



# **Design Guidelines for Facility Construction**

VERSION 2018.04.04

Department of Design and Construction

# Operations Division

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These Design Guideline requirements reflect DeKalb County School District's (DCSD) experience in building and operating schools. They are provided to assist Design Professionals in preparing contract documents for new schools, additions, and renovation projects. The aim is to balance the need for instructional functionality with aesthetics, accessibility, operability, sustainability, and security so that all students, staff, and community members feel welcome and safe.

The Design Guideline requirements are organized in sixteen (16) divisions similar to the Master Format industry standard specification divisions. Technical specifications for each DCSD project shall be prepared by and be the legal responsibility of the Design Professional of Record. This document serves as a guideline to the project designer of minimum performance standards and expectations the District has for school construction. They are not intended to be complete technical specifications. The Design Professional shall be responsible for incorporating these requirements into the appropriate contract documents. Any deviation from these guidelines must be approved in writing by DCSD staff.

All requirements noted shall be assumed to apply to every school type, unless specifically noted. DCSD or its designee shall be solely responsible for establishing and maintaining the DeKalb County School District Design Guidelines.

Design Professionals shall coordinate use of these Design Guideline requirements with related documents and regulations, including, but not limited to:

- Georgia Department of Education (GaDOE) Architectural Review Documents: GaDOE requires that Construction Documents for DCSD projects comply with GaDOE standards and be submitted for formal review. These standards and review requirements are posted on the GADOE Facilities Services Resources website: <http://www.GaDOE.org/Finance-and-BusinessOperations/Facilities-Services/Pages/Facilities-Services-Resources.aspx>. Drawing submittals require coordination with the current GADOE "Curriculum and Space Needs" form for each project. These forms will be provided by GADOE through the DCSD Program Manager.
- Georgia Department of Education (GDOE) Grants Administration Documents: At projects where GADOE will provide funding, additional documentation is required. These documents are also posted on the GADOE Facilities Services Resources website.

The following DeKalb County School District (DCSD) guiding documents are posted on the DCSD website

(www.dekalbschoolsga.org):

- Local Five-Year Facilities Plan
- DeKalb County School District (DCSD) Educational Specifications: Educational Specifications provide descriptions of typical programmed spaces for each of the three main types of schools: Elementary, Middle and High. These Design Guidelines describes construction requirements applicable to all types of schools.

## **DIVISION 1 – GENERAL**

### **01.01 Facility Planning**

- 1. Grades to be Housed:** Typical new schools in the DeKalb County School District shall be designed to house the following grade levels:
  - a. Elementary: Kindergarten (K), First (1st), Second (2nd), Third (3rd), Fourth (4th) and Fifth (5th) grades.
  - b. Middle: Sixth (6th), Seventh (7th) and Eighth (8th) Grades.
  - c. High: Ninth (9th), Tenth (10th), Eleventh (11th) and Twelfth (12th) Grades.
- 2. Building Capacity:** The District’s Planning Department will determine the Full Time Equivalent (FTE) Capacity for new schools in the DeKalb County School District.
- 3. Building Core:** The “core” consists of ancillary spaces that support the classroom instructional spaces. These include the Cafeteria, Kitchen and Media Center. The GADOE has issued rules setting forth minimum floor areas for such spaces, based upon FTE. Thus, provision for expansion must begin with planning for a “core” large enough to support the largest practical FTE contemplated for a given site. Typical new schools in the DeKalb County School District shall be designed with the following core capacity:
  - a. Elementary Future FTE: plan for minimum 40% increase
  - b. Middle Future FTE: plan for minimum 30% increase
  - c. High Future FTE: plan for minimum 25% increase
- 4. Future Expansion:** Any new design for DCSD facilities should be configured with future growth in mind, to allow for expansion with a minimum amount of alteration of the original structure or site. For new buildings or major additions, indicate area for future expansion on the architectural site plan.

### **01.02 Room Numbers**

DeKalb County School District requires incorporation of a single room numbering system for all drawings, schedules and signage installed on the building, including: All architectural submittal drawings

1. GADOE Inventory Drawings
2. Door and Finish Schedules
3. HVAC Equipment, Automated Temperature Controls and Energy Systems
4. Signage on the building

To achieve this, the Architect shall develop a logical building and room numbering system at the Schematic Planning stage. The sequence of room numbers shall be assigned based on ease of locating rooms in the completed building. In order to direct students, staff and visitors, the sequence shall start at the Main Entrance and progress in a logical sequence throughout the building. Random numbering of rooms is not acceptable.

Room numbers shall be all numeric as required for GADOE Inventory. Major room numbers at multistory buildings shall be 4 digits starting with the floor level, and progress around the building in sequence (Room number 1211 indicates 1st floor, 2nd wing or Corridor, 11th room). Small spaces within major rooms or suites shall be identified with the major room number plus numeric suffix (# 1211.1). Where possible use whole thousands for wings or corridors (1200) and use postal odd-even progressive numbers down corridors (odd on right (1211), even on left (1212)). All spaces must be numbered including corridors, stairs, elevators, and service rooms. Stairs, elevator and service rooms may be numbered as a suffix of the corridor leading to them. One story buildings shall be similar, but may use 3 digits when identification of the story is not needed. Room numbers at additions shall extend existing Inventory Drawing numbers without repeats.

Architect shall present building and room numbering system to DCSD for review and approval before incorporating them into the construction documents. After room numbers are approved they shall not be casually altered without specific approval of DCSD Facilities Services Department. See Division 10 - Room Signage.

### 01.03 GADOE Inventory Drawings

For all new buildings and additions, the Architect shall prepare Inventory Drawings. These documents are required by the GADOE for the Local Facility Plan, and are used by DCSD for convenient reference. Inventory Drawing standards include:

Deliver the Inventory Drawings to DCSD, formatted and saved in AutoCAD 2010. The following layer list should be used:

S.. Name	O..	Fre...	L...	Color	Linetype	Lineweight	Plot S...	P...	N..	Description
0	Lightbulb	Sun	Lock	white	CONTIN...	Default	Color_7	Printer	Gear	
BUILDING SECTIONS	Lightbulb	Sun	Lock	yellow	PHANT...	Default	Color_2	Printer	Gear	
DOE RM#	Lightbulb	Sun	Lock	red	CONTIN...	Default	Color_1	Printer	Gear	
DOORS	Lightbulb	Sun	Lock	green	CONTIN...	Default	Color_3	Printer	Gear	
EXTERIOR WALLS	Lightbulb	Sun	Lock	blue	CONTIN...	0.90 mm	Color_5	Printer	Gear	
INTERIOR WALLS	Lightbulb	Sun	Lock	magenta	CONTIN...	Default	Color_6	Printer	Gear	
NO PLOT	Lightbulb	Sun	Lock	white	CONTIN...	Default	Color_7	Printer	Gear	
POSTED RM# _SPACE NAME	Lightbulb	Sun	Lock	blue	CONTIN...	Default	Color_5	Printer	Gear	
SQ FT	Lightbulb	Sun	Lock	green	CONTIN...	Default	Color_3	Printer	Gear	
TITLEBLOCK	Lightbulb	Sun	Lock	blue	CONTIN...	Default	Color_5	Printer	Gear	
WINDOWS	Lightbulb	Sun	Lock	cyan	CONTIN...	Default	Color_4	Printer	Gear	

1. Building walls shall be drawn in a simplified 2-D drawing format using Auto CAD and show only the net exposed surface of walls. (i.e., no hatching or interior chases)
2. Show windows as a single Cyan Line without spandrels or sills.
3. Show doors and swing as single lines similar to walls without thresholds or heads.
4. Eliminate unnecessary detail features which may interfere with the readability of text at the prescribed sheet size.
5. Identify all spaces, including corridors, stairs, elevators, and service rooms, with room name, room number and net area.
6. Standard sheet size = 11" x 17" without border
7. Do not use more than one sheet per floor level.
8. All text must be readable without magnification when printed on 11" x 17 sheet. Use following Fonts and colors to better distinguish room identification:

Font styles:

Georgia

**ROOM TAG LEGEND**

**POSTED ROOM NUMBER**

**ROOM/SPACE NAME**

DOE SPACE NUMBER

DOE SPACE TYPE

SQUARE FOOTAGE

Stylus BT

9. Net Room Areas shall be calculated based on the inside face of walls.
10. Gross building areas shall be calculated to the exterior surface of exterior walls. Do not include overhangs.
11. Provide separate area calculations for mechanical mezzanines and canopies.
12. Text shall be individually positioned for each space for best readability.
13. Additions shall be identified with a yellow phantom line border and a title box showing GADOE Building Number, Year when first occupied, and Gross Area.
14. Refer to typical existing Inventory Drawings for required Schedules, Tables and overall Format.

**01.04 Fire Evacuation Plans**

For all new buildings and additions, the Design Professional shall prepare evacuation plans in accordance with DeKalb County Fire Marshal regulations. Upon construction completion, these plans will be mounted on interior walls throughout the facility to direct building occupants to exits.

1. For phased projects, intermediate evacuation plans are required for each phase.
2. Plans shall show simplified floor plan in black, with exit routes in red, on white background.
3. Deliver the Fire Evacuation Plans to DCSD in .pdf format at 11" X 17".
4. To properly mount the plans, the Design professional shall specify a protective acrylic frame, and locate mounting locations for contractor to install.

### 01.05 Proprietary Specifications

1. Technical Specifications shall generally be performance-based and include a minimum of 3 acceptable manufacturers actively bidding in Georgia. These shall be reviewed by DCSD or its designee in order to confirm acceptability.
2. It is the desire of DeKalb County School District to utilize proprietary specifications for items for which there are less than three acceptable manufacturers or for items for which new purchases must be of the same manufacturer as existing to achieve system wide compatibility and economical use of funds in the maintenance of the systems. The current list of approved items is in the appendix to this document.
3. The DCSD designee will furnish a letter of justification for each project, which must be submitted with final documents to the Georgia Department of Education. The Design Professional shall verify that the latest and most current document is used in Contract Documents.

### 01.06 Applicable Codes and Building Standards

The Design Professional is responsible for ensuring that all designs for DCSD projects comply with all applicable building codes. We depend on the expertise of our design professionals to support and protect our community.

#### ADA and DCSD

1. All new school construction for DCSD must be designed and constructed in full compliance with all requirements of the current edition Americans with Disabilities Act (ADA) and the Georgia Accessibility Code. For major additions and renovations, areas of non-compliance throughout the entire existing building should be assessed by the design professional, even if outside the scope of work. A brief synopsis of this information, along with proposed future solutions, should be included in the designer's preliminary report.
2. For remodeling, enlarging a toilet stall for ADA-compliance will often result in fewer fixtures available at the school, which has adverse effects. Any proposed reduction to the overall number of water closets, urinals, or lavatories must be approved early in the project in writing by the DCSD Design Manager.
3. Frequently overlooked items related to ADA compliance include:
  - At least one bench in each locker room shall provide back support
  - All electric water coolers (not just those in corridors) or other items that project from the wall must be recessed or otherwise protected for compliance.
  - Provide contrast nosings at all stair treads.
  - The number of accessible parking spaces to be provided is determined by the aggregate total of all spaces provided on the school site.
  - Renovations to an existing restroom shall include proper location of all toilet accessories.
  - Provide stable, accessible route (concrete walkway preferred) to all play areas and play equipment.

### **01.07 Acoustic Standards**

The Design Professional shall be responsible for incorporating appropriate acoustic design measures into the Construction Documents. Follow GADOE guidelines and current industry standards such as ASHRAE and ANSI Standard S12.60 guidelines regarding acoustic design of classrooms. Building areas requiring special acoustic attention include but are not limited to stage area, auditorium, gymnasium, cafeteria and music areas.

Design considerations include:

- Sound quality: controlling excessive reverberation, eliminating or minimizing echoes, and shaping rooms to create uniform sound field in audience areas.
- Minimizing impact of equipment noise and vibration when locating mechanical equipment: Maximum noise emissions of equipment shall be specified. To avoid vibration transfer, provide adequate isolation of all equipment with moving parts from the building structure.
- Addressing noise intrusion from plumbing and impact noise from lockers, basketball backboards, etc. into acoustically sensitive rooms.
- Speech privacy shall be provided at offices, conference rooms and speech therapy rooms.
- Provide sound attenuation in corridors (“Commons”) in student queuing areas leading to Cafeteria and Gymnasium entrances.

### **01.07 Close-out Process**

Close-out procedures shall be incorporated into the project from the start of design. The Design Professional shall coordinate with the Capital Improvements Program team to establish expectations regarding documentation.

1. Provide Operation and Maintenance Manual Notebooks for all systems and equipment no later than (30) days prior to Project Substantial Completion Date.
2. Provide keys, valve schedules, attic stock materials, instruction confirmations and as-built drawings no later than the Project Substantial Completion Date. Deliver keys directly to Owner.
3. Provide all required warranties, inspection reports, governing certificates and other remaining required items within thirty (30) days following the project Substantial Completion Date. Provide all warranties in a separate 3-ring binder with warranties organized by CSI designation.
4. Provide itemized list of Kitchen equipment with brand, model and serial number for each piece along with cost.
5. Technical Specifications shall address requirements for training sessions for owner orientation and instruction for all building equipment and systems. Minimally, these shall include:
  - a. Providing a training schedule spreadsheet for distribution to Owner at least one week before training.
  - b. Providing a video record of all trainings for future reference.

### **01.08 DCSD: An Environmentally Conscious School System**

DeKalb County School Board Policy EBL adopted in 2008, defines the District’s goal to “establish and maintain an environmentally conscious school system.” This policy is available for viewing on our website, [www.dekalbschoolsga.org](http://www.dekalbschoolsga.org). It is the District’s policy to promote healthy and sustainable educational environments through the design, construction, operations, and maintenance of its facilities. Architects, engineers, and contractors should review, discuss, and work with the District to establish the goals in this respect for each project at the beginning of the design and construction phase.

DeKalb County School District recognizes the environmental impact of its buildings and the importance of green design and green building practices. Architects and engineers are encouraged to incorporate energy performance in the design process and design energy efficient buildings to achieve high performance buildings that will lower the schools overall operating and maintenance costs.

## **DIVISION 2 - SITE**

### **02.01 Site Design: Circulation**

1. For new facilities and major renovations, the Design Professional shall develop a master plan which provides for the programmed needs defined by DeKalb County School District including considerations for future expansion to the core capacity. In addition, classroom areas should be configured so as to allow for expansion with a minimum amount of alteration of the original structure or site.
2. For additions to existing facilities, the Design Professional shall provide DCSD with an overall asbuilt site plan showing entire extent of site, including all existing and new structures, paving, and site improvements.
3. Every school site shall be designed with a minimum of two (2) vehicular entrances in and out, preferably from two separate streets.
4. Site traffic circulation shall be designed with separate car and bus traffic routes that should not conflict. Layout shall not require driving service vehicles through parking lots to access the service areas; provide direct access to service area from bus loop or other main site circulation driveway.
5. Provide walkway access from adjacent streets, parking, bus loading and sports facilities. Walkways at high traffic areas shall be sized and located to avoid trampling of adjacent lawns and landscaping especially at building entrances and at heavily traveled routes to play areas.
6. Provide gates or bollards to restrict vehicular access onto entrance and other major walkways. Review specific requirements for traffic gates with DCSD. Consider gates at drives leading to athletic areas, bus parking, marching band practice areas and entrances.
7. Future Portable Classrooms:
  - a. For new buildings, site design shall include pre-planned level areas for the future location of portable classroom units, in the following minimum quantities:



i. Elementary:	12 classrooms	ii. Middle:	12 classrooms
iii. High:	24 classrooms		

- b. Design of the site shall identify area(s) for placement of portable classroom units without impacting parking, play fields and other required amenities. Portable areas shall be adjacent to classroom wings if site constraints and conditions permit. Coordinate portable location with future building expansion areas to avoid relocation of portables when the building is expanded. Building service utilities (electricity, gas, water) shall not be located under the footprint of future portable locations. Avoid locating site drainage lines and inlet structures under and within portable building sites. A fire hydrant must be located within 400' of all portable classroom building sites.
  - c. Portables should be located as close to the school building as permitted by code. Architect shall verify separation requirements with the permitting authority and with DCSD Facility Services Department during the preliminary design phase of each school. Portables are typically located a minimum of 17' apart, face to face, to accommodate required stairs, ramps and sidewalks.
  - d. DCSD uses several different sizes/configurations of portable classrooms. All portable classrooms must be accessible, per ADA requirements. Portables are built to a Type V-B construction classification and are designed and approved for educational occupancy.
  - e. Soil bearing capacity in the portable area shall be 3,000 psf minimum.
  - f. The building electrical service shall be sized to accommodate the additional portable loads. A "spare" breaker shall be installed to power a future distribution panel near the portable site(s) to provide electrical service to the portables. Conduits of sufficient size, as required to serve the remote future portable classroom distribution panel, shall be installed from the main electrical distribution panel and capped until needed. Intercom, security and other systems shall be expandable for the number of additional portable classrooms noted above.
8. Auto Parking and Student Drop-off / Pick-up
- a. The total number of automobile parking spaces provided shall be the number required by local zoning code, or the following, whichever is greater:
    - i. Elementary = 2 parking spaces per Instructional Unit
    - ii. Middle = 3 parking spaces per Instructional Unit
    - iii. High = 6.6 parking spaces per Instructional Unit. Where space permits, provide an area without intermediate curbs within the paved parking area for marching band practice, approximately the size of a football field.
  - b. Appropriate number of accessible parking spaces will be provided, in accordance with ADA requirements and the Georgia Accessibility Code. Consider placement of a portion of the required number of accessible (HC) parking spaces directly adjacent to main entrance building, so that users do not have to traverse traffic lanes to enter building.
  - c. Clearly define crosswalks (painted and/or raised) from parking areas to all building entrances.
  - d. Provide a designated separate automobile drive and drop-off / pick-up area with appropriate stacking space for waiting cars. Consider using speed humps at automobile

drives to reduce speeding. Review location of proposed speed humps which may impact bus traffic with DCSD Director of Transportation.

#### 9. School Bus Parking, Drives and Loading / Unloading Areas

- a. For all new schools, provide covered main bus loading area and covered handicapped accessible special education bus loading adjacent to appropriate building entrance. Consider locating special education bus loading area as close to special education classrooms as practicable. Access to and from the Special Education bus area shall be approximately level without extensive ramps or lifts.
- b. Provide curbside bus loading-unloading adjacent to High School Stadiums with appropriate turning radius and grades. Paint auto parking overlay at bus staging area for additional activity parking.
- c. Bus parking, covered loading-unloading areas, and driveway layout shall be reviewed and approved by DCSD Executive Director of Transportation, to ensure appropriate turn radii and grades for bus drives.

#### 10. Loading Docks

- a. For new schools and / or major kitchen renovations at Elementary and Middle Schools, provide 6" curb loading areas adjacent to Kitchen and General Storage / Receiving area with 36" curb cut and ramp to grade.
- b. For new schools and / or major kitchen renovations at High Schools, provide standard height raised loading dock at adjacent to Kitchen and General Storage / Receiving area.
- c. See Division 16 for delivery doorbell requirements at receiving areas.

### **02.02 Sitework Details**

#### 1. Paving and Surfacing

- a. Heavy-duty asphalt paving shall be used in all parking and driveway areas. Lighter duty pavement may be considered for automobile parking areas that are well isolated from bus or truck traffic.
- b. Asphalt and graded aggregate base thicknesses shall be standardized and so illustrated in paving cross-sections, detailed in civil engineering design drawings. Final asphalt top shall be in place before bus run through.
- c. Surfacing at Playgrounds shall be rubber mulch.

#### 2. Site Signage (Road, Parking, and Drive Entrance)

- a. Appropriate metal signage shall be included in the contract per code and local requirements. The position of parking and traffic signage shall be included in the site design and Construction Documents. Provide way-finding signage for major facilities such as visitor parking, building entrance, parent and bus drop-offs, stadium, ball fields, etc. Identify restrictions on use of parking spaces such as handicapped, staff, visitors, students, etc. Provide signage clearance from curbs to prevent bus "tail swing" from damaging signposts. Similar clearance needs to be maintained for bus canopy posts. Mount signage on building walls and columns where possible.
- b. Provide space at entrances for standard building identification sign furnished and installed by DCSD.
- c. Coordinate signage design with DCSD Executive Director of Transportation.

3. Marquee Sign
  - a. For all new schools, the DCSD standard marquee sign, an electronic screen on a masonry base, will be provided. DCSD graphic standards shall be used, and DCSD logo shall be included along with school logo. See appendix.
  - b. Appropriate location for shall be determined by Design Professional and indicated on site plan. General contractor shall provide power and data from building to sign.
4. Trash Compactor
  - a. Trash Compactor basis of design shall be Marathon Equipment Ramjet, Model # RJ-250SC-30, with the following minimum specifications:
    - i. Power Unit (electrical): Operating Power Available: 3 PHASE/460
    - ii. Plumbing: Connection on both sides
    - iii. Capacity: 30 cubic yards
    - iv. Overall Size, approximate dimensions: Length: 256 "(21'-4"); Height: 104"(8'-8"); Width: 98" (8' - 2")
    - v. Features: Remote on 13' cord, pressure gauge on 15' cord, guides and stops, double door doghouse, fullness package, and auto start.
  - b. Compactor/container shall have the capability of being transported from site to site.
  - c. Review space required for dumpsters and compactors with DCSD Facilities Services Department.
5. Fences and Gates
  - a. Unless otherwise specifically approved by DCSD, all permanent fences and gates shall be black vinyl coated chain link construction. Typical fencing shall be 11 Gauge core wire and 9 gauge finish thickness. Provide appropriate black vinyl coated post and gates, installed in accordance with Chain Link Fabrication Manufacturers Association criteria.
  - b. General site fencing shall be 6'-0" high with appropriately located gates. Storm retention areas shall be fenced with the same material per local requirements.
  - c. Gates shall be provided at school driveways to limit access during certain time periods.
  - d. Perimeter and other fencing shall be installed as needed to provide safety and security of the students, teachers and staff. Exact location of fencing will be determined on-site by DCSD in order to preserve natural areas and undisturbed buffers.
  - e. Fencing and wind screens at sports fields shall be of the height and locations described in the relevant sections of these guidelines. Fences shall be black vinyl coated chain link construction of appropriate gauge and mesh for the height required with appropriate black vinyl coated post and gates, installed in accordance with Chain Link Fabrication Manufacturers Association criteria. Wind Screens shall be forest green.
  - f. Provide security fencing around any exterior equipment that is installed at ground level. (I.e. Freezer/Cooler, condensing units, generators, etc.)

## **02.03 Landscaping Notes**

1. Trees/Plants/Ground Cover
  - a. In general, use low maintenance ground cover; minimize grass/sod. Landscape designer is encouraged to look at alternatives and use the most practical application for each

area. Use mulch around buildings. Provide raised curb or other devices to restrict washing of mulch onto adjacent paved walks and drives. Low maintenance ground covers may be used in low-traffic areas and on slopes as appropriate.

- b. Pine straw mulch for adequate coverage, no more than 4" deep, shall be provided at all new tree and shrub plantings.
  - c. New landscaping shall be maintained by the Contractor for no less than 60 days, prior to a request for inspection and acceptance by DCSD.
  - d. Comply with tree ordinances and provide additional buffers as may be directed by the municipality or jurisdiction. Review proposed new shrubs and trees with DCSD Facilities Services Department.
2. Lawns and Grasses
- a. All general areas to be grassed shall be hydro-seeded with Common Bermuda or Fescue depending on the planting season. Wood fiber mulch shall be included when hydroseeding slopes greater than 3:1. Lawns and grass shall be watered and maintained for a period of no less than 60 days, prior to a request for inspection and acceptance by DCSD. Lawns and grass shall be fully established and receive a minimum of 2 cuts prior to inspection.
  - b. Provide adequate seedbed preparation – 4" tilled topsoil or amended organic soil.
  - c. Specify rock hounding in two directions to pick up stones greater than 1.5" diameter.
  - d. Areas to be planted with sod vs. seed need to be identified on the drawings. Typically, all areas close to the building or inside a perimeter drive should be sod.
  - e. Consider the use of "Terra-mat" or sod on excessive slopes.
  - f. Architect/Engineer shall consult with DCSD Facilities Services to obtain approval for proposed Lawn specifications prior to issuing final Drawings.
3. Landscaping Irrigation System for Planting
- a. Landscape plantings shall be designed and installed to eliminate the need for landscape planting irrigation. DCSD allows irrigation for playing fields only.
  - b. See Division 15 MECHANICAL, Plumbing Fixtures, for Exterior Hose Bib requirements.

#### **02.04 Site Design Notes for School Athletic Facilities**

1. Landscaping Irrigation System
  - a. Commercial grade sprinkler irrigation system with 120 V, automatic operation shall be provided for the grass playing and practice fields at Middle and High Schools only. Do not provide irrigation at Elementary School play fields.
  - b. Architect/Engineer shall consult with DCSD Facilities Services and obtain approval for proposed irrigation system prior to issuing final drawings.
2. Stadium Notes
  - a. All major renovations to stadiums shall include a synthetic turf, rubber infill system. Base system will include single letter logo at midfield; school name in one end zone and mascot name in the other; single letter color; and striping and markings for football (white), soccer (yellow) – reference marks only the six yard end boxes; men's and women's lacrosse (red) – reference marks only.

- i. Acceptable manufacturers are Sprint Turf, Sports Turf, and Matrix Turf.
  - b. All major renovations to stadium track and field shall have layouts in accordance with competition standards of the Georgia High School Association and the national Federation of State High School Associations. Each field shall include the following:
  - c. Where possible, field orientation should be with long dimension along north/south axis.
  - d. Provide areas for field events including paved areas for pole vault, high jump, long jump with sand pit.
  - e. Polyurethane surfacing system running track (8 Lanes).
  - f. Provide concrete pads for shot put and discus field events.
  - g. See Division 11 EQUIPMENT for Athletic Equipment
3. High school Track and Field : All major renovations to high school track and field shall have layouts in accordance with competition standards of the Georgia High School Association and the national Federation of State High School Associations.
- a. Track shall be a polyurethane surfacing system similar to Sports Track 300 or Beynon Sports Surfaces, BSS-300. The elastomeric polyurethane shall be red in color with line striping and event markings in accordance with current National Federation of State High School Associations standards and guidelines. Provide minimum of 6 track lanes; 8 where space permits.
4. Middle School Track and Field : Middle school track and field areas shall be constructed to appropriate grading and grassing standards but are not required to meet competition standards of the Georgia High School Association and the national Federation of State High School Associations. Each track and field shall include the following:
- a. Irrigated grass field inside running track.
  - b. Slope field to area drains at corners.
  - c. Asphalt running track with painted lanes.
    - i. 400 meter track with 6 lanes where space permits.
    - ii. 300 meter track with 5 lanes where space is limited.
  - d. Paved H/C access from building.
  - e. Paved areas for high jump and long jump with sand pit.
  - f. See Division11 EQUIPMENT for Athletic Equipment.
5. High School Baseball Field: High School baseball Fields shall have layout in accordance with competition standards of the Georgia High School Association and the national Federation of State High School Associations. Field shall include the following:
- a. Orientation with home plate at southwest and second base at northeast.
  - b. Field size: 330' long at R / L foul lines x 380' deep at center of outfield, where space permits.
  - c. Outfield and diamond of natural grass turf with irrigation system
  - d. Warning track

- e. Infield playing surface with 80% sand, 20% clay
  - f. Pitching mound raised 10" with pitching rubber
    - i. Weather proof water spigot within ground box behind pitcher's mound.
    - ii. 110-volt electrical duplex outlet within weatherproof in ground box behind pitcher's mound.
  - g. Fencing 10' high ; backstop located 60' behind home plate - height as required for safety
  - h. Two concrete block dugouts
  - i. Two bullpens (one at each side, inside fence)
  - j. One batting cage with 110V electrical outlets for pitching machine (outside fence)
  - k. Scoreboard located between center and left field; See Division 11 EQUIPMENT for Scoreboard.
  - l. Two sets of bleachers, 5 rows high, 10' deep x 21' long, anchored to concrete pads; See Division 13 SPECIAL CONSTRUCTION for Portable Bleachers.
  - m. Field Lighting; See Division 16 ELECTRICAL for Sports Field Lighting.
  - n. Shared Baseball / Softball Concession / Restrooms / Storage; See Division 11 EQUIPMENT for Concession Equipment.
6. Middle School Baseball Field: Middle school baseball field areas shall be constructed to appropriate grading and grassing standards but are not required to meet competition standards of the Georgia High School Association and the national Federation of State High School Associations. Each field shall include the following:
- a. Orientation with home plate at southwest and second base at northeast.
  - b. Field size: 330' long at R / L foul lines x 380' deep at center of outfield, where space permits.
  - c. Grass outfield with irrigation system
  - d. Appropriate drainage towards outfield
  - e. Skinned earth between bases
  - f. Infield playing surface with 80% sand, 20% clay
  - g. Pitching mound raised 10" with pitching rubber
  - h. Fencing 10' high; backstop located 60' behind home plate - height as required for safety
  - i. One set of bleachers, 5 rows high, 10' deep x 21' long, anchored to concrete pads; See Division 13 SPECIAL CONSTRUCTION for Portable Bleachers.
7. High School Softball Field: High School softball Field shall be designed in accordance with competition standards of the Georgia High School Association and the national Federation of State High School Associations. Field shall include the following:
- a. Orientation with home plate at southwest and second base at northeast.
  - b. Field size: 200' long at R / L foul lines x 200' deep at center of outfield
  - c. Outfield of natural grass turf with irrigation system
  - d. Warning track
  - e. Infield playing surface with 80% sand, 20% clay
  - f. Pitching mound level with infield with pitching rubber
    - i. Water spigot within weather proof in ground box behind pitcher's mound.

- ii. 110-volt electrical duplex outlet within weather proof in ground box behind pitcher's mound.
    - g.
    - h. Fencing 10' high; backstop located 25' behind home plate- height as required for safety i.  
Double first base
    - j. Two concrete block dugouts
    - k. Two bullpens (One at each side, inside fence)
    - l. One batting cage with 110V electrical outlets for pitching machine (Outside fence)
    - m. Scoreboard located between center and left field; See Division 11 EQUIPMENT for Scoreboard
    - n. Two sets of bleachers, 5 rows high, 10' deep x 21' long, anchored to concrete pads; See Division 13 SPECIAL CONSTRUCTION for Portable Bleachers
    - o. Field Lighting See Division 16 ELECTRICAL for Sports Field Lighting
    - p. Shared Baseball / Softball Concession / Restrooms / Storage; See Division 11 EQUIPMENT for Concession Equipment
8. Middle School Softball Field: Middle school softball field shall be constructed to appropriate grading and grassing standards but are not required to meet competition standards of the Georgia High School Association and the national Federation of State High School Associations. Field shall include the following:
- a. Orientation with home plate at south-southwest and second base at north-northeast
  - b. Field size: 200' long at R / L foul lines x 200' deep at center of outfield
  - c. Grass infield and outfield with irrigation system
  - d. Appropriate drainage towards outfield
  - e. Skinned earth between bases
  - f. Pitching mound level with infield
  - g. Fencing, 8' high; backstop located 25' behind home plate, 20' high
9. High School Practice Field: High school practice field is intended for physical education instruction and used for multiple sports. It shall be constructed to appropriate grading and grassing standards but is not required to meet competition standards of the Georgia High School Association and the national Federation of State High School Associations. Practice field shall include the following:
- a. Orientation with long dimension north and south
  - b. 78 yards wide x 120 yards long
  - c. Grass turf with irrigation system
  - d. Provide netting where necessary to prevent damage from balls entering adjacent areas.
  - e. Fixed Football goalpost and movable soccer goals. See Division 11 EQUIPMENT for goalpost and goals.
10. Middle School Practice Field: Middle school practice field is intended for physical education instruction and used for multiple sports. If site allows, it shall be constructed to appropriate grading and grassing standards but is not required to meet competition standards of the Georgia

High School Association and the national Federation of State High School Associations. Practice field shall include the following:

- a. Orientation with long dimension north and south
  - b. 78 yards wide x 120 yards long
  - c. Grass turf with irrigation system
  - d. Provide netting where necessary to prevent damage from balls entering adjacent areas.
  - e. Fixed Football goalpost and movable soccer goals; See Division 11 EQUIPMENT for goalpost and goals.
11. Elementary School Multi-purpose Field: Elementary School multi-purpose field is intended for informal outdoor activities and elementary level sports. It shall be constructed to appropriate grading and grassing standards. The multi-purpose field shall include the following:
- a. Approximately 2 acres adjacent to the gym if site configuration will allow.
  - b. Well drained grass turf without irrigation system. Ensure that building and site drainage and/or detention systems do not impact the play area.
12. High / Middle School Tennis Courts: For new facilities, provide a minimum of two (2) tennis courts at each middle school and a minimum of four (4) at each high school. Tennis courts shall have layouts in accordance with competition standards of the Georgia High School Association and the national Federation of State High School Associations.
- a. Contrasting light and dark green surface between court and remaining play area
  - b. Regulation size with orientation with baselines of courts perpendicular to north-south axis.
  - c. Fencing 10' high, 20' from baseline, 12' from sidelines
  - d. Windscreens except at bleachers
  - e. 110v duplex electrical outlet at each end of the bank of courts.
  - f. At high schools, provide one set of bleachers anchored to a concrete pad at west end of courts. See Division 13 SPECIAL CONSTRUCTION for Portable Bleachers.

## **DIVISION 3 CONCRETE**

### **03.01 Concrete Walkways**

Sidewalks and plazas shall be concrete.

### **03.02 Compactor / Dumpster Pads**

For new buildings and major renovations to kitchens, concrete pads shall be placed in the service area to accommodate one compactor for garbage and one dumpster for recycling. At new High Schools, these pads can be incorporated into the concrete area at the loading dock. Drains must be provided, and shall be designed in compliance with all applicable codes. Provide heavy duty reinforced concrete slab that extends a minimum of 40' in front of the dumpster pad to resist wear from garbage trucks turning their wheels to maneuver for dumpster pick up.

Dumpster and compactor areas shall be visually shielded, in a manner compatible with the architectural design of the building.



Dumpster and compactor areas shall be easily accessible by sidewalk so that custodial carts can be used to transport trash to the dumpster. The top of the dumpster shall be accessible, in a location adjacent to a loading area or dock so that trash can be thrown into the top of the dumpster. Where the dumpster is not adjacent to a loading dock, a ramp to the back or sides of the dumpsters shall be provided.

### **03.300 Cast-in-Place Concrete**

At DCSD stadiums, any work done to refurbish stadium seating, rest rooms, parking access, concession area, etc. shall be ADA compliant. Consideration should be given to providing accessible viewing areas in multiple locations (“Home” and “Visitor”) of stadium seating.

Stadium Seating: Existing structure for stadium bench seating is concrete. For major stadium renovations, existing conditions shall be fully assessed and analyzed by a structural engineer with expertise in concrete prior to design of refurbishment of stadium.

### **03.350 Concrete Finishes**

Special attention should be given to proper curing and finishing of any slabs to receive flooring. Follow flooring manufacturer’s requirements regarding flatness and moisture parameters.

## **DIVISION 4 MASONRY**

### **04100 Mortar and Grout**

Only one mortar color should be used on the exterior masonry at each new school.

### **04210 Brick Masonry**

Brick veneer shall be used as the exterior building material of choice for all DCSD projects.

For new construction, changes in brick types, sizes, color, texture and orientation shall be kept to a minimum. Color(s) shall be recommended by the Design Professional and must be approved by DCSD Design and Construction.

For additions and alterations to existing brick exterior walls, care must be taken to properly blend old and new construction. In most cases, matching of existing brick is impossible. Include instructions to contractor to salvage old brick for patching that may be required. Designers are encouraged to use obviously contrasting materials where new construction joins existing. Make changes to veneer at inside corners wherever possible.

As a natural material, brick can have a considerable variegation of colors. When installing, alternate bricks from multiple packs to ensure proper color blending and avoid “pooling” of color.

### **04220 Concrete Unit Masonry**

Concrete unit masonry is preferred for the interior wall material for new construction. Bull-nosed block shall be used for all outside corners, above the first course. Split-faced block shall not be used unless specifically requested by the DCSD.

Concrete unit masonry partitions are required at the following locations, unless specifically approved by

## DCSD Design and Construction:

1. Corridors and other high traffic areas
2. Gymnasium, Auditorium, Stage, Cafeteria and Kitchen
3. Main Mechanical and Electrical Rooms
4. Hall restrooms and other high abuse areas
5. Locker Rooms
6. Mechanical and electrical closets

Concrete unit masonry partitions can be used for Vaults and the adjacent Office used for bookkeeping (Extend to roof or cap with concrete slab.) Rated gypsum board partitions may be used in lieu of CMU at Vault and adjacent office area.)

## **DIVISION 5 METALS**

### **05120 Structural Steel**

Structural steel framing systems shall generally be used for new school construction and additions, in lieu of load-bearing masonry construction.

### **05500 Metal Fabrications**

05500 2.3 Steel Ladders OR 05510 Aluminum Ladders

All areas of all roofs should be easily accessible to maintenance staff with permanently installed stairs and/or ladders, designed for interior access when practical. These access points must be protected from access by students. Exterior access must be caged / locked to prevent theft.

1. Prefinished aluminum preferred over painted steel.
2. Interior ladders provided for roof or mezzanine access shall be a ship's type ladder.
3. Vertical or exterior ladders from the ground are not acceptable for required access to the roof. Limit the use of vertical fixed ladders to small areas projecting above the main roof.
4. Ladders and stairs shall be equipped with appropriate guard and handrails.

05500 2.4 Steel Railings OR 05521 Aluminum Railings

1. For ease of maintenance, factory finishes on all metal handrails, posts, pickets, and guardrails are preferred over painted finishes. At a minimum, provide factory-finished handrails (clear aluminum is ideal).
2. Gates at guard rails between Interior track and bleachers in high school gyms shall be selfstoring.

## **DIVISION 6 WOOD, PLASTICS, AND COMPOSITES**

### **6.01 Plastic Laminate**

1. General use counter tops shall be plastic laminate material. One-piece countertops with integral coved backsplash, bull nosed edges and minimal number of seams shall be specified. Color(s) to be selected by the Design Professional and approved by DeKalb County School District. Consider
2. Basis of design is Wilsonart.

**6.02 Casework:** Custom casework shall only be used where manufactured casework will not serve the intended use. Plastic laminate shall be used as appropriate. Do not specify wood or laminate casework or shelving in janitor's closets.

## **DIVISION 7 THERMAL & MOISTURE PROTECTION**

### **07110 Waterproofing and Damp-proofing**

1. Appropriate waterproofing, damp-proofing and vapor retarders shall be specified by the Design Professional.
2. Avoid parapet wall penetrations.

### **07210 Insulation and Fireproofing**

Appropriate insulation and fireproofing shall be specified by the Design Professional to provide a safe, energy efficient, comfortable building, and to meet building codes.

Enclose space under first level of all stairs to prevent misuse of space for storage or misconduct.

### **07520 Membrane Roofing**

Modified bitumen,"cool roof" roofing shall be used for low slope roofs. The use of parapets should be minimized. Insulation value shall be minimum R-19.

### **07612 Pre-formed Metal Roofing**

Metal roofing shall be used on high-slope roofs. Steel is preferred, aluminum is acceptable.

### **07620 Flashing**

1. Follow manufacturer's recommendations when specifying through wall flashing and installation accessories.
2. Use copper, stainless or rubberized asphaltic flashing with an adhesive backing for through wall flashings at sills, beams and lintels. Avoid PVC products unless they are specifically recommended by their manufacturers for through wall flashing applications.
3. Metal flashing products may be laminated with other materials such as asphalt or waterproof papers to reduce galvanic corrosion where necessary.
4. Specify manufactured mortar nets over the horizontal run of through wall flashing to catch mortar dropping and allow water to filtrate easily downward through the net material to the flashings and out the weeps.
5. Provide weeps immediately upon the horizontal leg of the through wall flashing at the exterior wall construction element at sills, beams and lintels.

### **07710 Manufactured Roof Specialties**

Internal roof drains should be avoided where possible. Concealed gutters will not be allowed. External gutters shall be used where possible. Use PVC or cast iron downspouts in areas subject to abuse. If exposed, protective boots shall be used to prevent downspout conductors from damage. Downspout transition fittings shall be seamless or welded fittings.

### **07720 Roof Hatch**

Appropriately located roof hatches shall be provided as needed for access to low slope roof areas.

## **DIVISION 8 DOORS & WINDOWS**

### **08.01 Doors**

1. Door Size Notes
  - a. Unless otherwise specified, new doors shall be 36" wide.
  - b. Pairs of 36" doors with removable mullions shall be provided at service entrances, throughout major circulation corridors and for access into large rooms such as the Cafeteria, Stage, Gym and Media Center in order to facilitate delivery of bulky objects.
  - c. Single 42" doors shall be provided at Kitchens from the delivery corridor, for access to Bulk Storage Room, Serving Area and Cafeteria. Single 42" doors shall be provided for access into Music Practice and Storage Rooms to facilitate movement of large instruments. Single 42" doors shall be provided for access to all areas with laundry equipment. Consider the use of single 42" doors to provide access into Special Education Suite (Classrooms and Adaptive Toilet), facilitating movement of wheelchairs.
  - d. Overhead roll-up doors shall be provided as appropriate for access to Shops, Stage Scenery Areas, Mechanical Rooms and Storage Rooms to facilitate movement of bulky objects. Lock must be accessible from both sides.
  - e. Unless otherwise specified, door height at new construction shall be 80" minimum. Door height at renovations shall match existing. Height of doors and frames shall be selected for best value and efficiency.
  - f. Removable mullions shall be non-keyed type. Vertical rods shall not be used.
2. Door Stiles and Rails: All aluminum, hollow metal and wood doors shall be constructed with 6" stiles, 8" top rails and 10" bottom rails. Doors pairs with exit devices shall have center nonkeyed, removable mullions.
3. Door Materials
  - a. Wood doors shall be specified for general interior use. No plastic shall be used.
  - b. Metal doors shall be used on the exterior and interior of the building where appropriate for greater security.
  - c. Provide heavy duty door and hardware at Vaults and Record Rooms.
4. Door Lights
  - a. Provide factory installed small vertical door lights at typical doors to classrooms and other frequently used doors. Larger door lights and hollow metal sidelights should be used at the following:

- i. Administration
- ii. Counseling
- iii. Media Center iv. Gymnasium
- v. Cafeteria
- vi. Teacher Work Room
- b. Provide an observation light at the Kitchen delivery door constructed of security glass designed to resist break-ins.

#### **08.410 Aluminum Curtain wall and Storefront Systems**

- a. Aluminum storefront systems shall be used at primary entrances to the building. Hollow metal frames shall be used for entrance doors.
  - b. In lieu of painted hollow metal frames, consider prefinished aluminum storefront systems for interior window walls.
5. Rollup Grilles and Shutters
- a. If used between Serving Lines and Cafeteria:
    - i. Provide electrically operated roll-up grilles in lieu of solid roll-up doors to allow for air circulation.
    - ii. Locate key operated control on Serving Line side.
    - iii. Do NOT provide supplemental latches or dead-bolts. Grilles shall be secured by the weight of the grille.
  - b. Consider use of security grilles across corridors to separate building into zones, limiting access to certain parts of the building after hours. If used:
    - i. Provide electrically operated roll-up grilles at corridor separation zones. These shall be in addition to emergency smoke doors that may be required by code.
    - ii. Locate key operated control on both sides. Provide security latch operated by key, accessible from both sides.
  - c. Where required by Educational Specifications, provide manual operated solid roll-up shutters with security latch operated by turn knob on room side.
6. Hardware
- a. Appropriate finish hardware shall be specified by the Design Professional for review and approval by DeKalb County School District. Provide lever handles throughout in accordance with ADA.
  - b. See APPENDIX to Design Guidelines – Door Hardware.
7. Windows
- a. Architects are encouraged to incorporate windows for natural lighting into as many building spaces as practical. Architect shall provide a cost-benefit analysis of cost savings provided by proposed window lighting compared to their impact on HVAC installation and operating cost.
  - b. All exterior window frames shall be aluminum. Steel window frames are not acceptable at exterior walls. Current DCSD standards do not allow for operable windows.
  - c. Minimum Requirements:
    - i. Elementary: Windows are required at all general instruction classrooms.

- ii. Middle: Windows are desired at all general instruction classrooms when feasible.
  - iii. High: Windows are required at all general instruction classrooms adjoining exterior walls.
  - iv. Interior window frames shall be aluminum storefront or hollow metal and shall be provided at offices where supervision of adjacent areas is required. Do not provide interior windows at Locker Rooms.
  - v. Provide interior window(s) in the Kitchen Manager's Office to allow observation of workers in the Kitchen and vendors during deliveries.
8. Glazing: General exterior glazing shall be insulated, double thickness. Provide tempered / laminated glass as required by code. Avoid use of wire glass. Use tinted glass for sun control in lieu of blinds at large and inaccessible windows at Clerestories, Lobbies, Corridors, Media Centers, Cafeterias, Gymnasiums and similar spaces.

## **DIVISION 9 FINISHES**

### **09.250 Gypsum Board Systems**

Gypsum Board wall systems are acceptable for interior partitions at light duty spaces such as admin areas, and may be considered for partitions between classrooms and labs. Use of concrete masonry unit walls is preferred whenever possible.

1. Exposed layers at walls shall be abuse resistant type. Use fire code type material as required by code.
2. Bull nose corner beads shall be used at typical outside corners. Corner guards, in lieu of bull nose corners, may be used at the Administrative and Guidance areas.
3. Do not use gypsum board wall systems in any wet or damp locations.
4. At firewalls, rated gypsum board may be used above concrete unit masonry walls starting at 10'-0" above finish floor where the wall will not be susceptible to vandalism or abuse.
5. Fiberglass reinforced (FRP) panels are unacceptable for use in DCSD projects without express consent from Design and Construction.

### **09.850 Acoustical Systems**

1. Sound batts shall be used to reduce the sound transmission of the wall system as needed. Acoustical separation shall meet requirements of

### **Resilient Tile Flooring**

Typical floor finish, except where specialized finishes are called for, shall be Vinyl Composition Tile (VCT). Size of VCT shall be 12" x 12" x minimum 1/8". Basis of design is Excelon, Imperial Series by Armstrong. Color and patterns shall be specified by the Design Professional and approved by DeKalb County School District. Colors shall be manufacturer's standard colors, chosen with ease of maintenance in mind. Solid color floor tile shall be used for accent areas only. Consider use of flexible terrazzo tile similar to "Fritztile" in corridors, lobbies, and high traffic areas. To add aesthetic interest to the building, the Design Professional is encouraged to use patterns and color, especially in corridors and lobbies.

Coordinate the sequence for cleaning and waxing VCT floors with DCSD Coordinator of Environmental

Services and Coordinator of Warehouse. Schedule cleaning and waxing of VCT floors at Corridors, Cafeteria and other designated areas after furniture is delivered. Base shall be 4" black or very dark color rubber cove base. Provide matching-color transition strips adjacent to other floor materials.

### **Carpet**

At locations where the Educational Specifications call for carpet, tiles are preferred over roll goods, particularly in high traffic areas. Specify electrostatic backing to eliminate curling of carpet tiles at the edges.

Standard of quality, construction and appearance for carpet tiles is based on "Diffuse" and "Disperse" by Shaw Industries.

Standard of quality, construction and appearance for broadloom carpet is based "Expose" or "Blog" by Shaw Industries.

Standard of quality, construction and appearance for walk-off mat is based on Crayon 01957 Vinyl Cushion Tufted Textile (VCTT) by Tandus Flooring.

### **Wood Athletic Flooring**

High School and Middle School Gym flooring shall be solid maple wood strip athletic flooring system. Minimum thickness shall be 7/8", No.2 or better grade maple.

The flooring system shall be specifically made for athletic flooring applications.

Flooring shall include multi-purpose court markings and custom designed school logo approved by DCSD. Provide recessed supports for three volleyball nets at all middle and high school gyms.

Provide event floor covering at wood floors which are also used for auditorium and other assembly functions.

Flooring for new auditorium stages, dance rooms, and drama rooms shall be wooden sprung floors.

### **Synthetic Athletic Flooring**

Synthetic athletic flooring shall be installed in all new Elementary School Gyms. Product shall be equal to Mondosport I by Mondo USA or SportGrain Plus by Connor Sports Flooring.

### **Indoor Track Athletic Flooring**

Indoor track flooring shall be polyurethane flooring over Rubberized Base with continuous striping for three lanes.

Basis of design: Robbins Sports Surfaces - Pulastic - 2000

### **Weight Room Athletic Flooring**

Weight Room Athletic Flooring shall be recycled rubber material formed into tiles, 24"x 24" x min. 3/8" with interlocking tabs, free-laid without adhesive.

Basis of design: Mondo Highjolt

### **Quarry Tile**

Dark Red Quarry Tile with deep charcoal gray grout shall be used at Kitchen, Walk-in Cooler & Freezer, Dry Storage, Serving Courts, Custodial wet areas. Grout joints shall not be sealed in kitchen floors.

### **Ceramic Tile**

At rest rooms, unglazed Ceramic tile is acceptable for use as flooring. Glazed ceramic tile, minimum 54" high on all restroom walls, is preferred for use as wainscot material. To add aesthetic interest, consider

accent patterns or strips. Color shall be selected by Design Professional and approved by DeKalb County School District. Colors of tile and grout shall be selected with ease of maintenance and long term appearance in mind. Grout must be sealed.

### **Terrazzo**

For new construction, terrazzo may be considered for high traffic areas such as corridors and lobbies. Consideration must be given to slip prevention at all entrances.

### **Sealed Concrete**

Sealed Concrete flooring is acceptable at service areas such as storage, mechanical and electrical rooms. Decorative stained concrete shall not be used in occupied areas.

### **Suspended Ceilings**

Unless noted otherwise, 2' x 2' ceiling grids with 2' x 2' x 5/8" suspended acoustical ceiling tiles shall be used for all general use areas of the building. Standard ceiling tile shall be square edge, non-directional, fissured design, 5/8".

Basis of design: Cortega 770 by Armstrong.

Basis of design for ceiling tile in wet areas shall be Ceramaguard 607 by Armstrong.

Cafeteria – hard, washable tile needs to be installed around high HVAC vents in cafeterias, similar material to that used in the kitchen

Suspension System throughout shall be 15/16" exposed tee aluminum system. Basis of design: Prelude XL by Armstrong.

Ceiling system furnished shall include all industry-standard accessories required for installation.

Exposed structure and ductwork may be considered in art labs, stages, and drama rooms.

When determining ceiling heights, consider maintenance of lighting and finishes. Maximum height must be within reach of ladders or lifts readily available to DCSD maintenance staff.

### **Non-accessible Ceilings**

Use "hard" – painted gypsum board - ceilings in student restrooms and locker rooms. Ceiling access panels need to be installed to access valves, smoke detectors, etc. Minimum size shall be 24" x 24" if personnel access is required (i.e. more than hand access to reach a valve).

### **Sound Attenuation Blanket**

Sound attenuation blankets may be used above suspended ceilings in order to obtain acceptable sound transmission levels. See Acoustical Standards in Division 1 of these Design Guidelines.

### **Exterior Painting**

Exterior painting shall be in accordance with the manufacturer's recommendations for the paint used and the material being painted. Color shall be selected by Design Professional and approved by DeKalb County School District. In general, materials with factory applied paint, coatings, or integral color should be specified in order to reduce maintenance costs.

Basis of Design: Duron "Weather Shield" one coat, flat White paint for exterior painting.



## Interior Painting

Interior painting shall be in accordance with the manufacturer's recommendations for the paint used and the material being painted. Semi-gloss shall be used unless otherwise approved. Color shall be selected by Design Professional and approved by DeKalb County School District. In general, materials with factory applied paint, coatings, or integral color should be specified in order to reduce maintenance costs.

Basis of Design: Pittsburgh Pure Performance Interior walls – color: Antique (Porter Paints) Zero VOC – semi gloss. Interior metal doors and frames - Advantage Hi Gloss Exterior (Porter Advantage 900 High Gloss) Low VOC.

## DIVISION 10 SPECIALTIES

### 10100 Visual Display Boards

Display of student work is integral to 21st Century School Design. Flexible systems for hanging art and academic work should be integrated into classrooms, entrance, and corridors. Visual Display boards and related accessories shall be included in the Construction Contract. See Educational Specifications for location, quantity and size.

1. Marker boards shall be factory laminated 3-ply construction with porcelain enameled low-gloss face sheet, 3/8" particle board core and aluminum sheet backing, with factory-applied aluminum trim. Basis of Design: Claridge Products and Equipment, Inc.; Series 1 LCS marker board.
  - A. Provide aluminum frame with chalk tray and 1" map rail with accessory clips for flags and maps.
  - B. Provide appropriate special screened graphics at math and music rooms. C. Provide manual sliding marker boards at science labs.
2. Tack boards shall be 1/4" thick, plastic-impregnated cork sheet, natural cork color, factory laminated to 1/4" thick particle board backing, with factory applied aluminum trim. Basis of Design: Claridge Products and Equipment, Inc.; Series 1 Cork Bulletin Board.

### 10165 Toilet Partitions

Consideration of privacy and sightlines is important to rest room design. Toilets and urinals shall not be visible from the corridor through an open doorway. This includes reflection of toilets and urinals in mirrors. Toilet partitions and urinal screens shall be provided at multi-person restrooms in all new and renovated restrooms at all grade levels.

1. Partitions and screens shall be solid plastic, high density polyethylene. Basis of Design: Scranton products. Partition color to be selected from manufacturer's standard colors.
2. Continuous hinges shall be used at all stall doors.
3. Stall doors shall utilize a gap-free interlocking door-stile configuration so that there are no sight lines into the toilet stall.

4. Partitions shall be floor mounted and overhead braced. Avoid cross braces which children could climb on or swing from.
5. Hardware shall be heavy duty extruded aluminum or stainless steel.
6. Wall brackets for partitions and screens shall be extruded aluminum, continuous “double T” type.
7. Floor mounted and overhead braced screens shall be provided between urinals.
8. Masonry partitions shall not be used.

### **10350 Flagpole**

For new schools, provide 30' high, ground set aluminum tapered flagpole, with an external halyard, in a prominent location at the front of the building.

### **10400 Identifying Devices**

Appropriate way finding and room identification signage shall be provided, including Braille information in accordance with the ADA. All graphics should comply with the DeKalb. Consideration should be given to providing graphics to ease navigation around the building. Engaging colors, wall graphics, floor patterns are encouraged.

1. Provide easy to read directional signage at Lobbies, Corridors, Stairways, Elevators and other special components to aid students, staff, and visitors in navigating the building.
2. Typical Classrooms, Labs and Multi-purpose rooms shall be identified by room number only, for future flexibility in use. Room numbering must comply with those listed in the Georgia DOE's records.
3. Permanent special purpose rooms and suites (Administration, Counseling, Media Center, Gymnasiums, Cafeteria, Staff Dining, Kitchen, Restrooms, Electrical, Mechanical, Custodial, IDF, etc.) should be identified by name and number, but not individual rooms within suites that may be subject to re-assignment.
4. Cafeteria Serving Lines shall be identified with easy to read graphics as well as functional room number for identification. Submit graphics to Executive Director of School Nutrition for review and approval.

### **10500 Metal Lockers**

#### **1. Corridor Lockers**

For new buildings and major additions at middle and high schools, provide metal double tier lockers in the corridors for student use. Basis of design: List Industries, Inc.

1. Provide number of lockers equal to 110% of the “Design” FTE plus corridor space to increase the number of lockers to the “core” capacity.

2. Each locker shall be approximately 12" wide x 12" deep x 36" high x double tier (72" total unit height)
3. Lockers shall be equipped with Multi-point automatically locking spring bolt and built-in key-controlled, three-number dialing combination lock with changes made automatic with a control key. Provide A.D.A. compliant keys locks on 1% of all lockers ordered. Provide master locks.
4. Utilize welded construction with 16 gauge bodies, 14 gauge doors with stiffeners and 18 gauge backs.
5. Door shall have piano hinges, fastened with screws, not welded.
6. Doors and frame (body) of lockers shall be painted one color.
7. Locker colors may alternate or be different in different parts of the building.
8. Specify manufacturers standard paint colors unless use of custom colors is requested and specifically approved by DCSD.
9. Utilize a painted metal "Z" base in lieu of raised concrete (or other material), eliminating the need for resilient base finish.
10. Extend VCT floor finish below lockers to allow for their future removal.
11. Enclose the ends of a bank of lockers with masonry wing walls; enclose tops with gypsum board walls.
12. Provide attic stock of additional doors of each color specified for future replacement.

## 2. Theater Dressing Room Lockers

New theater dressing rooms in high school auditorium areas. Each locker shall be approximately 12" wide x 12" deep x 36" high x double tier (72" total unit height) similar to Student Corridor Lockers.

## 3. Staff Lockers

1. Custodial Staff Lockers  
Each locker shall be approximately 12" wide x 15" deep x 72" high single tier. Locker Construction shall be similar to Student Corridor Lockers.
2. Kitchen Staff Lockers  
Each locker shall be approximately 12" wide x 12" deep x 36" high x double tier (72" total unit height) similar to Student Corridor Lockers.

## 4. Athletic Lockers

- a. Sides and intermediate partitions shall be expanded metal for ventilation.
- b. Lockers shall be equipped with Multi-point automatically locking spring bolt and padlock lug.
- c. Provide three-number dialing combination pad-locks with a master key for 110% of lockers in five tier units.

- d. Utilize welded construction with 16 (13) gauge bodies, 14 (16) gauge doors with stiffeners and 18 gauge backs.
- e. Doors shall have piano hinges, fastened with screws, not welded.
- f. Doors and frame (body) of lockers shall be painted one color selected from manufacturers standard paint colors.
- g. Provide additional doors as attic stock for future replacement.
- h. Provide appropriate number of laminated maple locker room benches. At least one bench shall have an attached back support OR be located against a wall, per ADA requirements.
- i. Physical Education Lockers  
Provide six-tier and double-tier lockers for new and renovated middle and high schools PE Locker Rooms in the quantities indicated in the DCSD Educational Specifications.
  - 1. Lockers in six-tier units shall each be approximately 12" wide x 12" deep x 12" high (72" total unit height).
  - 2. Lockers in double tier units shall each be 12" wide x 12" deep x 36" high (72" total unit height).
- j. Team Lockers  
Provide single-tier lockers at each of the Boys and Girls Team Locker Rooms at new or renovated high schools. Coordinate quantity with Principal and Athletic Staff at each school. Lockers shall be 15" wide x 18" deep x 72" high.
- k. Football Lockers  
Provide athletic style metal lockers at Football Team Room. Lockers shall be 18" wide x 22" deep x 72" high open front with combination seat and foot locker and 12" Security box.
- l. PE Staff Lockers  
Locker Construction shall be similar to Student Corridor Lockers with built-in combination locks. Provide master locks. Provide the following size lockers:
  - 1. Middle School PE Staff: single tier lockers 12" wide x 15" deep x 72" high at each Male and Female PE Staff Area.
  - 2. High School PE Staff: single tier lockers 15" wide x 21" deep x 72" high at each Male and Female PE Staff Area **10522 Fire Extinguishers**

Provide fire extinguishers in sizes and locations as required by code. Provide recessed extinguisher cabinets with door alarms in all locations that are accessible to students.

FOR FURTHER REVIEW: DCSD Safety Specialist

### **10530 Prefabricated Canopies**

Appropriate aluminum canopies shall be provided at bus and auto drop-off areas, as well as cafeteria loading areas as needed. Ideally, pedestrian canopies should provide continuous protection from the weather, from the building exit to curb, extending over vehicles so that students can load in safely. Buses and delivery vehicles provide special challenges to design – the canopies need to provide maximum coverage while maintaining clearance for vehicles.

Height requirements, “tail swing” clearances, and maneuvering space for bus and truck traffic shall be carefully considered.

1. Drainage needs to be controlled and piped as necessary to prevent flow across sidewalks.
2. Include lighting under canopies to provide adequate illumination for evening activities and security.

FOR FURTHER REVIEW: DCSD Executive Director of Transportation.

### **10675 Metal Storage Shelving**

Provide adjustable industrial heavy duty metal shelving in all Storage and Custodial Rooms in the quantities indicated in the DCSD Educational Specifications. Wood or laminate shelving shall not be used. Typical shelving units shall be 36” wide x 85” high x depth appropriate for the intended use (12”, 18” or 24”). Shelves for book storage shall be 12” deep. Provide 7 shelves per unit (including base and top) to allow approximately 12” clear vertically per shelf.

### **10800 Toilet Accessories**

1. Provide surface mounted, heavy duty stainless steel commercial quality restroom and bath accessories.
2. Coordinate toilet paper, paper towel, and soap dispenser requirements with DCSD Environmental Services.
3. Safety glass mirrors: provide one long mirror per restroom, and one lavatory mirror per lavatory.
4. Electric hand dryers can only be used in administrators and teacher’s restrooms – not student restrooms. Architect shall specify type of Hand Dryers subject to review and approved by DCSD Facility Services before issuing Project Manual.
5. The following accessories will be Owner-Furnished, Contractor-Installed:
  - 1) Soap Dispenser: Gojo Model FMX-12. Locate soap dispensers adjacent to lavatories.
  - 2) Paper Towel Dispenser: Continental 630, White or Stainless

## **DIVISION 11 EQUIPMENT**

### **11110 Commercial Equipment**

Provide a heavy duty commercial grade appliance suited to this application where the project scope includes a washer/dryer for athletic uniforms.

### **11310 Residential Appliances**

### **11410 Food Storage Equipment**

### **11512 Library Stack Systems**

### **11531 Laboratory Fume Hood**

11662 Gymnasium Equipment

11665 Gymnasium Dividers

### **11400 Food Service Equipment**

Efficient, safe, and sanitary kitchens are of paramount importance to the District's students and staff. Designers are encouraged to consult early and often with representatives of the School Nutrition Department.

1. Kitchen Equipment shall be incorporated into the Scope of Work for all new school projects.
2. The Design Professional shall be responsible for employing a qualified professional Kitchen Designer to develop appropriate Kitchen Design and Construction Documents.
3. Drawings, Specifications, and equipment descriptions shall be submitted to DeKalb County School Nutrition Department and DCSD Plant Services for review and approval.
4. All new kitchens shall have all natural gas equipment. Gas-powered appliances shall have electronic ignition only. Standing pilots are not acceptable.
5. Walk-in freezer and cooler units shall have digital temperature controls and electronically commutated motors (ECM). Outside units shall have scroll compressor with ECM condenser fan motor.
6. See Appendix XXX for list of Basis of Design manufacturers and models. This list is subject to change: please verify equipment with School Nutrition Department for each project.

### **11470 Darkroom Equipment**

1. Light blocking, revolving door for primary pedestrian access is preferred, in addition to a secondary pedestrian door with light-tight gasketing to allow service and ADA access to the area.
2. Ventilation equipment needs to be designed to handle vapor emissions of the darkroom chemicals.
3. Enlarger stations shall be provided, with at least one designed for ADA accessibility. Specifications shall be submitted to DCSD Visual Art Coordinator and Facility Services for review and approval.

### **11511 Book Theft Protection Equipment**

At corridor exit(s) from the Media Center, provide a complete book theft detection system with alarm, Radio Frequency Identification (RFID) tags, and RFID detuners/deactivators, to assist in preventing unauthorized removal of a library's materials. Basis of Design: Strata EX system by Checkpoint, distributed by 3M.

1. Must meet ADA requirements (36" corridor width), with flexible mounting options (direct mount or base plate)
2. Include integrated audio and visual alarms to alert staff when an item containing a secured tag is detected.

3. Include integrated digital display to monitor alarm counts, ingoing and outgoing patron traffic, and diagnostics.
4. Provide option of real-time access to statistics and aggregated customized reports.
5. Include configurable alarm settings based on direction of travel (in/out).
6. Include capacity to provide self-checkout stations, security gates, and automated check-in.
7. Include “3M Digital Library Assistant”, a handheld device that reads RFID tags on books and other materials. RFID readers to be located at the circulation desk and self-service kiosk.
8. Include pop-up alarm notification.

### **11515 Kilns**

Provide kiln in dedicated room with proper fire separation and ventilation system, per all applicable codes.

### **11521 Projection Screens**

1. Basis of design shall be Da-Lite Screen Co. Inc.’s “Cosmopolitan Electrol”.
2. Provide motorized screens at new auditorium and cafetorium stages.
  - a. Provide additional drop header to set bottom of screen 2’-0” above stage floor.
  - b. Screen shall be mounted immediately in front of the stage curtain.
  - c. Screen shall be designed for rear projection system.
3. Provide motorized screen at new and renovated Media Centers.
  - a. Screens shall be recessed in the ceiling suspended from structure above only if ceiling is low enough and daylighting is controlled enough for optimal viewing. Mount on wall or provide portable screen if visibility is compromised by ceiling mount.

### **11610 Theater and Stage Equipment**

For new high school construction, the Design Professional is encouraged to employ the services of a qualified professional Stage Equipment Designer to develop appropriate Design and Construction Documents for Auditorium, Drama Labs and other performance studios.

Provide lighting, sound systems, curtains, stage monitors, projectors and other equipment appropriate for the specific program.

Provide a Catwalk at High School Auditoriums for access to front overhead stage lighting above audience seating. Drop lighting access is unacceptable.

Drawings and Specifications shall be submitted to DeKalb County School District Drama Coordinator and Facilities Services for review and approval.

See Division 16 ELECTRICAL - Theatrical Lighting Systems

See DIVISION 15 for further details.

### **11660 Athletic Equipment**

The Design Professional shall be responsible for developing appropriate Design and Construction

Documents for Middle and High School Athletic Equipment subject to review and approval by DCSD Coordinator of Health and PE and by the Supervisor of Interscholastic Athletic Programs.

Provide a heavy duty commercial grade appliance suited to this application where the project scope includes a washer/dryer for athletic uniforms.

Exterior Equipment:

Basis of design, Gill Athletics

1. Football Goalpost: # F305, 8' off-set, 23'-4" between 20' uprights.
2. Track and Field Equipment at High School Stadiums:
  - a. Long Jump / Triple Jump, # 441TS Take-Off Board System
  - b. Pole Vault Box: #500, # 503 Lid (steel)
  - c. Shot Put Circle Toe Board: #360
  - d. Discus Circle: #367
3. Soccer Goal: # 477100, Portable Aluminum Soccer Goal with tie downs and wheels for portability.
4. Basketball:
  - a. Goals: Heavy-duty, fixed type with nylon net.
  - b. Backboard: Heavy-duty rectangular steel.
  - c. Minimum 4-1/2" diameter steel pipe with 5'-0" gooseneck extension.

### **11662 Gymnasium Equipment Basketball**

Equipment

1. Goal Type: Electrically operated retractable, overhead supported single center post with sway bracing, forward folding type for main court and cross courts.
2. Superstructure: Manufacturer's standard design for attachment to building structure with precision die-formed fittings.
3. Hoist operations: Manufacturer's one HP (minimum) electric winch; self-locking worm-gear type, capable of holding backstop at any position when raising or lowering. Control by wall mounted key switch.
4. Safety Lock: Manufacturer's safety lock, inertia sensitive lock type, capable of locking backstop in any position at any time in storage or during raising or lowering cycle due to sudden surge in speed – typical for all backstops.
5. Finish on exposed metal components: Manufacturer's powder coat finish. Color selected by Architect from Manufacturer's standard colors and approved by DCSD Design and Construction Department.
6. Backboards: Rectangular design, 1/2" thickness tempered glass panel in gasketed extruded aluminum frame with bolt-on padding along bottom edge and up sides 10' minimum; fired vitreous enamel markings conforming to official requirements. 42" high by 72" wide.
7. Basketball Goals: steel rod rim welded to mounting bracket with enamel finish and nylon netting. Provide breakaway type goals for main court backstops. All goals shall be designed to absorb shock loads due to slam dunking or hanging on the rim.

Wrestling Equipment



Provide wrestling mats with storage system.

#### Volleyball and Badminton Equipment

1. Nets with removable support posts shall be provided.
2. Gym Floor sleeves for Volleyball and Badminton post:
  - a. Sleeve diameter: 3-1/2" inside diameter.
  - b. Cover plate: Chrome plated cover assembly with swivel type hinge and removable key.
  - c. Installation: Cast into concrete footing and floor slab for flush mounting with wood floor system.

#### Gymnasium wall and column protection

1. Bonded foam filled over OSB backing board with fire retardant liner and vinyl coated nylon cover.
2. Panel thickness: Minimum 2 inches.
3. Wall panel size: 2'-0" wide by 6'-0" high.
4. Column pad size: Custom fabricated to fit around columns; height to match wall panels. For elementary school gymnasiums, provide continuous protection at full circumference of room.
5. Color: As selected by the Architect from Manufacturer's standard colors and approved by DCSD Facilities Services Department.

#### 11664 Scoreboards

Provide complete Scoreboard systems (Basis of design: Electro-Mech Scoreboard Company) at the following locations:

1. High School Main Gym: Provide 2, Model #2770
2. Middle School Gym: Provide 2, Model #2330
3. High School Stadium: Provide 1, Model #3585
4. High School Baseball: Provide 1, Model #1580
5. High School Softball: Provide 1, Model #1580

#### 11681 Playground Equipment

Basis of Design: Kid Builders System by Little Tikes Commercial, Play Power Farmington, Inc.,

1. All new play structures shall provide accessibility to users with differing physical abilities. Where possible, this shall include ramps to provide wheelchair access to some upper platforms. Play Equipment installer shall be approved by the equipment manufacturer.
2. Play equipment will be provided in two separate structures – "pods", to provide a variety of experiences and to allow different classes to play.
  - a. Play "Pod": This unit focuses on imaginative active play and student interaction.
  - b. Athletic "Pod": This unit focuses on developing upper-body strength and personal fitness.
3. Adequate numbers of play events shall be provided to support the number of students per school.
4. Playground surfacing shall be rubber mulch, with modular plastic curbs. Consider rubberized unitary surfacing should budget allow.

## 11810 Facility Maintenance Equipment

1. A separate space for floor equipment recharging station/garage shall be provided to keep selfpropelled and other custodial equipment from obstructing mechanical rooms. The designated area shall be equipped with electrical service sized to meet the demands of the recharging equipment. Any appropriate fire separation and ventilation shall be provided.
2. Commercial duty, residential sized washer and dryer are needed in each building to wash custodial mop heads, dust mops and cleaning cloths.

## Concession Equipment

1. Concession facilities shall be provided at the following locations as identified in the Educational Specifications:
  - a. Middle School Gym
  - b. High School Main Gym
  - c. High School Auditorium
  - d. High School Stadium
  - e. High School Baseball / Softball area
2. Concessions facilities shall include the following utilities and equipment.
  - a. Lockable Serving Room with adjacent Lockable Bulk Storage Room.
  - b. Standard overhead florescent lighting.
  - c. Ventilation fan with thermostatic control.
  - d. Heat at exterior locations to protect pipes from freezing.
  - e. Counter with serving window.
  - f. Lockable base and wall storage cabinets.
  - g. Double sink with hot and cold running water.
  - h. Ice machine with 75 pound capacity furnished and installed as part of the construction contract. Drain pipe shall not be located in pathway.
  - i. Floor drain, located near ice machine.
  - j. 200 amp electrical service to support 110V/220V outlets for appliances furnished by others. Appliances shall be limited to refrigerator, microwave oven, drink cooler, hot dog machine, hot dog warmer, popcorn machine and other light duty appliances. Heavy duty appliances such as cooking ranges and fryers which require hoods and fire protection equipment are specifically prohibited.

## DIVISION 12 FURNISHINGS

### 12.01 Sun Control

1. Provide blinds at typical classroom and lab exterior windows. Interior blinds shall be 1" aluminum horizontal slats. Basis of design shall be Levolor Riviera.
2. Interior windows, provided as described in the Educational Specifications for supervision purposes, shall not have blinds except where specifically approved by DCSD.

3. Cordless blinds shall be provided in pre-K, kindergarten, and special education classrooms.
4. Sun control at large windows and clerestories must be addressed. At high and inaccessible windows at Clearstories, Lobbies, Corridors, Media Centers, Cafeterias, Gymnasiums and similar spaces. In media centers and cafeterias, sun light must be modulated to prevent glare, and to darken the rooms for video/projection presentations. Tinted glass may be used for sun control in lieu of blinds

## **12.02 Manufactured Casework**

1. Manufactured Casework includes but is not limited to:
  - a. Classroom and office vertical storage cabinets, base cabinets with counter tops and wall cabinets.
  - b. Miscellaneous specialty cabinets and shelving, such as storage for props in stage and drama areas.
2. Construction:
  - a. Cabinet bodies shall be standard high pressure plastic laminate finish over industrial grade particle board.
  - b. Cabinet backs shall be minimum ¼" commercial standard CS-251 tempered hardboard or minimum 3/8" high performance 47 lb. density particle board.
  - c. Cabinet sub-base shall be of a separate and continuous ladder-type platform design, leveled and floor mounted prior to cabinet body placement. Material shall be exterior grade plywood. No cabinet sides to floor will be allowed. Base front shall be finished with 4" high black extruded rubber cove base with pre-molded corners to match room base.
  - d. Countertops shall be 1" deeper than base cabinet and 1-1/2" thick with high pressure plastic laminate finish.
  - e. Countertops for computers shall be 30" deep and be equipped w/ grommets and wire management below.
  - f. Countertops without sinks shall have particle board core and water resistive adhesive.
  - g. Countertop with sinks shall be constructed with calibrated plywood and non-soluble glue to thickness indicated.
  - h. Counter backsplash shall match countertop construction.
  - i. Drawer fronts and hinged doors shall be overlay style with higher pressure laminate exterior and interior liner and matching 3mm PVC edging.
  - j. Shelving behind doors shall be high pressure plastic laminate on particle board core with matching 3mm PVC edging. Shelves behind doors up to 27" wide shall be ¾" thick and 1" thick if over 27" wide up to 36" wide. Open shelving shall be 1" thick. No shelving shall exceed 36" unsupported width.
  - k. Shelving shall be adjustable and supported by side panels with concealed fasteners capable of supporting the specified content.
3. Hardware:

- a. Hinges shall be adjustable 5-knuckle, institutional grade, and 2-3/4" overlay type with hospital tip. Anchor hinges with engineered screws (no wood screws)
  - b. Hinges shall be stainless steel with satin finish
  - c. Pulls for drawers and swing doors shall be ADA compliant one piece semi-recessed molded contour finger pulls
  - d. Catches shall be nylon roller or friction type.
  - e. Drawer slides shall be heavy duty, side mounted type, equipped with heavy duty ball bearing nylon wheels and automatic positive stops.
  - f. Locks shall be half mortise design with only round cylinder exposed, five tumbler cylinder, keyed separately with master key: satin finish.
  - g. Shelf clips shall be heavy duty design to hold shelf in place.
4. Accessories: Provide accessories appropriate to the cabinet's function.
  5. Warranty: Provide manufacturer's standard 5-year warranty against defects in material and workmanship.
  6. Basis of Design Product: LSI Casework, Line L44.

### **12.03 Science Casework and Laboratory Equipment**

1. Basis of design shall be Kewaunee Scientific Corporation, Signature Series.
2. Provide modular laboratory casework, including tops, ledges, filler panels, knee space panels, supporting structures and miscellaneous items of equipment as specified or scheduled.  
Casework shall minimally include:
  - a. Demonstration tables
  - b. Student tables
  - c. Storage cabinets
3. Science Casework and related furniture shall be of oak construction. Base cabinets and case units shall be lipped style construction having drawer heads and hinged doors with radius edges, overlapping cabinet and case openings on all edges. Face frame construction cabinets or cases are not acceptable.
4. Cabinets shall be constructed with flush interiors having no offsets, to maximize drawer and cupboard space and for ease of maintenance.
5. Cabinets shall be assembled using blind mortised and tenoned (or rabbeted) joints, glued and screwed together in accordance with best cabinet maker methods. Pinned or doweled construction is not acceptable. All exposed joints shall be closely fitted and tight, showing no open joints.
6. All exposed corners shall be rounded.
7. Counter and table tops shall be 1" thick, chemical resistant, solid monolithic molded modified epoxy resins with surface coating; black color.
8. Hardware shall be stainless steel with satin finish.
9. Provide manufacturer's standard 5-year warranty against defects in material and workmanship.
10. Equipment shall typically include:
  - a. Peg boards

- b. Lockable storage for hazardous materials
- c. Safety eyewash stations. Station must have floor drain.
- d. Fume hoods, equipped with worktop, base cabinet and specified accessories.
- e. Utility service outlet accessory fittings, electrical receptacles and switches shall be listed in the Specifications, equipment schedules or shown on Drawings as mounted on the laboratory furniture.
- f. Laboratory sinks, cup sinks or drains troughs, overflows, and sink outlets with integral tailpieces.

#### **12.04 Darkroom Casework**

Provide darkroom enlarger stations with drawer dividers to provide light safe drawers. Darkroom enlarger station countertops and table tops shall be 1" thick, chemical resistant, solid monolithic molded modified epoxy resins with surface coating; black color.

#### **12.05 Music Casework**

Casework shall be designed for appropriate storage of music instruments, stands, sheet music and teaching aids. Casework shall be constructed of industrial grade particle board with plastic laminate finish selected from manufacturer's standard finishes. Musical instrument storage cabinets and racks shall be specifically designed and engineered for the storage and protection of the instruments stored, shall meet specified minimum performance standards, shall be chip and abrasion resistant under normal usage, and shall protect instruments from damage under normal school use. Each individual compartment shall have a welded steel grill door with non-binding, 180 degree, five knuckle safety tip hinges and a one-piece finger pull / padlock hasp with integral door stop feature and no moving parts. Hardware finish shall be white epoxy powder coat. Provide manufacturer's standard 5-year warranty against defects in material and workmanship.

Basis of Design Product: LSI Corporation of America, Inc. 8200 Series or Musical Instrument Storage System by TMI Systems Design Corporation.

#### **12.06 Library Shelving and Casework**

Layout shall be presented to the Director of Media Services with a detailed analysis of sight lines for security control. Obtain written approval before coordinating related electrical and data outlets.

(media center furnishings currently being updated.)

#### **12.07 Floor Mats and Frames**

For new schools and renovations to existing main entries, incorporate flooring designed to increase safety and decrease dirt infiltration. Consider floor grilles in recessed frames, walk-off mats, and/or heavy-duty carpeting in the vestibule and entrance lobby. As schools often want an entrance mat with their school logo, consider including with contract, so that it can be properly incorporated into overall design.

## **12.08 Auditorium Seating**

1. Basis-of-Design Product: Hussey Seating Company; Quattro Chair System
2. Seating shall be fixed upholstered multiple seating with self-raising seat mechanisms. All seating components shall be provided by a single manufacturer. Seating Layout shall be designed with standards spaced laterally in rows so that end standards are in alignment from first to last row, regardless of whether aisles converge or are of constant width, and so that sightlines are optimized. Seating with integral lighting shall not be used. Provide appropriate accommodations for wheelchairs in accordance with ADA.

## **12.09 Telescoping Bleachers**

1. Provide telescoping bleachers at middle and high school Gymnasiums.
2. The bleacher system shall consist of motor operated, multi-tiered, closed deck seating rows operating on the telescoping principal, and stacking vertically in minimal floor area when not in use.
3. The structural system shall be engineered to withstand all applicable design loads associated with the intended use.
4. Provide non-marring rubber tire wheels designed for wood or synthetic floors and sized appropriately for the specific bleacher.
5. Provide self-storing railings at all exposed bank ends and elevated sections.
6. Coordinate Bleacher layout with ADA requirements for wheelchair seating.
7. Decking and steps shall be plywood.
8. Provide vinyl curtains where necessary to restrict access below bleachers.
9. Motor Operation:
  - a. Provide integral automatic electro-mechanical propulsion system engineered specifically for the requirements of the bleacher system.
  - b. All wiring within the seating bank, as well as all service wiring to the units shall be provided, including remote control panel or pendent control.
  - c. Motors shall be three phase and accessible from the front of the bleachers.
  - d. Controls: Start, stop, forward and reverse in a single control unit together with appropriate safety limiting features.
10. Provide manufacturer's standard 5-year warranty against defects in material and workmanship.
11. Basis of Design: Hussey Seating Company; Model MAXAM, Model MXM 26 Series.

## **12.10 Site Furnishings**

1. Provide a bike rack at all new schools.
2. Designers are encouraged to design inviting outdoor spaces for the students and the community. Consider integrating the design of benches, trash receptacles, and outdoor tables with the overall design of the project.

## **DIVISION 13 SPECIAL CONSTRUCTION**

### **13341 Exterior Bleachers**

1. Provide aluminum bleachers at high school baseball fields, softball fields and tennis courts complete with bench seats, and all related appurtenances, fittings and accessories. Attach bleachers to a concrete slab extending to walkway system.
  - a. 5 rows high, 10' deep x 21' long
  - b. 42" central aisle with steps
  - c. Appropriate guardrails
  - d. Access ramps and space(s) for wheelchair shall be provided, per ADA.
  - e. Basis of design: Dant Clayton Alum-A-Stand.

## **DIVISION 14 CONVEYING SYSTEMS**

### **14210 Electric Traction Elevator**

Provide passenger elevator(s) as needed to comply with A.D.A. requirements. Elevators should be of practical size with basic, easily maintained finishes. Elevators in school settings are often (mis)used to carry freight, causing frequent break-downs and expensive maintenance, so a heavier-duty model is desired. Doors should be sized to accommodate a stretcher in the event of an emergency.

1. Basis of Design: KONE EcoSpace. Manufacturers that require proprietary tools for maintenance are not acceptable.
2. Provide key controlled access, cab telephone, and tie-in to fire alarm system.
3. All controls shall be open access, non-proprietary controls.
4. Provide a gearless traction elevator with machine room-less application.
5. Provide the appropriate number of elevators with a minimum rated capacity of 3,500 lbs., with manufacturer's recommended speed for the particular installation.
6. Main power supply shall be 208, three-Phase, with a separate equipment grounding conductor.
7. Car lighting power supply shall be 120 Volts, single-phase, 15 Amp, 60 Hz.
8. Machine room-less controller(s) shall be located adjacent to the hoist-way at the top landing in a controller space.
9. Machine and Governor
  - a. The machine shall be AC, gearless, mounted at the top of the hoist-way.
  - b. Provide a tension type generator.
  - c. In the hoist way, provide an emergency stop watch in the pit and terminal stopping switches.
  - d. In addition, components shall include buffers, car and counter weight, positioning system, guiderails and attachments, coated steel belts, steel governor rope, and hoistway entrances.
10. Car Components

- a. Include car frame, steel cab, emergency car lighting, emergency pulsating lighting, fan, handrails, threshold, emergency exit contact, roller guides, platform, and certificate frame.
- b. Finishes for the car front and car door shall be stainless steel.
- c. Provide an aluminum egg crate suspended ceiling.
- d. Submit interior cab finishes to the DeKalb County School District for written approval.

#### 11. Signal Devices and Fixtures

- a. A car operating panel shall be provided which contains all push buttons, key switches, and message indicators for elevator operation.
- b. The emergency call button shall be connected to a bell that serves as an emergency signal.
- c. Provide buttons with raised numbers and Braille markings, to comply with ADA.
- d. The help button shall initiate two way communications between the car and a location inside the building and switching over to another location if the call goes unanswered.
- e. Provide hall fixtures with necessary push buttons and key switches for operations.
- f. Provide elevator car position indicator, car lantern, and chime.

#### **14420 Wheelchair Lifts**

New building design should not include mechanical solutions, other than enclosed elevators, for ADA accessibility. Vertical platform lifts can be considered for renovations only, if ramps or other ADA acceptable devices are impractical. Inclined stair lifts shall not be used.

1. Basis of design: Garaventa
2. Provide a vertical platform lift with a minimum rated load capacity of 750 lb., a travel speed of 9 fpm, lifting height as required by the design condition, and a minimum platform size of 37" X 51" with a non-skid surface.
3. Capacity of the motor shall be not less than 3/4 horse power with instant reversing motor.
4. Colors selection(s) shall be submitted to DCSD.
5. Control switches shall be provided at accessible locations on the upper and lower elevations.
6. Install a runway enclosure to prevent obstructions from entering the underside of the platform lift, when the lift is above the lowest elevation. If it is not practical to install a runway enclosure, the platform lift shall be equipped with an obstruction panel that will stop the downward travel if an obstruction is encountered.
7. Provide an illuminated emergency stop alarm switch to signal for assistance in the event of an emergency.
8. Provide 42" high gates with a combination mechanical lock and positive opening electric contact at the upper and lower levels. Platform panels must be 42" in height.



**Kitchen Hood**

1. Double shell design consisting of an inner exhaust canopy with minimum 86% supply air ratio, constructed of heavy gauge stainless steel exterior.
2. Hood shall be installed per NFPA 96, with 96" clearance from floor to bottom edge of hood.
3. Hood shall have fire suppression ("Ansul") system, wired to the main fire alarm panel, installed in cabinet on end of hood. Complete electrical and gas shut-offs shall be located at hood. pe and Fittings

**Piping and Drains**

1. All mechanical piping and equipment supports exposed to the elements shall be primed, painted, and clearly labeled to mark their service.
2. Victaulic piping shall be Schedule 40 only, and must be installed by factory-trained installers. Couplings shall have rubber stops.
3. All gas piping used in kitchen shall be hard black piping. Flexible connections are acceptable on drops; however, no quick disconnects shall be used.
4. Vent stacks shall be located sufficiently far away from air intakes of HVAC equipment to prevent drawing odors back into the building.
5. To prevent sewer gas odors from being pulled into roof top units a 25' separation shall be maintained between sewer vents and HVAC fresh air intakes.
6. Domestic Water pipe shall be Type L copper with lead-free joints, chrome plated brass or copper where exposed.
7. Domestic water supply lines from street main / meter to the building shall be copper with progress fittings (preferred) or Schedule 80 ductile cast iron (no PVC) with thrust blocks and tracer wire.
8. No saddle tees shall be permitted.
9. Provide T fitting at water supply to Custodial Sinks, Kitchen dish machines, and pot sinks for installation of sanitizing chemicals.
10. Drain and vent pipes from middle and high school science labs to acid dilution tanks shall be acid resistant polypropylene or CPVC. All other drain pipes shall be cast or ductile iron to resist mechanical cleaning.
11. In all science lab prep rooms, water taps and electrical service shall be installed for distilled / ionized water production equipment.
12. A grate with a funnel to prevent splashing shall be provided at floor drains that receive discharge water from sinks that require an air gap, such as food handling sink in the kitchen.
13. Provide barrier to rodent infiltration where pipes penetrate from the exterior.
14. Provide pressure reducing valve (PRV) in boiler room.

**Reduced Pressure Zone Assemblies**

Reduced Pressure Zone assemblies for back-flow prevention shall be installed as required by code for all new facilities and major renovations. Pressure reducing valve and backflow preventer shall be located in the main meter vault.

*Design Professionals please note: even if a project's scope of work does not involve plumbing, the DeKalb County code officials may require upgrading existing facilities to meet this requirement in order to obtain a Building Permit or Certificate of Occupancy for any work done at the facility.*

### **Grease Interceptors**

For all new or renovated kitchens, grease interceptors shall be installed on the exterior of the building in a readily-accessible location. Design professional must coordinate with DeKalb County Watershed Management's Fats, Oils and Grease (FOG) Management program.

### **Traps**

1. All traps must be located for ease in access for maintenance. Do not conceal in wall.
2. Trap primers shall be solenoid type, with direct digital control by the energy management system. Do NOT use pressure drop primers. PROPRIETARY Standard of Design: ASCO RedHat Solenoid Valve 24volt /60 Hz coil, 8210G094.

### **Plumbing Fixtures**

2234.015	American Standard	"Madera" Elongated Flush Valve Toilet
3043.001	American Standard	"Madera" 17" ht. Elongated Flush Valve Toilet C106C Comfort Seats (JSC) Commercial Elongated Open Front Toilet Seat
6541.511	American Standard	Allbrook Urinal (Waterless urinals shall not be used)
111 XL	Sloan	Regal Flushometer - toilet
186 XL	Sloan	Regal Flushometer –urinal
V-500-AA	Sloan	3/4" x 15" Vacuum Breaker (Retrofit urinals)
0355.012	American Standard	"Lucerne" Wall-hung Lavatory
629203C	Watts	Grid Drains
B-0871 T & S	Cast Brass	Centerset 4" Faucet (Low flow aerators) (ADA compliant: use on all lavs)
102 E-Z	Lav Guard 2	Under Sink Pipe Covers
EZS8	Elkay	Water Cooler – Lt. Granite (Retrofit)
EZSTL8C	Elkay	Bi-level Water Cooler – Lt. Granite (New)

### **Sinks:**

1. Kitchen : Prefer T&S Brass Kitchen faucets.
2. Custodial Sinks: floor type with hot and cold water and hose connection on mixing valve.
3. Wash fountains / stations: Basis of design: Bradley Co.
4. Kitchen hand wash sink shall have touch less, low voltage or foot operated faucet controls. Basis of design: T&S Brass
5. Art Room Sinks: stainless steel, deep and wide without dividers, equipped with gooseneck faucets, equipped with plaster traps. Basis of design for trap: Zurn solid interceptor Z-1181.

### **Hose Bibs:**

1. Interior: Provide a key operated hose bib at each multi stall restroom. Mount on wall below a lavatory.
2. Exterior: Provide freeze-protected hose bibs in key-access wall boxes spaced approximately 200' around the building perimeter. Provide one bib at each outdoor art lab space.

3. Exterior Play Fields: Provide freeze-protected hose bibs in key-access ground boxes adjacent to all play fields.

#### **Water Heaters:**

Preferred manufacturers are Rheem and Rudd. Provide hot water at Adult Restrooms, Kitchens, Custodial sinks, Work Room sinks, Gym, "Lab" (Science, Career Tech, and Art) demonstration and cleanup sinks, and all showers. Provide hot water in all clinic areas and at any sinks where adults are providing diapering and/or toileting assistance for special needs students. Provide hot water at student battery restroom closest to cafeteria. Provide anti-scalding devices on all sinks in areas accessible to students. Provide cold water only at any student lavatories and Classroom sinks not listed above. **Water**

#### **Fountains:**

Provide electric water coolers in locations, quantities and design in compliance with all codes. Provide "bubbler" water fountains attached to sinks in duplex restrooms in new kindergarten and first grade elementary school classrooms. Water fountains attached to sinks do NOT count towards Georgia Department of Education minimum drinking fountain requirements.

#### **Fire Protection**

1. All new school facilities and additions constructed for DCSD shall be protected with an automatic fire sprinkler system, per currently adopted Life Safety Code, NFPA 13 and Georgia state modifications. Sprinkler system and other fire protection equipment shall be provided in accordance with building codes and local requirements.
2. For additions, consideration should be given to retrofitting a fire suppression system in the existing structure to integrate protection of the entire facility.
3. Coordinate design of sprinkler system with design of built-in furniture and storage units such as music instrument storage units.
4. Install pressure reducing stations as required if main water pressure fluctuates and exceeds fire protection system working pressure.
5. Smoke detector devices need to be installed in a manner that preserves accessibility for maintenance.
6. Require in the specifications for the subcontractor to program systems a minimum of two times in coordination with the Owner's direction. Prior to each programming, the subcontractor is to prepare a draft outline of the program for the Owner's review.
7. Adjacent to riser locations, fire protection designer should provide key plan, showing which lines serve particular part of building. Plan should be mounted in protective frame for quick reference in an emergency.

#### **Heating, Ventilation and Air Conditioning**

1. Due to their ever-increasing complexity, it is imperative that building mechanical systems interface correctly to provide safe and efficient operations for the life of the building. All building mechanical and electrical system construction shall be thoroughly checked for proper operation. Full commissioning is recommended.
2. Architect and engineers shall design HVAC system with total life cycle costs in mind, using most practical approach for each project. Submit calculations for sizing HVAC units to DCSD for review and approval. DCSD maintenance staff shall fully approve all mechanical components.

3. HVAC shall be provided in classroom areas by water source heat pumps or self-contained wall mounted units (basis of design: Bard Manufacturing).
4. Water source heat pumps units shall be resettable from temperature sensor or thermostat, not from disconnects.
5. Water source heat pumps shall be extended range type with expansion valves. Cap tubes are not acceptable.
6. Separate packaged units shall provide HVAC at the following spaces:
  - a. Auditorium
  - b. Administrative Offices
  - c. Counseling Offices
  - d. Media Center
  - e. Cafeteria
  - f. Kitchen
  - g. Dry Storage
  - h. Gyms and P.E. Areas, including coach's offices
  - i. Cafeteria manager's office
  - j. Network Server Rooms
  - k. Security Camera End Equipment Room
  - l. Other rooms with temperature sensitive equipment (i.e., telephone equipment, Stadium Press Box)

#### **Areas Requiring Special Considerations for HVAC**

1. Locker room air conditioning and ventilation shall be designed to address humidity and odor control.
2. Media Center HVAC:
  - a. Office and work room and conference rooms shall be placed on independently controlled, separate zones.
  - b. Active humidity control shall be included in the media center HVAC design. A "moisture miser" or ERU shall be installed in Media Center RTU.
3. All corridor, stair and elevator HVAC units shall have ducted return air, taking care to pressurize space.
4. All computer based electronic equipment that should be located in an air conditioned space. Do not locate telephone, MDF, IDF equipment or security camera head-end racks in Mechanical or Electrical Rooms. Locate telephone equipment in a separate room or in a combination room with MDF, IDF equipment and security camera head-end racks, all of which require similar constant year-round temperature control. Heating and cooling for these rooms must be capable of maintaining ambient temperatures as required, independently of the operation of the main building HVAC systems. Consider designing this system to accommodate additional heat load (30% more than current load) created by equipment that may be added to these rooms in the future.
5. Independently controlled, ductless split cooling systems shall be supplied for main server rooms to provide cooling separate from the building system. Power for this system shall be tied to emergency panel for generator back up.

6. Art Suite Kiln and Dark Room ventilation shall be designed to address the special conditions in these spaces. Where possible, locate these spaces on exterior walls for convenient venting. Art Suite air shall exhaust directly to the exterior and shall not re-circulate into the building return air system. Acceptable manufacturers: Vent-A-Kiln; Barry Blower; ILG

### **HVAC Ionization**

Acceptable manufacturer: Global Plasma Systems

#### **Equipment**

Exhaust fans shall be provided per code.

Acceptable manufacturers: Greenheck, Cook, Jennaire, Gaylord, Halton, CaptiveAire

Kitchen Hood shall be a double shell design, constructed of stainless steel, consisting of an inner exhaust canopy with minimum 86% supply air ratio. (See Division 11)

Cooling Towers must include basin heater; open loop tower with heat exchanger, stainless steel. No sand filters are allowed. Heat tape shall be provided on all make-up water lines. PROPRIETARY manufacturer: Evapco

Water treatment (include 2 year service agreement)

Preferred provider: Superior Water Services, Inc.

All boilers shall be hot water tube type with factory start-up. Three-way mixing valve must be installed on all boiler loops with the actuator supplied by CCI. Acceptable manufacturers: Ajax; Rite; Apac

Chillers shall be air-cooled, with factory start-up and 5-year service plan included.

PROPRIETARY manufacturer: Carrier Corporation

Water loop pumps shall be installed in a manner that preserves service access.

Acceptable manufacturers: Bell & Gossett, Flo-Fab, Patterson, Taco, Inc. and Armstrong

#### **Dehumidification Units**

PROPRIETARY manufacturer: Munters Corporation

Energy recovery units shall be provided.

PROPRIETARY manufacturer: Munters Corporation

Heat Exchanger shall be plate and frame type and must be located in a mechanical room; no exterior installation is allowed.

PROPRIETARY manufacturer: Sondex Inc.

Flow Controls and Balancing Valves for Supply and Return Line Assemblies Acceptable manufacturers: Flow Design, Inc., Griswold, Bell & Gossett

#### **Automated Temperature Controls and Energy Management System**

Proprietary Product: Direct digital control system sole source is STAEFA TALON. Submit listing of control points for approval by DeKalb County School District.

Building automation system controls shall be Web Control by CCI only.

Media Center shall be equipped with humidity sensors.

See DIVISION 16 ELECTRICAL for non-revenue metering connected to building automation system.

### **Roof-Top Unit Security**

All new roof top units (RTU's) shall be protected by a steel cage constructed of vertical and horizontal support bars with expanded metal reinforcements. The preferred manufacturer and product is AC Armor's Commercial Armor, [www.acarmor.net](http://www.acarmor.net). All RTU Security Cages shall consist of the following:

1. Custom solutions to fit each individual roof top unit
2. 1-inch, 14-gauge tube steel framing
3. Fully Mig welded
4. ¾-inch square solid steel stem system
5. #9 expanded metal mesh covering access to copper coils
6. Fully serviceable access panels
7. 1/8-inch threaded tabs
8. 3/8-inch theft resistant bolts with access tool to secure unit
9. 1.25-inch theft resistant bolts to secure 5-inch cross anchors
10. 4-inch square steel base plates at each leg to ensure proper load distribution with ¼-inch thick roofing pads under each base plate
11. There shall be no modification to the roofing system or impact to the roofing warranty
12. Primed and painted for rust prevention

HVAC Security System shall be installed on all new exterior HVAC units. Basis of Design: Warning Watchdog Alarm System.

## **DIVISION 16 ELECTRICAL**

1. **Electrical Panels:** Placement of electrical panels in areas normally accessible to students, particularly corridors, is to be avoided whenever possible. Electrical panels and other devices located at areas normally accessible to students shall have solid front panels without louvers. If ventilation is required by the code, it shall be provided in such a manner as to prevent students from inserting small objects into the electrical panel or device. Such panels or devices shall be located in special purpose locked rooms if possible.
2. **Electrical Service Expandability:** The electrical service for the building and overall site shall be designed to accommodate future loads for building expansion and future portable classrooms. (See DIVISION 1 – Core Capacity and Future Portable Classrooms). A “spare” breaker shall be installed to power a future distribution panel near the portable site(s), to provide electrical service to the portables. Conduits of sufficient size, as required to serve the remote future portable classroom distribution panel shall be installed from the main electrical distribution panel and capped until needed. Intercom, security and other systems shall be expandable for the number of additional portable classrooms noted above.
3. **Conductors and Grounding:**
  - a. Aluminum wiring shall not be used on the building side of the meter. Plenum-rated lowvoltage cabling may be used in lieu of conduit, if cost effective. Provide cable tray or hooks at hallways for low voltage cabling.
  - b. Plenum rated cabling shall only be used on the interior of buildings where appropriate and approved by Codes. Only products that are rated and intended for use outdoors shall be used on the exterior of buildings.

- c. Low voltage cable shall be properly suspended throughout with “J” hooks, not allowed to rest on ceiling tile or grid.
  - d. Conduit shall be run in a manner that preserves service access to all adjacent equipment.
  - e. Provide junction box at center of room with service loop.
  - f. Engineered cable management systems such as Reloc are acceptable.
4. **Overload Devices for Motor Starters:** Motors shall be equipped with a solid state overload protection device with an adjustable trip point rather than thermal overloads. Phase protection devices shall be provided on all HVAC equipment.

#### 5. Power Outlets

- a. Provide at least one 110 volt duplex outlet on each wall and an average of one per eight feet of wall.
- b. Provide at least one 110 volt dedicated duplex outlet for each designated computer outlet. (One 4-plex outlet for each pair of computer outlets)
- c. Provide one 110 volt, 20 AMP GFI duplex outlet adjacent to each sink counter.
- d. Provide special voltage outlets for designated equipment such as large printer/copy machines and other special equipment.
- e. Coordinate power connections of appropriate voltage and phase to all electrical equipment.
- f. Provide master power switch at Science, Computer, Business and Career Technology Education Labs.
- g. Provide power outlets in ceiling for drop down lighting in art lab for still life and figure drawing and for small power tools in Engineering Technology lab.
- h. Provide Darkroom outlets at each enlarger station for enlarger and timers.
- i. Floor outlets: Cover plates of carpeted spaces shall be flush with surrounding floor and match the selected floor materials/color.

#### 6. Light Fixtures

- a. LED fixtures shall be used throughout.
- b. The interior lighting design shall minimize fixture types and incorporate standardized lamp inventory to the extent practicable.
- c. Light levels shall comply with GADOE standards.
- d. General interior lighting shall be provided by recessed 2' x 4' fixtures unless noted otherwise. A safety cable should be attached to the fixture, cover reflector and lens.
- e. Basis of Design for LED 2'x4' Fixture: Columbia Lighting LJT24-40MLG-FSA-EDU.
- f. Provide acrylic lenses as standard; polycarbonate lens are recommended for low ceilings in corridors, stairs and locker rooms.
- g. Lighting in gymnasiums, storage areas, mechanical and electrical rooms should have metal cage protection.
- h. Lighting in damp locations, such as locker rooms and kitchens, should have vapor retardant gasket lenses.

- i. “No hold,” 6 hour mechanical timers shall be used for mechanical space lighting control.
- j. The use of incandescent fixtures or dimming electronic ballasted fixtures shall be limited to special situations, such as theatrical lighting.
- k. Typical classrooms, labs, Media Centers, other Instructional spaces and Cafeterias shall be equipped with dimmers or multiple switches in order to control light levels.
- l. In halls and cafeterias, lighting shall be controlled by key switches (Leviton Key #555000) not toggle switches.
- m. If project includes new lighting mounted at high ceilings such as in gymnasiums and cafeterias, a mobile scissor lift shall be provided for the school’s use, with space provided for storing the lift.

**7. Motion Sensors:** Hallways, classrooms, labs and other instructional spaces shall be equipped with motion sensors that will automatically turn the lights off and place the switches in the off position when a hallway or room is not occupied. Connect motion sensors to HVAC control system. Review characteristics of system and possible additional rooms to be included with DCSD Facility Services for review and approval prior to incorporation into the construction documents.

### **8. Gym Lighting**

- a. Gym lighting fixtures shall be standardized for cost efficiency to the extent possible.
- b. Provide multi-level lighting at all gyms by means of switching, not dimming. High school and middle school gyms shall have multi-level lighting for recreational use and competition use at 60 fc, per athletic association requirements.
- c. Gym lighting fixtures shall have fixture, lens and guard safety chains to prevent these components from falling when damaged by impact.

### **9. Auditorium Lighting**

- a. Stage, Drama and Broadcast Video Labs shall be equipped with performance lighting which shall be incorporated into the Scope of Work for all new school projects. The Design Professional shall be responsible for employing a qualified professional Lighting Designer to develop appropriate Design and Construction Documents. General lighting in auditorium shall not be positioned over seats; consider wall sconces, or ceiling mounted fixtures positioned over aisles. Drawings and Specifications shall be submitted to DeKalb County School District Drama Coordinator and Facilities Services for review and approval.
- b. Scope of work shall include overhead pipe grid, dimmable theatrical light fixtures, wiring and control system.
- c. Provide separate work light system.
- d. High School Auditorium front overhead stage lighting shall be accessible from a catwalk; drop light mounting is unacceptable.
- e. Provide aisle lighting at floor level.
- f. See Division 11 EQUIPMENT- Theatrical/Stage Equipment for Catwalk access for stage lighting.

**10. Exit and Emergency Lighting:** Provide exit lights and emergency lighting fixtures required by code. Connect all emergency and exit lighting fixtures to the generator. In large areas without



exterior windows, such as an auditorium, consider adding a small number of emergency lights on battery back-up, to provide light during generator start-up time. Provide L.E.D. exit lights on emergency circuits in quantities and locations in compliance with all applicable codes.

## 11. Emergency Electrical System

- a. All new DeKalb County Schools shall be equipped with an automatic emergency electrical generation system. New Generator systems shall be included in major renovation projects at school sites that do not have generators. Any existing generators older than 15 years shall be replaced during major renovation projects.
- b. The system shall include, but shall not be limited to, a natural gas engine and electrical generator with vibration control, automatic engine starting system with batteries, instrument panel, weather-protective housing, enunciator panel, exhaust silencer and accessories. The generator shall be pad-mounted on the exterior of the building, protected by chain link fence.
- c. Minimum Size:
  - i. Elementary schools: 60 KW, 480/277 volts.
  - ii. Middle and High schools: 80 KW, 480/277 volts.
- d. The system shall be adequately sized for and be connected to the following:
  - i. Emergency exit and emergency lighting fixtures (battery pack fixtures shall not be used unless noted otherwise)
  - ii. Minimum of one light fixture in each classroom
  - iii. Fire alarm system
  - iv. Intercom system
  - v. Telephone system
  - vi. Security System including cameras, Intrusion alarm, access control, and door power supplies
  - vii. Main server (MDF) room: All outlets; Air conditioning package unit
  - viii. Walk – in freezer/cooler (usually 208 volt, 3 phase)
  - ix. One outlet in principal’s office to maintain phone and computer
- e. Some of the electronic loads listed above also need to have a small UPS/surge protector to carry the electrical loads from the point of power interruption through start-up of the generator. Specifically, the intercom system, the telephone system switch, and energy management system main panel need to be served in this manner. Normal / Emergency Generator outlets shall be color coded / placarded in accordance with NEC. Acceptable manufacturers: Cummings, Kohler, Generac, Detroit Diesel
- f. Two-year total service warranty contract shall be standard, with three-year extension included.
- g. For generators with KVA loads equal to or greater than 100 KVA, Georgia Power requires the Automatic Transfer Switch (ATS) open transition transfer to have a mechanical interlock; reference Georgia Power’s Distribution Bulletin No. 18 – 23, Section 4.2. The following actions are required:
- h. Documentation
- i. DCSD Project Manager shall prepare following Georgia Power documents, and secure signature of DCSD Executive Director of Facilities:

1. "Application for Emergency and Standby Generation Installation & Operation"
2. "Statement of Responsibility for Operation of Emergency or Standby Generation on the Georgia Power Company Distribution System"
  - ii. DCSD Project Manager shall forward signed forms to the attention of Georgia Power representative.
  - iii. DCSD Project Manager shall notify Georgia Power when ATS is installed.
  - iv. DCSD Project Manager shall schedule Georgia Power to inspect and photograph the mechanical interlock installation.
  - v. Georgia Power representative shall forward both documents (items 1 and 2) along with photographs, to the DCSD Project Manager.

12. **Exterior Lighting Fixtures:** Safe lighting of our buildings, parking lots, and walkways to protect our building occupants is of paramount importance to DCSD. The designer is responsible for coordinating the overall design of the site lighting. Non-building –mounted lighting for parking areas and drives will be provided by the Georgia Power.

- a. Provide adequate exterior lighting at building parking and walkway areas for security to employees and building. Fixtures shall be energy efficient, vandal resistant, 277 volt metal halide. Building wall packs shall be 250 watt or LED or compact fluorescent; parking lot lights shall be 400 watt. Exterior fixtures shall be controlled by building automation system with local override and photocells.
- b. All exterior lighting shall be controlled by an energy management system with astronomical clock and local override switch.
- c. Divide controls for site lighting into zones that can be operated independently. Submit design for zones to DCSD for review and approval.
- d. Local override shall be momentary contact switch tied to building automation system.
- e. Consider outside lighting at Art Patio for evening events.

13. **Sports Field Lighting:** The Design Professional shall develop complete drawings and specifications to describe sports field lighting similar to those currently installed at existing DeKalb County High Schools. Specifications shall be equal or above GHSA spec lighting manual, available at [www.ghsa.net](http://www.ghsa.net).

- a. Sports lighting shall be provided at the following fields:
  - i. Football / Track Stadium: 360'x 160'
  - ii. Baseball Field: 330' x 380' x 330' plus batting cage area
  - iii. Softball Field: 200' x 200' x 200' plus batting cage area
- b. Sports lighting shall provide environmental light control, with the primary goal to not negatively impact the adjacent community with excessive spill light and glare. Design lighting system to provide maximum spill and glare control. The specifications shall require a photometric report from an independent or certified testing lab certifying that the luminous intensity from any one fixture does not exceed the following criteria:
  - i. Football / Track Stadium: 12,000 candelas at 84 degrees above nadir
  - ii. Baseball Field: 12,000 candelas at 83 degrees above nadir
  - iii. Softball Field: 12,000 candelas at 83 degrees above nadir

- c. Lighting system shall be designed with life cycle costs in mind. It shall be energy efficient and cost effective to operate. Maximum energy consumption based on 5,000 hour operating cycle:
  - i. Football / Track Stadium: 105.0 kWh or less
  - ii. Baseball Field: 77.0 kWh or less
  - iii. Softball Field: 33.0 kWh or less
- d. The lighting system shall be designed such that the light levels are guaranteed for a period of 25 years. Each manufacturer shall provide, along with bid, a recommended lamp maintenance schedule required to provide guaranteed light levels for 25 years:
  - i. Football / Track Stadium: 50 foot candles
  - ii. Baseball Field (Infield): 50 foot candles
  - iii. Baseball Field (Outfield): 30 foot candles
  - iv. Softball Field (Infield): 50 foot candles
  - v. Softball Field (Outfield): 30 foot candles
- e. The Design Professional shall develop detailed specifications for measuring the uniformity of these basic standards.
- f. Lighting system must be designed to comply with current applicable building codes and minimum 100 mph wind speed. Cross arms shall be designed to withstand minimum 150 mph winds and maintain luminaire aiming alignment. All components shall be designed as a system and shall include, but not be limited to:
  - g. Galvanized steel poles with climbing steps and safety harness. Poles shall have pre-cast concrete foundation with concrete backfill or concrete anchor bolt type foundation. Exposed steel shall be a minimum of 18" above grade; direct buried steel poles will not be permitted. Concrete or other single piece poles requiring use of heavy equipment that may damage the site will not be permitted.
  - h. All exposed components shall be designed of appropriate corrosion resistant materials.
  - i. Die-cast aluminum housing shall be used for luminaire reflector system.
  - j. Remote ballast, capacitors, fusing and safety disconnects for luminaries shall be located in an aluminum enclosure on each pole approximately 10' above grade.
  - k. Wire harness system shall be designed for trouble-free installation.
  - l. System shall include lightning protection.
  - m. All components shall be UL listed.
  - n. Momentary power interruption illumination system shall be provided to provide coverage during failure of primary system.
  - o. Specifications shall describe an appropriate standard for measuring compliance of the installed system and requirements for correcting non-compliance.
  - p. Include in the bid one set of replacement lamps rated at 5,000 hours or two sets if rated at 3,000 hours. Also include preventative and spot maintenance (parts and labor) for 25 years. Coordinate details of DeKalb County School District requirements for remote controls and incorporate those requirements into the specifications.

**14. Data Cabling System:** Provide Data Cabling System for computer network and equipment in accordance with the current DCSD Technology Plan. See APPENDIX to Design Guidelines – Data Cabling System.

15. **Telephone Cabling System:** DCSD will provide the telephone switch and individual phones for each required location. Construction contract shall provide telephone cabling and equipment. See APPENDIX to Design Guidelines – Telephone Cabling System.

#### 16. Detection Systems

- a. Security alarm and Security Surveillance Camera Systems will be furnished by DCSD under contracts separate from building contracts for new schools and additions. Coordination between the separate contractors will be required to maintain occupancy schedules.
- b. Designer for Security Surveillance System shall coordinate design of security systems with DCSD Director of Safety / Security.
- c. Front desk design at Elementary Schools shall allow 2 Monitors to be mounted out of view of visitors.
- d. See APPENDIX to Design Guidelines – Security System for general requirements of Security System and the specific Video Surveillance Specification prepared for each project.

#### 17. Master Television Systems

- a. Media centers shall have broadcast capabilities to provide video programming throughout the building.
- b. Provide drops in all spaces except storage mechanical, custodial and kitchen areas. Coordinate Master TV Systems with DCSD MIS.
- c. Cable TV signal shall be provided to the media center distribution center from the local cable TV vendor.
- d. Provide a complete Master Television Cable System for distribution of “In-House” and local “Cable” channels. Provide two sets of audio / video jacks on front panel for direct insertion of customer equipment. The system shall be wired to allow tuning selected “cable” channels through VCRs for recording or distribution throughout the system and direct distribution of cable channels through system demodulators. Receiver / monitors shall be furnished to provide direct monitoring of programs.
- e. A one line drawing of the entire Television System shall be included in the submittal showing the signal levels in dBmV at the input and output of each device at the head end, tap-off, splitters, and room outlets. The model numbers of all components shall be included in the one line drawing. A detailed drawing of the equipment cabinets, their components, special panels and equipment layout must be furnished for approval (no exceptions).
- f. The television Contractor shall be an authorized distributor for the equipment supplied and maintain his own service organization capable of furnishing all warranty service. A letter shall be included in the submittal stating the above is valid.
- g. The system shall be designed for 50 db signal-to-noise ratio and shall provide a signal level of a minimal of +6dbmv and a maximum of +12dbmv at each outlet.
- h. The system shall be designed to allow program originating and distribution from outlets throughout the system by the addition of proper equipment.

- i. The Design Professional shall be responsible for specifying appropriate equipment, testing and certification.
- j. Acceptable manufacturers: Blonder Tongue; Drake / Dracom; Scientific Atlanta; Jerald

18. **Fire Alarm System:** See APPENDIX to Design Guidelines – Fire Alarm System.

**19. Intercom System**

20. Proprietary PRODUCT: Central Control Center: Rauland Telecenter VoIP System

21. Intercom system shall be incorporated into the Scope of Work for all new school projects, and shall include a master clock to control bells.

22. Provide intercom call-back system with master station in administrative office and call stations in each normally occupied space. Design Professional to submit detailed catalog information to DeKalb County School District for approval.

23. See APPENDIX to Design Guidelines – Intercom System

**24. Public Address System**

a. Sound systems shall be incorporated into the Scope of Work for all new school projects. Provide public address systems at the following locations:

- i. Cafeterias
- ii. Gymnasiums
- iii. Auditoriums
- iv. Drama Labs
- v. Football Stadiums

b. Architects shall be responsible for employing qualified professionals to design and develop Construction Documents for public address systems. Design of public address systems shall be appropriate for the acoustical conditions and volume of each space.

c. Drawings and Specifications shall be submitted to DCSD Facilities Services Department; the Supervisor of Interscholastic Athletic Programs, and to the Coordinators of Health and PE, Music and Drama for review and approval.

d. Features and functions shall include:

- i. Solid state in-wall type amplifier
- ii. Built-in speakers
- iii. Microphones designed especially for music pickup, recording and excellent speech reproduction
- iv. Remote microphone outlets appropriate for the type of space
- v. Auxiliary input for future program sources
- vi. Input for school wide intercom program and system announcements
- vii. Fire alarm override if required.

25. **Delivery Door Bell:** Provide a door bell system at the exterior delivery door(s) to alert kitchen and/or custodial staff when deliveries have arrived. The appropriate location for the bell will be a function of the service area layout. The Design Professional shall propose and obtain approval for the bell location(s).

**26. Clocks**

27. Centrally controlled digital clocks and bell system shall be provided in halls, Cafeteria, Media Center, main Office, and Gym.
28. Provide electrical connection in each classroom and other instructional areas for DeKalb County School District provided electrically operated wall mounted clocks where required.