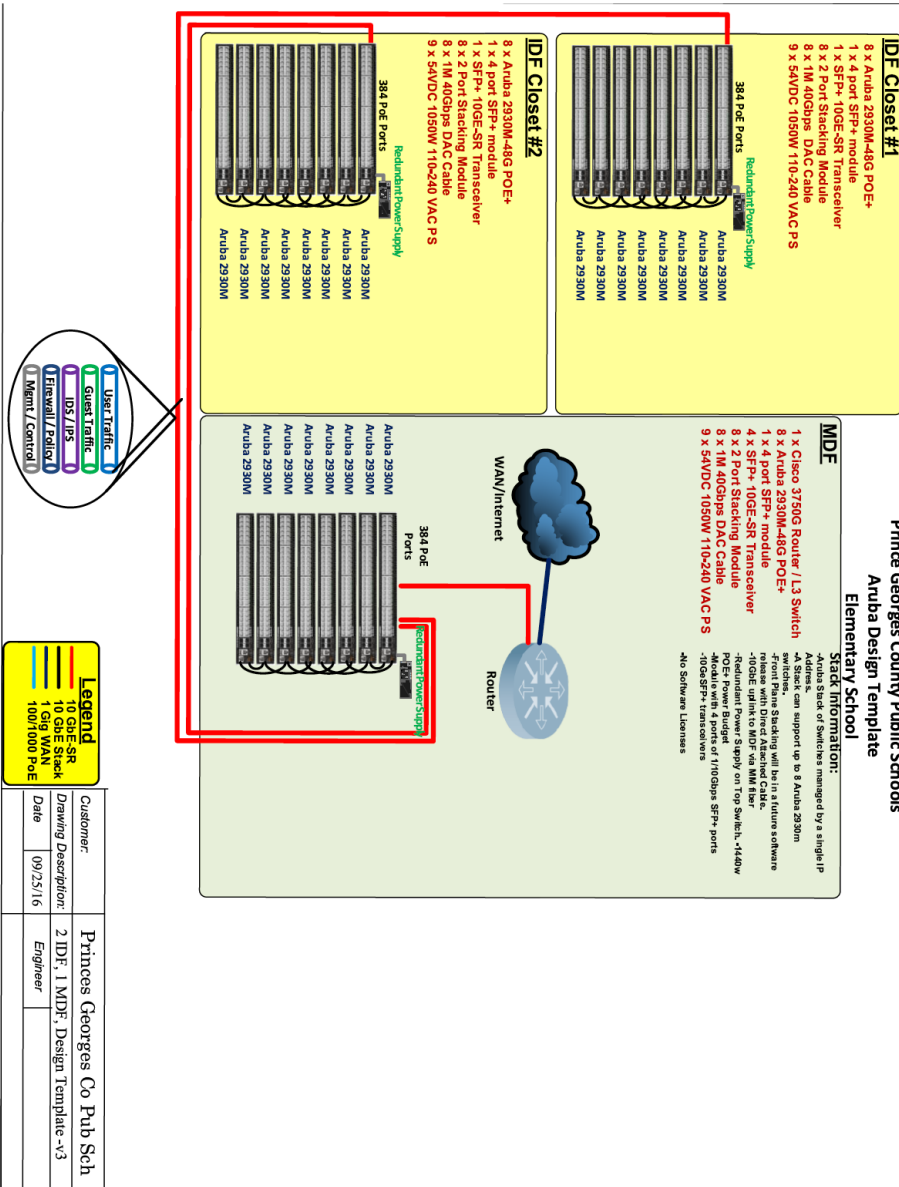
D. Fiber:

1. The new construction team should follow up with Prince Georges county government as well as PGCPSS to formulate a plan of using ICBN fiber at new sites.
2. Multi-mode Fiber optic horizontal cables must be aqua in color and consist of 12 strands of multi-mode, plenum rated, 50 micron, OM4, laser certified fiber that is capable of supporting 10Ge data rates up to 550 meters. If the distance is over 550 meters, single mode fiber must be used. Fiber must be terminated in a rack mount cable box using LC style connectors, and must follow all low voltage cable installation rules as specified elsewhere in this contract document.
3. Single-mode fiber optic cables must be yellow in color and consist of 12 stands of single- mode, plenum rated, 9 micron, laser certified fiber that is capable of supporting 100Ge for up to a minimum of 80km. Single-mode fiber cable must be installed and terminated in the MDF on either the wall or in the appropriate rack.
4. All fiber pulled throughout the building must be run in 1 1/4 inch plenum rated, appropriately colored, (yellow for single-mode, orange for multi-mode) innerduct. Furthermore, terminated fiber bulk heads must be labeled accordingly.
5. Use fiber optic 50 micron patch cables, blue in color, to connect remote closets to the main closet to create a collapsed fiber optic backbone. The use of a fiber SFP+ installed internally in the switch is required and will require the use of LC to LC 50 micron patch cords. The fiber backbone will consist of home run fiber to the MDF operating at 10Ge. This will require the use of 10Ge connections in the IDF and a 10Ge fiber switch /switches in the MDF. The switch stack in the MDF must be connected to the 10Ge fiber switch/switches as well.

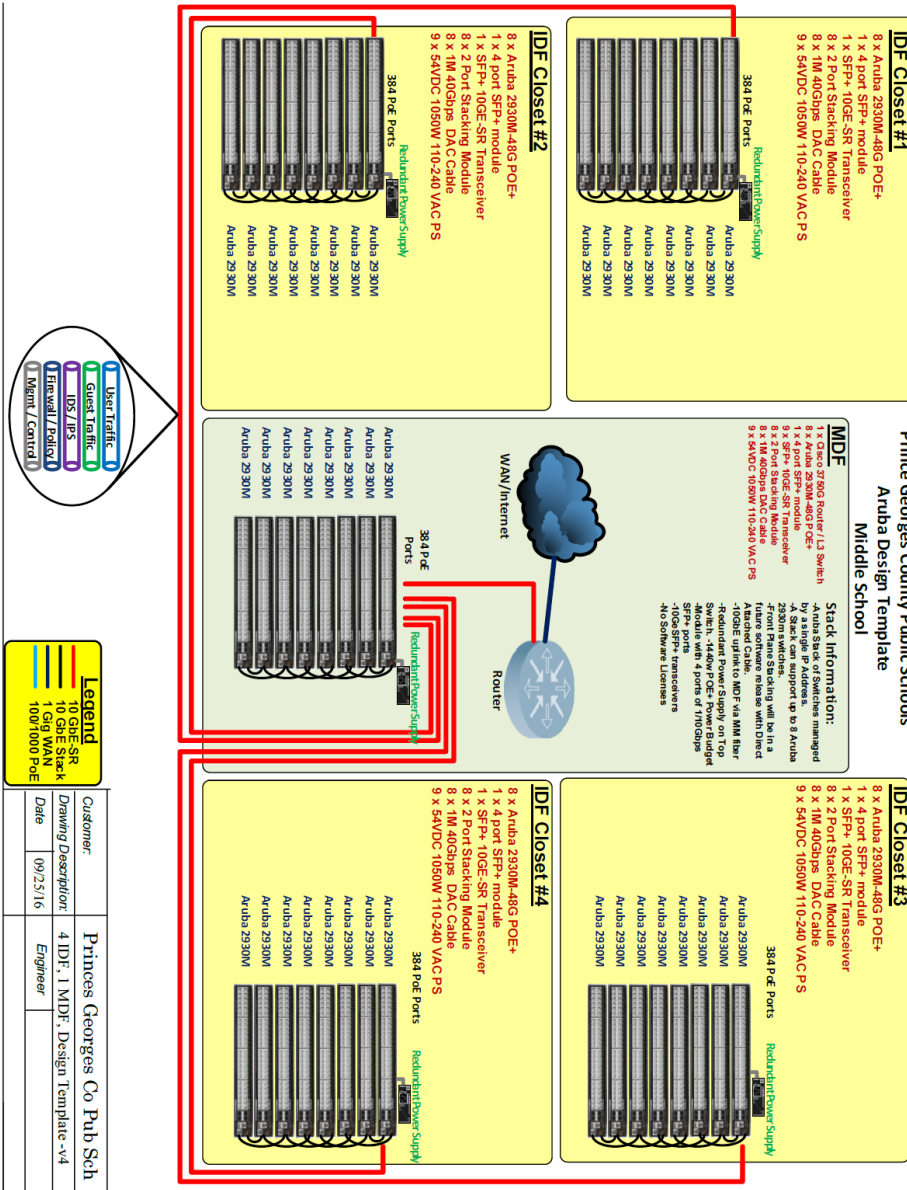
E. MDF/IDF Configuration:

1. Multiple wiring closets within one installation must be connected directly to a designated main distribution facility (MDF), in a star topology, via 10gb fiber optic cable. Fiber optic cable runs must have a Category 6a cable as specified in item 'C' pulled parallel with the fiber for redundancy regardless of the length of the run.
2. The MDF must contain a router which is to be a Cisco 3650G layer 3, 10/100/1000 switch or newer, with a minimum of 2, 10Ge fiber ports for uplinks for the WAN and LAN. The Router is to also include IP OSPF routing software.
3. Electronic installations will connect incoming high speed digital circuits to a router, typically with a standard RJ45 Category 6a patch cord of the appropriate length, yellow in color, or with a single mode fiber and GBIC, at the proper 1Ge or 10Ge speed, into the main router.
4. Electronic installations will connect incoming high speed digital circuits to a router, typically with a standard RJ45 Category 6a patch cord of the appropriate length, yellow in color, or with a single mode fiber and GBIC, at the proper 1Ge or 10Ge speed, into the main router.
5. For a new High School configuration, connect the router to an approved 10Ge managed fiber switch (Aruba 24/48 port 10Ge SFP+ Fiber switch) with a LC to LC fiber patch cord of the appropriate length. A 10Ge SFP+ uplink will be required by the scope of work for any individual job. If this is a middle school or elementary school configuration, fiber ties can be connected to a fiber module in the switch stack. A fiber switch is not necessary.
6. The Primary switch in the stack of an IDF must be an HPE/Aruba 2930M or most current or better make and model, and must be linked back to the MDF at 10Ge via fiber backbone. A Special module tray and SFP+ will be required to provide this connection, along with the appropriate length

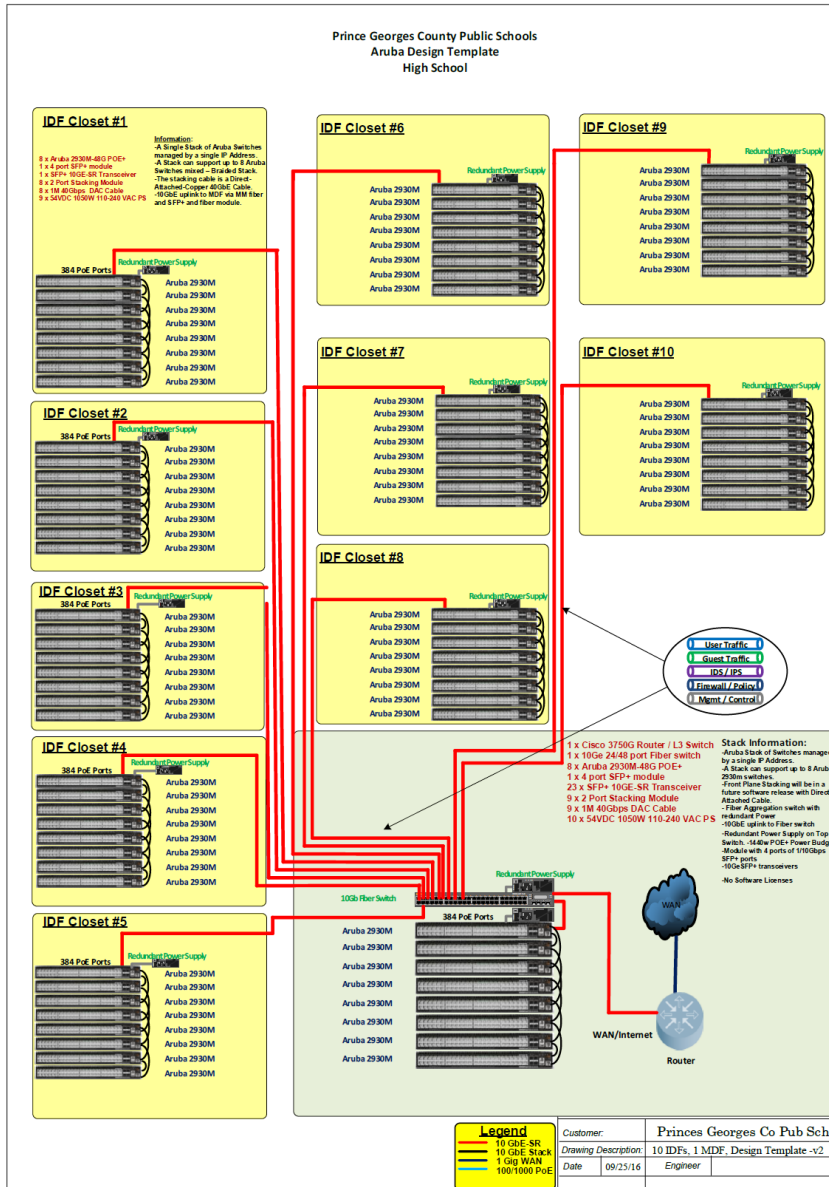
- patch cord. This switch must house all, wireless access points and will require dual 1050W power supplies.
7. Connect each approved 10/100/1000 managed switch (must HPE/Aruba 2930M or most current or better make and model) in the stack to the primary switch in the stack with the appropriate 40Ge DAC stacking cables, in a braided fashion. The switches have limitations on how many can stack together. They must not be stacked higher than what is recommended by the manufacturer.
 8. The MDF will require a Netbotz 455 unit connected to PGPCS network to APC Struxureware software for monitoring of video, door contact, high/low temperature and HVAC general fault alarm.
 9. All installed electronic equipment must be configured according to the PGPCS office of Technology Operations specification. All electronic equipment installed must be accounted for and tagged with the appropriate PGPCS asset tag to be entered into the PGPCS Asset Management Systems. Documentation for all electronic equipment must be provided upon completion of the project. Documentation will conform to the Office of Telecommunication Design standards and will include information such as exact equipment location, mac address, IP address, closet name, serial number, part number, complete network diagram and wiring schematic, etc. Please coordinate with the OTD to provide this said documentation. No exceptions. Contractor must have a Network engineer on board to perform these tasks.
 10. An APC AP7802 Metered Rack PDU will be installed in each telecomm rack in lieu of a UPS. This PDU will also be connected to the primary network switch via Ethernet patch cable and configured to PGPCS standards for remote management.
- F. Elementary School Aruba DesignTemplate



G. Middle School Aruba DesignTemplate



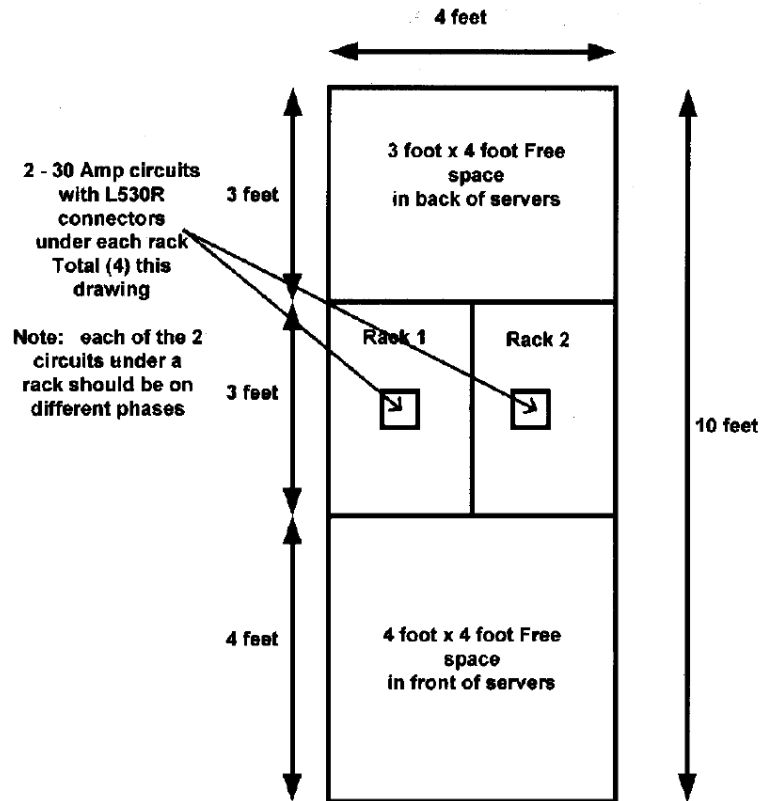
H. High School Aruba Design Template



2.03 ELECTRICAL REQUIREMENTS

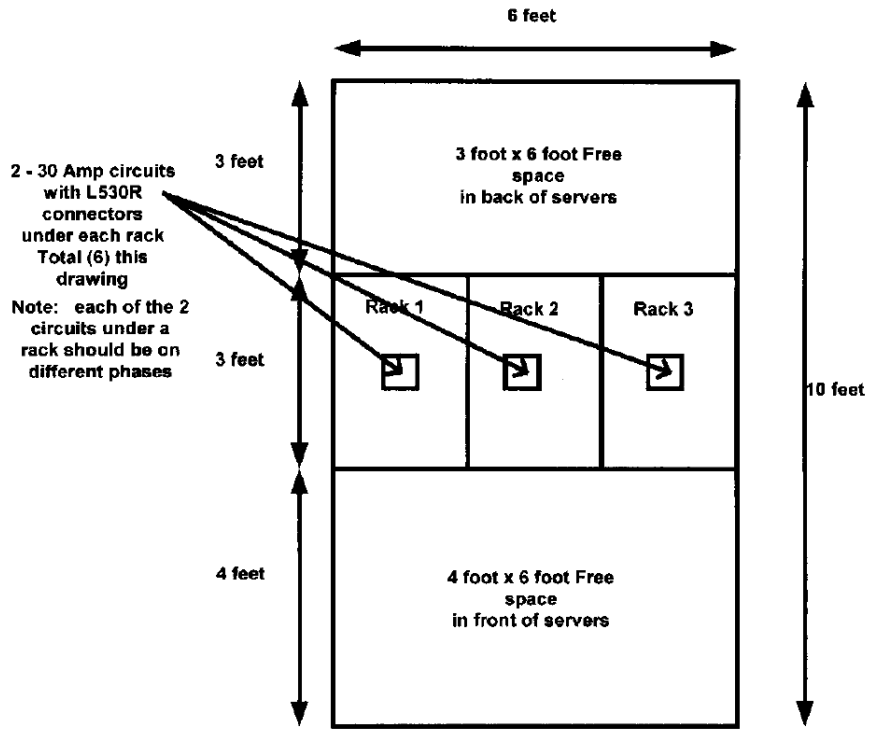
- A. Telecomm closets in new construction or renovations must provide for two, 30 ampere L530R electrical outlets per rack, each on dedicated circuits that are on a backup power generator. Each circuit must be on separate phases.
- B. Each rack will also require 2, 20 ampere duplex dedicated circuits, also tied to a backup power generator.
- C. It is recommended that a Flywheel(s) with a bypass cabinet be installed. It should power the MDF and all LAN closets, main office including Principles office, building HVAC including pumps and boiler room equipment, main fire alarm panel, burglar and alarm monitoring systems, security camera system, and building security badge access devices. (Note: An entire building Flywheel solution is also acceptable and maybe more cost effective.)
- D. APC AP7802 Metered Rack PDU will be installed in each telecomm rack in lieu of a UPS. This PDU will also be connected to the primary network switch via Ethernet patch cable and configured to PGPCS standards for remote management.
- E. Server Space/Electrical Requirements - Elementary Schools

Server Space/ Electrical Requirements - New Elementary Schools Top View



F. Server Space/Electrical Requirements - Elementary/Middle Schools

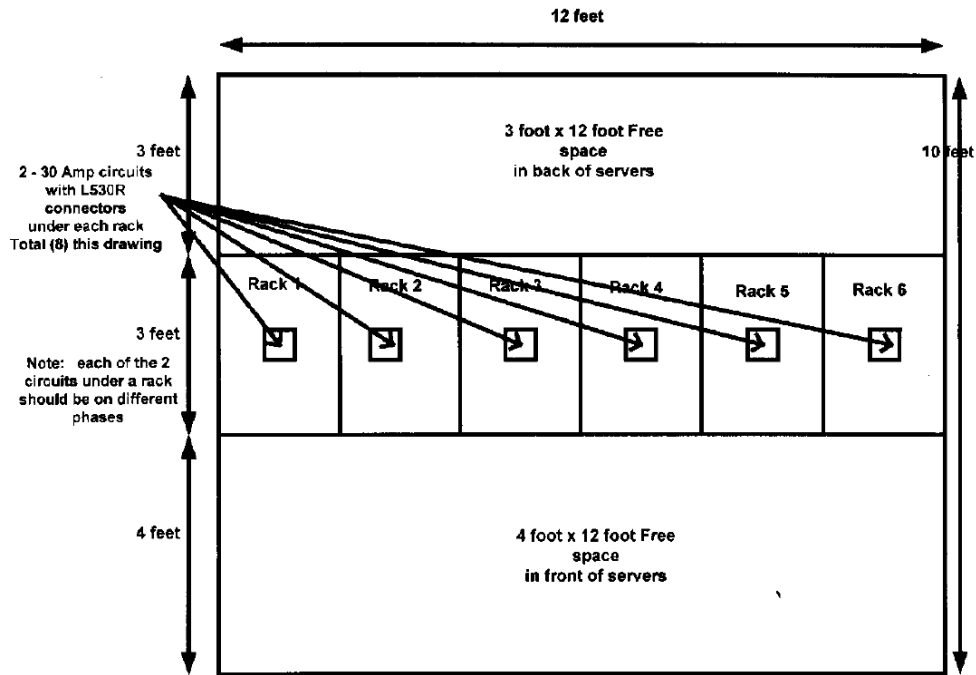
Server Space/ Electrical Requirements - New Elementary and Middle Schools Top View



G. Server Space/Electrical Requirements - Middle Schools

H. Server Space/Electrical Requirements - High Schools

Server Space/ Electrical Requirements - New High Schools Top View



2.04 VOICE NETWORK REQUIREMENTS

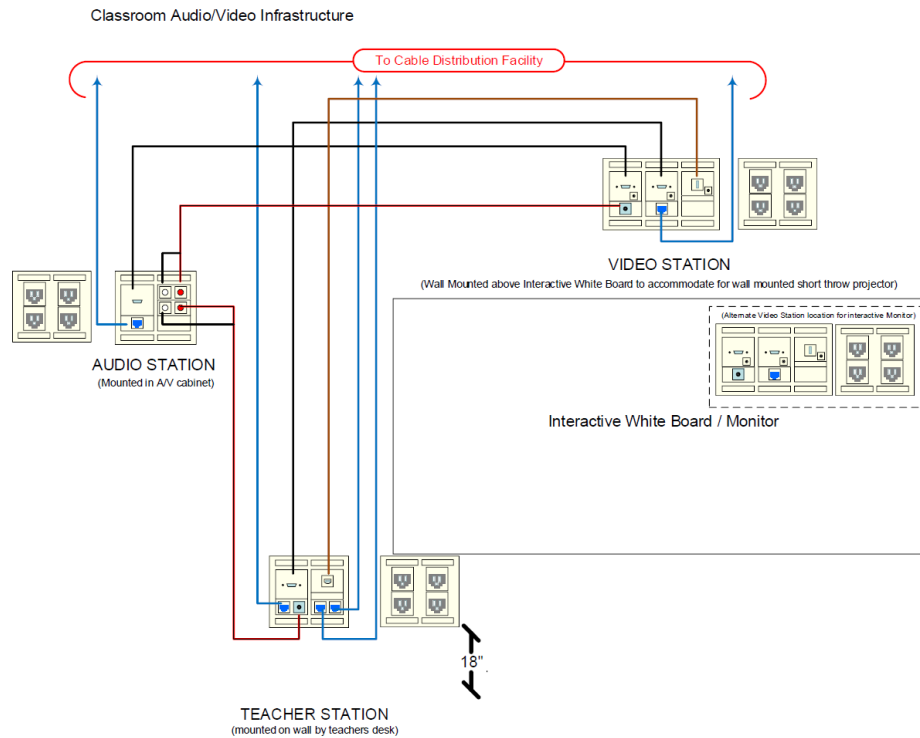
- A. PGCPSS requires the use of Polycom Soundpoint Voice Over IP telephones. These telephones must be purchased, configured, and installed by an approved PGCPSS vendor.
- B. VoIP telephones must be powered by POE switches (HPE/Aruba 2930M).
- C. Each instructional space and office requires a VoIP telephone. Each telephone type will vary depending on type of use. All Classroom and Instructional spaces require a Polycom VVX311 or most current or better, All admin offices, conference rooms, work rooms, etc... require a VVX411 or most current or better. The Main office area and principal's office will require the VVX411 with the equivalent color expansion module. A patch cable of the appropriate length, must be supplied to connect each telephone at the user's work space. Please see the most current PGCPSS Telephone specification for further details
- D. POTS lines for emergency systems, gas or electric monitoring, elevators, and backup emergency main lines are required. The number of lines will depend on the school type and number of systems that require an analogue line. A 25 pair copper is the minimum required for the analog lines. A phone jack for each device is required in the specified area. If incoming lines come to the building through Fios or similar system, the electric back-up device MUST be connected to the emergency generator, as part of the emergency system.

2.05 WIRELESS NETWORK REQUIREMENTS:

- A. All wiring projects for Prince George’s County projects must include wireless communication for laptops, mobile devices, etc. A wireless survey must be conducted prior to construction. This survey will indicate where additional data drops must be installed for wireless access points in order to support seamless, building wide, all-inclusive wireless data communications, and what type of Aruba Networks controller is needed. Cat 6a drops must be calculated and installed in addition to any existing data drops as may be indicated by the survey. The survey and any supporting documentation shall be provided. Please coordinate with OTD for documentation requirements.
- B. Following installation and before acceptance of any wireless system an additional wireless survey must be conducted. This survey must confirm complete building wide wireless service. Any areas failing to properly support wireless communication must be provided with additional data drops and equipment to bring an area into compliance. The survey and any supporting documentation shall be provided to the OTD.
- C. Data drops must be labeled at the drop and at the patch panel at the appropriate closet.
- D. PGCPSP telecommunications department requires that Aruba Networks equipment be used for all wireless installations. Aruba technology consists of a central controller (7210 or better) equipped with a fully functional firewall paired with Aruba AP-315 and AP-335/334 Qualified 802.11ac thin access points. A 5-year maintenance plan must be purchased along with the controller. Also the appropriate AP licensing and PEF licensing must be purchased, 1 license of each for each access point.
- E. Each access point will require a two cable Cat 6a drop not to exceed 300ft (90 meters) from a wiring closet. Two cables at each drop are required for redundancy or for future expansion. Cables must be green in color.
- F. Aruba access points require power via PoE (power over Ethernet). A PoE switch (Aruba/HPE 2930M with dual 1050w power supplies) will be required in the appropriate wiring closet, which will supply power to the access points. The switch will be clearly labeled for Power and WIFI at the patch panel along with location of the access point. All cables for each wireless access location must be terminated on their own unique patch panel in the wiring closet. If this is a small installation and cost is an issue, power injectors can be purchased through Aruba instead of a PoE switch.
- G. Each instructional space must have an installed Aruba AP-315 Qualified 802.11ac Access point or most current to accommodate for client/user density rather than just radio coverage. Larger rooms such as lecture halls, conference rooms, band rooms, choral rooms, auditoriums, general office areas etc... require the installation of an AP-335. Gyms, Media Centers, Auditoriums, and Cafeterias will require the installation of multiple AP-334s with the appropriate high gain antennae. The total number of AP-334s will be determined by the physical capacity of the space. Example, 60 users per access point.
- H. Installation and configuration must be well documented. As-builts will be required with Room location, layout, make, model, s/n, MAC address etc. A floorplan must be submitted with the mac address sticker from the access point in place in the proper location. The contractor must provide an engineer on staff to coordinate documentation and configuration with the PGCPSP OTD.

2.06 INSTALLATION SPECIFICATIONS FOR A/V TECHNOLOGY SUPPORT

- A. Every instructional space must be provided with the infrastructure to support most instructional technology devices such as projectors, digital television tuners, audio enhancement, digital visualizers, interactive white boards, apple TV’s, etc. The required infrastructure provided will allow all of these electronic devices to work seamlessly together.
- B. Classroom Audio/Video Infrastructure Diagram

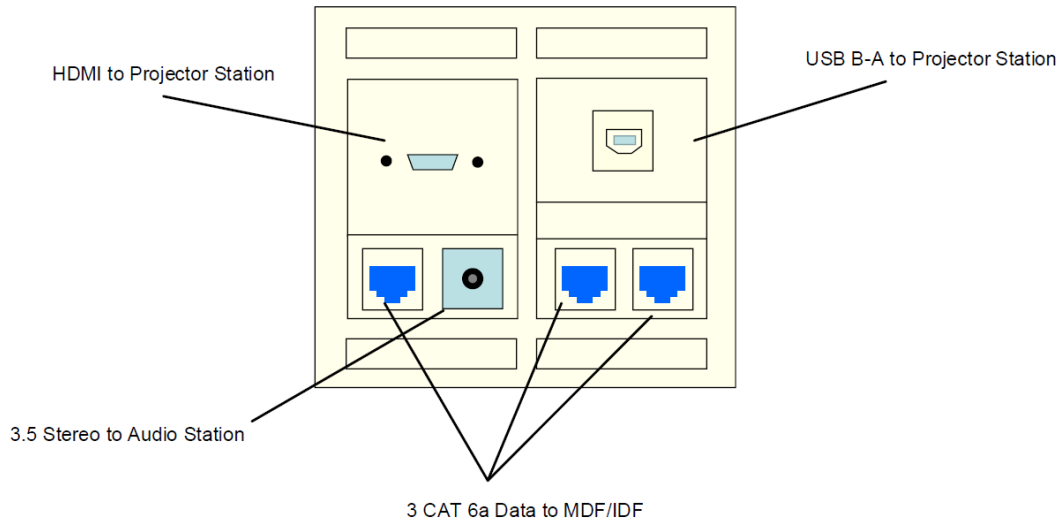


2.07 TEACHER STATION REQUIREMENTS

- A. Each instructional space must include a teacher station. A teacher station is composed of the following connectors with appropriate length cables:
 1. 3 CAT 6a data jacks, blue in color, that terminate in the nearest cable distribution facility
 2. 1 female 3.5mm Audio Jack that ties to the Audio station splitting to RCA left and right Audio
 3. 1 female USB B-A connection that ties to the Video station. (may require signal extender for lengthy runs)
 4. 1 female HDMI connection that ties to the Video station. (may require signal extender for lengthy runs)
- B. A Quad power receptacle must be installed near the teacher station to accommodate for various powered devices.
- C. All A/V cables should be terminated in an appropriate "all in one" 2 gang extra deep box that can support two, 2 inch conduits that run above ceiling tiles.
- D. Teacher stations cannot be placed on moveable or sliding walls or on furniture and must be on the wall four to six feet to the left or right of interactive white board installation, or white board near a quad electrical outlet and 18 inches from the ground.
- E. The appropriate cables must tie back to an Audio station within a cabinet or to a Video station wall mounted above interactive white board to accommodate for a wall mounted short throw projector or at the appropriate height behind a wall mounted interactive monitor. In cases where cables cannot be fished through walls or ceiling tiles, appropriate cable trays/conduit/wire mold must be used to hide all cable runs.
- F. The following appropriate gendered patch cords must be provided at the teacher station, for the user to connect their devices:
 1. 1 Male to Male 15 ft, HDMI cable
 2. 1 Male to Male 15 ft, stereo 3.5mm cable

3. 1 Male to Male 15 ft, USB-A to USB-B cable
 4. 3 Male to Male 15 ft, booted CAT6a cables
- G. All connectors, cables, plates and necessary materials must be manufactured by Hubbell. PGCPS prefers Hubbell iStation products that use CAT6a as the main mode of A/V data transfer.
- H. Teacher Station Connection Diagram

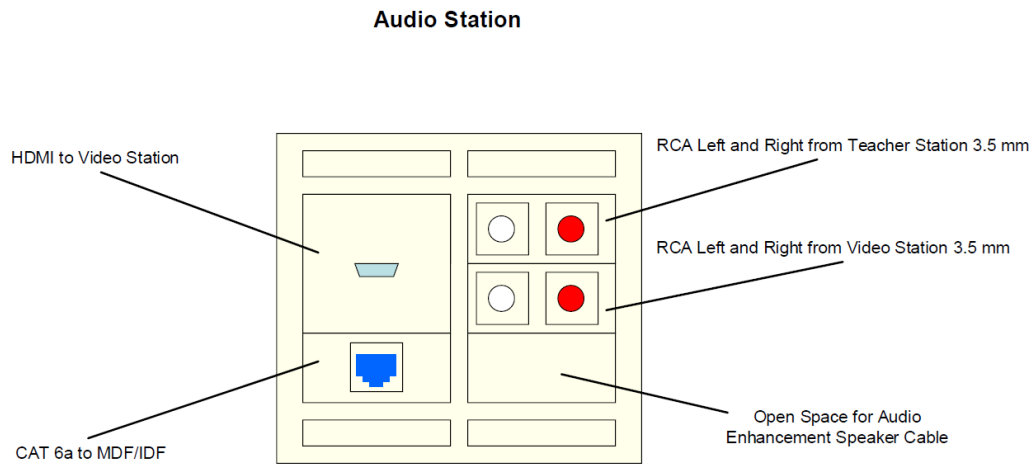
Teacher Station



2.08 AUDIO STATION REQUIREMENTS

- A. Each instructional space must include an audio station. An audio station is composed of the following connectors with the appropriate length cables and should be located in an approved lockable cabinet or fixed shelf:
 1. 1 female CAT 6a data jack, blue in color, that terminates in the nearest cable distribution facility
 2. 1 female left and right, red and white RCA jack, that ties to the teacher station condensing to a single 3.5mm jack
 3. 1 female left and right, red and white RCA Jack that ties to the video station condensing to a single 3.5mm jack
 4. 1 female HDMI connection to the video station (may require signal extender for lengthy runs)
- B. A Quad power receptacle must be installed near the audio station to accommodate for various powered devices.
- C. All A/V cables should be terminated in an appropriate "all in one" 2 gang extra deep box that can support 2, 2 inch conduits that run above ceiling tiles.
- D. Audio stations shall not be placed on moveable or sliding walls or on furniture and must be on a wall either directly above the teacher station with a mounted shelf, or on the wall behind some sort of audio cabinet.
- E. The appropriate cables must tie back to a teacher station wall mounted near the teacher's desk and electrical outlet, or to a video station wall mounted above interactive white board to accommodate for a wall mounted short throw projector or the appropriate height behind a wall mounted interactive monitor. In cases where cables cannot be fished through walls or ceiling tiles, appropriate cable trays/conduit/wire

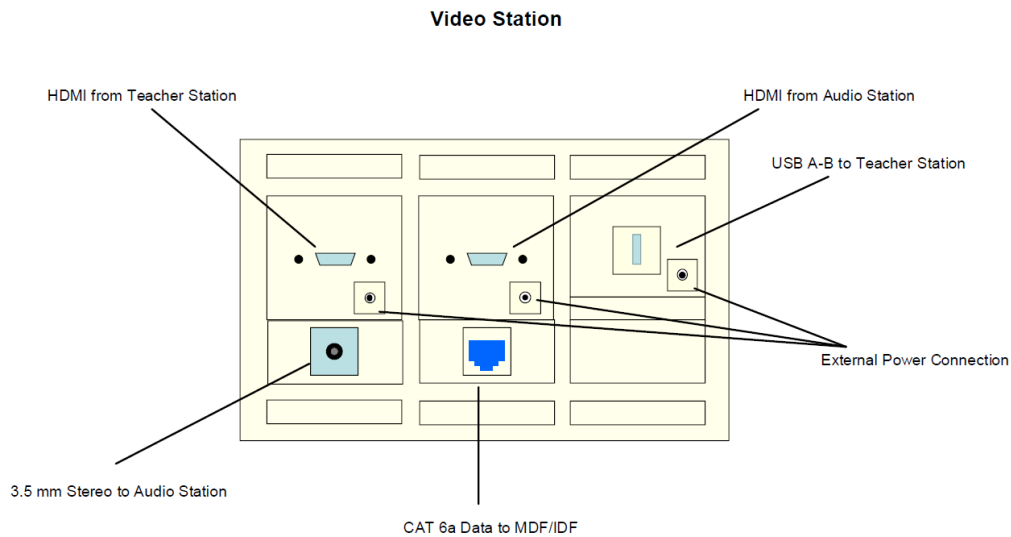
- mold must be used to hide all cable runs.
- F. The following appropriate gendered patch cords must be provided at the Audio station, for the user to connect their devices:
1. 2 Male to Male red and white 6ft, RCA cables
 2. 1 Male to Male 6ft, HDMI cable
 3. 1 Male to Male 6ft, booted CAT6a cable
- G. All connectors, cables, plates and necessary materials must be manufactured by Hubbell. PGCPSS prefers Hubbell iStation products that use CAT6a as the main mode of A/V data transfer.
- H. Audio Station Connection Diagram

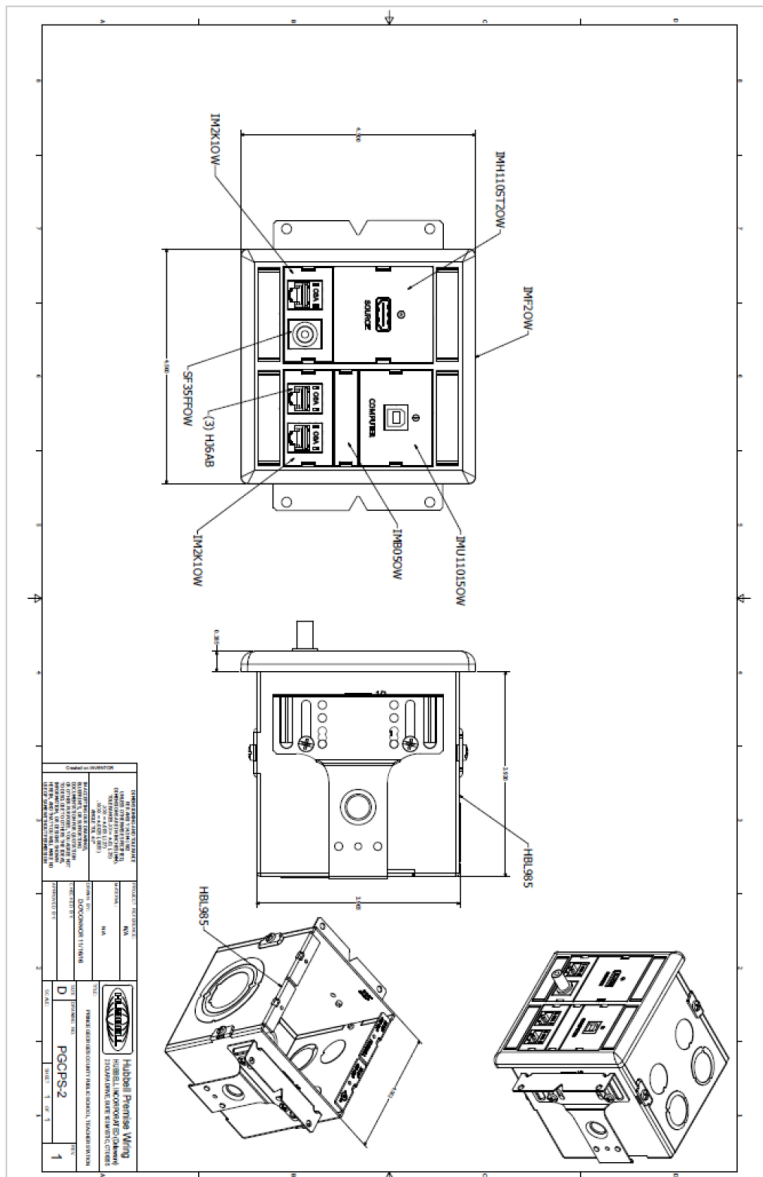


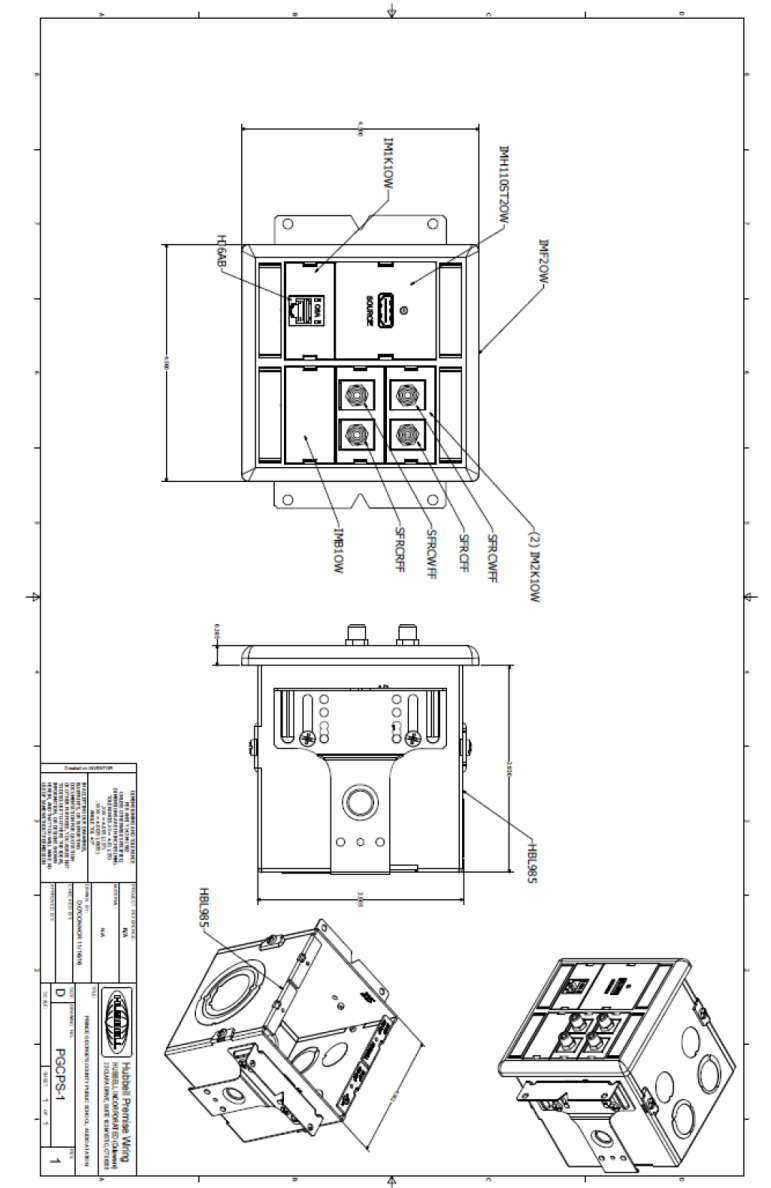
2.09 VIDEO STATION REQUIREMENTS

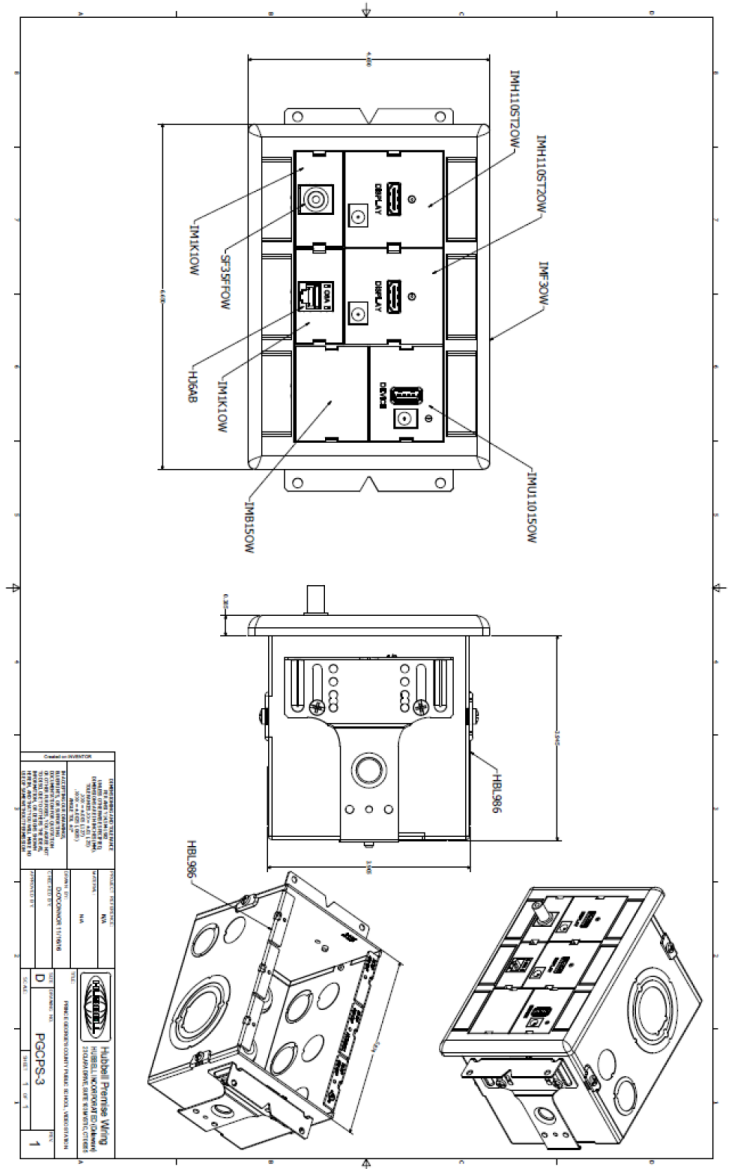
- A. Each instructional space must include a Video station. A Video station is composed of the following connectors with the appropriate length cables:
1. 1 female CAT 6a data jack, blue in color, that terminates in the nearest cable distribution facility
 2. 1 female USB A-B that ties back to the teacher station (may require signal extender for lengthy runs)
 3. 2 female HDMI connections, 1 tying back to the audio station, and one tying back to the teacher station. (may require signal extender for lengthy runs)
 4. 1 female 3.5mm Audio Jack that ties to the Audio station splitting to RCA left and right Audio
- B. A Quad power receptacle must be installed near the audio station to accommodate for various powered devices.
- C. All A/V cables should be terminated in an appropriate "all in one" 3 gang extra deep box that can support 3, 1 1/2 inch conduits that run above ceiling tiles.
- D. In cases where cables cannot be fished through walls or ceiling tiles, appropriate cable trays/conduit/wire mold must be used to hide all cable runs.
- E. Interactive white boards, projectors, or Monitors will be provided by PGCPSS. Contractors are urged to install these devices in order to fulfill the warranty of the defined infrastructure.

- F. The following appropriate gendered patch cords must be provided at the Audio station, for the user to connect their devices:
1. 2 Male to Male 6ft, HDMI cables.
 2. 1 Male to Male 6ft, 3.5mm to 3.5mm audio cable.
 3. 1 Male to Male 6ft, USB-A to USB-B cable
 4. 1 Male to Male 6ft, booter CAT6a cable
- G. All connectors, cables, plates and necessary materials must be manufactured by Hubbell. PGCPs prefers Hubbell iStation products that use CAT6a as the main mode of A/V data transfer.
- H. Video Station Connection Diagram









PART 3 - EXECUTION

3.01 INSTALLATION

- A. The installation will be implemented without exception according to this contract or on the drawings that specify quantities and types of material, necessary devices, and specifies whether these items are to be provided by the contractor or by PGCPS.
- B. All low voltage and fiber optic cables shall be supported and strapped in an approved manner. The spacing of these supports must be from 4-1/2 to 8 feet depending on job conditions and code requirements. These supports must be installed to provide adequate support and to prevent excess sagging of these cables.
- C. All voice and data terminations must be made on patch panels and must be clearly labeled.
- D. Copper Cabling Installation
 - 1. All copper wiring will be Category 6a or better Plenum rated cable. Each instructional space will have not less than nine (9) Cat-6a plenum rated cables installed in groups of three. All other spaces will have cables as specified in the scope of work provided by the Office of Telecommunications Design (OTD).

2. All cables must be protected against physical damage. (NEC, Article 300-14).
 3. All low voltage cables shall be individually identified every 20 to 30 feet by an approved and easily readable means such as string type name tags, etc. to identify what type of systems the cables are used for.
 4. If low voltage cables are installed through a ceiling space system that is used for environmental air and or a return air system, the cables must be labeled "PLENUM OR ENVIRONMENTAL AIR TYPE".
 5. Open, exposed low voltage cables must be installed so that they are a minimum 2 inches away from all electrical power conduits and conductors. (NEC, Article 725-38-al).
 6. Low voltage cables must not lay on or be supported by metal duct systems, metal plumbing pipes, sprinkler pipes or other metal-structural surfaces that could cause the cable to be damaged if excessive strain-pressure was put upon the cables.
 7. The Contractor must provide and install patch cords for all closet connections using 1 foot patch cables (Blue for data, Green for wireless, White for Security Systems). In addition the contractor must provide one additional 15 foot patch cord for each port in each closet, gray and blue accordingly for use at the user station.
 8. Hardware, patch panels, and all local area network electronic support equipment, shall be mounted in a wall mounted or floor standing rack.
- E. MDF/IDF Installation
1. Closet installations will use properly secured wall or floor mounted racks containing all patch panels and electronic equipment. Cables must be in ladder racks for a more secure and cleaner installation.
 2. Industry standard vertical wire management in each closet must be provided and installed by the vendor. 1 ft. patch cables must be used between patch panels and switches. Horizontal wire management is not needed. 10Ge stacking cables must be used between switches in a braided fashion.
 3. All low voltage cables must be installed and secured in a neat, orderly, and code compliant manner. (NEC, Article 110-12). The Contractor is to furnish and install all conduit, sleeves, wire- mold, cable trays, wire ties, Velcro (for patch cables), ladder racks, etc. required to support and protect said wiring in a code compliant fashion.
 4. All wiring closets will be supplied with 19" rack(s) capable of supporting specified and needed electronic equipment. Where such racks are not already available, a 3/4 inch thick plywood panel can be installed in each wiring closet that is adequate for the mounting of wall mount racks, patch panels and any other specified and necessary electronic equipment that is normally attached to the wall and not placed on a rack. An example of such equipment, but not limited to such equipment, is a POTS patch panel. All wall or floor mount racks shall be grounded with a 4 gauge copper cable.
- F. Wireless Network Installation
1. Access points must be ceiling mounted or wall mounted high, below ceiling tiles with the antennae pointing in the down direction.
 2. Concealed access points shall be marked with some type of specific tag on the ceiling tile to identify the location of the access point.

END OF SECTION

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SECTION 27 41 16 - AUDIOVISUAL SYSTEMS

PART 1 - GENERAL

1.1 REFERENCE TO OWNER'S GENERAL CONDITIONS

- A. The Owner's and/or Project General Conditions shall be considered part of this Specification. Unless this Section contains statements, which are more definitive or more restrictive than those contained in the Owner's General Conditions, this Specification shall not be interpreted as waiving or overruling any requirements expressed in the General Conditions documentation.

1.2 SUMMARY

- A. Statement of Work: the work of this section includes, but is not necessarily limited to the following:
 - 1. Provide and install complete and operational Audiovisual System(s) as outlined in these specifications and related drawings and documentation requirements as set forth in this documentation.
 - 2. It is the responsibility of the Contractor to provide all wiring, plates, connections, equipment, rigging, all support means and miscellaneous equipment for complete and fully operational System(s) if specified in this or other related documents or not.
 - 3. Included Spaces:
 - a. Classroom Systems
 - b. Gymnasium Systems
 - c. Cafeteria / Stage
 - d. Outdoor Recreation Systems
- B. Provide for the coordination, provision, installation, inspection, testing, instruction, and warranties of the Audiovisual System(s).
- C. Provide all materials, equipment, transportation, and necessary labor for a complete and operational Audiovisual System(s).
- D. Additional contractor requirements:
 - 1. Required licenses, permits and low voltage permits including any required bonding or insurance requirements to comply with general conditions of specifications and contract documentation.
 - 2. Verification of the dimensions and conditions at the job site.
 - 3. Installation in accordance with the contract documentation, applicable installation procedures or codes as set forth by the state or county of the project or manufacturers' recommendations.
 - 4. Submittal information and provisions.
 - 5. Documented Audiovisual System(s) testing procedures.
 - 6. Instruction of operating personnel.
 - 7. Manuals and provisions thereof.
 - 8. Maintenance and warranties.

1.3 RELATED DOCUMENTS

- A. General: Comply with all Contract Documents, including, but not limited to, Divisions 0, 1, 11, 26, 27 and the general contract specifications.
- B. Related specification sections:
 - 1. Section 27 41 13 Projection Screens
 - 2. Section 27 05 33.1 Conduits, Raceways and Boxes for Audiovisual Systems

1.4 RELATED WORK

- A. The Contractor shall coordinate with Electrical Contractor on raceway and/or junction box locations for equipment and routing of cables and/or raceway from equipment, terminal and pull boxes to system equipment racks and or wall fields.
- B. Related Work: Equipment and materials provided and installed by others, unless otherwise shown in this Section or the Drawings, shall include but are limited to:
 - 1. Section 26 05 26 – Grounding and Bonding for Electrical Systems
 - 2. Section 26 05 29 – Hangers and Supports for Electrical Systems
 - 3. Section 26 05 33 – Raceway and Boxes for Electrical Systems
 - 4. Section 26 09 43 – Addressable Fixtures Lighting Controls
 - 5. Section 26 05 26 – Grounding and Bonding for Electrical Systems

1.5 DEFINITIONS:

- A. Regardless of their usage in codes or other industry standards, certain words or phrases as used in the Drawings or Specifications for the Work, shall be understood to have the specific meanings as ascribed to them in the following list:
 - 1. The term “Contractor” – Integrator who has been awarded the contract to perform the work under this section.
 - 2. The terms “shall” be mandatory, “will” is informative, and “should” is advisory.
 - 3. “Provide” – To supply, install, connect, and configure, for safe intended normal operation.
 - 4. The terms “Indicated”, “shown”, or “noted” – As indicated on drawings or specifications.
 - 5. The terms “Equivalent”, “similar”, or “equal” – equal in materials, size, color, design, and efficiency of specified product, conforming to base bid manufacturer selections.
 - 6. The terms “Reviewed”, “satisfactory”, “accepted”, “approved”, “directed” – As reviewed, satisfactory, accepted, approved, or directed by the Owner or Owner’s Representative.
 - 7. The term “Professional grade” – Equipment that is intended for commercial use, not residential, use and is rated for continuous 24-7 use.
 - 8. The term “User-friendly controls” – Touch screen graphical user interface (GUI) or other graphical controls that are intuitively configured for ease of use in a logical, easily recognizable, configuration that utilizes industry standard symbols wherever applicable.
 - 9. The term “Labels” – refer to labels on audio-visual equipment as outlined in Section 3.4.
 - 10. The term "OFE" refers to items that are Owner Furnished Equipment
 - 11. The term "OFCEI" refers to items that are Owner Furnished Contractor Installed Equipment

1.6 REFERENCE STANDARDS, REFERENCE MATERIALS AND/OR CODES

- A. Applicable Codes and Standards:
 - 1. Systems shall be installed in accordance with the latest applicable revisions pertaining to all applicable national, state, and local codes and standards including, but not limited to the following:
 - a. International Building Code and/or BOCA National Building Code
 - b. Local Governing Authorities Having Jurisdiction
 - c. NFPA-72 National Fire Alarm and Signaling Code
 - d. UL Listed- Underwriter's Laboratories Listed
 - 2. IEC 60268-16 Third Edition 2003-05 Objective rating of speech intelligibility by speech transmission index
 - 3. AES:
 - a. AES3-1-2009 (r2014): AES standard for digital audio
 - b. AES5-2008 (r2013): AES recommended practice for professional digital audio

- c. AES10-2008 (r2014): AES Recommended Practice for Digital Audio Engineering
 - d. AES14-1992 (s2014): AES standard for professional audio equipment
 - e. AES31-2-2012: AES standard on network and file transfer of audio - Audio-file transfer and exchange
 - f. AES47-Am1-2008: Amendment 1 to AES47 - AES standard for digital audio - Digital input-output interfacing - Transmission of digital audio over asynchronous transfer mode (ATM) networks
 - g. AES50-2011: AES standard for digital audio engineering - High-resolution multi-channel audio interconnection
 - h. AES54-2-2008 (r2013): AES standard on interconnections - Grounding and EMC practices - Shields of balanced audio wiring within fixed and portable passive connector panels, jack fields, and passive microphone splitters
 - i. AES54-3-2008 (r2013): AES standard on interconnections - Grounding and EMC practices - Shields of balanced microphone-level outputs of active equipment other than microphones
 - j. AES67-2015, methods for high-performance streaming audio-over-IP network interoperability.
 - k. AES70-1-2015: AES standard for audio applications of networks - Open Control Architecture - Part 1: Framework
 - l. AES70-2-2015: AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure
 - m. AES70-3-2015: AES standard for audio applications of networks - Open Control Architecture - Part 3: Protocol for TCP/IP Networks
4. ANSI/ INFOCOMM:
- a. 1M:2009 Audio Coverage Uniformity
 - b. 2M:2010 Standard Guide for Audiovisual Systems
 - c. 3M-2011 Projected Image System Contrast Ratio
 - d. 10:2013 Audiovisual Systems Performance Verification
 - e. 01:2016 Display Image Size for 2D Content in Audiovisual Systems
5. ANSI / TIA / EIA:
- a. TIA-222 STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - b. TIA-455-78 Revision B, FOTP-78 IEC 60793-1-40 Optical Fibers - Part 1-40: Measurement Methods and Test Procedures – Attenuation
 - c. TIA 568-B.1-2000 Telecommunications Standard
 - d. TIA-568-C.2 BALANCED TWISTED-PAIR TELECOMMUNICATIONS CABLING AND COMPONENTS STANDARDS
 - e. TIA/EIA-569-A-1995 (Commercial Building Standard for Telecommunications Pathways and Spaces)
 - f. TIA / EIA: 606a Telecommunications Infrastructure Standard
 - g. TIA / EIA: 607 Grounding and Bonding Requirements
 - h. EIA/CEA: 861 A DTV Profile for Uncompressed High-Speed Digital Interfaces.
 - i. TIA-862 Revision B, February 29, 2016 Structured Cabling Infrastructure Standard for Intelligent Building Systems Document History
 - j. EIA 232-D Interface between Data Terminal Equipment and Data Circuit-Termination Equipment Serial Binary Data
 - k. EIA RS-310-C Racks, Panel, and Associated Equipment
6. Dante: Audinate Pty. Ltd.

- a. Uncompressed, multi-channel, low-latency digital audio over a standard Ethernet network using Layer 3 IP packets
- 7. HDBaseT: Valens
 - a. HDBaseT 1.0 HD and 2K
 - b. HDBaseT 2.0 HD 2K and 4K
- 8. SMPTE / IEEE:
 - a. ST 348:2005 - SMPTE Standard - For Television — High Data-Rate Serial Data Transport Interface (HD-SDTI) / 292M – SMPTE SDI
 - b. ST 425-3:2014 - SMPTE Standard - Image Format and Ancillary Data Mapping for the Dual Link 3 Gb/s Serial Interface
 - c. ST 2081-10:2015 SMPTE Standard - 2160-Line and 1080-Line Source Image and Ancillary Data Mapping for Single-Link 6G-SDI
 - d. ST 2082-10:2015 - SMPTE Standard - 2160-line Source Image and Ancillary Data Mapping for 12G-SDI
 - e. IEEE 802.1 AVB (Audio Video Bridging)
- 9. Video Coding Experts Group VCEG
 - a. H.262[1] or MPEG-2 Part 2
 - b. H.263
 - c. H.264/MPEG-4 AVC
 - d. H.264 or MPEG-4 Part 10
 - e. H.265 or High Efficiency Video Coding (HEVC),
- 10. AUDIO REFERENCE PUBLICATIONS:
 - a. Handbook for Sound Engineers The New Audio Cyclopedia (Howard W. Sams, Indianapolis, Indiana 1987) Davis
 - b. Sound System Design and Optimization (Focal Press) Bob McCarthy
 - c. Sound System Engineering, Second Edition (Howard W. Sams, Indianapolis, Indiana 1987) Davis
- 11. VIDEO REFERENCE PUBLICATIONS:
 - a. National Association of Broadcasters Engineers Handbook (latest edition)
 - b. Digital Video and HD, Second Edition: Charles Poynton
- 12. FIBER OPTIC REFERENCE PUBLICATIONS
 - a. Refer to the fiber optic cable manufacturers design guide: i.e. SIECOR
 - 1) Siecor Universal Transport System (UTS) Design Guide, Siecor Corp., 1988 Brochure #CC-110
 - b. Also refer to the following standards committees:
 - 1) ANSI: (IEEE) 802.8 Proposed Fiber Distributed Data Interface

1.7 SCOPE OF WORK REQUIREMENTS

- A. The Contractor shall provide Audiovisual System(s) compatible with the Owner's communications systems (i.e. telephone, video, and computer systems) and operations.
- B. The Contractor shall provide equipment that, where required, shall conform to the applicable requirements of the Underwriters Laboratories, Inc., local codes, the National Electrical Code and any other governing codes. Such items shall bear a label or mark indicating their conformance to the above requirements.
- C. The Contractor shall provide complete and operational system(s) configured and installed for user-friendly operation and low maintenance.
 - 1. Provide for reprogramming of the remote-control software two (2) times, as directed by the Owner's Representative and or Consultant.

2. Provide for two (2) level adjustments of the Audio System(s), as directed by the Owner's Representative and or Consultant.
- D. On-site factory technical support shall be provided, if necessary, to assure optimized configuration and performance of installed equipment and systems.
- E. The Contractor shall restore all finish hardware to original condition including painting, ceiling modifications, and attachments as specified in Division 09 Finishes. All finishes shall be approved by the Architect and or Owner's Representative.
- F. Installation work shall be in compliance with all Contract Documents, all applicable standards, governing codes, regulations and authorities having jurisdiction.
- G. The Contractor shall validate exact location and installation of the equipment, power, conduit, and raceway systems and coordinate exact location and installation of the equipment, power, conduit, and raceway systems with the Architect and or Owner's Representative.
- H. All finalized software affiliated with the equipment, including but not limited to, the audio DSP, Control System, etc. is the property of the Owner and will be provided on labeled CDs or electronic media for archival purposes at project acceptance.
- I. The Contractor shall supply all control software, programming service codes, programming notes, files interactive source codes, all media and associated software, touch panel design, all passwords, licenses, dangles and "keys" or other associated control or programming items at no additional cost to the Owner at commissioning.

1.8 SYSTEM(S) DESCRIPTION AND REQUIREMENTS

- A. The following is a basic system(s) description and is not intended to be all-inclusive for proper installation or operation of system(s). The AV specification and the AV Bid Set drawings need to be fully reviewed together to ensure design intent and listing of design intent equipment is completely understood.
 1. The Bid proposal will include all labor and cabling for all optional and/or add alternate equipment listed in specification and AV Bid set drawings. Please list as separate budgetary items.
- B. Included Audiovisual Spaces:
 1. **General Classrooms**
 - a. General classrooms have a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and **optional audio enhancement system.**
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) **Audio enhancement system**
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous

- 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
2. STEM Labs
- a. Science classrooms have a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Audio enhancement system
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
3. Science Labs
- a. Science Labs have a touch enabled smart display with small form factor PC behind display for student use.
 - b. Audio
 - 1) Provide speakers along with smart display
 - c. Video
 - d. Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - e. Control
 - 1) Control as part of smart board interactive display.
 - f. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
4. Multipurpose Art Room
- a. Multipurpose Technology Labs have a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart audio enhancement system
 - c. Video
 - 1) Provide smart board interactive display with all required accessories

- a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
5. Collaborative Areas
- a. Commons Rooms have a two-touch enabled smart display with small form factor PC behind display for student use. It as well has a ceiling mounted projector and screen with connections for the projector and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by student age / median height.
 - 2) Provide Ceiling mounted digital projector
 - 3) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - 2) Provide wall mounted control panel for projector
 - 3) Provide wall mounted control for projection screen
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount for each smart board display
 - 2) Provide motorized projection screen (ceiling recessed) per section 27 41 13
 - 3) Provide all cables and hardware as required
6. Resource Rooms
- a. Resource rooms have flat panel displays display with internal speakers and wall mounted connections for use with portable devices.
 - b. Audio
 - 1) Provide speakers along with smart display
 - c. Video
 - 1) Provide flat panel display with all required accessories ↩
 - a) Provide fixed wall mount ↩
 - 2) Provide video cables adapters and accessories as required ↩
 - d. Control
 - 1) Control via manufacturers remote. ↩
 - e. Miscellaneous

- 1) Provide all cables and hardware as required
- 7 Computer Lab
- a. The Computer lab has a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Audio enhancement system
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
- 8 Arts Classroom
- a. The Arts Classroom has a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Audio enhancement system
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
9. Media Center/Library
- a. The media center has one touch enabled smart display with small form factor PC behind display for student use.
 - b. Audio
 - 1) Provide speakers along with smart display
 - c. Video
 - 1) Provide smart board interactive display with all required accessories

- a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
10. Dance Classroom
- a. The strings classroom has a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Portable audio system that will allow the instructor to play back recorded sources or record the audio within the space.
 - 3) The portable equipment rack will have an I/O panel that will allow microphone connectivity.
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
11. Choral Classroom
- a. The choral classroom has a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Portable audio system that will allow the instructor to play back recorded sources or record the audio within the space.
 - 3) The portable equipment rack will have an I/O panel that will allow microphone connectivity.
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"

- b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
- 12. Band Classroom
 - a. The band classroom has a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Portable audio system that will allow the instructor to play back recorded sources or record the audio within the space.
 - 3) The portable equipment rack will have an I/O panel that will allow microphone connectivity.
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
- 13. Life Skills Classrooms
 - a. Life skills classrooms have a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Audio enhancement system
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous

- 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
14. Health Room
- a. The health room has a touch enabled smart display with small form factor PC behind display for student use. It as well has connections to the teacher's desk for the display and optional audio enhancement system.
 - b. Audio
 - 1) Provide speakers along with smart display
 - 2) Audio enhancement system
 - c. Video
 - 1) Provide smart board interactive display with all required accessories
 - a) Provide height adjustable wall mount with the ability to move display up and down at least 15"
 - b) Mounting height range shall be determined by classroom and student age / median height.
 - 2) Provide video cables adapters and accessories as required
 - d. Control
 - 1) Control as part of smart board interactive display.
 - e. Miscellaneous
 - 1) Provide ultra-small form factor PC with wall / display mount
 - 2) Provide all cables and hardware as required
15. Conference Rooms
- a. Large conference rooms have a wall mounted flat panel display with wall connections.
 - b. Audio
 - 1) Provide speakers along with smart display
 - c. Video
 - 1) Provide flat panel display and wall mount
 - 2) Provide video cables adapters and accessories as required
 - 3) Provide HDMI and VGA extenders from floor box/ wall box to the flat panel display.
 - d. Control
 - 1) Control via manufacturers remote control
 - e. Miscellaneous
 - 1) Provide all cables and hardware as required
16. Gymnasium
- a. The gymnasium is envisioned to have an equipment rack that is intended to house supporting equipment not required to be accessed by the room user.
 - b. Audio
 - 1) Provide wall mounted microphone inputs
 - 2) Provide amplifiers and processing
 - a) Provide interface / connection to the building paging system allowing building wide pages to be heard within the spaces.
 - b) Provide system mute upon fire alarm activation allowing only building wide paging as a source.
 - 3) Provide wireless microphones with antenna extenders
 - 4) Provide ceiling mounted speakers
 - 5) Provide assisted listening system RF type

- c. Video
 - 1) No video in this system
 - d. Control
 - 1) Provide wall mounted control panel within each space with protective covers
 - e. Miscellaneous
 - 1) Provide wall mounted equipment rack with power distribution and wire management
 - 2) Provide all cables and hardware as required.
17. Cafetorium
- a. Overview
 - b. The Cafetorium is configured as a multi-use performance and presentation venue with audio reinforcement and video projection equipment.
 - c. Playback Sources
 - 1) Provide CD Player/iPod Doc for use on the mixer rolling cart.
 - 2) Provide Blu Ray Player c for use on the mixer rolling cart.
 - d. Audio Equipment
 - 1) Provide Audio Digital Signal Processor (DSP), rack mounted used for speaker equalization and processing.
 - a) Provide programming and mode selection presets within DSP configured per the following:
 - I. Auto mixer mode provides operator less use of the audio system via three inputs located one in each of the three floor boxes
 - II. Mixer mode: selects the operator mode allowing for the audio mixing console inputs and outputs to be utilized
 - 2) Provide Power Amplifier(s) rack mounted, selection based on speaker continuous power rating and configuration(s).
 - 3) Provide ADA/Assistive Listening System (ALS), rack mounted transmitter, antenna and receivers. Include both ear bud and inductive loop options for receiver packs.
 - 4) Provide line array program speakers and sub woofers intended to provide even coverage and maximized aural intelligibility within the audience seating area.
 - 5) Provide wall mounted fixed stage fill speakers mounted above the proscenium opening within the rigging and lighting area.
 - 6) Provide ceiling mounted pendant speakers mounted within the seating area.
 - 7) Provide four (4) hanging stage microphones.
 - 8) Provide microphone, and intercom connectivity locations as detailed within the audiovisual drawing package.
 - 9) Provide digital mixing console located on mixer rolling cart. Provide patchable connections to allow for the mixing console surface to be located either on the stage or at the rear of the seating area and connect to the stage box.
 - 10) Provide rack mounted digital mixing console expansion frames / stage boxes.
 - 11) Provide wired intercom, four channel unit. Two channels shall be assigned to the Black Box Theater two to the Cafetorium. Provide cables, belt packs and head sets.
 - 12) Provide wireless microphone combo units with rack mounted receiver.
 - 13) Provide Wireless microphone antenna, rack mounted distribution, cabling and antenna amplifier.

- e. Video Equipment
 - 1) Provide WUXGA Laser light source projector (VP1) with ceiling mounting hardware. Projector is located in the ceiling of the Cafetorium. Projector location shall be coordinated with all ceiling elements to include lighting placement.
 - a) Reference specification section 274113 for projection screen information
 - b) Contractor shall coordinate projector location and lens selection with screen location and throw distance reducing the need for lens shift and or keystone adjustments from improper placement
 - 2) Provide multi format input extenders
 - 3) Provide HDMI receiver at projector location.
 - 4) Provide digital video matrix switch, rack mounted, this matrix to be shared between the Black Box Theater and the Cafetorium systems.
 - f. Control equipment
 - 1) Provide audiovisual control system with touch panel control.
 - 2) Provide an easy to use graphical user interface (GUI) for touch panels.
 - 3) Provide the following control functions:
 - a) Projector on / off
 - b) Video source selection
 - c) Video mute
 - d) Auto mode / Mixer mode selections with DSP presets configured for both modes of operation.
 - e) (Auto mode) volume up/down/ mute
 - f) (Mixer mode) control via mixer only
 - g) Screen control up/down
 - 4) Provide sequential power on and off capabilities for audiovisual system via a single on / off panel interface.
 - g. Miscellaneous Equipment
 - 1) Provide Equipment Rack(s) (JB1) located in the stage left equipment room. This enclosure has supporting equipment for both the Black Box Theater and the Cafetorium.
 - 2) Provide UPS Power Conditioner for each rack provided.
 - 3) Provide Surge Suppressor (Power Dist.) with sequential power on / off configuration for each rack provided.
18. Provide all adapters, plates, panels and cables as required for a complete and

1.9 RELATED WORK

A. Conduits:

1. It is the Contractors responsibility to review all conduit runs, junction boxes, and electrical outlet cable trays provided and installed under Division 26 and provide fit-up and coordination drawings as required for proper communication and understanding between trades.
2. Provide a written acceptance of all field conditions or a list of any discrepancies within ten (10) working days from Notice to Proceed.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall carefully control handling and installation of all items which are not replaceable, so that completion of the work will not be delayed by hardware or equipment losses before, during, and after installation. The Contractor is responsible for all items until Final Acceptance.
- B. The Contractor shall, prior to installation, protect exposed surfaces with material which is easily removed without marring finishes.
- C. The Contractor shall, without cost to the Owner and/or Consultant, replace any products damaged during storage, handling or during installation.

1.11 SCHEDULING

- A. The Contractor shall submit a schedule to the Owner and/or Consultant for approval within 10 (ten) working days from notice to proceed. The schedule shall show sequence of work, etc. from time of Notice to Proceed to final sign off. This schedule shall be submitted in Microsoft Project (or similar program) in both paper and electronic format, with submittals.
- B. It is the responsibility of the Contractor to coordinate the installation of the system(s) to be compatible with the work of the other trades. The Contractor shall attend progress meetings and provide continuous on-site project management.
- C. It is the responsibility of the Contractor to arrange with the Owner and/or Consultant a mutually acceptable time and date(s) for Acceptance Testing, based upon project dates and schedule provided, based upon the dates provided in the Solicitation.
- D. The Contractor shall provide operating personnel with extensive training for each system type and/or room type as outlined in Section 1.5 SYSTEM(S) DESCRIPTION AND REQUIREMENTS.

1.12 PROJECT SCHEDULE

- A. A (mandatory) pre-bid site visit on, DATE at TIME will be utilized to allow the Contractor to review the current jobsite conditions and define special requirements.
- B. All Requests for Information (RFI) shall be directed to the Consultant and should be received by Close of Business (COB) on DATE.
- C. All bids must be received at the Warrenton office of Polysonics to the attention of the Consultant. All bid proposals (electronic copy) are due to Polysonics no later than TIME on DATE.
- D. Hard copies of the bid proposals will be accepted by COB on TBD.
- E. Please submit three hard copies.
- F. The opening of the bid proposals will be held between Polysonics and the Owner's Representative, with no bidder's present.

1.13 BID TECHNICAL PROPOSALS

- A. The Contractor shall be experienced in the provision of systems similar in complexity to those required for this project and Contractor shall provide documentation demonstrating the below minimum criteria:
 - 1. The primary business of the Contractor and/or Installer shall be the installation of audio or video systems.
 - 2. At least three (3) years' experience with the specified equipment and systems.
 - 3. Experience with at least one project of similar size and complexity as outline in these specifications.

4. Be an authorized dealer and service facility for the products specified and furnished.
 5. Maintain a technically trained installation crew and service crew for maintenance and installation of the specified system(s).
 6. Lead Installer shall have attended factory training in DSP and digital format for equipment specified in this specification.
 7. Contractor shall demonstrate that the installation staff consists of 50% CTS-I trained personnel and have at least one (1) CTS-D on staff.
 8. Final Audiovisual System(s) configurations shall be approved by the Owner's Representative, Architect and Consultant.
 9. Upon request of the Owner and/or Consultant, Contractor shall demonstrate that he has:
 - a. Sufficient facilities and equipment for this work.
 - b. Sufficient staff with the appropriate technical expertise and experience for this project.
 10. All Bid proposals shall be valid for ninety (90) days from date received.
 11. Any deviations from specified equipment must be explained in full detail including reasons for any deviations and product comparisons to the originally specified product. Submission of said comparisons does not constitute acceptance of changes and in fact may be declined. If substitutions are rejected and/or declined, Contractors bid may be rejected for "non-responsiveness" unless a bid has been supplied with "as-specified" equipment.
- B. Provide a list of five (5) references with locations, names of contacts, and contact phone and email information with brief system descriptions and dollar amounts for each reference. References shall be no more than three (3) years old and be of similar size, type, and complexity as the system set forth.
- C. Provide a detailed equipment list in Microsoft Excel format (both hard copy and electronic) showing Item Number, Item Description, Manufacturer, Part Number, Quantity, and Price. This equipment list shall be generated from this document, related project documents and drawings, manufacturer requirements, and RFI responses as applicable.

1.14 PRE-BUILD AND FINAL SUBMITTALS

- A. Provide the following for approval no later than thirty (30) days after Notice to Proceed and prior to commencement of work:
1. A complete list of all products incorporated within the work with all quantities listed. Each product shall be listed with specification section references in Excel format.
 2. Complete functional diagrams of each system required for a complete and operational system with descriptive narratives of any deviations from the specified system design.
 3. All shop drawings defined as required.
 4. Suspended loudspeaker rigging design and/or details with a Professional Engineer's certification as described in section 3.05.
 5. Contractor shall supply to Consultant and/or owners' representative, all DSP and control graphical user interface layouts for review and comment and approval. Contractor shall provide any necessary adjustments to software as deemed by the Consultant and or Owner's Representative.
- B. Shop Drawings:
1. Shall not be smaller than 24"x36" and shall be sized as appropriate for thorough understanding of system(s).
 2. Shall be scaled appropriately but not less than 1/8" = 1'.

3. Shall show detailed schematic wiring diagrams showing interconnection of Contractor-provided components and fabricated products, wiring and cabling diagrams depicting cable types, and device designators. Each component shall have a unique designator and use same designator throughout the project.
 4. Shall show location of all equipment in racks, consoles, or on tables, with complete dimensions, wire routing, and cabling.
 5. Shall show all A.C. power outlet locations and terminal strip locations within each equipment rack including all sequencing as required for proper start-up and shut down.
 6. Shall show plans and sections of the building and adjacent grounds with the location of all installed equipment such as loudspeakers, racks, consoles, plates and/or panels, antennas, (etc.).
 7. Shall show patch panel layouts and labeling strips, including color schemes, as necessary.
 8. Shall show full fabrication detail of custom enclosures and millwork indicating dimensions, material, finish, and openings for equipment.
 9. Shall show all speaker mounting details including hardware types and load capacity. Structural information with design calculations and a copy of the PE's certifications for each item and/or drawing.
 10. Shall provide complete drawings for all fabricated plates and panels. Drawings shall include dimensional locations of components, component type, engraving information, plate color information, and a complete bill of materials for each plate and sample plates per type.
 11. Shall show complete labeling schemes for all cabling and equipment components for project. Include font size and styles along with a sample cable label and equipment label. All labeling shall be consistent within the project scope.
 12. Shall show a complete wire schedule showing source and destination and indicating conduit location and sizing. Provide conduit sizing and layout coordination information.
- C. Submittal Format: (PDF version)
1. Arrange product data in alphanumeric order by system type and room indicate on cut sheet the options provided.
 2. Separate major groupings Use multiple volumes and/or list of content
 3. Index product data sheets by manufacturer and model or part number.
 4. Each submittal shall include a unique numbering scheme and be numbered in consecutive order.
 5. Reference addendum or change order numbers as applicable.
 6. Reference specification section, part, article, paragraph, and/or drawing reference as applicable.
 7. Provide via pdf, posted to FTP, thumb drive and or CD / DVD ROM.
 8. Each submittal shall include a complete table of contents with the following information:
 - a. Project title and number.
 - b. Submittal number.
 - c. Date of submission.
- D. Submittal Format: (Printed Option if Required)
1. Each submittal shall be in three-ring binders no larger than 3" spines and sized for 150% of material enclosed. Use multiple volumes if necessary.
 2. Arrange product data in alphanumeric order by system type and room.
 3. Separate major groupings with labeled binder tabs.
 4. Index product data sheets by manufacturer and model or part number.
 5. Each submittal shall include a unique numbering scheme and be numbered in consecutive order.
 6. Reference addendum or change order numbers as applicable.

7. Reference specification section, part, article, paragraph, and/or drawing reference as applicable.
8. Each submittal shall include a complete table of contents with the following information:
 - a. Project title and number.
 - b. Submittal number.
 - c. Date of submission.

1.15 PROJECT CONDITIONS

- A. Verify conditions on the job site applicable to this work. Notify Owner's Representative and/or Consultant in writing of discrepancies, conflicts, or omissions promptly upon discovery.
- B. If conditions exist on the jobsite which make it impossible to install work as shown on the drawings or detailed in the specifications, recommend solutions and submit drawings showing how the work may be installed as well as an adjusted new schedule to the Consultant and Owner for approval.

1.16 QUALITY ASSURANCE

- A. Provide and maintain an effective Quality Control program and perform sufficient inspections, surveys and tests of all items of work, including those of other trades, to ensure compliance with the contract documents. Furnish appropriate facilities, accurately calibrated instruments and testing devices required to perform the quality control operations and with sufficient work forces to cover the installation operations within the actual installation sequences. Coordinate this work with the quality control requirements of other technical Sections of the Specifications and with requirements of the Contractor and governing authorities having jurisdiction.
- B. Manufacturer Qualifications: All system components shall be furnished by the manufactures of established reputation and experience who shall have produced currently operating audiovisual equipment and services. Manufacture shall be able to similar installations rendering satisfactory service.
- C. Bidder Qualifications: The bidder shall furnish in writing to the Owner proof of compliance with the manufacturer's system installation certification program.
 1. Hold all legally required state contractor's licenses necessary to accomplish the installation and activation of the described system at the facilities indicated. Contractor shall submit copies of licenses to the Owner prior to the start of work.
 2. Have a local office staffed with factory-trained technicians, fully capable of engineering, supervision installation, and system start-up. Providing the Owner training, and servicing hardware and software for systems of similar complexity and function as the system described in this specification.
 3. Indicate complete and total compliance with the provisions of this specification by letter, signed by an officer of the corporation, or a principal if other ownership currently exists. This letter shall also clearly identify any exceptions to specification requirements.

1.17 PRE-INSTALLATION MEETING SCHEDULE

- A. Prior to the start of the work, and at the Owner/Consultant's direction, meet at the project site to review methods and sequence of installation, special details and conditions, standard of workmanship, testing and quality control requirements, job organization and other pertinent topics related to the work. The meeting shall include the Contractor, Contractor's Project Manager, the Owner/Consultant, and the General Contractor. Inspection and testing services (if any) and any other sub-Contractors whose work requires coordination with this work shall be coordinated.

- B. A Conduit/Wiring Analysis shall be conducted at the Pre-Installation Meeting. The Contractor shall submit "as-built" drawings locating all existing conduit runs, junction boxes, and electrical outlets. Show location and type of all special receptacle boxes and plates to be supplied and/or modified by the Contractor. Verify and inspect all necessary conduits and outlets. Provide with the submittals, a list of all conduits, boxes, and power changes necessary for installation of systems in each location.

1.18 FINAL INSPECTION AND TESTING AND/OR COMMISSIONING

- A. Upon completion of installation and Contractor testing and commissioning (as outlined in sections 3.7-), the Consultant shall perform system(s) inspection and testing (as outlined in section).
- B. To assist the Consultant, the Contractor shall provide a minimum of one person for inspection and two persons for testing who are familiar with all aspects of the specified system(s).
- C. The process of testing the system(s) may necessitate moving and/or adjusting certain components such as speaker aiming, transformer tap values, software adjustments, DSP adjustments.
- D. Testing will include operation of each system and all components. The Contractor will provide required test equipment, tools, and materials required to perform necessary repairs and/or adjustments.
- E. In the event, that adjustments or work is required during testing, or to bring the systems into specification, the Contractor shall continue his work until the system(s) are acceptable with no addition to the contract price. If approval is delayed due to defective equipment, and/or failure of equipment or installation that meets the requirements of this specification, the Contractor shall pay for additional time and expenses to the Owner at the rate specified by the Owner.
- F. All Control Systems shall be fully tested prior to commissioning. Once the Control Programming is finalized all source code, programming, and touch panel software shall be burned on to a CD ROM or thumb drive and delivered to the Owner. All Control System programming (including source, files, touch panel design), and DSP files shall become the property of the Owner.
- G. The Digital Audio Console shall be fully programmed and tested prior to commissioning. Once the programming is "finalized" and accepted all presets and console configuration shall be stored on a USB drive and burned onto a CD ROM and delivered to the Owner. All active console input and outputs should be labeled for ease of operation and clarity.

1.19 WARRANTY

- A. All equipment provided by the Contractor shall be installed per manufacturer's specifications and warranted by the Contractor for a period of one (1) year from the date of written acceptance to meet all performance requirements outlined herein. Warranties shall not be pro-rated. For all Owner-provided equipment, include pricing for an initial two-year service contract.
- B. During the warranty period, no charges shall be made for any labor, equipment, or transportation to maintain performance and functions.
- C. The Contractor shall respond with a remedy to a trouble call within twenty-four (24) hours upon receipt of such a call and shall provide a 24-hour service phone number. Downtime for system(s) shall be no longer than a 24-hour period. All replacement parts and/or components shall be of equal or higher level of service.
- D. Equivalent replacement equipment shall be temporarily provided when immediate on-site repairs cannot be made.

- E. At least two routine inspections and adjustment visits shall be scheduled for the first year, coordinated with Owner's Representative.
- F. Provide a separate price for an optional yearly service contract for five (5) years, to begin at the end of the initial warranty and service contract. Provide details on coverage and options.
- G. The Contractor shall be present at the first use of the system (scheduled by the Owner), and one (1) additional event as requested by the Owner for no additional charge.

1.20 INSTRUCTION OF OWNER PERSONNEL

- A. After final inspection and completion, provide instruction to Owner-designated personnel on the operation and maintenance of the system(s).
- B. A training program shall be designed to provide a comprehensive understanding and basic level of competence with the system. It shall be sufficiently detailed to allow Owner personnel to operate the system independent of any outside help.
- C. The training plan or class shall include detailed sections outlines and related reference materials. The Owner personnel shall be able to utilize these materials in the subsequent training of their co-workers.
- D. Submit an outline of the course with sample instructional aids for approval one (1) week prior to scheduled instruction sessions.
- E. The training time shall not be less than a total of 32 hours, and shall consist of:
 - 1. Three periods: Sixteen (16) hours during normal day shift for system operators. Specific scheduled shall be established at the convenience of the Owner. The sixteen hours shall be broken down into several sections.
 - 2. Eight (8) hours of system training shall be provided to Owner supervisory personnel so that they are familiar system operation.
 - 3. Eight (8) hours of system maintenance familiarization training shall be provided to Owner's telecommunications personnel.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Electronic component models shall be commercially available for a least one (1) year prior to bid or be approved by the Consultant and or Owner's Representative.
- B. All equipment and material shall be new unless otherwise noted in this specification.
- C. All equipment must be UL listed or built to UL standards, where required.

2.2 GENERAL

- A. All equipment shall be professional grade and rated for continuous duty. Basic guidelines have been prepared with manufacturer names, makes, and model numbers included as minimum performance requirements. These must be satisfied, unless a variance (exemption document) is submitted and approved by the Consultant.
- B. System(s) shall be installed and configured for simplicity of operation, with user-friendly controls.
- C. Provide product quantity as required for complete and operable system(s). If any quantities are given, the Contractor shall provide at least the given amount. Some of the products listed under this section may not be required to fulfill the work as outlined.

- D. Regardless of the length or completeness of the descriptive paragraphs listed herein, each device shall meet published manufacturer's specifications.
- E. Remove all manufacturer's nameplates or logos from product, such as found on speaker(s), within the public sight lines or spaces when applicable.
- F. Paint all wall and ceiling mounted speaker grilles and enclosures as directed by the Consultant and/or Architect.
- G. The Contractor is responsible for providing a fully operational turnkey audiovisual system. The following equipment list and attached drawings are for final design intent purposes.
- H. The Contractor shall program no less than five (5) presets on the audio console such that the first preset will reset the console to a default "cleared" setup and each of the other presets will be for various levels of user group activities. Additionally, settings that are not needed for everyday use will be locked out and the password will be given to Owner. Additionally, no less than three (3) user groups will be programmed and password protected.

2.3 AUDIO SYSTEMS

- A. Digital signal processor (DSP / Audio Mixer) DSP Type 1
 - 1. 12 mic/line AEC inputs
 - 2. 8 mic/line outputs
 - 3. Up to 8 configurable USB I/O channels
 - 4. Expandable to 128x128 channels via AVB network
 - 5. Configured for videoconference support with no internal phone hybrid
 - 6. Rack mountable
 - 7. Acceptable Product:
 - a. Biamp TesiraFORTE AVB AI or approved equal
- B. Paging Processor
 - 1. 8 Admin Phone / Telephone Slots
 - 2. 256 Ports (2048 networked) *
 - 3. 64 Page Zones
 - 4. 1 or 2 Intercom Channels
 - 5. Network Install (up to 8 systems) *
 - 6. Assistant™ / Calendar™ Software
 - a. Care Hawk CH1000, or approved equal
- C. Power Amplifier
 - 1. Four channels with bridgeable channels
 - 2. Signal, clip, and protect LED
 - 3. Low Z & 70V/100V
 - 4. Screw terminal output connectors
 - 5. Nomad Link network ready
 - 6. Acceptable Product:
 - a. Type 1 1700 watts over 4 channels at 70v – Lab Gruppen C68.4 or approved equal
 - b. Type 2 1200 watts over 4 channels at 70v – Lab Gruppen C4 or approved equal
 - c. Type 3 1200 watt over four channels at 70v- Lab Gruppen C48.4 (Gym) or approved equal.
 - d. Type 4 1200 watt over two channels at 70v E12:2 (Gym) or approved equal.
- D. Classroom Audio System
 - 1. Null, duplex audio
 - 2. Simple user interface software

3. Intercom and paging functionality built-in
4. Redundant power source during power outages
5. Compatible with SAFE Commander or other SIP-based bell or public announcement systems
6. MS-450 Networked Amplifier: Line Inputs: For PC, DVD audio, MP3, auxiliary mic, or other multimedia sources; 1 Line balanced/unbalanced input (Euroblock); 3 Line unbalanced stereo inputs (3.5 mm); 1 Input connector for IR- Satellite; Internal Network Audio; Line Outputs: 2 Unbalanced Line Outputs (RJ45 Connectors);
7. Continuous Power @ 1% THD : 32 Watts (16 Watts (rms) per channel x 2 channels @ 4 ohms), backup amp powered by PoE
8. RS-232, 3-pin screw terminal block header, RJ45 remote control port
9. (2) RS-232 communication ports: (1) to control the MS-450, and (2) to control another classroom device such as a projector
10. (2) Remote Control Ports: for integration with wall plate controls
11. Power Input (Network): PoE 802.3at or 802.3af for IP interface
12. CS-12 Ceiling Speakers: Frequency range of 70 Hz to 15 kHz (-10dB); Tuned ported enclosure provides superior bass response; Integral C-clamp mounting
13. XD Teacher Microphone: Auxiliary line level input connector allows for playback of any device using a standard 3.5 mm jack; Can be used either with built-in clip or included lanyard; Rechargeable Lithium-Ion Battery
14. XD Receiver: Adjustable for optimal coverage from small classrooms to cafes, gyms, and other large spaces; Remote control via Teacher Microphone of both microphones and auxiliary levels; Line level 3.5 stereo mini jack (monaural mix), RJ45 line level output, line level 3.5 mm stereo output; Feedback blocker on both microphone channels
15. Acceptable product:
 - a. Audio Enhancement Optimum Classroom MS 450-XD System-4 Ceiling Speakers (KIT) 10000-1200

E. Paging Interface Module

1. Rugged gooseneck and all-metal body
2. Audio frequency bandwidth: 150Hz to 15kHz
3. Sensitivity: 2.2 mV/Pa
4. Electrical impedance: 530 Ohms
5. Recommended load impedance: 2000 Ohms
6. Polar Pattern: cardioid
7. Audio output: Type - Balanced XLR, Gender - Male, Contacts - 3-pin
8. Acceptable product:
 - a. Audio Enhancement MS 250 3000-0464

F. Ceiling Loudspeakers at (SP)

1. Average Sensitivity – 92 dB SPL, 1W/ 1M
2. Loudspeaker Power Rating – 20W RMS, EIA 426A Standard
3. Calculated Output – 104 dB SPL, 5W/ 1M
4. Magnet Type & Weight – BeFe Ceramic, 10 oz. Nominal
5. Frequency Response – 60Hz - 17kHz EIA 426A Standard
6. Nominal Coverage Angle – 90° Included Angle, -6 dB / 2 kHz, Half space
7. Audio Connection – 7” Color-Coded Pigtails, Pre-Cut
8. Electrical Access – 1/2” Side Mounted, Flexible Conduit Clamp
9. Acceptable product:
 - a. Quam System 21, or approved equal

- G. Ceiling Speakers at (SP2)
1. Consistent 90° x 90° broadband pattern control
 2. 300 mm (12 in) woofer with Kevlar-reinforced cone and 75 mm (3 in) voice coil.
 3. 25 mm (1 in) exit compression driver with unique patented design and high temperature polymer diaphragm.
 4. Overload protection
 5. 55 Hz – 20 kHz frequency response.
 6. 200-Watt 70V/100V multi-tap (built-in transformer)
 7. Acceptable product:
 - a. JBL AWC129, or approved equal
- H. Wall Mounted Speaker (SP6)
1. 8" woofer with woven fiberglass cone
 2. 1" PEI diaphragm tweeter with fluid cooling
 3. Contemporary, high-design appearance
 4. Built-in InvisiBall mounting hardware
 5. Weather resistant enclosure and transducers
 6. Wide 100° x 100° coverage
 7. 120-Watt power handling (240-Watt program)
 8. High fidelity sound character with broad frequency response of 45 Hz - 20 kHz
 9. Acceptable product:
 - a. JBL Control 28-1L (white)
- I. Gym Speaker (SP1)
1. Consistent 90° x 90° broadband pattern control
 2. 300 mm (12 in) woofer with Kevlar-reinforced cone and 75 mm (3 in) voice coil.
 3. 25 mm (1 in) exit compression driver with unique patented design and high temperature polymer diaphragm.
 4. Overload protection
 5. 55 Hz – 20 kHz frequency response.
 6. 200-Watt 70V/100V multi-tap (built-in transformer)
 7. Acceptable product:
 - a. JBL AWC129 (white)
- J. Wireless Microphone System
1. Selectable frequencies / Auto Transmitter setup digital transmission design.
 2. XLR and ¼" outputs
 3. Mic/line switchable
 4. Detachable ¼ wave antennas, receivers compatible with antenna distribution and remote antenna configurations.
 5. Rack mountable
 6. QLXD2/SM58 handheld transmitter, with Beta 58 microphone capsule
 7. WL185 lavalier microphone with QLXD1 bodypack transmitter,
 8. QLXD4 standard diversity receiver
 9. Acceptable product:
 - a. Shure QLX-D 124/85, or approved equal
- K. RF Distro
1. Wideband UHF
 2. Four-Way Active Antenna Splitter and Power Distribution System
 3. Provide with antennas and boosters or amplifiers
 4. Acceptable product:

- a. Shure UA844SWB, Shure UA830USTV, Shure UA860WB, Shure UA8100, or approved equal
- L. ADA/Assistive Listening System
1. Truly Wireless – Roam up to 150 feet (46 m) from the antenna with complete freedom
 2. Superior Audio Quality – 80 dB signal to noise ratio
 3. Compatible with most assistive listening equipment
 4. Provide with transmitter
 5. Provide with extended antenna (RF2)
 6. Provide with receiver
 7. Provide rechargeable batteries (Quantity of 6)
 8. Provide ear speakers (Quantity of 6)
 9. Provide Stereo headphones (Quantity of 6)
 10. Provide Case/charger to support the charging of 6 receivers
 11. Provide neck loops (Quantity of 6)
 12. Acceptable Product:
 - a. Listen technologies LT-800-072-P1, and Listen technologies LP-40-072
- M. Stage Box
1. 16 MIDAS-designed, fully programmable mic preamps for audiophile sound quality
 2. 8 analog, servo-balanced XLR outputs
 3. 32 bidirectional audio channels over Cat 5e cable (48 kHz)
 4. Single cable duplex interconnection for audio and sample clocks
 5. Acceptable product:
 - a. Behringer S16
- N. Mixing Console (FOH)
1. 25 motorized faders
 2. 40 Input, 25-Bus Digital Mixing console
 3. 32 Programmable XLR MIDAS Preamps
 4. 8 Auxiliary Channels
 5. 8 Effects return Channels
 6. A/D-D/A conversion, 24-bit @44.1 / 48 kHz, 114 dB dynamic range
 7. Networked I/O Latency 1.1 ms
 8. Internal programmable and patchable effects to include the following: Delays. Limiters, Reverb, Plate Reverb, Reverse reverb, Equalizers, Compressors
 9. Acceptable product:
 - a. Behringer X32
- O. Line Array Speaker (SP3) Center
1. Coverage pattern 100 x 15 degrees nominal
 2. 12" LF driver
 3. 1.5" Compression drivers
 4. Passive internal crossover selection
 5. Sensitivity 95 dB SPL, 1w@1m
 6. Frequency Response 75 Hz – 20 kHz \pm 3 dB
 7. 800 W continuous Power Rating.
 8. Provide with all necessary mounting and flying hardware
 9. Acceptable product:
 - a. JBL VRX932LA, JBL VRX-AF
- P. Line Array Subwoofer (SP3) Sub Center

1. 18" LF driver
 2. Sensitivity 95 dB SPL, 1w@1m
 3. Frequency Response 34 Hz – 220 Hz ±3 dB
 4. 800 W continuous Power Rating
 5. Provide with all necessary mounting and flying hardware
 6. Acceptable product:
 - a. JBL VRX918S, JBL VRX-AF
- Q. Side Fill Speaker (SP3) Left and Right
1. 90 x 90-degree waveguide with 25mm (1") dome tweeter
 2. 135mm (5.25") LF transducer
 3. Ultra-Compact 2-way Loudspeaker with 2 x 5.25" LF
 4. 450W Program
 5. Dual Neutrik NL4 connectors plus screw terminal
 6. Attachment points for optional U-bracket
 7. Frequency Range (-10dB): 80Hz - 20kHz
 8. Frequency Response: 90Hz - 18kHz
 9. Power Rating: 225W Cont Pink Noise, 450W Program, 900W Peak
 10. Impedance: 16 ohms
 11. Coverage Pattern: 90 degrees x 90 degrees
 12. Dimensions: 14.9" x 5.9" x 7"
 13. Weight: 16.5 lbs
 14. Include all mounting equipment hand hardware
 15. Acceptable product:
 - a. JBL AC25 (White)
- R. Stage Fill Speakers
1. Coverage pattern 120 x 110 degrees nominal
 2. 10" LF driver
 3. 5" MF driver
 4. 1" HF driver
 5. Sensitivity 93 dB SPL, 1w@1m
 6. Frequency Response 40 Hz – 16 kHz ±3 dB
 7. 500 W continuous Power Rating
 8. Provide with InvisiBall wall mount hardware
 9. Acceptable product:
 - a. JBL Control 30 (white)
- S. Pendent Speaker (S2)
1. Compact Design
 2. 5.25" Woofer with Silk-Dome Tweeter
 3. Radiation Boundary Integrator Technology
 4. 120° Conical Coverage
 5. 75W Power Handling
 6. 60W Multi-Tap Transformer
 7. Full Grille
 8. Include all mounting and hardware
 9. Acceptable product:
 - a. JBL Control C65 P/T (white)
- T. Microphone Splitter
1. Operating Level: -0.5dB to +4dB

2. Frequency Response: 20Hz-20kHz \pm 0.63dB
3. Max input level: -0.5 dBu
4. Acceptable product:
 - a. Whirlwind SP1x2

U. Hanging Microphone

1. Response optimized for consistent sound quality.
2. Unobtrusive slimline design.
3. Superior grade components.
4. Engineered in high quality brass.
5. Semi-Rigid Gooseneck shaft.
6. Included PPA-RF or CPPW01-RF.
7. Finish: White.
8. Acceptable product:
 - a. Clock Audio C 3SE-RF

V. Wired Microphones

1. Acceptable product:
 - a. Hand Held Cardioid Microphone – Shure SM58 (Qty:4) with (8) Atlas T3664 stands, (8) Atlas PB-21XE Boom arms, (8) Whirlwind MKQ10, (8) Whirlwind MKQ20, and (8) Whirlwind MKQ50.

W. CD/MP3/iPod Player (Performance Classrooms, Gym)

1. Plays audio CDs, MP3 CDs, and WAV file CDs.
2. Dock connector for Apple iPod charging and playback.
3. iPod video playback from S-video and composite output.
4. CD TEXT and ID3 tag support.
5. Continue, Random, and Program play modes.
6. Repeat All and Repeat Single play modes.
7. Shock/skip prevention memory buffer.
8. +/- 12% pitch control (analog outputs only).
9. RCA unbalanced line outputs (CD and iPod).
10. 1/4" Stereo headphone output.
11. Acceptable product:
 - a. Tascam CD-200iL

X. Audio Network Recorder/Player (Performance Classrooms)

1. Plays digital music from computers, music servers, and online services with your home stereo system
2. Cirrus Logic CS4398 DAC (digital-to-analog converter) for high-performance playback of digital music
3. Built-in Wi-Fi for easy connection to a wireless home network
4. Bluetooth wireless connectivity for streaming music from compatible smartphones, tablets, and computers
5. Dual-diversity antennas and dual-band "N" technology ensure solid, stable Bluetooth and Wi-Fi streaming
6. Apple AirPlay for streaming music from an iPhone, iPod touch, iPad or iTunes on your computer
7. DLNA 1.5 certified for streaming music wirelessly from compatible computers and network-attached storage (NAS) drives
8. Includes support for Pandora, vTuner Internet radio, and SiriusXM (subscription required for SiriusXM)

9. Spotify Connect lets you play Spotify's streaming music library via Wi-Fi, controlled by your smartphone or tablet (requires Spotify app and a premium subscription)
10. High-resolution playback of DSD, FLAC, WAV, AIFF, and ALAC files; also plays MP3, WMA, and AAC files
11. Up to 24-bit/192kHz resolution for PCM files; up to 5.6MHz resolution for DSD files
12. front-panel USB input for connecting an iPod, iPhone, or thumb drive
13. Direct digital connection for iPod or iPhone bypasses the device's digital-to-analog converter for better sound
14. Output stage uses Marantz's latest generation Hyper Dynamic Amplifier Modules (HDAM) for low noise and lifelike sound
15. Gapless playback with FLAC, ALAC, WAV, AIFF, and DSD files
16. AM/FM radio tuner
17. Stereo analog RCA outputs
18. Optical digital audio input
19. Optical digital audio output
20. Ethernet port
21. Front-panel USB input (Type A) for connecting an iPod or compatible USB memory device
22. Discrete headphone amplifier with 1/4" output and volume control
23. IR flasher input for use with external controllers
24. Detachable power cordP.
25. Acceptable product:
 - a. Marantz NA6005

Y. CD Recorder (Performance Classrooms)

1. A professional-grade CD recorder with a new transport designed and manufactured by TEAC for years of reliability in the most demanding installations
2. The AK4528VM AD/DA chipset manufactured by Asahi Kasei Electronics is employed for finer AD/DA conversion for crystal clear sound quality
3. A rich playback function and a high level of audio performance enable the CD-RW900MKII to be used as a professional-grade CD player
4. The high-performance AKM codec captures audio with a wide dynamic range for better-sounding CD recording
5. A variety of track division functions make recording simpler, and a rec-mute function can insert silence between tracks
6. Improved firmware allows the transport to write track markers without a gap, for seamless continuous live recordings
7. A RAM buffer stores audio data in memory to ensure smooth playback, even if shock or vibration lasts for up to four seconds
8. Acceptable product:
 - a. Tascam CD RW900MKII

Z. 8 channel Mixer (Performance Classrooms)

1. 8-Input Mixer
2. Supports USB Drives and Bluetooth
3. 120W, 2-Output Amplifier
4. Euroblock, RCA, and 1/4" Inputs
5. Euroblock Outputs
6. Per-Channel Bass and Treble Controls
7. Voice-Activated Ducking
8. Front-Panel Display and Controls
9. Configurable Output Routing

10. Includes Rackmount Kit
11. Acceptable product:
 - a. Marantz NA6005

2.4 VIDEO SYSTEMS

- A. 65" Flat Panel Display (Conference Rooms, Collaborative Area's, Resource Rooms, Student Support, Library Commons)
 1. 65" Class
 2. SE3D Series LED display
 3. Digital signage
 4. 1080p (Full HD) 1920 x 1080
 5. Edge-lit
 6. Connector Type: 15 pin HD D-Sub (HD-15)
 7. Type: VGA input; Connector Type: 19 pin HDMI Type A; Qty: 2
 8. Type: HDMI input;
 9. Connector Type: 24+1 pin digital DVI; Type: DVI-D input
 10. Connector Type: 4 pin USB Type A; Type: USB 2.0
 11. Connector Type: RJ-45; Type: Network
 12. Type: Audio line-in
 13. Type: Audio line-out
 14. Type: Infrared input
 15. Type: Serial input
 16. Type: Serial output
 17. Acceptable product:
 - a. LG 65SE3D-B with Chief LSA1U
- B. Smart Board Interactive Display – (Classrooms)
 1. 75" LED display
 2. Optimal resolution 3840×2160 at 60Hz
 3. Brightness (maximum) 360cd/m²
 4. Touch sensitive display surface
 5. 10W integrated speakers (×2)
 6. Included cables and accessories, iQ appliance, USB cable, Pen (×4), Eraser
 7. Provide with height adjusting wall mount
 8. Provide with surge suppression
 9. Acceptable product:
 - a. Smart Technologies SBID-7275, Chief LSD1U wall mount or Chief LSA1U, Surge-X SA82 or approved equal
- C. Laser Projector-10,000 lumen (VP1)
 1. SOLID SHINE Laser and DLP™ Projection Balances Image Quality with 20,000-hour Maintenance-free*1 Endurance
 2. Dynamic Contrast Function for High Contrast
 3. Dust-Resistant Airtight Optical Block
 4. Detail Clarity Processor 3 Sharpens the Finest Details
 5. Selectable Operational Modes Maintain Image Quality Longer
 6. System Daylight View 3 for Sharp and Vivid Images in Bright Environments
 7. Stable 24/7 Operation with Light-source Failover Protection
 8. Unique Contrast Sync and Shutter Sync Function

9. Geometric Adjustment for Custom Screen Surfaces
10. Geometry Manager Pro Software
11. Multi-Screen Support System Seamlessly Connects Multiple Screens
12. Multi-Unit Brightness and Color Control
13. Single-Cable DIGITAL LINK Control and Video Connection
14. Free 360-degree Rotation
15. Supports Art-Net DMX, Crestron Connected™, and PJLink™
16. Quick Start and Quick Off
17. Panel size: 17.0 mm (0.67 in) diagonal (16:10 aspect ratio)
18. Display method: DLP™ chip × 1, DLP™ system
19. Pixels: 2,304,000 (1920 × 1200) × 1, total of 1,024,000 pixels
20. Laser Diode Laser class 1 (Class3R for US models)
21. Luminance life for set: 20,000 hours at half luminance (normal)/24,000 hours at half luminance (Eco)
22. NOTES *Temperature: 30°C / 86°F, Altitude 700m (2,297 ft), Dust: 0.15mg/m³
23. Dynamic Contrast³
24. 43,800 hours at constant luminance (LONG LIFE1)
25. 61,320 hours at constant luminance (LONG LIFE2)
26. 87,600 hours at constant luminance (LONG LIFE3)
27. 0,000 lumens (Center)*²/ 9,400 lumens*³
28. 9,400 lumens (Half luminance) (NORMAL)
29. 7,500 lumens (Half luminance) (ECO)
30. 3,700 lumens (Constant luminance) (LONG LIFE1)
31. 3,100 lumens (Constant luminance) (LONG LIFE2)
32. 2,500 lumens (Constant luminance) (LONG LIFE3)
33. Center-to-corner uniformity*³: 90%
34. Contrast*³: 10,000:1 (All White/All Black) (Dynamic Contrast³)
35. Resolution: 1920 × 1200 pixels
36. Acceptable product:
 - a. Panasonic PT- RZ970WU (av contractor to confirm lens and throwing distance, Chief VCMUW)

D. Blu Ray/CD Player

1. Universal Blu-ray disc player that also supports Super Audio CD and DVD-Audio formats
2. 3D Ready (*1, *2, *3)
3. Network functions, to bring you a wealth of online content
4. Enjoy YouTube (*2) and Netflix video distribution services without a PC.
5. Enjoy music, photo, and video files stored on a network-connected device such as a multi-media PC.
6. Supports HDMI 1.4a with 3D ready, Deep Color, “x.v. Color”, High-Bit-Rate Audio output and HDMI CEC (consumer electronics control) functions
7. USB port on the front panel
8. Quick play
9. 3RU Rackkit Included
10. Acceptable product:
 - a. Denon DBP 1611UDP

E. Digital Matric Switcher

1. All-in-one 8x4 4K matrix switcher, scaler, audio DSP with AEC, audio power amplifier, and control processor
2. Inputs: Six HDMI, two DTP® twisted pair inputs on RJ-45, six stereo balanced/unbalanced audio inputs on captive screw, four mic/line audio inputs on captive screw
3. Outputs: Two HDMI; two DTP twisted pair outputs on RJ-45; one S/PDIF digital audio output on coaxial RCA; four variable audio outputs on captive screw; speaker outputs on 5 mm, 4-pole captive screw connector - DTP CrossPoint® 84 4K IPCP SA or on 5 mm, 2-pole captive screw connector - DTP CrossPoint 84 4K IPCP MA 70
4. Two DTP inputs and six HDMI inputs
5. Two HDMI outputs and two independently scaled DTP outputs
6. Two DTP outputs feature mirrored HDMI connections to support local monitoring
7. 4K matrix switching and scaling with selectable seamless transitions and logo keying
8. Integrated DTP inputs and outputs support transmission of video, control, and audio up to 330 feet (100 meters) over a shielded CATx cable
9. Advanced Extron Vector™ 4K scaling engine
10. Selectable scaled DTP output rates from 640x480 to 4K
11. Compatible with DTP 230 Series and DTP 330 Series, plus XTP® CrossPoint matrix switchers
12. DTP outputs are compatible with HDBaseT-enabled displays
13. Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance
14. Compatible with CATx shielded twisted pair cable
15. Remote powering of select DTP transmitters and receivers
16. RS-232 insertion from the Ethernet control ports
17. Bidirectional RS-232 and IR insertion for AV device control
18. Available with integrated IPCP Pro control processor
19. Supports TouchLink® Pro touch panels and eBUS® button panels
20. Integrated three-port AV LAN switch allows AV devices to be isolated from the corporate network
21. AV LAN only permits communications from the Ethernet port for remote management and firmware updates to Extron devices
22. Supports secure industry standard communications protocols
23. Supports LinkLicense®
24. Two bidirectional RS-232 ports with software handshaking
25. One bidirectional RS-232/RS-422/RS-485 port with hardware and software handshaking
26. Two IR/Serial ports for one-way control of external devices
27. Four Digital I/O ports
28. Four relays for controlling room functions
29. eBUS port for connecting eBUS button panels and accessories
30. Ethernet monitoring and control on each Ethernet port
31. DHCP server for AV LAN
32. Supports 10/100/1000Base-T
33. Supports Ethernet-controllable devices
34. Automatic clock synchronization allows touch panel to display the accurate time and date
35. Supports control system synchronization
36. Front panel port status indicators
37. Multi-level password protection
38. Fully customizable using Extron control system software
39. Create controller groups

40. Library of enhanced Extron Certified device drivers
41. HDMI audio embedding
42. HDMI audio de-embedding
43. Output volume control
44. Audio input gain and attenuation
45. Audio breakaway
46. S/PDIF audio output
47. Four mic/line inputs with 48-volt phantom power
48. Integrated audio digital signal processor with ProDSP™ 32/64-bit floating point signal processing
49. Four channels of AEC
50. Auto mixer with eight groups
51. Digital audio expansion port provides interfacing to an Extron DMP 128 Plus processor for audio system scalability
52. Mic ducking
53. Studio grade 24-bit/48 kHz analog-to-digital and digital-to-analog converters Low latency DSP processing
54. DSP Configurator™ Software
55. Group masters
56. Soft limits provide optimal group master adjustment range
57. 32 DSP Configurator presets
58. Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats
59. User-selectable HDCP authorization
60. Acceptable product:
 - a. Extron DTP CrossPoint 84 4K

F. Multi Format Switcher/Transmitter

1. Transmits DisplayPort, HDMI, or VGA plus control and analog audio up to 230 feet (70 meters) over a shielded CATx cable
2. Inputs: One DisplayPort, one HDMI, and one VGA on 15-pin HD, one 3.5 mm stereo mini jack for audio
3. Output: One DTP® 230 twisted pair output on RJ-45
4. Auto-switching between inputs
5. Supports computer and video resolutions up to 4K
6. Analog stereo audio embedding
7. Remote powering of DTP receiver
8. Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance
9. Compatible with CATx shielded twisted pair cable
10. Accepts additional analog stereo audio signals
11. Audio input assignment
12. Supports DisplayPort SST
13. Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats
14. DTP output is compatible with HDBaseT-enabled devices
15. Supports multiple embedded audio formats
16. Bidirectional RS-232 and IR pass-through for AV device control
17. Digital conversion of analog input signals

18. HDCP compliant — Ensures display of content-protected media and interoperability with other HDCP-compliant devices.
19. User-selectable HDCP authorization
20. EDID Minder® automatically manages EDID communication between connected devices
21. HDCP authentication and signal presence confirmation
22. HDCP Visual Confirmation
23. Output muting control
24. HDMI to DVI Interface Format Correction
25. Automatic color bit depth management
26. Front panel security lockout
27. Compatible with all DTP 230 Series receivers and DTP-enabled products
28. RS-232 control port
29. Contact closure remote control with tally output
30. Compatible with TeamWork® Show Me® Cables
31. Front panel USB configuration port
32. LED indicators for signal presence, HDCP, and power
33. RJ-45 signal and link LED indicators for DTP port
34. Easy setup and commissioning with Extron's PCS
35. JITC Certified
36. 1" (2.5 cm) high, half rack width metal enclosure
37. Includes LockIt® HDMI cable lacing brackets
38. External Extron Everlast™ power supply included, replacement part #70-967-01
39. Extron Everlast Power Supply is covered by a 7-year parts and labor warranty
40. Acceptable product:
 - a. Extron DTP DSW 4K 233

G. Multiformat Transmitter Decora

1. Transmits HDMI, VGA, control, and analog audio up to 330 feet (100 meters) over a shielded CATx cable
2. inputs: One HDMI, one VGA on 15-pin HD, two 3.5 mm stereo mini jacks for audio
3. Output: One DTP® 330 twisted pair output on RJ-45
4. Auto-switching between inputs
5. Supports computer and video resolutions up to 4K
6. Analog stereo audio embedding
7. Remote power capability
8. Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance
9. Compatible with CATx shielded twisted pair cable
10. Independent analog audio inputs
11. Supported HDMI specification features include data rates up to 10.2 Gbps, 3D, and HD lossless audio formats
12. Supports multiple embedded audio formats
13. Bidirectional RS-232 pass-through for AV device control
14. Digital conversion of analog input signals
15. HDCP compliant
16. User-selectable HDCP authorization
17. HDMI to DVI Interface Format Correction
18. Automatic color bit depth management
19. Compatible with all DTP 330 Series receivers and DTP 330-enabled products

20. RS-232 control port
21. Contact closure control port
22. Front panel USB configuration port
23. LED indicators for signal presence, HDCP, and power
24. RJ-45 signal and link LED indicators for DTP port
25. Easy setup and commissioning with Extron's PCS - Product Configuration Software
26. Mounts in an included two-gang decorator-style wall plate
27. External Extron Everlast™ power supply included, replacement part #70-1174-01
28. Extron Everlast Power Supply is covered by a 7-year parts and labor warranty
29. Acceptable product:
 - a. Extron DTP UWP 4K 332 D

H. HDMI Receiver Decora

1. Receives HDMI plus control and analog audio up to 230 feet (70 meters) over a shielded CATx cable
2. Input: One DTP® 230 twisted pair input on RJ-45
3. Outputs: One HDMI, stereo audio on captive screw
4. Supports computer and video resolutions up to 4K
5. Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through
6. HDCP 2.2 compliant
7. Remote power capability
8. Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance
9. Compatible with CATx shielded twisted pair cable — Shielded twisted pair cabling with solid center conductor sizes of 24 AWG or better is recommended for optimal performance.
10. Accepts additional analog stereo audio signals
11. Bidirectional RS-232 and IR pass-through for AV device control
12. Supports multiple embedded audio formats
13. Supports EDID and HDCP transmission
14. Compatible with all DTP 230 Series transmitters and DTP-enabled products
15. LED indicator for signal presence and power
16. RJ-45 signal and link LED indicators for DTP port
17. JITC Certified
18. Mounts in an included single-gang decorator-style wall plate
19. Optional, external Extron Everlast™ power supply available, part #70-1174-01
20. Extron Everlast Power Supply is covered by a 7-year parts and labor warranty
21. Acceptable product:
 - a. Extron DTP R HWP 4K 231 D

I. HDBASET Extender (Classrooms, Collaborative Area's, Resource Rooms, Student Support, Library Commons):

1. Extend HDMI, USB, RS232, and
2. IR up to 328ft over UTP
3. High Definition Digital 4K @ 60Hz
4. Video and Audio with Control
5. Utilize Same Cable for Current and Future Applications
6. Locating a display device up to 328 feet (100m) away is as simple as pulling one UTP cable to a drop

7. Terminate with one Category 6A, 6 or 5e UTP or shielded, plenum or non-plenum cable
8. Supplied as a kit with both Source and Display modules
9. Acceptable product:
 - a. Hubbell iStation SFHD4BK , (2) Cables to Go 56783, and all required power supplies, PoE injectors, and associated cables.

2.5 CONTROL SYSTEMS

A. AV Controller Type 1

1. Supports TouchLink Pro touch panels, eBUS® button panels, and Network Button Panels
2. Supports secure industry standard communications protocols
3. One bidirectional RS-232/RS-422/RS-485 serial port with hardware and software handshaking
4. Two IR/Serial ports for one-way control of external devices
5. Four Digital I/O ports
6. Four relays for controlling room functions
7. eBUS port for connecting eBUS button panels and accessories
8. Ethernet monitoring and control
9. Central Deployment
10. Supports popular BMS
11. Integrated three port network switch
12. Supports 10/100/1000Base-T
13. Supports Ethernet-controllable devices
14. Integrated IR Learning capability
15. Automatic clock synchronization allows touch panel to display the accurate time and date
16. Supports control system synchronization
17. Front panel port status indicators
18. Multi-level password protection
19. 1U, half rack width metal enclosure
20. External Extron Everlast™ power supply included, replacement part #70-1174-01
21. Acceptable product:
 - a. Extron IPCP Pro, with Extron RSU 126 as required.

B. Touch Panel (TP1)

1. 5" capacitive touchscreen with 800x480 resolution and 24-bit color depth — Vibrant edge-to-edge glass display with a more responsive control surface.
2. Gorilla Glass® screen is tough, scratch, and smudge-resistant — Corning Gorilla Glass is stronger and more scratch-resistant than standard glass, while maintaining touch sensitivity, color saturation, and brightness.
3. Faster, quad-core processing and eight times more memory — Drastically-enhanced response and overall user experience
4. Compatible with all IP Link Pro control processors
5. Power over Ethernet provides power and communication over a single Ethernet cable
6. Built-in speaker — Provides audible feedback from button presses.
7. Light sensor adjusts screen brightness as the ambient room lighting changes
8. Configurable red and green status lights indicate a room's availability or call status
9. System connection status indicator provides visual feedback if the touch panel is not communicating with a control processor

10. High speed USB 2.0 port — For future expansion.
11. Automatic clock synchronization allows touch panel to display the accurate time and date
12. Energy-saving features:
 13. - Adjustable sleep timer puts touch panel into sleep mode
 14. - Motion detector wakes touch panel
15. Fixed 65 degree viewing angle provides optimum viewing comfort while seated or standing
16. Kensington lock support — Allows the touch panel to be locked to a table or other flat surface.
17. Manage, monitor, and control this device remotely using GVE - GlobalViewer Enterprise Resource Management software
18. Fully customizable using Extron control system software — GUI Designer combined with Global Configurator Plus, Global Configurator Professional, or Global Scripter.
19. Supports the optional SMA-2 Swivel Mount Adapter
20. Contemporary design that complements the aesthetics of any environment
21. Highly reliable, energy-efficient external universal power supply optional, replacement part #70-778-01 — Provides worldwide power compatibility, with high demonstrated reliability and low power consumption for reduced operating costs.
22. Acceptable product:
 - a. Extron TLP Pro 525

2.6 MISCELLANEOUS EQUIPMENT

A. EQUIPMENT RACKS (JB1)

1. Robust welded steel construction
2. Patented Tool Free Quick-Mount™ system for center section mounting
3. Center section swing shall be reversible, and be both key locked and padlocked
4. Durable textured black powder coat finish
5. Provide with vented front door
6. Provide with lacing bars
7. Provide with lacing strips
8. Provide with fan kit
9. Provide with locking drawer
10. Provide with power conditioner
11. Provide with blank panels
12. Provide with LED work light
13. Acceptable Product:
 - a. Middle Atlantic BGR 4532 with Middle Atlantic UPS S2200R, SurgeX SEQ as required, and CommScope 1933322-2, (12) Belden 1302E, (48) Belden C6F1106007, and all required accessories, or approved equal

B. Equipment Rack (Performance Classrooms)

1. Rack Enclosure
2. Rack Unit: 20
3. Finish: Grained Ebony Ash
4. Material: Wood
5. Panel Width: 19"
6. Mounting: Horizontal
7. UL Standards Tested: UL1678

8. UL Load Capacity: 250
9. Rack rail Type: 10-32
10. RoHS Compliant
11. Internal steel bracing for strength
12. Designed for passive cooling
13. Provide with lacing bars
14. Provide with lacing strips
15. Provide with fan kit
16. Acceptable product:
 - a. Middle Atlantic MFR 2027GE with SurgeX SX1120RT

C. Wall Mounted Equipment Rack (Gym)

1. Rack Enclosure
2. Rack Unit: 20
3. Finish: Grained Ebony Ash
4. Material: Wood
5. Panel Width: 19"
6. Mounting: Horizontal
7. UL Standards Tested: UL1678
8. UL Load Capacity: 250
9. Rack rail Type: 10-32
10. RoHS Compliant
11. Internal steel bracing for strength
12. Designed for passive cooling
13. Provide with lacing bars
14. Provide with lacing strips
15. Provide with fan kit
16. Acceptable product:
 - a. Middle Atlantic DWR 24 26 with SurgeX SX1120R

D. Surge Suppressor (At all displays and projector(s))

1. Load Rating: 8 amps @ 120 volts
2. Power Requirement (no load): 10 watts
3. Surge Let-Through Voltage (6000-volt surge): 0 volts
4. UL 1449 Adjunct Classification Test Results: 1000 surges, 6000 volts, 3000 amps, B3 pulse; Measured suppressed voltage: 170 volts; no failures
5. Federal Guidelines: Grade A, Class 1, Mode 1 (CID A-A-55818)
6. EMI/RFI Filter, Normal Mode (50-ohm load): 40 dB @ 100 kHz; 50 dB @ 300 kHz; 50 dB @ 3 MHz; 50 dB @ 30 MHz
7. EMI/RFI Filter, Common Mode (50-ohm load): 18 dB @ 300 kHz; 30 dB @ 1 MHz; 50 dB @ 5 MHz; 50 dB @ 20 MHz Maximum Applied Surge Voltage: 6000 volts. *
8. Acceptable product:
 - a. SurgeX SA-82, or approved equal

E. HDMI Cable

1. Ultra-flexible HDMI cables
2. Provide as required between HDMI devices and one at each input location.

3. Conforms to Premium High Speed and High-Speed HDMI cable performance standards
4. 4K/60 verified up to 12 feet (3.6 m)
5. 4K/30 verified for 15 feet (4.5 m)
6. Acceptable product:
 - a. Cables To Go 56783 as required, or approved equal

F. VGA +audio cable

1. Thin, flexible cable with low profile VGA connectors
2. Provide as required at each VGA input location.
3. Pin 9 is passed through from end to end
4. Designed for transmission of computer video, ID bit signals, and audio
5. Terminated with high quality molded VGA connectors and 3.5 mm connectors for audio
6. Acceptable product:
 - a. Extron MVGA-A M-M/6, as required or approved equal

G. USB 3.0 to A 6' Cable

1. Carries USB 3.0 data signals and power
2. Up to 4.8 Gbps bandwidth
3. Shielded to protect from interference
4. Acceptable product:
 - a. Cables To GO 54171 as required or approved equal

2.7 PLATES AND PANELS/FLOOR BOXES

- A. Provide plates and panels as described and/or detailed in the drawings and as required for fully operable system(s).
- B. Custom plates shall be 1/8" thick aluminum, standard EIA sizes, sized to cover rough- in boxes behind plates.
- C. Plastic plates are not allowed or accepted.
- D. Lettering shall be in all caps and numbers engraved with black or white lettering to the base material with a minimum size of 0.25".
 1. Font Size shall be 1/8"
 - a. Font Style shall be Helvetica
- E. Acceptable manufacturer of custom plates and panels shall be:
 1. RCI Custom – AL and/or ALOS series Aluminum Wall Plates
 - a. Provide AL series Aluminum Plates for floor and in wall box assemblies.
 - b. Provide ALOS series Aluminum Plates for wall boxes.
 - c. Or approved equal

2.8 PROPOSED SUBSTITUTIONS

- A. Where specific equipment is described, it is not the intention to discriminate against the products of other manufacturers, but rather to establish a standard of quality. All proposed substitutions should be submitted as alternates with exemption documentation for Consultant approval and complete product data sheets.
- B. The Owner's Representative and or Consultant requires manufacturer's original specification tests. The Owner's Representative and or Consultant will evaluate and approve and/or disapprove all substitutions.

- C. Items designated “no substitutions” shall be that specified item only. Submission of items other than specified shall not be considered and may disqualify RFP submission.

2.9 CABLES AND WIRING

- A. All audio cable shall be stranded copper conductors.
- B. Shielded cables located in raceways shall have aluminum foil shield with drain wire.
- C. Plenum Rated and/or Non-Plenum Ratings: Cable routed in conduits and or equipment racks can have non-plenum rated (PVC) jacket. All other cables shall have a plenum or riser rated jacket compliant to the cable run and purpose. Cable runs shall be continuous without splices.
- D. Cable Selection: Based on signal type as indicated on single line diagram, noted at equipment input, or output connection type. Wire manufacturer and part numbers are provided as a basis of cable quality and signal characteristics. Alternate cable manufacturers to be requested for approval during pre-build submittal.
- E. Cable Types:
1. Microphone and Line Cable:
 - a. Configuration: Twisted pair, 22 AWG West Penn 291 plenum 25291
 2. Low Impedance Loudspeaker Cable: (Select gage based on cable run and wattage)
 - a. Configuration: Twisted pair, 8 AWG West Penn C208
 - b. Configuration: Twisted pair, 10 AWG West Penn C210 plenum 25210
 - c. Configuration: Twisted pair, 12 AWG West Penn C227 plenum 25227
 - d. Configuration: Twisted pair, 14 AWG West Penn C226 plenum 25226
 3. High Impedance Loudspeaker Cable (25V / 100V) (Select gage based on cable run and wattage)
 - a. Configuration: Twisted pair, 14 AWG West Penn C226 plenum 25226
 - b. Configuration: Twisted pair, 16 AWG West Penn C225 plenum 25225
 - c. Configuration: Twisted pair, 18 AWG West Penn C224 plenum 25224
 4. Wireless Microphone Antenna Cables with-in equipment racks: (Select type based on cable length and signal loss)
 - a. Configuration: RG-58/U solid center conductor West Penn 812 plenum 25812
 5. Wireless Microphone and Hearing Assistance Antenna Cables outside of equipment racks
 - a. Configuration: RG-8/U solid center conductor West Penn 98G8 plenum 2598G8
 6. Video Tie Line Cable: Digital Video SDI, HD-SDI
 - a. Configuration: RG-59/U 20 AWG solid center conductor precision video cable West Penn 819 plenum 25819
 - b. Configuration: RG-59/U 25 AWG solid center conductor precision video cable West Penn HD825 plenum HD25825
 - c. Configuration: RG-59/U 20 AWG solid center conductor precision video cable Belden 8281
 7. Network Cable for video and audio streaming transport. (H.264, Cobranet HDBaseT and Daunte)
 - a. Unshielded Twisted pair Category 5e Cabling West Penn Wire 254245
 - b. F/UTP Category 6 Cabling West Penn Wire 254246AF
 - c. Shielded Twisted pair HDBaseT Cabling Extron XTP DTP 24
 8. RS-232 Control Cable
 - a. Configuration: Twisted pair, 22 AWG West Penn 291 plenum 25291
 - b. 9-conductor 22AWG. communications cable: Belden 9945.
 - c. 9-conductor 18AWG. communications cable: Belden 83659.

9. HDMI (High-Definition Multimedia Interface)
 - a. Carries
10. DisplayPort
 - a. Carries
11. 75 Ohm video and/or RF Cabling
 - a. Trunk video cable (RG6): West Penn 841 plenum 25841
 - b. Trunk video cable (RG11): West Penn 821 plenum 25821
 - c. RF CATV cable (RG6): West Penn Q841 plenum 25Q841
 - d. RF CATV cable (RG11): West Penn Q 821 plenum 25 Q 821
12. Cable manufacturer recommendations:
 - a. West Penn Wire and Cable
 - b. Belden
 - c. Extron
 - d. Crestron
 - e. AMX
 - f. Substitution: By approved substitution means.

2.10 LOUDSPEAKER CLUSTER RIGGING AND/OR ANY CUSTOM FLYWARE

- A. Provide rigging, hardware, suspension cables, and all appropriate hardware for the clusters as required for a fully operable system. Including any necessary support steel or additional steel required for proper rigging and suspension. A structural engineer licensed by the state where the installation will take place shall approve the rigging system by stamping all relevant drawings. All calculations shall be provided with the stamped rigging diagrams submitted along with the pre-build submittals.
 1. Acceptable manufacturers for all mounting bars and trusses:
 - a. ATM Flyware,
 - b. Custom by Speaker Manufacturer
 - c. Engineered approved custom.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All equipment shall be mounted with sufficient clearance to meet all applicable codes and facilitate observation and testing.
- B. All equipment shall be securely fastened with appropriate fittings to ensure positive grounding and be free of ground loops throughout the entire system.
- C. Units shall be installed parallel and square to building lines. All wires shall be gathered and fastened to create an orderly installation.
- D. Electronic equipment shall be permanently mounted in equipment racks or as applicable to the equipment and application.
- E. Contractor shall follow all applicable ANSI / INFOCOMM standards as a basis of design, fabrication, construction, and Performance Verification.
- F. Provide shaft locks or security covers on non-user operated equipment having front panel access.
- G. Install XLR-type connectors wired as follows: Pin 2 High, Pin 3 Low, and Pin 1 Shield.
- H. Mount all equipment, speakers, plates and panels, plumb and level.

- I. Permanently install all equipment to be firmly mounted and held in place. Provide necessary equipment supports to hold and support loads with at least a 5:1 safety factor.
- J. Contractor shall validate bracing or blocking for proper mounting and safety.
- K. Contractor shall provide seismic bracing for appropriate equipment where the project is in a seismic zone or it is required by local codes and or installation practices.

3.2 EQUIPMENT HOUSING

A. Equipment Enclosures and/or Racks:

- 1. Install all audiovisual equipment within equipment racks according to manufacturer's recommendations and product application.
- 2. Provide adequate ventilation, thermal management and temperature-controlled fans to maintain a rack temperature of less than 85 degrees Fahrenheit.
- 3. Provide rear support and rear rack rails for housing mounted equipment greater than 15" deep.
- 4. Allow a minimum of 20% open rack space to support future expansion.
- 5. Fill all empty spaces with blank panels, sizing as required; painted and or anodized to match housing.
- 6. Locate operator useable equipment and patch panels at an appropriate operating height.
- 7. Key all door locks for each housing type (front, rear) alike.
- 8. Looking at the equipment racks from the rear of the racks, install all AC power and ground cabling on the left and audio and video cabling on the right.
- 9. Provide LED lights mounted in the top of every two racks to illuminate the interior for service or maintenance. LED lights shall be individually switch-able and placed so as to provide maximum illumination throughout the rack.
- 10. Dress all loose cabling for a clean and orderly rack. The use of electrical tape for cable management is prohibited.
- 11. The use of tie wraps for network UTP, STP, and optical fiber cabling is prohibited.
- 12. Provide nylon braded sleeving for wiring harnesses for a clean installation of cabling that is visible to user areas. Sleeving color shall be coordinated with location and device color.

3.3 PATCH PANELS

A. Audio Patch panel configuration:

- 1. Patch panel shall be located in designated racks as shown on drawings.
- 2. All patch panels shall be in consecutive rack spaces located approximately 46" above the floor.
- 3. Locate inputs from microphone input plates and floor plates on the top row of each patch bay.
- 4. Locate sends and tie-lines on the bottom row of each patch bay.
- 5. Coordinate final patch bay normaling as directed by the Owner's Representative and or Consultant.
- 6. Provide 24"x32" reference diagram of the patch bay system. The layout shall be easily understood. Mount diagram behind Plexiglas and mount in the rack or control room close to the patch bay rack.
- 7. Diagram shall show all input and output locations, patch normals, and any console connections and interconnection of rooms and equipment.

B. Video Patch Panel Configuration:

- 1. Patch panel shall be located in designated racks as shown on drawings.

2. All patch panels shall be in consecutive rack spaces located approximately 46" above the floor.
3. Locate inputs from microphone input plates and floor plates on the top row of each patch bay.
4. Locate sends and tie-lines on the bottom row of each patch bay.
5. Coordinate final patch bay normaling as directed by the Owner's Representative and or Consultant.
6. Provide 24"x32" reference diagram of the patch bay system. The layout shall be easily understood. Mount diagram behind Plexiglas and mount in the rack or control room close to the patch bay rack.
7. Diagram shall show all input and output locations, patch normals, and any device connections and interconnection of rooms and equipment.
8. Unshielded Twisted Pair UTP and/or STP RJ-45 Patch Panel Configuration:
9. Patch panel shall be located in designated racks as shown on drawings.
10. All patch panels shall be in consecutive rack spaces located approximately 46" above the floor.
11. Configure and terminate patch bay per TIA / EIA standards.

3.4 LABELING

A. Device Labeling:

1. Provide, for each piece of rack-mounted equipment, a printed label (black background and white lettering) and attach to the front of the equipment. Install in a plumb, level, and permanent manner. Provide rear mounted labeling for all rack-mounted equipment.
2. Provide engraved label on each user-operated control that describes the function or purpose of the control as appropriate. Adjust size of label to appropriate size for location.

B. Rack Labeling:

1. Provide custom project plates at the top of each equipment rack designating Consultant and installation Contractor (see rack elevations for details).
2. All rack panel labeling shall be engraved and filled.

C. Wire and terminal strip labeling:

1. Provide each terminal strip with a unique descriptor and numerical designator for each strip. Show strip information on the drawings.
2. Provide logical and legible cable and wiring labels permanently attached for easy identification to each cable on both ends.
3. Label on cables shall be adhesive style striping covered with clear, heat shrink tubing, sized appropriately for the cable.
4. Wiring designator shall be alphanumeric code, unique for each cable.
5. Each cable type shall be labeled starting with different destinations (i.e. mic series "Mxxx", speaker series "Sxxx", etc.).
6. On projects that have multi room connectivity the source and destination room numbers should be the prefix for the cable number indicting a cable that traverses between two rooms.
7. Locate the cable designator at the origination and the destination of each circuit. Locate cable designator within 2" of connection point.

3.5 LOUDSPEAKER SUSPENSION

A. Requirements:

1. All loudspeakers shall be suspended or mounted at the appropriate operating position in a safe, secure and permanent manner.

2. The aiming direction of all loudspeakers and speaker clusters shall be adjustable in plus or minus 5-degree increments.
3. All loudspeakers enclosures being flown or suspended shall have internally integrated mounting brackets to distribute the load to the rigging points on each speaker cabinet. Contractor shall provide internal bracing as required if not incorporated into the speaker cabinet by the manufacturer.
4. At all times, speakers to be mounted or flown shall be intentionally designed for the purpose of suspension with integrated rigging points designed into the speaker cabinet by the manufacturer.
5. All loudspeakers shall have permanently attached grilles with all manufacturer logos removed.
6. All loudspeaker cables/wiring shall disconnect from a junction box located in the same speaker cavity as the speakers or clusters. Provide a single loudspeaker cable assembly that connects from the junction box to the speaker cluster and allows cable length for testing and powering the cluster while assembled on the floor.
7. Structural support members shall have a safety factor of at least 5:1.
8. All mounting hardware and wire rope shall have a safety factor of 8:1.
9. All fasteners, bridles, carabineers, quick links, shackles, etc. shall be of forged material and shall be manufactured for rigging.
10. All speakers, speaker clusters, and rigging equipment shall be painted the same color if exposed to the public areas
11. Certification Requirement:
 - a. All rigging, mounting, and support systems for the loudspeaker clusters or suspended speakers shall be reviewed and certified by a registered Structural Engineer licensed in the state of the project. Once the systems are installed, the engineer shall physically inspect the methods and means used for the installation and verify that the installation complies both with the certified documents and code practices. A document from the Structural Engineer stating this compliance shall be supplied to the Owner before any final payments will be authorized.
 - b. The Loudspeaker clusters shall not be installed before Engineer's certification has been submitted. Stamped approval of all rigging shall be made from this same Engineer within the state of the project.

3.6 OUTDOOR EQUIPMENT MOUNTING

A. Outdoor Mounting Requirements:

1. All outdoor mounting hardware shall be non-corrosive.
2. Any exposed structural supports for speakers or other outdoor components shall be non-corrosive or covered with an inhibiting layer.
3. Any components mounted outside shall be secured in such a way as to prevent movement caused by wind or storms.
4. All speaker, microphone, line, and communications enclosures to include grill components capable of protecting the devices and keep the water and elements out of the components.
5. Seal all connections on each speaker with a waterproof silicone sealant.
6. Provide screened covering over all openings in horn type enclosures to keep out birds, insects, or small animals.

3.7 PERFORMANCE STANDARDS

- A. Unless restricted by the published specifications of a particular piece of equipment, or unless otherwise required under the Detailed Specifications, the following performance standards shall be met within each system:
1. Audio
 - a. Frequency Response
 - 1) Within plus or minus 0.5dB, 20 Hz to 20,000 Hz.
 - b. Signal to Noise Ratio
 - 1) greater than 90dB (including crosstalk and hum at all input/output levels)
 - c. Total Harmonic Distortion
 - 1) 0.05% maximum from 20 Hz to 20,000 Hz.
 - d. Microphone (Nominal): -50dbu
 - 1) Overload (Minimum gain): -5dbu
 - 2) Maximum Gain: -26dbu
 - e. Line (Nominal): +4dbu (-10dbu RCA connections)
 - 1) Overload (Minimum gain): +24dbu
 - 2) Maximum Gain: +9dbu
 2. HDMI (High-Definition Multimedia Interface)
 - a. HDMI, EIA/CEA-861 standard
 - b. Data protocol: transition minimized differential signaling (TMDS)
 - c. Bit Rate: Up to 18 Gbit/s in HDMI 2.0
 - d. Audio Signal: LPCM, Dolby Digital, DTS, DVD-Audio, Dolby Digital Plus, Dolby TrueHD, DTS-HD High Resolution Audio, DTS-HD Master Audio, MPCM, DSD, DST
 - e. HDCP and EDID capable
 - f. Cable length 5-10 meters depending on cable type, further distances are achieved with active extender devices.
 3. Serial Digital Interface (SDI) per SMPTE standards as listed below
 - a. HD-SDI – SMPTE 292M – data rate of 1.485 Gbit/s – single coax
 - b. 3G-SDI – SMPTE 424M – data rate of 2.970 Gbit/s – single coax
 - c. 6G-SDI – 6Gbit/s – 10-bit, 4:2:2 - single or dual coax
 4. DVI (Digital Visual interface)
 - a. Achieved with active extender devices.
 5. DisplayPort
 - a. Low-voltage differential signaling, (LVDS), TIA/EIA-644,
 - b. Data protocol: Mini-packet
 - c. Bitrate: 1.62, 2.7, 5.4, or 8.1 Gbit/s data rate per lane; 1, 2, or 4 lanes; (effective total 5.184, 8.64, 17.28, or 25.92 Gbit/s for 4-lane link); 1 Mbit/s or 720 Mbit/s for the auxiliary channel. HDCP and EDID capable
 - d. Cable length from 3-5 meters depending on cable type, further distances are achieved with active extender devices.
 6. Apple Thunderbolt
 - a. Carries video, audio, and auxiliary data from source to display devices
 - b. 20 Gbit/s max
 - c. 3-meter cable length via copper cable, further distances are achieved with active extender devices.
 - a) Wireless Video Technologies

- 2) Computer Transport
 - a) Based on IEEE 802.11 a/g/n standard
 - b) Encryption AES CCMP
 - c) Authentication Protocol WPA2-PSK
 - d) Minimum input resolution WUXGA (1920x1200)
 - e) Minimum output resolution WUXGA (1920x1200)
 - f) Minimum frame rate 30 fps.
 - g) Latency: less than .5s or better.

- d. Universal Serial Bus (USB) Transport
 - 1) USB over unshielded twisted pair (UTP) active extender
 - a) Extends USB components from processor using a single or dual UTP cable.
 - b) Maximum of 330' (100M)
 - c) Shall support USB 3.0, 2.0, 1.1, and 1.0 devices with data transfer rates up to 480 Mbps Authentication Protocol WPA2-PSK
 - d) USB host support xHCI (USB 3.0), EHCI (USB 2.0), OHCI/UHCI (USB 1.1)
 - e) USB data rates Low speed (1.5 Mbps), full speed (12 Mbps), high speed (480 Mbps)

- e. Networked based video and audio transport and recording protocols
 - 1) Network based video and audio streaming and recording standards are constantly being updated and improved and as such this section references specific standards and their current features / capabilities.
 - 2) H.264 MPEG 4 AVC
 - a) Current Bit depth: (per sample) variable from 8 to 14 depending on selected feature.
 - b) Current Features: allow video transport to provide more flexibility for application to a wide variety of network environments.
 - c) Current Supported chroma formats: 4:2:0 / 4:2:2 / 4:4:4
 - 3) H.265
 - a) H.265 is an emerging standard based on H.264 allowing for better higher resolution video quality using lower transmission rates.
 - 4) JPEG 2000
 - a) Shall conform to ISO/IEC 15444 standard

- f. Video and Audio teleconference
 - 1) Video Conference: Integrated Services Digital Network (ISDN)
 - a) This is an older interface connection that is used within legacy systems and equipment that is based on the ITU H.320 I standard
 - b) ISDN interface consists of basic(s) Rate Interfaces (BRIs), a 128 kbit/s service delivered over a pair of standard telephone copper wires. The 144 kbit/s payload rate is broken down into two 64 kbit/s bearer channels ('B' channels) and one 16 kbit/s signaling channel ('D' channel or data channel).
 - 2) Video Conference: Internet Protocol (IP)
 - a) Based on the ITU H.264 Scalable Video Coding (SVC) standard
 - 3) Audio Conference: Plain old Telephone Service (POTS)
 - a) Analog legacy phone interface based on WT 89-66-15 Quality standards.
 - 4) Voice over IP (VoIP) telephone

- a) Based on the H.323 Standard as well collaborative protocols to include:
 - b) Media Gateway Control Protocol (MGCP)
 - c) Session Initiation Protocol (SIP)
 - d) H.248 (also known as Media Gateway Control (Megaco))
 - e) Real-time Transport Protocol (RTP)
 - f) Real-time Transport Control Protocol (RTCP)
 - g) Secure Real-time Transport Protocol (SRTP)
 - h) Session Description Protocol (SDP)
 - i) Inter-Asterisk eXchange (IAX)
 - j) Jingle XMPP VoIP extensions
 - k) Skype protocol
 - l) Teamspeak
 - m) Manufacture specific code for SIP interfaces differ so if differing manufactures are used within a VoIP phone system then care must be taken to ensure that needed functions are intercomparable between manufactures.
- g. Control System User Interface
- 1) Panel layouts and configurations shall be submitted for approval with or closely associated with the pre-build submittal package.
 - 2) Control system user interfaces pages shall be designed for this project exclusively. While there are a great number of design approaches to designing the user interface, the following guidelines shall be adhered to:
- h. Provide user and technical control functions and pages for all touch panels as well as for web controls.
 - i. Control functionality shall be arranged in an intuitive fashion based on specific room uses and device functions. A separate password protected logon would provide technical support access that would include all device specific functions and commands.
 - j. All panels are to have the time and date as icons, in the same position on every page.
 - k. All panels are to have a title, indicating the piece of equipment and/or functionality being controlled.
 - l. Each individual room type shall be given the same user interface design and layout, throughout the entire campus, to the greatest extent practicable.
 - m. User interface design, shall, to the greatest extent possible – taking into account the variations in system functionality from room type to room type, maintain continuity throughout the campus.
 - n. Final programming shall include capability to remotely control all functions of the Audio system. Individual device controls shall provide full manufacturer's functionality.
 - o. Devices similar in nature shall be programmed to operate with a common format.
 - p. No individual component shall be programmed to function atypically.
 - q. Whenever the same button appears on more than one page, it will be in the same position on each page.
 - r. Functions used during a general presentation shall be accessible with a minimal amount of button presses/page flips.
 - s. Where feasible, multi-level access to controls should be implemented.
 - t. User help screens shall be included as part of the touch panel designs.

3.8 CONTRACTOR TESTING AND OR COMMISSIONING

- A. Prior to energizing or testing the system(s), ensure the following:
 - 1. All products are installed in a proper and safe manner per the manufacturers' instructions.
 - 2. Insulation and shrink tubing are present where required.
 - 3. Dust, debris, solder, splatter, etc. is removed.
 - 4. Cable is dressed, routed, and labels and all connections are consistent with regard to polarity.
 - 5. All labeling has been provided and installed.
 - 6. All products are neat, clean, unmarred and securely fastened.
 - 7. All debris has been cleaned and removed from the site.
 - 8. All electronic devices are properly grounded.
- B. Perform the following test. Record all results in the final project manual.
 - 1. Test each AC power outlet for proper connections for hot, neutral and ground.
 - 2. Measure and record the DC resistance for the technical ground in the equipment racks and console. Resistance should be 0.15 ohms or less.
 - 3. Measure the impedance of each speaker line from the amplifier rack.

3.9 PERFORMANCE AUDIO SYSTEM TESTS

- A. Speaker Verification Test:
 - 1. Provide a low-level distinctive tone to each amplifier input.
 - 2. Systematically turn on each amplifier, one by one, and verify that the correct speaker is being driven. Correct wiring as required for proper operation.
- B. Constant Voltage Speaker test:
 - 1. Provide a low-level distinctive tone to each amplifier input.
 - 2. Systematically turn on each amplifier, one by one, and verify that the correct speaker is being driven. Correct wiring as required for proper operation.
 - 3. Walk the areas covered by the speakers and check for even level volume coverage. Adjust any speakers that are not correct by changing tap values as required for even volume level.
- C. Speaker Polarity:
 - 1. Use an electronic polarity checker to test each reinforcement speaker. All speakers should have the same relative polarity.
- D. System(s) Gain Adjustment:
 - 1. Adjust each active device to have unity gain from the console output to the input of the amplifiers.
 - 2. With all amplifiers turned off, connect a sine wave and pink noise to an input of the console. Using an RMS voltmeter, adjust the scale to an output between -10 and 0dBu. Once level has been established, it should remain unchanged throughout the testing.
- E. Signal Delay Adjustment:
 - 1. Adjust the delay speakers to ensure proper synchronization between the main speakers and the delayed speakers.
 - 2. Using TEF20 or SMARRT Live measure and adjust the arrival times of each speaker to be fully synchronized.
- F. Amplifier Level Adjustment:
 - 1. Adjust the gain of each amplifier to provide consistent and appropriate levels throughout the seating areas/facilities.
 - 2. With the console and other electronic devices feeding the amplifiers adjusted as described above, adjust the output of the console to be -10dB on the output VU meter.

3. Adjust the appropriate amplifiers to achieve 85dBA in the area covered by one of the speakers. Use a calibrated sound level meter to make the adjustments.
 4. If the speaker is utilizing an active crossover, mute the individual bandpass sections to adjust each section independently.
 5. Start with the speaker closest to the stage area or the booth location as appropriate. Once that speaker has been adjusted to the above criteria, repeat this procedure for each speaker cabinet.
 6. Amplifiers should be set to provide an average of 85dBA plus or minus 1.5dB throughout each seating section.
- G. Amplifier Level Adjustment 70-volt System:
1. Adjust the level of the 70-volt systems to achieve a volume level appropriate for their location and intended use.
 2. After initial amplifier adjustment, walk all areas utilizing the 70-volt systems and check for volume uniformity. If any changes of 3dB or more occur, adjust that specific area or speaker as required for even coverage.
- H. Input Verification Test:
1. Using a microphone, portable signal generator, or CD player, send signal from every microphone input to the console. Check every connection location in the facility.
 2. Verify video signal presence at each component input with test equipment and verify the proper signal and uniform strength.
 3. Verify that the receptacle under test appears at the correct position on the patch bay and is operating properly.
 4. In a similar manner, check any other inputs or tie lines, as appropriate.
- I. Impedance:
1. Measure absolute impedance value of each loudspeaker line at 250, 500, 1000, and 2000 Hz without the amplifier connected but with all speakers connected. Record the impedance levels versus frequency for each loudspeaker line.
 2. Impedance must not be below the rated load impedance of respective amplifier and may be any value equal to or above that.
 3. Check the resistance of the lines for loudspeaker, line level, and microphone receptacles with the receptacles opened and shorted. Document and repair any shorts or discontinuities found.
- J. Polarity:
1. Verify the polarity of each device in the shop to obtain true polarity throughout the system.
 2. Verify and document that polarity is kept throughout the system after wiring from inputs through output devices or receptacles.
- K. Gain Structure:
1. Turn off amplifiers and set equalizers and filter controls to flat response. Do not bypass any equalizers or filters.
 2. Adjust compressors and limiters to a 1:1 compression ratio and a +10 dBu limiting threshold. Do not bypass these processors.
 3. Insert pink noise into the mixer or mixing console and adjust levels to obtain a 0 dBu reading for the mixer or mixing console output. Distribute this output to all systems and subsystems.
 4. Adjust the output of line level electronics and signal processors to obtain a 0 dBu output at the output terminals. For equipment with input level controls, adjust the input controls so that input levels peak at -10 dB. For equipment not capable of providing 0 dBu output, adjust to achieve as close to 0 dBu as possible.

5. Turn amplifier gain controls to minimum and turn on the power amplifiers. Adjust the gain controls to achieve a +4 dBu output level for low impedance amplifiers and a +18 dBu output level for high impedance or constant voltage amplifiers.
- L. Hum and Noise Level:
1. Without changing the gain, terminate microphone and line level inputs with proper shielded resistors of 150 and 600 ohms respectively.
 2. Measure and record overall hum and noise levels for each power amplifier output from each input and with all inputs simultaneously. Hum and noise shall be at least 50 dBA below rated power output levels with amplifier controls set for optimum signal-to-noise, using input from line level and microphone sources.
- M. Electrical Distortion:
1. Load amplifier outputs with appropriate resistors matching the nominal impedance of the output terminals in place of the actual loudspeaker loads.
 2. Adjust gain controls as for hum and noise level test.
 3. Apply 250 Hz, 500 Hz, 1 kHz, and 2 kHz sine wave signal from an oscillator with less than 0.01% Total Harmonic Distortion to one input, such that a level of 0 dBu is obtained on the mixer.
 4. Measure and record the electrical distortion at each power amplifier output. Distortion shall be less than 0.5%.
- N. Parasitic Oscillation and Radio Frequency Pick-up:
1. Set up system for each specified mode of operation.
 2. Using a 5 MHz bandwidth oscilloscope and loudspeaker monitoring.
 3. Ensure that the system is free from spurious oscillation and RF pick-up with the absence of any input signal and with a 160 Hz signal at a 0 dBu level on the mixer or mixing console.
 4. Repeat this test for each mode of operation of the lighting dimmers (incandescent, neon, and fluorescent).
- O. Background Noise:
1. Using a calibrated ANSI S1.4-1983 (1997) Type 1 or IEC 60651-01-1994, precision sound level meter, determine the average ambient noise level in the room. Record the level derived. The average background noise shall be 60 dBA or below during performance of the following tests. If noise level exceeds this criterion, promptly notify the Consultant before proceeding further.
- P. Buzzes and Rattles:
1. Apply a 1 kHz sine wave signal such that a 0 dBu level is obtained on the mixer or mixing console.
 2. Sweep loudspeaker systems from 50 Hz to 5 kHz at 6dB below full amplifier power. Listen for buzzes, rattles, vibrations or resonance. Locate and correct problems.
 3. If the cause is outside the system, promptly notify the Consultant, indicating the cause and recommended corrections.
- Q. Coverage:
1. Using pink noise as an input, adjust loudspeakers and output levels to provide ± 6 dB coverage in the octave band centered at 1 kHz throughout the areas served by the system.
 2. Measure and record results.
- R. Equalization:

1. Equalize the sound systems in order to provide uniform seat-to-seat response, raise the threshold of feedback, suppress ring modes, and insure natural, pleasing sound in equal and adequate amplitude with maximum degree of intelligibility, and provide performance conforming to the requirements specified under "Acceptance Testing."
 2. Turn off systems except the speaker system under test.
 3. Using pink noise as an input and with system equalizers set to bypass operation, determine the average frequency response of the loudspeaker system in the room using a 1/3 octave real time analyzer.
 4. Record the frequency response derived.
 5. Locate the analyzer microphone approximately 1 m above the floor at a point which approximates the average frequency response, within ± 3 dB from 50 Hz to 16 kHz.
 6. Record the frequency response at this location.
 7. Using pink noise as an input and with system equalizers set to normal operation, set low and high pass filters at 63 Hz and 16 kHz respectively.
 8. Adjust the 1/3 octave filter settings to obtain the following response curves, minimizing the variation (± 3 dB) between adjacent filter settings:
 - a. Roll off -6 dB per octave below 125 Hz.
 - b. Maintain ± 3 dB, 125 Hz to 4 kHz.
 - c. Roll off -3 dB per octave from 4 kHz to 12 kHz.
 - d. Roll off sharply above 12 kHz.
 - e. With any system microphone open, make minor adjustments to maximize gain before feedback. No more than 3 filter settings shall be adjusted.
 - f. Record the frequency response derived.
- S. System Input and Output Levels
1. Using pink noise source material and a calibrated ANSI S1.4-1983 (1997) Type 1 or IEC 60651-01-1994, precision sound level meter, perform the following:
 - a. For microphone level inputs: locate a pink noise source at a distance of 300 mm from the corresponding system microphone. Adjust the pink noise source to provide a level of 75 dBA at the microphone and set mixer levels to achieve a 0 dBu level at the mixer output.
 - b. For line level inputs: use system program source equipment, with pink noise playback media, as a direct input to the mixer or mixing console and set mixer levels to achieve a 0 dBu level at the mixer output. Repeat for each system input individually where mixer inputs vary in input sensitivity. Settings for equivalent sensitivity inputs may be duplicated.
 - c. With any input set as specified above, adjust audio distribution amplifiers to provide levels of -10 dBu at each output.
 2. Measure and record results.
- T. Feedback Stability:
1. With required output levels set, measure and record the available gain before feedback. Feedback stability margin shall be 6 dB, minimum.
- U. Intelligibility:
1. Using a TEF analyzer or similar, measure the percent articulation loss of consonants (% ALcons) for at least 4 various locations in the room in the 2000 Hz octave band.
 2. % ALcons shall be less than 10 for each location.
 3. Record results.
- V. Assistive Listening Systems:
1. Set gain / limiter so that normal speech or music does not over modulate the transmitter.

2. Adjust emitter panels to provide even coverage throughout the courtroom.

W. Notification:

1. Once all the above is complete, the system(s) is (are) ready for inspection. Formally notify the Owner/Consultant at least seven (7) days prior to desired inspection date.
2. Final adjustments and equalization will be conducted at the time of inspection.

3.10 CONFERENCE AUDIO TESTS

A. Constant Voltage Speaker test:

1. Provide a low-level distinctive tone to each amplifier input.
2. Systematically turn on each amplifier, one by one, and verify that the correct speaker is being driven. Correct wiring as required for proper operation.
3. Walk the areas covered by the speakers and check for even level volume coverage. Adjust any speakers that are not correct by changing tap values as required for even volume level.

B. Speaker Polarity:

1. Use an electronic polarity checker to test each reinforcement speaker. All speakers should have the same relative polarity.

C. System(s) Gain Adjustment:

1. Adjust each active device to have unity gain from the console output to the input of the amplifiers.
2. With all amplifiers turned off, connect a sine wave and pink noise to an input of the console. Using an RMS voltmeter, adjust the scale to an output between -10 and 0dBu. Once level has been established, it should remain unchanged throughout the testing.

D. Amplifier Level Adjustment 70-volt System:

1. Adjust the level of the 70-volt systems to achieve a volume level appropriate for their location and intended use.
2. After initial amplifier adjustment, walk all areas utilizing the 70-volt systems and check for volume uniformity. If any changes of 3dB or more occur, adjust that specific area or speaker as required for even coverage.

E. Input Verification Test:

1. Using a microphone, portable signal generator, or CD player, send signal from every microphone input to the console. Check every connection location in the facility.
2. Verify video signal presence at each component input with test equipment and verify the proper signal and uniform strength.
3. Verify that the receptacle under test appears at the correct position on the patch bay and is operating properly.
4. In a similar manner, check any other inputs or tie lines, as appropriate.

F. Impedance:

1. Measure absolute impedance value of each loudspeaker line at 1000 Hz without the amplifier connected but with all speakers connected. Record the impedance levels versus frequency for each loudspeaker line.
2. Impedance must not be below the rated load impedance of respective amplifier and may be any value equal to or above that.
3. Check the resistance of the lines for loudspeaker, line level, and microphone receptacles with the receptacles opened and shorted. Document and repair any shorts or discontinuities found.

G. Polarity:

1. Verify the polarity of each device in the shop to obtain true polarity throughout the system.

2. Verify and document that polarity is kept throughout the system after wiring from inputs through output devices or receptacles.
- H. Gain Structure:
1. Turn off amplifiers and set equalizers and filter controls to flat response. Do not bypass any equalizers or filters.
 2. Adjust compressors and limiters to a 1:1 compression ratio and a +10 dBu limiting threshold. Do not bypass these processors.
 3. Insert pink noise into the mixer or mixing console and adjust levels to obtain a 0 dBu reading for the mixer or mixing console output. Distribute this output to all systems and subsystems.
 4. Adjust the output of line level electronics and signal processors to obtain a 0 dBu output at the output terminals. For equipment with input level controls, adjust the input controls so that input levels peak at -10 dB. For equipment not capable of providing 0 dBu output, adjust to achieve as close to 0 dBu as possible.
 5. Turn amplifier gain controls to minimum and turn on the power amplifiers. Adjust the gain controls to achieve a +4 dBu output level for low impedance amplifiers and a +18 dBu output level for high impedance or constant voltage amplifiers.
- I. Hum and Noise Level:
1. Without changing the gain, terminate microphone and line level inputs with proper shielded resistors of 150 and 600 ohms respectively.
 2. Measure and record overall hum and noise levels for each power amplifier output from each input and with all inputs simultaneously. Hum and noise shall be at least 50 dBA below rated power output levels with amplifier controls set for optimum signal-to-noise, using input from line level and microphone sources.
- J. Buzzes and Rattles:
1. Apply a 1 kHz sine wave signal such that a 0 dBu level is obtained on the mixer or mixing console.
 2. Sweep loudspeaker systems from 50 Hz to 5 kHz at 6dB below full amplifier power. Listen for buzzes, rattles, vibrations or resonance. Locate and correct problems.
 3. If the cause is outside the system, promptly notify the Consultant, indicating the cause and recommended corrections.
- K. Coverage:
1. Using pink noise as an input, adjust loudspeakers and output levels to provide ± 6 dB coverage in the octave band centered at 1 kHz throughout the areas served by the system.
 2. Measure and record results.
- L. Equalization:
1. Equalize the sound systems in order to provide uniform response, raise the threshold of feedback, suppress ring modes, and insure natural, pleasing sound in equal and adequate amplitude with maximum degree of intelligibility, and provide performance conforming to the requirements specified under "Acceptance Testing."
 2. Using pink noise as an input and with system equalizers set to bypass operation, determine the average frequency response of the loudspeaker system in the room using a 1/3 octave real time analyzer.
 3. Record the frequency response derived.
 4. Locate the analyzer microphone approximately 1 m above the floor at a point which approximates the average frequency response, within ± 3 dB from 50 Hz to 16 kHz.
 5. Record the frequency response at this location.
 6. Using pink noise as an input and with system equalizers set to normal operation, set low and high pass filters at 63 Hz and 16 kHz respectively.

7. Adjust the 1/3 octave filter settings to obtain the following response curves, minimizing the variation (± 3 dB) between adjacent filter settings:
 - a. Roll off -6 dB per octave below 125 Hz.
 - b. Maintain ± 3 dB, 125 Hz to 4 kHz.
 - c. Roll off -3 dB per octave from 4 kHz to 12 kHz.
 - d. Roll off sharply above 12 kHz.
 - e. With any system microphone open, make minor adjustments to maximize gain before feedback. No more than 3 filter settings shall be adjusted.
 - f. Record the frequency response derived.

M. System Input and Output Levels

1. Using pink noise source material and a calibrated ANSI S1.4-1983 (1997) Type 1 or IEC 60651-01-1994, precision sound level meter, perform the following:
 - a. For microphone level inputs: locate a pink noise source at a distance of 300 mm from the corresponding system microphone. Adjust the pink noise source to provide a level of 75 dBA at the microphone and set mixer levels to achieve a 0 dBu level at the mixer output.
 - b. For line level inputs: use system program source equipment, with pink noise playback media, as a direct input to the mixer or mixing console and set mixer levels to achieve a 0 dBu level at the mixer output. Repeat for each system input individually where mixer inputs vary in input sensitivity. Settings for equivalent sensitivity inputs may be duplicated.
 - c. With any input set as specified above, adjust audio distribution amplifiers to provide levels of -10 dBu at each output.
2. Measure and record results.

N. Feedback Stability:

1. With required output levels set, measure and record the available gain before feedback. Feedback stability margin shall be 6 dB, minimum.

O. Assistive Listening Systems:

1. Set gain / limiter so that normal speech or music does not over modulate the transmitter.
2. Adjust emitter panels to provide even coverage throughout the courtroom.

P. Notification:

1. Once all the above is complete, the system(s) is (are) ready for inspection. Formally notify the Owner and/or Consultant at least seven (7) days prior to desired inspection date.
2. Final adjustments and equalization will be conducted at the time of inspection.

3.11 WEB CONFERENCE AUDIO TESTS

A. Constant Voltage Speaker test:

1. Walk the areas covered by the speakers and check for even level volume coverage. Adjust any speakers that are not correct by changing tap values as required for even volume level.

B. Speaker Polarity:

1. Use an electronic polarity checker to test each reinforcement speaker. All speakers should have the same relative polarity.

C. System(s) Gain Adjustment:

1. Adjust each active device to have unity gain from the computer output to the input of the amplifiers.
2. Adjust each active device to have unity gain from the USB microphone and or interface to the input of the computer.

- D. Amplifier Level Adjustment 70-volt System:
1. Adjust the level of the 70-volt systems to achieve a volume level appropriate for their location and intended use.
 2. After initial amplifier adjustment, walk all areas utilizing the 70-volt systems and check for volume uniformity. If any changes of 3dB or more occur, adjust that specific area or speaker as required for even coverage.
- E. Impedance:
1. Measure absolute impedance value of each loudspeaker line at 1000 Hz without the amplifier connected but with all speakers connected. Record the impedance levels versus frequency for each loudspeaker line.
- F. Polarity:
1. Verify the polarity of each device in the shop to obtain true polarity throughout the system.
 2. Verify and document that polarity is kept throughout the system after wiring from inputs through output devices or receptacles.
- G. Gain Structure:
1. Turn off amplifiers and set equalizers and filter controls to flat response. Do not bypass any equalizers or filters.
 2. Adjust compressors and limiters to a 1:1 compression ratio and a +10 dBu limiting threshold. Do not bypass these processors.
 3. Insert pink noise into the mixer or mixing console and adjust levels to obtain a 0 dBu reading for the mixer or mixing console output. Distribute this output to all systems and subsystems.
 4. Adjust the output of line level electronics and signal processors to obtain a 0 dBu output at the output terminals. For equipment with input level controls, adjust the input controls so that input levels peak at -10 dB. For equipment not capable of providing 0 dBu output, adjust to achieve as close to 0 dBu as possible.
 5. Turn amplifier gain controls to minimum and turn on the power amplifiers. Adjust the gain controls to achieve a +4 dBu output level for low impedance amplifiers and a +18 dBu output level for high impedance or constant voltage amplifiers.
- H. Hum and Noise Level:
1. Verify that the noise floor is sufficiently low and that there is no audible hum in the system.
- I. Buzzes and Rattles:
1. Apply a 1 kHz sine wave signal such that a 0 dBu level is obtained on the mixer or mixing console.
 2. Sweep loudspeaker systems from 50 Hz to 5 kHz at 6dB below full amplifier power. Listen for buzzes, rattles, vibrations or resonance. Locate and correct problems.
 3. If the cause is outside the system, promptly notify the Consultant, indicating the cause and recommended corrections.
- J. Coverage:
1. Using pink noise as an input, adjust loudspeakers and output levels to provide ± 6 dB coverage in the octave band centered at 1 kHz throughout the areas served by the system.
 2. Measure and record results.
- K. Equalization:
1. Equalize the sound systems
- L. Feedback Stability:
1. With required output levels set, measure and record the available gain before feedback. Feedback stability margin shall be 6 dB, minimum.

M. Assistive Listening Systems:

1. Set gain and/or limiter so that normal speech or music does not over modulate the transmitter.
2. Adjust emitter panels to provide even coverage throughout the courtroom.

N. Notification:

1. Once all of the above is complete, the system(s) is (are) ready for inspection. Formally notify the Owner and/or Consultant at least seven (7) days prior to desired inspection date.
2. Final adjustments and equalization will be conducted at the time of inspection.

3.12 GENERAL VIDEO PRESENTATION SYSTEMS

- A. Video signals shall be scaled if necessary to provide the native resolution signal to display and or video capture devices.
- B. Whenever possible a common native resolution shall be determined for each space and shall be provided to every display in the system.
- C. Digital video signals shall be set at a minimum 1920 x 1080 resolution unless otherwise noted.
- D. Contractor shall provide an EDID plan indicating native resolutions and any special display and or source type that requires scaling or conversion.

3.13 CAMERA EQUIPMENT:

- A. Camera images shall be free of visible vibration and dead pixels.
- B. Adjust and set white balance, and color timing, and genlock / sync as required.
- C. Adjust pan-tilt limit switches.
- D. Provide low voltage power from equipment racks.
- E. Provide wall and/or ceiling mounts.

3.14 COMPUTER and/or VIDEO INTERFACES

- A. Review all locations with the Owner prior to installation and provide according to Approval of the Owner. Low voltage power shall be provided at the interface as required by the manufacturer.
- B. Provide HDMI, Display Port, VGA with audio breakout cables for each input interface provided as specified herein unless noted otherwise.
- C. Provide manufacturer's adapter plates for pass-through connections as specified herein unless noted otherwise.
- D. Adjust interface as required by manufacturer for EDID and HDCP system compliance.

3.15 SIGNAL PROCESSING EQUIPMENT

- A. Signal processing equipment shall be mounted in the equipment racks and/or control consoles, as specified herein unless noted otherwise.
- B. Configure and adjust signal processing equipment to produce the native resolution of the primary display devices within each separate system for each potential source resolution, unless specified otherwise herein. RGBHV sources shall be tested from 640 x 480 at 60 Hz through 1600 x 1200 at 60 Hz. SDI, HD-SDI, HDMI, and Display Port shall be tested based on published standards. Legacy NTSC video (composite, component, and s-video) to be tested and configured based on NTSC standards. .

3.16 VIDEO AND DATA PROJECTORS AND ASSOCIATED EQUIPMENT

- A. The native resolution of the video switching and or processing system shall be set to match the resolution of the Video and data projector(s).
- B. EDID management and scaling shall be used to manage outputs that have a lower resolution equipment than that of the highest resolution display device.
- C. Fixed video and data projectors shall be made level and secured to the structure in accordance with seismic requirements of the International Building Code-2000 if applicable.
- D. Projector(s) and mounts shall be installed per the manufacturer's written instructions and shop drawings. Review all locations with the Owner's Representative and or Consultant prior to installation.
- E. Configure projectors and lens selection(s) to provide full-screen images at the projector's native resolution, unless otherwise specified.
- F. If an internal HDBaseT input module is utilized ensure that all required functions and capabilities are provided or if an external HDBaseT receiver will be required to support device connections.
- G. Review all locations with the Owner's Representative and or Consultant prior to installation.

3.17 FLAT PANEL MONITORS AND ASSOCIATED EQUIPMENT:

- A. The native resolution of the video switching and or processing system shall be set to match the resolution of the monitor. Configure monitors to provide full images at the monitor's native resolution.
- B. EDID management and scaling shall be used to manage outputs that have a lower resolution equipment than that of the highest resolution display device.
- C. Flat panel monitor(s) shall be made level and secured to the structure in accordance with seismic requirements of the International Building Code-2000 if applicable.
- D. Flat panel(s) and mounts shall be installed per the manufacturer's written instructions and shop drawings. Review all locations with the Owner's Representative and or Consultant prior to installation.
- E. If an internal HDBaseT input module is utilized ensure that all required functions and capabilities are provided or if an external HDBaseT receiver will be required to support device connections.
- F. Review all locations with the Owner's Representative and or Consultant prior to installation.

3.18 VIDEO SYSTEMS

- A. General
 - 1. Adjust, balance, and align equipment for optimum quality and to meet the manufacturer's published specifications.
- B. Performance Standards
 - 1. Unless restricted by the published specifications of a particular piece of equipment, or unless specified otherwise herein, the following performance standards shall be met by each system.
- C. Cabling
 - 1. Upon completion of the installation of each area, the Contractor shall test all elements of the system. This testing shall include as a minimum:
 - a. Continuity of all circuits.
 - b. Operation of all circuits.
 - c. Phase checking of all circuits.

- d. Operation of all equipment in all modes
- 2. During and/or after installation, as appropriate, the Contractor shall test all cabling for continuity, phase, shielding, and unreasonable signal loss. The testing shall be conducted according to the submitted and approved test plan.

3.19 SPARE PARTS

- A. Provide replacement fuses, lamps, batteries and connectors in sufficient quantities to last one (1) year.

3.20 CONTRACTOR TESTING AND OR COMMISSIONING

- A. Before Acceptance Tests are scheduled, the Contractor shall perform their own system check-out. He shall furnish all required test equipment and shall perform all work necessary to determine and/or modify performance of the system to meet the requirements of this specification.
- B. The contractor's testing and documentation activities shall conform to ANSI/INFOCOM 10:2013 Audiovisual Systems Performance Verification Standard or preapproved equal to ensure that the audiovisual systems are complete, tested, and free of operational defects.
- C. Supplementary Checklist:
http://www.infocomm.org/cps/rde/xbcr/infocomm/CAVSP_Checklist.pdf
- D. As a means to facilitate the use of the ANSI/INFOCOM 10:2013 standard we would recommend the use of the software application I-auditor or similar that allows for efficient documentation of checklist items and completion status. <http://www.safetyculture.com.au/iAuditor/>
<https://www.inspectionchecklists.net/template/880F4474-20E8-4CBB-BD09-00332B15E391>
The template for ANSI/INFOCOM 10:2013 can be found in the on line library.
- E. Testing items:
 - 1. Testing of audiovisual systems shall include the following items as applicable to the systems installed:
 - a. Provide documentation that all audio signal connections have been tested and verified.
 - b. Provide documentation that all video signal connections have been tested and verified.
 - c. Provide documentation that all control signal connections have been tested and verified.
 - d. Provide documentation that all mounting and rigging elements have been verified for structural integrity and safety.
 - e. Test all audio systems for compliance with the Performance Standards, using the following minimum equipment:
 - 1) Test Equipment: Assemble the following test equipment (or equivalent) on site.
 - 2) Audio Test Equipment:
 - a) JBL / Harmon SIA-Smaart Pro or approved equal.
 - b) Signal generator,
 - c) Audio test set,
 - d) Audio Phase Checker
 - 3) Compact Disc
 - 4) Audio cable(s)
 - 5) Set of terminations, adapters etc.
 - 6) Adjustments verification and gain settings:
 - a) Test and adjust all systems (starting at source equipment and terminating at the power amplifiers and speakers as appropriate) for correct gain structure providing low noise and distortion per manufacturers' published specifications.

- f. Test all video systems for compliance with the Performance Standards, using the following minimum equipment:
 - 1) Video Test Equipment:
 - a) SDI, HD-SDI video signal generator.
 - b) DVI, HDMI video signal generator.
 - c) RGB / VGA video signal generator.
 - 2) RGB cable, (if RGB and/or VGA is included in design)
 - 3) HDM, DVI, Display Port, Video cables
 - 4) Set of terminations, 'T' pieces etc.
 - 5) Adjustments, configuration, and verification:
 - a) Test and adjust all systems (starting at source equipment input(s) and terminating at the display(s) checking for compatible display resolutions, EDID and HDCP compliance.

3.21 CONSULTANT ACCEPTANCE TESTS

- A. Consultant acceptance tests will not be performed until after the contractor's system checkout as outlined within section 3.20 has been completed and the test results have been received and reviewed by the consultant and or owner.
- B. Consultant acceptance testing will be conducted based on applicable sections of the ANSI/INFOCOM 10:2013 Audiovisual Systems Performance Verification Standard.
- C. Checklist items within this list will be verified by visual and or audible methods as part of normal room use case operational scenarios, with the assumption that the AV contractor has fulfilled their obligation to test and ensure that the systems are tested, complete and free of operational defects per section 3.17 above.
- D. The system acceptance tests will be supervised by the consultant and will consist of the verification checklist as well as any additional tests as required:
 1. A physical inventory will be taken of all equipment on site and will be compared to equipment lists in the contract documents.
 2. The operation of all system equipment shall be demonstrated by the contractor.
 3. Contractor shall provide a laptop to support testing activities that is configured and connected to any and all DSP processors for any evaluation and adjustments (tuning) activities by the consultant.
 4. Both subjective and objective operational tests will be required by the Consultant to determine compliance with the specifications and industry standards. The Contractor shall be responsible for providing all required test equipment based on system complexity and equipment selection and/or configuration.
 5. Operational use case test scenarios may be conducted based on programmed room uses and functionality.
 6. All final, "as-built" drawings, run sheets, manuals, and other required documents, as detailed in Part I, shall be on hand. Two complete sets of these documents shall be delivered to the Owner at this time. (One complete set shall have been delivered to the Consultant prior to the scheduling of Acceptance Tests).
 7. In the event further adjustment is required, or defective equipment must be repaired or replaced, tests may be suspended or continued at the option of the consultant.
- E. Any charge for additional time incurred by the consultant required for overseeing the system tests, due to improper system installation or previous failed systems, shall be the responsibility of, and charged directly to the contractor and or subcontractor as appropriate.

END OF SECTION

