SECTION 8 - DESIGN REVIEW SUBMISSIONS

Relevant Law –

Relevant Regulation –

Critical Dates –

- Not applicable

8.01 GENERAL FOR DESIGN REVIEW SUBMISSIONS

Schematic Design (SD), Design Development (DD), and Construction Documents (CD) for State funded community college construction projects shall be submitted to the Department of General Services for review in accordance with the DGS Procedure Manual for Professional Services. The DGS may require a 50% Construction Document submission for certain community college projects.

PROGRAM: The approved Part I/II program is to be considered firm as to the scope of the project. The A/E contract is with the college, however, should the college wish to change some element of an approved program, a written request must be made to the DBM and DGS and any changes must be approved by those State agencies.

8.02 CORRESPONDENCE

All correspondence shall include the name of the project and the State project number. See Section 1.07 Project Number Assignments for a full explanation.

8.03 INCOMPLETE SUBMISSIONS

Incomplete submissions or drawings and documents which reflect a lack of coordination and do not meet the minimum submission requirements including lack of an updated cost estimate worksheet will not be reviewed.

Department of General Services approval is needed at each design phase. Projects shall not be released for bidding until approved and authorized by DGS. Refer to the DGS Procedure Manual for Professional Services for all design submission requirements.

8.04 PHASE I - SCHEMATICS

A. REQUIREMENTS: The following are required for all projects unless waived by the Department of General Services:

1. Transmittal letter with submission package
2. Schematic Design (SD) Drawings
3. Project Description Sheet (3 copies, See Section 14 Attachments)
4. Narrative Description - Architectural, site improvements and an engineering analysis of structural, mechanical, electrical & civil systems (3 copies)
5. Updated Cost Estimate Worksheets (3 copies, See Section 14 Attachments)
7. Summary - Areas-Volume-Efficiency (3 copies, See Section 14 Attachments)
8. Building Code Study Data (3 copies, See Section 14 Attachments)

B. **ALTERNATIVE ENERGY SOURCES**: A narrative description and engineering analysis of at least four (4) alternative HVAC system concepts and energy sources shall be submitted. One of the alternative energy sources will be a geothermal heat pump system. It shall focus on the variety of systems that may be needed to meet the program's requirements and for securing comfortable space environment. It shall also address considerations for implementation of energy conservation, utility company rebates, individual space temperature control and the major equipment selection.

C. **SCHEMATIC LAYOUT** or a single line floor diagram for alternative systems shall be submitted illustrating system concepts, including all related equipment, control air and water distribution, etc.

D. **VALUE ENGINEERING**: If a value engineering workshop is scheduled for a particular project, the A/E will conduct a presentation of the Schematic Documents to the Value Engineering Team at the beginning of the workshop. The A/E will not participate in the Value Engineering Workshop, but will attend the wrap-up meeting where the Value Engineering Team presents its findings and cost saving recommendations. The A/E will review and respond to the value engineering recommendations.

E. **COST ESTIMATES:** The Cost Estimate Worksheet (CEW) shall be fully developed. Total Project Cost figures shall include the costs as of the anticipated mid-point of construction (use DGS CEW, See Section 14 Attachments). The A/E shall not design for, or contemplate funds being available in excess of those stated by the Department of General Services. Design review submittals with cost estimates in excess of the funds available will be considered unsatisfactory and will be returned without comment for revision.

F. **DRAWING AND PRESENTATION REQUIREMENTS**

1. General: Materials and methods of illustrating the schematic design phase are left to the A/E.

2. Site Plan - Sketch site plan shall be at a minimum scale of 1" = 40'. Architectural scale may not be used. Plan shall show a north arrow, location of existing buildings and structures, roads, walks, utilities, flood plains, wetlands and critical areas within 200 feet of the proposed structure and/or within the limits of the contract. It shall indicate proposed site improvements, grading, access, parking areas, utilities, etc. Where a master plan exists, the site plan shall show the future buildings adjacent to the proposed project, proposed structures, and/or within the limit of contract, grading, drainage, planting, lighting, access, sediment and erosion control and storm water management conceptual drawings.

3. Floor Plans - Floor plan or plans shall be double line and be at a scale of

1/16" = 1'-0" or 1/8" = 1'-0". No other scales shall be used unless written approval has been obtained from the Department of General Services. Overall dimensions shall be shown. Major rooms, areas or space shall be appropriately identified by name, actual net square footage, and programmatic net square footage. Each floor plan shall contain a note below the plan, indicating the approximate gross square feet and the net assignable square feet for each floor, including basements, mechanical floors, penthouses, etc. The first floor plan in the case of multiple story buildings shall contain a summary for the entire building.

4. Elevations - Block elevations of all sides shall be at a scale of 1/16"=1'-0" unless otherwise approved in writing by the Department of General Services.

5. Dates/Project No.: Dates must be shown on all drawings with revision dates when applicable. DGS Project Number and title shall be shown in the bottom right hand corner and scale shall be noted. If more than one scheme is prepared, they shall be noted "Scheme No.___".

6. Sheet size: Drawings shall be 24" x 36". Should circumstances of plan make the use of a larger sheet mandatory, inquiry shall be made to the Department of General Services to determine the size that may be acceptable. However, drawings shall neither be smaller than 24" x 36" nor larger than 30" x 42".

7. Text: Text on drawings shall be legible and minimum 1/8"in size.

8.05 PHASE II - DESIGN DEVELOPMENT

A. REQUIREMENTS: The following are required for all projects unless waived by the Department of General Services:

1. Transmittal: Transmittal letter with submission package

2. Maryland Department of the Environment (MDE) Transmittal: Transmittal letter from MDE with signatures stating that the project has been submitted for MDE review (required for projects involving site work or hazardous and toxic waste)

3. Sediment Control: Preliminary sediment and erosion control and storm water management computations and plans

4. "Marked-up" schematic review documents

5. Design Development (DD) Drawings

6. Outline Specifications

7. Project Description Sheet (3 copies)

8. Cost Estimate Worksheets (3 copies)

9. Summary - Areas-Volume-Efficiency (3 copies)

10. Building Code Study Data (3 copies)

11. Life Cycle Cost/Energy Conservation Analysis (3 copies)

12. Preliminary Electrical Calculations (1 copy)

13. Geotechnical Report: Completed Geotechnical Report

B. REVIEW CONFERENCE: During the preparation of Design Development Drawings, conferences will be held with the Department of General Services and the designated person representing the college. Review conference for Design Development Drawings will be coordinated by the DGS.

C. VALUE ENGINEERING: If a value engineering workshop is scheduled for a particular project, the A/E will conduct a presentation of the Design Development Documents to the Value Engineering Team at the beginning of the workshop. The A/E will not participate in the Value Engineering Workshop, but will attend the wrap-up meeting where the Value Engineering Team presents its findings and cost saving recommendations. The A/E will review and respond in writing to the value engineering recommendations.

D COST ESTIMATE: An updated cost estimate shall be prepared. The A/E shall not design for, or contemplate funds being available in excess of those stated by DGS. Design review submittals with cost estimates in excess of the funds available will be considered unsatisfactory and will be returned without comment for revision.

E DRAWINGS REQUIREMENTS:

1. Site Plan: Sketch site plan shall be at a minimum scale of 1" = 40.0'. Architectural scale may not be used. Plan shall show a north arrow, location of existing buildings and structures, roads, walks, utilities, flood plains, forest stands, wetlands and critical areas within 200 feet of the proposed structure and/or within the limit of contract. It shall indicate existing and proposed contours as necessary, proposed site improvements, grading, sediment control, and storm water management, access, parking areas, new and existing underground utilities and services including point of entry into building. Where a master plan exists, the site plan shall show

the future buildings adjacent to the proposed project.

2. Building Code Study Data and Means of Egress Plan Drawing:

   a. A building code analysis tabulation shall be provided for all buildings and shall include the following:

      - Applicable Codes
      - Use Group Classification
      - Construction Type
      - Building Area and Height Limitation
      - Fire Resistance Requirements
      - Specific Use Area Separation
      - Occupant Load
      - Egress Capacity Calculation
      - Travel Distance

   b. For projects greater than 10,000 square feet a means of egress plan highlighting the building code analysis shall also be provided. Plan may be a single line drawing with all major rooms, corridors, stairs, elevators, fire separations/smoke partitions, etc. identified and directional egress arrows and travel distances shown. For multi-story buildings, each floor shall have a plan containing all the information as stated above.

   c. For small projects the building code analysis may be on the Cover sheet or the first architectural plan. For larger projects, a separate drawing shall be included at the start of the architectural plans in the contract drawings.

   d. Building code analysis and means of egress plan are required for design development and all later contract document submissions.

3. Floor Plans: Floor plan or plans shall be double line, be at a scale of not less than 1/8" = 1'-0" and contain a north arrow. Major rooms, areas or space shall be appropriately identified by name and gross square footage. Each floor plan shall contain a note below the plan indicating the approximate gross square feet and the net assignable square feet for each floor, including basements, mechanical floors, penthouses, etc. The first floor plan in the case of multiple story buildings shall contain a summary for the entire building.

4. Elevations: Elevations of all sides shall be at a scale of not less than 1/8" = 1'-0". These elevations shall be developed to a sufficient degree to establish character of design, materials, textures and color.

5. Sections: Sections through building, walls, etc. shall be at a large enough scale to illustrate floor to floor heights, ceiling heights, changes in elevations, typical construction, etc.

6. Dates/Project No. must be shown on all drawings with revision dates when applicable. DGS project number and title shall be shown in the bottom right hand corner and scale shall be noted. If more than one scheme is prepared, they shall be noted "Scheme A," B," etc., as applicable

7. Sheet size: Drawings shall be 24" x 36". Should circumstances of the plan make the use of a larger sheet mandatory, inquiry shall be made to DGS to determine the size that may be acceptable. However, drawings shall neither be smaller than 24" x 36" nor larger than 30" x 42".

8. Engineering Drawings: Drawings shall be submitted at the DD Phase and as a minimum shall consist of single line drawings of each system, i.e. Structural, Civil, Plumbing, Heating, Ventilating, Air Conditioning and Electrical Distribution. Drawings shall show equipment layouts for specialized rooms such as laboratories; mechanical rooms, electrical rooms, kitchens, food serving areas, etc. Lighting, receptacle, telephone and special systems layouts are also required. Single line drawings shall be of sufficient detail as to convey the intent of the systems.

9. Mechanical Drawings: Building plans showing proposed locations for HVAC, plumbing and fire protection equipment in main mechanical rooms and elsewhere inside and outside the building and on the roof shall be submitted. The submittal shall address space adequacy to accommodate service and removal of equipment, including equipment suspended above ceiling. Schematic layout, floor diagram or single line drawings for the HVAC, plumbing and fire protection systems, based on life cycle costing analysis showing the various components (air and water distribution, controls, etc. A list of energy efficient equipment shall be provided. The submittal shall be in sufficient detail as to convey the intent of the selected system and its performance.

10. Electrical Drawings: Site Plan showing the primary telephone/fiber and electric power lines and their manholes, utility transformer location, and the generator location. Building plans showing both proposed exterior and interior lighting fixture layout, all wiring devices, such as; receptacles, telephone/data, and lighting switch locations, special systems layout, such as; fire alarm/security, telecommunications and data networking systems. public address system, etc. single line power and fire alarm riser diagram with sufficient information shall be included. A proposed blank panel, switchgear and motor control center schedule. No circuiting is required for this submission.

11. Life Cycle Cost Analysis: A study of not less than four approved alternative HVAC systems shall be submitted substantiating the selection of HVAC systems and energy sources, according to the Procedure for the Implementation of Life Cycle Cost Analysis and Energy Conservation. One of the four methods should include a geothermal heat pump system.

12. Preliminary Storm Water Management: Plans shall be submitted at the DD Phase.

13. Text: Text on drawings must be legible and 1/8" minimum size.

F. OUTLINE SPECIFICATIONS

1. Copies: Outline Specifications for Architectural, Structural, Site Improvements, Civil, Mechanical and Electrical work are to be submitted with each presentation.

2. Content: The Outline Specifications shall clearly define all components of each of the systems and all materials that are intended to be used on the project. Outline specifications for HVAC, plumbing, fire protection and underground utilities shall clearly define the components of each system, as well as all materials and methodology of installation.

3. HVAC/Electrical/Telecommunications/Plumbing Narrative: A narrative description of HVAC and plumbing systems, equipment and controls as per Life Cycle Cost Analysis for all spaces in the building, including provisions for implementation of energy conservation.

G. ELECTRICAL CALCULATIONS:

1. Requirements: One copy of the following preliminary calculations is to be submitted with the DD presentation:

   a. Load and demand analysis

   b. Load analysis for stand-by power systems

   c. Lighting power budget per latest revisions of ASHRAE/IES 9.01

   d. Lighting foot-candle calculations for the major areas or spaces

   e. Lightning risk assessment per NFPA 78

2. Format: All calculations are to be presented on an applicable form. All literature used in the determination of the calculations shall be referenced.

H. **MECHANICAL CALCULATIONS**: One copy of building and system load calculations of HVAC and plumbing systems shall be submitted.

I. **MEETING:** Following submission and review of Design Development Documents, a meeting may be held between DGS, the community college and the A/E. The meeting will be coordinated by DGS.

8.06 PHASE III - CONSTRUCTION DOCUMENTS

A. **PREPARATION:** The A/E shall proceed with the preparation of construction documents (CD) only upon receipt of written authorization by the Department of General Services.

B. **CONFERENCES**: During the development of CDs, conferences may be held as needed with DGS, the designated person representing the community college, and the A/E. Conferences shall be scheduled through DGS. Minutes of these meetings will be prepared and distributed by the A/E.

C. **REQUIREMENTS:** Initial CD Review Submission (Approximate 50% Completion)

1. At this stage of completion of CDs, the A/E shall submit the following to the Department of General Services for review:

    a. Transmittal: Transmittal letter with submission package

    b. MDE Transmittal: Transmittal letter from MDE with signatures stating that the project has been submitted for review (required for projects involving site work and utility work)

    c. Construction Documents: 50% Complete Drawings

    d. Specifications: Draft copies shall be indexed and securely bound with durable covers

    e. Project Description Sheet (3 copies)

    f. Cost Estimate Worksheet and a breakdown of costs in Construction Specification Institute (CSI) (3 copies)

    g. Summary - Areas-Volume-Efficiency (3 copies)

    h. Building Code Study Data Form (3 copies)

    i. Electrical Calculations (One copy)

j. Mechanical Calculations (One copy)

k. Storm Water Management plan(s), specifications and computations

l. A marked-up Design Development Review Documents

m. Construction Inspection and Testing Service (CITS) specification/bid package

2. Drawings: For Architectural and Engineering Drawings, 50% CD Submission is defined as 50% completion of each tracing that will constitute the final set of CD's. At this phase of design, the A/E will mark review sets with "FOR REVIEW ONLY, NOT FOR CONSTRUCTION" or equivalent. For Architectural and Engineering Specifications, 50% CD Submission is defined as a Draft Copy of the Final CD Specifications including edited specifications of all sections related to the project. Master specification selections will not be acceptable.

3. Electrical Calculations

   a. One copy of the following calculations is to be submitted with the 50% CDs. Those calculations previously submitted at the DD phase shall be updated for this submission:

      - Load and demand analysis

      - Load analysis for stand-by power systems, including sizing calculations for stand-by equipment

      - Lighting power budget per latest revision of ASHRAE/IES 90.1

      - Short circuit analysis using ohmic or per-unit method depending on complexity of the system (Reference IEEE Transactions on Industry and General Applications, Vol. 3, Number 2, March/April 1967)

      - Voltage drop analysis

      - Power factor correction

      - Lighting calculations (interior and exterior)

      - Pole classifications, guy vector diagrams and guy strength when overhead transmission systems are involved.

b. All calculations are to be presented in an organized format; all literature referenced in the preparation of calculations shall be noted.

4. Mechanical Calculations: Finalize load calculations of HVAC and Plumbing Systems, and equipment selection. Provide all input values used in the calculations such as design temperatures, occupancies, U or R values, etc.

5. Site Improvement Drawings: 50% CD Submission is defined as 50% completion of each tracing that will constitute the final set of CDs, showing all existing and proposed conditions, materials, structures, fixtures, elements, etc., in sufficient detail to establish location, alignment and grade. The A/E will mark review sets with "FOR REVIEW ONLY, NOT FOR CONSTRUCTION" or equivalent. For Site Improvement Specifications, 50% CD Submission is defined as a Draft Copy of the Final Specifications.

6. Critical Path Method: At the above review meeting the A/E along with the Department of General Services and Construction Division personnel, and the community college representative will review the requirement for a Critical Path Method (CPM) construction schedule to be submitted by the prospective bidder. CPMs will be required on all construction projects unless the dollar value and nature of work clearly demonstrates no need for a CPM. During the discussion of the CPM Schedule, significant milestone activities necessary for control and phasing of the project will be identified and incorporated into the construction contract requirements. Project start date and end dates will determine which tasks are on the critical path. CPM requirements shall be coordinated with and not conflict with General Conditions clause 7.06 Progress Schedule - Delays.

7. MDE or Local Agency/Jurisdictional Approval: Approval of the Sediment and Erosion Control and Storm Water Management Plans by the Maryland Department of the Environment. A copy of the MDE approval or comment letter is required to complete this review phase.

8. Earthwork Cost Estimate: A/E shall itemize in the cost estimate earthwork quantities (topsoil cut & fill) and any unusual conditions such as rock excavation or unsuitable materials.

D. CONTRACT DRAWINGS - GENERAL REQUIREMENTS:

1. CADD: A/E's shall be encouraged to produce contract documents on CADD (Computer-Aided Design & Drafting) whenever feasible. If generated by CADD, similarly prepared documents shall be required from all disciplines.

2. Material: Contract drawings must be on Mylar drafting film. Under no circumstances will drawings made on paper be accepted. Reproducible prints are not acceptable in lieu of cloth or Mylar drafting film without prior approval in writing from the Department of General Services.

3. Scale of Drawings

   a. Site plans shall be at a scale of 1" = 40' unless, due to unusual circumstances, another scale is specifically authorized in writing by the Department of General Services. Architectural scales may not be used for Site Plans.

   b. Floor plan or plans for contract drawings shall be double line and at a scale of 1/8" = 1'-0". No other scales shall be used for overall building floor plans unless written approval has been obtained from the Department of General Services.

   c. Building elevations of all sides shall be at a scale of 1/8" = 1'-0" unless otherwise approved in writing by the Department of General Services.

   d. All sheets must contain both written and graphic scales.

4. Drawing Size: Sheet size for drawings shall be 24" x 36".Should circumstances of plan make the use of a larger sheet mandatory, inquiry shall be made to DGS to determine the size that may be acceptable. However, drawings shall neither be smaller than 24" x 36" nor larger than 30" x 42".

5. Lettering size shall be a minimum 1/8". All line work shall be of sufficient density to provide uniform reproduction and photographic quality. When using "Prestype," or similar material, a workable fixative shall be applied to eliminate peeling. When lettering, shading or marking on the reverse side of drawings, a double matte finish polyester drafting film shall be used or the reverse side of the drawing shall be properly prepared prior to its use.

6. There shall be a cover sheet accompanying each set of drawings (See Section 14 the Attachments)

7. Title and signature block: shall be either Option #1 or Option #2 (See Section 14 the Attachments). The following items shall be included in the title block:

   a. Title of Sheet - such as "FIRST FLOOR PLAN", “FINISH SCHEDULE," etc.

   b. Title of Project as stated in the contract

   c. Project Number - The DGS Project Number must appear on all drawings, specifications, contracts, shop drawings and correspondence pertaining to the job

   d. Date - This is the date drawings are completed

   e. Drawing Numbers e.g. Drawing No. ____ of ____

   f. Location of job, as for example – Wor-Wic Community College

   g. Revisions

   h. Space for college approval

   i. Architects' and Engineers' names, seals, etc. may be placed to the left of the above title arrangement or in other locations as made necessary by the drawing.

   j. In addition to placement of seals, the Primary A/E must sign all drawings under his Seal. Consultants to the primary Architect/Engineer must sign all drawings prepared by their office under their seal.

8. Cover Sheet: All projects shall have a cover sheet containing the following information:

   a. Name of Project

   b. DGS Project Number

   c. Location (full address, including County)

   d. Secretary of DGS and address of DGS

   e. Board of Public Works- Governor, Comptroller, and Treasurer

   f. Names, addresses and phone numbers of all consulting firms

g. Vicinity Map with north arrow

h. Location Map with north arrow

i. Code Design Information, i.e., date of code, use group, construction classification, fire rating, total gross area, total net area, building height

j. List of Drawings

k. Signature blocks are not required.

9. Site Plans

a. Use 1"= 40', unless due to unusual circumstances another scale is specifically authorized in writing by the Department of General Services.

Architectural scales may not be used. The limit of the work must be accurately identified and located.

b. Plans shall include locations of all new and existing buildings and structures, roads, walks, utilities, flood plains, wetlands and critical areas, etc. It shall indicate existing and proposed contours. Where a master plan exists, the plan shall show the future buildings adjacent to the proposed project.

c. Complete Sediment and Erosion Control and Storm Water Management Plan(s) as required by MDE shall be submitted at each design phase after schematics, including Engineer's Certification.

10. Plans and Elevations

a. Scale of Drawings: Unless otherwise permitted by the Department of General Services, scale of building plans or details shall not be less than 1/8" = 1'-0". All drawings shall have a graphic scale for each scale used on the drawing.

b. Floor Plans: The plans shall show complete arrangements of all spaces, with their relation to structural, mechanical, and electrical clearly indicated. Structural, Plumbing, Heating, Ventilating and Electrical Plans shall be developed to indicate and show complete systems to be used. All ductwork shall be double lined except in areas where not more than one duct is shown. Provide complete temperature control schematics and detailed operating sequences.

c. Elevations: The elevations shall show and clearly indicate all design elements and the materials to be used.

d. Sections and Details: Sections and details shall indicate any and all requirements of the structure or design together with properly shown story heights.

e. Drawings shall contain keys to materials, symbols and abbreviations, and sufficient schedules (finishes, doors, windows, louvers, HVAC units, electrical panels, lighting, plumbing fixtures, etc.), so as to provide the proper organization and coordination of drawings with specifications.

f. On the first sheet of the mechanical and electrical drawings the following information shall be included:

- Heating - Total heat loss for the building in BTUs, Ventilation load in BTUs, domestic hot water load in BTUs, heating design temperatures inside and outside.

- Cooling - Total heat gain for building in BTUs, ventilation load for building in BTUs, indoor/outdoor temperature conditions/humidity.

- Plumbing - Total plumbing fixture units, domestic water consumption maximum demand in gph, maximum gas consumption in cu ft/hr.

-. Electrical - Total electrical load in KVA, total lighting and receptacles in KVA, Total power in KVA, largest motor H.P., estimated emergency power demand in KVA, and the type and size of stand-by power unit(s).

- Telecommunications - (as appropriate) System description and features, and interface definitions

g. Structural Notes that include the following shall be placed on one of the structural drawings:

- Design Dead Load data including, Partition Load and Live Load for each and every area of the building, including the roof. Allowances shall be included, wherever applicable, for additional loads due to mechanical equipment, piping, ceilings, etc.

- Design bearing value for all spread footings and caissons,

and bearing load for all piles

- Concrete strength required for each part of the building

- Steel yield point strength for all reinforcing and structural steel

h. Plans and specifications for excavation, retaining structures, dewatering, etc., where required, shall be included in the contract documents.

i. Demolition Drawings: Where demolition work is required, the plan shall clearly show existing conditions, what work is to be removed, and a reference provided to identify the proposed work for the same area. If lead is identified, the demolition plan and related notes shall describe the location and refer to the specification section which shall specifically describe or give the necessary regulation for the removal and disposal of potential lead hazards.

j. All drawings shall be prepared with the same orientation.

k. All building spaces shown on the mechanical drawings shall be named on the mechanical drawings. All mechanical work shown or detailed on more than one sheet shall be cross referenced.

l. The use of drawing note tabulations with reference letters or numbers noted on plans and details is not acceptable except in special cases and with the written approval of the Department of General Services. Such notes should be written out adjacent to the respective architectural or structural element, mechanical equipment item or mechanical system component, or electrical equipment item or electrical system component.

m. Room titles must be placed directly on the related spaces without interfering with any other dimensions or data.

E. SPECIFICATIONS FOR CONSTRUCTION:

1. General Requirements:

a. A/E shall follow the Construction Specifications Institute (CSI) Master format.

b. Where trade names or proprietary items are identified, reference shall be made to "approved equal".

c. Whenever brand name products are included, at least three acceptable brands shall be named, if possible.

d. Hardware schedules are required in the specification. They shall be open to full competition. The A/E shall determine the requirements of the community college for the Master Key System.

e. Generalized all-inclusive ("grandfather") clauses must be avoided. Be specific in such items as "Scope." Scope should enumerate items to be included.

f. Reference shall be made to the latest DGS General Conditions in appropriate divisions of the specifications.

g. One page of the Specifications (following the cover page) shall contain the Project Title, DGS Project Number, the seal and signature of the primary A/E, and the seal and signature of each consultant to the primary A/E.

h. When electrical high voltage work (over 600 volts) is required in construction of a project, the services of an independent high voltage electrical testing agency shall be utilized. The project specifications shall read as follows where appropriate: "The contractor shall secure and pay for the services of a high voltage electrical inspection agency to test and inspect all electrical high voltage components of the system prior to being energized. The tests and inspections shall follow the procedures as established by NETA in their specifications for acceptance testing. The contractor shall submit a copy of the test results and an analysis of these results prepared by a registered Professional Engineer to the Engineer of Record and the college.

Repeat testing due to unacceptable test results and/or inspection findings shall be the sole responsibility of the contractor.

i. The following statement shall be included in the appropriate sections of the electrical specifications: "An electrical certificate from an independent (non-governmental) electrical inspection agency approved by the State of Maryland Fire Marshal must be submitted to the Department of General Services prior to or with the final payment invoice. The inspection certificate shall be used in lieu of a county or municipal permit for electrical work performed on property belonging to the State of Maryland. The electrical sub-contractor shall file with the independent inspection agency, and pay all fees associated with such filing, at the start of construction so that adequate rough-in inspection can be made

during the course of work."

j. Use of frequent references to other specification documents shall be avoided wherever possible, e.g., reference to County, State Highway Administration or Washington Suburban Sanitary Commission specifications. If such specifications govern, the significant references shall be reprinted in total.

k. The following requirements shall be included in the appropriate section of the mechanical specifications for projects that involve the installation or service of heating, ventilating, air conditioning, or refrigerating systems:

- A mechanical contractor bidding as prime contractor shall be a Maryland-licensed HVAC Master or Master Restricted contractor who is qualified in the areas of work included in the project.

- The successful contractor shall agree to employ only individuals who hold valid licenses issued by the State HVACR Board of the Department of Labor, Licensing and Regulation to provide, or assist in providing, heating, ventilating, air conditioning, or refrigerating system installation or service required for the project.

- If the successful contractor subcontracts any or all of the heating, ventilating, air conditioning, or refrigerating system installation or service required for a project, the subcontractor must possess the appropriate license required and issued by the State HVACR Board.

- All heating, ventilating, air conditioning, and refrigerating system subcontractors shall consistently use only individuals who hold the appropriate licenses issued by the State. HVACR Board to provide or assist in providing heating, ventilating, air conditioning, and refrigerating system installation or service required for a project.

2. Cover Page of Project Manual: The required information is shown the Attachments. The A/E shall include a "mock-up" with the review sets of specifications as the names of various state officials change from time to time. A seal page is required.

3. Table of Contents of Project Manual:

a. The Table of Contents shall be complete, listing all division

numbers with division titles as shown by the CSI. After each division number and title, indicate the page numbers where the specification is to be found. If the project does not include any work in a specific division show "none" in the column of page numbers. It is preferred that sub-divisions or "sections" (paragraphs) be numbered or lettered in consecutive order, rather than the four digits and decimals shown by the CSI.

b. Sequence of Project Manual contents shall be as follows:
- Title Page
- A/E Seals & Signatures
- Table of Contents
- List of Drawings
- Instructions to Bidders
- General Conditions
- Prevailing Wage Rates
- Division 1 through Division 16

F. PREVAILING WAGE REQUIREMENTS:

1. Projects receiving a minimum of 50% State funding estimated to cost $500,000 or more: All projects which are anticipated to cost $500,000 or more must contain a prevailing wage scale. This requires the A/E to apply to the Department of Labor, Licensing, and Regulation for a Determination of Prevailing Wage Rates (See Section 14 Attachments). Application must be made for wage rates 60-120 days in advance of the time the project goes to bid. The A/E must furnish sufficient information to permit complete listing of all crafts. A detailed table of contents from the specifications will normally be sufficient.

2. Federal Funds: When federal funds are involved, and if federal regulations (Davis-Bacon Act) require the use of a federal prevailing wage schedule, the A/E shall apply for the wage scale. If federal wage scales change from the initial application by the A/E, new rates must be applied for and issued as an addendum. If, after an addendum has been issued on new rates and federal wage rates change within twenty (20) days of the bid date, new wage rates do not have to be applied for. Information on federal wage rates can be obtained from the Federal Register, Procedures for Predetermination of Wage Rates.

G. CONSTRUCTION INSPECTION AND TESTING SERVICES (CITS):

1. CITS Contracts: For those projects for which special construction inspection or quality assurance back-up testing is to be provided by private construction inspection and testing firms (CITS), the required material inspection and testing requirements shall be part of the construction

documents.

2. Contract Monitoring: The A/E shall assist DGS in the definition of these services; and after award of the contract shall, on behalf of DGS, monitor the work of both the testing laboratory employed by the contractor and the CITS. Contract monitoring may consist of weekly review of test results and field inspection reports, liaison with CITS, and check of CITS progress payment requisitions for conformity to the estimates of manpower and test requirements.

3. CITS Proposal Package: The A/E shall furnish to DGS along with the 50% CD submission a CITS specification/proposal package for this work indicating those contract items requiring materials inspection and testing and the estimated quantity of each. Upon approval by DGS, the A/E shall resubmit the approved CITS specification package with any changes. These documents shall be developed based upon a format provided by DGS. CITS specifications shall include and establish all the requirements relative to inspection and testing, such as, qualifications of the inspectors, scope of work, applicable standard test methods and procedures, compliance and acceptance criteria, reports and submittals.

   The inspection and testing services may include, but not necessarily be limited to, those for structural steel(both shop and field), concrete, roofing and roofing materials, asphalt, soils, and foundations. These requirements shall be comparable to those specified for the contractor's testing laboratory.

4. Proposals: The college will use the information furnished by the A/E to procure the services of a CITS firm by advertising and soliciting proposals from at least three (3) qualified firms, or by using a pre-approved indefinite delivery contract. If the college has contracted with a construction management (CM) firm, the CITS firm will report to the CM.

H. FINAL CD REVIEW SUBMISSION - (95% COMPLETION):

1. Requirements: When CDs are 95% completed the A/E shall submit the following to the Department of General Services:

   a. Construction Documents 95% complete Drawings - black or blue-line prints (Note: Review sets must be marked "FOR REVIEW ONLY, NOT FOR CONSTRUCTION" or equivalent).

   b. Specifications - be indexed and securely bound with durable covers.

   c. Construction Bid Form - This form must be approved prior to

approval of specifications.

d. Cost Estimate Worksheet and a breakdown of costs in CSI Master Format - Four (4) copies.

e. Summary Area-Volume-Efficiency (AVE) Form - Four (4) copies. This submission shall be up-to-date.

f. Project Description Sheet - in quadruplicate; this submission shall be up-to-date.

g. A brief project description including design details such as size, type of building, roof specs, type of construction, HVAC, uses or purposes of building and special design features.

h. Some projects may require additional CDs for review. The A/E shall verify the required number of CDs with the Department of General Services prior to submission of the above stated minimum.

i. HVAC and plumbing load calculations - One (1) copy.

j. Electrical Calculations - One (1) copy. This submission shall be up-to-date.

k. Electrical Coordination Study – At a minimum, this analysis shall encompass that segment of the distribution system between the origin of utility service and the first level of secondary distribution equipment, or, where service is derived from an existing state-owned distribution system, between the existing primary distribution equipment and the first level of secondary distribution equipment. This study shall include set points for all adjustable protective devices.

l. Sediment and Erosion Control and Storm Water Management computations. This form shall be up-to-date.

m. A marked-up 50% CD review documents.

2. Final Review Meeting: When the 95% CDs have been reviewed by DGS, they will arrange a meeting with the community college and all appropriate consultant(s). At this meeting the CDs will be reviewed in total, to such an extent that DGS and the community college may be assured that upon submission of the Final CDs (Original Tracings), the required signatures may be applied without delay.

3. Permits: The A/E will submit to the college all necessary permits and/or

approvals, save those required of the construction trade necessary to perform the work for making connections to available water and sewer facilities to completely support the project.

I. FINAL APPROVALS: The A/E will secure and submit to the Department of General Services final approvals and/or permits from all regulatory agencies and public utilities involved in the project construction: State Fire Marshal's Office; Department of Health and Mental Hygiene; Maryland Department of the Environment; and water, sewer, telephone, gas and electric utilities owners.

J. A/E CERTIFICATION: The A/E will furnish the certification of the Contract Documents as required.

K. PROJECT BID FORMS:

1. Language: The language and wording may not be changed; however, the lines for base bids or bids and alternates must be adjusted to apply to the project requirements. When add alternate prices are requested, a short description of the alternate must be included.

2. Unit Prices: When separate prices or unit prices are required, they shall be listed ahead of the Base Bid line. Unit prices will reflect concealed conditions encountered during a project, i.e., conditions in site work, foundations, or re-roofing, and will be used to adjust contract higher or lower based upon actual costs during the course of work. When bidding these types of projects, base bid will include lump sum price work plus unit price work with estimated quantities established by the A/E and unit prices provided by the contractor to arrive at the base bid.

3. Liquidated damages shall be provided for at a rate determined by the community college and indicated on the Construction Bid Form.

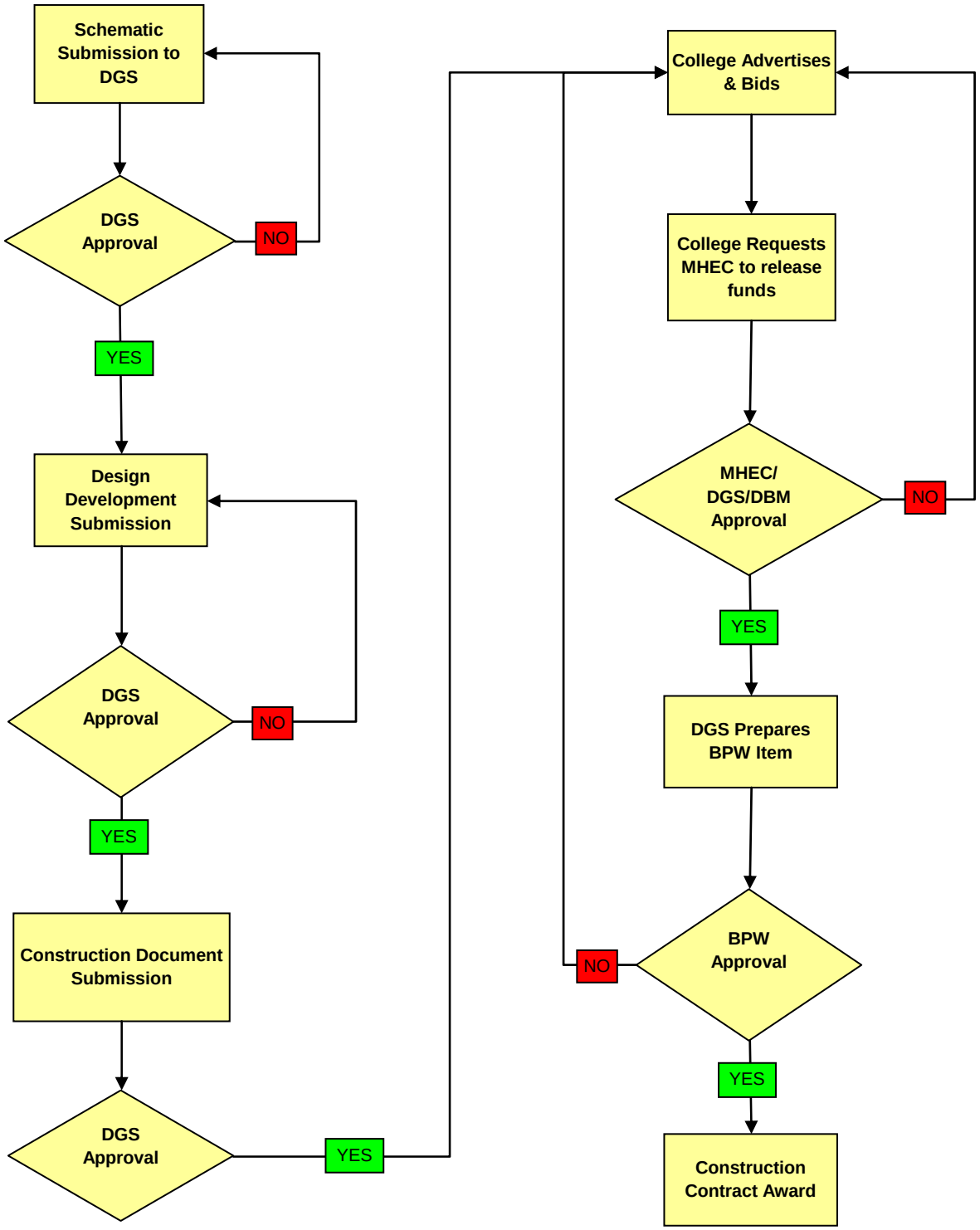
L. ALTERNATES:

1. Purpose: When authorized by the college, the A/E shall specify add alternates to be included in bids as may be considered necessary to assure project costs within established budgets. Alternates shall be used to effect a change in the scope of the project or in the materials or methods specified. The following practices shall be followed by the A/E when specifying alternates.

    a. Priorities: Identification of alternates must be made early in the process. The A/E shall review all alternates with the college representative to establish the priority in which alternates will be listed. Add alternates, if accepted with the Base Bid, will be accepted in the order listed on the bid form unless limited funding

limits acceptance. Alternates shall normally be all additive in a given bid.

DESIGN REVIEW PROCESS



8.07 DGS ROOFING POLICY

A. NEW CONSTRUCTION:

1. No roof will be approved for State funding that does not have at least a 20-year, no dollar limit (NDL) warranty according to the DGS roofing policy revised in 1999.

2. All new construction will require a 60-year life cycle cost analysis (LCCA) to determine the proper roofing system.

B. ROOF REPLACEMENT:

1. No roof will be approved for State funding that does not have at least a 20-year, no dollar limit (NDL) warranty according to the DGS roofing policy revised in 1999.

2. Roof replacement projects will consider all factors affecting the proposed system, including span dimension, structural condition, foundation design/capacity, roof top equipment, etc. Each community college will determine roof type based upon costs associated with these factors.

C. GENERAL

1. Effective with the FY2001 budget, all projects are governed by this policy.

2. Each community college will inspect their roofs at least twice per year and agencies will make resources available for said inspections. Inspection records will be retained for the duration of the building ownership.

3. All agencies are to follow this roofing policy, including Community Colleges, Public Schools, Universities, Department of Transportation, Department of Public Safety and Correctional Services, St. Mary's College, Morgan State University and Capital Grants & Loan Program projects.

4. Proper roof system installation is the college's responsibility. Each college is accountable for training inspectors and hiring qualified contractors to properly install roof systems.

5. To help support adequate roof maintenance, DGS will conduct seminars for facility maintenance personnel at strategic locations around the State.