

JEFFERSON COUNTY SCHOOL DISTRICT, R-1

# **Middle School Educational Specifications**

## **2007**

Facility and Site Planning Standards for  
Grades (6), 7 - 8

### **Department of Facilities Planning and Design**

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**OVERVIEW – February 1, 2007**

Jefferson County School District, R-1 recognizes the important role of the physical environment in accomplishing our stated mission. We are committed to the principle that excellence in education is inseparable from excellence in the learning environment. These Educational Specifications are intended to support the mission by defining the physical environments necessary to deliver the instructional program.

Facilities are too expensive to be taken for granted. In 2006, the total physical plant replacement value of the Jefferson County School District, R-1 physical plant is approximately \$1.5 billion. It is the intent of these Educational Specifications to optimize capital investment through wise planning and design.

The Middle School Educational Specifications are the model standard for planning and designing new, and remodeling and modernizing existing middle schools. The Educational Specifications describe the facility and site requirements to accommodate the instructional program, activities and support functions. This document is a tool that is used to communicate basic facility design requirements and guidelines to design professionals, staff, community, and the Design Advisory Group.

The Educational Specifications establish goals and parameters for activity areas, rooms, school buildings, and site development, including:

- Amenities
- Capacities
- Configurations
- Environments
- Features
- Functions
- Materials
- Performance criteria
- Relationships
- Sizes
- Systems
- Utilities

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**BACKGROUND – February 1, 2007**

Numerous people have dedicated uncountable hours toward the development of these educational specifications. Contributors and participants have included District leadership, administrators, teachers, support personnel, staff, community members, parents, specialists, and volunteers.

These Educational Specifications are also the result of:

- Feedback from nearly \$1 billion in capital construction since 1992
- Formal and informal post-occupancy evaluations
- Ongoing conversations with Design Advisory Groups (DAG) for middle school projects included in the 2005-2010 capital improvement program
- 2001 electronic survey of all K-12 principals
- 2002 follow up facility assessment interviews with all K-12 principals
- Staff involvement with professional organizations such as the Council of Educational Facility Planners International (CEFPI), and the American Institute of Architects (AIA)
- Board of Education policies and regulations
- Developing trends in educational facility design, including classroom acoustics, daylighting, and indoor air quality

Historically, Jeffco Schools Facilities Planning and Design has maintained three separate educational specifications: Elementary, Middle, and High School. In an attempt to better address increasing varieties of instructional programs, grade configurations, and enrollment levels, the 2006 Educational Specifications are reorganized to be more flexible. The major improvements are:

- Formatting for on-line rather than hardcopy reference
- Less repetition
- Applicability to a wider variety of grade configurations and enrollments
- Applicability for phased construction
- Applicability to a wider variety of school types, including option, alternative, and charter schools

These Educational Specifications are not intended to be static. The goal is for school environments to evolve along with occupant needs, community concerns, developing educational trends, and pedagogical research. Feedback from students, teachers, parents, administrators, and community members is an essential ingredient for success. Your comments and suggestions are encouraged. Please direct them to: Peter Doherty, Executive Director, Facilities Planning and Design, 303 982-2374 or email to: pdoherty@jeffco.k12.co.us

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**APPLICATION GUIDE – February 1, 2007**

The Educational Specifications are only one portion of the Jeffco Public Schools planning, design, and construction parameters, which are intended to be used together:

- Educational Specifications
- Technical Guidelines
- Data, Communications, and Alarm Diagram (DCAD)

The 2006 and 2007 Jeffco Schools Educational Specifications are organized as follows:

- Introductory statements and overviews provide general information about the basic school types and grade configurations.
- Design criteria provide specific detailed design information for each activity space, program area, or room in the school and on the school site.
- Space Programs provide a detailed break down of room types and sizes for a given grade configuration and enrollment.

The underlying concept is that suites and rooms are elements that can be combined to form any number of school configurations and that any given school configuration has minimum requirements for specific rooms and elements.

Although drafted with new school construction in mind, educational specifications have a larger purpose. By establishing a threshold of educational adequacy, educational specifications can be a tool for evaluating adequacy and implementing equity in existing educational environments. They can be applied to assess the rooms, areas, amenities, configurations, and other physical attributes of schools of various ages to objectively evaluate existing construction and identify opportunities for future capital investment.

These Educational Specifications can be used in any number of ways:

- Evaluate a school site
- Plan and design a new school
- Plan and design a new room or suite of rooms within an existing school
- Evaluate an existing school, area, or room
- Assess, identify, and quantify capital needs at existing facilities
- Calculate the permanent student capacity of a new or existing school

These Educational Specifications do not endeavor to assign contractual obligations. The requirements of this document may be paid for by any of a number of funding sources that comprise the total project budget, e.g., the construction contract or the Furniture, Fixtures and Equipment (FF&E) budget.

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**CAPACITY – February 1, 2007**

School capacity is a critical component of educational facility planning. This can be a complex topic because there is no single formula that encompasses all of the many variables that can affect the maximum number of students appropriate for a given building and site. Consider some of the variables:

- Grade level
- Curriculum
- Class schedule
- Class size
- Student ergonomics
- Staffing

Facility Planners also need to consider physical parameters such as:

- Gross square feet (gsf) of building per student
- Net square feet (nsf) per student
- Site acreage
- Total number of classrooms
- Size of classrooms
- Utilization of classrooms
- Food service
- Cafeteria seating
- Building codes
- Federal and state regulations
- Parking spaces
- Safety and security

The Jeffco Public Schools Educational Specifications are written around specific program requirements, not general formulas such as space allocations per student.

The middle school curriculum, schedule, and building are all designed to transition students from the high structure of elementary school to the diversity and increased autonomy of high school. Each middle school is comprised of “Core Team Instructional Suites” (CTIS), each of which houses a learning community of students and teachers.

Each Core Team Instructional Suite consists of:

- 3 General Classrooms
- 1 Science Lab
- 1 Flex Classroom

Middle school students leave their CTIS classroom as a team to participate in “exploratory” (a.k.a. “elective”) curricula elsewhere in the building. Exploratory courses typically require 2

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additional teaching stations for each CTIS housed in the school building. Core areas such as Gymnasium, Stage and Flex Classrooms also serve exploratory curricula.

Overall, the middle school capacity, scheduling, and building utilization resemble the elementary school. Students spend most of their day in their designated CTIS classrooms. Exploratory learning activities and spaces correlate with the “specials” of the elementary school.

The five CTIS teaching stations each have a capacity of 20 to 30 students, resulting in a capacity range of 100 to 150 students for each CTIS.

Maximum capacities are reduced when rooms are smaller than 90% of the target 900 square feet per classroom.

Thus, the overall permanent design capacity for the middle school building is calculated from the CTIS capacity ranges as follows:

**Grade 7-8 Middle School**

| <b>CTIS Per<br/>Grade Level</b> | <b>Total CTIS</b> | <b>Exploratory<br/>(elective)<br/>Teaching<br/>Stations</b> | <b>Challenge /<br/>SLIC Suite</b> | <b>Total<br/>Teaching<br/>Stations</b> | <b>Building<br/>Capacity</b> |
|---------------------------------|-------------------|---|-----------------------------------|--|------------------------------|
| 1                               | 2                 | 6   | 1                                 | 17                                     | 200-300**                    |
| 2                               | 4                 | 7   | 1                                 | 28                                     | 300-600                      |
| 3                               | 6                 | 9   | 1                                 | 40                                     | 600-900                      |
| 4                               | 8                 | 10  | 1                                 | 51                                     | 800-1200                     |

**Grade 6-8 Middle School**

| <b>CTIS Per<br/>Grade Level</b> | <b>Total CTIS</b> | <b>Exploratory<br/>(elective)<br/>Teaching<br/>Stations</b> | <b>Challenge /<br/>SLIC Suite</b> | <b>Total<br/>Teaching<br/>Stations</b> | <b>Building<br/>Capacity</b> |
|---------------------------------|-------------------|---|-----------------------------------|--|------------------------------|
| 1                               | 3                 | 7   | 1                                 | 23                                     | 300-450                      |
| 2                               | 6                 | 9   | 1                                 | 40                                     | 450-900                      |
| 3                               | 9                 | 11  | 1                                 | 57                                     | 900-1350                     |

\*\* Due to the inefficiency and high initial cost of a building this size, the District does not anticipate constructing a school of this capacity, however, the model is included for informational purposes.

**Exploratory Teaching Stations**

- Art: 1 or 2 teaching stations
- Music: 1 or 2 teaching stations
- Family and Consumer Sciences – 1 teaching station
- Career and Technical Education: 2 or 3 teaching stations
- Physical Education: 2 teaching stations

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**CORE TEAM INSTRUCTIONAL SUITE**

**General – February 1, 2007**

- General
  1. The Core Team Instructional Suite (CTIS) is the basic unit for delivery of the middle school curriculum.
  2. The philosophy of middle school education is to create teams of teachers and students that work together to achieve academic and personal goals.
  3. The design of Core Team Instructional Suites enhances these goals by creating smaller, more personalized learning environments which support the team mission.
  4. An interdisciplinary team of four teachers provides instruction in:
    - a. Language Arts
    - b. Social Studies
    - c. Mathematics
    - d. Science
- Instructional Components
  1. Three general classrooms
  2. One flex classroom
  3. One science laboratory
- Support Components:
  1. Lab preparation storage
  2. Chemical storage
  3. Team planning/conference room
  4. Storage room
  5. Teacher restroom (unisex)
- Configuration
  1. The CTIS should be identifiable as a distinct “neighborhood” without being physically separate or isolated from the rest of the middle school.
  2. The components of the CTIS are configured to optimize interaction of students and teachers of the team in a variety of learning modes including large group, small group, and individual.
  3. Access to the Library from the CTIS is important.

**General Classroom – February 1, 2007**

- General
  1. Flexible, easily modified space accommodates individual student needs for experiential and active learning, varied instructional techniques, and small work groups, as well as for large group instruction.
  2. Rectangular in shape
  3. Optimum short side to long side ratio of 1:1.33
  4. Minimum 9’6” inch ceiling height; Higher for daylighting

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- Windows
  1. Daylighting is preferred.
  2. Blinds or other form of light control are mandatory.
  3. Minimum of one operable sash per room with screen in the lower portion of the window.
  4. Minimum sill height is 36" above finished floor.
  5. Glazed openings are mandatory in or adjacent to all classroom doors.
- Doors
  1. General classroom doors opening directly to the exterior are prohibited.
- Flooring: Carpet
- Cabinets and Casework
  1. Twelve lineal feet of base and wall cabinets
  2. One 84" high x 24" wide x 24" deep locking cabinet with adjustable shelving for instructional materials and storage
- Operable Walls
  1. Recommended between one pair of CTIS General Classrooms to provide the option of a larger single classroom or team teaching
- Equipment
  1. Whiteboards: 16 lineal feet with marker tray and tack strip with map hooks and flag bracket
  2. Tackboards: 8 lineal feet
- Plumbing: No requirements
- Lighting
  1. Control of natural and artificial lighting is required to accommodate A/V presentations.
  2. Dual level switching is preferred.
- Electrical
  1. Receptacles to support Educational Technology
  2. General purpose receptacles
- Educational Technology (new construction and major renovations only)
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Digital projector; Ceiling mount with power outlet and data/audio/video jacks.
  3. Interactive whiteboard; One per classroom, with power outlet
  4. Audio/Video jacks to connect computer/VCR/DVD with ceiling projector/TV monitor and speakers
  5. Telephone
  6. Wireless network technology is optional.

**Flex Classroom – February 1, 2007**

- General
  1. Flexible, easily modified space accommodates general instruction, small group instruction, intervention, special education, resource, or other instructional purposes.
  2. Rectangular in shape
  3. Optimum short side to long side ratio of 1:1.33
  4. Minimum 9'6" ceiling height; Higher for daylighting
- Windows: Same as General Classroom

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- Doors
  1. Two doors are required if an operable wall is provided to subdivide the space.
  2. Flex classroom doors opening directly to the exterior are prohibited.
- Flooring: No requirements
- Operable Walls
  1. Recommended to split the room into smaller units
- Equipment: Same as General Classroom
- Plumbing: No requirements
- Lighting: Same as General Classroom
- Electrical: Same as General Classroom
- Educational Technology: Same as General Classroom

**Science Laboratory – February 1, 2007**

- General
  1. Instruction encompasses lecture, discussion, multi-media, hands-on, and computerized virtual experimentation.
  2. Instruction in the Science program is built around 7 work groups of 4 students for a total optimum class size of 28.
- Safety
  1. See Jeffco Public Schools [Science Safety Guide](#), latest edition.
  2. Emergency eye wash, emergency shower, fire blanket, and cabinet may be required by CDPHE regulations.
  3. Fire extinguishers
  4. First aid kit
  5. Student goggle cabinet
- Security
  1. The value and nature of contents requires the Science area to be secure.
  2. Locking door hardware with a common key is required throughout the Science area.
- Configuration
  1. The middle school Science Lab is a general purpose lab with perimeter utilities and project work surfaces and an open area in the center of the room for student tables.
  2. Student tables can be relocated to form workstations at perimeter casework.
  3. The view angle between students and presentation surfaces is critical.
- Windows: Same as General Classroom
- Doors:
  1. Common keying is required for the science suite (classroom, prep, storage).
- Finishes
  1. Flooring: Resilient
  2. Ceiling: Acoustically treated to reduce above average sound level of laboratory activities
- Equipment
  1. Same as General Classroom
  2. Paper towel and soap dispensers at each sink
- Furnishings
  1. Student tables: 2-person 24" x 48"
  2. Demonstration table, with storage

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- Cabinets and Casework
  1. Forty to sixty lineal feet of perimeter countertop with locking base cabinets with adjustable shelf storage
  2. Chemical resistant laminate throughout
  3. Locking glass front display wall cabinets and closed shelving
  4. Locking cabinet(s) for storage of 15 microscopes and 5 binocular scopes
- Mechanical
  1. Manually controlled independent HVAC system that provides 8 to 10 air changes per hour with 100% outside air
  2. Fume hood: See Lab Prep/Storage
- Plumbing
  1. Minimum 4 chemical resistant sinks 28" long x 16" wide x 7" deep with fixed gooseneck faucet, hot and cold water
    - a. Acid dilution traps are required at all Science classroom sinks, with chemical resistant piping between the sink and dilution trap.
  2. Emergency eye wash and shower
    - a. Separate or combined
    - b. Tempering valve required for both
  3. Locate as far as possible from door and as close as possible to Prep/Storage.
  4. Floor drain
  5. Optional five (4 student plus 1 teacher) vandal resistant, duplex gas cocks with a single keyed-on pushbutton-off emergency switch at the room exit
- Electrical
  1. Electrical outlets or plugmold are required at:
    - a. Teacher station
    - b. The perimeter countertop (student work stations)
    - c. Optional: One retractable pendant receptacle in the ceiling above the general open area of the room
  2. Keyed master power control
- Lighting
  1. Same as General Classroom
  2. Under-cabinet task lighting is recommended at perimeter countertops.
- Educational Technology
  1. Same as General Classroom
  2. Eight data drops (7 student plus 1 teacher) at perimeter countertop

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**Lab Preparation / Storage – February 1, 2007**

- General
  1. Immediately adjacent to science lab classroom(s)
  2. Preferred configuration is a single “backstage” work area that permits direct teacher observation and access to multiple instructional science labs.
  3. Chemical resistant materials are mandatory throughout.
- Doors: Self-locking hardware
- Equipment
  1. Paper towel and soap dispensers at each sink
  2. Fire extinguisher/cabinet(s) per Technical Guideline 10 44 00
  3. Residential upright refrigerator with icemaker
  4. Residential electric range top; No hood
  5. Residential dishwasher
  6. Built-in or countertop residential microwave
- Shelving
  1. Eighteen inch deep, adjustable, with lip
  2. Minimum 16 linear feet of shelf per instructional lab served
- Cabinets and Casework
  1. Manufactured casework with locking doors and drawers
  2. Epoxy resin countertop
  3. Minimum 5 linear feet base and wall cabinet for each instructional lab served
  4. Locking glass front display wall cabinets and closed shelving
  5. Locking 1 cubic foot capacity storage drawers for teachers
- Mechanical
  1. Same as Science Classroom
  2. Fume hood
    - a. Common to both Science Lab and Prep/Storage
    - b. Locate remote from exits
- Plumbing
  1. One duplex gas cock with single keyed-on pushbutton-off switch at the room exit
  2. One chemical resistant sink 28” long x 16” wide x 7” deep with gooseneck faucet, hot and cold water
    - a. Acid dilution traps are required at all Science classroom sinks, with chemical resistant piping between the sink and dilution trap.
  3. Combination eye wash/emergency shower is required if the apparatus in the Science Lab is too distant to share.
    - a. Tempering valve required for both
  4. Acid neutralization and chemical resistant waste lines are not required past the p-trap.
  5. Floor drain
- Electrical: General purpose receptacles
- Lighting: Under-cabinet task lighting is recommended at perimeter countertops.
- Educational Technology
  1. See Data, Communications, and Alarm Diagram (DCAD).

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**Chemical Storage – February 1, 2007**

- General
  1. The Chemical Storage is a separate closet in the Lab Prep/Storage Area with code compliant ventilation.
  2. Chemical resistant materials are mandatory.
- Doors: Self-locking hardware
- Floor: Sealed concrete
  - a. Basin design, ramped to threshold level, is recommended
- Equipment
  1. Acid storage cabinet with integral exhaust
  2. Flammable materials cabinet with flame arrestor
- Mechanical
  1. 24/7/365 exhaust
- Electrical
  1. Receptacles are prohibited.
  2. Explosion proof luminaire(s)

**Team Planning/Conference – February 1, 2007**

- General
  1. Meeting/conference space for 6 to 8 teachers, parents and students and work space for four-teacher core team and for one teacher for educationally disabled, world language or business teacher
- Windows
  1. View lites may be provided into adjacent instructional classrooms for supervision.
- Doors
  1. View lite in or adjacent to door(s)
- Equipment
  1. Markerboard(s) with trays
  2. Tackboard(s)
- Furnishings
  1. Systems furniture (preferred)
  2. Include wardrobe cabinet
- Casework
  1. Eight lineal feet of base and wall cabinets
  2. One 84" high x 24" wide x 24" deep locking cabinet for each teacher for coats and personal items
- Educational Technology
  1. Per Data, Communications, and Alarm Diagram (DCAD)
  2. One telephone jack serves up to 4 workstations.

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**Storage - February 1, 2007**

- General
  1. Storage for classroom book sets, resource books, instructional materials and audio-visual equipment on carts
  2. Provide a combination of adjustable and fixed wall-mounted shelving.
  3. Clear wall space may be necessary for map storage brackets.
  4. Clear floor space may be necessary for large format flat file drawer storage units.

**Teacher Restroom - February 1, 2007**

- General
  1. Single accessible toilet adjacent to the planning/conference room for use by both genders. Consider door hardware that contains an “Occupied” sign when the door is locked.

END CORE TEAM INSTRUCTIONAL SUITE

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**CAREER & TECHNICAL EDUCATION (EXPLORATORY)**

**General – February 1, 2007**

- General
  1. Career & Technical Education is an integral part of the middle school educational program in Jefferson County. It correlates strongly with Art, Science, Mathematics, and Business, and supports Language Arts, Social Studies, and Family and Consumer Sciences.
  2. Because technologies and curricula are rapidly changing, the middle school Career & Technical Education Suite is less defined than other instructional areas.
  3. Career & Technical Education instruction emphasizes self-directed, hands-on learning, but also includes lecture, discussion, small group, independent, and virtual activities.
  4. Career & Technical Education curriculum ranges from conventional wood shop fabrication to audio/video production and broadcast, and can include units on optics, fiber optics, laser, electricity, electronics, energy/power mechanics, applied physics, flight, rocketry and space technology, transportation, robotics and automation, business, desk top publishing, digital imagery, communications and marketing graphics, model making, product research and development.
  5. The design challenge is to accommodate these diverse activities into a minimum number of spaces that are typically staffed by a single teacher.
  6. The Design Advisory Group (DAG) is expected to collaborate with District instructional support staff to develop physical facilities that will support the most current visions for the instruction and applications of middle school technology.
  7. After hours use can be anticipated for some Career & Technical Education activities.
- Instructional components of the Career & Technical Education suite should be considered as activity areas more than dedicated spaces. Any number of activity space combinations can be configured into a viable design:
  1. Career & Technical Education/Multipurpose Lab for combined physical and virtual experimentation and research, small scale modeling, design, and various computer-related projects
  2. Fabrication/Wood Shop for manufacturing and assembly of large scale prototypes
  3. Multimedia Studio for audio/video production and broadcast
  4. Business Computer Lab for formal computer instruction, keyboarding, and independent learning
- Support components
  1. Storage for each instructional space
  2. Career & Technical Education Office
- Safety
  1. Depending upon curriculum and proposed program activities, safety items such as emergency eye wash, emergency shower, fire blanket, and cabinet may be required by CDPHE regulations.
  2. Safety goggle cabinet may be required.
- Configuration
  1. The view angle between students and presentation surfaces is critical.

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- Doors
  1. To accommodate equipment and projects, at least one 48 inch or wider door opening is required in each space to interconnect the entire Career & Technical Education suite with a delivery area or the building exterior.
  2. The value and nature of contents requires the Career & Technical Education area to be secure.
  3. View lites are required in or adjacent to all doors except storage.
  4. Common keying is required throughout the Career & Technical Education suite.
- Windows
  1. Except for the Fabrication/Wood Shop, exterior windows generally conflict with most Career & Technical Education activities and increase security concerns and are therefore not recommended.
  2. Generous glazed openings within the Career & Technical Education suite are required for visual supervision of instructional spaces, particularly from the Career & Technical Education Office.
- HVAC
  1. Equipment and workstation loads need to be addressed.
- Electrical
  1. Adequate electrical power is critical to the Career & Technical Education program.
  2. Continuous plugmold or receptacles spaced at 24 to 48 inch intervals are required at countertops and work surfaces.
  3. Overhead pendant receptacles and/or power poles are required so that no point in any instructional area is more than 6 feet from 120V power.
  4. 208V and 240V power should not be necessary.
  5. Generous spare capacity is strongly recommended.
  6. Separate master control switches are mandatory in each instructional space for:
    - a. Power tools and fabrication equipment
    - b. Computer monitors
    - c. CPU
- Lighting
  1. Under-cabinet task lighting is recommended at perimeter work surfaces.

**Career & Technical Education/Multipurpose Lab – February 1, 2007**

- General
  1. The Career & Technical Education Lab is a hybrid computer/fabrication lab, equipped with computers and multi-use workstations to serve 28 to 32 students in groups of 4.
  2. Width: 30 feet minimum, with 1:1 ratio of width to length (square plan)
- Configuration
  1. Option A: Open plan for maximum flexibility
  2. Option B: Fixed workstations
- Ceiling
  1. Unfinished
  2. Height: 10'-0" to 12'-0" preferred
- Flooring
  1. Resilient

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- Casework
  1. Fixed or modular project work stations and/or wall and base cabinets in one of five configurations:
    - a. Perimeter
    - b. Peninsula
    - c. Island
    - d. Flex
    - e. Combination
- Equipment
  1. Whiteboards; minimum 16 lineal feet with marker tray and tack strip with map hooks and flag bracket
  2. Tackboards: minimum 8 lineal feet
- Plumbing
  1. Optional: Utility sink with gooseneck faucet; Hot and cold water
- Electrical
- Lighting
  1. Dual level
  2. Glare control
- Educational Technology (new construction and major renovations only)
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Digital projector; Ceiling mount with power outlet and data/audio/video/jacks.
  3. Interactive whiteboard; One per classroom, with power outlet
  4. Audio/Video jacks to connect computer/VCR/DVD with ceiling projector/TV monitor and speakers
  5. Telephone
  6. Wireless network technology is optional.

**Fabrication/Wood Shop – February 1, 2007**

- General
  1. The Fabrication/Wood Shop is an industrial type area with perimeter countertop/work bench for table tools and standing and/or sitting activities.
- Windows
  1. Daylighting is recommended.
- Ceiling
  1. Unfinished
  2. Height: 10'-0" to 12'-0" preferred
- Flooring: Sealed concrete
- Casework: Minimal
  1. Countertop/work bench without base cabinets
- Furnishings
- Equipment
  1. Whiteboards: minimum 16 lineal feet with marker tray and tack strip with map hooks and flag bracket
  2. Tackboards: minimum 8 lineal feet
  3. General carpentry tools and hand held power tools.

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4. The trend is away from heavy industrial floor mounted equipment such as table saws;  
If provided, such equipment is for instructor use only.
5. Safety goggle cabinet
- HVAC
  1. Dust collection system
  2. Spray booth optional
- Plumbing
  1. Deep bowl utility sink with gooseneck fitting; Hot and cold water.
  2. Hose bibb
  3. Drinking fountain
  4. Floor drain
- Lighting
  1. Fluorescent lighting may produce a hazardous strobe effect with motor driven equipment.
- Educational Technology (new construction and major renovations only)
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data drops
  3. Telephone
  4. Wireless network technology is optional.

**Multimedia Studio and Production Center – February 1, 2007**

- General
  1. Although primarily intended for student use, multimedia curriculum and associated activities interface with many other middle school programs, creating opportunities for design creativity. Proximity or shared amenities are particularly encouraged among Career & Technical Education, Art, and LIC.
  2. The multimedia studio can be either a small room or corner of a larger room separated by operable walls or curtains.
  3. Requires a closet with locking door adequate to house props and equipment.
  4. No natural light
- Ceiling
  1. Height sufficient for ceiling hung spotlights; 9’-6” recommended
  2. Unistrut substructure is recommended.
- Flooring: No requirements
- Furnishings: No requirements
- Equipment
  1. Whiteboard with marker tray and tack strip
  2. Audio and video recording, mixing, and playback apparatus (FFE Budget)
  3. TV monitor and/or digital projector
  4. Computer workstation(s)
  5. Printer(s)
  6. Scanner(s)
  7. Digital and video cameras
  8. Digital video editors
- Casework (optional)
  1. Sixteen linear feet of base and wall cabinet

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- HVAC: Design to address
  1. Acoustical issues
  2. Additional equipment loads
- Electrical
  1. Power and data drops for operation of cameras, production lighting, for computer workstations and itemized equipment.
- Lighting
  1. Multiple lighting modes and controls including fluorescent, dimmable incandescent, theatrical, photographic, and portable
  2. Dual level lighting is required to provide both 50 and 20-foot candles.
  3. Provide one track of 8 feet length with 3 adjustable spotlights on a separate circuit with switch.
- Educational Technology (new construction and major renovations only)
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Audio/Video jacks to interconnect camera, microphone, amplifier, mixers, computers, VCR, DVD, projector, TV monitor, speakers, etc.
  3. Data drops for itemized equipment
  4. Two video runs, one for all school broadcasting and one auxiliary (CATV or other connection)

**Business Computer Lab – February 1, 2007**

- General
  1. The Business Computer Lab is for interactive technology instruction equipped with 28 to 32 desktop, laptop, or notebook computer workstations and instruction.
  2. The space will be used primarily for business computer applications instruction.
    - a. General business instruction takes place in the flex classroom of the Core Team Instructional Suite (CTIS).
  3. Option: Multi-curriculum, multimedia, interactive learning theater
- Configuration
  1. Option A: Perimeter workstations
  2. Option B: Fixed rows
  3. Option C: Mobile carts, desks
  4. Option D: Other
  5. Permanent tiers are prohibited.
- Ceiling: No requirements
- Flooring: Carpet
- Casework: No requirements
- Furnishings: No requirements
- Equipment: No requirements
- Lighting
  1. Dual level
  2. Glare control

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- Educational Technology (new construction and major renovations only)
  1. This can be the “high tech” showpiece of the building and should include the latest instructional, presentation, and learning technologies.
  2. See Data, Communications, and Alarm Diagram (DCAD).
  3. Digital projector; Ceiling mount with power outlet and data/audio/video jacks
  4. Interactive whiteboard with power outlet
  5. Audio/Video jacks to connect computer/VCR/DVD with ceiling projector/TV monitor and speakers
  6. Telephone
  7. Wireless network technology enhances flexibility.

**Career & Technical Education Storage – February 1, 2007**

- General
  1. Each instructional area in the Career & Technical Education suite requires a dedicated secure storage room for program-specific instructional materials, supplies, tools, equipment, media, and student projects.
- Flooring: Same as the related instructional area
- Furnishings
  1. Provide a combination of adjustable and fixed wall-mounted shelving and racks.
  2. File cabinets, equipment cabinets
- Casework: No requirements

**Career & Technical Education Office – February 1, 2007**

- General
  1. Office space for no more than 2 teachers
- Windows
  1. View lites for visual supervision of adjacent instructional areas
- Flooring: Resilient
- Equipment
  1. Whiteboard with tray and tack strip
- Casework: Optional
- Furnishings
  1. Modular systems furniture (preferred)
  2. Include wardrobe cabinet
  3. Bookcase unit or shelves for reference books and catalogs
  4. File cabinet
- Educational Technology
  1. One telephone jack and data drop

**END CAREER & TECHNICAL EDUCATION**

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**FAMILY AND CONSUMER SCIENCES (FACS)**

**General - February 1, 2007**

- FACS instruction is multi-functional, including traditional classroom instruction, demonstration, small group, and individual hands-on activities.
- Location
  1. Vehicle access to facilitate grocery delivery
  2. Kitchen activities are associated with the Student Store and Commons.
  3. Other FACS activities interrelate with Art and Technology.
  4. Proximity to Food Services kitchen is recommended.
  5. Direct access to exterior is preferred.
- Components
  1. FACS Lab
  2. Pantry/Storage/Laundry
  3. FACS Office
- Safety
  1. Depending upon curriculum and proposed program activities, safety items such as emergency eye wash, emergency shower, fire blanket, and cabinet may be required by CDPHE regulations.

**FACS Lab – February 1, 2007**

- General
  1. Curriculum includes domestic and commercial food preparation, catering, nutrition, hospitality, management, clothing/fashion design, sewing, interior design, family and child studies, career orientation, and consumer skills.
  2. The school's preparation/serving kitchen is also used for instructional purposes in the FACS curriculum.
  3. Successful model of this suite can be found at Carle Middle School.
- Configuration:
  1. Elongated rectangle with open instruction/project area at one end and kitchens at the other
- Open Instruction/Project Area
  1. Open classroom area at one end of the space
  2. Unobstructed open space for 7 student/food service tables and 30 chairs
- Demonstration kitchen
  1. Fixed or mobile island demonstration table with ceiling mounted tilting mirror or video camera/projector
  2. Adequate space is required for students to participate in demonstrations.
- Student kitchens
  1. Six "U" or "L" configured kitchen lab stations at perimeter walls serve 24 to 28 students.
  2. Tables for student use can be moved into place at each kitchen unit to divide the unit and supplement available counter space.

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- Specialties
  1. Whiteboard(s)
  2. Tackboard(s)
  3. Optional: Portable risers for individual desks
  4. Triple mirror, shelf and rod at fitting room
  5. Two built-in ironing boards at ironing area
- Equipment
  1. Residential electric cooktop and wall oven at demonstration area
  2. Thirty inch residential electric range and oven at student kitchens
  3. Three or four residential refrigerator/freezers with icemakers serve all kitchens
  4. Microwave oven at demonstration and each student kitchen
  5. Dishwasher at demonstration area only
- Furniture and Equipment
  1. Dining room tables and chairs
  2. Large worktables; no individual desks
  3. Mirrors – triple
  4. Teacher table or desk
  5. One rectangular table per 4 students – minimum work surface
  6. One worktable, extra – minimum work surface
  7. Sewing machine heads (2 for each 3 students)
- Casework
  1. Nine lineal feet of base cabinet and counter at demo and each lab
  2. Wall and peninsula cabinets
  3. Perimeter counters for sitting/standing activities, including sewing
- HVAC
  1. Range hood above each range
    - a. Recirculation type with carbon filter, 2-speed fan
  2. Downdraft exhaust required at demonstration area.
    - a. Include separate, roof mounted exhaust fan interlocked with the operation of the internal cooktop integral exhaust fan.
- Plumbing
  1. Three-compartment residential sink at demonstration area and 2-compartment at each lab, all with garbage disposals
  2. General purpose residential sink with hot and cold water and bubbler
- Electrical
  1. Minimum 4 receptacles at each student kitchen and demonstration kitchen
- Lighting
  1. Control of natural and artificial lighting is required to accommodate A/V presentations. Dual level switching is preferred.
  2. Under-cabinet task lighting is recommended at perimeter countertops.
  3. Color correct lighting is recommended.
- Educational Technology
  1. Digital video and display may supplement or replace the demonstration mirror.
  2. Laptop computers or workstations on carts are integral to the curriculum.

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**Pantry/Storage/Laundry – February 1, 2007**

- General
  1. FACS storage can be a dedicated central room, large closets, casework, shelving, or combination.
  2. The laundry area is typically separated from storage.
- General Storage
  1. Sewing machines
  2. Large equipment for child development curriculum
  3. Fabric, carpet, and wallpaper sample books for housing and interior design classes
  4. Ironing apparatus
  5. Illustrative materials – child development models, posters, etc.
  6. Tote-tray; 1 per student @ 14" x 20"
  7. Projects
  8. Books, magazines, and instructional media
  9. Ventilating fans
  10. Utility cart(s)
- Foods Lab Storage
  1. Countertop appliances
  2. Dishes for place settings - service for 7 classroom sets
  3. Tableware (silver) - service for 7 classroom sets
  4. Glassware - service for 7 classroom sets
  5. Serving dishes
  6. Small appliances - can opener, mixer
  7. Cookware - for 7 classroom sets
  8. Staple groceries and supplies
  9. Mixing and measuring equipment
  10. Linens, including tablecloths, towels, placemats, aprons
- Equipment:
  1. Residential washer and dryer
- Casework
  1. Base and wall cabinets at laundry area

**FACS Office – February 1, 2007**

- General
  1. Office space for no more than 2 teachers
- Windows
  1. View lites for visual supervision of adjacent instructional areas
- Flooring:
  1. Resilient or carpet
- Equipment
  1. Whiteboard with tray and tack strip
- Casework: Optional

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- Furnishings
  1. Modular systems furniture (preferred)
  2. Include wardrobe cabinet
  3. Bookcase unit or shelves for reference books and catalogues
  4. File cabinet
- Educational Technology
  1. One telephone jack and data drop

END FAMILY AND CONSUMER SCIENCES

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**MUSIC**

**General - February 1, 2007**

- The Music curriculum engages students in a wide range of classroom activities that include performing, singing, composing, listening, viewing, demonstrating, reading, moving, and writing.
- The music program also provides students with opportunities to participate in concerts, exchange assemblies, solo and ensemble work.
- Instruction is by means of musical instruments, audio-visual equipment, films, video, audio CDs, tapes, books, and sheet music.
- The majority of regular class periods are spent in large group instruction.
- Vocal and instrumental class sizes range from 20 to 150 students.
- The vocal and instrumental music instructional programs are integrated and therefore, contiguous.
- Openings
  1. Large instruments require extra-width doors or pairs of doors without a mullion
  2. Door widths should be of sufficient size to allow passage of a piano from vocal and instrumental music rooms to performance area.
- The interior finishes for the music program are less important than functional area, volume, and acoustical performance of the spaces.
- Flooring: No requirements. Carpet and resilient flooring each have advantages.
- All components required for specified acoustical performance, including items such as draperies, are required to be included in the general construction contract.

**Vocal Music – February 1, 2007**

- General
  1. Risers are positioned at the rear of the room in order for sound mixing to take place in front of the vocalists and for movement and choreography rehearsal.
  2. Space is required to store risers when not in use.
  3. A piano is typically placed in front of the vocalists.
- Acoustics
  1. Vocal music is an acoustically controlled and isolated space.
  2. Acoustical treatment is required to optimize audibility and eliminate dead spots.
  3. Comply with OSHA guidelines regarding prolonged staff exposure to high dB levels.
  4. Lower frequency absorption/dispersion materials are required.
  5. The instructor must be able to hear the individual and the balance within the vocal or instrumental ensemble.
  6. Avoid reflective parallel surfaces
  7. Ceiling treatment should alternate reflective and absorbent surfaces.
  8. Design and construction features should maximize acoustical isolation of music activities from surrounding areas.
  9. Minimum ceiling height: 16 feet
- Doors
  1. Doors opening directly to the exterior are prohibited.

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- Floor
  1. Level
  2. Built-in risers are prohibited.
  3. Modular risers are optional; provide adequate storage area.
- Openings
  1. Exterior openings should be minimized or avoided for acoustical reasons.
  2. Drapes or blinds are required at existing exterior windows.
- Equipment
  1. Whiteboard with tray: 16 lineal feet, half with music staff lines
  2. Tackboard or strip
  3. Wall-mounted flag bracket
  4. Pull down projection screen
- Casework
  1. Thirty inch deep cabinet for sound system
- Plumbing
  1. One general purpose, stainless steel sink.
  2. Gooseneck, single lever faucet with hot and cold water
  3. A bubbler drinking fountain attachment
- HVAC and Controls
  1. Ventilation should be proportional to high levels of physical exertion involved with the activities of the program.
  2. Ambient sound of the heating, cooling and ventilating system should not exceed a preferred noise criterion (PNC) of 25.
- Electrical
  1. Receptacles to support Educational Technology
  2. General purpose receptacles
- Lighting
  1. Control of natural and artificial lighting is required to accommodate A/V presentations. Dual level switching is preferred.
  2. Minimum 50 foot-candles maintained at low level
  3. High level of 100 foot-candles maintained
- Educational Technology (new construction and major renovations only)
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Digital projector; Ceiling mount with power outlet and data/audio/video jacks
  3. Interactive whiteboard; One per classroom with power outlet
  4. Audio/Video jacks to connect computer/VCR/DVD with ceiling projector/TV monitor and speakers
  5. Telephone
  6. Wireless network technology is optional.
  7. Component audio system with built-in speakers for recording and playback
- Illumination issues
  1. Legibility of sheet music due to lack of uniformity in music manuscript, inks, paper, music symbol sizes, and printing methods
  2. Wide variety of seating and standing arrangements change the angle of view from students to teacher.
  3. Different relationships of students to ceiling light sources when risers are used versus students standing at floor level

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- Electrical
  1. Learning from recorded music is a part of the teaching program.
  2. The instructional program requires a self-contained component stereo system including tuner, amplifier, microphones, built-in speakers, and input jacks to connect portable components.
  3. Outlets are required for a variety of audio-visual technologies, recording equipment, and electric instruments.
    - a. Minimum of 5 quadplex outlets, each on a dedicated 20-amp circuit
    - b. One duplex outlet for sound system
- Educational Technology
  1. Data outlet at each quadplex outlet

**Instrumental Music – February 1, 2007**

- General
  1. Criteria for the Vocal Music room apply equally to Instrumental Music.
  2. Large instruments, such as pianos, are typically stored in the rear of the Instrumental Music Room.

**Practice Rooms – February 1, 2007**

- General
  1. Sound isolated enclosures of multiple sizes to be occupied by an instructor plus 1 to 6 students with instruments
  2. Prefabricated/modular units are permitted.
- Openings
  1. Sound isolation hardware and view lite are mandatory

**Music Office – February 1, 2007**

- General
  1. Office space for no more than 2 teachers
- Windows
  1. View lites for visual supervision of adjacent instructional areas
- Flooring: Resilient or carpet
- Equipment
  1. Whiteboard with tray and tack strip
- Casework: Optional
- Furnishings
  1. Modular systems furniture (preferred)
  2. Include wardrobe cabinet
  3. Bookcase unit or shelves for reference books and catalogues
  4. File cabinet
- Educational Technology
  1. One telephone jack

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**Music Storage - February 1, 2007**

- General
  1. Two to six 4-drawer file cabinets or casework for files, sheet music
  2. Instrument storage for at least 100 instruments of varying sizes. Pupil traffic patterns should be considered in locating the storage cabinets and the doors on the cabinets. Shelving for storage of instruments should have a metal edge.
  3. Miscellaneous storage is required for sheet music, tapes, records, compact discs and reference books.
  4. Storage cabinets with locks 42" maximum depth by 62" wide by 84" high with doors that open not wider than 90 degrees
  5. Shelving within cabinets should have a protective edge to avoid damage from instrument cases.
  6. Provide adequate storage and shelving to accommodate 100-9 inch by 11-1/2 inch music folios, guitars, sheet music, books, records and tapes, and general storage.
  7. Option: High density rolling shelving
  8. Music storage is typically distributed throughout the Music Suite.

END MUSIC

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**ART**

**General – February 1, 2007**

- General
  1. The middle school art program emphasizes hands-on learning, but also includes lecture, discussion, small group, and independent activities.
  2. Studio instruction is provided in drawing, painting, printmaking, ceramics, sculpture, jewelry design and fabrication.
  3. Digital multimedia arts are performed in conjunction with Career and Technical Education.
  4. Art activities relate to most other school programs, particularly Career and Technical Education and Drama.
  5. Locate Art areas with access for delivery of supplies, materials, and projects.
  6. Display of student work is an important aspect of the Art program.
  7. Art activities may occur from either a seated or standing position, depending upon the activity.
  8. The design challenge is to accommodate these diverse activities into a functional and safe multipurpose studio for up to 32 students that is typically staffed by a single teacher.
  9. Carle, Dunstan, and Falcon Bluffs Middle Schools are considered to be models for Middle school Art suite configuration in Jefferson County Public Schools.
- Instructional components of the Art suite should be considered as activity areas more than dedicated spaces. Any number of activity space combinations can be configured into a viable design:
  1. 2D Studio
  2. 3D Studio
  3. Jewelry
  4. Resource Area
- Support components
  1. Kiln/Storage
  2. Art Storage
  3. Art Office
- Adjacencies
  1. Zoning of the studio spaces is desirable, for separation of wet and dry activity areas.
  2. A shared graphics computer lab is desirable.
    - a. May be shared by Career and Technical Education and Art, or by Art and LIC.
  3. Access to outdoors, for an art patio and loading/unloading of materials
    - a. Main level, ground floor is preferable.
  4. Location near other classrooms housing noise producing activities is desirable.
- Safety
  1. Safety items such as emergency eye wash(es), emergency shower(s), fire blanket(s), and cabinet(s) may be required by CDPHE regulations and ANSI.
  2. Fire extinguishers
  3. First aid kit
  4. Master emergency shut off control switch(es) are mandatory for:
    - a. Gas
    - b. Kiln(s)

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- c. Power tools and equipment
- 5. Safety signage appropriate to each activity area and as required by code
- Acoustics
  1. Noise generating apparatus and workshop activities require acoustical wall and ceiling treatments to control both internal noise levels and sound transmission to adjacent spaces.
- Flooring: Resilient or sealed concrete
- Walls
  1. High performance coating on durable substrate
  2. Peg board is recommended above permanent perimeter work surfaces
  3. Acoustical treatment as required
- Ceiling
  1. Sound attenuation is required.
- Doors: Lockable doors throughout, including doors from storage rooms and support areas
- Display
  1. Tackboard or tackable surface on one entire wall; 32 square feet minimum
  2. Unistrut display structure at ceiling for hanging mobiles and three-dimensional sculptures; 20 feet square
  3. Display Case
    - a. 48"W x 6"D x 48"H
    - b. Visibility from both Art suite and corridor
    - c. Lockable
    - d. Adjustable glass shelves
    - e. Lighted
- Cabinets and Casework
  1. Ten 48"W x 36"D x 36"H base cabinets with drawers, with 36" deep countertop
  2. One damp box storage:
    - a. Adjustable shelves and pans for wet clay projects
    - b. 48"W x 84"H x 24"D
  3. Four tall storage cabinets with adjustable shelves each
    - a. Three, 48"W x 84"H x 20"D with 8 adjustable horizontal shelves
    - b. One, 48"W x 84"H x 20"D, with vertical slotted storage
    - c. May be in Studio area or entry alcove
  4. All cabinets lockable
- Equipment
  1. Eight to 16 lineal feet of whiteboard with marker trays, tack strip with map hooks, and flag bracket
  2. Paper towel and soap dispensers at each sink
  3. Computer workstations (5-6) at resource area
    - a. Unless a shared computer lab is readily available
- Furnishings
  1. Work tables
    - a. Heavy duty
    - b. Four feet square
    - c. For attachment of vises, bench plates, rolling mills, squaring shear, etc.
    - d. Size and total number is determined by room size and need
  2. Individual student storage, lockable with padlocks
    - a. May be metal locker bases under work tables

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- b. Perimeter storage may allow greater flexibility
- 3. Teacher demonstration table
  - a. Movable table is desirable.
- Mechanical
  - 1. Equipment and workstation loads need to be addressed.
  - 2. Follow Guidelines outlined in ACGIH for all ventilation, hoods, and air intake mechanisms.
- Plumbing
  - 1. Double compartment stainless steel sinks (2)
    - a. 96”L x 24”W, overall
    - b. Two basins: 24”L x 21”W x 12”
    - c. Drain boards at each end: 24” x 24”
    - d. Backsplash: 12”H
    - e. Fittings: Swing spout with tamper proof aerator
    - f. Hot and cold water
  - 2. Clay traps with sieve at all waste lines
  - 3. Floor drain
    - a. Trench type; 12”W x 12’-0”L with grate cover at clay area
  - 4. Natural gas manifold for wood burning and other low temperature activities
- Electrical
  - 1. Adequate electrical power is critical to the Art program.
    - a. Mobile equipment will be brought into the space to support educational program.
      - (1) Equipment may include:
        - (a) TV / Monitor
        - (b) VCR
        - (c) Overhead Projector
        - (d) Slide Projector
        - (e) AV Cart
  - 2. Coordinate specific electrical requirements and locations for each equipment item identified.
  - 3. Continuous plugmold or receptacles spaced at 24 to 36 inch intervals are required at countertops and work surfaces.
  - 4. Overhead pendant receptacles and/or power poles are required at electric potter’s wheels, throwing area, glaze area, and jewelry work stations.
  - 5. 208/240V power is required for kiln(s).
  - 6. Ground fault protection is required throughout the Art suite.
- Lighting
  - 1. Natural north light is preferred in the Art suite.
  - 2. Color correct artificial lighting is required throughout the Art suite.
  - 3. Control of natural and artificial lighting is required to accommodate A/V presentations
    - a. Dual level switching is preferred.
  - 4. Task lighting is recommended for work surfaces below wall cabinets.
  - 5. Hanging, adjustable and dimming track type color-correct lighting is required at:
    - a. Tackboards
    - b. Unistrut supported track lighting
      - (1) Ensure current NEC requirements are addressed concerning track lighting circuit designs.

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- (2) Limit track lighting lengths per budget and program requirements.
- (3) Verify placement of track lights with work tables.
- (4) Verify suspension height to allow appropriate lighting of drawing subjects (for drawing with shadows)
  - c. Display wall(s)
  - d. Display case (if not integral)
- Educational Technology: Per General Classroom

**2D Studio Area – February 1, 2007**

- General
  - 1. Instructional studio space for drawing, painting, multi-media, digital photography, and printmaking
- Equipment (countertop)
  - 1. Print and/or etching press
  - 2. Scanner(s)
  - 3. Printer(s)
  - 4. Mat cutter
  - 5. Paper cutter
  - 6. Drying rack
  - 7. Drawing boards (table top sketch boards)
  - 8. Drawing light box
  - 9. Handheld hairdryers
- Storage for multiple small items, see Art Storage section
- Mechanical
  - 1. Exhaust fan and hood over printmaking station

**3-D Studio Area – February 1, 2007**

- General
  - 1. Instructional studio space for ceramics, fiber arts, architecture, and sculpture
  - 2. Control of dirt and dust residue from clay and plaster activities is critical.
  - 3. Glaze mixing activities may occur within the studio, Kiln Room, or Storage Area.
- Equipment
  - 1. Sculpture and wedging board or station
    - a. Island or wall model
    - b. Dimensions: 22" x 14" x 14"
    - c. Standard cabinet height (concrete slab top)
  - 2. Clay container
    - a. +20 gallon capacity, Rubbermaid
  - 3. Clay cutter
  - 4. Pug mill is not required for the Middle School art program.
  - 5. Slab roller
    - a. Dimensions: 28" x 4'-5"
    - b. Leg set required
  - 6. Electric potter's wheels (4-5)
  - 7. Tabletop looms
  - 8. Wax melting pots

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9. Electric handy pan
10. Storage for multiple small items, see Art Storage section
- Mechanical
  1. Industrial type, dedicated ventilation system to remove fumes and dust particles from the air
  2. Follow Guidelines outlined in ACGIH for all ventilation, hoods, and air intake mechanisms.

**Jewelry Area – November 15, 2007**

- General
  1. Instructional work space for jewelry fabrication
  2. Jewelry making involves industrial-type activities, including welding.
- Solder Stations (1 to 4)
  1. 30” square torch compartments with fireproof surfaces and 30” tall side safety dividers
  2. Height for standing occupants
- Cabinets and Casework
- Equipment
  1. Heavy duty buffer/grinder and sander
  2. Buffer/grinder safety shield
    - a. 48” x 48” x ¼” Plexiglas
    - b. Hang 2 feet behind wheel
  3. Belt sander
  4. Band saw
  5. Flexible shaft grinder(s)
  6. Assortment of hand tools, such as pliers, vises, drills, hammers, saws, and files
  7. Toaster oven
  8. Pasta machine
  9. Hand drill
  10. Electric pickler and tongs (3-4)
  11. Burn out kiln (countertop)
  12. Glass fusing kiln (countertop)
- Manifold System
  1. Acetylene to solder stations
    - a. Freestanding tanks must have appropriate restraints to prevent tipping
  2. Gas torches
  3. Compressed air connections for air brush and spray booth
  4. Utility layout is critical to prevent accidental flame to hose crossover.
  5. Gas pipes should run under the front of solder stations.
- Mechanical
  1. Slot hood ventilation and dedicated exhaust at solder stations
  2. Exhaust system at buffer/grinder for removal of particulates
    - a. Interlock of grinder to exhaust system
    - b. Automatic from current switch sensing grinder current to activate exhaust system

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**Kiln / Storage Room – February 1, 2007**

- General
  1. Dedicated room adjacent to 3D area
  2. Space is required for ten gallon glaze buckets and clay carts
  3. Clearances per code and as recommended by kiln manufacturer
- Door
  1. Dutch door with shelf is preferred between Kiln/Storage Room and Studio.
- Finishes
  1. Minimal
- Cabinets and Casework
  1. Glaze formulation counter or table
    - a. With dry chemical bins
- Furnishings and Equipment
  1. Electric Kiln, per District Art standards
    - a. Skutt Kiln Master, Model #1027, with EnviroVent
  2. Kiln shelf cart
    - a. 36”W x 24”D x 84”H
    - b. Adjustable, metal shelves
  3. Greenware cart
    - a. 36”W x 24”D x 84”H
    - b. Adjustable, metal shelves
  4. Flammable materials storage cabinet
- Mechanical and Electrical
  1. 208/240V power is required for kilns.
    - a. Verify and coordinate with electrical service provided to site.
  2. Dedicated exhaust system, per ACGIH Guidelines
  3. See Technical Guidelines Division 11 and Data, Communications, and Alarm Diagram (DCAD).

**Resource Area – February 1, 2007**

- General
  1. Open shelving for books, multimedia, and reference materials
  2. Area is part of the general Studio Area.

**Art Storage – February 1, 2007**

- General
  1. Separate room for secure storage of materials
- Doors
  1. Lockable
- Cabinets and Casework
  1. Open adjustable shelving (3): 36”W x 84”H x 24”D
  2. Open adjustable shelving (4): 36”W x 84” H x 42”D
  3. Vertical slotted storage for poster board
  4. Base and wall cabinets: 16 lineal feet

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

**Art Office – February 1, 2007**

- General
  1. Office space for no more than 2 teachers
- Windows
  1. View lites for visual supervision of adjacent instructional areas
- Flooring: Resilient
- Equipment:
  1. Whiteboard with tray and tack strip
- Casework: Optional
  1. Locking wardrobe cabinet (1): 24”W x 24”D x 84”H
- Furnishings
  1. Modular systems furniture (preferred)
  2. Include wardrobe cabinet
  3. Bookcase unit or shelves for reference books and catalogs
  4. File cabinet
- Telecommunications
  1. One telephone jack
  2. Data Drop

END ART

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

**SPECIAL EDUCATION AND RELATED SERVICES**

**General - February 1, 2007**

- General
  1. The standard Special Education program is provided in the flex classroom of the typical Core Team Instruction Suite (CTIS).
    - a. Students are “pulled-out” of their regular classroom for one-on-one or small group instruction.
    - b. Staff usually travels between sites on a weekly or daily basis and is at a particular school only part time to provide this program.
  2. Center schools have additional space for the Challenge and/or SLIC program students.
    - a. These students have severe physical, mental and/or emotional disabilities.
    - b. They are not “pull-out” students and spend the majority of their day in the Challenge suite.
  3. Beginning in 2007, all middle schools are to be designed and constructed as “center schools” to accommodate the various Challenge, SIED, SLIC or PC/CC/CAC programs currently provided by the district. More extensive special education will be provided for students with more severe physical and/or mental disabilities.
  4. Locate the Challenge suite to be convenient to both instructional and administrative areas.
  5. A direct accessible entrance from the outside is desirable but not required.
  6. Should be located on the ground floor.
  7. Gifted and Talented (GT) student programs are provided in standard classrooms of the CTIS.
  8. Ralston Valley High School’s Challenge/SLIC suite is considered to be the model for Special Education facilities.
  9. Definitions
    - a. Challenge (CHAL) – various programs for students with physical and/or mental disabilities
    - b. CHAL (ASD) – Autistic Spectrum Disorder
    - c. CHAL (CB) – Communication and Behavior
    - d. CHAL (DEV) – Developmental
    - e. CHAL (S/P) – Severe / Profound
    - f. DDSB - Developmentally Delayed Significant Behavior
    - g. D/HD – Deaf/Hearing Disabled
    - h. EH – (Students who are) Educationally Handicapped
    - i. ELL – English Language Learners
    - j. ESL – English as a Second Language
    - k. GT – Gifted and Talented Students
    - l. IB – International Baccalaureate
    - m. PC/CC/CAC – Perceptual Communication/Communication Center/Communication Academic Cognitive
    - n. SERS – Special Education and Related Services
    - o. SIED – (Students with) Significantly Identifiable Emotional Disorders
    - p. SLIC – (Students with) Significantly Limited Intellectual Capacity
    - q. TE – Twice Exceptional

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

**Challenge/SLIC Classroom – February 29, 2008**

- General
  1. Multi-use general classroom for 12 to 15 students
- Flooring
  1. Carpet
  2. Resilient flooring at casework
- Equipment
  1. Whiteboards:
    - a. 16 lineal feet with marker tray
    - b. Tack strip with map hooks and flag bracket
    - c. School may opt for “Smartboard” as portion of required length of board
  2. Tackboards:
    - a. 8 lineal feet
  3. Countertop microwave oven
  4. Full size refrigerator (icemaker optional)
  5. Range with recirculating vent hood
  6. Residential washer/dryer
    - a. Stackable if ADA compliant
      - (1) Located in Accessible restroom
      - (2) For staff use only
  7. Residential dishwasher (optional)
    - a. If school does not install a dishwasher during construction, provide a 24” base cabinet adjacent to the sink to allow for future installation.
  8. Kitchen configuration
    - a. L shape preferred
    - b. Appliances spaced apart for teaching multiple small groups simultaneously
- Cabinets and Casework
  1. Twelve lineal feet base cabinet with countertop
  2. Twelve lineal feet wall cabinet
  3. One 84” high x 24” wide x 24” deep locking cabinet with adjustable shelving for instructional materials and storage
  4. Locking doors and drawers throughout
- Plumbing
  1. General purpose residential sink with hot and cold water and faucet
  2. Hot and cold water supply for residential stack washer/dryer
- Educational Technology
  1. Same as General Classroom

**Accessible Restroom – February 1, 2007**

- General
  1. Directly adjacent to and access from the classrooms
  2. Can be shared with more than one classroom
- Finishes
  1. Per CDPHE requirements
- Equipment

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

1. Changing platform: 4' x 7' wall-mounted fold-down type with leg(s) to floor for additional support
- HVAC
  1. Changing diapered students requires ventilation and exhaust that exceed normal design standards for this type of room.
  2. Exhaust rate to be based upon hospital area used for same type of service.
- Plumbing
  1. Toilet
  2. Handheld shower with tempering valve, hand wand, and connecting hose long enough to allow individual standing over floor drain to be showered off.
    - a. ADA handles and piping protection
  3. Lavatory
  4. Floor drain

**SERS Team Office/Workroom – February 1, 2007**

- General
  1. Work space for 4 to 6 itinerant teachers and professionals on a part-time basis
  2. The workroom can be shared if more than one classroom is provided.
  3. Locate directly adjacent to the classroom with glass lites to monitor classroom activity.
- Flooring
  1. Carpet
- Windows
  1. View lites should be provided into adjacent classroom for supervision.
- Doors
  1. View lites in or adjacent to door(s)
- Equipment
  1. Looking file cabinets contain confidential record storage.
  2. Markerboard(s) with trays
  3. Tackboard(s)
- Furnishings
  1. Systems furniture (preferred)
- Casework
  1. Same as CTIS Team Planning/Conference
  2. One 84" high x 24" wide x 24" deep locking cabinet for each teacher for coats and personal items
- Educational Technology
  1. Per Data, Communications, and Alarm Diagram (DCAD)
  2. Telephone and a fax line

**Testing / Timeout Room – February 1, 2007**

- General
  1. Small room for individual testing
  2. Locate directly adjacent to the classroom.
  3. The testing room can be shared with more than one classroom.

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

- Flooring
  1. Carpet
- Furnishings
  1. Provide one student desk and 2 chairs.
- Doors
  1. View lite in or adjacent to door(s)

**Conference Room – February 1, 2007**

- General
  1. Meeting space for staff and/or parent conferences of 2 to 8 people
  2. Adjacent to the classroom and the office/workroom
  3. Accessible from and adjacent to the Challenge suite
  4. Can be shared with more than one classroom.
- Flooring
  1. Carpet
- Doors
  1. View lite in or adjacent to door(s)
  2. May have door directly to the Psychologist Office.
- Windows
  1. Provide view lite with one-way glass for observation and supervision of classroom.
- Furnishings
  1. Conference table with seating for up to 8 people
- Educational Technology
  1. Telephone for conference calling consultation with parents or other professionals
  2. Per Data, Communications, and Alarm Diagram (DCAD)

**Psychologist Office – February 1, 2007**

- General
  1. Near Challenge/SLIC Suite
  2. Accessible from corridor and conference room
  3. Serves the entire school population
- Flooring
  1. Carpet
- Doors
  1. View lite in or adjacent to door(s)
- Furnishings
  1. Systems furniture (preferred)
  2. Provide side chairs for two people
- Cabinets and Casework
  1. One 84” high x 48” wide x 24” deep locking cabinet
- Educational Technology
  1. Per Data, Communications, and Alarm Diagram (DCAD)

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1  
2007 Middle School Educational Specifications**

**Storage – February 1, 2007**

- General
  1. Separate or shared spaces serve both staff office/workroom and classrooms.
- Cabinets and Casework
  1. One 84” high x 48” wide x 24” deep lockable cabinet
  2. Adjustable shelving elsewhere

END SPECIAL EDUCATION AND RELATED SERVICES

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

**LIBRARY INFORMATION CENTER (LIC)**

**General – February 1, 2007**

- General
  1. The Library Information Center (LIC) is the hub of the school and occupies a central physical and visual position in the building.
  2. The LIC serves to teach students information gathering skills. It is used for individual research, individual and group study, group instruction, and conferences.
  3. Community use of the LIC is a vital aspect of its mission. After hours meetings of 100 or more persons are typical.
  4. Coordination is critical between the general contract and separate contracts for furniture, equipment, circulation desk, shelving, and high density mobile shelving.
  5. Flexibility is critical to accommodate programs, student population growth, information expansion, and changing technologies.
  6. Logical circulation flows are essential. Unnecessary entry points bisect valuable floor area and make visual supervision difficult.
  7. Separate toilet facilities for LIC staff are recommended only if common facilities are not convenient.
  8. Carle, Dunstan, Falcon Bluffs Middle Schools, and D'Evelyn, are considered to be models for Middle school LIC configuration in Jeffco Public Schools.
- Instructional components of the LIC serve students and public:
  1. Student area / stacks
  2. Large and small group instructional areas
- Management components are for LIC staff:
  1. Circulation desk area
  2. LIC Office
  3. Processing/workroom/storage
- Windows
  1. Except for the Student Area/Stacks, exterior windows generally conflict with most LIC activities and increase security concerns and are therefore not recommended.
  2. Generous glazed openings are required within the LIC for visual supervision of the various components by limited staff.
  3. Windows can interfere with valuable wall space.
  4. Sill height: 44" minimum to clear shelved materials.
- Acoustical Considerations
  1. Minimize reverberations caused by multiple simultaneous activities in large, interconnected spaces.
  2. Vaulted ceilings, skylights, and multi-level spaces require acoustical analysis and treatment.
- Flooring: Carpet
- Ceiling Height: Minimum 9'-6"
- HVAC
  1. Equipment and workstation loads need to be addressed.
- Electrical
  1. Continuous plugmold is recommended at countertops and work surfaces.
  2. Generous spare capacity is strongly recommended.
- Lighting
  1. Under-cabinet task lighting is recommended at perimeter work surfaces.

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

**Student Area / Stacks – February 1, 2007**

- General
  1. The instructional component of the LIC is used by students, teachers and parents for research, reading, group study sessions, special events, staff meetings and after-hour community meetings.
- Layout
  1. Good visual supervision is required from the Circulation Desk.
  2. Opportunity exists for architecturally creative, inviting and comfortable reading spaces.
  3. One or two double door entrances from the main corridor
  4. Configuration should discourage the use of the LIC as a "shortcut" through the building.
  5. Traffic patterns should be structured to allow movement with the least disturbance to people in study areas.
  6. At areas of wall shelving, the wall must be completely empty of windows, mechanical, controls, phone, fire, security devices, and other obstructions.
- Book Stacks
  1. Book stacks are dispersed throughout the open instructional component of the LIC.
  2. Stacks include a mix of wall-mounted and freestanding book cases and/or bins.
  3. The majority of the collection should be in perimeter shelving.
- Computerized Stations
  1. Ten to thirty multi-media computer stations are dispersed throughout the student area for card catalog access and general use.
    - a. Design for either sitting or standing use
    - b. Accessible stations per ADA
  2. Some computers are networked to central printers
- Equipment
  1. Computer workstations
  2. Printers
  3. Photo copiers
- Shelving
  1. Metal library shelving is standardized in all Jeffco schools.
    - a. Custom shelving is categorically prohibited.
  2. Open, adjustable shelving to accommodate a 10,000-12,000 volume collection of multi media material, including fiction, non-fiction, reference, magazines and newspapers at an average of 8 volumes per lineal foot of shelf.
  3. Perimeter 12 inch wide and free standing 12 or 24 inch wide shelving
    - a. 72 inches high with 5 five shelves @ 14 inches high.
    - b. 48 inches high with 3 shelves @ 14 inches high

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- Display Cases
  1. Locate near the main LIC entrance.
  2. Visible from inside and outside the LIC
  3. Built-in sliding glass door cases with adjustable glass shelves
  4. Illuminated
  5. Lockable
- Furniture
  1. Tables/stands for computer stations
- Lighting
  1. Daylighting is preferred.
  2. Coordinate lighting layout at stacks to eliminate shadows.
- Electrical
  1. Receptacles in permanent columns and architectural features are preferred.
  2. Floor outlets may be required.
  3. Overhead pendant receptacles and/or power poles are not recommended.
- Educational Technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Computer workstations
  3. Power outlet and data/audio/video jacks are required for either technology.
  4. Option: Wireless network

**Large and Small Group Instructional Areas – February 1, 2007**

- General
  1. Instructional areas are contiguous with or integrated into the student area/stacks.
  2. One open or semi-enclosed area for seating approximately 2 classes for listening and viewing, independent study and reference, research, quiet reading, presentations, student productions, and guest speakers
  3. Additional open or semi-enclosed area(s) are required for seating approximately one dozen students for casual reading, usually near the fiction section.
- Flooring: Carpet
- Equipment
  1. Whiteboards and tackboards per General Classroom
- Furnishings
  1. Tables for 4 to 6 students each and chairs; no desks
- Lighting
  1. Control of natural and artificial lighting is required to accommodate A/V presentations. Dual level switching is preferred.
  2. Minimum 50 foot-candles at each reading station
- Educational Technology (new construction and major renovations only)
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Digital projector; Ceiling mount with power outlet and data/audio/video jacks
  3. Audio/Video jacks to connect computer/VCR/DVD with ceiling projector/TV monitor and speakers
  4. Wireless network technology is optional.
  5. One interactive whiteboard (a.k.a. “smart board”) is recommended in the LIC, typically in the Large Group Instructional Area.

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
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**Circulation Desk Area - February 1, 2007**

- General
  1. The Circulation Desk Area is the interface between the instructional/public and management/private components of the LIC.
  2. The Circulation Desk is the hub of the LIC and requires high visibility and direct access to and from all library activities.
  3. Accommodates 8 to 10 students and up to 3 adults.
  4. Serves to check-in and check-out all LIC learning resources:
    - a. Books, textbooks
    - b. Audio visual materials
    - c. Equipment
    - d. Other curriculum supportive material
  5. Work area behind the Circulation Desk provides space for LIC personnel:
    - a. To prepare library learning resources for inclusion into the LIC collection
    - b. To identify materials needing repair
    - c. To store items placed on hold for students and teachers
  6. Clerical tasks are performed at the desk area:
    - a. Computer activities
    - b. Filing
    - c. Record keeping
- Location
  1. Central
  2. Direct, easy access to the main LIC entrance
  3. Visibility to all other LIC areas
  4. Adjacent to Equipment Storage and LIC Office
- Configuration
  1. Circulation desk with full credenza-type work space behind
  2. Book theft devices may require distance or physical shielding to prevent disruption of other electronic and telecommunications devices.
- Flooring: Carpet
- Equipment
  1. Office equipment
  2. Book theft system
  3. Book drop from corridor
  4. Under-counter book truck
  5. 2 or 3 computer workstations
  6. Printer
  7. File cabinets
- Circulation Desk
  1. Custom design; not systems furniture or prefabricated casework
  2. Rectilinear configurations are more functional than radial or irregular.
  3. Depths over 30 inches may inhibit exchange of materials.
  4. Review the design with the Coordinator of Library Services to ensure functionality.

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- Casework
  1. Locate directly behind circulation desk
  2. 30" high workstations with base and wall cabinets
  3. Option: Systems furniture
  4. Adjustable, built-in wall shelving above casework behind Circulation Desk
- Electrical
  1. General receptacles
  2. Office equipment
- Educational Technology
  1. Data drops for itemized equipment
  2. Telephone(s)

**LIC Office - February 1, 2007**

- General
  1. Office workroom for LIC Specialist, aides, and volunteers
  2. Serves LIC support functions including storage of LIC files, curriculum guides, manuals or other professional resources
  3. Doubles as meeting space for Instructional planning, team meetings and consultations
- Layout
  1. Locate adjacent to the Circulation Desk area
  2. Visual supervision of the entire LIC is required from the office
- Flooring: Carpet
- Furniture
  1. Systems furniture
  2. Wardrobe unit
  3. Option: Base cabinet workstations with countertop and wall cabinets
- Furnishings
  1. Book shelves
  2. File cabinets
  3. Storage cabinets

**Processing / Workroom/ Storage - February 1, 2007**

- General
  1. Storage and work area to prepare and process a wide variety of learning resources for inclusion into the LIC collection and preview, reserve, return and repair audio-visual materials
  2. Material processing functions include:
    - a. Dry mounting
    - b. Laminating
    - c. Computer activities
    - d. Copying
    - e. Collating
    - f. Publishing
  3. Central storage and retrieval for books, periodicals, software, learning resources, curriculum materials and equipment, including:
    - a. Audiovisual and non-print materials

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
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- b. Oversized materials such as flat and roller type maps, charts, and posters
  - c. Large equipment items (VCRs, monitors and computers)
  - d. Small equipment items (tape recorders, CD players, microphones and digital cameras)
  - e. Supplies (bulbs, cords, headphones and jack boxes)
4. Work space accommodates minor equipment repair and maintenance functions and holding area for pickup and delivery of equipment needing repair.
  5. Although primarily intended for staff use, multimedia activities interface with many other middle school programs and curricula, creating opportunities for design creativity. Proximity or shared amenities are particularly encouraged among Technology, Art, and LIC.
- Layout
    1. Direct access to LIC Circulation Desk Area and the main corridor
    2. Rectangular room configuration is preferred.
  - Flooring: Resilient
  - Furniture
    1. Small workbench
    2. Wall shelving near the workbench is used for processing, repair and reserve of learning resources.
  - Equipment
    1. Large photocopier (approximately 4'-0" x 7'-0")
    2. Dry mounting machine
    3. Laminating machine
    4. Computer workstation(s)
    5. Printer(s)
    6. Adjustable shelving (20 lineal feet minimum)
  - Casework
    1. Base Cabinets:
      - a. Must accommodate 30" high sit-down workstations with drawers
      - b. 36" high peninsula or island
      - c. Drawers
    2. Wall Cabinets
      - a. Above workstations and equipment counter
      - b. Vertical slot storage for poster board
    3. Additional work stations for aides and volunteers
    4. Wall cabinets: Full height units with shelves and drawers
    5. Shelving
      - a. Specialized storage for flat maps and charts
      - b. Oversized shelves
      - c. Vertical slot shelving
      - d. Pegboard hooks for storage of roller -type maps
  - High density shelving system for print and non-print media (optional)
    1. Fixed end units: 12" deep x 84" high x length in whole feet (e.g., not 7'-9", either 7'-0" or 8'-0").
    2. Rolling units: 24" deep x 84" high x length in whole feet.

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- Lighting
  1. Overhead lighting
  2. Task lighting at work bench
  3. Under-cabinet task lighting is recommended at perimeter countertops.
- HVAC
  1. Adequate for equipment loads
- Plumbing
  1. One work sink with hot and cold water.
- Electrical
  1. Dedicated 220/240V circuit may be required for photocopier
  2. Equipment
  3. Quadplex receptacles or plug mold
  4. Receptacles to support charging 2 carts of laptop computers (20 per cart)
- Educational Technology
  1. Telephone
  2. Fax
  3. Printer(s)
  4. Photocopier(s)
  5. Computer workstations

END LIBRARY INFORMATION CENTER (LIC)

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**PHYSICAL EDUCATION (P.E.) COMPLEX**  
**General - February 1, 2007**

- Requirements, recommendations, and dimensions of the Colorado High School Sports Activities Association (CHSSAA) do not apply to the current middle school physical education program. However, non-compliance could adversely impact future, extracurricular, and interscholastic sports.
- Activities served by these facilities include
  1. Physical Education
  2. Athletics, including extracurricular
  3. Assemblies
  4. Social Events
  5. Public Events
- Components
  1. Gymnasium
  2. Fitness Room
  3. Locker Rooms/Offices
  4. Equipment Storage
  5. Outside P.E. Storage Building
- Safety
  1. Safety in high activity areas is achieved by means of clearances and configurations, not specialized hardware, devices, and materials.

**Gymnasium - February 1, 2007**

- General
  1. The gymnasium area should be a simple, uncluttered box.
  2. The goal is to provide a multi-use area that is almost 100 percent usable space.
  3. Special review with the athletics and P.E. personnel are required before final alignment of equipment and court layout.
  4. Protect surface mounted devices and lighting with cages.
- Adjacencies
  1. Locate adjacent to outdoor physical education facilities.
  2. Convenient to parking and service drive
  3. Direct access to the main corridor and outdoor activity areas
  4. Openings, doors, or glazing are prohibited behind the main basketball goals.
- Acoustics
  1. Large, reverberant spaces require acoustical design and treatment.
  2. Acoustical roof deck, concrete block, and surface treatments are typical.
- Floor
  1. Multipurpose cushioned sheet resilient sport flooring is preferred.
  2. Hardwood athletic flooring is permitted when site or joint funded.
  3. Markings per Jeffco Public Schools Athletics Department
  4. Maintain functional clearances between sidelines and seating; 6'-0" minimum.

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- Walls
  1. Solid and acoustical masonry with high performance finishes
  2. The walls are used for the physical education program.
    - a. Avoid or minimize projections and obstructions such as braces, columns, and windows.
    - b. Design for future climbing wall apparatus loads
- Ceiling
  1. Minimum clear ceiling height of 22' within court boundaries
  2. Unfinished
  3. Acoustical roof decking is mandatory for steel deck construction.
- Divider Curtain
  1. Electrically operated vinyl/net drop curtain; open at the top and solid at least 10' from the floor
  2. Minimum clearance of 20' to the floor when in raised position
  3. Door or openings at both ends
- Scoreboard
  1. General Construction Contract includes a single scoreboard and rough-in for a future second scoreboard.
  2. Capable of dual and individual operation with central console locations as identified in the bleacher section and automatic time-out clock
  3. Control console to be connected by appropriate extension cable to an outlet in the wall behind primary event seating
- Fixed Equipment
  1. Basketball backboards: Minimum 6 electrically operated, swing-up basketball backboards with break away rims and safety brakes
  2. Climbing ropes
  3. Floor inserts for volleyball: 1 main competitive court and 3 cross courts
  4. Floor inserts for gymnastic apparatus (optional)
- Operable Equipment
  1. Gymnastic mats, crash pads
    - a. Provide protective mats on the wall area behind the basketball hoops.
  2. Wrestling mat hoist (optional)
  3. Three sets of safety suspension systems with hoists for gymnastics
- Bleachers
  1. Telescoping, motorized bleachers with wall mounted controls on one wall to seat 100% of the build-out student capacity
- HVAC: No requirements
- Plumbing
  1. Drinking fountain(s) per Code
- Lighting
  1. Controlled from a keyed switching bank
  2. Minimum of 50 foot-candles, maintained at 36" above finished floor
- Electrical
  1. Keyed switching
  2. Recessed duplex outlets with heavy duty covers
  3. Recessed data outlets with heavy duty covers

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- Public Address system
- Cable TV

**Fitness Room - February 1, 2007**

- General
  1. Adjacent and directly accessible to main gymnasium
  2. Window(s) for visual supervision from gym offices
- Height
  1. Minimum clear ceiling height: 9'-0"
- Doors
  1. 6'-0" width is required for apparatus
- Floor
  1. Moveable interlocking mats are placed on sealed concrete or VCT.
- Walls
  1. Durable material and finish
  2. Floor to ceiling mirrors at one wall
- Ceiling
  1. No requirements
- Equipment
  1. Fitness apparatus
- HVAC: Occupancy appropriate
- Plumbing: No requirements
- Lighting
  1. Typical classroom lighting
- Electrical
  1. Recessed duplex outlets; coordinate with mirrors
  2. Recessed data outlets
- Educational Technology: None
- Communications
  1. Cable TV

**Locker Rooms And Offices - February 1, 2007**

- General
  1. The basic design should be a large room for each gender.
  2. Office(s) in each locker room require direct access and supervision of the locker room(s) with convenient access to the main gymnasium.
  3. Design for visual supervision throughout
  4. Prototype: Dunstan, Carle MS
- Component spaces
  1. Boys' and Girls' P.E. Lockers
  2. Showers
  3. Offices with shower and dressing space in each locker room for staff

**JEFFERSON COUNTY SCHOOL DISTRICT, R-1**  
**2007 Middle School Educational Specifications**

- Adjacencies
  1. Adjacent and directly accessible to main and auxiliary gymnasiums
  2. The PE offices should have direct access to both gymnasium and locker room.
- Height
  1. Minimum clear ceiling height: 10'-0"
- Windows
  1. The offices require visual supervision of the entire P.E. Complex.
- Floor
  1. Sealed concrete or seamless
- Walls
  1. Durable material and finish
  2. Frame construction is prohibited.
- Ceiling
  1. Monolithic surface for sanitation
  2. Lay-in grid ceilings are prohibited.
- Toilet accessories
- Lockers
  1. Physical education lockers
    - a. Three- or four-tier box lockers 15" wide x 15" deep x 18" high
      - (1) Quantity: An amount up to 1/2 of the total build out student population
      - (2) Maximum height of lockers: 76" including base
    - b. Two-tier general purpose lockers 15" wide x 15" deep x 36" high
      - (1) Intersperse 1 locker per 4 to 6 box lockers.
  2. Physical Education Office
    - a. Full height lockers 15" wide x 72" high x 15" deep
    - b. Quantity: 4 to 6
- Whiteboard and tackboard are recommended in Offices
- Fixed Equipment
  1. Benches in dressing areas
  2. Wall mounted hand dryers with adjustable nozzles for use as hair dryers
  3. Mirrors
- Furnishings (Offices)
  1. Desk
  2. Chair
  3. File Cabinet(s)
  4. Shelving
- HVAC
  1. Occupancy appropriate
  2. Instructor office(s) to be separate HVAC zone.
- Plumbing
  1. Student showers
    - a. Minimum per code, 1 ADA
    - b. Single stalls, not gang configuration
    - c. Pressure independent tempering valves for each shower stall
  2. Toilets
  3. Urinals
  4. Lavatories

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- 5. Staff showers
- 6. Drinking fountains
- Lighting
  - 1. Typical classroom lighting
- Electrical
  - 1. Keyed switches
  - 2. Recessed duplex outlets
  - 3. Recessed data outlets
- Communications
  - 1. Cable TV
  - 2. Telephone
  - 3. Required at offices

**Equipment Storage - February 1, 2007**

- General
  - 1. Storage for large, team sport apparatus is critical and this area should not be compromised.
  - 2. Storage for pit mats
  - 3. Storage should be accessible to both gyms.
  - 4. Option: Uniform and physical education may be accommodated within locker rooms.
- Storage Cages
  - 1. Floor to ceiling chain link dividers and gates with hasps for padlocks
  - 2. Dimensions: 5' x 10'; Approximately 1 per 100 students of the build-out student capacity
  - 3. Dimensions: 5' x 20'; One for football
  - 4. One cage 600 sq. ft. for general storage
- Mat storage
- Should accommodate mat sizes up to 20'-5" x 10' x 1", laid or hung flat
- Doors must be lockable, if a separate area is provided.

**Outside P.E. Storage Building – February 1, 2007**

- Outside P.E. Storage Building
  - 1. Optional storage building for P.E. outdoor field equipment

END PHYSICAL EDUCATION (P.E.) COMPLEX

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**AUDITERIA**

**General – February 1, 2007**

- Location
  1. The Auditeria complex is in the public area of the middle school.
  2. Adjacent to the kitchen
  3. Near or adjacent to gymnasium
  4. Direct access to the main corridor
  5. Adjacency to the main lobby enhances social interactions and provides overflow capacity.
  6. Direct access to building exterior for overflow dining and after hours functions
  7. Convenient to music areas and public restrooms
- Circulation is critical to functionality
  1. Flow: Corridor to queue to food serving to point of sale to table seating to tray return to outdoors
  2. Entrance should be directly to the kitchen serving line from the main corridor.
  3. Point of sale transactions require net space from either kitchen or seating area.
  4. Dish return circulation should not cross the serving line.
  5. Locate a separate exit to the outdoor activity areas as far as possible from the serving line.
- Components
  1. Seating area
  2. Performance
  3. Storage/Dressing
  4. Staff lounge
  5. Kitchen
  6. Custodial

**Seating Area – February 1, 2007**

- General
  1. The Auditeria is a multi-function room that combines the cafeteria seating area for food service operations with auditorium performance and assembly features.
  2. The Auditeria is utilized for a wide variety of school and public activities including:
    - a. Cafeteria
    - b. Auditorium
    - c. Performing arts rehearsal and performance
    - d. Large and small lectures, meetings, and conferences
    - e. Audio/visual presentations
    - f. Testing
    - g. After school meetings and presentations
    - h. Independent club/organization functions
    - i. Support space and services for intermissions in Gymnasium events
    - j. General socializing

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3. For many visitors, the Auditoria provides their only contact with the school, so it is important that this facility be designed to instill a favorable impression.
  4. Tiered floor/riser configurations are prohibited.
  5. Acoustical design is required to optimize utilization of the Auditoria.
  6. Total cafeteria seating capacity should be in the range of 1/3 of the built-out permanent design capacity projected for the school.
  7. Total performance seating capacity should be in the range of 2/3 of the built-out permanent design capacity projected for the school.
- Configuration
    1. Open, unobstructed, multi-use area
    2. Room volume enhances acoustical performance.
    3. Alcoves adequate to store all tables and chairs
  - Doors
    1. Adequate dimensions for passage of pianos and large equipment
    2. Overhead doors are required at food service for optimum space utilization and flow.
  - Equipment
    1. Motorized projection screen
  - Windows
    1. Exterior windows are mandatory.
  - Finishes
    1. Ceiling height: 9'-6" minimum
    2. Floor: VCT preferred
    3. Low reverberation, high absorption acoustical treatments are critical above 8'.
    4. Non-absorbent, smooth surface, cleanable walls and floors
  - Furnishings
    1. Coordinate with Jeffco Public Schools Purchasing Department regarding specifications for modular tables/seats necessary to achieve the target seating capacities.
  - Plumbing
    1. Drinking fountain
  - Electrical
    1. Receptacles to support Educational Technology equipment
  - Lighting - General
    1. Variable from 0 to 35 foot-candles at chair height
    2. Since this space can also be used as a teaching station, classroom illumination levels or task lighting are necessary.
    3. Accessible for maintenance
  - Educational Technology
    1. See Data, Communications, and Alarm Diagram (DCAD).
    2. Digital projector; Ceiling mount with power outlet and data/audio/video jacks
    3. Audio/Video jacks to connect computer/VCR/DVD with ceiling projector/TV monitor and speakers
    4. Wireless network technology is optional.

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**Performance – February 1, 2007**

- General
  1. Floor level 24” to 30” above Auditoria to accommodate symphonic musical arrangements.
  2. Transition floor levels by means of ramps to facilitate instrument and equipment movement.
  3. Proscenium: 40-foot wide opening with tracks, stage curtains and cyclorama curtains.
  4. Operable walls to separate the platform as an independent teaching station.
  5. Proximity to music room preferred.
- Lighting
  1. Adjustable/relocatable theatrical rail component system with interchangeable gels
- Communications
  1. High fidelity sound system with jacks and speakers appropriate for staging of Middle School productions
  2. Locate lighting and audio-visual controls at the rear or side of the Auditoria.

**Storage/Dressing - February 1, 2007**

- General
  1. Adjacent to the performance platform
  2. May be incorporated into other spaces such as restrooms or music practice rooms
- Dressing
  1. One room for each gender
  2. Ten lineal feet of counter space
  3. Lavatory in each
  4. Full counter length mirror
  5. Incandescent make-up lighting
  6. Minimum of 5 lineal feet of space for hanging clothes
- Storage
  1. Storage for stagecraft materials, supplies and costumes
  2. Large double doors for easy movement of sets and props onto the platform

**Staff Lounge - February 1, 2007**

- General
  1. Separate room for 1/3 to 1/2 of the school’s staff members to eat lunch and hold meetings
  2. If facilities are not convenient, one pair of unisex toilets is required for staff.
- Windows: Strongly preferred
- Casework: 10 to 12 linear feet of base and wall cabinets
- Furnishings
  1. Tables and chairs
  2. Sofa and living room type furniture is also common.
- Equipment
  1. Kitchenette with 2 microwaves, range, full-size refrigerator, and 1-2 coffee makers
  2. Whiteboard

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- 3. Tackboard
- 4. Multiple vending machines
- HVAC
  - 1. Separate zone with sensor
- Plumbing
  - 1. Residential kitchen sink and fittings
  - 2. Disposal
  - 3. Include wall insert box for ice maker water connection of refrigerator.
- Technology
  - 1. Similar to General Classroom

**Kitchen - February 1, 2007**

- General
  - 1. Coordinate prototypical Kitchen layout, design, and construction with Jeffco Schools Food and Nutritional Services Department.
  - 2. The kitchen provides space for personnel, delivery, storage, preparation, serving and cleanup of school food services.
  - 3. The kitchen can be a preparation/cooking kitchen for 2 elementary schools as well as a cooking and serving kitchen for the high school.
  - 4. The kitchen should be provided with a minimum of 3 serving areas that relate to scramble configuration serving areas that open directly onto the cafeteria / commons.
  - 5. Each kitchen should be designed to serve 35% of the student population.
  - 6. Locate the kitchen contiguous with the cafeteria.
  - 7. Acoustical sound isolation is required.
  - 8. Provide a loading area with unobstructed vertical and horizontal clearance for delivery truck access from the service drive.
- Layout
  - 1. Kitchen
  - 2. One unisex, ADA compliant staff restroom
  - 3. Employee locker area
  - 4. Custodial closet with floor mounted service sink
- Finishes
  - 1. Minimum 9'-6" ceiling height
  - 2. Non-absorbent, cleanable walls and floors
  - 3. Floors: Slip-resistant quarry tile is recommended.
- Furnishings
  - 1. Computer workstation
- Equipment
  - 1. Built in and modular kitchen appliances for food storage and cleaning
  - 2. Washer and dryer
  - 3. Hot tables
  - 4. Doorbell at loading area door

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- Plumbing
  1. Hand sink
  2. Pot sinks
  3. Preparation sinks with garbage disposal
  4. Dishwashing area with garbage disposal
  5. Floor drains
  6. Floor sink(s)

**Custodial – February 1, 2007**

- General
  1. Dedicated custodial facilities are required to serve the Auditoria complex.

END AUDITERIA

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**ADMINISTRATION / COUNSELING SUITE**

**General – February 1, 2007**

- The Administration area is integral to the day to day operation of the school. It is both the center of students' non-instructional needs and the initial interface of the school to the public. Administration serves as a buffer between external and internal, instructional and non-instructional activities.
- Functions
  1. General office, school administration
  2. Attendance
  3. Counseling
- No delivery and receiving functions are allowed through the front entrance. See Building Support.
- Location
  1. Administration is at or near the main building entrance, with obvious access.
  2. Administration has a direct relationship to core instructional and non-instructional facilities, particularly those with after-hours community use.
- Security
  1. Good external visibility is required to the parking area, main lobby and corridors.
  2. An open and flexible layout allows office staff to visually supervise and control the entire administration complex, particularly the Reception/Waiting area, Clinic, and private office areas.
  3. Glazed openings are mandatory in or adjacent to all private office doors in the administration complex.
- Furnishings
  1. To maximize flexibility, it is strongly recommended that administration areas be designed as open space, using the District's approved systems furniture vendor.
  3. The systems furniture is paid for from the FF&E budget; coordinate colors, materials
  4. Coordinate locations of electrical, telecommunications, thermostat(s) and fire alarm annunciator panels.
  5. A built-in service counter and aisle are recommended to separate the Reception/Waiting area from the secretarial work stations; systems furniture
  6. Other casework and permanent obstructions should be minimized or avoided.
- Circulation
  1. A vestibule arrangement is recommended to permit either direct access to offices or controlled access through the reception/waiting area.
- Support
  1. Coat closet(s) are required to serve multiple occupant spaces throughout the Administration area.
- Provide space for up to 4 students in time-out status at tables or carrels near the view window for easy supervision.
- Components
  1. Reception/Waiting Areas
  2. Secretarial Work Area
  3. Principal's Office
  4. Assistant Principal Offices

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5. Financial Office
6. Attendance Office
7. Clinic/Health Center
8. Work Room
9. Mail Center
10. Large Conference Room
11. Small Conference Room
12. Office Storage/Supplies
13. Staff Restrooms
14. School Resource Officer's Office
15. Counselor Offices
16. Records and Storage
17. Student Time-Out Area

**Reception / Waiting Areas – February 1, 2007**

- General
  1. Reception / Waiting Areas are the receiving points for students, parents, and visitors to the administrative complex.
  2. Separate areas are recommended for the main office and counseling.
    - a. These separate areas should be interconnected by means of a semi-private hallway.
  3. Receptionist may double as a secretary so the reception counter needs to be adjacent to and visible from the secretarial work area.
- Systems
  1. Central control panels for fire alarm, public address, and telephone systems are located in the main office Reception/Waiting area.

**Secretarial Work Area – February 1, 2007**

- General
  1. Two to four secretarial work stations, depending upon size of school
  2. Each secretarial work station should have a standard secretarial desk to accommodate a computer, 4 four-drawer legal files and a telephone.
  3. Lost and Found closet
- Secretarial work stations should be located to provide:
  1. General supervision of the Reception / Waiting Area
  2. Back-up to the Clinic
  3. Direct communication to principal and assistant principals
  4. Access to Financial Office, Mail Center, Conference Room, Attendance Office, Work Room, Staff Toilets, and storage areas
- Electrical
  1. Receptacles to support office equipment
  2. General purpose receptacles
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

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**Principal's Office – February 1, 2007**

- General
  1. In a prominent location but privacy is critical
  2. Direct visual supervision of the building entrance is recommended.
  3. Includes a small conference area for 4 to 6 people
  4. Ideally there should be 2 exits from the Principal's Office, one opening directly into the principal's secretary's area and the other opening into an interior hallway leading to the exterior or a door directly to the exterior
  5. Small locking closet (optional)
  6. Adjacent to administrative Conference Room
- Furnishings
  1. Preferred: Systems furniture
  2. Small conference table and chairs
  3. Optional: Executive desk and credenza, side table and 4 chairs and bookshelves along one wall
- Electrical
  1. Receptacles to support office equipment
  2. General purpose receptacles
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

**Assistant Principal Offices – February 1, 2007**

- General
  1. Assistant Principal Offices should be in close proximity to the Principal's Office and accessible from the Reception / Waiting Area and Secretarial Work Area.
- Furnishings
  1. Preferred: Systems furniture
  2. Optional: Executive desk, side table and 3 chairs, bookshelves and 2 four-drawer legal files
- Electrical
  1. Receptacles to support office equipment
  2. General purpose receptacles
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

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**Financial Office – February 1, 2007**

- General
  1. Financial Office is a contact point where students pay fees to financial secretary.
  2. Student access should be confined to a dutch door or service window at the corridor/lobby to reduce congestion at the Reception / Waiting Area.
  3. Employee access to Financial Office should be from the administration office area.
  4. Serves one FTE and one part-time assistant or auditor
- Layout
  1. Service window to corridor
  2. Counter and base cabinets under service window
  3. Space for safe (consult with Purchasing Department on current model number and size being supplied to schools)
  4. Space for 2 desks, 2 four-drawer legal files and computer workstations with shared printer
- Furnishings
  1. Preferred: Systems furniture
- Equipment
  1. Safe
  2. Computer workstations
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone, including a dedicated line for credit card transactions

**Attendance Office – February 1, 2007**

- General
  1. Attendance Office should be located adjacent to Reception / Waiting and Secretarial Work Area.
  2. Student access should be confined to a service window at corridor/lobby and employee access through the Secretarial Work Area.
  3. Service window to corridor
  4. Counter and base cabinets under service window
  5. Space for vault (consult with Purchasing Department on current model number and size being supplied to schools)
  6. Space for 2 secretarial workstations and 4 four-drawer legal files
- Electrical
  1. Receptacles to support office equipment
  2. General purpose receptacles
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

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**Clinic/Health Center - February 1, 2007**

- General
  1. The Clinic is used as a staging area to provide support for acute student injury/illness as well as management of chronic illnesses and associated medical interventions, including mental health concerns.
  2. The Clinic provides for controlled distribution of student medications.
  3. Direct access to both Administration and corridor is preferred.
- Layout
  1. Doors to both main corridor/lobby and reception/waiting
  2. Reception area with display space for health publications
  3. Office area for nurse aide, large enough to seat 4 people and accommodate a separate desk. It should provide adequate sound separation for confidentiality.
  4. Cot area with ceiling-track privacy curtains. The number of cots is determined by enrollment and state regulation.
  5. Accessible toilet room
  6. Storage for one folded wheelchair
- Security
  1. Visual supervision from Secretarial Work Area is critical for times when the nurse is not scheduled to be at the school.
- Finishes
  1. Non-absorbent, cleanable
  2. Tile wainscot near plumbing fixtures
- Equipment
  1. Refrigerator (under counter)
  2. Scale
  3. Changing table (optional)
- Casework
  1. Lockable base and wall cabinets for medications and first aid supplies
  2. Wardrobe closet (optional)
- Furnishings
  1. Desk/computer workstation
  2. Cots
  3. File cabinet(s)
  4. Desk
  5. Chairs
- Plumbing
  1. Lavatory
  2. Handheld shower with tempering valve, hand wand, and connecting hose long enough to allow individual standing over floor drain to be showered off.
    - a. ADA handles and piping protection
- Electrical
  1. Receptacles to support office equipment
  2. General purpose receptacles
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

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**Work Room – February 1, 2007**

- General
  1. Locate adjacent to the Secretarial Work Area and Mail Center.
  2. More than 1 door is desirable.
  3. Closet for administration staff, with lockable door
  4. Used by staff, faculty, student volunteers, part-time volunteers, aides, and/or parents
- Finishes
  1. Non-absorbent, cleanable
- Equipment
  1. Large multi-function copier
    - a. Requires a special electrical outlet and dedicated circuit
  2. Printers
  3. Fax machine
  4. Other specialized equipment as identified by DAG
  5. Residential countertop appliances such as coffee maker, toaster oven and/or microwave.
- Casework and Cabinets
  1. Twenty lineal feet of upper and lower cabinets for supply storage
  2. Lockable key cabinet
- HVAC
  1. Supplemental ventilation to dissipate equipment heat loads
- Plumbing
  1. Sink with hot and cold water
- Lighting
  1. Under-cabinet task lighting is recommended at perimeter countertops.
- Electrical
  1. Receptacles to support office equipment, microwave, and coffee maker
  2. General purpose receptacles
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

**Mail Center - February 1, 2007**

- General
  1. For staff use only
  2. Accessible from the main corridor and adjacent to the Work Room for loading
  3. Mailbox slots 11" wide x 4" high x 15" deep; The total number of slots should not be less than one 1 per 10 students of school permanent build-out design capacity.
  4. Tack surface for messages and announcements

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**Large Conference Room - February 1, 2007**

- General
  1. Seating for up to 12 adults
  2. Operable partition to accommodate smaller groupings (optional)
- Location
  1. Centrally located to Principal's Office and Assistant Principal Offices
  2. Accessible from both the Administration area and a corridor
  3. Away from high activity areas, such as the Secretarial Work Area and Reception / Waiting Area
- Equipment
  1. Projection screen(s)
  2. Whiteboard(s)
  3. Tackboard
- Casework (Optional)
  1. Base and wall cabinets
- HVAC
  1. Separate zone
  2. May require dedicated exhaust fan
- Plumbing (Optional)
  1. Residential kitchen sink and fittings with disposal
- Electrical
  1. Variable lighting levels are required for presentations.
  2. Receptacles at countertop
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Digital projector; Ceiling mount with power outlet and data/audio/video jacks
  3. Data jacks to connect lap top computer with ceiling projector/TV monitor and speakers
  4. Telephone

**Small Conference Room – February 1, 2007**

- General
  1. Seating for up to 6 adults
- Location
  1. Convenient to Counselor Offices and Clinic
  2. Accessible from both the Administration area and a corridor
  3. Away from high activity areas, such as the Secretarial Work Area and Reception / Waiting Area
- Equipment
  1. Whiteboard
  2. Tackboard
- Communications and technology
  1. See Data, Communications, and Alarm Diagram (DCAD).
  2. Data jacks
  3. Telephone

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**Office Storage / Supplies - February 1, 2007**

- General:
  1. Central to the Administration complex
  2. Lockable and secure
  3. Shelving at one full wall

**Staff Restrooms - February 1, 2007**

- General
  1. One unisex, handicapped accessible toilet room
- Finishes
  1. Non-absorbent, cleanable

**School Resource Officer's Office - February 1, 2007**

- General
  1. Office for School Resource Officer and/or Police/Sheriff sub-station
  2. Located remote from main entry lobby and Administration

**Counselor Offices – February 1, 2007**

- General
  1. Privacy is critical.
- Casework
  1. No requirements
- Furnishings
  1. Preferred: Systems furniture
  2. Optional: 5' desk and executive chair, 1 four-drawer legal file and 3 side chairs

**Records and Storage – February 1, 2007**

- General
  1. Convenient to A.P. Offices, Attendance Office, and Counselors
  2. Includes space for a secured storage system for permanent records

**Student Time-Out Area (Optional) – February 1, 2007**

- General
  1. Small workstations or carrels for isolating in-house suspended students
  2. Proximity to and visual supervision from AP Offices

END ADMINISTRATION / COUNSELING SUITE

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**BUILDING SUPPORT**

**General - February 1, 2007**

- Space Included:
  1. Technologist Office/Workroom
  2. Facility Manager Office
  3. Receiving and Storage
  4. Custodial Storage
  5. Custodial Closets
  6. Mechanical Room(s)
  7. Data/Communications Room(s) (MDF, IDF)
  8. Electrical MDC / Branch Closets
  9. Corridors and Stairs
  10. Elevator
  11. Student Lockers
  12. Restrooms
  13. Drinking fountains

**Technologist Office/Workroom – February 1, 2007**

- General
  1. Office/workspace for the school technologist to perform in-school hardware maintenance, repair, and programming.
  2. Holding area for pickup and delivery of equipment needing repair
  3. A rectangular room configuration is preferred.
- Location
  1. Direct access to LIC Circulation area and the main corridor
  2. Near the Library Information Center (LIC)
- Casework
  1. Six lineal feet of workbench/countertop at 36" high
  2. Base cabinets
  3. Wall cabinets: Full height units with shelves and drawers
  4. Adjustable shelving: Open, sturdy, with varying depths
- Electrical
  1. Three duplex outlets at workbench
- Lighting
  1. Under-cabinet task lighting is recommended at perimeter countertops.
- Educational Technology
  1. One telephone jack
  2. Per Data, Communications, and Alarm Diagram (DCAD)

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**Facility Manager Office - February 1, 2007**

- General
  1. Office for administrative functions of the Facility Manager
  2. Locate adjacent to Receiving and Storage / Service entrance and Custodial Storage.
  3. Locate to be convenient to Commons, Kitchen, Gymnasium, Auditorium, Administration, and Outside equipment storage
  4. Area for several desks
- Equipment
  1. Lockers for personal items; 15" minimum width
  2. One 4'-0" high x 6'-0" long markerboard with tray
  3. One 4'-0" high x 6'-0" long tackboard
  4. Shelves (heavy duty)
- Electrical
  1. Task Lighting
  2. Three duplex outlets at workbench
- Communications
  1. Data drops

**Receiving and Storage – February 1, 2007**

- General
  1. Central loading area and holding/vestibule area for school supplies and equipment
  2. Direct access to Facility Manager Office and Custodial Storage
  3. Convenient to Music, Technology, and Art
  4. Locate directly onto the service drive with access for delivery vehicles.
  5. Access to the building interior is mandatory; direct access to the corridor system is strongly recommended.
  6. Shared with Kitchen receiving preferred
  7. High abuse, water resistant substrate with durable, cleanable finish
- Doors
  1. Width to accommodate materials being brought in
- Electrical
  1. Duplex outlet

**Custodial Storage - February 1, 2007**

- General
  1. Storage room for indoor floor cleaning equipment (extractors, vacuum cleaners, buffers, etc.) cleaning materials, and general janitorial supplies
    - a. Electrical transformers and breaker sub panels are prohibited in the custodial storage room and vice versa.
  2. Roof access hatch and built-in ladder are typically located in this space.
  3. Floor level should be at grade.
  4. Direct exterior access for service vehicles
  5. Direct corridor access is required.

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- Electrical
  1. One duplex outlet
  2. Thirty foot-candles of lighting at 36" above the floor, maintained

**Custodial Closets - February 1, 2007**

- General
  1. Equally distributed throughout the building in tandem with student/public restrooms
  2. Minimum of 1 custodial room per 20,000 gsf of building area or every 200 lineal feet of corridor
  3. One per Core Team Suite
  4. One dedicated Custodial Room to serve each of the following areas:
    - a. Gymnasium
    - b. Locker Room
    - c. Auditoria
    - d. Music
    - e. Art
    - f. Kitchen (also see the Kitchen section for special requirements)
- Door: 4'-0"
- Finishes
  1. Walls and ceiling: High abuse, water resistant substrate with durable, cleanable finish
  2. Forty eight inches high RFP (reinforced fiber panel) wainscot at service sink
  3. Floor: Seamless floor integral base
- Equipment
  1. Twenty lineal feet of adjustable metal shelving (NIC)
- Plumbing
  1. Floor mounted service sink 24" square (minimum) in each closet
    - a. Coordinate lip height with equipment clearances
    - b. Industrial braced faucet, supplying hot and cold water
  2. One custodial closet per floor should accommodate floor cleaning equipment
    - a. Floor drain, no lip mop sink
    - b. 4'-0" wide door
- Electrical
  1. Lighting: 30 fc minimum
  2. Duplex receptacle(s)
  3. Transformers and breaker sub-panels are prohibited in custodial rooms.

**Outside Equipment Storage - February 1, 2007**

- General
  1. Storage for hand tools, site maintenance equipment, gasoline powered tractors, mowers, spreaders, ladders, paint, fertilizer, insecticide, and flammable materials
  2. Service, repair, and preparatory activities also occur in this space.
  3. Automatic irrigation controller is typically located here.
  4. Locate to open directly onto the service drive with minimum back up distance.
  5. Noise generating activities require separation from instructional areas of the building.
  6. Depth should be sufficient to accommodate a tractor with a snowplow or mowing device attached.

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7. Minimum 10'-0" ceiling height
  8. An attached room is preferred in new construction, but a separate structure, remote from the main building, is acceptable in renovation projects.
    - a. HVAC and plumbing requirements do not apply to separate structures.
    - b. HVAC is based upon size.
    - c. May need to exhaust this area if gas powered equipment is stored.
    - d. Requires an intake louver and exhaust fan.
- Doors
    1. One pair of doors or overhead door at grade level with a level threshold to the building exterior
    2. Doors directly from the storage room into the school building are prohibited.
  - HVAC
    1. Minimal heat is required to prevent equipment freeze-up.
    2. Natural/gravity ventilation
  - Plumbing
    1. No requirements
  - Electrical
    1. 120V 20A duplex receptacles, GFCI
    2. Two minimum 20 amp circuits if the storage is attached to the main building
    3. Four 20 amp circuits if the storage is a free standing building

**Mechanical Room(s) - February 1, 2007**

- General
  1. Mechanical rooms can include any combination of rooms to house the boilers, chillers, air handlers, water heaters, pumps, and related apparatus.
  2. Locate at grade to open directly onto the service drive with access for service vehicles.
  3. Access to the building interior is mandatory
    - a. Direct access to the corridor system is required.
  4. Maximize acoustical isolation and sound attenuation
  5. Unfinished space; Ceiling grid is prohibited.
  6. Clearances: 30" w x 72" h (minimum 24" w x 66") clearances around equipment items, pumps pipes, supports, etc.
- Doors
  1. Minimum 4' – 0" width
  2. Removable wall section of adequate width and height may be required to permit passage of the largest module of equipment contained in the room.
- Plumbing
  1. Cold water from a hose fitting
- Electrical
  1. Multiple (at least one per wall) 120V duplex outlets, GFCI
  2. Design lighting around equipment and pipes to minimize shadows.
    - a. Thirty foot-candles of lighting at 36" above the floor, maintained.
- Educational Technology
  1. One data drop in boiler room

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**Data/Communications Room(s) (MDF, IDF) - February 1, 2007**

- General
  1. Main Distribution Frame (MDF) and Intermediate Distribution Frame (IDF) rooms house infrastructure for data telecommunications, video, cable TV, satellite transmissions, controls, detection, alarm, and other special systems.
  2. See Data, Communications, and Alarm Diagram (DCAD).
  3. National Electric Code (NEC) applies.
  4. Storage is categorically prohibited in Data/Communications Rooms.
  5. Minimum 8'-0" ceiling height
- Finishes
  1. Wall finish: ¾", noncombustible unpainted plywood throughout
  2. Ceiling and floor: No requirements
- Adjacencies
  1. MDF room should be central to the geometry of the building, preferably near the LIC.
  2. IDF rooms are satellites to MDF, established by cable run limits.
- Doors
  1. Size door to permit passage of the largest equipment item.
  2. Access is limited to specific site personnel.
- HVAC
  1. MDF requires independent 24/7/365 room cooling and controls (thermostat and space sensor).
  2. IDF: Exhaust only
- Electrical
  1. Provide electrical power for specialized equipment.
  2. One 120V duplex outlet
  3. Thirty foot-candles of lighting at 36" above the floor, maintained

**Electrical/MDC Branch Closets - February 1, 2007**

- General
  1. Main Distribution Center (MDC) houses the main electrical switch gear.
  2. Electrical Closets are distributed throughout the building.
  3. Requirements of the National Electric Code (NEC) apply.
  4. See Data, Communications, and Alarm Diagram (DCAD).
  5. MDC floor level should be at grade with direct exterior access for service vehicles.
  6. Maximize MDC acoustical isolation and sound attenuation.
- Doors
  1. MDC room should have one exterior door only.
  2. Size to permit passage of the largest piece of equipment
  3. Direct access to the corridor system is required only for Electrical Closets, not MDC.
- Finishes: None
- HVAC/ventilation: Exhaust fan, motorized damper, and thermostat
- MDC Electrical
  1. One duplex outlet; GFCI @ 48" above floor
  2. Fifty foot-candles, maintained with 100% backup from the generator circuit
  3. One battery type EM luminaire

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- Electrical Closet Electrical
  1. One duplex outlet; GFCI @ 18" above floor

**Corridors and Stairs - February 1, 2007**

- General
  1. Safety and security are paramount. The corridor and stair system must facilitate visual adult supervision and be sized to avoid congestion.
  2. Durability, abuse resistance, and ease of maintenance are critical.
  3. Compartmentalization of the corridor system by means of gates, screens, or doors is mandatory to isolate the building into security zones during after hours activities.
  4. Acoustics are important
    - a. Minimize reverberation times to avoid disturbance caused by multiple simultaneous activities
    - b. Angled or vaulted ceilings are prohibited without acoustical finish.
  5. Ceiling height should be in proportion to corridor width and sufficient to promote safe circulation during passing periods.
  6. Areas of refuge are required per building code.
  7. Vestibules are required at high use entrances and exits.
- Flooring
  1. No requirements
  2. Typically, carpet is preferred near administrative and instructional areas for acoustical reasons.
- Walls
  1. Masonry is preferred in main corridors, athletic, and public areas, and other high traffic and high abuse locations.
  2. Other corridor wall finishes may be high impact gypsum board covering the entire wall finished with heavy mil-thickness, multi-colored coating or other finish as approved by Facilities Planning & Design.
  3. Option: 48" high wainscot veneer finished with high performance multi-color coating with high impact gypsum board above.
  4. Full-height high-impact corner guards are required at all exterior gypsum board corners
- Ceiling
  1. Stairs: Lay-in grid ceilings are not recommended; prohibited when less than 9'-0" above floor or nosing
  2. Corridors: Lay-in grid ceilings required.
- Doors
  1. Rated classroom doors require electro-magnetic hold open devices to maintain integrity of the exit system when classroom doors are kept open.
  2. Coiling security grilles are required to isolate public sections of the building during off hours.
- Windows / Daylighting
  1. Windows into the classrooms from the corridors are not permitted, except as door sidelights or lites within the door
  2. Natural light - Natural light through exterior windows and/or clerestories is desirable in corridors.

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- a. Consider incorporation of sustainable daylighting techniques. Provide means to avoid direct sun glare and heat build-up in space.
- Cabinets and Casework
    1. Lockable display cabinets are for display of trophies, awards, artwork, school store items, etc. should be distributed throughout public areas of the corridor system, particularly at main lobby, auditoria, LIC, gymnasium, music, and art.
    2. Dimensions: 8'-0" x 4'-0" high display cases with tackboard and/or shelves with lockable sliding glass or rear access doors
  - Signage
    1. Directional signs in the Lobby to the main areas of the building
    2. Room name, number and replaceable teacher name plaques at each classroom doorway
    3. Dedication plaque
  - Equipment
    1. Tackboards and/or tack strips are recommended at appropriate locations in the corridor system.
  - HVAC
    1. Separate zones for corridors
  - Electrical
    1. 120V, general use duplex receptacles at 50' maximum spacing throughout the corridor system
  - Lighting
    1. Thirty foot-candles at 36" above the floor maintained
  - Educational Technology
    1. Paging system

**Elevator - February 1, 2007**

- General
  1. One elevator is required per multi-floor building to provide access for disabled to all levels.
  2. Locate in high visibility area for safety and security.
  3. Elevator Equipment Room
    - a. Exhaust fan required per Code

**Student Lockers – February 1, 2007**

- General
  1. Student Academic Lockers are optional based on recommendations of the Design Advisory Group.
  2. Distributed locker arrangements are preferred over concentrated arrangements such as locker bays.
  3. Locate in high visibility area for safety and security.
  4. Locker size: 15" wide x 15" deep x 2 tier
  5. Quantity: One per student per current design capacity with space to increase to 110% of capacity in the future

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**Restrooms - February 1, 2007**

- General
  1. Durability, abuse resistance, and ease of maintenance are critical.
  2. Acoustical separation is important.
  3. Fixture ratios and accessibility per applicable codes
  4. Distribute toilet facilities throughout the building per code requirements.
  5. Assume maximum building or instructional area capacity according to the formula contained in the Educational Specifications and assume 50% each gender.
- Student Restrooms
  1. Safety and security are paramount. Student restrooms must facilitate adult supervision and be sized to avoid congestion.
  2. Locate convenient to instructional area classrooms
  3. One pair per Core Team Instructional Suite or 8 classrooms
  4. Recommended layout: Enclosed space for toilets and urinals with a common lavatory bank shared by both genders.
- Staff Restrooms
  1. Locate convenient to teacher work rooms and instructional areas
  2. Unisex staff restrooms are permitted.
  3. Also see Administration
- Public Restrooms
  1. Locate at public access areas of the building, particularly the Auditoria, Gym, and Administration areas.
  2. Recommend dual use public and student restrooms rather than dedicated public restrooms.
  3. Family/unisex restrooms are optional.
- Openings
  1. Doorless entry layout is preferred for multiple occupant restrooms.
- Finishes
  1. Floor: Seamless with integral base
  2. Walls: High abuse, water resistant substrate with durable, cleanable finish. Masonry is preferred.
  3. Ceiling
    - a. Height: 9'-0"
    - b. Lay-in/grid ceilings are prohibited in restrooms larger than 40 s.f.
- Casework
  1. Lavatory counter
- Equipment
  1. Book shelf: Preferred for all restrooms
  2. Coat hooks: Preferred for all restrooms
  3. Diaper changing station: Required at public restrooms only
  4. Electric hand dryer: Preferred at student restrooms; optional elsewhere
  5. Grab bar: As required by ADA
  6. Mirror: Required for all restrooms
  7. Paper towel dispenser: Prohibited in student restrooms; Preferred elsewhere
  8. Partitions with privacy doors: Preferred for all multiple occupant restrooms

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9. Sanitary napkin dispenser: Required in all women's and unisex restrooms
  10. Soap dispenser: Required at all lavatories; may be shared
  11. Toilet tissue: Required at all toilets
- HVAC
    1. Exhaust per Code
  - Plumbing
    1. Toilet
    2. Urinal
    3. Lavatory
  - Electrical
    1. One duplex GFCI receptacle at each area or space
    2. Outlets are prohibited within student restrooms.

**Drinking Fountains - February 1, 2007**

- General
  1. Fixture ratios and accessibility per applicable codes
- Locations
  1. Minimum of 1 for each Core Team Instructional Suite and academic area
  2. Auditoria
  3. Gym
  4. Administration
- Finishes
  1. Flooring: Resilient; Carpet is prohibited within 24" radius of Drinking Fountains.
  2. Walls: High abuse, water resistant substrate with durable, cleanable finish.

END BUILDING SUPPORT

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**SPECIAL SYSTEMS**

**General - February 1, 2007**

- Building systems which support the educational program and have special requirements for installation and operation
- Required Systems
  1. Video
  2. Central Energy Management System (CEMS)
  3. Clock System
  4. Data Systems
  5. Fire Detection and Alarm System
  6. Security System
  7. Access Control
  8. Video Surveillance System
  9. Audio Systems
  10. Public Address System
  11. Telephone System
  12. Temporary Building Wiring
- Optional System(s)
  1. Audio Enhancement System

**Video - February 1, 2007**

- General
  1. Video outlet locations
    - a. One per classroom; ceiling projector
    - b. Two in the Library Information Center
    - c. One drop each in the Gymnasium, Cafeteria and / or Multi-Use Room
      - (1) If area is to be used for school TV broadcast studio, increase to 2 video drops.
      - (2) Locate one at 84" above floor for monitor and one at approximately 18" above floor to accommodate video camera.
    - d. One in each multi-teacher workroom (up to a maximum of 5)
    - e. One in administrative office
    - f. One in the Principal's office or administrative conference room
  2. See Data, Communications, and Alarm Diagram (DCAD).

**Building Automation System (BAS) – February 1, 2007**

- General
  1. BAS monitors the heating, ventilating and air conditioning (HVAC) system and reports status information to a District central monitor location.
  2. Installation responsibilities
    - a. The system is supplied and installed as part of the construction contract.
    - b. BAS control equipment located per Data, Communications, and Alarm Diagram (DCAD)

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**Clock System - February 1, 2007**

- General
  1. School clocks are on a master, self-adjusting electrical system.
  2. Refer to the Data, Communications, and Alarm Diagram (DCAD).
  3. Bells are being phased out.
    - a. See Audio Systems.

**Data Systems - February 1, 2007**

- General
  1. A local area network will be installed throughout the school.
  2. Refer to the Data, Communications, and Alarm Diagram (DCAD) for specific quantities and outlet locations.
  3. Control equipment is located in Data/Communications Room.
  4. Three per classroom, except temporary classrooms
  5. One per administrator and/or in each room in office area
  6. Facility Manager office
  7. Auditoria
    - a. Coordinate location with Food Services representative.
  8. Library Information Center
    - a. Two for circulation desk
    - b. One for Library Information Specialist's office
    - c. Five locations within LIC
  9. Gymnasium

**Fire Detection and Alarm System - February 1, 2007**

- General
  1. A fire alarm system will be installed throughout the school.
  2. Locate a fire alarm status panel in the administrative area.
  3. Control equipment is located per Data, Communications, and Alarm Diagram (DCAD) and District standards.

**Security System - February 1, 2007**

- General
  1. Security detection devices are located in corridors, the Administration Area and LIC.
  2. System control equipment is located in a Data/Communications Room.
  3. Video surveillance cameras are located in accordance with the Data, Communications, and Alarm Diagram (DCAD).

**Access Control – February 1, 2007**

- General
  1. At designated exterior doors only
  2. See Data, Communications, and Alarm Diagram (DCAD).

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**Video Surveillance System – February 1, 2007**

- General
  1. At designated exterior locations only
  2. See Data, Communications, and Alarm Diagram (DCAD).

**Audio Systems - February 1, 2007**

- General
  1. Paging System
    - a. School-wide stereo system is part of the telephone system.
    - b. Interior and exterior speakers can replace bell system.
  2. Music Room system
    - a. System consists of an amplifier, CD player, tuner, tape recorder, two remote speakers and one wired microphone.
    - b. The portable stereo system is purchased from the school budget.
  3. Also see Auditoria

**Public Address System – February 1, 2007**

- General
  1. A public address system is required in the Gymnasium.
  2. Operation controls are located in the Gymnasium offices.

**Telephone Systems - February 1, 2007**

- General
  1. A programmable phone / paging system will be installed.
  2. Refer to the Data, Communications, and Alarm Diagram (DCAD) for device locations.
  3. Telephone control equipment is located in the Data/Communications Room.
  4. Voice (telephone) outlet locations:
    - a. One per classroom
    - b. One per Library Information Center
    - c. One per Library office or media production area
    - d. Two per administrative office support staff
    - e. One for the school fax machine
    - f. One for Gymnasium
    - g. One in Auditoria
    - h. One per 4 workstations in teacher workrooms
    - i. One per Administrator or full-time staff
    - j. One per special program
  5. If two-piece Wiremold strips are required for installation, the Wiremold must meet shielding requirements for Category 5 data cable.
  6. Duplex back boxes are required for use with Wiremold.

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**Temporary Building Wiring Requirements – February 1, 2007**

- General
  1. One video outlet
  2. Three data outlets and three telephone outlets located in same back box
  3. One wall telephone outlet located near the entrance door

**Audio Enhancement System (Optional) - February 1, 2007**

- General
  1. The system allows use of a hands-free, wireless microphone to enhance voice projection.
  2. The system consists of a base unit, four speakers and a wireless microphone.
  3. One unit is installed for each teaching station.

END OF SPECIAL SYSTEMS

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**SITE DEVELOPMENT**

**General - February 1, 2007**

- To accommodate the site functions and amenities itemized in this section, the recommended minimum net usable land area for a middle school is 20 acres for new schools regardless of projected build-out capacity of the school.
  1. The number and sizes of middle school site components tend to be determined more by extracurricular activity schedules than by school enrollment.
  2. Since some existing middle school properties are undersized by these standards, the site design process at these facilities will involve compromises, multiple use, off-site venues, and possible elimination of some itemized components.
- Building entrances and exits are to be at grade.
- Site development should incorporate sustainable design concepts and techniques.
- All site amenities, including athletic fields, parking lots, pedestrian walks, and building entries require barrier-free accessibility to the extent required by ADA.
- Arrange buildings and grounds to provide maximum safety and visual observation opportunities for all site components.
  1. Minimize areas hidden from general public view.
  2. The main school entrance should be visible from the street with direct access from vehicle areas.
- Pavement
  1. Flexible/Asphalt
    - a. Parking lots
    - b. Driveways, bus loops
    - c. Secondary pedestrian/bicycle paths and walks which abut undeveloped neighboring property
    - d. Game courts
  2. Rigid/Concrete
    - a. Main sidewalks and entrance plaza
    - b. Service drives
    - c. Emergency access lane(s)
  3. Crushed concrete, gravel, or crusher fines may be considered for rural / less developed areas.
- Components of a middle school site:
  1. Site Utilities
  2. Drainage
  3. Site Circulation
  4. Student Activity Areas
  5. Temporary Classroom Area
  6. Field Sports
  7. Game Courts
  8. Out Buildings and Amenities
  9. Exterior Improvements
  10. Miscellaneous Site Improvements

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**Site Utilities - February 1, 2007**

- Electrical
  1. Power via buried conduit is required to:
    - a. Batting cages
    - b. Pitching machines
    - c. Tennis serving machine
    - d. Scoreboards
    - e. Out buildings
    - f. Weatherproof outlet at each baseball and softball backstop.
  2. Site lighting is required for parking, and facility entrances used after-hours, such as Gymnasium and Performance areas.
  3. Athletic fields will not be lighted.
- Domestic Water
  1. Fire hydrants per authority having jurisdiction
  2. Routes and types of easements per water utility
  3. Irrigation systems typically require a separate tap and meter.
  4. Fire hydrant mains may require an easement.
- Initial site development is to include underground vaults for utility extensions to temporary buildings:
  1. Electrical power
  2. Gas
  3. Water
  4. Sewer
  5. Fire and Security Alarms
  6. Telephones
  7. Clocks
  8. Paging system
  9. Cable TV
  10. Data Network
- Other utilities per Technical Guideline Division 33

**Drainage - February 1, 2007**

- Positive drainage is paramount, from the highest roof level to the lowest elevation of the site.
- Storm water management per applicable regulations
- Provide structures to control erosion wherever quantities of water are discharged to earth surfaces.
- On-site retention ponds are not recommended.
- Provide appropriate planting features or safety structures to ensure child safety near headwalls.

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**Site Circulation - February 1, 2007**

- Safety
  1. Minimize pedestrian, bicycle and vehicle intersections.
  2. Separate bus loading/unloading area from parent/visitor loading/unloading.
  3. Combined parking with pickup/drop-off is not recommended.
  4. Isolate service vehicle routes from student/parent, and bus traffic.
  5. Vehicle areas and main entrance require visual supervision from the Administration complex of the building.
  6. Design paved areas for snow removal and stockpiling.
- Pedestrian
  1. Paved pathways and/or sidewalks are required to connect all building exits with fire refuge areas, parking lots, service areas, game courts, site pedestrian access points, bicycle enclosures and along street frontages.
  2. Width: 8'-0" preferred; Minimum: 6'-0"
  3. Pedestrian route from the Auditoria and Gymnasium to outdoor activity areas should not cross nor pass near vehicle areas or mechanical room.
- Bike Pad and Enclosure
  1. Paved, fenced bicycle enclosure with bike racks to serve 2% to 5% of student capacity
  2. Optional for schools above 6000 ft. elevation
  3. Locate to maximize visual supervision and safety
- School Bus Circulation
  1. Bus loading should be off-street with a counter-clockwise circulation
  2. Bus length: 40 feet average.
  3. Bus lane width
    - a. One way traffic: 15'-0" minimum, 20'-0" preferred
    - b. Two way traffic: 24'-0" minimum
  4. Bus turning radius
    - a. Inside turning radius: 35'-0" minimum
    - b. Outside turning radius (1 way traffic): 50'-0" minimum
    - c. Outside turning radius (2 way traffic): 65'-0" minimum
- Bus Loading and Unloading
  1. Sidewalk/platform width = 9'-0" minimum to permit safe circulation around operating bus wheelchair lifts
  2. The number of buses serving the school can range from 1 to 20.
  3. Coordinate specific requirements through Jeffco Boundaries and Transportation departments.
- Automobile parking
  1. Parking quantities can vary according to the availability of on-street parking and public transportation.
  2. Staff/Visitor/Volunteer/Itinerant: One paved, staff/visitor parking space per 10 students with a minimum of 60 spaces

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- Parking lot design
  1. Parking is the lowest priority in the allocation of site acreage.
    - a. Parking should not be provided at the expense of other site amenities.
  2. Structured parking is prohibited.
  3. Islands are not recommended (snow removal issue).
  4. Preferred configuration: 90° parking stalls
  5. Parking spaces for 90° configuration:
    - a. Preferred (minimum of 75% of total spaces): 9'-0" wide by 18'-0" long
    - b. Minimum: 8'-6" wide by 16'-6" long
    - c. Parallel to curb: 9'-0" by 25'-0"
    - d. Drive aisle width for double loaded 90° configuration: 24'-0" minimum.
  6. Provide a ratio of accessible parking per ADAAG
    - a. Preferred configuration is two adjacent spaces with center (shared) wheelchair aisle.
  7. The recommendations of the current edition of *Architectural Graphic Standards* apply to layouts other than 90°.
- Service Drive(s)
  1. Truck access is required to the Loading Area, Dumpster Enclosure, Kitchen, Custodial Facilities, Family and Consumer Sciences, Art, Tech Arts, Gymnasium, Auditoria, Music, and Physical Education fields and structures.
  2. Turn around space is required for dead-end drives over 150 lineal feet.
- Emergency Access
  1. Coordination with the local fire department is required to assure fire vehicle access to the site and proper vehicle circulation once on-site.
  2. Fire vehicles can normally utilize the same circulation drives as service vehicles.
  3. Verification of width and turning radii is required for these areas.

**Student Activity Areas - February 1, 2007**

- Outdoor School/Community Area
  1. Adjacent to Auditoria
  2. Landscape to provide protection from sun and wind
  3. Seating on retaining walls or raised planters to accommodate 5% to 10% of student capacity.
- Ecology Area
  1. Natural streams and drainage areas, rock outcroppings, native grass and trees for student study and passive areas are desirable features.
  2. If no natural area with these amenities exists, construct areas with planting and fencing.
  3. Development such as benches and garden areas are optional.
  4. The ecology area may be off-site.

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**Temporary Classroom Area - February 1, 2007**

- General
  1. Space for relocatable/modular 24'-0" x 40'-0" wood-frame classroom buildings
  2. Plan for 1 temporary classroom for each 200 students of permanent design capacity.
  3. Locate to facilitate transport and placement with minimal site disruption.
  4. Locate to minimize distances to core and support facilities.
  5. Landscape the area to minimize visual impact on adjacent residential properties.
  6. See "Utilities" for additional information pertaining to temporary classrooms.

**Field Sports - February 1, 2007**

- General
  1. Locate physical education fields to be directly accessible to both the gymnasium and parking areas.
  2. Design to minimize errant balls landing on neighboring property, parking lots, building roofs and glazed areas.
  3. Unless noted otherwise, all athletic field layouts shall conform to the recommended standards of the National Federation of State High School Associations (NFHS)
  4. Fields should be planted to allow for at least one full growing season prior to first use. Two growing seasons preferred.
- Baseball Field (Optional)
- Softball Field (1)
  1. 235' (max) outfield includes 10' warning track.
  2. "Skinned" infield with fenced dugouts
  3. Backstop: 20'-0" wide x 18'-0" high with 10'-0" wings, located 20'-0" from home plate
  4. Perimeter fence: minimum 4'-0" high
- Multi-Use field for soccer and football (2)
  1. Dimensions: 175' x 300' (optimum)
- Running Path
  1. Natural surface meandering track around perimeter of sport fields
  2. Length: 100 meter increments

**Game Courts - February 1, 2007**

- Multi-Use Courts (6)
  1. Stripe for volleyball and half-court basketball
  2. Basketball goals and inserts for volleyball standards
  3. All basketball goals to be sturdy 4'-0" cantilever type
  4. Inserts to be set in concrete and have safety type covers

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**Out Buildings and Amenities - February 1, 2007**

- Dugouts
  1. Chain link structures at grade at baseball and softball fields
  2. Built in benches
- Designated area for portable toilets
- Dumpster Enclosure
  1. Enclosure for three trash dumpsters (80" high x 72" wide x 66" deep)
  2. Confirm requirements with trash removal contractor.
  3. Consider that trash trucks may be front or rear loading and provide the appropriate approach space.
  4. Trash compactor trucks require a concrete loading pad with minimum grade and no curbs.
- Equipment, Meter and Transformer Enclosures
- Outside P.E. Storage Building
  1. See 'Physical Education'.
- Outside Equipment Storage Building
  1. Storage for lawn and snow equipment

**Exterior Improvements - February 1, 2007**

- Landscaping
  1. Provide a complete landscape design.
  2. Use of turf grasses or sod is restricted to designated play fields and high traffic areas.
  3. Native drought-resistant grasses and plant materials ("Xeriscape") are preferred for unpaved and unassigned decorative and utility areas of the site.
  4. Landscape materials should be appropriate to the microclimate of the area.
  5. Plantings such as shade and ornamental trees, shrubbery and ground covers shall be used judiciously to provide shading, visual screening and wind protection for the building.
- Irrigation
  1. Provide automatic irrigation system to cover play fields, lawns and planting areas.
  2. Maximize water saving measures, such as drip systems.
  3. Provide quick-connect hose couplers to allow for remedial watering.
  4. On sites where irrigation water rights exist, develop the system to utilize these rights to the fullest extent possible.
- Fencing
  1. Chain link fencing is required at all property lines, along existing or future private development, and where portions of active play fields are adjacent to street frontages or parking areas.
  2. Game courts may be enclosed with 6'-0" chain link and two (2) limited swing gates at opposite sides.
  3. Fencing is required to prevent student movement through private property to prevent dangerous accidental running into hazardous areas, to restrict foot traffic up steep banks, control balls from running down banks, and to prevent access of horses or non-authorized motor vehicles onto the play fields.

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**2007 Middle School Educational Specifications**

4. Fencing is usually not required where school property abuts public park land.
5. Pedestrian access is required for public use of the grounds.
6. Use of fence posts or bollards spaced to prevent entry by horses and motor vehicles
7. Gates are required for passage of grounds equipment, service vehicles and snowplows.
8. Ornamental wood fencing is not recommended.

**Miscellaneous Site Improvements - February 1, 2007**

- Flagpole
- Informal seating on patios and at main entrances
- Fire and weather resistant, fixed trash receptacles at the main building entrances and student areas
- Sturdy masonry, concrete or chain link enclosures for meters, transformers and trash dumpsters
- Exterior Signage
  1. Building identification
  2. Directional
  3. Traffic control
  4. Identify area for marquee with rough-in electrical conduit.

END SITE DEVELOPMENT