



## **PLANCON**

### **PART B: SCHEMATIC DESIGN**

COMMONWEALTH OF PENNSYLVANIA  
Department of Education  
Bureau of Budget and Fiscal Management  
Division of School Facilities  
333 Market Street  
Harrisburg, PA 17126-0333

## **PART B: SCHEMATIC DESIGN**

Part B "Schematic Design" is an architectural conference to review schematic plans. Note that there are no Part B forms; submit all Part B documents with Part A "Project Justification."

If there are any questions regarding the completion of these materials, contact the Division of School Facilities at (717) 787-5480.

### **GENERAL INSTRUCTIONS**

The school district's architect should schedule the schematic review(s) as early as possible in the design process. Normally, the conference can be scheduled within two to three weeks of calling for an appointment. PlanCon Parts A and B must be approved by the board prior to the date of the scheduled architectural review. If the board has not yet approved PlanCon Parts A and B submittals, the review will not be held.

The purpose of the conference is to discuss and to provide suggestions on the development of the site and building with respect to the safety and welfare of the students, desirable spatial relationships, design efficiency, and the potential for expansion and change. Other topics such as school and community facility use are also covered. Due to the nature of this review, the PlanCon Part B architectural conference typically is held in person; however, a telephonic review may be held at the direction of the PDE staff architect.

The architect of record or an architect contracted with the architect of record for this project must attend the architectural review conference. The architect attending the architectural review conference must be registered in Pennsylvania and must be knowledgeable about the project.

A school district administrator who is knowledgeable about the project and the educational program must be present at the schematic review conference. School board members may also attend.

The scale of schematic site and floor plans must permit reasonable understanding and discussion of the design objectives defined below. **Label each space within the space on the drawing. Do not label by number and legend.** Schematic drawings may be done freehand and as single-line drawings.

Pictures and videos showing existing building and site conditions may be submitted, but are not required.

### **PROJECT SITE PLAN DRAWING**

Provide a drawing of the site that clearly depicts site features pertinent to the project. These features could include the following:

- Approximate location of property lines, fencing and public roads
- Location and orientation of building and athletic fields to sun's path (North arrow)
- Land to be acquired as part of the project
- Rights-of-way, easements and utilities
- Location of flood plains, wetlands and other potential environmental problems as well as anticipated locations of stormwater detention basins
- Adjacent residential, commercial and industrial developments
- Existing and proposed location of project building, as well as other school buildings and structures planned in the future on this site
- Pedestrian access to the building
- Student access to athletic fields and play areas from the building
- Bus circulation for unloading and loading students
- Separation of bus traffic from other vehicular traffic

- Separate student drop off and pick up by private automobiles
- Location of, access to and parking for community use areas, such as athletic fields, cafeterias, gymnasiums and auditoriums
- Off-site work necessary for the full functioning of the project building and site (separate drawing may be necessary)

#### **PROJECT BUILDING FLOOR PLAN DRAWING**

Provide a drawing(s) of the building's floor plan that clearly shows the following. Distinguish between existing conditions and proposed new work:

- Location and identification of new additions to existing building
- Location of major entrances to be used by students and community
- Facilities to be used by the community, including toilet areas, and the means of restricting access to the rest of the building
- Identification of all spaces in the building
- Location of areas for service delivery, recycling and waste removal

#### **PROJECT BUILDING SCHEDULED AREA FLOOR PLAN DRAWING**

Provide a drawing(s) of the building's scheduled area floor plan with the perimeters of the calculated scheduled areas highlighted in a contrasting color on the building floor plan. Use a different color to differentiate existing spaces from newly constructed spaces. Label the name of each space inside the outlined areas.

#### **PROJECT EDUCATIONAL SPECIFICATIONS**

Provide one copy of the educational specifications. Educational specifications should distinguish between required and optional features. For vocational projects, craft committee recommendations serve as the educational specifications (see below for additional direction).

Educational specifications document for the architect, school district, community and the Department of Education the educational philosophy reflected in a project's design. They highlight the educational, administrative and community needs for each usable space in the project building, as well as site features both on- and off-site considered necessary to meet these needs, and indicate how each component must be designed to meet these needs.

Educational specifications document the design objectives of a project, as well as the characteristics and relationships to be achieved on both the site and the building of a project. They describe the characteristics and objectives to be achieved in the proposed building/alteration project. Educational specifications are the written expression or direction by the school district to the project architect.

Guidance and assistance by the administration should be available to all working groups while they are developing their reports. Information received should be evaluated to bring about a reasonable balance of facilities, areas, features, and equipment.

The following topics should be considered in the educational specifications:

##### **THE SCHOOL SITE**

- School activities
- Community activities
- Vehicular circulation and parking
- Separation of auto and service circulation from buses
- Elimination of potential nuisances and hazards
- Play and athletic opportunities
- Park and natural areas
- Safety

- Reasonable maintenance
- General appearance of the public land

#### **SPACES IN THE BUILDING**

- Identify educational, community and other activities for each space
- Identify users, numbers involved in various activities
- Number and size of needed spaces; dimensions if necessary to accommodate certain activities
- Characteristics of the spaces
- Community use of certain spaces while access to the remainder of the building is restricted

#### **RELATIONSHIPS OF SPACES**

- Close relationships (adjacency)
  - By grade or department, with library centrally located
  - Sciences, technical education, mathematics
  - Arts, technical education, home economics
  - Music, auditorium, etc.
  - Physical education facilities
  - Services to the building, receiving, custodial, storage, trash, boiler room
  - Health and Building Administration
  - Main Entrance and Building Administration (for security)
- Distant relationships (isolation)
  - Music
  - Physical Education
  - Industrial Arts/Technology Education
  - Building services

#### **OTHER CONSIDERATIONS**

- Efficiency of design; maximum use of space
- Ease of change and expansion in the future
- Quality and maintenance of materials and equipment
- Energy conservation
- Sustainable school design (high performance/green design)
- Accommodation for persons with disabilities
- Supervision and safety on the site and in the building
- Security systems
- Provisions for privacy and supervision in the health suite, guidance and building administration areas

**For vocational projects**, Craft Committee Recommendations must be prepared by an advisory committee or an individual or group that represent the trade(s) and sign off on each program or group of related programs (i.e., Health Science, Automotive, Business, Information Technology, etc.). Advisory committees generally meet at least once a year to discuss and make recommendations on such matters as the need for a particular shop, laboratory, occupation, equipment, curriculum, labor management coordination, business and industrial requirements or selections of personnel.

The Craft Committee Recommendations must describe the educational program objectives as well as the spatial requirements for each vocational program. The name(s) of the program(s) and the CIP codes for each program must be listed on the paperwork for proper identification.

**PLANCON ARCHITECTURAL REVIEWS**  
**TOPICS FOR DISCUSSION**

PROJECT SITE PLAN DRAWING:

- Location of property lines, fencing and public roads
- Residential, commercial and/or industrial development adjacent to the site boundaries
- Existing and proposed location of project building, other school buildings and structures planned in the future on this site (all existing and future buildings on the site to be indicated and labeled Existing or New)
- PennDOT review and permits for changes to state roads adjoining the site
- Separation of bus loading and unloading area from the student and visitor drop-off area. Method of separation (traffic patterns, signage, personnel directing traffic, etc.)
- Bus circulation for unloading and loading students
- Service delivery access restrictions during daytime hours
- Additional site acquisition related to the project
- Pedestrian access to the building from on and off site
- Number of students walking to the site
- Student access to athletic fields and play areas from the building
- Location of, access to, and parking for community use areas, such as athletic fields, cafeterias, gymnasiums and auditoriums
- Location of buildings, structures, site conditions or site features that are more than fifty years old
- Off-site work necessary for the full functioning of the project building and site
- Location and orientation of building and athletic fields to the sun's path
- Access roads to the site. Emergency access if roadway is blocked
- Separate structures that contribute to the educational program with scheduled area or capacity
- Timeline for removing modular classrooms
- Project site in a county subject to mine subsidence; E-07 submission
- Clear delineation on all plans between the scope of work of this project building and other structures or site improvements that are not part of the scope of work of this project
- Methods used to minimize potential hazards associated with stormwater detention or retention basins
- Municipality's zoning and land use requirements

- Wells, underground storage tanks, on-site sanitary sewage plants, stormwater basins, flood plains, wetlands, sinkholes, potential environmental hazards, right-of-ways, easements, and utility crossings located on the site
- Location of and proposed mitigation to address high hazard areas (floodplain, subsidence or landslide-prone areas)
- Impact on natural resource features, environmentally sensitive areas such as wetlands, surface and groundwater resources, air quality, agricultural lands and historic resources
- Rehabilitation or reuse of existing buildings; adaptive reuse of significant architectural or historic resources or buildings
- Access to existing roadways and public transit, sidewalks, connected walkways and bikeways, greenways, parks and open space amenities
- Access to existing public or private water and sewer capacity and services
- Quantities and costs for rough grading cut and fill volumes
- Type of resilient surface at play fields. Method of maintenance if using loose material such as sand, gravel, wood chips, etc.
- Design standards for playground equipment
- Age groups for which playground equipment is designed
- Physical barriers installed at outer perimeter of the site to exclude trespassers
- Signage directing staff, students, and visitors to parking areas
- Signage directing visitors to the main office

FLOOR PLAN DRAWING:

- Recommendations of the local fire department if the plans have been reviewed
- Recommendations of law enforcement authorities or security consultant if a security analysis of the building and site has been performed
- Building security hardware: hinge pin protection and locking mechanism pick plates on exterior doors, windows, roof hatches, interior and exterior boiler room doors and power supply room doors
- Exterior windows: locking method and window operation/swing configuration
- Dumpster locations
- Emergency power backup system connection
- Method of communication between office and classrooms, duty stations, and remote portions of the building or site for emergency purposes

- High Performance green building standards - U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) and Green Building Initiative's Green Globes building performance rating systems; energy modeling, U.S. EPA/DOE Energy Star Benchmarking, Phase II environmental site assessments, building commissioning, acoustical studies, life cycle costing, minimize site impact, water use reduction and innovation in design.
- Consistency with county and local municipal comprehensive plan (or county and multi-municipal plan)
- Building codes that are applicable to this project
- Methods designed to meet health and safety standards related to the use of wood framing (interior or exterior framing that is wholly or partially of wood) in a project building of more than one story
- Documentation used to determine existing architectural area - field measurements, as-built drawings, or both
- Sharing of the project building's heating, mechanical, plumbing, or electrical systems, or educational program with another building on the same or an adjacent site
- Additions to the existing building
- Identification of all spaces in the building
- Areas located under existing overhead structure indicated on "Existing" columns on room schedules; areas located under new overhead structure indicated on "New" columns on room schedules
- All entrance and exit doors, as well as all doors leading to or from all regular, special, and general rooms, outswinging in school buildings erected after May 1, 1925 (24 P.S. § 7-739)
- Major entrances to be used by students and community
- Methods of security surveillance when the building is locked during school hours
- Building evacuation procedures for weather emergency, accident, criminal or terrorist incident
- Building administration location
- Facilities to be used by the community before, during and after hours, including toilet areas, and the means of restricting access to the rest of the building
- Venting of existing or new crawl spaces. Indoor air quality, mold or fungus issues
- Universal accessibility of stage
- Safety concerns related to double-loaded stage with flexible curtains at each stage edge
- Path of trash and recyclables from the building to the loading dock

- Location of areas for service delivery, recycling and waste removal
- Special education room locations
- Visitor access to bleachers
- Sightlines from corridors at toilet and locker rooms
- Location of Family and Consumer Science cooking devices and serving tables
- Acoustical privacy in the Health Suite/Nurse's Room
- Location of Health Suite/Nurse's Room and ambulance access
- Deck space in natatorium for instruction adjacent to pool
- Safety and security aspects of clerestory windows and skylights in project building
- Glare on computer screens, playing courts, or water surface
- Durability of materials on exterior and interior wall surfaces near high pedestrian and/or vehicular traffic areas
- Location of district administration offices (grouped together in order to qualify for reimbursement)

PROCESSING OF PLANCON APPROVALS:

- Outstanding issues affecting PlanCon approvals
- Architect attending the architectural review a registered architect in Pennsylvania (required for PlanCon projects)
- Architect of Record contracted for all parts of PlanCon
- The architect attending the review a contractual representative of the Architect of Record
- Costs of project renovations and the 20% Rule for Alteration Costs
- Fully functioning building, site and required offsite improvements
- Changes in the scope of work for the Site, Building, and/or Educational Program since the submission of PlanCon Part A "Project Justification," if applicable
- District/CTC plans to complete any non-reimbursable work on this project building
- Act 34 of 1973 - project scope issues; room usages; non-reimbursable work planned
- Architectural area of the additions between 18% and 20% of the existing architectural area
- For alteration projects, school district/CTC plans to do any work under the Guaranteed Energy Savings Act

- Bid alternates anticipated that affect scheduled and architectural areas, reimbursable or Act 34 capacity, or renovation costs
- Number of Prime Contracts anticipated
- Work, including but not limited to Asbestos Abatement, that's part of the scope of this PlanCon project but with the drawings and specifications prepared by a consultant directly contracted with the school district/CTC and not contracted with the Architect of Record
- Combined and/or phased bidding for this project and other reimbursable or non-reimbursable projects
- Bidding requirements for Owner's Controlled Insurance Program (OCIP)
- Building or site construction related to other schools or structures (athletic stadium, maintenance building, bus garage, fitness center, daycare center, etc.) on the project site to be bid at the same time as the PlanCon project but that is not eligible for school construction reimbursement
- Sanitary sewage tap-in fees, reserve capacity fees or extension costs anticipated
- Buildings, structures, site conditions or site features that are more than fifty years old
- Anticipated bid opening date for the project
- Potential delays related to any federal, regional, state or local reviews (such as BOCA exceptions, stormwater management issues, planning commission reviews, etc.) of the project that could affect the anticipated date for entering into contracts and/or the bid opening date
- Phasing of Educational Technology work
- BEC's
- State/IU Contracts for Equipment, Materials and/or Labor
- Bidding and post-bid opening timeframes and options
- 20 year rule
- Review of district-wide facility study, if required
- Special Session Act 1 breakouts for architectural areas and bid costs
- Projects published on the PDE School Design Clearinghouse (SDC) website
- Incentive funding - SDC, LEED/Green Globes and Existing Buildings
- County and Local Planning Commission letters
- Green building features treated as site development costs
  - geothermal well fields
  - photovoltaic energy generation system (ground or roof mounted)
  - wind energy generation system (ground or roof mounted)
  - green roof
- District-Wide Facility Study Energy Portfolio Survey requirements