



WEST VIRGINIA SECRETARY OF STATE

MAC WARNER

ADMINISTRATIVE LAW DIVISION

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Office of West Virginia
Secretary Of State

NOTICE OF PUBLIC COMMENT PERIOD

AGENCY: Education TITLE-SERIES: 126-172

RULE TYPE: Legislative Exempt Amendment to Existing Rule: Yes Repeal of existing rule: No

RULE NAME: Handbook on Planning School Facilities (6200)

CITE STATUTORY AUTHORITY: W. Va. Code §§29A-3B-1, et seq.; W. Va. Board of Education v. Hechler, 180 W. Va. 451, 376 S.E.2d 839 (1988); and, W. Va. Bd. of Educ. v. Bd. of Educ., 239 W. Va. 705, 806 S.E. 2d 136 (2017)

COMMENTS LIMITED TO:

Written

DATE OF PUBLIC HEARING:

LOCATION OF PUBLIC HEARING:

DATE WRITTEN COMMENT PERIOD ENDS: 08/15/2022 4:00 PM

COMMENTS MAY BE MAILED OR EMAILED TO:

NAME: Samuel E. Pauley, School Operations Officer

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PLEASE INDICATE IF THIS FILING INCLUDES:

RELEVANT FEDERAL STATUTES OR REGULATIONS: No

(IF YES, PLEASE UPLOAD IN THE SUPPORTING DOCUMENTS FIELD)

INCORPORATED BY REFERENCE: No

(IF YES, PLEASE UPLOAD IN THE SUPPORTING DOCUMENTS FIELD)

PROVIDE A BRIEF SUMMARY OF THE CONTENT OF THE RULE:

Policy 6200 provides that each county school system maintain and update annually a Comprehensive Educational Facilities Plan. This rule also provides that each county school facility funded totally or partially with funds from the School Building Authority of West Virginia (SBA) or the West Virginia Board of Education (WVBE) shall undergo an on site inspection annually. This rule defines the requirements for installing water bottle filling stations in public schools. This rule provides for the appropriate floor covering selection in West Virginia public schools. This rule provides the parameters to use floor coverings in schools based on user needs and the performance specification of the floor covering. This rule is to be read along with W. Va. §126CSR176, Policy 6204, School Closings or Consolidations. This policy applies to all county boards of education, local education agencies (LEAs), West Virginia Schools for the Deaf and the Blind, Office of Diversion and Transition Programs, and any other schools under the supervision of the WVBE and West Virginia Department of Education (WVDE).

SUMMARIZE IN A CLEAR AND CONCISE MANNER CONTENTS OF CHANGES IN THE RULE AND A STATEMENT OF CIRCUMSTANCES REQUIRING THE RULE:

Policy 6200, in accordance with Senate Bill 246, is being amended to include new statutory language regarding water bottle filling stations within school facilities. Policy 6200 is also being amended to embed the contents of Policy 6201, Floor Covering in Public Schools.

SUMMARIZE IN A CLEAR AND CONCISE MANNER THE OVERALL ECONOMIC IMPACT OF THE PROPOSED RULE:

A. ECONOMIC IMPACT ON REVENUES OF STATE GOVERNMENT:

There will be no economic impact on revenues of state government as a result of the proposed amendment of W. Va. 126CSR172, Policy 6200.

B. ECONOMIC IMPACT ON SPECIAL REVENUE ACCOUNTS:

There will be no economic impact on special revenue accounts as a result of the proposed amendment of W. Va. 126CSR172, Policy 6200.

C. ECONOMIC IMPACT OF THE RULE ON THE STATE OR ITS RESIDENTS:

There will be no economic impact on the state or its residents as a result of the proposed amendment of W. Va. 126CSR172, Policy 6200.

D. FISCAL NOTE DETAIL:

Effect of Proposal	Fiscal Year		
	2022 Increase/Decrease (use "-")	2023 Increase/Decrease (use "-")	Fiscal Year (Upon Full Implementation)
1. Estimated Total Cost	0	0	0
Personal Services	0	0	0
Current Expenses	0	0	0
Repairs and Alterations	0	0	0
Assets	0	0	0
Other	0	0	0
2. Estimated Total Revenues	0	0	0

E. EXPLANATION OF ABOVE ESTIMATES (INCLUDING LONG-RANGE EFFECT):

There will be no economic impact on revenues of state government, special revenue accounts, or the state or its residents as a result of the proposed amendment of W. Va. 126CSR172, Policy 6200. However, the requirements of Senate Bill 246, passed during the 2022 Regular Legislative Session and being incorporated into Policy 6200, included a fiscal note that estimated an annual cost of \$200,000 for county board of educations within the state to retrofit water fountains with water bottle filling stations.

BY CHOOSING 'YES', I ATTEST THAT THE PREVIOUS STATEMENT IS TRUE AND CORRECT.

Yes

Michele L Blatt -- By my signature, I certify that I am the person authorized to file legislative rules, in accordance with West Virginia Code §29A-3-11 and §39A-3-2.

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TITLE 126
LEGISLATIVE RULE
BOARD OF EDUCATION

SERIES 172
HANDBOOK ON PLANNING SCHOOL FACILITIES (6200)

§126-172-1. General.

1.1. Scope. -- This legislative rule provides that each county school system maintain and update annually a Comprehensive Educational Facilities Plan. This rule also provides that each county school facility funded totally or partially with funds from the School Building Authority of West Virginia (SBA) or the West Virginia Board of Education (WVBE) shall undergo an on-site inspection annually. This rule defines the requirements for installing water bottle filling stations in public schools. This rule provides for the appropriate floor covering selection in West Virginia public schools. This rule provides the parameters to use floor coverings in schools based on user needs and the performance specification of the floor covering. This rule is to be read along with W. Va. §126CSR176, Policy 6204, School Closings or Consolidations. This policy applies to all county boards of education, local education agencies (LEAs), West Virginia Schools for the Deaf and the Blind, Office of Diversion and Transition Programs, and any other schools under the supervision of the WVBE and West Virginia Department of Education (WVDE).

1.2. Authority. -- W. Va. Constitution, Article XII, §2, W. Va. Code §§18-2-5, 18-9C-1 et seq., 18-9D-1 et seq., 18-9E-3 et seq., 18-5-10, 18-5-13, ~~and 18-5-13a~~, and 18-9G-1 et seq.

1.3. Filing Date. -- ~~March 14, 2019.~~

1.4. Effective Date. -- ~~April 15, 2019.~~

1.5. Repeal of Former Rule. -- This rule amends W. Va. §126CSR172, Policy 6200, Handbook on Planning School Facilities, filed ~~August 15, 2008~~ March 14, 2019, and effective ~~September 15, 2008~~ April 15, 2019. This rule also repeals W. Va. §126CSR173, Policy 6201, Floor Covering in Public Schools, filed July 14, 2000, and effective August 14, 2000.

§126-172-2. Incorporation by Reference.

2.1. A copy of the handbook is attached. Copies may be obtained from the Office of the Secretary of State and from the WVDE, Office of School Facilities ~~and Transportation.~~

2.2. Summary of rules and regulations. This policy/handbook has been prepared to assist counties in planning and constructing new facilities, additions, and major renovations which will enable West Virginia's 55 county school systems to provide equal educational opportunities for all children.

§126-172-3. Severability.

3.1. If any provision of this policy and associated handbook or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this policy and associated handbook.

Introduction

School facilities are an integral and expensive component of West Virginia's educational system. As educational programs evolve to respond to students' needs and communities' expectations, and as current facilities age and become obsolete, existing facilities must be maintained and monitored. At the same time, county school officials must envision and plan for future needs. The result of such a system of continuous assessment and forecasting will ensure that facilities are funded and in place necessary to accommodate a thorough and efficient system of education.

The WVBE and WVDE support the delivery of a thorough and efficient education for children by ensuring that every child in the state has access to educational facilities that are safe, healthy, and well suited to meet rigorous programmatic demands. The WVDE has the responsibility to provide guidance to county school systems in their on-going efforts to design and operate such facilities.

The WVBE/WVDE's role is to ensure that every child in the state attends an educational facility that is safe, healthy, and educationally sound. The WVDE supports the delivery of a thorough and efficient education to which all students are entitled.

Therefore, all counties must have equitable access to all facility resources. The following guiding principles serve as a foundation for an effective and fair school facility program.

- Educational needs of students come first.
- Students will be educated where they live whenever possible.
- All students will have access to equitable school facilities and educational opportunities.
- All students will have access to schools that are safe and healthy with environments that will allow for the evolution of programming and resources in order to keep pace with future educational standards and needs.
- The WVDE, School Building Authority (SBA), and county boards of education shall recognize that small and large school systems have unique characteristics and needs that may require a greater or different investment of resources.
- School facility planning must include, to the greatest extent possible, local community stakeholders who know and understand the needs of their students in both large and small communities.
- School facility programs shall recognize that schools can serve multiple purposes in a community and, to that end, consider efficient use of public resources wherever possible and efficient.
- School facility programs shall make the best possible use of resources and funds while meeting educational needs and goals.
- School facility plans will be accountable to the taxpayers and the students.

Policy 6200 and the Handbook on Planning School Facilities (Handbook) are designed to assist local county school systems with developing facilities to address current facility needs and new innovative schools for both small and large county school systems. However, the Handbook is not intended to be so prescriptive that it pre-empts the judgement of curriculum and design professionals. Decisions regarding curriculum implementation, spatial arrangement, classroom design, building design, building products, materials or required building systems will remain the responsibility of the design and education professionals.

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The educational program of each new facility shall dictate the actual number and types of spaces provided in each school facility. Counties are encouraged to design all facilities to meet the needs of the educational program of the school in consultation with a certified facility planner, architect, and/or professional engineer. When variations from the minimum standards set forth in this Handbook are desired, a request for variance along with supporting justification including a description of the planning process, the project specifications, and a financial sustainability plan shall be submitted to the WVDE Office of School Facilities & Transportation for review and approval.

Chapter 1
SCHOOL FACILITIES PLANNING

100 COMPREHENSIVE EDUCATIONAL FACILITIES PLAN (CEFP)

Each county shall develop a ten-year Comprehensive Educational Facilities Plan (CEFP) that addresses the requirements for new construction and major renovations where applicable as described in the following sections. The CEFP not only encompasses new construction and renovations but also is used in school closures, consolidation, and reconfigurations as well as in developing levees and bond calls. All aspects of this plan are to be reviewed and verified for accuracy by LEAs.

The CEFP shall be submitted to the West Virginia Department of Education and the School Building Authority of West Virginia in the format described in this chapter. This plan is to be updated annually in coordination with all projects small and large, as well as reactive and preventative maintenance. Approval of the county CEFP must be granted by the WVBE and thereafter by the SBA. Subsequent substantial compliance with all laws and policies will be required when the CEFP contains closures and/or consolidations, regardless of the funding source. Approval must also be granted by the SBA prior to funding any project through the SBA and prior to utilization of federal funds for school improvement (WV Code §18-9D-15). The CEFP must include all projects that alter the instructional square footage of the facility or exceed \$50,000 regardless of the funding source. Required amendments to the plan and/or the plan budget must be submitted to the WVDE and the SBA for approval prior to the initiation of any construction or renovation project and such projects must meet all regulatory requirements and be described in an executive summary that outlines the specifics of the plan which will be submitted to the WVDE and SBA.

The development of a ten-year CEFP must be achieved by a county board of education in the following manner:

- A. Establish a CEFP planning team and/or committee representative of citizens and staff from each high school attendance area.
- B. Develop countywide goals and objectives and evaluate the previous ten-year CEFP.
- C. Research and compile data indicated in key elements A through K in Section 100.01 of this chapter.
- D. Create an Education Plan that includes desired curriculum, delivery methods, instructional, support, operations, and personnel plan.
- E. Research and verify the effects of the data in the Community Analysis section.
- F. Evaluate the existing conditions of schools currently in operation with respect to the desired curriculum delivery method and the effects on health and safety.
- G. Translate educational needs into facility needs.
- H. Develop a finance plan to implement the facility improvements.
- I. Conduct public hearings and develop a synopsis of public comments.
- J. Develop an objective methodology for evaluating the effectiveness of the plan. This evaluation is to occur during the eighth year of the ten-year CEFP.
- K. Meet with officials of the SBA and WVDE to assure that the plan meets their mission and goals.
- L. Submit proposed CEFP to the local board of education for approval.
- M. Submit the CEFP to the WVBE and SBA for electronic approval as prescribed by the WVDE, WVBE, and the SBA. One hard copy shall be submitted to the SBA and one hard copy shall be submitted to the WVDE.

Prior to the ten-year CEFPP update, the amended document shall be submitted to the WVBE and SBA for approval.

100.01 The CEFPP must include the following components:

- A. Goals and objectives
- B. Community analysis
- C. Population and enrollment study
- D. Educational plan
- E. Evaluation and inventory of existing facilities for compliance with state requirements
- F. Major improvement plan for existing facilities
- G. Inter-county facility feasibility study
- H. Translating educational needs into facility needs
- I. Financing plan including a prioritized list of all projects within the county and their estimated costs
- J. Synopsis of comments from the public hearing(s)
- K. Objective evaluation of the plan's implementation

100.010 Goals and Objectives

100.0101 Goals and objectives of the CEFPP must be developed and adopted by the county board of education, then presented with an executive summary of the specifics of the plan which will be a component of the document submitted to the WVBE and the SBA for approval. These goals and objectives must consider all aspects of the educational and facility needs of the county. Long-term goals and objectives must be anticipated and strategic planning established to perform comprehensive systemic planning. Minimally, curriculum delivery models, grade configurations, maximum and minimum school sizes, community expectations, optimal student populations, and the number of facilities that can be effectively maintained given limited resources available to the county should be addressed.

100.011 Community Analysis

100.0111 A survey of the community's history provides a background against which present conditions acquire meaning. The following aspects of a county's development should be studied carefully in regard to each school community. Please use maps and charts when available.

- A. Population characteristics and density patterns
- B. Population changes due to migration patterns and to fluctuations in the birth rate
- C. Changes in land usage (residential, commercial, and industrial)
- D. Major highways and street networks and their probable future development
- E. Changes in socio-economic patterns resulting in population shifts within the community
- F. Condition and value based upon current property assessments
- G. Availability of community services - libraries, recreational areas, health services, public assembly space, and emergency response services including the support of Homeland Security
- H. Employment opportunities
- I. Parental expectations of school

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- J. Citizen attitudes and aspirations in general
- L. Study of school attendance zones as they relate to the dispersion of the county school population

100.012 Population and Enrollment Study

100.0121 The following statistics are essential components of the enrollment projections:

- A. Population trends
 - 1. County
 - 2. Each school community
- B. Birth rates and the number of births
- C. Public school enrollment figures and trends for the past ten years
- D. Historic non-public school enrollment figures, as available
- E. Trends of dropout and attrition rates for the past ten years
- F. Ten-year enrollment projections per school calculated by an approved method which considers the above components

100.013 Educational Plan

100.0131 The Educational Plan proposed for this ten-year planning period provides a standard against which existing facilities can be measured (e.g., how well do the facilities support the goals defined in the plan). This includes an analysis of the current educational program and projections of the planned educational program. The educational plan shall include the following areas:

A. A description of the educational system proposed for this ten-year planning CEFP and how it will improve instructional delivery.

- 1. Describe how the existing plan does not meet statutory law, WVBE and county policies, goals, and objectives and how the new plan will meet these requirements.
- 2. Determine whether the school system will be organized on a K-5, 6-8, 9-12, or some other pattern.
- 3. Determine whether the typical one-teacher-per-class pattern will be followed, or whether teaching teams will be utilized.
- 4. Determine whether there will be self-contained or departmentalized classroom instruction.
- 5. Determine whether there will be typical grade patterns or will there be an ungraded or flexible grouping of students.
- 6. Determine the maximum or minimum enrollment and total number of instructional areas in each building.
- 7. Determine the method of scheduling to be utilized in each building (traditional, block, flexible, year-round, or other). Indicate the number of periods in each instructional day.
- 8. Determine the plan for providing vocational/technical education.

B. A Description of the curriculum plan including the knowledge, understanding, attitudes, skills and habits of life that should be developed through the experiences provided for children.

- 1. Determine the general characteristics of a high quality school program.
- 2. Determine whether there are any students whose needs are not being

adequately accommodated (e.g., students with exceptionalities, gifted, etc.).

C. A description of the instruction plan including the program description and methods of instruction.

1. Determine the major components of the instructional program (e.g., general course of study; career and technical and adult or community education; special education; driver education; physical education; co-curricular activities; computerization and technology; or advanced courses in science, math, language arts, and social studies, etc.).

2. Determine whether the instructional program will be organized into semester subject matter units, mini-courses, core programs, experimental learning units, or some other basis.

D. A description of the operations plan including the design and conduct of the teaching and learning environment.

1. Explain how instructional and learning needs will drive new facility design.

2. Determine whether the educational environment will extend beyond the classroom (e.g., into the community).

3. Determine what, if any, major changes in the teaching-learning environment are anticipated to more fully achieve the county's/state's educational goals.

4. Determine whether and how technology will be utilized for integration and/or instruction.

E. A description of the support plan.

1. Determine the kinds of support services that are essential to carry out the instructional plans (e.g., cafeteria/food service, health services, library/media center, transportation, guidance, educational technology support, Alternative Learning Center).

2. Determine how these services will be more operationally efficient in the new plan.

F. Describe the personnel plan including professional and support services staff.

1. Determine what allocation of staff will be made (to each building) to implement the educational plan.

2. Describe how professional staff efficiency will be addressed in this plan (for example, teacher-pupil ratio, itinerant teachers, teachers traveling within the building).

3. Describe how support staff efficiency will be addressed in this plan.

4. Describe how a Technology Integration Specialist (TIS) will be integrated into the instructional delivery system.

100.014 Evaluation and Inventory of Existing Facilities

100.0141 The evaluation of existing facilities shall include a survey of each facility including modular and detached structures in the county, including floor plans that accurately reflect existing layouts and exterior photographs, using the SBA-approved School Facility Evaluation Instrument. This evaluation will provide objective data on the condition and components of the existing building, its appropriateness for delivery of the instructional program, and its ability to support the present and projected enrollments in an effective and efficient manner. Based on the county's goals and objectives, individual facility deficiencies must be identified. This data can help determine if the facility can be economically modified to house the projected educational program and at what cost. The services of an architect or educational facility planner.

100.0142 Criteria for Evaluating Existing Buildings

A. The disposition of abandoned/surplus buildings must be identified in the CEFP and include accommodation for security, sanitation, health, and safety to minimize the facility as an attractive nuisance to the community.

B. Health and safety considerations must be identified as required by the regulatory agencies and will be used as criteria for determining prioritization of projects for SBA funding. Regulatory agencies include, but are not limited to, the offices of the West Virginia Fire Marshal, West Virginia Department of Health and Human Resources, West Virginia Division of Highways, Office of School Facilities of the WVDE and SBA. The principles of Crime Prevention Through Environmental Design (CPTED) should also be included during the evaluation.

C. The need for facility improvements and new facilities must be identified and must accommodate the educational programs by design. Building design will be dictated by the curriculum as defined in an approved educational specification and new facilities must meet regulations of the state Handbook on Planning School Facilities Policy 6200.

D. Facilities must comply with state policies; federal and state laws; all federal, state, and local regulatory agency requirements; and when applicable, guidelines of the SBA and WVDE. Modular and detached classrooms/facilities specifications must be added to the CEFP. Building modifications that are necessary to meet these requirements must be indicated.

E. Economies of scale include compatibility with similar schools that have achieved the most economical organization, facility utilization, and pupil-teacher ratios. Economies of scale shall not be the single determining factor in evaluating existing buildings.

F. Economies of scale (EOS):

1. Shall be established by the SBA.

2. Geographic or other considerations may require exceptions to be considered and a waiver of the EOS can be requested. Regional planning should also be considered to achieve these minimum enrollment standards.

3. Building design capacity should be considered for early and elementary, middle school, and high school facilities.

G. A description of Energy Usage including any probable causes of inefficiencies must be included.

H. An appraisal of how each facility supports or fails to support the educational program, including the technology infrastructure, must be included.

I. A calculation of the program utilization for each facility in accordance with the guidelines of the SBA for educational specifications.

J. A site analysis describing each school site using the criteria in Section 200 of this handbook must be included.

100.015 Operations and Maintenance Plan (OMP)

The county shall include a corrective and preventive maintenance and capital improvements plan for existing facilities in accordance with the current SBA Guidelines and Procedures Handbook and WV Code §§18-9D-15(d) and 18-9D-16(b).

100.016 Translating Educational Needs into Facility Needs

The county shall use the data collected in the community analysis, the population

and enrollment study, the educational plan, the evaluation and inventory of existing facilities, inter-county facility feasibility study, and the OMP to make decisions that will determine the future facility needs of the county. This plan will ensure that facilities are in compliance with state and local requirements and address the educational needs of the county.

Comprehensive planning is a way of identifying the best route to the future through a workable plan for handling priority rated, predictable situations, and anticipated changes. A CEFP defines ultimate goals for the institution and accounts for the facilities required to help achieve these goals. The capacities and capabilities thus defined are realized, if necessary, through several phases of construction and expansion or reduction and modification. These activities are viewed in terms of their relationship to the total program.

A summary of the county's transition to facilities needs should be represented by these items and in this order in the plan:

- A. A Building Review and Recommendations Report, compiled alphabetically by school
- B. A Feeder School Summary Report
- C. A feeder school summary report narrative filed together alphabetically by high school attendance area
- D. A High School Attendance Area Facility Report, compiled alphabetically by high school attendance area
- E. A countywide facility classification
- F. School Safety

Analysis of the data compiled in the CEFP regarding enrollments, the educational program, the condition of existing facilities, and the ability of each facility to support the educational program will result in the identification of specific inadequacies in each school that need to be addressed. The county shall include a narrative to describe each school facility, site, enrollments, general conditions, recommendations for future use of the building, and cost estimates to implement the recommendations. Additionally, a list of projects at each facility needed to address the inadequacies in health and safety, building integrity, or educational capability of the facility shall be included. A ten-year timeline will be developed and included to indicate the anticipated completion of each of these projects.

Upon completion of the recommendations for each individual school, a high school attendance area summary for school improvements shall be developed to provide an analysis of necessary and proposed improvements in each community.

Program utilization is the preferred method of calculation where the enrollment of each school is divided by the number of "seats" available at a given time throughout the day. However, program utilization shall not be the sole factor utilized in determining whether a new school should be constructed or whether the construction should be funded by the SBA. Many factors other than utilization inform a county's need and desire to build a new school. Consideration may be given to extraneous factors that may alter the typical utilization requirement provided the project is approved by the WVBE and the SBA.

100.017 Inter-County Facility Feasibility Study

- A. Each county shall submit to the WVDE and the SBA a list of grouped, inter-county

attendance areas where potential exists for cooperative utilization of a facility between or among counties. This may include multi-county and inter-regional facilities, e.g., magnet schools, area career and technical education centers, etc.

B. A planning study is to be completed to assure that an efficient and effective instructional delivery system will be utilized addressing each of the items indicated in the CEEP Goals and Objectives.

C. The results of the study and its impact on school facility needs for students in these attendance areas shall be included.

100.018 Financing Plan

The estimated costs for implementing the improvements identified in this plan shall be utilized in the development of the finance plan.

A. The source of funding to be utilized in the financing plan shall be identified and may include one or more of the following.

1. Local bonding capacity and unencumbered potential
2. Excess levy funds
3. Federal aid funds
4. Sale of abandoned school sites and buildings
5. State funds (including SBA)
6. Permanent improvement funds
7. Performance-based contracting
8. Lease-purchase arrangement

The fiscal obligations to be considered in the plan must be identified and must include the following.

1. Outstanding Bond indebtedness
 - a. Total obligation
 - b. Amount encumbered annually
 - c. Maturity date(s)
2. Outstanding lease-purchase agreements, performance-based contract, or certificates of participation
 - a. Total obligation
 - b. Amount encumbered annually
 - c. Pay-out date(s)

B. The cost of needed improvements as determined by an architect, professional engineer, or other professional project estimator must be included. The financial needs identified in the Translating Educational Needs into Facility Needs Section of this handbook indicating the cost for each capital improvement for each facility and its anticipated funding source shall be summarized and included.

C. If a proposed project benefits more than one county in the region, the plan shall include the manner in which the cost and funding of the proposed project shall be apportioned among the counties.

D. While county financial conditions and bonding efforts will be considered and are strongly encouraged, they will not be the sole factors in determining eligibility for school projects to be funded, wholly or partially, by the SBA. Likewise, economies of scale, while an important aspect of efficiency and sound financial planning, should not be a deterrent for county school systems to seek funding from the SBA and shall not be a sole determining factor in awarding funding.

E. An accurate financial plan and proposed budget shall be required any time building projects are considered.

100.019 Synopsis of Comments from the Public Hearing(s)

Prior to submitting the CEFP to the WVBE and the SBA for approval, a public hearing(s) must be advertised and conducted in accordance with WV Code §59-3-1 et. seq., to provide broad-based community input into the plan. As an addendum to the CEFP, sufficient documentation, including verification of public notices from the local newspapers, a synopsis of all comments received during the hearing(s), and a formal comment from the local board must be included.

100.020 Objective Evaluation of Implementation

As part of the total CEFP, the county shall include the objective means to be utilized in evaluating implementation and effectiveness of the overall plan and each project included therein. The evaluation shall measure how:

A. Each project furthers each of the quality educational goals of the SBA as defined in W. Va. Code §18-9D-16. This shall include: student health and safety, economies of scale, travel time and other demographics, achievements of effective and efficient instructional delivery system, curricular improvements, innovations in education, and adequate space for projected student enrollment;

B. Prioritization of projects within the county serves as a basis for determining expenditure of available funds; and

C. The overall success of any project relates to the facilities plan of the county and the overall goals of the WVDE and SBA.

100.021 DESIGN DOCUMENT SUBMISSION AND REVIEW PROCEDURE PER COMPREHENSIVE EDUCATIONAL FACILITIES PLAN (CEFP) REQUIREMENTS

100.0211 Regulations of the WVBE and West Virginia Code §18-9D-16 require all plans for new construction, additions or renovations, major improvements, closings, and grade re-configurations to be included in the CEFP. The CEFP must be amended to include projects deemed necessary by the county board of education but not included in the original CEFP.

In order to ensure that the WVBE and the SBA be fully informed about proposed amendments to comprehensive plans, the following conditions must be satisfied:

A. All requests for amendment to CEFPs, including budget amendments, must be signed by the county superintendent and must show the date such amendments were approved by the county board of education and certified that they meet statutory regulations.

B. Changes in comprehensive plans may not be implemented prior to WVBE and SBA approval.

C. All amendments must be fully explained; substantive changes must be accompanied by complete justification with data addressing the subjects of enrollment, facilities, finance, personnel, transportation, and educational programs.

D. The proposed amendments shall include evidence of citizen awareness of changes in the comprehensive plan.

E. Approval of the closure by the WVBE automatically amends the CEFP; however, this does not assure SBA funding of a related project.

F. Selection of architectural and/or engineering services shall be in accordance with Section

1403.

100.022 RELATED INFORMATION – STATUTES AND REGULATIONS

100.0221 School construction or improvement projects are frequently influenced or regulated by various statutes of the Code of West Virginia. In addition to complying with the State Building Code, listed are sections with which school personnel should be familiar. This list may not be comprehensive as statutory and other regulations may change. School construction and improvement projects must comply with all applicable statutes and regulations.

CHAPTER	ARTICLE	SECTION	SUBJECT
5	G	1-1	Procurement of Architectural and Engineering Services
10	2	1-5	Public Recreation & Playgrounds
10	2A	1-26	Athletic Establishments
11	8	5-33	Levies
11	10	11(d)	Prerequisite to final settlement of contract with this state or political subdivision; penalty
13	1	24, 34	Bond Issues for Original Indebtedness
16	1	7	Promulgation of rules and regulations
16	1	9	Supervision over local sanitation
18	3	9a	Authority of state superintendent as to fire hazards and safety of buildings
18	4	10	Duties (5): Close temporarily a school when conditions are detrimental to the health, safety or welfare of the pupils
18	4	11	Other powers and duties (3): Recommend for condemnation buildings unfit for school use
18	5	5	County Bd. of Ed.: Exemption of school property from legal process and taxes
18	5	6	Validation of titles to land in possession of board
18	5	7	Sale of school property at public auction; oil and gas leases
18	5	8	Condemnation of land necessary for educational purposes
18	5	9	Schoolhouses, buildings, and equipment
18	5	10	The state board may require all plans and specifications to be approved by the WVDE.
18	5	11	Joint establishment of schools
18	5	12	Bond of contractors
18	5	13	Authority of boards generally
18	5	13a	School closing or consolidation
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64 CSR 45 Lead Abatement Licensing Rule

64 CSR 46 Water Well Design Standards

64 CSR 47 Sewage Treatment Design Standards

64 CSR 51 Fees for Services

64 CSR 56 Infectious Medical Waste

64 CSR 63 Asbestos Licensing Rule

64 CSR 78 Radon Licensure Rule

Federal Regulations:

US Environmental Protection Agency

40 CFR Part 763 Asbestos Containing Materials in Schools (AHERA)

40 CFR Part 61 National Emission Standards for Hazardous Air Pollutant (NESHAP)
Part 61.140 Subpart M & Part 61 (Revised 9-23-03)

Occupational Safety Health Agency (OSHA)

29 CFR 1910.134 Respiratory Protection Standards

101. EDUCATIONAL SPECIFICATIONS FOR A SPECIFIC SCHOOL CONSTRUCTION PROJECT

101.01 The development of educational specifications for each new school facility is a team, rather than an individual activity, which is accomplished by school administrative unit personnel with or without the assistance of an outside consultant. The chief school administrator recommends persons for committee appointment which will include appropriate principals and teachers. A representative of the SBA will be appointed to the committee if SBA funds are utilized in the project. The local board then acts on these recommendations. The chair of the committee shall be selected by the superintendent. Some important considerations in the selection of committee members are:

- A. Time available to spend on the project
- B. Knowledge about the project
- C. Imagination and creativity
- D. Ability to work with people
- E. Interest in the improvement of the school

101.02 Educational specifications must describe the learning activities that will be housed in the proposed facility; the number, grouping and nature of the people involved; the spatial relationship between the facility and site; the interrelationships of instructional programs with each other and with non-instructional activities; the major items of furniture and equipment to be used; and any special environmental provisions which would improve the learning environment and promote staff efficiency. Educational specifications should avoid rigid architectural prescriptions.

101.03 Educational specifications describe the educational activities, which a proposed facility must support and the types of spaces, which will best accommodate program requirements. They are not a precise delineation of the instructional program; nor are they technical specifications of the type that the architect or engineer directs to the contractor. They are, however, in a temporal and developmental sense, a connecting link between the program and technical statements.

The educational specifications document is the vehicle of communication between the educator and the architect. The educator identifies the educational objectives and suggests general facility needs; the architect bases his/her facility design on this information. Copies of educational specifications for any new facility shall be submitted to the SBA for review before Schematic Design submission. The SBA educational specification guidelines and the WVDE Policies 6200 and 2510, must

be used for all projects regardless of funding sources.

102 DOCUMENT SUBMISSION AND REVIEW

102.01 Submission of the Educational Specifications

Once the educational planning committees are established, their objective should be to plan the educational program for the facility. This document must define the learning activities; the number groupings of the students with the staff and the space relationship between areas of the facility; and describe the type of furniture and equipment needed to support the desired program. Once completed, one copy of this document must be submitted to the SBA and the WVDE for a collaborative review and approval before proceeding to the schematic design phase of the project.

102.02 Submission of Schematic Design Plans, Specification and Budget Estimates

102.021. The schematic design documents as outlined in the SBA Policy and Procedures document are to be approved by the SBA and WVDE before the project can proceed to the design development phase.

102.03 Submission of Design Development Plans and Specifications for Individual Projects

Once the comprehensive plan has been approved, individual project planning should be implemented. Approval of plans and specifications for the construction of new buildings, additions, and renovations is required by the WVDE Office of School Facilities, the WVDE Office of Technology, the SBA, West Virginia Bureau for Public Health, West Virginia Division of Highways when new construction, and the State Fire Marshal's Office. The LEA and project architect shall be responsible for securing approval of design development plans from each of these agencies.

102.04 Plan Review Process - Design Development Plans

The LEA and project architect are responsible for distributing educational specifications, designing development drawings, outlining specifications, estimating project cost, and project budgeting for project approval. Documentation must be provided to the WVDE and to the SBA. To ensure review and approval prior to planned construction, a thirty (30) day period should be set aside for plan review. The LEA will distribute plans to the state agencies in the following manner.

- A. One complete set of plans and specifications in non-editable format, Adobe PDF, and the application for project approval to the WVDE Office of School Facilities
- B. One partial set of plans and specifications, including the architectural, electrical and telecommunications, to the WVDE Office of Technology and Information Systems
- C. One set of plans and specifications to the West Virginia Division of Health
- D. Two sets of plans and specifications to the West Virginia Fire Marshal's Office
- E. If new construction, one set of plans and specifications to the West Virginia Division of Highways
- F. One set of plans and specifications to the SBA

102.05 Plan Review Process - Final Plans

Approval of preliminary, design development, or final construction plans and specification must always be contingent upon the final review by the appropriate regulatory and funding agencies. The procedures outlined in Chapter 1, Sections 102.03 and 102.04, must also be followed in the submission of final plans.

103 OCCUPANCY OF NEW EDUCATIONAL FACILITIES

103.01 Prior to occupancy, the county maintenance director/staff will train teachers, and other employees of the building, particularly fire escape routes, heating, ventilating, and air conditioning systems, communication systems and school access safety procedures.

103.02 No educational facility shall be occupied without prior approval from the WVDE, state and county regulatory agencies, and SBA, when appropriate.

104 FACILITIES PROGRAM CONTROL

104.01 When projects are SBA funded, SBA guidelines regarding administration and project control shall be in effect. On single county projects, the county board of education maintains control of the construction program. On new cooperative multi-county projects, a joint building council of individuals from the cooperating counties shall administer the construction project. This council shall include, but not be limited to, the respective county superintendents, one member from each county Board of Education, the principal of the new facility, if known, and one classroom teacher from each county. The council shall control each project by:

- A. Authorizing a study of the educational program and subsequently adopting educational policies for implementation;
- B. Authorizing the survey and adopting a building program on the basis of the results thereof;
- C. Establishing site criteria, inaugurating steps to select and purchase sites, and authorizing the purchase of sites;
- D. Authorizing the preparation of and approving educational specifications for each building;
- E. Selecting the architect, educational consultant, legal advisor, and other specialists;
- F. Authorizing the preparation of architectural drawings, and specifications, approving of preliminary plans, working drawings and specifications and any subsequent change;
- G. Deciding when to proceed with construction, soliciting bids, awarding contracts, and inspecting and accepting the completed building;
- H. Authorizing the expenditure of necessary funds at each stage of the program; and
- I. Designating one county as the fiscal agent to handle the business functions of the building council on inter-county projects.
- J. The counties shall implement a procedure to maintain and store all record drawings, all associated construction documents and operational and maintenance manuals for future references. The documents for each facility shall be maintained for the duration that the county has ownership of the facility.

Chapter 2
SCHOOL SITE PLANNING

200 SCHOOL SITE

All school sites provide sufficient space for the school building, future expansion, educational program activities, and support facilities.

201 SELECTION

201.01 Intelligent and imaginative school site selection and development are significant aspects of educational facility planning. Because the design and use of the land on which a school is built is fully as important as the design and use of the facility itself, the site's potential as an educational and community resource must be considered.

201.02 The selection of a site requires the cooperative effort of the county board, school staff, planning committee, architect, and legal consultants. Since the educational program is of primary concern to the community, consideration should be given to lay membership on a site selection team.

201.03 Resources to be utilized when selecting sites may include: land-use maps, aerial photographs, soil maps, topographic maps, highway maps, flood control maps, neighborhood or school service area maps, pre-school and pupil spot maps, dwelling unit maps, utility service plans, and realtors' and developers' intentions.

201.04 Factors to be considered in selecting a site may include: number and grade level of students, nature of the educational program, initial cost, development cost, availability of utilities, transportation systems, availability of activities, provision for a safe and healthful environment, and the protection of the investment in the building.

202. LOCATION

202.01 School sites shall be located in proper relationship with existing and proposed physical facilities in the community, including: student population centers, parks, recreation centers, libraries, health centers, streets, highways, residential housing, and other schools.

202.02 Guidelines for school bus routing.

202.021 For elementary school students- thirty minutes

202.022 For middle school students - forty-five minutes and

202.023 For high school students - sixty minutes

202.03 A county board may not create a new bus route for the transportation of students in any of the grade levels pre-k through grade five (5) to and from any school included in a school closure, consolidation or new construction project approved after the first day of July, 2008, which exceeds by more than fifteen (15) minutes the recommended duration of the one-way school bus transportation time for elementary students adopted by the WVBE in accordance with Section 202.02 unless:

202.031 The county board adopts a separate motion to approve creation of the route and request written permission of the WVBE to create the route; and

202.032 Receives the written permission of the WVBE to create the route.

202.04 A county board may not create a new bus route for the transportation of students in any of the grade levels pre-k through grade five (5) to and from any school included in a school closure, consolidation or new construction project approved after the first day of July, 2008, which exceeds by more than thirty (30) minutes the recommended duration of the one-way school bus transportation time for elementary students adopted by the WVBE in accordance with Section 202.02.

202.05 The WVDE shall provide technical assistance to county boards with the objective of achieving school bus transportation routes for students which are within the recommended time durations established by the WVBE.

202.06 For the safety of students, the school site shall be located away from hazards and undesirable environments, such as:

- A. Railroads, arterial highways, heavily traveled streets, traffic, and congestion
- B. Noise, toxic gas escapes from railroads, airports, and odoriferous plants or industries
- C. Natural barriers limiting accessibility and expandability, such as rivers, lakes, swamps, and protruding ridges
- D. High voltage transmission lines, booster or reduction stations, high pressure gas lines, and transformer stations
- E. Taverns, fire stations, bulk storage plants for flammable liquid, and property zoned as industrial
- F. Situations where a combination of factors such as those presented above could contribute to the possibility of human entrapment
- G. Building sites must be located above the 100-year flood plain as determined by the U.S. Corp of Engineers. The finish floor elevation of a new facility must be a minimum of two feet above the established 100-year flood plain. When considering property at or adjacent to a flood plain, the county must obtain a Certificate of Compliance from the County Flood Plain Manager to verify the Base Floor Elevation is above the 100-year flood plain and safe from potential hazards.
- H. Public service facilities which must be available for a school site include: water, gas, telephone, cable/internet, electricity, sewage disposal, fire protection, and transportation.

203 SIZE

203.01 The size of any school should provide sufficient and appropriate space for all of the in-school and evening activities.

203.02 With the assistance of an architect, trial layouts of the area required for a site should be made and include, but not necessarily be limited to, the following items, with grade level appropriateness considered:

- A. The school building
- B. Reserve for expansion of building
- C. Set back from streets, sidewalks, approaches, and driveways
- D. Parking areas, access, and buffer
- E. Bicycle entrances and storage racks, with proper buffer areas, if appropriate

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- F. Landscaping and buffer areas at the side and back of the site
- G. Paved game areas, including space for outdoor basketball and tennis courts
- H. Field game areas for physical education and recreation
- I. Areas for interscholastic athletics (which may overlap with field game areas)
- J. Possible athletic stadium with parking area, access, and buffer
- K. Outdoor area (educational) for nature study, biology, art
- L. Possible driver instruction areas (auto)
- M. Outdoor area adjacent to shops
- N. Unassigned areas held in reserve for future use

203.03 School sites of the following minimum sizes shall be provided:

- A. Early and Elementary Education Program (pre-k-5)
5 usable acres + 1 additional acre for every 100 students over 240 students
- B. Middle School Education Program (6-8)
11 usable acres + 1 additional acre for every 100 students over 600 students
- C. High School Education Programs (9-12)
15 usable acres + 1 additional acre for every 100 students over 800 students
- D. Area Career and Technical Schools
10-40 acres

NOTE: If sewage treatment plants and retention pools are required, acreage would may need to be increased.

203.04 Site acreage are national norms and apply to traditional suburban schools. Where the nature of the neighborhood is urban, the school site shall also be urban in scale. Where the terrain limits the land available for site planning and construction, this factor shall be considered. One remedial measure would be to locate schools adjacent to parks or recreation facilities. However, all sites not meeting the minimum standards must be approved by the WVBE. Requests for waivers must be submitted in writing to the State Superintendent along with written justification for the request.

203.05 For modern schools, a portion of the site should be set aside to meet needs that are bound to arise in the future. Many schools constructed in the past have become obsolete because they lacked sufficient size to warrant economical rehabilitation or enlargement. Buying an adequate site is insurance against such educational obsolescence.

204 PHYSICAL FEATURES

204.01 Ideally, a school site should not enhance the cost of construction and should permit the architect to place the building in an appropriate place in relation to other facilities to be developed on the site. The services of an architect, other related specialists, and consultants from the WVDE or the SBA are necessary to judge a site on this criterion.

204.02 A natural elevation with satisfactory approaches avoiding long or difficult climbs makes a desirable setting. The site should be free from drainage from contiguous land and should permit proper drainage throughout at a reasonable cost. Positive drainage should characterize the parts of the site, which are expected to serve as recreational and physical education areas. The soil, preferably a sandy loam, should be fertile enough to produce good lawns and vigorous landscaping growth.

204.03 There are many site factors which affect cost apart from the purchase price of the land. The following conditions are to be determined in advance and considered along with the purchase price.

- A. The need for extensive hauling of earth due to a surplus or shortage on the site
- B. The presence of quicksand, deep mines, unsatisfactory fill, pyrites, or other undesirable subsoil conditions which require special footings or pilings to support the building
- C. The presence of rock or other conditions affecting the cost of necessary excavation or ditches
- D. The need for the removal of obstructions, such as large boulders or trees; the need for fillings or capping of old wells, clay holes, pits, or mines
- E. An unduly expensive drainage need
- F. The need for constructing and maintaining long access drives and special installations due to distance from service utilities
- G. A public water system adequate for a fire protection system.

204.04 Approval by the WVDE and SBA will not be granted for construction of a facility on a site lacking municipal water, adequate fire protection, and sewage services without the approval of local or state health agencies. No water supply can be considered acceptable unless it provides an ample quantity of safe and potable water for the school.

204.05 Local or state health agencies will also provide information regarding the required type and location of a sewage disposal system.

204.06 The subsoil of a site must provide good drainage and a proper base for economical and substantial foundations for the building. Neither purchase of a site by the county board of education nor building design shall be initiated until the subsoil conditions have been determined acceptable for the entire area of the building by adequate test borings or core drilling made under the direction of a registered professional civil engineer. Soil tests are particularly important for schools that require extensive grading. Underground investigation shall also include the ownership and presence of mineral rights, mines and wells, and the effect they have on the site development. The recommendation is made that mineral rights be controlled for long-term protection of surface usage.

204.07 Some adverse site conditions can be overcome by modern construction methods, but they should be accepted only when the costs of such improvements are cost effective. Many of these conditions are not readily seen at the surface. Before the land is purchased, test borings should be made to accurately determine subsoil conditions and the results should be analyzed and interpreted for the board by a registered professional civil engineer.

NOTE: County boards of education and county superintendents may secure soil information from the United States Department of Agriculture, Soil Conservation Service, Morgantown, West Virginia. This service is provided without cost and could save thousands of dollars by assisting in properly locating schools. Soils are rated by various information. The contracting organization can require certain specifications that prevent problems due to soil limitations.

204.08 Sites should be of such shape and contour as to yield reasonable space for the setting of the building and for drives, walks, play, and athletic fields. The contour of a site should be slightly convex to allow placement of the building at the high point. This situation rarely occurs naturally and some earthwork to develop this land form will be necessary on almost every site.

204.09 Cost for excavating and foundation walls can be reduced by fitting the building to the contours of the land. Extra expense for special footings and special drainage can be eliminated by placing the building on high ground and where subsoil conditions are known to be favorable. Proper placement of the building will reduce the length of utility and drainage lines, drives, and walks, thus reducing costs.

205 RECREATIONAL AREAS

All schools housing early childhood education programs contain an adequate blacktopped play area and a field game area large enough to accommodate physical education activities. All centers housing kindergarten programs contain a segregated blacktopped area and a large grassy area with climbing equipment and swings. The playground may be segregated by either time or space allocation. The playground must meet the standards of the Handbook of Playground Safety and be ADA compliant. All middle and high school sites contain a blacktopped play area with a minimum size of 4800 ft² and a field game area, space and/or facilities large enough to accommodate physical education activities such as soccer, touch football, softball, tennis, and track.

205.01 The following represent the typical recreational spaces for new school site selection and planning.

1. Early Childhood (pre-k) - All schools housing early childhood education programs shall contain an adequate paved play area and a playfield / game area large enough to accommodate physical education activities.

2. Kindergarten - All centers housing kindergarten programs shall provide a segregated paved area and an area with climbing equipment and swings. The playground may be segregated by either time or space allocation. The playground must meet the standards of the Handbook of Playground Safety of the Access Safety Council and be ADA compliant.

3. Elementary (1-5) - All school sites intended to house elementary grades shall provide ample space for the following recreational / physical education activity areas:

a. a paved play area with a minimum size of 4,800 square feet

b. an area large enough to accommodate at least one recreational play structure which offers opportunities for physical activities such as climbing or swinging. The playground must meet the standards of the Handbook for Playground Safety and be ADA compliant.

c. playfield(s) sized in accordance with the intended curriculum or activity

4. Middle School/High School - All school sites intended to house middle school grades shall provide ample space for the following recreational / physical education areas:

i. a paved play area with a minimum size of 4,800 square feet

ii. playfield(s)/courts sized in accordance with the intended curriculum, activities, or sports

205.02 Field and Court Dimensions – Required field and court dimension shall be obtained from the West Virginia Secondary Schools Activities Commission. Consultation with a site planner, civil engineer, or architect is encouraged.

206 WALKS, DRIVES, AND PARKING

All walks, drives, and parking areas must be paved.

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206.01 Walks should be direct, convenient, and natural to encourage people to stay on them. They should connect the building with streets or highways, the bus loading zone, parking areas, and auxiliary school facilities. Limiting points of access is desirable for control of traffic. Main walks, such as loading areas, and main entrances should be constructed with the initial building program. Additional walks should be constructed after traffic patterns have been established.

206.02 Walks must be compliant with ADA standards.

206.03 Walks should be far enough from the building to permit ample space for shrubbery, must be crowned or sloped high enough for proper drainage, and must be illuminated per the Illuminating Engineering Society of North America (IES) standards for night use. Walks should be of a continuing common surface where practical and should not be interrupted by steps or abrupt changes in level. Walks, driveways, or parking lots should blend to a common level.

206.04 Safety is a primary consideration in locating vehicular circulation on the school site. Secondary considerations are economy, convenience, and directness. Driveways should be:

A. One way with clear views. Two lanes should be provided to main loading entrance and parking areas.

B. Hard surfaced, properly drained, and illuminated per IES standards for night use.

C. Planned to provide access and control traffic to loading areas and building service entrances.

Wherever practical, driveways for buses should be separate.

D. Located so as not to connect to a heavily traveled highway if a lightly traveled street is accessible. Points of access to the site should be limited.

E. Of adequate space to ensure that carbon monoxide does not accumulate in idling vehicles or school buses.

F. Every educational facility not readily accessible from public roads shall be provided with suitable gates, access roads, and fire lanes so that all buildings are accessible to fire apparatus. Fire lanes shall be at least 20 feet in width, with the road edge closest to the building at least 10 feet from the buildings. Any dead-end road shall be provided with a turn-around at the closed end at least 90 feet in diameter.

G. Location shall be coordinated with the facility mechanical systems to prevent exhaust fumes from entering the facility through air intakes.

206.05 Parking space must be adequate to accommodate school visitors, employees, students who must drive, school buses, and school activities. Parking space must be provided for individuals with disabilities, and the site and building must be accessible to individuals with disabilities. Parking spaces can be provided at the rate of about 125 cars per acre. The following parking configuration is suggested:

A. For staff: 1 parking space per staff member including itinerants.

B. For students: Approximately 1/3 or more of the pupil population at the high school level and space provided as necessary.

C. For visitors: an additional 10 to 20% of total staff parking

D. A percentage of spaces must be labeled for individuals with disabilities according to ADA requirements.

206.06 Consideration should must be given to the following parking arrangements:

A. Car parking should be arranged to minimize backing. Parking areas must be hard surfaced, well drained, and illuminated per IES standards for night use. Traffic control signs must be installed.

B. Car parking should not be permitted on streets with street traffic, on pedestrian lanes, or on

driveways or loading areas. Parking areas must be away from playgrounds but near spectator areas when practical.

206.07 A designated bus loading and unloading zone is required and shall be provided to accommodate all buses anticipated to be present at the school at one time. This shall be based on:

A. A transportation survey covering bus schedules, partial unloading or transfer of students, provision for students with exceptionalities, and parking.

B. The number of students transported, based on the average number of students per bus or rated capacity of the bus.

C. Future growth or possible changes in the transportation pattern.

206.08 The bus parking area must be designed in connection with the bus loading zone, independent of driveways, so that backing the vehicle is unnecessary. It must be permanently surfaced and well drained, with designated spaces and traffic control signs.

206.09 Bicycle racks near the building are desirable for some schools. A survey to determine the need should be used to indicate the rack space necessary.

207 FIRE PROTECTION

207.01 As per the West Virginia State Fire Code, all school facilities shall have fire hydrants at specified locations to achieve the best fire insurance assessment. The type of hydrant required must be determined in consultation with the local fire department.

208 SAFETY AND CLEANLINESS

208.01 The principles of safe design and Crime Prevention Through Environmental Design (CPTED) should be considered when new schools are designed and existing schools experience major renovations.

208.02 All school buildings and grounds shall be kept clean and free from debris and safety hazards.

209 BEAUTIFICATION

209.01 The school site should lend itself readily to landscaping and provide a pleasant natural environment. It should permit the location of the building an adequate distance from the street line, both for aesthetic setting and for the safety of children.

209.02 The site plan presented by the architect should encompass the total site and show future developments. The same general procedures used for planning the building should be used for outdoor facilities. The process of educational planning, writing educational specifications, and architectural designing are applicable to sites as to as well as buildings.

209.03 Well planned site plantings for individual schools should be prepared with the assistance of qualified personnel, such as landscape architects and nurserymen. Personnel at West Virginia University and the U.S. Soil Conservation Service are available to assist in planning for site beautification.

209.04 The school site plan shall not be considered adequate without an accompanying

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planting and plant maintenance plan. The site design should consider the harmonious visual integration of the varied plantings with the mass of buildings from all points of view and in accordance with School Access Safety Plans.

209.05 The classes of plants usually used on school grounds are: shade trees, evergreens, evergreen shrubs, deciduous flowering shrubs, and ground covers such as grasses. In general, a school ground planting scheme will consist of foundation planting, intersection planting of shrubs at angles and curves of drives and walks, tall trees to frame the building, and trees planted in groves for shade.

209.06 The choice of plants should be limited to the following varieties:

- A. Plants that require minimum maintenance
- B. Plants that are known to be sturdy
- C. Plants that thrive in recreational areas
- D. Plants that tolerate normal amounts of dry weather

209.07 All usable existing topsoil on the site shall be saved. It can be replaced only at great expense. An analysis of the topsoil should be made to determine plant food requirements for the plantings provided.

209.08 As per guidelines set forth by the American Standards of Landscape Architects, the county shall retain and protect as many existing trees as possible to be absorbed in the total plan. If all the planting cannot be done at once, shade or larger trees should be planted first. Locate trees should be located in relation to the building so as to shield classrooms from brightness of the sky, reflected snow glare, glare from adjacent buildings, provide shade, and shield from noise, e.g., traffic. Serious consideration of security and life safety issues should be addressed.

209.09 Each school site should have a master plan for plantings approved by the county board of education. Plantings provided by citizens and/or students should be in accordance with the approved plan and should be sanctioned by the board of education prior to the expenditure of money for such plantings.

**Chapter 3
COMMON FACILITIES**

300 FACILITIES NECESSARY FOR THE OPERATION OF ALL SCHOOLS

All schools contain the instructional and auxiliary facilities which are necessary to maintain the educational program and accommodate the out-of-classroom needs of both students and staff. The design possibilities for such spaces have increased with the emergence of diverse concepts in school design, increased use of non-printed media, expanded awareness of student/teacher human needs, recognition of the school as a community resource, and improved technology. The planning of auxiliary spaces must involve careful consideration of the future adequacy of the spaces. While additional classrooms can be appended with some ease, the expansion of auxiliary spaces can seldom be accomplished easily after completion of initial construction. Thus, when auxiliary facilities become obsolete and inefficient, the usefulness of the entire facility may be diminished.

In the planning and design of new school facilities, designers should always strive to attain maximum effectiveness and efficiencies and enhance life safety and security by looking at multi-use spaces and shared facilities in both the instructional and auxiliary areas.

301 ACCESSIBILITY

All school buildings must be designed in compliance with the Americans with Disabilities Act (ADA). All schools must be designed, constructed, maintained, and equipped to provide a barrier-free environment and maximum accessibility for all staff and students to all floors. All facilities must be in compliance with the requirements of state and federal regulatory agencies concerned with accessibility.

300.01 Additional Accessibility Factors

301.011 School facilities must also provide the following accommodations pursuant to the Uniform Federal Accessibility Standards:

- A. Accessibility ramps and doorways that are ADA compliant
- B. Safe area for loading and unloading of buses and other means of transportation
- C. Restrooms, drinking fountains, and lavatories that are appropriately equipped and ADA compliant
- D. Special furniture for students with orthopedic, mobility, or other physical challenges to permit easy use
- E. Switches, controls, hardware, and fire protection systems that are easily used and understood by student
- F. Food service facilities designed to meet the individual needs of students
- G. Non-skid floor covering or carpet which is mold and microbial resistant
- H. Lockable cabinets for securing medications
- I. Appropriate ceiling tile which is mold and microbial resistant

302 TECHNOLOGY

All school buildings providing pre-Kindergarten through career and technical adult education programs must provide adequate access to instructional and administrative technology. (for HVAC requirements in the designated areas, refer to Section 1108.08) Because of the rapidly changing nature

of technology, a thorough and specific technology plan must be developed to support instruction delivery in each new facility. The plan must respond to the educational requirements of the district and school and the capabilities of each.

302.01 Technology Plan

302.011 The plan for delivery of media, voice, data, graphics, text, and telecommunications throughout the school shall include a description of the instructional and administrative objectives, the technical structure needed to facilitate the system, the equipment needed to implement the system, and the physical/design requirements for incorporating the system into the construction of the facility. The school technology delivery plan shall be based on the technology standards developed for the administration and instructional delivery in new schools. A detailed technology plan shall be developed specific to any facility project as a part of the educational specifications. The technology plan must identify how technology will be used and how it will support the curriculum delivery model.

302.012 The technology plan shall be developed in conjunction with the WV Department of Education Office of Technology and shall:

- A. Identify current and proposed technology needs
- B. Establish technology integration strategies
- C. Identify ideal implementation strategies for every academic and administrative space
- D. Establish a process for tracking, servicing, and updating technology equipment
- E. Identify security protocol and permissions strategies
- F. Outline staff development relating to the use of technology
- G. Identify the infrastructure needs based on the curriculum and instructional programming and match the technology with the skill sets the students are supposed to obtain from the instruction
- H. Provide the design engineer specific technology needs including backbone requirements that will allow the design of the power and support infrastructure for the schools technology equipment

302.013 The technology plan shall meet the requirements set forth by WVDE and comply with applicable SBA policies. The plan shall be submitted to the SBA for approval with design development documents. SBA funding to support the technology infrastructure will be conditioned upon SBA approval of the technology plan.

303 SELECTION OF FURNITURE AND EQUIPMENT

303.01 Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program.

303.02 Criteria for selection should include the following:

- A. Appearance
- B. Maintenance
- C. Safety and security
- D. Comfort
- E. Durability
- F. Building Codes
- G. Guarantees

- H. Flexibility
- I. Availability
- J. Cost

304 ADMINISTRATIVE AND SERVICE FACILITIES

All schools must provide the administrative offices necessary for the operation of the school. The school must also contain a guidance area designed and located to allow privacy, with an entrance separate from the administrative suite. The guidance office must be of adequate size to allow for group discussions and is convenient to student records. The guidance office shall contain adequate secured storage facilities, outside telephone service, and an information display area. The school must also contains a health service area, which includes an examination room, restroom facilities, and an area for the ill. The health area shall be equipped to facilitate the operation of its users and contain outside telephone service. Appropriately equipped areas within the administrative suite must be available for supplies and book storage, secure storage for test booklets, duplicating equipment, conferences and/or small group discussions, a staff lounge, and student and teacher restrooms. A control room, within or adjacent to the administrative suite, shall provided to house the communication systems. Factors influencing the location of administrative facilities include: Proximity to the main entrance of the school, convenient access to the instructional areas of the building, insulation from outside noises, and convenient access to the special service facilities. The entrance of the school, reception, and waiting areas must adhere to school access safety guidelines.

The following chart and description of spaces are examples of the number, types, and square footage of administrative and service facilities that must be considered for typical schools. The educational program of each new facility shall dictate the actual number and types of spaces provided. Counties are encouraged to design administrative and service facilities tailored to meet the needs of the educational program of the school in consultation with an architect or educational facility planner, .

PHYSICAL FACILITY	SCHOOL TYPE – Square Footage Estimates			
	Small Elementary	Elementary	Middle	High
Man Trap	1 @ 100	1 @ 100	1 @ 100	1 @ 100
Waiting	1 @ 150	1 @ 150	1 @ 200	1 @ 300
General Office	1 @ 200	1 @ 200	1 @ 300	1 @ 400
Work Room	1 @ 200	1 @ 250	1 @ 300	1 @ 300
Communications Room	-	1 @ 75	1 @ 75	1 @ 75
Conference Room	1 @ 200	1 @ 200	1 @ 250	1 @ 250
Principal’s Office	1 @ 180	1 @ 180	1 @ 180	1 @ 180
Vice Principal’s Office *	-	1 @ 150	1 @ 150	1 @ 150
Central Storage	1 @ 100	1 @ 100	1 @ 100	1 @ 100
Vault / Records Room	1 @ 100	1 @ 100	1 @ 100	1 @ 100
Mail Boxes	1 @ 80	1 @ 80	1 @ 80	1 @ 80

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Faculty Toilets	2 @ 60	2 @ 60	2 @ 60	2 @ 60
Student Services				
Guidance Counselor Office	1 @ 120	1 @ 120	1 @ 120	2 @ 120
Speech Therapist	1 @ 120	1 @ 120	1 @ 120	1 @ 120
Itinerate Specialist	1 @ 120	1 @ 120	1 @ 120	1 @ 120
Conference Room	1 @ 200	1 @ 200	1 @ 200	1 @ 200
Storage	1 @ 100	1 @ 100	1 @ 100	1 @ 100
Student Health Clinic				
Nurse's Office	1 @ 80	1 @ 80	1 @ 80	1 @ 80
Restroom / Shower	1 @ 100	1 @ 100	1 @ 100	2 @ 100
Clinic	1 @ 180	1 @ 180	1 @ 180	1 @ 180
Dental Clinic * (services provided by outside entity)	1 @ 1,000	1 @ 1,000	1 @ 1,000	1 @ 1,000
Health Clinic * (services provided by outside entity)	1 @ 1,500	1 @ 1,500	1 @ 1,500	1 @ 1,500

* Provided when necessary

304 FOOD SERVICE FACILITIES

The food service facility is critical to meeting the education, nutrition, and health goals of the school nutrition program. Expanded nutrition standards, advances in technology and production techniques, as well as changes in student expectations, impact facility design and equipment decisions. Federal program regulations and state policies recognize the importance of nutrition to students' health and performance by requiring a greater variety of food choices, including fresh vegetables, fruits, and grain-based foods.

To encourage participation in school nutrition programs, students need easy access to quality meals, including time and space to make food choices and practice healthy eating behaviors. Facilities that offer inviting dining and serving environments help to provide these opportunities and shape healthy habits.

High quality nutritious meals must be prepared in a cost effective manner. Well designed and equipped facilities improve efficiency and reduce operating costs and further help to ensure that production techniques meet stringent standards of food safety.

304.01 General Design

304.011 Location

A. The kitchen and dining area shall be located on ground level with direct access from outside for deliveries and disposal

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B. Student access to the food service area from other areas of the building shall be convenient

C. The size and design of food production, serving, and dining areas shall be appropriate for student population (Refer to Area Guidelines.)

D. Food service areas shall be designed for efficient food flow and food safety the receiving area shall be adjacent to the loading dock and near the storage area; the production area shall be adjacent to storage and serving areas; serving and production areas shall be adjacent to ware washing areas; and waste disposal areas shall be adjacent to production areas.

E. Meal serving and dining areas shall be located away from vending machines and all other food sales/outlets to which students have access during meal service periods

304.012 Walls, Floors, and Surfaces

A. Finished surfaces including walls and ceilings shall be composed of durable, smooth, nonabsorbent, and easily cleaned materials

B. Flooring shall be composed of resilient non-porous material, resistant to skidding, grease, and chemicals

C. Floors shall be level throughout the food service facility and be free of steps or other uneven surfaces. In elementary schools, consideration may be given to building the floor in the serving area at a lower level on the cook side so that those serving food are able to see and serve students at eye level.

D. The following are approximate space requirements for prototypical food service program designs. Actual building areas should be sized to accommodate required equipment, student loads, and other factors. The design should be in compliance with WVBE Policy 4321.1, Standards for School Nutrition.

PHYSICAL FACILITY	SCHOOL TYPE – Square Footage Estimates		
	Elementary	Middle	High
Food Service			
Dining Room	Required square footage is calculated by multiplying the percentage of student enrollment dining during a period times the enrollment, multiplied by 12 square feet per student.		
Dining Room Storage	Table storage, as necessary		
Food Preparation	1 @ 500	1 @ 750	1 @ 1,000
Serving	1 @ 200	1 @ 300	1 @ 400
Dishwashing	1 @ 200	1 @ 200	1 @ 200
Non-Foods Storage	1 @ 60	1 @ 60	1 @ 60
Dry Foods Storage	1 @ 140	1 @ 175	1 @ 200
Walk-In Cooler	1 @ 150	1 @ 150	1 @ 200
Walk-In Freezer	1 @ 150	1 @ 150	1 @ 200
Janitor/Custodial Storage	1 @ 60	1 @ 60	1 @ 60
Locker / Dressing Room / Toilet / Washer & Dryer	1 @ 100	1 @ 100	1 @ 100
Dietician Office	1 @ 100	1 @ 100	1 @ 100
Receiving	1 @ 100	1 @ 100	1 @ 100

304.013 Acoustics

- A. Walls, ceilings, floor materials constructed of sound-dampening materials to meet recommended sound levels in accordance with ASA guidelines
- B. Equipment and chairs with noise-resisting glides
- C. Food service areas acoustically separated from quiet areas of the building

304.014 Electrical

- A. Separate electrical panel for kitchen area
- B. Fixtures or bulbs mounted flush with the ceiling, with easily removable safety covers
- C. Lock plugs for refrigeration equipment, e.g., milk coolers, ice cream cabinets, to prevent disconnections
- D. Emergency lighting, particularly in areas without windows
- E. Fire safety and fire suppression systems to comply with OSHA, NFPA, and all fire and building codes
- F. Electronic security systems on doors and equipment to protect against unauthorized access and theft
- G. Acceptable levels of lighting; 35 foot candles on equipment, 50-75 in work surfaces, food displays, point of service, ware washing and serving areas, 80-100 in the office area, 20-35 in storeroom, and 40-50 in dining room
- H. Spare circuits for future needs

304.015 Air Quality

- A. Separate climate controls in dining room and kitchen areas
- B. Filters with a minimum American Society of Heating, Refrigerating, and Air Condition Engineers (ASHRAE) dust spot efficiency of 25% (MERV 7) are desirable in HVAC supply systems.
- C. Temperature maintained between 72°-76°F, relative humidity meets ASHRAE guidelines in kitchen; in dry storage areas, temperature between 50°-70°F.
- D. Air temperature measuring devices meet 1999 Food Code standards (4.203.12), accurate within 1.5°C
- E. Ventilation systems exchange clean air for heat-, odor-, smoke-, steam- and/or grease-laden vapors at rates of (a) 12-20 times/hour in kitchen areas, and (b) 4-5 times/hour in dry storage areas
- F. Ventilation hoods/canopies with removable filters installed over cooking and dishwashing equipment to prevent condensation and grease collection
- G. An AC-powered audible and visual alarm for excessive carbon monoxide detection will be provided where combustible gases are used.

304.02 Facilities

304.021 Kitchen

- A. Space Requirements
 - 1. Adequate space to meet food production needs and meal service types
 - 2. Kitchen aisle widths measure 4 to 6 feet to accommodate carts and personnel
- B. Equipment
 - 1. Equipment selection based on number of meals, food preparation needs (school-made foods, processed products, self-serve food bars, menu choices), number of lunch periods, and

available labor

2. Water source and floor drains/troughs installed for cookery as required for equipment, e.g., vertical cutter mixer, steam jacketed kettle

3. Three-compartment sink for manual dishwashing

4. Fire suppression equipment interconnected to grills and other top-of-stove equipment

5. Automatic and manual shut off for fire suppression on ventilator and cooking equipment

6. Reheating and serving equipment available in facilities to which meals are shuttled from a central kitchen

7. Food transport equipment, which maintains proper food temperatures in accordance with Food Code requirements

304.022 Dining and Serving

A. Location

1. Flow of traffic leaving the dining area passes close to dishwashing and trash disposal areas

2. Serving area entrance convenient to the entrance of the dining area

3. Location and arrangement provides access to students with disabilities in the least restrictive manner

B. Space Requirements

1. Sufficient area for equipment and seating plus circulation and aisles (Space recommended for the dining area is 8-14 square feet per student)

2. Dining area that seats more than 500 students divided into smaller rooms or equipped with room dividers

3. Aisles allow space for two-way traffic of students carrying trays, i.e., a minimum of 6'4" with 8' preferred

C. Equipment

1. Provide a hand washing/sanitizing station for use prior to the serving lines

2. Tables, seating, and serving equipment ergonomically designed and proportional for age/grade levels

3. Furnishings optimize seating capacity while enhancing the dining environment

4. Seating based upon approximately one-half the average daily lunches served, with 10-14 square feet of floor area per meal (student) during each serving period

5. Bulletin boards or display areas

6. Types and arrangement of serving equipment to accommodate meal options (counter vs. self-service, single vs. multiple food choices or lines), and number of persons served per meal period

7. Serving equipment maintains food in a safe condition, e.g., heated servers (steam tables, heat lamps), refrigerated servers, and sneeze guards

8. Tray rails in front of serving line

9. Warming and refrigeration units located near the serving line

10. Serving area equipped with sources of power, water, and facilities for drainage

11. Drinking water available to students, through water dispensers, water filling stations, or other appropriate means, throughout the school day

304.023 Ware washing

- period
- A. Ware washing equipment adequate for number and types of meals served per meal
 - B. Ware washing water temperature meets 1999 Food Code standards
 - C. Ware washing area located in separate walled area, with adequate ventilation
 - D. Hand sink convenient to ware washing area

304.024 Storage Areas

- A. Location
 - 1. Adjacent to kitchen and receiving area
- B. Space Requirements
 - 1. Adequate space based on:
 - a. Number of meals (allow one-half square foot per daily meals served)
 - b. Frequency of deliveries
 - c. USDA Donated Foods (allow for 8-10 weeks supply)
 - d. Types of planned menu items (prepared versus school-made products, canned versus fresh and/or frozen (Refer to Area Guidelines)
 - 2. Additional storage for disaster preparedness
- C. Floors, Walls, and Doors
 - 1. Quality flooring, slip-resistant, durable construction adequate to bear the weight of loaded pallets (600 pounds/square inch)
 - 2. Exterior and interior walls and sub-floors vapor sealed below ground
 - 3. Self-closing heavy duty doors with a minimum width of 42 inches secured from the outside (separate from school's master key system)
- D. Dry Storage
 - 1. Adequate, secured dry storage area (Refer to Area Guidelines)
 - 2. Easy-to-read wall thermometer mounted at eye level and away from airflows
 - 3. Free of non-insulated/unsheathed water, steam, and sewer lines
 - 4. Adequate, adjustable heavy metal shelves (3-5 foot with 3 or 4 tiers per section, 18-24 inches deep and 6 inches above the floor)
 - 5. Separate storage room or cabinet for storage of cleaning supplies
- E. Refrigerated Storage
 - 1. Refrigerator space for a 15-day supply of food to store USDA Donated Foods, in addition to purchased foods and leftovers (Refer to Area Guidelines)
 - 2. Freezer space based on a 30-day food supply
 - 3. Walk-in freezer and refrigerator units recommended in schools serving 250 or more meals per day
 - 4. Walk-in units placed below floor level or set on spacers to provide at least 3 inches of insulation below the refrigeration unit
 - 5. Skid resistant flooring in walk-in units that is level with the kitchen's floor and capable to withstand 600 pounds per square foot
 - 6. Secured safety doors that open from the inside on all units
 - 7. Well lighted interior for all units
 - 8. Condensate drain line on the outside of cooler units
 - 9. Aisles wide enough between shelves to accommodate carts
 - 10. Heavy duty wire shelving in coolers and freezers, stainless steel preferred
 - 11. Reach-in or roll-in units located next to serving line to prevent food contamination and preserve freshness
 - 12. Alarm system that warns of unacceptably high temperatures in freezers and

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refrigerators

- 13. Timed or clock-controlled defrosting cycle for freezers
- 14. Dial or digital thermometer mounted on exterior of unit
- 15. Adequate capacity of reach-in refrigerators and freezers dependent on menu, preparation methods and serving systems (Refer to Area Guidelines)

304.025 Receiving

- A. Receiving area accommodates delivery equipment and vehicles
- B. Additional dock area for vehicle loading and unloading for off-site food delivery systems

304.026 Waste Control

- A. Outdoor waste storage areas constructed of smooth, durable, nonabsorbent material and sloped to drain
- B. Waste receptacles of sufficient capacity to hold refuse
- C. Waste storage areas and receptacles constructed with tight-fitting lids, doors, and covers and designed to facilitate effective cleaning
- D. Waste receptacles located in all areas where refuse is generated or commonly discarded
- E. Acceptable pest control measures to meet food safety standards

304.027 Manager’s Office

- A. Size
Approximately 75 to 100 square feet
- B. Location
Office located near receiving area with visual access to kitchen area
- C. Equipment
See Chapter 3, Section 302.04, and the following requirement.
 - i. The area should be equipped with desk, chairs, lockable file storage, clock, and

bulletin board

304.028 Locker/Dressing Area

- A. Size
Approximately 75 to 100 square feet
- B. Location
Adjacent to or near kitchen area and restroom facilities
- C. Equipment
 - 1. Area equipped with mirror, chairs or benches, and a full-length locker for each employee
 - 2. Hand sink, with proper handles and faucets, located outside restroom facilities

AREA GUIDELINES

The following are approximate space requirements for the five prototypical food service program designs. Actual building areas should be sized to accommodate required equipment, student loads and other factors described below, as well as ensure compliance with 126CSR86 WVBE Policy 4321.1, Standards for School Nutrition.

AREAS	SQUARE FOOTAGE	COMMENTS
Preparation & Production		

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AREAS	SQUARE FOOTAGE	COMMENTS
Satellite Elementary School* On-Site Elementary School** On-Site Middle School On-Site High School High School Food Court	440-460 640-660 620-680 1420-1430 940-960	**"Satellite" refers to facilities where meals produced off-site are received and served. ***"On-Site" refers to school facilities in which meals are produced and served on-site. Production space is affected by the complexity of the menu, the degree of convenience foods used, and the amount of baking done on-site.
Serving Area Satellite Elementary School On-Site Elementary School On-Site Middle School On-Site High School High School Food Court	 250-260 420-430 640-650 1120-1130 1650-1670	Factors affecting serving and dining space requirements include student loads per scheduled meal period, multipurpose uses of space, and type of service, e.g., self, counter, scramble.
Ware washing Satellite Elementary School On-Site Elementary School On-Site Middle School On-Site High School High School Food Court	 225 225 260 390 390	
Dry Storage Satellite Elementary School On-Site Elementary School On-Site Middle School On-Site High School High School Food Court	 80-100 190-210 300-320 440-460 520-530	Factors affecting storage include use of disposables and the number of operating days between deliveries.
Freezer Satellite Elementary School On-Site Elementary School On-Site Middle School On-Site High School High School Food Court	2 door reach-in 100-120 120-140 240-250 250-260	Number of days of supply affects freezer space needed. The quantity and types of USDA donated commodities received also affect storage needs.
Refrigerator/Cooler Satellite Elementary School On-Site Elementary School On-Site Middle School On-Site High School High School Food Court	2-2 door reach-ins 100-120 120-140 150-170 160-180	Cooler space is affected by the frequency of deliveries of milk and other refrigerated foods and the days of supply needed.

305 LIBRARY/LEARNING RESOURCE OR MEDIA CENTER (OPTIONAL)

The mission of the library/media program is to ensure that students and staff are effective users of resources, information and ideas. All schools shall contain a center, which is located, designed, and equipped to facilitate the instructional programs and to enhance information literacy. This center is a space for the organization, storage, lending, and on-site use of a variety of access, information, and delivery tools. The center should be comfortable and attractive. The environment should be pleasant, and the space should be organized to permit quiet, solitary study; group interaction; easy location, inspection and use of materials; and convenient flow of traffic between areas. The success of the center will depend, to a large degree, on the organization of space and materials, the furniture, and the manner in which the center is operated. The center should be centrally located to ensure easy access. A main floor location is usually preferable. The center should be located away from noisy areas like the gymnasium and meet the acoustical standards of the Acoustical Society of America (ASA). It should also be placed so that physical expansion will be possible, if necessary. Other considerations in locating the center are (1) access from outside when other parts of the school building are closed; (2) optional uses for distance learning and virtual classes. The size of the facility should must be appropriate for school enrollment and must accommodate the current collection of printed and other materials, including electronic resources, as well as anticipated acquisitions. The nature of the facility will depend on the educational level of the students although there are some common requirements which are unaffected by the age of the users. For instance, appropriate floor and wall coverings will ensure a low noise level. Ceilings should provide desired acoustical level; heating and ventilating outlets should be installed so that they do not interfere with shelving and so that heat flow will not damage materials; and electrical outlets should be accessible where multimedia and other equipment will be used.

The following are approximate space requirements for prototypical library / learning resource or media program designs. Actual building areas should be sized to accommodate required equipment, student loads and other factors.

PHYSICAL FACILITY	SCHOOL TYPE – Square Footage Estimates		
	Elementary	Middle	High
Library / Media Center / STEM			
Library / Media Center / STEM Space	Required square footage is calculated by multiplying the student enrollment by 12%, then multiplying the total by 30 square feet per student.		
Audio Visual	-	1 @ 125	1 @ 150
Circulation / Office	1 @ 150	1 @ 200	1 @ 300
Storage	1 @ 200	1 @ 200	1 @ 200
Breakout – Small Group Instruction	-	2 @ 400	3 @ 400

305.01 Circulation Area

305.011 Space Allocation - 150 to 200 square feet

305.012 Activities

Online research, exhibits, copying equipment, electronic card catalogs, automated circulation capacity, and online periodical indexes. Provisions for computer work stations and other peripherals.

305.02 Reading/Browsing Area

305.021 Size - 30 square feet per reader

305.022 Capacity

8 to 12 percent of the total student body. Provision should be made to include a storytelling area at the elementary level.

305.023 Location

See factors mentioned in comment about this center in Chapter 3, Section 305.

305.024 Activities-Integrated media-rich learning activities

General reading, reference and research work with hard copy and online encyclopedias, books, dictionaries, maps, pamphlets, charts, globes and pictures; browsing; viewing displays; magazines; charge-out of materials; previewing non-book materials; and class instruction in the use of the library/media resources.

305.025 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements.

A. Tables of various sizes and shapes and chairs. All furniture should be sized to the students using it.

B. Vertical files

C. Reference stands for dictionaries

D. Map stand

E. Storytelling area

F. Informal reading area - periodicals and books; lounge-type furniture

G. Book trucks

H. Wet and dry carrels

I. Movable shelving - 5 feet, not to exceed 6 feet, high and 12 inches deep. Some deeper for reference materials

J. Electrical outlets available. Duplex receptacles should be installed on all walls.

Sufficient branch electrical circuits should be in each room

K. Where there are to be specialized facilities such as language labs, study carrels, microteaching and television, provision should be made for electrical service in the floor.

L. Conduits should be provided to permit future installation of computers, television and other electronic instructional devices.

M. System conduits shall be at least 3/4 inches in diameter in order to provide for installation of television and other teaching devices as indicated above.

N. Acoustical treatment in this area is essential. Use of audio devices mandates acoustical treatment of walls, ceilings, and floors in media centers and other such areas. The noise levels shall not exceed the levels that are recommended by the Acoustical Society of America (ASA).

O. Appropriate floor covering and ceiling tile, which is mold, and microbial resistant

P. Light control. Adequate provision for controlling the light level in instructional areas and projection area near computers is essential. For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.

Q. For preservation of book and non-book materials and equipment, temperature between 68-75°F and humidity less than or equal to 60% rH shall be maintained. Air conditioning of media center

and production area is recommended.

305.03 Director's Office

305.031 Size

Space, depending upon size of staff, approximately 150 square feet

305.032 Location

Should be located adjacent to, and connected with, the circulation area. A glass partition should be placed in the wall between this area and the office.

305.033 Equipment Space and Facilities

See Chapter 3, Section 302.04.

305.04 Maintenance, Repair and Distribution Area

305.041 Size - 300 to 400 square feet

305.042 Location

Readily accessible to the administration and reading/browsing areas.

305.043 Activities

Processing, maintenance, and minor repairs of book and non-book materials and equipment.

305.044 Equipment Space and Facilities:

- A. Counter tops
- B. Storage cabinets
- C. Computers
- D. Sink
- E. Electrical outlets
- F. Shelving

305.05 Media Production Lab - Optional

305.051 Size - 300 to 400 square feet

305.052 Location

Accessible to administration area and main building corridor.

305.053 Activities

Production of photographic, graphic, and audio materials.

305.054 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements.

- A. Refrigerator
- B. Sink with running water
- C. Electrical outlets
- D. Exhaust fans

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- E. Standard darkroom with equipment
- F. Light control
- G. Floor drains
- H. Basic graphic production equipment
- I. Basic audio production equipment
- J. Presentation and copying equipment

305.06 Viewing/Listening/Conference Area

305.061 Size

150 to 200 square feet with provision for subdivision into viewing/listening or conference areas by movable walls. Provide multi-spaces for larger facilities.

305.062 Location

Accessible to reading/browsing area

305.063 Activities

Seminars and small group seminars; previewing; multimedia activities.

305.064 Equipment Space and Facilities

See Chapter 3, Section 302.06, and the following requirements.

- A. Adequate electrical outlets
- B. Acoustical treatment
- C. Light control of each small area

305.07 Equipment Storage Area - Instructional Materials, Supplies, and Equipment

305.071 Size - 300 to 400 square feet

305.072 Design Capacity

Storage of all multimedia equipment during vacation period.

305.073 Location

Adjacent to work room. Limited access with provision for maximum security.

305.074 Activities - Storage and Circulation; Optional for wiring closet and cable TV access.

305.075 Equipment Space and Facilities

- A. Temperature, humidity, and dust control
- B. Locking storage cabinets
- C. Door with lock without threshold strip - minimum 3 feet
- D. Fire protection
- E. 18 inch shelving

305.08 Periodical, Book and Newspaper Storage Area

305.081 Size - 150 to 200 square feet

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305.082 Location
Adjacent to reading/browsing area.

305.083 Activities
Storage of periodicals, newspapers, books, and non-circulating materials.

305.084 Equipment Space and Facilities
A. 18 inch shelving
B. Work table

306 ENGINEERING AND CUSTODIAL FACILITIES

All new or renovated schools are shall be designed, constructed, maintained, and equipped to provide adequate and appropriate space and services for custodians. All new or renovated schools shall be equipped with custodial and engineering areas, individually accessible to a service drive, with exterior doors sized to permit removal of room equipment or delivery of supplies. The areas shall be isolated from student occupied areas by location and/or treatment. Custodial closets shall be located within the school in strategic and convenient areas. Adequate facilities shall be provided for storage of supplies and equipment, and adequate provisions shall be made for waste disposal. Each custodial service facility shall be constructed in compliance with all requirements of appropriate regulatory agencies.

The following chart and description of spaces represent approximate space requirements for prototypical custodial facilities designs. Actual building areas should be sized to accommodate required equipment, student loads and other factors.

PHYSICAL FACILITY	SCHOOL TYPE – Square Footage Estimates		
	Elementary	Middle	High
Building Services / Custodial			
Mechanical Room	1 @ 400	1 @ 600	1 @ 800
Electrical Room	1 @ 200	1 @ 300	1 @ 400
Electrical Closet (amount as necessary)	1 @ 30	1 @ 30	1 @ 30
Janitor’s Closet	2 @ 30	2 @ 30	2 @ 30
Custodian Office & Controls w/ Toilet	1 @ 150	1 @ 150	1 @ 150
Paper / Supply Storage	1 @ 100	1 @ 100	1 @ 100
Chemical Storage	1 @ 100	1 @ 100	1 @ 100
Maintenance Storage	1 @ 300	1 @ 300	1 @ 300
Sprinkler Head-In (when not located in mechanical room)	-	1 @ 100	1 @ 100
Outside Storage	1 @ 50	1 @ 50	1 @ 75
Network Systems Room	1 @ 200	1 @ 200	1 @ 200
Network Closets (amount as necessary)	1 @ 30	1 @ 30	1 @ 30
Student / Public Toilets	As necessary, defined by appropriate building codes		

306.01 General Requirements

306.011 Adequate and appropriate space, facilities, and services should be provided for the custodians, including locker, shower, toilet, and lavatory.

306.012 It is desirable to provide an office for the head custodian near the custodial quarters. These facilities will be available for preparing and filing reports, preparing requisitions, preparing schedules and records, and for holding private conferences.

306.013 In high schools that have laundry facilities, automatic-drying machines will require venting to the outside. Dryers shall be located to permit routing of dryer vents directly to the outside. Dryer vents shall be limited to no more than 15 feet and one elbow, unless special equipment is provided. Compliance to the State Fire Code and NFPA 101 Life Safety Code is necessary.

306.014 Since portable electric floor cleaners are frequently used, ample electrical outlets shall be located at convenient points not more than 75 feet apart in corridors and rooms or in accordance with the NEC code, whichever is more stringent. See Chapter 11, Section 1109.

306.02 Custodial Closets

306.021 Size and Number - Area as needed

306.022 Location

Strategically located along corridors, a minimum of one per floor, and in food service area to reduce the travel necessary to properly maintain a healthy and clean school.

306.023 Equipment Space and Facilities

- A. Service sink with mud trap and hot and cold water
- B. Shelving for various cleaning supplies and equipment
- C. Storage space for mops and brooms
- D. Storage space for cleaning cart
- E. Exhaust ventilation system to maintain a negative pressure to adjacent areas

306.03 Locker/Dressing Rooms

306.031 Size - as needed

306.032 Location - Adjacent to custodian's room

306.033 Equipment Space and Facilities

- A. Lockers
- B. Mirror
- C. Chairs or benches
- D. Toilet
- E. Shower
- F. Exhaust ventilation to maintain a negative pressure to adjacent areas

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306.04 Receiving, Storage and Work Room

306.041 Size - Area as needed

306.042 Location - Direct access from the service drive

306.043 Equipment Space and Facilities

A. Shelving in a variety of depths and heights to provide temporary storage for supplies and equipment delivered to the school and custodial equipment not used daily, such as ladders, vacuum cleaners, and scrubbers. Shelving should be of resilient construction.

B. Provide work bench equipped with vise and storage for small hand and power tools used in minor repair

C. Grounded duplex receptacles over work bench at three feet intervals

307 LAWN TOOL EQUIPMENT STORAGE ROOM

307.01 Size - 50 to 100 square feet

307.02 Location - Direct access from outdoors

307.03 Equipment Space and Facilities

Shelving and space to permit easy storage of lawn mower, lawn tools, and snow removal and other equipment needed in the care of the school grounds. A permanent storage building of similar construction to the existing facility shall be used for equipment containing flammable materials located separate from the school.

308 HEAT PLANT

308.01 Location

A. Directly accessible to service drive, with exterior doors to permit removal of room equipment.

B. Adequate space to facilitate service to the building heating equipment.

308.02 Equipment and Facilities

As needed, with provision to permit expansion, if necessary.

**Chapter 4
EARLY AND ELEMENTARY EDUCATION (PRE-K-5)**

400EARLY AND ELEMENTARY EDUCATION (PRE-K-5) CENTERS

The WVDE is committed to providing guidance and assistance to counties in their efforts to continuously improve all aspects of educational programming, including physical facilities. Critical planning must precede the construction of facilities, or the purchase of equipment and materials in order to ensure that all students have access to a comprehensive, high-quality early learning system that empowers them to reach their full potential, promotes their development as productive and responsible citizens, and prepares them to meet workforce and economic demands.

Grades Pre- K through grade 5 are formative educational years and set the foundation for a child's future learning and school experience. Successful early learning (pre-k through grade 5) facilities are designed to be developmentally appropriate, inviting, inclusive, and supportive of all. Early learning environments should enable educators to use a variety of teaching approaches resulting in authentic engagement in active, purposeful learning. In grades pre-k through grade 4 the school staff provide school-wide, systematic guidance to ensure that a learner focused, developmentally appropriate approach to learning is prevalent within the school.

Closely coordinated planning of facilities containing housing early childhood/primary programs shall include factors such as the school's role in the community, the physical, emotional, and social needs of students, how students learn most effectively, and what constitutes the total coordinated program of learning in the early learning grades (pre-k through grade 5). Factors relating to a comprehensive approach to early learning that relies heavily on student engagement, mobility, and is flexible for multiple uses throughout the day. Close attention to outdoor spaces for gross motor movement are an extension of the classroom in the early learning environment. This space should permit areas for play, learning and social activities. Responsive environments that include time, space and developmentally appropriate materials necessary to create print-and language-rich environments conducive for learning and integration of standards. Classrooms are designed and equipped in a manner that encourages discovery, small group and individual learning, exploration, and problem solving. Classrooms have sufficient quality and variety of appropriate materials and resources to support student-centered learning.

All schools housing early and elementary education programs shall contain general-purpose instructional areas, specialized instructional spaces, auxiliary spaces, safety facilities, and service facilities. The school shall be large enough to accommodate projected enrollments, to provide an adequate curriculum, and to maintain reasonable efficiency. Available technology shall be incorporated into environmental controls to provide a comfortable environment, which facilitates the educational program. Where design considerations permit, the facility shall be constructed in a manner that utilizes maximum natural light.

An educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants, and support the educational program. Other factors such as density of population, availability of sites, and transportation should be considered in determining the size of the facility. Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program, which includes collaborative problem solving and project-based learning

experiences.

All modular or detached classroom structures must meet the requirement of this policy for the intended space and must have restroom facilities for all grades pre-k-5 unless waived by the WVBE.

All pre-k classrooms must also comply with all requirements set forth in W. Va. 126CSR28, WVBE Policy 2525, West Virginia's Universal Access to a Quality Early Education System (Policy 2525).

The following charts and description of spaces are example of the number, types, and square footage of administrative and service facilities that must be considered for typical schools. The educational program of each new facility shall dictate the actual number and types of spaces provided. Counties are encouraged to design administrative and service facilities tailored to meet the needs of the educational program of the school in consultation with an architect or educational facility planner.

400.01 Size of Centers

Early and elementary school centers should be organized for educational programs and administrative purposes according to the following enrollments.

A. Schools housing grades pre-k-5 should have a minimum of 110 square feet per pupil unless factors such as enrollment or architectural design permit otherwise as determined by the state superintendent of schools. Regardless of school size, the teacher-student ratio should not exceed the ratios established in W. Va. Code §18-5-18a for regular instructional spaces.

B. Special class enrollments (such as special and early and elementary childhood education) must be considered in addition to the above figures.

C. Centers shall be planned for a minimum of 240 students per center. Smaller centers require approval from the West Virginia Board of Education.

D. Square footage of facilities funded by SBA will be established in accordance with SBA Guidelines and Procedures Handbook.

400.02 SELECTION OF FURNITURE AND EQUIPMENT

400.021 Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program.

400.022 Criteria for selection should include the following:

- A. Appearance
- B. Maintenance
- C. Safety and Security
- D. Comfort
- E. Durability
- F. Building Codes
- G. Guarantees
- H. Flexibility
- I. Availability
- J. Cost

401 ESSENTIAL PHYSICAL AND SERVICE FACILITIES

401.01 Certain physical and service facilities, such as a multipurpose room, dining, assembly, and music areas, are provided in some pre-k primary school centers. Similar facilities, modified in size and/or combined use, are provided in smaller elementary centers. All new schools must have separate dining and physical education instructional areas. The dining room area should accommodate at least one third of the student enrollment.

The following chart indicates the facilities considered essential to the implementation of high quality early childhood/primary education. Consideration should be given to changing various learning spaces and activity areas through the use of flexible or movable walls.

The following is an example of the number, types, and square footage of facilities that should be considered for typical grades pre-k-5 school enrollments. Specific educational programming should occur for each new facility and the educational program must dictate the actual number and types of spaces provided.

Enrollment				Physical Facility
240 Students	340 Students	440 Students	540 Students	
1@150	1@150	1@150	1@150	ADMINISTRATIVE
1@200	1@200	1@300	1@400	Waiting
				General Office

Enrollment				Physical Facility
240 Students	340 Students	440 Students	540 Students	
1@200	1@200	1@250	1@250	Work Room
--	1@75	1@75	1@75	Communications Room
1@250	1@250	1@250	1@250	Conference Room
1@180	1@180	1@180	1@180	Principal's Office
--	--	1@150	1@150	V. Principal's Office
1@100	1@100	1@100	1@100	Supply & Book Storage

STUDENT SERVICES

1@250	1@250	1@300	1@300	Clinic
1@120	1@120	1@120	1@120	Guidance

ELEMENTARY CLASSROOMS

--	--	--	--	Pre-Kindergarten Classroom (as applicable)
2@1000	3@1000	4@1000	5@1000	Kindergarten Classroom
8@720	12@720	16@720	20@720	Elementary Classrooms
				(Classroom area may vary if computer stations are provided within the classroom)

1@1800	1@2400	1@3000	1@3600	MEDIA CENTER
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See Chap. 7 - Students with Exceptionalities -
Instructional Areas

SPECIAL EDUCATION

1@1200	1@1200	1@1200	1@1200	ART
1@1200	1@1200	1@1200	1@1200	MUSIC
1@800	1@800	1@800	1@800	COMPUTER LAB and/or Distributed (See OTIS Handbook for specifications)
1@1800	1@1800	1@1800	1@1800	PHYSICAL EDUCATION SPACE
OR				
1@3100	1@3100	1@3100	1@3100	GYMNASIUM
1@1200	1@1800	1@2200	1@2700	DINING ROOM

See Chap. 3, Section 303 Food Service Facilities

KITCHEN

1@250	1@250	1@250	1@250	FACULTY LOUNGE
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CUSTODIAL

1@500	1@500	1@500	1@500	Mechanical Room (varies)
2@25	2@25	2@25	2@25	Custodial Closet
1@150	1@150	1@150	1@150	Custodian w/Restroom

Enrollment

Physical Facility

240	340	440	540	
Students	Students	Students	Students	STORAGE (Instructional)
1@100	1@100	1@100	1@100	Early Childhood
4@100	6@100	8@100	10@100	Elementary Education
1@130	1@130	1@130	1@130	Media Center
--	2@100	2@100	2@100	Music/Art
2@175	2@175	2@175	2@175	Multi-purpose
1@175	1@175	1@175	1@175	Dining

STORAGE (Non-Instructional)

1@120	1@120	1@120	1@120	Administrative
1@175	1@175	1@175	1@175	Central Storage
1@200	1@200	1@200	2@200	Outdoor Storage

RESTROOMS (consult code)

1@25	1@25	1@25	1@25	Student Services
2@20	2@20	2@20	2@20	Early Childhood
8@20	12@20	16@20	20@20	Elementary Education
2@40	2@40	2@40	2@40	Faculty

2@150 2@200 2@200 2@200 Public

The above program of spaces provides the net program area for the example shown. Building circulation, wall thicknesses, and other required area should be incorporated into the building area to arrive at the gross building area required in the total facility.

402 ESSENTIAL INSTRUCTIONAL TECHNOLOGY FOR EARLY AND ELEMENTARY EDUCATION PRE-K-5 CENTERS

See Chapter 3, Section 302.

403 PRE-KINDERGARTEN (When services are provided) AND KINDERGARTEN

403.01 Size

Base the preliminary determination of early childhood education areas upon the allotment of 50 square feet per child.

403.02 Design Capacity - 20 students

403.03 Location

A. On ground floor with easy access to an entrance not generally used by older children. Corner areas are also preferable to permit the development of separate, fenced-in play areas.

B. Direct access to segregated outdoor play area that contains a large grassy area with climbing equipment, obstacle course and garden area, and adequate storage for equipment, based on a minimum of 75 square foot for child.

C. Area of the building, which permits maximum natural light.

403.04 Activities

Individual and small group instruction based on the Early Learning Standards as described in State Board Policies 2525 and 2510, including learning activities to address positive social-emotional skills, early language/communication and early literacy skills; and the use of appropriate behaviors to meet students' needs. These activities may include collaborative project-based learning, physical education, conversation, discussion, listening activities and creative activities with various media. The room should accommodate displaying students' work; storing instructional materials and supplies; demonstrations; and activities where stations with individual and collaborative assignments are to be done with manipulative materials and a wide range of technologies.

403.05 Equipment Space and Facilities

See Chapter 3, Sections 302.01 and 302.02, and the following requirements.

A. Work areas

1. Deep sink equipped with mud trap, hot and cold water
2. Waterproof counter top - 2 square feet per student with shelving beneath. Counter height at 22 inches to accommodate 3 and 4 year-old children.
3. Grounded duplex electrical outlets at 3 feet intervals over counter top. Avoid placing over sink.
4. Facilities for hanging mobiles from ceiling.

B. Instructional space and storage area for activities related to: art, science and nature, music and movement, language development, technology activities, creative play, crafts and construction.

C. Storage for student's personal belongings.

- D. One self-contained student toilet facility per 20 students within the classroom and drinking fountains, square footage all inclusive.
- E. Display space
- F. Provide light control facilities (e.g., dimmer switches and blackout drapes for audiovisual media work)
- G. Acoustically treated to protect instructional areas from outside noises
- H. Material flooring combination of carpeting and resilient material with the following area carpets:
 - 1. Large group area at least 7 ½ feet by 10 ½ feet
 - 2. Library area at least 3 ½ feet by 5 ½ feet
 - 3. Dramatic play area at least 3 ½ feet by 5 ½ feet
 - 4. Block area at least 4 ½ feet by 6 feet
- I. Movable adjustable student tables (30" X 40" minimum size) and chairs of appropriate height, easily joined or separated
- J. Teacher's combination desk/table with lockable storage and chair
- K. Large wall clock

404 GENERAL INSTRUCTIONAL AREAS - ELEMENTARY (grades 1-5)

404.01 Size

Base preliminary determination of area upon the allotment of 28 to 30 square feet per student. To accurately determine the area needed, trial layouts should be made using scaled templates representing furniture and equipment on scaled drawings of floor and wall elevations.

404.02 Design Capacity - 25 students

404.03 Location

- A. Acoustically treated to protect instructional spaces from outside noise
- B. Convenient access to outdoors, particularly to recreational and physical education areas
- C. If the building is a multiple-story structure, the first grade shall be assigned to the ground level floor

404.04 Activities

General learning areas may support a variety of activities including individual study and work, group interaction, lectures, reading, writing, demonstration, use of technology, and movement. These spaces will accommodate a variety of audiovisual and teaching equipment for both group and individual use.

404.05 Equipment Space and Facilities

Ample space, movable furniture and equipment and well-designed storage areas are essential. See Chapter 3, Sections 302.01 and 302.02, and the following requirements.

- A. Instructional boards, bulletin boards and other display areas - as much as possible, a minimum of 96 square feet of wall space for a regular size classroom.
 - 1. Instructional boards and bulletin boards should have map rails installed above
 - 2. The bottom of the display area should be at the eye level of the student when seated
- B. Student storage/lockers
- C. Storage space (may be separate room)
 - 1. Open and closed adjustable shelving of various heights and depths for a variety of sizes

of construction paper, charts, and large format books - 30 linear feet of each

2. Lockable storage for teacher's personal belongings
3. Filing space for instructional material and supplies equivalent to 4-drawer, legal size file cabinets

cabinets

- D. Work counter - see Chapter 4, Section 403.05
- E. Teacher's combination desk/table and chair
- F. Conference-type table and chairs
- G. Adjustable desks and chairs, or combination chair-desks
- H. Desirable equipment
 1. Corridor display cabinet for students' work
 2. All major types of instructional technology equipment should be readily available within classroom or in the nearby media center

classroom or in the nearby media center

I. Adequate provision for controlling the light level in instructional areas is essential. For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth footcandle.

J. Duplex electric receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits should be in each room. Conduits should be provided to permit installations of instructional technology devices. System's feeder conduits should be at least 3/4 inches in diameter in order to provide for installation of instructional technology as indicated above. Individual point of service drops should be at least 3/4 inches.

K. A projection surface should be installed in each instructional area with provision for eliminating keystoning.

L. Use of audio devices mandates acoustical treatment of walls, ceilings, and floors in instructional areas and media centers, particularly in classrooms where many activities are occurring simultaneously.

M. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

405 PHYSICAL EDUCATION SPACE

A physical education space or gymnasium is to be included. It should be based upon the amount of time required for the separate program activities to be housed.

405.01 Size

Base preliminary determination of physical education space on the allotment of six to eight square feet per student enrolled in the school. Allow approximately 65 square feet per student for physical education with 25 students per session.

405.02 Design Capacity

Design Capacity shall be determined by the SBA, WVDE, an architect or educational facility planner.

405.03 Activities

To be determined on the basis of the school's program. Consideration should be given to providing a clear height from 20 to 24 feet if the room is used for such activities as basketball. Consideration should be given to the installation of sound absorbing material on the walls if the room is used for such activities as assemblies or music and theater performances.

405.04 Location

126CSR172

- A. Removed from quiet areas of the building by location and/or acoustical treatment
- B. Direct access to outdoor physical education or recreation areas
- C. Convenient access to public parking areas
- D. Direct access to service drive
- E. If used for dining purposes, locate adjacent to kitchen serving area.

405.05 Equipment Space and Facilities

See Chapter 3, Section 302.05, and the following requirements

405.051 Fixed Platform - Optional

- A. Provide 500 square feet of permanent or portable platform area. Consideration should be given to staging "in the round."
- B. Two entrances to the fixed platform, one direct from the building corridor. Entrances to be double door size.
- C. The fixed platform location should be one that makes instructional spaces accessible for use as dressing rooms.
- D. Proscenium opening should be approximately 1/2 the width of the body of the multipurpose room.
- E. Curtains of fire resistant materials, portable or permanent acoustical paneling,
- F. Lighting facilities with controlled illumination.
- G. Grounded duplex electrical receptacles - 5 to 10 - should be provided in the fixed platform area.
- H. Storage for electronic and fixed platform equipment.
- I. Every fixed platform equipped with rigging for movable theater-type scenery and every enclosed platform larger than 500 square feet in area shall have a system of automatic sprinklers in accordance with the state fire code.

405.052 Chair and Table Storage

Area as needed for storage of tables and chairs used for dining purposes

- A. Provision of ample space to accommodate assembly chairs stored on trucks and musical risers

405.053 Equipment Storage

- A. Approximately 200 square feet with convenient access to the outdoor physical education area and direct access to multipurpose area
- B. Provide double doors with flush threshold
- C. Shelving and cabinets for storage of miscellaneous types of physical education and other equipment

405.054 Public Restrooms

- A. If pupil restrooms are not conveniently accessible for public use, 2 restrooms of approximately 50 square feet each should be provided.
- B. Restrooms must conform to ADA regulations

406 GYMNASIUM (Optional)

406.01 Gymnasium (Physical Education Learning Station)

126CSR172

406.011 Size

Determination of size is dependent upon physical education spaces to be located – 3,100 square feet minimum. Floor area should be marked for various games.

406.012 Design Capacity - Maximum of 70 students at 55 square feet per student.

406.013 Location

Convenient access from instructional areas with separate outside access for community use. The gymnasium area should be designed to provide the possibility of having access blocked to the remainder of the school while still retaining access to restroom facilities.

406.014 Activities

Include soccer, volleyball, basketball, football, softball, dance, gymnastics, and other activities to meet the county curriculum. Recommend basketball court (42 feet x 74 feet) with an apron of 3 to 6 feet.

406.015 Equipment Space and Facilities

See Chapter 3, Section 302.05, and the following requirements

- A. Provisions for using the learning center as 2 or more teaching stations may require canvas-net partition, folding door partition or mechanical folding walls.
- B. Adequate electrical outlets for multiple learning stations
- C. Bulletin board - 12 to 16 linear feet
- D. Drinking fountains
- E. Wood gymnasium floor or equal. Wood flooring must be provided humidity monitoring through the building monitoring and control system.

406.016 Equipment Storage

- A. Approximately 200 square feet with convenient access to the outdoor physical education area and direct access to multipurpose area
- B. Provide double doors with flush threshold
- C. Shelving and cabinets for storage of miscellaneous types of physical education and other equipment

406.017 Public Restrooms

- A. If pupil restrooms are not conveniently accessible for public use, 2 restrooms of approximately 50 square feet each should be provided.

407 FOOD SERVICE FACILITIES

See Chapter 3, Section 304.

408 ADMINISTRATIVE AND SERVICE FACILITIES

See Chapter 3, Section 303.

409 ENGINEERING AND CUSTODIAL FACILITIES

See Chapter 3, Section 306.

410 SMALL GROUP INSTRUCTIONAL AREAS/CLASSROOMS

Specialized classrooms in the form of small or specially equipped instructional areas are provided in each facility. These areas are not intended to be permanent classrooms; rather, they are intended for flexible and fluid targeted instructional activities. Small group instructional areas should be designed for the provision of tiered, strategic, intensive or special education instruction to students in language arts, mathematics, science, social studies, and certain other subject areas. These classrooms may be used as instructional areas for the provision of gifted services.

410.01 Size

Base preliminary determination of area upon an allotment of 30 square feet per student. For example: 450 square feet of floor area should be planned for 15 students in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

410.02 Design Capacity - 15 students**410.03 Location**

- A. Isolation from noisy areas of the building
- B. Close proximity to the media center
- C. Location which will permit easy expansion

410.04 Activities

Speaking, group discussion; viewing instructional technology and other projected materials; listening to recordings, podcasts and broadcasts; doing assignments on instructional boards, or at desk and/or tables; displaying students' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual, small group and project based assignments are to be done with manipulative materials or computer equipment.

410.05 Equipment Space and Facilities

See Chapter 4, Sections 402.01 and 402.02, and the following requirements

- A. Instructional boards, bulletin boards, and other display areas - as much as possible, a minimum two-thirds of available wall space
 - 1. Instructional boards and bulletin boards should have map rails installed above
 - 2. The bottom of the display area should be at the eye level of the student when seated
- B. Storage
 - 1. Lockable storage for teacher's personal belongings
 - 2. Storage for teaching aids and supplies
 - a. Closed and open shelving
 - b. 4-drawer filing space
- C. Teacher's combination desk-table and chair
- D. Conference-type tables and chairs
- E. Desirable equipment

All major types of instructional technology equipment should be readily available within classroom or the nearby media center

F. Adequate provision for controlling the light level in instructional areas is essential. For efficient use of projection-type materials, the light in the room, particularly in the area of the projection

surface, should not exceed one-tenth footcandle.

G. Duplex electrical receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits should be in each room. Conduits should be provided to permit future installation of network computer drops, television, and other electronic instructional devices. System conduits should be at least 3/4 inches in diameter in order to provide for installation of television and other teaching devices as indicated above.

H. Where there are to be specialized facilities, such as language labs, study carrels, microteaching, and television, provision should be made for electrical service in the floor.

I. A projection surface should be available in each instructional area.

J. Use of audio devices mandates acoustical treatment of walls, ceilings, and floors in instructional areas and media centers, particularly in open-type classrooms where many activities are occurring simultaneously.

K. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

411ART FACILITIES - Optional

Consideration may be given to providing multi-use space for the instruction of art and music, art and science, and art and social studies.

411.01 Space allotment of 45 to 50 square feet per child with movable tables and chairs. Table dimensions no less than 36 inches x 60 inches for each 4 students. Art room should be located on the ground floor.

411.02 Equipment Space and Facilities

See Chapter 3, Sections 302.01 and 302.02, and the following requirements

A. 2 deep sinks, each with extra large drain, clean-out trap, and long drainage top - stainless steel recommended

B. Uncarpeted floor of concrete, tile, linoleum, or other material not easily damaged by paint and clay

C. Counter space equivalent to the length of at least one wall

D. Closed-in storage shelves under counter - 6 or more drawers of built-in or movable storage space for flat pictures, at least 20 inches x 40 inches - storage cabinets and/or display boards on wall above counter

E. Adjacent storage room with shelves for art supplies - space allotment of 250 to 350 square feet

F. At least one instructional board, movable or stationary

G. Bulletin boards - 30 linear feet recommended. Movable display panels are also recommended. (Recommended for hallways and general areas: glass enclosed display space and movable display cabinets.)

H. Electrical outlets, 12 or more, located conveniently to working area

I. Audiovisual facilities may be separate, or combined with art room. These require blackout curtains and projection facilities.

J. Ceilings should be equipped with facilities for hanging mobiles.

K. Art appreciation corner with facilities for rotating display of two and three dimensional objects and related library materials. Recessed wall-display cabinets are desirable, but not essential.

L. Mechanical ventilation systems are utilized in the art rooms to handle fumes, dust, odors and gases from turpentine, lacquer thinners, acids, toxic markers, and clays. Special areas such as kiln rooms, dark rooms, pug mills, burnout kilns, and acid areas require additional specific ventilation.

126CSR172

M. Provision for ceramic kiln

N. If this space functions as a multi-use space, provide lockable storage for each academic area.

411.03 Location - Ground Floor location

411.04 Art facilities for small schools, which have no special art room, must include storage space for consumable art supplies, materials and equipment, and an arts and crafts corner.

411.041 Arts and Crafts Space

A. At least one sink, preferably deep, with long drainboard, large drains and clean-out trap - stainless steel recommended.

B. Built-in counter with Formica top and closed-in storage shelves beneath - at least 8 feet in length. This may double as workspace or drying area for unfinished work.

C. Display board or bulletin board, 12 linear feet or more

D. Uncarpeted floor area of tile, linoleum, or other material not easily damaged by paint and clay

E. Storage (minimum of 100 square feet) for art supplies in closet, case, or small storage room

F. At least 2 additional electrical outlets, adjacent to work area

411.042 Art Appreciation Corner

Equipped with glassed-in display case with shelves for crafts; wall space for displaying two-dimensional work. Should also accommodate a section for library materials in the form of built-in shelves or portable unit.

412 LIBRARY/LEARNING RESOURCE OR MEDIA CENTER

See Chapter 3, Section 305.

413 MUSIC FACILITIES

See Chapter 4, Section 410.

Physical and spatial requirements for music education obviously exceed the capacity of the conventional classroom. Spaces for individual and group vocal and instrumental instruction and rehearsal are necessary. The size, quality, and number of these spaces will be determined by the enrollment and the educational level of the school, the scope of the music program, and the degree of encouragement offered music education by the administration and the community.

A good location for the music room is in a wing of the building close to the multipurpose room. Physical isolation should be sought to reduce the transmission of sound to other areas of the building. Practice rooms may be separated acoustically from the rehearsal room by placing storage rooms or walls having dead air space between them. It is important that the facility be arranged for supervision of all practice and storage rooms. Also, the temperature shall be between 68-75°F and humidity shall be less than or equal to 60% RH in the instrument storage rooms.

413.01 This facility shall be large enough to accommodate physical movement and daily use of "classroom/general music" instruments for teaching general music and a facility for elementary

instrumental music class instruction.

413.011 Size

400 cubic feet per student; ceiling 14 to 16 feet high. Allow space for design capacity of 25 students.

413.012 Location

- A. Direct access to instrumental storage
- B. Isolated area of building

413.013 Activities

Instruction in instrumental and classroom/general music

413.014 Equipment

- A. See Chapter 3, Sections 302.01 and 302.02, and the following requirements.
- B. Stereo sound reproduction and recording equipment
- C. Electronic piano and bench
- D. Classroom instruments
- E. Portable marker board, 30 linear feet
- E. Chairs
- F. Music stands
- G. Filing cabinets - legal size

413.02 Office Space for Planning or Studio Teaching

413.021 Size

250 to 350 square feet - 8 to 12 students

413.022 Design Capacity

Accommodate small group

413.023 Location

Convenient to music room

413.024 Equipment

See Chapter 3, Section 302.04, and the following requirements.

- A. Desk and chair
- B. Filing facilities
- C. Portable marker board
- D. Work table and chairs
- E. Storage for tapes and records

413.03 Storage Space for Instruments, Equipment and Music

413.031 Size

Approximately 150 square feet. Secure room with shelving to accommodate stringed instruments, classroom instruments, and legal size filing cabinets.

**Chapter 5
MIDDLE EDUCATION 6-8**

500 MIDDLE EDUCATION 6-8 CENTERS

The WVDE is committed to providing guidance and assistance to counties in their efforts to continuously improve all aspects of educational programming, including physical facilities. Critical planning must precede the construction of facilities, or the purchase of equipment and materials in order to ensure that all students have access to a comprehensive, high-quality learning system that empowers them to reach their full potential, promotes their development as productive and responsible citizens, and prepares them to meet workforce and economic demands.

Middle school education builds upon the results of early childhood education and transitions students into high school education program. Middle school education provides unique, age-appropriate educational opportunities that challenge all students to use their minds well. Middle school education provides students with the curriculum and instruction, assessment, support, learning skills, technology tools, and time they need to achieve rigorous academic standards. Students are provided opportunities for both independent inquiry and learning collaboratively with others. Middle school programming is challenging and engaging, tapping the young adolescents' boundless energy, interests, and curiosity through rich hands-on, engaging experiences. Students learn to understand important concepts, develop essential skills and apply what they learn to real-world problems. The creation of small learning communities of adults and students produces stable and mutually respectful relationships that support students' intellectual, emotional and ethical growth.

Successful middle school facilities are designed to be developmentally appropriate, inviting, inclusive, and supportive of all. Learning environments should enable educators to use a variety of teaching approaches resulting in authentic engagement in active, purposeful learning. School staff will provide a school-wide, systematic guidance and advisory approach to ensure that Personalized Education Plans (PEP) and career exploration are multi-faceted and individualized, guiding students and their parent and/or guardian to thoughtfully explore individual interests and aptitudes in relation to academic and career planning. A PEP guides each student's course selections based on individual career aspirations and postsecondary plans.

Closely coordinated site planning will include factors such as the school's role in the community, the physical, emotional, and social needs of students, how students learn most effectively, and what constitutes the total coordinated program of learning in the middle grades. Departmentalization, specialization of instructional spaces, elective subjects, extracurricular activities, and flexible scheduling are factors to be considered when designing a 6-8 facility. Where design considerations permit, the facility will be constructed in a manner that encourages the use of natural light.

A middle level educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants, and support the educational program. Other factors such as density of population, availability of sites, and transportation should be considered in determining the size of the facility. Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program, which includes collaborative problem solving and project-based learning experiences.

All modular or detached classroom structures must meet the requirement of this policy for the intended space unless a variance is granted by the WVBE.

The following charts and descriptions of spaces are examples of the number, types, and square footage of administrative and service facilities that must be considered for typical middle childhood/junior high schools (grades 6-8). The educational program of each new facility shall dictate the actual number and types of spaces provided. Counties are encouraged to design administrative and service facilities tailored to meet the needs of the educational program of the school in consultation with an architect or educational facility planner.

500.01 Size of Centers

An educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants, and support the educational program. Other factors such as density of population, availability of sites, and transportation should be considered in determining the size of the facility.

A. All middle schools have a minimum allotment of 120 square feet per student, unless factors such as enrollment or architectural design permit otherwise as determined by the WVDE.

B. The size and type of facility will be determined by the number of students and the instructional program.

C. Square footage of facilities funded by SBA will be established in accordance with SBA Guidelines and Procedures Handbook

500.02 Selection of Furniture and Equipment

500.021 Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program, which includes collaborative problem solving and project-based learning experiences.

500.022 Criteria for selection should include the following:

- A. Appearance
- B. Maintenance
- C. Safety and Security
- D. Comfort
- E. Durability
- F. Building Codes
- G. Guarantees
- H. Flexibility
- I. Availability
- J. Cost

501 PLANNING PROCESS

501.01 Middle school programs and facilities to accommodate such programs are the result of careful, complete, and creative planning for engaging college- and career- readiness experiences.

501.02 Closely coordinated planning will include factors such as the school's role in the

community, the characteristics of students, how students learn most effectively, the physically disabled, and what constitutes the total coordinated program of learning in the middle school. Consideration should be given to changing various learning spaces and activity areas through the use of folding or movable walls. Consideration should be given to providing separate learning areas for each grade level and to providing a separate grade level “team planning room” for each area.

501.03 Educational specifications shall be prepared to include a careful computation of room, area, and building capacity as required to offer programs of study as outlined in the Master Plan, WVBE Policies 2510 and series 2520. Additional educational specification requirements can be found in the SBA Guidelines and Procedures Handbook for new schools or schools with major additions funded by the SBA.

501.04 Departmentalization, specialization of instructional spaces, elective subjects, and flexible scheduling are factors to be considered in determining the number of teacher stations. In determining the number of teacher stations, consideration must be given to the number of students with exceptionalities served in special education environments for specific subject areas.

502 ESSENTIAL INSTRUCTIONAL TECHNOLOGY FOR MIDDLE SCHOOL EDUCATION 6-8 CENTERS

See Chapter 3, Section 302.

503 GENERAL PURPOSE (ACADEMIC) CLASSROOMS OR INSTRUCTIONAL AREAS

Rooms should be designed to serve specific needs of language arts, science, foreign language, mathematics, social studies, and certain other subject areas. They should also be designed to permit flexible use to facilitate college and career ready instructional practices and changing program requirements.

503.01 Size

Base preliminary determination of area upon allotment of 28 to 30 square feet per student. For example: 700 to 750 square feet of floor area should be planned for 25 students in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings. The area of the standard middle school classroom will be 840 square feet to accommodate the requirements of the college- and career-readiness activities; however, the designed space may be reduced specific to the educational specifications and the student population projections with the prior approval of the WVDE Office of School Facilities and Transportation.

503.02 Design Capacity - 25 students

503.03 Location

Close proximity to the media center
Location which will permit easy expansion
Isolation from noisy areas of the building

503.04 Activities

Speaking; laboratory activities; large group presentation, group discussion; viewing a wide range of projection materials on several different walls and other audio links; engaging in learning

activities using an interactive board or at tables or other learning stations; displaying student work; storing instructional materials and supplies; demonstrations; lab activities, where individual assignments or collaborative projects are to be done with manipulative materials, lab equipment or technology (computer, probes, graphing calculators, etc.)

503.05 Equipment Space and Facilities

See Chapter 3, Sections 302.01 and 302.02, and the following requirements

- A. Instructional boards, bulletin boards, interactive boards and other display areas, including display areas for student work - a minimum of 96 square feet of wall space for a regular size classroom.
 - 1. Instructional boards, interactive boards, and bulletin boards with map rails installed above
 - 2. Bottom of display area should be at eye level of student when seated
- B. Student lockers in hallway
- C. Storage
 - 1. Lockable storage for teacher's for personal belongings
 - 2. Storage for teaching aids and supplies
 - a. Closed and open shelving
 - b. 4-drawer filing space
 - c. Additional storage as need for each content area (mathematics manipulatives etc.)
- D. Teacher's combination desk-table and chair
- E. Conference-type tables and chairs
- F. Desks and chairs, or combination chair-desks
- G. Desirable equipment
 - Corridor display cabinet for students' work
- H. Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth footcandle.)
 - I. Ample duplex receptacles should be installed on all walls of the instructional space for the use of instructional technology. Sufficient branch electrical circuits should be in each room. Conduits should be provided to permit future installations of instructional technology equipment. System conduits should be at least 3/4 inches in diameter in order to provide for installation of instructional technology as indicated above.
 - J. Where there are to be specialized facilities, such as language labs, study carrels, projection, editing booths, and individual or small group practice rooms, provision should be made for electrical service in the floor.
 - K. A non-stationary projection surface should be available in each instructional area.
 - L. Use of audio devices mandates acoustical treatment of walls, ceilings, and floors in instructional areas, media centers, and other such areas, particularly in open-type classrooms where many activities are occurring simultaneously.
 - M. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

504 SMALL GROUP INSTRUCTIONAL AREAS/CLASSROOMS

Specialized classrooms in the form of small or specially equipped instructional areas are provided in each facility. These areas are not intended to be permanent classrooms; rather, they are intended for flexible and fluid targeted instructional activities. Small group instructional areas should be designed for the provision of tiered, strategic, intensive or special education instruction to students in language arts, mathematics, science, social studies, and certain other subject areas. These classrooms may be used as

instructional areas for the provision of gifted services.

504.01 Size

Base preliminary determination of area upon an allotment of 30 square feet per student. For example: 450 square feet of floor area should be planned for 15 students in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

504.02 Design Capacity - 15 students

504.03 Location

- A. Close proximity to the media center
- B. Close proximity to general purpose classroom or instructional area
- C. Location which will permit easy expansion
- D. Isolation from noisy areas of the building

504.04 Activities

Speaking; laboratory drills; lecture; group discussion; viewing instructional technology; listening to recordings, podcasts and broadcasts; doing assignments on instructional boards, or at desk and/or tables; displaying students' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual assignments are to be done with manipulative materials or computer equipment.

504.05 Equipment Space and Facilities

See Chapter 4, Sections 402.01 and 402.02, and Chapter 5, Section 503.05.

505 ART FACILITIES

Art facilities should accommodate the studio and classroom activities of a full art program. Basic to all activities would be space allotment, natural and artificial light, movable furniture or furnishings, display space, several kinds of storage space, deep sinks with clean-out traps, and adequate electrical outlets.

505.01 Size

Studio, approximately 1,000 square feet or the equivalent, exclusive of storage. Provide one room for every 150 art students enrolled.

505.02 Capacity - Recommended class size for studio activities is 25 students

505.03 Location - Pertinent factors

- A. Accessibility for consumable materials; ground floor location preferred
- B. Need for uncarpeted floor in studio areas. Floors should be of concrete, tile, linoleum, or other material not easily damaged by paint or other chemicals
- C. Good lighting, both natural and artificial. Natural light is important for many activities and essential for painting.
- D. Space should contain, or be accessible to, facilities for the use projection, instructional technology, blackout curtains, display areas, and chairs equipped with tablet arms.
- E. Power tools and equipment may be borrowed from or shared with industrial arts area,

subject to local policy.

505.04 Activities

Basic - drawing, painting, sculpturing, ceramics, design, art history and appreciation, and crafts.

505.05 Equipment Space and Facilities

See Chapter 4, Sections 302.01 and 302.02, and the following requirements.

- A. Sink and work-counter units
 - 1. Hot and cold water with mixing faucets
 - 2. No less than 2 deep sinks of stainless steel with long drain boards
 - 3. Large drains and clean-out traps
 - 4. Long counter for mixing paints and other activities
 - 5. Storage for mixing pans, water jar, and brushes (under sink and counter)
- B. Special storage for:
 - 1. Drawing boards
 - 2. Shelves for storage of flat work, a minimum of 28 inches x 40 inches - may be built in or movable
 - 3. Prints - similar to above
 - 4. Audiovisual materials and special books
 - 5. Tools used in construction
 - 6. Unfinished 3-dimensional work
- C. Instructional board - at least 6 linear feet
- D. Bulletin boards - all available wall space - at least one full wall
- E. Display facilities for projects, glass covered in studio and hall
- F. Work benches, tilt-top tables, and easels as selected by instructors, movable to permit flexible grouping, with accommodations for:
 - 1. Teachers' desk and storage area
 - 2. Provision for hanging mobiles from ceiling
- G. Doorway opening at least 42 inches wide
- H. Duplex outlets along wall spaces and above work counter - no less than 12
- I. All electric and gas kilns hooded and mechanically ventilated when in use
- J. A ceramic kiln co-located with each general art classroom
- K. A combustible storage cabinet properly ventilated
- L. Provide general and/or local exhaust to remove fumes, odors, gases and other contaminants to maintain negative room pressure to adjacent areas

505.06 Storage Room

300 to 400 square feet, to include shelves for paper, paints, and supplies; also for unfinished work which cannot be stacked, such as wet paints, prints, and ceramics. Special shelf in studio or storage room for unfinished constructions, at least 20 linear feet.

506 FOREIGN LANGUAGE FACILITIES

Factors influencing the type of foreign language facility to be chosen include the type of laboratory facility desired. Laboratory facilities can be an electronic classroom, a language laboratory into which students are scheduled from classes held in general purpose classrooms, or general-purpose classrooms adapted for foreign language study.

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506.01 Electronic Classroom

506.011 Size

35 square feet per student, exclusive of storage space

506.012 Design Capacity

Allow five percent more stations - maximum class size 25.

506.013 Location

Near media center, and isolated from noisy areas of building, and meets ASHRAE and ASA standards.

506.014 Equipment Space and Facilities:

See Chapter 3, Sections 302.01 and 302.02, and the following requirements.

A. Conference-type tables and chairs that can be moved to facilitate conversation and collaborative learning

B. Student seating

1. Stationary tables wired to reproduce sound from console and movable chairs

2. Overhead wiring on droppable units to reproduce sound from console and

combination chair-desks (This type installation needs fewer square feet per student than stationary tables).

C. Duplex electrical outlets on all feasible walls

D. Book shelving - minimum of 20 linear feet

E. Provision for darkening room

F. Microphones, one per station

G. Headsets, one per station

H. Jack and plug to place sound track from 16 mm projector into classroom sound systems, desirable

506.02 Language Laboratory

506.021 Size

35 square feet per student, exclusive of storage space

506.022 Design Capacity

Allow five percent more stations - maximum class size 25 students

506.023 Location

In center of, or adjacent to, foreign language classrooms.

506.024 Activities

Language laboratory drill and recording

506.025 Equipment Space and Facilities

See Chapter 3, Sections 302.01 and 302.02; Chapter 5, Section 503.05; and the following requirements.

A. Stationary booths and movable chairs for students

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- B. Headsets, one per station
- C. Microphones, one per station
- D. Provision for darkening rooms

506.03 Teacher Work Area

506.031 Size

Area as needed, approximately 250 square feet

506.032 Design Capacity

Two instructors and several students

506.033 Location

Opening into language laboratory or classrooms

506.034 Activities

Preparation of instructional materials, small group activities, reading, and grading.

506.035 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements

- A. Desk and chair per teacher and/or work station with computer- 1
- B. Legal size filing cabinet per teacher - 1
- C. Lockable storage for instructor's personal belongings
- D. Table or movable cart for audiovisual equipment
- E. Conference table and chairs
- F. Instructional board and bulletin board, minimum of 5 linear feet each
- G. Storage for instructional aids
- H. Soundproof area for recording tapes

507 TECHNOLOGY EDUCATION FACILITIES

Factors influencing the location include providing location for easy delivery of instructional supplies, equipment and materials, some of which are bulky and heavy; design of laboratory to permit some change in individual room areas as activities are developed. The assistance of specialists should be secured to adequately plan this suite. Technology education programs include instruction in the areas of communication, transportation, construction, and manufacturing.

507.01 Technology Education Production Laboratory

507.011 Size

The area should be approximately 950-1000 square feet

507.012 Design Capacity - 25 students

507.013 Location

- A. Direct access from the building corridor
- B. Direct access to other rooms in the technology education suite

507.014 Activities

The laboratory facility will need to provide space for layout, measurement, cutting, forming, and fabricating using a variety of materials (e.g., wood, metal, plastics); space for using and caring for hand tools and a variety of machines; and space for finishing various materials.

507.015 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements

- A. The major floor area should be free of heavy or permanently fixed equipment to allow for flexible room arrangement
- B. A minimum of 2 work stations, with underneath storage
- C. Maximum work counter and cabinet storage space
- D. Wall mounted lockable tool panels, if a tool room is not available
- E. Windows should be high enough to permit installation of equipment along outside walls
- F. Ceiling electrical grid system for 110-volt power to machines with master switches and with adequately marked emergency shut-off switch.
- G. Adequate electrical wall outlets for power equipment and tools
- H. Facilities for removal of chips, dust, and harmful fumes
- I. Door to corridor, minimum 48 inches wide
- J. A sufficient number of fire extinguishers of the proper types and sizes as per the NFPA Life Safety Code
- K. Wash area for personal cleanliness and preparation and cleaning of tools and supplies
- L. Lighting shall meet IES standards

507.02 Technology Education Communication Laboratory/Classroom

507.021 Size

Determination of size depends upon the number of students and related activities, varying from 75 to 100 square feet per student.

507.022 Design Capacity - 25 students

507.023 Location

Direct access to production laboratory to provide for easy supervision.

507.024 Activities

Classroom instruction, project planning, small group activities, and a clean environment for instruction and activities with equipment such as computers, robotics, electronics, lasers, and a large open space for construction of group projects.

507.025 Equipment Space and Facilities

See Chapter 3, Sections 302.01 and 302.02 and the following requirements.

- A. Glass walls or windows in wall facing laboratory to provide for easy supervision
- B. Instructional board - 20 linear feet minimum, and bulletin board - 10 linear feet
- C. Maximum counter and cabinet storage space along walls (Some of this space may be used for computers. If so, height needs to be adjusted accordingly.)
- D. Windows should be high enough to permit installation of counters along outside walls
- E. Provisions made for blinds or shades to allow for showing of audiovisual materials
- F. Adequate electrical wall outlet strips for use of electronic equipment, computers and

related peripherals

- G. Reconfigurable tables and chairs for 20-25 students
- H. Bookcase for reference and resource books; magazine rack
- I. Floors - tile
- J. Ceiling - acoustical-type finished ceiling
- K. If modular furniture is to be used, room layout needs to be planned accordingly

507.03 Instructor's Office

507.031 Size - 100 to 150 square feet

507.032 Location

Convenient or direct access to production laboratory and communication laboratory.

507.033 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements.

- A. Teacher's desk and chair
- B. Conference chairs - 1 or 2
- C. Storage
 - 1. Letter size, 4-drawer file cabinets - 2
 - 2. Open and closed shelving for supplies and references, 20-30 linear feet
- D. Minimum of 2 duplex outlets

507.04 Raw Material and Tool Storage

507.041 Size - 150 to 250 square feet

507.042 Location

Direct access to production laboratory

507.043 Activities

For storage of various types of stock, tools and other supplies necessary in the technology classroom.

507.044 Equipment Space and Facilities

- A. Storage racks for various types of stock. Stock may be as large as 4 feet x 8 feet
- B. Adjustable shelving and cabinets for small items and portable electric tools
- C. Peg board for storage of hand tools

507.05 Project Storage

507.051 Size - 150 to 250 square feet

507.052 Location

Direct access to classroom laboratory

507.053 Activities

Limited to storage of student projects and supplies

507.054 Equipment Space and Facilities

- A. Provide maximum adjustable shelving 24 inches deep along walls
- B. Provide free floor area for storage of large items

507.06 Audiovisual Laboratory

507.061 Size - 150 to 250 square feet

507.062 Location

Direct access to classroom

507.063 Activities

Producing a variety of audiovisual materials such as mock radio and television segments.

507.064 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements.

- A. Maximum work counter space with storage underneath
- B. Electrical outlets along counter
- C. Soundproof from exterior influences
- D. Additional electrical outlets for equipment usage

508 MUSIC FACILITIES

Factors influencing the location of this complex include: isolation from quiet areas of the building; ease of isolating the area for use during and after school hours; inclusion in the general arts area with convenient access to the stage; and direct or convenient access to the outdoors. Location of facilities within the suite should provide ease of supervision of all areas. It is strongly recommended that an acoustical analysis be completed during construction and/or renovation of music facilities. Acoustical treatment should provide proper sonic environment to prevent sound transmission to remainder of the building as per ASA standards. Cubic volume must be the first and foremost priority in the design of space for music facilities.

508.01 Music Studio

NOTE: Classroom/general music, choral, and instrumental studios may be planned as separate or combined facilities. Ceiling height must be planned for acoustical purposes, including the effect of built-in or portable risers on ceiling height. It is recommended that a choral rehearsal room have 350-500 cubic feet and that band/orchestra rehearsal rooms have 550-700 cubic feet. Assistance in design and planning may be obtained from the music specialist of the WVDE.

508.011 Size - 30 to 40 square feet per student

508.012 Design Capacity - 25 students for general music classrooms, larger areas must provided for band, orchestra, and choral instruction

508.013 Location

Direct access to instrumental storage

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- A. Direct or convenient access to other rooms in the music suite
- B. Isolated as much as possible from quiet areas of the building

508.014 Activities

Instruction in classroom/general music, choral and instrumental music; viewing instructional technology; listening to recorded music; dance movement common to show choir; demonstrations of various types of instruments; writing or drawing on instructional board, and display materials.

508.015 Equipment Space and Facilities

See Chapter 4, Sections 302.01 and 302.02, and the following requirements.

A. Instructional board - 30 linear feet, maximum, on front wall of which at least 8 linear feet is etched with staff lines

B. Bulletin board - 8 to 10 linear feet, located near entrance

C. Storage for vocal and instrumental accessories

1. Wall cabinets for music folders

2. Open shelving for instructional materials, 12" deep and 12" clear height; 40 linear

feet

D. Music chairs with folding tablet arms

E. Music stands

F. Director's podium

G. Recording device

H. Conference/work table

I. Legal size, 4-drawer filing cabinets - 2-3

J. Wide door with flush threshold for moving large instruments to and from the studio

K. Microphone outlets for recording in the studio - 2 or 3

L. Stereo sound reproducing system with a minimum capacity of 40 watts - 20 watts per

channel

M. Electronic piano and bench

N. Pupil wardrobes

O. Availability of instructional technology equipment

P. Instructor's desk with lockable storage

Q. Appropriate acoustic wall and floor covering and ceiling tile, which is mold and microbial

resistant

R. Adequate wiring for electronic keyboard lab and general music instruction

508.02 Practice Room - Optional

508.021 Size - 50 to 60 square feet each

508.022 Design Capacity - 2 to 4 students

508.023 Location

A. Convenient access from other music rooms

B. Access to instrumental storage without passing through studio

C. Convenient access from building corridor

D. Permit ease of supervision

E. Practice rooms should be located by themselves in a group with a music library or

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storage room between them and the rehearsal hall. Adjacent walls must be avoided in practice rooms unless sound-absorbing treatments have been used that is effective at low, middle and high frequencies.

508.024 Activities - Vocal and Instrumental Practice

508.025 Equipment Space and Facilities

- A. Chairs and music stands - 2 or 3
- B. Glazed partition of insulating glass for ease of supervision
- C. Acoustical treatment
- D. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

508.03 Instructor's Office and Library

May be separate rooms or combination.

508.031 Size - Approximately 250 square feet

508.032 Design Capacity - 2 instructors and 6 students

508.033 Location

- A. Direct or convenient access to other music rooms
- B. Permit ease of supervision of studio and auxiliary rooms

508.034 Equipment Space and Facilities

See Chapter 3, Section 302.04, and the following requirements.

- A. Instructor's desk and chair
- B. Legal size, 4-drawer filing cabinets - 3 or 4
- C. Lockable storage for instructor's personal belongings
- D. Instructional board and bulletin board - 6 to 8 linear feet each
- E. Conference table and chairs
- F. Storage for printed music, records, tapes and other instructional aids
 - 1. Open shelving - 15 to 20 linear feet
 - 2. Closed shelving - 30 to 40 linear feet
- G. Stereo sound reproducing equipment
- H. Music sorting rack

508.04 Lockable Instrument Storage

508.041 Size - Approximately 350 square feet

508.042 Provide storage shelving necessary to accommodate instruments of various sizes.

508.043 Year-round temperature between 68-75°F and humidity less than or equal to 50% rH shall be maintained by a quiet air system.

508.05 Robe and Uniform Storage

May be in portable wardrobes or separate rooms, ventilate as needed.

509 PHYSICAL EDUCATION FACILITIES

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Factors influencing location include: Isolation from quiet areas of the building, direct access to the outside, and provision for closing off the area for after-school use.

509.01 Gymnasium (Physical Education Learning station)

509.011 Size

Determination of size is dependent upon physical education spaces to be located - 5700 square feet minimum independent of the spectator seating area calculation. Floor area should be marked for various games.

509.012 Design Capacity - Maximum of 70 students at 77 square feet per student.

509.013 Location

Convenient access from locker and shower rooms.

509.014 Activities

Include soccer, volleyball, basketball, football, softball, folk and square dance, gymnastics, and other activities to meet the county curriculum. Recommend junior high basketball court (50 feet x 84 feet). Design to accommodate the student enrollment with a minimum of seating of 250. Approximately 10 square feet will be needed for each seat provided. The gymnasium should have a minimum of a 24 foot clear unobstructed room height.

509.015 Equipment Space and Facilities

See Chapter 3, Section 302.05, and the following requirements

- A. Provisions for using the learning center as 2 or more teaching stations may require canvas-net partition, folding door partition or mechanical folding walls.
- B. Electrical outlets, CD/Tape player, record player, auxiliary lighting, and cleaning equipment. Additional special outlets.
- C. Small cases for display purposes - 2 or 3
- D. Bulletin board - 12 to 16 linear feet
- E. Drinking fountains
- F. Comfortable, low-wall seating
- G. Wood gymnasium floor or equal. Wood flooring must be provided humidity monitoring through the building monitoring and control system.

509.02 Gymnasium Equipment Storage Rooms

At least 2 in each station.

509.021 Size - Area adequate to store all equipment

509.022 Location

Directly accessible to each teaching station when the station is divided.

509.023 Equipment Space and Facilities

- A. Open storage area for items such as standards, vaulting horses, and horizontal bars
- B. Enclosed storage cabinets for small items of physical education equipment
- C. Double doors and flush threshold

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509.03 General Storage

509.031 Size

Large enough to store all equipment

509.032 Location

Direct or convenient access to learning station

509.04 Male and Female Locker/Dressing Rooms

NOTE: Recommend treatment of walls in these areas with epoxied materials to enhance maintenance. Also similar floor materials.

509.041 Size

Dependent upon manner in which gym clothing, street clothing, and towel distribution are handled and the number of students expected to use this facility, 600-700 square feet.

509.042 Location

- A. Direct or convenient access to learning station
- B. Direct access to outside physical education areas
- C. Direct access to building corridor
- D. Direct access to body-drying room
- E. Permit ease of supervision

509.043 Activities

Dressing for physical education; storing street and gym clothes; informal talks with physical education instructors.

509.044 Equipment Space and Facilities

- A. Street clothes lockers dispersed among gym clothes lockers
- B. Space for additional lockers
- C. Benches adjacent to or between rows of lockers
- D. Small restroom or partitioned area with toilet, lavatory, and urinal
- E. Mirrors to accommodate large number of students, shelving under each mirror and one full-length mirror
- F. Bulletin board near entrance - 4 to 8 linear feet
- G. Instructional board - 6 linear feet
- H. Drinking fountain

509.05 Male and Female Shower Rooms

509.051 Size - Approximately 200 square feet

509.052 Location

Access to locker/dressing room only through the body-drying room

509.053 Equipment Space and Facilities

- A. Group showers

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- B. Master water volume and maximum temperature controls
- C. Individual water temperature and on-and-off controls
- D. Antibacterial soap dispensers
- E. Mechanical ventilation
- F. Easily cleanable construction
- G. Floor drains away from normal traffic
- H. Hose bibb for hot and cold water
- I. Walls of non-absorbent material

NOTE: Individual dressing, drying, and showering booths must be provided in female shower area.

509.06 Male and Female Body-Drying Rooms

509.061 Size - Approximately 100 square feet

509.062 Location

- A. Direct access from locker/dressing and shower rooms; entries to require maximum travel distance through drying room
- B. Direct or convenient access from locker/dressing room

509.063 Equipment Space and Facilities

- A. Towel holders
- B. Floor drains away from center
- C. Ventilation
- D. Easily cleanable construction
- E. Hose bibb for hot and cold water

509.07 Towel Room - optional

509.071 Size - 50 to 60 square feet

509.072 Location

- A. Convenient to the locker/dressing and shower areas
- B. Permit ease of supervision from locker/dressing area and instructor's office

509.073 Activities

Temporary storage, distribution and collection of towels.

509.074 Equipment Space and Facilities

- A. Shelving to accommodate laundered towels
- B. Movable laundry carts to accommodate used towels
- C. Dutch door for issuing and receiving towels

509.08 Laundry Area - optional

509.081 Size - Approximately 100 square feet

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509.082 Location
Convenient to physical education and dressing rooms or areas

509.083 Activities
Launder and dry gym clothing.

509.084 Equipment Space and Facilities

- A. Washing machine
- B. A dryer that is vented to the exterior
- C. Laundry tub
- D. Separate work surface for handling both clean and soiled clothing and equipment

509.09 Instructor's Office - 1 For Each Instructor

509.091 Size - Approximately 100 square feet

509.092 Location

- A. Direct access to locker/dressing room
- B. Direct or convenient access to gymnasium and outdoor physical education areas
- C. Permit ease of supervision of locker/dressing rooms

509.093 Activities
Instructor's showering, toilet, and dressing.

509.094 Equipment Space and Facilities
See Chapter 3, Section 302.04, and the following requirements.

- A. Restroom, lavatory, and shower
- B. Desk and chair
- C. Conference chairs
- D. 4-drawer filing cabinet
- E. Storage of personal belongings
- F. Book shelving - 10 to 15 linear feet
- G. First aid equipment

509.10 Training Area - Optional

509.101 Size - 200 square feet

509.102 Location
Convenient to locker/dressing rooms.

509.103 Activities - Care of Body

509.104 Equipment Space and Facilities

- A. Whirlpool connections that are code appropriate
- B. Rub-down table
- C. Heat lamps
- D. Supply cabinet

509.11 Equipment Storage Room

509.111 Size - Approximately 200 square feet

509.112 Location
Convenient to locker/dressing rooms.

509.113 Activities
Uniform and equipment storage.

510 SCIENCE FACILITIES

Items to be considered in locating these facilities are: Ease of access to outdoor areas, ease of delivery of supplies and materials.

Return air from science labs/classrooms should not be recirculated into other areas of the building. Science labs/classrooms shall be designed in accordance with WV Fire Marshal's requirements. They shall maintain a negative pressure to adjacent areas.

510.01 Integrated Science Classroom/Laboratory

510.011 Size

Base preliminary determination of area on allotment of 50 square feet per student; minimum 1200 square feet, exclusive of separate storage room. A base preliminary determination of area on allotment of 45 square feet per student is recommended for a stand-alone laboratory. An additional space of 15 square feet is required for each computer station.

510.012 Design Capacity - 25 students

510.013 Location

- A. Direct access to project preparation room
- B. Direct or convenient access to storage and growing room. Growing room facilities may be included in instructional space laboratory.
- C. Convenient access to other rooms in the science suite.

510.014 Activities

Instruction and demonstrations; class-size and small group discussion; individual and small group experimentation; viewing projected materials; use of instructional technology inclusive of, but not limited to microscopes, probes, computers, data collection devices, graphing calculators, etc.; writing or drawing at tables and instructional boards; individual study and research; displaying student projects.

510.015 Equipment Space and Facilities

See Chapter 3, Sections 302.01 and 302.02, and the following requirements.

- A. Instructional board - 20 to 30 linear feet, chart and display rail above. Instructional boards with sliding panels are recommended.
 - 1. Minimum of 40 inches clear height

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2. Major portion on front wall
 - B. Bulletin board - 10 to 12 linear feet, chart and display rail above
 - C. Work counter - 40 to 50 linear feet minimum, and must have student work space to accompany it
 1. Six acid-resistant sinks with hot and cold water
 2. Impervious work surface
 3. Gas and electricity
 4. Storage under work counter
 5. Movable aquariums and terrariums
 - D. Closed shelving - 30 to 40 linear feet, 18 inches deep
 - E. Open shelving - 15 to 20 linear feet
 - F. Instructor's demonstration table including sink, hot and cold water, gas, and electricity.
- Student workspace of 2½ linear feet per student may be provided as equivalent student workspace, which is not as restrictive as combination desk-chairs. Student desks are to be flat-topped and not tablet-armed.
- G. Student tables and chairs – 2
 - H. Teacher's desk and chair
 - I. Facilities for darkening room for experiments and demonstrations
 - J. Projection screen
 - K. Portable fume hood
 - L. Fire extinguisher and blanket
 - M. Eyewash station(s)
 - N. First Aid Kit
 - O. Goggle sterilization and storage cabinet
 - P. Hand wash station
 - Q. Emergency gas shut-off valves located in a readily accessible location

510.02 Integrated Science Storage

Shared storage areas recommended in multiple laboratory situations. Storage area must be lockable.

510.021 Size - Approximately 200 square feet

510.022 Location

- A. Direct access from project preparation room
- B. Direct or convenient access from instructional space laboratory and growing room

510.023 Equipment Space and Facilities

Maximum varied height and depth, adjustable shelving (150 linear feet minimum).

Storage must be appropriate for laptops, data collection hardware, probes, GPS, GIS, and other technology equipment.

510.024 Chemical Storage Area

- A. Acid/Corrosive storage cabinet with proper venting to the exterior
- B. Flammable storage cabinet
- C. Adjustable shelving of varied heights and depths
- D. Ventilation system to maintain a negative pressure to adjacent areas

510.03 Project Preparation Room. May be planned as combination with storage area.

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510.031 Size - Approximately 200 square feet

510.032 Design Capacity - Instructor and 6 students

510.033 Location

Direct access from instructional space laboratory and from building corridor.

510.034 Equipment Space and Facilities

A. Acid-resistant work surface with acid-resistant sink, hot and cold water, gas, and electricity

B. One porcelain deep sink with hot and cold water

C. File cabinet

510.05 Greenhouse (Optional)

510.051 Size - minimum of 22 feet x 48 feet

510.052 Location

A. Convenient access to other program facilities.

B. Should be located to receive full sunlight during winter.

C. Aisles must be wide enough to accommodate handicapped students.

510.053 Equipment Space and Facilities

A. Frost-proof hose bibs

B. GFCI outlets as per NEC

510.06 Nature Trail (Optional)

510.061 Nature trail or natural area

A. Indigenous flora

B. Pavilion with table and benches

C. Weather station

D. Sun dial

511 LIBRARY/LEARNING RESOURCE OR MEDIA CENTER

See Chapter 3, Section 305.

512 STUDENTS WITH EXCEPTIONALITIES - INSTRUCTIONAL AREAS

See Chapter 7.

513 COMPUTER LAB (Optional)

See Chapter 3, Section 302.03.

514 ELECTRONIC TECHNOLOGY LABORATORY - Optional

Whenever feasible, the use of technology in education will be integrated within the individual classroom, but there is a need for a demonstration/lecture laboratory to house equipment that may be utilized by all teachers and students. This laboratory will employ present day and futuristic applications of educational technology by exploring the areas of: computer controlled capability with use of a data projector; distance learning and tele-conferences allowing interactive experiences; and authoring or production capabilities to develop programs and courseware for in-house applications. Ideally, the middle school instructional technology facility consists of one large room with a platform area for teacher demonstration/lecture and adjacent control room. This facility may also be used for large group instruction.

514.01 Electronic Technology Complex

514.011 Size - Approximately 2000 square feet

514.012 Design Capacity - 75 students

514.013 Location

Near media center and isolated from noisy areas of building

514.014 Equipment Space and Facilities

See Chapter 3, Section 302.01 and 302.02, and the following requirements.

- A. Dustless marking boards, approximately 10 linear feet
- B. Bulletin board, approximately 10 linear feet
- C. Storage
 - 1. Teachers' storage for personal belongings
 - 2. Closed and open shelving, approximately 50 linear feet of each
 - 3. Tape rack and storage cabinet
 - 4. Disc rack and storage cabinet
- D. Platform area, minimum 8 inches raised flooring for wiring
- E. Adequate conduit throughout room to distribution panel
- F. Adequate electrical outlets
- G. Teacher station/console with control panel and phone line
- H. Appropriate acoustical treatment depending on use of lab
- I. Wall mounted monitors
- J. Ceiling mounted data projector
- K. Microphones - 1 per student station
- L. Color correct lighting for video production and viewing
- M. Adjustable lighting levels
- N. Pull-down screen in platform area
- O. On/off air sign at doors
- P. Student seating - stationary tables and movable chairs
- Q. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- R. Broadcast-quality audio
- S. Satellite receiving equipment, microwave, and/or fiber optics

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514.015 Control Room

- A. Size - approximately 150 square feet
- B. Down linking capability
- C. Up linking capability (when justified)
- D. Broadcast capability

514.016 Activities

Tele-computing concepts to access the Internet, data bases; interactive applications; usage of electronic music keyboards, microscopes, video cameras, etc.; tele-conference allowing live interactive classes. A video production engineer should be consulted when laboratories are designed for video production.

515 ADMINISTRATIVE AND SERVICE FACILITIES

See Chapter 3, Section 303.

516 FOOD SERVICE FACILITIES

See Chapter 3, Section 304.

517 ENGINEERING AND CUSTODIAL FACILITIES

See Chapter 3, Section 306.

518 STAGE

Locate for use in relation to the gymnasium or dining area for spectator seating. Must have convenient access to language arts and music instructional space and physical education locker/dressing rooms to permit use as stage dressing rooms.

- A. Provide at least 800 square feet of permanent or portable stage area.
- B. Two entrances to the stage, one direct from the building corridor. Entrances are to be double-door size.
- C. Stage location should be one, which makes instructional spaces accessible for use as stage dressing rooms.
- D. Proscenium opening should be approximately one-half the width of the body of the multipurpose room.
- E. Stage curtains of fire resistant materials; portable or permanent acoustical paneling, cyclorama, and video projection screens should be part of the stage equipment.
- F. Lighting facilities with controlled illumination.
- G. 5 to 10 grounded duplex electrical receptacles should be provided in the stage area.
- H. Storage for electronic and stage equipment.
- I. Every stage equipped with rigging for movable theater-type scenery and every enclosed platform larger than 500 square feet in area shall have a system of automatic sprinklers in accordance with the state fire code.

Chapter 6
HIGH SCHOOL EDUCATION 9-12

600 HIGH SCHOOL EDUCATION 9-12 CENTERS

The WVDE is committed to providing guidance and assistance to counties in their efforts to continuously improve all aspects of educational programming, including physical facilities. Critical planning must precede the construction of facilities, or the purchase of equipment and materials in order to ensure that all students have access to a comprehensive, high-quality learning system that empowers them to reach their full potential, promotes their development as productive and responsible citizens, and prepares them to meet workforce and economic demands.

Each high school shall provide challenging and rigorous courses in the programs of study in grades 9-12 that enable students to achieve high levels of competence for college- and career- readiness. High schools will incorporate the West Virginia College-and Career-Readiness Dispositions and Standards for Student Success for Grades K-12 per WVBE Policy 2520.19 across content areas and teacher-led advisory programs. Students will be provided opportunities to develop intellectual, social/emotional, physical and technological capacities needed for successful transitioning beyond graduation to ensure all students are college-and Career-ready. Students will be provided the opportunity to develop foundational knowledge and skills for their success in a global society.

In grades 9 and 10, students build foundational knowledge and skills; while in grades 11 and 12, students enter into a personalized aspect of their PEP, focusing carefully on selected coursework that leads to successful completion of their personal and academic goals. Each student's coursework will be designed to lead directly to placement in entry-level, credit-bearing academic college courses, an industry-recognized certificate or license, or workforce training programs.

An educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants, and support the educational program. Other factors such as density of population, availability of sites, and transportation make it difficult to generalize about optimum size. Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program.

The following charts and descriptions of spaces are examples of the number, types, and square footage of classrooms and other spaces that must be considered for typical high schools (grades 9-12). The educational program of each new facility shall dictate the actual number and types of spaces provided. Counties are encouraged to design administrative and service facilities tailored to meet the needs of the educational program of the school in consultation with an architect or educational facility planner.

All modular and detached classroom structures must meet the requirement of this policy for the intended space.

Where design considerations permit, the facility will be constructed in a manner that encourages the use of natural light.

600.01 Size of Centers

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An educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants, and support the educational program. Other factors such as density of population, availability of sites, and transportation make it difficult to generalize about optimum size.

600.02 Selection of Furniture and Equipment

600.021 Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program.

600.022 Criteria for selection should include the following:

- A. Appearance
- B. Maintenance
- C. Safety and Security
- D. Comfort
- E. Durability
- F. Building Codes
- G. Guarantees
- H. Flexibility
- I. Availability
- J. Cost

600.03 Allow 130 square feet per student, unless factors such as enrollment or architectural design permit otherwise as determined by the WVDE. Square footage of facilities funded by SBA will be established in accordance with SBA Guidelines and Procedures Handbook.

600.04 The size and type of facility will be determined by the number of students and the instructional program.

600.05 Centers shall be planned for a minimum of 800 students, 200 students per grade level.

601 PLANNING PROCESS

601.01 The high school programs and facilities should accommodate such programs that are the result of careful, complete, and creative planning. Careful planning of curriculum will be required to have equal access to comprehensive educational programs, which include career and technical as well as academic programs. Please refer to Chapter 8 for specific guidelines for career and technical programs. Refer to Chart V, 126CSR42 WVBE Policy 2510 when planning technical course offerings.

601.02 The planning process is essentially identical for all types of educational environments. It involves identifying the users, describing the learning activities and their desired outcomes, defining the relationship of one learning space to others, describing needed equipment and furnishings, and specifying special environmental considerations.

601.03 Educational specifications shall be prepared to include a careful computation of room, area, and building capacities required to offer programs of study as outlined in the Master Plan and WVBE Policies 2510 and series 2520. Consideration should be given to changing various learning spaces and activity areas. Additional educational specification requirements can be found in the SBA Guidelines

and Procedures Handbook for new schools or schools with major additions funded by the SBA.

601.04 Departmentalization, specialization of instructional spaces, elective subjects, and scheduling are factors to be considered in determining the number of teaching stations. In determining the number of teacher stations, consideration must be given to the number of students with exceptionalities served in special education environments for specific subject areas.

NOTE: The following formula considers only the number of students; none of the above are considered.

A. The number of teaching stations needed may be determined by applying the following formula to each subject area. (When general-purpose instructional spaces are considered interchangeable for different subject areas, the calculation may be made for a group of subject areas.)

B. The basic formula

$$\begin{array}{l} \text{Number of} \\ \text{Teaching} \\ \text{Stations} \end{array} = \frac{\begin{array}{l} \text{Number of students} \\ \text{enrolled in subject} \end{array} \times \begin{array}{l} \text{Number of periods} \\ \text{per week in subject} \end{array}}{\begin{array}{l} \text{Desired average} \\ \text{Class size} \end{array} \times \begin{array}{l} \text{Number of periods} \\ \text{per week each} \\ \text{teaching station} \\ \text{can be used} \end{array}}$$

C. Example of tenth grade social studies:

$$\begin{array}{l} \text{Number of} \\ \text{Teaching} \\ \text{Stations} \end{array} = \frac{\begin{array}{l} 200 \text{ students enrolled} \end{array} \times \begin{array}{l} 5 \text{ periods per week} \end{array}}{\begin{array}{l} 25 \text{ students per class} \end{array} \times \begin{array}{l} 30 \text{ periods of use} \\ \text{of teaching station} \end{array}}$$

$$= \frac{1,000 \text{ student-periods of instruction}}{750 \text{ student-periods that can be provided in one teaching station}}$$

$$= 1.4$$

D. The formula may also be adopted to determine the student capacity of a proposed school building.

601.05 The student capacity of a school building is affected by the educational program; it changes each time the program is modified.

602 ESSENTIAL INSTRUCTIONAL TECHNOLOGY FOR HIGH SCHOOL EDUCATION 9-12 CENTERS

See Chapter 3, section 302.

603 GENERAL PURPOSE (ACADEMIC) CLASSROOMS OR INSTRUCTIONAL AREAS

Rooms should be designed to serve specific needs of language arts, foreign language, mathematics,

social studies, and certain other subject areas. They should also be designed to permit interchanged use, as program needs demand.

603.01 Size

Base preliminary determination of area upon an allotment of 28 to 30 square feet per student. For example: 700 to 750 square feet of floor area should be planned for 25 students in an instructional space. The area of the standard high school classroom must be at least 840 square feet to accommodate the requirements of the college- and career-readiness activities; however, the designed space may be reduced specific to the educational specifications and the student population projections with the prior approval of the WVDE Office of School Facility and Transportation.

To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

603.02 Design Capacity - 25 students

603.03 Location

Isolation from noisy areas of the building

- A. Close proximity to the media center
- B. Location which will permit easy expansion

603.04 Activities

Speaking; laboratory activities, presentations, distance learning, virtual learning, group discussion; collaborative project-based learning, interactive boards, desk and/or tables; displaying students' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual and collaborative assignments are to be done with manipulative materials and a wide range of technologies.

603.05 Equipment Space and Facilities

See Chapter 4, Section 302.01, Section 302.02 and the following requirements.

- A. Instructional boards, bulletin boards, and other display areas - as much as possible, a minimum of two-thirds available wall space
 - 1. Instructional boards and bulletin boards should have map rails installed above
 - 2. The bottom of the display area should be at the eye level of the student when seated
- B. Student wardrobe
- C. Storage
 - 1. Lockable storage for teacher's personal belongings
 - 2. Storage for teaching aids and supplies
 - a. Closed and open shelving
 - b. 4 drawer filing space
- D. Teacher's combination desk-table and chair
- E. Conference-type table and chairs
- F. Desks and chairs, or combination chair-desks
- G. Desirable equipment
 - 1. Corridor and classroom display areas for students' work
 - 2. Rack for storage of periodicals pertaining to subject matter being taught
- H. Adequate provision for controlling the light level in instructional areas is essential. For efficient use of projection-type materials, the light in the classroom should be low enough to maintain good projection surfaces.
- I. Duplex electrical receptacles should be installed on all walls of the instructional space for

the use of instructional equipment. Sufficient branch electrical circuits should be in each room. Conduit or other provisions shall be installed to permit future use of instructional technology.

J. Where there are specialized facilities, such as language labs, study carrels, microteaching and television, provision should be made for additional electrical service.

K. A movable projection surface should be provided in each instructional area.

L. Acoustical treatment of walls, ceilings and floors in instructional areas, media centers and other such areas, when audio devices are used.

M. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

604 SMALL GROUP INSTRUCTIONAL AREAS/CLASSROOMS

Specialized classrooms in the form of small or specially equipped instructional areas are provided in each facility. These areas are not intended to be permanent classrooms; rather, they are intended for flexible and fluid targeted instructional activities. Small group instructional areas should be designed for the provision of tiered, strategic, intensive or special education instruction to students in language arts, mathematics, science, social studies, and certain other subject areas. These classrooms may be used as instructional areas for the provision of gifted services.

604.01 Size

Base preliminary determination of area upon an allotment of 30 square feet per student. For example: 450 square feet of floor area should be planned for 15 students in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

604.02 Design Capacity - 15 students

604.03 Location

- A. Isolation from noisy areas of the building
- B. Close proximity to the media center
- C. Location which will permit easy expansion

604.04 Activities

Speaking, laboratory activities, presentations; group discussion; listening to audio presentations, podcasts and broadcasts; doing assignments on instructional boards or interactive boards, or at desk and/or tables; displaying students' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual assignments are to be done with manipulative materials or instructional technology.

604.05 Equipment Space and Facilities

See Chapter 3, Section 302.01 and Section 302.02 and Chapter 6, Section 603.05.

605 ART FACILITIES

Art facilities should accommodate the studio and classroom activities of a full art program. Basic to all activities would be space allotment, natural and artificial light, movable furniture or furnishings, display space, several kinds of storage space, deep sinks with clean-out traps and adequate electrical outlets.

605.01 Size

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Studio - approximately 1200 square feet, exclusive of storage.

605.02 Design Capacity

Recommended class size for studio activities - 25 students. For maximum flexibility, the studio should accommodate up to 40 students on occasion.

605.03 Location

A. Accessibility of freight elevator (if not first floor location) for heavy consumable materials such as clay and sculpture media.

B. Need for uncarpeted floor in studio areas. Floors should be of concrete, tile, linoleum or other material not easily damaged by paint or clay.

C. Good lighting, both natural and artificial. Natural light is important for many activities and essential for painting.

D. Space should contain, or be accessible to, facilities for the use of slides and video. Blackout curtains, projection facilities and chairs equipped with tablet arms.

E. Power tools and equipment may, subject to local policy, be borrowed from or shared with career and technical education area.

605.04 Activities

Discussion, studio, lecture, combination. Basic - drawing, painting, sculpturing, ceramics, design, art, history and appreciation and crafts.

605.05 Equipment Space and Facilities

See Chapter 3, Section 302.01 and Section 302.02, Chapter 6, Section 603.05 and the following requirements.

A. Sink and work counter units

1. Hot and cold water with mixing faucets
2. No less than 2 deep sinks of stainless steel with long drainboards
3. Large drains and clean-out traps
4. Long counter for mixing paints and other such activities
5. Storage for mixing pans, water jar, and brushes (under sink and counter)

B. Special storage for:

1. Drawing boards
2. Shelves for storage of flat work, a minimum of 28 inches x 40 inches
3. Prints (similar to above)
4. Audiovisual materials and special books
5. Tools used in construction
6. Unfinished work

C. Display facilities for projects - glass covered in studio and hall

D. Work benches, tilt-top tables, and easels, as selected by instructors - movable to permit flexible grouping, with accommodations for:

1. Teachers' desk and storage area
2. Provision for hanging mobiles from ceiling
3. Kilns and potter's wheels. Kiln room - 8 feet x 10 feet is desirable for kiln, clay, glazes, equipment and shelves for work in progress. Adequate electrical circuits, including 240 volts for kiln

4. Press for graphics

E. Dark room for photography, with mechanical ventilation

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- F. Doorway opening at least 42 inches wide
- G. Duplex outlets along wall spaces and above work counter - no less than 15
- H. All electric and gas kilns hooded and mechanically ventilated when in use. All new kilns must be electric.
- I. A ceramic kiln co-located with each general art classroom
- J. Provide general and/or local exhaust to remove fumes, odors, gases and other contaminants such as clay silica dust to maintain negative room pressure to adjacent areas and to protect the health of teachers and students
- K. Visual art facilities should comply with OSHA standards for storage. Clay silica supplies should be stored in an area separate from other supplies.

605.06 Storage Room

Approximately 400 square feet is suggested for each full studio, to include shelves for paper, paints and supplies, and for unfinished work which cannot be stacked, such as wet paints, prints, and ceramics, with a special shelf in studio or storage room for unfinished constructions - at least 20 linear feet.

606 DRIVER EDUCATION FACILITIES

Designed to provide a comprehensive course in Driver Education and must include instructional space, laboratory, and storage areas.

606.01 Instructional Space

606.011 Size

A minimum of 28 to 30 square feet per student. A room rectangular in shape is essential to adequately accommodate the projection of visual instructional materials and to station the students a minimum distance from the projection screen.

606.012 Design Capacity - 25 students

605.013 Location

For convenience and efficiency, this facility should be located on the ground level so as to permit easy access to automobiles used for behind-the-wheel instruction.

606.014 Activities

Lecture; group discussions; instructional board and interactive presentations; use of psycho-physical testing equipment; viewing slides, transparencies, and videos; studying charts, cut-aways, and models; and testing activities.

606.015 Equipment Space and Facilities

See Chapter 3, Section 302.01 and Chapter 6, Section 603.05

606.02 Teacher Study and/or Office Room

Teacher's study and instructional space may be joined by a partition for security and accessibility with facilities for counseling students and lesson preparation, and storage space for personal belongings and records.

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606.021 Size - 50 to 75 square feet

606.022 Location - Adjoining Instructional Space

606.023 Equipment Space and Facilities
See Chapter 3, Section 302.04.

606.03 Storage Room

Allow 20 to 25 linear feet of open shelving and 40 to 50 linear feet of closed shelving. Instructional equipment, teaching aids, and supplies must be secured to prevent loss and to assure accessibility when needed.

606.04 Laboratory or Simulator Room - Optional

This room should be free of columns, which would obstruct the students' vision of the screen.

606.041 Size

Installation of 12 simulator units and the master console requires an absolute minimum area of 38 feet x 25 feet

606.042 Design Capacity - 12 students

606.043 Location

Adjoining driver education instructional space and office storage room with direct access to other areas.

606.044 Equipment Space and Facilities

See Chapter 3, Section 302.01, Section 302.02 and the following requirements.

- A. Conduit for simulators and master control unit
- B. Provide means for darkening room
 - 1. Black-out shades for windows, if any. Few or no windows are recommended.
 - 2. Multi-staged lighting control
 - 3. Two-way ceiling switch
- C. Electrical outlets along walls supplied with 120 volt, 60 cycle, 20 amp service
- D. Control sound as per ASA guidelines
- E. Instructor's desk and chair
- F. Projection screen 12 feet x 16 feet for 16-place simulator system and 10 feet x 12 feet

for 12-place system

- G. Storage area
- H. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- I. Room should not be painted white, which would result in excessive reflection of light. A pastel shade of paint is recommended.

606.05 Multi-Media (Programmed Instruction) Instructional Space - Optional

This area could also be used for the regular instructional space.

606.051 Size

Approximately 33 feet long and 28 feet wide

606.052 Design Capacity

30 students with special or adapted furniture and the instructor's console. Equipment is available to accommodate larger groups. An increase in class size will require a comparable adjustment in room size.

606.053 Location

Adjacent to driver education area

606.054 Equipment Space and Facilities

See Chapter 3, Section 302.01 and the following requirements

- A. Conduit and master console
- B. Provide adequate means for darkening room
- C. A minimum of 12 feet distance between students and screen. The screen should not be viewed from more than a 30-degree angle.
- D. Electrical current - 120 volt, 80 amp service with 4 - 20 amp breakers
- E. Screen - 6 feet x 12 feet
- F. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

606.06 Multiple-Car Driving Range - Optional

Intelligent planning of a multiple-car facility will provide acres of well-drained area. The surfacing of this area with stone or asphalt requires careful consideration to assure stabilization without undue pavement deterioration due to climatic conditions, nature of the soil base, and drainage.

606.07 Planning the Multiple-Car Facility

These plans must include cost considerations, site selection and development, facility design, equipment, and instructional plan. Consider use as parking for off-hour athletic or community use.

606.08 Planning Assistance

May be obtained from the WVDE, Division of Research, Technology, and Professional Services, Driver Education Coordinator.

607 FOREIGN LANGUAGE FACILITIES

Factors influencing the type of foreign language facility to be chosen include the type of laboratory facility desired. Laboratory facilities can be an electronic classroom, a language laboratory into which students are scheduled from classes held in general purpose classrooms or general-purpose classrooms adapted for foreign language study.

607.01 General Purpose Classrooms Used for Foreign Language

607.011 Size - 28 to 30 square feet per student, exclusive of storage area

607.012 Design Capacity - 25 students

607.013 Location

- A. Isolation from noisy areas of the building

B. Near the media center

607.014 Activities

Speaking, laboratory drills; group work; reading; marking board work; using audiovisual materials; singing; working with tapes and records individually (in carrels); play acting; and dancing.

607.015 Equipment Space and Facilities

See Chapter 3, Section 302.01 and Section 302.02, Chapter 6, Section 603.05 and the following requirements.

A. Conference-type tables and chairs that can be moved to facilitate conversation and collaborative learning

B. Non-stationary students' desks and chairs, or combination chair-desks

C. Book shelving - minimum of 20 linear feet

D. Provision for darkening room

E. Movable cart for audiovisual equipment

F. Recording device with jack box and headsets

G. Carrels for individual work are desirable

607.02 Electronic Classroom

607.021 Size - 35 square feet per student, exclusive of storage space

607.022 Design Capacity - 25 students

Allow five percent more stations; maximum class size

607.023 Location

Near media center, isolated from noisy areas of building, and meets ASHRAE and ASA standards

607.024 Activities

See Chapter 6, Section 607.014

607.025 Equipment Space and Facilities

See Chapter 3, Section 302.01 and Section 302.02, Chapter 6, Section 603.05 and the following requirements.

A. Student seating

1. Stationary tables wired to reproduce sound from console and movable chairs

2. Overhead wiring on droppable units to reproduce sound from console and combination chair-desks (this type installation needs fewer square feet per student than the stationary tables).

B. Duplex electrical outlets on all feasible walls as per NEC

C. Book shelving: minimum of 20 linear feet

D. Provision for darkening room

E. Microphones, one per station

F. Headsets, one per station

G. Jack and plug to place sound track from 16 mm projector into classroom sound system is desirable

607.03 Language Laboratory

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- 607.031 Size - 35 square feet per student, exclusive of storage space
- 607.032 Design Capacity - 25 students
Allow five percent more stations
- 607.033 Location
In center of, or adjacent to, foreign language classrooms
- 607.034 Activities
Language laboratory drill and recording
- 607.035 Equipment Space and Facilities
See Chapter 3, Section 302.01 and Section 302.02; Chapter 6, Section 603.05, and the following requirements.
 - A. Headsets, one per station
 - B. Microphones, one per station
 - C. Provision for darkening rooms
- 607.04 Teacher Work Area
 - 607.041 Size - Approximately 250 square feet
 - 607.042 Design Capacity - Two Instructors and Several Students
 - 607.043 Location
Opening into language laboratory or classrooms
 - 607.044 Activities
Preparation of instructional materials, small group activities, reading, and grading.
 - 607.045 Equipment Space and Facilities
See Chapter 3, Section 302.04, and the following requirements.
 - A. Desk and chair per teacher - 1
 - B. Legal size filing cabinet per teacher - 1
 - C. Lockable storage for instructor's personal belongings
 - D. Table or movable cart for audiovisual equipment
 - E. Conference table and chairs
 - F. Instructional board and bulletin board, minimum of 5 linear feet each
 - G. Storage for instructional aids
 - H. Soundproof area for recording tapes
 - I. Telephone, desirable
 - J. Projection surface
 - K. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

608 LIBRARY/LEARNING RESOURCE OR MEDIA CENTER

See Chapter 3, Section 305.

609 MUSIC FACILITIES

Factors influencing the location of this complex include: isolation from quiet areas of the building; ease of isolating the area for use during and after school hours; inclusion in the general arts areas with convenient access to the auditorium stage; and direct or convenient access to outdoors. It is strongly recommended that an acoustical analysis be completed during construction and/or renovation of music facilities. Location of facilities within the suite should provide ease of supervision of all areas. Acoustical treatment should provide proper sonic environment to prevent sound transmission to remainder of the building as per ASA guidelines. Cubic volume must be the first and foremost priority in the design of space for music facilities.

609.01 Music Studio

NOTE: Choral and instrumental studios may be planned as combined facilities. Ceiling height must be planned for acoustical purposes, including the effect of built-in or portable risers on ceiling height. It is recommended that a choral rehearsal room have 350-500 cubic feet and that band/orchestra rehearsal rooms have 550-700 cubic feet. Assistance in design and planning may be obtained from the music specialist of the WVDE.

609.011 Size - 30 to 40 square feet per student, with ceiling height of 12 feet.

609.012 Design Capacity - 40 students for general music classrooms, larger areas must be provided for band, orchestra, and choral instruction

609.013 Location

- A. Direct access to instrumental storage
- B. Direct or convenient access to other rooms in the music suite
- C. Isolated as much as possible from quiet areas of the building

609.014 Activities

Conduct instrumental and choral music rehearsals; view projected materials; listen to recorded music; demonstrations of various types of instruments; write or draw on instructional board or interactive whiteboard; and display materials.

609.015 Equipment Space and Facilities

See Chapter 3, Section 302.01 and the following requirements

- A. Instructional board - maximum of 30 linear feet, on front wall of which at least 8 linear feet is etched with staff lines
- B. Bulletin board - 8 to 10 linear feet, located near entrance
- C. Storage for vocal and instrument accessories
 1. Wall cabinets for music folders
 2. Open shelving for books, tapes, cartridges, and record albums; 12 inches deep and 14 inches clear height; 40 linear feet
- D. Music chairs with folding tablet arms
- E. Music stands with storage area
- F. Director's podium
- G. Recording device

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- H. Conference work table
- I. 3 or more legal size, 4 drawer filing cabinets
- J. Wide door with flush threshold for moving large instruments to and from the studio
- K. Eight microphone outlets for recording in the studio
- L. Stereo sound reproducing system with a minimum capacity of 40 watts - 20 watts per channel
- M. Electronic piano and bench
- N. Student wardrobe or lockers
- O. Instructor's station
- P. Availability of instructional technology equipment
- Q. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

609.02 Practice Room - Optional

609.021 Size - 50 to 60 square feet each

609.022 Design Capacity - 2 to 4 students

609.023 Location

- A. Convenient access from other music rooms
- B. Access to instrumental storage without passing through studio
- C. Convenient access from building corridor
- D. Permit ease of supervision
- E. Practice rooms should be located by themselves in a group with a music library or storage room between them and the rehearsal hall. Adjacent walls must be avoided in practice rooms unless sound-absorbing treatments have been used that is effective at low, middle and high frequencies.

609.024 Activities

Vocal and instrumental practice

609.025 Equipment Space and Facilities

- A. 2 or 3 chairs and music stands
- B. Glazed partition of insulating glass for ease of supervision
- C. Acoustical treatment to meet ASA guidelines
- D. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

609.03 Ensemble Instructional Space - Optional

May be part of multi-use choral and instrumental studio

609.031 Size - Approximately 30 square feet per student

609.032 Design Capacity - 8 to 12 students

609.033 Location

- A. Convenient access from other music rooms
- B. Access to instrumental storage without passing through studio
- C. Convenient access from building to corridor
- D. Permit ease of supervision

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609.034 Activities
Choral and instrumental practice and small group instruction

609.035 Equipment Space and Facilities
See Chapter 3, Section 302.01 and the following requirements

- A. Instructional board - 16 to 20 linear feet; bulletin board
- B. Glazed partition for ease of supervision
- C. Acoustical treatment to meet ASA guidelines
- D. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- E. Electronic piano and bench
- F. Music chairs with folding tablet arms
- G. Music stands with portable storage

609.04 Instructor's Office and Library
May be separate rooms or combination

609.041 Size - Areas as needed - approximately 250 square feet

609.042 Design Capacity - 2 Instructors and 6 students

609.043 Location

- A. Direct or convenient access to other music rooms
- B. Permit ease of supervision of studio and auxiliary rooms

609.044 Equipment Space and Facilities
See Chapter 3, Section 302.04 and the following requirements

- A. Instructor's desk and chair
- B. 4 drawer, legal size filing cabinets - 3 to 4
- C. Lockable storage for instructor's personal belongings
- D. Instructional board and bulletin board - 6 to 8 linear feet each
- E. Conference table and chairs
- F. Storage for printed music, records, tapes, and other instructional aids
 - 1. Open shelving - 15 to 20 linear feet
 - 2. Closed shelving - 30 to 40 linear feet
- G. Stereo sound reproducing equipment
- H. Music sorting rack
- I. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

609.05 Lockable Instrument Storage

609.051 Size - Area as needed - approximately 350 square feet

609.052 Storage Shelving
Necessary to accommodate instruments of various sizes

609.053 Year-round temperature between 68-75°F and humidity less than or equal to 60% rH shall be maintained.

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609.06 Robe and Uniform Storage

May be in portable wardrobes or separate rooms; ventilate as needed.

610 PHYSICAL EDUCATION FACILITIES

Factors influencing location include: Isolation from quiet areas of the building; direct access to the outside; and provision for closing off area for after school use.

NOTE: Although less desirable, these facilities may be combined with assembly facilities.

610.01 Gymnasium

610.011 Size

Determination of size is dependent upon physical education spaces to be located - 6300 square feet minimum independent of the spectator seating area calculation. Floor area should be marked for various games.

610.012 Design Capacity - Maximum of 70 students at 77 square feet per student

610.013 Location

Convenient access from locker and shower rooms

610.014 Activities

Include soccer, volleyball, basketball, football, softball, folk and square dance, gymnastics and other activities to meet county curriculum. Recommend college-size basketball court (50 feet x 94 feet). Design to accommodate the student enrollment with a minimum of seating of 250. Approximately 10 square feet will be needed for each seat provided. The gymnasium should have a minimum of a 24 foot clear unobstructed room height.

610.015 Equipment Space and Facilities

See Chapter 3, Section 302.05 and the following requirements

A. Provisions for using the learning center as 2 or more teaching stations may require canvas-net partition, fold-door partition or mechanical folding walls.

B. Electrical outlets, CD player, auxiliary lighting and cleaning equipment; additional special outlets.

C. Small cases for display purposes - 2 or 3

D. Bulletin board - 12 to 16 linear feet

E. Drinking fountains

F. Electronic retractable seating to accommodate student body and staff

610.02 Equipment Storage Rooms

At least 2 in each station

610.021 Size - Area for equipment storage - 150 square feet

610.022 Location

When the station is divided into 2, have directly accessible to each teaching station.

610.023 Equipment Space and Facilities

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- A. Open storage area for items such as standards, vaulting horses, and horizontal bars
- B. Enclosed storage cabinets for small items of physical education equipment
- C. Double doors and flush threshold

610.03 General Storage

610.031 Size - Large enough to store all equipment

610.032 Location

Direct or convenient access to learning station

610.04 Male and Female Locker/Dressing rooms

Physical education and varsity programs

NOTE: Recommend treatment of walls in these areas with epoxied materials to enhance maintenance. Also, quarry tile or similar floor materials.

610.041 Size - Dependent upon manner in which such items as gym clothing, street clothing, and towel distribution are handled and the number of students expected to use this facility - 600 to 700 square feet.

610.042 Location

- A. Direct or convenient access to learning station
- B. Direct access to outside physical education areas
- C. Direct access to building corridor
- D. Direct access to body-drying room
- E. Permit ease of supervision

610.043 Activities

Dressing for physical education; storing street and gym clothes; informal talks with physical education instructors.

610.044 Equipment Space and Facilities

- A. Street clothes lockers dispersed among gym clothes lockers
- B. Space for additional lockers
- C. Benches adjacent to or between rows of lockers
- D. Small restroom or partitioned area with toilet, lavatory and urinal
- E. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- F. Mirrors to accommodate large numbers of students, shelving under each mirror and one full-length mirror
- G. Bulletin board near entrance – 4 to 8 linear feet
- H. Instructional board – 6 linear feet
- I. Drinking fountain

610.05 Male and Female Shower Rooms

610.051 Size – Approximately 200 square feet

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610.052 Location

Access to locker/dressing room only through the body-drying room

610.053 Equipment Space and Facilities

- A. Group showers
- B. Master water volume and maximum temperature controls
- C. Individual water temperature and on-and-off controls
- D. Antibacterial soap dispensers
- E. Floors are of easily cleanable material
- F. Floor drains away from normal traffic
- G. Hose bibb for hot and cold water
- H. Walls of non-absorbent material

NOTE: Individual dressing, drying and showering booths may be provided in female shower area.

610.06 Male and Female Body-Drying Rooms

610.061 Size - Approximately 100 square feet

610.062 Location

- A. Direct access from locker/dressing and shower rooms; entries to require maximum travel distance through drying room
- B. Direct or convenient access from varsity locker/dressing room

610.063 Equipment Space and Facilities

- A. Stub towel holders
- B. Floor drains away from center
- C. Floors are of easily cleanable material
- D. Hose bibb for hot and cold water

610.07 Towel Room - Optional

610.071 Size - 50 to 60 square feet

610.072 Location

- A. Convenient to the locker/dressing and shower areas
- B. Permit ease of supervision from locker/dressing area and instructor's office

610.073 Activities

Temporary storage, distribution, and collection of towels.

610.074 Equipment Space and Facilities

- A. Shelving to accommodate laundered towels
- B. Movable laundry carts to accommodate used towels
- C. Dutch door for issuing and receiving towels

610.08 Laundry Area - Optional

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- 610.081 Size - 100 square feet
- 610.082 Location
 - Convenient to physical education and dressing rooms or areas
- 610.083 Activities
 - Laundry and dry gym clothing
- 610.084 Equipment Space and Facilities
 - A. Washing machine
 - B. Dryer vented to the exterior
 - C. Laundry tub
 - D. Separate work surface for handling both clean and soiled clothing and equipment
- 610.09 Instructors' Offices - One for each instructor
 - 610.091 Size - Approximately 100 square feet
 - 610.092 Location
 - A. Direct access to locker/dressing room
 - B. Direct or convenient access to gymnasium and outdoor physical education areas
 - C. Permit ease of supervision of locker/dressing rooms
 - 610.093 Activities
 - Instructors' showering, toilet and dressing
 - 610.094 Equipment Space and Facilities
 - See Chapter 3, Section 302.04 and the following requirements
 - A. Restroom, lavatory and shower
 - B. Desk and chair
 - C. Conference chairs
 - D. 4 drawer filing cabinet
 - E. Lockable storage of personal belongings
 - F. Book shelving – 10 to 15 linear feet
 - G. First aid equipment
 - H. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- 610.10 Training Area
 - 610.101 Size - Approximately 200 square feet
 - 610.102 Location - Convenient to Locker/Dressing Room
 - 610.103 Activities - Care of body
 - 610.104 Equipment Space and Facilities
 - A. Whirlpool connections that are code appropriate

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- B. Rub-down table
 - C. Heat lamps
 - D. Supply cabinet
 - E. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- 610.11 Equipment Storage Room

610.111 Size - Approximately 150 square feet

610.112 Location - Convenient to Locker/Dressing Rooms

610.113 Activities - Uniform and equipment storage

601.12 Optional Spaces

All of the following spaces shall have a heating, ventilating, and air conditioning (HVAC) system, which meet ASHRAE standards

610.121 Wrestling - 42 feet x 42 feet, or 1800 square feet

610.122 Weight Room - 1000 square feet

610.123 Multi-purpose Room - 1600 square feet

610.124 Auxiliary Gymnasium

In schools of more than 1000 student population - 5400 square feet

611 SCIENCE FACILITIES

Items to be considered in locating these facilities are: Ease of access to outdoor science areas, ease of delivery of supplies and materials. Facilities may be designed for instruction in single disciplines. Although optional, DC electricity, compressed air, and vacuum are desirable inclusions due to the expense of portable units over a series of years.

Return air from science labs/classrooms should not be recirculated into other areas of the building. Science labs/classrooms shall be designed in accordance with WV Fire Marshal's requirements. They shall maintain a negative pressure to adjacent areas.

611.01 Combination Chemistry/Physics Lecture Laboratory

611.011 Size - Base preliminary determination of area on allotment of 60 square feet per student; approximately 1440 square feet, exclusive of separate storage. Base preliminary determination of area on allotment of 45 square feet per student is recommended for a laboratory only. An additional space of 15 square feet is required for each computer station.

611.012 Design Capacity - 24 students

611.013 Location

- A. Direct access to storage and project preparation room
- B. Convenient access to other science instructional space laboratories

611.014 Activities

Instruction and demonstrations; class-size and small group discussion; individual and small group experimentation; viewing slides, videos, and other projected materials; use of TV, VCR, DVD, laser disc player, data projectors, and other video and audio equipment; use of computer and data collection devices; writing or drawing at tables and Instructional boards; individual study and research; displaying student projects.

611.015 Equipment Space and Facilities

See Chapter 3, Section 302.01, Section 302.02, Chapter 6, Section 603.5 and the following requirements.

- A. Ventilated (portable or fixed) fume hoods
 - 1. Equip with gas, compressed air, AC and DC electricity, and water with vacuum breakers
 - 2. Wide enough for 2 pupils
 - 3. Easily visible from demonstration area if fixed piece of equipment
 - 4. Fume hood exhaust fans shall be corrosion and spark resistant
 - 5. Fume hood exhaust ductwork shall be constructed of a corrosion resistant material
 - 6. Fume hood exhaust system shall be designed in accordance with NFPA 45 and ANSI/AIHA Z9.5
- B. Instructor's demonstration table, including sink, hot and cold water, gas, AC and DC electricity, compressed air, and vacuum
- C. Laboratory work space 2½ linear feet per student (may be provided as tables or work counter)
 - 1. Equip with sink, water, gas AC and DC electricity flush plates, and support rods
 - 2. Individual student storage units
 - 3. Corrosive-resistant work surface and plumbing
 - 4. Perimeter location is not recommended.
- D. Open shelving with a lip that meets NFPA 101 for often used chemicals and other materials
- E. Fire extinguisher and blanket
- F. 2-student work tables and chairs
- G. Facilities must allow for darkening the room to conduct experiments and demonstrations
- H. Emergency showers and hand station
- I. Fire blanket
- J. Eye wash stations
- K. Goggle sterilization and storage cabinet
- L. First aid kit
- M. Provide main gas shut-off valves for all laboratory equipment, including adjacent preparation rooms
- N. Emergency exhaust fan vented to the exterior to maintain the space at a negative pressure to adjacent areas
- O. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- P. Ice machine

611.02 Chemistry Storage

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611.021 Size - Approximately 100 square feet

611.022 Location

- A. Direct access from project preparation room
- B. Convenient access from instructional space laboratory

611.023 Equipment Space and Facilities

- A. 75 to 100 linear feet of adjustable shelving of varied heights and depth with safety lip as per state fire code.
- B. An independent ventilation system to maintain a constant negative pressure to adjacent areas
- C. Window between storage area and instructional space
- D. Storage cabinet for explosive or flammable material and a properly exterior ventilated corrosion-resistant cabinet for concentrated acids
- E. Storage area shall meet the requirements of NFPA 45 and WV Fire Marshal's office

611.03 Physics Storage Room

611.031 Size - Approximately 100 square feet

611.032 Location

- A. Direct access from project preparation room
- B. Convenient access from instructional space laboratory

611.033 Equipment Space and Facilities

- A. Adjustable shelving of varied heights and depths - 75 to 100 linear feet
- B. Maximum closed adjustable shelving

611.04 Project Preparation Room

Optional as a separate room; however, preparation facilities must be provided outside the instructional space laboratory.

611.041 Size - Approximately 200 square feet; if combined with storage - 400 square feet

611.042 Design Capacity - Instructor and approximately 6 students

611.043 Location

- A. Direct access from instructional space laboratory and from building corridor
- B. Convenient access from other science facilities located in adjacent portions of the science suite
- C. Permit ease of supervision from instructional space laboratories

611.044 Activities

Preparation for demonstrations; storage of projects; individual and small group project work

611.045 Equipment Space and Facilities

- A. Maximum work counter space with minimum of 2 sinks

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- B. Storage units above and below work counter
- C. Water, gas, vacuum, compressed air, and AC and DC electricity at work counter
- D. File cabinet
- E. Room shall include an exhaust system that will be utilized during preparation activities

611.05 Universal Instruction/Laboratory Classroom (For Biology, Human Anatomy, Integrated Science, or Environmental/Earth Science)

611.051 Size - Base preliminary determination of area on allotment of 60 feet per student; approximately 1440 square feet, exclusive of separate storage room. Base preliminary determination of area on allotment of 45 square feet per student is recommended for a laboratory only. An additional space of 15 square feet is required for each computer station.

611.052 Design Capacity - 24 students

611.053 Location

- A. Direct access to project preparation room
- B. Direct or convenient access to storage and growing room. Growing room facilities may be included in instructional space laboratory.
- C. Convenient access to other rooms in the science suite

611.054 Activities

Instruction and demonstrations; class-size and small group discussion; individual and small group experimentation; viewing slides, videos and other projected materials; use of TV, VCR, DVD, laser disc player, data projector, and other video and audio equipment; use of computer and data collection devices; writing or drawing at tables and instructional boards; individual study and research; displaying student projects.

611.055 Equipment Space and Facilities

See Chapter 3, Section 302.01; Chapter 6, Section 603.05; and the following requirements.

- A. Work counter - 40 to 50 linear feet, minimum; and must have student work space to accompany it
 - 1. 6 acid-resistant sinks with hot and cold water
 - 2. Impervious work surface
 - 3. Gas and electricity
 - 4. Storage under work counter
 - 5. Movable aquariums and terrarium
- B. Closed shelving - 30 to 40 linear feet, 18 inches deep
- C. Open shelving - 15 to 20 linear feet with a safety lip as per the state fire code
- D. Instructor's demonstration table including sink, hot and cold water, gas, and electricity. 2½ linear feet per student may be provided as equivalent student workspace, which is not as restrictive as combination desk-chairs. Student desks are to be flat-topped, not tablet-armed.
- E. 2-student tables and chairs
- F. Capability for darkening room completely
- G. Projection screen
- H. Fire extinguisher and blanket
- I. Ventilated (portable or fixed) fume hoods

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- breakers
1. Equip with gas, compressed air, AC and DC electricity, and water with vacuum
 2. Wide enough for 2 pupils
 3. Easily visible from demonstration area if fixed piece of equipment
 4. Fume hood exhaust fans shall be corrosion and spark resistant
 5. Fume hood ductwork shall be constructed of a corrosion resistant material
 6. Fume hood exhaust system shall be designed in accordance with NFPA 45 and

ANSI/AIHA Z9.5

- J. Eye wash station and emergency shower
- K. Goggle sterilization and storage cabinet
- L. First aid kit
- M. Hand wash station
- N. Provide main gas shut-off valves for all laboratory equipment
- O. Emergency exhaust fan vented to the exterior to maintain the space at a negative pressure to adjacent areas

611.06 Universal Laboratory Storage

611.061 Size - Approximately 200 square feet

611.062 Location

- A. Direct access from project preparation room
- B. Direct or convenient access from instructional space laboratory and growing room

611.063 Equipment Space and Facilities

- A. Maximum varied height and depth adjustable shelving - approximately 100 linear feet with a safety lip as per the state fire code.
- B. A ventilation system to maintain a negative pressure to adjacent areas

611.07 Project Preparation Room

May be planned as combination with storage area.

611.071 Size - Approximately 200 square feet

611.072 Design Capacity - Instructor and approximately 6 students

611.073 Location

Direct access from instructional-space laboratory and from building corridor.

611.074 Equipment Space and Facilities

- A. Acid-resistant work surface with acid-resistant sink, hot and cold water, gas, and electricity
- B. File cabinet
- C. Room shall include an exhaust system that will be utilized during preparation activities

611.08 Greenhouse (May be shared with career and technical education program) (Optional)

611.081 Size - minimum of 22 feet x 48 feet

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611.082 Location

- A. Convenient access to other program facilities.
- B. Should be located to receive full sunlight during winter.
- C. Aisles must be wide enough to accommodate handicapped students.

611.083 Equipment Space and Facilities

- A. Frost-proof hose bibs
- B. GFCI outlets as per NEC

611.09 Nature Trail (Optional)

611.091 Nature trail or natural area

- A. Indigenous flora
- B. Pavilion with table and benches
- C. Weather station
- D. Sun dial

612 CAREER AND TECHNICAL EDUCATION FACILITIES

See Chapter 8.

613 STUDENTS WITH EXCEPTIONALITIES - INSTRUCTIONAL AREAS

See Chapter 7.

614 COMPUTER LAB

See Chapter 3, Section 302.01 WVBE

615 AUDITORIUM

Factors influencing the location of the auditorium include: Ground level position isolated from other areas of the building, convenient access to music and language arts instructional space and physical education locker/dressing rooms to permit use as stage-dressing rooms and to service drive for the delivery of bulky properties; location which allows community groups to use the facility during school hours without interfering with school activities; and a location which permits planned multiple use of lobby area. Location shall be convenient to public parking facilities. Consider accessibility of pupil restrooms for public use and instructional space for coat-check areas during after-school hours.

615.01 Body of Auditorium

615.011 Size

Dependent upon ultimate seating capacity desired and singular or multiple use of the facility. Approximately 9-10 square feet will be needed for each seat provided.

615.012 Design Capacity

Design to accommodate at least 1/3 of student enrollment with a minimum seating of

250

615.013 Activities

Production and performance of various student plays, concerts, and variety shows; performances before student audiences by visiting groups or individuals contributing to the educational program of the school; multiple use of the area for instructional purposes, such as large and small group instruction, and distance learning.

615 .014 Equipment Space and Facilities

See Chapter 3, Section 302.05 and the following requirements.

- A. Space in front and below auditorium stage for orchestra, band, and other activities
- B. Acoustical quality so that weak voices of some platform participants may be heard throughout the auditorium with use of sound support system
- C. Facilities whereby programs originating in the auditorium may be broadcast throughout the school
- D. Convenience lights arranged and located for partial illumination during performances
- E. Light control by multi-way switches convenient to entrances, near stairs to the stage, and projection booth
- F. Convenience and pilot light circuits should be tied into main light panel for control during productions
- G. Duplex electrical outlets, appropriate in number, should be provided
 - 1. Along front of stage apron
 - 2. At rear of the body of the auditorium
 - 3. About 1/3 the distance from the stage to the rear of the auditorium for use with various audiovisual projectors
- H. Projection niche (optional) at the rear of the room for use of technology projection
- I. Speakers for use with projector located in the rear of the seating area
- J. See Chapter 5 for equipment necessary for distance learning
- K. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- L. Consideration should be given to future service and maintenance in designing lighting placement.

615 .02 Lobby or Student Commons

615 .021 Size

Area as needed to handle anticipated capacity.

615 .022 Location

To serve as common lobby for auditorium and gymnasium if facilities are provided in the same unit, or may be used as common lobby with other public service areas.

615 .023 Activities

This facility may also serve as a student gathering area.

615 .03 Stage

615 .031 Size - 1400 to 1600 square feet

615.032 Location

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- A. Provide ample wing space on each side of the stage
- B. Access to the stage and building corridor without entering lobby or body of the auditorium

615 .033 Equipment Space and Facilities

See Chapter 3, Section 302.04 and the following requirements.

- A. Apron in front of the main curtain, approximately 8 feet wide, with direct access to the body of the auditorium at each end
- B. Wide double doors with flush threshold opening onto the stage to permit passage of bulky scenery and equipment
- C. The appropriate floor to meet the needs of the performing arts curriculum, including dance. A portable floor is strongly recommended for dance programs to protect the health of teachers and students
- D. Electrical circuits
 1. Circuits for adjustable spotlights mounted on at least 2 battens
 2. Flush floor pockets or equivalent mounted in floor behind cyclorama with at least one outlet directly behind proscenium arch on each side
 3. Duplex electrical outlets mounted near floor on walls of stage
 4. Stage work lights (overhead and foot) controlled by multi-way switches at stage entrances
- E. Provide panel for controlling stage and house lights, including beam and spotlights; mount in the ceiling of the auditorium
- F. Light control panel should be designed to avoid overloading of circuits, resulting in dimmer damage, and should be flexible and expandable
- G. Means for mounting 10 to 12 foot roll-up motion picture screen

615 .04 Stage-Crafts-Workshops-Storage

615 .041 Size - Approximately 750-1000 square feet

615 .042 Location

Direct access to the stage, arranged to prevent noise interference on the stage.

615 .043 Activities

Prepare, alter, and store materials, such as stage flats and properties; store general-purpose equipment used for auditorium programs.

615 .044 Equipment Space and Facilities

- A. Double doors with flush threshold
- B. Work counter approximately 30 inches deep, with storage: Ten linear feet
- C. Tool cabinet
- D. Sink with hot and cold water
- E. Movable storage cabinets for stage properties
- F. Electrical outlets on available wall space, including area over work bench
- G. Bulletin board - 6 linear feet
- H. Storage for flats of various widths, appropriate for height of the proscenium arch
- I. Locked storage for grand piano, costumes, stage properties and lighting and projection equipment

J. Rooms shall include an exhaust system that will be utilized during preparation activities

616 FOOD SERVICE FACILITIES

See Chapter 3, Section 304.

617 ADMINISTRATIVE AND SERVICE FACILITIES

See Chapter 3, Section 303.

618 ENGINEERING AND CUSTODIAL FACILITIES

See Chapter 3, Section 306.

Chapter 7
STUDENTS WITH EXCEPTIONALITIES EDUCATION

700 STUDENTS WITH EXCEPTIONALITIES- INSTRUCTIONAL AREAS

701 PLANNING PROCESS

701.01 General

Most students with exceptionalities are served in general education classrooms. However, classrooms must be designed for students with exceptionalities receiving instruction from special education teacher(s) for core content classes and for students who receive instruction in the extended standards, modified curriculum and life skills for the majority of the school day. The classrooms for students with exceptionalities shall be comparable to the classrooms for non exceptional students and meet the same requirements (including those for technology) as general classrooms unless there are additional considerations that must be met. All modular or detached classroom structures must meet the requirement of this policy for the intended use of the space. To determine the number of Level 1 and Level II/III rooms that must be included in the construction of new schools, refer to State Board Policy 2419 for the identification of students to be served and survey the current and projected student enrollment to adequately meet those service needs.

701.02 Location

All classrooms for students with exceptionalities shall be 1) located within the main facility, 2) located in close proximity to classrooms for age-appropriate non-exceptional peers and 3) easily accessible to cafeteria, library, and other central activities.

701.021 Additional Location Considerations

A. Separate classrooms for students with deafness and hearing loss should not be located in close proximity to high noise level areas such as gymnasiums, music rooms, noisy streets, railroad tracks, etc.

B. Separate classrooms for students with emotional/behavioral challenges or for students with attention deficits or sensory integration difficulties should be in an area with a minimum amount of outside distraction such as traffic or hallway noise, within close proximity to restroom facilities and with a means for direct and immediate communication with administrative offices or support.

701.03 Accessibility

Facilities shall be designed to be accessible to students with exceptionalities and to assist students to function safely with as much mobility as possible.

701.04 Design/Equipment

Facilities serving students with exceptionalities are designed, furnished, equipped, and maintained to facilitate the program requirements set forth in the individualized education program.

701.05 Considerations

The majority of students with exceptionalities will be served in general education environments. The general education classroom must be designed with the supports needed for exceptional students in mind. For students with sensory impairments (vision and hearing) adaptations to the general and special education classroom environments should include:

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701.051 Acoustic considerations for rooms serving students with deafness or hearing loss- Sound levels are to meet ASA guidelines for the hearing challenged. Wall, ceiling, HVAC, and floor construction are to be evaluated in order to meet these guidelines

- A. Installation of appropriate floor covering and ceiling tile, which is mold and microbial resistant
- B. Acoustical panels and tile as required
- C. Drapes
- D. Visual safety signals for areas in the school accessible by students.

701.052 Illumination considerations for rooms serving students with blindness or low vision - the room should be free from glare and direct sunlight. Artificial illumination fixtures should be wired for multi-staged control.

702 CLASSROOMS FOR STUDENTS WITH LEVEL I SERVICE NEEDS

702.01 Size – 480 square feet

702.02 Design Capacity

701.021 K-5 – 6 students

701.022 6-12 – 12 students

702.03 Activities

Speaking; laboratory activities, presentations, distance learning, virtual learning, group discussion; collaborative project-based learning, interactive boards, desk and/or tables; displaying students' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual and collaborative assignments are to be done with manipulative materials and a wide range of technologies.

702.04 Equipment Space and Facilities

Refer to equipment space and facilities found in General Purpose (Academic) classrooms or instructional areas for each programmatic level.

702.041 Instructional Station should be comparable to that provided for general education classrooms, including instruction technology capabilities, telephone and equipment (see Chapter 3, Sections 302.01 and 302.02).

702.042 Classroom furniture that allows for individual and small group instruction and project based learning.

702.043 Specialized equipment as required by the student's IEP.

703 CLASSROOMS FOR STUDENTS WITH LEVEL II OR III SERVICE NEEDS

703.01 Size – 800 – 1000 square feet

703.02 Design Capacity

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703.021 Level II K-12 – 12 students (adult/student ratio = 1:6)

703.022 Level III K-12 – 8 students (adult/student ratio = 1:4)

703.03 Activities

Individual and small group instruction on extended standards, activities of daily living, functional/life skills training, use of assistive technology, provision of integrated therapies, group discussion; collaborative project-based learning, interactive boards, desk and/or tables; displaying students' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual and collaborative assignments are to be done with manipulative materials and a wide range of technologies.

704.03 Equipment Space and Facilities

Refer to equipment space and facilities found in General Purpose (Academic) classrooms or instructional areas for each programmatic level.

704.031 Instructional Station should be comparable to that provided for all general education classrooms, including instruction technology capabilities, telephone and equipment.

704.032 Classroom furniture that allows for individual and small group instruction and project based learning.

704.033 Specialized equipment as required by the student's IEP.

704.034 Design and space should allow for the accommodation of required assistive technology and integrated therapies.

704.035 Instructional areas/equipment conducive to teaching functional skills (e.g., kitchen facilities, laundry facilities, and restroom facilities with shower).

704.036 Design should allow for a private area for attending to student's personal needs.

704 GIFTED EDUCATION SERVICES

Gifted education services should be provided in small group instruction areas/classrooms that can accommodate up to 15 students (see sections 411, 504, or 604).

705 CLASSROOM FOR STUDENTS WITH DEVELOPMENTAL DELAYS

705.01 Size - 720 to 1000 square feet

705.02 Design Capacity – not to exceed 20 students

705.03 Location

See Chapter 7, Section 701.01

705.04 Activities

Individual and small group instruction based on the Early Learning Standards as described in

State Board Policy 2525, including learning activities to address positive social-emotional skills, early language/communication and early literacy skills; and the use of appropriate behaviors to meet students' needs. These activities may include collaborative project-based learning, physical education, conversation, discussion, listening activities and creative activities with various media. The room should accommodate displaying students' work; storing instructional materials and supplies; demonstrations; and activities where stations with individual and collaborative assignments are to be done with manipulative materials and a wide range of technologies.

705.05 Equipment Space and Facilities

See Chapter 3, Section 302 and the following requirements.

- A. Teacher desk and chair
- B. Tables with chairs for pupil seating; carpet squares or low cushions for additional seating per child
- C. Storage
 - 1. Cart for audiovisual material
 - 2. Storage cabinets
 - 3. 4-drawer file with lock
 - 4. 20 linear feet of shelving adjacent to instructional area
- D. Restroom facilities (including changing table and cots)
- E. Doorways shall meet ADA requirements
- F. Ramps and handrails, if needed
- G. Non-skid floor surfaces, which are mold and microbial resistant
- H. Electrical receptacles with protective covers on all walls
- I. Sink with hot and cold water
- J. Instructional board - 30 linear feet
- K. Bulletin board - as much as possible; minimum 20 linear feet
- L. Facilities for darkening room
- M. Appropriate ceiling tile, which is mold and microbial resistant
- N. Active and Passive instructional technology equipment
- O. Provision of appropriate sleeping equipment that does not allow children to sleep on the floor or in a sleeping bag or on linens alone.
- P. Provision of a designed area where a child can sit quietly or lie down to rest.

706 PROFESSIONAL SUPPORT STAFF

Special education and related services may be provided by itinerant or school-based professional support staff, such as school psychologists, counselors, audiologists, occupational and physical therapists, speech/language pathologists and other related service specialists. Adequate space must be made available for itinerant services provided by professional support staff on a part-time basis. Professional support staff providing services on a full-time basis require an individual full-time room assignment.

706.01 Size 250 to 350 square feet

706.02 Design Capacity - Maximum of 10 people

706.03 Location

These facilities shall be located within the main school facility and easily accessible to all

students with disabilities.

706.04 Activities

Individual and group guidance; counseling and conferences with pupils, parents and teachers; individual evaluations; individual and group instruction: individual therapy sessions.

706.05 Equipment Space and Facilities

See Chapter 3, Section 302 and the following requirements.

- A. Desk and chair
- B. Conference chairs
- C. Shelving - 10 to 15 linear feet
- D. Bulletin board - 4 to 6 linear feet
- E. Instructional board - 4 to 6 linear feet
- F. Lockable storage for personal belongings
- G. 4-drawer file cabinet with lock for each professional assigned full-time to facility
- H. Additional file space for other professionals providing itinerant services
- I. Professional support staff facilities, including equipment, must be modified in order to accommodate student needs as specified in the individualized education program
- J. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

**Chapter 8
CAREER AND TECHNICAL EDUCATION**

800 CAREER AND TECHNICAL EDUCATION FACILITIES

The WVDE has the responsibility to provide guidance and assistance to counties in their efforts to continuously improve all aspects of educational programming, including physical facilities at Career Technical Education Facilities. The WVDE endeavors to fulfill its leadership responsibilities and assist in establishing a thorough and efficient system of education for all the students of West Virginia. This handbook has been prepared to assist public school officials in planning and constructing new career technical education facilities, additions and major renovations. This will enable West Virginia's 55 county school systems to provide equal educational opportunities for all students.

Critical planning must precede the construction of facilities, or the purchase of equipment and materials. Key stakeholder groups/participants should be involved in the planning of a CTE program including representatives from the identified industry sector, feeder schools and programs, institutions of post-secondary education, and curricular disciplines. Planning should reference data pertaining to local and regional labor markets and should be conducted in coordination with similar programs at institutions of higher learning such as community colleges or technical institutes.

The following chart and description of spaces are examples of the number, types, and square footage of administrative and service facilities that must be considered for typical career and technical education schools. The educational program of each new facility shall dictate the actual number and types of spaces provided. Counties are encouraged to design administrative and service facilities tailored to meet the needs of the educational program of the school in consultation with an architect or educational facility planner.

All modular or detached classroom structures must meet the requirement of this policy for the intended space.

Where design considerations permit, the facility will be constructed in a manner that encourages the use of natural light.

801 AGRICULTURAL EDUCATION FACILITIES

Factors influencing the location of facilities include: Isolation from quiet areas of the building; location which provides easy delivery of instructional supplies, materials, and equipment including farm machinery; location which permits isolation from remainder of the building for after-school use.

801.01 Classroom Space

801.011 Size

Base preliminary determination of area upon allotment of 30 to 40 square feet per student (minimum of 750 square feet), exclusive of storage space. Preferred classroom size is 950 – 1200 square feet. If classroom space is based on the minimum of 30 square feet per student (750 square feet total), an additional 200 square feet should be provided for a demonstration and work area - wet sink, etc.

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801.012 Design Capacity 25 students

801.013 Location

- A. Convenient or direct access to lab facilities and office
- B. Ground floor, convenient to a building entrance

801.014 Activities – Refer to 603.04

Instructional boards; displaying students' work; storing instructional materials and supplies.

801.015 Equipment Space and Facilities -- Refer to Section 603.05

- A. Refer to the "Agricultural Education Program Guide" for list of equipment

801.02 Agricultural Mechanics Laboratory

801.021 Size

Minimum of 2400 square feet. Base preliminary determination of area on allotment of 120 to 150 square feet per student, exclusive of storage and tool room space.

801.022 Design Capacity - 20 students

801.023 Location

- A. Convenient access to classroom space and instructor's office
- B. Direct access to service drive

801.024 Activities

Construct and repair agricultural equipment and machinery; weld; finish and paint equipment; operate power machinery or equipment; store tools, materials, and partially-completed projects.

801.025 Equipment Space and Facilities Varies with program concentrations offered.

- A. State of the art instructional technology – refer to Section 302
- B. Instructional board and bulletin board - 6 linear feet each
- C. Windows should be at least 42 inches above the floor to permit installation of equipment along wall and electrical outlets above work benches
- D. Floor or ceiling electrical grid system for 110 and 220 volt power to various machines with master control switches
- E. Overhead door from service drive, minimum 14 feet wide and 10 feet high
- F. Storage for hand tools, may be provided in separate room or in cabinets and racks within the lab
- G. Fire extinguishers, per State Fire Code
- H. Work benches, wooden, minimum of 30 linear feet
- I. Work benches, metal, minimum of 40 linear feet
- J. Floor drain near machinery repair area
- K. Half-circle wash fountain installed in shop
- L. Emergency eye wash and shower station
- M. Refer to the "Agricultural Education Program Guide" for list of equipment

801.03 Agricultural Mechanics Storage Area

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801.031 Size - minimum of 600 square feet

801.032 Location

- A. Adjacent to the laboratory area and machinery storage area
- B. Area should be protected from the weather, but not necessarily heated

801.033 Activities

Storage of instructional materials and consumables

801.034 Facilities

- A. Storage rack for metal
- B. Storage rack for lumber

801.04 Machinery and Material Storage Area

801.041 Size - minimum of 600 square feet

801.042 Location

Adjacent to the lab with direct access through the overhead lab door

801.043 Equipment Space and Facilities

- A. Macadam base sloped for drainage
- B. Surrounded by chain link fence at least 7 feet high
- C. Double gate entrance, minimum of 14 feet wide

801.05 Greenhouse

801.051 Size - minimum of 22 feet x 48 feet

801.052 Location

- A. Convenient access to other program facilities
- B. Should be located to receive full sunlight during winter
- C. Aisles must be wide enough to accommodate handicapped students.

801.053 Equipment Space and Facilities

- A. Frost-proof hose bibs
- B. GFCI outlets as per NEC

801.06 Instructor's Office and Storage Area

801.061 Size - minimum of 100-150 square feet

801.062 Location

Convenient or direct access to lab and classroom area

801.063 Equipment Space and Facilities

- A. Teacher's desk and chair

- B. 1 or 2 conference chair
- C. Storage
 - 1. Letter size, 4-drawer file cabinet
 - 2. Legal size, 4-drawer file cabinets, minimum of 2
 - 3. Adjustable shelving of various heights and depths
- D. Duplex electrical outlets as per NEC
- E. Network Computer Drops (See Chapter 11, Section 1113 and OTIS Handbook for specifications)
- F. Computer Workstations (See OTIS Handbook for specifications)

802 MARKETING EDUCATION FACILITIES

802.01 Instructional Space

802.011 Size

The size of the facility is driven by the curriculum. The Marketing Education curriculum calls for small group work areas, project areas, and regular classroom instruction space. The suggested average space is 40 - 45 square feet per student (1000 - 1125 square feet).

802.012 Design Capacity - 25 students

802.013 Location

The most desirable location for a facility will be found along a main corridor in a central location receiving maximum student exposure. A first floor location, in a two-story building, makes the department easily accessible to disabled students, adult and community education classes and for service technicians. Marketing Education classrooms should be clustered with Business Education classrooms to unify the programs and allow for easy communications, sharing equipment and exchanging classrooms

802.014 Activities – Refer to 603.04

Learning activities will include role playing; realistic job situations; demonstrating job related skills; observing and evaluating videos; job activities and processes; independent study in an area; panel and electronic presentations and discussions; and conferences.

802.015 Equipment Space and Facilities –Refer to 603.05

State of the art instructional technology – Refer to Section 302

- A. Teacher desk and chair
- B. Trapezoid shaped tables with chairs
- C. Exterior display window
- D. DVD player / recorder
- E. Calculators, 1 per student, per class
- F. Mannequins - 1 or 2

802.02 Office

802.021 Size

Because of the Marketing Education teachers' daily contact with the business community, an office connected to the classroom is necessary. This office should be 100-150 square

feet and should accommodate 1 - 2 teachers. A clear window or partition should separate the office from the classroom.

802.022 Location

Direct or convenient access to instructional space

802.023 Equipment Space and Facilities

- A. Teacher's desk and chair
- B. Telephone with answering machine or voice mail
- C. Conference chairs - 1 or 2
- D. Computer with color printer
- E. Letter size 4 drawer file cabinets - 2
- F. 20 to 30 linear feet of shelving, open or closed
- G. Plain paper copier
- H. Paper shredder

802.03 Storage

802.031 Size

A storage closet of at least 100 square feet should be attached to the classroom. Some shelving should be built in.

802.032 Location

Direct or convenient access to instructional space or school store

802.033 Equipment Space and Facilities

Adjustable shelving throughout

802.04 School Store

802.041 Size

If a retail lab is part of the Marketing Education program, spaces from 150 square feet to 1500 square feet can be utilized, depending on the type of store and planned operation. Contact the State Coordinator for Marketing Education for assistance in planning a school store.

802.042 Location

The most successful location would be on a high traffic corridor, attached to the Marketing Education Classroom and office.

802.043 Equipment Space and Facilities

Contact the State Coordinator for Marketing Education for specs.

- A. Display Case
- B. Cabinet, Storage for Display and Stock with Lock
- C. Mirror
- D. Shelving Units, Modular
- E. Wall Display Unit with Accessories (pegboard, grid, etc.)
- F. Surge Protector
- G. Wrap Counter

- H. Register Stand
- I. Apparel Displays
- J. Point-of-Purchase Display Rack
- K. Security System (Cameras, Monitor with or without DVD hook-up, with appropriate cables)
- L. Visual Merchandising Props (i.e. risers)
- M. Price Marking Gun
- N. Price Tag Attacher
- O. Floor Sign Holders
- P. Tabletop Sign Holders
- Q. Wall System for Merchandising (i.e. slat-wall, grid-wall)
- R. Accessories for Wall System (brackets)
- S. Point-of-Sale Register System (including bar-code scanner)
- T. Security Mirror

802.044 Activities

Stock and operate a retail enterprise, selling items identified as appropriate by school survey and the administration, teacher and advisory committee.

803 DIVERSIFIED COOPERATIVE TRAINING FACILITIES

803.01 Instructional Space

803.011 Size

The size of the facility is driven by the curriculum. The Diversified Cooperative Education curriculum calls for small group work areas, project areas, and regular classroom instruction space. The suggested average space is 40-45 square feet per student (1000-1125 square feet).

803.012 Design Capacity - 25 students

803.013 Location

The most desirable location for a facility will be found along a main corridor in a central location receiving maximum student exposure. A first floor location, in a two-story building, makes the department easily accessible to disabled students, adult and community education classes and for service technicians.

803.014 Activities – Refer to Section 603.04

803.015 Equipment Space and Facilities – Refer to Section 603.05

- A. State of the art instructional technology – Refer to Section 302
- B. Trapezoid shaped tables with chairs
- C. Exterior display window
- D. Mannequins – 1or 2
- E. Television/monitor combination with remote
- F. Video digital camera and camcorder

803.02 Office

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803.021 Size Because of the Diversified Cooperative Training teachers' daily contact with the business community, an office connected to the classroom is necessary. This office should be 100-150 square feet and should accommodate 1 - 2 teachers. A clear window or partition should separate the office from the classroom.

803.022 Location Direct or convenient access to instructional space

803.023 Equipment Space and Facilities

- A. Technology – refer to Section 302.03
- B. Teacher's desk and chair
- C. Telephone with Answering Machine or Voice Mail
- D. Conference chairs - 1 or 2
- E. Letter size 4 drawer file cabinets - 2
- F. 20 to 30 linear feet of shelving, open or closed

803.03 Storage

803.031 Size A storage closet of at least 100 square feet should be attached to the classroom. Some shelving should be built in.

803.032 Location Direct or convenient access to instructional space or school store

803.033 Equipment Space and Facilities
Adjustable shelving throughout

804 HEALTH OCCUPATIONS SCIENCE TECHNOLOGY FACILITIES

One factor influencing the location of the facilities would be whether the location permits parking and easy access for bus and auto transportation to clinical facilities.

804.01 Instructional Space

804.011 Size – Refer to Section 603.01

NOTE: If classroom/laboratory area is combined, need 75 to 100 square feet per student.

804.012 Design Capacity – 20 students/classroom

804.013 Location
Convenient to laboratory and office.

804.014 Activities – Refer to Section 603.04.

804.015 Equipment Space and Facilities – Refer to Section 603.05

- A. State of the art instructional technology – Refer to Section 302
- B. Equipped simulation/patient care units with provision for privacy. If the instructional space/laboratory area is combined, a demonstration unit is included in this area.

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- C. Sink with hot and cold water
- D. Refer to the "Health Occupations Program Guide" for list of equipment for specific programs

804.02 Health Science Technology Education Laboratory

804.021 Size

Base preliminary determination of area on allotment of 75 to 100 square feet per student in the following occupational areas.

- A. Dental Assistant
- B. Practical Nursing
- C. Health Assistant
- D. Nursing Assistant
- E. Medical Aide/Assistant
- F. Medical Lab Assistant
- G. Dental Lab Assistant
- H. Respiratory Therapy Technician
- I. Pharmacy Technician
- J. Medical Transcriptionists
- K. Surgical Technician

NOTE: The assistance of specialists in health careers and health occupations should be secured in planning these facilities.

804.022 Design Capacity - 20 students/lab

804.023 Location

- A. Convenient access to instructional space and instructor's office
- B. Provision for room privacy during patient care/simulation procedures

804.024 Activities

Learning experiences in patient care and recording, dental/medical office procedures and related activities, depending upon health occupation being taught.

804.025 Equipment Space and Facilities

- A. State of the art instructional technology – Refer to Section 302
- B. Equipment should be comparable to that used in the health occupation field.
- C. The equipment and workstations will vary with the occupational objectives of the program.
- D. Windows should be high enough to permit installation of equipment along the wall.
- E. Consultation should be made with the Health Science Technology Education Coordinator for equipment needs of various occupational areas.
- F. Sink and lavatory with hot and cold water.
- G. Counter top with workspace and cabinet storage.
- H. Storage room with locked storage for visual aids, equipment and supplies.
- I. Dressing room and student lockers.
- J. Washer and dryer

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804.03 Instructor's Office/Station

804.031 Size - 100 to 150 square feet

804.032 Location

Direct access to the laboratory, instructional space and corridor.

804.033 Equipment Space and Facilities

- A. State of the art instructional technology – Refer to Section 302.03
- B. Teacher's desk and chair
- C. Conference chairs - 2
- D. 4 drawer file cabinet with lock
- E. Mirror

804.04 Resource/Study Area

804.041 Size - 225 square feet

804.042 Location

Can be separate room or can be part of laboratory.

804.043 Equipment and Facilities

- A. State of the art instructional technology – Refer to Section 302
- B. Round tables or library tables with 10 chairs each - 2
- C. Bookshelves or bookcases along walls
- D. Storage cabinets for visual aids and independent study materials
- E. Bookkeeping drawer and forms for book borrowing
- F. Magazine display rack for journals, pamphlets, periodicals, and other materials

805 FAMILY AND CONSUMER SCIENCES (FACS) - GRADES 9-12

The assistance of WVDE Human Service Cluster Coordinators, who maintain up-to-date recommended specific equipment lists, should be secured in planning FACS facilities. Additionally, facilities and equipment must conform to public health sanitation guidelines and local safety regulations.

805.01 Instructional Space

805.011 Size – Refer to Section 603.01

805.012 Design Capacity – 25 students

805.013 Location

Facilities should be located on the ground floor, preferably near an outside entrance for:

- A. Convenient delivery of supplies and instructional materials
- B. Convenient installation and removal of large equipment
- C. Easy accessibility for individuals with disabilities
- D. Easy accessibility for preschool age children and their parents

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805.014 Activities – Refer to Section 603.04

805.015 Equipment Space and Facilities

- A. Instructional technology – Refer to Section 302
- B. Refer to Section 603.05

805.02 Teacher Office / Conference Area

805.021 Size 100-150 square feet

805.022 Location –Direct access to classroom and laboratories

805.023 Equipment Space and Facilities

- A. State-of-the-art instructional technology – See Section 302.03
- B. Teacher’s desk and chair
- C. Lockable storage for teachers’ belongings
- D. Open and closed adjustable shelving - minimum 30 linear feet
- E. 4-drawer file cabinet - 1 to 2 per teacher

805.03 Laboratory

805.031 Size 1500 square feet

805.032 Capacity 25 students

805.033 Location

Adjacent to the Family and Consumer Science instructional space

805.034 Activities -- individual and small group activities; role playing; demonstrations and observations; presentations and discussions; and student organization meetings; instruction in food preparation, nutrition and wellness; safety and sanitation precautions; development of early childhood education and family relationships, and parenting activities; consumer education and money skills activities.

805.035 Equipment Space and Facilities

- A. Plumbing needs
 - 1. Adequate and properly located plumbing connections provided for the equipment
 - 2. A continuous supply of hot water provided. A separate hot water heater and water softener may be needed.

B. An all purpose area shall be designed for a one teacher apartment with space and equipment for teaching parenting, applied design, nutrition and foods, child development, family relationships, human services, and consumer education.

The area is designed to include the following areas:

- 2. Applied Design laboratory/multi-purpose room - Refer to, Sections 805.071 for specialized equipment and facilities requirements. Also, includes space and equipment for:
 - a. Storage for teaching materials, supplies, and student references
 - b. Teaching center

- c. Display case
- 3. Multi-purpose tables
- 4. Multi-purpose chairs
- C. Two multi-purpose rooms shall be designed for a 2 or more teacher department
 - a. Space and equipment for teaching foods and other instructional areas
 - b. Storage for teaching materials, student projects, supplies and references.
 - c. Teaching center
- 2. Room two consists of:
 - a. Space and equipment for teaching Applied Design lab and other instructional areas listed above
 - b. Storage for teaching materials, student projects, supplies, and references
 - c. Teaching center with conference/office area
 - d. Display areas

805.04 Storage

805.041 Size – 100 Square Feet

805.042 Location

Facilities should be located adjacent to instructional space and lab.

805.043 Equipment Space and Facilities

- A. Shelving conveniently spaced and/or adjustable to fit the size and shape of equipment to be stored, such as portable sewing machines, reference books, audiovisual equipment, and small equipment items
- B. Drawers of a depth to serve the materials or equipment to be stored
- C. Mobile base cabinets to provide additional work space and allow for more flexibility in room arrangement
- D. Heavy articles stored at a carrying level
- E. Movable trays or pullout sections used instead of shelves to facilitate removing articles
- F. Closed storage space provided for items that need to be protected, not used frequently, or may detract from the appearance of the room
- G. Cabinets with locks provided for storage of items such as electrical appliances, portable sewing machines, food, and audiovisual equipment
- H. Storage space provided for cleaning supplies and equipment

805.05 Food and Nutrition Specialized Equipment and Facilities

805.051 Equipment Space and Facilities

- A. Kitchen labs appropriate for demonstration, preparation and experimentation by small groups Each unit kitchen consists of: double sink, range, base and wall cabinets, tables, chairs, and 10-12 linear feet of work surface .
- B. Sink located between the range and mixing centers in each unit
- C. Waste disposal in each unit sink
- D. Adequate counter work space and adequate storage for basic equipment and supplies
- E. Exhaust ducts and/or range hoods with exhaust fans to pull odors and fumes out of the room and vent to the outside

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- F. Cabinet with adjustable shelves Variety of cabinet and counter materials, range and refrigerator models, and fuels
- G. Non-porous floor covering and finish for walls
- H. Minimum of 3 electrical outlets per kitchen unit
- I. Refrigerator dishwasher
- J. Microwave oven
- K. Fire extinguisher, blanket, and first aid kit

805.06 Laundry Area

805.061 Equipment Space and Facilities

- A. Automatic washer and dryer
- B. Sink
- C. 36 inches of counter space
- D. Base and wall cabinet for storage
- E. Space which allows for class demonstrations

805.07 Applied Design Area

805.071 Equipment Space and Facilities

- A. One sewing machine per 2 students. These may be a combination of cabinet-type and portable (which must be stored when not in use).
 - 1. Each sewing machine and chair/stool provides a minimum of 3 feet for pull-out space.
 - 2. The facility is planned so that sewing machines can be stored and the area is available for multiple uses.
 - 3. A grounded electrical outlet is available for each machine.
- B. Pressing area - one for each 8 to 10 students. Includes:
 - 1. Ironing boards
 - 2. Steam irons
 - 3. A variety of small pressing equipment, such as seam roll, sleeve board, and tailor's hem
 - 4. Grounded electrical outlet in each pressing area
- C. Full length triple mirror
- D. Mannequin and dress form
- E. Display for completed projects
- F. Lockable storage
 - 1. Cabinets for tote trays located near the entrance.
 - 2. Cabinets or closet with adjustable rods for hanging garments.
 - 3. Cabinets or walk-in closet for storage
 - 4. Cabinet storage for drawing and other art and design supplies
 - 5. Storage for teaching materials, supplies and student references
- G. Computer and state of the art software for design

806 ProStart Restaurant Management Program

806.01 ProStart Instructional Space

806.011 Size

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- A. Approximately 3500 to 4500 square feet (combined classroom / laboratory /storage).
- B. Classroom – Base preliminary determination of area upon allotment of 25 to 30 square feet per student-- approximately 1000 square feet.

806.012 Design Capacity - 25 students

806.013 Location

Ground level is a preferable. Accommodations for delivery of supplies, safety considerations, adequate ventilation and exhaust are necessary in the laboratory. The dining area should provide for easy accessibility with consideration to ingress and egress.

806.014 Activities – Refer to Section 603.04

Activities include class discussions, lectures and demonstrations; individual and small or large group activities; instruction in planning, selecting, storing, purchasing, preparing, and serving quantity food and food products; nutritive values; safety and sanitation precautions; use and care of commercial equipment; serving techniques and customer service applications; special diet considerations; and management of food service establishments.

806.015 Equipment Space and Facilities Classroom – Refer to Sections 603.05 and 302

806.02 ProStart Lab

While ProStart labs are designed to teach students the skills of the restaurant industry, the ProStart lab is different from a standard commercial production-oriented facility. The assistance of WVDE Human Service Cluster Coordinators, who maintain up-to-date recommended specific equipment lists, should be secured in planning ProStart laboratory facilities. Additionally, facilities and equipment must conform to public health sanitation guidelines and local safety regulations.

806.021 Size Laboratory - Should reflect current industry specifications to provide workspace for 25 students - approximately 1500 square feet.

806.022 Capacity – 25 students

806.023 Location

Adjacent to ProStart Instructional Space

806.024 Activities

- A. Preparing, and serving quantity food and food products
- B. Use and care of commercial equipment
- C. Serving techniques and customer service applications
- D. Culinary technique demonstration

806.025 Equipment Space and Facilities – Laboratory

- A. Resilient finish floors
- B. High electrical demand
- C. Floor drainage
- D. Exhaust system
- E. Vents
- F. Natural gas

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- G. Master control switch
- H. 110 and 220 V. power
- I. Dressing and restroom facilities for male and female students
- J. Separate electrical circuit with ground fault
- K. Supply of hot and cold running water available at all times
- L. Sufficient number of conveniently located outlets
- M. Appropriate lighting
- N. Self-closing outside doors with tight fitting rubber seals to prevent rodent and insect entry (a pest management company should be contracted to inspect and maintain pest control of the kitchen and dining room on a regular basis)
- O. Workstations for 25 students, including but not limited to preparation areas for meats, entrees, salads, vegetables, sandwiches, beverages, and baked, fried, and broiled foods. Stainless steel tables are necessary for student work areas.
- P. Variety of equipment reflective of the food service industry, such as commercial grade gas grills, convection ovens, deep-fat fryer, microwave oven, range/stove top, fire suppression system, stainless steel units, sandwich refrigerated prep unit, cash register, ice machine, and commercial coffee machine
- Q. Equipment which can be used for several purposes is desirable, (e.g. a mixer with attachments for cutting, dicing, and slicing)
- R. Salad preparation area to be provided and a vegetable cleaning sink is desirable
- S. Baking and proofing area
- T. Major traffic aisles at least 5 feet wide; adequate space between worktables and equipment, except for ovens, deep fryers, and grills, where the aisle should be 3½ to 4 feet.
- U. Dishwashing area must include a 3-compartment sink (commercial dishwashing machine with disposal optional)
- V. Hand sink located within 75 feet of food preparation and food service areas.
- W. Bulletin boards for posting notices and safety information
- X. Adequate fire extinguishers and first aid kit will be provided.
- Y. Automatic washer and dryer installed away from food prep and serving areas and vented to the exterior with GFCI outlets as per NEC.
- Z. Portable demonstration table with adjustable mirror
- AA. Janitor's closet with mop sink and storage for cleaning supplies and equipment, located away from food and food preparation areas.
- BB. Storage should be provided for small wares, miscellaneous equipment, and other supplies.
- CC. Commercial grade freezer and refrigerator placed outside storeroom but adjacent to work areas.

806.03 Dry Storage

806.031 Size - 1500 square feet minimum

806.032 Location
Adjacent to ProStart lab

806.033 Equipment Space and Facilities

A. Commercial grade adjustable wire shelving

- B. Bulk dry ingredient bins
- C. Dry storage with a temperature of 50 to 70 degrees and a moderate humidity level should be provided
- D. Storage areas should be equipped with locks and located near delivery entrance
- E. Shelving is adjustable and easy to clean

806.04 Café/Restaurant Dining area (optional)

806.041 Size - 12 -14 square feet per seat/patron

806.042 Design Capacity - Recommended 15 -25 patron capacity

806.043 Location
Adjacent to ProStart lab

806.044 Activities – dining room table service

806.045 Equipment Space Facilities

- A. Commercial grade dining tables and chair
- B. Beverage Station

807 Child Development Specialist - Occupational

807.01 Instructional space and lab combined

807.011 Size - 1800 to 2400 square feet

807.012 Design Capacity - 20 secondary students. If the child care lab is onsite design for up to 15 preschool aged children

807.013 Location
First floor with direct exit to outside play area

807.014 Activities – Refer to Section 603.04
Also, observation of small children; directing children’s play; supervision of rest period; preparing and serving snacks or simple meals.

807.015 Equipment Space and Facilities

A. Instructional technology – Refer to Section 302 (If an onsite child care lab facility is maintained, the following guidelines should be applied. If field experience is off-site, the following serve as guidelines for the co-operating site.)

B. Outside play area adjacent to indoor area or on same level; half paved - half turf with outdoor play equipment. Allow at least 75 square feet of outside play area per child. Outside play area is enclosed by a 3 feet high, child-safe barrier. An outside water source is located within the outside play area

C. Indoor play equipment and space. Allow at least 35 square feet per child, excluding storage, food preparation and restroom areas. Include organized play centers for activities such as art, language arts, large muscle development, science, math, manipulative and dramatic play and building/climbing.

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- D. Restroom with child-size facilities - one flush toilet and one hand-washing basin for each 15 children. Should be easily accessible from outdoor play area.
- E. Low lavatory near entrance from outside play area
- F. Isolation area approximately 50 square feet
- G. Kitchen area consisting of range, refrigerator, sink, and work and cabinet storage areas
- H. Storage for play equipment, books and reference
Materials, instructional and food supplies, and teachers' and students' personal belongings
- I. Child-size tables and chairs for approximately 15 pre-school aged children. Tables should be safe, durable and sturdy, with adjustable legs. Chairs should have a 12-inch seat height for 3 or 4 year olds.
- J. Cot or mat with sheet and blanket for children's' rest period if they will be in the program all day.
- K. Low, child-height drinking fountain
- L. Fire extinguisher located in the food preparation area
- M. Child-height lockers or space for children's' clothing near main entrance
- N. Instructional board, bulletin board, and window space available at child's viewing level (approximately 3 feet from floor).
- O. Soundproof walls and ceiling.
- P. Inside storage provided for outdoor play equipment as well as for indoor toys and play equipment.
- Q. Lockable storage for household cleaners, chemicals, and medications

808 Cosmetology Program

808.01 Cosmetology Instructional Space

The assistance of WVDE Human Service Cluster coordinators, who maintain current recommended specific equipment lists, should be secured in planning these labs. Additionally, cosmetology facilities must conform to specific requirements from the State Board of Barbers and Cosmetologists, to public health sanitation guidelines, and local safety regulations.

808.011 Size – Refer to Section 603.01

808.012 Design Capacity 45 students

808.013 Location
Convenient to cosmetology lab

808.014 Activities – Refer to Section 603.04

808.015 Equipment Space and Facilities

A. Refer to Section 603.05

B. Refer to Section 302

808.02 Cosmetology Lab

808.021 Size – 3000 Square Feet

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808.022 Capacity – Program certification requirements mandate three teachers for each cosmetology program. Each teacher can work with up to 20 students. Lab capacity can be up to 60 students.

808.023 Location

- A. Convenient access to instructional space and parking area
- B. Convenient access must be provided for individuals with disabilities
- C. High noise labs are to be isolated from quiet area of the school

808.024 Activities Demonstrations; individual, small and large group activities, such as CTSO activities; selecting, planning, and evaluating student projects; development of cosmetology skills; provide personal services for customers; and implementation of coursework.

808.025 Equipment Space and Facilities

Equipment should be comparable to that used in industry

- A. The equipment will vary with the occupational objectives of the program.
- B. Equipment Details
 - 1. Bowls, shampoo
 - 2. Cabinet, file
 - 3. Cabinets, storage
 - 4. Cases, display
 - 5. Chairs, hydraulic
 - 6. Chairs, manicurist
 - 7. Dressing facilities for male and female students
 - 8. Dryers, commercial
 - 9. Facial steamer
 - 10. Foot bath/massager
 - 11. Lamps, manicurist
 - 12. Magnalite
 - 13. Manicure tables and stools
 - 14. Mannequins, assorted textures, colors, and holder, if not in student kit)
 - 15. Monitors
 - 16. Paraffin Wax Machine (recommended)
 - 17. Pedicure Spa/Foot Bath (recommended)
 - 18. Pedicure station with stool
 - 19. Stations, with mirror
 - 20. Steamer, facial
 - 21. Sterilizer, dry
 - 22. Tables, manicurist
 - 23. Tables, reception
 - 24. Wax machine
 - 25. Wet Sterilizer
 - 26. Resilient finish floors
 - 27. Floor drainage
 - 28. Vents
 - 29. Storage room - 80 square feet
 - 30. Separate electrical circuit with ground fault
 - 31. Hair wash station

809 INDUSTRIAL FACILITIES

Factors influencing the location of the building include: isolation from quiet areas; location to provide easy delivery of instructional supplies, materials, and equipment; and location convenient to parking area for adult education classes.

809.01 Instructional Space – Classroom
One instructional space is required per each industrial or technical laboratory.

809.011 Size – Refer to Section 603.01

809.012 Design Capacity - 20 students

809.013 Location
Convenient access to the laboratory

809.014 Activities – Refer to Section 603.04

809.015 Equipment Space and Facilities
A. Refer to Section 603.05
B. Instructional technology – Refer to Section 302

809.02 Industrial and Technical Laboratories

809.021 Specific Requirements of Labs
The following labs require:
A. A minimum of 100 square feet per student work station

LABS	CODE (see 809.022)
Computer Repair and Networking	D, F,DD,AA,BB,CC
CISCO Networking Academies	D, F,AA,BB,CC,DD
Graphic Design	D,F,M,AA,BB,CC,DD
Comp. Sys. and Hardware Support	D,F,AA,BB,CC,DD
Sys. Software and App. Support	D,F,AA,BB,CC,DD
Drafting	D,AA,BB,CC,DD
Electronics Technology	F,AA,BB,CC,DD
Interior Design	D,M,AA,BB,CC
Masonry	A,C,E,G,H,L,M,S,T,U,Z,AA,BB,DD
Power Systems Technology	A,B,C,E,G,H,M,S,T,U,V,Z,AA,BB,DD

B. A minimum of 120 square feet per student work station

LABS	CODE (see 809.022)
HVACR Technology	A,B,C,H,M,Q,T,U,Y,Z,AA,BB,DD,JJ,HH
Electrical Technology	B,C,E,F,L,M,R,S,T,U,X,Y,Z,AA,BB,DD
Graphic Communications	D,M,Y,Z,AA,BB,CC,DD
Plumbing	A,C,E,G,L,M,S,Z,AA,BB,DD

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Sheet Metal

B,C,E,L,M,O,P,R,S,T,U,Z,AA,BB,DD

C. A minimum of 160 square feet per student work, station

LABS	CODE (see 809.022)
Automotive Technology	A,B,C,E,G,H,J,L,M,O,P,R,S,T,U,V,X,Y,Z, AA,BB,DD,HH
Collision Repair Technology	A,B,C,E,G,H,K,L,M,N,O,P,S,T,U,V,W,X,Y,Z, AA,BB,CC,HH
Communications Technology	D,F,M,R,Y,AA,BB,CC,DD
Computer Integrated Manufacturing	B,D,F,M,R,U,Y,Z,AA,BB,DD
Facilities Maintenance	A,B,C,E,F,G,H,L,M,N,P,R,S,T,U,W,X,Y,Z, AA,BB,DD
General Building Construction	A,B,C,E,F,H,L,M,R,S,T,U,W,X,Y,Z, AA,BB,DD
Machine Tool Technology	A,B,C,E,F,H,L,M,O,P,R,S,T,U,,X,Y,Z, AA,BB,CC,DD,FF
Metals Technology	A,B,C,E,F,H,L,M,O,P,R,S,T,U,X,Y,Z, AA,BB,DD,HH,II
Millwork and Cabinetmaking	B,C,E,F,H,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z, AA,BB,DD,JJ
Welding Technology	A,B,C,E,F,H,L,M,O,P,R,S,T,U,X,Y,Z, AA,BB,DD,GG,HH,II

D. A minimum of 240 square feet per student work station

LABS	CODE (see 809.022)
Aviation Maintenance	A,B,C,E,F,G,H,I,L,M,O,P,R,S,T,U,V,X,Y,Z, AA,BB,DD
Diesel Equipment Technology	A,B,C,E,G,H,I,J,L,M,N,S,T,U,V,X,Y,AA,BB,HH
Industrial Equipment Maintenance	A,B,C,E,F,G,H,I,L,M,O,R,S,T,U,V,X,Y,Z, AA,BB,DD,HH
Materials Distribution	C,E,L,M,O,S,T,U,X,Y,Z,AA,BB

NOTE: The assistance of specialists in Industrial and Technical Education should be secured in planning these labs and must be secured when planning labs not listed above.

809.022 Special Facility Requirements Codes – Apply to 809.021

- A. Hose bibb
- B. Compressed air
- C. Concrete floors
- D. Resilient finish floors
- E. Overhead door - 10 feet x 12 feet, minimum
- F. High electrical demand
- G. Floor drainage
- H. Exhaust system
- I. Monorail

- J. Automobile hoist
- K. Frame rack
- L. Ceiling height - 14 feet, minimum
- M. Student wash area
- N. Spray booths
- O. Heavy machinery
- P. Vents
- Q. Natural gas
- R. Master control switch
- S. Ground floor
- T. Access driveway
- U. Tool room
- V. Storage for flammable materials
- W. Dust collector
- X. 3 phase power connection
- Y. 208 V., minimum
- Z. Dressing and restroom facilities for male and female students
- AA. Instructional space - See Chapter 8, Section 806.011 for space requirements
- BB. Storage room - 80 square feet
- CC. A heating, ventilating, and air conditioning (HVAC) system, which meets ASHRAE

Standards

- DD. Separate electrical circuit with ground fault
- EE. Dark room with sink
- FF. Hair wash station
- GG. Outside storage for gasoline
- HH. Industry approved storage unit for oxy-fuel supplies
- II. Down draft welding booths

809.023 Design Capacity - 20 students

809.024 Location

- A. Convenient access to instructional space and parking area
- B. Convenient access must be provided for individuals with disabilities
- C. High noise labs are to be isolated from quiet area of the school

809.025 Activities

Construct, test, operate, and service equipment and tools; provide personal services for customers; depicting, shaping, forming, assembling, and servicing equipment and materials; demonstrations, lectures, and individualized instruction.

809.026 Equipment Space and Facilities

- A. Equipment should be comparable to that used in industry
- B. Equipment will vary with the occupational objectives of the program
- C. Instructional board and bulletin board - 6 linear feet, minimum
- D. Window sills should be high enough to permit installation of equipment along wall - 4 feet, minimum
- E. Provide appropriate fire extinguishers for equipment and materials used in program
- F. Consultation should be made with Industrial and Technical Education Office for

equipment needs of various occupational areas.

810 BUSINESS EDUCATION FACILITIES

The number of students enrolled and the curriculum offered will determine the number and type of rooms needed.

810.01 All-Purpose Business Instructional Space This room would be needed for a small school (up to 150 business students per day) with only one business teacher. Therefore, it is necessary to provide adequate space to store, maintain, and use a vast amount of equipment and supplies. The room consists of the following:

- A. Equipment-oriented instructional lab area for computer and technology courses
- B. Multi-purpose classroom instructional area for basic business courses - See Section 603.05
- C. Storage for teaching materials, supplies, student projects and references

810.011 Size

1200 to 1400 square feet - 60 to 70 square feet per student

810.012 Design Capacity - 25 students per session

810.013 Location

The facilities for business education should be located, ideally, on the first floor in a central location where it is relatively quiet. A first floor location, in a two-story building, makes the department easily accessible to students with exceptionalities, adult and community education classes, and for service technicians. Business education rooms should be clustered to unify the programs and allow for easy communications, sharing equipment, and exchanging classrooms.

810.014 Activities – Refer to Section 603.04

Lecture or small group or class discussions; view videos, DVDs and other projected materials; conferences of small groups of students; display student projects or work; store partially-completed student projects; lockable storage for instructional and technology supplies; listen to recordings, podcasts or broadcasts; view telecasts; write and transcribe notes; operate computers and other business /technology equipment.

810.015 Equipment Space and Facilities – Refer to Section 603.05

- A. Instructional technology –Refer to Section 302
- B. Calculators
- C. Computer with internal modem, DVD drive, USB flash drive, multimedia capabilities – 1:1 student ratio
- D. Speakers (for multimedia equipment)
- E. Scanner
- F. Headphones
- G. Access to server and network
- H. Plain paper copier and /or color copier
- I. Media cart with electrical outlets (wheels and optional locks)
- J. Letter-quality laser printer – 1 per classroom
- K. Color laser printers – 2 per classroom
- L. DVD player

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- M. VCR (or combination) and monitor
- N. Personal Digital Assistant (e.g. Palm Pilot, Pocket PCS, etc.)
- O. Digital camera and/or digital video camcorder
- P. Teacher demonstration work center
- Q. Laser pointer

810.02 Instructional Space

This room is designed to provide space and equipment for teaching basic business courses

810.021 Size –Refer to Section 603.01

810.022 Design Capacity - 25 students

810.023 Location

- A. Direct access to the, computer and technology laboratory
- B. Convenient access to other business education rooms

810.024 Activities—Refer to Section 603.04

810.025 Equipment Space and Facilities

Refer to Section 603.05

810.026 Instructional technology –Refer to Section 302

- A. Calculator and calculators with large keys for special needs students
- B. Work table - 3 feet x 6 feet
 - C. Work counter - 15 linear feet; 28 to 32 inches deep, with storage underneath
 - D. Electrical outlets strip above work counter
 - E. Closed book shelving - 8 to 10 linear feet
 - F. DVD
 - G. VCR (or combination) and monitor

810.03 Computer and Technology Application Laboratory

810.031 Size

The size of this facility is dependent upon the type of furniture and equipment contained; 35 to 45 square feet per student may be used for preliminary estimates.

810.032 Design Capacity - 25 students

810.033 Location

In the central core of the building, in the area of other business education rooms.

810.034 Activities

Demonstrate and practice computer applications and technology applications; create and view electronic projections; display student projects or work.

807.035 Equipment Space and Facilities

See Section 603.05

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- A. Instructional Technology – See Section 302
- B. Calculators and calculators with large keys for special needs
- C. Computers with internal modem, DVD drive, USB Flash driver, multimedia capabilities,

1:1 student ratio

- D. Speakers (for multimedia equipment)
- E. Scanner
- F. Responders with software
- G. Access to server and network
- H. Plain paper copier and/or color copier
- I. Media cart with electrical outlets (wheels and optional locks)
- J. Letter-quality laser printers, one per classroom
- K. Color laser printers, 2 per classroom
- L. DVD, VCR (or combination) and monitor
- M. Personal Digital Assistant (e.g. Palm Pilot, Pocket PCS, etc.)
- N. Digital camera and/or digital video camcorder
- O. Demonstration work center
- P. Laser pointer

810.04 Teachers' Office and Conference Room

- A. Area for conferences
- B. Space for instructional planning, instructional materials, supplies, and record keeping
- C. Storage for student records and teachers' personal belongings

810.041 Size - 100 to 150 square feet per teacher

810.042 Design Capacity

Office space for teachers and for conferences with individuals

810.043 Location

Direct access to other business education rooms

810.044 Activities

Teacher conferences; teacher-pupil conferences; instructional planning and record keeping.

810.045 Equipment Space and Facilities

- A. Technology – Refer to Section 302.03
- B. Dry erase Instructional board - 5 to 6 linear feet
- C. Bulletin board - 5 to 6 linear feet
- D. Conference table with chairs
- E. Desk and chair for each teacher plus computer furniture
- F. Work counter with shelving below - 10 linear feet
- G. Legal size file drawers - 12 per teacher
- H. Lockable storage for personal belongings of instructors
- I. Combination printer
- J. Copier, fax and scanner
- K. Telephone with answering machine

811 TECHNOLOGY EDUCATION FACILITIES - GRADES 9-12

Factors influencing the location include providing location for easy delivery of instructional supplies, equipment, and materials, some of which are bulky and heavy; and design of laboratory to permit some change in individual room areas as activities are developed. The assistance of specialists should be secured to adequately plan this suite. Technology education programs include instruction in the areas of communication, transportation, construction, manufacturing, and engineering.

811.01 Technology Education Production Laboratory

811.011 Size
1000-1200 square feet

811.012 Design Capacity - 20 students

811.013 Location
Direct access from building corridor and to other rooms in the technology education suite

811.014 Activities
The production lab/ fabrication space should be an open flexible space to accommodate large scale production projects. The space will provide an area for project layout, measurement, cutting, forming, and fabricating using a variety of materials (e.g., wood, metal, plastics); adequate space is needed for the use, care and storage of hand tools and machines.

811.015 Equipment Space and Facilities

- A. The major floor area should be free of heavy or permanently fixed equipment to allow for flexible room arrangement
- B. Maximum work counter and cabinet storage space
- C. Lockable tool room or lockable tool panels
- D. Windows should be high enough to permit installation of equipment along outside walls
- E. Ceiling electrical grid system for 120 volt power to machines with master switches and emergency cutoff buttons
- F. Adequate electrical wall outlets for power equipment and tools
- G. Equipment for removal of dust, chips, and harmful fumes
- H. Fire extinguishers of such kinds and sizes as recommended by the State Fire Marshal
- I. Sink area for personal cleanliness and preparation and cleaning of tools and supplies
- J. Lighting as per IES standards with low glare fixtures
- K. Noise and dirt concerns require separation from other areas
- L. Refer to the "Technology Education Curriculum Guide" and PLTW for a list of specific equipment

811.02 Technology Education Systems Laboratory/Project Lead the Way Design Area

811.021 Size
100 to 125 square feet per student.

811.022 Design Capacity - 20 students

811.023 Location

Direct access to production laboratory/fabrication lab for ease in supervision.

811.024 Activities

The design laboratory will provide an area for classroom instruction, project planning, group collaboration, and small group activities; therefore, should be flexible in nature. This area requires a dust-free environment for instruction and activities with equipment such as computers, robotics, electronics, lasers, and a large open space for construction of group projects.

811.025 Equipment Space and Facilities –Lecture / discussion area

Refer to Section 603.05

- A. Instructional technology – Refer to Section 302
- B. Computers / workstations
 - 1. A maximum of 2 students per computer station
 - 2. Computers need to be located at perimeter for best teacher supervision
- C. Storage
 - 1. Maximum counter and cabinet storage space along walls (some of this space may be used for computers. If so, height needs to be adjusted accordingly).
- D. Storage needed for reference and resource material
- E. Multimedia presentations and computers require lighting control
- F. Communications
 - 1. Telephone
 - 2. Cable / fiber optic
- G. If planning to teach Foundations in Engineering, and /or PLTW courses, room layout needs planned accordingly.
- H. Refer to State Coordinator for Technology Education

811.03 Instructor's Office

811.031 Size - 100 to 150 square feet

811.032 Location

Convenient or direct access to production / fabrication laboratory and design laboratory.

811.033 Equipment Space and Facilities

- A. Technology – Refer to Section 302.03
- B. Teacher's desk and chair
- C. Conference chairs - 1 or 2
- D. Storage
 - 1. Letter size, 4-drawer file cabinets – 2
 - 2. Open and closed shelving for supplies and references, 20 to 30 linear feet
- E. Duplex outlets as per NEC

811.04 Finishing Area

This area needs to be a separate room or enclosed, ventilated spray booth.

811.041 Size –

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75 to 125 square feet

811.042 Location

Direct access to production / fabrication laboratory

811.043 Activities

Mixing and application of a variety of surface finishes.

811.044 Equipment Space and Facilities

- A. Window in wall facing laboratory to provide for easy supervision
- B. Maximum work counter space
- C. Ventilation to provide a negative pressure to the adjacent areas
- D. Metal storage cabinet for paint, varnish, and other flammable materials
- E. Fireproof containers for paint rags
- F. Fire extinguishers
- G. Adjustable, high intensity, spark-proof lights
- H. Hooded spray booth vented to the exterior
- I. Heating, ventilating, and air conditioning (HVAC) system, which meets ASHRAE

standards

811.05 Material Storage

811.051 Size –

Varying from 150 to 200 square feet

811.052 Location –

Direct access to other laboratories

811.053 Activities

For storage of various types of stock and other supplies necessary in the technology classroom

811.054 Equipment Space and Facilities

- A. Wide access door
- B. Storage racks for various types of stock. Stock may be as large as 4 feet x 8 feet
- C. Adjustable shelving and cabinets for small items

811.06 Project Storage

811.061 Size –

150-250 square feet

811.062 Location

Direct access to classroom laboratory

811.063 Activities

Limited to storage of student projects and supplies

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811.064 Equipment Space and Facilities

- A. Provide maximum adjustable shelving 24 inches deep along walls
- B. Provide free floor area for storage of large items

811.07 PLTW Modeling Space

Optional in Technology Education classroom

811.071 Size

Determination of size depends upon the number of students and related activities -- varying from 100 to 125 square feet per student

811.072 Design Capacity

20 students

811.073 Location

Direct access to design and fabrication laboratories

811.074 Activities

The testing laboratory provides an environment for testing ideas and lesson tasks. This area should have flexible work surfaces in the center of space for groups and individuals. The lab should be located with easy access back and forth from design and fabrication labs and easy access to project storage area.

811.075 Equipment Space and Facilities

- A. Flexible work area with reconfigurable tables and chairs in center of room
- B. Storage areas for testing equipment along walls with durable counter top surfaces.
- C. Smooth floor coverings
- D. Adequate number of electrical outlets
- E. Adequate lighting
- F. Access to design and production labs
- G. Access to project storage

**Chapter 9
GENERAL SUPPORT FACILITIES**

900 SUPPORT FACILITIES

County boards of education must have sufficient support facilities to maximize the efficient administration of the county schools. Accessible county support facilities must be provided and maintained to promote a healthy and safe environment. These facilities provide the support services necessary for a thorough and efficient educational program. When possible, support facilities are to be housed together to maximize efficiency.

Support facilities shall have appropriate floor covering and ceiling tile, which is mold and microbial resistant. These facilities shall also have a heating, ventilating, and air conditioning (HVAC) system, which meet ASHRAE standards

901 ADMINISTRATIVE FACILITIES

County boards of education shall provide adequate office and ancillary space to house all administrative personnel and functions.

901.01 Size

Support facilities are organized in such a manner as to provide effective services as economically as possible. The size and number of such facilities are dependent upon the services required by the county.

901.02 Site

901.021 Location

Each administrative facility should be located and developed in proper relationship to the county's governmental agencies, such as the county center of government.

901.022 Size

Site shall be of adequate size to provide parking for the staff and regular visitors. Allow space for each car as per the appropriate standard. See Chapter 2 for applicable site information.

902 GENERAL OFFICE AND RECEPTION/WAITING AREAS - ADMINISTRATIVE FACILITIES

902.01 Size

Size room necessary to meet the needs of the administration

902.02 Location

- A. At the hub of the administrative suite
- B. Direct access to a building corridor and to workroom
- C. Direct or convenient access to other office rooms in the administrative suite
- D. Adjacent to main entrance to facility
 - 1. In existing facilities where administrative facilities are not adjacent, a remote access security system should be used.
- E. Convenient access to workroom

902.03 Activities

Reception of visitors, pupils, and staff; general secretarial activities required in the operation of the center.

902.04 Equipment Space and Facilities

To meet needs of administration

903 WORKROOMS - ADMINISTRATIVE FACILITIES

903.01 Size - as required

903.02 Location - Direct access to the general office and waiting room

903.03 Activities

Preparation of materials, reports, and layouts of instructional materials by both secretarial and other personnel.

903.04 Equipment Space and Facilities

As required

904 STORAGE FOR BOOKS AND INSTRUCTIONAL SUPPLIES - ADMINISTRATIVE FACILITIES

904.01 Size

Base size on county needs for central instructional supply and distribution.

904.02 Location

- A. Convenient access to the general office
- B. Direct opening to corridor to permit distribution of supplies
- C. Exterior door for receiving and distribution
- D. Maintain humidity levels below 60%, utilizing the building control system in conjunction with the HVAC equipment.

904.03 Activities

Storage and distribution of instructional materials and supplies including books, papers, notebooks, erasers, and pencils.

905 BOARD ROOMS/MEETING ROOMS - ADMINISTRATIVE FACILITIES

905.01 Size

Depends on the space needed for spectator seating.

905.02 Location

- A. Convenient access to general office
- B. Design and location should permit groups to confer without being overheard or seen from adjacent rooms.

905.03 Activities

Conferences and training involving staff, and regular and special board meetings.

906 SUPERINTENDENT'S OFFICE - ADMINISTRATIVE FACILITIES

906.01 Size - as required

906.02 Location

- A. Direct or convenient access to general office
- B. Convenient access to the corridor without going through the general office
- C. Convenient access to other areas in the administrative suite
- D. Convenient to board room
- E. Design and location should permit the superintendent to confer without being seen or overheard in adjacent areas

906.03 Activities

Planning, research, and administrative activities conducted individually or in groups.

906.04 Equipment Space and Facilities

- A. Room design should permit the superintendent to confer without being seen or overheard in adjacent areas
- B. Conference desk and chair
- C. Work table convenient to desk for layout work
- D. Conference chairs
- E. Shelving
- F. Storage for personal belongings
- G. Telephone service and intercom to secretary in general office
- H. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

907 ASSISTANT SUPERINTENDENT'S OFFICE - ADMINISTRATIVE FACILITIES

907.01 Size - as required

907.02 Location

Convenient access to the general office and superintendent's office.

907.03 Activities

Planning, research, and administrative activities conducted individually or in small groups.

907.04 Equipment Space and Facilities

- A. Room design should permit the assistant superintendent to confer without being seen or overheard in adjacent areas
- B. Conference desk and chair
- C. Work table convenient to desk for layout work
- D. Conference chairs
- E. Shelving
- F. Storage for personal belongings
- G. Telephone service and intercom to secretary in general office
- H. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

908 OFFICES FOR PROFESSIONAL SUPPORT PERSONNEL - ADMINISTRATIVE FACILITIES

NOTE: Number of spaces required will depend on the local staff size

908.01 Size - size to maximize space utilization

908.02 Location

A. Direct access from reception area and convenient access to meeting room and general office in the administrative suite.

B. Design and location should permit should permit the assistant to confer without being seen or overheard in the adjacent areas.

C. Easy access to vault and records

908.03 Activities - Daily Execution of Job Duties

908.04 Equipment Space and Facilities

A. Desk and chair

B. Conference chairs

C. Shelving

D. Bulletin board

E. Storage for personal belongings

F. Telephone communication with general office and intercom. Require private telephone line to the counselor's office

G. File cabinet with lock

H. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

909 RECORD STORAGE- ADMINISTRATIVE FACILITIES

NOTE: Record storage may be eliminated by providing fire resistant filing cabinets in the general office or other storage area.

909.01 Size - as required

909.02 Location - Direct or convenient access from the general office

909.03 Activities - Storage of current and inactive records

909.04 Equipment Space and Facilities

A. General construction should be fire resistant

B. Cart/storage units preferable for current records

910 SECRETARIAL WORK AREAS OR OFFICES - ADMINISTRATIVE FACILITIES

NOTE: Number of spaces required will depend on the local staff size.

910.01 Size - size to maximize space utilization

910.02 Location - Direct access to offices served

910.03 Activities - Daily execution of job duties

910.04 Equipment Space and Facilities

- A. Secretarial desk and chair
- B. Typewriter and stand
- C. Comfortable chairs
- D. Filing cabinets
- E. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- F. Telephone communication with general office
- G. Computer work station

911 STAFF LOUNGE - ADMINISTRATIVE FACILITIES

911.01 Size - size to maximize space utilization

911.02 Location

- A. Direct access from a building corridor
- B. Location avoiding major traffic, yet reasonably close to the administrative area
- C. Restrooms should not have direct opening into the lounge area

911.03 Equipment Space and Facilities

- A. Comfortable lounge furniture
- B. Kitchenette to prepare light refreshments
- C. Restrooms
- D. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

912 SERVICE FACILITIES - ADMINISTRATIVE FACILITIES

See Chapter 11, Sections 1107 – 1113.

913 ENGINEERING AND CUSTODIAL FACILITIES - ADMINISTRATIVE FACILITIES

See Chapter 3, Section 304.

914 MAINTENANCE FACILITIES

Boards of education provide sufficient, secure, and centrally located repair and maintenance facilities for educational facilities. Boards of education provide sufficient facilities for storage of all supplies, equipment, and food items.

914.01 Size

Maintenance facilities are organized in such a manner as to provide effective services as economically as possible. The size of such facilities is dependent upon the services required by the county.

914.02 Location/Site

The operations and maintenance facility should be located centrally in the county for the convenience of maintenance personnel traveling from the facility to schools and other staff traveling to this facility for training sessions. It may be desirable to have a combination administrative, operations, and maintenance facility.

Site shall be of adequate size to provide parking for staff automobiles, maintenance trucks, and delivery vehicles.

915 GENERAL OFFICE AND RECEPTION/WAITING AREAS - MAINTENANCE FACILITIES

915.01 Size

Dependent upon size of the center, sizing should incorporate maximum space utilization

915.02 Location

- A. At the hub of the administrative suite
- B. Direct access to a building corridor and to work room
- C. Near main entrance of facility
- D. Convenient access to work room

915.03 Activities

Reception of visitors and staff; general secretarial activities required in the operation of the center.

915.04 Equipment Space and Facilities

- A. Counter separating reception/waiting room or area from the secretarial work area
- B. Seating in reception area
- C. Small table for magazines and other literature
- D. Display space and bulletin board
- E. Secretarial furniture
- F. Master telephone station or other communications to all locations in the facility
- G. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

916 WORKROOMS - MAINTENANCE FACILITIES

916.01 Size - 100 to 150 square feet

916.02 Location

Direct access to the general office and waiting room.

916.03 Activities

Preparation of reports and layouts of materials by both secretarial staff and other personnel.

916.04 Equipment Space and Facilities

- A. Combination of open shelving and closed cabinets for storage of a variety of supplies and equipment
- B. Duplicating machine
- C. Work table or counter

- D. Lavatory
- E. Resilient floor covering

917 MEETING ROOMS/TRAINING FACILITIES - MAINTENANCE FACILITIES

917.01 Size - Depends on the needs for training sessions.

917.02 Location

- A. Convenient access to general office/reception/waiting areas
- B. Design and location should permit groups to confer without being overheard in adjacent rooms

917.03 Activities - Conferences and Training of Staff

917.04 Equipment Space and Facilities

- A. Conference tables and chairs
- B. Instructional board
- C. Bulletin board
- D. Appropriate floor covering and ceiling tile, which is mold and microbial resistant
- E. Pull-down projection screen

918 RECORD STORAGE - MAINTENANCE FACILITIES

NOTE: Room may be eliminated by providing fire resistant filing cabinets

918.01 Size - as required

918.02 Location - Direct or convenient access from the general office and other areas.

918.03 Activities - Storage of current and inactive building documents.

918.04 Equipment Space and Facilities

- A. General construction should be fire resistant
- B. Files for plans and documents
- C. Plan table
- D. Filing cabinets

919 OFFICES FOR PROFESSIONAL SUPPORT PERSONNEL AND SERVICE SUPERVISORS - MAINTENANCE FACILITIES

919.01 Size - size to maximize space utilization

919.02 Location

Convenient access to general office and other spaces

919.03 Activities

Planning, research, and administrative activities conducted individually or in small groups

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919.04 Equipment Space and Facilities

- A. Room design should permit staff members to confer without being overheard or seen in adjacent areas.
- B. Conference desk and chair
- C. Conference chairs
- D. Shelving
- E. Storage for personal belongings
- F. Telephone service and intercom to secretary
- G. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

920 SECRETARIAL WORK AREAS OR OFFICES - MAINTENANCE FACILITIES

NOTE: Number of spaces required will depend on the size of the local staff.

920.01 Size - size to maximize space utilization

920.02 Location - Direct access to offices served

920.03 Activities - Daily execution of job duties

920.04 Equipment Space and Facilities

- A. Secretarial desk and chair
- B. Appropriate chairs
- C. Filing cabinets
- D. Telephone communication with general office
- E. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

921 CARPENTRY, PLUMBING, HEATING, AND ELECTRICAL MAINTENANCE SHOPS - MAINTENANCE FACILITIES

921.01 Size - size to maximize space utilization

921.02 Location

- A. Convenient access to the general office
- B. Exterior door for distribution and receiving
- C. May be desirable to have an enclosed loading and unloading area for service vehicles

921.03 Activities

Storage of replacement parts, repairs to building components, and distribution of maintenance supplies.

922 SERVICE FACILITIES - MAINTENANCE FACILITIES

See Chapter 11, Sections 1107 – 1113.

923 ENGINEERING AND CUSTODIAL FACILITIES - MAINTENANCE FACILITIES

See Chapter 3, Section 304.

924 STAFF LOUNGE - MAINTENANCE FACILITIES

924.01 Size - according to staff number

924.02 Location

- A. Direct access from a building corridor
- B. Location avoiding major traffic, yet reasonably close to the administrative area
- C. Restrooms should not have direct opening into the lounge area

924.03 Equipment Space and Facilities

- A. Comfortable lounge facilities
- B. Kitchenette to prepare light refreshments

925 STORAGE FACILITIES

Boards of education provide sufficient facilities for storage of all supplies, equipment, and food items.

925.01 Custodial and food service storage rooms. (Must be separate spaces.)

925.011 Size

Base size on county needs for central supply and distribution of custodial supplies, dry foods, refrigerated foods, and frozen foods to the local system.

925.012 Location

- A. Convenient access to the general office
- B. Direct opening to corridor to permit distribution of supplies
- C. Exterior door for receiving and distribution

925.013 Activities

Storage and distribution of materials and supplies.

926 TRANSPORTATION FACILITIES

Transportation services are an integral part of the system of education in West Virginia. With expanding transportation requirements comes the necessity to maximize efficiency and at the same time exercise extreme concern for safety. Boards of education provide sufficient, secure, and centrally located staff offices, training spaces and storage, repair and maintenance facilities for all county school buses and vehicles.

926.01 Size

Transportation facilities are organized in such a manner as to provide effective services as economically as possible. The size and number of such facilities are dependent upon the services required by the county. The following is generally felt to be required to adequately serve a smaller county and may be used as a standard for multi-centers in larger counties.

926.02 Site

The transportation facility must have a site sufficient to park the county's entire fleet of buses, as well as employees' and visitors' vehicles. See Chapter 2, Section 206 for additional information. The following can be used for preliminary planning, but final layouts must be done to ensure accurate planning.

- A. Buses - as per applicable standard
- B. Cars -as per applicable standard
- C. Due to the size of buses and their turning radius, large amounts of space are required for circulation of vehicles.
- D. Centers should be located to facilitate easy access and reduce bus runs.

927 BUS REFUELING/PUMP STATIONS - TRANSPORTATION FACILITIES

Refueling pumps and/or stations are safely separated from maintenance and storage areas. Facilities must supply all types of fuel in use, such as gasoline, diesel, LPG, and CNG. Facilities should be visible from the office area, must comply with applicable safety standards, and provide adequate space for bus circulation.

928 RECEPTION/WAITING AREAS - TRANSPORTATION FACILITIES

928.01 Size
 Dependent upon size of the center, sizing should incorporate maximized space utilization.

- 928.02 Location
- A. At the hub of the administrative suite
 - B. Direct access to a building corridor and to work room
 - C. Direct or convenient access to director's office and other rooms in the administrative suite
 - D. Near main entrance to facility
 - E. Access to work room

928.03 Activities
 Reception of visitors and staff, and general secretarial activities required in the operation of the center.

- 928.04 Equipment Space and Facilities
- A. Counter top separating reception/waiting room or area from the secretarial work areas
 - B. Appropriate chairs in reception area
 - C. Small table for magazines and other literature
 - D. Display space and bulletin board
 - E. Secretarial furniture
 - F. Master telephone station, or other communications, to all locations
 - G. Appropriate floor covering and ceiling tile, which is mold and microbial resistant

929 DIRECTOR'S OFFICE - TRANSPORTATION FACILITIES

- 929.01 Size - as needed
- 929.02 Location
- A. Direct or convenient access to general office

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- B. Convenient access to the corridor without going through the general office
- C. Convenient access to other areas

929.03 Activities

Planning, research, and administrative activities conducted individually or in small groups.

929.04 Equipment Space and Facilities

- A. Room design should permit the director to confer without being overheard or seen in adjacent areas.
- B. Conference desk and chair
- C. Work table convenient to desk for layout work
- D. Conference chairs
- E. Shelving
- F. Storage for personal belongings
- G. Telephone service and intercom to secretary

929.05 Assistant Director/Trainer Offices

These spaces may be needed, depending on the size of the local transportation system.

929.051 Size - as needed

930 WORK ROOM - TRANSPORTATION FACILITIES

930.01 Size - as needed

930.02 Location

Direct access to the general office and waiting room

930.03 Activities

Preparation of materials, reports, and layouts of materials by both secretarial and other personnel

930.04 Equipment Space and Facilities

- A. Combination of open shelving and closed cabinets for storage of a variety of supplies and equipment
- B. Duplicating machine
- C. Work table or counter
- D. Lavatory
- E. Resilient floor covering

931 STAFF LOUNGE/TRAINING ROOM - TRANSPORTATION FACILITIES

931.01 Size - According to staff number

931.02 Location

- A. Direct access from a building corridor
- B. Location avoiding major traffic, yet reasonably close to the director's office
- C. Restrooms should not have direct opening into the lounge area.

931.03 Equipment Space and Facilities

- A. Comfortable lounge furniture (if not used for training)
- B. Kitchenette to prepare light refreshments
- C. Restrooms
- D. Pull-down projection screen
- E. Capability of darkening room
- F. Instructional board
- G. Bulletin board
- H. Tables and chairs (if used for training)

NOTE: The size of staff lounge/training room will vary, depending upon availability of space for training activities at other locations within the system.

932 GENERAL SERVICE BAYS - TWO (2) - TRANSPORTATION FACILITIES

932.01 Size - as appropriate to hold two buses simultaneously

932.02 Location

- A. Direct access to vehicle storage yard
- B. Access to tool room
- C. Access to parts room

932.03 Equipment Space and Facilities

- A. Mechanic work benches with wall space above
- B. Overhead beam and lift for engine removal
- C. Outlets for exhaust removal to the exterior
- D. Compressed air capable of operating pneumatic tools
- E. Cold water
- F. 120 volt plus either 240 volt, 208 volt or 480 volt electric single and three phase where applicable
- G. Trench drains connected to an oil-separation reservoir
- H. Non-slip concrete floor

933 HYDRAULIC LIFT BAY - ONE (1) - TRANSPORTATION FACILITIES

933.01 Size - as appropriate for one bus

933.02 Location

- A. Access to the new oil storage room
- B. Access to tool room
- C. Access to parts room

933.03 Equipment Space and Facilities

- A. Mechanic work benches with wall space above
- B. Adjustable length hydraulic lift for lifting entire bus at one time
- C. Outlets for exhaust removal to the exterior
- D. Used oil receiver
- E. Compressed air

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- F. Cold water
- G. Electric - 120 volt plus either 240 volt, 208 volt or 480 volt single and three phase where applicable
- H. Floor drains connected to an oil separation reservoir
- I. Non-slip concrete floor

934 WASH BAY - ONE (1) - TRANSPORTATION FACILITIES

- 934.01 Size - as appropriate.
- 934.02 Location
 - A. Fully partitioned space
 - B. Adjacent to other service bays
 - C. Easy circulation to and from the service yard
 - D. Access to hot water heater room and mixing equipment
- 934.03 Equipment Space and Facilities
 - A. Adequate heat and ventilation for year-round usage
 - B. Water resistant floor and wall finishes
 - C. Adequate drains and connected to an oil separation reservoir
 - D. Non-slip concrete floor
 - E. All electrical receptacles to be GFCI rated.

935 BODY REPAIR/PAINT BAY - ONE (1) - TRANSPORTATION FACILITIES

- 935.01 Size - as appropriate for one bus
- 935.02 Location
 - A. Easy access to vehicle storage yard
 - B. Access to paint equipment and supply room
 - C. Access to parts room
 - D. Must be self-contained space
- 935.03 Equipment Space and Facilities
 - A. Mechanic work benches
 - B. Heated, filtered make-up air and filtered exhaust air system
 - C. Compressed air capable of operating pneumatic tools
 - D. Cold water
 - E. Electric, 120 volt plus either 240 volt, 208 volt or 480 volt single and three phase where applicable
 - F. Floor drains connected to a sediment trap
 - G. Non-slip concrete floor

936 SERVICE FACILITIES - TRANSPORTATION

See Chapter 11, Sections 1107 – 1113.

937 ENGINEERING AND CUSTODIAL FACILITIES - TRANSPORTATION

See Chapter 3, Section 304.

**Chapter 10
FACILITY SAFETY**

1000 OVERALL FACILITY SAFETY

All school facilities are designed, constructed, furnished, and maintained in a manner that enhances a healthy learning environment and necessary safeguards for the life safety, security, and health of persons who enter and use the facility.

The safety of each facility is determined upon compliance with the minimum requirements of the State Fire Code, and all other applicable federal, state and local requirements.

1001 STRUCTURAL SAFETY

All school facilities are to be designed, constructed, furnished, and maintained with methods, materials, and equipment that provide adequate structural safety, fire resistance and protection, and convenience in traffic circulation. All school facilities shall be in compliance with the state building code and all applicable federal, state and local regulatory agencies.

1001.01 The structural design elements shall provide the following:

- A. The ability of the building to resist lateral forces such as are imposed by extreme winds and earthquakes
- B. The ability of the building to resist distortion and rapid deterioration from excessive or uneven foundation settling or the overstress of structural members and inadequate tying
- C. The ability of the building to carry the maximum live loads imposed on it by school and community use

1002 TYPES OF CONSTRUCTION AND AREA LIMITATIONS

1002.01 Buildings that require approved automatic sprinkler systems must be installed as per NFPA 13 Sprinkler Code and West Virginia Fire Code.

1002.02 Places of Assembly

In educational facilities places of assembly shall include, but are not limited to, all buildings or portions of buildings used for gathering together 50 or more persons for such purposes as deliberation, worship, entertainment, dining, amusement, or awaiting transportation. Examples: gymnasiums, auditoriums, libraries, and cafeterias.

Classifications of places of assembly are explained as follows: Each place of assembly shall be classified, according to its capacity:

Class A, capacity of 1000 persons or more; Class B, capacity of 300 to 1000 persons; Class C, capacity of 50 to 300 persons. Refer to the NFPA 101 Life Safety Code to pick the appropriate type of building construction.

1003 FIRE PROTECTION

1003.01 Fire Safety

In educational facilities, fire safety includes, but is not limited to, fire resistive construction,

fire alarm systems, sprinkler systems, exits, enclosure of vertical openings, and evacuation plans. Each county shall ensure that fire evacuation plans are posted in all facilities.

1003.02 Refer to appropriate sections of West Virginia Fire Code and NFPA 101 Life Safety Code.

1003.03 Heating Plant and Kitchens

A. The mechanical room shall be isolated from pupil-occupied areas by location and/or treatment (fire resistive construction).

B. Central heat plant installations shall be in accordance with appropriate state and local codes.

C. Kitchens must have ventilation and protection in accordance with the State Fire Code; NFPA 96, Vapor Removal Cooking Equipment and ASHRAE.

1003.04 Electric Services

All wiring, connections, and electrical installations shall be in accordance with the WV Fire Code and National Electrical Code.

1003.05 Fire Alarm System

1003.051 General Requirements

A. All fire alarm systems, including all components, shall be electrically supervised. Components shall include pull stations, automatic detection, sounding devices, flow switches, tamper switches, and main panel.

B. All fire alarm systems and wiring shall be in accordance with the National Electrical Code and the WV Fire Code.

1003.052 Requirements for Educational Occupancy

A fire alarm system is required in every educational occupancy area (as defined in the WV State Fire Code), and such a system must meet the requirements and standards as provided herein. Educational occupancies area as defined in the NFPA 101 Life Safety Code. Exception: One or two room buildings of less than 2500 square feet gross floor area with two direct exits to the outside from each classroom.

1003.06 Fire Extinguishers

A fire extinguisher shall be installed in accordance with the State Fire Code; NFPA 10, Portable Extinguishers.

1003.07 Occupant load Calculations

A. The occupant load of educational facilities, or any individual stories or sections thereof, shall be as determined by the State Fire Code; NFPA 101, Life Safety Code.

B. Occupant load requirements of lecture rooms, gymnasiums, or cafeterias used for assembly purposes shall also be determined by the State Fire Code; NFPA 101, Life Safety Code.

1003.08 Emergency Lighting

Every educational facility shall have emergency lighting as per NFPA 101 Life Safety Code, State Fire Code, and National Electrical Code.

1003.09 Extinguishment Requirement

A. Every portion of each educational building below the floor of exit discharge shall be protected throughout by an approved automatic sprinkler system in accordance with the State Fire Code; NFPA 101, Life Safety Code.

B. Buildings that require approved automatic sprinkler systems must be installed as per NFPA 13 Sprinkler Code and West Virginia Fire Code.

1003.10 Vertical Openings

All vertical openings in educational buildings shall be enclosed and protected by fire resistive construction, as required by the State Fire Code.

1003.11 Classrooms

Every room or space used for classroom or other educational purposes that do not have a sprinkler system shall have at least one outside window used for emergency rescue or ventilation as per NFPA 101 Life Safety Code and WV Fire Code.

1004 NOTIFYING THE FIRE DEPARTMENT

Whenever a fire occurs in any building or on any premises of any kind, the owner, manager, occupant, or any person in control of such building or premises, upon discovery of a fire, or evidence of there having been a fire, even though it has apparently been extinguished, immediately shall cause notice of the existence of such fire, circumstances of same, and the location thereof to be given to the Fire Department, West Virginia State Fire Marshal, and the West Virginia Department of Education Office of School Facilities. This requirement shall not be construed to forbid the owner, manager, or other person in control of the aforementioned building or premises from using all diligence necessary to extinguish such fire prior to the arrival of the Fire Department.

No person shall make, issue, post, or maintain any regulation or order, written or verbal, which would require any person to take any unnecessary delaying action prior to reporting a fire to the Fire Department.

1005 CIRCULATION, SAFETY, AND CONVENIENCE

1005.01 Corridors

A. Each corridor shall be a minimum of 6 feet wide in the clear. Room and locker doors swinging into corridor shall not, at any point of the swing, reduce the minimum clear passage.

B. A means of egress shall exist at each end of a corridor, and in no case shall any corridor extend more than 20 feet beyond an exit.

C. Doors separating corridors from stair enclosures shall be B Label fire rated doors and swing in the direction of exiting.

1005.02 Stairways

A. All stairways shall conform to the requirements of the State Fire Code; NFPA 101, Life Safety Code. Life Safety Code provides details for construction and dimensions.

B. Closets, storage areas, or other rooms or spaces shall not open into the stairway enclosure; nor shall such space be permitted under or over stairways.

C. Buildings of more than one story have a minimum of two stairways, located remote from each other, which provides a continuous exit to the outside. Additional stairways may be necessary, dependent upon occupant load and square footage of the floor(s).

1005.03 Exits

A. All buildings, including one-room buildings, or classrooms over 1000 square feet shall have a minimum of two exits, remote from each other.

B. All exits shall comply with the State Fire Code, NFPA 101, Life Safety Code, which provides information for determining number, kinds, arrangement, and capacity of required exits.

1005.04 Signs

A. All auditoriums, assembly areas, gymnasiums, stairways, corridors, and exits should have illuminated signs marked "EXIT" in plain, legible letters (with direction arrow, if necessary) as per the appropriate codes.

B. Low hanging signs, ceiling lights and similar objects, signs and fixtures that protrude into regular corridors or traffic ways shall be avoided. A minimum height of 7 feet 6 inches from the floor is required.

1006 OTHER CIRCULATION AND TRAFFIC PROBLEMS WHICH NEED SPECIAL ATTENTION

1006.01 The plan of the drive and bus-loading platform shall meet the Highway Safety Program Guideline 17 and should be such that all buses can line up in tandem, permitting children to enter the bus from the right (that is, without crossing in front or to the rear of buses). No backing up of buses will be permitted.

1006.02 Access to the school grounds should be such that pupils coming to the site do not need to walk through any part of the building to get to the playground.

1006.03 Pupil circulation to and from toilet units is simplified when these units and hand washing facilities are located as follows.

- A. On normal traffic routes from instructional spaces to outdoor recreation areas
- B. Adjoining playgrounds so that the building proper need not be entered by playground users
- C. Near cafeteria or lunchroom

1007 DEMOLITION, RENOVATION AND ALTERATION

Before embarking on a renovation project, there are preliminary steps, which must be taken. The existing facility must be examined carefully. Information about the educational program, the community, enrollment, and so forth must be assembled and analyzed. Educational goals must be clearly established and alternative solutions to the facilities problem (including renovation, renovation plus additions, demolition and replacement, or new site acquisition and new construction) must be developed and compared.

1007.01 An assessment of the existing facility should include an examination of at least the following areas:

- A. Program support
- B. Structural soundness
- C. Adaptability of the building
- D. Adequacy of space
- E. Aesthetics
- F. Operational and maintenance efficiency
- G. Condition of mechanical systems

- H. Compliance with safety codes
- I. Location
- J. Site characteristics
- K. Cost of project
- L. Identify all hazardous materials (e.g. lead, asbestos, PCB, etc.) and plan for their management and remediation.
- M. Condition of the electrical system
- N. Temporary Exiting Strategy

1008 EMERGENCY SHELTERS

1008.01 Professional advice and assistance in the design of shelter areas for school buildings is available at no cost to architects and school boards. This service is obtained through the state Department of Emergency Services.

1008.02 *Each county shall ensure all facilities have a plan for locating students and staff for shelter-in-place including a plan for shutting down the HVAC system including all exhaust systems.*

1009 MODULAR OR DETACHED CLASSROOM STRUCTURES

1009.01 These installations shall be made with prior approval of the West Virginia Board of Education and only to relieve overcrowding or to provide interim housing while an approved school construction project is being planned and/or completed. Approval for continued use beyond three years must be obtained from the WVBE. Local school districts must include in their CEFP a method and time frame for replacing these buildings with permanent structures. These buildings shall comply with all state regulatory requirements, including installation of potable water and restroom facilities for early childhood (K-5), applicable building, fire and public health codes, and ADA compliance.

1010 SAFETY AND CLEANLINESS OF BUILDINGS

1010.01 All schools must be maintained in a safe condition. Scheduled inspections by properly trained and/or licensed staff will ensure that facilities are kept in a state as near to the original condition as possible at all times. Facilities shall also be kept clean and sanitary at all times by scheduled cleaning of all sections of the buildings. This shall be ensured by regular inspections for compliance with scheduled cleaning and maintenance tasks.

1010.02 Materials which, under normal use conditions, may release formaldehyde in excess of .1 parts per million or asbestos in accordance with 40 CFR Part 763 Asbestos Containing Materials in Schools (AHERA) which contribute to levels of indoor air pollutants considered potentially harmful to human health, shall not be permitted in building design. This includes that an Asbestos Management Plan (AMP) is developed and maintained for all school buildings owned or leased. Asbestos Management Plans are even required for all newly constructed school buildings even if they are certified asbestos free in compliance with federal regulation. All AMP are to be approved by the West Virginia Department of Health and Human Resources' Bureau for Public Health. In addition, all field devices and equipment are to be mercury free, except for fluorescent lamps, which are to be in accordance with Section 1102.031D.

Exposure to lead, especially from paint products before 1978, may cause devastating health hazard

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to young children, resulting in long term health effects, i.e., learning disabilities, decreased growth, hyperactivity, impaired hearing, etc. Therefore lead based paint in child occupied buildings constructed prior to 1978 should be monitored and maintained in a safe condition in compliance with state public health law and rule (16-35 and 64 CSR 45). A child occupied building is defined as an area(s) where a child age 6 or younger is located for three (3) hours per day twice a week, i.e., child care centers, pre-kindergarten and kindergarten. By policy child care centers in a facilities built prior to 1978 must have a lead risk assessment conducted prior to being licensed. A risk assessment is a plan developed to address lead hazards located within a facility.

1010.03 The Integrated Pest Management program, as per West Virginia Code shall be used for termite and rodent control. Prior to pesticide use, staff and parents are to be notified if they have requested this notification.

Chapter 11

BUILDING ENVELOPE/MEP/INDOOR ENVIRONMENTAL SYSTEMS AND TECHNOLOGY**1100 COMMON ENVIRONMENTAL FACTORS**

All new or renovated schools are to be designed, constructed, furnished, and maintained in a manner which incorporates appropriate technology into the common environmental factors which facilitate the educational program of the school. Spatial and aesthetic considerations are incorporated into the school design, construction, equipment, and maintenance. The thermal, visual, and acoustical systems are balanced in a manner, which properly controls the environment and facilitates the educational program of the school for all seasons.

The selection of an HVAC system is dependent upon multiple factors including the following components: the original cost, the operating and maintenance cost, replacement cost, and the size of the building. Technical consultation concerning the type of heating, ventilating, and air conditioning (HVAC) system to be utilized shall be secured from registered professional engineers. Designers shall submit the approximate cost per square foot for the first year of operation and Life Cycle Cost Analysis to county superintendent of schools, SBA and WVDE during the Schematic/Design Development phase of design. The targeted Energy Usage Index (EUI) shall be submitted to the WVDE and SBA during the schematic/design development stage of the project. The maximum designed target EUI should be 45 or lower.

Through the U.S. Environmental Protection Agency there is the opportunity to provide ENERGY STAR recognition for schools that rank in the top quartile (25%) for energy efficiency compared to similar schools nationwide. An ENERGY STAR schools' designation is encouraged to be sought for all new schools built in compliance with Policy 6200.

School facilities must be in compliance with the requirements of the State Fire Code, State Health Department, SBA School Access Safety Plan and other regulatory agencies. New schools utilizing Policy 6200 will be designed and built in compliance with the West Virginia State Building Code.

Designers shall utilize current ASHRAE standards including adopted addendums as per WV Code §18-9E-3. Schools using WVDE Policy 6200 shall be designed and built in compliance with the applicable West Virginia State Building Code at the time of the project is funded by either the SBA or locally.

ASHRAE Standard 62 (Ventilation for Acceptable Indoor Air Quality) shall be the governing standard when there are conflicts between other standards.

Designers shall provide a written narrative to the county, SBA and WVDE explaining the design intent, which will provide the logic and background for the mechanical system chosen. The design intent statement shall include a brief explanation for the selection of the HVAC system and how it addresses ASHRAE 62 requirements, energy efficiency, acoustics, varying occupancy use of the facility, and the building automation system. The designer shall also take into consideration the county maintenance personnel's ability to operate and maintain specific HVAC systems including the building automation system (BAS).

On all SBA or locally funded construction or renovation projects, designers shall provide an electronic copy of all sets of final architectural drawings and specifications in a non-editable

format to the WVDE Office of School Facilities and Transportation using the SBA's requirements as listed in the construction document submission phase guidelines. Specifications prepared by designers shall require that warranties and brochures be furnished to the county board of education by the installing contractor on all equipment. Record product data shall be submitted in electronic format.

Designers shall also provide to the WVDE Office of School Facilities and Transportation, the SBA staff, and the appropriate county board of education personnel one electronic copy of the basic floor plan of the facility in PDF format that includes information such as room numbers, door location swings and door positions, accurate numbering utility entrances and shut-off locations. This drawing will be used for HVAC training, fire evacuation plans, school access safety plans, and floor plans for students.

1101 THERMAL ENVIRONMENT

The school facility is designed, constructed, equipped, and maintained in a manner, which provides for maximum safety, comfort, and economy. The heating, ventilating, and air-conditioning systems in all school facilities shall be in compliance with the requirements of applicable regulatory agencies.

1101.01 Minimum functions of the space conditioning system employed to maintain the proper thermal environment in a school building are as follows.

- A. Supply heat for warm-up and balance heat losses from the room to the outside.
- B. Supply conditioned and dehumidified outside air to meet ventilation requirements.
- C. In special cases, the system must remove injurious or noxious gases, vapors, fumes, and dust by the induction of outside air, filtration, and/or exhausting contaminants.
- D. Minimum outside design criteria
 - 1. Winter - 0°F db
 - 2. Summer - ASHRAE 1% Climatological Data (Cooling and Dehumidification Data)
- E. Indoor occupied and design criteria
 - 1. Winter - 70°F, humidity \leq 60% rH
 - 2. Summer - 72°F, humidity \leq 60% rH
- F. Include the inside and outside design conditions on the equipment schedule sheet of the design development/construction drawings.

1101.02 HVAC systems should be of sufficient rated capacity to meet the building requirements under maximum design conditions including local weather conditions as per 1101.01. This will avoid sustained operation beyond the capacity of the system. HVAC systems shall be designed to be operational year round. Systems should not be shut down when the building is unoccupied.

1101.021 Operative Temperature

It is desirable that HVAC systems provide a maximum temperature gradient not to exceed 2°F from floor to 60 inches above the floor.

1101.022 Air supply

Space conditioning systems will have sufficient capacity to provide for introduction of conditioned and dehumidified outside air. The amount of outside air will meet guidelines set forth by current ASHRAE Standard 62.

1101.023 Air Movement

Distribution of air shall consider effective air cleaning, temperature control, low noise level, acceptable humidity conditions and proper air distribution.

A. Air motion should generally fall within a range of 25 to 50 feet per minute and should be maintained at a constant rate, unless a variable air volume (VAV) system is used with a pattern that prevents temperature stratification or undesirable air currents.

B. Special provisions may have to be made in the window zone to overcome the effects of cold window down draft.

C. Since positive pressure is required in conditioned areas, with the exceptions of bathrooms, custodial closets, science areas, and other areas that may have air contamination, approximately 5-10 percent more air should be introduced than is exhausted, thus minimizing infiltration. The designers should perform an air balance calculation to determine all the outside air supplied into the building against all air exhausted from the building to verify building overall space pressure relationships are maintained. The amount of excess outside air should be determined using appropriate engineering practices for the specific application. If duct liner is used it shall be rated for a minimum velocity of 5000 fpm, and be treated with an EPA approved anti-microbial agent proven to resist microbial growth as determined by ASTM G21 and G22. Use of duct liner shall be limited to the first 15 feet or to the first joint past the first elbow in the supply and return ductwork, whichever is the shortest distance. Duct liner beyond 15 feet is allowable in gymnasiums or other areas where exposed ductwork is used for budgetary reasons.

D. Velocity of air across cooling coils shall not exceed 500 fpm to prevent moisture carryover.

E. Room temperature sensors or thermostats located in occupied spaces may have the capability for local temperature set point adjustment to regulate space temperatures, but may not have the control capability to allow the occupants to control the fan operation.

F. The condensate traps made of non-corrosive materials or copper shall be designed to operate at greater than 1" w.g. more than the static pressure of the HVAC unit.

G. If flexible duct is to be used, the duct shall be of the internal corrugated metallic type or internal high-pressure fabric with a pressure rating of at least 10" w.g. positive and 5" w.g. negative with a bursting pressure of at least 2 times the working pressure, and externally insulated. The duct shall be rated for a minimum velocity of 5000 fpm. There shall be a maximum of one (1) 90° bend and a maximum length of six (6) feet.

H. Include in the selection of the grilles, registers, and diffusers the NC (noise coefficient) rating that meets the ASA recommendations. Include the design NC rating for each device in the equipment schedule and/or the specifications.

1101.024 Humidity Control

Levels in the space shall meet the requirements set forth in Sections 1101.01E1 & E2. An automatic mode of operation through the building control system shall maintain the humidity levels below 60%.

1101.025 Air Filtration

Filtering, washing, screening, absorption, or other cleaning methods may be used. The HVAC units should be installed with the most appropriate filtration available for the type of equipment selected. It is desirable that HVAC units be designed with a minimum ASHRAE dust spot filter efficiency of 80% (MERV 13) but in no case shall the filter efficiency be less than 30% (MERV 8). The filters efficiency rating shall meet the latest ASHRAE Test Standard 52.1 and 52.2.

1101.03 Consideration should be given for a fully integrated and distributed network DDC control system with remote access to be used to control major HVAC equipment and outside lighting in new school facilities and full building HVAC renovations. If a DDC system is used, a PC terminal with a graphics interface program shall be used to access the control system and shall be located within one of the county school facilities. This control system shall use control logic to maximize energy efficiencies. All HVAC zones shall be independently operated and controlled.

1101.031 The WVDE OSFac shall provide county maintenance personnel additional training, if necessary, on the equipment and it's controls at the site of the installation per WV Code §18-9E-3f after appropriate training per Policy 6200 has been completed.

1101.032 After completion of the required training, the WVDE OSFac's staff shall provide the County Board a report summarizing the training that was completed and a plan for continuing education of the county's HVAC staff. If sufficient staff is not available to the county to perform maintenance on HVAC systems, the WVDE staff shall assist the county in the development of an immediate and long range maintenance plan to ensure that HVAC systems are maintained and operated according to the manufacturer's recommendations per WV Code 18-9E-3g.

Designers will be required to ensure that the integrated training of all manufacturers' components as a single HVAC system is provided.

1101.04 Boards of education, before accepting the mechanical contractor's work, shall receive complete training regarding the operation and maintenance of the mechanical equipment and should insist that a designated school employee(s) be given direct instruction by one or more competent representatives of the contractor or equipment firms. The training shall be completed prior to the turnover of the building to the Board of Education. For major mechanical and electrical equipment and systems (including HVAC control systems) there shall be a minimum of 1 day follow-up training at 6 months after facility turnover. All training shall be videotaped and turned over to the county board of education. Designers shall specify the time duration of each specific training session required. The WVDE OSF shall be notified two weeks prior to training.

1101.041 The HVAC bid documents shall require a two year full maintenance contract commencing at the issuance of the HVAC substantial completion certification. The WVDE OSFac shall support the training and service contractors for county HVAC personnel during the first year maintenance and service agreement period to assure that the county personnel fully understand the HVAC system as a fully integrated system. The WVDE Office of School Facilities and Transportation HVAC Technicians shall review the preventive maintenance plan developed by the service contractor that will be implemented after the two year maintenance program expires.

1101.05 Inspection of Systems (Testing, Adjusting and Balancing)

Designers shall provide TAB contract documents to the counties for bidding independently of the construction documents in accordance with WV State Code.

Specifications for TAB procedures shall include requirements for acoustical measurements to verify ASA guidelines.

1101.051 The county Board of Education should consider a commissioning agent to assure that the HVAC system is designed and installed in accordance with the county's requirements. The SBA

may designate the necessity for a commissioning agent on complex renovations or new schools. The standards of services for commissioning agents are set forth in SBA policy.

1101.06 Indoor Air Quality Standards

A. There shall be no open-flame, fuel burning heaters in student and staff occupied spaces. Direct gas fired 100% outside air makeup units for kitchen hoods or specialty locations may be considered providing they include carbon monoxide monitoring and alarming and are only used for 100% outside air makeup applications. This equipment shall be located in enclosed rooms or cabinets using outside air for combustion and be properly vented to the outside in a manner that exhausts all flue gases using appropriate piping as per ASHRAE, NFPA 54, and AGA standards

B. Outside air intakes shall be located no closer than 15 feet or the standards set forth by ASHRAE Standard 62, whichever is greater, to stacks, exhaust, vents, motor vehicles and other sources of contaminants to minimize cross contamination. Distance requirements dictated by ASHRAE Standard 62 for outside air intakes from the ground and level shall also be observed. Stacks shall be designed to exhaust flue gas away from the building.

C. Electric powered carbon monoxide monitor/alarm shall be installed in each area that produces combustion gases. The carbon monoxide monitor/alarm shall be tied into the building control system and alarm when activated.

D. Outside air dampers shall fully close when the units are off and maintain the minimum required outside air in accordance with ASHRAE Standard 62 during occupied operation in all areas.

E. Heat Recovery systems are recommended for 100% outside air systems. All heat recovery systems shall be constructed to limit cross over contamination.

F. It is desired that return air dampers should be sized to produce air velocities of 1500 to 2000 fpm for thorough mixing. The damper should be set such that any deflection of air is towards the outside air to create maximum turbulence and mixing. The mixing damper shall extend across the full width of the unit even though the physical location of the return duct indicates that it could enter through the side to eliminate stratification.

G. The HVAC cabinet insulation shall have a non-porous facing on the side exposed to the air stream in areas of potential moisture buildup (cooling coil, outside/mixed air section, etc.). The outside air ductwork located indoors shall be externally lined only.

H. All drain pans shall be double sloped to the drain outlet, the drain outlet is to be flush with the bottom of the drain pan, and meet the requirements of ASHRAE Standard 62.

1101.07 HVAC System

It will be the responsibility of the HVAC design professional working with and in collaboration and cooperation with the WVDE, SBA and the LEA to design a system that enhances indoor air quality, thermal comfort, and maximizes energy efficiency of the facility prior to the approval of the system by the WVDE and the SBA.

A. The county school system shall be provided an opportunity to select existing or desired brand of equipment through base bids and alternates in bid documents to accommodate capability of current system.

B. All systems shall have a detailed sequence of operation written in the specifications by the HVAC design engineer. All set points, differentials, lockouts, etc. shall be defined in the sequence of operation. The sequence of operation shall include the following as a minimum: occupied/unoccupied, economizer control, morning warm-up/cool-down, dehumidification, summertime low-load operation, optimizing start/stop, demand controlled ventilation, fan control/operation, and alarms.

C. HVAC systems shall include the following criteria:

1. Air velocities across HVAC cooling coils should not exceed 500 fpm. The coils shall have a maximum of 12 fins per inch, when possible.
2. HVAC systems should utilize modulating or staged heating with a minimum of 2 stages. HVAC units utilizing two staged heating should have a minimum turn down capacity of 2 to 1 and units with modulating heating capabilities should have a turn down capacity of at least 6 to 1. Modulating heat is the preferred heating method due to its ability to maintain more consistent room temperatures.
3. Adjustable/temporary motor and fan sheaves shall be replaced with fixed sheaves at the completion of testing, adjusting, and balancing.
4. Each classroom shall constitute a zone and have its own temperature control device that directly regulates room temperature.
5. Temperature control devices in the classroom shall have minimum accuracy of $\pm 1^{\circ}\text{F}$ and humidity control devices of $\pm 3\%$ rH for a retrofitted system and $\pm 0.5^{\circ}\text{F}$ tolerance and $\pm 3\%$ rH for new systems.
6. Fans should be selected for maximum efficiency that will yield minimum noise generation.
7. Permanent I. D. labels on all HVAC and electrical equipment shall be installed. Labeling of electrical equipment shall include the equipment it serves.
8. The mechanical engineer shall provide within the specifications for a contractor to include a preventative maintenance program for all HVAC equipment including: BAS software, listing of belts, filters, spare parts, nameplate data, recommended maintenance increments for preventative maintenance tasks, and training on preventative maintenance.
9. A premixed chemical water tank shall be used for makeup water for all closed loop hydronic systems. Consider interfacing low fluid level alarm into BAS system when available.
10. Provide lockable ball valves on expansion tanks.
11. Provide pressure gauges on expansion tanks.
12. Provide appropriate isolation valves on all equipment. Provide isolation valves on the supply and return piping on all equipment.
13. Provide calibrated balancing valves on all hydronic equipment where required for balancing as per manufacturer's recommendations. Ball valves are not acceptable for balancing.
14. Recommend providing stainless steel, ceramic, or fiberglass for basins and other surfaces in contact with condenser water in cooling towers.
15. HVAC units that have multiple compressors shall have independent refrigerant circuits for each compressor.
16. All drain ports on back-flow preventers, pressure relief valves, and safety valves shall be piped to a drain in accordance with the local plumbing code.
17. All closed loop water systems shall use scale and corrosion inhibitors as a part of the general water treatment process.
18. If a glycol solution is used in closed loop water systems, the use of ethylene glycol is prohibited for new systems.
19. All open loop condenser water systems shall use biocide(s), scale and corrosion inhibitors as a part of the general water treatment process. These products shall be automatically controlled and fed as directed by a competent water treatment vendor. Water treatment controls for the open loop system shall consist of a conductivity controller, automatic blow-down valve, and chemical feed pump for each water treatment product to be fed. All water treatment controls equipment and chemicals shall be located in a temperature-controlled space in close proximity to the cooling tower.
20. The blow-down drain for cooling towers and evaporative coolers shall be piped to an appropriate drain line.

21. All water lines and chemical feed lines must be protected from freezing conditions by insulation and heat tracing.

22. Specify all field devices and equipment to be mercury free.

23. Diffusers and grilles shall not have balancing dampers. Balancing dampers shall be located in the ductwork not easily accessible by building occupants.

24. Multiple HVAC units serving a common area should use control logic that prevents overlapping of heating and cool set points between HVAC units. All HVAC equipment with 3 phase electrical motors shall have phase monitors to automatically shut down the equipment during phase losses.

25. Hail guards shall be required for all outdoor -mounted equipment with exposed condenser coils when equipment is subject to hail damage.

26. Major roof mounted HVAC equipment shall be accessible via interior roof hatches or doorways.

27. Provide a means to meet HVAC system requirements in specialty areas (i.e. elevator equipment rooms, technology rooms) that require extended HVAC operation without operating large central equipment for only a small area of the facility. Consider operating dual systems to maximize use of energy efficient equipment during primary operating hours and separate system during "after hours" operation where energy and operating savings justify the dual operation.

D. All newly constructed buildings, additions, and HVAC replacements, where the possibility of harmful airborne contaminants could enter the building through the ventilation system, shall have "shelter in place" control sequence included in the building control system. The sequence shall be initialized by manual switches located in the administrative and central mechanical room areas of the facility to shut down all components of the HVAC system to prevent outside air from entering the building.

1101.08 DDC control systems

A. Label all components in interface and control panels.

B. Provide laminated schematic diagram and attach to inside of interface panel.

C. Graphics shall accurately represent facility components and architecture. Graphics shall also have room and equipment numbering that matches the county's final building numbering scheme.

D. Analog BCS input and output devices shall be field calibrated or adjusted to represent actual positions at the time of installation.

E. Nomenclature on inputs and outputs shall represent the true logical positions of the devices controlled.

F. All external devices on the DDC system shall have I.D. labels.

G. Provide sufficient schedules to cover yearly school holidays and special events.

H. List spare parts needed for DDC system.

I. An accurate and detailed set of record drawings, sequence of operation, and control drawings are to be provided for the HVAC system and controls.

J. Provide sun/weather shields for all outside sensors. Indicate the location of all outside sensors on the design drawings.

K. An exercise program shall be included as part of the DDC system to open and close automatic control valves and actuators 2 full strokes if the device has not modulated fully open and closed within 7-days.

1102 VISUAL ENVIRONMENT

The school facility is designed, constructed, equipped, and maintained in a manner, which provides a good visual environment. The facility is attractively painted and illuminated in a manner, which most

effectively contributes to an environment of visual accuracy and comfort. All schools are in compliance with requirements of applicable regulatory agencies. Plans and specifications for new or substantial renovations should be developed to achieve as many of the desired lighting goals as possible in the original construction with due consideration for the need of maintaining a balance between the visual and other major environmental factors. Proper visual environment lessens the expenditure of energy required for students and teachers to carry on visual tasks in the instructional space. A sufficient quantity of light is essential for good visual conditions. However, a task becomes visible, not by the light falling upon it, but by reflected brightness. Visual comfort and efficiency may best be achieved in an environment in which the brightness difference would be as small as possible between the task and the brightest surface and between the task and the darkest surface in the total visual field while the general level of illumination is high. Informal seating in the instructional space has gained wide acceptance. The visual field, therefore, must be recognized as encompassing all four walls, the floor, and the ceiling.

Where design considerations permit, the facility will be constructed in a manner that encourages the use of natural light.

1102.01 General

1102.011 Technical assistance from qualified lighting engineers is generally required to ensure adequate visual conditions within spaces.

1102.02 Desirable Brightness

1102.021 In an instructional space, the brightness of any surface viewed from any normal sitting or standing position should not be excessively greater than the brightness of the visual task. As the high brightness of surfaces in the visual field approaches the brightness of the task, visual comfort and efficiency increase.

1102.022 In an instructional space, the brightness of any surface viewed from any normal standing or sitting position should not be excessively lower than the brightness of the visual task. As the low brightness of the surfaces in the visual field approaches the brightness of the task, visual comfort and efficiency increase.

1102.023 The brightness of surfaces immediately adjacent to the visual task is more critical in terms of visual comfort and efficiency than that of more remote surfaces in the visual field. These adjacent surfaces have lower acceptable brightness limits than surfaces farther removed from the task.

1102.024 The brightness difference between adjacent surfaces in the total visual field should be reduced to an acceptable minimum.

1102.025 The characteristics of any lighting system should be such that direct and reflected glare are not objectionable.

1102.026 Daylight and electric light systems should conform to the same brightness and brightness difference goals, and both systems should be coordinated in design to assure the effective contribution of both.

1102.027 The brightness goals stated above assume an illumination level of range 30 to 150

foot-candles on the reference task produced by combined radiant energy of daylight and any system of electric lighting used.

1102.03 Light Source

1102.031 Electric lighting systems should be evaluated on the basis of the following items:

- A. The lighting should produce a uniform distribution of shadow-free and glare-free illumination with the intensities necessary to maintain an acceptable brightness balance between the tasks and other surfaces within the total visual environment.
- B. Consideration should be given to probable deterioration of service efficiency under prevailing conditions of school operation and maintenance.
- C. Lighting fixtures should not produce a surface brightness on the fixture or on the ceiling that exceeds ten times the task brightness.
- D. Light Emitting Diode (L.E.D.) lamps are to be specified as energy saving T-8 or better with a color temperature of 3500K or greater, a minimum CRI (color rendition index) of 82, and low-mercury containing as determined by TCLP (Toxicity Characteristic Leaching Procedure) testing.

1102.032 Where daylight supplements artificial illumination, controls (preferably fixed) should be as follows.

- A. Exclude direct sunlight and at the same time admit about 15 percent of the outdoor brightness
- B. Provide a surface free from excessive brightness or glare
- C. Permit ease of maintenance

1102.04 Surfaces within rooms should be finished in accordance with the following items.

1102.041 Ceilings should provide a 70 to 90 percent reflection factor, flat, white surface.

1102.042 Upper walls (from wainscot or dado upward) should provide a surface with a reflection factor of at least 60 percent.

1102.043 Lower walls (from wainscot or dado downward) should provide a surface with a reflection factor of at least 60 percent.

1102.044 Where maintenance conditions permit, it is considered good practice to finish entire walls, from ceiling to floor, with surfaces having a 60 percent reflection factor.

1102.045 Finishes should be flat or matte on all interior surfaces, particularly at eye level or above.

1102.046 Trim should provide a surface with a 40 to 60 percent reflection factor.

1102.047 Desks and equipment should have finishes that fall within the 35 to 50 percent reflection factor range.

1102.048 Floor finishes should fall within the 30 to 50 percent reflection factor range.

1102.049 Marking boards are available with practicable maximum reflection factors of 20 percent. This high factor range is practical only when the level of illumination is sufficiently high to

overcome the loss in visibility due to reduced brightness difference between chalk and the light colored board.

1103 SONIC ENVIRONMENT

The new or substantially renovated school facility is designed, constructed, equipped, and maintained to meet ASA guidelines, which provides for the control of sound within a particular space so that internal sound can be heard well and unwanted sounds are prevented.

1103.01 General

1103.011 The services of an acoustical engineer may be desired and should be considered when designing educational spaces.

1103.012 Although it is often impossible to prevent the creation of unwanted noises, it is both possible and practicable to prevent excessive noises, which inhibit hearing and create distractions.

1103.02 Zoning

1103.021 The concept of zoning as related to acoustical engineering revolves about the basic premise that prevention is better than correction.

1103.022 Site

A. Every effort should be made to acquire a site that has a relatively low ambient noise level.

B. Planting of trees, bushes, and shrubs around the perimeter of the site, particularly on noisy sides, will provide added noise reduction.

1103.023 The Building

A. It is important, where possible, to group noisy activities with other noisy activities, such as playgrounds, gymnasiums, music areas, and shops.

B. Administrative facilities, general instructional spaces, media centers, and other similar areas should be grouped together in a quiet zone somewhat removed from noisy activities.

C. Intermediate between the two extremes may be rooms where machines are used, the cafeteria, and home economics facilities.

D. If these various activity levels are not adequately separated by space, then it is necessary to intercept these noises to the degree necessary to prevent them from conflicting with each other.

1103.024 Instructional and Service Facilities

A. Administrative Offices

1. Noise reduction by treatment, in the form of absorbent materials, is invariably mandatory to keep speech levels low and to keep sound from office machines and traffic noise at a minimum.

2. It is advisable to provide sound-intercepting barriers to keep noisy activities in some administrative rooms from interfering.

B. Corridors

1. Unless adequate noise reduction treatment is provided in corridors, they act as

communication channels conveying a sound or noise throughout the building.

2. Acoustical treatment in such passageways should be placed on the ceiling and may also be placed on walls.

C. Instructional Spaces

1. Instructional spaces should be treated for noise reduction to meet ASA guidelines.

2. The degree of sound interception requiring instructional space boundaries depends upon adjacent activities.

D. Media Center

1. Noise reduction treatment, coupled with adequate sound interception, is a primary requisite in this area, where there may be disturbing and/or distracting sound from a nearby activity.

E. Shops

1. Adequate noise reduction treatment is essential, and adequate interception should be provided in the boundaries.

2. Where doors are left open, shop layouts must be oriented so that openings are away from academic and similar activities.

F. Cafeterias

1. An environment with a somewhat critical reverberation control is desirable.

2. Kitchens should have considerable noise reduction treatment because the noise from a reverberant kitchen can be conducted to the dining room area.

G. Gymnasiums

1. An environment with a somewhat critical reverberation control is usually desirable.

2. Where facilities are near quiet areas, adequate interception must be built into the boundaries.

H. Restrooms

1. Better-planned schools provide noise reduction treatment in restrooms, as well as special sound interception measures within the room boundaries.

I. Music Rooms

1. Choral, band, and orchestral rehearsal rooms require critical reverberation control over a wide range of pitches.

2. Maximum noise reduction is not the correct solution.

3. Individual practice rooms are usually most satisfactory when provided with maximum noise reduction treatment.

4. Maximum sound interception is advisable.

5. Special attention should be given to ensure that strategic walls are not reduced in sound interception capabilities by the insertion of clocks, electrical outlets, or ventilating grilles.

J. Auditoriums

1. From the standpoint of noise control, the auditorium is one of the most critical rooms in the entire unit or plant.

2. The level of noise (including that from the ventilating system, heating system, water supply, and external sources) must be kept low.

3. Adequate barriers must be provided to intercept sounds from such sources as traffic and mechanical equipment rooms.

4. The proper acoustical environment of the auditorium is a highly scientific problem; therefore, technical assistance from an acoustical engineer should be secured in order to provide a reasonable environment.

K. Heat Plant

1. Isolated from pupil-occupied areas by location and/or treatment.

1104 SPATIAL AND AESTHETIC ENVIRONMENT

The school facility is designed, constructed, equipped, and maintained in a manner, which provides an effective, efficient, safe, and attractive facility and represents the educational philosophy outlined in the CEFP.

1105 BALANCED CONDITIONING OF SPACES

1105.01 The form of the facility follows the educational function and is designed to achieve adequate and economical conditioning of educational spaces and must be done by specialists (e.g., architects, engineers, or certified school planners) that are highly specialized in each of the separate major fields involved.

1105.02 When value engineering is required, the following list of priorities should not be compromised to assure maximum functionality during the life cycle of the building:

- A. The safety, health, and comfort of teachers and students
- B. The operational success of the educational program
- C. The protection of the investment in the building
- D. The maintenance and repair budget

1106 FIRE INSURANCE

1106.01 Some economy in the lifetime operation and maintenance of a building may be achieved when future fire insurance assessments are considered in the planning stages.

1106.02 Items Affecting Insurance Premiums

- A. The building's exposure to adjacent properties not under the jurisdiction of the Board of Education
- B. The location and treatment of "hot spots" - potential hazards - within the building
- C. The degree of internal and external protection, such as heat and smoke detectors, sprinklers, extinguishers, and alarms
- D. The degree of fire-resistance of component construction materials and of the building totally

1106.03 For new construction, insurance values and costs can be estimated by having plans and specifications reviewed by the West Virginia Board of Risk and Insurance Management.

1107 ROOFS

1107.01 Unless waived in exceptional circumstances, all new roof areas shall have a minimum slope as per WV Code §5-6-16. This shall include roofs with built-up membrane, as well as single-ply membrane systems.

1107.02 Roof plans shall indicate the location of all walkway pads from roof hatches to and around major HVAC equipment.

1108 WATER/SEWAGE FACILITIES

126CSR172

All schools shall contain adequate service facilities that are designed, constructed, maintained, and equipped to facilitate the operation of the school.

1108.01 Sanitary Facilities - Water Supply and Sewage Disposal

The water supply and sewage disposal systems of all schools are designed, constructed, maintained, and equipped to facilitate the operation of the schools. The sanitary facilities systems meet all requirements of state and federal regulatory agencies. Restroom facilities are ADA accessible and are provided on each floor level of the building and contain hot and cold water mixing faucets and provisions for privacy. Paper towels and toilet tissue are provided at all times. Service sinks with hot and cold water are provided in each custodial closet, in the custodial general service area, and in the food service area.

1108.011 Adequate source of water supply that is both safe and potable. Tests to verify the quantity and sanitary quality must be conducted prior to the occupation of the school. The state and/or local health departments welcome the opportunity for consultation regarding water conditions prior to site selection or acquisition.

1108.012 Ample supply and storage of water should be available at all times for present and future expanded needs. The quantity of water shall meet the appropriate code requirements.

1108.013 Water must be safe for use, as determined by state and/or local health authorities, and maintained safe by protection of source of supply, treatment if necessary, and periodic analysis.

1108.014 Sewage disposal system design requires the technical services of a licensed sanitarian. The type of installation depends upon the character of the soil as determined by percolation tests, location of wells, and sources of water supply. State and local health departments will provide maximum assistance in the development of approved sewage disposal systems in rural and suburban areas.

1108.015 The sanitary protection of an individual water supply and/or sewage disposal system shall be upgraded to meet current standards when any renovation or addition is to be provided at an existing school.

1108.016 All on-site water supplies and extended aeration treatment sewage plants will require personnel that are properly certified by the West Virginia Department of Health to operate these systems.

1108.017 All hydronic systems shall have an approved back flow preventer device placed on the make-up water line to prevent contamination of the potable water supply. All laboratories shall be isolated from the remainder of the school by an approved back flow preventer device on the water line. Back flow preventer devices are to be shown on plans submitted for review and included in the specifications to the West Virginia Department of Health.

1108.018 The required ratio of toilets, urinals, lavatories or wash fountains and drinking fountains shall be maintained when a renovation or an addition enlarges due to school population.

1108.02 Restroom Facilities

Federal regulations demand that restrooms shall have at least one toilet stall and meet ADA standards.

126CSR172

1108.021 Restroom facilities should be provided for both sexes on each floor level of the school building. Some economy may be achieved if restroom rooms are located adjacent to each other with common utility space between for servicing; the same is true in multi-story buildings, where restrooms may be located one above the other.

1108.022 Entrances to restrooms must be designed to prevent direct and indirect visibility from the corridor.

1108.023 Restrooms for public use should be conveniently available to the auditorium, gymnasium, and other parts of the building commonly used by the public. Students' general restrooms may be strategically located for public use in some cases.

1108.024 Restroom floors shall be of an appropriate material that is conducive to sanitation and cleanliness needs.

1108.025 Wall surfaces should be of impervious material, such as glazed tile, to a height of at least 6 feet, and preferably to the ceiling.

1108.026 Provide stall restroom partitions with doors of smooth nonporous and non-rusting material. These should be securely anchored to the floor and wall.

1108.027 Floor drains, hose bibs, and clean-out plugs should be provided in group restrooms.

1108.03 Plumbing Fixtures

1108.031 Service sinks with hot and cold water should be provided in each custodian's closet, in the custodian's general service room, and in the cafeteria-kitchen. Vacuum breakers should be installed on sink waste lines.

1108.032 Hydrants, tamper proof and frost proof, should be provided at least every 120 feet around the perimeter of the building and on each roof level where the roof mounted HVAC system requires water for periodic maintenance. Underground stop and water cocks shall not be permitted on frost-proof hydrants.

1108.033 All piping and valves in the plumbing system should be tagged for identification, and a chart of plumbing layouts should be readily accessible.

1108.034 The plumbing fixture requirements shall meet the requirements of the International Plumbing Code or the counties requirements whichever is more stringent.

1109 ELECTRICAL SERVICE

The electrical system of each school is designed, constructed, maintained, and equipped to facilitate the safe operation of the school. The electrical system provides adequate service for present and anticipated loads to ensure maximum efficiency and meets all requirements of applicable state regulatory agencies and the National Electrical Code.

1109.01 Electrical Requirements

- A. No conduit less than 3/4 inch shall be installed
- B. Electrical circuits shall not share common neutrals
- C. All electrical circuits shall have full-size neutrals
- D. Underground service entrances shall have approximately 50% spare conduit capacity with a minimum of one spare conduit.
- E. All feeder panels that are remote from the main distribution center shall include a main circuit breaker
- F. MC cable shall not be used in concealed locations
- G. MC cable can be used for lighting connections only when distances do not exceed 6 feet.
- H. Single-phase protection on three-phase equipment.
- I. Transient voltage surge suppressors (TVSS) for computers and specialty electronics.
- J. Standby generators for schools that may be used by emergency services for hospitals or other emergency purposes by the local or general populations. The generator should have the capability to power emergency lighting, phone systems, walk in freezers and refrigerators and selected HVAC units.

1110 MULTI-MEDIA FACILITIES

All schools shall be designed, constructed, maintained, and equipped to provide the multi-media facilities required for the educational program of the school.

1110.01 Instructional spaces and production areas should be furnished to permit the use of all types of multi-media materials and equipment.

1110.02 Adequate provision for controlling the light level in instructional areas is essential.

1110.03 Duplex electric service receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits should be in each room.

1110.04 Where there are to be specialized facilities, such as language labs, study carrels, microteaching, and television, adequate provisions should be made for the electrical service using flush and recessed electrical fixtures, and prohibit possible use of floor mounted fixtures.

1110.05 Conduits shall be provided to permit future installation of network computer drops, television, and other electronic instructional devices.

1110.06 System conduits shall be of sufficient size, no smaller than 3/4 inch, to provide for installation of television and other teaching devices.

1110.07 A projection surface should be permanently installed in each instructional area.

1110.08 Media production centers and photographic darkroom facilities should be provided with adequate sinks for hot and cold running water where the school curriculum dictates the need for this program.

1110.09 Adequate ventilating facilities, including exhaust fans, shall be installed in production

areas for the removal of fumes resulting from the use of volatile organic compounds or other undesirable odors.

1110.10 For preservation of book and non-book materials and equipment, temperature and humidity control are essential.

1110.11 Use of audio devices mandates acoustical treatment, as per ASA guidelines, of walls, ceilings, and floors in instructional areas and media centers.

1110.12 Adequate display and exhibit facilities, including such things, as magnetic boards, instructional boards, bulletin boards, and showcases, are required.

1110.13 Adequate storage facilities for materials such as supplies, book and non-book materials, and equipment are required.

1111 COMMUNICATION AND PROGRAM FACILITIES

All schools are designed, constructed, maintained, and equipped to facilitate adequate intercommunication among major areas of the school plant. All schools contain a master clock, a signal and tone system, and telephone for outside communication. All schools should consider guidelines from CPTED concerning communications for safe schools. In new construction, consideration should be given to installing closed-circuit video.

1112 FIRE ALARM SYSTEM

1112.01 Fire alarm signals shall be of the continuous type, shall be distinctly different from all other signals or sounds, and shall comply with the State Fire Code and the appropriate NFPA codes. The State Fire Marshal recommends fully addressable fire alarm systems.

Chapter 12
REGULATORY AND POLICY PROCEDURES

1201 CONTENT OF DOCUMENTS SUBMITTED FOR APPROVAL

1201.01 Schematic Design Phase

1201.02 Design development plans, final educational specifications, and building outline specifications should include the following items.

A. Plot plan, which includes size and shape of site, orientation, general topography, location of existing and new buildings, streets and highways, means of sewage disposal, and tentative development of the site.

B. Floor plans showing existing and new buildings (minimum scale of 1/16 inch), type of wall, floor, partition, roof and stair construction, size and purpose of rooms, stairs, corridors, doors, windows, plumbing fixtures, built-in equipment, HVAC system type, building automation system type, and probable future additions.

C. Elevations, at least one side of the building, overall dimensions, finished floor and ceiling levels, finished outside grade level, windows, doors, steps, retaining walls and materials

D. Sections explaining any conditions not made clear on other drawings

E. Proposed service connections, including gas, water, electricity and sewer, name of public service district or provider, and location of wells and sewage disposal system, if any

F. Updated outline specifications to augment information shown on drawings

1201.03 Final Plans and Specifications

These shall include the following:

A. Site or plot plan - size and shape of site, adjoining streets, highways and walks, position of existing and new buildings on the site, location and connections of all service lines, finish contours with finish grades at building and elevation of first floor rooms, location of wells and sewage disposal system, if any, general landscaping and location of walks, driveways, parking areas, and exterior steps

B. Floor plans showing existing and new buildings (each floor and roof at not less than 1/8 inch scale), footings and foundations, dimensions and schedules showing type and size of each door and window, complete figures so that size and thickness of walls and partitions can be readily determined, level of finished floors, furred walls and ceilings, door swings, location of built-in equipment, floor construction, run, dimensions and spacing of joists and girders, notation of safe live loads, and materials.

C. Elevations for all sides (same scale as architectural plans)

D. Sections (same scale, or larger, as that of floor plans), to show clearly special conditions, typical stairs, instructional spaces and corridors, equipment and fixtures, floor construction, levels and thickness, wall and ceiling construction, typical windows, interior and exterior doors, finish material, roof construction, fire barriers, and smoke partitions.

E. Details (larger scale) showing typical exterior wall sections, footings, foundations, floors, windows, cornice and roof, all vertical dimensions, each type and size of door with glazing and paneling, frame and trim, each type of window, together with distances to floor and ceiling, stairs, including risers, treads, handrails, newels and landing lines, instructional board, bulletin board, trim, chalk troughs, built-in equipment, counters, cupboards and drawers, and wardrobes, unless of standard manufacture

F. Plumbing plans, including foundation drain lines, storm, acid, and sanitary sewer lines, complete water supply system and location of all plumbing fixtures, including hose cabinets and sewage disposal system

G. HVAC plans showing the BAS system (if applicable) and the size and type of heating and cooling unit. The plans shall also include all connections; pumps; supply and return lines with sizes, valves and slopes; motors; air-handling equipment; fans, including types, periphery speed, locations, sizes and capacity of all ducts, grilles, and ventilator

H. Electrical plans using standard symbols to show all connections, inside and outside, location of wall, floor and ceiling outlets or receptacles, location and size of all conduits, capacity of outlets, network drops, location and details of switch panels, circuit breakers and fusing, location and connections for all bells, alarms, clocks, and special outlets, and types and designs of lighting fixtures

I. Structural plans showing all concrete and steel columns, beams, trusses, girders, joists, slabs and reinforcing, fireproofing of structural members, details, diagrams and schedules as required for a complete understanding of plans

J. Complete specifications augmenting the information shown on the drawing, giving details on construction materials and methods, mechanical equipment and installations and tests. In general, specify all window shades, restroom accessories and lockers and all other permanent equipment forming an integral part of the building.

K. Final technology plan

L. Final estimate of probable cost, including total project cost and final budget.

1202 STANDARDS FOR ARCHITECTURAL OR ENGINEERING SERVICES

1202.01 The project architect or engineer will provide services, plans, and specifications, which may be executed within the project budget. It becomes the architect's responsibility to identify if the project funding is sufficient to meet the project requirements at the earliest possible point in the process and offer options to keep the project with funding limitations in order to construct a facility within the budget and to comply with county boards of education and WVDE requirements.

1202.02 It shall be the responsibility of the project architect or engineer to assure that the project meets the requirements of this policy and to assure the legitimacy of bidders.

1202.03 Basis for Determining Architect's and Engineering (Design Professional) Fees

A. The Design Professional compensation for the basic services discussed above is usually based on one of the following methods:

1. Percentage of construction cost of the work
2. Fixed lump sum fee
3. Professional fee plus reimbursement of expenses
4. Multiple of direct personnel expense
5. Salary, per diem or hourly rate

B. Counties may contact the SBA with questions concerning architectural and engineering services

1202.04 The Architect's Agreement

No services should be rendered by the architect, design professional, or engineer without a definite understanding as to the scope of services and the fee basis. This contract is for the protection of both the client and the Design Professional. Where SBA funds are used the contract for design services must be approved by the SBA.

1202.05 If the county Board of Education employs a commissioning agent to assure that the HVAC system is designed and installed in accordance with the county's requirements, it is required that

the employment meets the WV Code, Article §§5G-1-1 to §§5G-1-4.

1203 TRADITIONAL TASKS PERFORMED IN SCHOOL BUILDING PROGRAMS

1203.01 Tasks listed are those generally performed during the completion of a satisfactory construction project. The sequence of tasks is not always the same, nor is the time allotment always the same.

1203.02 Care should be exercised by the owner (County Board of Education) when undertaking any project to assure that all activities are in accordance with statutory and regulatory provisions and that the investment is adequately protected at all times.

1203.03 It is highly recommended that the LEA should not act as its own contractor nor utilize maintenance employees in constructing new school buildings or additions to school buildings without guidance from the WVDE or SBA.

1203.04 School Construction Project Development Flow Chart is available through the WVDE Office of School Facilities and Transportation or SBA.

1205 FINAL INSPECTION AND PROJECT CLOSEOUT

1205.01 When a project is completed, the county must complete a Certification of Project Completion form and submit it to the SBA. Following receipt of the BP-13-A, the appropriate agencies will contact the county and schedule a final inspection. A final inspection of completed construction must be conducted by the project architect, the contractor, the State Fire Marshal, WVDE, and the SBA project representative. Additional project closeout documents for SBA funded projects are found in the SBA Guidelines and Procedures Handbook.

NOTE: A certificate of occupancy must be acquired from the Fire Marshal's Office, before any completed construction can be occupied.

1205.02 Upon completion of any necessary corrections and subsequent inspection, official final acceptance of the project will be made.

1205.03 For the sake of illustration, the following list contains items, which should be examined during the final inspection to assure compliance with final plans and specifications. Examine for proper type, location, installation, finish, cleanliness, mounting heights, operation and as-built drawings. The following building systems should be inspected:

SITE AND DEVELOPMENT

- | | |
|----------------|-------------------------|
| Finish Grading | Seeding |
| Landscaping | Walks and Ramps |
| Drives | Parking Areas with Curb |
| Fencing | Cuts |
| Playground | |

BUILDING EXTERIOR

- | | |
|----------------------|-----------------|
| Foundation | Wall Surfaces |
| Window & Door Frames | Glass & Glazing |

126CSR172

Railing Roof Surface
Flashing Trim
Drains School Name

BUILDING INTERIOR

Floor Surfaces Wall Surfaces
Ceiling Surfaces Acoustical Materials
Doors & Frames Door Hardware
Thresholds Window Hardware
Instructional boards Bulletin Boards
Wood & Metal Trim All Surface Finishes

PLUMBING, WATER, GAS

Fixtures Shut-offs
Clean-outs Drainage System
Special Toilets

ELECTRICAL SERVICE

Switches & Plates Distribution Panels
Lighting Fixtures Fire Alarm System
Clock & Program System Emergency Lighting
Telephone System

HVAC

HVAC System HVAC Controls
Air System Balance Report HVAC System Start-up
Water System Balance Report Report

EQUIPMENT AND FURNISHINGS

Lockers Extinguishers
Refrigeration Fountains
Display Cases Kitchen Equipment
Elevators

1206 ON-SITE INSPECTION OF FACILITIES FUNDED BY THE SCHOOL BUILDING AUTHORITY OF WEST VIRGINIA OR THE WEST VIRGINIA BOARD OF EDUCATION

1206.01 Annual on-site inspections of school facilities funded totally or partially with funds from the SBA or the WVBE shall be conducted.

1206.02 These inspections shall be conducted at all SBA "Needs" and "Emergency" funded projects or WVBE funded projects resulting in new building construction, renovations, and/or additions

of \$1,000,000 or greater completed in the last ten years.

1206.03 The on-site inspections shall be conducted by appropriate personnel of the WVDE.

1206.04 The on-site inspection shall be separate and in addition to school accreditation on-site reviews that may be performed by the Office of District and School Advancement as required by West Virginia Code §18-2E-5.

1206.05 The instrument used for the purpose of an on-site evaluation shall be the School Facilities Evaluation form.

1206.06 A comprehensive report of the inspection shall be submitted to the WVBE within thirty (30) days of the inspection date by the Office of School Facilities.

1206.07 Copies of each comprehensive report shall be forwarded to the SBA, the county superintendent and county maintenance director of the evaluated school.

1206.08 An action plan addressing intended corrections and appropriate time lines for compliance, regarding all items identified during the evaluation as "Recommendations", shall be submitted to the SBA and the WVBE by the county superintendent within forty-five (45) days of receipt of the comprehensive report.

1206.09 The SBA or the WVBE shall determine by inspection if the corrective action plan has been implemented within the appropriate time period. In the instance of noncompliance, the WVBE shall restrict the use of necessary funds or otherwise allocate funds from moneys appropriated by the West Virginia Legislature for those purposes set forth in West Virginia Code §18-9D-16 and §18-9A-9.

1207 IMPOSING REQUIREMENTS FOR INSTALLING WATER BOTTLE FILLING STATIONS IN NEWLY CONSTRUCTED PUBLIC-SCHOOL BUILDINGS AND EXISTING PUBLIC-SCHOOL BUILDINGS UNDERGOING A MAJOR IMPROVEMENT.

1207.01. As used in this section, these words have the following meaning:

A. "Construction project" means a project in the furtherance of a facilities plan with a cost of greater than \$1,000,000 for the new construction, expansion, or major renovation of the facilities, buildings, and structures for school purposes, including:

1. The acquisition of land for current or future use in connection with the construction project;
2. New or substantial upgrading of existing equipment, machinery, or furnishings; and
3. Installation of utilities and other similar items related to making the construction project operational.

4. "Construction project" does not include such items as books, computers, or equipment used for instructional purposes; fuel supplies; routine utility service fees and routine maintenance costs; ordinary course of business improvements; and other items which are customarily considered to result in a current or ordinary course of business operating charge or a major improvement project.

B. "Major improvement" means a project meeting one or more of the following:

1. Increasing the square footage of a school by more than 5,000 square feet; or
2. Any renovations or upgrades to a school with a cost greater than \$500,000 where plumbing work constitutes more than 20 percent of the project's construction cost.
3. "Public school" means any school under the general supervision of the West Virginia Board of Education pursuant to section two, article XIII of the Constitution of West Virginia and includes any charter school pursuant to §18-5G-1 et seq. of W. Va. Code.

C. "Water bottle filling station" means a station to which the following apply:

1. The station is designed to fill a bottle with water;
2. The station dispenses filtered drinking water;
3. The station may be integrated into a drinking fountain; and
4. The station shall be touchless for sanitary reasons.

1207.02. Plans for new construction and major improvements of public-school buildings required to provide sufficient water bottle filling stations.

A. Newly constructed public-school buildings shall include the following:

1. A minimum of one water bottle filling station on each floor and wing of each public-school building;
2. At least one water bottle filling station in all school food service areas;
3. At least one water bottle filling station near gymnasiums and outdoor learning and activity areas, including playgrounds and athletic facilities; and
4. A minimum of at least one water bottle filling station per 200 building occupants projected upon completion of the projected construction.

B. Existing public-school buildings undergoing a major improvement shall include a minimum of half of the facility's existing water coolers being retrofitted or replaced to provide water bottle filling capability and be made ADA compliant. Pending the availability of a water supply line and sanitary plumbing, the preferred placement of these stations shall be in the following areas:

1. School food service areas;
2. Near gymnasiums and outdoor learning and activity areas, including playgrounds and athletic facilities; and
3. Grouped toilet areas.

C. Any water bottle filling station installed in a public-school building shall:

1. Dispense filtered, clean drinking water;
2. Be touchless for sanitary reasons;
3. Be regularly cleaned to maintain sanitary conditions; and
4. Be regularly maintained to ensure proper functioning.

5. County boards shall adopt a policy to permit students in schools with one or more water bottle filling stations to carry water bottles.

1208 REGULATION OF FLOOR COVERINGS IN PUBLIC SCHOOL BUILDINGS

1208.01. When floor covering is selected for installation or replacement in any public-school building in compliance with this policy, it is highly recommended that special consideration be given to health concerns and maintenance with respect to the following areas: in classrooms for grades K-2,

computer labs, libraries/media centers, teachers lounges, auditorium aisles and walkways, music rehearsal rooms, and administrative offices.

1208.02. When floor covering is proposed for installation or replacement in an existing and/or new facility, documentation must be provided to the School Building Authority and the West Virginia Department of Education by the local education agency and/or its architect that such use will enhance the effectiveness of the teaching environment.

1208.03. When floor covering is in use in any new or existing school facility, custodial staff for that facility will receive instruction on maintenance of the floor covering and, on the manufacturer's/industry's recommended methods of care and frequency.

1208.04. All floor covering must meet federal, state, and local regulatory requirements for school applications. The floor covering specified and floor covering installation must meet industry standards including, but not limited to, off gas release, the reduction of microbial growth, and must be specifically designed and endorsed for this application.

TITLE 126
LEGISLATIVE RULE
BOARD OF EDUCATION

SERIES 173
FLOOR COVERING IN PUBLIC SCHOOLS (6201)

§126-173-1. General.

1.1. Scope. -- This legislative rule provides for the selection of the appropriate floor covering in West Virginia's public schools. This rule also provides the parameters to use floor covering in schools based on user needs and the performance specification of the floor covering.

1.2. Authority. -- W. Va. Code §18-9E-3 (Revised).

1.3. Filing Date. -- July 14, 2000.

1.4. Effective Date. -- August 14, 2000.

§126-173-2. Program Regulation.

2.1. When floor covering is selected for installation or replacement in any public school building in compliance with Policy 6200, it is highly recommended that special consideration be given to health concerns and maintenance with respect to the following areas: in classrooms for grades K-2, computer labs, libraries/media centers, teachers lounges, auditorium aisles and walkways, music rehearsal rooms, and administrative offices.

2.2. When floor covering is proposed for installation or replacement in an existing and/or new facility, documentation must be provided to the School Building Authority and the West Virginia Department of Education by the local education agency and/or its architect that such use will enhance the effectiveness of the teaching environment.

2.3. When floor covering is in use in any new or existing school facility, custodial staff for that facility will receive instruction on maintenance of the floor covering and on the manufacturer's/industry's recommended methods of care and frequency.

2.4. All floor covering must meet federal, state, and local regulatory requirements for school applications. The floor covering specified and floor covering installation must meet industry standards including, but not limited to, off gas release, the reduction of microbial growth, and must be specifically designed and endorsed for this application.

**W. Va. 126CSR172, Policy 6200, Handbook on Planning School Facilities
Comment Response Form**

Comment Period Ends: August 15, 2022

NOTICE: *Comments, as submitted, shall be filed with the West Virginia Secretary of State's Office and open for public inspection and copying for a period of not less than five years.*

The following form is provided to assist those who choose to comment on **Policy 6200, Handbook on Planning School Facilities**. Additional sheets may be attached, if necessary.

Name: _____ Organization: _____

Title: _____

City: _____ State: _____

Please check the box below that best describes your role.

Please check the box below that best describes your role.

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> County Board Member | <input type="checkbox"/> Professional Support Staff | <input type="checkbox"/> Service Personnel | <input type="checkbox"/> Higher Education |
| <input type="checkbox"/> Superintendent | <input type="checkbox"/> Principal | <input type="checkbox"/> Parent/Family | <input type="checkbox"/> Legislator |
| <input type="checkbox"/> Central Office Staff | <input type="checkbox"/> Teacher | <input type="checkbox"/> Community Member | <input type="checkbox"/> Other |

COMMENTS/SUGGESTIONS
§126-172-1. General.
Handbook on Planning School Facilities. Chapter 12, Section 1207. Imposing Requirements for Installing Water Bottle Filling Stations in Newly Constructed Public-School Buildings and Existing Public-School Buildings Undergoing a Major Improvement.
Handbook on Planning School Facilities. Chapter 12, Section 1208. Regulation of Floor Coverings in Public School Buildings.
Repeal of W. Va. 126CSR173, Policy 6201, Floor Covering in Public Schools

**W. Va. 126CSR172, Policy 6200, Handbook on Planning School Facilities
Comment Response Form**

Please direct all comments to:

Samuel E. Pauley, School Operations Officer
Office of School Operations and Finance
West Virginia Department of Education
Capitol Building 6, Room 650
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0330
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